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ossia

User Manual

(For all NVR5 Models)

Notes

- Please read this user manual carefully to ensure that you use the device correctly and safely.
- There may be incorrect info or printing errors in this manual. Updates and corrections will be made into the future versions of this manual. The contents of this manual are subject to change without notice.
- The device should be operated only from the type of power source indicated on the marking label. The power voltage must be verified before use.
- 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 device.
- Perform a safe power off before disconnecting from power.
- This device is for indoor use only. Do not expose it to rainy or moist environment. In case any solid or liquid get inside the device's case, 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 device is in use, the relevant contents of Microsoft, Apple and Google may be shown. 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 all models running Ossia OS. All examples and pictures used in the manual are from one of the models for reference purpose.

Contents

1 Introduction

1.1 Summary

This series of NVRs intends to provide unconditional security for homes, offices, banks, schools, intelligent mansions, traffic, environmental protection, supermarkets, petrol service stations, residential quarters, factories Etc. from local or remote installations.

The Ossia OS was designed specifically to answer the needs of the users. It is based on the most advanced SOC technology and adopts a new and intuitive human GUI. This series of the NVRs is more powerful than any older NVR by Provision-ISR. It is easy to use while providing excellent image quality and system stability.

1.2 Features

Basic Functions

- Support live view, record and configuration of IP cameras
- Some NVRs (NVR5 Series and above) support the latest H.265 (HEVC) video coding stream and a mixture input of H.265 and H.264 IP cameras
- Support standard ONVIF protocol
- Support dual stream recording of each camera
- Support IPC Quick add
- Support batch or single configuration of IP cameras (OSD, video parameters, mask, motion, alarms, Etc.)
- 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.
- Support a maximum of 10 web clients login at the same time

Live Preview Features:

- 4K×2K/1920×1080/1280×1024 HDMI and 1920×1080/1280×1024 VGA high definition synchronous display
- Multi-screen modes such as 1/4/6/8/9/16/25/36 (depends on model)
- Auto adjustment of the camera's image display proportion
- IPC audio monitoring (can be enabled or disabled)
- Manual snapshot of the previewed camera
- Customized setting the sequence pages
- Support saving of the display modes. The saved modes can be called directly
- One channel operation quick tool bar
- Camera group view and scheme view in sequence and quick sequence view
- Motion detection and video masking
- Full PTZ control including setting up the presets and cruises
- Direct mouse control over the PTZ cameras including movement, zoom and focus.
- Intuitive Digital-Zoom can be controlled directly from the mouse wheel
- Image adjustment (only available for some cameras)

HDD Support:

- 2U cases can add a maximum of 8 SATA HDDs
- 1.5U cases can add a maximum of 4 SATA HDDs
- 1U cases can add a maximum of 2 SATA HDDs
- Small 1U cases can add a maximum of 1 SATA HDDs
- Each SATA interface of the NVR supports the HDDs with max 6TB storage capacity
- Some NVR models support record backup to an e-SATA HDD

Disk Management:

- The HDDs can be grouped for configuration and management.
- Each camera can be added into different disk group with different storage capacity
- View disk information and disk working status
- Batch formatting of the HDDs

Record Configuration:

- Support main stream and sub-stream recording at the same time.
- Batch or single configuration of the record stream
- Manual and auto record modes
- Schedule recording, sensor alarm recording and motion detection recording
- Configure different record streams for schedule recording and event recording setting
- Support record duration setting and recycle recording
- Support pre-alarm recording and post alarm recording configuration for event recording

Playback:

- Time scale operation in quick playback. Also, the playback date and time can be set easily by scrolling the mouse wheel. The intervals of the time scale can be zoomed in/out.
- Record searching by Image-slice/time/event/tag
- Time image slice searching by month, by day, by hour and by minute and time. The slice is displayed by image thumbnail
- Up to 16 channels to be searched by time
- Event searching by manual/motion/sensor events
- Tag searching (for tags manually added by user)
- Instant playback of selected camera within the live preview interface
- Up to 16 synchronous playback channels

Record Backup

- Back up through USB (U-disk, mobile HDD) or e-SATA interface* (for Selected models)
- Backup by time/event/image searching
- Customized backup selection while playing back
- Up to 10 backup tasks running in the background

Alarm Management:

- Alarm schedule setting
- Supports enabling or disabling of motion detection, external sensor alarm input and exception alarms including IP address conflict alarm, disk I/O error alarm, disk full alarm, no

disk alarm, illegal access alarm, network disconnection alarm and IPC offline alarm.

- Configurable alarm trigger
- Alarms can trigger PTZ Operation, snapshots, pop-up videos and more.
- Event notification modes: Alarm-out, pop-up video, pop-up message box, buzzer and E-mail
- The snapped images can be attached to the e-mail when alarm triggered
- Alarm information status for alarm-in, alarm-out, motion detection and exception alarm
- Alarm can be triggered and cleared manually
- System auto reboot when HDD or I/O exception happens – in order to restart the HDD

Network Functions:

- TCP/IP and PPPoE, DHCP, DNS, DDNS, UPnP, NTP, SMTP protocols
- "allow and block lists" according to IP or MAC addresses
- Multiple browser support including IE8/9/10/11, Firefox and Opera for Windows OS and Safari browser for MAC OS
- Remote configuration and maintenance including remote upgrading and remote system reboot
- Remote camera configuration of the NVR including video parameters, image quality, Etc.
- Remote search, playback and backup.
- CMS or other management software can access the NVR and manage it.
- Support Cloud connection (NAT) and QR Code scanning by smart phones and tablets
- Support mobile surveillance by smart phones or tablets running iOS or Android OS
- Telnet function can be enabled or disabled for remote maintenance

Other Functions:

- The NVR can be controlled and operated by the supplied mouse or remote controller
- Quick NVR information view including basic details, camera status, alarm status, record status, network status, disk and backup status
- Support auto recognition of the display resolution

1.3 Front Panel Descriptions

The following descriptions are for reference only.

Type I:

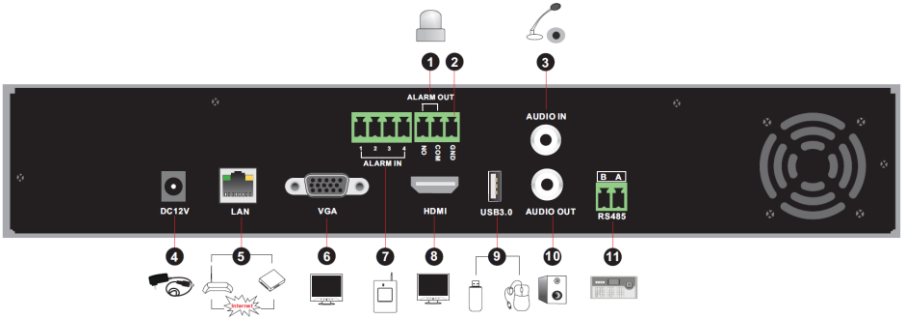
Name	Descriptions
REC	While recording, the light is blue
NET	When accessed by network the light is blue
PWR	When powered on , the light is blue

Type II:

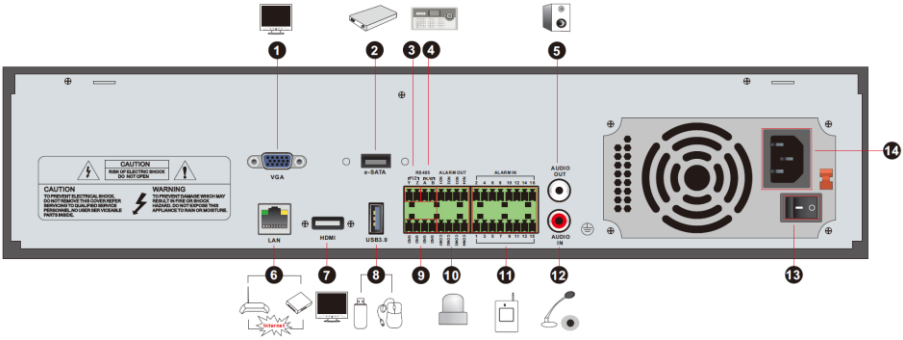
Name	Descriptions
Power	When powered on, the light is blue
HDD	The light turns blue when reading/writing HDD
Net	The light turns blue when the devices accesses the network
Backup	The light turns blue when backing up files and data
Play	The light turns blue when playing back video
REC	When recording, 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
INFO	Check the information of the device
BACKUP	Enter backup mode in live
SEARCH	Enter search mode in live
Exit	Exit the current interface
	Manual 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

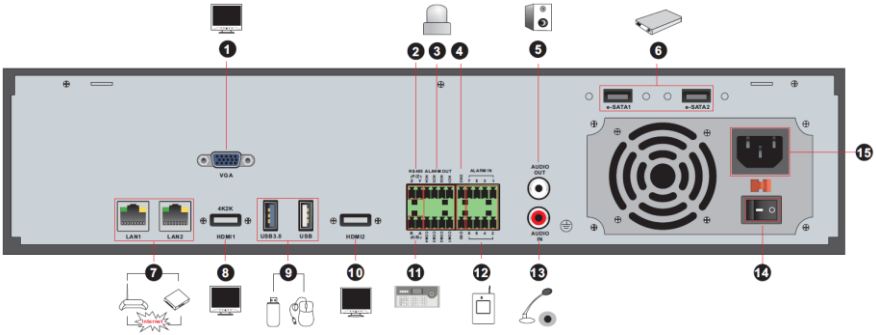
Here we only take a part of real panels for example to introduce their interfaces and connections. The interfaces and locations of the interfaces are only for references. Please take the real object as the standard.



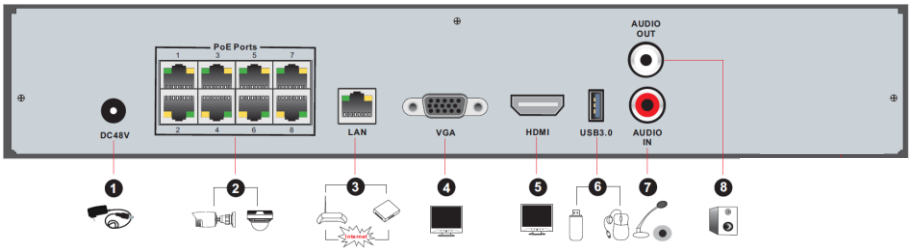
No.	Name	Descriptions
1	ALARM OUT	Relay output; connect to external devices
2	GND	Ground connection
3	AUDIO IN	Audio input
4	DC12V	DC12V power input
5	LAN	Network port
6	VGA	Connect to VGA monitor
7	ALARM IN	Alarm inputs for connecting sensors
8	HDMI	Connect to HD display (4K Ultra HD Supported)
9	USB3.0	Connect USB storage device or USB mouse
10	AUDIO OUT	Audio output
11	RS485	Connect to keyboard. A is TX+; B is TX-



No.	Name	Descriptions
1	VGA	Connect to VGA monitor
2	e-SATA	Connect to HDD with e-SATA interface
3	RS485 Y/Z interface	Unavailable
4	RS485 A/B interface	Connect to keyboard. A is TX+; B is TX-
5	AUDIO OUT	Audio output
6	LAN	Network port
7	HDMI	Connect to HD display (4K Ultra HD Supported)
8	USB3.0	Connect USB storage device or USB mouse
9	GND	Ground connection
10	ALARM OUT	Relay output; connect to external devices
11	ALARM IN	Alarm inputs for connecting sensors
12	AUDIO IN	Audio input
13	Power Switch	Press the switch to turn on/off the NVR
14	Power Supply	Power supply interface



No.	Name	Descriptions
1	VGA	Connect to monitor
2	RS485 Y/Z interface	Unavailable right now
3	ALARM OUT	Relay output; connect to external alarm
4	GND	Grounding
5	AUDIO OUT	Audio output; connect to sound box
6	e-SATA1/ e-SATA2	Connect to HDD with e-SATA interface
7	LAN1/LAN2	Network ports
8	HDMI1	Connect to 4K×2K high definition display device
9	USB3.0/USB	USB3.0/2.0 interface, connect storage device or mouse
10	HDMI2	Connect to 1920×1080 high definition display device
11	RS485 A/B interface	Connect to keyboard. A is TX+; B is TX-
12	ALARM IN	Alarm inputs for connecting sensors
13	AUDIO IN	Audio input
14	Power Switch	Press the switch to turn on/off the NVR
15	Power Supply	Power supply interface



No.	Name	Descriptions
1	Power Supply	DC48V power supply interface
2	PoE port	8 PoE network ports; connect to 8 PoE IP cameras
3	LAN	Network port
4	VGA	Connect to VGA monitor
5	HDMI	Connect to HD display (4K Ultra HD Supported)
6	USB3.0	USB3.0 interface, connect USB storage device or USB mouse
7	AUDIO IN	Audio input
8	AUDIO OUT	Audio output

1.5 Connections

- **Video Connections**

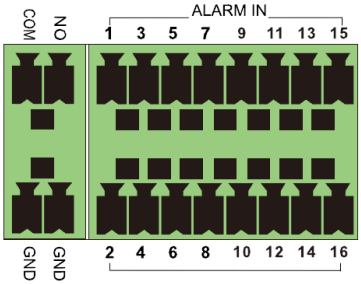
Video Output: Supports VGA/HDMI video output. You can connect to monitor through these video output interfaces simultaneously or independently.

- **Audio Connections**

Audio Input: Connect to microphone, pickup, etc.
Audio Output: Connect to headphone, sound box or other audio output devices.

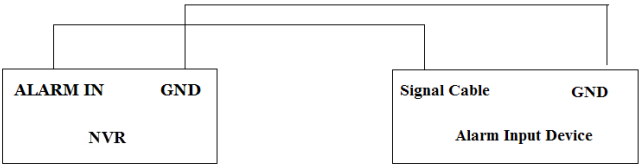
- **Alarm Connections**

Only selected models support this function. See below 16 CH alarm inputs and 1 CH alarm output for example.

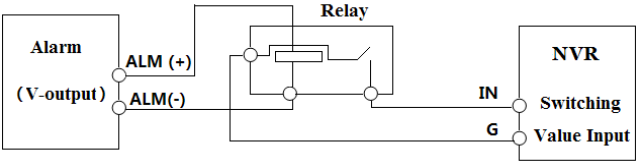


Alarm Input:

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 and can be configured from the device interface.
The method to connect sensors to the device is as shown below:

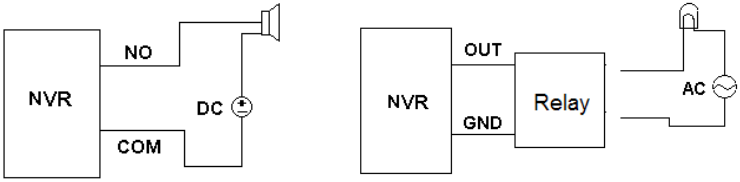


The alarm input is an open/close relay. If the input is not an open/close relay, please refer to the following connection diagram:



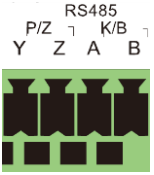
Alarm Output:

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)

(Type 2)

Type 1: The P/Z interface is not used. The K/B interface is used to connect control keyboard.
Type 2: The RS485 interface is used to connect control keyboard. A is TX+; B is TX-.

2 Basic Operations Guide

2.1 Startup & Shutdown

Please make sure all the connections are done properly before you power on the device. Proper startup and shutdown are crucial for prolonging the lifespan of the device.

2.1.1 Startup

① Connect the output display device to the VGA/HDMI interface of the NVR.
② Connect the USB mouse and network cable
③ Connect the power. The device will boot and the power LED would turn blue.
④ A WIZARD window will pop up (you should select the display language the first time you use the NVR). Refer to 3.1 Startup Wizard for details.

2.1.2 Shutdown

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

By remote controller:

① Press the 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 Open the battery cover of the remote controller and insert two AAA size batteries.
② When placing the batteries. Please ensure the correct polarity (+ and -).
③ Replace the battery cover.

Key points to check in case the remote doesn't work.
1. Check batteries polarity.
2. Check if the batteries are not dead
3. Check IR controller sensor for any interference.

If it still doesn't work, please change a new remote controller or contact your local supplier.
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 the live preview & playback interface, double click on any camera window to show the video in single screen mode; double click the window again to restore it to the previous split.

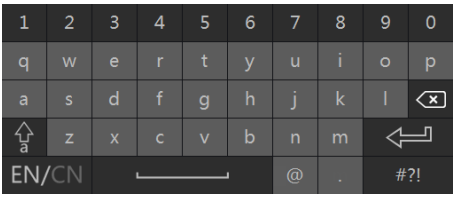
If the interfaces display in full screen, move the mouse to the bottom of the interface to pop up the tool bar. The tool bar will disappear automatically after you move the mouse away from it for some time; move the mouse to the right side of the interface to pop up the side panel. The panel will disappear automatically after you move the mouse away from it.

- **Mouse control in text-input**

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

Note: The mouse is the default controller for all operations unless mentioned otherwise.

2.4 Text-input Instruction



The system includes two input keyboard layout as shown the above pictures. The left box is the number input keyboard and the right box is the general input keyboard which provides inputs of numbers, letters and punctuation characters as shown below

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

2.5 Other Button Operations

Button	Meaning
	Show the menu list.
	Change the sequence order within the list.
	Change the camera display mode.
	Close the current interface.
Earliest	Go to the earliest date of camera recording.
Latest	Go to the latest date of camera recording.

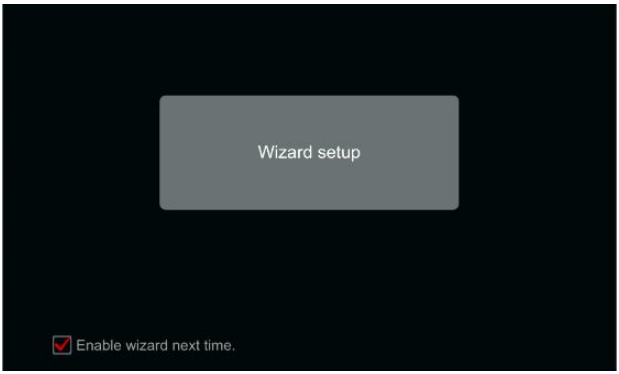
3 Wizard & Main Interface

3.1 Startup Wizard

On each startup, the disk icons will be shown on the top of the interface. You can view the number and status of each disk quickly and conveniently through these icons

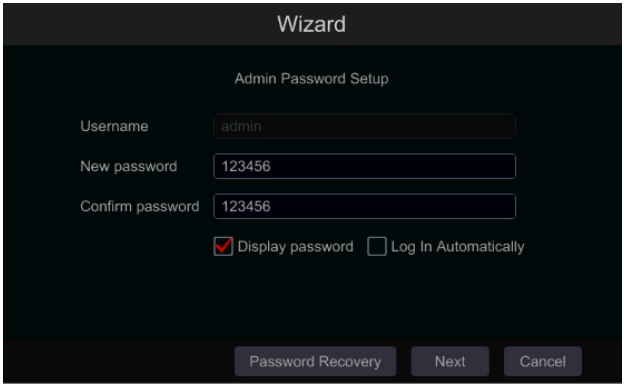
1) No disk
2) Unavailable disk
3) RW available disk

You can quickly and easily configure the NVR using the setup wizard. The wizard can also be skipped and will be shown in the next startup unless the "Enable wizard next time" was unticked.



Click "Wizard Setup" to start. The setting steps are as follows:

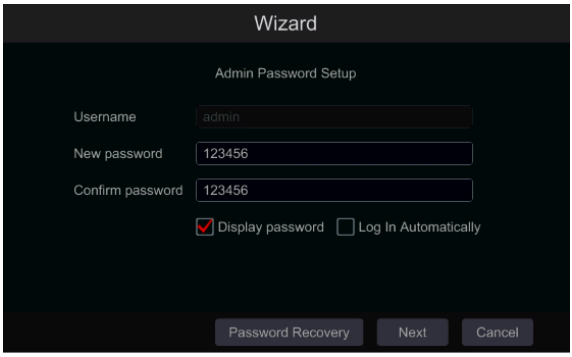
① ***System Login***. (Appears only one time): Set your own password or use the default when you use the wizard for the first time (the default username is ***admin*** and the default password is ***123456***); **It is highly advisable to change the default password**.



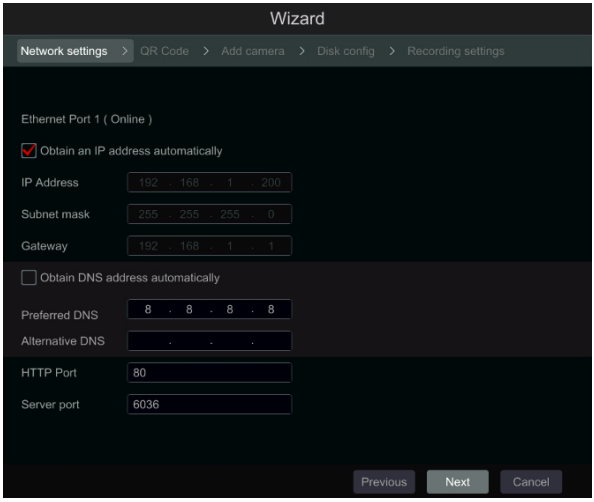
Click “Edit Security Question” to set questions and answers for password recovery option. If you forget the password, please refer to Q4 in Appendix A FAQ for details. **Skipping this step might result in having to reset the device due to missing password.**

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

② ***Date and Time Configuration***. The date and time of the system must be configured when you use the wizard for the first time. 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.

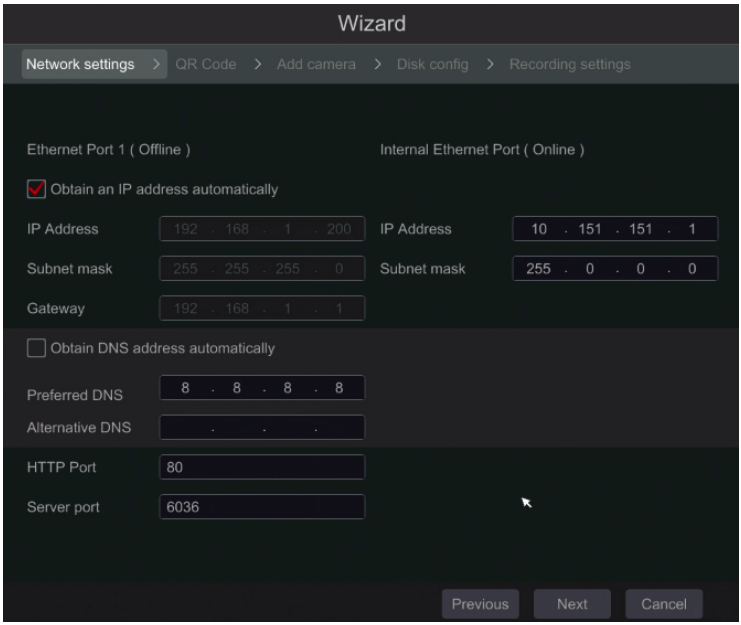


③ ***Network Settings***. Check “Obtain an IP address automatically” and “Obtain DNS automatically” to get the IP address and DNS automatically (You must have a DHCP Service enabled in your network). Uncheck it in order to input it manually. Input the HTTP port, RTSP port and Server port (please see 11.1.2 Port Configuration for details). Click “Next” to continue.

