

User Manual

Network Video Recorder

Please read this manual carefully for correct use of the product and preserve it for reference purposes

Notes

- Please read this user manual carefully to ensure that you can use the device correctly and safely.
- There may be several technically incorrect places or printing errors in this manual. The updates will be added into the new version of this manual. The contents of this manual are subject to change without notice.
- This device should be operated only from the type of power source indicated on the marking label. The voltage of the power must be verified before using the same. Kindly remove the cables from the power source if the device is not to be used for a long period of time.
- 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 at normal recording condition.
- This machine is for indoor use only. Do not expose the machine in rain or moist environment. In case any solid or liquid get inside the machine's case, please turn off the device immediately and get it checked by a qualified technician.
- Do not try to repair the device by yourself without technical aid or approval.
- When this product is in use, the relevant contents of Microsoft, Apple and Google will be involved in. The pictures and screenshots in this manual are only used to explain the usage of our product. The ownerships of trademarks, logos and other intellectual properties related to Microsoft, Apple and Google shall belong to the above-mentioned companies.
- This manual is suitable for many models. All examples and pictures used in the manual are from one of the models for reference purpose.

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1 Introduction

1.1 Summary

Based on the most advanced SOC technology and embedded system in the field, this series of the NVR adopt the new designed human interface and support the smart management of the IP camera and the record search of slice. This series of the NVR which are powerful and easy to use are provided with excellent image quality and stable system. They are centralized monitoring management products with high performance and high quality specially designed for network video monitoring field.

This series of the NVR can be widely used to security system of banks at home and abroad, schools, intelligent mansions, traffic, environmental protection, supermarkets, petrol service stations, residential quarters and factories and so on.

1.2 Features

Basic Functions

- Support network device access including IP camera, IP dome and so on
- Support standard ONVIF protocol
- Support dual stream recording of each camera (max 4MP resolution)
- Support IP cameras to be added quickly or manually
- Support batch or single configuration of the cameras' OSD, video parameters, mask, motion and so on
- Support a maximum of 120Mbps bandwidth input of 16 CH NVR
- Support a maximum of 160Mbps bandwidth input of 32 CH NVR
- Support a maximum of 8 user permission groups including Administrator, Advanced and Ordinary which are the default permission groups of the system
- Support a maximum of 16 users to be created and multiple web clients login by using one username at the same time
- Support a maximum of 20 web clients login at the same time

Live Preview

- Support 1920 × 1080 high definition synchronous display of HDMI and VGA
- Support multi-screen modes such as 1/4/6/8/9/16
- Support auto adjustment of the camera's image display proportion
- Support audio monitoring of the camera to be enabled or disabled
- Support manual snap of the preview camera
- Support the sequence of the preview cameras to be adjusted
- Support quick menu bar operation of the preview window
- Support camera group view and scheme view in sequence, quick sequence view and dwell time setting
- Support motion detection and video mask
- Support multiple popular P.T.Z. control protocol and setup of the preset and cruise
- Support direct mouse control of the IP dome including rotating, zoom, focusing and so on

- Support any area of the image to be zoomed in to a maximum of 16 times of the current size

- Support image and lens adjustment (only available for some cameras)
- Support quick camera adding in the camera window of the live preview interface

Disk Management

- The NVRs with the 2U case can add a maximum of 8 SATA HDDs; a maximum of 4 SATA HDDs with the 1.5U case, a maximum of 2 SATA HDDs with the 1U case and a maximum of 1 SATA HDD with the small 1U case
- Each SATA interface of the NVR supports the HDDs with max 6TB storage capacity
- Some of the NVRs support record to be backed up by e-SATA HDD
- Support disk group configuration and management and each camera can be added into different disk groups with different storage capacity
- Support disk information and disk working status viewing

Record Configuration

- Support main stream and sub stream recording at the same time and batch or single configuration of the record stream
- Support manual and auto record modes
- Support schedule recording, sensor alarm recording and motion detection recording
- Support schedule recording and event recording setting with different record streams
- Support record schedule setting
- Support recycle recording
- Support pre recording and delay recording configuration of the event recording

Record Playback

- Support 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 in or out
- Support record searching by time slice/time/event/tag
- Support time view and camera view in searching by time slice mode
- Support time slice searching by month, by day, by hour and by minute and time slice to be displayed with camera thumbnail
- Support a maximum of 16 cameras to be searched by time
- Support event searching by manual/motion/sensor events
- Support tag searching by the manual added tags
- Support instant playback of the selected camera in the live preview interface
- Support a maximum of 16 synchronous playback cameras
- Support 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 Backup

- Support record to be backed up through USB (U disk, mobile HDD) or e-SATA interface
- Support record to be backed up by time/event/image searching
- Support record cutting for backing up when playing back
- Support a maximum of 10 backup tasks in background and backup status viewing

Alarm Management

- Support alarm schedule setting
- Support enabling or disabling of the motion detection, external sensor alarm input and exception alarms including IP address conflict alarm, disk IO error alarm, disk full alarm, illegal access alarm, network disconnection alarm, IPC offline alarm and so on, alarm trigger configuration supportable
- Support event notification modes of alarm out, video popup, message box popup, buzzer, e-mail and so on
- Support alarm status viewing of alarm in, alarm out, motion detection and exception alarm
- Support alarm to be triggered and cleared manually
- Support system to be restarted automatically when exception happens

Network Functions

- Support TCP/IP and PPPoE, DHCP, DNS, DDNS, UPnP, NTP, SMTP protocol and so on
- Support allow and block list function and the allow and block network segments can be set
- Support multiple browsers including IE8/9/10/11, 360, Firefox, Opera, Chrome and Safari in Windows system and Safari in MAC system
- Support remote achievement, configuration, import and export of the NVR parameters and other system maintenance operations including remote upgrading and system restart
- Support remote camera configuration of the NVR including video parameters, image quality and so on
- Support remote searching, playback and backup of the NVR
- Support NVMS or other platform management software to access the NVR and manage it
- Support mobile surveillance by phones or PADs with iOS or Android OS

Other Functions

- The NVR can be controlled and operated by the buttons on the front panel, the remote controller and the mouse
- Support status viewing of the NVR including camera status, record status, disk status, network status, alarm status and so on
- Support factory restoring, import and export of the system configuration, log view and export and local upgrading by USB mobile device





1.3 Front Panel Descriptions

The following descriptions are for reference only.

Type I:

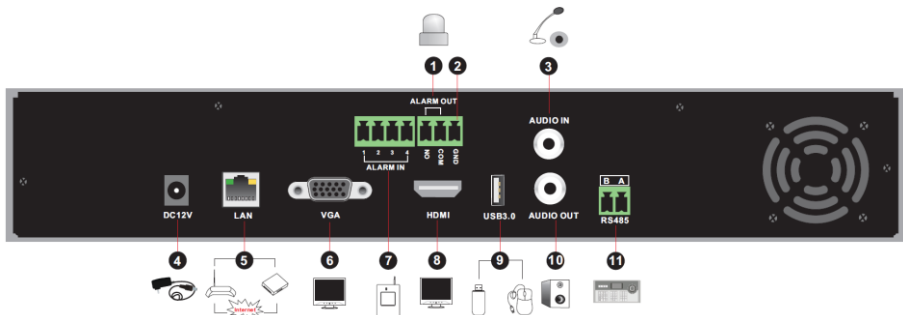
Name	Descriptions
REC	When recording, the light is blue
Net	When access to network, the light is blue
Power	Power indicator, when connection, the light is blue
Fn	No function temporarily

Type II:

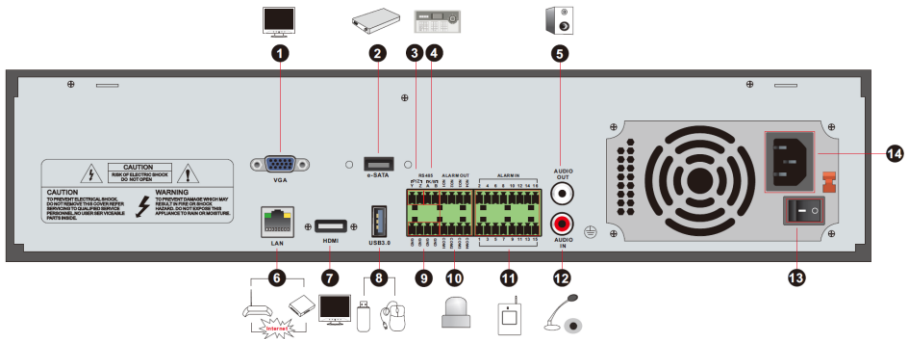
Name	Descriptions
Power	Power Indicator, when connected, the light is blue
HDD	The light turns blue when reading/writing HDD
Net	The light turns blue when it is able to access the network
Backup	The light turns blue when backing up files and data
Play	The light turns blue when playing video
REC	Power Indicator, when connected, the light is blue
AUDIO /+	1. Adjust audio 2. Increase the value in setup
P.T.Z / -	1. Enter PTZ mode 2. Decrease the value in setup
MENU	Enter Menu in live
INFO	Check the information of the device
BACKUP	Enter backup mode in live
SEARCH	Enter search mode in live
Exit	Exit the current interface
	Manually record
	Play/Pause
	Speed down
	Speed up
1-9	Input digital number and select camera
0/--	Input number 0, the number above 10
Direction Key	Change direction
Multi-Screen Switch	Change the screen mode
Enter	Confirm selection
USB	To connect external USB device like USB mouse or USB flash

1.4 Rear Panel Descriptions

Here we only take a part of real panels for example to introduce their interfaces and connections. The interfaces and locations of the interfaces are only for references. Please take the real object as the standard.



No.	Name	Descriptions
1	ALARM OUT	Relay output; connect to external alarm
2	GND	Grounding
3	AUDIO IN	Audio input; connect to audio input device, like microphone, pickup, etc
4	DC12V	DC12V power input
5	LAN	Network port
6	VGA	Connect to monitor
7	ALARM IN	Alarm inputs for connecting sensors
8	HDMI	Connect to high definition display device
9	USB	Connect USB storage device or USB mouse
10	AUDIO OUT	Audio output; connect to sound box
11	RS485	Connect to keyboard. A is TX+; B is TX-



No.	Name	Descriptions
1	VGA	Connect to monitor
2	e-SATA	Connect to HDD with e-SATA interface
3	RS485 Y/Z interface	Unavailable right now
4	RS485 A/B interface	Connect to keyboard. A is TX+; B is TX-
5	AUDIO OUT	Audio output; connect to sound box
6	LAN	Network port
7	HDMI	Connect to high definition display device
8	USB	Connect USB storage device or USB mouse
9	GND	Grounding
10	ALARM OUT	Relay output; connect to external alarm
11	ALARM IN	Alarm inputs for connecting sensors
12	AUDIO IN	Audio input; connect to audio input device, like microphone, pickup, etc
13	Power Switch	Press the switch to turn on/off the NVR
14	Power Supply	Power supply interface

1.5 Connections

- **Video Connections**

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

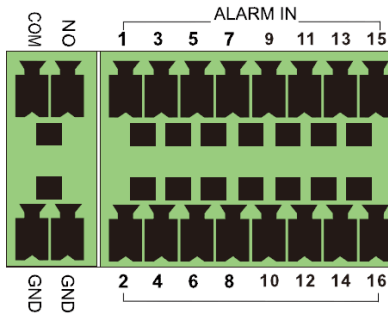
- **Audio Connections**

Audio Input: Connect to microphone, pickup, etc.

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

- **Alarm Connections**

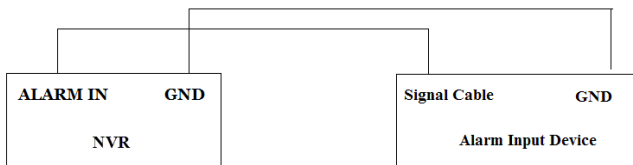
Some models may support this function. Take 16 CH alarm inputs and 1 CH alarm output for example.



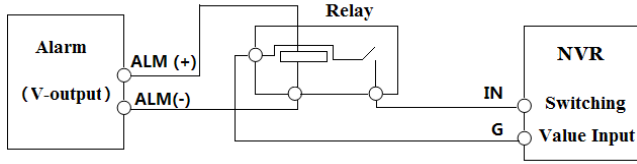
Alarm Input:

Alarm IN 1~16 are 16 CH alarm input interfaces. There are no type requirements for sensors. NO type and NC type are both available.

The way to connect sensor and the device is as shown below:



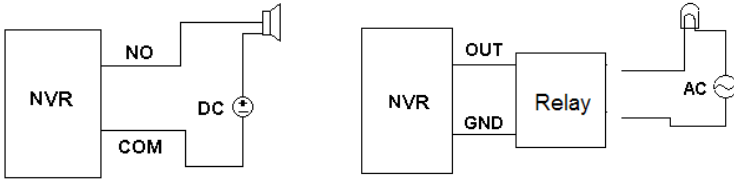
The alarm input is an open/closed relay. If the input is not an open/closed relay, please refer to the following connection diagram:



Alarm Output:

The way to connect alarm output device:

Pull out the green terminal blocks and loosen the screws in the alarm out port. Then insert the signal wires of the alarm output devices into the port of NO and COM separately. Finally, tighten the screws. Provided that the external alarm output devices need power supply, you can connect the power supply as per the following figures.



● RS485 Connection

There are two types of RS485 interfaces:



Type 1: The P/Z interfaces are unavailable temporarily. K/B interfaces are used to connect keyboard.

Type 2: The RS485 interfaces are used to connect keyboard. A is TX+; B is TX-.

2 Basic Operation Guide

2.1 Startup and Shutdown

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

2.1.1 Startup

- ① Connect the output display device to the VGA/HDMI interface of the NVR.
- ② Connect with the mouse and power. The device will boot and the power LED would turn blue.
- ③ A WIZARD window will pop up (you should select the display language the first time you use the NVR). Refer to [Chapter 3 Wizard Setup](#) for details.

2.1.2 Shutdown

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

By remote controller:

- ① Press Power button. This will take you to a shutdown window. The unit will power off after a while by clicking “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 “OK” button.
- ② Disconnect the power.

2.2 Remote Controller

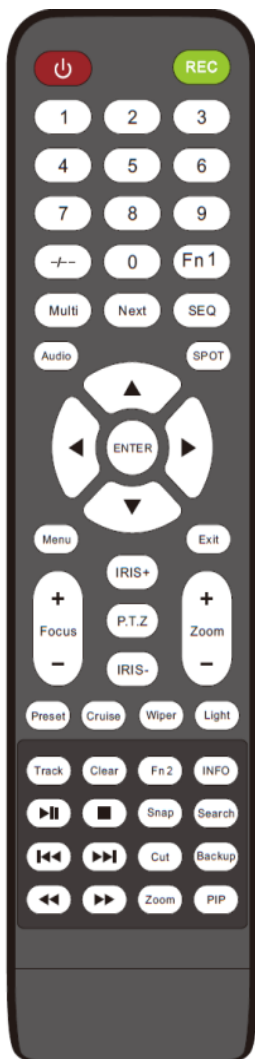
- ① It uses two AAA size batteries.
- ② Open the battery cover of the remote controller.
- ③ Place batteries. Please take care the polarity (+ and -).
- ④ Replace the battery cover.

