speco technologies®

USER MANUAL

Network Video Recorder

NVR

speco technologies

N4JLN
N8JLN
N16JLN

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SAFETY INSTRUCTIONS

Please carefully read the following safety instructions so as to avoid personal injuries and prevent your equipment and other connected devices from being damaged.

1. Power sources (note: please use the power supply attached or specified by the manufacturer)

Never operate the equipment by using an unspecified power supply.

2. Never push objects of any kind through the openings of the NVR

Never push objects of any kind through the openings of the NVR so as to avoid electric shock or other accidents.

3. Do not put the equipment in a dusty area

Don't put the equipment in a dusty area as dust can affect the performance and life of the NVR.

4. Do not place the equipment in a wet or humid environment

Do not place the equipment in a humid environment such as a basement. If the equipment is accidentally in contact with water, please unplug the power cable and immediately contact your local dealer.

5. Keep the surface of the equipment clean and dry

Use a soft damp cloth to clean the outer case of NVR (do not use liquid aerosol cleaners)

6. Do not operate if any problems are found

If there are any strange smells or sounds coming from the NVR, unplug the power cable and contact your authorized dealer or service center.

7. Do not try to remove the cover

Warning: Do not remove the NVR cover NVR so as to avoid electric shock.

8. Handle with care

If the NVR does not work normally because of being dropped or hit with a hard object, please contact an authorized dealer for repair or replacement.

9. Use a standard lithium battery (Note: Use the batteries attached or specified by the manufacturer)

If the system clock cannot continue to work after the unit loses power, please work with your authorized dealer to replace the standard 3V lithium battery on the main board.

Warning: To avoid serious electric shock, turn off the NVR before replacing the batteries. Please properly dispose of the used batteries.

10. Put the equipment in a place with good ventilation

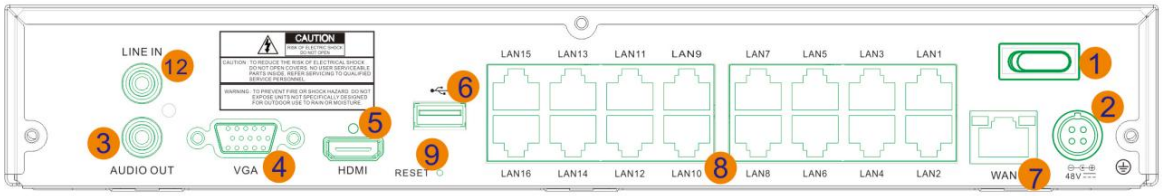
The NVR system includes HDD, which produces large amounts of heat during operation. As a result, do not block the ventilation openings (on the top, bottom, both sides and the reverse side) used for cooling the system during operation. Install or put the equipment in a place with good ventilation.

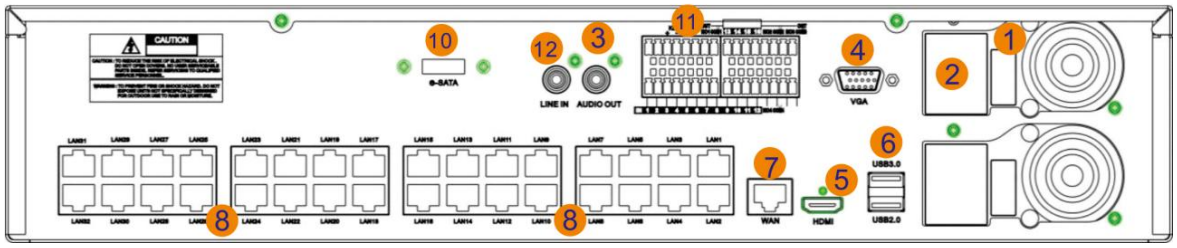
11. The attached power adapter can only be used for 1 NVR. Do not connect more equipment, or the NVR may restart repeatedly because of insufficient power.

12. Prevent the equipment from water drip or splashing. Do not place objects containing water, such as a flower vase, on the equipment.

Chapter 1 Product Overview

1.1 Rear Panel

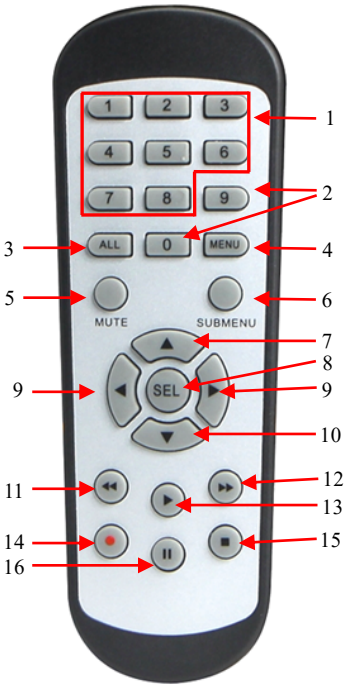




Item	Physical Port	Connection Method
1	Power Switch	Startup and shutdown
2	Power Port	Connect the attached power supply
3	AUDIO OUTPUT	Audio signal output, RCA interface
4	VGA Port	Connect to VGA monitor, such as PC monitor
5	HDMI Port	HDMI high-definition port
6	USB Port	Connect USB devices, such as USB mouse and USB flash disk.
7	WAN/LAN Port	Network input interface of the router / switch
8	PoE Port	Built-in PoE switch for camera connection.
9	RESET	Reset button. Press and hold 3 seconds to reset password. Press and hold 10 seconds to load all default settings.
10	E-SATA	Connect to e-SATA HDD for recording & backup
11	Sensor/Alarm	Connect to sensor or alarm device
12	LINE IN	Intercom voice input

***The actual product may be different from the manual, please refer to the actual product.**

1.2 Remote Control (For Reference Only)



No.	Icon	Description
1	1-8	Numeric keys Press to display channel 1~8
2	9、0	Numeric keys
3	ALL	Press to display all channels Multiple display mode
4	Menu	Press to enter or exit the Main Menu
5	Mute	Mute On/off
6	Submenu	Go to submenu
7	▲	Up arrow key; Volume increase
8	SEL	Press to enter the selected menu item and edit the setting
9	◀▶	Left/Right key; Decrease/increase parameter value of control bar.
10	▼	Down arrow key; Volume decrease
11	◀◀	Press to rewind during video playback
12	▶▶	Press to fast forward during video playback
13	▶	Press to play recorded video or enter the recording search menu
14	●	Press to start manual recording
15	■	Press to stop manual recording or stop the video playback. Press and hold to reset the VGA/HDMI output resolution to default value.
16	▮▮	Press to pause the video playback or enter frame-playback mode

*** Some NVRs do not come with a remote control.**

Chapter 2 NVR Installation & Connection

2.1 HDD Installation

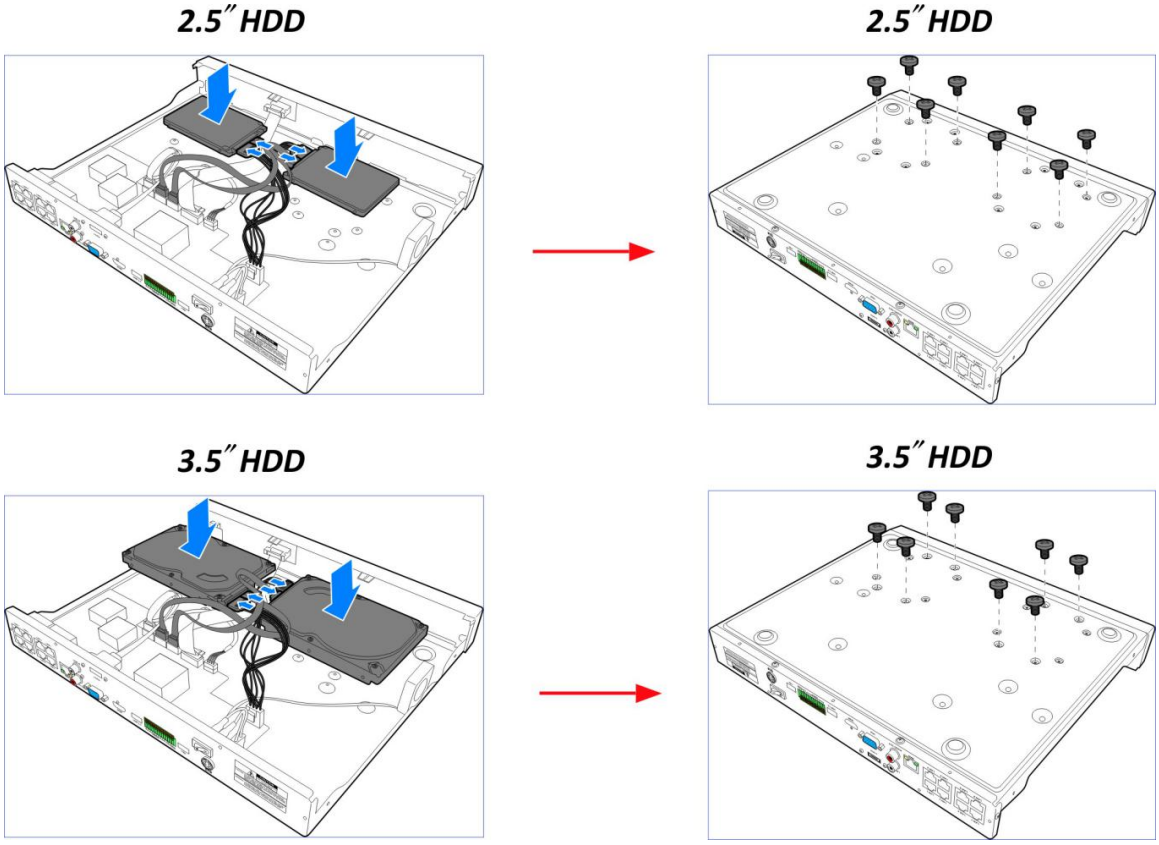
This NVR supports two 3.5” or 2.5” SATA hard disk drives.

***CAUTION*: DO NOT install or remove the hard disk drive while the device power is turned ON**

HDD Installation:

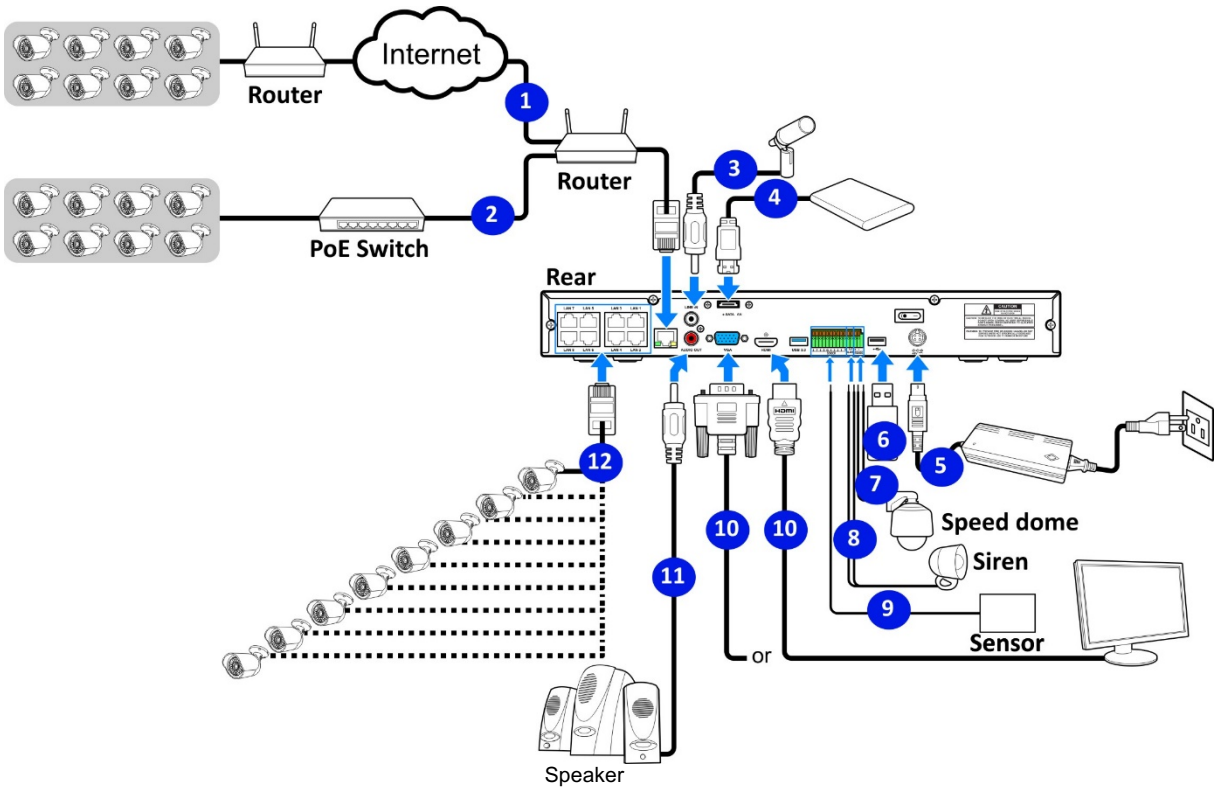
a) Connect the data and power cables to the two hard disk drives and place the hard disk drives on the NVR case.

b) Carefully flip the NVR case and secure the hard disk drives to the NVR with the eight (8) screws



Note: Above procedures are for reference only. Your unit already has the Hard Drive installed and removing or changing the hard drive without prior approval from Speco Technologies will void your warranty.

2.2 Connection Diagram

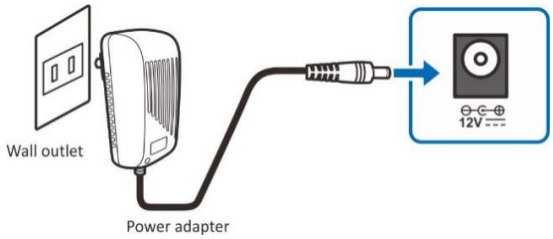


Note: Above diagram is for reference only. The practical connection may be different depending on the NVR you purchased.

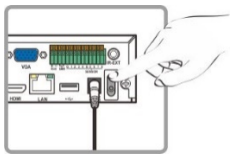
2.3 Power Supply Connection

Caution: Use only the supplied power adapter that came with the NVR

Connect one end of the power adapter to the power connector on the back of the NVR. Plug the other end of the power adapter into the wall outlet.

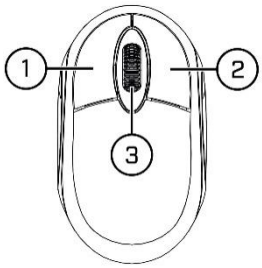


For some specific models, you may need to press the Power switch to turn on the power.



Chapter 3 NVR Common Operations

3.1 Using the Supplied Mouse



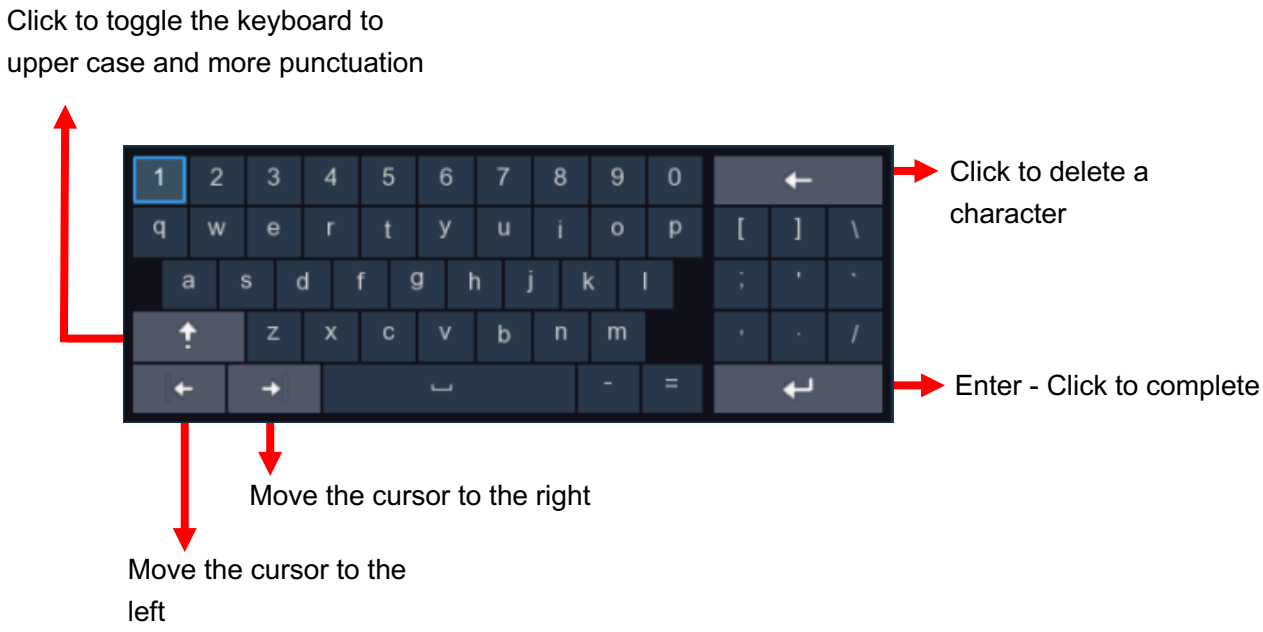
1. **Left Button:**
   - Click to select menu options.
   - During live viewing in split-screen view, double-click on a channel to view it in full-screen. Double-click the channel again to return to split-screen viewing.
   - Click upon a channel on Live Viewing screen to open Camera Quick Toolbar.
   - Click and hold to drag sliders and scales on menu mode

2. **Right Button:**
   - Click once to open the Taskbar on the Live Viewing screen. View Taskbar on 4.2.2 Taskbar
   - In menus, click to go back / close menus.

3. **Scroll Wheel:**
   - In menus, scroll to move up / down through the menu content.
   - While hovering over the volume control wheel, scroll to turn system volume up / down.

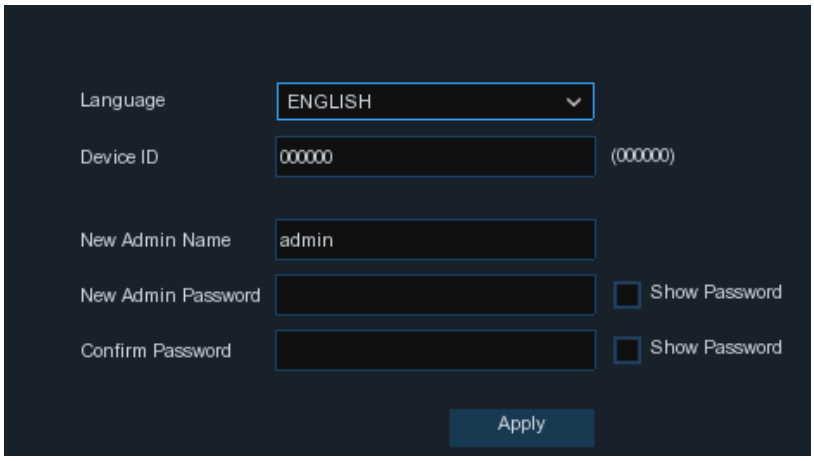
3.2 Using the Virtual Keyboard

You will see the virtual keyboard automatically on the screen when you need to enter data



3.3 Password

For the first time you run the NVR, you are required to set your own password immediately in order to protect your privacy. Please be sure to record your username and password and save them in a secure place. There is a fee for recovering lost passwords.



Language: Choose an OSD language

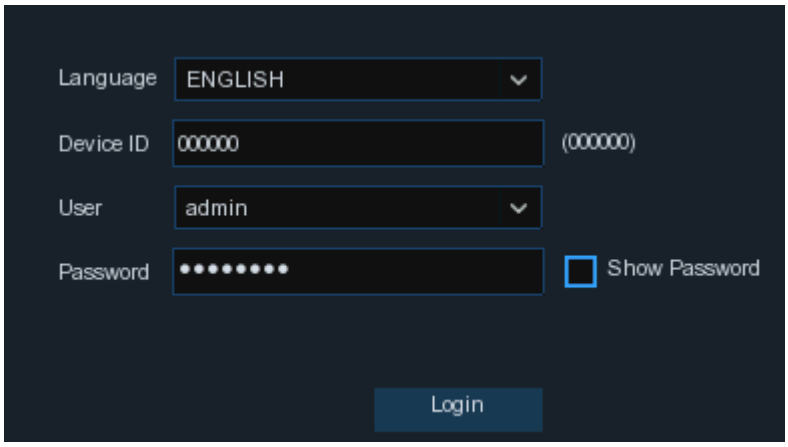
Device ID: Input the device ID in the parentheses. Default ID is 000000. View more about Device ID on 5.7.1 General.

New Admin name: To set your own administrator's name.

New Admin Password: To set your own password. The password must be a combination of 8 characters.

Confirm Password: Enter your own password again.

Click **Apply** to confirm your settings and go to the login interface. Enter your user name & password to **Login** to the NVR system.



NOTE: If you forget your password, you will be unable to login to the system, you must contact Speco Technologies Technical Support. There is a fee to recover a password.

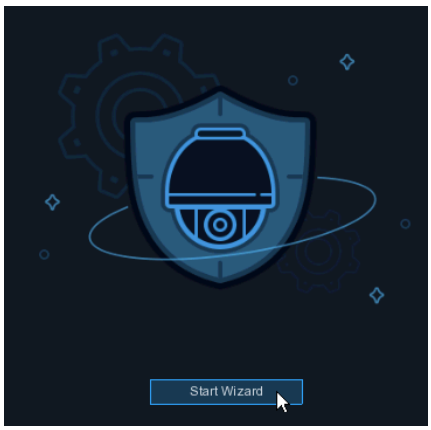
Chapter 4 NVR Starting up

4.1 Start Wizard

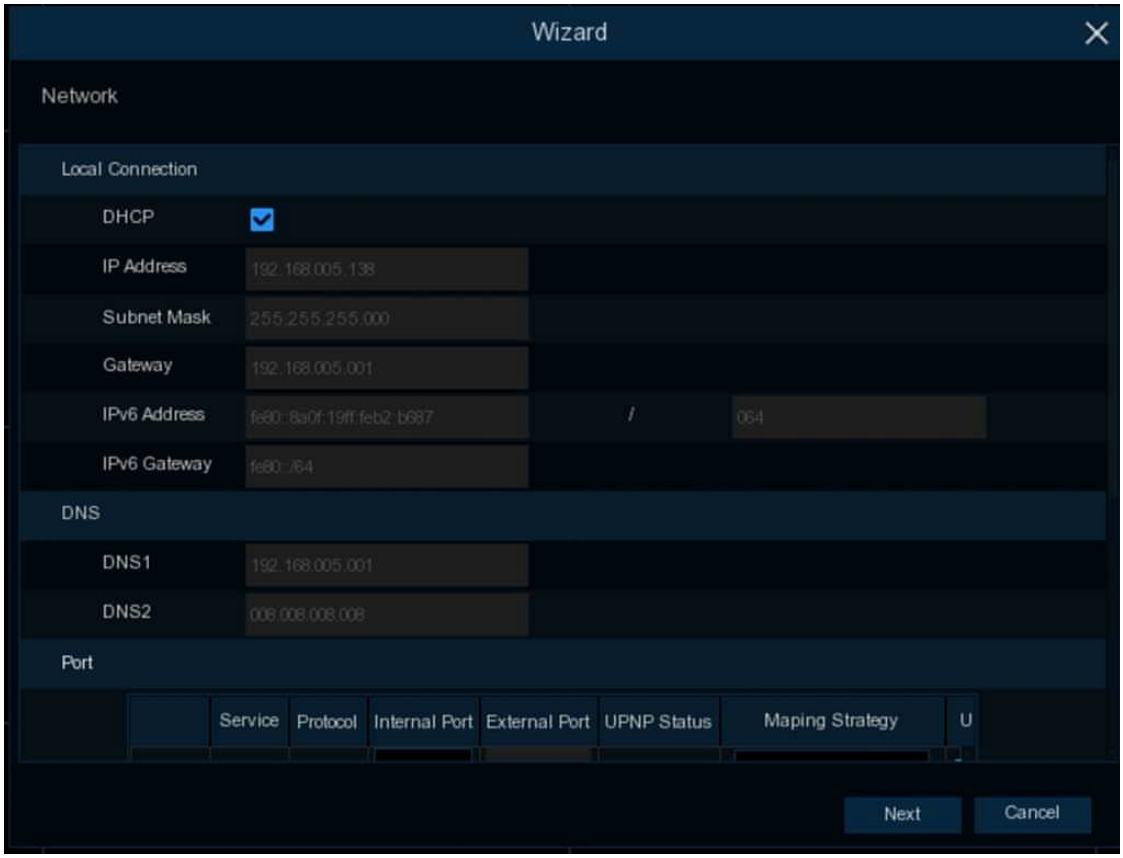
Startup Wizard will help to configure the system and get the NVR up and running quickly.

4.1.1 Start Wizard

Click the **Start Wizard** to proceed to the next step



4.1.2 Network Configuration



If you connect to a router that allows you to use DHCP, please check the **DHCP** box. The router will assign automatically all the network parameters for your NVR. If the network is manually addressed, use the parameters below:

IP Address: The IP address identifies the NVR to the network. It consists of four groups of numbers between 0 to 255, separated by periods. For example, "192.168.1.100".

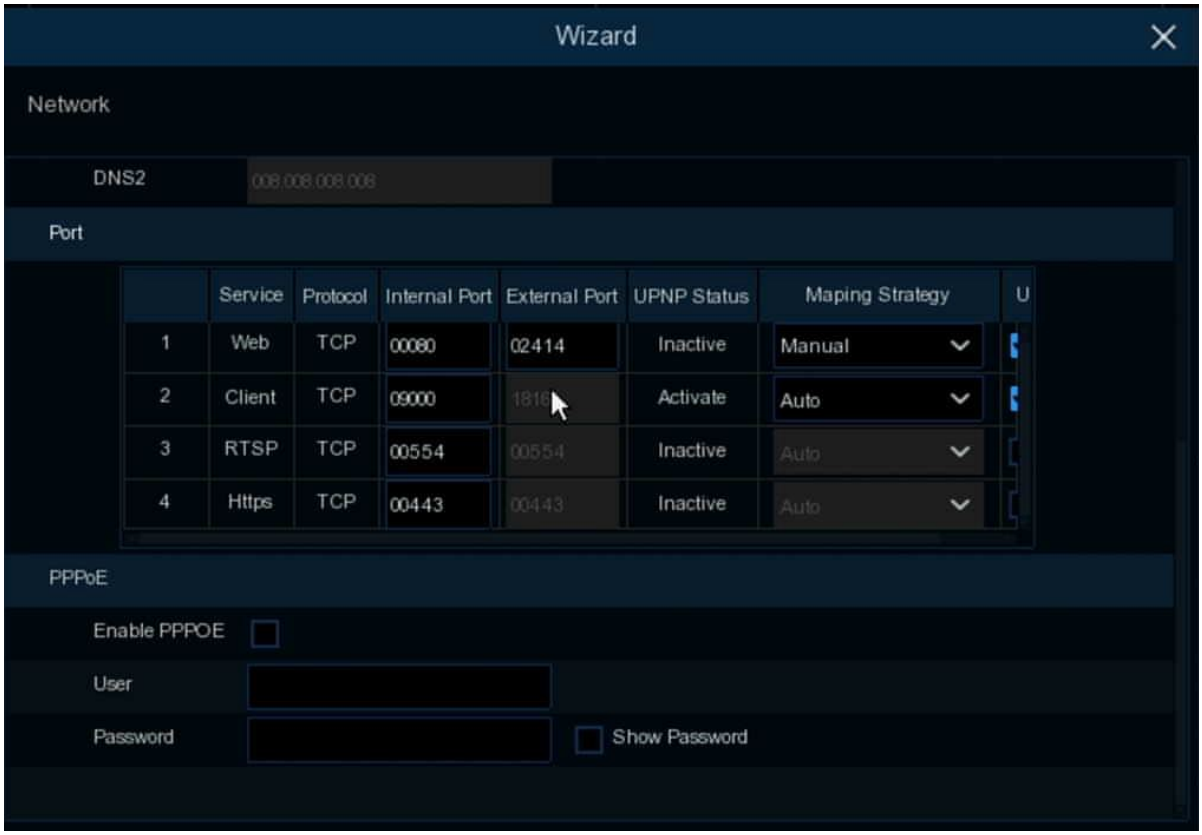
Subnet Mask: Subnet mask is a network parameter which defines a range of IP addresses that can be used in a network. If the IP address is like a street where you live, then the subnet mask is like a neighborhood. The subnet address also consists of four groups of numbers, separated by periods. For example, "255.255.000.000".

Gateway: This address allows the NVR to access the Internet. The format of the **Gateway** address is the same as the **IP Address**. For example, "192.168.1.1".

IPv6 Address: If needed, input the IPv6 address you got from your ISP.

DNS1/DNS2: DNS1 is the primary DNS server and DNS2 is a backup DNS server. Usually, it should be enough just to enter the DNS1 server address.

Port



Web: This is the port that you will use to log in remotely to the NVR (e.g. using the Web Client). If the default port 80 is already taken by other applications, please change it.

Client: This is the port that the NVR will use to send information through (e.g. using the mobile app). If the default port 9000 is already taken by other applications, please change it.

RTSP: This is the port that the NVR will be allowed to transmit real-time streaming to other devices (e.g. using a streaming Media player.).

Https: This is the port that you will use to log in remotely to the NVR by browsers with HTPPS protocol.

Internal Port: Used for LAN connection.

External Port: Used for WAN / Internet connection.
UPNP: If you want to log in remotely to the NVR using Web Client, you need to complete the port forwarding in your router. Enable this option if your router supports the UPnP. In this case, you do not need to configure manual port forwarding on your router. If your router does not support UPnP, make sure the port forwarding is completed manually in your router.
Mapping Strategy: If you want the port randomly distributed by the router's UPNP server, choose "**Auto**"; If you want to manually forward the port, choose "**Manual**".

4.1.3 Date/Time

This menu allows you to configure the Date, Time, Date Format, Time Format, Time Zone, NTP and DST.

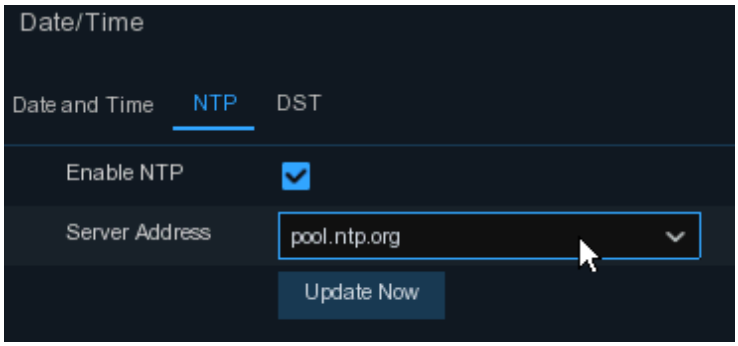
Date and Time

Click on the calendar icon to set the current system date.

Date: Click on the calendar icon to set the system date.
Time: Click to set the system time.
Date Format: Choose from the dropdown menu to set preferred date format.
Time Format: Choose time format between 24Hour and 12Hour.
Time Zone: Set the correct time zone.

NTP

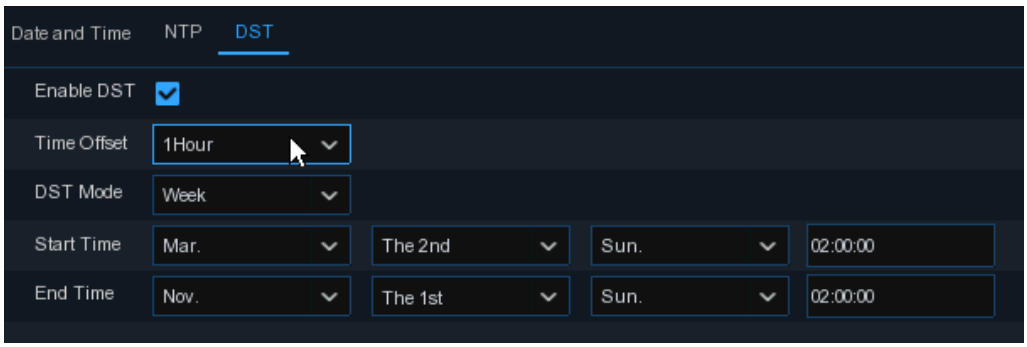
NTP stands for Network Time Protocol. This feature allows you to synchronize the date and time automatically on the NVR over Internet. Therefore, the NVR needs to be connected to the Internet.



Check the "**NTP**" box, and select the NTP server.

DST

DST stands for Daylight Savings Time.



DST: Enable if Daylight Saving Time (DST) is observed in your region

Time Offset: Select the amount of time to offset for DST

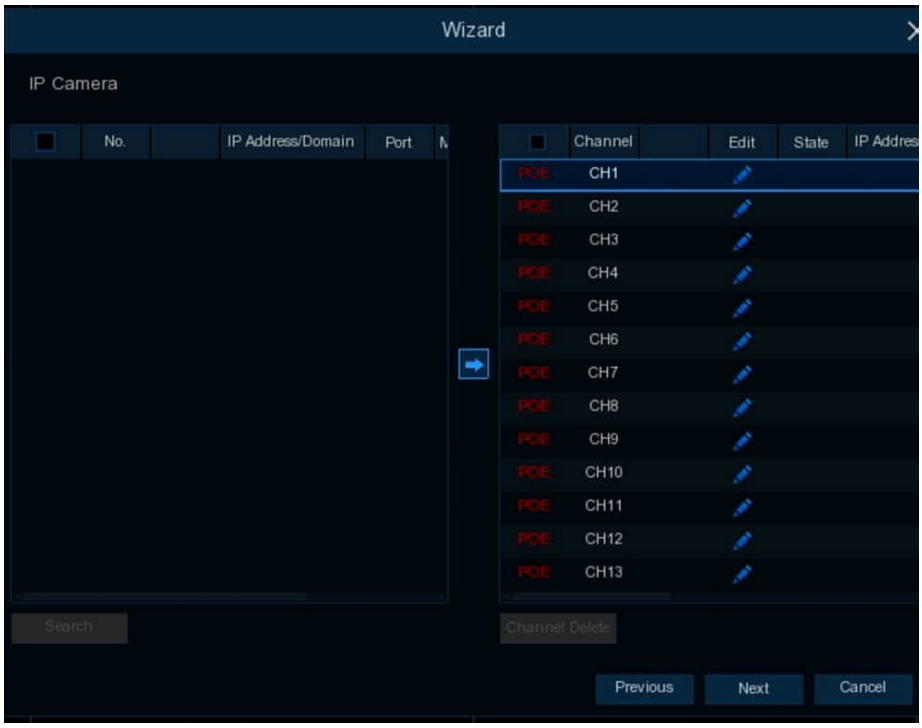
Time Mode: Choose to set the daylight saving time in weeks or in days

Start Time/End Time: Set the start time and end time for daylight saving

4.1.4 IP Camera

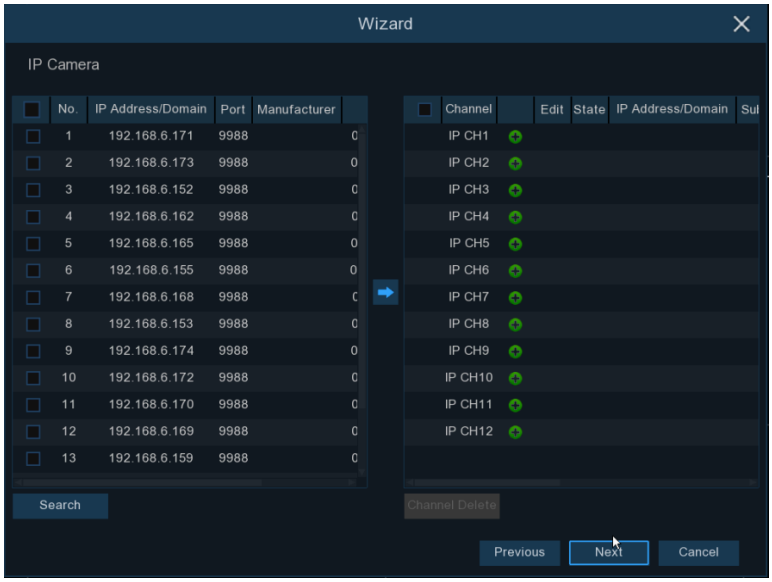
This menu allows you to add IP cameras to the NVR.

For a PoE NVR, the IP camera will get online automatically if the IP camera is connected to the PoE port on the NVR rear panel.



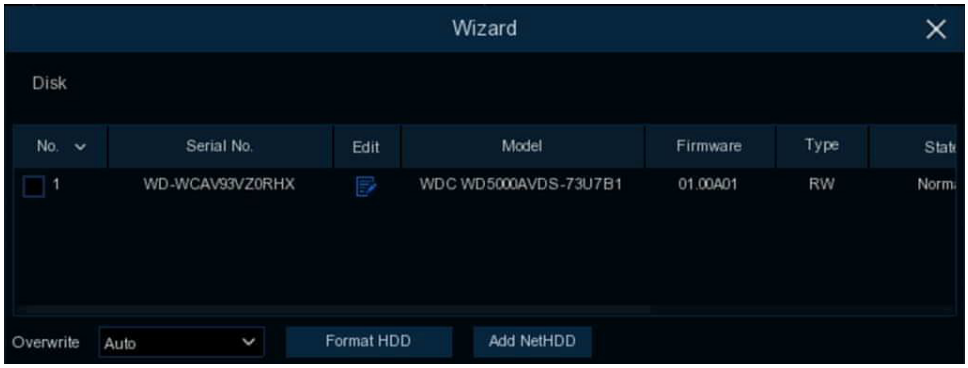
See more in 5.1.3.1 PoE NVR Connection

For Non-PoE NVR, you need to add the IP cameras from the LAN and/or Internet manually.



See more in 5.1.3.2 Non-PoE NVR Connection.

4.1.5 Disk



If a HDD is installed in the NVR for the first time, it must be formatted. Select the HDD and then click **Format HDD** button to format the HDD.

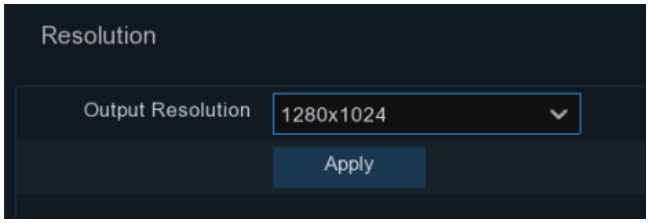
Overwrite: Use this option to overwrite the old recordings on the HDD when the HDD is full. For example, if you choose the option 7 days then only the last 7 days recordings are kept on the HDD. To prevent overwriting any old recordings, select Disable. If you have disabled this function, please check the HDD status regularly, to make sure the HDD is not full.

Add NetHDD: To add your NAS storage.

Record On ESATA: If your NVR comes with an e-SATA port on the rear panel, you can enable to record the video to e-SATA HDD.

4.1.6 Resolution

Choose an output resolution to match your monitor. The NVR can adjust the output resolution automatically to match the best resolution of your monitor when the system is starting up.

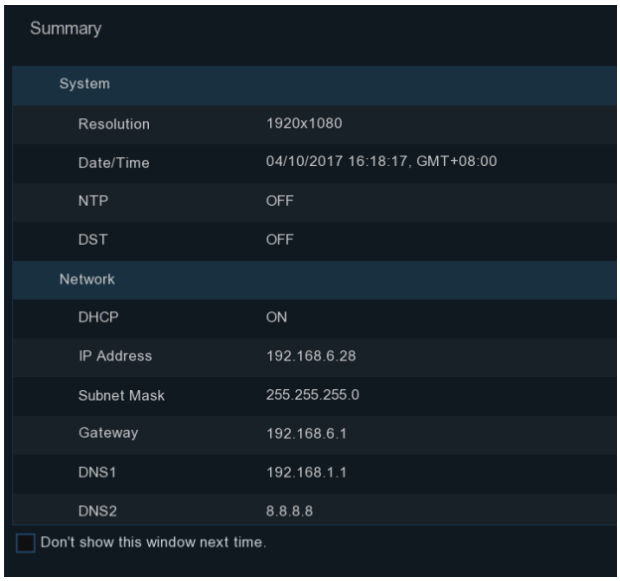


4.1.7 Mobile

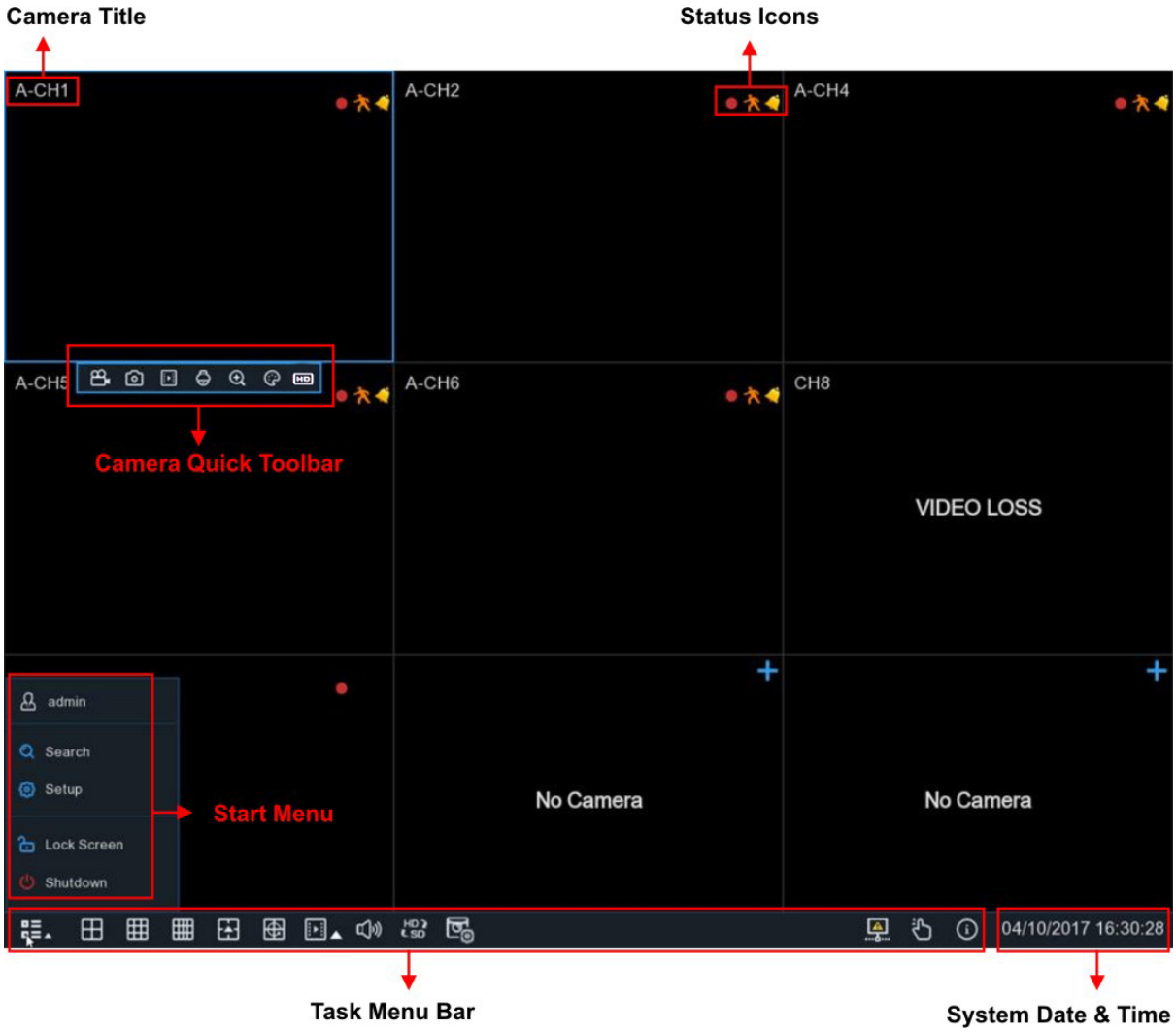
If your NVR come with a P2P ID, you can scan the QR code with your mobile app to view the NVR remotely.

4.1.8 Summary

You can check the system summary information you had set in the start wizard and finish the wizard.
Click "**Don't show this window next time**" if you don't want to display Start Wizard when system reboots.
Click **Finish** button to save & exit.



4.2 Live View Screen Overview



Status Icons

This indicates that the NVR is currently recording.

This icon appears when the camera has detected motion.

The icon indicates that the external I/O alarm device is triggered

This icon indicates that the HDD is in error to work

This icon indicates the HDD is unformatted

This icon indicates the HDD is full.

This icon indicates the HDD is read-only.

VIDEO LOSS: The analog camera is disconnected.

No Camera: IP camera is disconnected.

Click to open **Quick Add** menu to add IP camera

Click to edit current IP camera

4.2.1 Camera Quick Toolbar

In live viewing, click the left button of your mouse on a connected camera to display the Camera Quick Toolbar.

Click to manually record the channel immediately. If manual recording is in process, the icon will be red. Click one more time to stop manual record.

Click to save a snapshot of the current camera image. Manual Capture must be enabled to use this feature. For details on enabling Manual Capture, see 5.2.3.1 Capture.

Click to play the previous 5 minutes recording of this channel

Click to enter PTZ control panel

Click to zoom-in on the channel. When the icon appears, press and hold the left button of your mouse to drag the area you want to zoom in.

Click to adjust the image color of the channel. You can adjust the HUE, BRIGHT, CONTRAST & SATURATION of the image.

HD SD To switch the live view video stream between HD & SD. HD is mainstream live view, SD is substream live view.

Tag button. This supports fast search by adding a tag in live view. See more on 6.6 Tag Search.

AI statistics. Hover the mouse over this icon to view AI statistics when the AI function is activated in your NVR.

4.2.2 Taskbar

Click to open the Start Menu

Click to choose a different layout for live view

Click to choose more layouts for live view

Click to start viewing channels in a sequence

Quick playback. You can choose to play the latest recording for all channels from the beginning of the day, or you can choose the playback from the latest 5s, 10s, 30s, 1Min, 5Min.

Click to adjust audio volume

Click to switch all IP channels between mainstream and substream (for live view resolution)

Click to switch between real-time, balanced, or smooth view. The view modes affect only the live view video quality by bitrate and frame rate but do not affect the recording quality.

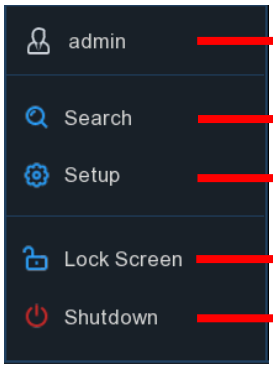
To start or stop Manual Record and Manual Alarm.

To view system information, channel information, record info and network state.

This icon will appear if the network is disconnected.

4.2.3 Start Menu

With the Start menu, you can switch user, search & playback, enter system setup menu, lock & unlock the screen, shut down, reboot & logout the system.



To switch user. To enable multi-user, please read more at 5.6.3 Multi-user.

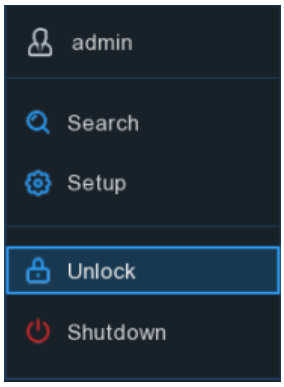
Search & Playback. Read more at Chapter 6 Search, Playback & Backup

NVR System Setup. Read more at Chapter 5 NVR System

Lock & unlock screen. Read at 4.2.3.1 Unlock and Lock Screen.

Shutdown, reboot & logout the system. Read more at 4.2.3.2 Shutdown.

4.2.3.1 Unlock and Lock Screen

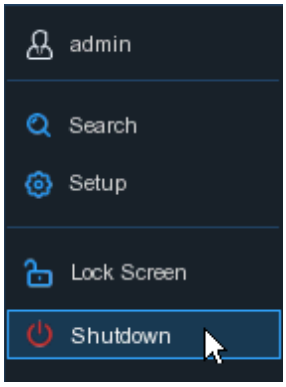


The screen will be locked to protect unauthorized OSD operation if the NVR is not in menu operation for 1 minute.

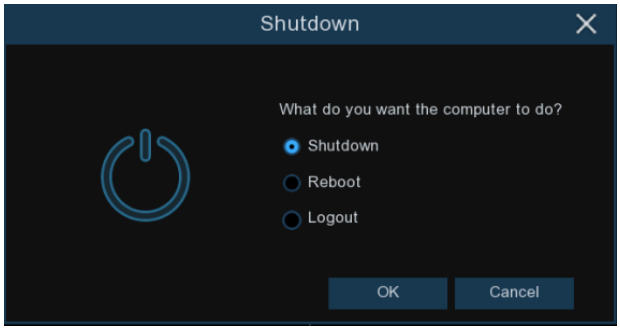
If necessary, you can also lock the screen operation manually. To do so, go to Start Menu, and then click the Lock Screen icon to lock the system immediately.

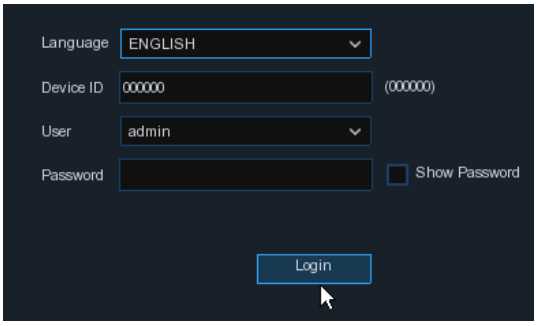
If the system is locked, you can click the Unlock icon to unlock the system for further operation.

4.2.3.2 Shutdown



Click the **Shutdown** button from Start Menu, and then select your desired action. When you click the **OK** button, the system will require you to input your password to authenticate.

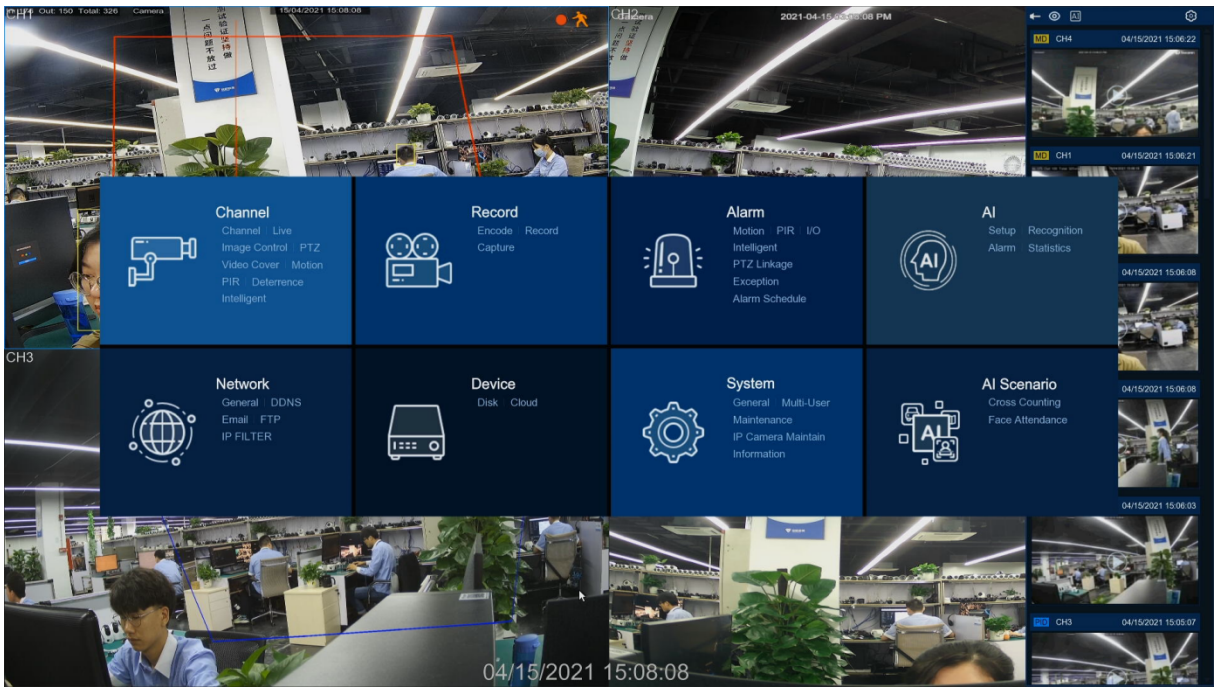




If you choose to **Logout** of the system, the live view screen will disappear. You will need to log back into the system for further operations.