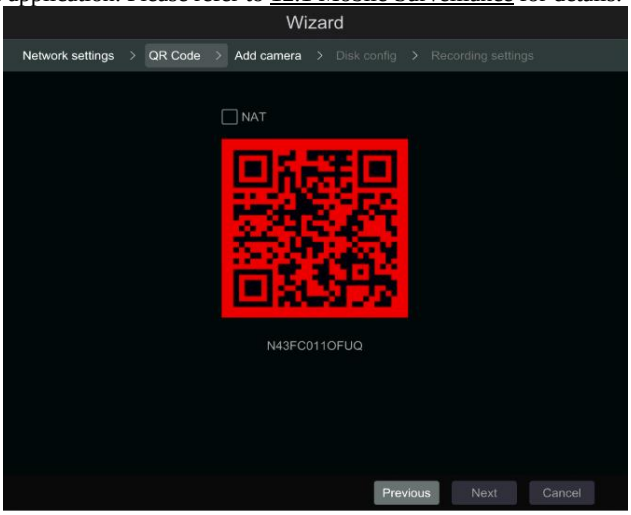


Note:

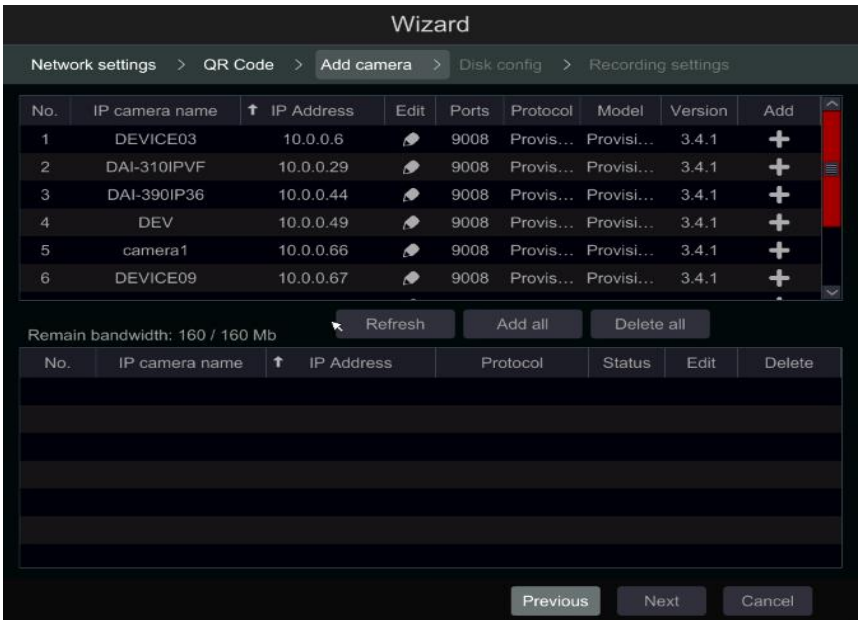
If you use PoE NVR, the state of the internal ethernet port will be shown on the interface as seen on the picture below. Please refer to 11.1.1 TCP/IPv4 Configuration for detailed introduction of the internal ethernet port.



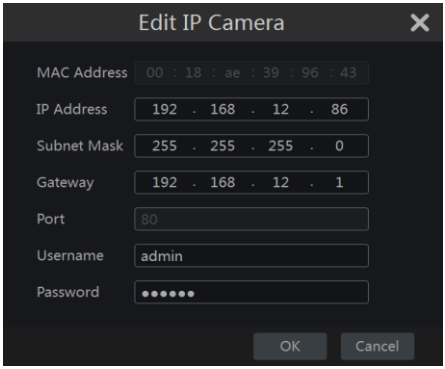
④ ***QR Code:*** You can enable the NAT service and scan the QR Code using the "Provision Cam 2" mobile application. Please refer to 12.1 Mobile Surveillance for details.

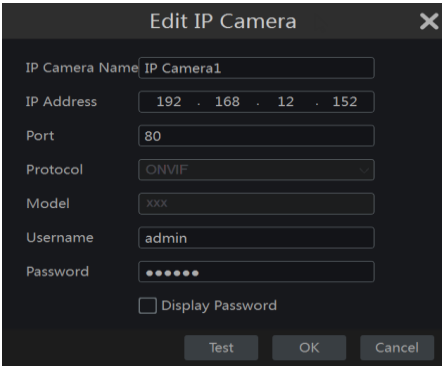


⑤ ***Add Camera***. Click "Refresh" to refresh the list of available IP cameras and click  to add the checked camera. Click "Add All" to add all the cameras in the list. Click  to delete the added camera. Click "Delete All" to delete all the added cameras.



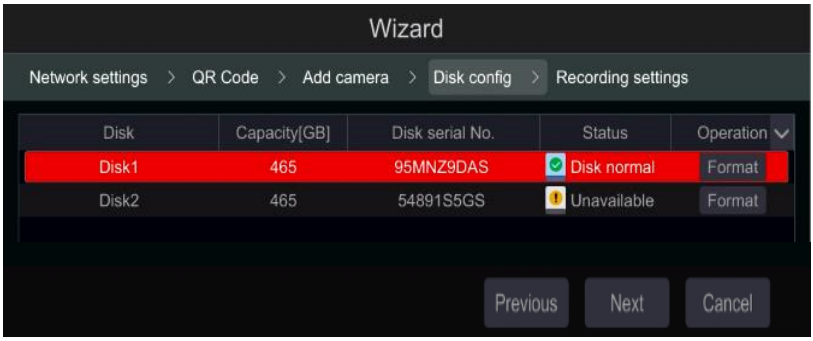
Click  to edit the network parameters of the selected IP camera as shown on the left below. Input the new IP address, subnet mask and gateway. Fill the current username and password of the camera. Click "OK" to save the settings.





Click  to edit the added camera as shown on the above right. Input the new camera name, IP address and port. Fill the current username and password of the camera. You can click "Test" to test the effectiveness of the filled information. Click "OK" to save the settings. You can change the IP camera name only when the camera is added and online. Click "Next" to continue.

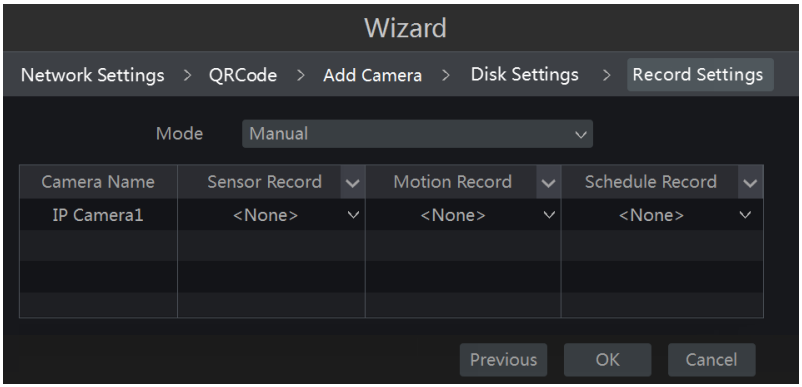
⑥ ***Disk Settings.*** You can view the disk status, number, capacity and serial number. Click "Format" to format the disk. Click "Next" to continue.



⑦ ***Record Settings***. Two record modes are available: auto and manual. See 7.1.1 Mode Configuration for details.

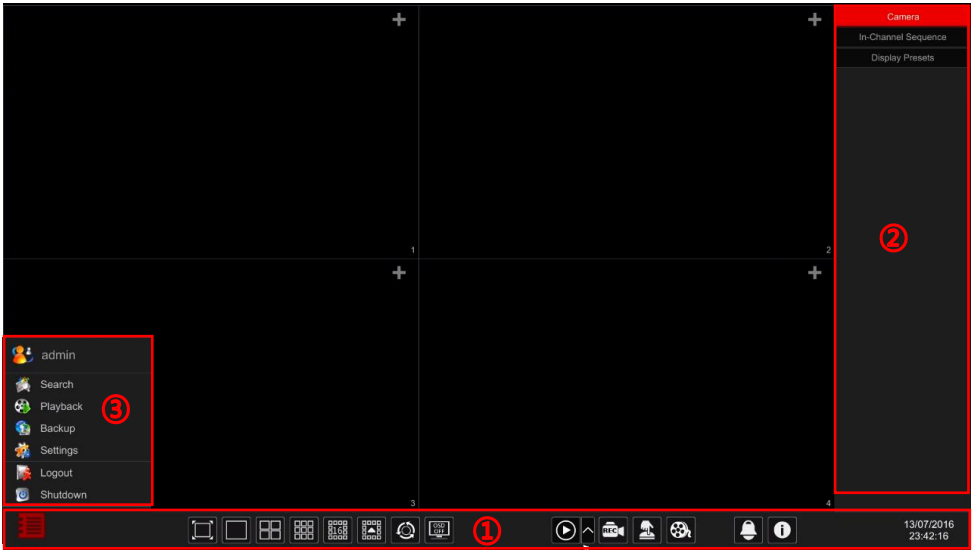
Auto: Select the desired auto mode in the interface as shown below and click "OK" button to save the settings.

Manual: After switching to manual, set the schedule for "Sensor Record", "Motion Record" and "Schedule Record" of each camera. (You can choose all together by clicking on . Click "OK" to save the settings.



3.2 Main Interface

3.2.1 Main Interface Introduction



Operations bar (①) icon description:

Button	Meaning
	Start button. Click it to pop up the menu (③).
	Full screen button. Click it to switch to full screen mode; click it again to exit the full screen mode.
	Screen split mode buttons.
	Dwell button (see 5.2.2 Quick Sequence View and 5.2.4 Scheme View In Sequence for details).
	Click it to enable OSD; click  to disable OSD.
	Click  to set the default playback time for in-channel instant playback (8.1 Instant Playback) and all channel playback (8.2 Playback Interface Introduction); click  to activate quick playback for all channels – going back to the specified time. For instance, if you choose "5 minutes ago" as the default playback time, you can playback the record from the past five minutes.
	Manual record button. Click it to enable/disable manual record.
	Manual alarm button. Click it to trigger or clear the alarm-out manually in the popup window.
	Information button. Click it to view system information.

Introduction of area ②:

A) Click "Camera" to view all the cameras available for display. Either select one window on the left side of the interface and double click on the camera name you wish to view in the selected window, or drag a camera name from the right pane to the selected window on the left.

B) Click "In-Channel Sequence" to view all the configured "In-Channel Sequence" groups list; Select a group in the list to view all the cameras related to that group. (Refer to 4.2 Add/Edit In-Channel Sequence for detailed information). Either select one window on the left side of the interface and double click on the group you wish to view in the selected window, or drag a group name from the right pane to the selected window on the left.

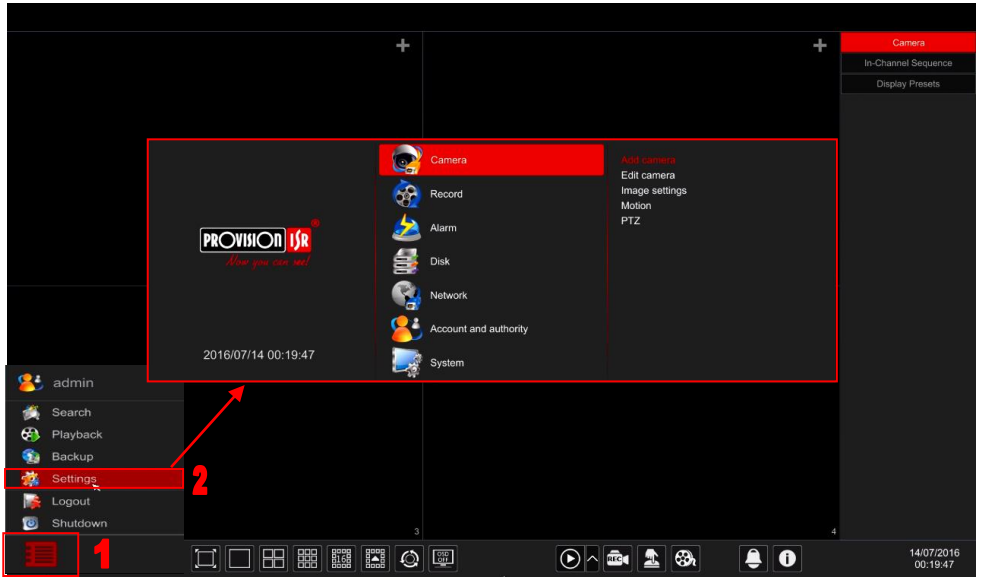
C) Click "Display Presets" to view your saved presets (refer to 5.2.1 Preview By Display Presets for detailed explanation of the display presets). Double click on the desired display preset from the list to activate it.

Introduction of area (③):

Icon / Button	Meaning
admin	Showing the current user name
Search	Record search interface, see 8.3 Record, Search & Playback for details.
Playback	Playback interface .see 8.2 Playback Interface Introduction for details.
Backup	Backup interface, see 8.4 Backup for details.
Settings	Setup panel, see 3.2.2 Setup Panel for details.
Logout	Log out of the system.
Shutdown	Perform “Logout”, “Reboot” or “Shutdown”

3.2.2 Setup Panel

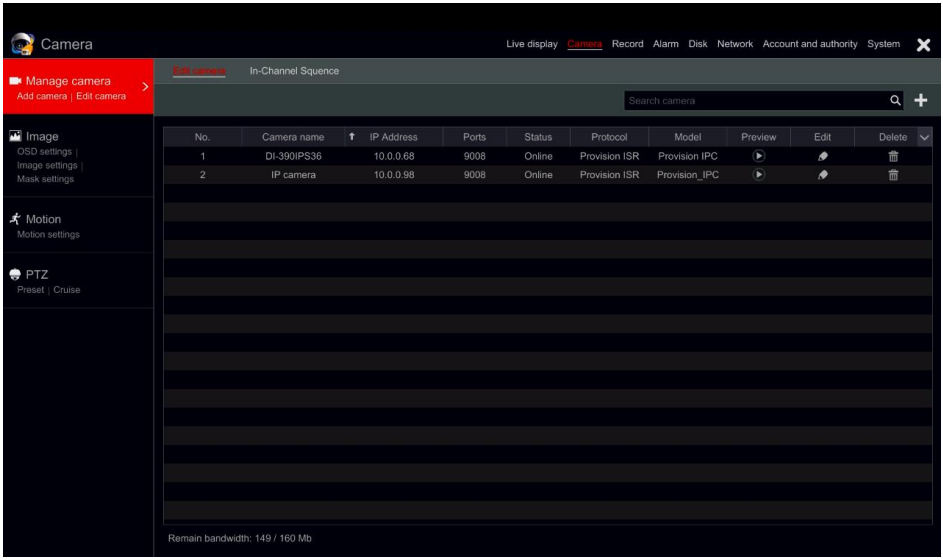
Click Start→Settings to pop up the setup panel as shown below.



The setup panel includes seven categories. Each category contains sub-categories that will link you to the desired configuration interface.

Here we take ***Camera*** category as an example. The ***Camera*** Category provides links such as “Add Camera”, “Edit Camera”, “Image Settings”, “Motion” and “PTZ”. Click ***Camera*** and

"Add Camera" to go to the camera management interface as shown below.



Click the main categories on the top of the screen to go to corresponding interface. Refer to the picture below. For instance, you can go to system setup interface by clicking "System" tag.

3.2.3 Main Functions

- **Camera**

Offers functions such as ***Camera Management*** (see Chapter 4 Camera Management for details), ***Image Settings*** (see 5.3 Preview Image Configuration for details), ***Motion*** (see 9.2.1 Motion Configuration for details) and ***PTZ*** (see Chapter 6 PTZ for details).

- **Record**

This category covers ***Encode Parameters*** and ***Record Schedules***. Please see Chapter 7 Record & Disk Management for details.

- **Disk**

Her you will find ***Disk Management***, ***Storage Mode*** and ***Disk Informatio***. Please see Chapter 7 Record & Disk Management for details.

- **Alarm**

Configure ***Sensor and Motion Alarm Handling*** and ***Alarm Out Settings***. Please see Chapter 9

Alarm Management for details.

- **Network**

This category contains ***TCP/IPv4***, ***DDNS***, ***Port***, ***E-mail*** and ***Network Status***. Please see 11.1 Network Configuration for details.

- **Account and Authority**

This category covers ***Account Management*** (see 10.1 Account Management for details) and ***Permission Management*** (see 10.3 Permission Management for details).

- **System**

The category shows ***Basic Configuration*** (see 11.2 Basic Configuration for details), ***Device Information*** (see 11.7 View System Information for details), ***Log Information*** (see 11.6 View Log for details) and ***Configuration File Import & Export*** (see 11.5 Backup and Restore for details).

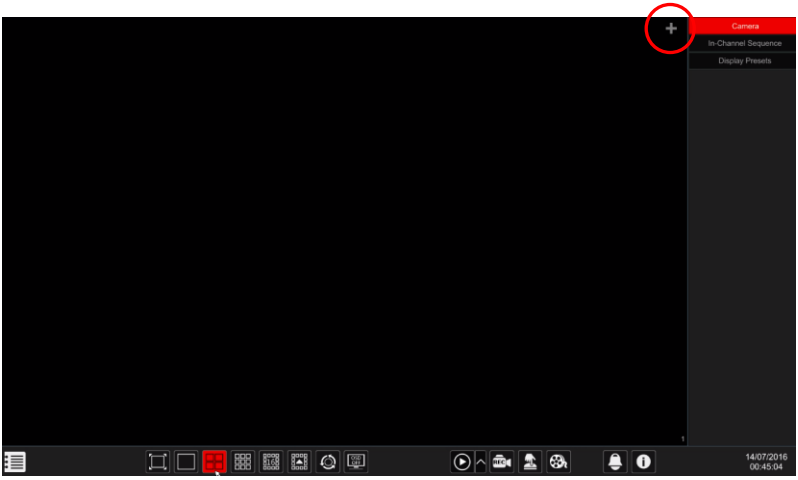
4 Camera Management

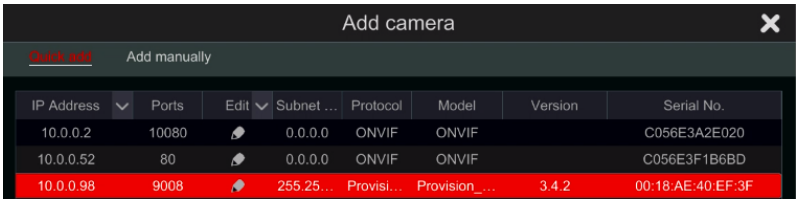
4.1 Add/Edit Camera

4.1.1 Add Camera

The NVR's network parameters should be configured before adding IP cameras (see 11.1.1 TCP/IPv4 Configuration for details).

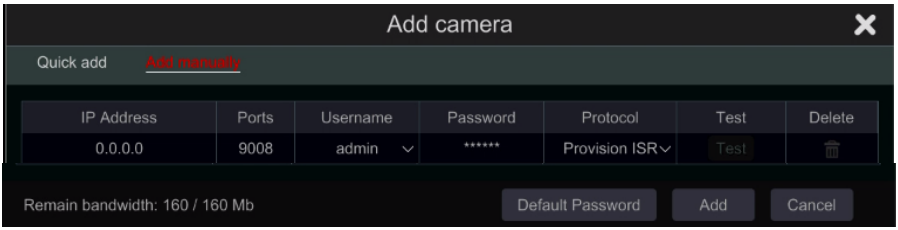
Referring to the pictures below, Click on ***Add Camera*** in the setup panel or  in the top right corner of the preview window to pop up the "Add Camera" window as shown below. You can use the "quick add" interface to add an IP Camera or add it manually.





➢ **Quick Add**

Check mark the desired cameras and click "Add" to add cameras. Click to edit the camera's IP address.
Click on "Default Password" to set the default username and password per manufacturer.

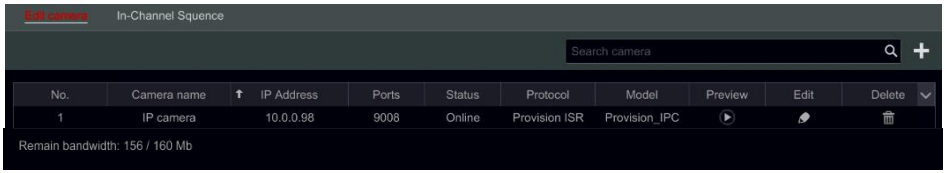


➢ **Add Manually**

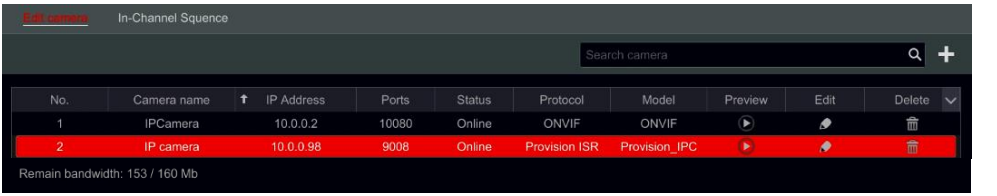
Input the IP address, port, username, password and protocol of the camera and click "Test" to confirm the settings are correct and that connection can be made with the camera. Click the "Add" button. Click to delete the camera. Click "Default Password" to set the default username and password per manufacturer.

4.1.2 Edit Camera

Click "Edit Camera" in the setup panel to go to the edit interface as shown below. Click to trigger a live video stream from the camera in a pop up window. Click to edit the camera (see ***Add camera*** in 3.1 Startup Wizard for details). Click to delete the camera.



Note:
If PoE NVR is used, the IP cameras (with PoE function) which directly connect to the PoE port of the NVR will be displayed automatically in the camera list. Refer to the picture below. The IP camera which occupies the PoE resource has a prefix shown before its camera name. The prefix consists of PoE plus PoE port number. The IP camera which connects to the PoE port cannot be deleted from the camera list manually.



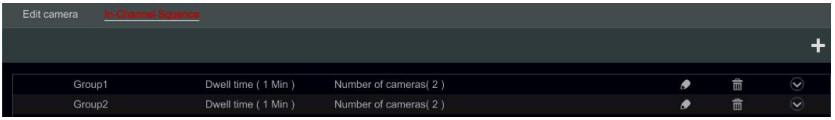
- The IP camera which directly connects to the PoE port of the NVR through private protocol will be shown automatically in the camera list.
- One of the two conditions must be met if the IP camera which directly connects to the PoE port of the NVR through ONVIF protocol should be shown automatically in the camera list.
  - ✓ The IP camera which directly connects to the PoE port is in the same network segment with the internal ethernet port.
  - ✓ The DHCP (obtain an IP address automatically) of the IP camera which directly connects to the PoE port is enabled.

If the IP camera which connects to the PoE port cannot be displayed automatically in the camera list, please refer to Q6 in Appendix A FAQ for details.

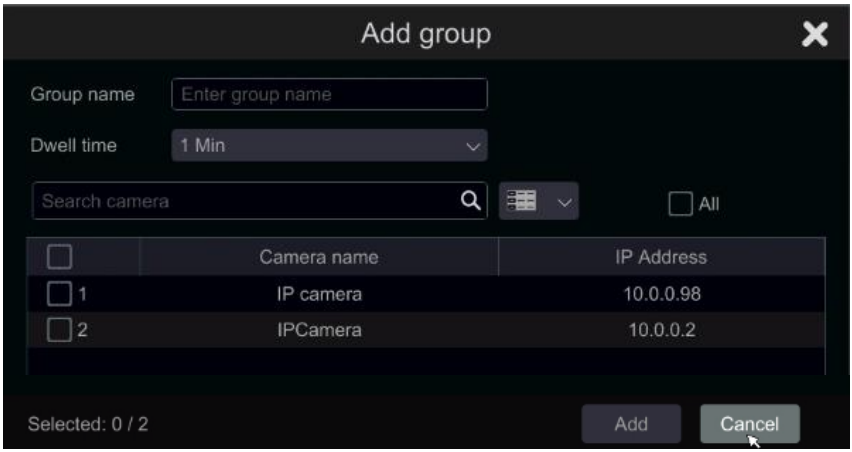
4.2 Add/Edit Camera Group

4.2.1 Add Camera Group

Click “Edit Camera Group” in the above interface to go to the interface as shown below.