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

1. Check batteries polarity.
2. Check the remaining charge in the batteries.
3. Check IR controller sensor for any masking.

If it still doesn't work, please change a new remote controller to try, or contact your dealers. You can just turn the IR sensor of the remote controller towards the IR receiver of the NVR to control it when you are controlling multiple devices by remote controller.

There are two kinds of remote controller. The interface of remote controller is shown as below.



Button	Function
Power Button	Switch off—to stop the device
Record Button	To start recording
-/-- /0-9	Input number or choose camera
Fn1 Button	Unavailable 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	No function temporarily

Note:

You shall press P.T.Z button to enter PTZ setting mode, choose a channel and press P.T.Z button again to hide the P.T.Z control panel. Then you can press preset, cruise, track, wiper or light button to enable the relevant function.



Button	Function
REC	Record manually
Search	To enter search mode
MEUN	To enter menu
Exit	To exit the current interface
ENTER	To confirm the choice or setup
Direction button	To move cursor in setup
ZOOM	To zoom in
PIP	No function temporarily
	To control playback. Play(Pause)/Next Frame/Speed Up/Stop/Previous Frame/Speed Down
Multi	To choose multi screen display mode
Next	To switch the live image
SEQ	To go to sequence view mode
INFO	Get information about the device

2.3 Mouse Control

➤ Mouse control in Live Preview & Playback interface

In Live Preview & Playback interface, double click on any camera window to show the window in single screen mode. Double click the window in single screen mode to restore it to the previous size.

In Live Preview & Playback interface, if the interfaces display in full screen, move the mouse to the bottom of the interface to pop up a menu bar. The menu bar will disappear automatically after you move the mouse away from it for some time; 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.

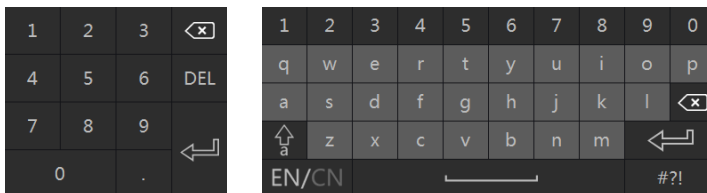
➤ Mouse control in text-input

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 as shown below. 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.



Introduction of keys on the input keyboard:

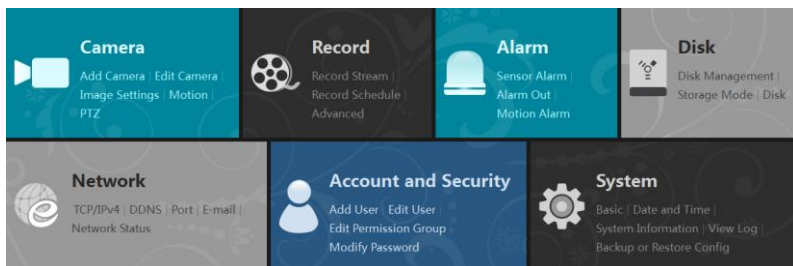
Button	Meaning	Button	Meaning
	Backspace key		Switch key of punctuation character
	Delete Key		Enter key
	Switch key between upper and lower letter		Space key
	Switch key of language		

2.5 Common Button Operation

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

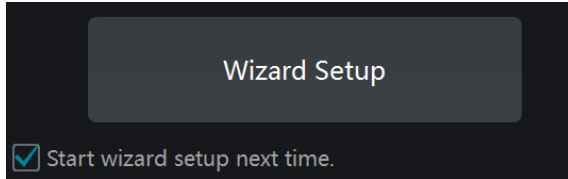
2.6 Main Setup Window Introduction

Click Start→Settings to pop up the main setup window as shown below. Click the menu in the window to go to corresponding interface. The operations of the interfaces are introduced in the following chapters.




3 Wizard Setup

You can quickly configure the NVR by wizard setup to make the NVR work normally. You must configure the wizard if you start the NVR for the first time (you can click “Skip” to cancel the wizard next time).



Click “Wizard Setup” to start wizard. The setting steps are as follows:

① **System Login.** Set the password if you use the wizard for the first time (the default username of the system is *admin*); input username and password next time.

Click “Cryptoguard” button to set password protection for admin as shown below. Set the question and answer and then click “Add” button. You can click  to delete the question and answer in the list. Click “OK” to save the settings.

Question	Answer	Delete
*****	*****	

The password of admin can be reset if the cryptoguard has been set. When you input the wrong password of admin three times in succession, a window will pop up. Click “OK” in the window to pop up “Retrieve Password” window. Select a question, input the corresponding answer and

then click “OK” button. The password of *admin* will be reset to **123456**. Click “Next” to continue or click “Cancel” to exit the wizard.

② **Date and Time Configuration.** The date and time of the system need to be set up if you use the wizard for the first time. Refer to the following figure. Set the time zone, system time, date format and time format. The DST will be enabled by default if the time zone selected includes DST. Click “Next” to continue.

The screenshot shows the 'Wizard' configuration window with the following settings:

- Time Zone: GMT+08 Beijing, Hong Kong, Shangha
- System Time: 2015/01/15 14:23:44
- Date Format: Year/Month/Day
- Time Format: 24-Hour
- DST: OFF



Buttons at the bottom: Previous, Next, Cancel.

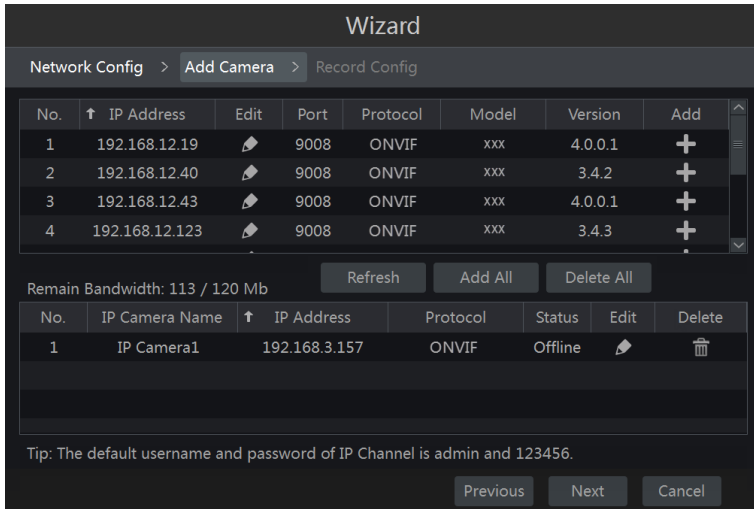
③ **Network Configuration.** Check “Obtain IP address automatically” and “Obtain DNS server address automatically” to get the IP address and DNS server address automatically, or manually input IP address, subnet mask, gateway, preferred DNS and alternate DNS. Input the HTTP port, RTSP port and Server port (please see [10.2 Port Configuration](#) for details). Click “Next” to continue.

The screenshot shows the 'Wizard' configuration window with the following settings:









- Network Config > Add Camera > Record Config
- eth0
- Obtain an IP address automatically
- IP Address: . . .
- Subnet Mask: . . .
- Gateway: . . .
- Obtain DNS server address automatically
- Preferred DNS: . . .
- Alternate DNS: . . .
- HTTP Port: 80
- RTSP Port: 554
- Server Port: 6036

Buttons at the bottom: Previous, Next, Cancel.



④ **Add Camera.** Click “Refresh” to refresh the list of online IP cameras which are in the same local network with NVR 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.



The screenshot shows the 'Wizard' interface with the 'Add Camera' step selected. It features two tables and several buttons.


No.	↑ IP Address	Edit	Port	Protocol	Model	Version	Add
1	192.168.12.19		9008	ONVIF	xxx	4.0.0.1	
2	192.168.12.40		9008	ONVIF	xxx	3.4.2	
3	192.168.12.43		9008	ONVIF	xxx	4.0.0.1	
4	192.168.12.123		9008	ONVIF	xxx	3.4.3	

Buttons: Refresh, Add All, Delete All

No.	IP Camera Name	↑ IP Address	Protocol	Status	Edit	Delete
1	IP Camera1	192.168.3.157	ONVIF	Offline		

Tip: The default username and password of IP Channel is admin and 123456.

Buttons: Previous, Next, Cancel

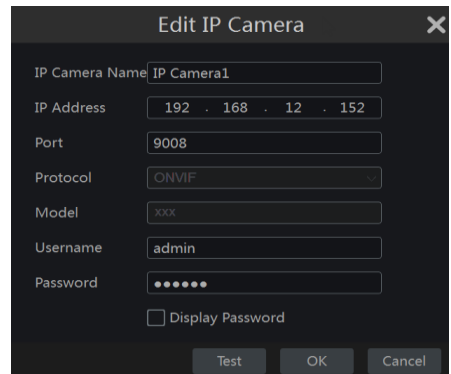
Click  to edit the searched IP camera as shown on the below left. Input the new IP address, subnet mask, gateway, username and the password of the camera. Click “OK” to save the settings.



The 'Edit IP Camera' dialog box shows the following fields:

- MAC Address: 00 : 18 : ae : 39 : 96 : 43
- IP Address: 192 . 168 . 12 . 86
- Subnet Mask: 255 . 255 . 255 . 0
- Gateway: 192 . 168 . 12 . 1
- Port: 9008
- Username: admin
- Password: •••••


Buttons: OK, Cancel



The 'Edit IP Camera' dialog box shows the following fields:

- IP Camera Name: IP Camera1
- IP Address: 192 . 168 . 12 . 152
- Port: 9008
- Protocol: ONVIF
- Model: xxx
- Username: admin
- Password: •••••
- Display Password

Buttons: Test, OK, Cancel

Click  to edit the added camera as shown on the above right. Input the new camera name, IP address, port, username and the password of the camera. You can click “Test” to test the effectiveness of the input 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 **Record Configuration.** Two record modes are available: auto and manual.

Auto Mode: Select one auto mode in the following figure and then click “OK” button to save and end the wizard. See [6.1.1 Mode Configuration](#) for details.

The screenshot shows the 'Wizard' interface with the 'Record Config' step selected. The 'Mode' dropdown is set to 'Auto'. Below it, there are seven radio button options for recording modes. The last option, 'Always Schedule/Motion/Sensor Record', is selected with a blue dot. At the bottom right, there are three buttons: 'Previous', 'OK', and 'Cancel'.

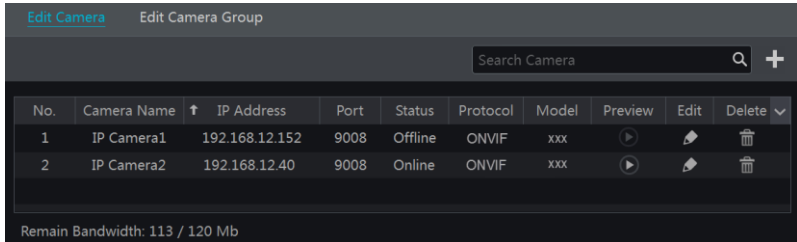
Manual Mode: Set the “Sensor Record”, “Motion Record” and “Schedule Record” of each camera. Click “OK” to save and end the wizard. See [6.1.1 Mode Configuration](#) for details.

The screenshot shows the 'Wizard' interface with the 'Record Config' step selected. The 'Mode' dropdown is set to 'Manual'. Below it is a table with columns for 'Camera Name', 'Sensor Record', 'Motion Record', and 'Schedule Record'. The first row shows 'IP Camera1' with all three record options set to '<None>'. At the bottom right, there are three buttons: 'Previous', 'OK', and 'Cancel'.

Camera Name	Sensor Record	Motion Record	Schedule Record
IP Camera1	<None>	<None>	<None>

4 Camera Management

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

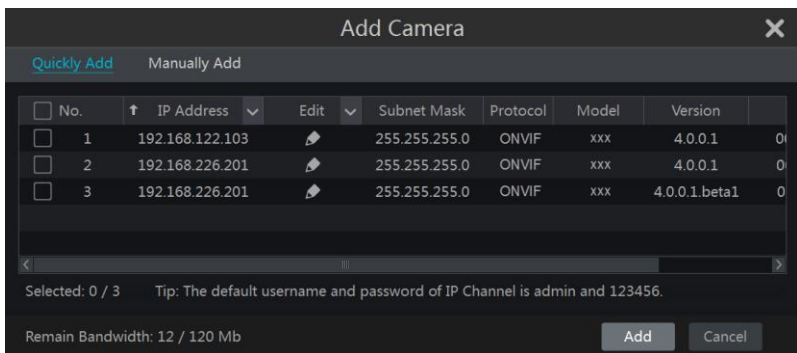


4.1 Add/Edit Camera

4.1.1 Add Camera

The network of the NVR should be set before adding IP camera (See [10.1 TCP/IPv4 Configuration](#) for details).

Click beside the search box or click “Add Camera” menu on the left side of the “Edit Camera” interface to pop up the “Add Camera” window. You can quickly add or manually add the IP camera.



Quickly Add: The IP cameras which are in the same local network with the NVR can be searched by clicking "Quickly Add" menu. Check the camera and then click “Add” to add camera. Click to edit the IP camera (make sure this IP address is in the same local network segment as that of the NVR. See [Add Camera](#) in [Chapter 3 Wizard Setup](#) for details). You can add the IP camera which supports the ONVIF protocol through manually add mode.

IP Address	Port	Username	Password	Protocol	Test	Delete
0.0.0.0	80	admin	*****	ONVIF	Test	

Manually Add: Add the IP camera manually. If the camera you need to add is in WAN, you should input the WAN IP address of the camera.

Input the IP address, port and the correct username and password of the IP camera, select the protocol. Click “Test” to test the effectiveness of the input information and then click “Add” button. You can click to delete the camera.

4.1.2 Edit Camera

Click in the “Edit Camera” interface to edit the camera (See **Add Camera** in [Chapter 3 Wizard Setup](#) for details). Click to delete the camera.

4.2 Add/Edit Camera Group

Click “Edit Camera Group” to go to the following interface. Click to delete the group.