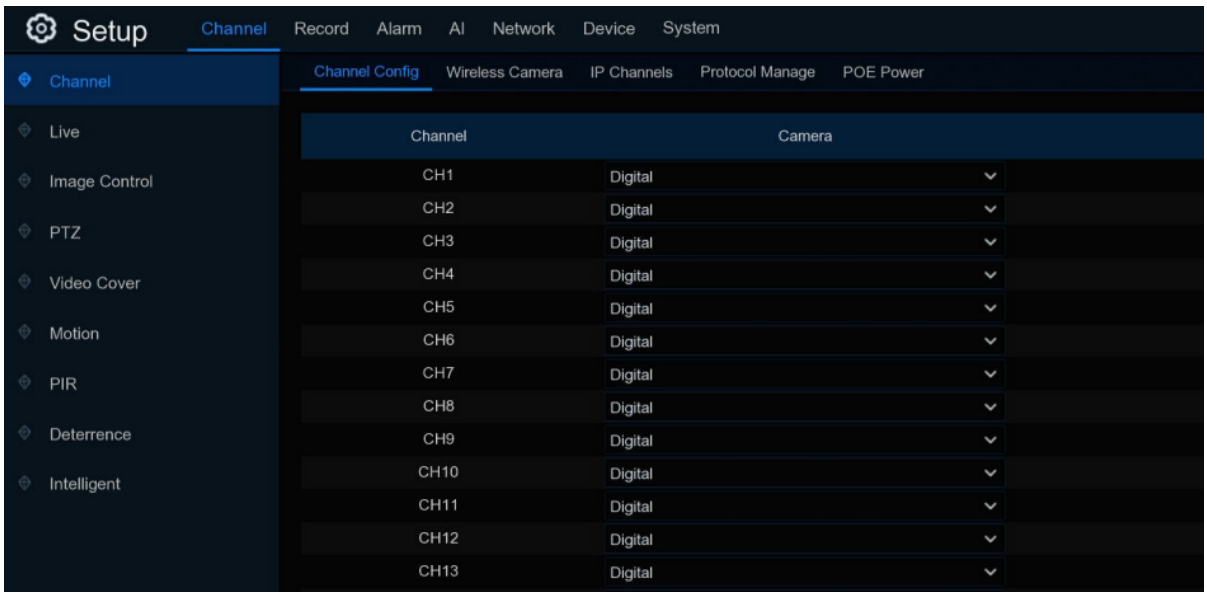
Chapter 5 NVR System Setup

You are able to configure the NVR for Channel, Record, Alarm, Network, Device & System from **Start Menu** → **Setup**.



5.1 Channel

In this section, you can configure the camera connections, live view display, manage IP cameras, adjust IP camera's image, PTZ setup, Video Cover, Motion, and more.

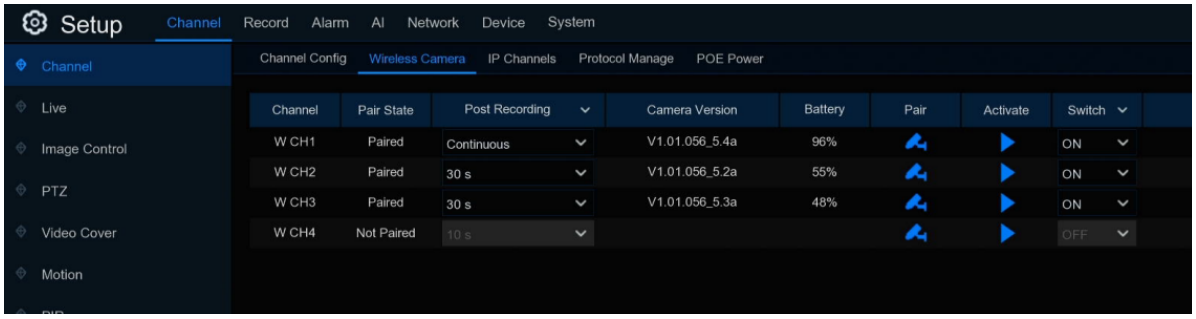


5.1.1 Channel

5.1.1.1 Channel Config

This menu only appears on the JWA/JWN wireless NVRs. A maximum of 4 wireless IP cameras are allowed to connect to the NVR. Click the drop-down arrow next to the channel ID and choose the mode. Choose “Digital” if you’re using a wired IP camera, and chose “Wireless” if you want to connect a wireless camera. The NVR will reboot when the digital mode and wireless mode is exchanged and applied.

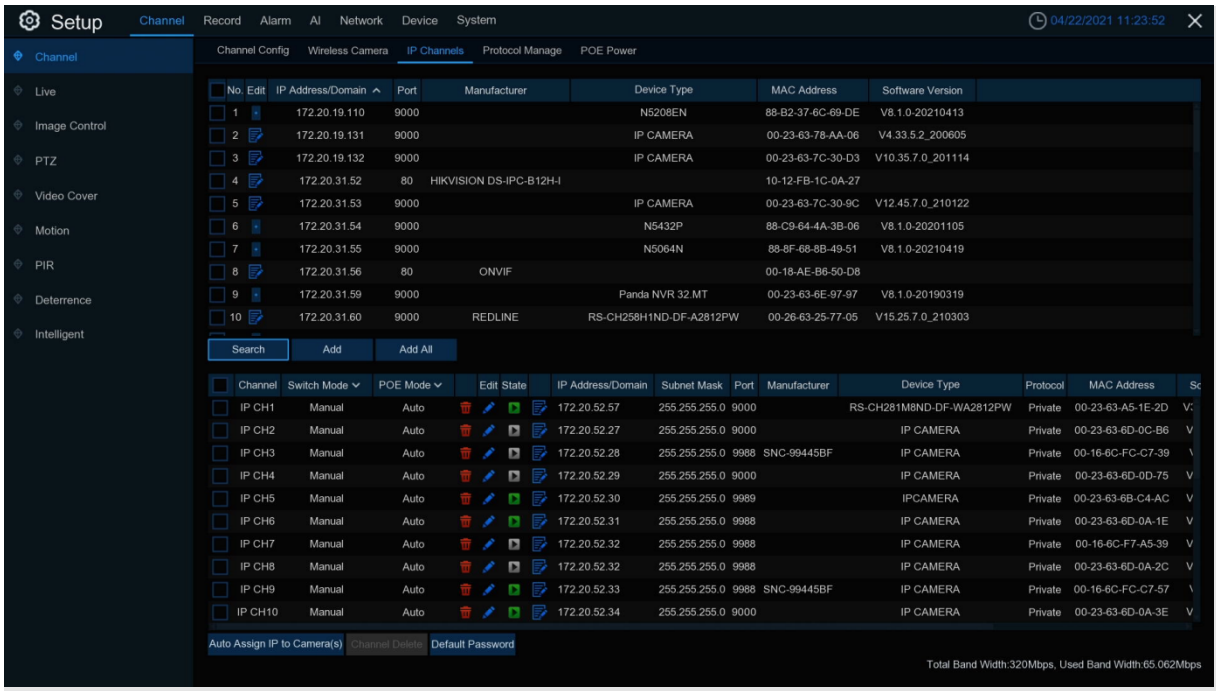
5.1.1.2 Wireless Camera



You can configure the connection of compatible wireless IP cameras on this page. It will not appear if none of the channels are set to Wireless mode in the Channel Config page.

Click Pair icon, and then click the camera’s pairing button to do pairing.
Click Activate icon to activate the camera and check the camera image.
Channel：Wireless camera name
Pair State：Paired & Not Paired
Post Recording：You can set how long after an event occurs that the NVR will continue to record. Options include 10 seconds, 20 seconds and 30 seconds. If your wireless camera is powered by an external DC adapter, a “Continuous” option will be available to choose for continuous recording.
Camera Version：Firmware version of wireless camera.
Battery：Remaining power of the camera battery.
Switch：To turn on of turn off the wireless camera.

5.1.1.3 IP Channels



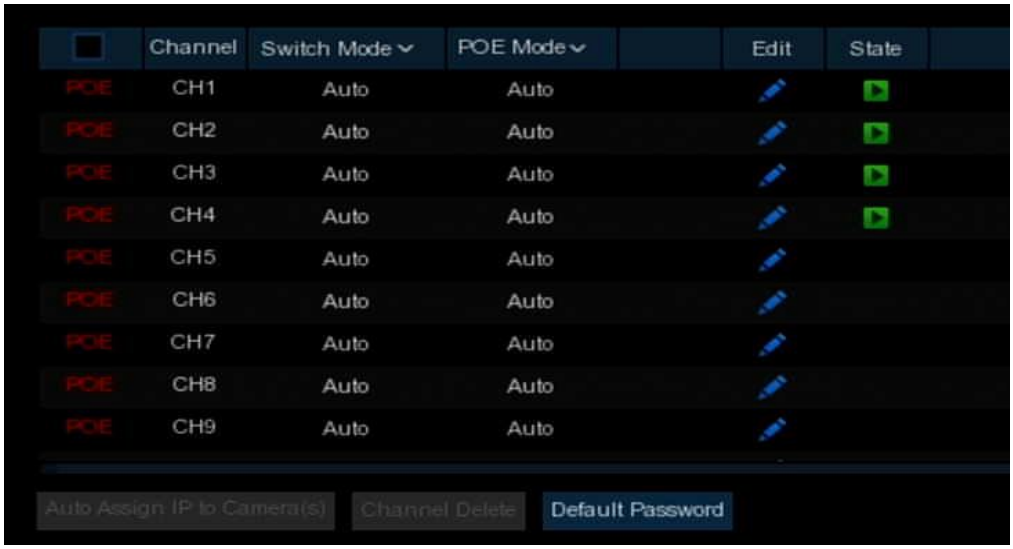
In this section, you are able to configure the connection of your wired IP cameras. If your NVR comes with PoE ports, please go to 5.1.3.1 PoE NVR Connection, if your NVR comes without PoE ports, please go to 5.1.3.2. Non-PoE Connection

5.1.3.1 PoE NVR Connection

For the PoE NVR, you can connect the IP cameras via the internal PoE ports and/or external LAN(WAN) port.

NOTE: You can't connect more than 1 camera via switch or router to the PoE port. One PoE port is allowed to connect to one IP camera only.

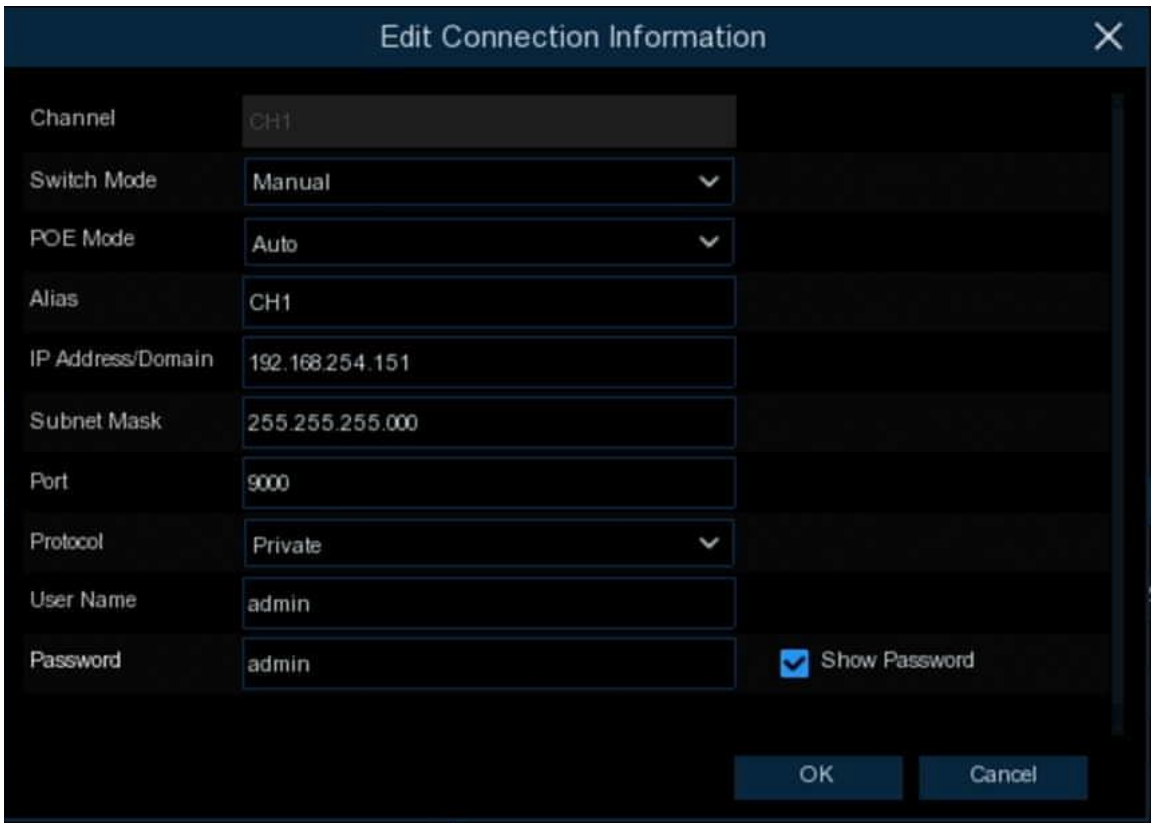
PoE not only provides Power over Ethernet but only supports plug & play connection for IP cameras.



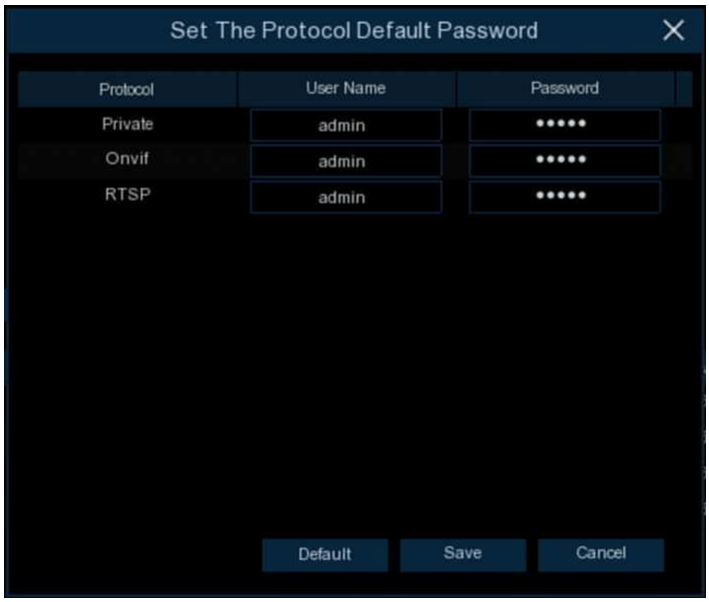
Switch Mode: **Auto** mode supports Plug & Play connection via PoE port. If you want to add camera(s) manually then change the mode to **Manual**.

Switch Mode: **Auto** mode limits the maximum bandwidth to 100Mbps, **EPOE** mode limits the maximum bandwidth to 10Mbps. If you have a connection problem with **Auto** mode when the IP camera is powered by PoE via a RJ45 cable longer than 100 meters, then change to EPOE mode for a stable connection.

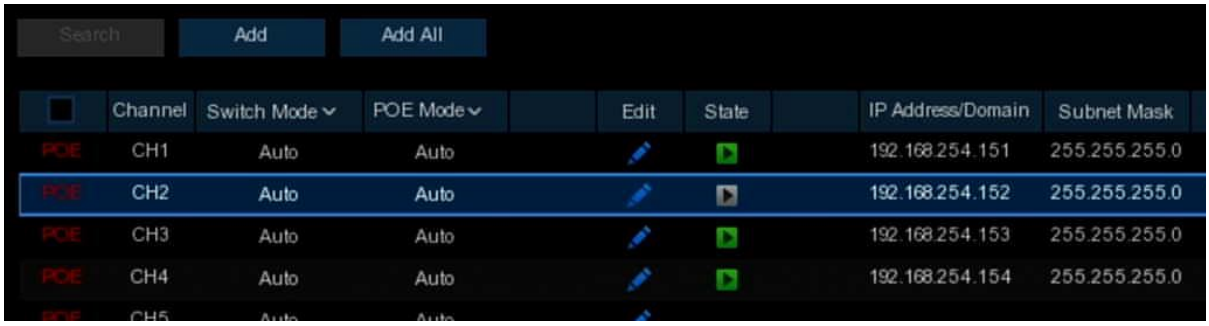
Edit: To edit the Switch mode, PoE mode, network parameters, user name and password for individual camera.



Default Password: To configure the default user name and password of Private, ONVIF and RTSP protocol connections. Default password is “admin”.

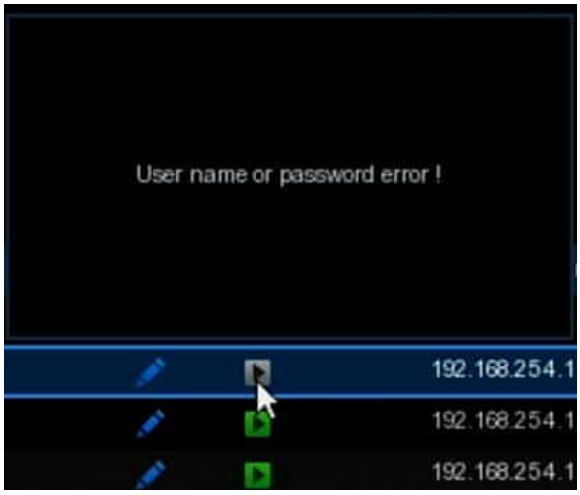


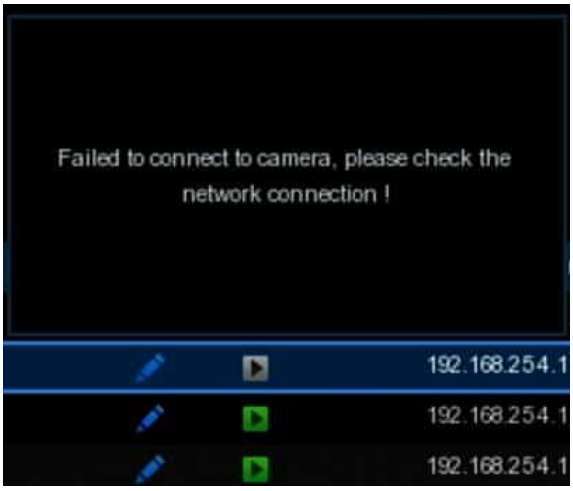
State: Shows the connection status of the camera.



Icon with green background color: camera has a good connection.

Icon with green grey color: failed to connect camera. Click the icon to show the failure reason.



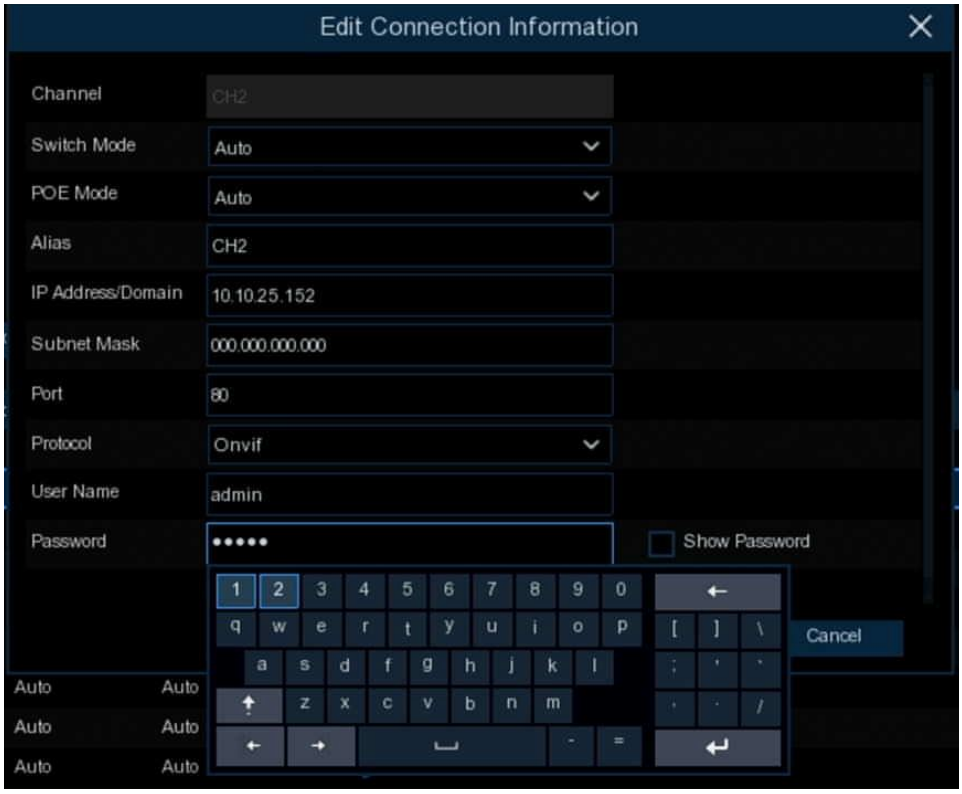


If the failure reason is “User name or password error”, it means the camera user name and password is different from the default user name and password.

If the failure reason is “Failed to connect to camera, please check the network connection”, it means the network parameter might be incorrect or incompatible with the ONVIF protocol.

5.1.3.1.1 Steps to Connect Plug & Play PoE Cameras

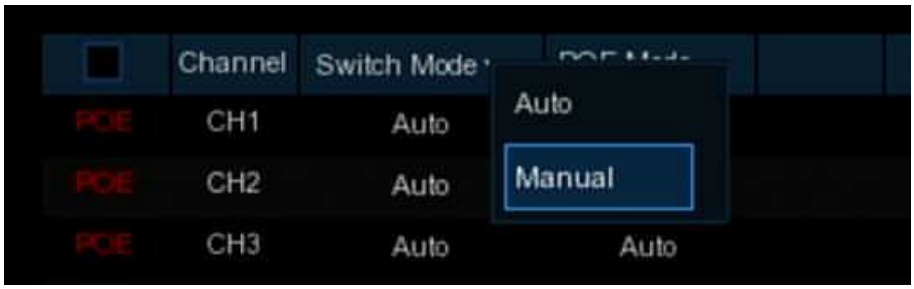
1. Keep the default settings.
2. Change the default user name and password to match the camera.
3. Make sure your IP camera is set to DHCP IP address already. If your camera is set to static IP address which is different from the IP address segment inside the PoE router, your IP camera will be unable to get online. Check more in 5.5.1.1 Network → General.
4. Plug your IP camera into the PoE port on the rear panel.
5. Camera will be online and displayed in the camera list after its startup.
6. Check the connection status: if the icon is then the camera has a good connection; if the icon is then the camera failed to connect. Click the icon to check the failure reason. If the reason is “User name or password error”, that means the default user name and password is not same with the camera’s. Click the edit icon to modify the user name and password to be the same as the cameras.



5.1.3.1.2 Steps to Connect External Cameras in the LAN

If you want to connect to an IP camera from your LAN, please make sure your NVR is connected to the LAN and the IP camera you want to add is on the same network segment with your NVR.

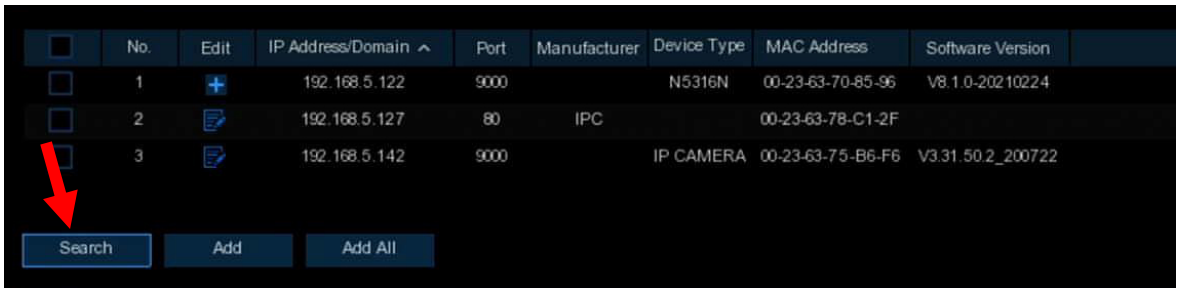
If you want to connect all channels manually, click the drop-down arrow next to Switch Mode, and then select "**Manual**".



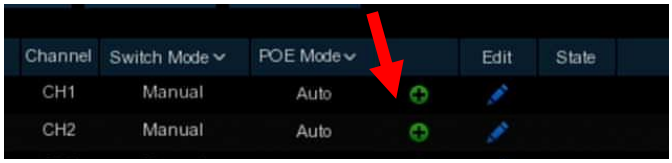
If you want to add an individual channel manually, click the edit icon in the channel list, and then click the drop-down arrow next to Switch Mode to select "**Manual**" and click **OK** to save.

5.1.3.1.2.1 Add Individual Camera in the LAN

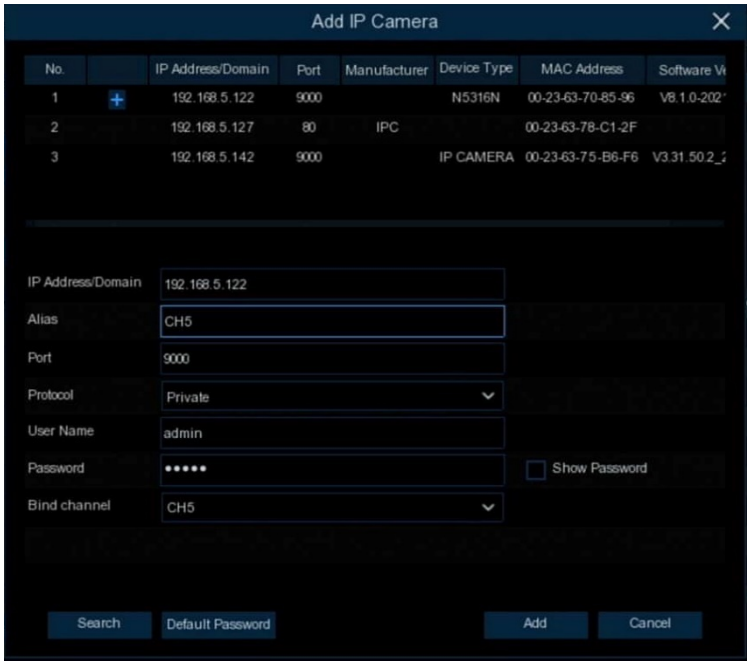
1. Click **Search** button and all available cameras in the LAN will be displayed.



Or click the Add icon in the channel list to add a camera to an individual channel. Click the **Search** button and all available cameras in the LAN will be displayed.

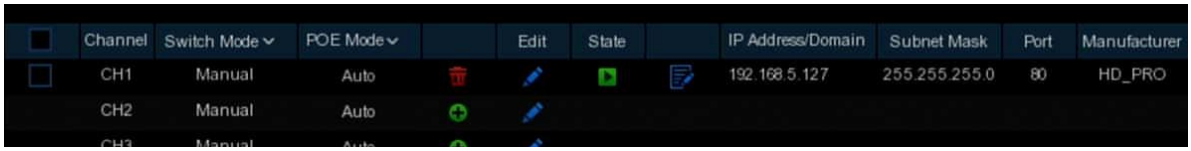


2. Select the camera you want to connect and then click **Add** button. Input the user name and password of the camera and then click **Add** button.



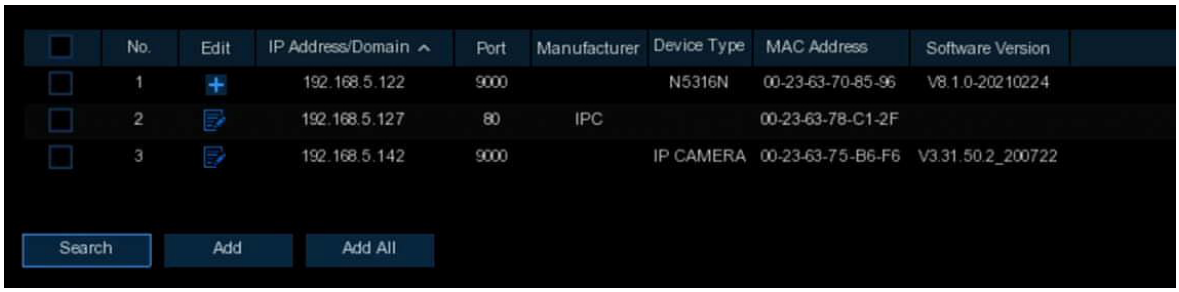
Alias: To define the camera ID you want to display in the live view screen.
Port: Camera communication port. Do not change the number if you're not a professional.
Protocol: To select the connection protocol.
Bind channel: To determine which channel you want to add the camera.

3. The added camera will be displayed in the channel list.



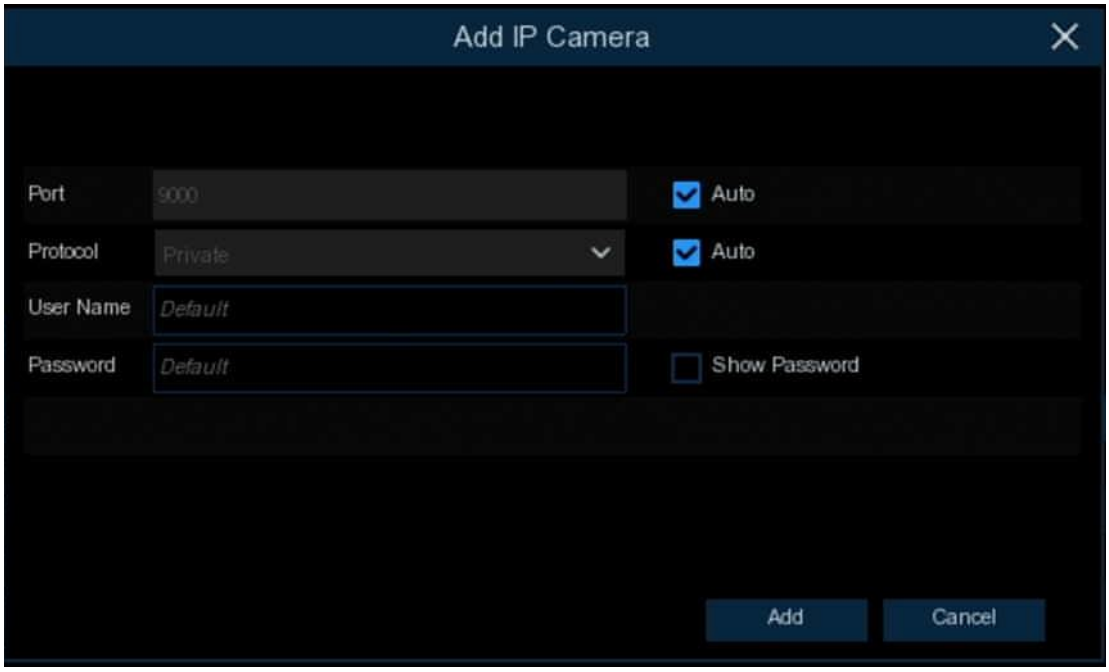
5.1.3.1.2.2 Add Multiple Cameras from the LAN

1. Click the **Search** button and all available cameras in the LAN will be displayed.

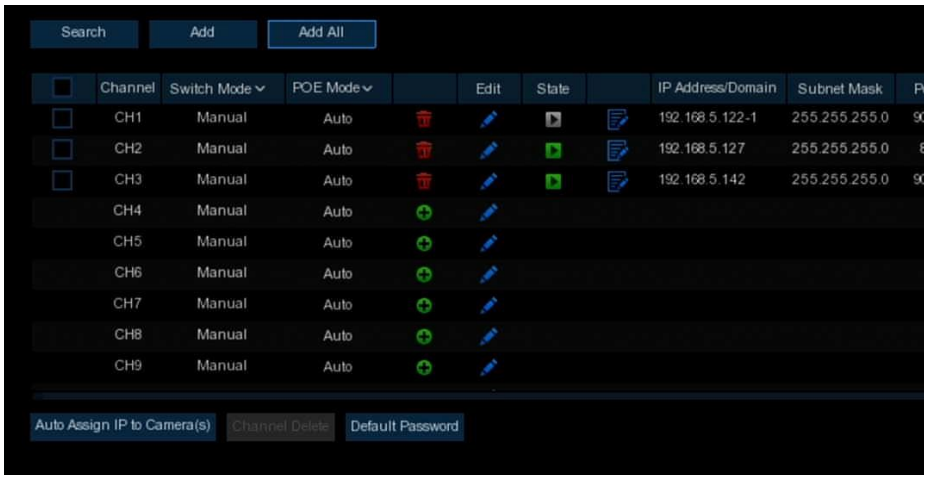


Or click **Add All** button and the NVR will search & add all available cameras on the LAN.

2. Select the cameras from the search results and then click "**Add**". You will need to input the user name and password of the cameras. Please make sure all the cameras you want to add use the same user name and password. Otherwise, the cameras with different user names and password will not be able to connect.



3. The added cameras will be displayed in the channel list.



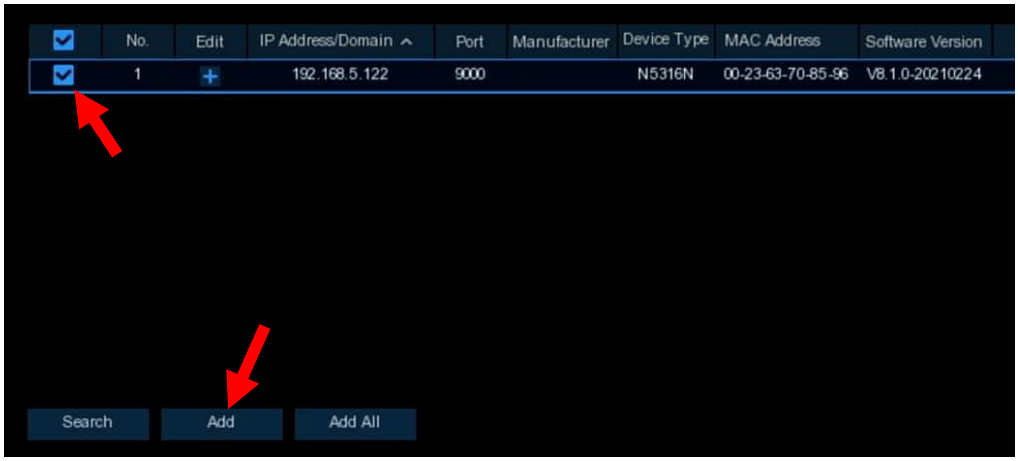
5.1.3.1.2.3 Add Cameras from Other NVR in the LAN

The NVR allows you to add cameras from other NVRs on the local network.

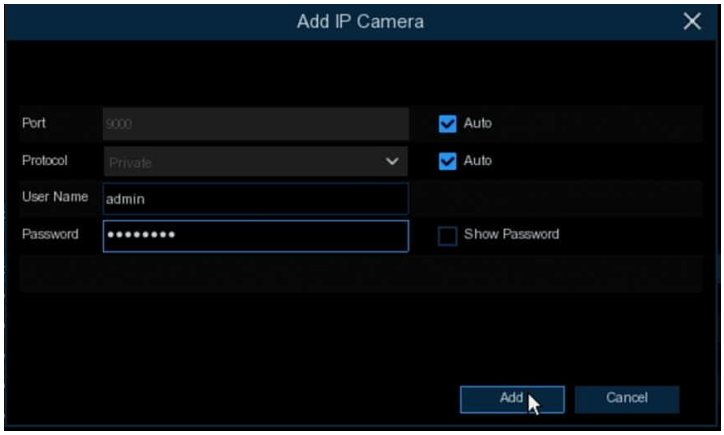
1. Click the **Search** button and all available devices on the LAN will be displayed. There is an edit icon + if the device is an NVR.

2. Click the edit icon + and select the camera channels one by one or check the box ■ to select all cameras. Click X icon to go back to search list.

3. Select the NVR in the search list, and then click **Add** button.



4. Input the user name and password of the NVR and then click the **Add** button.

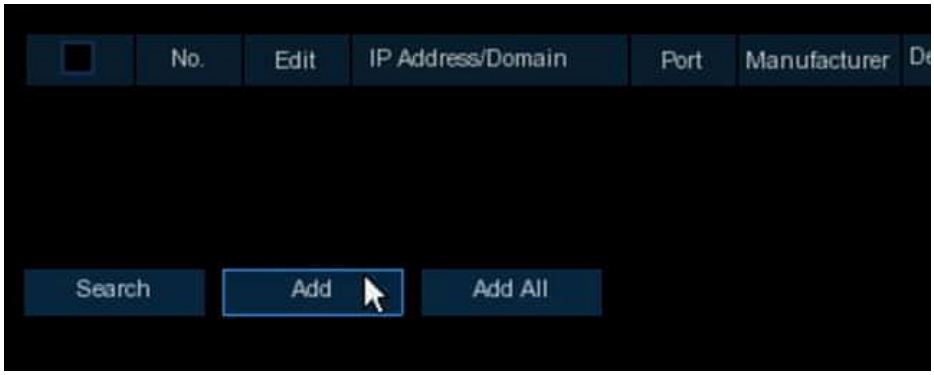


5. The added cameras will be displayed on the channel list.

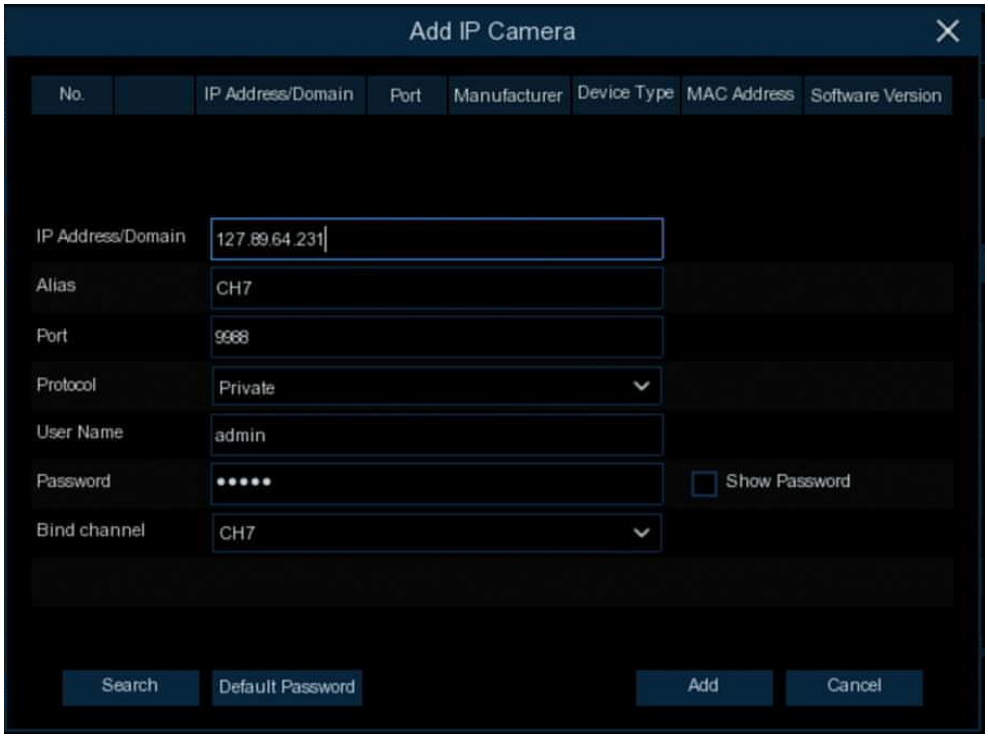
5.1.3.1.3Add Cameras from Internet

If your NVR is connected to the Internet, you can add cameras from the Internet with a WAN IP address.

1. Click **Add** button in the search page.



2. Input the IP address or domain name, port, protocol, user name & password of the IP camera. Click **Add** button to add the camera.

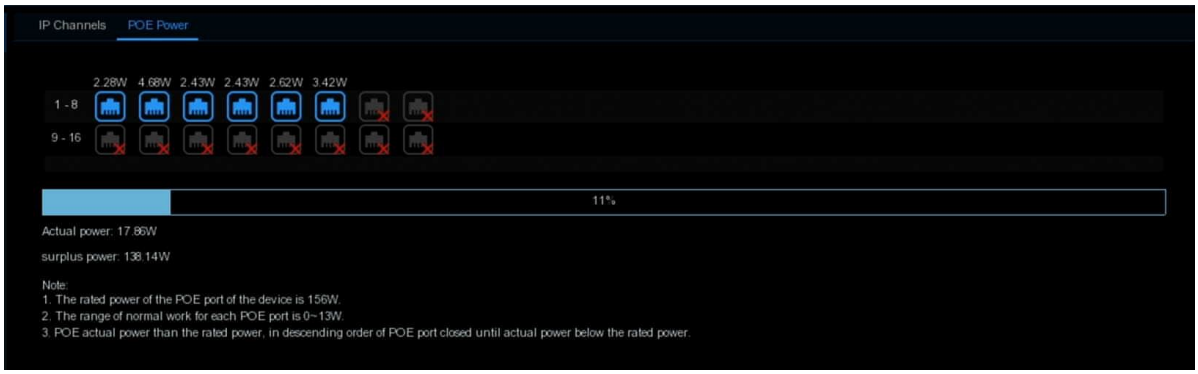


5.1.3.2 Non-PoE NVR Connection

For Non-PoE NVR connections, please refer to 5.1.3.1.2 Steps to Connect External Cameras From LAN.

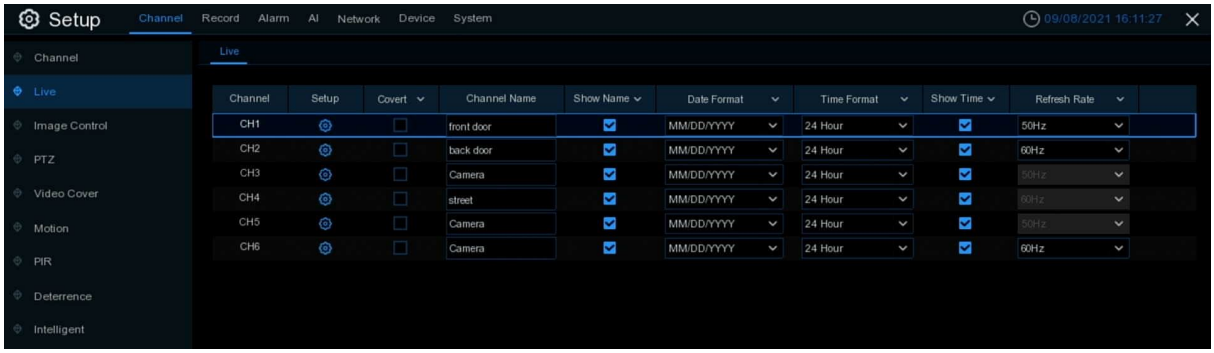
5.1.1.4 POE Power

Here you will find the real-time power consumption of each PoE port, total actual power & rated power.



5.1.2 Live

To configure camera parameters, including channel name, color, date & time format, refresh rate, etc.



Covert: To hide the camera images in live view. If covert is opened, only live view images will be hidden. Recording images won't be affected.

Channel Name: Give a name to the camera

Show Name: To display the channel name in the images or not. It affects both live view & recording images.

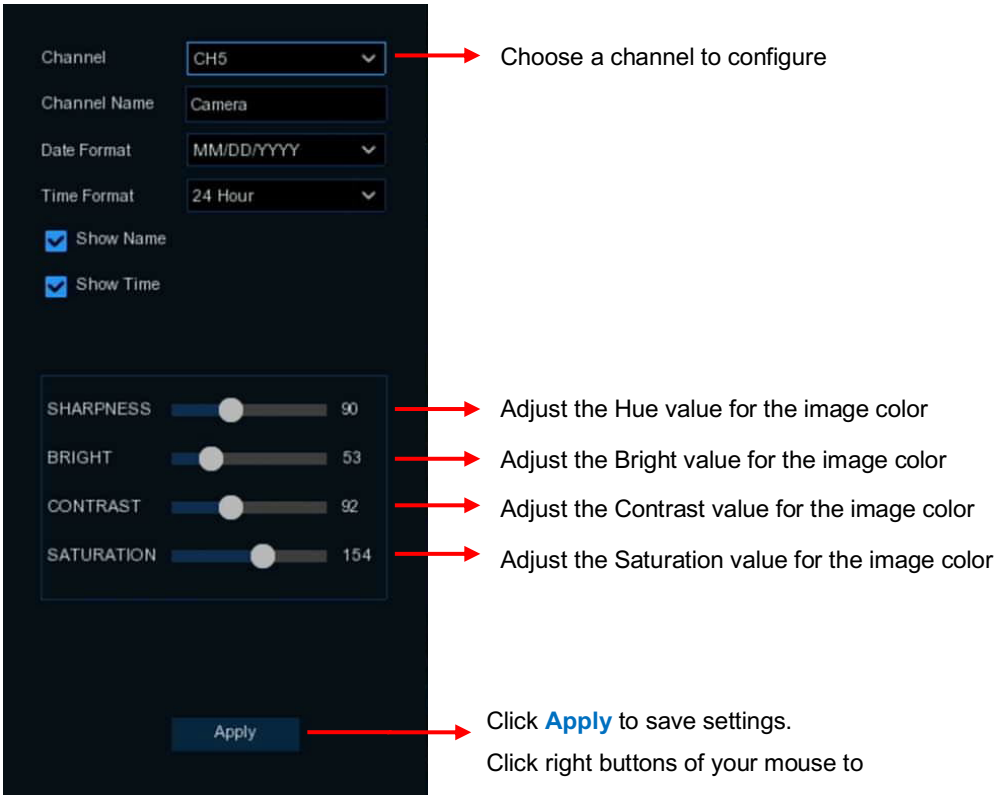
Date Format: To choose a date format.

Time Format: To choose a time format.

Show Time: To display date and time in the images or not. It affects both live view & recording images.

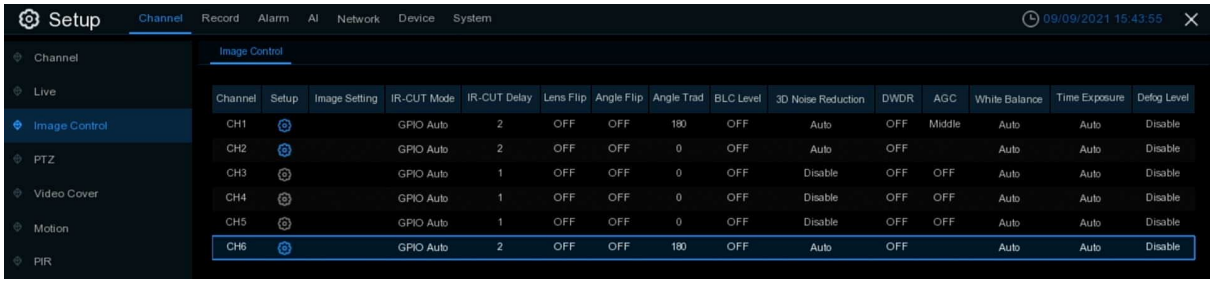
Refresh Rate: Choose the right value according to the frequency of alternating current in your region.

Setup: Click icon for more setup.

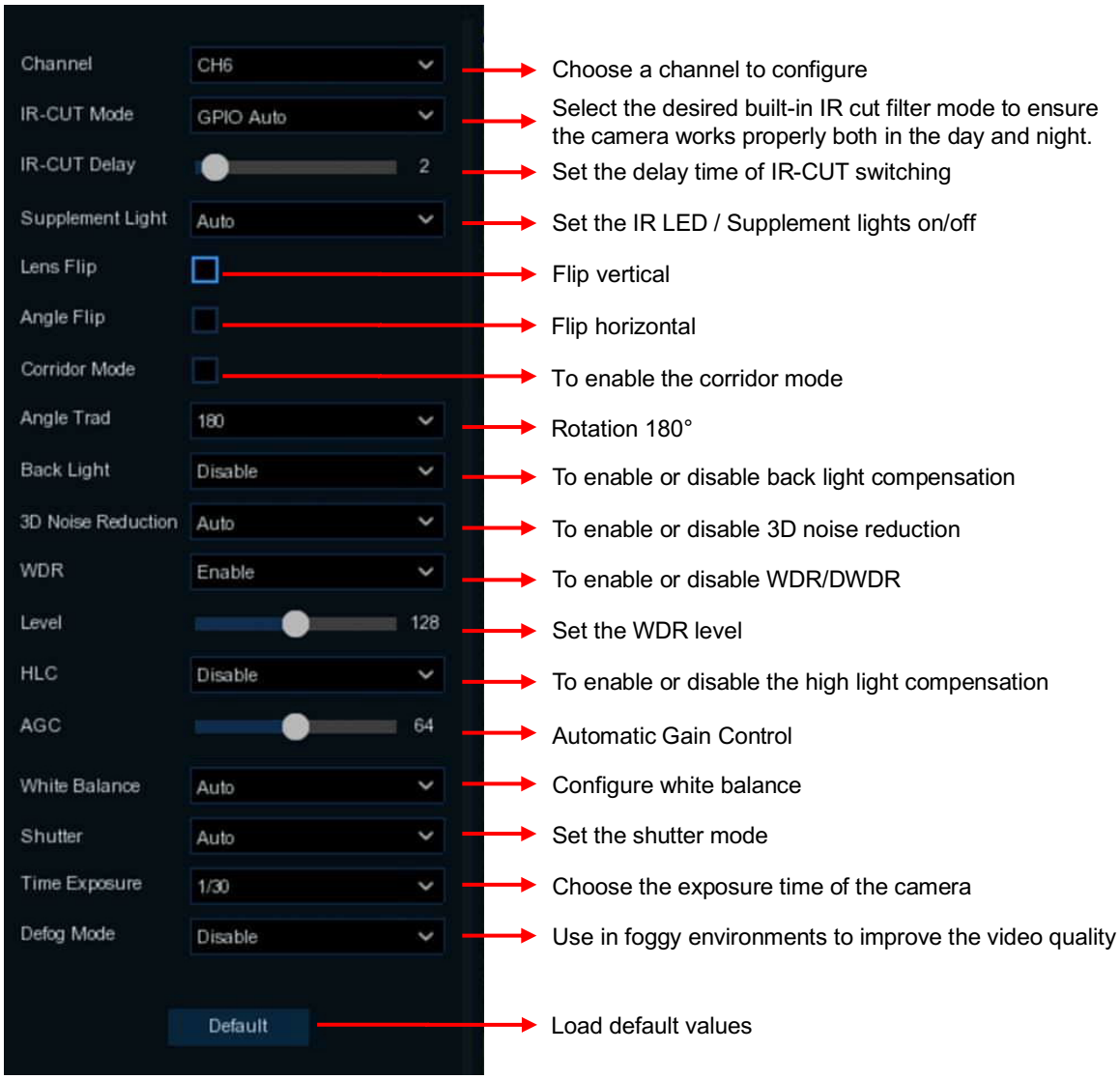


5.1.3 Image Control

This menu allows you to control image settings for supported IP cameras. Third-party ONVIF IP cameras might be not supported for configuration.



Setup: Click icon into the setup page.