Click  to pop up the 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 click “Add” to add group. Click  to view the cameras in the group after adding group.



4.2.2 Edit Camera Group

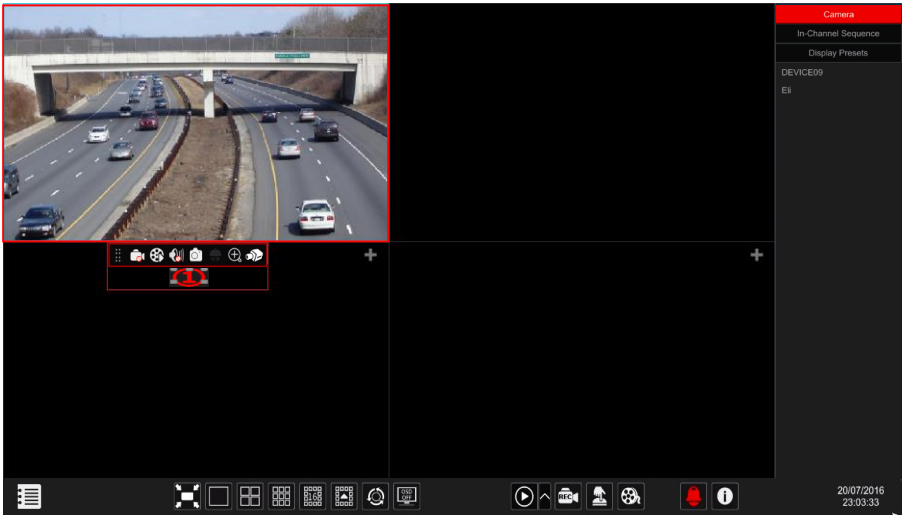
Click  to modify the group information such as group name and dwell time. Click  to delete the group.

5 Live-view Introduction:

5.1 Live-View Interface:

You should first add cameras to the NVR before this interface will be active (see 4.1.1 Add Camera for details). Refer to the interface as shown below

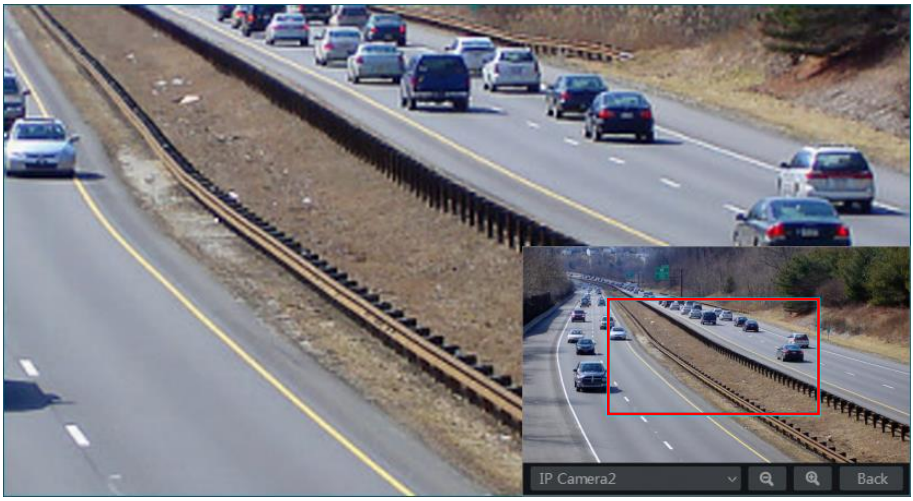
Drag any camera in the live-view window to another window for camera window exchanging.



Click the live-view window to show the camera specific tool bar as shown in area ①; right click the preview window to show the menu list. The tool bar and menu list are explained in the table below.

Button	Menu List	Meaning
	--	Move tool. Click and drag it to move the tool bar.
	Manual Record On	Start/Stop manual recording.
	Instant Playback	Start Instant playback for the specified window. See 8.1 Instant Playback for details.
	Enable Audio	Use it in order to enable/disable audio from the selected camera (Requires camera support)
	Snap	Take a snapshot and open a snapshot pop-up. Click "Save" in the window to save the image. Click "Export" to export the image.
	PTZ Control	Switch to PTZ control interface. See Chapter 6 PTZ for details.
	Zoom In	Switch to digital zoom interface.
	--	Switch to image adjustment interface. Refer to 5.3.4 Image Adjustment for details.
--	**Camera Info**	View the camera information.

The digital zoom interface is shown below. Press and drag the red box to select the zoom area. Click / to zoom the image. Click the camera selection box to select other cameras for amplification. Click "Back" to return to the live preview interface.



5.2 Live-View Modes:

5.2.1 Display Presets

Set different screen split modes and camera layouts as required and save the display to create a preset. Refer to the picture below. Double click on the display preset from the list to activate it.

➢ **Add Display Preset:**

Method One:

① Click “Display Preset” in the above interface
② Set the screen split mode.
③ Add the cameras as desired.
④ Click the “Save” button under the display presets list
⑤ Enter the display mode name in the popup window and click “OK” button to save it.

Method Two:

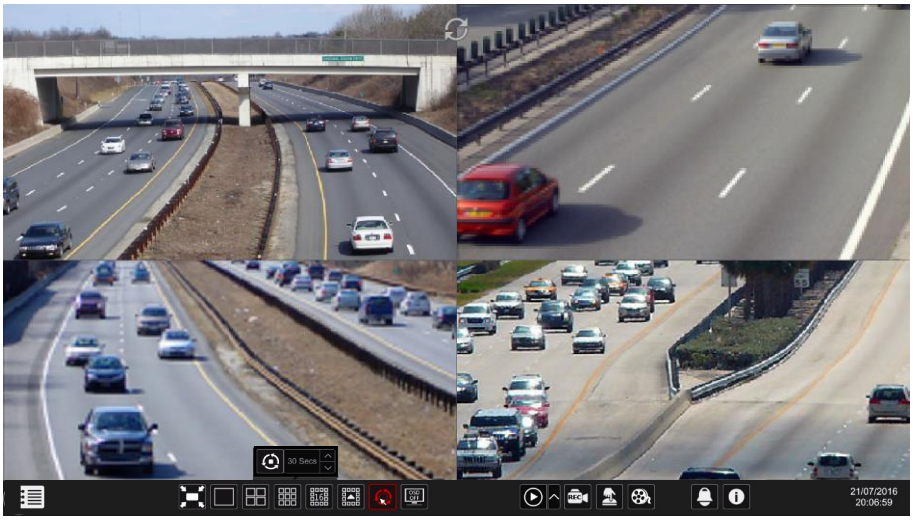
① Click Start→Settings→System→Basic→Layout Settings
② Click  to add a new layout.
③ Choose the screen split mode from the bottom.
④ Double click the camera or camera group in the list to add them to the selected window.
⑤ Click  to save the defined output as a preset (refer to 5.2.4 Scheme View In Sequence for detail configurations). The saved preset will be displayed in the display preset list in the live-view interface.

➢ **Edit Display Mode**

Click “Display Presets” tab in the live-view interface. Select the display preset from the list. Click “Rename” to edit the display mode name; click “Delete” to delete the display mode.

5.2.2 Sequence:

The sequence view will automatically switch the viewed cameras in specified times.
If a customized scheme has not been created, it will keep the split layout and go through all of the cameras. If the scheme has been created – the sequence will run the created scheme.



➢ **Sequence Scheme Settings**

Click Start→Settings→System→Basic→Layout Settings to go to the interface as shown below. Area ① displays all the dwell schemes; area ② shows the camera scheme; area ③ displays all the cameras and groups; area ④ is the tool bar (: clear button; : favorite button, click it to save the layout as preset).

➢ **Add Scheme**

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

➢ **Configure Scheme**

a) Select a scheme in area ① and the screen split mode button from area ④.
b) Drag cameras from the camera list to the desired window in area ②. The camera or group will be added into the selected window.
c) You can click the right-click on a camera and click "Clear" to remove a single camera or click  to remove all the cameras.
d) Click "Apply" to save the settings.

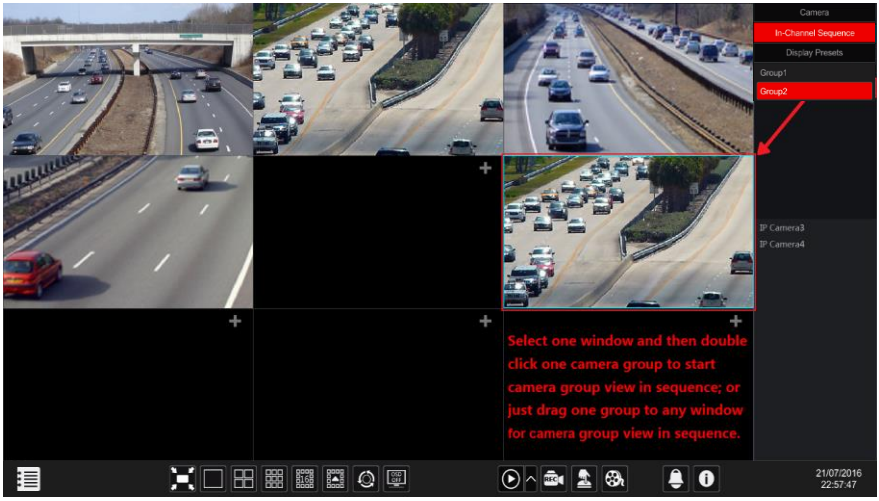
➢ **Start Sequence View**

Go to the live-view interface and click  to pop up a little window. Set the dwell time for each window and click  to start the sequence. Double click the sequence view interface to pause the view; double click again to restore the view. Click  to stop the view.

5.2.3 In Channel Sequence

You can start "In-Channel Sequence" only if a camera group was created. (see 4.2.1 Add "In-Channel Sequence" for details).

① Go to the live-view interface and select a camera window.

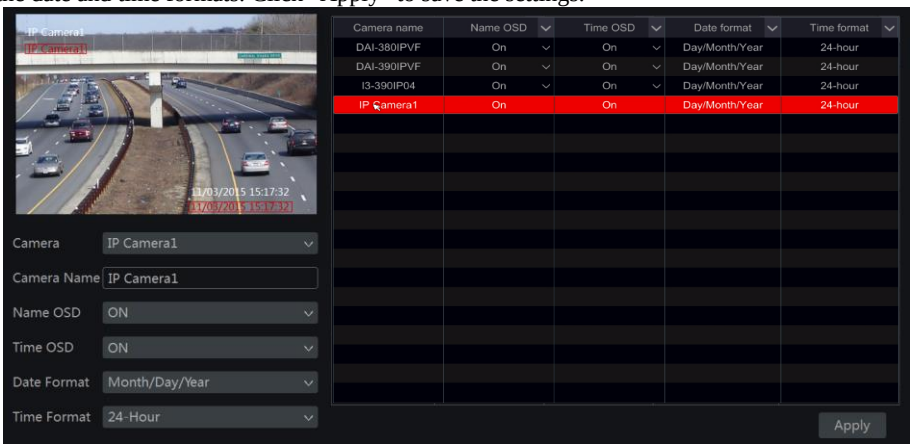


② Double click one the "In-channel Sequence" group on the right side of the interface. The cameras in the group will start sequencing one by one in the selected camera window.
③ You can also drag the group directly to any preview window.
④ Right click on the view window and click "Close Dwell" button to stop the sequence.

5.3 Image Configuration

5.3.1 OSD Settings

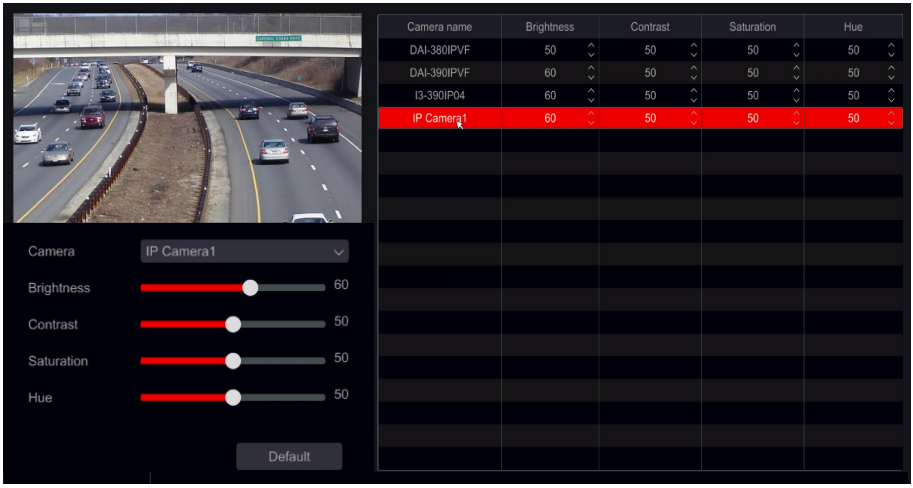
Click Start→Settings→Camera→Image→OSD Settings to go to the interface shown below. Select the camera, input the camera name (or double click the camera name in the camera list to edit the camera's name), enable or disable the name and time OSD (if enabled, drag the red name and time OSDs in the image view area to change the OSDs' display position) and select the date and time formats. Click "Apply" to save the settings.



5.3.2 Image Settings

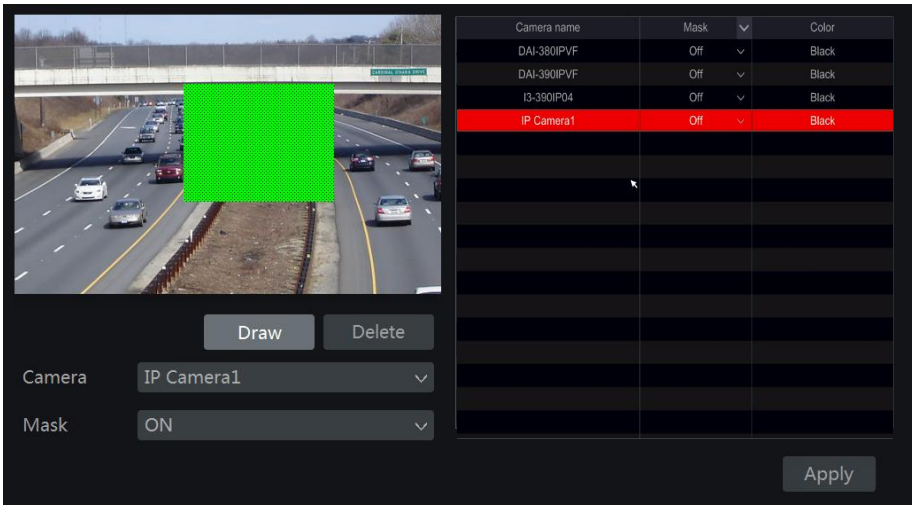
Click Start→Settings→Camera→Image→Image Settings.

Select the camera and set the image brightness, contrast, saturation and hue. You can click "Default" button to restore the image settings to the default factory settings.



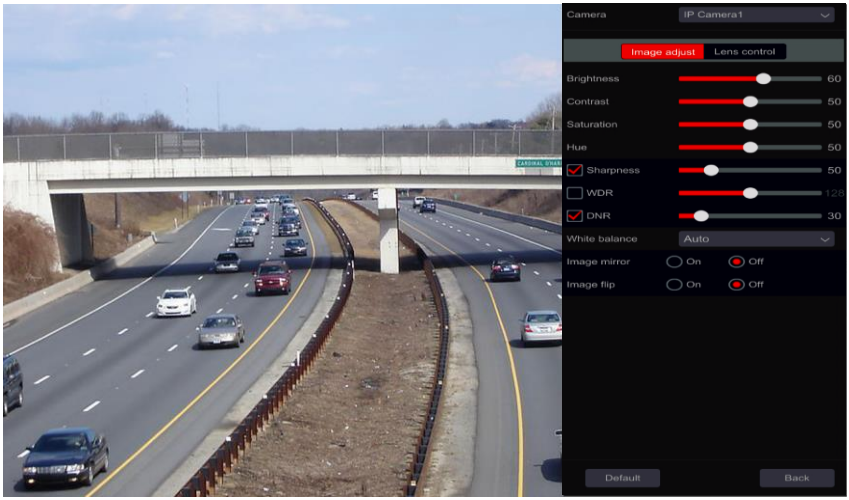
5.3.3 Mask Settings

Some areas of the image can be masked for privacy. Up to four mask areas can be set for each camera. (For Provision-ISR Cameras). Click Start→Settings→Camera→Image→Mask Settings to open the interface as shown below. Select the camera and enable the mask. Click "Draw" button and drag the mouse on the image area to set the mask area; click "Delete" button to delete the mask areas; click "Apply" to save the settings.



5.3.4 Image Adjustment

Go to live-view interface. Choose the channel by clicking on the desired and click on button from the tool bar under the camera window to switch to the image adjustment interface.



➢ **Image Adjustment**

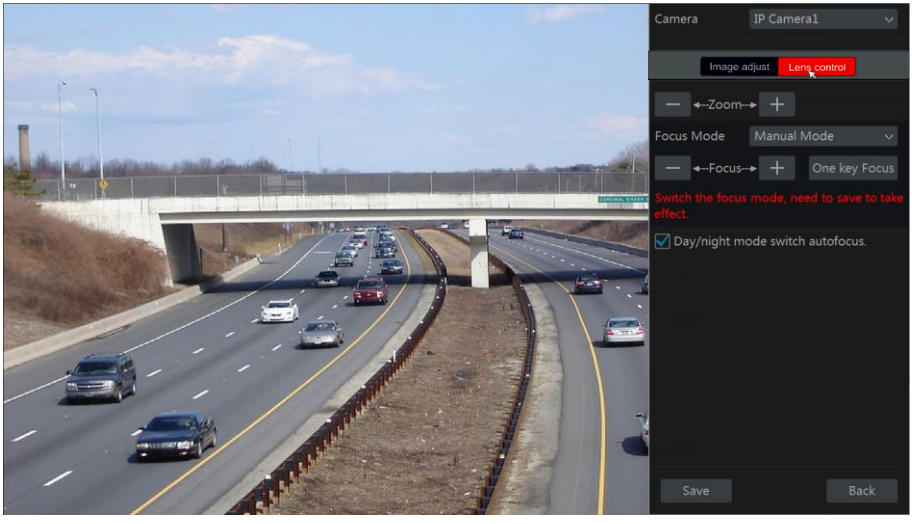
Drag the slider to set the image brightness, contrast, saturation and hue values. Check Sharpness, WDR and DNR to enable it and drag the slider to set their values. Click “Default” button to set these parameters to their default values.

The introductions of these parameters are as follows:

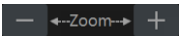
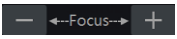
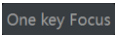
Parameter	Meaning
Brightness	Image brightness level
Contrast	The color difference between the brightest and darkest parts.
Saturation	The degree of color purity. The color is purer, the image is brighter.
Hue	Color levels of the image.
Sharpness	Relates to the sharpness level of the image and the image edges.
WDR	WDR (Wide Dynamic Range) function helps the camera provide clear images even under extreme light conditions. When there are both bright and dark areas in the field of view, WDR balances the brightness level of the whole image and provide clearer image.
DNR	DNR (Digital Noise Reduction): decreases the noise levels and making the image smoother. Increasing the value will increase the noise reduction but it will reduce the image resolution and details.
White Balance	Automatically adjust the color temperature according to the environment. Can also be set manually.
Image Mirror	Mirror the video image right and left.
Image Flip	Flip the video image upside down.

➢ **Lens Control (Must be supported by the camera):**

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



The introductions of these parameters and buttons are as follows:

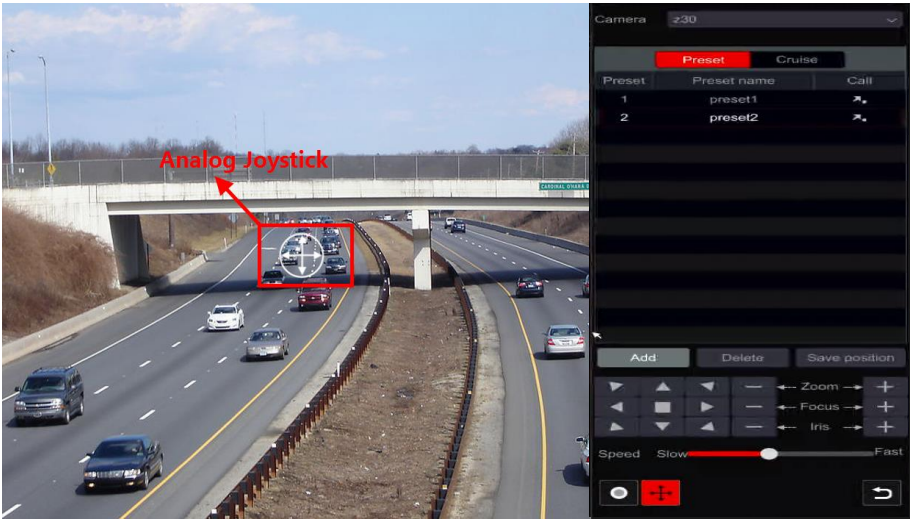
Button/Parameter	Meaning
	Click + / − to zoom in/out.
Focus Mode	If manual mode is selected, focus button, “One Key Focus” and “Day/night mode switch autofocus” will be available; If auto mode is selected, the time interval setup will be available.
	Click + / − to increase/decrease the focal length.
	Instant Focus
Day/night mode switch autofocus	If checked, the lens will focus automatically when the camera switches between day/night modes.
Time Interval	Setting a time interval for the camera lens to correct the auto-focusing.

Note: This function is only available for the models with auto varifocal lens.

6 PTZ

6.1 PTZ Control Interface:

The NVR supports full control over IP dome or PTZ cameras (Via private or ONVIF Protocol). Click on the desired camera and on the icon from the channel tool bar. The live view will switch to the PTZ control interface as shown below. You can select another IP dome or PTZ from the dropdown menu on the top right of the PTZ interface.



Introductions of the interface buttons:

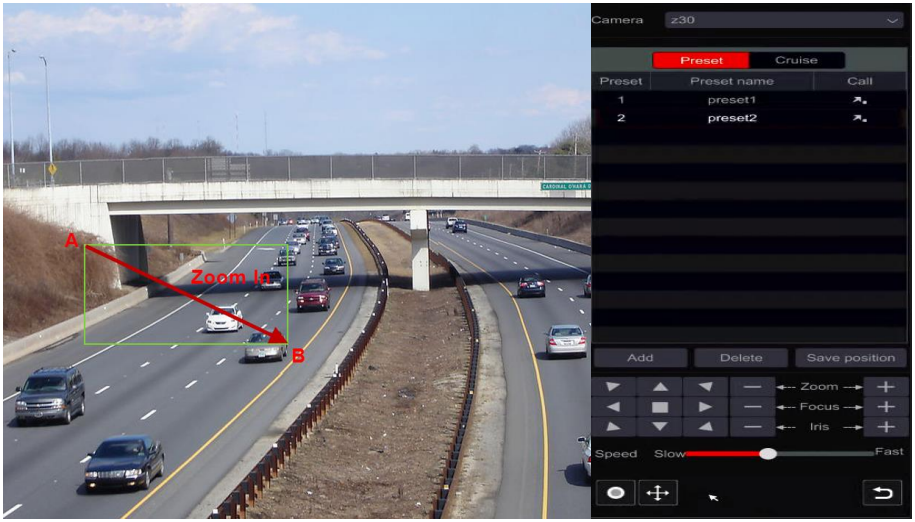
Button	Meaning
	/ / / / / / / to rotate the dome. Click to stop rotating the dome.
Zoom	/ to zoom in / out.
Focus	/ to increase / decrease the focal length.
Iris	/ to increase / decrease the aparture.
Speed Slow Fast	Drag the slider to adjust the movement speed.
/	/ to start / stop manual recording.
/	/ to hide / show the analog joystick.
	Return to the live view interface.