Group	Dwell Time	Number of Cameras	Actions
Group1	Dwell Time (10 Secs)	Number of Cameras(2)	
Group2	Dwell Time (10 Secs)	Number of Cameras(2)	

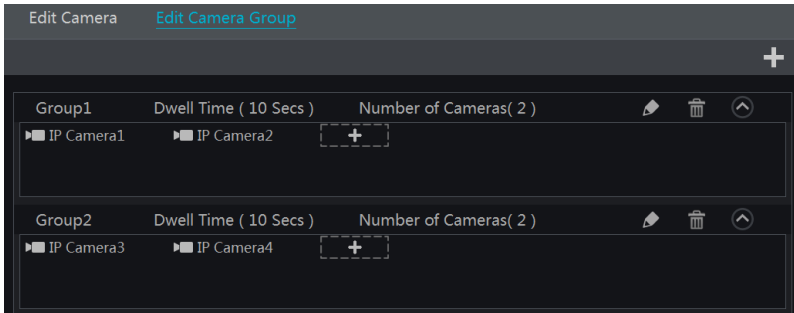
4.2.1 Add Camera Group



Click to pop up the “Add Group” window as shown below.

Set the group name and dwell time (the dwell time of the camera group sequence view) in the window. Check the cameras and then click “Add” to add group.

4.2.2 Edit Camera Group

Click  in the “Edit Camera Group” interface to pop up the “Edit Group” window. Set the group name and dwell time and then click “OK” to save the settings. Click  to view the cameras in the group as shown below.

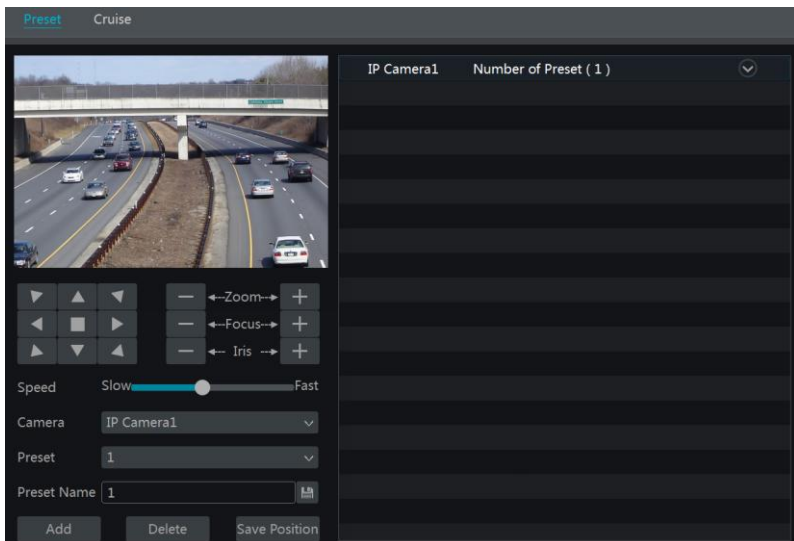


Click  on the top right corner of the camera to delete it. Click  to pop up a window. Check the camera in the window and then click “Add” to add the camera to the group.












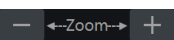


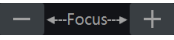


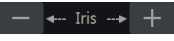


4.3 PTZ

4.3.1 Preset Setting

Click Start→Settings→Camera→PTZ→Preset to go to the following interface.





Introductions of the preset control buttons:


Button	Meaning
	Click  to rotate the dome upwards. Click  to rotate the dome diagonally up-left. Click  to rotate the dome diagonally up-right. Click  to rotate the dome downwards. Click  to rotate the dome diagonally down-right. Click  to rotate the dome diagonally down-left. Click  to rotate the dome towards left. Click  to rotate the dome towards right. Click  to stop rotating the dome.
	Drag the slider to adjust the rotating speed of the dome.
	Click  to zoom in camera image; click  to zoom out camera image.
	Click  to increase the focal length; click  to decrease the focal length.
	Click  to increase the iris of the dome; click  to decrease the iris of the dome.

➤ Add preset

- ① Select camera and then click “Add” to pop up the “Add preset” window.
- ② Input the preset name in the popup window and then click “OK” button.



You can also click  in the camera list to display the preset information of the dome and then click  to add preset.

➤ Edit preset

Select camera and preset. You can input 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.

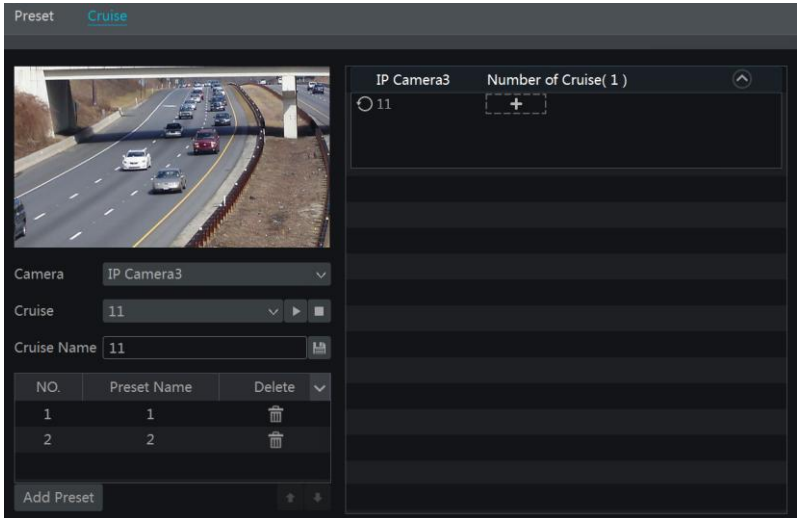
➤ Delete Preset

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



You can also click  in the camera list to display the preset information of the dome and then click  on the top right corner of the preset to delete the preset.

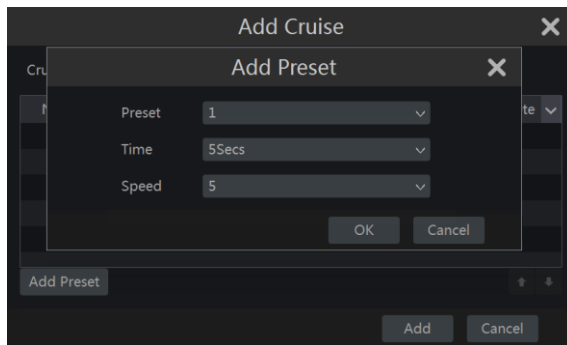
4.3.2 Cruise Setting

Click Start→Settings→Camera→PTZ→Cruise to go to the following interface.





➤ Add Cruise

① Click  in the camera list to display the cruise information of the dome and then click  to add cruise as shown below.









② Input 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).



③ In the “Add Preset” window, select the preset name, preset time and preset speed and then click “OK” button.

④ In the “Add Cruise” window, you can click  to modify the preset name, preset time and preset speed and click  to delete the preset. Click “Add” button to save the cruise.


➤ Edit Cruise

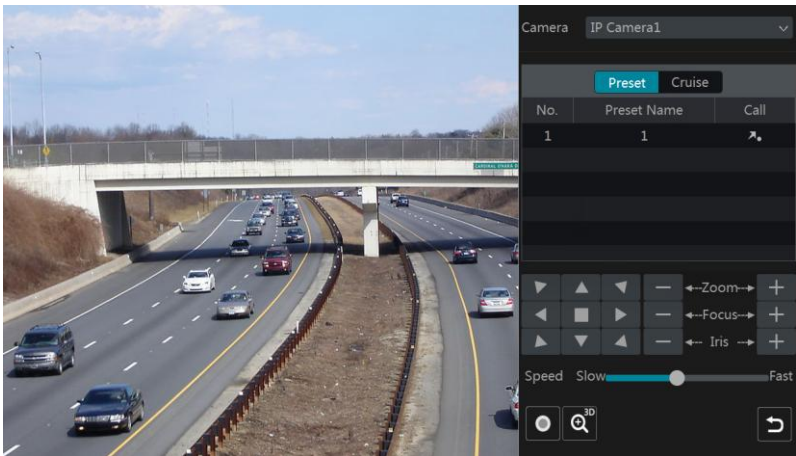
Select the camera and cruise in the “Cruise” interface. Input the new cruise name and then click  to save the cruise name. Click “Add Preset” to add preset to the cruise. Click  to delete the preset from the cruise. Click one preset in the preset list and then click  to move down the preset and click  to move up the preset. Click  to start the cruise and click  to stop it.

➤ Delete Cruise





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


4.3.3 PTZ Control



Click  on the menu bar at the bottom of the live preview interface to go to the PTZ control interface as shown below.



Select the camera and then click the control buttons to control the dome (See the table in [4.3.1 Preset Setting](#) for details).



Click  to start recording. Click  to stop recording. Click  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 return to the live preview interface.

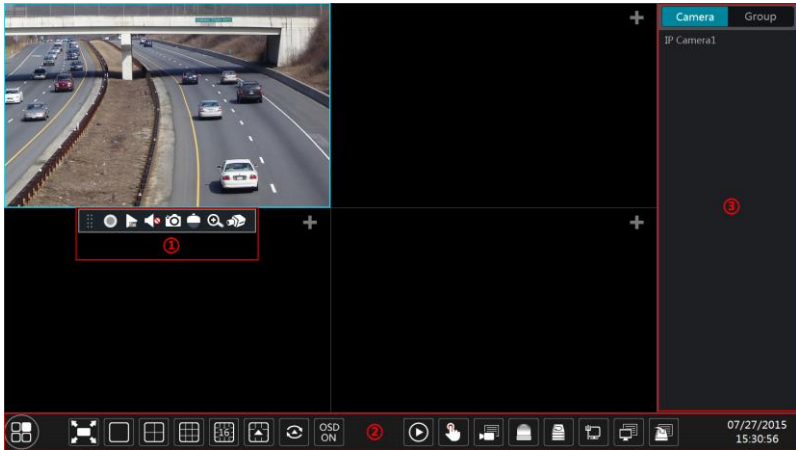
Call the preset: click “Preset” to view the presets and then click  to call the preset.

Call the cruise: click “Cruise” to view the cruises. Click  to start the cruise and click  to stop the cruise.










5 Preview



5.1 Live Preview

You need to add IP camera first after logging on to the system. Click  on the camera window to add IP camera (See 4.1.1 Add Camera for details). Click  to edit camera (See Add Camera in Chapter 3 Wizard Setup for details). Refer to the following figure.



Introductions of area ① and the right-click menus:

Button	Right-click Menu	Meaning
	--	Move tool. Click it to move the menu bar anywhere.
	Manual Record On	Click it to start recording.
	Instant Playback	Click  to playback the record from the past five minutes. Click "Instant Playback" to select or self-define the instant playback time.
	Enable Audio	Click it to enable audio. You can listen to the camera audio by enabling audio.
	Snap	Click it to pop up the snap window. Click "Save" in the window to save the image. Click "Export" to export the image.
	PTZ Control	Click it to go to PTZ control interface.
	Zoom In	Click it to go to single channel amplification interface.
	--	Click it to go to image adjustment interface. Refer to 5.3.4 Image Adjustment for details.
--	Camera Information	Click it to view the camera information.

The single channel amplification interface is as shown below. Press and drag the blue box to select the zoom in area. Click  to zoom out the image; click  to zoom in the image.

Click the camera selection box to select other cameras for amplification. Click “Back” to return to the live preview interface.



The buttons in area ② are introduced in the following table.




Button	Meaning
	Start button. Click it to pop up the start menu.
	Full screen button. Click it to show full screen; click it again to exit the full screen.
	Screen mode button.
	Dwell button (see 5.2 Dwell for details).
	Click it to enable OSD; click to disable OSD.
	Playback button. Click it to go to playback interface.
	Manual record/manual alarm button. Click it to view the manual record status and manual alarm status.
	Record status button. Click it to view the record status.
	Alarm status button. Click it to view the alarm status.
	Disk status button. Click it to view the disk status and RAID status.
	Network status button. Click it to view the network status.
	System information button. Click it to view system information.
	Backup status button. Click it to view backup status.

Introduction of area ③:

Click “Camera” to view all the cameras. Click “Group” to view all the groups. Click one group to view the cameras in the group.

5.2 Sequence View


5.2.1 Quick Sequence View

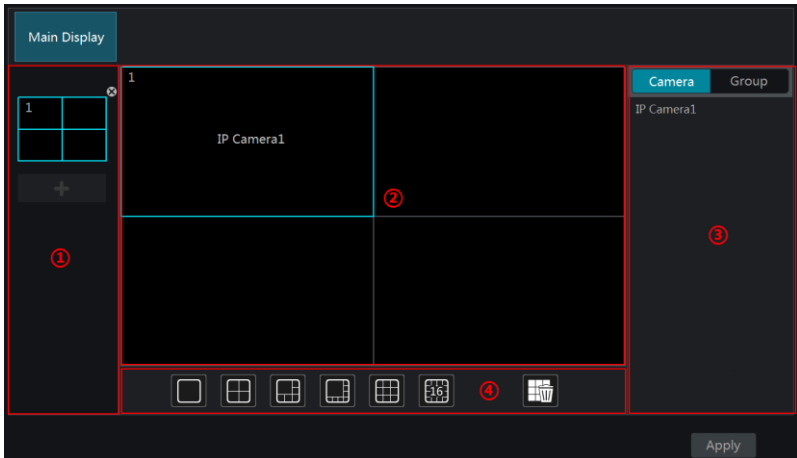
You can start quick sequence view if the scheme has not been created. Go to the live preview interface and then click  to pop up a little window. Set the dwell time in the window and then click  to view the live group by group according to the camera number of the current screen mode. Double click the sequence view interface to pause the view; double click again to restore the view. Click  to stop the view.

5.2.2 Camera Group View In Sequence



You can start camera group view in sequence if camera group has been created (see [4.2.1 Add Camera Group](#) for details). Go to the live preview interface and then select a camera window. Double click the camera group on the right side. The cameras in the group will start camera group view one by one in the selected camera window.

5.2.3 Scheme View In Sequence

Click Start→Settings→System→Basic→Output Configuration to go to the following interface. Area ① displays all the dwell schemes; area ② shows the detailed information of the scheme; area ③ displays all the cameras and groups; area ④ is the menu bar (: clear button; other buttons are screen mode buttons).




➤ Add / Delete Scheme




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

➤ Configure Scheme

- Select a scheme in area ①.
- Click the screen mode button on the menu bar to set the screen mode of the scheme.

- c) 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.
- d) Click “Apply” to save the settings.