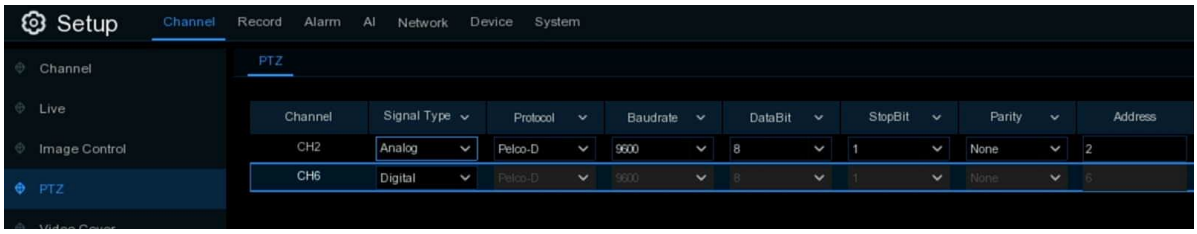
IR-CUT Mode: If you want the camera to switch the image between color and black & white automatically, then choose "**GPIO Auto**"; If you want the camera to record color images all the time, then choose "**Color Mode**" ; If you want the camera to record black & white images all the time, then choose "**Black White Mode**"; If you want the camera to record black & white images in a certain period, then choose "**Schedule(B/W)**", and then set the start and end time.

WDR/DWDR: Enable to allow automatically adjust the brightness and contrast of the video when shooting in the darkness with bright light sources.

IR-LED / Supplement Light: Set the IR/Supplement lights on/off.

5.1.4 PTZ

This menu allows you to configure the PTZ (Pan-Tilt-Zoom) settings for speed dome cameras.



Channel: Channel name

Signal Type: If your PTZ camera is connected to the RS485 port, then choose "**Analog**", otherwise choose "**Digital**".

Below items need to be set for Analog PTZ only.

Protocol: Choose the communication protocol between a PTZ capable camera and NVR.

Baudrate: The speed of the information sent from the NVR to the PTZ-capable camera. Make sure it matches the compatibility level of your PTZ-capable camera.

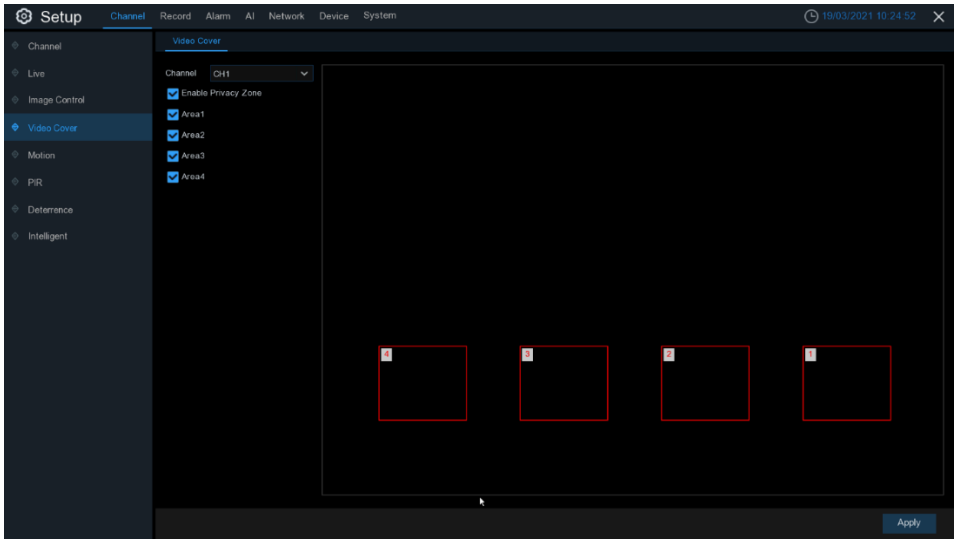
DataBit / StopBit: The information between the NVR and PTZ-capable camera is sent in individual packages. The **DataBit** indicates the number of bits sent, while the **StopBit** indicates the end of the package and the beginning of the next (information) package. The available parameters for **DataBit** are: **8**, **7**, **6**, **5**. the available parameters for the **StopBit** are **1** or **2**.

Parity: For error check. See the documentation of your PTZ-capable camera, to configure this setting.

Address: Set the command address of the PTZ system. Please be noted that each PTZ-capable camera needs a unique address to function properly

5.1.5 Video Cover

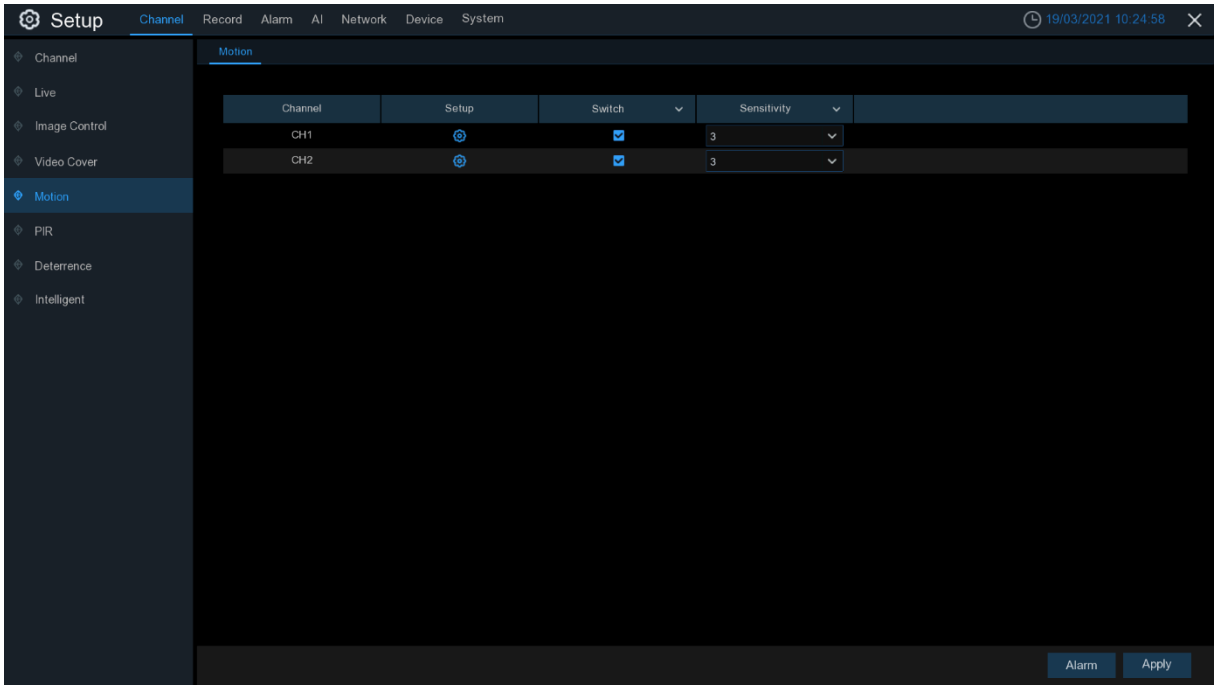
This menu allows you to create privacy zones to partially cover certain part of the image. You can create up to 4 privacy zones in any size and location on the camera image. Enable the Privacy Zone, and choose how many zones you need. The zone(s) appear as a "red box". Click the edge of the red box and drag it to any size to create a privacy zone.



Note: The area of privacy zones you had set will be invisible in both live view & recording video.

5.1.6 Motion

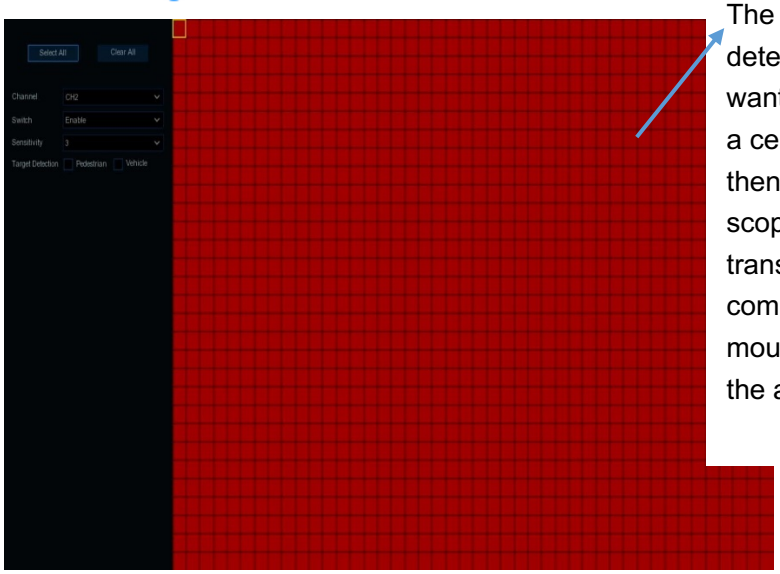
This menu allows you to configure motion parameters. When motion has been detected by one or more cameras, your NVR will alert you to a potential threat. It does this by sending you an email alert with an attached image from the camera to use as a reference (if this option is enabled) and/or sending push notifications via the mobile app.



Switch: Enable or disable motion detection.

Sensitivity: Set the sensitivity level. Level 1 is the lowest sensitivity level while level 8 is the highest sensitivity level.

Setup: Click icon into the setup page.



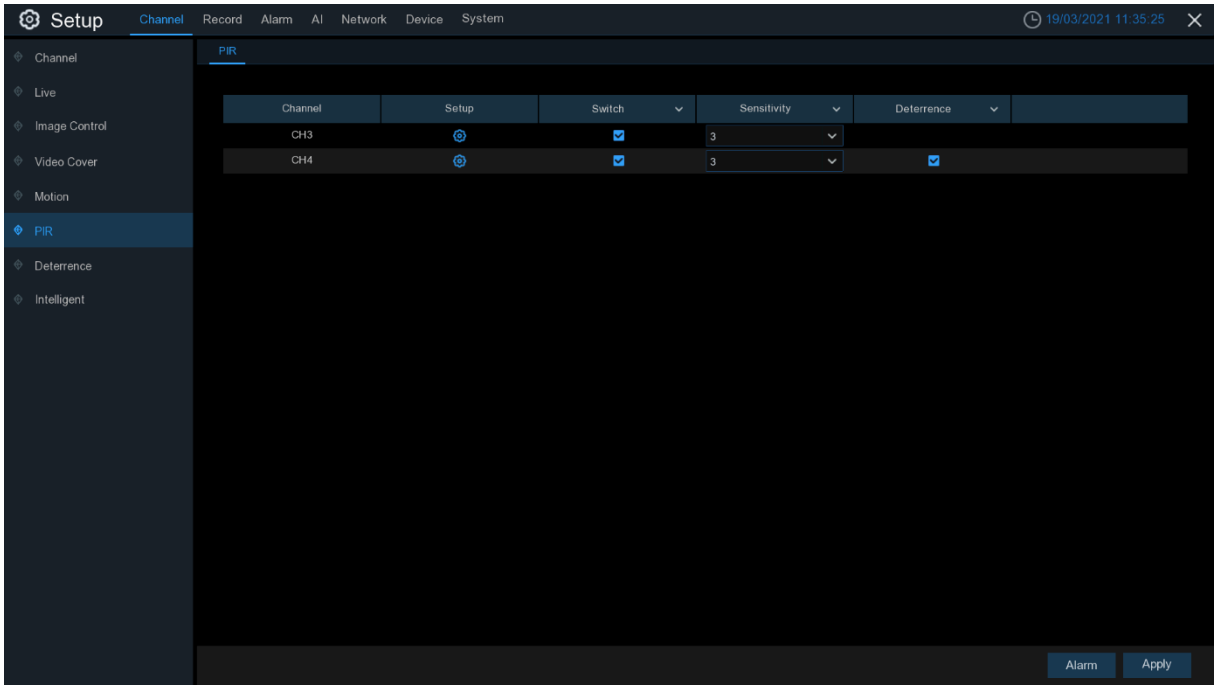
Motion Detection Area:

The whole screen is marked for motion detection (red blocks) as default. If you want to disable the motion detection on a certain area, click the grid cursor and then drag the mouse to highlight the scope to unmark the area into transparent blocks. After setting is completed, click the right button of your mouse to return and click **Save** to make the area setup effective.

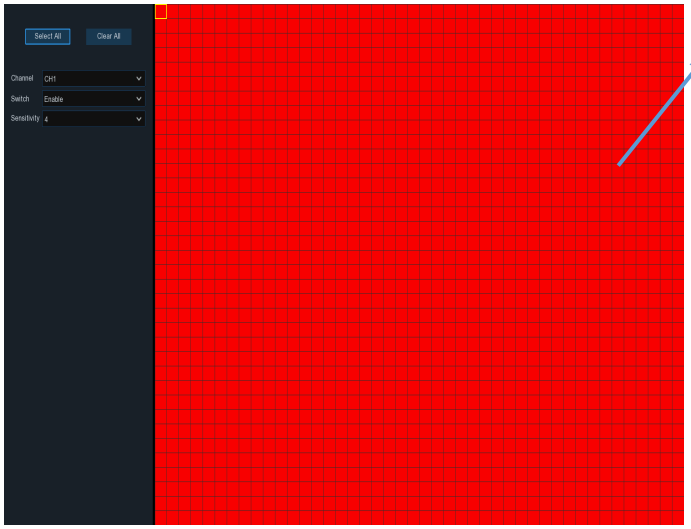
If your IP camera supports SMD (Smart Motion Detection), you can choose the camera to alert only when the camera detects **Pedestrian** (people) and/or **Vehicle**.

5.1.7 PIR

This menu allows you to configure PIR parameters. When a PIR has been detected by one or more cameras, your NVR will alert to you a potential threat. It does this by sending you an email alert with an attached image from the camera to use as a reference (if this option is enabled) and/or by sending push notifications via the mobile app.



Setup: Click icon into the setup page.



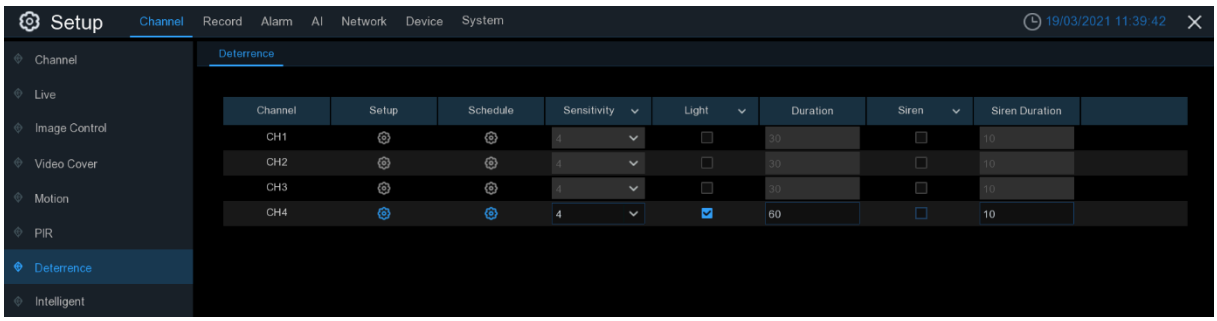
PIR Detection Area:
The whole screen is marked for PIR detection (red blocks) as default. If you want to disable the PIR detection on a certain area, click the grid cursor and then drag the mouse to highlight the scope to unmark the area into transparent blocks. After setting is completed, click the right button of your mouse to return and click **Save** to make the area setup effective.

Switch: Enable or disable PIR detection.

Sensitivity: Set the sensitivity level. Level 1 is the lowest sensitivity level while level 8 is the highest sensitivity level.

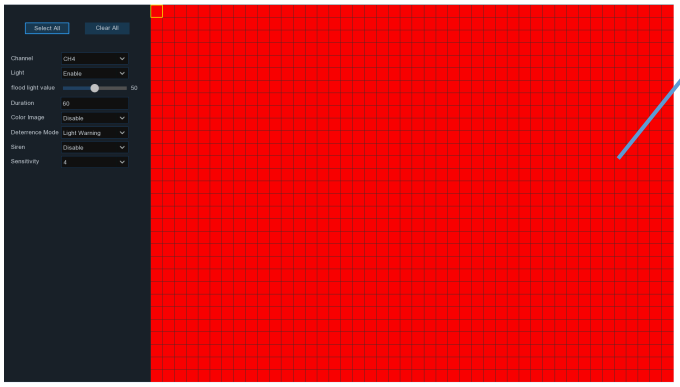
5.1.8 Deterrence

This menu allows you to configure the deterrence parameters.



Channel: channel name.

Setup: Click icon into the setup page.



Deterrence Area:

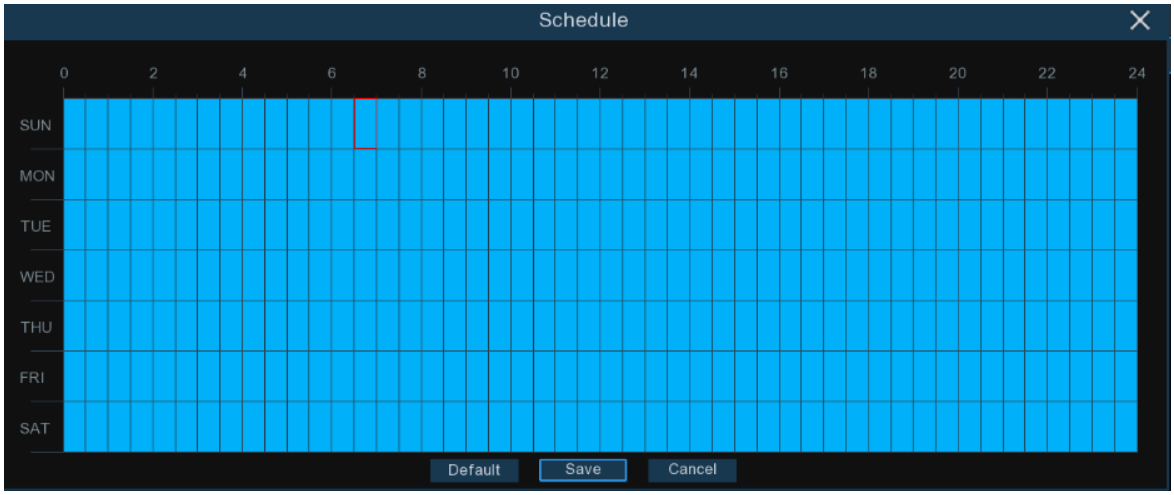
The whole screen is marked for deterrence detection (red blocks) by default. If you want to disable the deterrence detection on a certain area, click the grid cursor and then drag the mouse to highlight the scope to unmark the area into transparent blocks. After setting is completed, click the right button of your mouse to return and click **Save** to make the area setup effective.

Light Switch: Enable or disable light warning.

Siren Switch: Enable or disable siren warning.

Sensitivity: Set the sensitivity level. Level 1 is the lowest sensitivity level while level 8 is the highest sensitivity level.

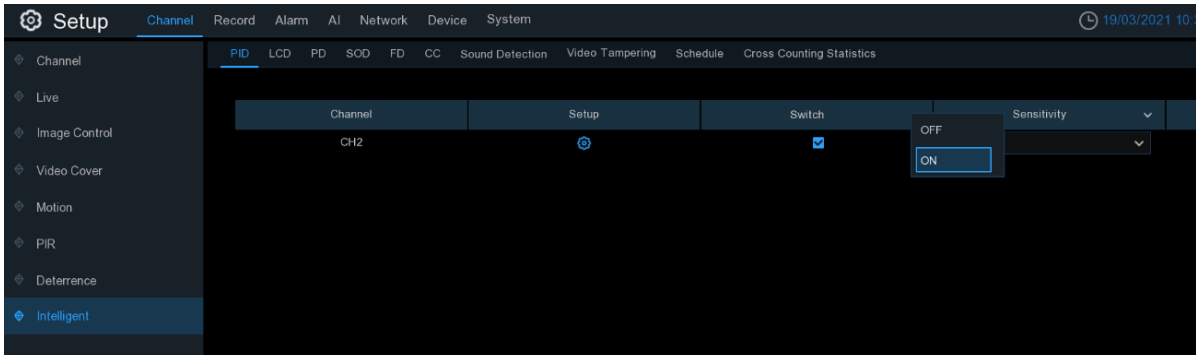
Schedule: click icon to configure the schedule.



When the time slot is marked light blue, this indicates the channel triggers deterrence alarm for that time slot.

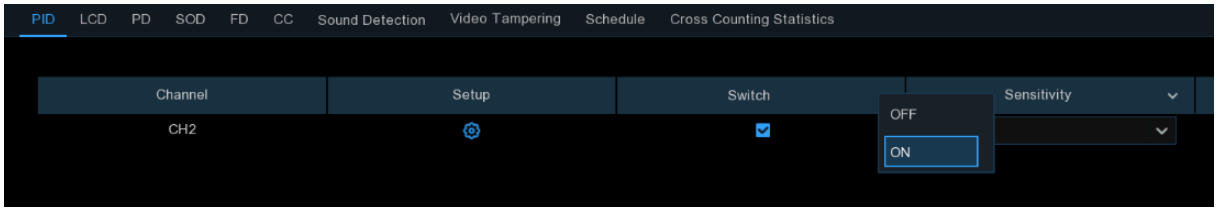
5.1.9 Intelligent Analytics

The optional intelligent analytic functions include: **PID** (Perimeter Intrusion Detection), **LCD** (Line Crossing Detection), **SOD** (Stationary Object Detection), **PD** (Pedestrian Detection), **FD** (Face Detection), and **CC** (Cross Counting), **SOD** (Sound Detection) and Video Tampering. **Note:** Intelligent Analytic functions are not an AI function. These functions will only work with an analytic enabled camera.



5.1.9.1 PID (Perimeter Intrusion Detection)

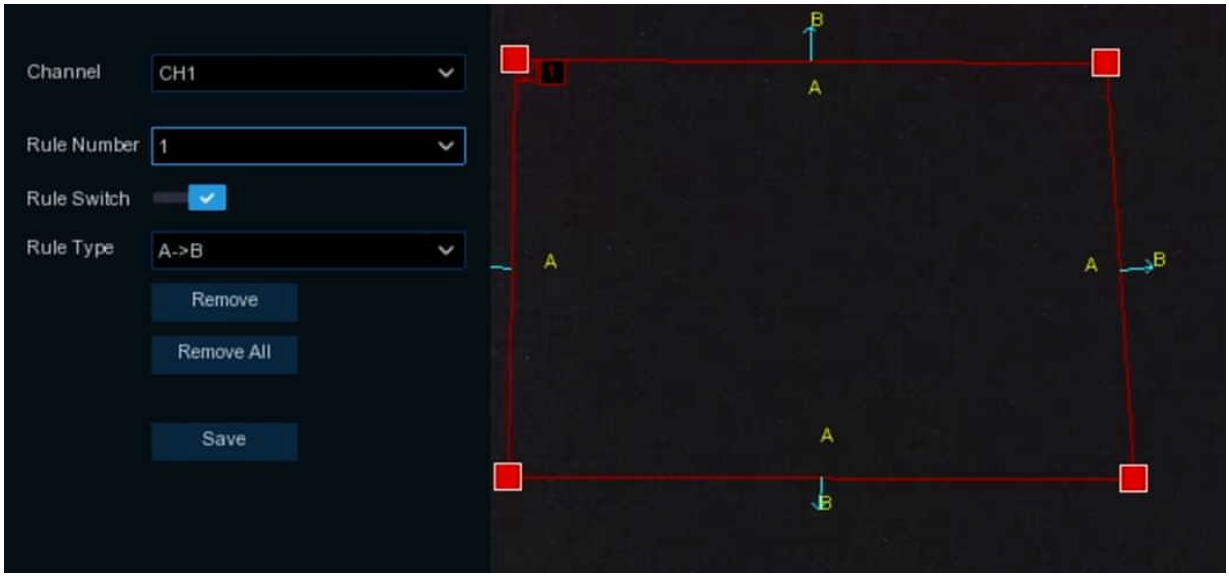
The Perimeter Intrusion Detection function detects people, vehicle or other objects which enter and loiter in a pre-defined virtual region, and some certain actions can be taken when the alarm is triggered.



Switch: Check the box to enable PID function.

Sensitivity: Set the sensitivity level. Level 1 is the lowest sensitivity level while level 4 is the highest sensitivity level.

Click **Setup** icon to draw a virtual region in the camera image.



Channel: Select the channel you want to configure

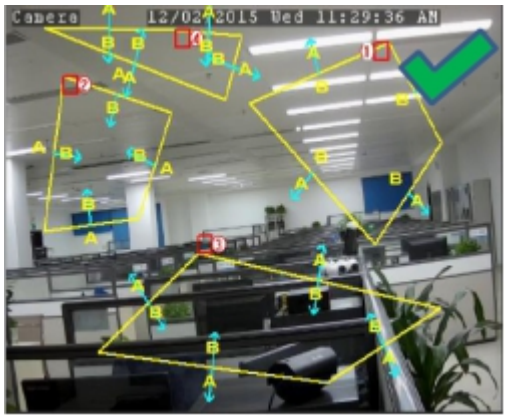
Rule Number: Max. 4 rules available.

Rule Switch: Activate or deactivate the rule

1. Choose one of the **Rule Numbers** to assign a number to a PID area. A maximum of 4 areas can be designated for the PID function.
2. Check the **Rule Switch** box to enable the detection.
3. Choose a **Rule Type**.
   A→B: Camera will only detect the action from side A to side B;
   B→A: Camera will only detect the action from side B to side A;
   A←→B: Camera will detect the action from either side B to side A or side A to side B.
4. Use your mouse to click 4 points in the camera picture to draw a virtual region. The region shape should be a convex polygon. You will not be able to save a concave polygon.
5. Click **Save** to save your settings.
6. If you want to modify the position or shape of a region, click the red box in the region and the borders of the region will change to red. Hold the left button of your mouse to move the position of the region, or drag the corners to resize the region.
7. If you want to remove one of the regions from the camera picture, click the red box in the region and then click **Remove** button. Clicking **Remove All** will delete all regions.

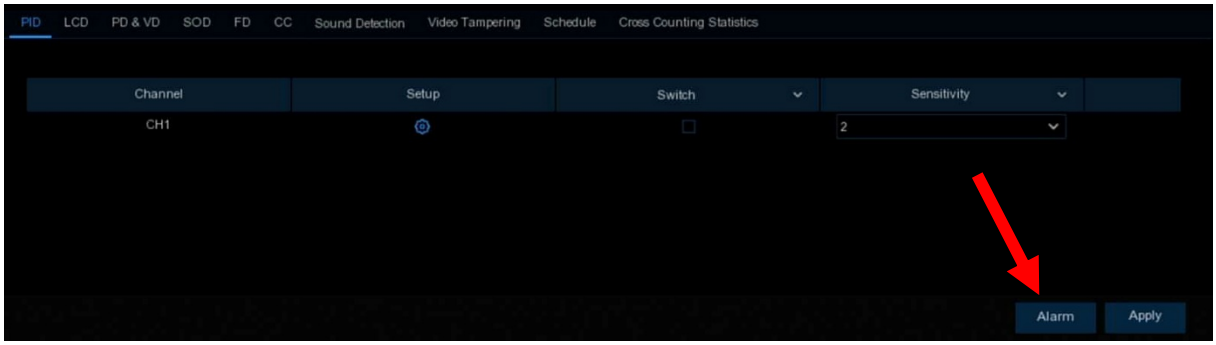
Notes:

1) The perimeter should not be too close to the edges/corners of the camera picture since it may fail to trigger a detection if the target passes through the edges/corners.
2) The shape of the regions should not be too narrow/small, since it may fail to trigger the detection when the target passes through outside the perimeter.

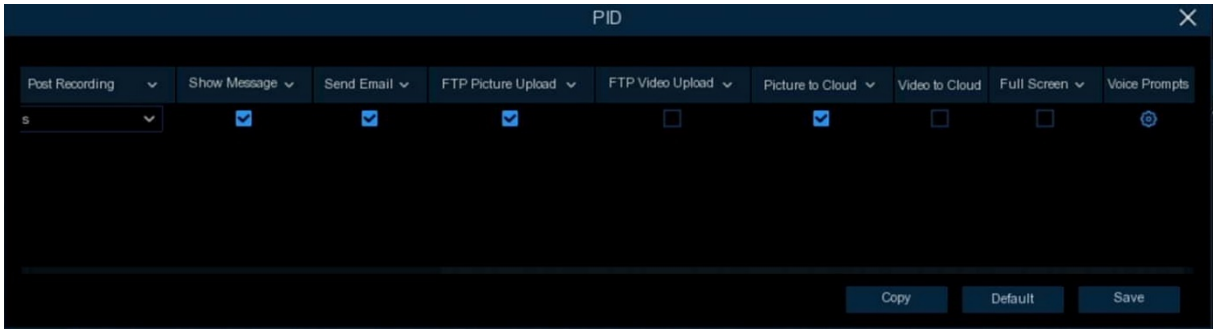


5.1.9.1.1 Alarm Setup

Click the Alarm icon to configure alarm settings.



On this page you can configure the alarm action when an alert is triggered.



Buzzer: Disable or activate the buzzer to emit an alarm tone in 10, 20, 40 or 60 second increments when the detection is triggered.

Alarm Out: If your NVR supports connection to an external alarm device, you can configure it here to trigger an alarm tone.

Latch Time: To configure the external alarm time when the detection is triggered.

Record: To choose the recording channel(s) when a PID alert happens.

Post Recording: You can set how long after an event occurs that the NVR will continue to record.

Show Message: A letter "**S**" will be displayed on the screen when the PID function is triggered.

Send Email: If an alarm is triggered, an Email will be sent to your preset email account.

FTP Picture Upload: To upload alarm images to FTP server when motion is detected.

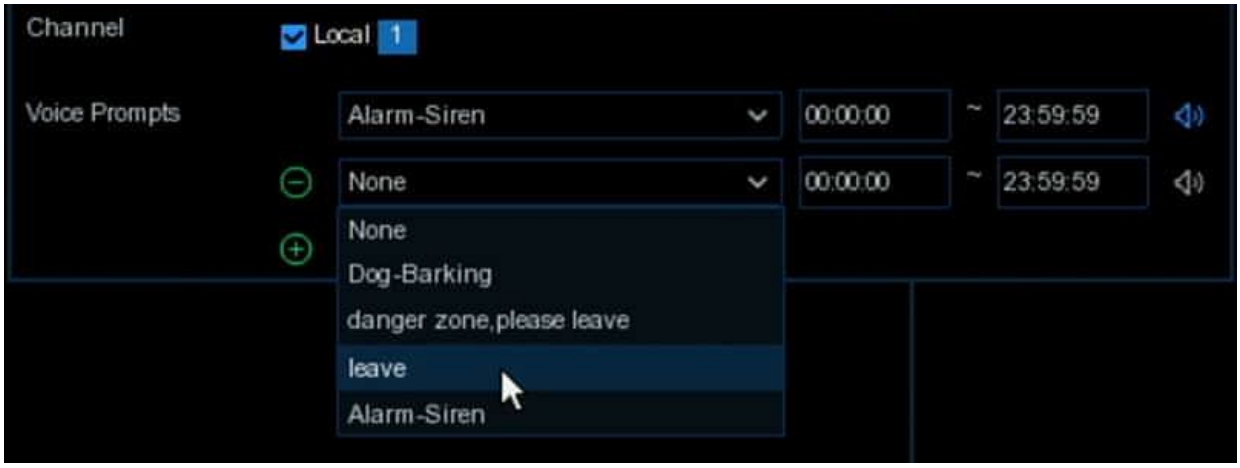
FTP Video Upload: To upload alarm video to FTP server when motion is detected. To enable FTP, please view 5.4.4 FTP.

Picture to Cloud: To upload alarm images to cloud server when motion is detected. To enable Cloud, please view 5.6.2 Cloud.

Video to Cloud: To upload alarm video to Cloud server when motion is detected. To enable Cloud, please view 5.6.2 Cloud.

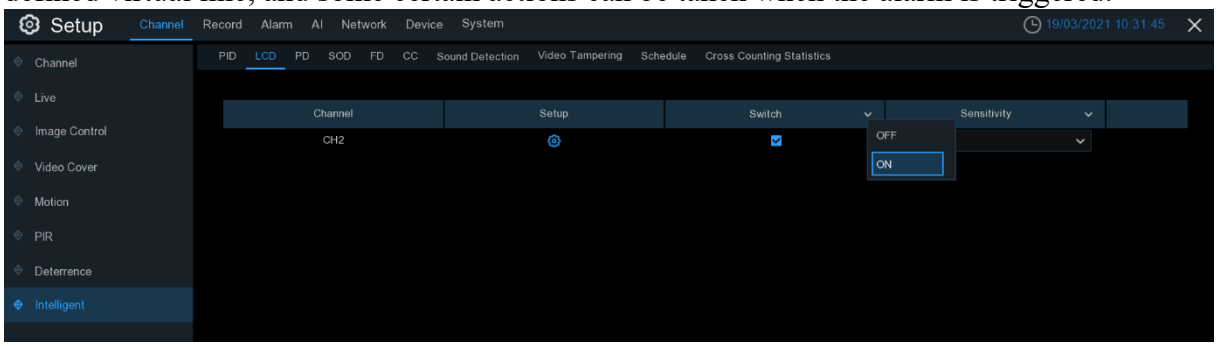
Full Screen: If this function is enabled and an alert is detected in a channel, you will see its full screen images in live view.

Voice Prompts: If your NVR is connected to a speaker, you can select a customized alert voice when the alarm happens. See how to add customized alert voice on **5.3.8 Voice Prompts**



5.1.9.2 LCD (Line Crossing Detection)

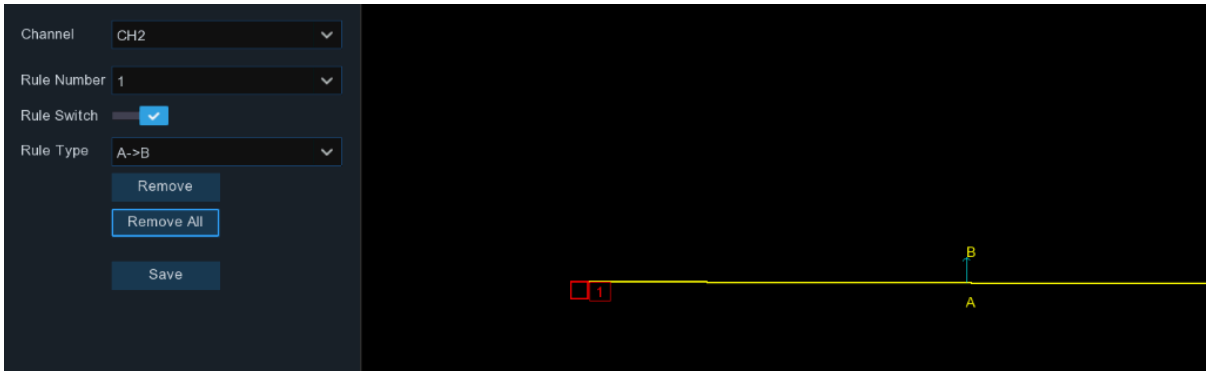
Line Crossing Detection function detects people, vehicle or other objects which cross a pre-defined virtual line, and some certain actions can be taken when the alarm is triggered.



Switch: Check the box to enable LCD function.

Sensitivity: Set the sensitivity level. Level 1 is the lowest sensitivity level while level 4 is the highest.

Click **Setup** icon to draw a virtual line in the camera image.



Channel: Select the channel you want to configure

Rule Number: Max. 4 rules available.

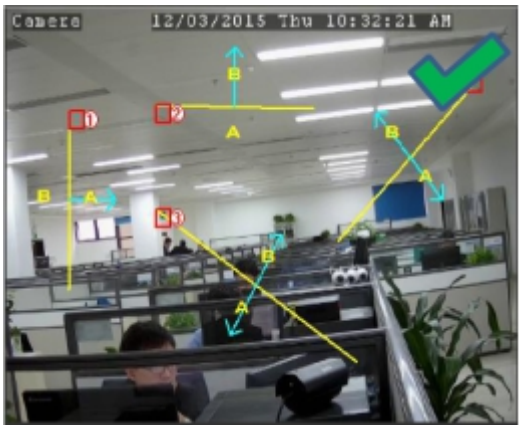
Rule Switch: Activate or deactivate the rule

1. Choose one of the **Rule Numbers** to assign it to an LCD line. A maximum of 4 lines can be drawn.
2. Check the **Rule Switch** box to enable the detection.
3. Choose a **Rule Type**.
   A→B: NVR will only detect the action from side A to side B;
   B→A: NVR will only detect the action from side B to side A;
   A←→B: NVR will detect the action from either side B to side A or side A to side B.
4. Use your mouse to click 2 points in the camera picture to draw a virtual line.
5. Click **Save** to save your settings.
6. If you want to modify the position or length of the line, click the red box in the line and the color of the line will change to red. Hold the left button of your mouse to move the line, or drag the terminals to modify the length or position of the line.
7. If you want to remove one of the lines from the camera picture, click the red box in the line and then click **Remove** button. Click **Remove All** will delete all lines.

Note:

1) The lines should not be too close to the edges of the camera picture, otherwise it may fail to trigger an alarm when the target crosses through it.

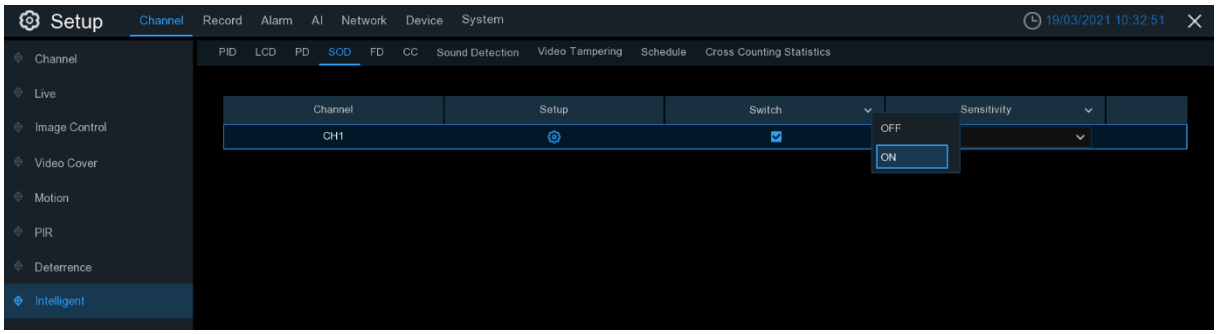
2) The lines should not be set too short otherwise it may fail to trigger an alarm if a target passes outside it.



For Alarm setup, please refer to 5.1.9.1.1 Alarm Setup

5.1.9.3 SOD (Stationary Object Detection)

Stationary Object Detection function detects objects such as baggage, purses, dangerous materials, etc., left behind or removed from a pre-defined region. A series of actions can be taken if the alarm is triggered.



Switch: Check the box to enable SOD function.

Sensitivity: Set the sensitivity level. Level 1 is the lowest sensitivity level while level 4 is the highest.

Click **Setup** icon to draw a virtual region in the camera image.

Channel: Select the channel you want to configure

Rule Number: Max. 4 rules available.

Rule Switch: Activate or deactivate the rule

1. Choose one of the **Rule Numbers** to assign it to an SOD area. A Maximum of 4 areas can be set for

SOD function.

2. Check the **Rule Switch** box to enable the detection.
3. Choose a **Rule Type**.
   Legacy: NVR will only detect the left-over objects;
   Lost: NVR will only detect the lost objects;
   Legacy & Lost: NVR will detect both left-over & lost objects.
4. Use your mouse to click 4 points in the camera picture to draw a virtual region. The shape of the region should be a convex polygon. Concave polygon will be not able to save.
5. Click **Save** to save your settings.
6. If you want to adjust the size of the region, click the red box in the region, the borders of the region will be changed to red color. Long press the left button of your mouse to move the whole region, or drag the corners to resize the region.
7. If you want to remove one of the regions from the camera picture, click the red box in the region and then click **Remove** button. Click **Remove All** will delete all regions.

Note:

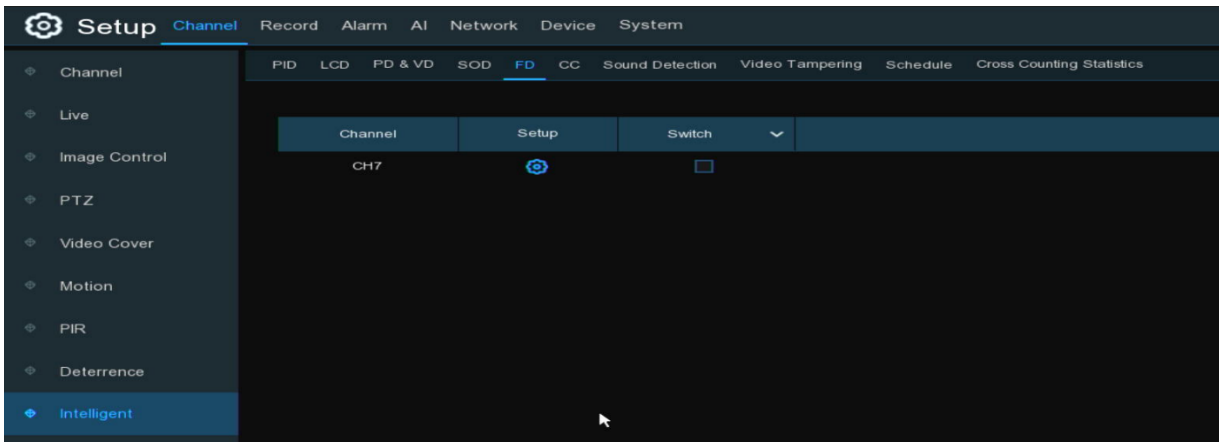
1) The detection area should be greater than or equal to the size of the detected object, such as the white bottle in the example below.

2) The detected object cannot be covered or the alert will fail.

For Alarm setup, please refer to 5.1.9.1.1 Alarm Setup

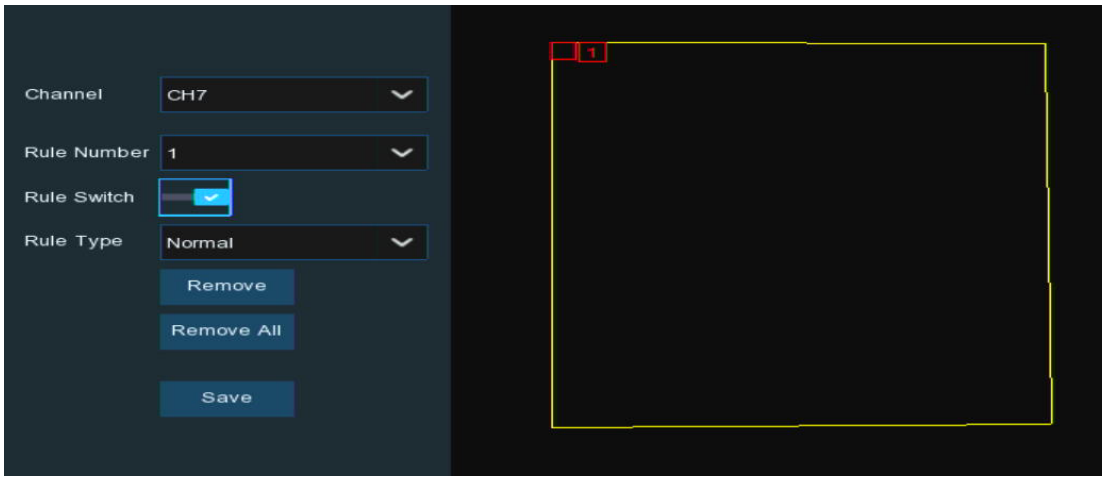
5.1.9.4 FD (Face Detection)

The Face Detection function detects the faces of people that appear in a pre-defined region.



Switch: Check this box to enable the FD function.

Click **Setup** icon to draw a virtual region in the camera image.



Channel: Select the channel you want to configure

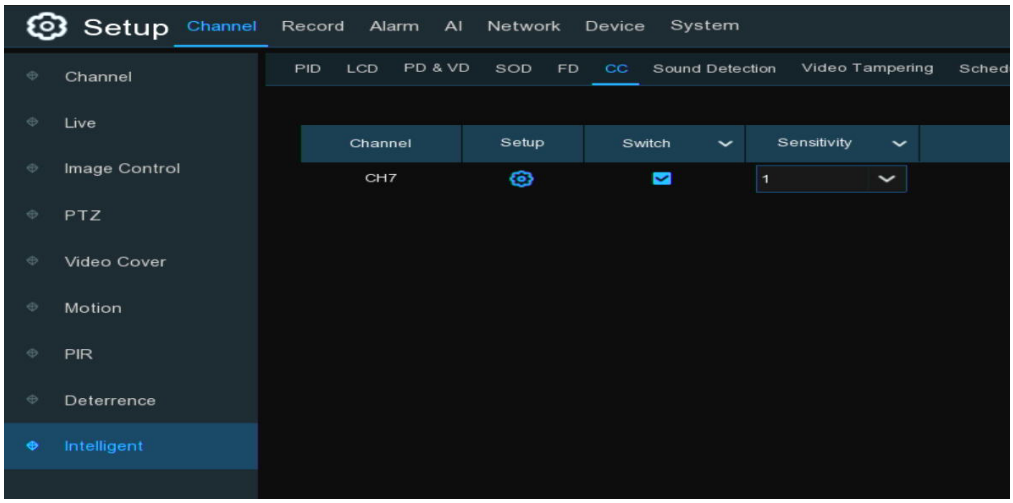
Rule Switch: Activate or deactivate the rule

1. Check the **Rule Switch** box to enable Face Detection.
2. Use your mouse to click 4 points in the camera picture to draw a virtual region. The shape of the region should be a convex polygon. You will not be able to save a concave polygon.
3. Click **Save** to save your settings.
4. If you want to adjust the size of the region, click the box and the border color of the region will change to red. Hold the left button of your mouse to move the whole region, or drag the corners to resize the region.
5. If you want to remove one of the regions from the camera picture, click the red box and then click the **Remove** button. Clicking **Remove All** will delete all regions.

For Alarm setup, please refer to 5.1.9.1.1 Alarm Setup

5.1.9.5 CC (Cross Counting Detection)

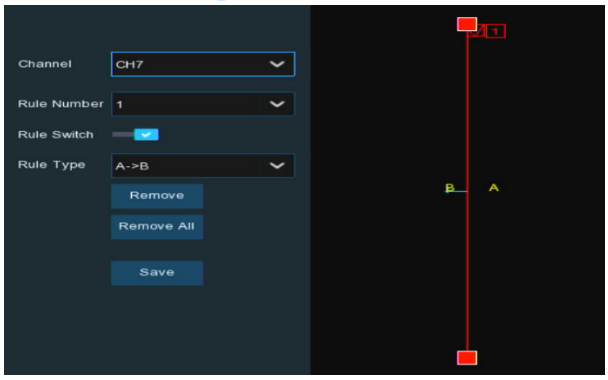
Cross Counting counts how many times moving objects or people cross a virtual line that you designate.



Switch: Check the box to enable CC function.

Sensitivity: Set the sensitivity level. Level 1 is the lowest sensitivity level while level 4 is the highest sensitivity level.

Click **Setup** icon to draw a virtual line in the camera image.



Channel: Select the channel you want to configure

Rule Number: Max. 4 rules available.

Rule Switch: Activate or deactivate the rule

1. Check the **Rule Switch** box to enable Cross Counting Detection.
2. Choose a **Rule Type**.

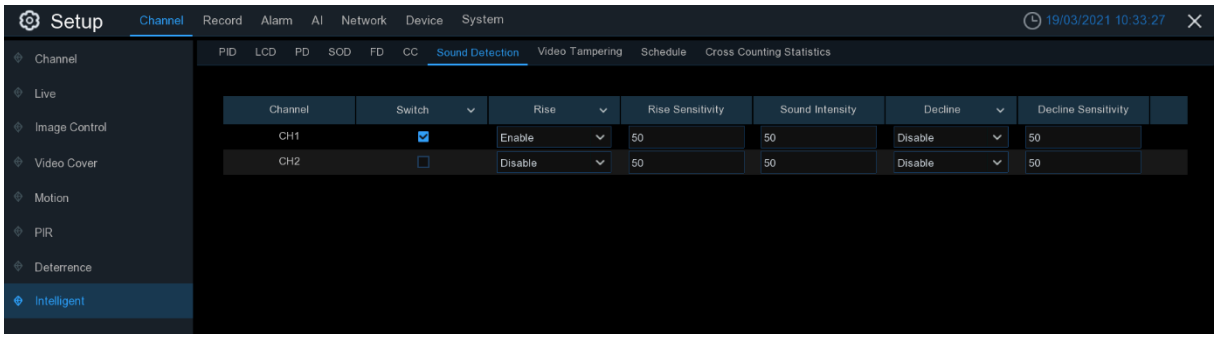
   A→B: If a target object is detected moving from A to sie B, the system will add 1 to the "enter" number; if a target object is detected moving from B to A, the system will add 1 to "exit" number.

   B→A: If a target object is detected moving from B to A, the system will add 1 to "enter" number; if a target object is detected moving from A to B, the system will add 1 to "exit" number.
3. Using your mouse, click 2 points in the camera picture to draw a virtual line.
4. Click **Save** to save your settings.
5. If you want to modify the position or length of the line, click the red box on the line, and the color of the entire line will change to red. Hold the left button of your mouse to move the line, or drag the terminals to modify the length or position of the line.
6. If you want to remove one of the lines from the camera picture, click the red box and then click the **Remove** button. Click **Remove All** will delete all lines.

For Alarm setup, please refer to 5.1.9.1.1 Alarm Setup

5.1.9.6 SD (Sound Detection)

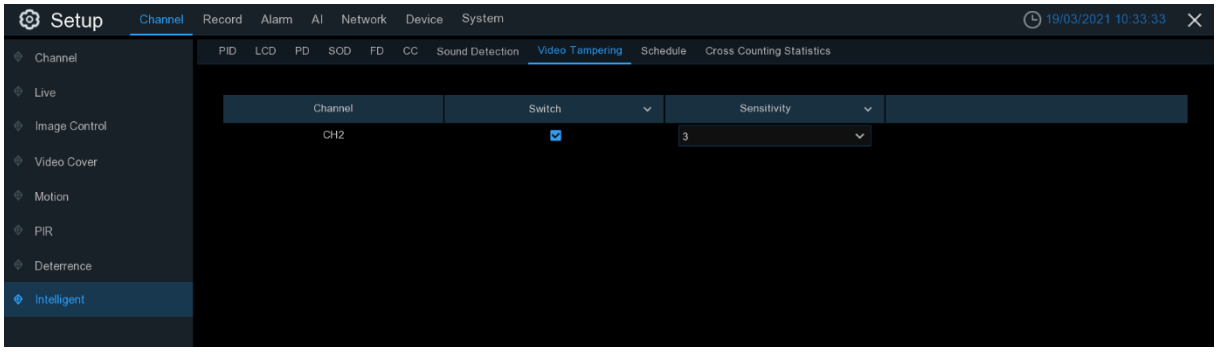
The Sound Detection feature can trigger an alarm and activate certain features when detecting rise or decline in sound. You will need an external microphone (not included) to enable this feature.



Switch: enable or disable sound detection.
Rise: enable or disable sound rise detection.
Rise Sensitivity: Set the sensitivity level. Level 1 is the lowest sensitivity level while level 100 is the highest sensitivity level.
Sound Intensity: set a threshold of sound intensity, the lower value, the more sensitivity.
Decline: enable or disable sound Decline detection.
Decline Sensitivity: Set the sensitivity level. Level 1 is the lowest sensitivity level while level 100 is the highest sensitivity level.