➢ **Analog Joystick Control**

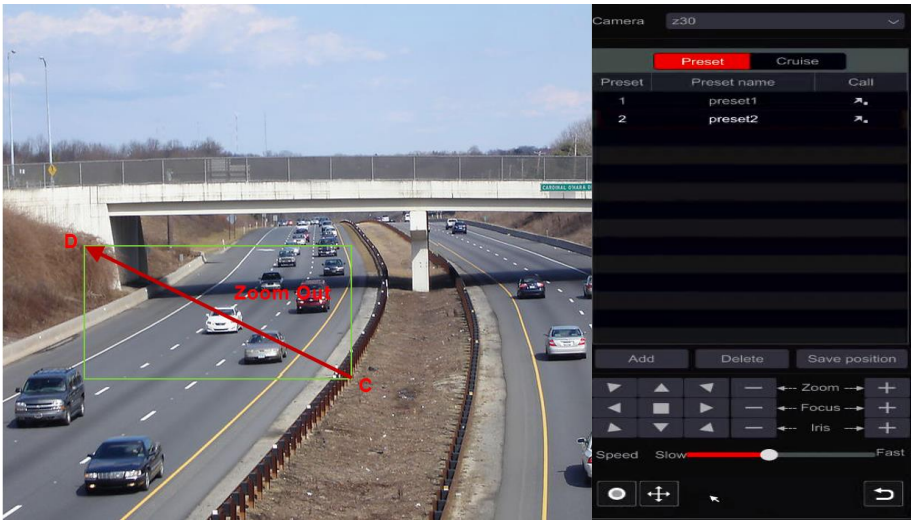
1) The analog joystick on the left side of the interface provides quick PTZ control. The dome or PTZ will move when you drag the analog joystick. The further you drag the analog joystick from the middle of the image, the faster the dome or PTZ will move. The dome or PTZ will stop rotating when you release the analog joystick or move it to the middle.
2) Click and hold the left mouse button to zoom in
3) Click and hold the right mouse button to zoom out

➢ **3D Control (Supported cameras only)**

1) Double click on any point of the image and the camera will center on the clicked point.
2) Drag the mouse from A to B (as illustrated below) to get a green rectangle. When releasing the mouse button – the camera will center on the marked area and zoom in to cover only the marked area.
3) Click and hold the left mouse button to zoom in
4) Click and hold the right mouse button to zoom out



5) Drag the mouse from C to D (as illustrated below) to get a green rectangle and the camera will zoom out.



➢ **Advanced 3D Control**

Double click the left button of the mouse on any area of the camera image and the image size will be doubled and centered on the clicked point.

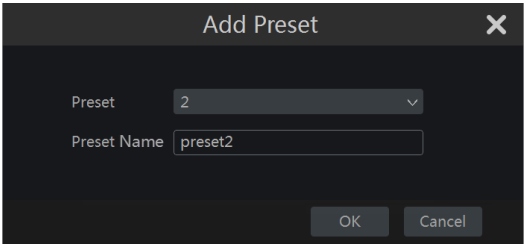
Press and hold the left button of the mouse on any area of the camera image to zoom in the image; press and hold the right button to zoom out the image.

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

➢ **Preset Settings**

Presets can be used to save important locations and recalling it quickly when needed.

1) Click “Preset” to go to preset operation tab and click “Add” button to pop up a setting window as shown below. Select the desired preset number and input the preset name. Click “OK” to save the settings.

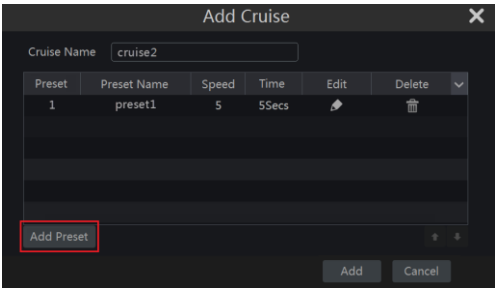


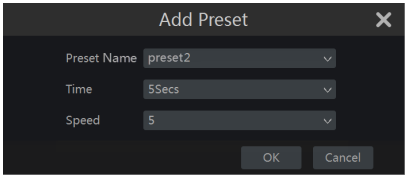
2) Adjust the camera direction and click “Save Position” to save the current preset position on the selected preset. You can also go to preset setting interface for preset setting, see 6.2 Preset Setting for details.
3) Click  in the preset list to call the preset; click “Delete” button to delete the selected preset.
4) You can add up to 255 presets for each supported camera.

➢ **Cruise Settings**

Cruises are built from a sequence of presets and are used for creating a specified patrol between presets for an endless duration (Cruise will run until you will stop it, or move the camera). Therefore, you must save the desired presets before creating a cruise.

1) Click “Cruise” to go to cruise operation tab and click “Add” button to open the settings window as shown below on the left.





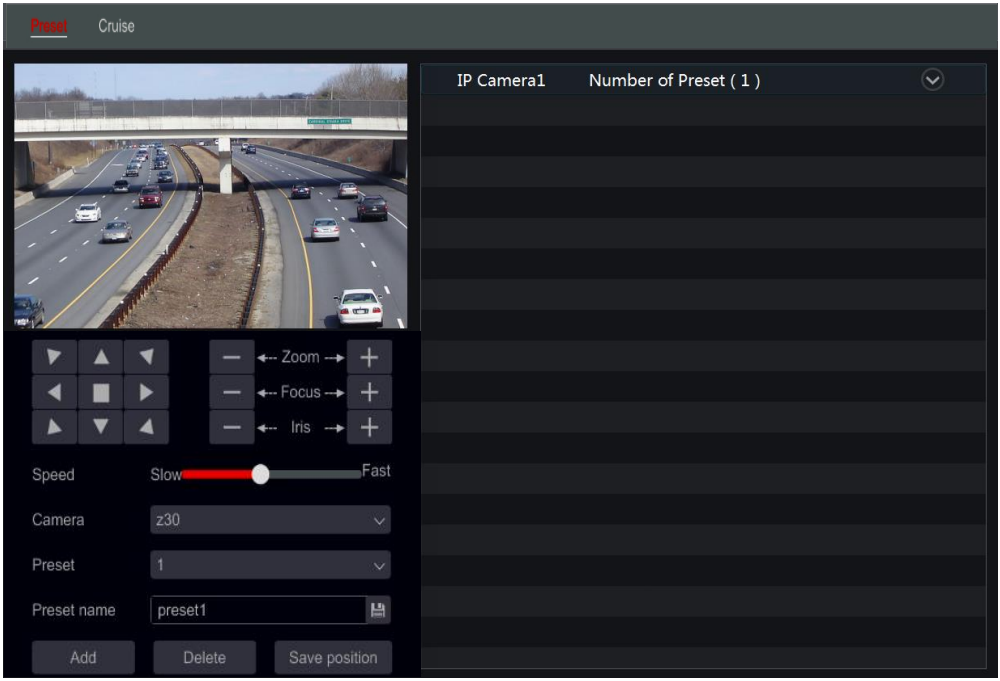
2) Input the cruise name and click “Add preset” to pop up the “Add Preset” window as shown above on the right.
3) Select the preset name, dwell time and preset speed and click “OK”.
4) In the “Add Cruise” window, you can click  to redefine the checkpoint. Click  to delete the preset.
5) Click “Add” button to save the cruise.
6) You can also go to cruise setting interface for cruise setting, see 6.3 Cruise Setting for details.
7) You can add 8 cruises for each dome at most.

In order to activate the cruise, click  to start the cruise and click  to stop the cruise. Any movement or other command sent to the camera from the PTZ interface will stop the cruise as well.

Click “Delete” button to delete the selected cruise.

6.2 Preset Settings

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



➢ **Add preset**

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

➢ **Edit preset**

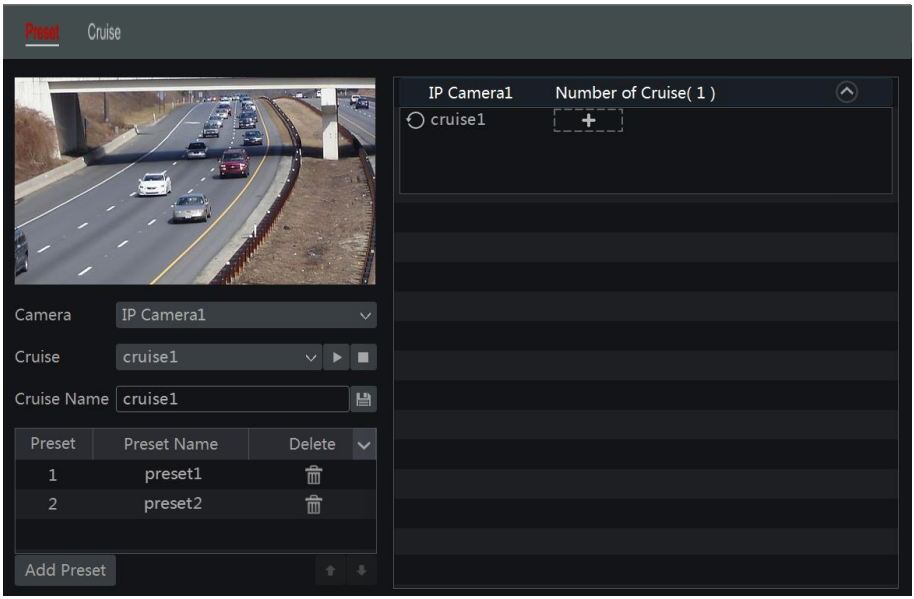
Select camera and preset. You can input the new name of the preset and click  to save the new preset name. Adjust the rotating speed, position, zoom, focus and iris of the preset and click “Save Position” to save the preset.

➢ **Delete Preset**

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

6.3 Cruise Setting

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



➢ **Add Cruise**

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

➢ **Edit Cruise**

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

➢ **Delete Cruise**

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

7 Record & Disk Management

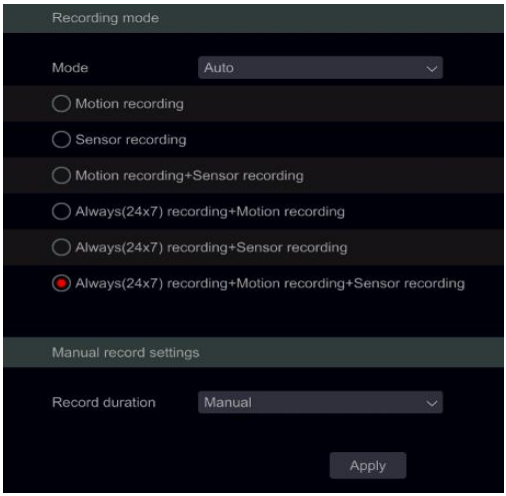
7.1 Record Configuration:

7.1.1 Mode Configuration:

Please format the HDDs to enable recording *(refer to 7.5 Disk Management for details).*

The Ossia recording interface was redesigned to be clearer and easier to configure. It is based on statistics showing that most users configure the recording to work all year long in 24x7 schedule – the "Auto" mode is the best choice for these users. "Manual" mode is for users who wish to customize the recording/schedule configuration.

Click Start→Settings→Record→Mode Settings to go to the mode settings interface.

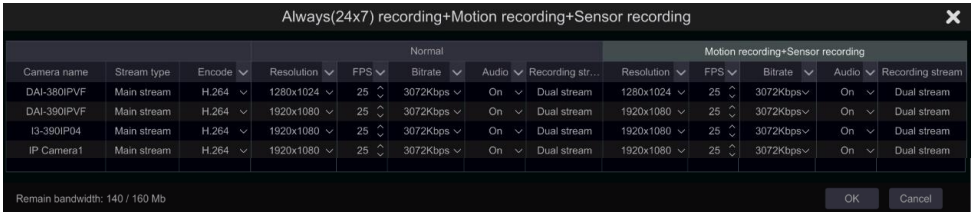


- **Auto Mode**

Motion Record: Record will start upon *Motion Alarm* under 24x7 schedule for all channels.
Sensor Record: Record will start upon *Sensor Alarm* under 24x7 schedule for all sensors.
Motion Record + Sensor Record: Record will start upon *Motion or Sensor Alarms* under 24x7 schedule for all channels and sensors.
Always (24 x7) Record + Motion Record: All the channels will be recorded continuously. *Motion alarms* will be marked in the event list and trigger "Event Record".
Always (24 x7) Record + Sensor Record: All the channels will be recorded continuously. *Sensor alarms* will be marked in the event list and trigger "Event Record".
Always (24 x7) Record + Motion Record + Sensor Record: All the channels will be recorded continuously. *Motion and sensor alarms* will be marked in the event list and trigger "Event Record".

Selecting one of the auto modes will pop up the stream settings window as shown below. Set the video encode type, resolution, FPS, bitrate and audio for each of the camera and click "OK" to save the settings.

Important: make sure to configure both "Normal" and "Event" settings.



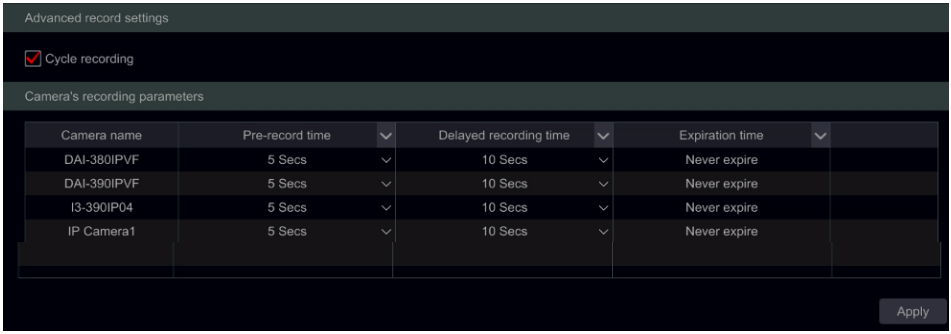
Video Encode: the available options are H.265 and H.264. H.265 must be supported by the IP camera for this encoding mode will be available.
Resolution: the higher the resolution, the bigger the image.
FPS: Higher frame rate delivers more fluency. However, more storage space will be required.
Bitrate: bitrate stands for the compression aggressiveness. The lower the bitrate, the higher the compression. High compression means lower bandwidth and storage space usage, but also decreasing the video quality.

- **Manual Mode**

If *manual mode* is selected, you will need to set the encode parameters and schedules for each of the cameras. See 7.2 Encode Parameters Setting and 7.3 Schedule Setting for details. Failing to do so will result in recording inconsistency.

7.1.2 Advanced Configuration

Click Start→Settings→Record→Advanced to go to the following interface. Enable or disable cycle record (cycle record: the recording will work in FIFO method – First in first out – meaning that the oldest recording will be overwritten by new recording once the HDD is full). Set the pre-alarm record time, post-alarm record time and expiration time of each camera and click "Apply" to save the settings.



Pre-alarm Record Time: set the record time duration before the alarm event started.
Post-alarm Record Time: set the record time duration after the alarm event ended.
Expiration Time: set the expiration time for recorded video. Recordings will not be kept longer than the specified duration even if the HDD is not full.

7.2 Encode Parameters Setting

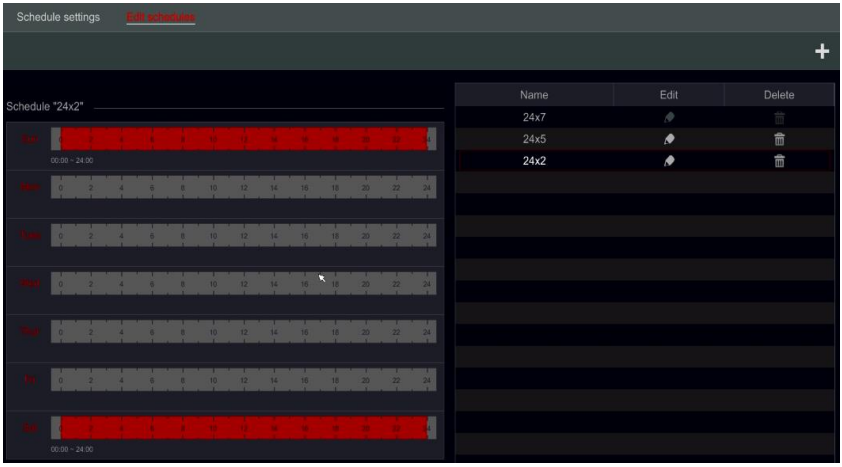
Click Start→Settings→Record→Encode Parameters to access the interface shown below. Set the video encode, resolution, FPS, bitrate and audio of main stream for each of the cameras.
Important: this interface offers both "Event Recording Stream" and "Timing Recording Stream" configurations. Make sure to configure both. You can set the record stream for each camera set all cameras together by clicking on . Click "Apply" to save the settings.

Click Start→Settings→Record→Stream Settings to go to "Sub-stream" interface. Set the sub-stream video encode type, resolution, FPS and bitrate for each camera or for all cameras together by clicking on . Click "Apply" to save the settings.

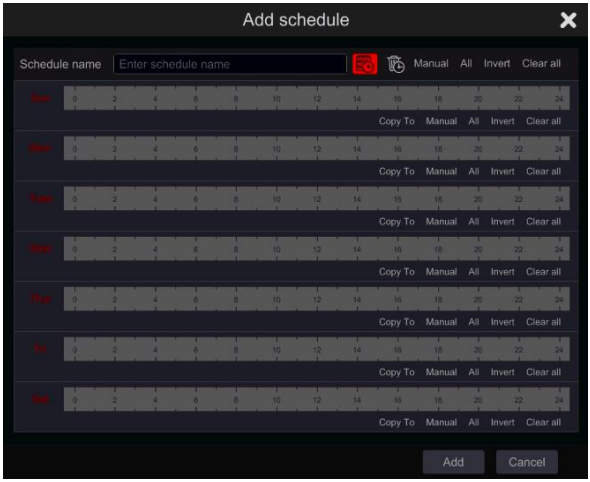
7.3 Schedule Setting

7.3.1 Add Schedule

Click Start→Settings→Record→Recording Schedule→Edit Schedules. The default schedules are “24 x 7” (All week), “24 x 5” (Weekdays - Monday to Friday) and “24 x 2” (Weekends – Saturday & Sunday). “24 x 7” schedule cannot be deleted while “24 x 5” and “24 x 2” can be edited and deleted. Click the schedule name to display the detailed schedule information on the left side of the interface. The lines on the left stand for the seven days of the week. Each line stands for the daily 24 hours. Red marks the active selection and grey marks inactive selection.



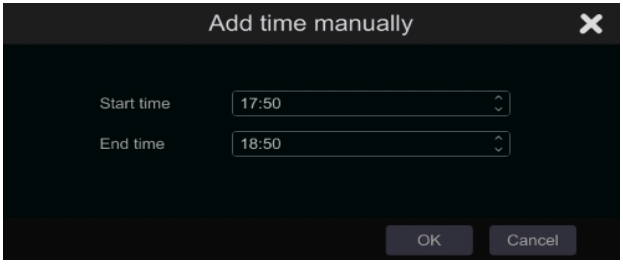
Click  to add a new schedule. Refer to the picture below.



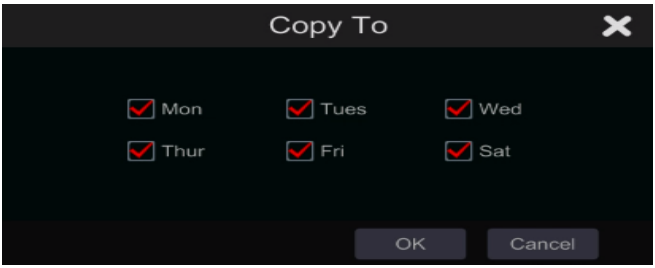
Input the schedule name, set the schedule times and click “Add” to save the schedule. You can set day schedule or week schedule. : Activate button; : Deactivate button.

- **Set Single Day Schedule**

Click and drag the mouse cursor on the time scale to mark the active time. Click and drag the cursor on the time scale to delete the selected area.
You can manually set the record start time and end time: select “Manual” from beneath the day bar and set the desired time. Click “Ok” to confirm.

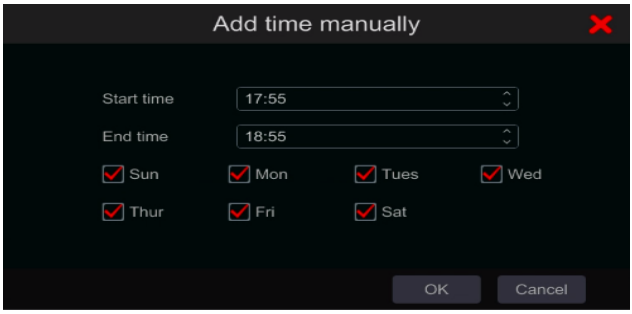


Click “All” to set all day recording; click “Reverse” to swap the marked and unmarked areas; Click “Clear All” to clear all the selected area in a day.
After completing a setting for any day you can click “Copy To” from beneath the day bar to copy the selected schedule to other days. Refer to the picture below. After clicking on “Copy To” from the source day, check the destination days in the window and click “OK” to save.



- **Set Week Schedule**

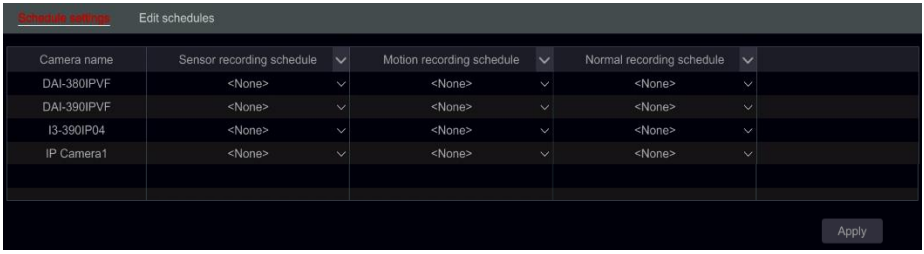
After clicking on click “Manual” beside to set the weekly schedule. Refer to the picture below. Set the start and end time, check the days in the window and click “OK” to save the settings.



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

7.3.2 Record Schedule Configuration

Click Start→Settings→Record→Recording Schedule→Schedule Configuration to go to the interface shown below. Define the schedule for sensor recording, motion recording and normal recording. Click "None" in the drop-down menu to clear the selected schedule. Click "Apply" to save the settings.



If any changes needs to be made, go to the "Edit Schedules" interface and click  to edit the schedule. The settings of "Edit Schedule" are similar to that of the "Add Schedule".

7.4 Record Mode

7.4.1 Manual Recording

Method One – All Channels Manual Record: Click  on the tool bar at the bottom of the live-view interface to enable manual recording for all cameras.

Method Two – Single Channel Manual Record: In the live-view interface – either right click on the desired camera and choose "Manual Record On" or left click on the desired camera window and click  on the channel tool bar.

Note: Click Start→Settings→Record→Mode Settings and set the manual record duration in the. Click "Apply" to save the settings.

7.4.2 Scheduled Recording:

Scheduled Recording: the system will record automatically according to the schedule.
Set the record schedule of each camera - See 7.3 Schedule Setting for details.

7.4.3 Motion Based Recording:

Motion Based Recording: the system will start recording based on motion alarms. You can use the default settings or create customized setting for each camera as follows:

① Set the motion alarm schedule for each camera. See 7.3 Schedule Setting for details.

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

The camera will start motion based recording as soon as the above settings are apllied.