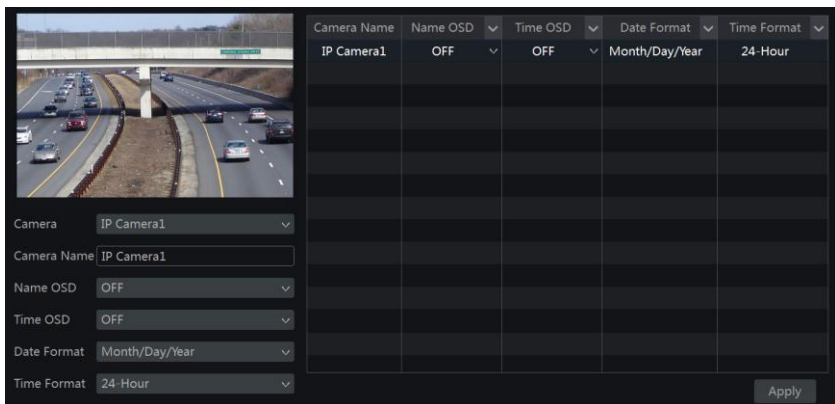
➤ Start Sequence View

Go to the live preview interface and then click  to pop up a little window. Set the dwell time 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.

5.3 Image Setting

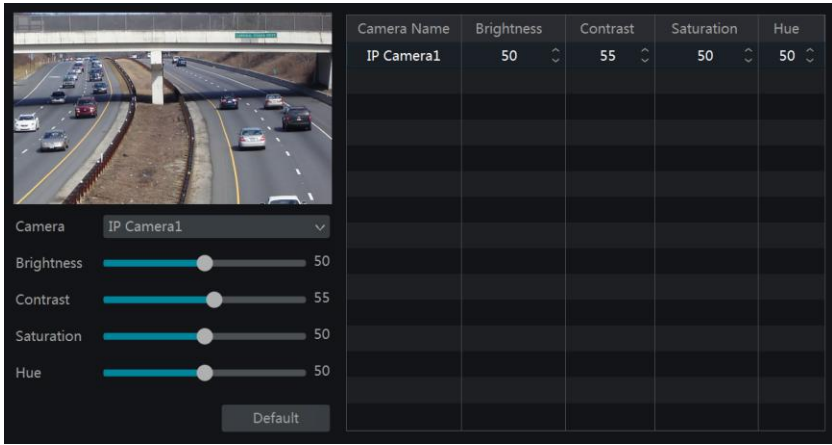
5.3.1 OSD Configuration

Click Start→Settings→Camera→Image Settings→OSD Configuration to go to the following interface. Select the camera, input the camera name (you can double click the camera name in the camera list to change the camera name), enable or disable the name OSD and time OSD and select the date format and time format. If the name OSD and time OSD are enabled, you can directly drag the red name OSD and time OSD in the image view area to change the display position of the two OSDs. Click “Apply” to save the settings.



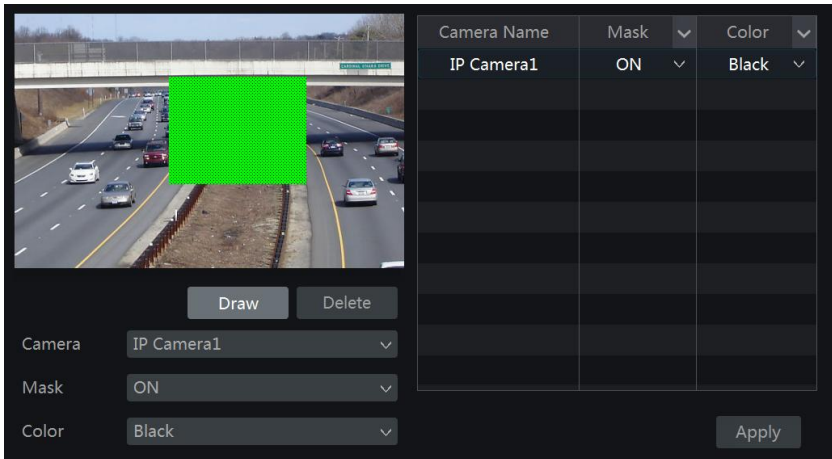
5.3.2 Image Configuration

Click Start→Settings→Camera→Image Settings→Image Configuration to go to the following interface. Select the camera and then set the brightness, contrast, saturation and hue of the camera. You can click “Default” button to restore the image settings to the default factory settings.



5.3.3 Mask Configuration

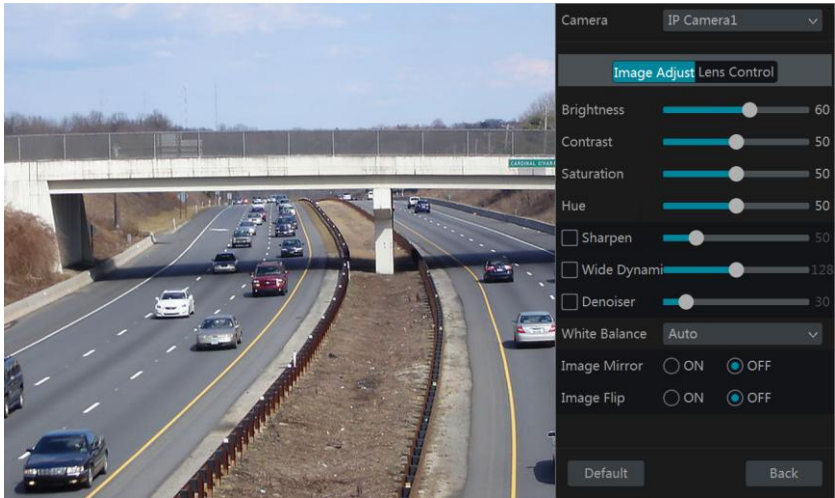
Some areas of the image can be masked for privacy. Up to four mask areas can be set for each camera. Click Start→Settings→Camera→Image Settings→Mask Configuration to go to the following interface.



Select the camera, enable the mask and set the mask color. 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.

5.3.4 Image Adjustment

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





➤ Image Adjustment

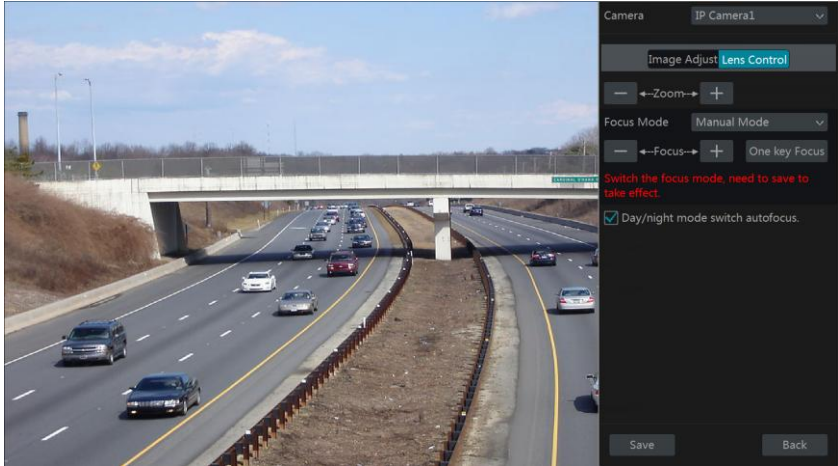
Select the camera and then click “Image Adjustment” to go to image adjustment tab. Refer to the above picture. Drag the slider to set the camera’s brightness, contrast, saturation and hue value. Check sharpen, wide dynamic and denoiser and then drag the slider to set the value. Click “Default” button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

The introductions of these parameters are as follows:

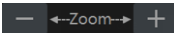


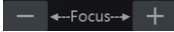


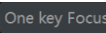
Parameter	Meaning
Brightness	It refers to the brightness level of the camera’s image.
Contrast	It refers to the ratio of black and white. The bigger the ratio is, the clearer and more colorful the image is; the smaller the ratio is, the darker the image is.
Saturation	It refers to the brightness degree of the color.
Hue	It reflects the total color degree of the image.
Sharpen	It reflects the resolution level of the image plane and the sharpness level of the image edge.
Wide Dynamic	It can lighten the darker area and darken the brighter area of the image.
Denoiser	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	In different light environments, the object’s color will change according to the projection light. By setting the value of red gain and blue gain in white balance, you can correct the color error. For instance, the projection light is yellow and it will make the whole image a little yellowish. By setting the red gain and blue gain to the appropriate value, you can turn the whole image back to the original color. There are four modes available: auto/manual/outdoor/indoor.
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” button 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, the focus button, “One Key Focus” and “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 it to focus instantly.
Day/night mode switch autofocus	If checked, the lens will focus automatically when the camera is switching day/night mode.
Time Interval	It refers to the time interval when camera lens is auto-focusing. The time interval can be set in the drop-down list.

Note: This function is only available for the models with auto varifocal lens, or the settings here are ineffective.

6 Record

6.1 Record Configuration

6.1.1 Mode Configuration

You should format the HDDs before recording, or the NVR cannot store the record files. Click Start→Settings→Record→Mode Configuration to go to the mode configuration interface. You can set the record time under the “Manual Record Option” and then click “Apply” button to save the settings. There are two record modes: auto mode and manual mode.

Record Mode

Mode

Motion Record

Sensor Record

Motion/Sensor Record

Always Schedule/Motion Record

Always Schedule/Sensor Record

Always Schedule/Motion/Sensor Record

Manual Record Option

Record Time

Apply

➤ Auto Mode

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

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

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

Always Schedule/Motion Record: Schedule recording is enabled all the time; motion alarm recording will be started when motion alarm happens.

Always Schedule/Sensor Record: Schedule recording is enabled all the time; sensor alarm recording will be started when sensor alarm happens.

Always Schedule/Motion/Sensor Record: Schedule recording is enabled all the time; motion/sensor alarm recording will be enabled when motion/sensor alarm happens.

Select one auto mode to pop up the corresponding window. Set the record resolution, FPS, bitrate and audio of each camera and then click “OK” to save the settings.

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

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

Bitrate: the higher the image quality you choose, the more bit rate will be required.

➤ Manual Mode

If the manual mode is selected, you need to set the record streams and record schedules of each camera. See [6.2 Record Stream Configuration](#) and [6.4 Record Schedule Setting](#) for details.

6.1.2 Advanced Configuration

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

Camera Name	Pre Record Time	Delayed Record Time	Expiration Time
IP Camera1	5 Secs	10 Secs	Never Expire

Pre Record Time: set the time to record before the actual recording begins.

Delayed Record Time: set the time to record after the actual recording is finished.

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


6.2 Record Stream Configuration

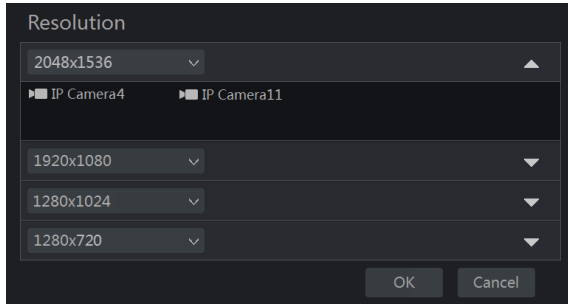
Click Start→Settings→Record→Record Stream to go to the following interface.



Camera Name	Stream Type	Resolution	FPS	Bitrate	Audio	Record Stream
IP Camera1	Main Stream	1920x1080	25	4096Kbps	ON	Dual Stream

Set the resolution, FPS, bitrate and audio of each camera in “Event Record Stream” and “Timing Record Stream” interfaces. Click “Apply” to save the settings.

You can set the record streams of each camera one by one or batch set them for all cameras.

Click  on “Resolution” title bar to pop up the following window.



The IP cameras which support the same resolution will be grouped together. Click  to display the cameras in the group; click  to hide the cameras. By changing the resolution here, the resolution of all cameras in the same group will be changed together. Click “OK” to save the settings.

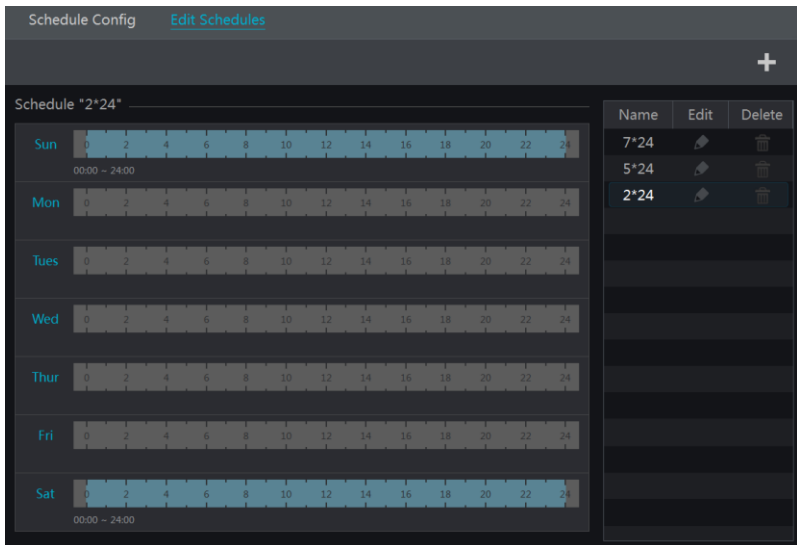
6.3 Stream Settings

Click Start→Settings→Record→Stream Settings to go to “Sub Stream” interface. Set the resolution, FPS and bitrate in the interface and then click “Apply” to save the settings.




6.4 Record Schedule Setting

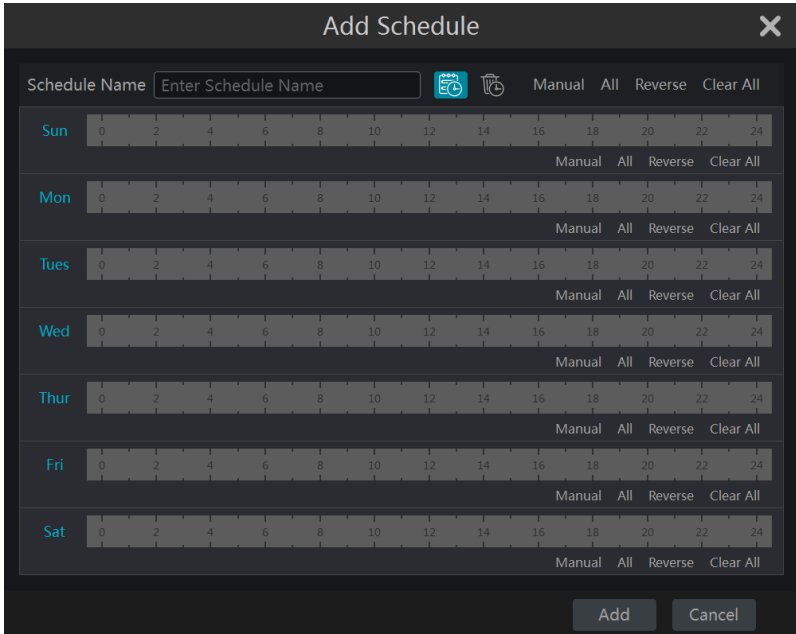
6.4.1 Add Schedule

Click Start→Settings→Record→Record Schedule→Edit Schedules to go to the interface as shown below.