For Alarm setup, please refer to 5.1.9.1.1 Alarm Setup

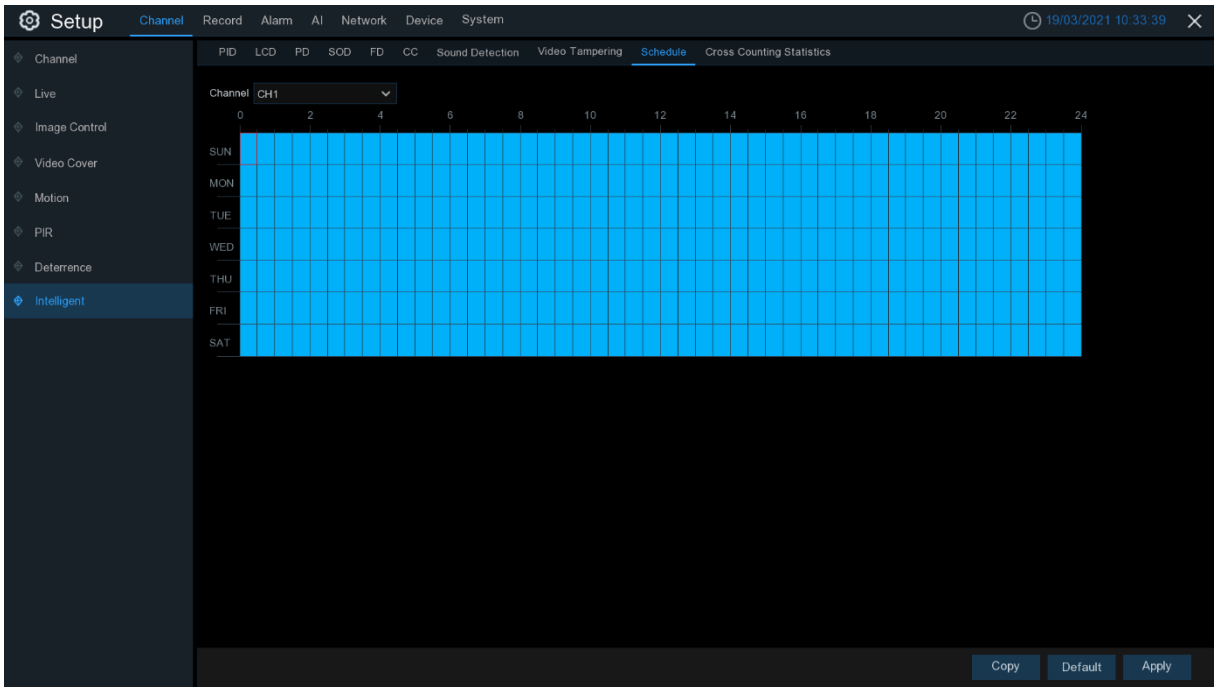
5.1.9.7 Video Tampering



Video Tampering detects the occlusion of the live view screen, and some certain actions can be taken when the alarm is triggered.
Switch: Enable or disable the VD function
Sensitivity: The sensitivity level is from 1 to 6, with a default value of 3. Higher sensitivity will be easier to trigger the detection.

For Alarm setup, please refer to 5.1.9.1.1 Alarm Setup

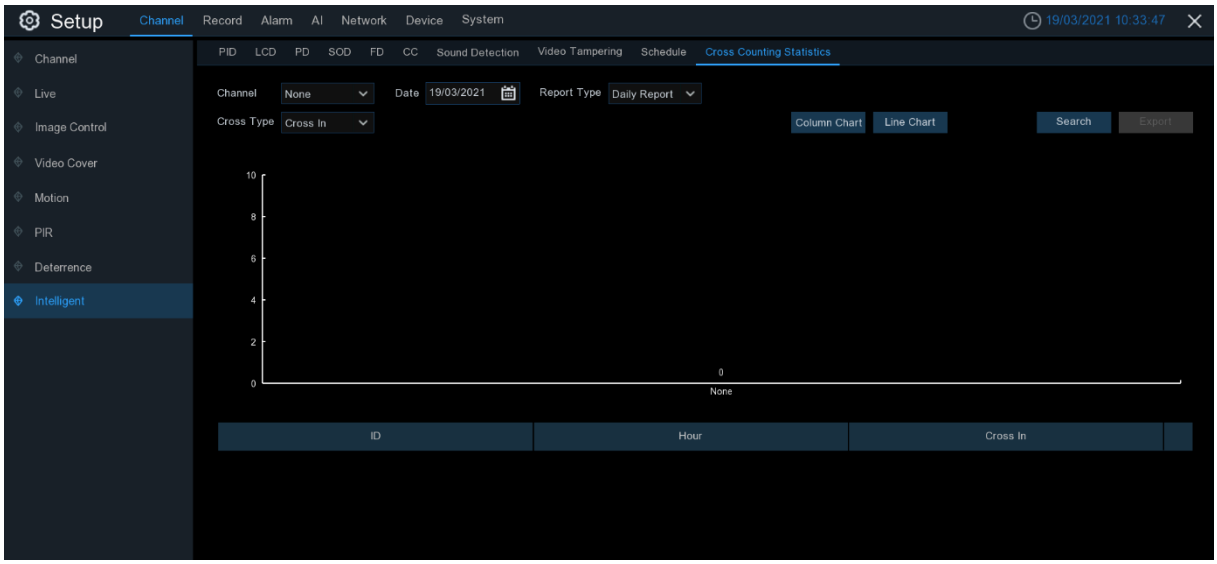
5.1.9.8 Intelligent Schedule



In order to activate any of the intelligent analytics, you need to configure the schedule. The schedule can be active 24 hours x 7 days.

To set the schedule, choose one channel then drag the cursor to mark the slots. The sky-blue blocks in the time slots will be active for intelligent detections. The schedule is valid only for the selected channel. If you want to use the same schedule for other channels, use the **Copy** function. Click **Save** to save your settings.

5.1.9.9 Cross Counting Statistics



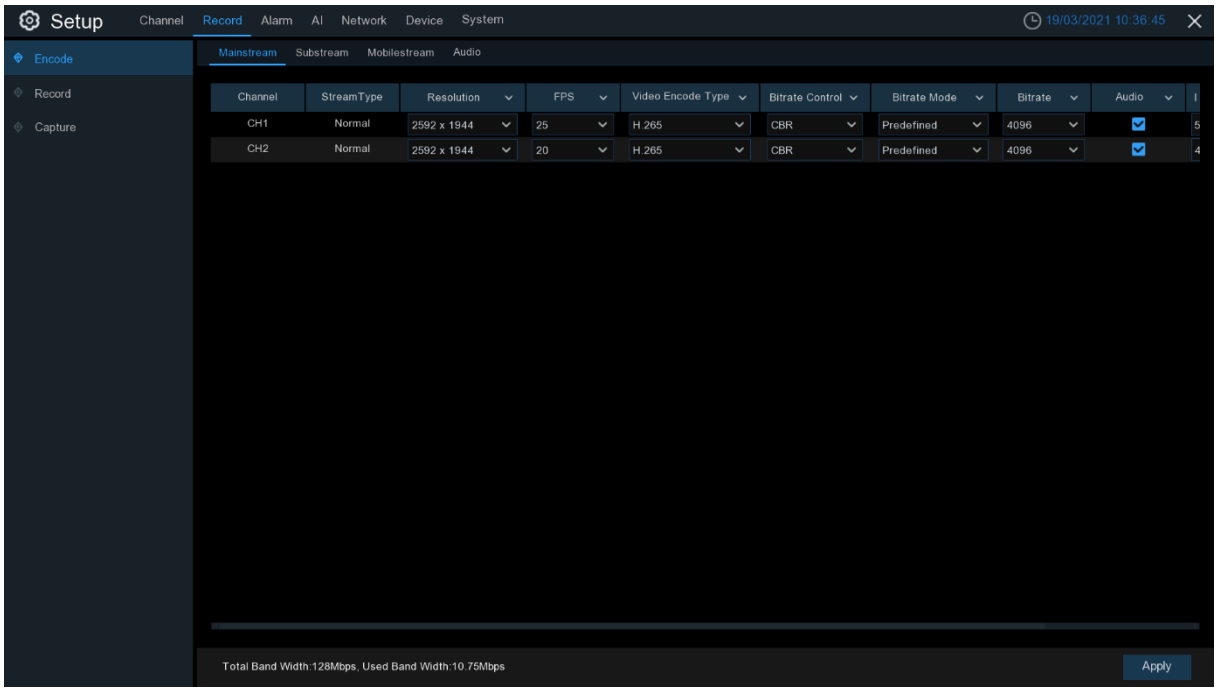
The statistical result can be queried in Daily / Weekly / Monthly / Annual increments for Cross in & Cross Out.

5.2 Record

This menu allows you to configure the recording parameters.

5.2.1 Encode

This menu allows you to configure the recording video or network transmission picture quality. Generally, **Mainstream** defines the recording video quality which will be saved on the HDD; **Substream** defines the video quality which is being viewed via remote access, for example web client & CMS/VMS; **Mobilestream** defines the video quality which is being viewed via remote access on mobile devices.



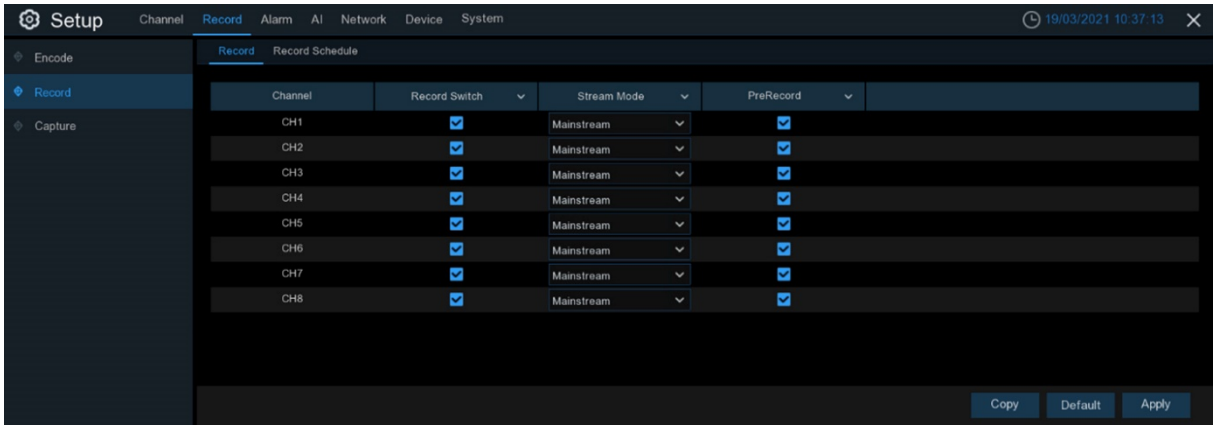
Resolution: This parameter defines how large the recorded image will be.
FPS: This parameter defines the number of frames per second the NVR will record.
Video Encode Type: H264/H.265. Some cameras might be supported MJPEG.
Bitrate Control: Select the bitrate level. For a simple scene, such as a gray wall is suitable constant bitrate (**CBR**). For more complex scene, such as a busy street is suitable variable bitrate (**VBR**).
Video Quality: Available for VBR only.
Bitrate Mode: If you want to set the bitrate by yourself, then choose **User-defined** mode. If you want to select the predefined bitrate, choose **Predefined** mode.
Bitrate: This parameter corresponds to the speed of data transfer that the NVR will use to record video. Recordings that are encoded at higher bitrates, will be of better quality.
Audio: enable or disable audio encode.
I Frame interval: configure the I frame interval of camera. Keep it as default if you're not a professional.
ETR: setting different streams for normal and alarm recording.

In the **Audio** section, you can define the input/output volume, and encode the type of audio.

5.2.2 Record

This menu allows you to configure the channel recording parameters.

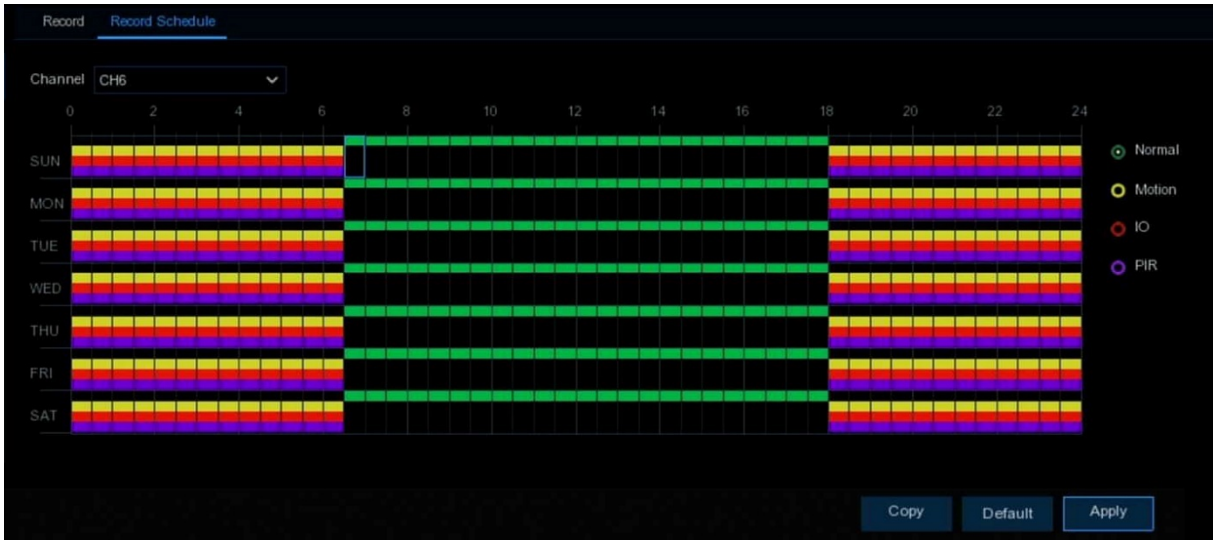
5.2.2.1 Record



Record Switch: Check to enable the recording for this channel.
Stream Mode: Choose the recording quality. If you choose Dualstream, the system will record in both Mainstream & Substream.
PreRecord: If this option is enabled, the NVR starts recording a few seconds before an alarm event occurs. Use this option if your primary recording type is motion or I/O alarm based.

5.2.2.2 Record Schedule

This menu allows you to specify when the NVR records video and defines the recording mode for each channel. The recording schedule lets you set up a schedule such as daily and hourly by normal (continuous) recording, motion recording, I/O alarm recording & PIR recording (if supported by your NVR). To set the recording mode, click first on the mode radio button (Normal, Motion, IO, PIR), then drag the cursor to mark the slots. The recording schedule is valid only for one channel. If you want to use the same recording schedule for other channels, use **Copy** function.



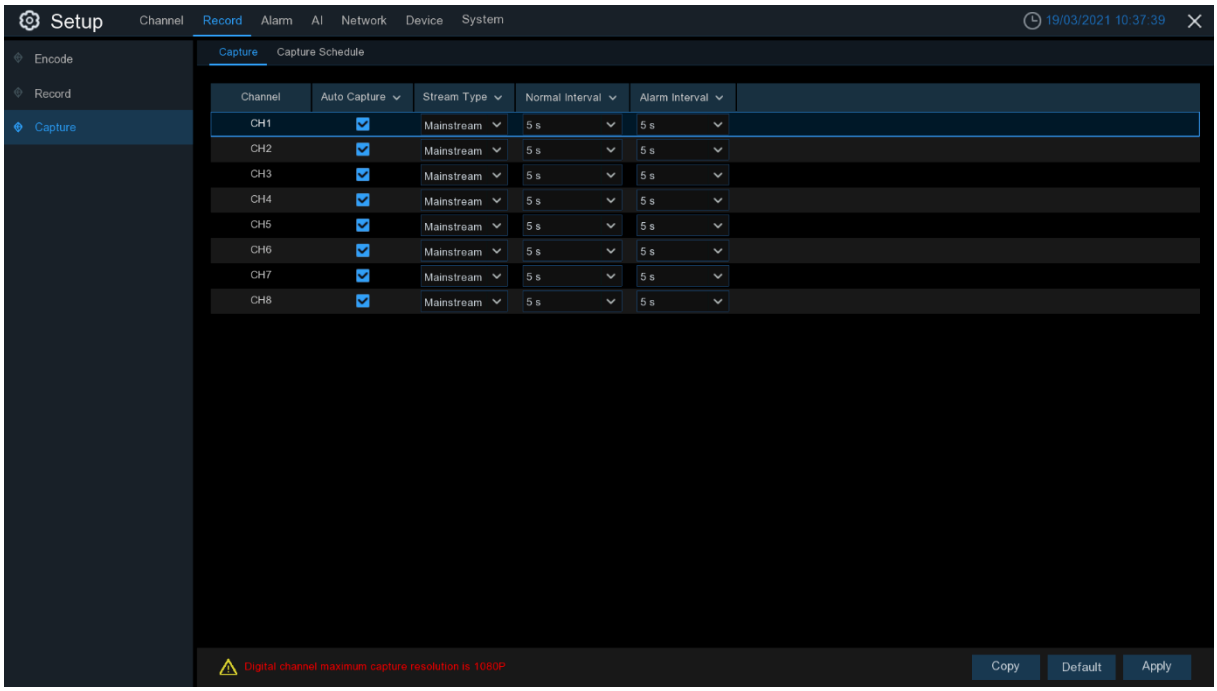
Channel: Select the channel to set its recording parameters.

Normal: When the time slot is marked green, this indicates the channel performs normal recording for that time slot.
Motion: When the time slot is marked yellow, this indicates the channel records when a motion is detected during that time slot.
IO: When the time slot is marked red, this indicates the channel records when the sensor is triggered during that time slot.
PIR: When the time slot is marked purple, this indicates the channel records when the PIR is triggered during that time slot.
No Record: A time slot marked black means that there is no recording scheduled for the time slot.
Click **Apply** to save your settings.

5.2.3 Capture

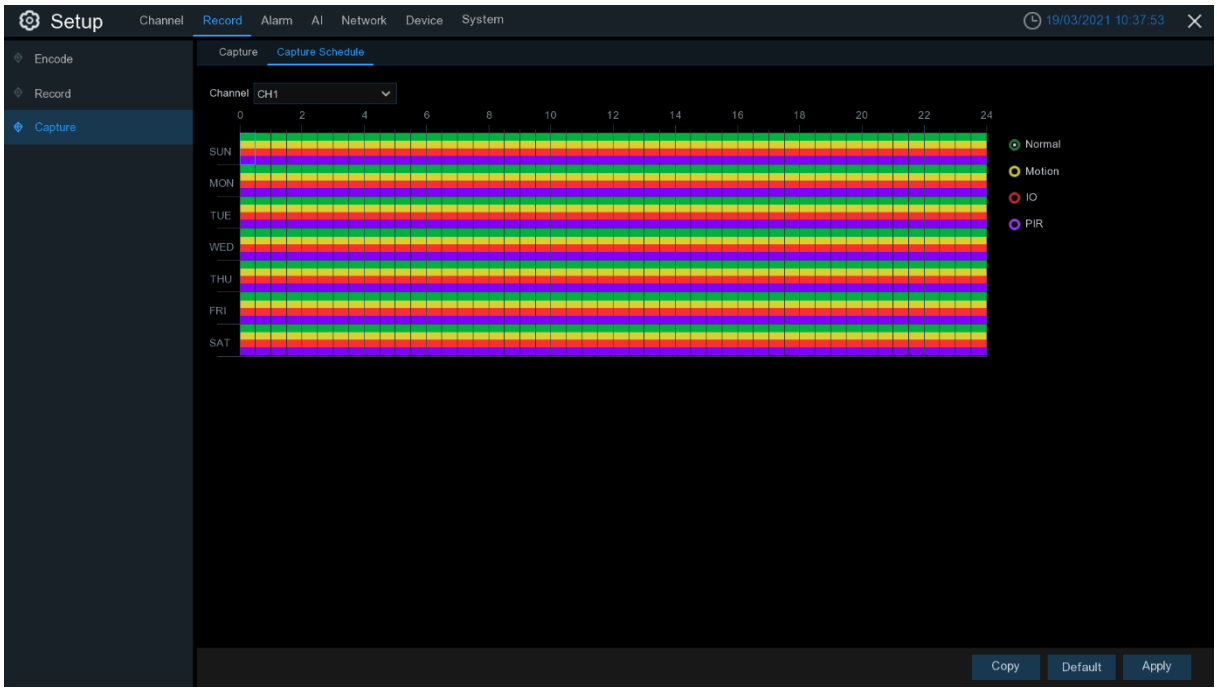
This menu allows you to configure the image capture function.

5.2.3.1 Capture



Enable Capture: Enable or disable automatic capturing on the channel.
Stream Type: Select the image resolution by mainstream or substream.
Normal Interval: Time interval to capture an image in normal recording.
Alarm Interval: Time interval to capture an image when motion, IO alarm or PIR is triggered
Manual Capture: Enable or disable manual capture in the channel

5.2.3.2 Capture Schedule



Channel: Select the channel to set its capture parameters.

Normal: When the time slot is marked green, this indicates the channel performs normal capture for that time slot.

Motion: When the time slot is marked yellow, this indicates the channel capture images when a motion is detected during that time slot.

IO: When the time slot is marked red, this indicates the channel capture images when the sensor is triggered during that time slot.

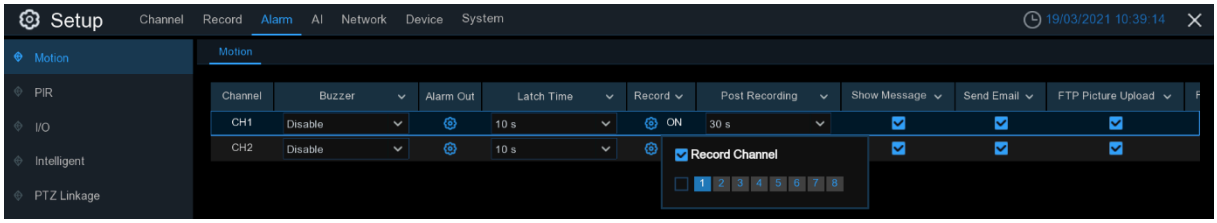
PIR: When the time slot is marked purple, this indicates the channel capture images when the PIR is triggered during that time slot.

No Capture: A time slot marked black means that it won't capture any images for the time slot, but you can manually capture images if you enable the manual capture function in the channel.

5.3 Alarm

In this section, you can configure alarm actions when an alert occurs.

5.3.1 Motion



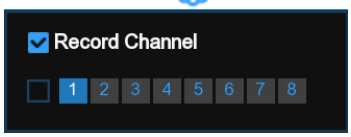
Channel: Channel name

Buzzer: The NVR can use its internal buzzer to emit an alarm tone. You can set the buzzer duration in seconds when an alarm is triggered.

Alarm Out: Optional function. If your NVR supports connection to external alarm device, you can set to emit an alarm tone.

Latch Time: To configure the external alarm time when motion is detected.

Record: Click icon and choose which channel(s) you want to record when an alarm is triggered.



Post Recording: You can set how long after an event occurs that the NVR will continue to record. The recommended recording length is 30 seconds but it can be set higher up to 5 minutes.

Show Message: Check the box to display icon on the live view screen when an alarm is triggered.

Send Email: You can let the NVR send you an auto-email when an alarm is triggered.

FTP Picture Upload: To upload alarm images to FTP server when an alarm is triggered. To enable FTP, please view.

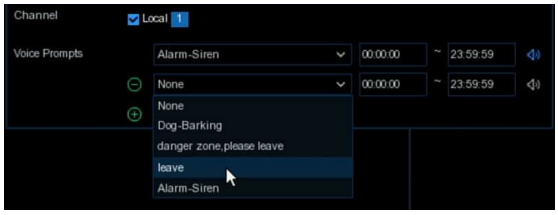
FTP Video Upload: To upload alarm video to an FTP server when an alarm is triggered. To enable FTP, please view 5.4.4 FTP.

Picture to Cloud: To upload alarm images to a Cloud server when an alarm is triggered. To enable Cloud, please view 5.6.2 Cloud.

Video to Cloud: To upload alarm video to a Cloud server when an alarm is triggered. To enable Cloud, please view 5.6.2 Cloud.

Full Screen: If this function is enabled and an alarm is triggered in a channel, you will see its full screen images in live view.

Voice Prompts: If your NVR or IP camera is connected to a speaker, you can select a customized alert message when the alarm happens for different time periods. See how to add customized alert voice on 5.3.8 Voice Prompts



5.3.2 PIR

This menu allows you to configure the parameters of a PIR Alarm.

Channel: Channel name

Buzzer: The NVR can use its internal buzzer to emit an alarm tone. You can set the buzzer duration in seconds when an alarm is triggered.

Alarm Out: Optional function. If your NVR is connected to an external alarm device, you can set to emit an alarm tone.

Latch Time: To configure the external alarm time when PIR is detected.

Record: Click icon and choose which channel(s) you want to record when the PIR detection is triggered.

Post Recording: You can set how long after an event occurs that the NVR will continue to record. The recommended recording length is 30 seconds but it can be set higher up to 5 minutes.

Show Message: Check the box to display "**PIR**" icon on the live view screen when the PIR is detected.

Send Email: You can let the NVR send you an auto-email when an alarm is triggered.

FTP Picture Upload: To upload alarm images to an FTP server when an alarm is triggered. To enable FTP, please view 5.4.4 FTP.

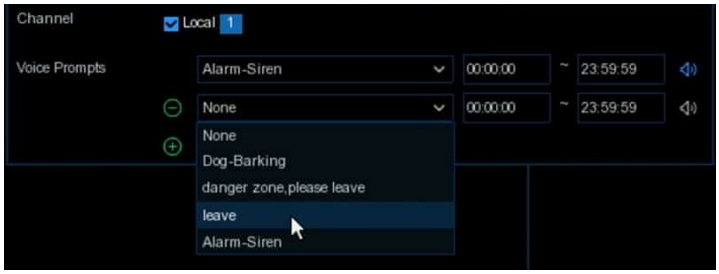
FTP Video Upload: To upload alarm video to an FTP server when an alarm is triggered. To enable FTP, please view 5.4.4 FTP.

Picture to Cloud: To upload alarm images to a Cloud server when an alarm is triggered. To enable Cloud, please view 5.5.2 Cloud.

Video to Cloud: To upload alarm video to a Cloud server when an alarm is triggered. To enable Cloud, please view 5.5.2 Cloud.

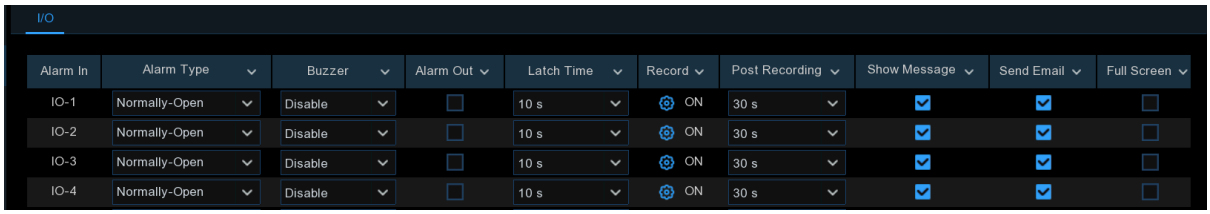
Full Screen: If this function is enabled and an alarm is triggered in a channel, you will see its full screen images in live view.

Voice Prompts: If your NVR or IP camera is connected to a speaker, you can select an customized alert message when the alarm happens for different time periods. See how to add customized alert voice on **5.3.8 Voice Prompts**.



5.3.3 I/O

This is an optional function, it will appear if your NVR supports sensor I/O, and you connect external sensor I/O alarm devices to work with the NVR.



Alarm In: I/O channel.

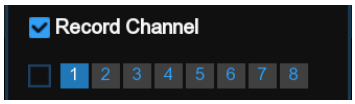
Alarm Type: There are 3 types for your choice: Normally-Open, Normally-Close, and OFF. Choose the one to match your sensor type, or choose OFF to close the sensor trigger function.

Buzzer: The NVR can use its internal buzzer to emit an alarm tone. You can set the buzzer duration in seconds when an alarm is triggered.

Alarm out: Tick to enable external alarm device to emit an alarm tone when an alarm is triggered.

Latch Time: you can set how long the buzzer will sound when external sensor is triggered (10s, 20s, 40s, and 60s).

Record: Click icon and choose which channel(s) you want to record when an alarm is triggered is triggered.



Post Recording: You can set how long alarm record will last when alarm ends (30s, 1minutes, 2minutes, 5minutes).

Show Message: Check the box to display "I" letter icon on the screen when an alarm is triggered.

Send Email: Set to send email to specified email when sensor is triggered.

Full Screen: When sensor is triggered, the corresponding channel will be switched to the full screen mode.

FTP Picture Upload: To upload alarm images to FTP server when an alarm is triggered. To enable FTP, please view 5.4.4 FTP.

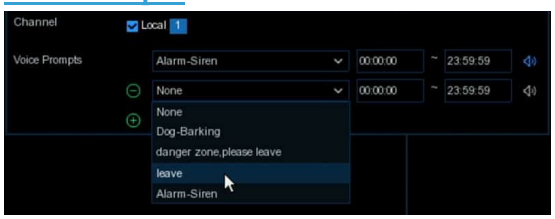
FTP Video Upload: To upload alarm video to FTP server when an alarm is triggered. To enable FTP, please view 5.4.4 FTP.

Picture to Cloud: To upload alarm images to Cloud server when an alarm is triggered. To enable Cloud, please view 5.5.2 Cloud.

Video to Cloud: To upload alarm video to Cloud server when an alarm is triggered. To enable Cloud, please view 5.5.2 Cloud.

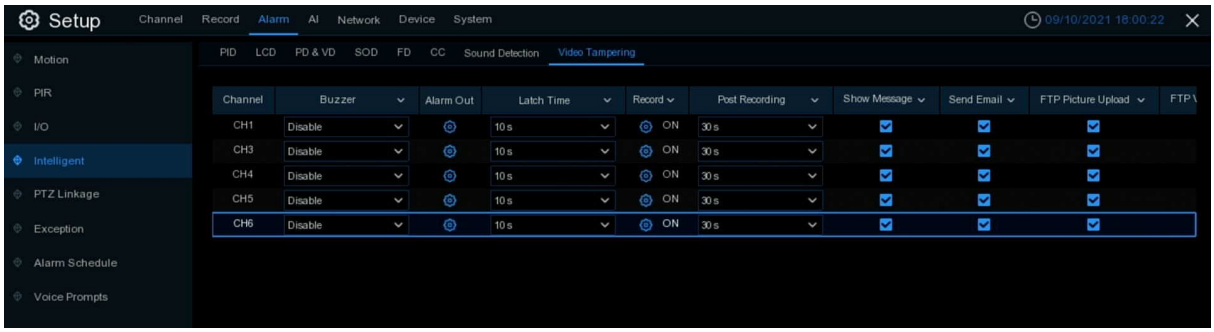
Full Screen: If this function is enabled and an alarm is triggered in a channel, you will see its full screen images in live view.

Voice Prompts: If your NVR or IP camera is connected to a speaker, you can select a customized alert message when the alarm happens for different time periods. See how to add customized alert voice on **5.3.8 Voice Prompts.**



5.3.4 Intelligent

You can configure the PID / LCD/ PD&VD / SOD / FD / Sound Detection / Video Tampering alarm function here.



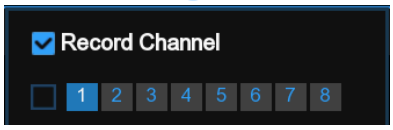
Channel: Channel name

Buzzer: The NVR can use its internal buzzer to emit an alarm tone. You can set the buzzer duration in seconds when an alarm is triggered.

Alarm Out: Optional function. If your NVR support to connect to external alarm device, you can set to emit an alarm tone.

Latch Time: To configure the external alarm time when an alarm is triggered.

Record: Click icon and choose which channel(s) you want to record when an alarm is triggered.



Post Recording: You can set how long after an event occurs that the NVR will continue to record. The recommended recording length is 30 seconds but it can be set higher up to 5 minutes.

Show Message: Check the box to display "S" icon on the live view screen when an alarm is triggered.

Send Email: You can let the NVR send you an auto-email when an alarm is triggered.

FTP Picture Upload: To upload alarm images to an FTP server when an alarm is triggered. To enable FTP, please view 5.4.4 FTP.

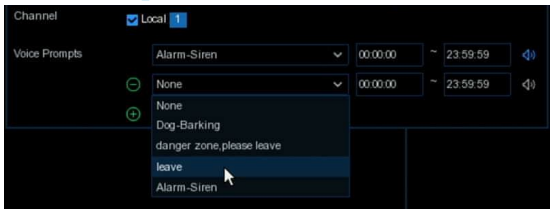
FTP Video Upload: To upload alarm video to an FTP server when an alarm is triggered. To enable FTP, please view 5.4.4 FTP.

Picture to Cloud: To upload alarm images to a Cloud server when an alarm is triggered. To enable Cloud, please view 5.5.2 Cloud.

Video to Cloud: To upload alarm video to a Cloud server when an alarm is triggered. To enable Cloud, please view 5.5.2 Cloud.

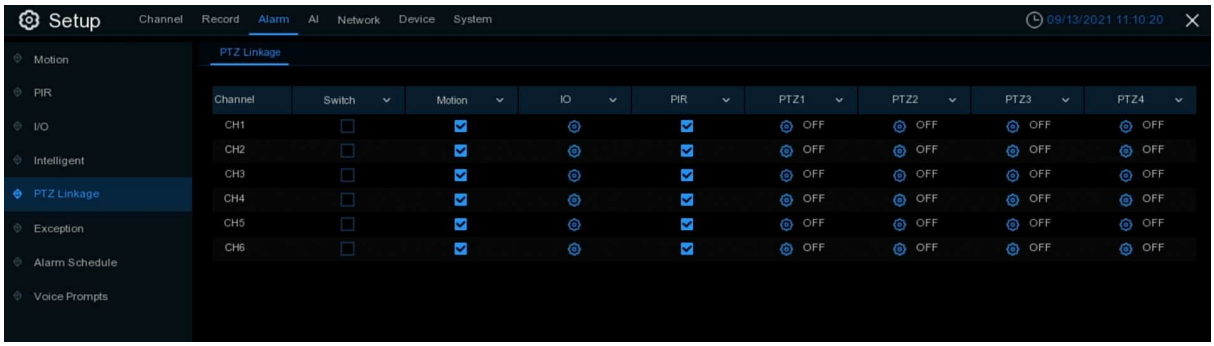
Full Screen: If this function is enabled and an alarm is triggered in a channel, you will see its full screen images in live view.

Voice Prompts: If your NVR or IP camera is connected to a speaker, you can select a customized alert voice when the alarm happens for different time periods. See how to add customized alert voice on **5.3.8 Voice Prompts.**



5.3.5 PTZ Linkage

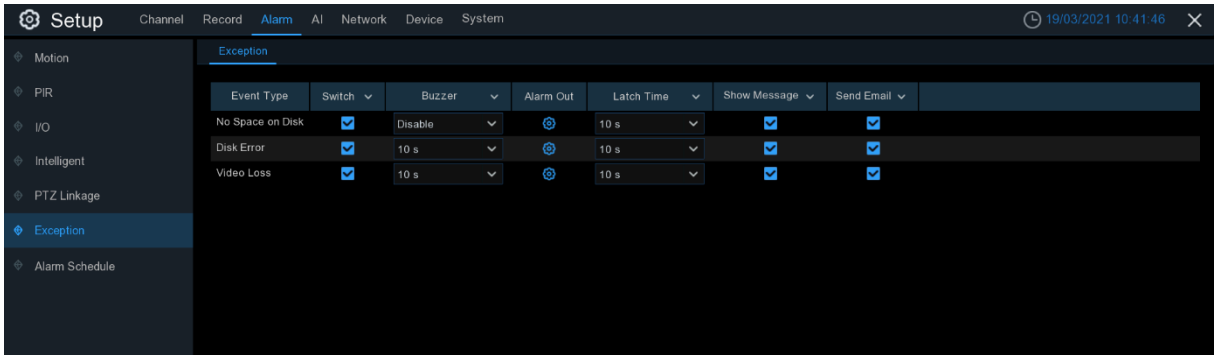
If you have connected PTZ cameras, you can set the linkage between PTZ cameras and Motion Alarm and/or external I/O sensor alarm and/or PIR alarm in this menu. With the linkage function, you can turn your PTZ cameras focus to the preset point when a motion, I/O alarm and or PIR alarm happens.



Switch: Enable or disable the PTZ linkage function.
Motion: Motion detection alarm will trigger the PTZ linkage function it is checked.
IO: IO alarm will trigger the PTZ linkage function it is checked.
PIR: PIR alarm will trigger the PTZ linkage function it is checked.

5.3.6 Exception

This menu allows you to set the type of events that you want the NVR to inform you.

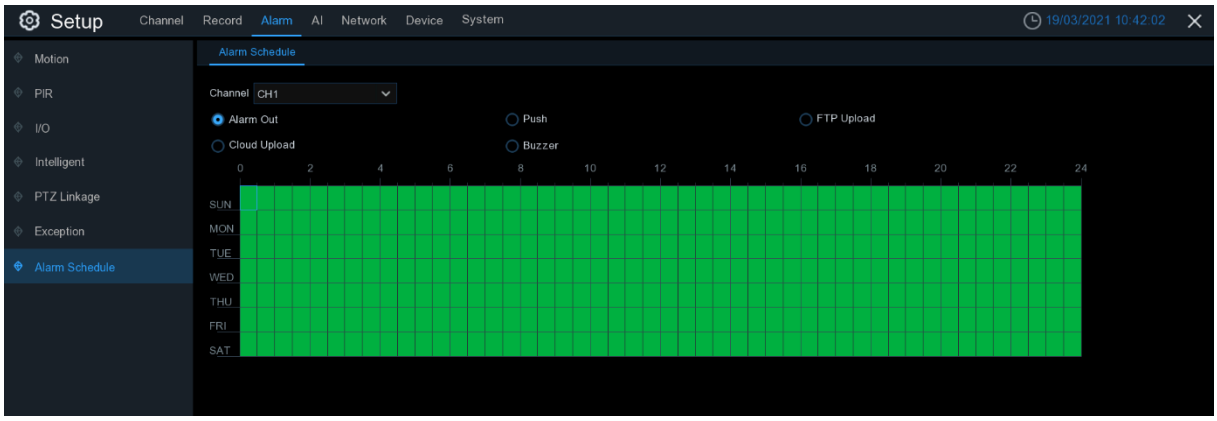


Event Type: Select the event type from below options:
- **No Space on Disk**: When a HDD is full.
- **Disk Error**: If the HDD is not detected properly.
- **Video Loss**: If a camera is not connected properly.

Switch: Check the box to enable the monitoring of the event.
Buzzer: Set the buzzer duration when the event occurs (Off/10s/20s/40s/60s). To disable buzzer, select **OFF.**
Latch Time: This is an optional function. Determine how long the external alarm device will sound (10s, 20s, 40s, 60s) if your NVR is connected to an external alarm device.
Alarm Out: This is an optional function. Click to enable an external alarm device to sound.
Show Message: Check the box to display a message on the screen when No Space on Disk, Disk Error, or Video Loss event happens.
Send Email: Let the NVR send you an auto-email when an event occurs.

5.3.7 Alarm Schedule

In this menu, you can set several schedules, including Alarm out, Push, FTP Upload, Cloud Upload and Buzzer.

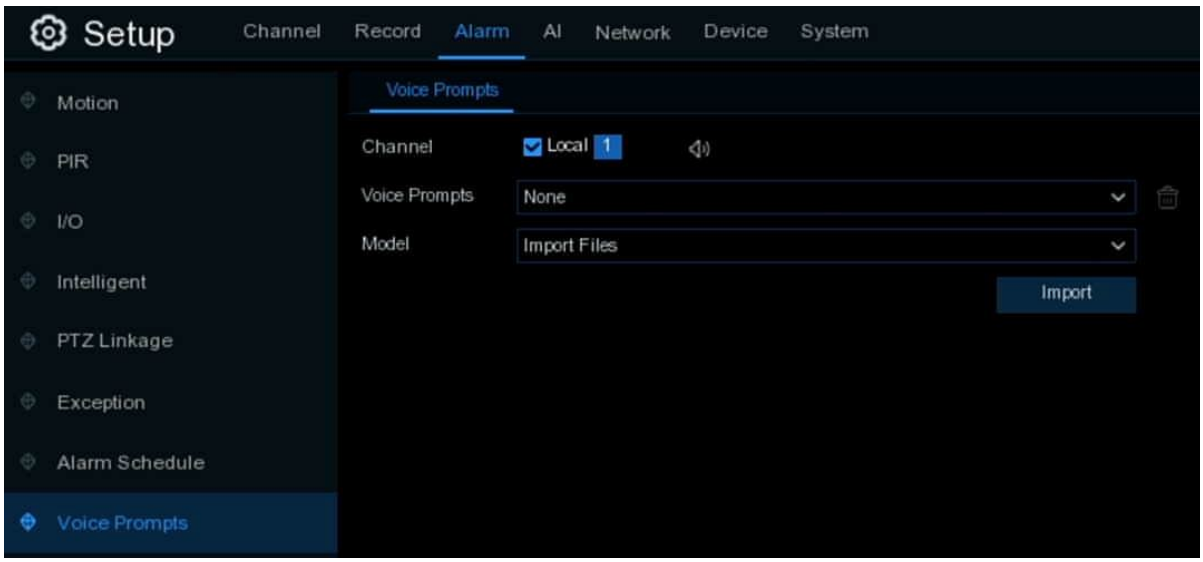


Channel: Select the channel to set its capture parameters.

To set the schedule, choose one channel and one of the alarm types then drag the cursor to mark the slots. The green blocks in the time slots will be active for an alarm. The schedule is valid only for the selected channel. If you want to use the same schedule for other channels, use **Copy** function. Click **Save** to save your settings.

5.3.8 Voice Prompts

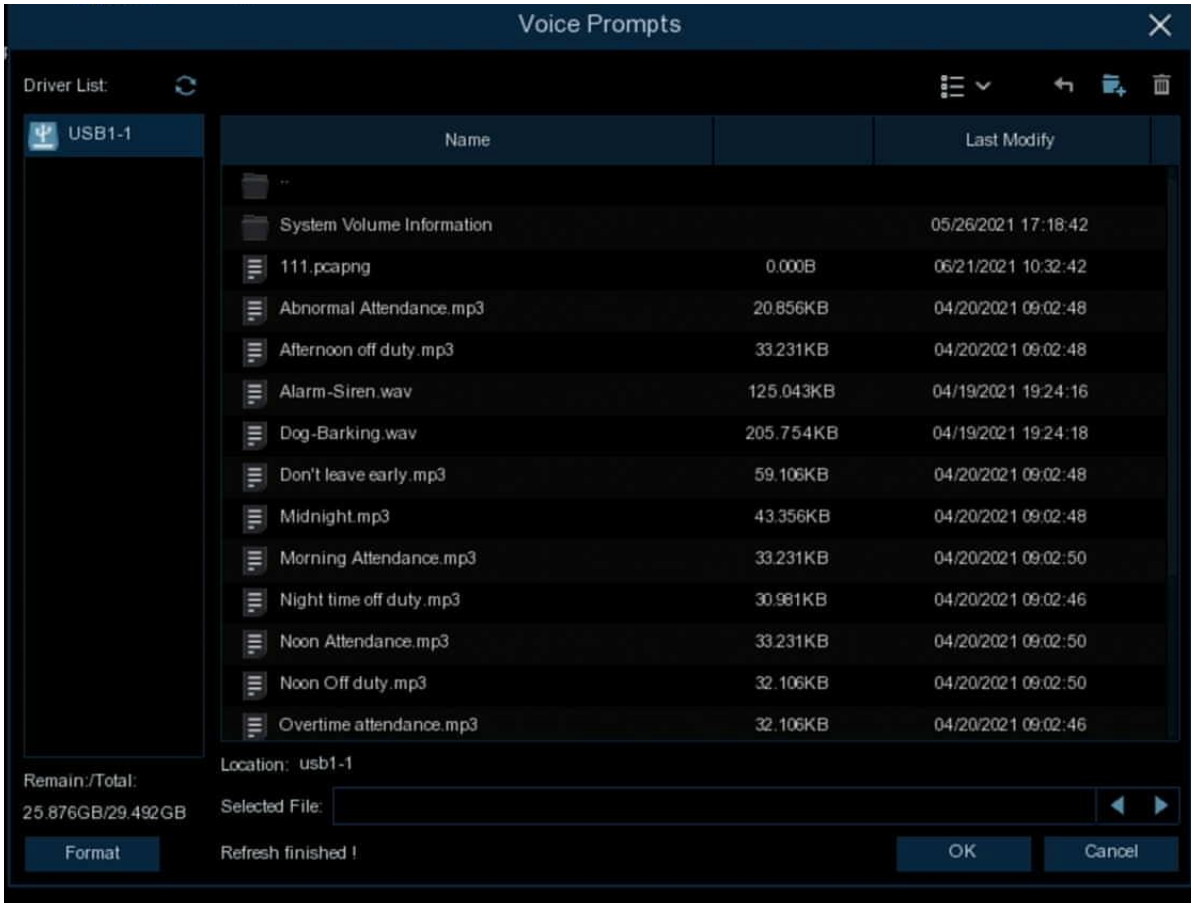
If your NVR or IP camera is connected to a speaker, you can select a customized alert message when an alarm is triggered. On this page, you're able to manage your customized voice files.



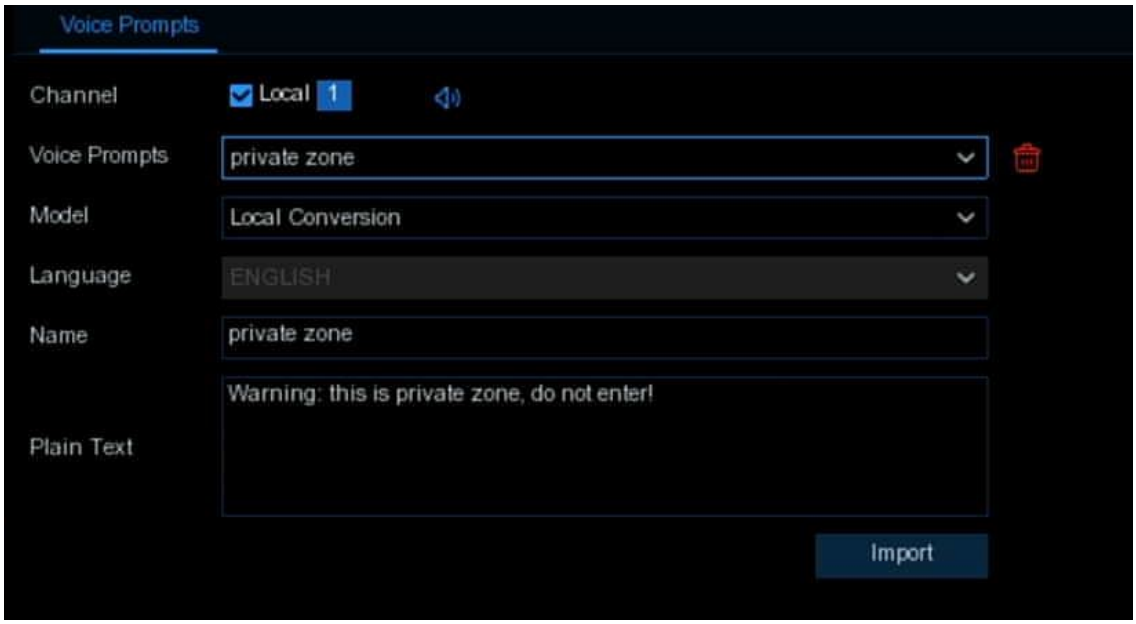
The system provides 3 different methods to create customized voices: **Import Files**, **Local Conversion** and **Internet Server Conversion**.

Import Files: Supports import of MP3, WMA and WAV files from a USB drive and/or web page.

Choose **Import Files** under "Model", and then click the **Import** button and choose the audio file from your USB drive. You can only add 1 file at a time. You can add multiple files at a time in the web browser.

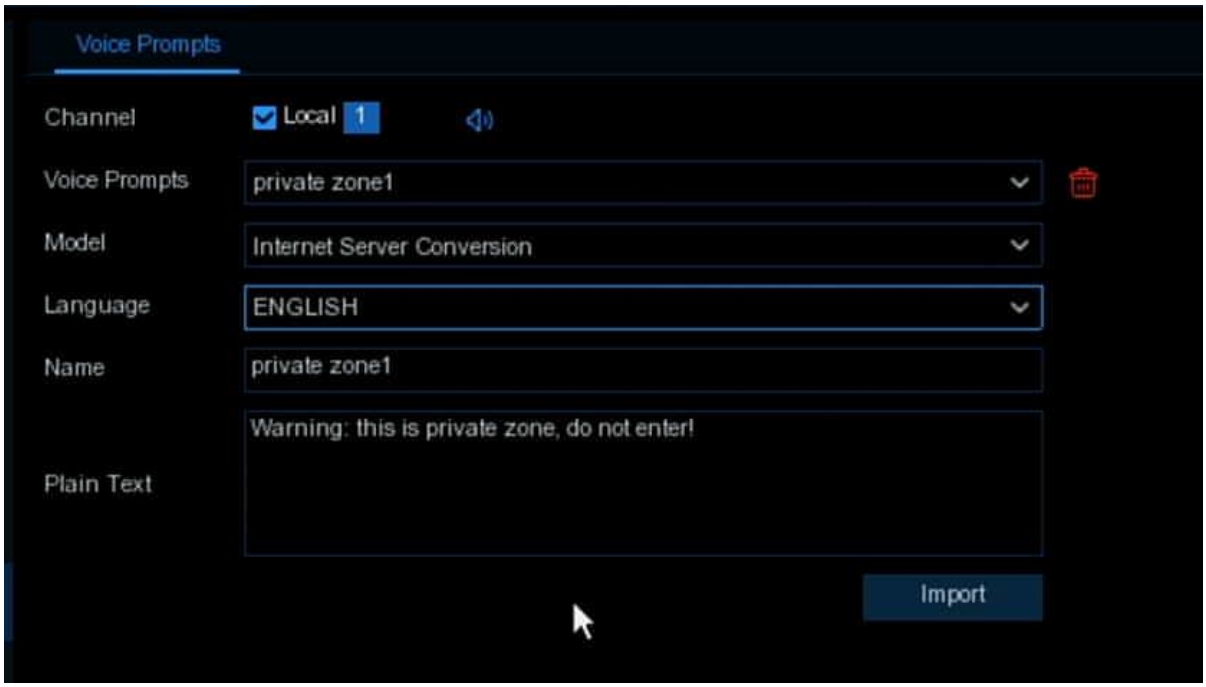


Local Conversion: The system supports to convert your plain text into audio file by local algorithm. Choose **Local Conversion** Models, and then input the name of the file & plain text. Click **Import** button, the system will convert the text you input into a voice file and save to the NVR storage.



Internet Server Conversion： The system supports conversion of your plain text into multi-language audio file via internet server.

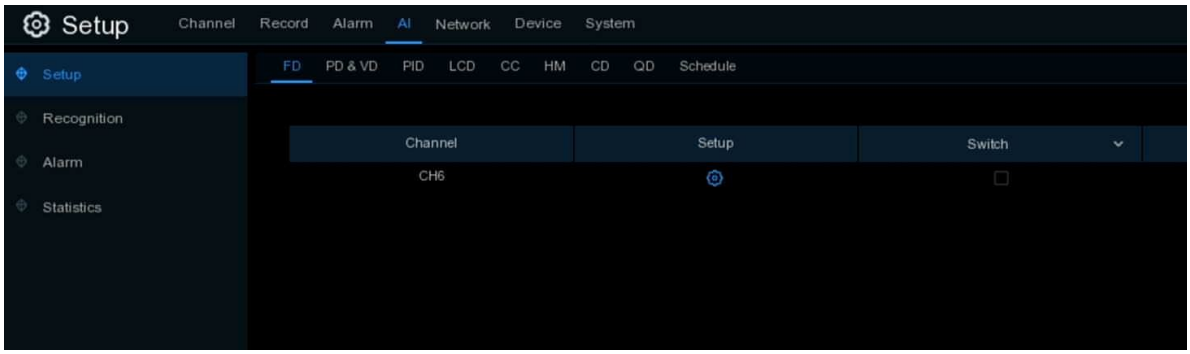
Choose **Local Conversion** Models and language you want to speak, and then input the name of the file & plain text. Click **Import** button, the system will convert the text you input into a voice file and save to the NVR storage.