7.4.4 Sensor Based Recording:

Sensor Based Recording: the system will start recording based on sensor alarms. Setup the recording parameters as follows:

① Set the sensor alarm schedule for each camera/alarm input. See 7.3 Schedule Setting for details.

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

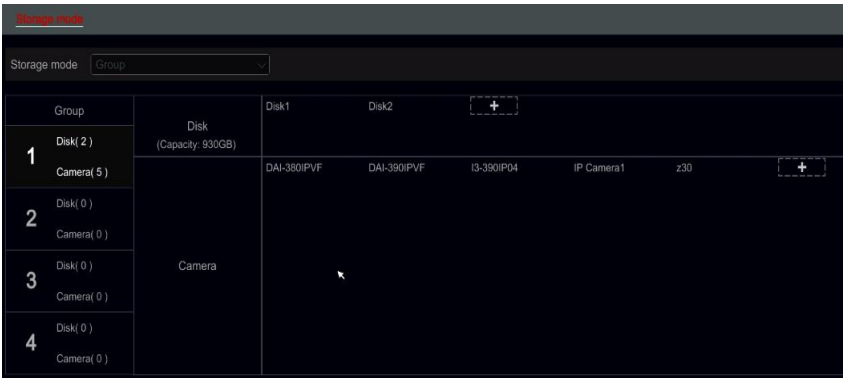
7.5 Disk Management:

Click Start→Settings→Disk→Disk Management. On this interface you can view the NVR's disk numbers and status. Click "Format" button to format the desired HDD.

Note: 1. A new HDD should be formatted before in can be used by the system.
2. If the HDD has been used in another NVR of the same model, please import the configuration file of the old NVR to the new NVR or format the HDD; if the models of the two NVRs are different, please format the HDD.

7.5.1 Storage Mode Configuration

Click Start→Settings→Disk→Storage Mode.



There are four disk groups. By using disk group, you can allocate a specific camera to a specific disk (the recorded data from the grouped cameras will be stored in the disks allocated for that group).

Newly added disks and cameras will be joined into group one as default. The disks and cameras in the different groups can be deleted except of group one (select a disk group and 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 receive disks and cameras from other groups. Each disk/camera can be allocated to one group only.

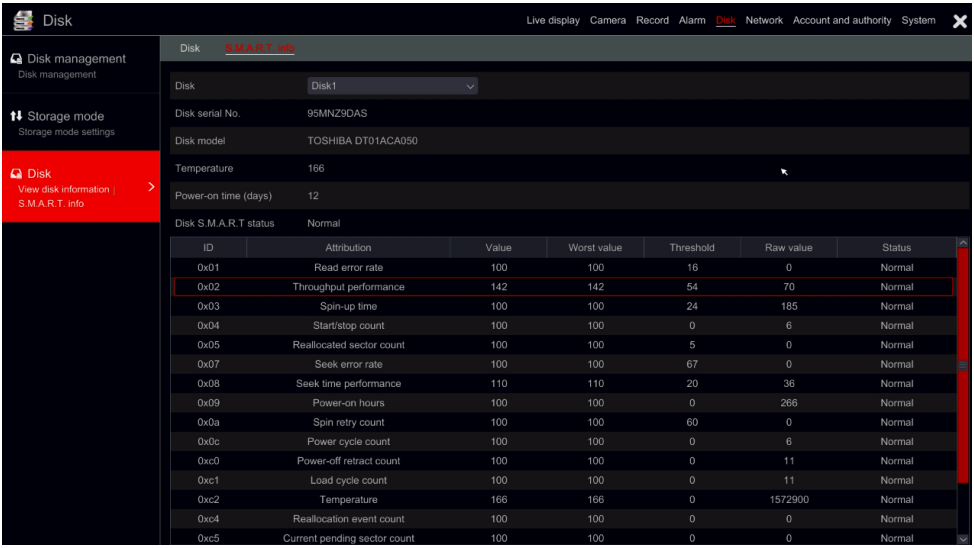
Edit Disk/Camera Groups:

Select a disk group and click  in the disk or camera row to pop up a window. Check the disks or cameras in the window and click “Add”.

Important: Changing group allocation for a disk/camera will result in losing data of the changed disk/camera.

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

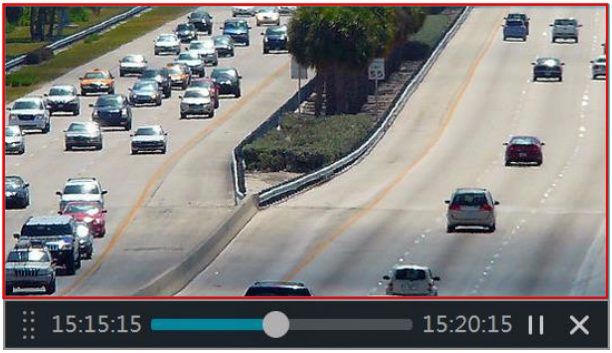
Click Start→Settings→Disk→View Disk Information; click “S.M.A.R.T. Information” to view the working status of the HDD. Refer to the picture below.



8 Playback & Backup

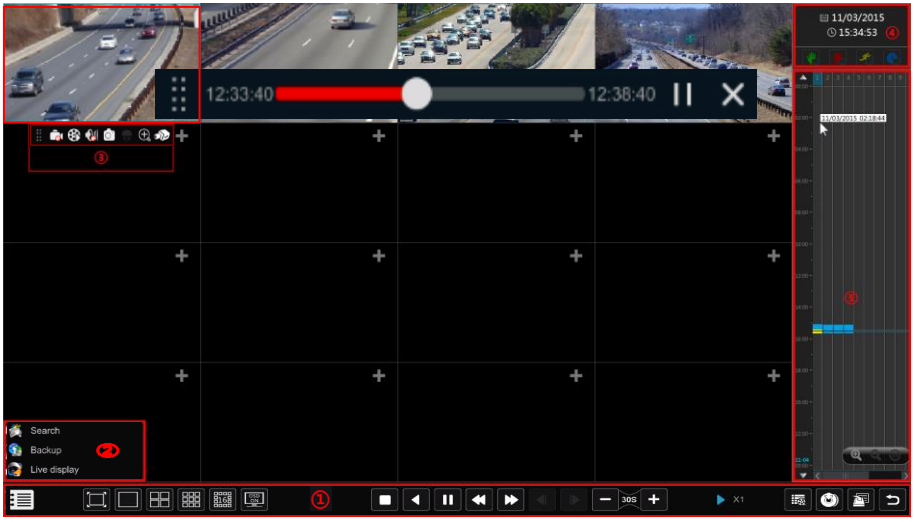
8.1 Instant Playback

Click on the channel tool bar at the bottom of the live-view camera window to play back the record (click on the general tool bar at the bottom of the live-view interface to set the default playback time). 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 set the instant playback time to play back the record.



8.2 Playback Interface Introduction

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



The interface will switch from live-view to playback and the cameras from the live-view will be played back automatically. You can add the playback cameras manually by clicking on + in the playback window to open the "Add Camera" window. Mark the cameras you wish to add and click "Add". The system supports a maximum of 16 synchronous playback cameras.

The buttons of the general tool bar (area ①) are introduced in the table below:

Button	Meaning
	Start button. Click it to pop up area ②.
	Full screen button. Click it to show full screen; click it again to exit the full screen.
	Screen split modes.
	"OSD ON/OFF" button. Click it to enable/disable the OSD
	Stop button.
	Rewind button. Click it to play video backward.
	Play button. Click it to play video forward.
	Pause button.
	Decelerate button. Click it to decrease the playing speed.
	Acceleration button. Click it to increase the playing speed.
	Previous frame button. It works only when the forward playing is paused in single screen mode.
	Next frame button. It works only when the forward playing is paused in single screen mode.
	Click − to step backward 30s and click + to step forward 30s.
	Event list/tag button. Click it to view the event records of manual / schedule / sensor / motion and the tag information.
	Backup button. Drag the mouse on the time scale to select the time periods and cameras and click the backup button to back up the record. (After marking the area for backup you can also click on the right mouse button)
	View the backup status.
	Back button. Click it to return.

Introduction of area ②:

Button	Meaning
	Go to record search interface; see 8.3 Record Search & Playback for details.
	Go to backup interface; see 8.4 Backup for details.
	Click it to go to live-view interface; see Chapter 5 Live Preview Introduction for details.

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

Button	Menu List	Meaning
	--	Move tool. Click it to move the tool bar.
	**Enable Audio**	Click it to enable audio and listen to the camera's audio channel.
	**Snap**	Click it to take a snapshot.
	**Zoom In**	Click it to go to the digital zoom. The playback digital zoom interface is similar to live-view digital zoom interface. Click  to pause the playback. When the record is paused while in forward playing mode, you can click  to view the previous frame and click  to view the next frame.
	**Add Tag**	Save a tag of the exact date and time you wish to save. You can use the tag later to go back quickly to the tagged point. When adding a new tag the system will name it with the saved time automatically. You can change the name or edit it later.
	**Switch Camera**	Click it to switch the playback camera to a different camera that will playback the exact date and time. Click it and choose the new camera in the window. Click "OK" to change the camera.
	**Close Camera**	Click it to close the playback camera.

Introduction of area ④:

Button	Meaning
	Set/Change the playback date
	Set/Change the playback time
* 	Manual Record markings. Uncheck it to remove manual record display
* 	Sensor Alarm Record markings. Uncheck it to remove manual record display
* 	Motion Alarm Record markings. Uncheck it to remove manual record display
* 	Schedule Record markings. Uncheck it to remove manual record display

** Playback must be stopped completely before these icons can be used. After stopping the playback use  icon to add the desired cameras for search/playback.

Introduction of the record time scale (area ⑤):

Button	Meaning
	The time-scale default view is 24 hours. Click on this icon to return to 24 hours view
 / 	Zoom in/out within the playback time scale
	Move up the time scale (The mouse wheel can also be used)
	Move down the time scale (The mouse wheel can also be used)

The record time scale shows different record types with different colors. The green color stands for manual record, red color stands for sensor alarm record, yellow color stands for motion alarm record and blue color stands for schedule record. Click the time scale to set the playback exact location.

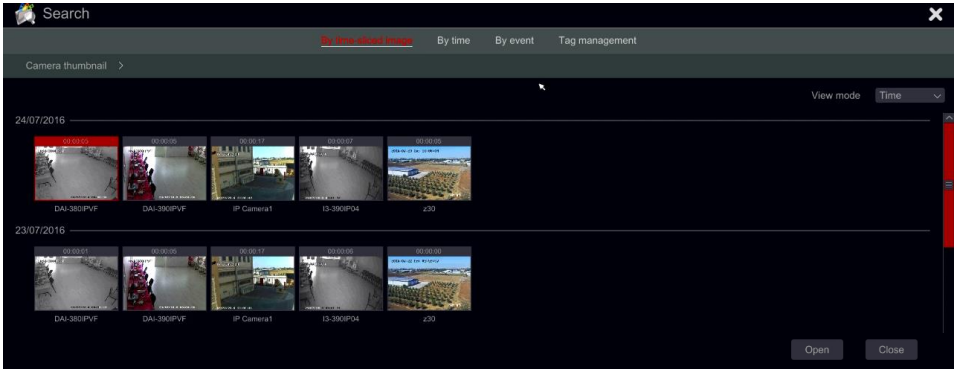
Drag the mouse cursor on the time scale to select the backup area and right click on the marked area or click  to pop up a backup information window. Select the destination device, backup path and backup format and click “Backup” to start the backup process.

8.3 Record Search & Playback

8.3.1 Search & Playback by Time-sliced Image

① Click Start→Search→By Time-sliced Image.

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 greater than 64, the cameras will be listed by their camera name, and not as a 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 only the camera view mode will be available.



② Double click on the selected camera or select one camera and click the “Open” button. The camera will refine from “Day” view to “Hour” view. Repeat this stage to refine from “Hour” view to “Minute” View.

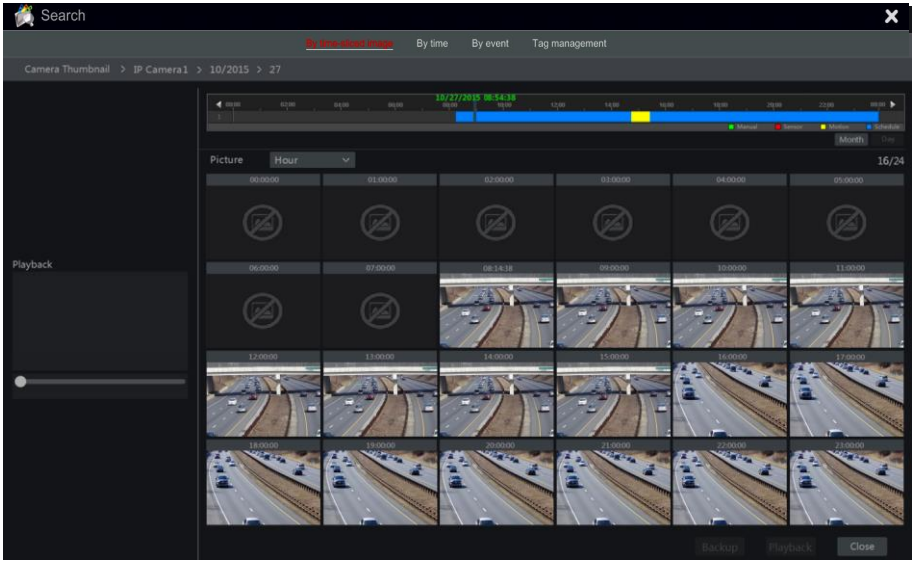
③ Once in “Minute” view, double clicking on any image thumbnail will open the full playback interface and commence playback for the selected camera at the specific time and date.

④ You can click once on the image box to play the record in the small playback box on the left side of the interface (If the thumbnail is blackened out – it means there is no record data available)

⑤ You can perform backup directly from this interface. Left click and drag the mouse on the time scale to select the segment for playback and click “Backup” button to continue; select the device, backup path and backup format in the opened window and click “Backup” button to start the backup.

⑥ Click “Playback” button (Or double click on the thumbnail) to commence playback in the

playback interface (refer to 8.2 Playback Interface Introduction for details). Click "Close" to close the interface.



Time Slice Mode Working method:

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

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

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

8.3.2 Search & Playback by Time:

① Click Start→Search→By Time.

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

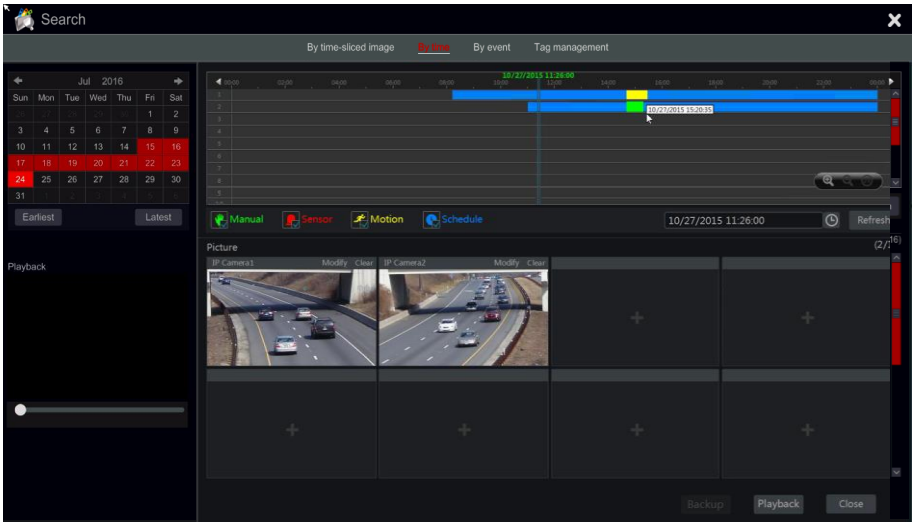
③ Single click on the camera window to play the record in the small playback box on the left side of the interface. You can set the date on the top left of the interface, check the event type as required and click the time scale or click under the time scale to set the time. The camera window will play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

④ Single click on the time bar to set the time for playback. The camera thumbnails will be

updated automatically and show a snapshot from the chosen time.

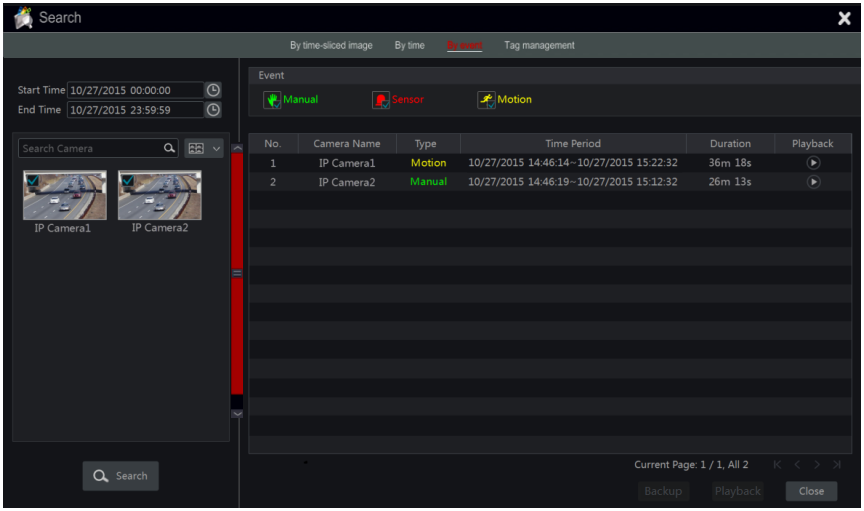
⑤ You can perform backup directly from this interface. Left click and drag the mouse on the time scale to select the segment for playback and click “Backup” button to continue; select the device, backup path and backup format in the opened window and click “Backup” button to start the backup.

⑥ Click “Playback” button (Or double click on the thumbnail) to commence playback in the playback interface (refer to 8.2 Playback Interface Introduction for details). Click “Close” to close the interface.



8.3.3 Search & Playback by Event

① Click Start→Search→By Event.



② Mark the required event type in the interface.

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

④ Mark the desired cameras on the left side of the interface and click  to search the database. The searched records will be displayed in the list.

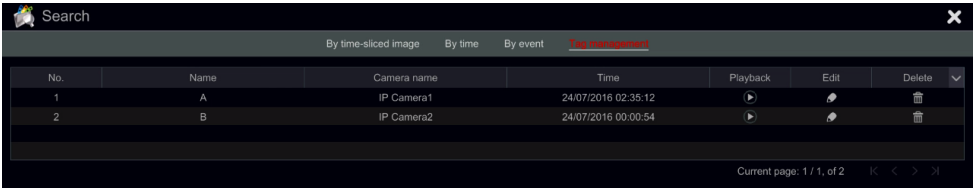
⑤ Click  in the list to playback the record in a popup window. You can also select one record data from the list and click "Backup" button instant backup.

⑥ Select one record data from the list and click "Playback" button to play the record in the playback interface.

8.3.4 Search & Playback by Tag

You have to save tags prior to using this interface. While playing back click on one of the camera windows to open the camera menu bar and click on  .

Click Start→Search→Tag Management



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

8.4 Backup

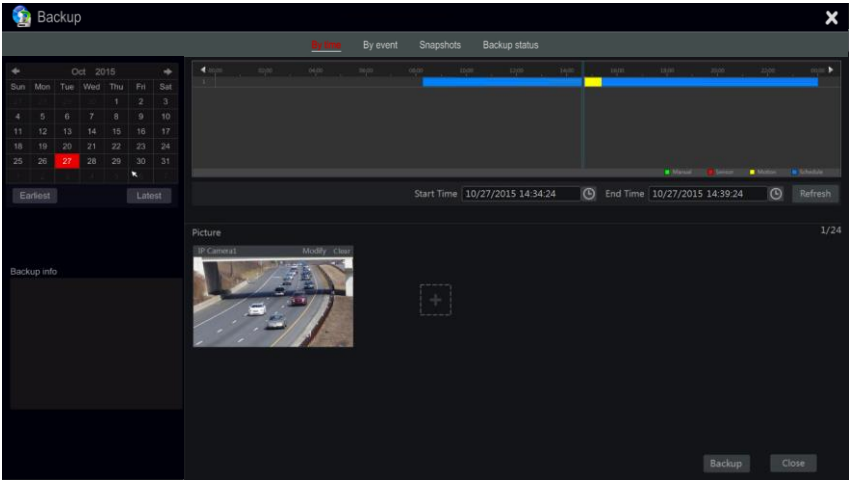
The recorded data and the snapped pictures can be backed up locally to USB (U-disk or external USB HDD) or by e-SATA (only available in selected models) it can also be backed up through network. The file system of the backup devices should be FAT32 format.

8.4.1 Backup by Time

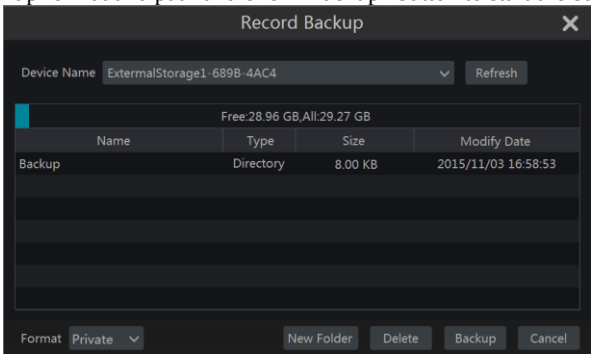
① Click Start→Backup→By Time.

② Click  on the bottom to open the add camera window. Choose the cameras in the opened window and click the "Add" button. Click "Modify" on the top right corner of the camera window to change the camera or click "Clear" to remove the camera.

③ Set the date on the top left. 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.



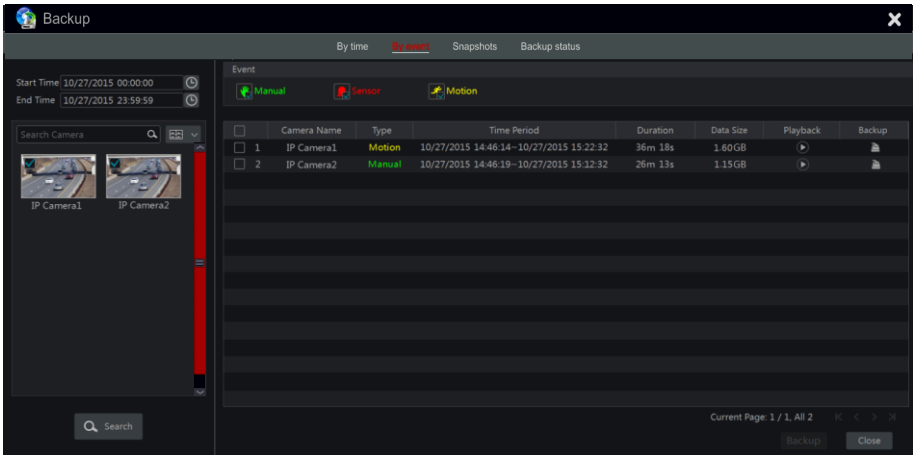
④ Click "Backup" button to show the "Record Backup" window as shown below. Select the device name, backup format and path and click "Backup" button to start the backup.



Note: If the backup is made in the "private" format, the system create a RPAS player on the USB device automatically. The private format backup can only be played by the RPAS player.

8.4.2 Backup by Event

① Click Start→Backup→By Event.