“7*24”, “5*24” and “2*24” are the default schedules and they cannot be changed or 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 following figure. 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 add button and then drag the cursor to set record time; click delete button and then drag the cursor to delete the selected area. You can manually set the record start time and end time. Click add button or delete button and then click “Manual” on each day to pop up a window. Set the start time 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.

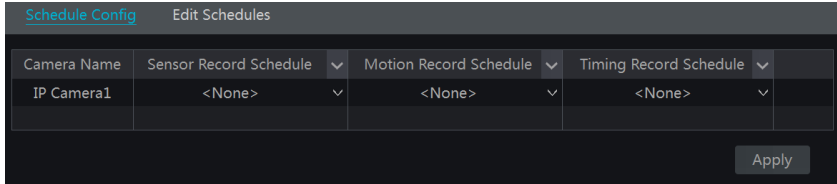
➤ Set Week Schedule

Click “Manual” beside the delete button to set the week schedule. 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.


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


6.4.2 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 and timing record. Click “None” in the drop-down menu to clear the schedule. Click “Apply” to save the settings.



6.5 Manual Recording

Method One: Click  on the menu bar at the bottom of the live preview interface to enable or disable the manual recording of the camera.

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

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

6.6 Timing Recording

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

Set the timing record schedule of each camera. See [6.4.2 Schedule Configuration](#) for details.

6.7 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 [6.4.2 Schedule Configuration](#) for details.
- ② Enable the motion and set the motion area of each camera. See [9.2 Motion Alarm](#) for details.


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

6.8 Sensor Based Recording

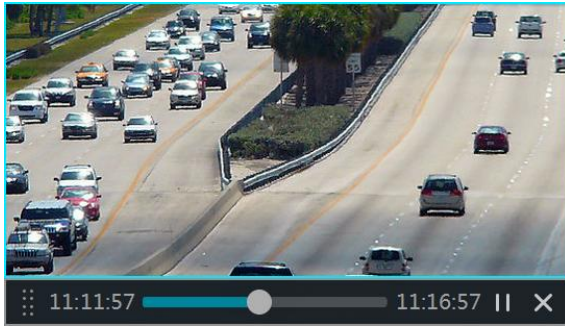
- ① Set the sensor based recording schedule of each camera. See [6.4.2 Schedule Configuration](#) for details.
- ② Set the NO/NC type of the sensor, enable the sensor alarm and then check and configure the “Record”. See [9.1 Sensor Alarm](#) for details.

7 Playback


7.1 Instant Playback

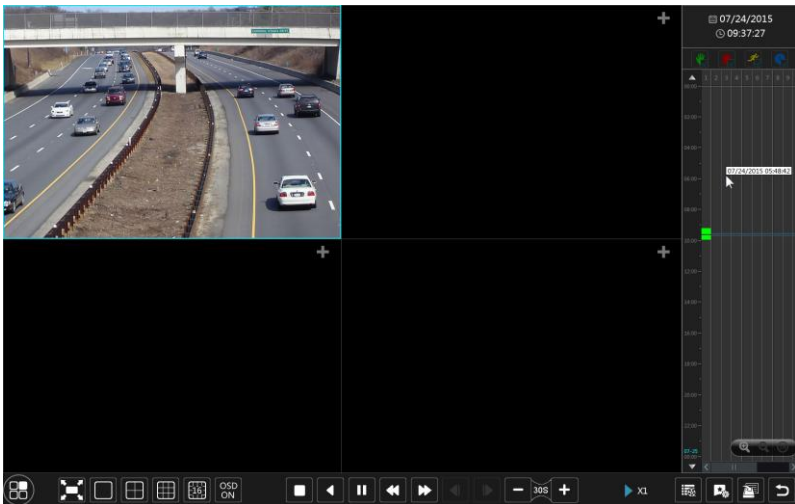
Click  on the menu bar at the bottom of the live preview interface to play back the record from the past five minutes. Refer to the following figure. You can drag the playback progress bar to change the playback time.


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.



7.2 Quick Playback

Click  on the menu bar at the bottom of the live preview interface or click Start→Playback to go to the playback interface as shown below.














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.










Click on the playback window to show its menu bar on the bottom of the playback window. Right click on the playback window to show its right-click menu.

The descriptions of the buttons on the menu bar and the right-click menu are as follows.






Button	Right-click Menu	Meaning
	--	Move tool. Click it to move the menu bar anywhere
	Enable Audio	Click it to enable audio. You can listen to the camera audio by enabling audio.
	Snap	Click it to snap.
	Zoom In	Click it to go to the zoom in interface. The zoom in interface is similar to that of the camera window in the live preview 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 it to add tag. You can play back the record by searching the added tag. Click it and then input the tag name in the popup window. Click “Add” to add tag.
	Switch Camera	Click it 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 it to close the playback camera.

The buttons on the menu bar at the bottom of the playback interface are introduced in the following table.

Button	Meaning
	Start button. Click it to pop up the start menu.
	Full screen button. Click it to show full screen; click it again to exit the full screen.
	Screen mode button.
	OSD ON button. Click it to enable OSD; click  to disable OSD.
	Stop button.
	Rewind button. Click it to play video backward.
	Forward button. Click it to play video forward.
	Pause button.
	Speed down button. Click it to decrease the playing speed.
	Speed up button. Click it to increase the playing speed.

Button	Meaning
	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.
	Click  to step backward 30s and click  to step forward 30s.
	Event list button. Click it to view the event record of manual/schedule/sensor/ motion.
	Tag management button. Click it to view the tag information.
	Backup status button. Click it to view the backup status.
	Back button. Click it to return to the live preview interface.

➤ Introduction of time scale

A menu bar will appear after moving the mouse to the time scale on the right side. Click  to zoom in the timeline; click  to zoom out the timeline; click  to recover the timeline to 24 hours' ratio. Drag the timeline 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.

After adding camera, the record files of the added camera will be shown on the time scale using different color blocks. Green block stands for manual recording, yellow block stands for motion based recording, blue block stands for schedule recording and red block stands for sensor based recording.

Click on the color block of time scale to set the time and then the playback camera will play the record from the time you set. You can also set the date and time on the top right corner of the interface and then the camera will play the record according to the time you set.

➤ Backup record by time scale

Drag the color blocks on the time scale to select the backup area and then right click the area to pop up a backup information window. Click “Backup” button in the window to pop up the backup window. Select the device name, backup format and then click “Backup” button to start the backup.



7.3 Playback by Search


7.3.1 Playback by Time Slice Search

- ① Click Start→Search→By Time Slice to go to “By Time Slice” tab. There are two view modes: by time and by camera. In the time view mode, a maximum of 64 camera thumbnails can be showed. 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 record in the small playback box on the left side of the interface (the box which has image inside indicates that the record data exist). Click “Playback” button to play the record in the playback interface.

Slice Mode Changing:




Method One: By clicking “Year”, “Month” or “Day” button under the time scale you can change the slice mode (in “Day” mode, you can click   on the left/right side of the time scale to view the record data of last/next day). Select “Minute” in the “Picture” option under the time scale to change the slice mode to “Minute” (in “Minute” mode, click the time scale to change the time of 60 display windows).

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

7.3.2 Playback by Time Search



- ① Click Start→Search→By Time to go to “By Time” tab.
- ② Click  on the bottom of the interface to add 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 record 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. Click “Playback” button to play the record in the playback interface.




7.3.3 Playback by Event Search

- ① Click Start→Search→By Event to go to “By Event” tab.
- 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 and then click  to search the record. The searched record will be displayed in the list. A small playback window will pop up after clicking  in the list.
- ⑤ Select one record file in the list and then click “Playback” button to play the record in the playback interface.

7.3.4 Playback by Tag Search

Only if you add the tags can you play the record by tag search.



Click Start→Playback to go to the playback interface and then click  to add playback camera. Click  on the bottom of the camera window to add tag.

Click Start→Search→Tag Management to go to “Tag Management” tab. Click  in the interface to play the record. Click  to edit the tag name. Click  to delete the tag.

8 Backup





The record files and the snapped pictures can be backed up through network, USB (U disk or USB mobile HDD) or e-SATA (only available for some models). The file system of the backup devices should be FAT32 format.

8.1 Backup by Time



- ① Click Start→Backup→By Time to go to the “By Time” tab.
- ② Click  in the tab to pop up the add camera window. Check the cameras in the window and then click “Add” button. Click “Modify” on the top right corner of the camera window to change the camera and click “Clear” to remove the camera.
- ③ Set the date on the top left of the interface. Drag the time scale to set the backup time period or click  under the time scale to set the backup start time and end time.
- ④ Click “Backup” button to pop up the “Record Backup” window. Select the device name, backup format and path and then click “Backup” button to start the backup.







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

8.2 Backup by Event

- ① Click Start→Backup→By Event to go to “By Event” tab.
- ② Click  to set the start time and end time on the left top of the interface.
- ③ Check the event types and cameras.
- ④ Click  to search the record. The searched record files will be displayed in the list. Click  in the list to play the record in the small popup playback window. Click  to back up the record. Check one record file or above in the list and then click “Backup” button to back up the record files.

8.3 Image Management

Click Start→Backup→Image Management to go to “Image Management” tab. The system will display all the snapped 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 View Backup Status

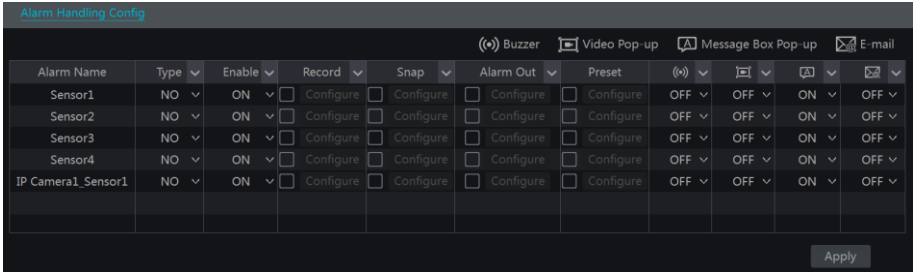
Click Start→Backup→Backup Status or click  on the menu bar at the bottom of the live preview or playback interface to view the backup status.

9 Alarm

9.1 Sensor Alarm



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

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



- Select the alarm type (NO or NC) according to trigger type of the sensor.
- Enable the sensor alarm of each camera.
- Check the “Record”, “Snap”, “Alarm Out” and “Preset” and enable or disable the “Buzzer”, “Video Pop-up”, “Message Box Pop-up” and “E-mail” as required.
- Click “Apply” to save the settings.

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

Record: check it and then 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 the 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.

Snap: check it and then the “Trigger Camera Snap” window will pop up automatically. Configure the trigger camera snap in the window. The trigger cameras will snap automatically when the sensor alarm is triggered.

Alarm Out: check it and then the “Trigger Alarm Out” window will pop up automatically. Configure the trigger alarm out in the window. 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 [9.4.1 Alarm Out](#) for details.

Preset: check it and then the “Trigger Preset” window will pop up automatically. Configure the trigger preset of each camera. To add presets, please see [4.3.1 Preset Setting](#) for details.

Buzzer: if enabled, the system will begin to buzz when the sensor alarm is triggered. To set the duration time of the buzzer, please see [9.4.4 Buzzer](#) for details.

Video Pop-up: if enabled, 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 [9.4.3 Display](#) for details.

Message Box Pop-up: 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 [9.4.3 Display](#) for details.

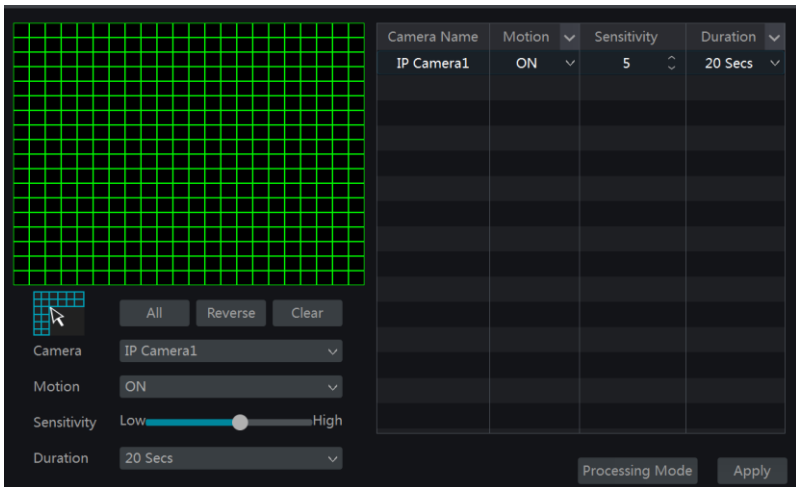
E-mail: if enabled, the system will send an e-mail when the sensor alarm is triggered. Before you enable the email, please configure the recipient's e-mail address first (See [10.4 E-mail Configuration](#) for details).

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).

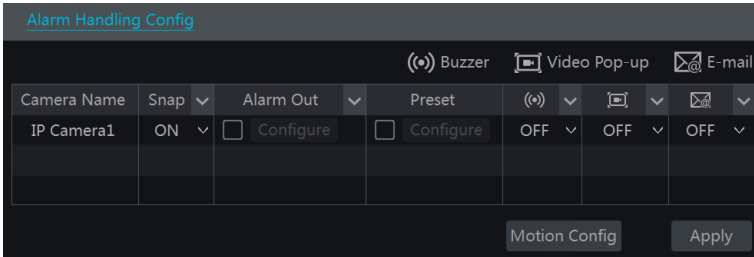
Duration: it refers to the interval time between the adjacent motion detections. For instance, if the duration time is set to 10 seconds, once the system detects a motion, it will go to alarm and would not detect any other motion (specific to camera) in 10 seconds. If there is another motion detected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

- ③ Drag the camera image to set the motion area. You can set more than one 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

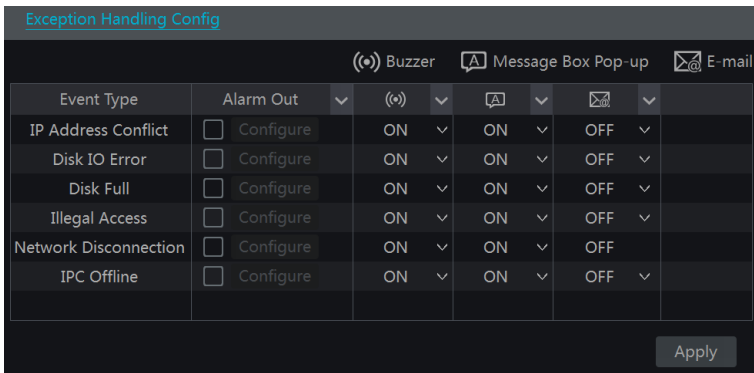
- ① Click Start→Settings→Alarm→Motion Alarm to go to the following interface.