It is recommended configure through the Web browser for multi-language input except for English.

5.4 AI

You will see this section if your NVR contains AI functionality. EI-Enabled NVRs have AI functions including **FD** (Face Detection), **PD & VD** (Human & Vehicle Detection), **PID** (Perimeter Intrusion Detection), **LCD** (Line Crossing Detection), **CC** (Cross Counting), **HM** (Heat Map), **CD** (Crowd Density Detection) and **QD** (Queue Length Detection) with **AI powered IP cameras**.



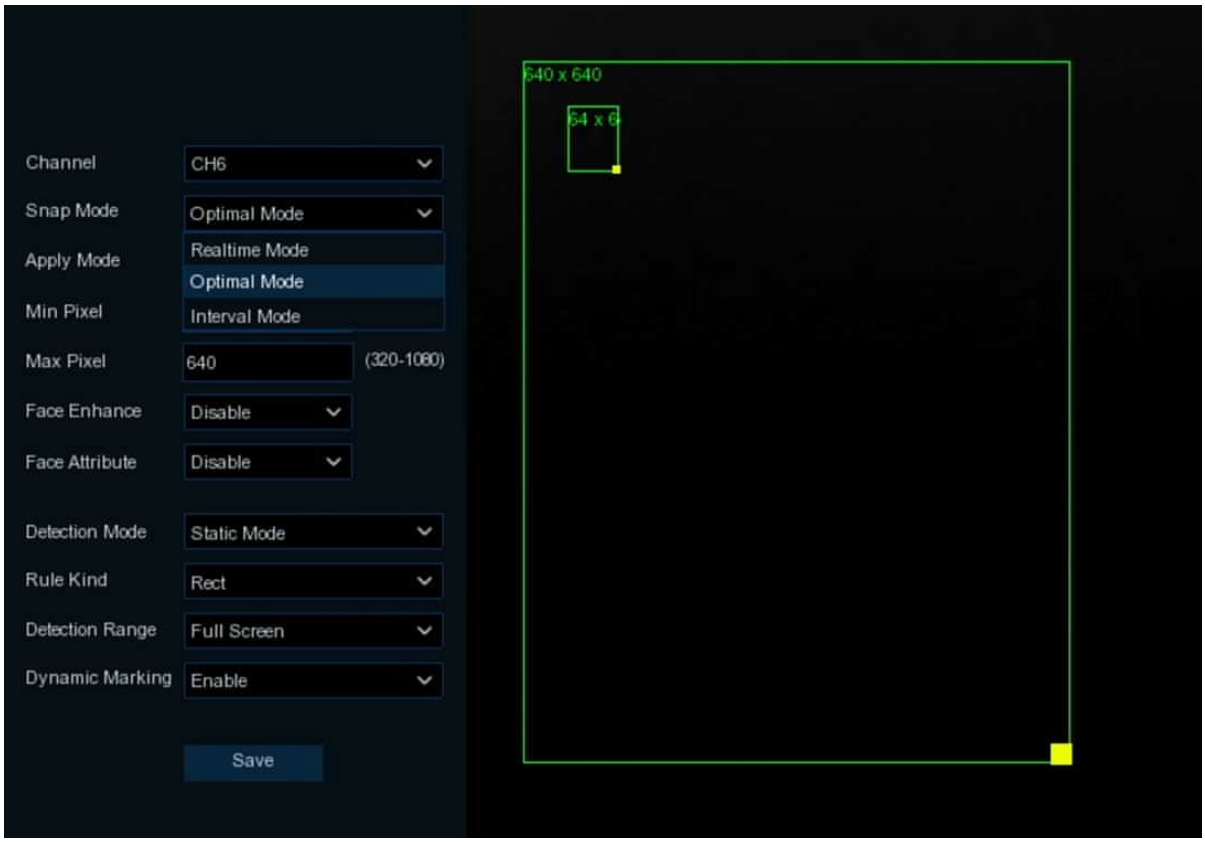
You would need to configure the AI setup, recognition setup, and alarm setup to fulfill the complete AI functions.

5.4.1 Setup

On this page, you're able to configure the conditions to trigger the AI detections.

5.4.1.1 FD (Face Detection)

Switch: To enable or disable the face detection.
Click ⚙ to configure the face detection conditions.

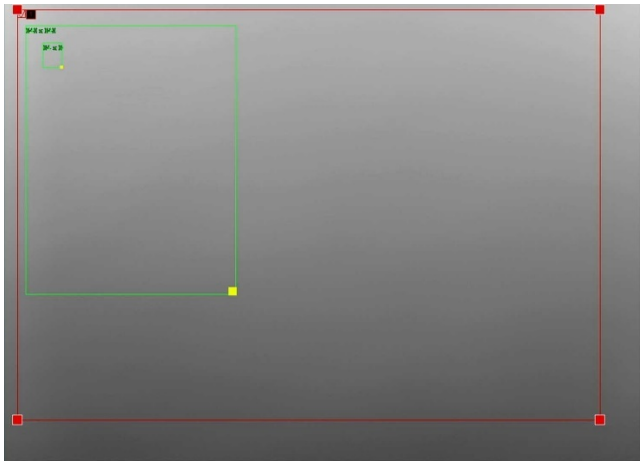


Channel: Channel selection

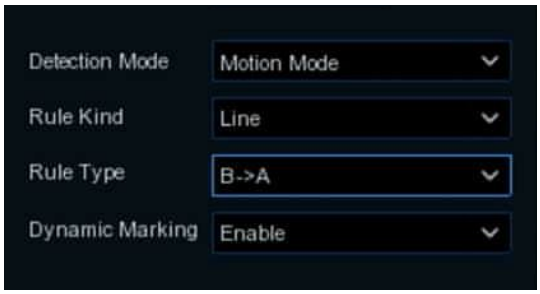
Snap Mode: There are "**Optimal Mode**" (automatically select & push the best image from all face images of the same person whose faces were captured during his/her duration of stay), "**Realtime Mode**" (push the first captured face image and push again the last captured face image from the same person) and "**Interval Mode**" (customized the capture time and interval).

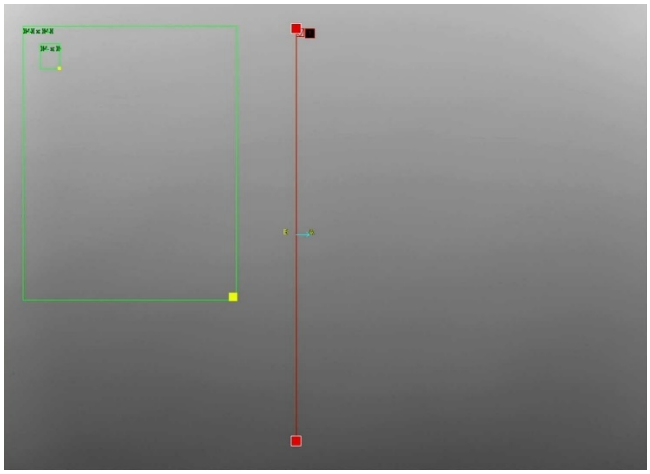
Apply Mode: Set the face detection angle, including "**Frontal View**", "**Multi Angle**" and "**Customize**" mode.

Roll Range: Set the range of face rotation under the customize mode.
Pitch Range: Set the range of face pitch under the customize mode
Yaw Range: Set the range of face horizontal flipping under the customize mode.
Min Pixel: Set the minimum detection pixel box. The face can be recognized only when it is larger than the pixel box.
Max Pixel: Set the maximum detection pixel box. The face can be recognized only when it is smaller than the pixel box.
Face Enhance: Face enhancement makes it easier to recognize the moving faces, but it may lower the whole picture quality.
Face Attribute: Enable this function to detect mask, glasses and facial expression.
Detection Mode: Motion Mode will detect moving faces. Static Mode will detect both moving faces and still faces.
Rule Kind: Rect (rectangular) and **Line** (linear)
If you choose **Rect** mode, you can choose "**Full Screen**" or "**Customize**" to adjust the shape of rectangular detection zone in the camera image. Faces that appear in this zone will be detected and captured.



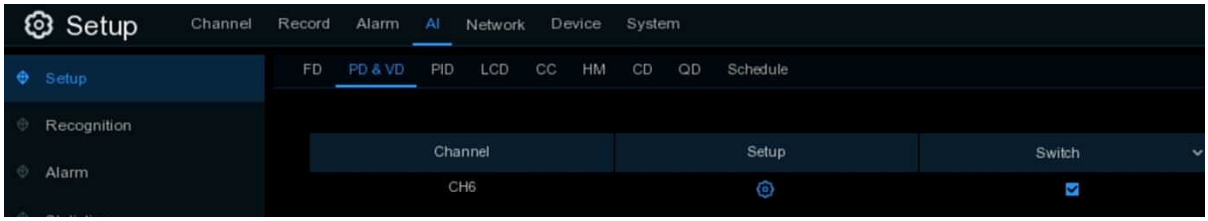
If you choose **Line** mode, you need to adjust the position, length of the line, and choose the detection direction from B→ A or A→B



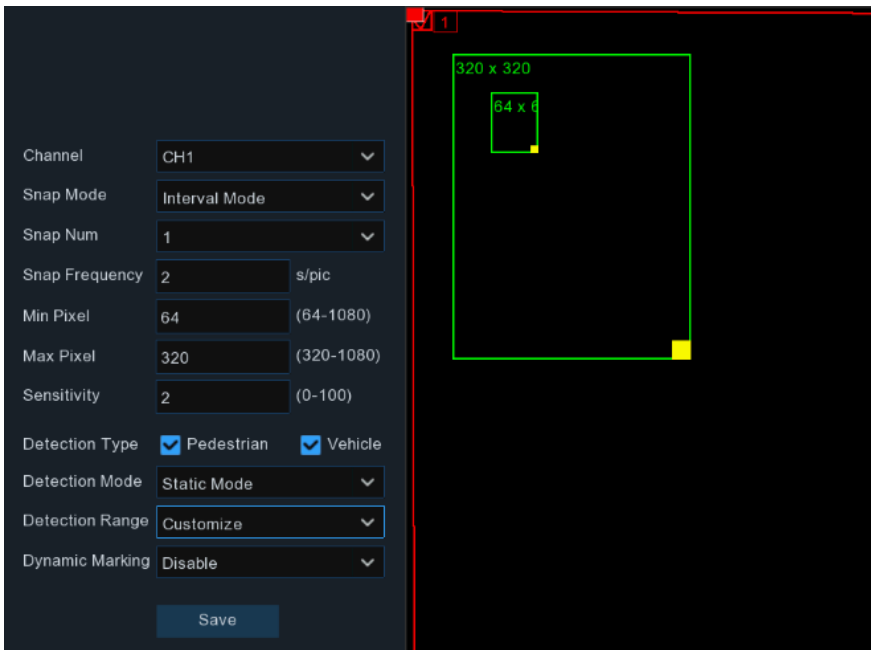


Dynamic Marking: If you enable this option, a capture box will be displayed upon the face image in both live view images and recording files.

5.4.1.2 PD & VD (Human & Vehicle Detection)



Switch: To enable or disable the Human & Vehicle detection.
Click ⚙ to configure the detection conditions.



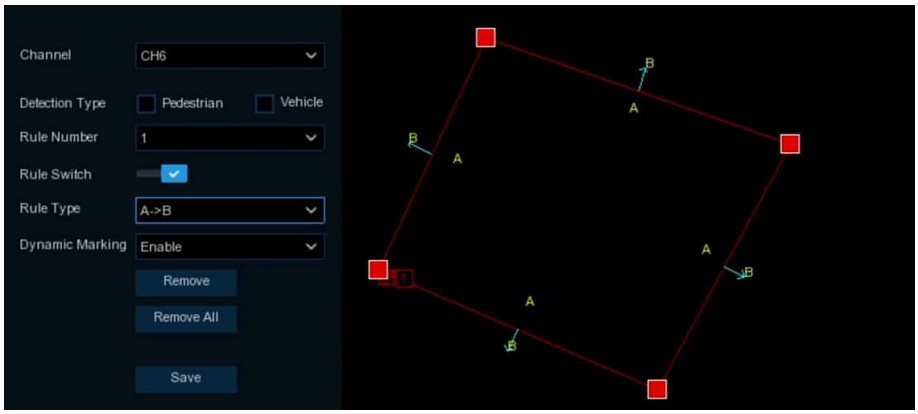
Channel: Channel selection
Snap Mode: There are "**Optimal Mode**" (automatically select & push the best image from all captured images of the same vehicle during its duration of stay), "**Realtime Mode**" (push the first captured image and push again the last captured image from the same vehicle) and "**Interval Mode**" (customized the capture time and interval).
Min Pixel: Set the minimum detection pixel box. The target objects can be recognized only when it is larger than the pixel box.
Max Pixel: Set the maximum detection pixel box. The target objects can be recognized only when it is smaller than the pixel box.
Sensitivity: Set the sensitivity level. Level 1 is the lowest sensitivity level while level 100 is the highest sensitivity level.
Detection Type: Choose the detection target objects.
Detection Mode: Motion Mode will detect moving objects. Static Mode will detect both moving faces and still objects.
Detection Range: Set the detection zone. You can choose "**Full Screen**" or "**Customize**" to adjust the shape of rectangular detection zone in the camera image. Target objects appear in this zone will be detected and captured.
Dynamic Marking: If you enable this option, a capture box will be displayed upon the detected objects in both live view images and recording files.

5.4.1.3 PID (Perimeter Intrusion Detection)

Perimeter Intrusion Detection function detects people, vehicle or other objects which enter and loiter in a pre-defined virtual region, and some certain actions can be taken when the alarm is triggered.

Switch：To enable or disable the Perimeter Intrusion Detection.

Click ⚙ to configure the detection conditions.



Channel: Channel selection

Detection Type: Choose the detection target objects.

Rule Number: Max. 4 rules available.

Rule Switch: Activate or deactivate the rule.

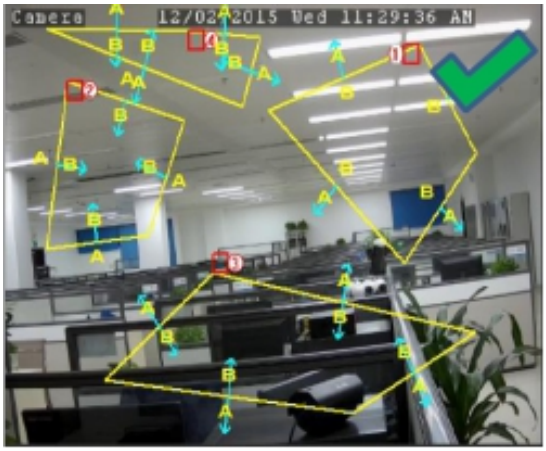
Rule Type: Detection direction from B→ A, A→B or A←→B

Dynamic Marking：If you enable this option, the border of the detection zone will be displayed in both live view images and recording files.

1. Choose a **Rule Number** to correspond to an LCD line. You can draw a maximum of 4 lines.
2. Choose the detection target type.
3. Check the box next to **Rule Switch** to enable this detection.
4. Choose a **Rule Type**.
   A→B: NVR will only detect objects moving from side A to side B;
   B→A: NVR will only detect objects moving from side B to side A;
   A←→B: NVR will detect objects moving from either side B to side A or side A to side B.
5. Use your mouse to click 4 points in the camera picture to draw a virtual region. The shape of the region should be a convex polygon. You will not be able to save a concave polygon.
6. Click **Save** to save your settings.
7. If you want to modify the position or shape of region, click the red box in the region and the borders of the region will be turn red. Click and hold the left button of your mouse to move the position of the region, or drag the corners to resize the region.
8. If you want to remove one of the regions from the camera picture, click the red box in the region and then click the **Remove** button. Clicking **Remove All** will delete all regions.

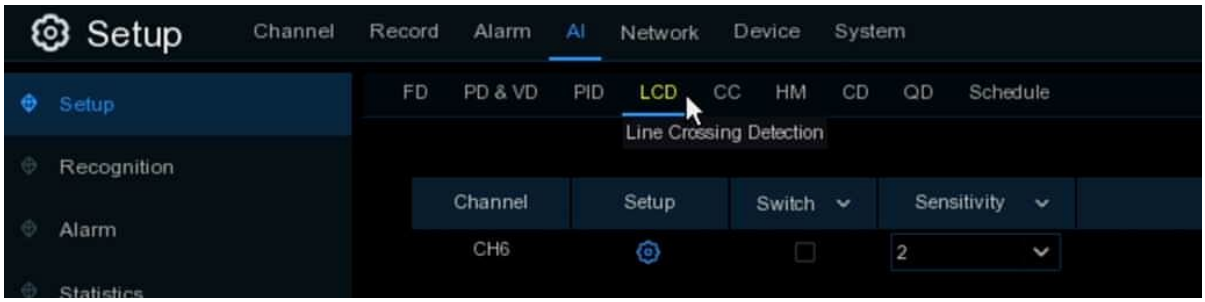
Notes:

1) The perimeter should not be too close to the edges/corners of the camera picture since it may fail to trigger the detection when a target passes through the edges/corners.
2) The shape of the region should not be too narrow/small since it may fail to trigger the detection when a target passes through outside the perimeter.



5.4.1.4 LCD (Line Crossing Detection)

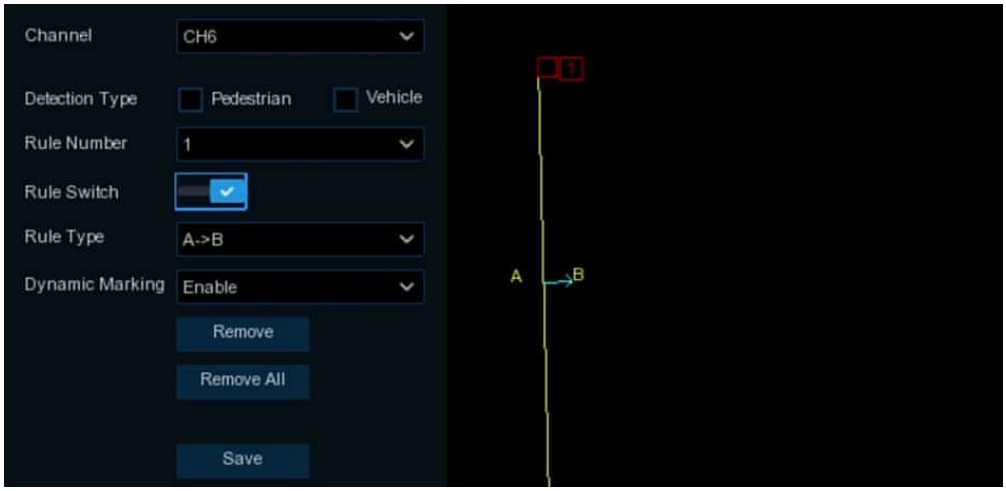
Line Crossing Detection function detects human beings, vehicles or other objects which cross a pre-defined virtual line, and some certain actions can be taken when the alarm is triggered.



Switch: Check the box to enable the LCD function.

Sensitivity: Set the sensitivity level. Level 1 is the lowest sensitivity level while level 4 is the highest sensitivity level.

Click **Setup** icon to configure the detection conditions.



Channel: Select the channel you want to configure

Detection Type: Choose the detection target objects.

Rule Number: Max. 4 rules available.

Rule Switch: Activate or deactivate the rule

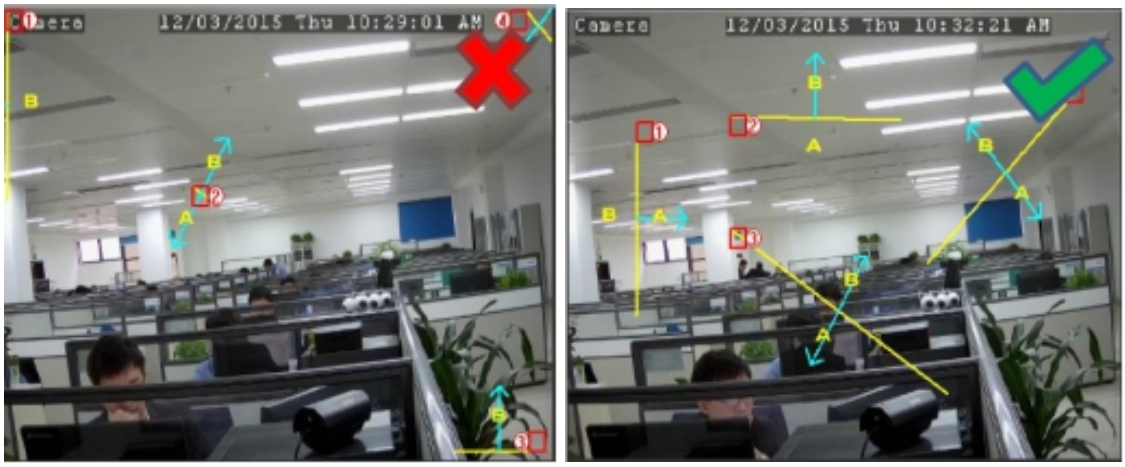
Dynamic Marking: If you enable this option, the border of the detection zone will be displayed in both live view images and recording files.

1. Choose a **Rule Number** to correspond to an LCD line. You can draw a maximum of 4 lines.
2. Choose the detection target type.
3. Check the box next to **Rule Switch** to enable this detection.
4. Choose a **Rule Type**.
   A→B: NVR will only detect movement from side A to side B;
   B→A: NVR will only detect movement from side B to side A;
   A←→B: NVR will detect movement from either side B to side A or side A to side B.
5. Use your mouse to click 2 points in the camera picture to draw a virtual line.
6. Click **Save** to save your settings.
7. If you want to modify the position or length of the line, click the red box in the line and the color of the line will turn red. Click and hold the left button of your mouse to move the line, or drag the terminals to modify the length or position of the line.
8. If you want to remove one of the lines from the camera picture, click the red box in the line and then click **Remove** button. Click **Remove All** will delete all lines.

Note:

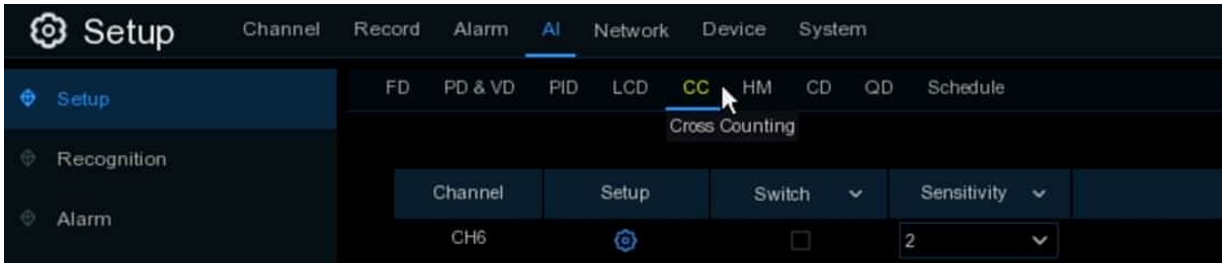
1) The lines should not be too close to the edges of the camera picture, to avoid any failure to trigger an alarm when a target crosses through it.

2) The lines should not be set too short, to avoid any failure to trigger an alarm when a target passes outside it.



5.4.1.5 CC (Cross Counting)

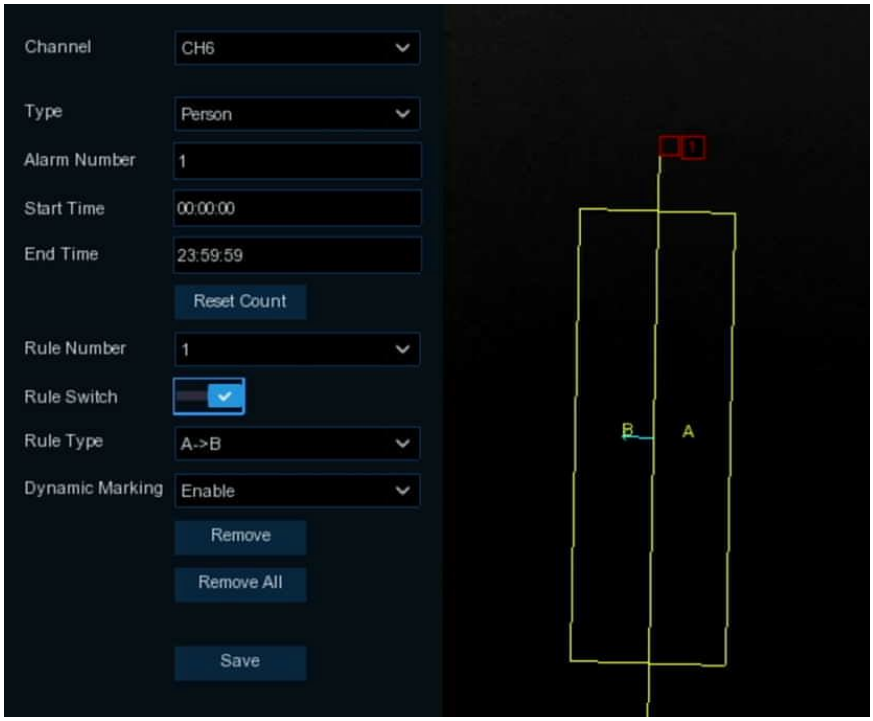
Cross Counting function counts the times for moving objects or people across the virtual lines.



Switch: Check the box to enable the function.

Sensitivity: Set the sensitivity level. Level 1 is the lowest sensitivity level while level 4 is the highest sensitivity level.

Click **Setup** icon to configure the detection conditions.



Channel: Select the channel you want to configure

Type: Choose the detection target objects. **Motion** will detect all moving objects, **Person** will detect human beings only, **Vehicle** will detect vehicles only.

Alarm Number: The NVR will send an alert if the number of entries minus the number of exits exceeds the alarm number. E.g., the number of entries is 601 while the number of exits is 400, and the alarm number you set is 200, 601-400>200, then the NVR will send an alert.

Start Time: Set the detection start time.

End Time: Set the detection end time.

Reset Count: Clear the counting number.

Rule Number: Only 1 rule available.

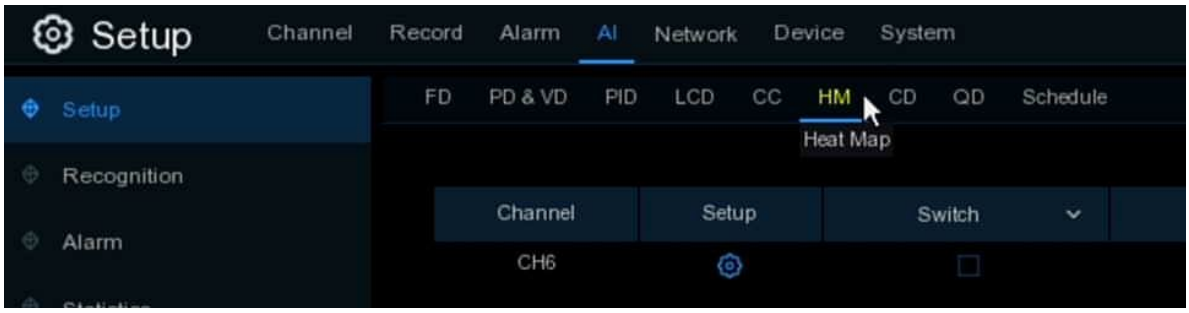
Rule Switch: Activate or deactivate the rule.

1. Choose the detection target type.
2. Set the **Alarm Number**, **Start Time** and **End Time**.

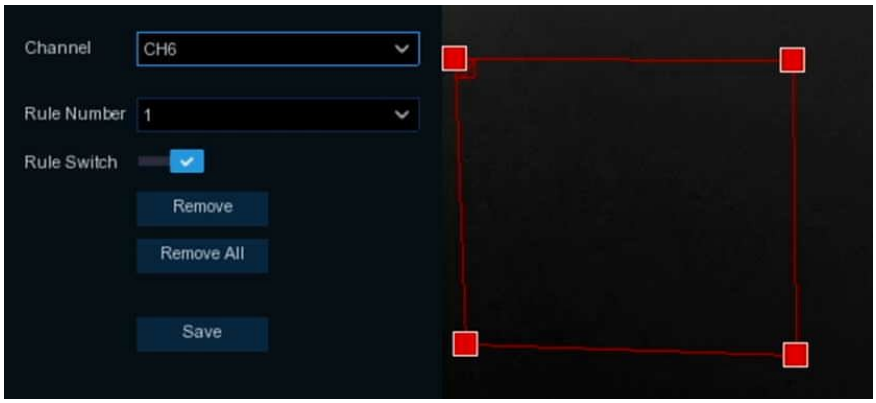
3. Check the box next to **Rule Switch** to enable this detection.
4. Choose a **Rule Type**.
   A→B: If a target object is detected moving from side A to side B, the system will add 1 to enter number; if a target object is detected moving from side B to side A, the system will add 1 to exit number.
   B→A: If a target object is detected moving from side B to side A, the system will add 1 to enter number; if a target object is detected moving from side A to side B, the system will add 1 to exit number.
5. Use your mouse to click 2 points in the camera picture to draw a virtual line.
6. Click **Save** to save your settings.
7. If you want to modify the position or length of the line, click the red box in the line, the color of the line will be changed to red color. Click and hold the left button of your mouse to move the line, or drag the terminals to modify the length or position of the line.
8. If you want to remove one of the lines from the camera picture, click the red box in the line and then click **Remove** button. Click **Remove All** will delete all lines.

5.4.1.6 HM (Heat Map)

Detect and register the regular movement of objects in a monitored area. The frequency and flow of people will be identified by different colors.



Switch: Check the box to enable HM function.
Click **Setup** icon to configure the detection conditions.

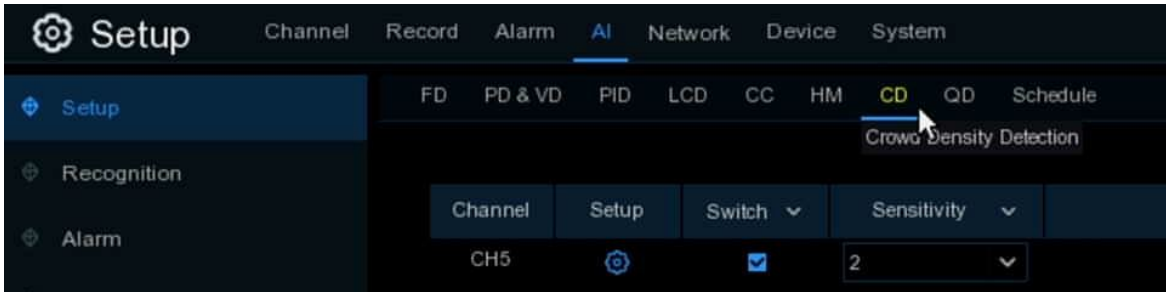


1. Check the box next to **Rule Switch** to enable Heat Map.
2. Use your mouse to click 4 points in the camera picture to draw a virtual region. The shape of the region should be a convex polygon. You will not be able to save a concave polygon.
3. Click **Save** to save your settings.
4. If you want to modify the position or shape of a region, click the red box in the region and the borders of the region will turn red. Click and hold the left button of your mouse to move the position of the region, or drag the corners to resize it.

5. If you want to remove one of the regions from the camera picture, click the red box in the region and then click the **Remove** button. Clicking **Remove All** will delete all regions.

5.4.1.7 CD (Crowd Density Detection)

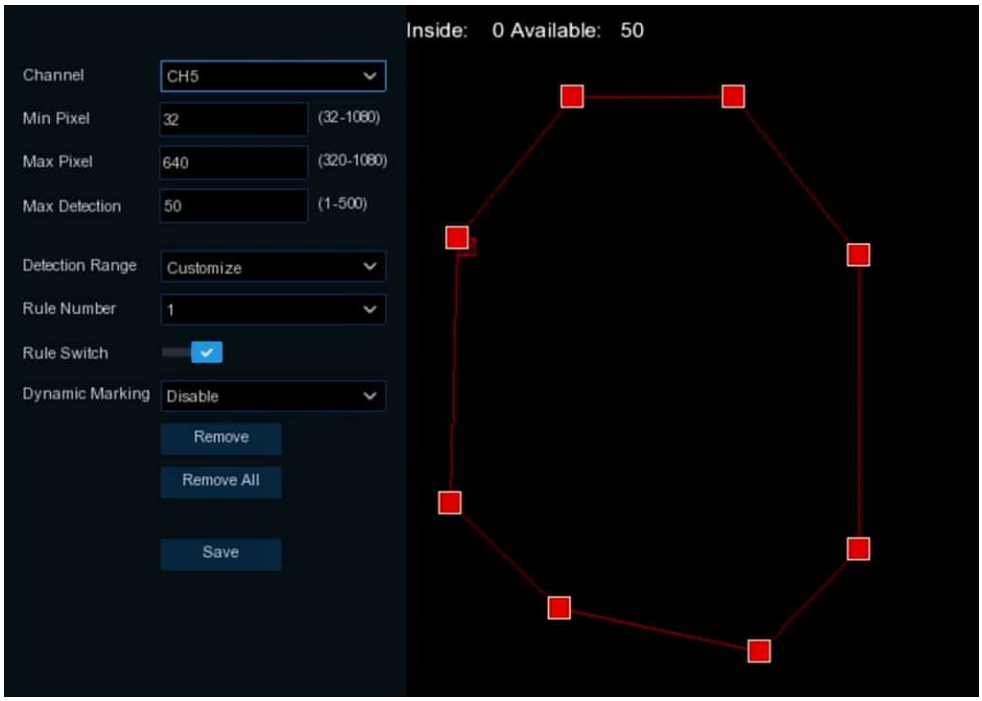
Crowd density detection is used to detect crowd gatherings, which could help maintain order in certain areas.



Switch: Check the box to enable the CD function.

Sensitivity: Set the sensitivity level. Level 1 is the lowest sensitivity level while level 4 is the highest sensitivity level.

Click **Setup** icon to configure the detection conditions.



Min Pixel: Set the minimum detection pixel box. A person can be recognized only when he/she is larger than this pixel box.

Max Pixel: Set the maximum detection pixel box. A person can be recognized only when he/she is smaller than this pixel box.

Max Detection: The NVR will send an alert if the number of people inside the detection area exceeds the Max Detection number.

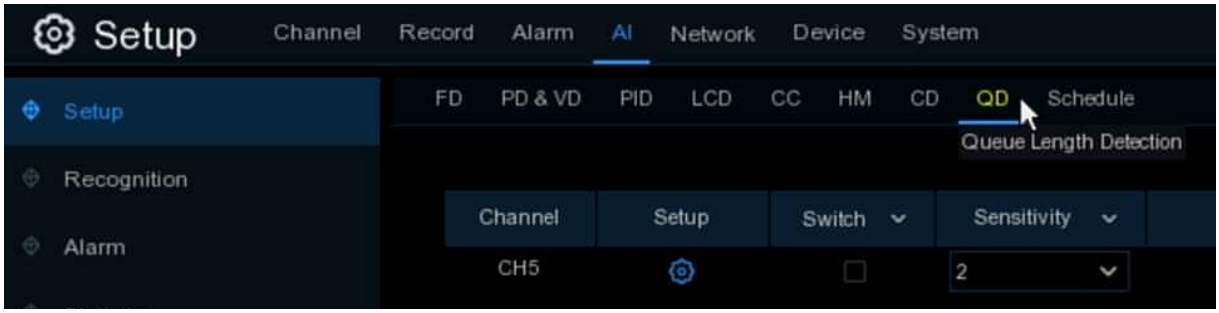
Dynamic Marking： If you enable this option, the border of the detection zone will be displayed in both live view images and recording files.

1. Set the min. pixel and max. pixel.
2. Set the limitation number in **Max. Detection**.

3. Check the box next to **Rule Switch** to enable Crown Density Detection.
4. Set the **Detection Range** to be full screen or customized.
5. If you choose customized detection range, you will need to use your mouse to click 8 points in the camera picture to draw a virtual region.
6. Click **Save** to save your settings.
7. If you want to modify the position or shape of region, click the red box in the region and the borders of the region will turn red. Click and hold the left button of your mouse to move the position of the region, or drag the corners to resize the region.
8. If you want to remove one of the regions from the camera picture, click the red box in the region and then click **Remove** button. Click **Remove All** will delete all regions.

5.4.1.8 QD (Queue Length Detection)

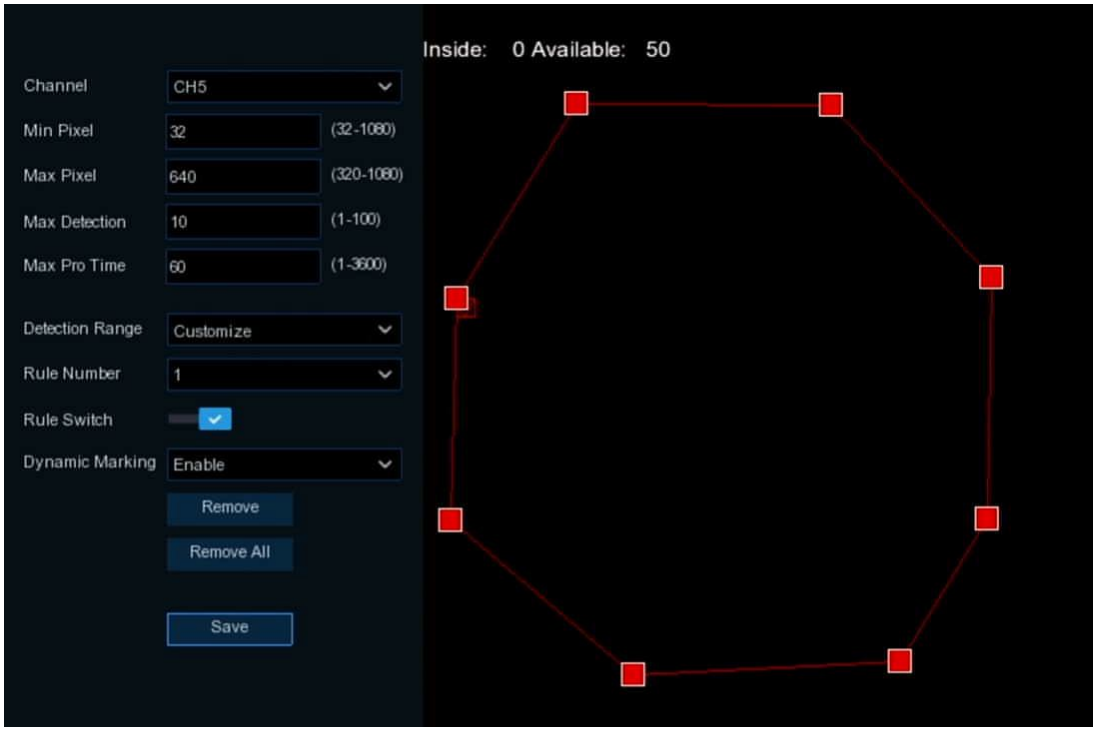
Queue length detection is used to detect the status of a line of people, including length and stagnation time.



Switch: Check the box to enable the QD function.

Sensitivity: Set the sensitivity level. Level 1 is the lowest sensitivity level while level 4 is the highest sensitivity level.

Click **Setup** icon to configure the detection conditions.



Min Pixel: Set the minimum detection pixel box. A person can be recognized only when he/she is larger than the pixel box.

Max Pixel: Set the maximum detection pixel box. A person can be recognized only when he/she is smaller than the pixel box.

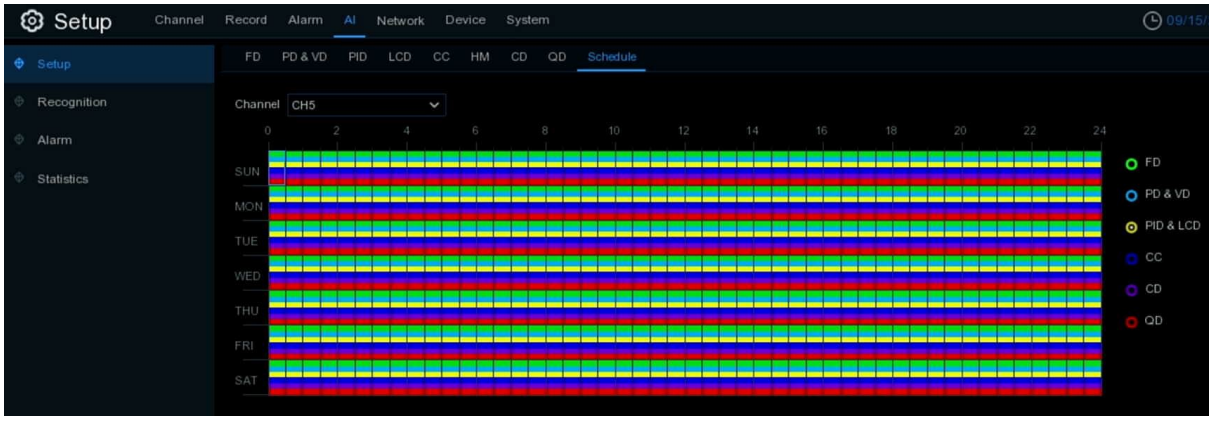
Max Detection: The NVR will send an alert if the number of crowds in the line inside the detection area exceeds the Max Detection number.

Max. Pro Time: The NVR will send an alert if the stagnation time of the queue is longer than the given processing time.

Dynamic Marking： If you enable this option, the border of the detection zone will be displayed in both live view images and recording files.

1. Set the min. pixel and max. pixel.
2. Set the limitation number in **Max. Detection**.
3. Set the limitation number in **Max. Pro Time**, the unit is second.
4. Check the box next to **Rule Switch** to enable
5. Set the **Detection Range** to be full screen or customized.
6. If you choose customized detection range, you will need to use your mouse to click 8 points in the camera picture to draw a virtual region.
7. Click **Save** to save your settings.
8. If you want to modify the position or shape of region, click the red box in the region and the borders of the region will turn red. Click and hold the left button of your mouse to move the position of the region, or drag the corners to resize the region.
9. If you want to remove one of the regions from the camera picture, click the red box in the region and then click the **Remove** button. Clicking **Remove All** will delete all regions.

5.4.1.9 Schedule



In order to activate an AI function, you need to configure the schedule. The schedule can be active up to 24 hours x 7 days.

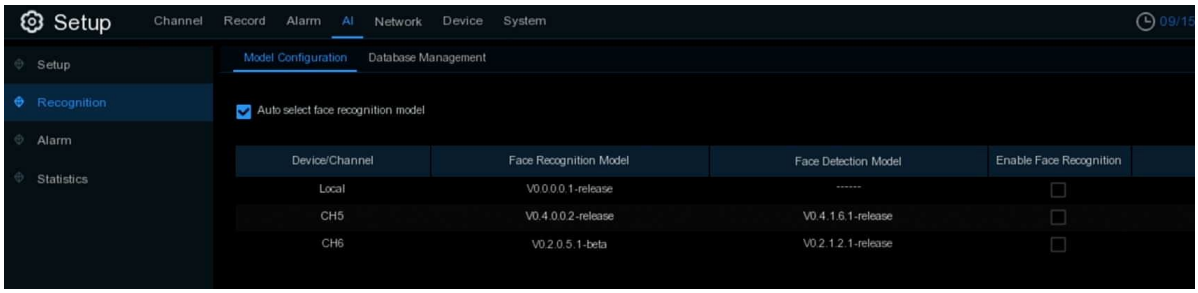
To set the schedule, choose one channel then click on one of the detection items on the right side, then drag the cursor to mark the slots. The schedule is valid only for the selected channel. If you want to use the same schedule for other channels, use **Copy** function. Click **Save** to save your settings.

5.4.2 Recognition

If your NVR supports facial recognition, you would need to configure the face recognition algorithm model and database.

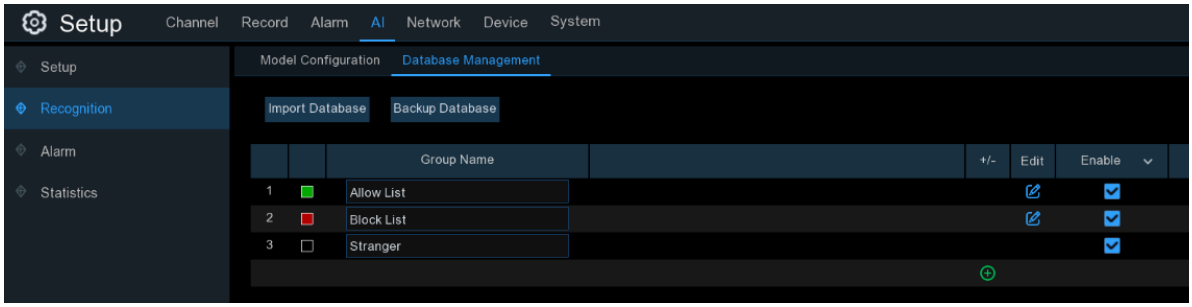
5.4.2.1 Model Configuration

Choose the face algorithm model here. Auto select recognition model is recommended.



5.4.2.2 Database Management

Here you can create the face database to classify different faces.



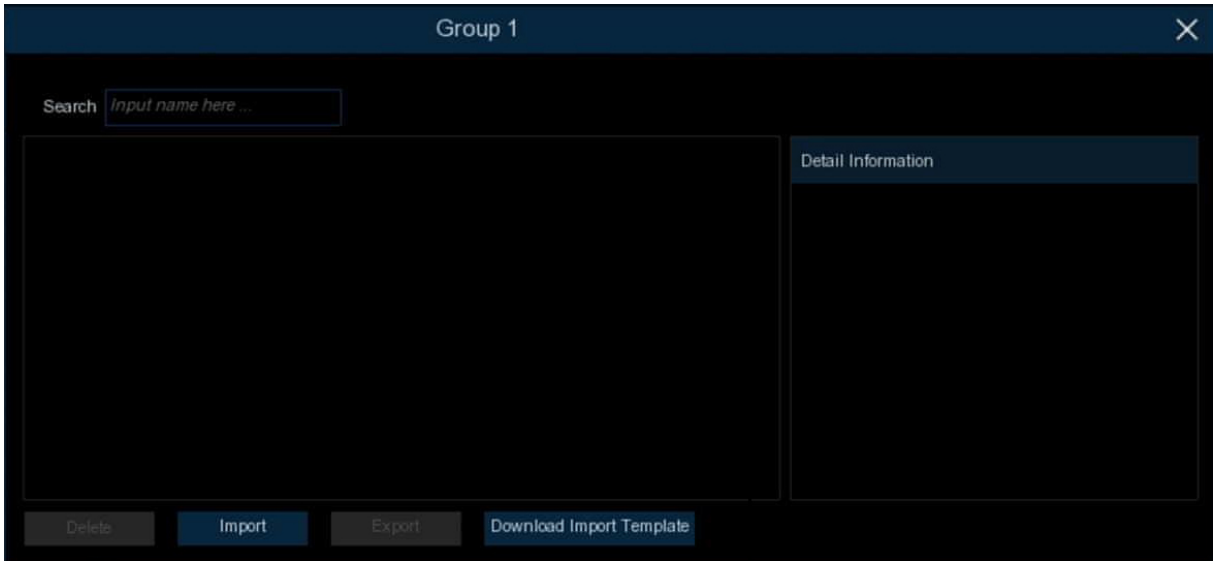
There are 3 default groups: Allow List, Block List and Stranger. You can use add icon and delete icon to add or delete customized groups.

Import Database: Import database from a USB drive.

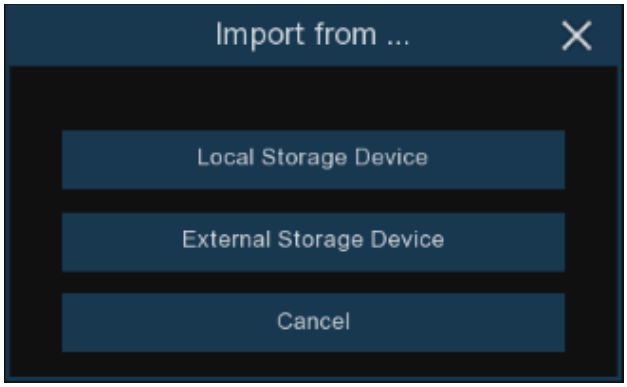
Backup Database: Export database to a USB drive.

Enable: Check to enable the group.

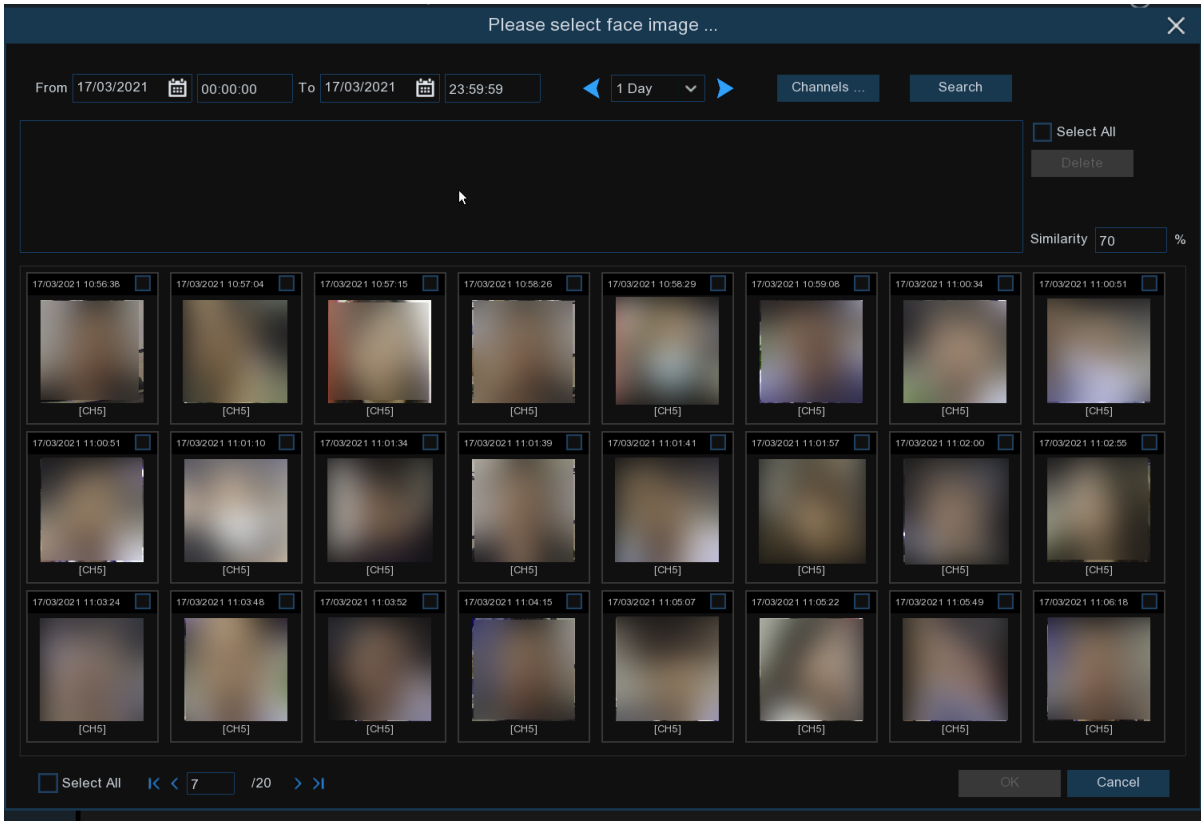
Edit: Click edit icon to edit the group.



Import: Click the Import button to import facial images. You're able to import files from NVR local storage and/or external storage.