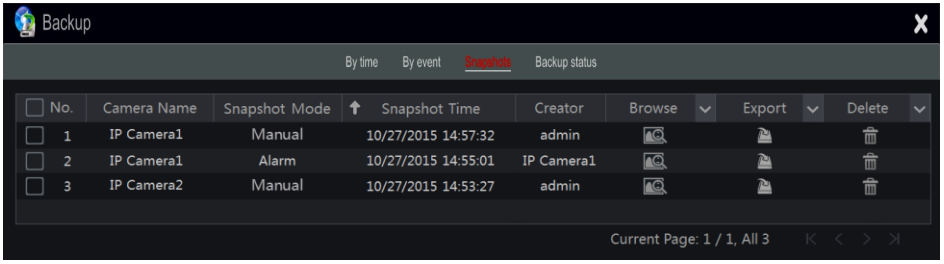
② Click  to set the start time and end time on the top left of the interface.

③ Choose the event types and cameras.

④ Click  to search for data. The searched data will be listed. Click  on any of the list lines to play the record in the small playback window. Click  to back up the record. Mark one record data or more from the list and click "Backup" button to back up the record data.

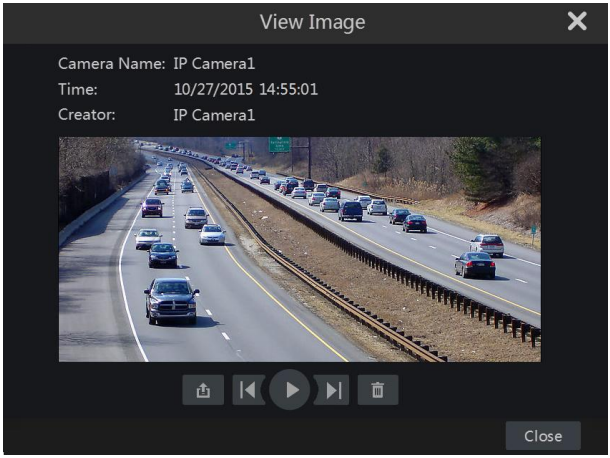
8.4.3 Snapshots

Click Start→Backup→Snapshots. The system will display all the snapped images.



Click  to delete an image. Click  to open the "Export" window. Select the device name and save path in the window and click "Save" button.

Click  to open a view window. Click  to export the image. Click  to view the previous image or click  to view the next image. Click  to delete the image; click  to play all the images automatically one by one.



8.4.4 View Backup Status

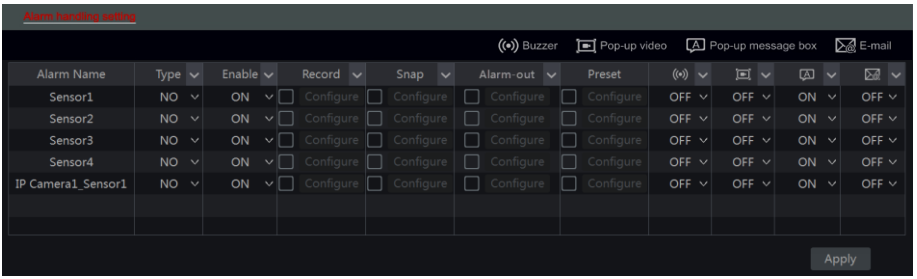
Click Start→Backup→Backup Status or click  on the tool bar at the bottom of the playback interface to view the backup status.

9 Alarm Management

9.1 Sensor Alarm

To fully configure the sensor alarm settings, you should enable the sensor alarm and set up the alarm handling for each camera/channel.

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



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

③ Enable the sensor alarm for the desired cameras/channels.

④ Mark the and configure the desired response for sensor alarm out of "Record", "Snap", "Alarm-out" and "Preset", and enable/disable "Buzzer", "Pop-up Video", "Pop-up Message Box" and "E-mail".

⑤ Click "Apply" to save the settings.

The configuration steps for the alarm responses are as follows:

Record: once enabling "record" a "Trigger Record" window will pop up (you can also click "Configure" button to open the window manually). Select camera/s on the left side and click >> to set the camera as a triggered camera. Select a triggered camera from the right side and click << to remove the triggered camera. Click "OK" button to save the settings. The triggered camera/s will commence recording in case of a sensor alarm.

Snap: once enabling "Snap" a "Trigger Snapshot" window will pop up (you can also click "Configure" button to open the window manually). Select camera/s on the left side and click >> to set the camera as a triggered camera. Select a triggered camera from the right side and click << to remove the triggered camera. Click "OK" button to save the settings. The triggered camera/s will take a snapshot in case of a sensor alarm.

Alarm-out: once enabling "Alarm-Out" a "Trigger alarm-out" window will pop up (you can also click "Configure" button to open the window manually). Select alarm/s on the left side and click >> to set the alarm as a triggered alarm. Select a triggered alarm from the right side and click << to remove the triggered alarm. Click "OK" button to save the settings. The triggered alarm will commence in case of a sensor alarm. You need to set the delay time and the schedule of the alarm outputs. See 9.4.1 Alarm-out for details.

Preset: once enabling "Preset" a "Trigger Preset" window will pop up. Configure the triggered

preset of each PTZ camera. To add presets, please see 6.2 Preset Setting.

Buzzer: if enabled, the system will buzz using the internal buzzer when the sensor alarm is triggered. To set the delay time of the buzzer, please see 9.4.4 Buzzer.

Pop-up Video: once enabling "Pop-up Video" a "Set Camera" window will pop up. Select a camera from the list as the triggered channel. Click "OK" button to save the settings. The triggered camera will open in a single channel live-view in case of sensor alarm. To set the duration time of the video pop up, please see 9.4.3 Display.

Pop-up Message Box: if enabled, the system will pop up the corresponding alarm message box automatically when a sensor alarm is triggered. To set the duration time of the message box, please see 9.4.3 Display.

E-mail: if enabled, the system will send an e-mail when a sensor alarm is triggered. Before you enable the email, please configure the e-mail addresses first (see 11.1.4 E-mail Configuration).

9.2 Motion Alarm

Motion Alarm: when motion appears in the specified area, it will trigger the motion alarm. Remember that the motion alarm is based on VMD which translates pixel color changes as motion, therefore might trigger false alarms.

You should enable and configure the motion detection for each of the cameras first and set the alarm handling to complete the motion alarm configuration.

9.2.1 Motion Configuration

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

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

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 two motion detections. For instance, if the duration time is set to 10 seconds, once the system detects a motion, it will trigger the alarm and disregard all other motions for 10 seconds (specific to camera). 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 To select the area of interest, click drag the mouse cursor on camera image from the top left to the bottom right. You can set more than one motion area. Click "All" to set the whole camera image as the motion detection area. Click "Reverse" to swap the selected area and the unselected 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 access the following interface.

② Mark the and configure the desired response for motion alarm out of "Record", "Snap", "Alarm-out" and "Preset", and enable/disable "Buzzer", "Pop-up Video", "Pop-up Message Box" and "E-mail". The alarm handling setting of motion alarm is similar to that of the sensor alarm (see 9.1 Sensor Alarm for details).

③ Click "Apply" to save the settings. You can click "Motion Settings" to return to the motion configuration interface.

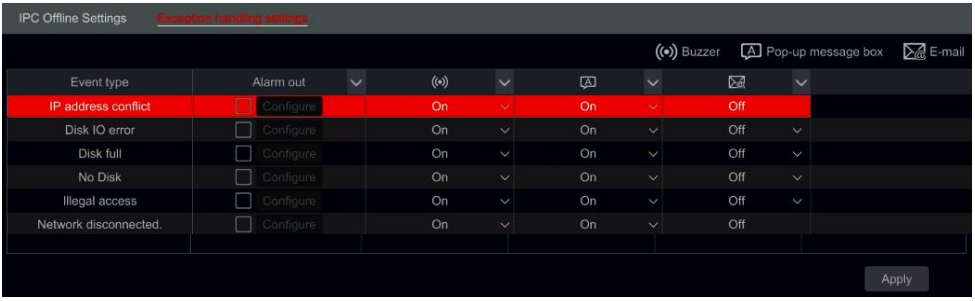
9.3 Exception Alarm

9.3.1 Exception Handling Settings

① Click Start→Settings→Alarm→Exception→Exception Handling Settings

② Mark the and configure the desired response for exception alarm out of "Alarm-out" and enable/disable "Buzzer", "Pop-up Message Box" and "E-mail".

③ Click "Apply" to save the settings.



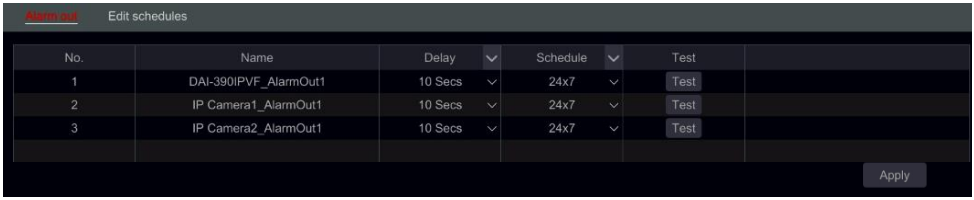
9.3.2 IPC Offline Settings

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

9.4 Alarm Event Notification

9.4.1 Alarm-out

① Click Start→Settings→Alarm→Alarm Out to access the following interface.



② Set the delay time and the schedule of each alarm-out. You access the "Edit Schedules" interface from here (see 7.3.1 Add Schedule for details).

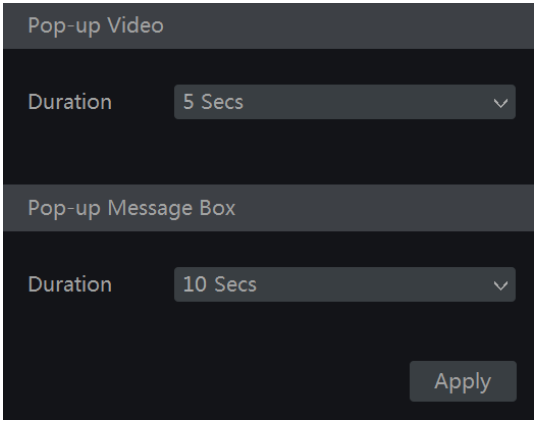
③ Click "Apply" to save the settings. You can click "Test" to test the alarm output.

9.4.2 E-mail

Click Start→Settings→Alarm→Event Notification→E-mail to go to the e-mail configuration interface. See 11.1.4 E-mail Configuration for details.

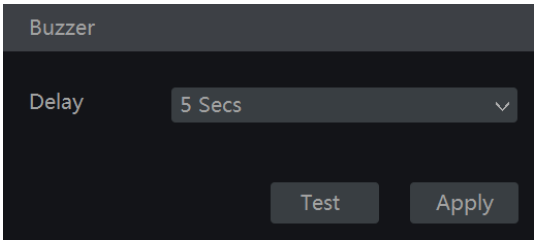
9.4.3 Display

Click Start→Settings→Alarm→Event Notification→Display to set the duration of the pop-up video and pop-up message box. Click “Apply” to save the settings.



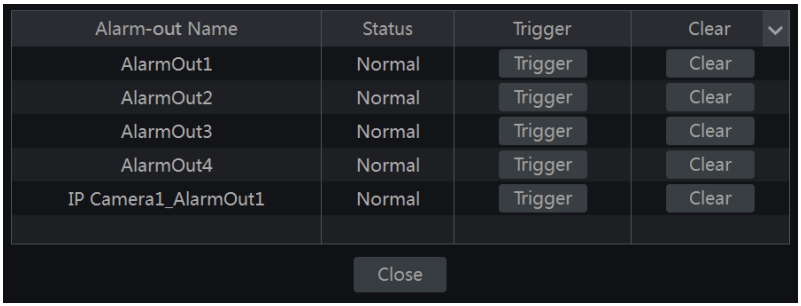
9.4.4 Buzzer

Click Start→Settings→Alarm→Event Notification→Buzzer to set the holding time of the buzzer and click “Apply” to save the setting. You can click “Test” to test the buzzer.



9.5 Manual Alarm

Click  on the general tool bar at the bottom of the live-view interface to open the window as shown below. Click “Trigger” to start alarm. Click “Clear” to stop alarm. (The NVR must support alarms or have IPC which support alarm out connected to it in order to support this feature).



9.6 View Alarm Status

Click Start→Settings→Alarm→Alarm Status or click on the general tool bar at the bottom of the live-view interface and click "Alarm Status".

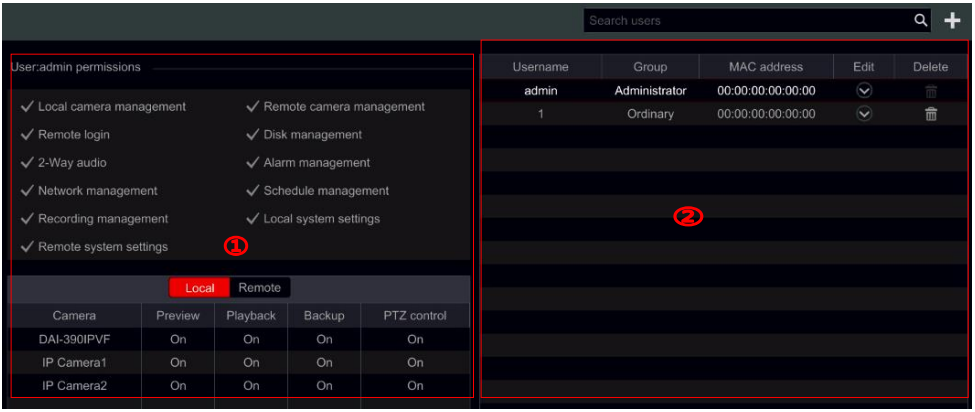
Click "Clear" button to stop the buzzer if the buzzer is on. Click to view detailed information as shown below.

If the exception information is more than one page, you can input the number in the box and click to jump to the specified page. Click / to view the exception alarm information in the previous/next pages. Click to play the alarm record (if available).

10 Account & Permission Management

10.1 Account Management

Click Start→Settings→Account and Authority→Account→Edit User



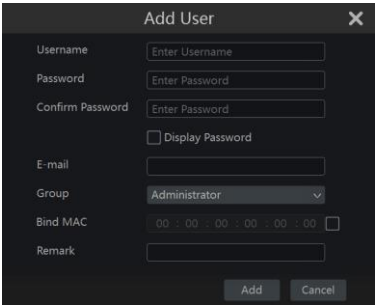
Area ① displays the user permissions. Area ② displays the user list. Click on a user in area ② to display its user permissions in area ①.

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

The user ***admin*** have all system permissions and it can manage the device's accounts. Group "Administrator" owns all the permissions displayed in area ① and its permissions can never be changed or edited while the permissions of "Advanced" and "Ordinary" can be changed.

10.1.1 Add User

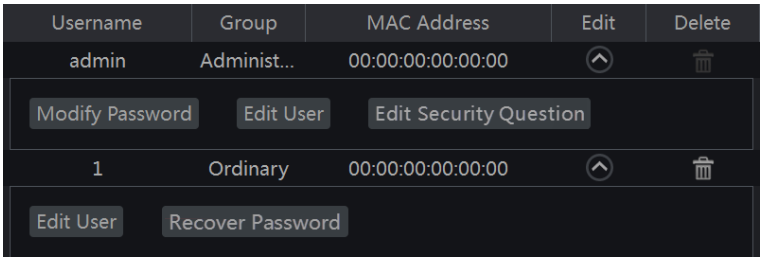
① Click Start→Settings→Account and Authority→Account→Add User or click + beside the search box.



② Set the username, password and permission group. The e-mail address, MAC address binding and the remark are optional. Click "Add" to confirm and add the user.

10.1.2 Edit User

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



➢ **Edit Security Question**

You can set password security question only for ***admin***. Click "Edit Security Question" and set questions and answers in the opened window. If you forget the password, please refer to Q4 in Appendix A FAQ.

➢ **Modify Password**

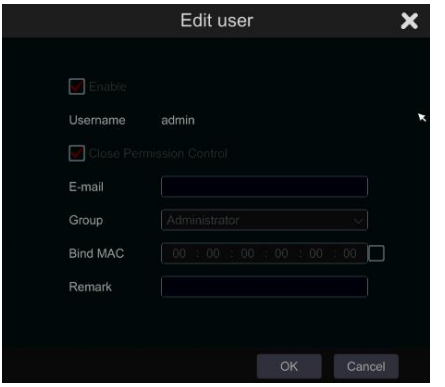
Only the password of ***admin*** can be modified. Click "Modify Password". Input the current password and set new password. Click "OK" to save the settings.

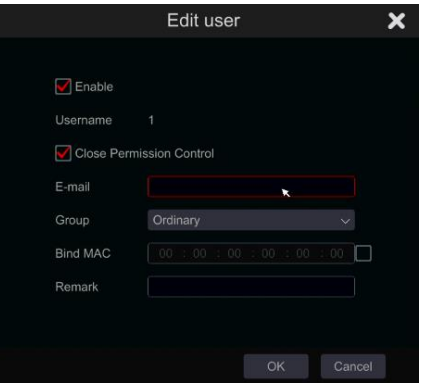
➢ **Recover Password**

Click "Recover Password" to reset the password to ***123456***.

➢ **Edit User**

Click "Edit User" to open the window as shown below. If ***admin*** is edited, its permission control is closed and permission group cannot be changed. You can enable or disable other users (if disabled, the user will be invalid), open or close their permission control (if closed, the user will get all the permissions which the administrator permission group has) and set their permission groups. Click "OK" to save the settings.





10.2 User Login & Logout

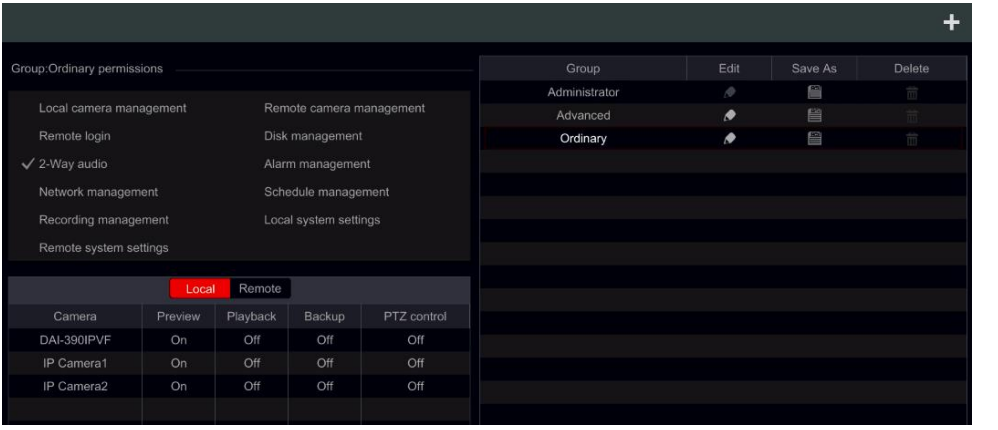
Login: Click Start→Login or directly click the live-view interface, then input the username and the password. Click "Login" button to log in the system. If "Auto Login" is marked – the system will not ask for password again until you logout.

Logout: Click Start→Logout or click Start→Shutdown. Select "Logout" in the window and click "OK" button to log out the system.

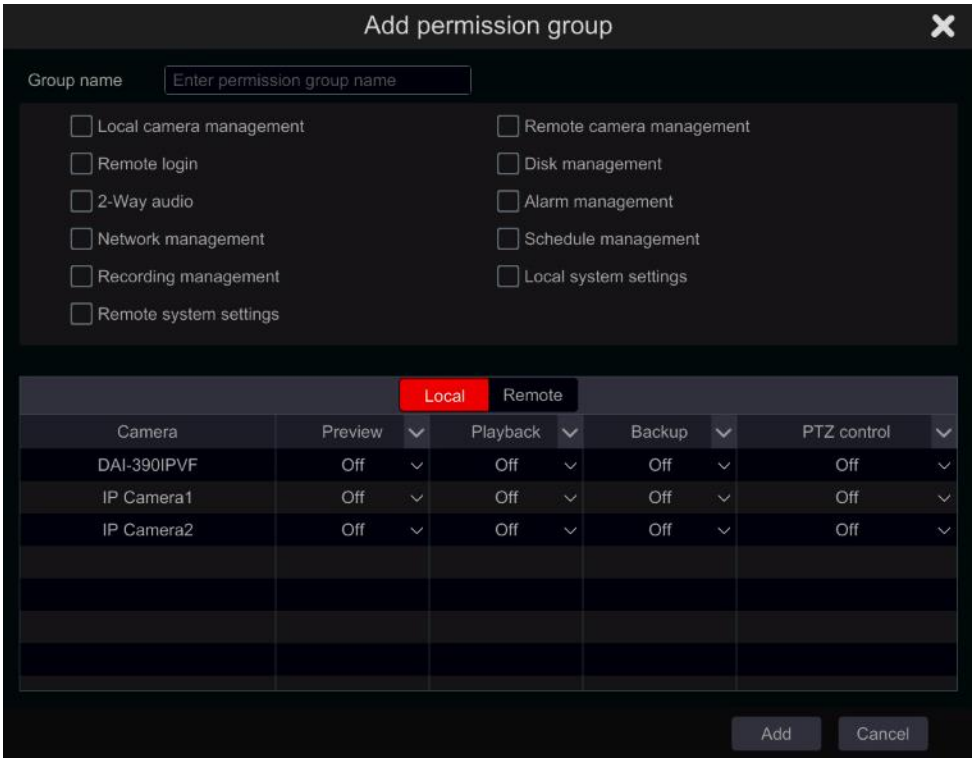
10.3 Permission Management

10.3.1 Add Permission Group

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



Click + to add a permission group. Set the group name, mark the permissions as required and set the specific "Local" and "Remote" permissions. Click "Add" to save the settings.

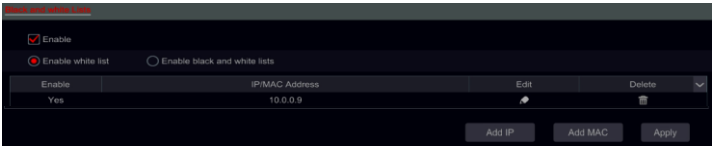


10.3.2 Edit Permission Group

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

10.4 Black and White List

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



② Check “Enable” and 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 IP/IP segment/MAC. Click “Add IP” or “Add MAC” button and check “Enable” in the popup window (only if you check it can the IP/IP segment/MAC you add be effective). Enter the IP/IP segment/MAC and click “OK” button. In the above interface, click  to edit IP/IP segment/MAC, click  to delete it. Click “Apply” to save the settings.