- ② Enable or disable “Snap”, “Alarm Out”, “Preset”, “Buzzer”, “Video Pop-up” and “E-mail”. The alarm handling configurations of motion alarm are similar to that of the sensor alarm (See [9.1 Sensor Alarm](#) for details).
- ③ Click “Apply” to save the settings. You can click “Motion Configuration” to go to the motion configuration interface.

9.3 Exception Alarm

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

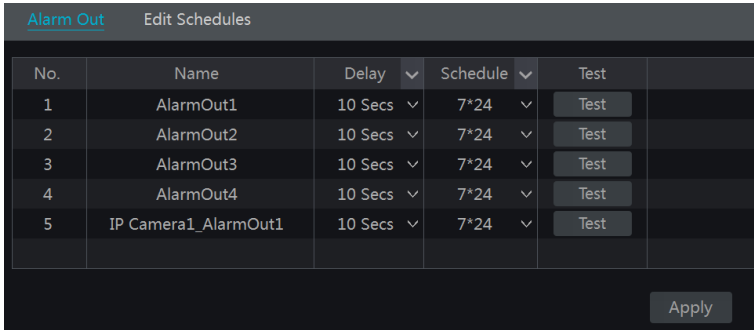


- ② Enable or disable “Alarm Out”, “Buzzer”, “Message Box Pop-up” and “E-mail”. The exception handling configurations are similar to the alarm handling configurations of sensor alarm (See [9.1 Sensor Alarm](#) for details).
- ③ Click “Apply” to save the settings.

9.4 Alarm Event Notify

9.4.1 Alarm Out

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



No.	Name	Delay	Schedule	Test	
1	AlarmOut1	10 Secs	7*24	Test	
2	AlarmOut2	10 Secs	7*24	Test	
3	AlarmOut3	10 Secs	7*24	Test	
4	AlarmOut4	10 Secs	7*24	Test	
5	IP Camera1_AlarmOut1	10 Secs	7*24	Test	

- ② Set the delay time and the schedule of each alarm out. You can click “Edit Schedules” to edit the schedules (See [6.4.1 Add Schedule](#) for details).
- ③ Click “Apply” to save the settings. You can click “Test” to test the alarm output.

9.4.2 E-mail

Click Start→Settings→Alarm→Event Notify→E-mail to go to the e-mail configuration interface. Set the e-mail address of the recipients. See [10.4 E-mail Configuration](#) for details.


9.4.3 Display

Click Start→Settings→Alarm→Event Notify→More...→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 the settings.

9.4.4 Buzzer

Click Start→Settings→Alarm→Event Notify→More...→Buzzer to go to the buzzer configuration interface. Set the delay time of the buzzer and then click “Apply” to save the setting. You can click “Test” to test the buzzer.

9.5 Manual Alarm


Click  on the menu bar at the bottom of the live preview interface and then click “Manual Alarm” in the popup window. Click “Trigger” to start alarm. Click “Clear” to stop alarm.

Manual Record		Manual Alarm	
Alarm Out Name	Status	Trigger	Clear
AlarmOut1	Normal	Trigger	Clear
AlarmOut2	Normal	Trigger	Clear
AlarmOut3	Normal	Trigger	Clear
AlarmOut4	Normal	Trigger	Clear
IP Camera1_AlarmOut1	Normal	Trigger	Clear
Close			




9.6 View Alarm Status

Click Start→Settings→Alarm→Alarm Status to view the system's alarm status.

Buzzer		Clear	▼
Alarm In	● Normal		▼
Alarm Out	● Normal		▼
Motion	● 1 Exception		▼
Exception	● 5 Exception		▼
Close			

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

Buzzer		Clear	▼
Alarm In	● Normal		▼
Alarm Out	● Normal		▼
Motion	● Normal		▼
Exception	● 9 Exception		▲
Abnormal Network : IP通道5			
Alarm Time : 07/30/2015 10:48:47			
Status : IPC Offline			
Trigger Alarm Out : None			
Trigger Buzzer : OFF		Message Pop-up : ON	
Trigger E-mail : OFF			
< 1 > All 9. Jump to <input type="text"/> >			
Close			

If the exception information is more than one page, you can input 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 in some alarms.

10 Network Configuration

10.1 TCP/IPv4 Configuration

➤ IP Address Settings

Click Start→Settings→Network→TCP/IPv4 to go to the following interface. Check “Obtain IP address automatically” and “Obtain DNS server address automatically” to get the IP address and DNS server address automatically, or manually input IP address, subnet mask, gateway, preferred DNS and alternate DNS. Click “Apply” to save the settings.

IP Address Settings

eth0

Obtain an IP address automatically

IP Address

Subnet Mask

Gateway

Obtain DNS server address automatically

Preferred DNS

Alternate DNS

PPPoE Settings

Enable

Username

Password

Display Password

Apply

➤ PPPoE Settings

In the above interface, check “Enable” in “PPPoE Settings” and then input the username and password obtained from the dealer. Click “Apply” to save the settings.

10.2 Port Configuration

Click Start→Settings→Network→Port to go to the following interface. Input the HTTP port, server port and RTSP port of the NVR and then click “Apply” to save the ports.



Port	
HTTP Port	<input type="text" value="80"/>
Server Port	<input type="text" value="6036"/>
RTSP Port	<input type="text" value="554"/>
<input type="button" value="Apply"/>	

HTTP Port: the default HTTP port of the NVR is 80. The port number can be changed to others like 81. The port is mainly used to IE remote access. If you want to access the NVR through IE, you should input IP address plus HTTP port in the IE address bar like `http://192.168.11.61:81`.

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

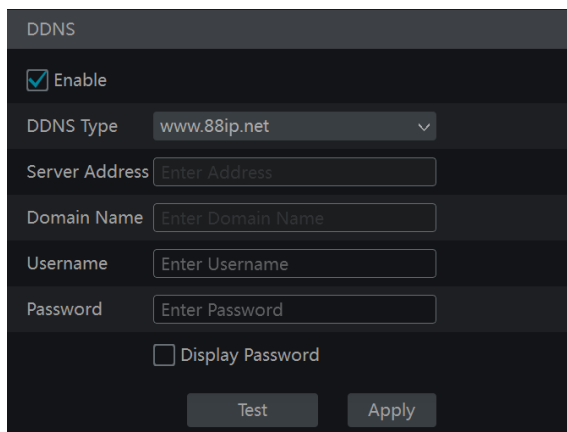
RTSP Port: RTSP real-time stream protocol can be used to control the sending of real-time data. By media player which supports the RTSP real-time stream protocol, you can view the live images synchronously. The default RTSP port is 554 and it can be changed as required.

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

10.3 DDNS Configuration

The DDNS is used to control the dynamic IP address through domain name. You can access to the NVR easily if the DDNS is enabled and configured.

Click Start→Settings→Network→DDNS to go to the following interface.



DDNS	
<input checked="" type="checkbox"/> Enable	
DDNS Type	<input type="text" value="www.88ip.net"/>
Server Address	<input type="text" value="Enter Address"/>
Domain Name	<input type="text" value="Enter Domain Name"/>
Username	<input type="text" value="Enter Username"/>
Password	<input type="text" value="Enter Password"/>
<input type="checkbox"/> Display Password	
<input type="button" value="Test"/> <input type="button" value="Apply"/>	

Check “Enable” and then select the DDNS type. Input the server address, domain name, username and password according to the selected DDNS type. Click “Test” to test the effectiveness of the input information. Click “Apply” to save the settings.

You will have to input the server address and domain name if some DDNS types are selected. Go to the relative DNS website to register domain name and then input the registered domain information here). Now we take **www.dvrdydns.com** for example.

- ① Input **www.dvrdydns.com** in the IE address bar to visit its DNS website.

Welcome to DvrDydns
Enter your user name and password. Choose logon to continue.

Enter your user name and password below.

USER LOGON	
USER NAME:	<input type="text"/>
PASSWORD:	<input type="password"/>
Password is case sensitive.	
<input type="button" value="Logon"/> <input type="button" value="Reset"/>	
Forgot your password?	

- ② Click **Registration** button to go to the interface as shown below. Set the DDNS account information (username, password and so on) and then click **Submit** button to save the account.

DDNS account creation.

NEW USER REGISTRATION	
USER NAME	<input type="text"/>
PASSWORD	<input type="password"/> ?
PASSWORD CONFIRM	<input type="password"/>
FIRST NAME	<input type="text"/>
LAST NAME	<input type="text"/>
SECURITY QUESTION.	My first phone number. ▾
ANSWER	<input type="text"/>
CONFIRM YOU'RE HUMAN	<p>7+1=</p> <p>New Captcha</p> <input type="text"/> <p>Solve the problem above.</p>
<input type="button" value="Submit"/> <input type="button" value="Reset"/>	
Already have an account? Click here to logon.	

- ③ Create domain name and then click **Request Domain**.

Domain Name Creation

Enter a new domain name below.

You must create a domain name to continue.

Domain name must start with (a-z, 0-9), must be least 3 char!. Cannot end or start, but may contain a hyphen and is not case-sensitive.

.

dvrddns.com ▾

Request Domain

- ④ After you successfully request your domain name, you will see your domain name information in the list.

My Domains

Your domain names are listed below. Choose create new domain to add additional domain names.

Your domain was successfully created.

Click a name to edit your domain settings.

NAME	STATUS	DOMAIN
REDSUNSHINE	✓	redsunshine.dvrddns.com

Last Update: Not yet updated IP Address: 210.21.229.138

Create additional domain names

[1]

- ⑤ Click Start→Settings→Network→DDNS to go to DDNS setting interface. Enable DDNS and then select the **www.dvrddns.com** DDNS type. Input the registered username, password and domain name and then click “Apply”.
- ⑥ Map the IP address and HTTP port in the router (you can skip this step if UPnP function is enabled).
- ⑦ Input the registered domain name plus HTTP port like **http://www.xxx.dvrddns.com:81** in the IE address bar and then press Enter key to go to the IE client.

10.4 E-mail Configuration

Click Start→Settings→Network→E-mail to go to the following interface. Input the sender’s e-mail address, username, password, 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. Click “Test” to pop up a window. Input the e-mail address of the receiver in the window and then click “OK” button. The e-mail address of the sender will send an e-mail to the receiver. If the e-mail is sent successfully, it indicates that the e-mail address of the sender is configured correctly. Click “Apply” to save the settings.

Sender

Sender

Username

Password

SMTP Server

SMTP Port

SSL ▾

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

[E-mail](#) Display Buzzer

E-mail Notification

Sender abc@gmail.com

Recipients	Delete ▾
abc@gmail.com	<input type="button" value="Delete"/>
xyz@gmail.com	<input type="button" value="Delete"/>

Click “Add” and then input the recipient’s e-mail address in the popup window. Click “Add” in the window to add the recipient. Click to delete the recipient in the list. Click “Apply” to save the settings. You can click “Edit Sender” to go to the e-mail configuration interface of the sender.

10.5 UPnP Configuration




By UPnP you can access the NVR through IE client which is in WAN via 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 NVR’s IP address, subnet mask and gateway and so on corresponding to the router.
- ④ Check “Enable” in the above interface and then click “Apply” button.


UPnP

Enable

Map Type Auto

Port Type	External Port	External IP Address	Port	UPnP Status	Edit
HTTP Port	80		80	Invalid UPnP	
Server Port	6036		6036	Invalid UPnP	
RTSP Port	554		554	Invalid UPnP	




Refresh Apply

You can click “Refresh” button to refresh the UPnP status. If the UPnP status were still “Invalid UPnP” after refreshing it for many times, the port number would 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 figure. You can view the external IP address of the NVR. Input the external IP address plus port in the IE address bar to access the NVR such as <http://183.17.254.19:81>.

UPnP


Enable

Map Type Manual

Port Type	External Port	External IP Address	Port	UPnP Status	Edit
HTTP Port	81	183.17.254.19	81	Valid UPnP	
Server Port	6036	183.17.254.19	6036	Valid UPnP	
RTSP Port	554	183.17.254.19	554	Valid UPnP	

Refresh Apply

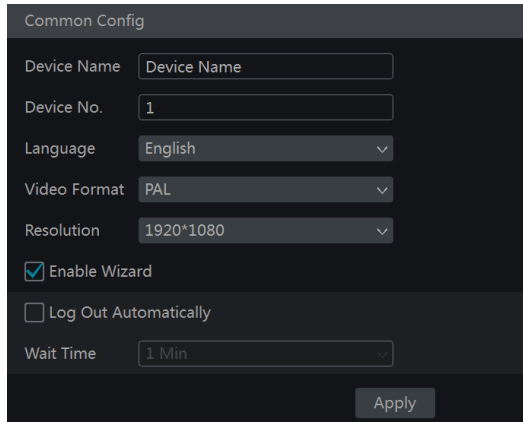
10.6 View Network Status

Click **Start**→**Settings**→**Network**→**Network Status** to view the network status. You can also click  on the menu bar at the bottom of the live preview interface to view network status conveniently.

11 System Setup

11.1 Basic Configuration

Click Start→Settings→System→Basic→Common Configuration to go to the following interface. Set the device name, device No., language, video format and resolution. Enable or disable wizard and “Log Out Automatically” (if checked, you can set the wait time). Click “Apply” to save the settings.



The screenshot shows the 'Common Config' interface with the following fields and values:

- Device Name: Device Name
- Device No.: 1
- Language: English
- Video Format: PAL
- Resolution: 1920*1080
- Enable Wizard:
- Log Out Automatically:
- Wait Time: 1 Min

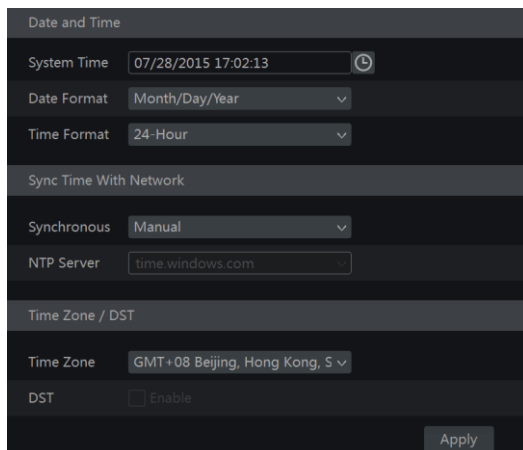
An 'Apply' button is located at the bottom right of the form.

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.