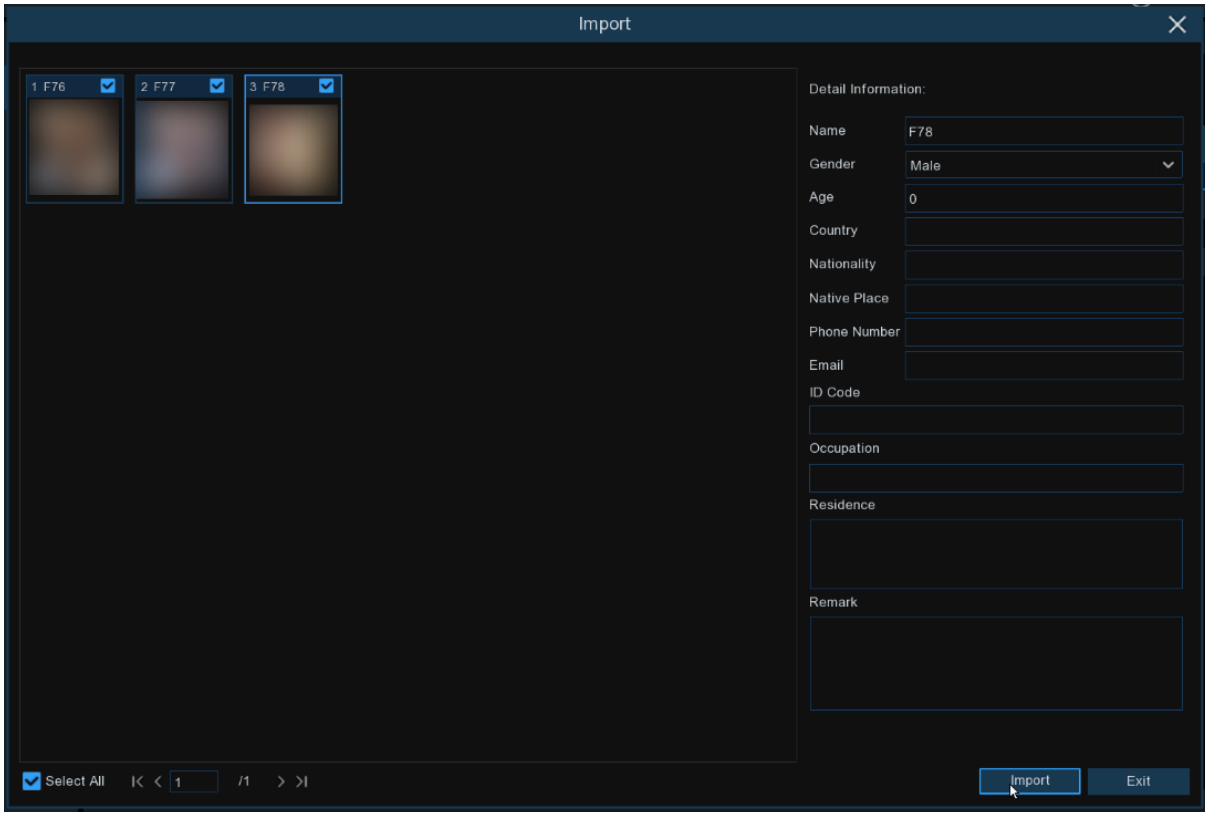


Click **Local Storage Device** to import face images which were captured and saved on the NVRs local HDD storage.



1. Choose the start time and end time manually. Or you can select the time interval from 1 day, 2 days, 3 days, 4 days, 5 days, 6 days, 1 week and 1 month, and then click the ◀ or ▶ button to move to left or right period.
2. Choose the channels you want to search.
3. Click **Search** button.
4. The result will be displayed in the bottom window.
5. Check the box upon the face images you want to add, or click **Select All** to add all images.
6. If you want to narrow the search result, you can choose one or multiplex images in the bottom window as target face(s), and then set the **Similarity** value. Click **Search** again, the system will search and display the faces which are similar with your target face(s).

7. Click **OK** to add images. You can edit the personal information for the faces you want to import.
8. Click **Import** button to import the face images.



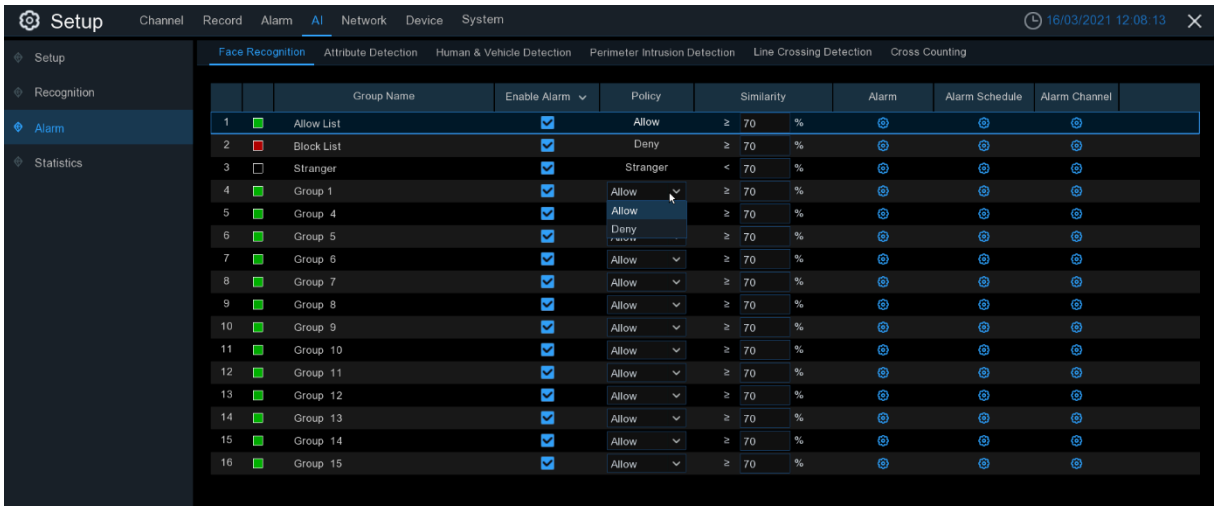
Use the same method to add face images from external USB storage devices.

5.4.3 Alarm

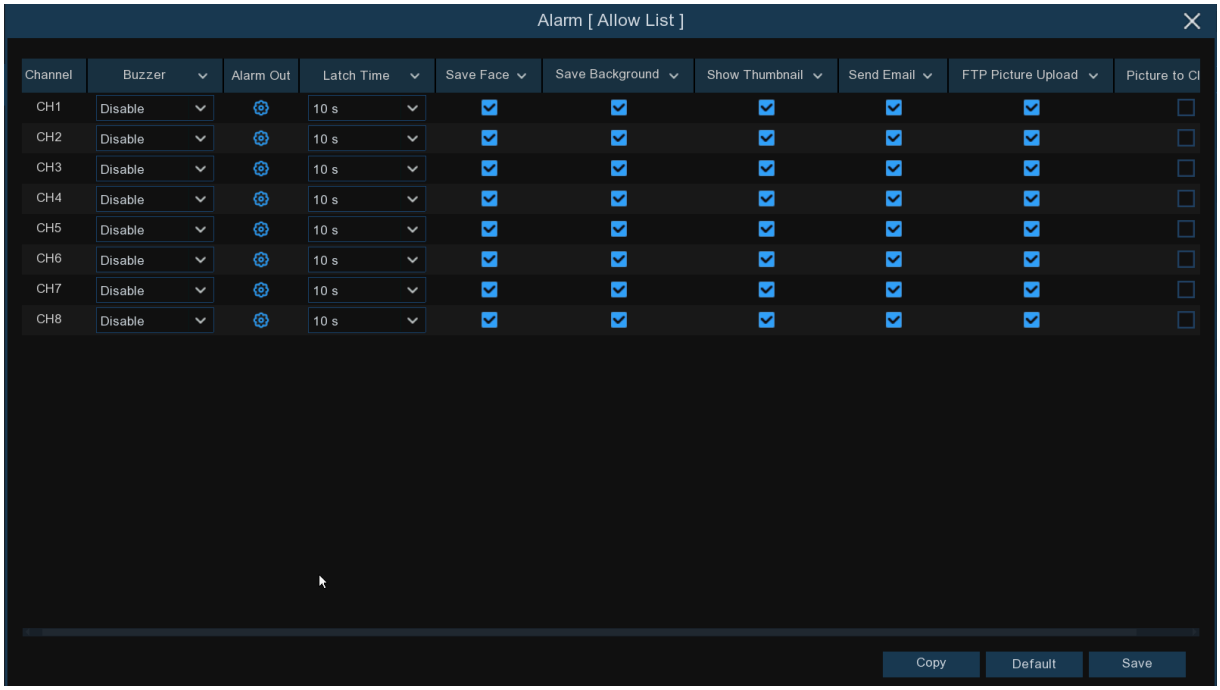
To configure the alarm action when an AI alert happens.

5.4.3.1 Face Recognition

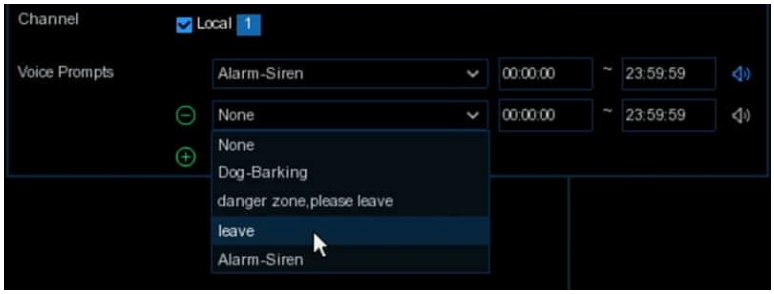
To configure alarm actions for different face groups when faces detected.



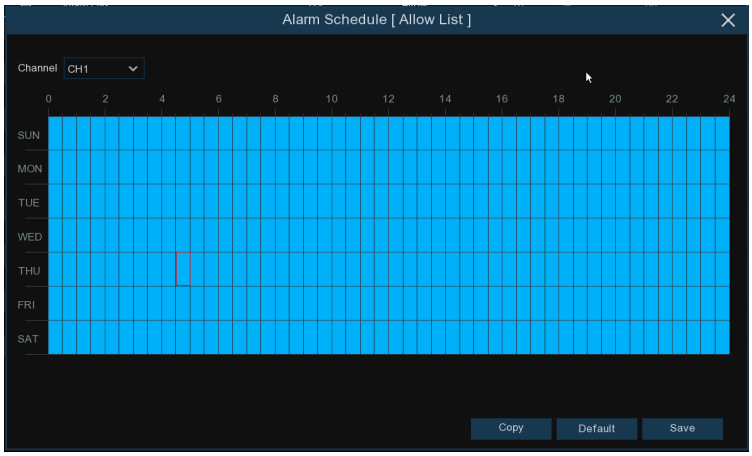
Enable Alarm: To enable or disable the alarm function.
Policy: To set the group to be **Allow** list or **Deny** list.
Similarity: Set the similarity of comparison.
Alarm Channel: To choose which channel(s) will be applied to the alarm setting.
Alarm: Click to configure the alarm actions.



Buzzer: The NVR can use its internal buzzer to emit an alarm tone. You can set the buzzer duration in seconds when an alarm is triggered.
Alarm Out: Optional function. If your NVR supports connection to an external alarm device, you can set it to emit an alarm tone.
Latch Time: To configure the external alarm time when an alarm is triggered.
Save Face: To save the captured face.
Save Background: To save the whole image when an alarm is triggered.
Show Thumbnail: To pop-up the thumbnail image in live view screen when an alarm is triggered.
Send Email: You can let the NVR send you an auto-email when an alarm is triggered.
FTP Picture Upload: To upload alarm images to FTP server when an alarm is triggered. To enable FTP, please view 5.4.4 FTP.
Picture to Cloud: To upload alarm images to Cloud server when an alarm is triggered. To enable Cloud, please view 5.6.2 Cloud.
Voice Prompts: If your NVR or IP camera is connected to a speaker, you can select a customized alert voice when the alarm happens for different time periods. See how to add customized alert voice on **5.3.8 Voice Prompts.**



Alarm Schedule: Click icon to configure the alarm schedule for each channel.

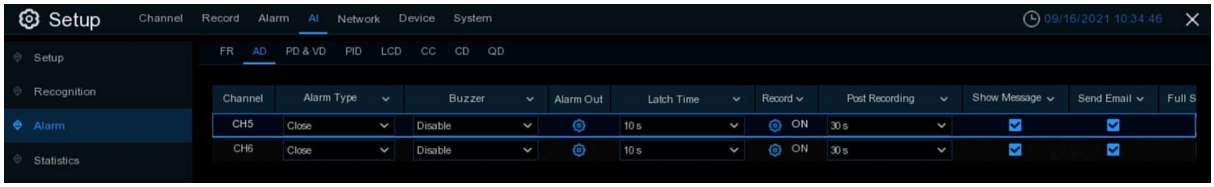


Channel: Select the channel to set its capture parameters.

To set the schedule, choose one channel then drag the cursor to mark the slots. The blue blocks in the time slots will be active for alarm. The schedule is valid only for the selected channel each time when you set. If you want to use the same schedule for other channels, use **Copy** function. Click **Save** to save your settings.

5.4.3.2 AD (Attribute Detection)

Attribute detection is a function to detect people's facial features and send an alarm according to the settings. Please note that these features are for reference only and provide an estimation, and are not meant to definitively define a specific attribute.



Alarm Type: Select the alarm trigger condition. If the selection is "**No Mask**", the NVR will send an alarm if it detects a person isn't wearing a face mask. If the selection is "**Wear Mask**", the NVR will send an alarm if it detects a person is wearing a face mask.

Buzzer: The NVR can use its internal buzzer to emit an alarm tone. You can set the buzzer duration in seconds when an alarm is triggered.

Alarm Out: Optional function. If your NVR supports connection to an external alarm device, you can set it to emit an alarm tone.

Latch Time: To configure the external alarm time when an alarm is triggered.

Record: Click icon and choose which channel(s) you want to record when the alarm is triggered.

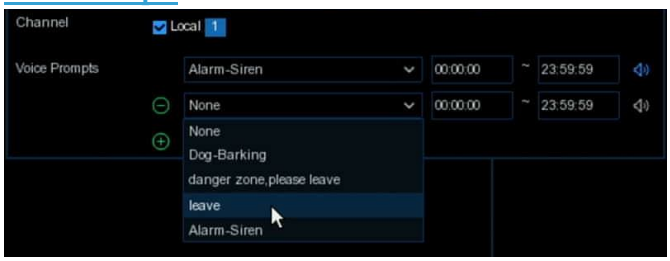
Post Recording: You can set how long after an event occurs that the NVR will continue to record. The recommended recording length is 30 seconds but it can be set higher up to 5 minutes.

Show Message: Check the box to display "**S**" icon on the live view screen when the alarm is triggered.

Send Email: You can let the NVR send you an auto-email when an alarm is triggered.

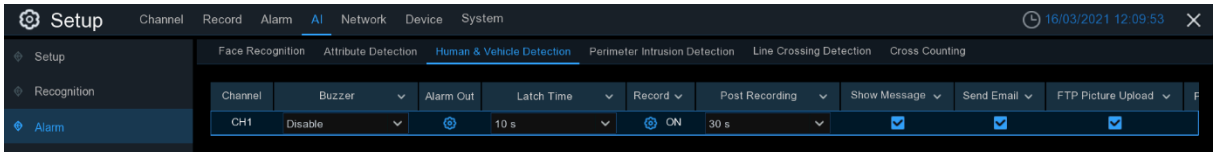
Full Screen: If this function is enabled and an alarm is triggered in a channel, you will see its full screen images in live view.

Voice Prompts: If your NVR or IP camera is connected to a speaker, you can select a customized alert voice when the alarm happens for different time periods. See how to add customized alert voice on **5.3.8 Voice Prompts**



5.4.3.3 PD & VD (Human & Vehicle Detection)

To configure alarm actions for PD & VD alarms.

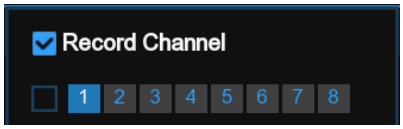


Buzzer: The NVR can use its internal buzzer to emit an alarm tone. You can set the buzzer duration in seconds when an alarm is triggered.

Alarm Out: Optional function. If your NVR supports connection to an external alarm device, you can set it to emit an alarm tone.

Latch Time: To configure the external alarm time when Human & Vehicle is detected.

Record: Click icon and choose which channel(s) you want to record when the Human & Vehicle detection is triggered.



Post Recording: You can set how long after an event occurs that the NVR will continue to record. The recommended recording length is 30 seconds but it can be set higher up to 5 minutes.

Show Message: Check the box to display an "S" icon on the live view screen when an alarm is triggered.

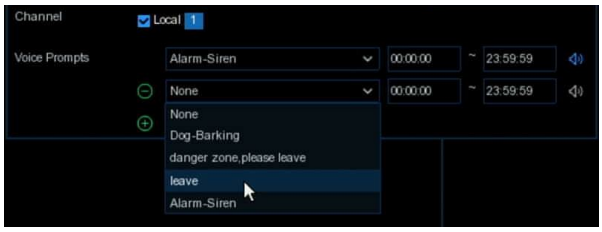
Send Email: You can let the NVR send you an auto-email when an alarm is triggered.

FTP Picture Upload: To upload alarm images to FTP server when an alarm is triggered. To enable FTP, please view 5.4.4 FTP.

Picture to Cloud: To upload alarm images to Cloud server when an alarm is triggered. To enable Cloud, please view 5.5.2 Cloud.

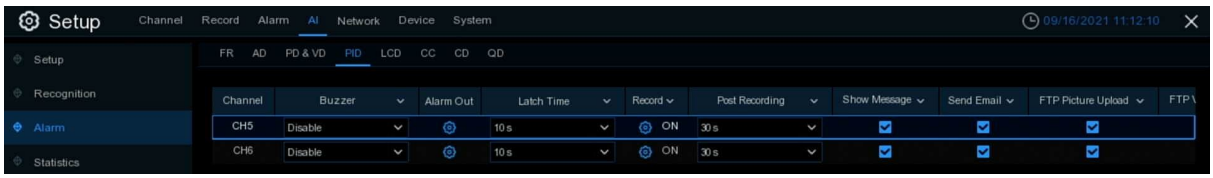
Full Screen: If this function is enabled and an alarm is triggered in a channel, you will see that channel in full screen.

Voice Prompts: If your NVR or IP camera is connected witb a speaker, you can select a customized alert message when the alarm happens for different time period. See how to add a customized alert voice on **5.3.8 Voice Prompts**



5.4.3.4 PID (Perimeter Intrusion Detection)

To configure alarm actions for PID alarms.

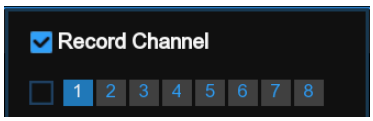


Buzzer: The NVR can use its internal buzzer to emit an alarm tone. You can set the buzzer duration in seconds when an alarm is triggered.

Alarm Out: Optional function. If your NVR supports connection to an external alarm device, you can set it to emit an alarm tone.

Latch Time: To configure the external alarm time when an alarm is triggered.

Record: Click icon and choose which channel(s) you want to record when an alarm is triggered.



Post Recording: You can set how long after an event occurs that the NVR will continue to record. The recommended recording length is 30 seconds but it can be set higher up to 5 minutes.

Show Message: Check the box to display "S" icon on the live view screen when an alarm is triggered.

Send Email: You can let the NVR send you an auto-email when an alarm is triggered.

FTP Picture Upload: To upload alarm images to FTP server when an alarm is triggered. To enable FTP, please view 5.4.4 FTP.

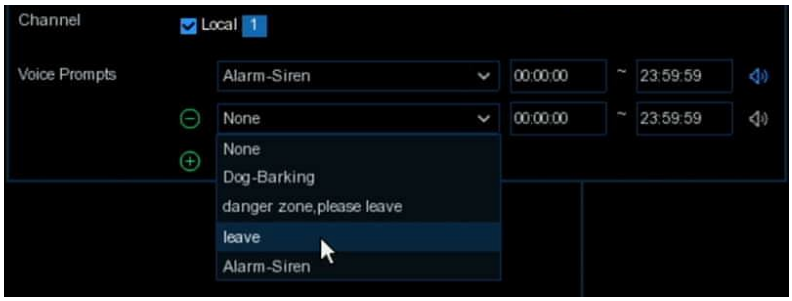
FTP Video Upload: To upload alarm video to FTP server when an alarm is triggered. To enable FTP, please view 5.4.4 FTP.

Picture to Cloud: To upload alarm images to Cloud server when an alarm is triggered. To enable Cloud, please view 5.5.2 Cloud.

Video to Cloud: To upload alarm video to Cloud server when an alarm is triggered. To enable Cloud, please view 5.5.2 Cloud.

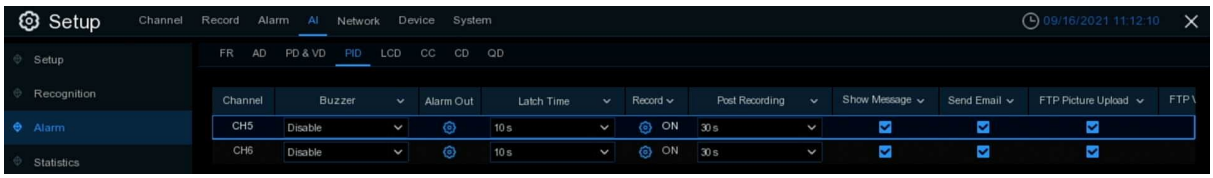
Full Screen: If this function is enabled and an alarm is triggered in a channel, you will see that channel in full screen.

Voice Prompts: If your NVR or IP camera is connected with a speaker, you can select a customized alert message when the alarm happens for different time periods. See how to add customized alert voice on **5.3.8 Voice Prompts.**



5.4.3.4 LCD (Line Crossing Detection)

To configure alarm actions for LCD alarms.

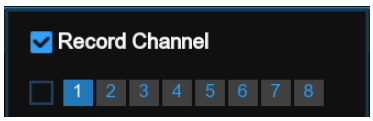


Buzzer: The NVR can use its internal buzzer to emit an alarm tone. You can set the buzzer duration in seconds when an alarm is triggered.

Alarm Out: Optional function. If your NVR supports connection to an external alarm device, you can set it to emit an alarm tone.

Latch Time: To configure the external alarm time when an alarm is triggered.

Record: Click icon and choose which channel(s) you want to record when an alarm is triggered.



Post Recording: You can set how long after an event occurs that the NVR will continue to record. The recommended recording length is 30 seconds but it can be set higher up to 5 minutes.

Show Message: Check the box to display "**S**" icon on the live view screen when an alarm is triggered.

Send Email: You can let the NVR send you an auto-email when an alarm is triggered.

FTP Picture Upload: To upload alarm images to FTP server when an alarm is triggered. To enable FTP, please view 5.4.4 FTP.

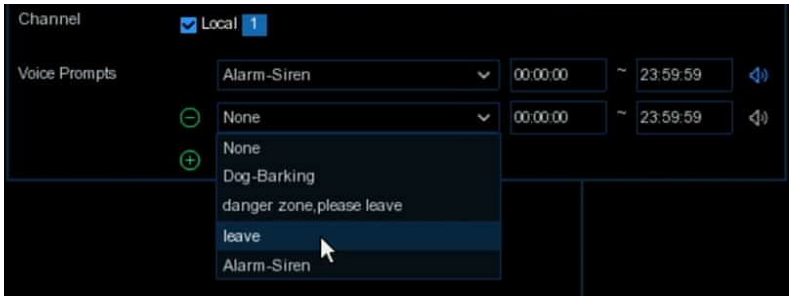
FTP Video Upload: To upload alarm video to FTP server when an alarm is triggered. To enable FTP, please view 5.4.4 FTP.

Picture to Cloud: To upload alarm images to Cloud server when an alarm is triggered. To enable Cloud, please view 5.5.2 Cloud.

Video to Cloud: To upload alarm video to Cloud server when an alarm is triggered. To enable Cloud, please view 5.5.2 Cloud.

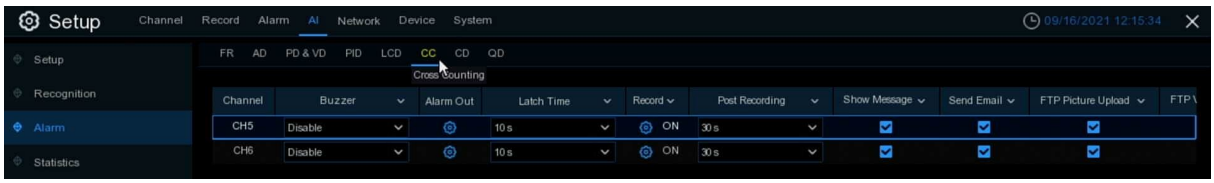
Full Screen: If this function is enabled and an alarm is triggered in a channel, you will see that channel in full screen.

Voice Prompts: If your NVR or IP camera is connected to a speaker, you can select a customized alert voice when the alarm happens for different time periods. See how to add customized alert voice on **5.3.8 Voice Prompts.**



5.4.3.4 CC (Cross Counting)

To configure alarm actions for CC alarms.

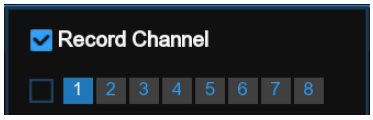


Buzzer: The NVR can use its internal buzzer to emit an alarm tone. You can set the buzzer duration in seconds when an alarm is triggered.

Alarm Out: Optional function. If your NVR supports connection to an external alarm device, you can set it to emit an alarm tone.

Latch Time: To configure the external alarm time when an alarm is triggered.

Record: Click icon and choose which channel(s) you want to record when an alarm is triggered.



Post Recording: You can set how long after an event occurs that the NVR will continue to record. The recommended recording length is 30 seconds but it can be set higher up to 5 minutes.

Show Message: Check the box to display "**S**" icon on the live view screen when an alarm is triggered.

Send Email: You can let the NVR send you an auto-email when an alarm is triggered.

FTP Picture Upload: To upload alarm images to FTP server when an alarm is triggered. To enable FTP, please view 5.4.4 FTP.

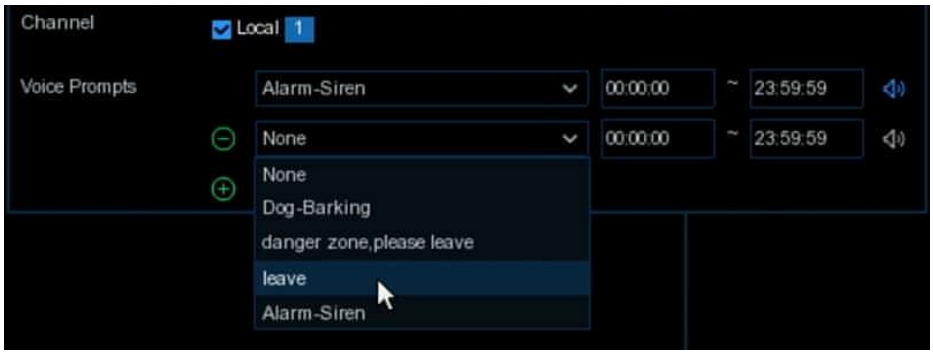
FTP Video Upload: To upload alarm video to FTP server when an alarm is triggered. To enable FTP, please view 5.4.4 FTP.

Picture to Cloud: To upload alarm images to Cloud server when an alarm is triggered. To enable Cloud, please view 5.5.2 Cloud.

Video to Cloud: To upload alarm video to Cloud server when an alarm is triggered. To enable Cloud, please view 5.5.2 Cloud.

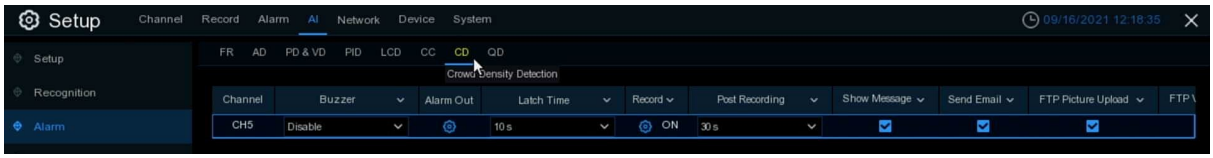
Full Screen: If this function is enabled and an alarm is triggered in a channel, you will see that channel in full screen.

Voice Prompts: **Voice Prompts**: If your NVR or IP camera is connected to a speaker, you can select a customized alert voice when the alarm happens for different time periods. See how to add customized alert voice on **5.3.8 Voice Prompts.**



5.4.3.5 CD (Crowd Density Detection)

To configure alarm actions for CD alarms.



Buzzer: The NVR can use its internal buzzer to emit an alarm tone. You can set the buzzer duration in seconds when an alarm is triggered.

Alarm Out: Optional function. If your NVR supports connection to an external alarm device, you can set it to emit an alarm tone.

Latch Time: To configure the external alarm time when an alarm is triggered.

Record: Click icon and choose which channel(s) you want to record when an alarm is triggered.

Post Recording: You can set how long after an event occurs that the NVR will continue to record. The recommended recording length is 30 seconds but it can be set higher up to 5 minutes.

Show Message: Check the box to display "**S**" icon on the live view screen when an alarm is triggered.

Send Email: You can let the NVR send you an auto-email when an alarm is triggered.

FTP Picture Upload: To upload alarm images to FTP server when an alarm is triggered. To enable FTP, please view 5.4.4 FTP.

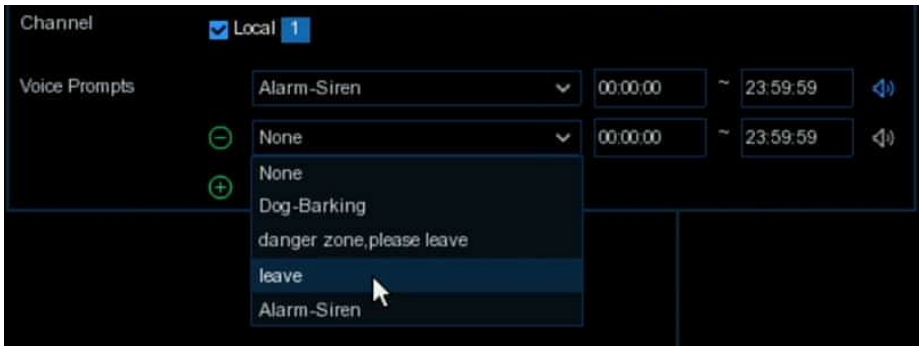
FTP Video Upload: To upload alarm video to FTP server when an alarm is triggered. To enable FTP, please view 5.4.4 FTP.

Picture to Cloud: To upload alarm images to Cloud server when an alarm is triggered. To enable Cloud, please view 5.5.2 Cloud.

Video to Cloud: To upload alarm video to Cloud server when an alarm is triggered. To enable Cloud, please view 5.5.2 Cloud.

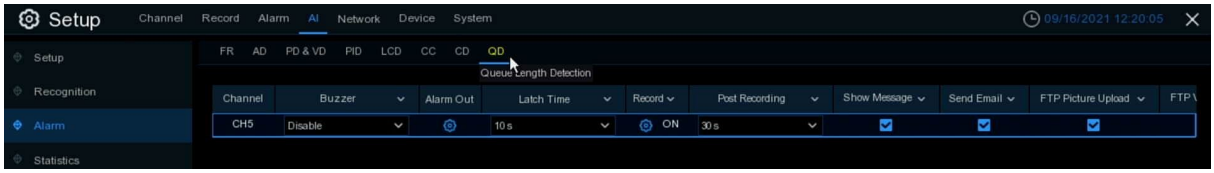
Full Screen: If this function is enabled and an alarm is triggered in a channel, you will see that channel in full screen.

Voice Prompts: **Voice Prompts**: If your NVR or IP camera is connected to a speaker, you can select a customized alert voice when the alarm happens for different time periods. See how to add customized alert voice on **5.3.8 Voice Prompts.**



5.4.3.6 QD (Queue Length Detection)

To configure alarm actions for QD alarms.



Buzzer: The NVR can use its internal buzzer to emit an alarm tone. You can set the buzzer duration in seconds when an alarm is triggered.

Alarm Out: Optional function. If your NVR supports connection to an external alarm device, you can set it to emit an alarm tone.

Latch Time: To configure the external alarm time when an alarm is triggered.

Record: Click icon and choose which channel(s) you want to record when an alarm is triggered.

Post Recording: You can set how long after an event occurs that the NVR will continue to record. The recommended recording length is 30 seconds but it can be set higher up to 5 minutes.

Show Message: Check the box to display "**S**" icon on the live view screen when an alarm is triggered.

Send Email: You can let the NVR send you an auto-email when an alarm is triggered.

FTP Picture Upload: To upload alarm images to FTP server when an alarm is triggered. To enable FTP, please view 5.4.4 FTP.

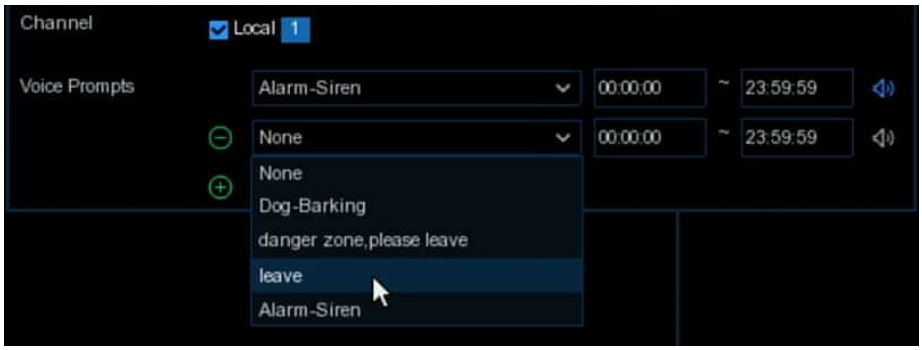
FTP Video Upload: To upload alarm video to FTP server when an alarm is triggered. To enable FTP, please view 5.4.4 FTP.

Picture to Cloud: To upload alarm images to Cloud server when an alarm is triggered. To enable Cloud, please view 5.5.2 Cloud.

Video to Cloud: To upload alarm video to Cloud server when an alarm is triggered. To enable Cloud, please view 5.5.2 Cloud.

Full Screen: If this function is enabled and an alarm is triggered in a channel, you will see that channel in full screen.

Voice Prompts: **Voice Prompts**: If your NVR or IP camera is connected to a speaker, you can select a customized alert voice when the alarm happens for different time periods. See how to add customized alert voice on **5.3.8 Voice Prompts.**



5.4.4 Statistics

You are able to check and manage the statistics of AI functions in this section.

5.4.4.1 FD (Face Recognition)

You can check the face recognition statistics for a selected period.

1. Choose the group(s) and channel(s).
2. Select the period between day, week, month, quarter and year.
3. Click the calendar icon to choose the date, and click the ◀ or ▶ button to move to last or next period.
4. The statistics will be displayed in pie chart and column chart.
5. Click **Export** button if you want to export the data to a USB drive.

5.4.4.2 PD & VD (Human & Vehicle Detection)

Here is where you check the people and vehicle detection statistics over specific period.

1. Choose the detection type in the **Intelligent** tab.

2. Choose the channel(s).
3. Select the period between day, week, month, quarter and year.
4. Click the calendar icon to choose the date, and click ◀ or ▶ button to move to last or next period.
4. The statistics will be displayed in pie chart and column chart.
5. Click **Export** button if you want to export the data to a USB drive.

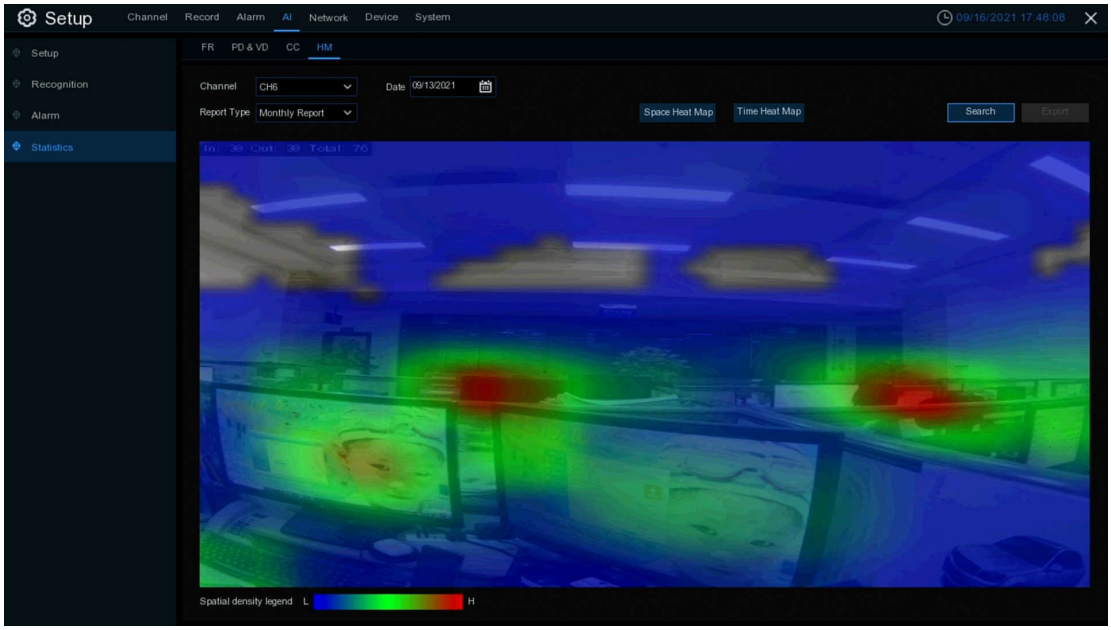
5.4.4.3 CC (Cross Counting)

Here is where you check the line cross counting statistics over a specific period.

1. Choose the channel & date.
2. Choose the **Report Type**: Daily, Weekly, Monthly or Annually.
3. Choose the **Cross Type**: Cross In or Cross Out.
4. Choose the **Detection Type**: Motion, Person or Vehicle.
5. Click **Search** button, the result will be displayed in either **Column Chart** or **Line Chart**.
6. Click **Export** button if you want to export the data to a USB drive.

5.4.4.4 HM (Heat Map Statistics)

You can check the heat map statistics over a certain period.



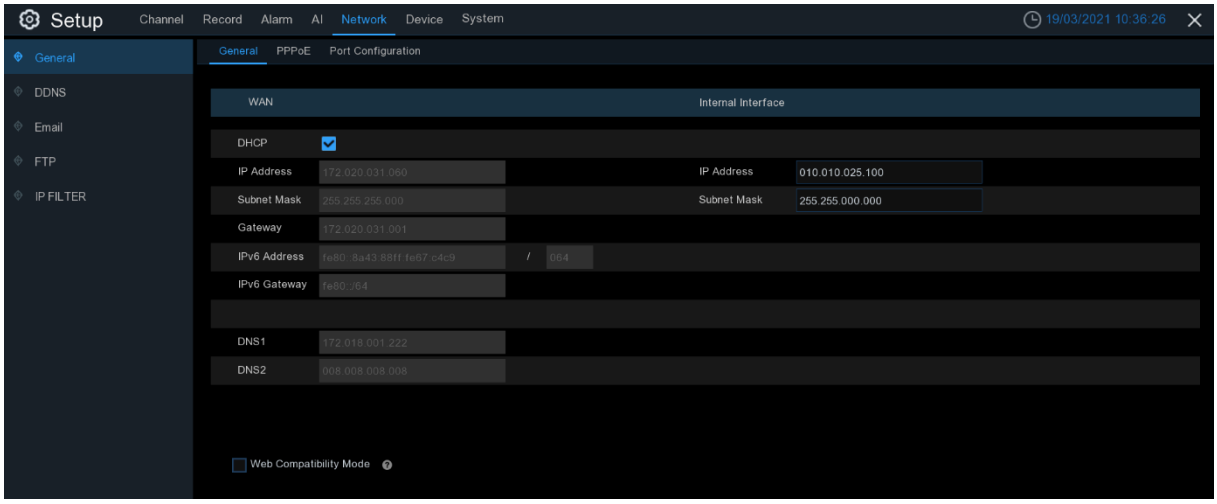
1. Choose the channel & date.
2. Choose the **Report Type**: Daily, Weekly, Monthly or Annually.
3. Choose the **Cross Type**: Cross In or Cross Out.
4. Click **Search** button, the result will be displayed in either **Column Chart** or **Line Chart**.
5. The result can be displayed by Space & Time.

5.5 Network

This menu allows you to configure network parameters, such as PPPoE or DHCP. The most common types is DHCP, which, unless the network is manually addressed, is most likely the type of network you have. If you need an authentication user name and password to access the Internet, then choose PPPoE.

5.5.1 General

5.5.1.1 General



If your router allows the use of DHCP, please check the **DHCP** box. The router will assign automatically the network parameters for your NVR. If the network is manually addressed, use the following parameters:

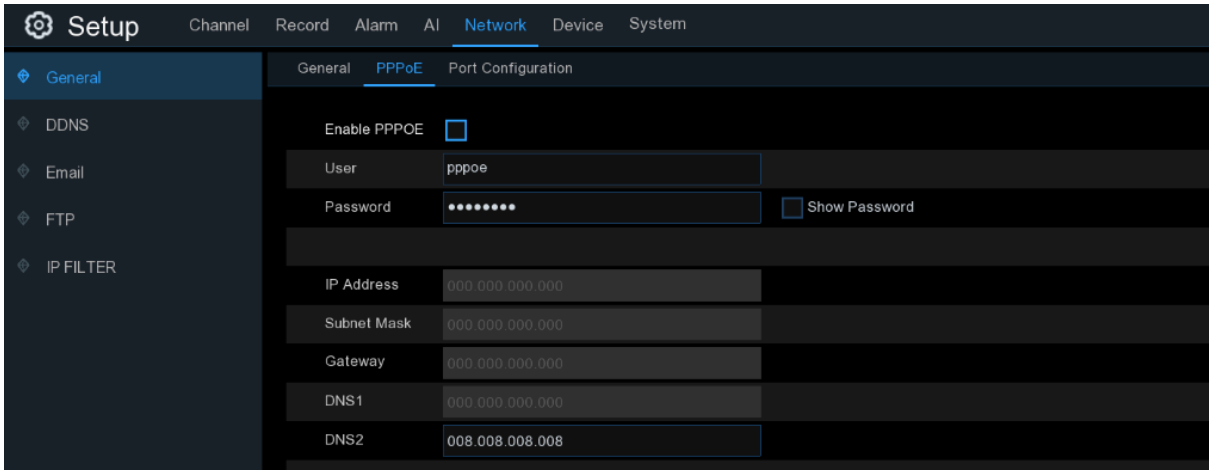
IP Address: The IP address identifies the NVR in the network. It consists of four groups of numbers between 0 to 255, separated by periods. For example, “192.168.001.100”.

Subnet Mask: Subnet mask is a network parameter which defines a range of IP addresses that can be used in a network. If an IP address is like a street where you live then the subnet mask is like a neighborhood. The subnet address also consists of four groups of numbers, separated by periods. For example, “255.255.0.0”.

Gateway: This address allows the NVR to access the Internet. The format of the **Gateway** address is the same as the **IP Address**. For example, “192.168.1.1”.

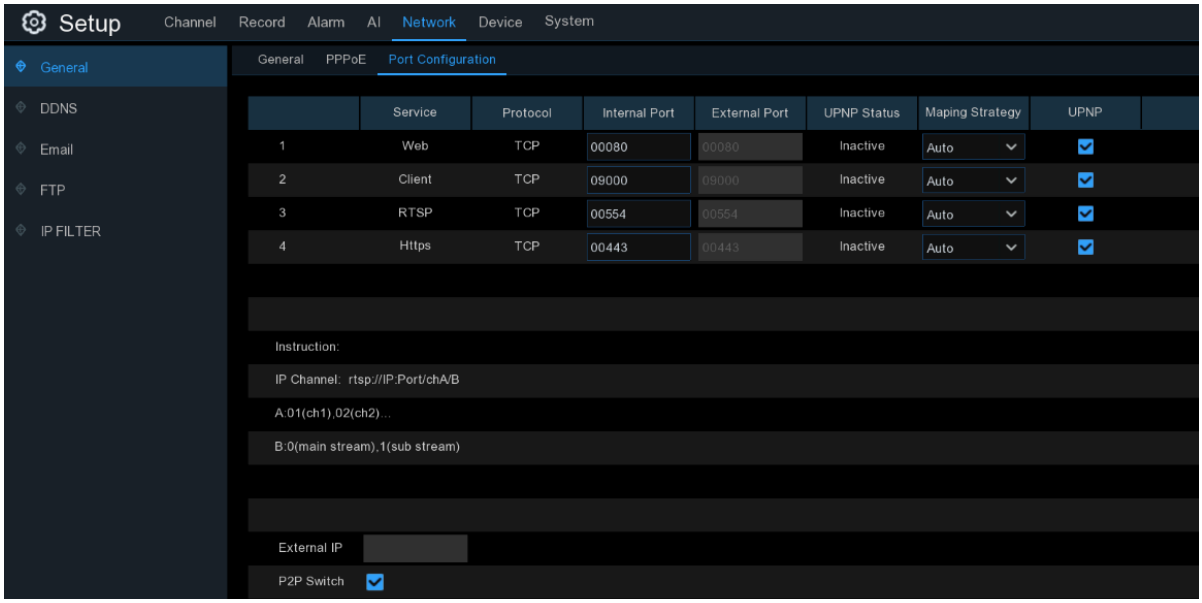
DNS1/DNS2: DNS1 is the primary DNS server and DNS2 is a backup DNS server. It should be enough just to enter the DNS1 server address.

5.5.1.1 PPPoE



This is an advanced protocol that allows the NVR to connect to a network more directly via DSL modem. Check the "Enable PPPOE" box, and then enter the User name & Password of the PPPoE.
Click **Apply** to save, system will reboot to activate the PPPoE setting.

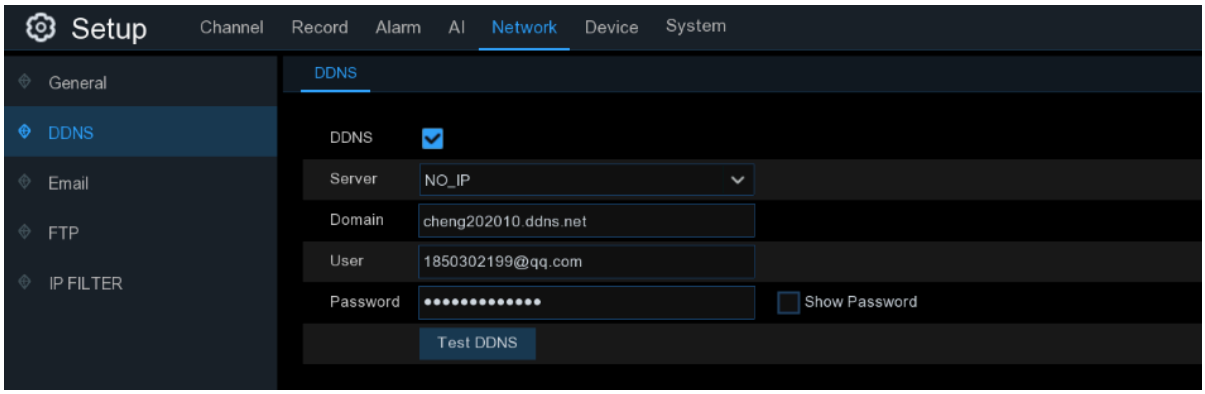
5.5.1.2 Port Configuration



Web Port: This is the port that you will use to login remotely to the NVR (e.g. using the Web Client). If the default port 80 is already taken by other applications, please change it.
Client Port: This is the port that the NVR will use to send information through. If the default port 9000 is already taken by other applications, please change it.
RTSP Port: Default is 554. If the default port 554 is already taken by other applications, please change it.
UPNP: If you want to log in remotely to the NVR using Web Client, you need to complete the port forwarding. Enable this option if your router supports UPnP. You need to enable UPnP both on NVR and router. In this case, you do not need to manually configure port forwarding on your router. If your router does not support UPnP, make sure the port forwarding is completed manually
Mapping Strategy: Set up manual mode via an **External Port**.

5.5.2 DDNS

This menu allows you to configure DDNS settings. The DDNS provides a static address to simplify remote connection to your NVR. To use the DDNS, you first need to open an account on the DDNS service provider's web page.

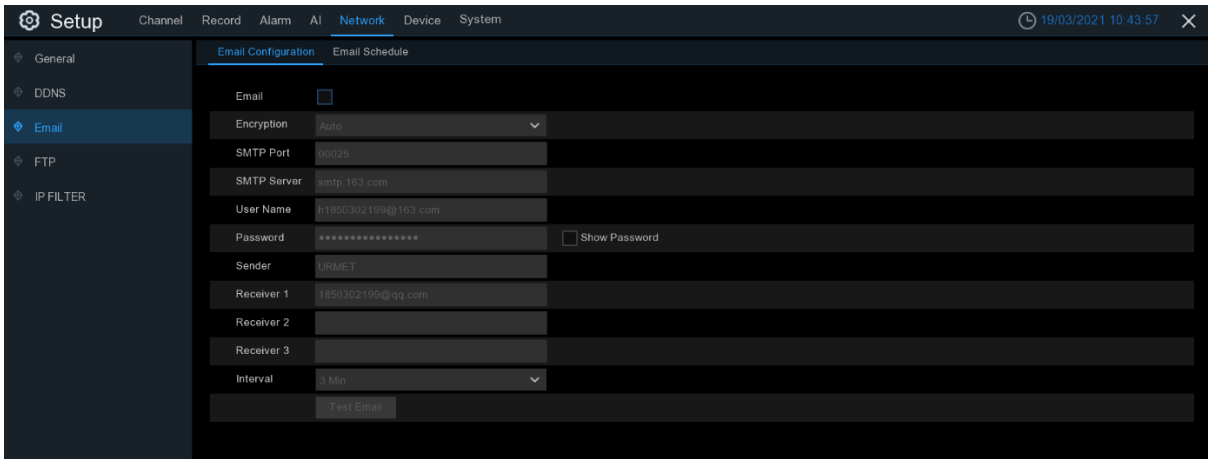


DDNS: Check to enable DDNS.
Server: Select the preferred DDNS server (DDNS_3322, DYNDNS, NO_IP, CHANGEIP, DNSEXIT).
Domain: Enter the domain name you created on the DDNS service provider's web page. This will be the address you type in the URL box when you want to connect remotely to the NVR via PC. Fox example: NVR.no-ip.org.
User/Password: Enter the user name and password you obtained when creating an account on the DDNS service provider's web page.

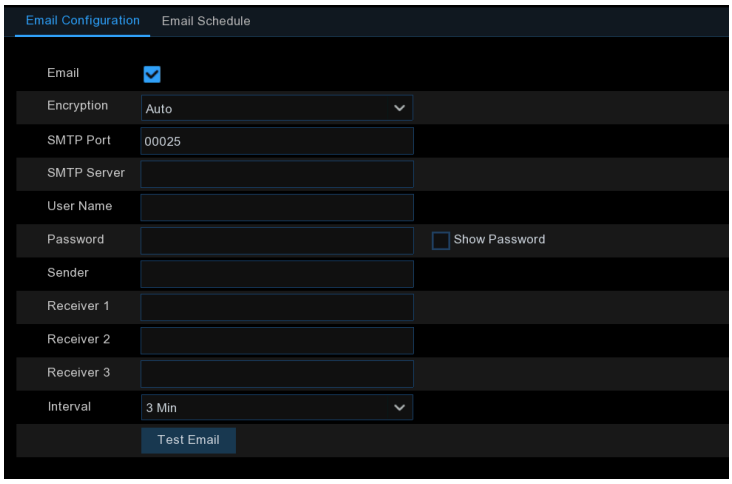
After all parameters are entered, click **Test DDNS** to test the DDNS settings. If the test result is "Network is unreachable or DNS is incorrect", please check whether the network has any issues, or if the DDNS information is correct or not.