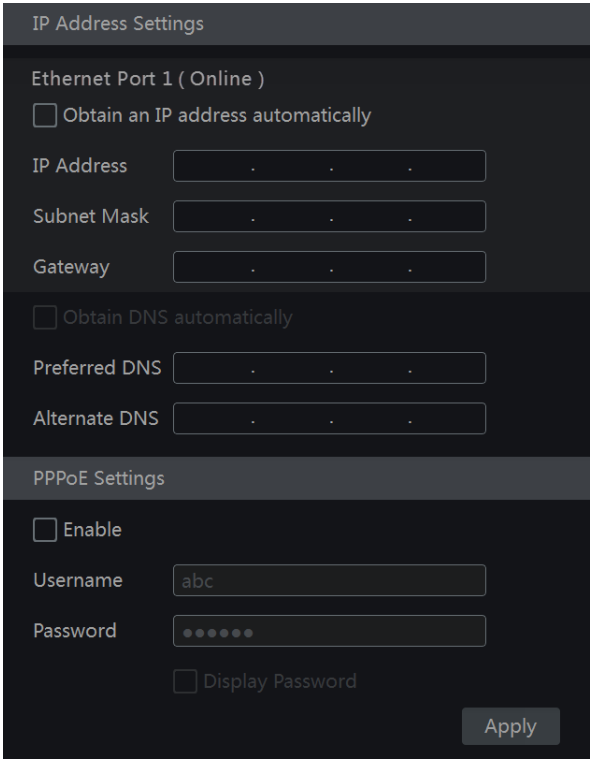
11 Device Management

11.1 Network Configuration

11.1.1 TCP/IPv4 Configuration

- **IP Address Settings**

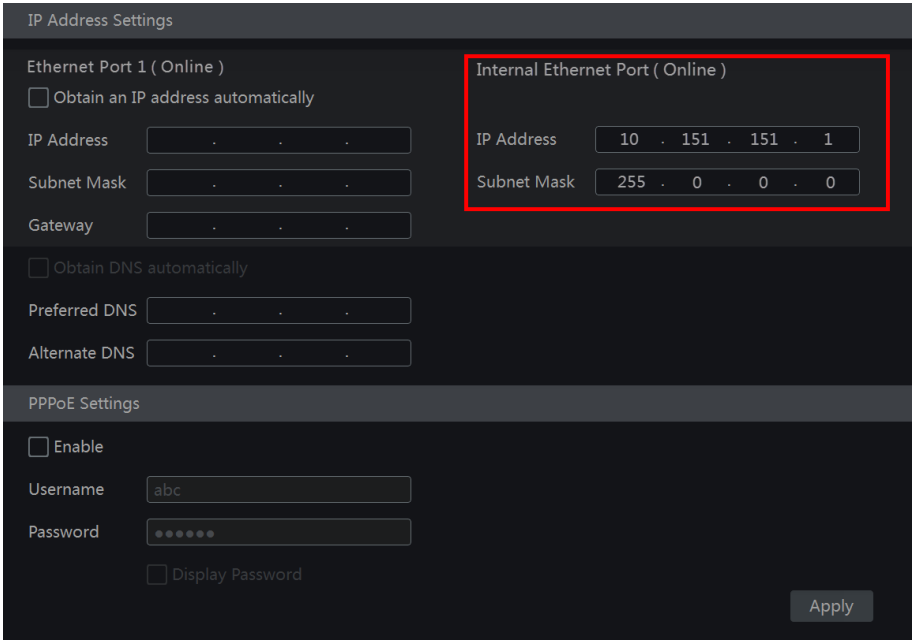
Click Start→Settings→Network→TCP/IPv4 to go to the following interface. Mark "Obtain an IP address automatically" and "Obtain DNS automatically" to get the IP address and DNS automatically, or input the IP address, subnet mask, gateway, preferred DNS and alternate DNS manually. Click "Apply" to save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



Internal Ethernet Port Introduction:

If you use the PoE NVR, the network state of the internal ethernet ports will be shown on the interface. Refer to the picture below.

The internal ethernet port connects all the PoE ports with the NVR system. The PoE ports are available when the state is online. If it is offline, the NVR PoE ports will be unavailable. The IP address and subnet mask of the internal ethernet port can be changed in this interface (not recommended).

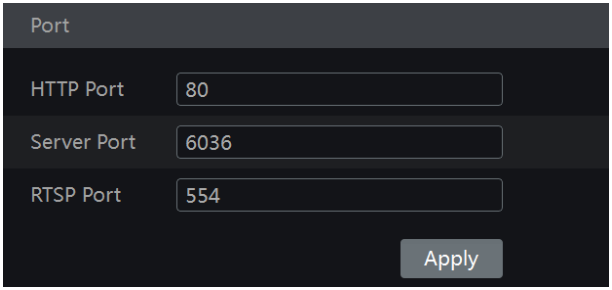


➢ **PPPoE Settings**

In the above interface, mark "Enable" in "PPPoE Settings" and input the username and password. Click "Apply" to save the settings.

11.1.2 Port Configuration

Click Start→Settings→Network→Port. Input the HTTP, server and RTSP ports of the NVR and click "Apply" to save the settings.



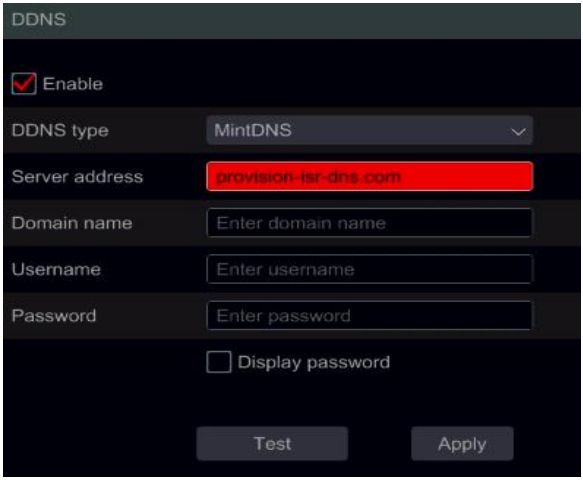
HTTP Port: the default HTTP port of the NVR is 80. The port number can be changed. The port is mainly used for direct IE and mobile application remote access via static IP or DDNS. To access the NVR through IE, input the IP address plus HTTP port in the address bar for

example: http://192.168.11.61:81. (If the HTTP port is 80 – there is no need to input it)
Server Port: the default server port of the NVR is 6036 and it can be changed as required. The port is mainly used in network video management system like CMS.
RTSP Port: RTSP (Real-Time Stream Protocol) can be used to retrieve the video stream from the NVR by any media player which supports the RTSP. You can view the live stream synchronously. The default RTSP port is 554. 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.***

11.1.3 DDNS Configuration

The DDNS is used to control the dynamic IP address through a domain name. You can access to the NVR easily if the DDNS is enabled and properly configured.
Click Start→Settings→Network→DDNS to go to the interface as shown below.



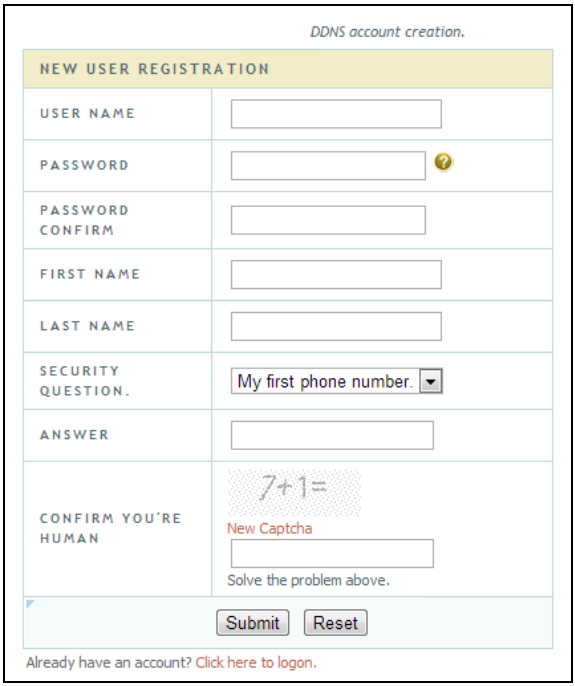
Mark "Enable" and select the DDNS type. Input the server address, domain name, username and password according to the selected DDNS type. Click "Test" to test the confirm connectivity. Click "Apply" to save the settings.

You will have to input the server address and domain name for some DDNS types. Go to the relative DNS website to register domain name and input the registered domain information here).

We will take ***http://provision-isr-dns.com*** for example:

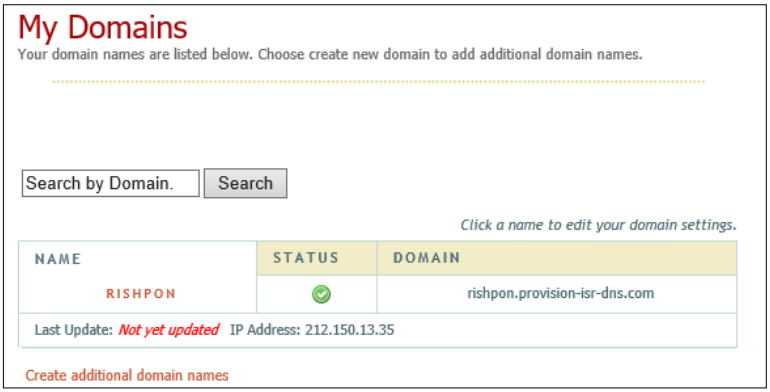
① Input ***http://provision-isr-dns.com*** in the IE address bar to the website.

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



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

④ After you successfully request your domain name, you will see your domain name information.



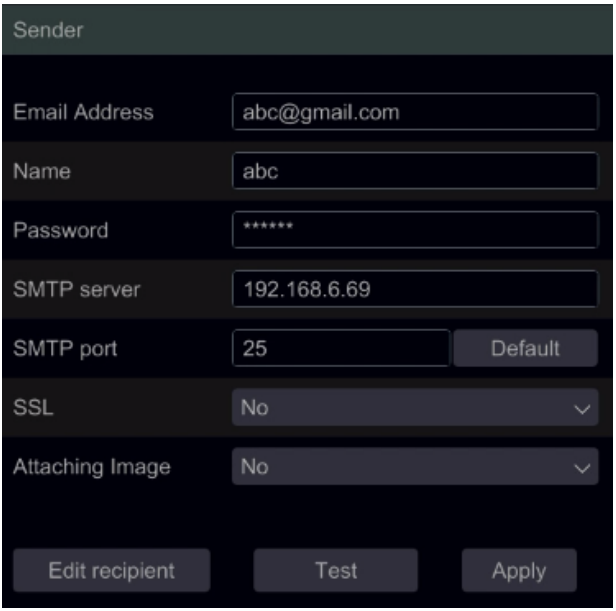
⑤ Click Start→Settings→Network→DDNS. Enable the DDNS service and select ***MintDNS*** as the DDNS type. Input the pre-registered username, password and domain name and click "Apply".

⑥ Map the IP address and HTTP port in the router (you can skip this step if UPnP function is enabled).

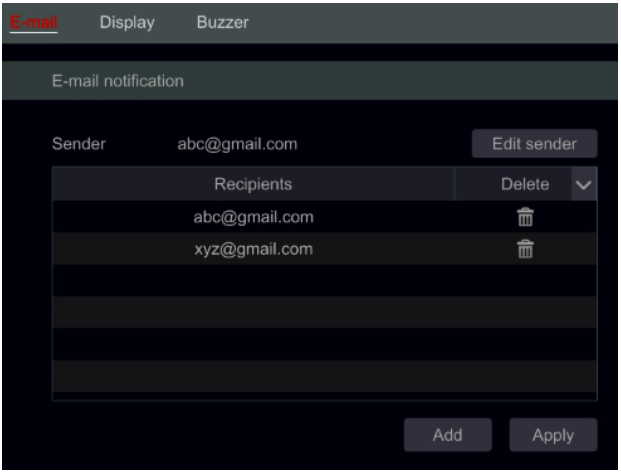
⑦ Input the registered domain name plus HTTP port like ***http://xx.provision-isr-dns.com:81*** in the IE address bar and press the Enter key to go to the IE client.

11.1.4 E-mail Configuration

Click Start→Settings→Network→E-mail. Input the sender's e-mail address, name, password, SMTP server and SMTP port (you can click "Default" to reset the SMTP port to the default value) and enable/disable the SSL and "attaching image". Click "Test". Input the e-mail address of the recipient in the window and click "OK" button. The e-mail address of the sender will send an e-mail to the recipient. If the e-mail was sent successfully, it indicates that the e-mail address of the sender is configured correctly. Click "Apply" to save the settings.



Click “Edit Recipient” to open the following interface.



Click “Add” and input the recipient’s e-mail address in the opened window. Click “Add” to confirm. Click  to delete a recipient from the list. Click “Apply” to save the settings. Click “Edit Sender” to go to the e-mail configuration interface of the sender.

11.1.5 UPnP Configuration

By using UPnP you can access the NVR through IE client in WAN via router without port mapping.

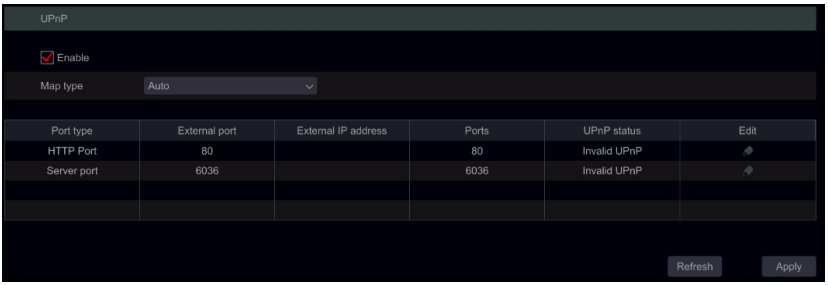
① Click Start→Settings→Network→UPnP to go to the following interface.

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 set the corresponding in the router interface.

④ Mark "Enable" and click "Apply" button.

Click "Refresh" button to refresh the UPnP status. If the UPnP status is still "Invalid UPnP" after refreshing, the port number is probaly wrong. Please change the mapping type to "Manual" and click  to modify the port until the UPnP status turns to "Valid UPnP". Refer to the following picture. You can view the external IP address of the NVR. Input the external IP address plus port in the IE address bar to access the NVR.



11.1.6 NAT Configuration

Click Start→Settings→Network→NAT. Mark "Enable" and click "Apply" to save the settings.

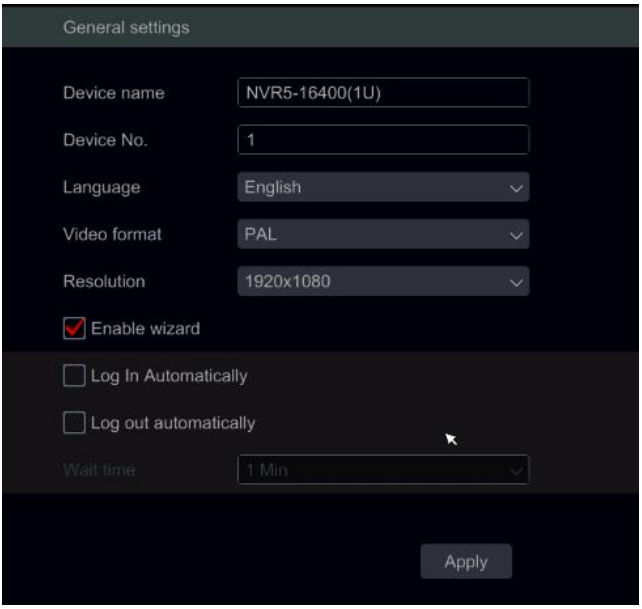
11.1.7 View Network Status

Click Start→Settings→Network→Network Status to view the network status / or click  on the general tool bar at the bottom of the live-view interface and switch to "Network Status" to view network status.

11.2 Basic Configuration

11.2.1 Common Configuration

Click Start→Settings→System→Basic→General Settings to go to the following interface. Set the device name, device No., language, video format and resolution. Enable or disable the configuration wizard, "Log In Automatically" or "Log Out Automatically" (if marked, you can set the wait time before log out). Click "Apply" to save the settings.



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

Video Format: Two modes: PAL and NTSC. Select the video format according to the region / cameras.

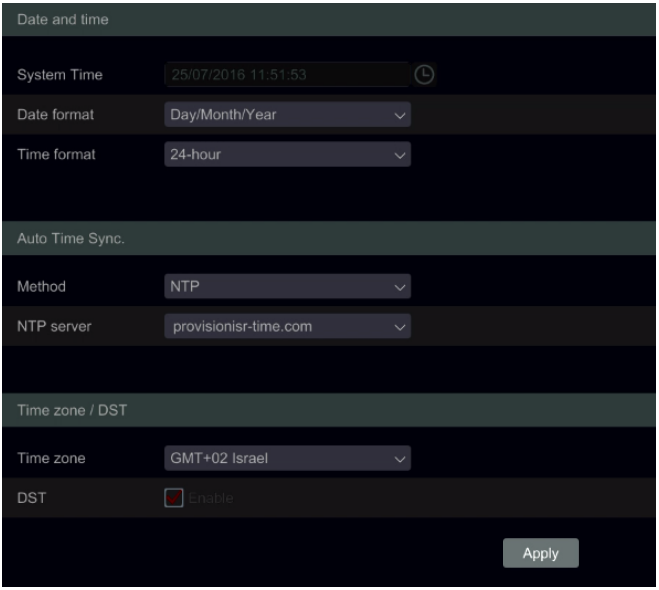
11.2.2 Date and Time Configuration

Click Start→Settings→System→Basic→Date and Time to go to the interface as shown below. Set the system time, date format, time format and time zone of the NVR.. If the selected time zone includes DST, the DST of the time zone will be marked 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 "Auto Time Sync." option and click after the "System Time" option to set the system time.

NTP: select "NTP" in the "Auto Time Sync." option and input the NTP server. (The default is www.provisionisr-time.com)



11.3 Factory Default

Click Start→Settings→System→Maintenance→Factory Default and click on "Reset to factory default" button in the interface. Confirm the prompt message to reset to the factory default settings.

11.4 Device Software Upgrade

Click Start→Settings→System→Information→Basic to view the MCU, kernel and firmware versions. Before upgrade, download the correct update file from Provision-ISR's website.

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 slot of the NVR.

③ Click Start→Settings→System→Maintenance→Upgrade. Select the USB device in the "Device Name" option and go to the path where the upgrade software exists. Select the upgrade software and click "Upgrade". The system will automatically restart during the upgrade process. Do not power off the NVR during upgrading.

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

11.5 Backup and Restore

You can back up the configuration file of the NVR by exporting the file to other storage devices; you can recover the configuration to other NVRs which from the same model as the origin NVR importing the configuration file to other NVRs.

Insert the USB storage device into the USB interface of the NVR and click Start→Settings→System→Maintenance→Backup and Restore.

- **Backup**

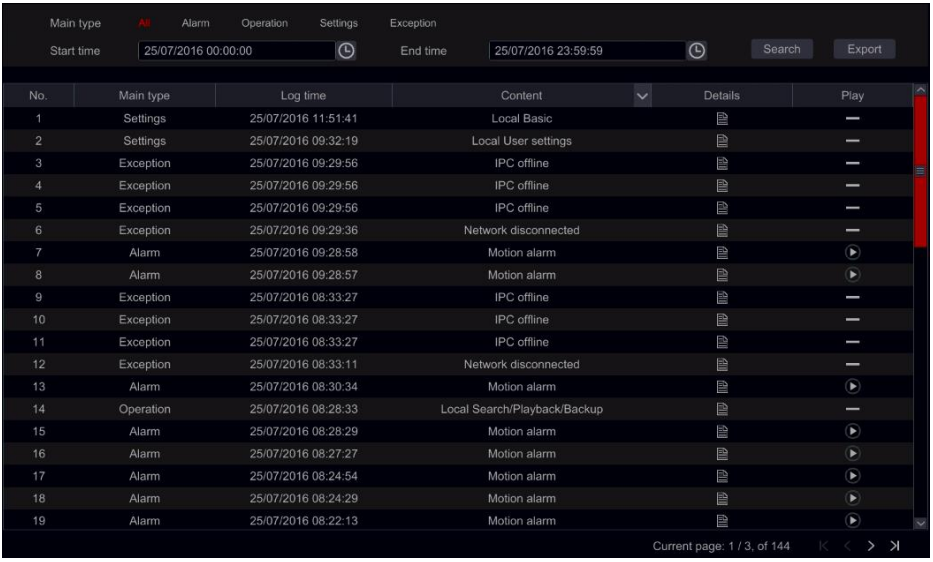
Select the USB device under "Device Name", then go to the path where you want to store the configuration backup file and click "Backup". Click "OK" to confirm.

- **Recover**

Select the USB device under "Device Name" option. Find the configuration backup file and click "Recover". Click "OK" to confirm.

11.6 View Log

Click Start→Settings→System→ View Log. Select the log type, click  to set start time



and end time and click "Search" button. The searched log files will be displayed as a list.

Choose the log file from the list and click "Export" button to export the log file.
Click  on the "Content" title bar to create filters within the log entries. Click  to play a video log if available.

11.7 View System Information

Click Start→Settings→System→Information and choose the corresponding menu to view the "Basic", "Camera Status", "Alarm Status", "Record Status", "Network Status" and "Disk" information.

12 Remote Surveillance

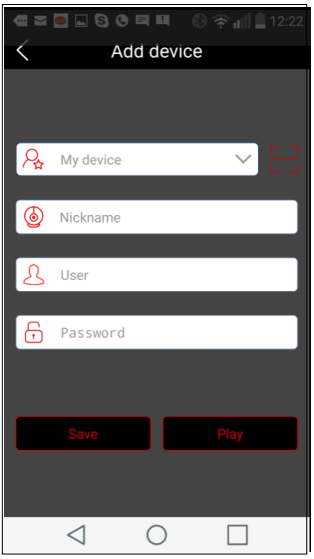
12.1 Mobile Client Surveillance

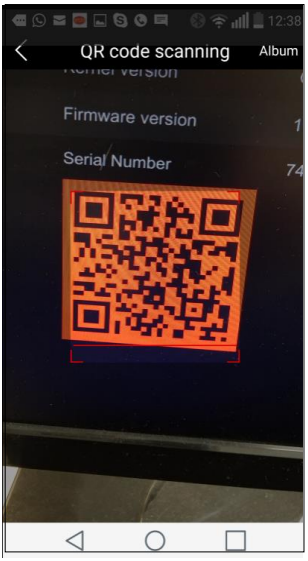
① If you are intending to use Provision-ISR cloud service, make sure to enable NAT in the NVR. Refer to 11.1.6 NAT Configuration for details.

② Download and install the mobile app "Provision Cam2" (Available for iOS & Android).

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

④ After scanning the QR Code successfully, input the login credentials to log into the device.

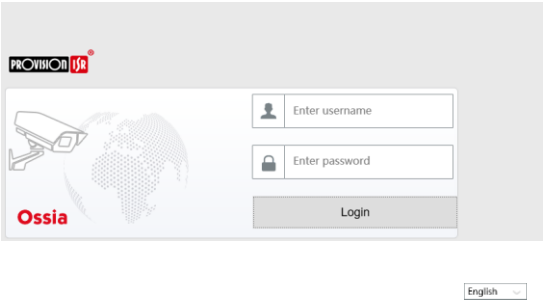




12.2 Web LAN Access

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.

② Open your preferred internet browser (Supporting IE, Safari, Opera and Firefox) and input the IP address of the NVR in the browser address bar. You can change the display language on the top right corner of the login interface. Input the username and password of the NVR in the interface and click "Login" to go to the live preview interface.



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

2. If the HTTP port of the NVR is different than 80, you need to input the IP address plus the port number in the browser's 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.

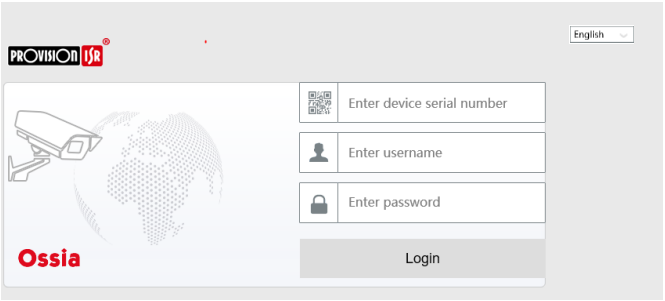
12.3 Web WAN Access

➢ **NAT Access**

① Set the network of the NVR. Please refer to 11.1.1 TCP/IPv4 Configuration for details.

② Enable NAT. Please refer to 11.1.6 NAT Configuration for details.

③ Open your preferred internet browser (Supporting IE, Safari, Opera and Firefox) and input the NAT server address ***www.provisionisr-cloud.com*** in the address bar and press enter. If it is the first time you connect via P2P then download the plugin, close your browser and install it on your system.



Input the serial number (click on the tool bar at the bottom of the live preview interface to see the serial number of the NVR), user name (the user name of the NVR, ***admin*** by default) and password (the password of the NVR, ***123456*** by default), select the display language on the top right corner of the interface and click "Login" button to go to the web client interface.