11.2 Date and Time Configuration

Click Start→Settings→System→Basic→Date and Time to go to the following interface.




The screenshot shows the 'Date and Time' configuration interface with the following fields and values:

- System Time: 07/28/2015 17:02:13
- Date Format: Month/Day/Year
- Time Format: 24-Hour
- Sync Time With Network:
- Synchronous: Manual
- NTP Server: time.windows.com
- Time Zone / DST:
- Time Zone: GMT+08 Beijing, Hong Kong, S
- DST:

An 'Apply' button is located at the bottom right of the form.

Set the system time, date format, time format and time zone of the NVR. The default time zone is GMT+08 Beijing, Hong Kong, Shanghai, Taipei. 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 input the NTP server.

11.3 Restore Factory

Click Start→Settings→System→Maintenance→Restoring Factory and then click “Restoring Factory” button in the interface to restore the factory configuration.

11.4 Upgrade

➤ View System Version

Click Start→Settings→System→System Information→Basic to view the hardware version, MCU, kernel version and firmware version and so on.

➤ Version Upgrade

Before upgrade, please get the upgrade file from your dealer.

The upgrade steps are as follows:

- ① Copy the upgrade software into the USB storage device.
- ② Insert the USB storage device into the USB interface of the NVR.
- ③ Click Start→Settings→System→Maintenance→Upgrade to go to “Upgrade” interface. Select the USB device in “Device Name” option and go to the folder where the upgrade software exists. Select the upgrade software and then click “Upgrade”. The system may automatically restart during upgrading. Please wait for a while and do not power off the NVR during upgrading.

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

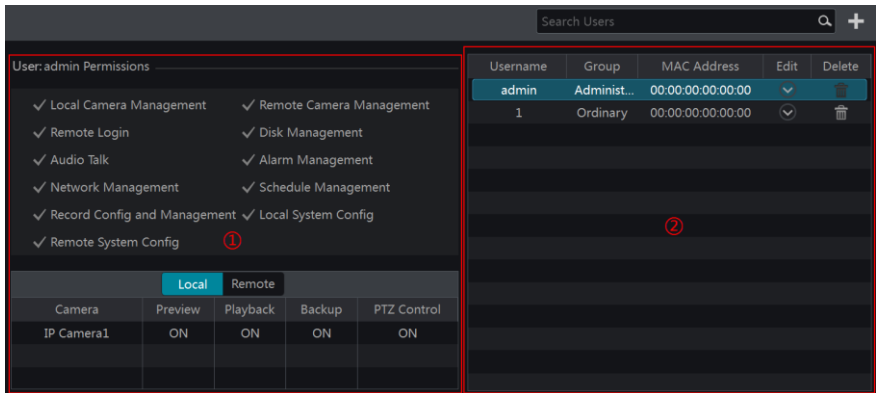
11.5 Backup or Restore Configuration

- ① Insert the USB storage device into the USB interface of the NVR.
- ② Click Start→Settings→System→Maintenance→Backup or Restore Configuration and then select the USB device in “Device Name” option.
- ③ **Backup:** Select the folder location where you want to store the configuration backup file.
Restore: Select the folder location where the configuration backup file exists and then select the configuration backup file.
- ④ **Backup:** Click “Backup” button and then click “OK” in the popup window.
Restore: Click “Restore” button and then click “OK” in the popup window.


12 Device Management

12.1 Account Management

Click Start→Settings→Account and Security→Account→Edit User to go to the following interface. 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 “Ordinary”) available when adding accounts. You can manually add new permission group (see [12.1.4 Add/Edit Permission Group](#) for details). The user *admin* owns all the permissions and it can manage the system’s account. Group “Administrator” owns all the permissions displayed in area ①; “Advanced” owns only a few permissions (create an “Advanced” account and then click it to see the permissions); “Ordinary” has only two permissions: audio talk and local preview.



12.1.1 Add User

① Click Start→Settings→Account and Security→Account→Add User or click  beside the search box to pop up the following window.

Add User ✕

Username

Password

Confirm Password

Display Password

E-mail



Group





Bind MAC

Remark

② Set the username, password and group. The e-mail address, MAC address and the remark are optional (input the MAC address after you check it). Click “Add” to add the user.

12.1.2 Edit User

Click Start→Settings→Account and Security→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).

Username	Group	MAC Address	Edit	Delete
admin	Administ...	00:00:00:00:00:00		
<div style="display: flex; justify-content: space-around;"> Modify Password Edit User Cryptoguard </div>				
1	Ordinary	00:00:00:00:00:00		
<div style="display: flex; justify-content: space-around;"> Edit User Restore the default password </div>				

➤ Cryptoguard

Click “Cryptoguard” to pop up a window. You can set password protection in the window. See *System Login* in [Chapter 3 Wizard Setup](#) for details. You can set password protection only for *admin* and the password protection can only be set once. If the password protection has already been set, then the “Cryptoguard” button here will be hidden.

➤ Modify Password

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

➤ Edit User

Click “Edit User” to pop up the “Edit User” window as shown below. The *admin* is enabled by default and its permission group cannot be changed. You can enable or disable other users (if disabled, the user will be invalid) and set their permission groups. The e-mail address, MAC address and the remark are optional. Click “OK” to save the settings.

Edit User
✕

Username

Enable

E-mail

Group

Bind MAC

Remark

Edit User
✕

Username

Enable

E-mail

Group

Bind MAC

Remark

➤ Restore the Default Password

Click “Restore the default password” to restore the password to **123456**.

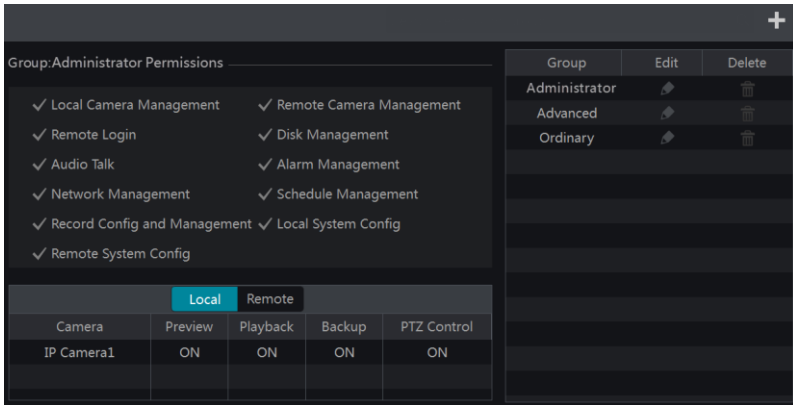
12.1.3 User Login/Logout

Login: Click Start→Login or directly click the preview interface to pop up the “Login” window. Select username and input the password in the window. Click “Login” button to log in the system.

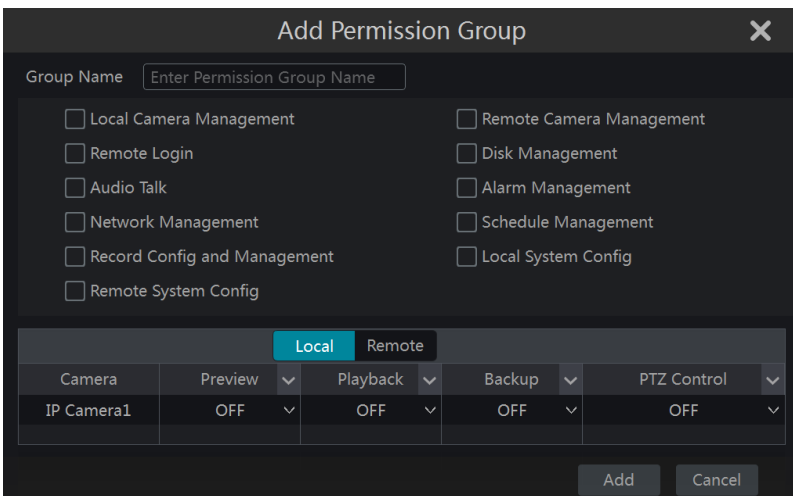
Logout: Click Start→Logout or click Start→Shutdown to pop up the “Shutdown” window. Select “Logout” in the window and then click “OK” button to log out the system.



12.1.4 Add/Edit Permission Group

Click Start→Settings→Account and Security→Account→Edit Permission Group to go to the following interface.



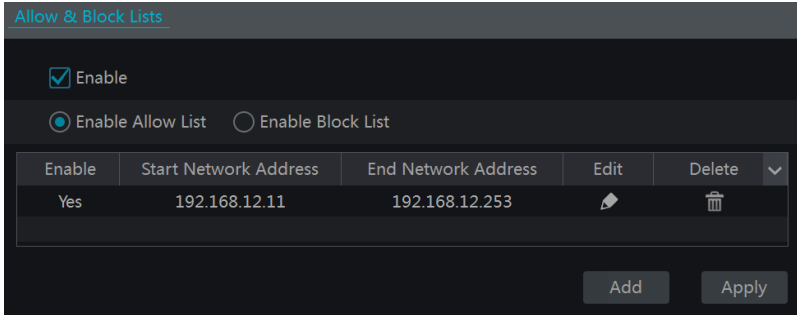
Click **+** to add permission group. Set the group name, check the permissions as required and then set the “Local” and “Remote” permissions. Click “Add” to save the settings.



In the “Edit Permission Group” interface, click  in the group list to edit the permission group (the settings of the “Edit Permission Group” are similar to that of the “Add Permission Group”). Click  to delete the permission group. The three default permission groups (“Administrator”, “Advanced” and “Ordinary”) cannot be edited or deleted.

12.2 Allow & Block Lists

- ① Click Start→Settings→Account and Security→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 NVR remotely while the PC client in the block list cannot).
- ③ Add network segment. Click “Add” button to pop up a window. Check “Enable” (only if you check it can the network segment you add be effective) and then set the start IP address and end IP address. Click “OK” to save the addresses. Click “Apply” to save the settings.

12.3 Disk Management

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


Note: 1. The new HDD should be formatted for normal use.

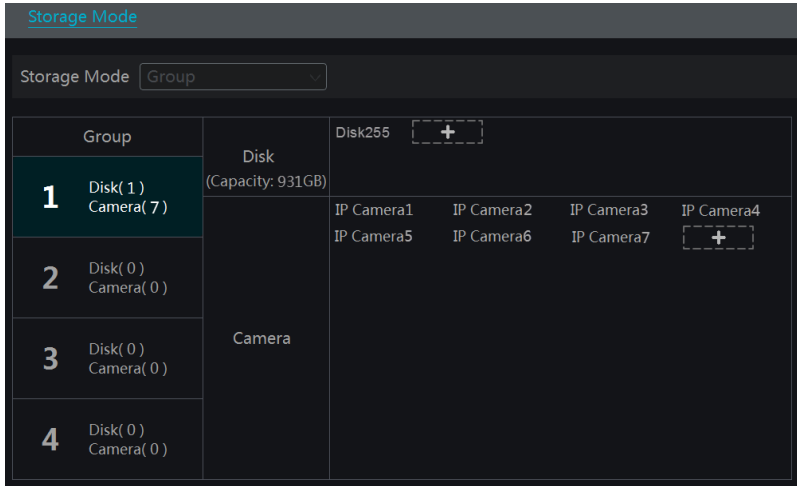
2. The HDD of the NVR should be formatted for normal use after the NVR restores its factory configuration.


3. The HDD which has been used in other device should be formatted for normal use.

12.3.1 Storage Mode Configuration

Click Start→Settings→Disk→Storage Mode to go to the following interface. There are all four disk groups. By using disk group, you can correspond the camera to disk (the record data of the camera in the group will be stored into the disks in the same group). The added disks and cameras will be added into group one automatically. The 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” button.

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

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

12.4 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.

12.5 View System Information

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

13 Remote Surveillance

13.1 Remote Access

You can access to the NVR remotely via LAN or WAN. The supported browsers of the remote surveillance are IE8/9/10/11, 360, Firefox, Opera, Chrome and Safari in Windows system and Safari in MAC system.

13.1.1 LAN

- ① Click Start→Settings→Network→TCP/IPv4 to go to the “TCP/IPv4” interface. Set the IP address, subnet mask, gateway, preferred DNS and alternate DNS of the NVR.
- ② Open IE browser on a computer, input the IP address of the NVR in the IE address bar and then press enter to go to the login interface as shown below. Input the username and password of the NVR in the interface and then click “Login” to go to the live preview interface.



Notes:

1. Please make sure that the IP address of the NVR 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 NVR shall be set to 192.168.1.XXX.
2. If the HTTP port of the NVR 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 NVR over network. For example, the HTTP port is 81. You should enter `http://192.168.1.42:81` in the IE address bar.

13.1.2 WAN

➤ PPPoE Access

- ① Click Start→Settings→Network→TCP/IPv4 to go to the “TCP/IPv4” interface. Check “Enable” in the “PPPoE settings” and then input 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 NVR.
- ③ Open IE browser on a computer, input the IP address of the NVR like `http://210.21.229.138` in the IE address bar and then press enter to go to the login interface. Input the username and password of the NVR in the interface and then click “Login” to go to the live preview interface.

➤ Router Access

- ① Click Start→Settings→Network→TCP/IPv4 to go to the “TCP/IPv4” interface. Set the IP address, subnet mask, gateway, preferred DNS and alternate DNS of the NVR.
- 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 NVR 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 NVR 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 NVR from the router. Open IE browser on a computer, input the WAN IP address plus HTTP port like http://116.30.18.215:100 in the IE address bar and then press enter to go to the login interface. Input the username and password of the NVR in the interface and then click “Login” to go to the live preview 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 NVR. Click Start→Settings→Network→DDNS to set DDNS (See [10.3 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 NVR via internet.

13.2 Remote Control

When you access the NVR 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 it to log out and return to the login interface.

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

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

Snapshots number	<input type="text" value="5"/> ▼
Save snapshots to	<input type="text" value="C:\Users\Administrator\Pictures"/> <input type="button" value="Browse"/>
Save record files to	<input type="text" value="C:\Users\Administrator\Videos"/> <input type="button" value="Browse"/>
<input type="button" value="Apply"/>	

13.2.1 Remote Preview



Click “Live Preview” menu in the remote interface to go to the preview interface. The preview interface consists of the four areas marked in the following figure.






➤ 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.


➤ 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 125 in **Camera (125/128)** on the left panel stands for the number of online cameras; the right number 128 stands for the number of all the added cameras. Input the camera name in the search box and then click  to search the camera. Click  to refresh the camera list.

● View Group





Click  **Group** to view the groups. The up side of the left panel displays all the groups and the down side displays all the cameras in the group.