5.5.3 Email

This menu allows you to configure email settings. Please complete these settings if you want to receive the system notifications in your email when an alarm is triggered, HDD becomes full, HDD is in error state, or Video Loss occurs.



5.5.3.1 Email Configuration



Email: Check to enable.

Encryption: Enable if your email server requires the SSL or TLS verification. If you are not sure, set to **Auto.**

SMTP Port: Enter the SMTP port of your email server.

SMTP Server: Enter the SMTP server address of your email.

User Name: Enter your email address.

Password: Enter the password of your email.

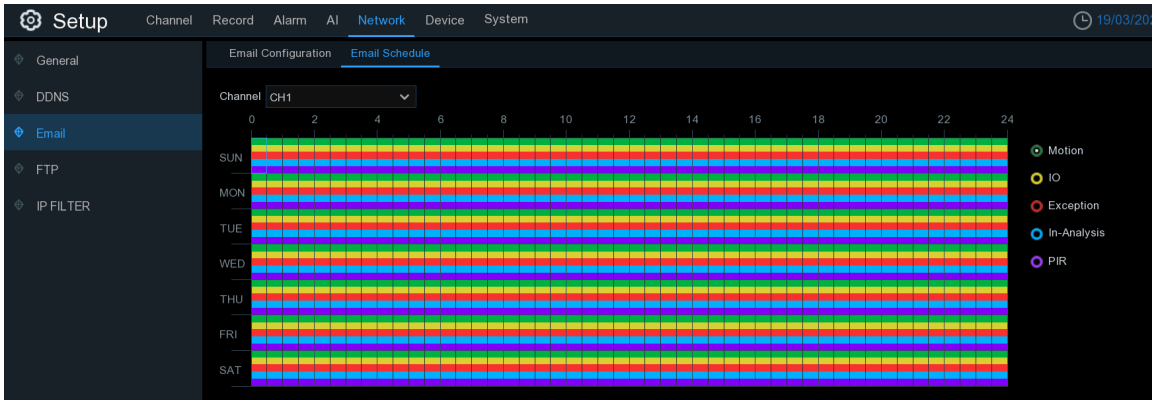
Receiver 1~3: Enter the email address where you want to receive the event notifications from the NVR.

Interval: Configure the length of the time interval between the notification emails from the NVR.

To make sure all settings are correct, click **Test Email**. The system will send an automated email message to your inbox. If you received the test email, it means the configuration parameters are correct.

5.5.3.2 Email Schedule

You need to configure the schedule to fully implement the Email notification.



The color codes on email schedule have the following meanings:

Green: Slot for Motion detection.

Yellow: Slot for I/O Alarm (optional).

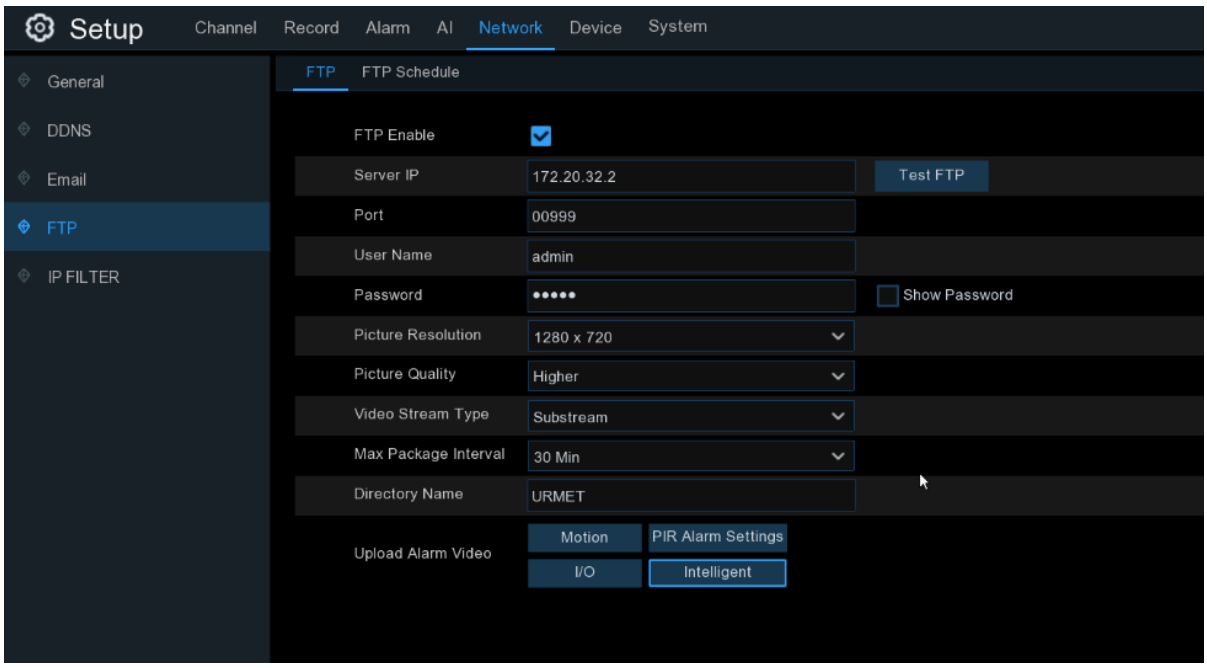
Red: Slot for Exception (HDD full, HDD error, or Video Loss).

Blue: Slot for Intelligent Analysis detection.

Purple: Slot for PIR detection.

5.5.4 FTP

This menu allows you to enable FTP function to view and load captured snapshots from your NVR to your storage device over FTP.



FTP Enable: Click to enable FTP function.

Server IP: Enter your FTP server IP address or domain name.

Port: Enter the FTP port for file exchanges.

Name/ Password: Enter your FTP server user name and password.

Directory Name: Enter the default directory name for the FTP file exchanges.

Test FTP: Click to test the FTP settings.

FTP Schedule:

The color codes on email schedule have the following meanings:

Yellow: Slot for Motion detection.

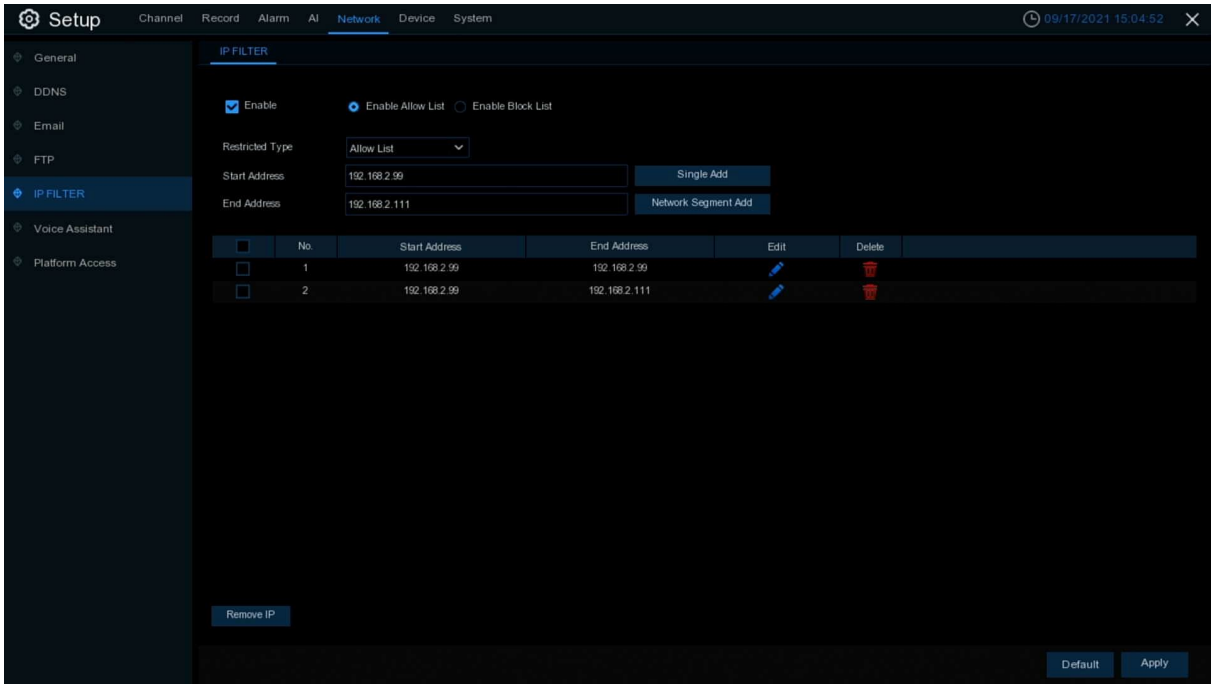
Red: Slot for I/O Alarm (optional).

Purple: Slot for PIR detection.

Blue: Slot for Intelligent Analysis detection.

5.5.5 IP FILTER

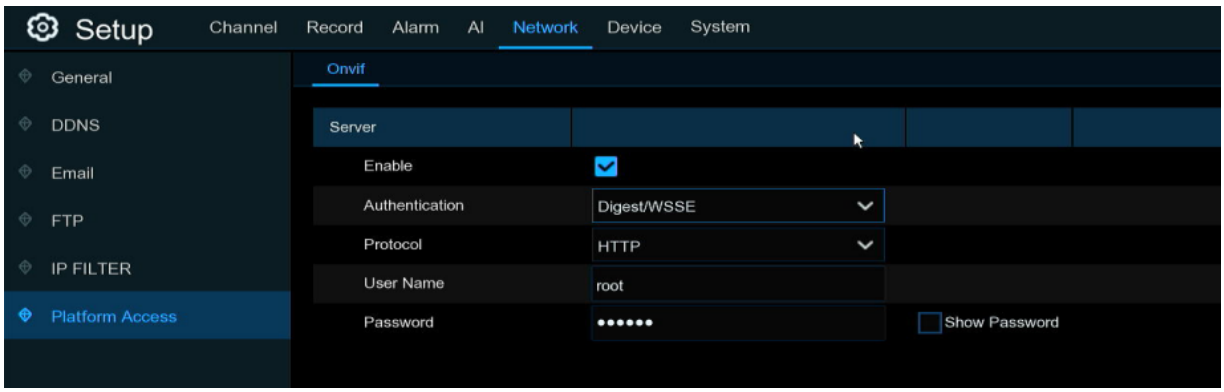
IP filter helps to control remote login devices by using Allow List and Block List to filter the IP address.



1. If you want to activate this function, check the **Enable** box.
2. Choose either **Enable Allow List** or **Enable Block List**. Allow List will only allow those IP address in the list to visit the NVR. Block List will block those IP address in the list to visit the NVR.
3. Choose one of the **Restricted Types** you want to set.
4. Set the **Start IP address** and **End IP Address**.
5. Click **Single Add** to add individual IP address.
6. Click **Network Segment Add** to add the IP range from the start IP address to the end IP address.
7. Click Edit icon to edit the IP address.
8. Click Delete icon to delete the IP address. Choose multiple IP address, and click Remove IP to delete multiple IP address at one time.

5.5.6 Platform Access

This function is mainly used to connect 3rd party platforms, such as ECMS/NVMS, via ONVIF protocol.



Enable： Check to enable this function.

Authentication： Login authentication type, options including Digest_sha256, Digest, Digest/WSSE, WSSE and None. Choose one of them to match to your 3rd party platform.
Protocol： Choose http, https or both of them.
User Name： To set a user name for platform connection.
Password： To set a password for platform connection.

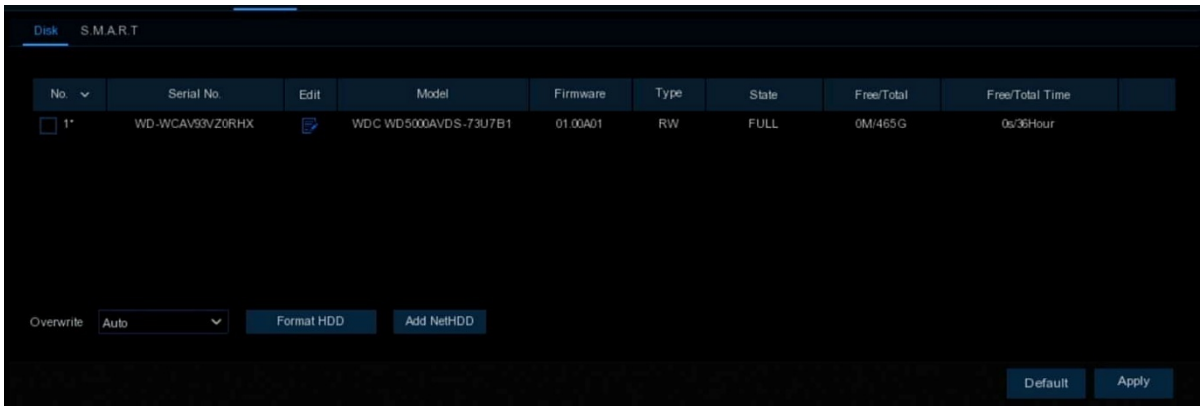
Note： Only data from channel 1 can be transferred to a 3rd party.

5. 6 Device

In this section, you can configure the storage devices, including the internal HDD storage and external NAS storage & cloud storage.

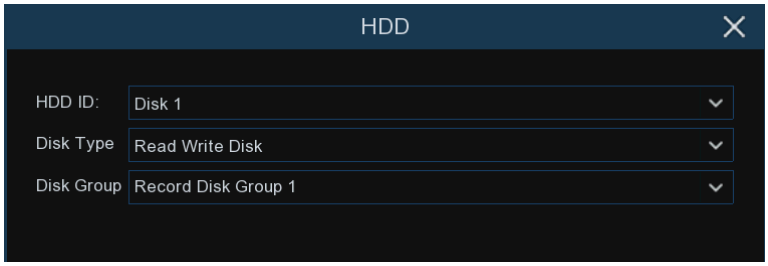
5.6.1 Disk

This menu allows you to check & configure the internal HDD(s). You need to format the HDD only at the initial startup and if you install a new HDD.



Format HDD: Select the HDD you want to format and then click **Format HDD**. To start formatting, you need to enter your user name and password and then click **OK** to confirm.
Overwrite: Use this option to overwrite old recordings on the HDD when the HDD is full. For example, if you choose the option 7 days then only the last 7 days recordings are kept on the HDD. To prevent overwriting any old recordings, select **OFF**. If you have disabled this function, please check the HDD status regularly to make sure the HDD is not full. Recording will be stopped if the HDD is full.
Record on ESATA: This optional menu is only displayed if your NVR comes with an e-SATA port on the rear panel. It will allow you to record video to an external e-SATA HDD to enhance your HDD capacity. If the e-SATA recording function is enabled, e-SATA backup function will be disabled.

If your NVR supports the installation of multiple HDDs, the edit icon will appear on your screen and you can click it to edit the HDD as shown below:



Disk Type: Read-write, read-only, and redundant.

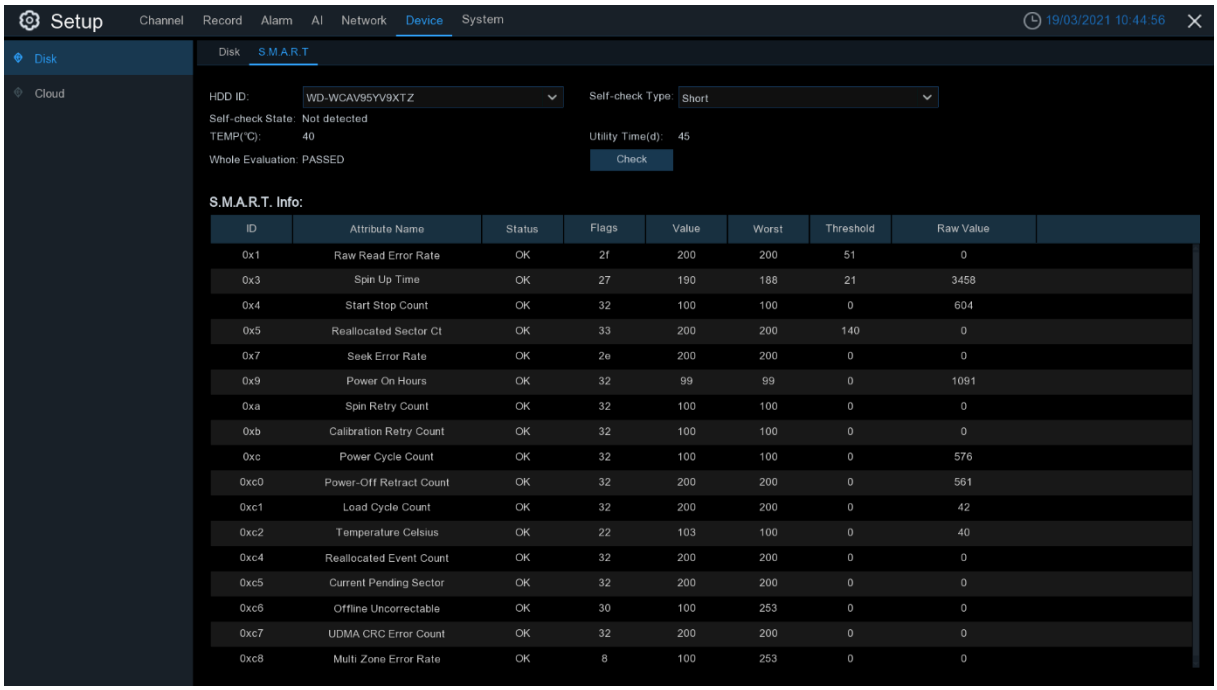
Read-write mode is the normal status for a HDD to save recording or search recording to play.

To prevent important video data from being overwritten during cyclic recording, the HDD can be set as **Read-only** mode. New recordings will be not able to save onto this read-only HDD. You can still search recordings from this read-only HDD to play.

A Redundant HDD can be used to automatically backup video footage on the recording (read-write) hard drive. When a redundant HDD is set, the system can be set to record cameras in parallel to both the recording hard drive and the redundant hard drive in case of hard drive failure.

5.6.1.1 S.M.A.R.T.

This function can be used to display technical information on the hard drive installed inside your NVR. You can also perform a test (there are three types available) to evaluate and detect potential drive errors.



ID	Attribute Name	Status	Flags	Value	Worst	Threshold	Raw Value
0x1	Raw Read Error Rate	OK	2f	200	200	51	0
0x3	Spin Up Time	OK	27	190	188	21	3458
0x4	Start Stop Count	OK	32	100	100	0	604
0x5	Reallocated Sector Ct	OK	33	200	200	140	0
0x7	Seek Error Rate	OK	2e	200	200	0	0
0x9	Power On Hours	OK	32	99	99	0	1091
0xa	Spin Retry Count	OK	32	100	100	0	0
0xb	Calibration Retry Count	OK	32	100	100	0	0
0xc	Power Cycle Count	OK	32	100	100	0	576
0xc0	Power-Off Retract Count	OK	32	200	200	0	561
0xc1	Load Cycle Count	OK	32	200	200	0	42
0xc2	Temperature Celsius	OK	22	103	100	0	40
0xc4	Reallocated Event Count	OK	32	200	200	0	0
0xc5	Current Pending Sector	OK	32	200	200	0	0
0xc6	Offline Uncorrectable	OK	30	100	253	0	0
0xc7	UDMA CRC Error Count	OK	32	200	200	0	0
0xc8	Multi Zone Error Rate	OK	8	100	253	0	0

Whole Evaluation not passed, continue to use the disk: If for some reason the hard drive has developed a fault (such as one or more bad sectors), you can instruct your NVR to continue saving to the drive.

Self-check Type: There are three types available:

Short: This test verifies major components of the hard drive such as read/write heads, electronics and internal memory.

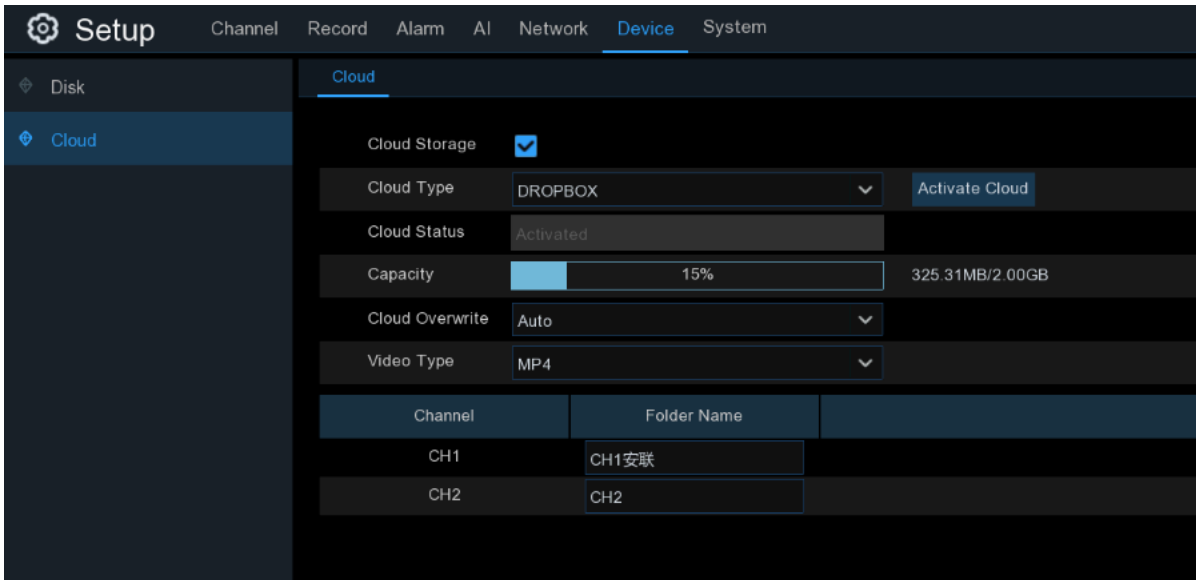
Long: This is a longer test that verifies the above as well as performing a surface scan to reveal problematic areas (if any) and forces bad sector relocation

Conveyance: This is a very quick test that verifies the mechanical parts of the hard drive are working.

Note: When performing a test, your NVR will continue to work as normal. If a Hard Drive S.M.A.R.T. error is found, the HDD can be continued to function, but there will be a risk of losing recorded data. It is recommended to install a new HDD.

5.6.2 Cloud

The cloud function allows you to upload pictures and videos to your cloud storage. It supports Dropbox and Google Drive storage.



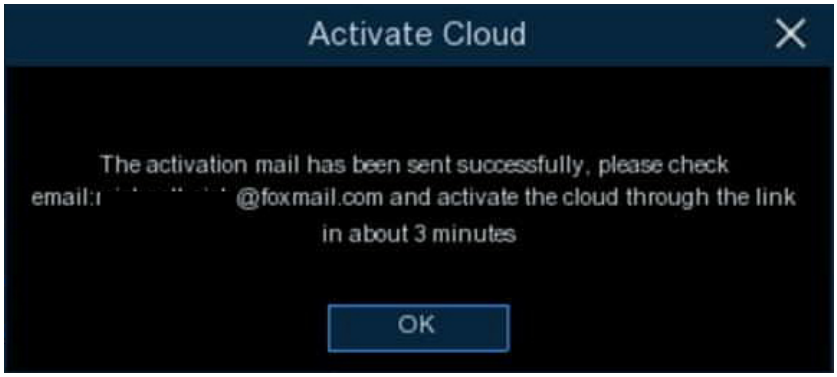
Cloud Type: Choose between Dropbox or Google Drive.

Cloud Overwrite: Use this option to overwrite the old recordings on the storage when it is full. For example, if you choose the option 7 days then only the last 7 days recordings are kept on the storage. To prevent overwriting any old recordings, select **OFF**. If you have disabled this function, please check the cloud storage status regularly, to make sure the capacity is not full. Recording will be stopped if the space is full.

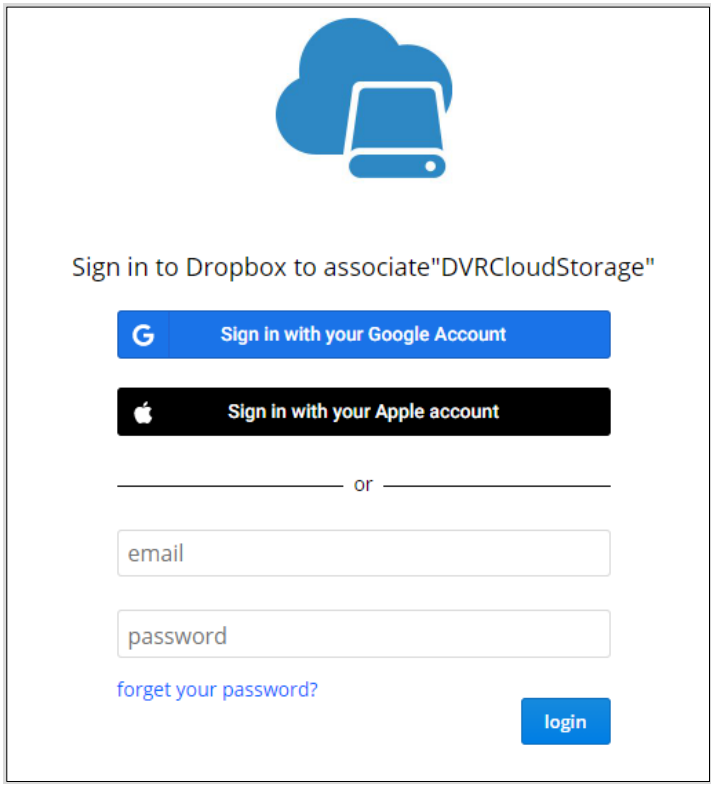
Video Type: To choose the video format you want to upload.

Take Dropbox as an example:

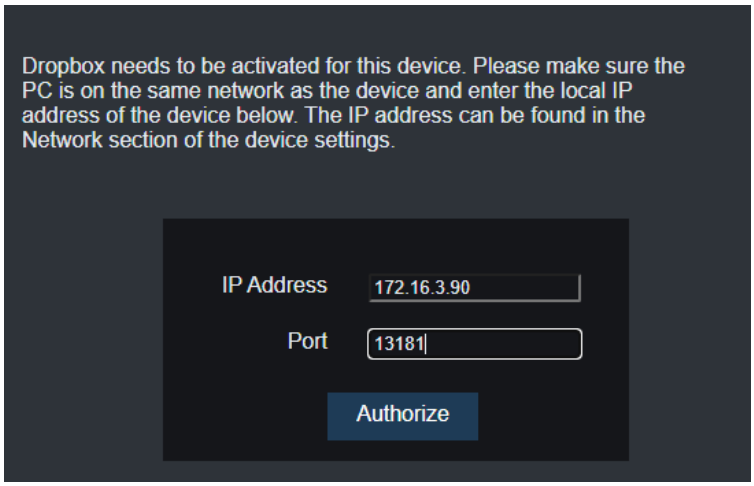
1. Check **Cloud Storage** to enable the function.
2. Choose Dropbox from **Cloud Type**.
3. Set the **Overwrite**.
4. Choose the **Video Type**.
5. Define the folder name for each channel.
6. Click the **Activate Cloud** button, the system will send an activation letter to your receiver email box which you have set in the Email Setup page.



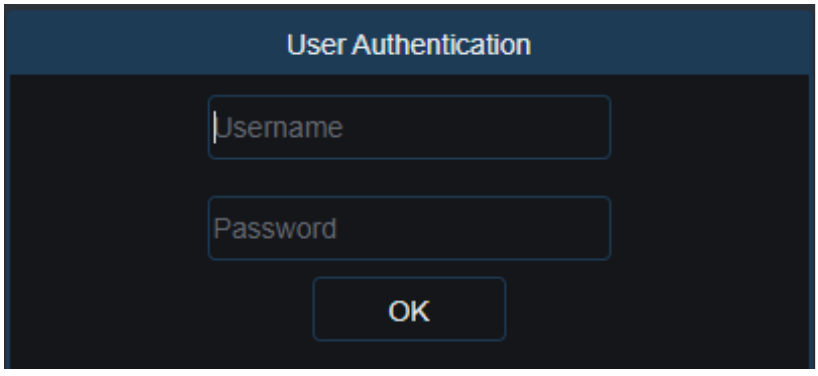
7. Login to your email and click the link in the email body. This will send you to the cloud server authorization login page. Input your Dropbox account name and password to login.



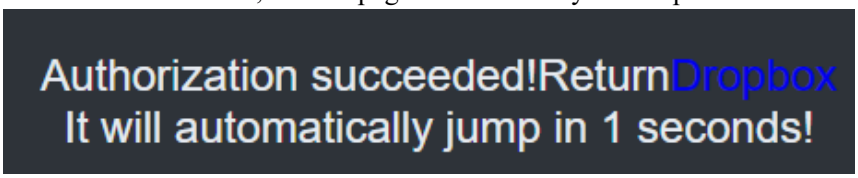
8. Input the DVR local IP address and web port, and then click **Authorize**.



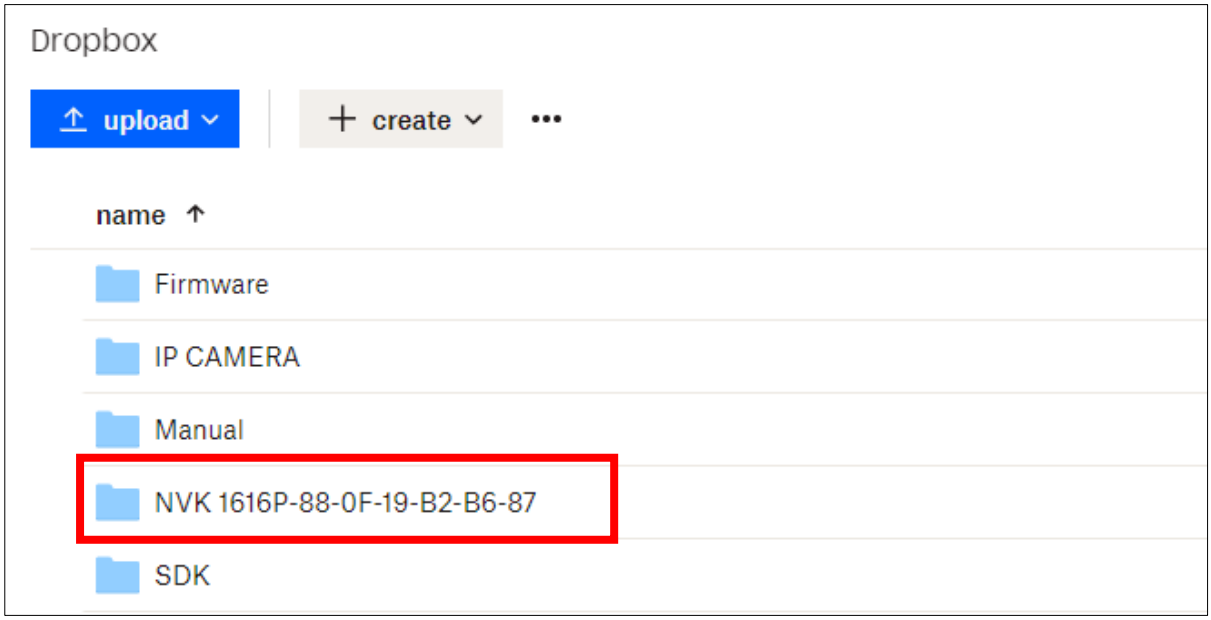
9. Input the DVR user name and password and then click OK.



10. Authorization finished; the webpage will return to your Dropbox.



11. The Cloud has completed the setup if you find a new folder with the name of your NVR device name and MAC address in Dropbox storage. Your alarm pictures and videos will be upload to this folder.

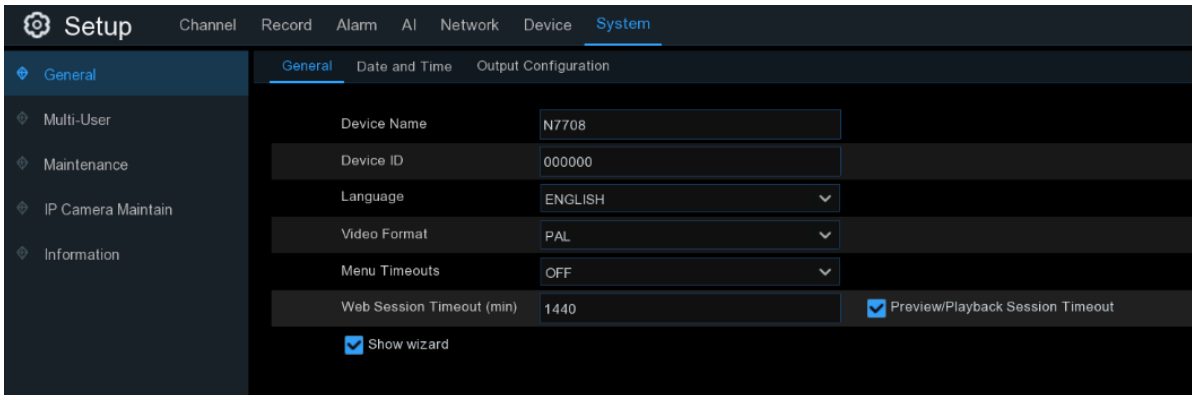


5.7 System

Change general system information such as date, time and region, edit passwords and permissions, and more.

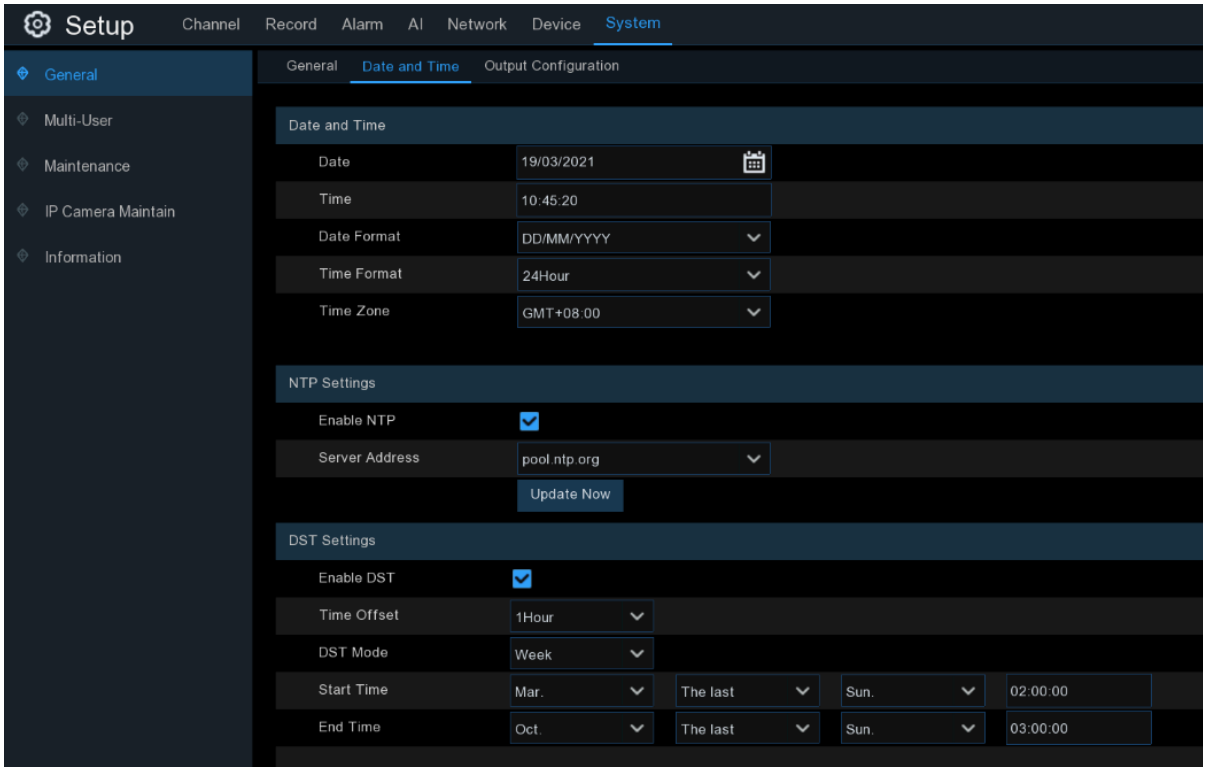
5.7.1 General

5.7.1.1 General



Device Name: Enter the desired name for your NVR. The name can include both letters and numbers.
Device ID: Enter the desired ID for your NVR. The device ID is used to identify the NVR, and can only be composed of numbers. For example, if 2 NVRs are installed in the same place, make the Device ID 000000 for one of the NVRs, and 111111 for the other. When you want to operate the NVR with a remote control, both of the NVRs may receive the signal from controller & act at the same time. If you want to control only the NVR with ID 111111, you can input the Device ID 111111 in login page with remote controller for further operations.
Language: Select a language you would like the system menus to be displayed in. Multiple languages are available.
Video Format: Select the correct video standard for your region.
Menu Timeouts: Click the drop-down menu to select the time your NVR will exit the Main Menu when idle. You can also disable this by selecting “OFF” (password protection will be temporarily disabled).
Show Wizard: Click the checkbox if you would like to display the Startup Wizard each time you turn on or reboot your NVR.

5.7.1.2 Date and Time



Date & Time

Date: Click the calendar icon to change the date.

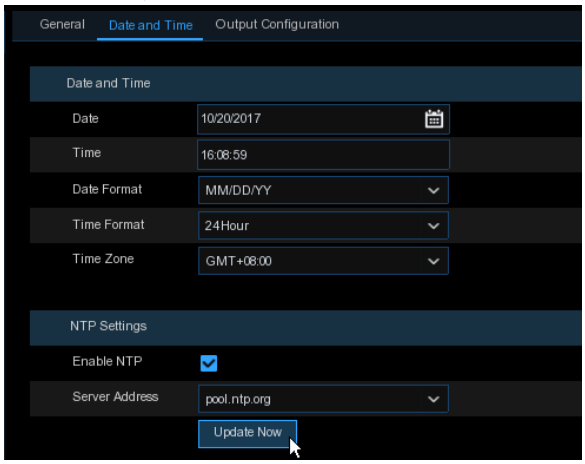
Time: Click the dialogue box to change the time.

Date Format: Select the preferred date format.

Time Format: Select the preferred time format.

Time Zone: Select a time zone relevant to your region or city.

The NTP (Network Time Protocol) function allows your NVR to automatically sync its clock with a time server. This gives it the ability to constantly have an accurate time setting (your NVR will periodically sync automatically).

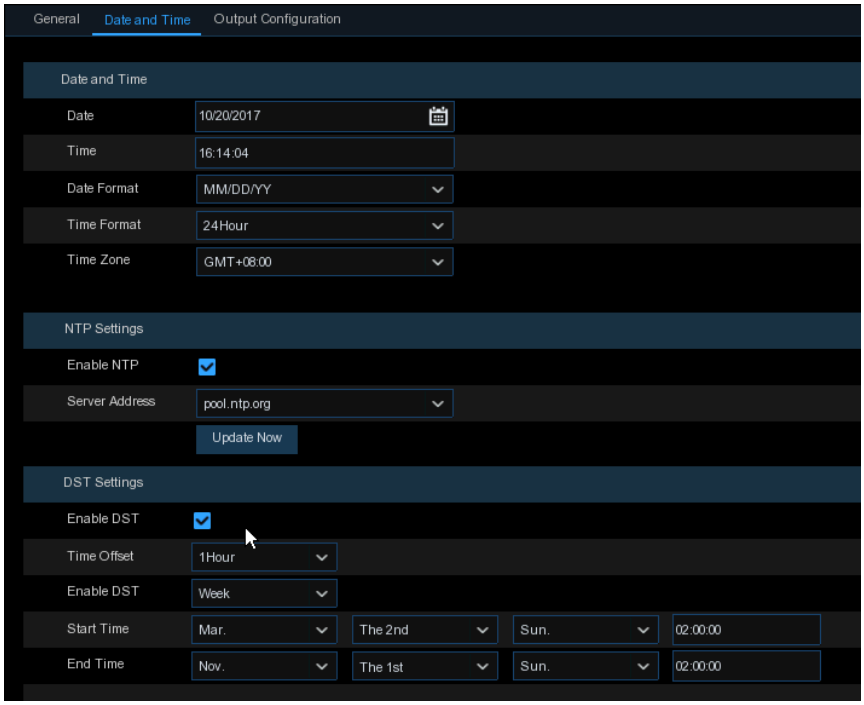


Check to enable the **NTP**, and select a **Server Address**. Click Update Now to manually sync the date & time.

Click **Apply** to save your settings.

When NTP function is enabled, system will update the system time at 00:07:50 per day, or every time when the system is starting up.

The DST (Daylight Saving Time) function allows you to select the amount of time that Daylight Saving has increased by in your particular time zone or region.



Enable DST: If Daylight Savings Time applies to your time zone or region, check this option to enable.

Time Offset: Select the amount of time that Daylight Saving has increased by in your time zone. This refers to the difference in minutes, between Coordinated Universal Time (UTC) and the local time.

Enable DST: You can select how Daylight Savings Time starts and ends:

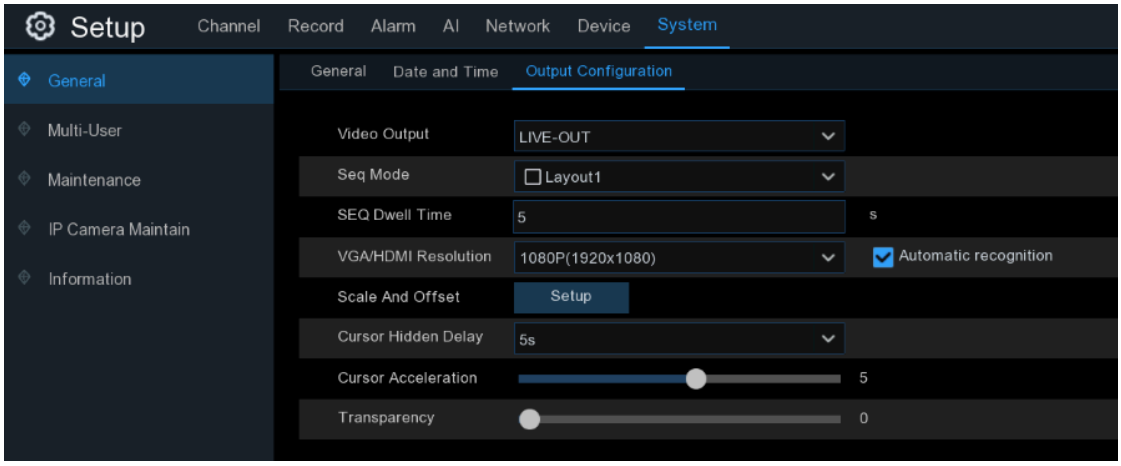
Week: Select the month, a particular day and time when Daylight Savings Time starts and ends. For example, 2 a.m. on the first Sunday of a particular month.

Date: Select the start date (click the calendar icon), end date and time when Daylight Savings Time starts and ends.

Start Time / End Time: Set the start time and end time for Daylight Savings Time.

5.7.1.3 Output Configuration

This menu allows you to configure video output parameters.

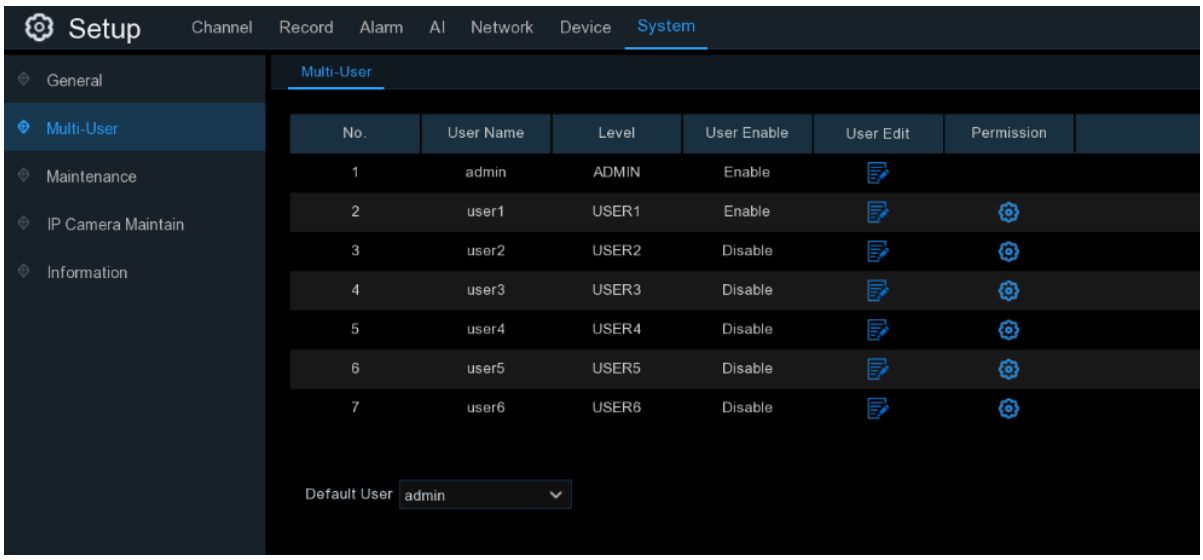


Video Output: To choose the output options:

LIVE-OUT is used to configure the main output parameters.

5.7.2 Multi-user

This menu allows you to configure the user name, password and user permission.

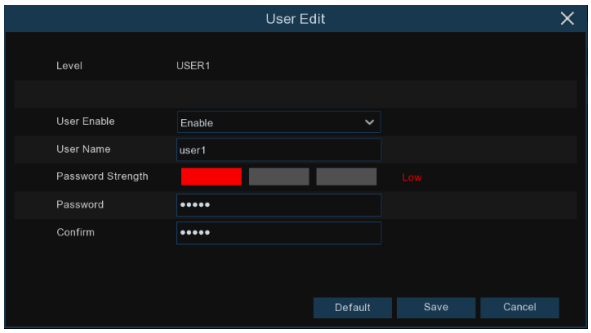


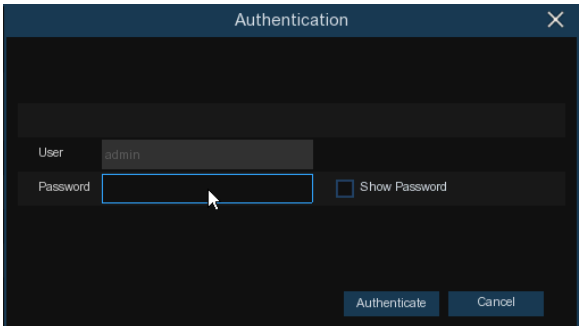
The system supports the following account types:

- **ADMIN — System Administrator**: The administrator has full control of the system, and can change both administrator and user passwords and enable/disable password protection.
- **USER — Normal User**: Users only have access to live viewing, search, playback, and other functions. You may set up multiple user accounts with varying levels of access to the system.

5.7.2.1 Changing Password

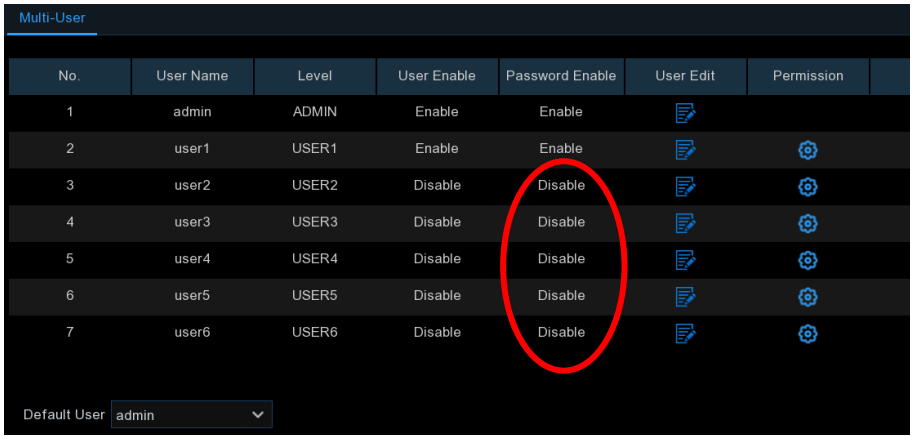
To change the password for the administrator or user accounts, click the User Edit icon . The password has to be a minimum of 8 characters and can contain a mixture of numbers and letters. Enter your new password again to confirm, and then click **Save** to save your new password. You will be required to input your old password to authenticate.



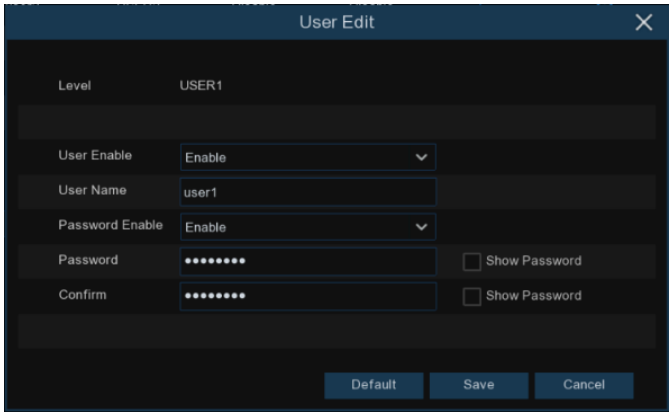


Password Enable: It's strongly recommended to enable password protection to ensure your privacy. If you want to disable password protection, please ensure your NVR is placed in a secure place.

5.7.2.2 Add New Users



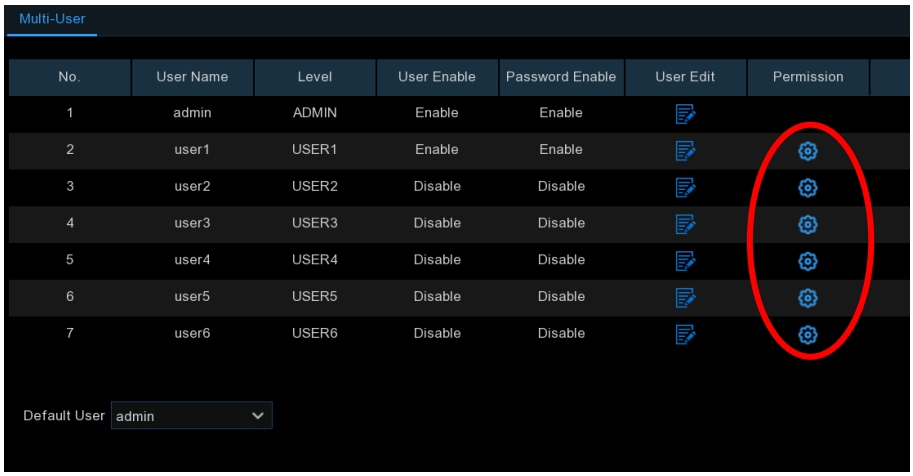
1. Select one of the user accounts that is currently disabled, click the User Edit icon .



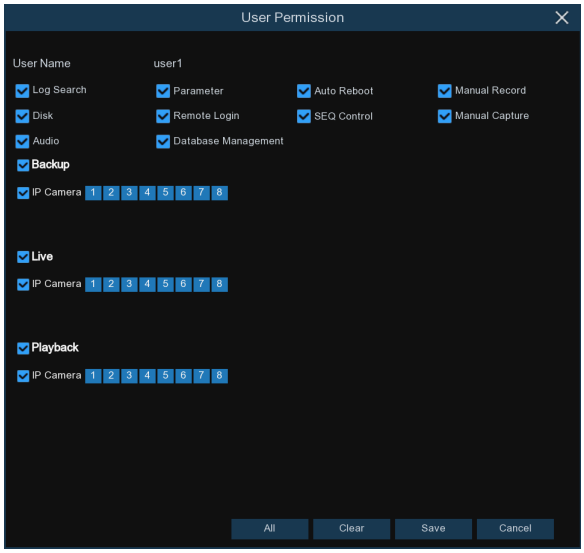
2. Select **Enable** from the drop-down next to **User Enable**.
3. Click the field next to **User Name** to change the user name for the account.
4. Select **Enable** from the drop-down next to **Password Enable**.
5. Click the field next to **Password** to enter the desired password.
6. Click the field next to **Confirm** to reenter the password.
7. Click **Save**. You will be required to input your Admin password to authenticate.