➢ **PPPoE Access**

① Click Start→Settings→Network→TCP/IPv4. Check "Enable" in the "PPPoE settings" and 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 in the web browser address bar and press enter. Input the username and password of the NVR and click "Login" to go to the device's web interface.

➢ **Router Access**

① Click Start→Settings→Network→TCP/IPv4. Set the IP address, subnet mask, gateway, preferred DNS and alternate DNS of the NVR.
② Set the HTTP port (it is advised to modify the HTTP port since the default HTTP port 80 might be occupied) 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 your router for details.
③ Get the WAN IP address of the NVR from the router. Open internet browser on a computer and input the WAN IP address plus HTTP port like http://116.30.18.215:100 in the browser's address bar. Press enter to go to the login interface. Input the username and password of the NVR in the interface and click "Login".

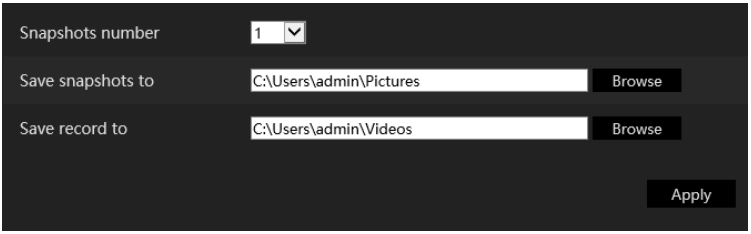
Note: If the WAN IP address is dynamic, it is necessary for you to use the domain name to access the NVR. Click Start→Settings→Network→DDNS to set DDNS (see 11.1.3 DDNS Configuration for details). By using DDNS function you can use the domain name plus HTTP port to gain remote access to the NVR remotely

12.4 Web Remote Control

The supported browsers of the remote surveillance are IE8/9/10/11, Firefox, Opera Windows OS and Safari in MAC OS.
When you access the NVR through web browser for the first time, you will need to download and install the web-client components. The buttons and icons on the top right corner of the remote interface are introduced as follows.

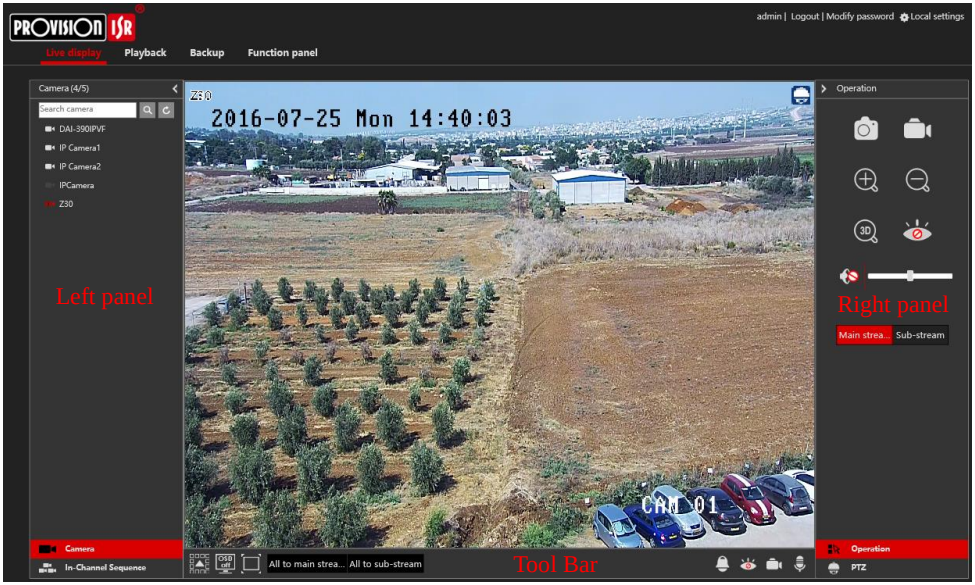
admin: the logged user name.
Logout: click to log out of the system and return to the login interface.
Modify Password: click to change the password of the current user. Input the current password and set a new password in the popup window. Click "OK" button to save the new password.

Local Settings: click to change the local settings. Set the snapshot number, path and record path as shown below. Click "Apply" button to save the settings.



12.4.1 Remote Live-View

Click “Live Display” in the remote interface. The live-view interface is divided to four areas as marked in the following picture.



➢ **Start Preview**

Select a window in the preview area and click one of the online cameras on the left panel to start live-view of the camera in the selected window. You can click in the general tool bar to open live-view for all the cameras.

➢ **Left Panel Introduction**

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

- **View Camera**

Click  to view the added cameras. You can view the number of the added cameras and the online cameras. For instance,  means that 3 cameras are online out of total of 4 added cameras. You can input the camera name in the search box and click  to search the camera. Click  to refresh the camera list.

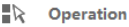
- **View Group**

Click  to view the created groups. The upper area of the left panel displays all the groups and the lower area displays the cameras in the group.

➢ **Tool Bar Introduction**

Button	Meaning
	Screen split mode button.
	Click to disable the OSD. Click  to enable OSD.
	Full screen mode. When in full screen right click to exit back to normal mode.
	Select “All Main Stream” or “All Sub Stream” to set the stream of all the cameras together.
	Manual alarm button. Click it to open the selection window. From there manually trigger and clear the alarm-out.
	Open live-view for all the cameras.
	Close all the viewed cameras.
	Start local recording. Click  to stop recording.
	Enable audio out to the NVR.

➢ **Right Panel Introduction**

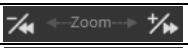
Click  on the right panel to show the panel and  to hide the panel. The  button at the bottom of the panel will open the “PTZ” panel. The  button will open the “Operation” panel.

Click one camera window in the live-view area and click Main Stream to manually set the camera's live-view and local record stream to main stream (For manual record); click Sub-stream to manually set the camera's live-view and local record stream to sub-stream (For manual record). While in sub-stream you can quickly set the resolution, FPS and bitrate and click "Apply" to save the settings.

Operation panel introduction:

Button	Meaning
	Save local snapshot.
	Start local recording in the viewed resolution; click again to stop recording.
	Digital zoom the image. While zoomed in, left click and drag the mouse on the image to scroll within the image.
	Digital zoom out.
	The 3D zoom in function is functional for PTZ cameras only. Click the 3D button and drag the image to move the camera to the marked location and zoom in to fit. Click the image on different areas to move the PTZ to that location.
	Close the viewed camera.
	Enable audio. Once enabled, drag the slider bar to adjust the volume.

PTZ panel introduction:

Button	Meaning
	Click ▲ / ▶ / ◀ / ▼ / ◤ / ◥ / ◣ / ◢ / ■ to rotate the dome; click ■ to stop rotating the dome.
	Drag the slider to adjust the movement speed.
	Zoom in/out camera image.
	Increase/ decrease the focal length.
	Open/Close iris.
	View the preset list. Click the call button in the list to call the preset.
	View the cruise list. Click the call/stop buttons in the list to start or stop the cruise.

12.4.2 Remote Playback

Click "Playback" in the remote interface to open the playback interface.

① Choose the record event types and target cameras on the left panel.

② Set the search date/time on the calendar beside the time scale.

③ Click Search to search for record data.

④ Click Play or directly click on the time scale to play the record.

The working method for the playback time scale is similar to that of the NVR's local interface. Please refer to 8.2 Playback Interface Introduction for details.

Introduction of playback control buttons:

Button	Meaning
	Stop button.
	Rewind button. Click it to play video backward.
	Play button. Click it to play video forward.
	Pause button.
	Deceleration button. Click it to decrease the playing speed.
	Acceleration button. Click it to increase the playing speed.
	Previous frame button. It works only when the forward playing is paused in single screen mode.
	Next frame button. It works only when the forward playing is paused in single screen mode.
	Click ⊖ to step backward 30s and click ⊕ to step forward 30s.
	Mark backup start time. Click the time scale and click on it to mark the start time.

Button	Meaning
	Mark backup end time. Click the time scale and click on it to mark the end time.
	Commence backup.
	View backup tasks status.
	Event list button. Click to view the record events in a list.

12.4.3 Remote Backup

Click “Backup” in the remote interface. You can back up records by event or by time.

- **By Event**

Mark the record type on the left side of the interface. Click  to set the start time and end time; mark the desired cameras and click  on the right side to search the record (the searched data will be displayed in a list); Mark the record data you wish to backup and click the “Backup” button.

- **By Time**

Click  to set the start and end times on the left side of the interface; choose the desired cameras and click  on the right side to commence backup.

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

12.4.4 Remote Configuration

Click “Function Panel” in the remote interface and configure the camera, record, alarm, disk, network, account and authority and system of the NVR remotely. All of these settings are identical to the NVR local interface. See the configuration chapters of the NVR local interface for details.

Appendix A: FAQ

Q1. Why can't I find the HDD?

a. Please confirm that the power and SATA cables are connected firmly to the HDD.
b. Make sure that you use the power adaptor supplied with the NVR.
c. Make sure the HDD/s are compatible with the NVR. See Appendix C: Compatible Device List for details.
d. The HDD might have a technical fault. Try to replace the HDD and try again.

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

a. Please make sure the resolutions and coding of the cameras are supported by the NVR.
b. Please make sure the network cables of the IP camera and NVR are both connected properly.
c. Please make sure that the network parameters of the NVR and camera are set correctly and that both NVR and the cameras are on the same network segment.
d. Try to connect to the IPC directly to confirm it is working properly.
e. Please make sure the network and the switch both work normally.

Q3. There is no image on the screen after boot-up.

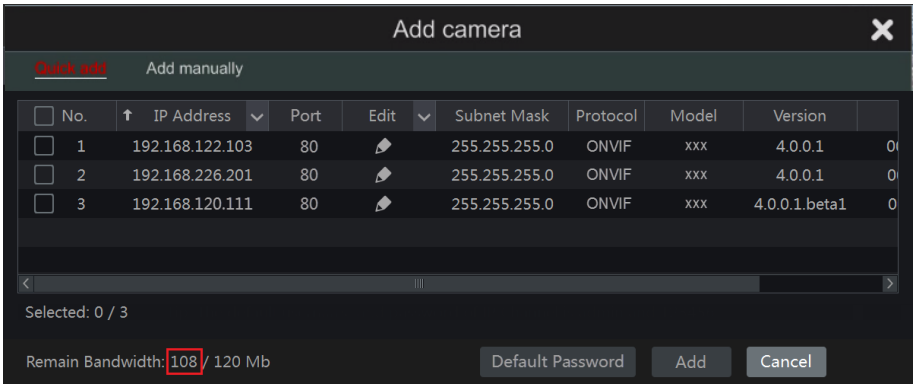
a. Please make sure the screen, HDMI or VGA cables are good and well connected.
b. Please make sure the screen supports the minimum resolution of 1280*1024, 1920*1080 or 3840*2160 (4K*2K). The NVR does not support screens with resolution lower than 1280*1024.
c. Please change a screen to any screen supporting 1280*1024, 1920*1080 or 3840*2160 resolution and reboot the NVR.

Q4. Forget the password?

a. The password of the super administrator ***admin*** can be reset through "Edit Security Question" function.
Click "Edit Security Question" button in the login window and enter the corresponding answer of the selected question in the popup window, the password of ***admin*** will be reset to ***123456*** by default. If you forget the answer of the question, please contact your dealer for assistance.
b. The passwords of other users can be reset by the super administrator ***admin***, please refer to 10.1.2 Edit User for details.

Q5. The NVR refuses to add cameras while it still have available channels?

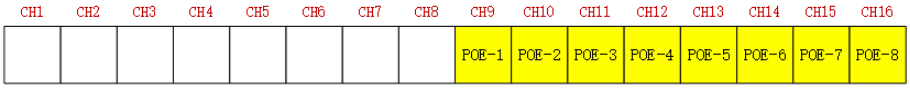
The NVR is limited by both number of channels and bandwidth. You can see the bandwidth status on the bottom left of the "add camera" interface. In case you reach the bandwidth limit while you still have available channels – you will need to reduce the bit-rate of the camera before adding it. It is recommended to add cameras by "Quickly Add" for batch adding.



Q6. The IP cameras connected to the NVR's PoE port cannot be displayed automatically in the camera list, why?

a. Please check whether the channel assigned to the PoE port is occupied by another IP camera that was added through network.

- Take the 16 CH NVR with 8 PoE ports as an example. The resource distribution of the 16 CH IP cameras is shown in the picture below.



When you add IP cameras through network, the IP cameras will occupy the channels from CH1, CH2, CH3, CH4 and so forth. If you directly connect the IP cameras to the PoE ports of the NVR, the IP cameras will occupy the resource from CH9 to CH16 according to the number of the PoE port each IP camera is connecting to.

Supposing that 12 CH IP cameras have been added to the NVR through network and no IP camera has been directly connected to the PoE port. The 12 CH IP cameras occupy the 8 network resources from CH1 to CH8 and 4 PoE resources from CH9 to CH12 which are supposed to be occupied by connecting the IP cameras directly. In this situation, if you directly connect one IP camera to PoE5, PoE6, PoE7 or PoE8, the IP camera will be displayed in the camera list automatically; if you connect it to PoE1, PoE2, PoE3 or PoE4, it won't be displayed in the camera list because it is conflicting with the manually added cameras; if you wish to connect it to PoE1, PoE2, PoE3 or PoE4, you should first delete the IP camera which occupies the PoE port resource and reconnect it to the PoE port.

- Take the 8 CH NVR with 8 PoE ports as another example. The resource distribution of the 8 CH IP cameras is shown in the picture below and the adding rules of the IP cameras are similar to the rules mentioned in the above. Please refer to the above for details.

CH1	CH2	CH3	CH4	CH5	CH6	CH7	CH8
POE-1	POE-2	POE-3	POE-4	POE-5	POE-6	POE-7	POE-8

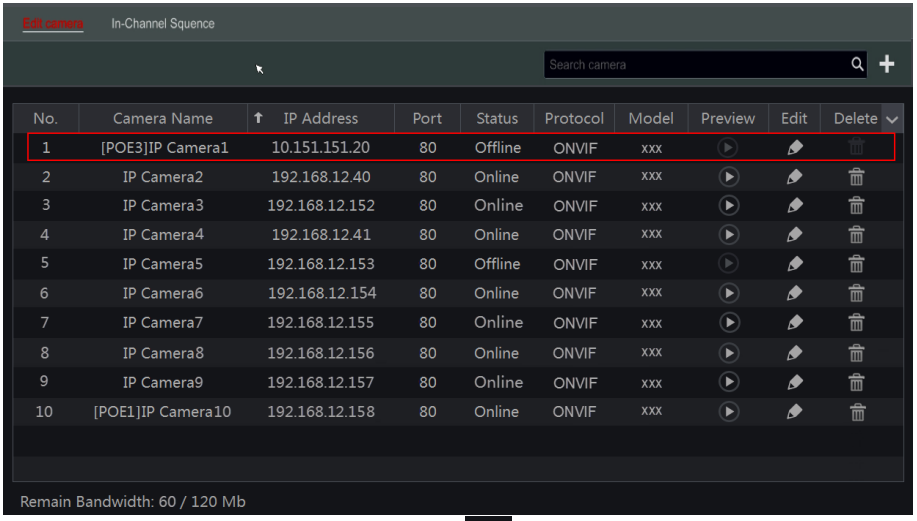
b. Please make sure that the internal ethernet port and the IP camera are in the same network segment.

The internal ethernet port and the IP camera which directly connects to the PoE port through ONVIF protocol should be in the same network segment, or you will fail to add the IP camera. Log in the IP camera's web client and enable DHCP (obtain an IP address automatically); or manually change the IP address of the IP camera to make it in the same network segment with the internal ethernet port.

Q7. The IP camera connected to the PoE port of the NVR through ONVIF protocol. It is shown in the camera list, but there is no image output, why?

Please make sure the username and password of the IP camera are correct. The IP camera's username and password can be modified through the two ways mentioned as below.

① Click "Edit Camera" in the Camera module of the setup panel to go to the interface as shown below. Click  to modify the username and password of the IP camera (input the correct username and password of the IP camera in the popup window and click "OK" button).



② Go to the live preview interface and click  in the preview window of the IP camera to edit the IP camera's username and password.

Q8. The system cannot record, why?

a. Make sure the HDD are formatted.

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

c. Confirm that the HDD is not full and that "Recycle Record" is enabled. Check the HDD information from Disk Management and if required, please enable the recycle function (please see 7.1.2 Advanced Configuration for details).

d. There is no disk assigned to a group but there are cameras in that group. Please add at least one disk to the group. Refer to 7.5.1 Storage Mode Configuration for details.

e. The HDD might have a technical fault. Try to replace the HDD and try again.

Q9. I fail to access the NVR remotely through web-browser.

a. Please make sure that you use supported web-browser (IE 8 and above, Firefox, Opera & Safari).

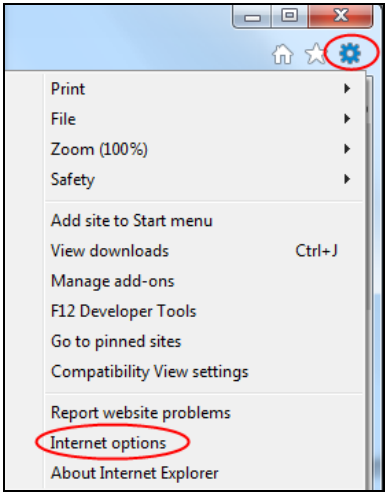
b. Please check whether the PC has an enabled firewall or antivirus software. If so, try to disable it and try to access the NVR again.

c. The Allow & block lists might be active in "Account and Authority" setting. The PC you are using may be in the block list or out of the allow list and cannot access the NVR remotely.

Q10. ActiveX control cannot be downloaded.

a. IE browser blocks ActiveX controls. Please fix it by following the steps mentioned below.

① Open IE browser. Click → Internet Options.



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

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

④ Click "OK" to finish setup.

b. Other plug-ins or anti-virus may block the ActiveX. If the problem persist, please try to

disable it.

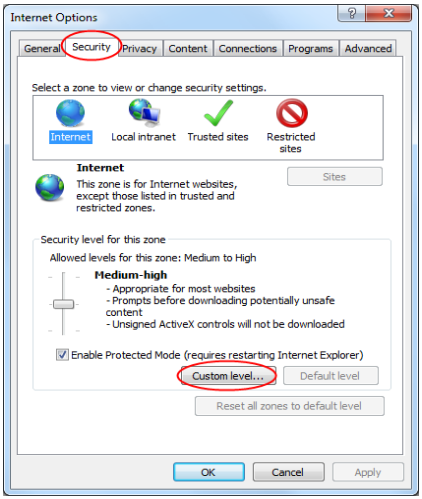


Fig 10-1

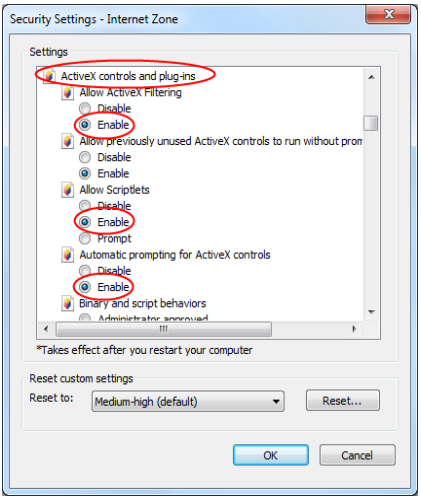


Fig 10-2

Q11. How to play the backup file?

a. If you made the backup by AVI format – it can be played in all common media players.

- If you made the backup by private format, the NVR will create a RPAS package along with the backup data. Extract the "RPAS.zip" and click "RPAS.exe" to set up RPAS. After the setup is completed, open the RPAS player and click "Open Folder" button to select the record data. Refer to Fig 11-1.

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

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

b. Record backed up through can only be backed up using AVI format.

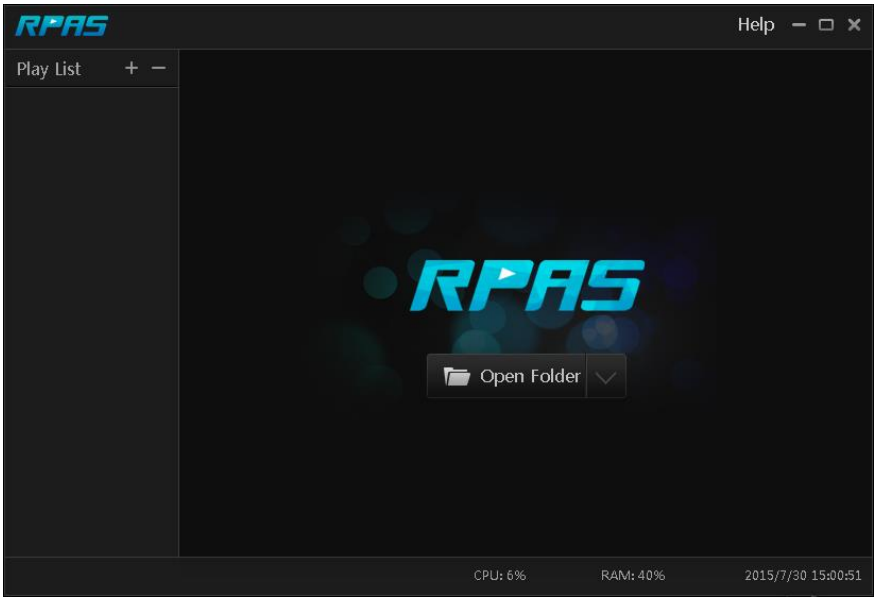


Fig 11-1

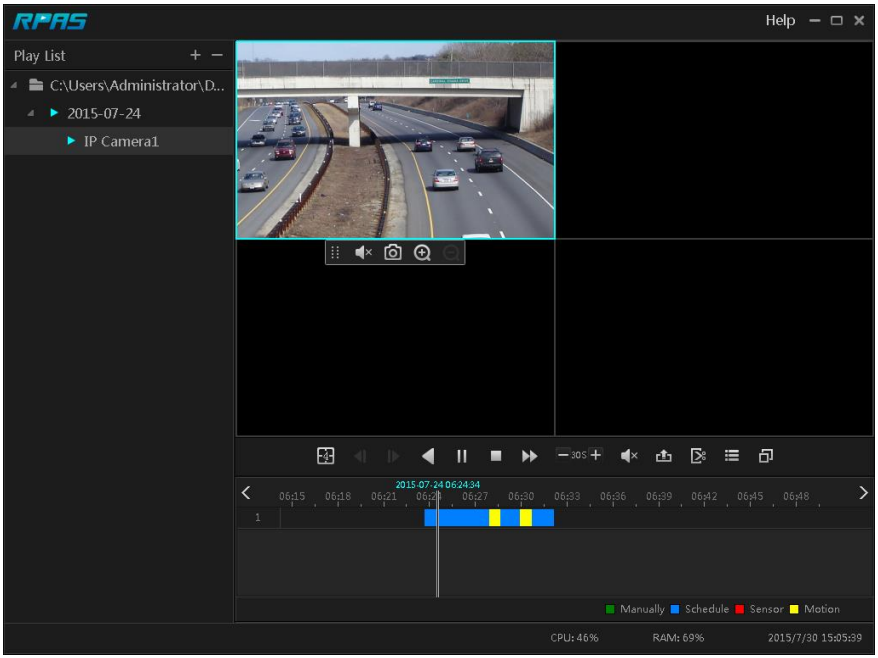


Fig 11-2

Appendix B: Calculate Recording Capacity

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

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

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

Record Bitrate (Kbps)	Used Space (MB/Hour)	Used Space (MB/Day)
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 of 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 ÷(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