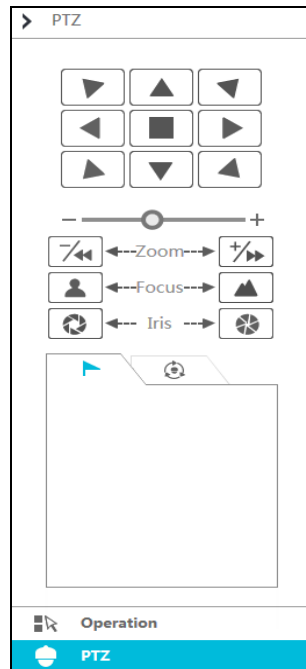
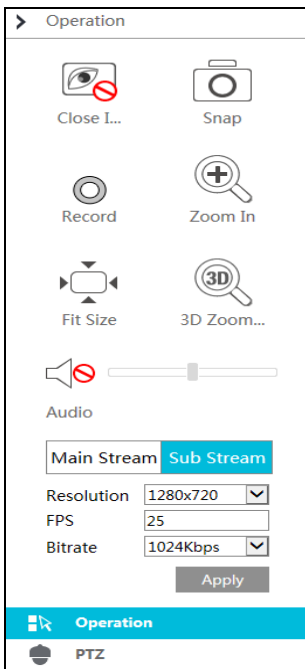
➤ Function Menu Introduction

Button	Meaning
	Screen mode button.

Button	Meaning
	Click it to disable OSD. Click  to enable OSD.
	Click it to show full screen. Right click on the full screen to exit full screen.
<input type="checkbox"/> All Main Stream <input type="checkbox"/> All Sub Stream	Click "All Main Stream" or "All Sub Stream" to set the stream of all the cameras.
	Click it to close all the preview cameras.
	Click it to start recording. Click  to stop recording.
	Click it to enable two-way talk.








➤ 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  Operation to go to "Operation" panel.

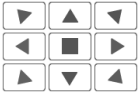
















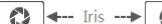






Click one camera window in the preview area and then click Main Stream to set the camera's live preview stream and record stream to main stream in manual record mode; click Sub Stream to set the camera's live preview stream and record stream to sub stream. In sub stream tab, set the resolution, FPS and bitrate and then click "Apply" to save the settings.

Operation panel introduction:

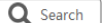

Button	Meaning
	Click it to close the camera.
	Click it to snap.
	Click it to start recording.
	Click it to zoom in the image of the camera.
	Click it to recover the image of the camera to the original size.
	The 3D zoom in function is designed for P.T.Z. Click the button and then drag the image to zoom in or zoom out the image; click the image on different areas to view the image of the dome omni-directionally
	Click it 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 upwards. Click  to rotate the dome diagonally up-left. Click  to rotate the dome diagonally up-right. Click  to rotate the dome downwards. Click  to rotate the dome diagonally down-right. Click  to rotate the dome diagonally down-left. Click  to rotate the dome towards left. Click  to rotate the dome towards right. Click  to stop rotating the dome.
	Drag the slider to adjust the rotating speed of dome.
	Click  /  to zoom in/out camera image.
	Click  /  to increase/ decrease the focal length.
	Click  /  to increase/decrease the iris of the dome.
	Click it to view the preset list and then click the button in the list to call the preset.
	Click it to view the cruise list and then click the corresponding buttons in the list to start or stop the cruise.

















13.2.2 Remote Playback

Click “Playback” menu 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 files 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 NVR. Please refer to [7.2 Quick Playback](#) for details.

Introduction of playback control buttons:



Button	Meaning
	Stop button.
	Rewind button. Click it to play video backward.
	Forward button. Click it to play video forward.
	Pause button.
	Speed down button. Click it to decrease the playing speed.
	Speed up 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.
	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.
	Backup button.
	Backup status button. Click it to view the backup status.
	Event list button. Click it to view the event record of manual/schedule/sensor/motion.

13.2.3 Remote Backup

Click “Backup” menu in the remote interface to go to the backup interface. You can back up the record by type or by time.

- ① Check the record type on the left side of the interface and then click  to set the start time and end time.
- ② Check the cameras on the left and then click the icon  on the right side of the interface to search the record. The searched record files will be displayed in the list.
- ③ Click “By Type” or “By Time” to set the backup mode.

By Type: check the record in the list and then click “Backup” button to backup the record.

By Time: check the “All” or click  to display the searched record of the camera. Check the record and then click “Backup” button to backup the record. You can click  to hide the searched record.

View Backup Status: Click “Backup Status” to view the backup status. Click “Pause” to pause the backup; click “Resume” to continue the backup; click “Delete” to delete the task.

13.2.4 Remote Configuration

Click “Function Panel” menu in the remote interface and then configure the camera, record, alarm, disk, network, account and security and system of the NVR remotely. All of these settings are similar to that of the NVR. See the configurations of the NVR for details.

Appendix A FAQ

Q1. Why can't I find the HDD?

- Please check the power and SATA data cables of the HDD to make sure they are well connected.
- For some NVRs with the 1U or small 1U case, the power of the adapter may be not enough for operating them. Please use the power adaptor supplied along with the NVR.
- Please make sure the HDDs are compatible with the NVR. See [Appendix C Compatible Device List](#) for details
- The HDD could have gone bad. Change a new one.

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

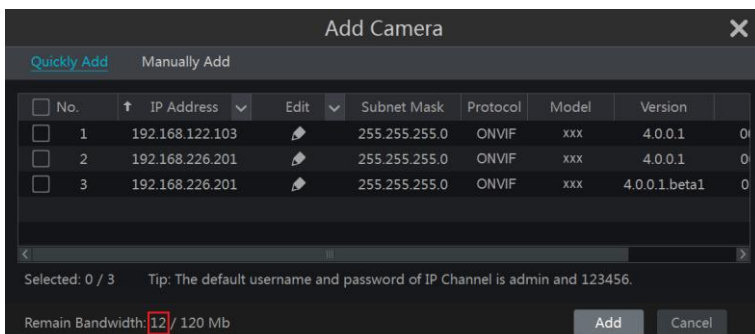
- Please make sure the resolutions of the cameras are supported by the NVR.
- Please make sure the network cables of the IP camera and NVR are both connected properly and the network parameters are set correctly.
- Please make sure the network and the switch both work normally.

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

- Please make sure the screen, HDMI or VGA cables are good and well connected.
- Please make sure the screen supports the resolution of 1920*1080. The NVR cannot self adapt to the screen which does not support the 1920*1080 resolution. The screen will remind you that the screen resolution is not supported by the NVR if the screen resolution is lower than 1920*1080. Please change a screen at 1920*1080 resolution before booting the NVR.

Q4. The NVR cannot add up to 16/32 IP cameras?

The 16 CH NVRs support a maximum of 120Mbps bandwidth input; 32 CH NVRs support a maximum of 160Mbps bandwidth input. Refer to the following picture. The remaining bandwidth should be larger than the bandwidth of the IP camera you want to add, or you would fail to add the IP camera. You should lower the added cameras' bitrate to release the bandwidth. It is recommended to add cameras by "Quickly Add" for batch adding 16 or 32 cameras.



Q5. The system cannot 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 [6.4.2 Schedule Configuration](#) for details.
- c. Maybe HDD is full and thus the NVR is not able to record. Check HDD information from Disk Management and if required, please enable the recycle function.
- d. The HDD could have gone bad. Please change another one.

Q6. The NVR doesn't stop recording at once and keeps recording after you disable the manual recording.

This situation will happen if you enable the delay recording.

Click→Start→Settings→Record→Advanced and then set the “Delayed Record Time” (the default delayed record time is 10 seconds. The record will be stopped automatically in 10 seconds after you disable the manual recording). Select “No Delay” in the drop-down list and then click “Apply” button to save the settings.

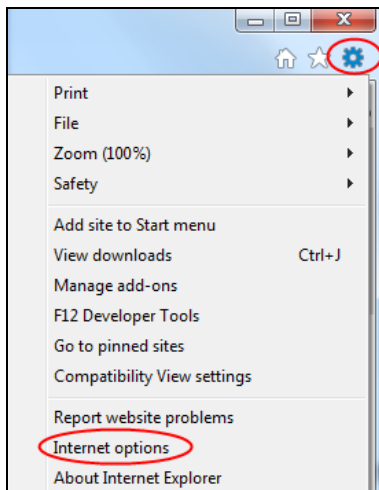
Q7. Fail to access the NVR remotely through IE.

- 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 NVR again after you disable the firewall and stop the antivirus software.
- c. Allow & block list m set in Account and Security setting. The PC of which the IP address is in the block list or out of the allow list cannot access the NVR remotely.

Q8. ActiveX control cannot be downloaded. How 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 8-1.
 - ③ Enable all the sub options under “ActiveX controls and plug-ins”. Refer to Fig 8-2.
 - ④ Then click “OK” to finish setup.
- b. Other plug-ins or anti-virus may block ActiveX. Please disable or do the required settings.

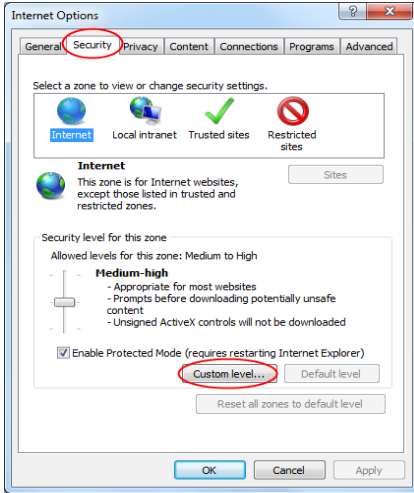


Fig 8-1

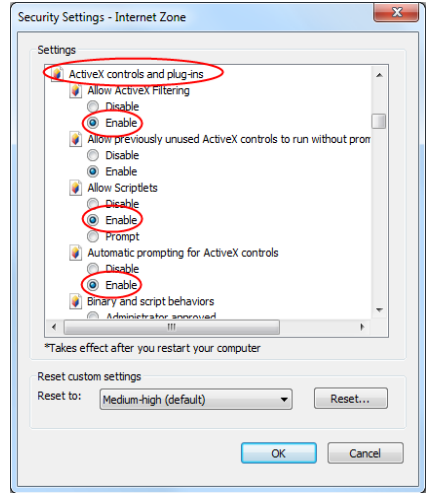
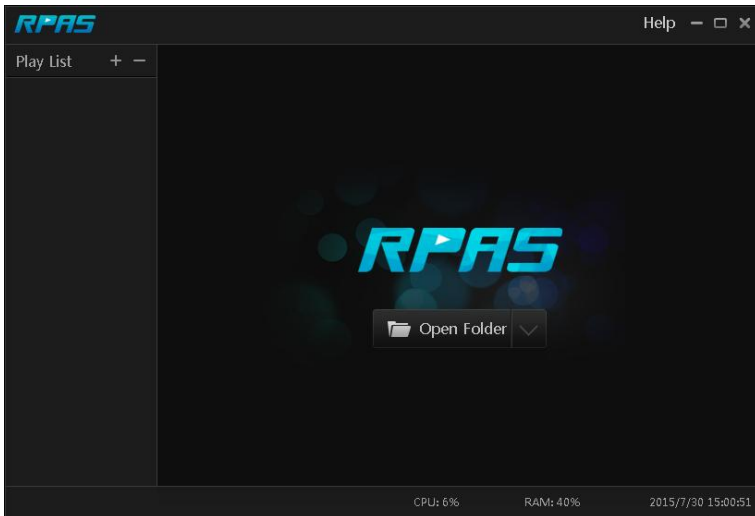



Fig 8-2

Q9. How to play the backup file?

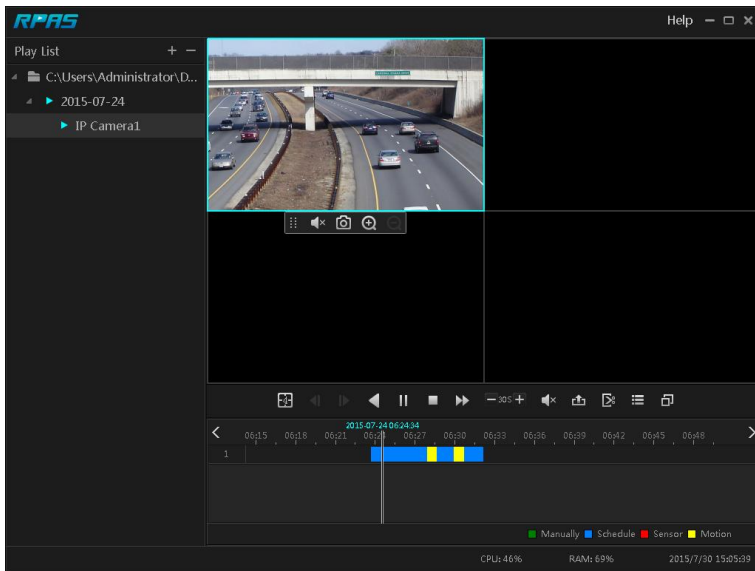
- a. Record files backed up by NVR: insert the USB device in which the record backup files is saved to the USB interface of the PC and then open the USB device path. The record can be backed up in the private format and AVI format by NVR.



- If you select the private format when backing up record by NVR, a RPAS compression package will be backed up to the USB device automatically along with the record files. 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 file. Refer to the above picture.

Select camera in the resource tree on the left side of the interface to play the camera record. Click  on the menu bar under the camera image to enable audio.

Note: The record will not have audio output if you disable the audio when recording by NVR.



- If you select the AVI format when backing up record by NVR, the record backup files can be played by the video player which supports this format.
 - Record files backed up through web. The record can only be backed up with AVI format through web. The record can be backed up to PC and played by the video player which supports this format.

Appendix B Calculate Recording Capacity

The recording capacity is mainly up to the record resolution, record 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.

$$\text{Recording Capacity(MB)} = \text{Bitrate(Kbps)} \div 1024 \div 8 \times 3600 \times \text{Recording hours per day} \times \text{Record Storage Days} \times \text{channel numbers}$$

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 NVR recording 24 hours per day and the record stores for 30 days. The NVR 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 \div (1-10%)).

Appendix C Compatible Device List

Compatible HDD list

Brand and Series		Capacity
Seagate	Barracuda Series	500GB /1TB /2TB /3TB
	SV35 Series (recommended)	1TB /2TB /3TB
	Surveillance HDD Series (recommended)	1TB /2TB /3TB /4TB /6TB
Western Digital	Blue Series	500GB /1TB
	Green Series	2TB /3TB /4TB
	Purple Series (recommended)	1TB /2TB /3TB /4TB /6TB

Compatible USB mobile device

Brand	Capacity
SSK	2GB
Netac	4GB
Kingston	2GB/8GB/16GB/32GB
Aigo	2GB
Smatter vider	1GB
SanDisk	4GB/8GB/16GB/32GB