5.7.2.3 Setting User Permissions

The administrator account is the only account that has full control of all system functions. You can enable or disable access to certain menus and functions of each user account.



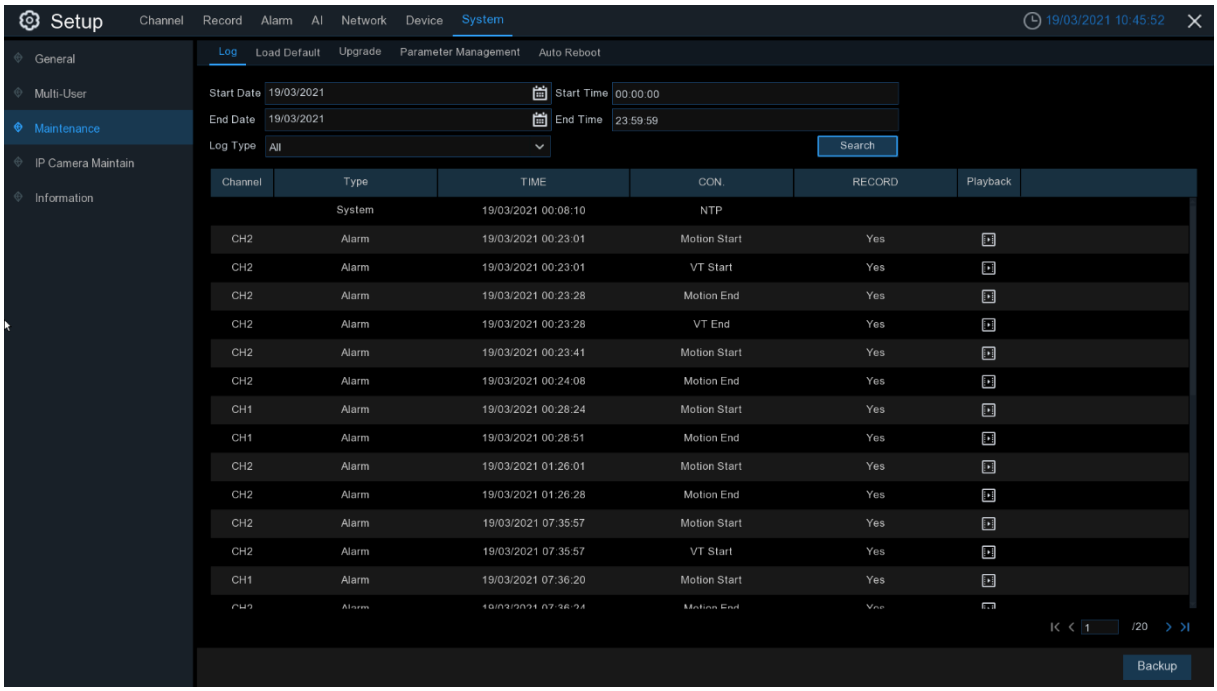
1. Click the edit icon under Permission tab.



2. Check the boxes next to any system menus or capabilities you would like the user to access. Click **All** to check all boxes. Click **Clear** to check none of the boxes.
3. Click **Save** to save your modifications.

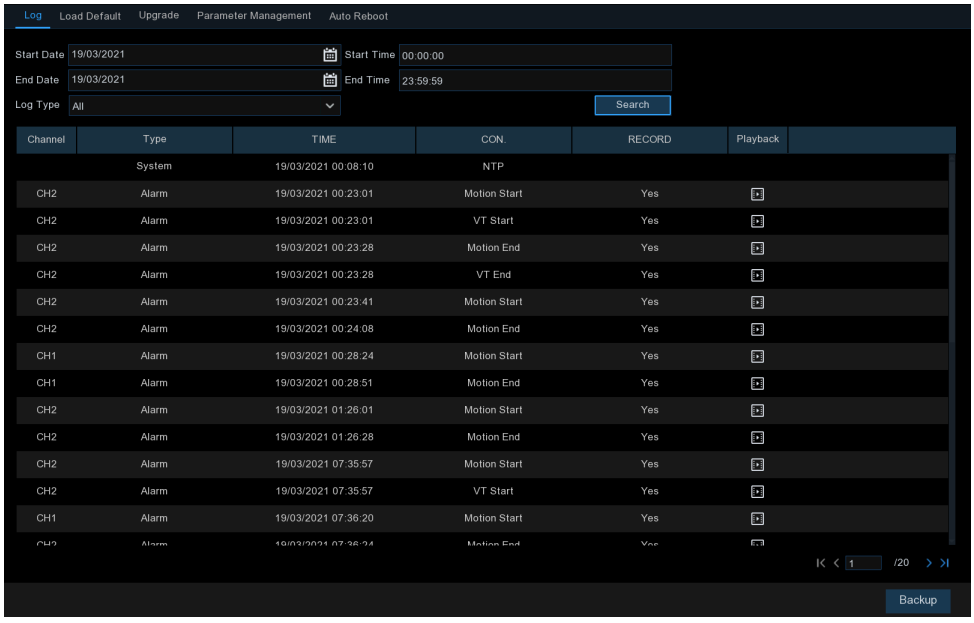
5.7.3 Maintenance

In this section, you will be able to search & view the system log, load default settings, upgrade the system, export & import system parameters and manager system auto reboot.



5.7.3.1 Log

The system log shows you important system events, such as motion alarms and system warnings. You can easily create a backup file of the system log for a set time period to a USB flash drive.



Log Searching and Backing Up:

1. Click the field next to **Start Date** & **Start Time** to choose the starting date & time for your search from the on-screen calendar.

2. Click the field next to **End Date** & **End Time** to choose the end date & time for your search from the on-screen calendar.
3. Select the type of events you would like to search for from the dropdown next to **Log Type**, or select **All** to see the entire system log for the selected time period.
4. Click **Search**.
5. Browse system log events from your search period:

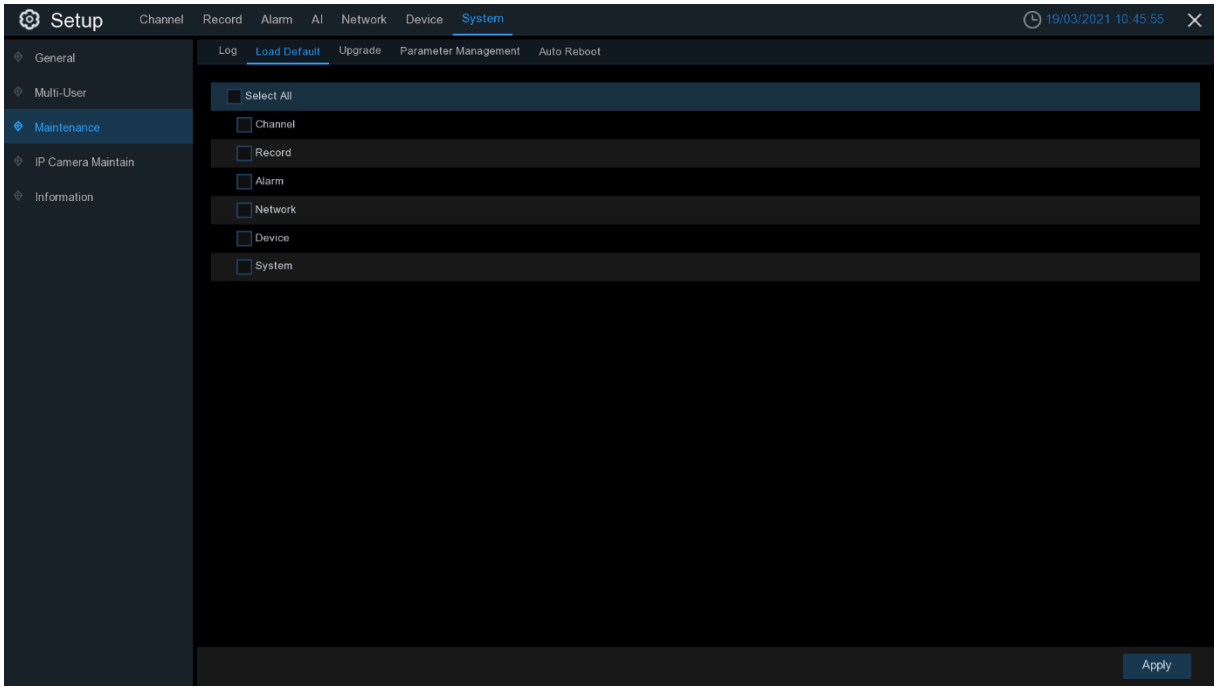
- Video events can be played back instantly by clicking the **Playback** column. Right-click to return to your search results.
- Use the |< < / > >| buttons in the bottom-right corner of the menu to move between pages of system log events.

6. Click **Backup** to create a backup of the system log for your search period. Please make sure your flash drive is been connected to the NVR's USB port.
7. The backup drive menu appears. Navigate to the folder you want the backup file to be saved in, then click **OK** to begin.

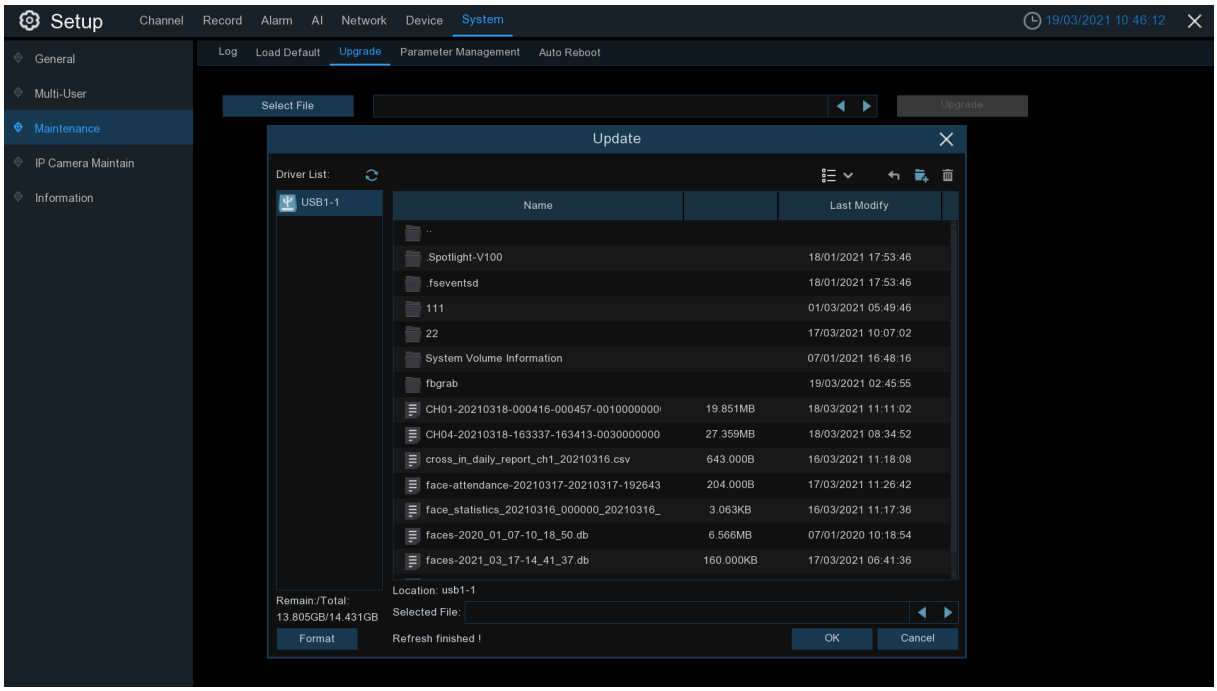
5.7.3.2 Load Default

Reset the NVR settings to its out-of-box state. You can choose to reset all settings at once, or just settings on specific menus. Restoring default settings will not delete recordings and snapshots saved to the hard drive.

Check the items you want restore, or check **Select All** to choose all items. Click **Apply** to load default settings of your chosen items.



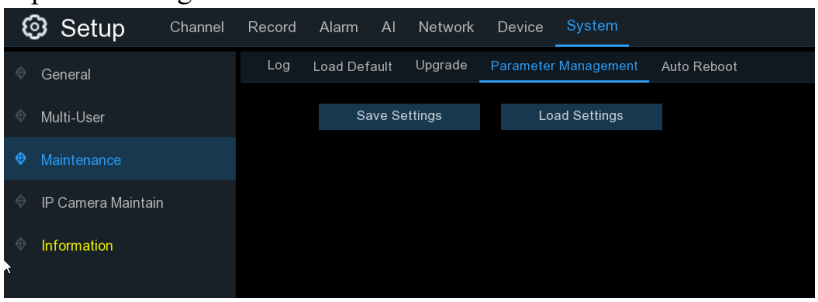
5.7.3.3 Upgrade



1. Copy the firmware file (.sw file) to your USB drive, and insert the USB flash drive into the NVR's USB port.
2. Click the Select File button to choose the firmware file in your USB flash drive, then Click **OK**.
3. Click **Upgrade** button to start a system upgrade. The system upgrade will last 5-10 minutes, please do **NOT** power off the NVR or remove the USB from NVR during firmware upgrade.

5.7.3.4 Parameter Management

You can export the main menu settings you have configured to a USB flash drive, or import an exported setting file from USB flash drive to the NVR.

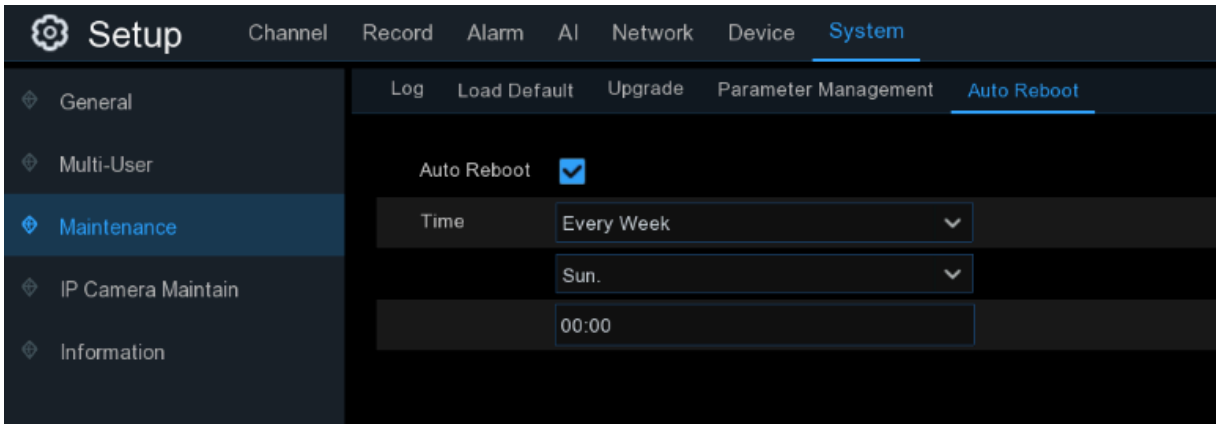


Save Settings: Click to save the NVR current system settings to the USB device. You will be required to input the Admin password to authenticate.

Load Settings: Once you have created a system settings export, you can import the settings on to another NVR. Click **Load Settings** button to navigate to the system settings file you want to import from your USB flash driver. You will be required to input the Admin password to authenticate.

5.7.3.5 Auto Reboot

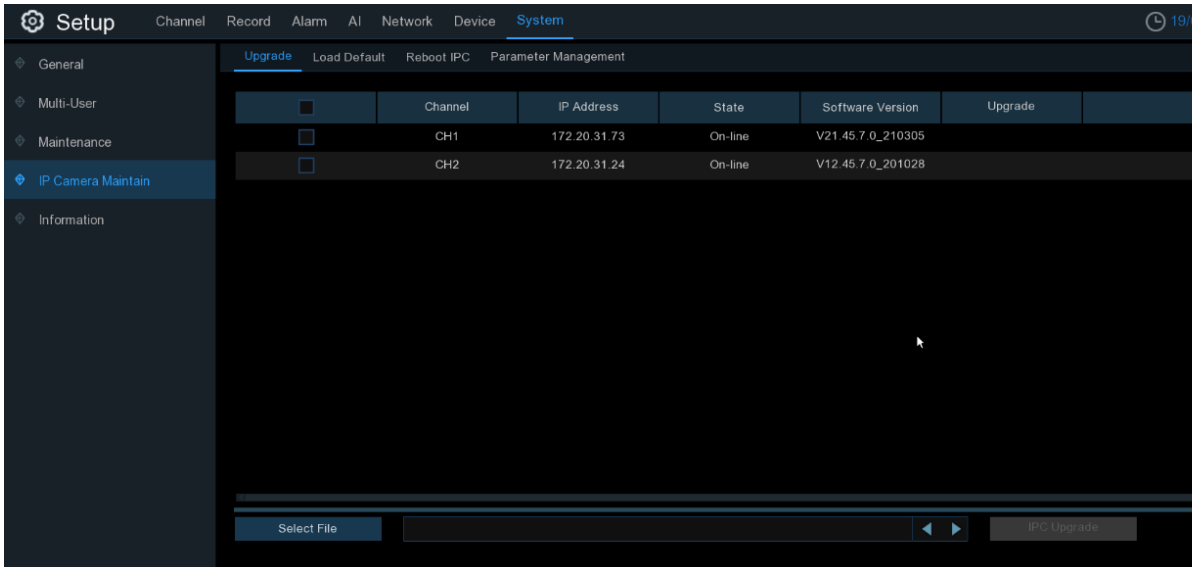
This menu allows the system to auto reboot the NVR regularly. It is recommended to leave this function enabled, as it maintains the operational integrity of your NVR.



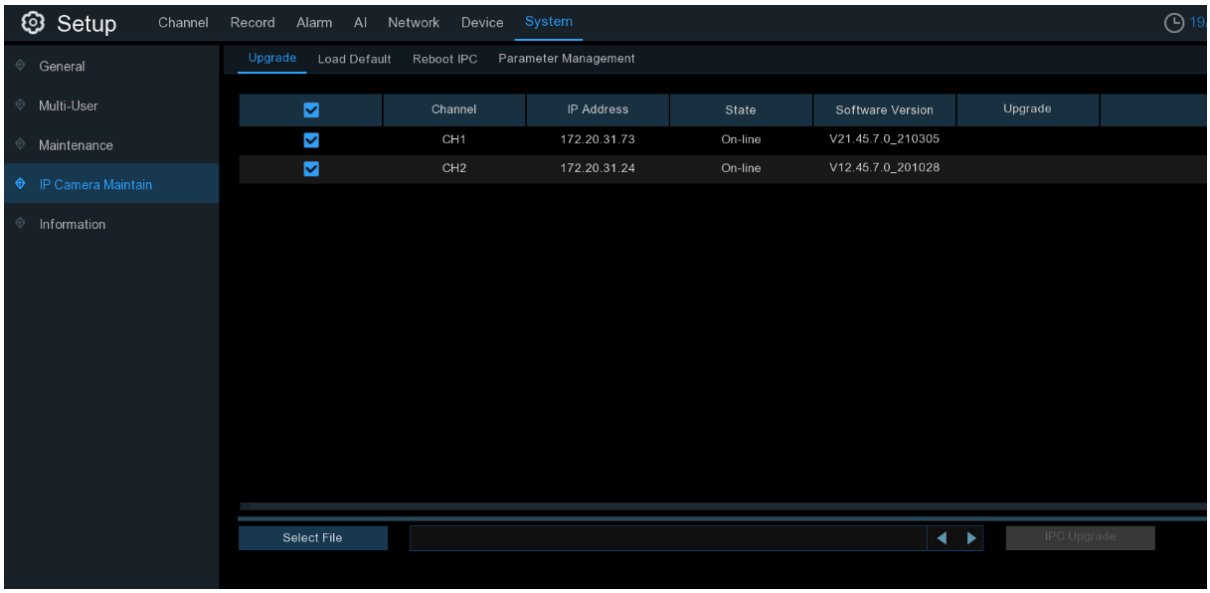
Auto Reboot: Check to enable.
Time: You can set the NVR to reboot by day, week or month.

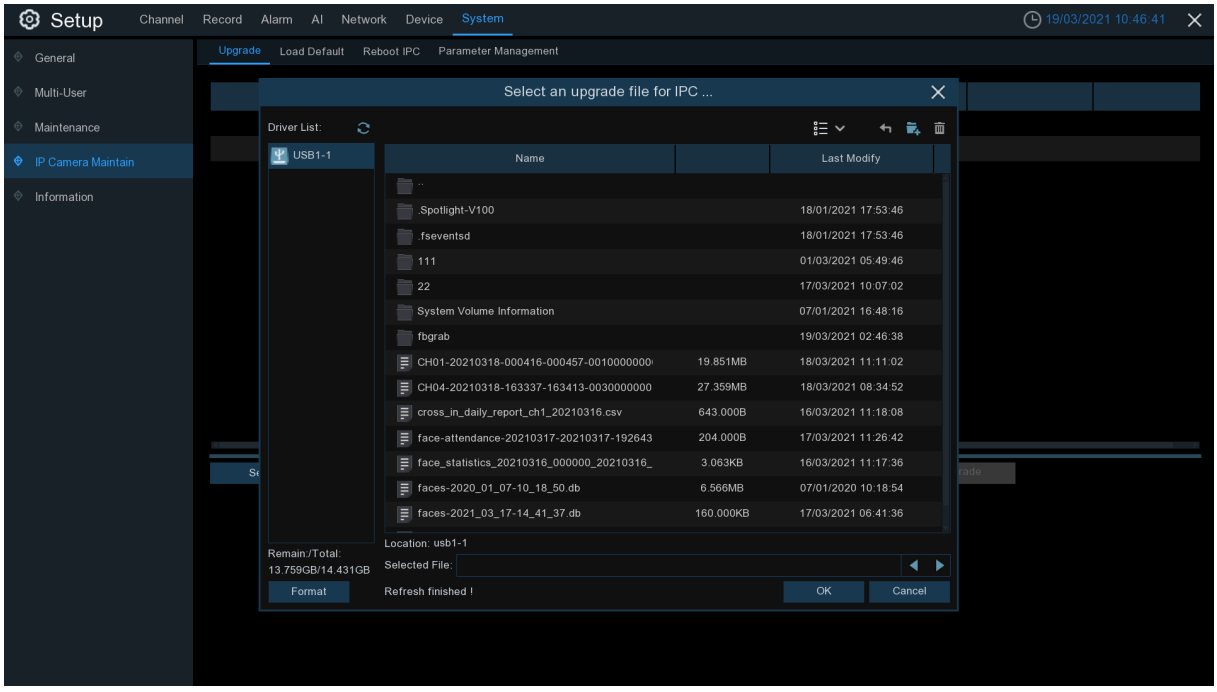
5.7.4 IP Camera Maintenance

This menu allows you to upgrade the IP camera's firmware and restore default settings of an IP camera.



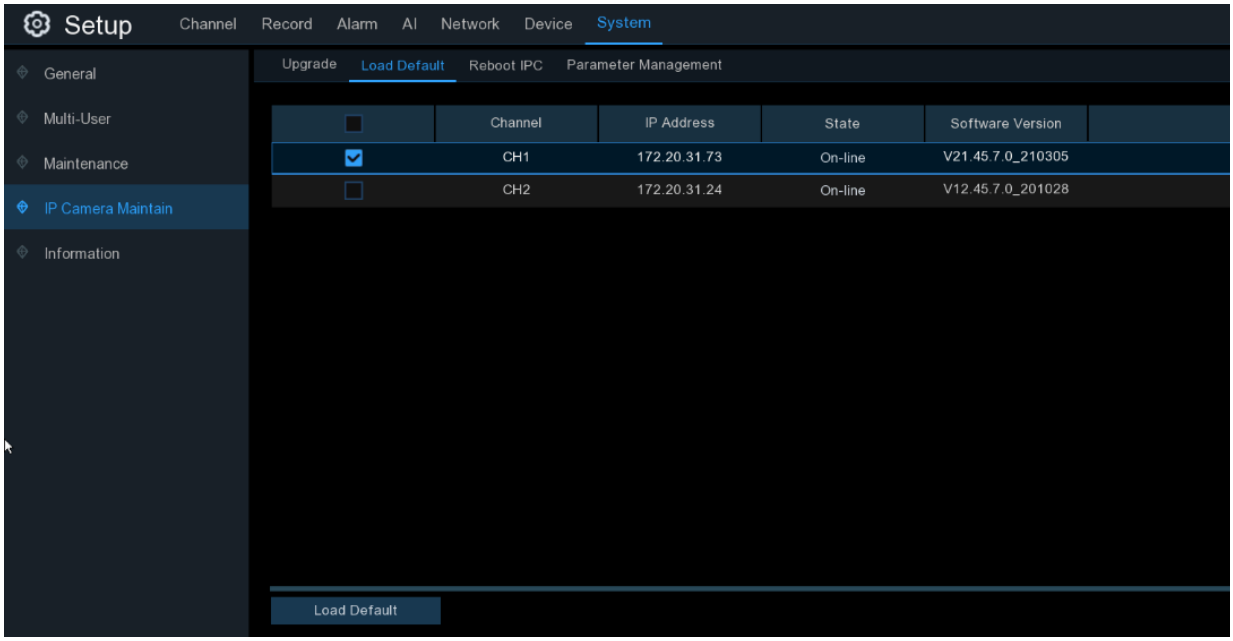
5.7.4.1 Upgrade IP Camera





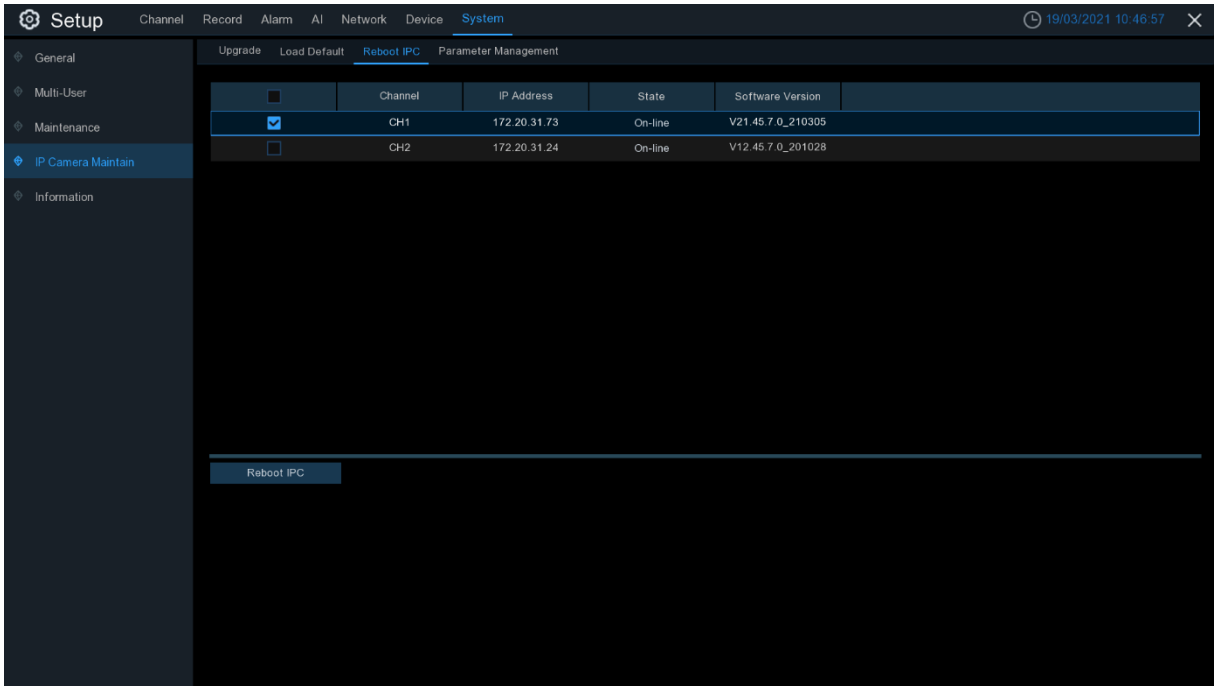
1. Choose one of the IP cameras you want to upgrade firmware on.
2. Click **Select File** to select the update file from your USB flash drive, then click **OK**.
3. Click IPC Upgrade button to start upgrading. You will be required to input the Admin password to authenticate. Please do NOT power off the NVR and IP camera or remove the USB during the upgrading.

5.7.4.2 Load Default Settings for IP Camera



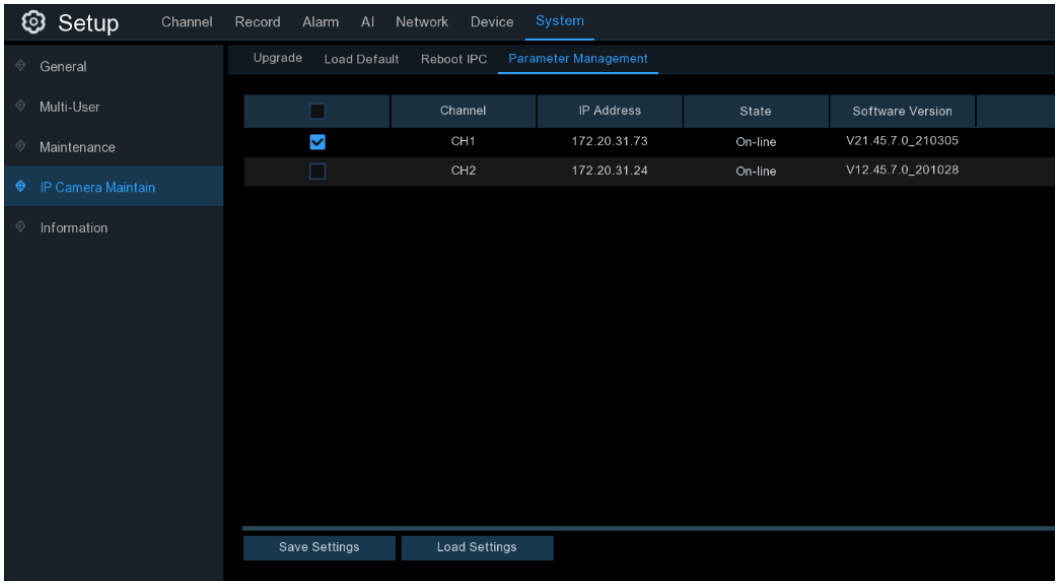
1. Choose the IP cameras you want to restore.
2. Click **Load Default** to restore settings. You will be required to input the Admin password to authenticate.

5.7.4.3 Reboot IPC



To reboot the IP camera you select.

5.7.4.4 Parameter Management



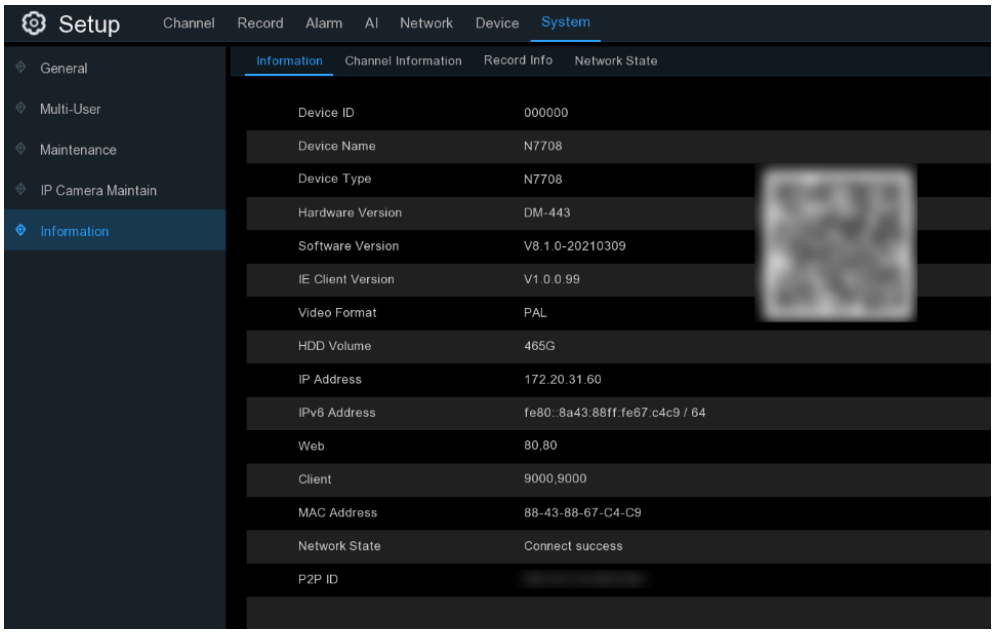
Select the IP camera, and click **Save Settings** to export its setting values to your USB drive.
Select the IP camera, and click **Load Settings** to import setting values from your USB drive.

5.7.5 System Information

This menu allows you to view the system information, channel information, record information & network status.

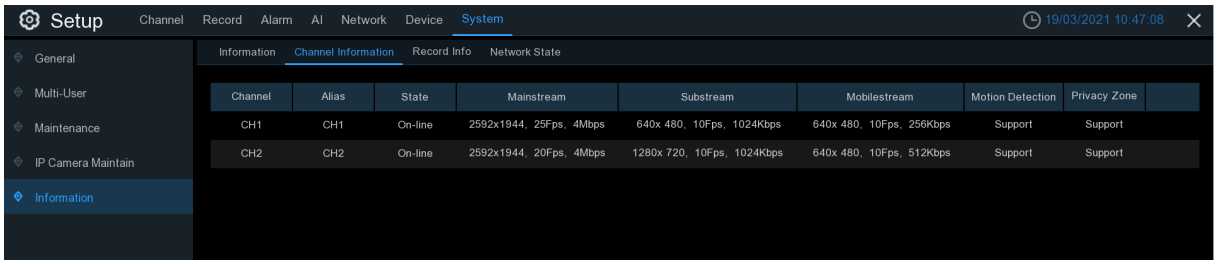
5.7.5.1 Information

View system information such as device ID, device model name, IP address, MAC address, firmware version and more.



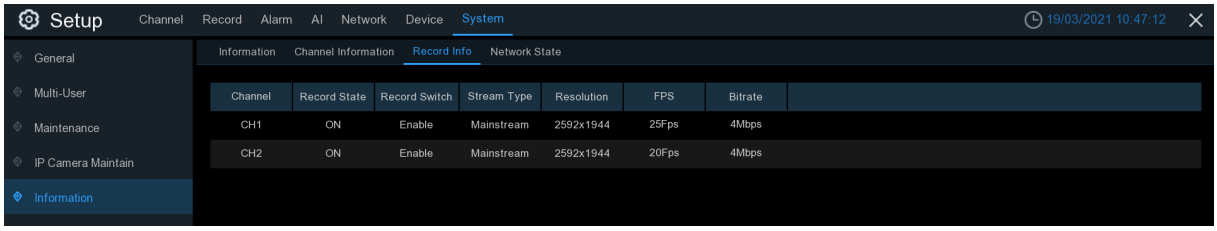
If your NVR supports P2P function, you will find the P2P ID & P2P QR code in the information page. You can scan this QR code with a mobile app to remotely view the NVR.

5.7.5.2 Channel Information



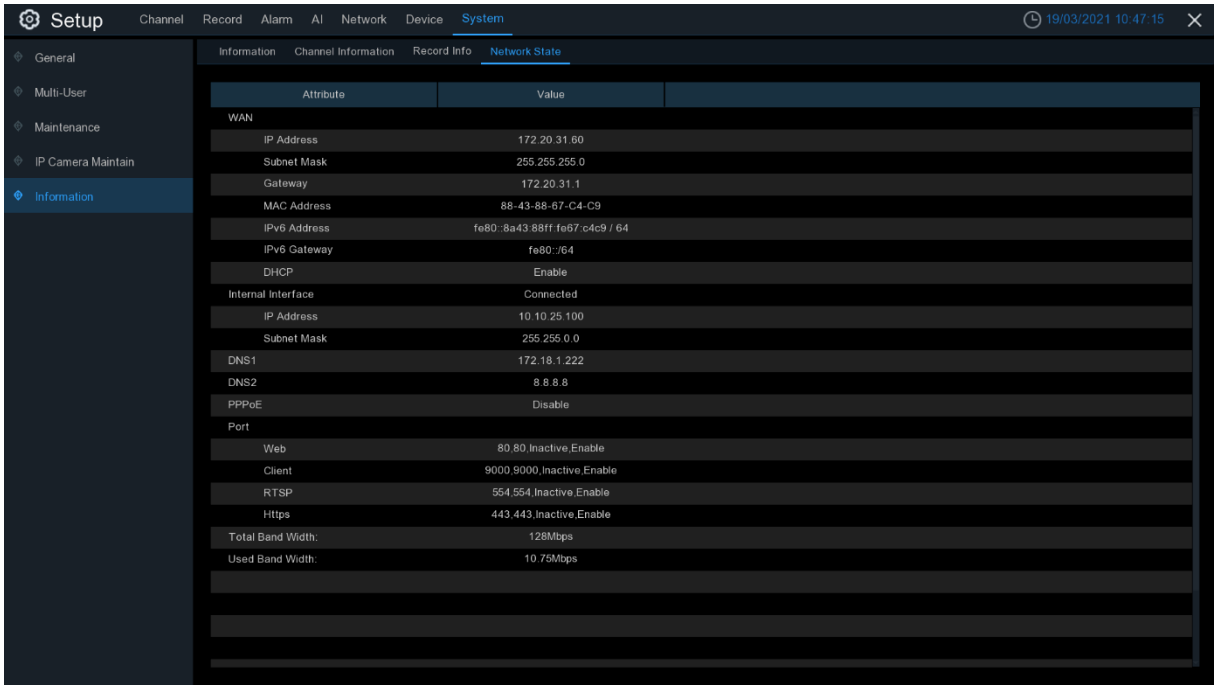
View channel information for each connected camera such as alias, mainstream and substream recording specifications, motion detection status & privacy zone.

5.7.5.3 Record Information



View recording information for each connected camera such as bitrate, stream type, recording resolution and frame rate (FPS).

5.7.5.4 Network State



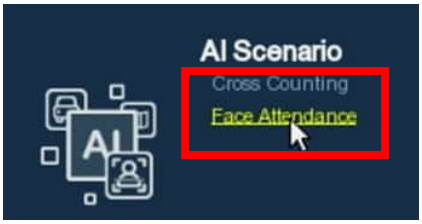
View network information.

Total Band Width: Shows the NVR's total input bandwidth for IP cameras.

Used Band Width: Shows the used bandwidth of IP cameras.

5.8 AI Scenario

AI Scenario function provides AI applications for different scenarios. Click the submenu title in the main setup page to get into the individual function setup page.



5.8.1 Cross Counting

This is an AI application based on cross counting function, which helps to control the attendance number of customers/visitors/vehicles in public places, like restaurants, parks, zoos, theaters, museums, car parks, etc.

1. Navigation bar on the left side:

Channel View Mode: To count and view the real-time results by individual camera(s). Mostly used for small places with a single entrance & exit.

Group View Mode: To count and view the real-time result by group(s). Mostly used for big places with multiple entrances & exits which are monitored by multiple cameras.

Data Search: To search the counting data

Configuration: To configure the settings

2. Real-time data display:

Available: Remaining allowed attendance number
Inside: Current attendance number inside the control area
Enter: Recorded number of total entrants
Exit: Recorded number of total leaving attendance.

3. Real-time counting data display:

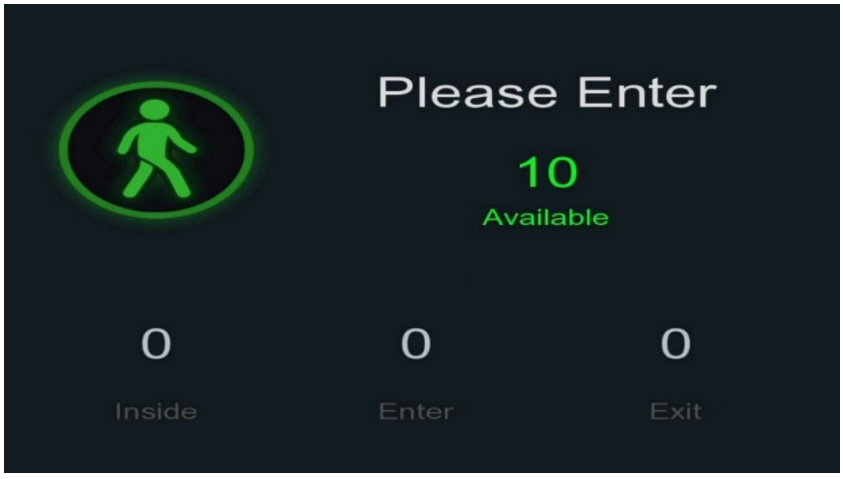
 Screen display layout of 4/6/9 channels.

 To show or hide the real-time data display.

 Clear counting data for the selected channel

 Clear counting data for all channels

4. Real-time counting data information bar



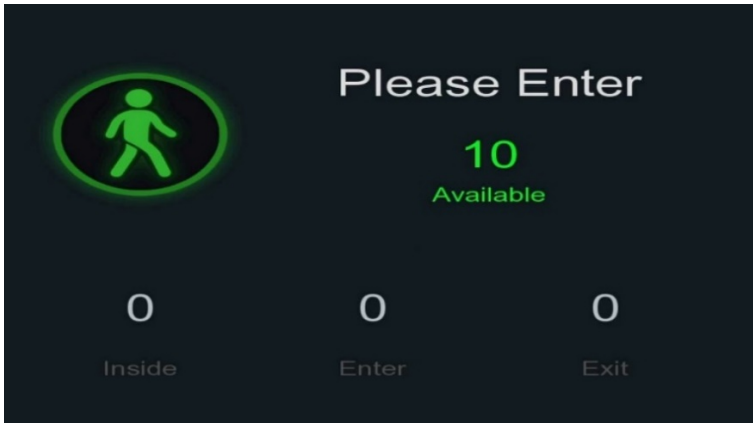
This bar will display the real-time counting data for the selected channel.
Available: Remaining allowed attendance number
Inside: Current attendance number inside the control area
Enter: Recorded number of the total entrants
Exit: Recorded number of the total leaving attendance.

 If the available number is more than 0, the cartoon figure will be in green color.

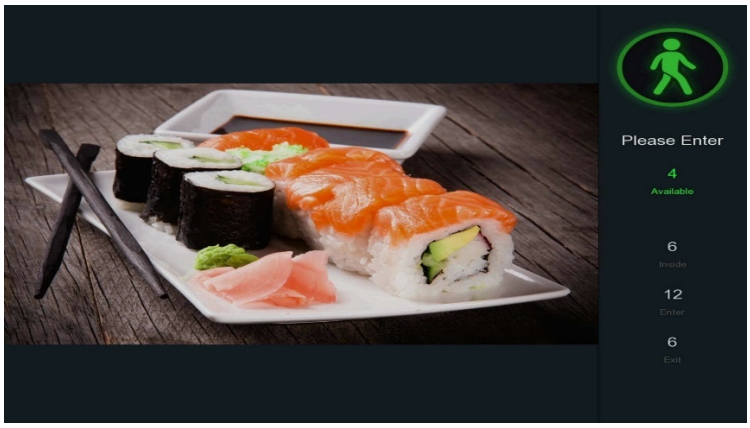
 If the available number is 0, the cartoon figure will be in red color.

5. Full Screen Button:

Click the full screen icon to display the real-time counting data for the selected channel(s) or group(s).



If you have enabled **Advertise Mode**, your advertising pictures will be displayed with the real-time counting data together in the full screen mode. Learn more about **Advertise Mode** at 5.8.1.3 Advise Mode.



Right click your mouse to exit the full screen mode.

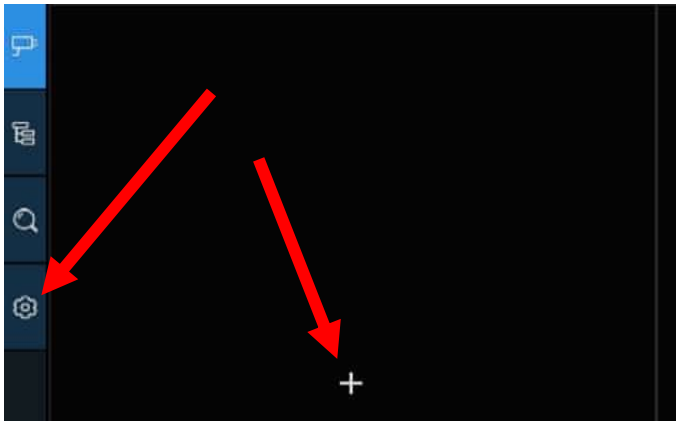
6. Statistic data chart:

Channel	Type	12:00	13:00	14:00	15:00	16:00	17:00
CH2	Enter	6	11	12	1	0	0
	Exit	9	11	12	1	0	0
	Inside	0	0	0	0	0	0
CH3	Enter	-	-	-	-	-	-
	Exit	-	-	-	-	-	-
	Inside	-	-	-	-	-	-
CH5	Enter	47	27	36	8	0	13
	Exit	26	13	16	3	0	9
	Inside	100	114	134	139	139	143
CH6	Enter	0	0	0	0	0	0
	Exit	0	0	0	0	0	0
	Inside	0	0	0	0	0	0

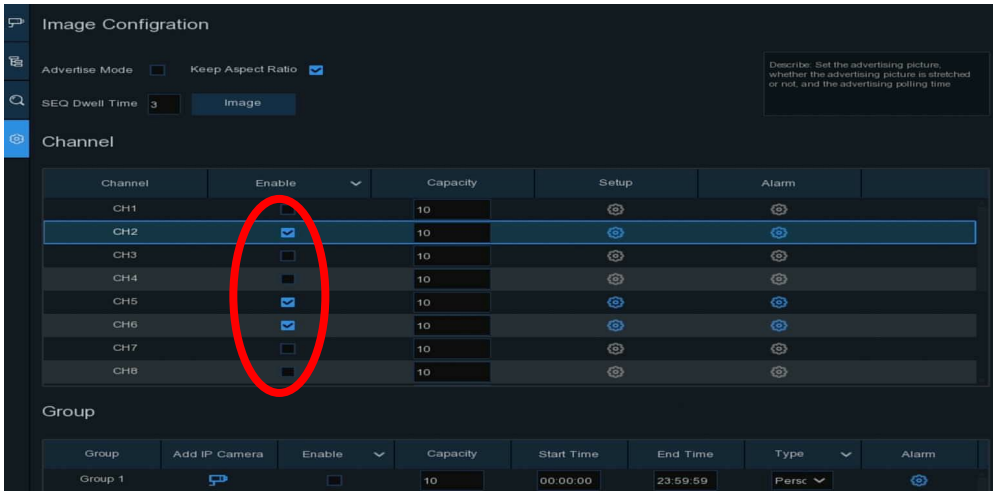
The counting statistical data of all activated channels for the day will be displayed here. Use the mouse wheel to move the timeline left or right.

5.8.1.1 Channel View Setup

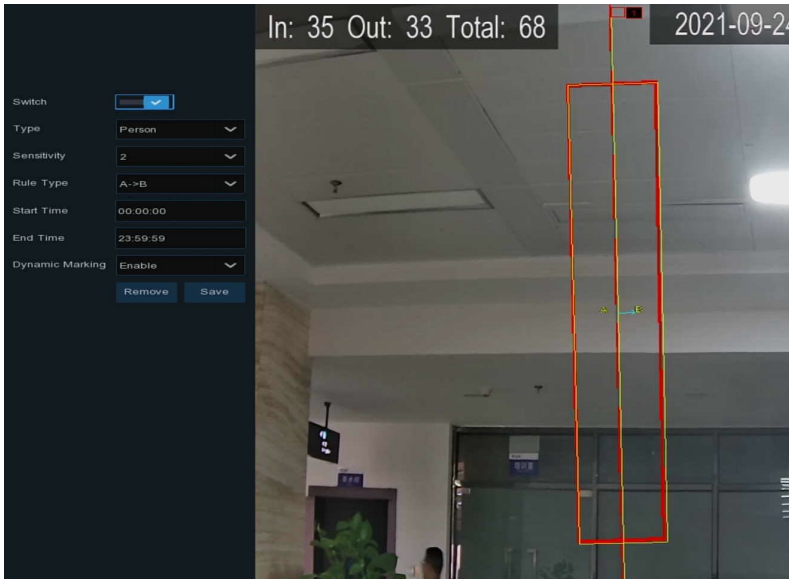
1. Click the add icon + or setup icon to get to the configuration page.



2. The **Channel** list will allow you to enable the channel(s) you want to use the counting function on. The Setup & Alarm icon will be blue if the camera in that channel supports AI function; on the contrary if the camera doesn't support AI function, the icon will be grey.



3. Set the **Capacity** number for each channel. This will establish the maximum number of visitors.
4. Click one of the **Setup** icons to configure the detection conditions for that channel.



Switch: Activate or deactivate the detection.

Type: Choose the detection target objects. **Motion** will detect all moving objects, **Person** will detect human beings only, and **Vehicle** will detect vehicles only.

Sensitivity: Set the sensitivity level. Level 1 is the lowest sensitivity level while level 4 is the highest sensitivity level.

Rule Type:

A→B: If a target object is detected moving from side A to side B, the system will add 1 to enter number; if a target object is detected moving from side B to side A, the system will add 1 to exit number.

B→A: If a target object is detected moving from side B to side A, the system will add 1 to enter number; if a target object is detected moving from side A to side B, the system will add 1 to exit number.

Start Time: Set the detection start time.

End Time: Set the detection end time.

Dynamic Marking： If you enable this option, the border of the detection zone will be displayed in both live view images and recording files.

Configuration Steps:

i. Activate the **Switch**.
ii. Choose the detection target type.
iii. To set the **Sensitivity**.
iv. Choose a **Rule Type**.
v. Set the **Start Time** and **End Time**.
vi. Use your mouse to click 2 points in the camera picture to draw a virtual line.
vii. Click **Save** to save your settings.
viii. If you want to modify the position or length of the line, click the red box in the line and the color of the line will change to red. Click and hold the left button of your mouse to move the line, or drag the terminals to modify the length or position of the line.
ix. If you want to remove one of the lines from the camera picture, click the red box in the line and then click **Remove** button.
x. Right click your mouse to exit the setup page.

5. Repeat step 3 to finish the configuration for all channels on which you want to activate this function.
6. Click one of the **Alarm** icons to configure the alarm actions for when the **Available** number is 0.

Buzzer: Set the buzzer duration in seconds when the **Available** number is 0.

Alarm Out: If your NVR supports connection to an external alarm device, you can set it to emit an alarm tone.

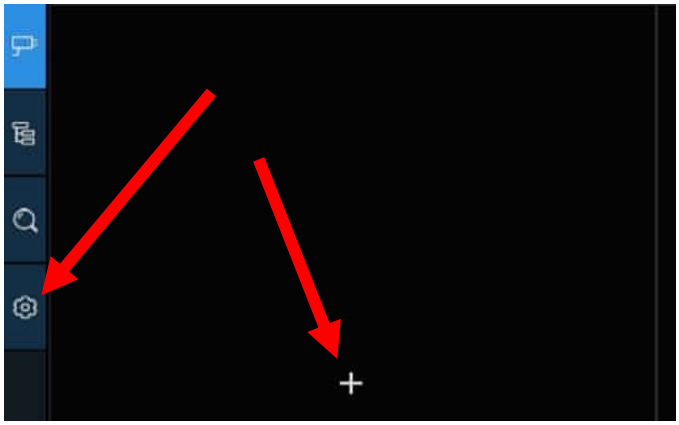
Latch Time: To configure the external alarm time when the **Available** number is 0.

Right click your mouse to exit the alarm setup page, and then click the **Save** button to save the settings.

7. Click the **Channel View** icon to view the live images & counting data of all activated channels.

5.8.1.2 Group View Setup

1. Click the add icon + or setup icon to get to the configuration page.



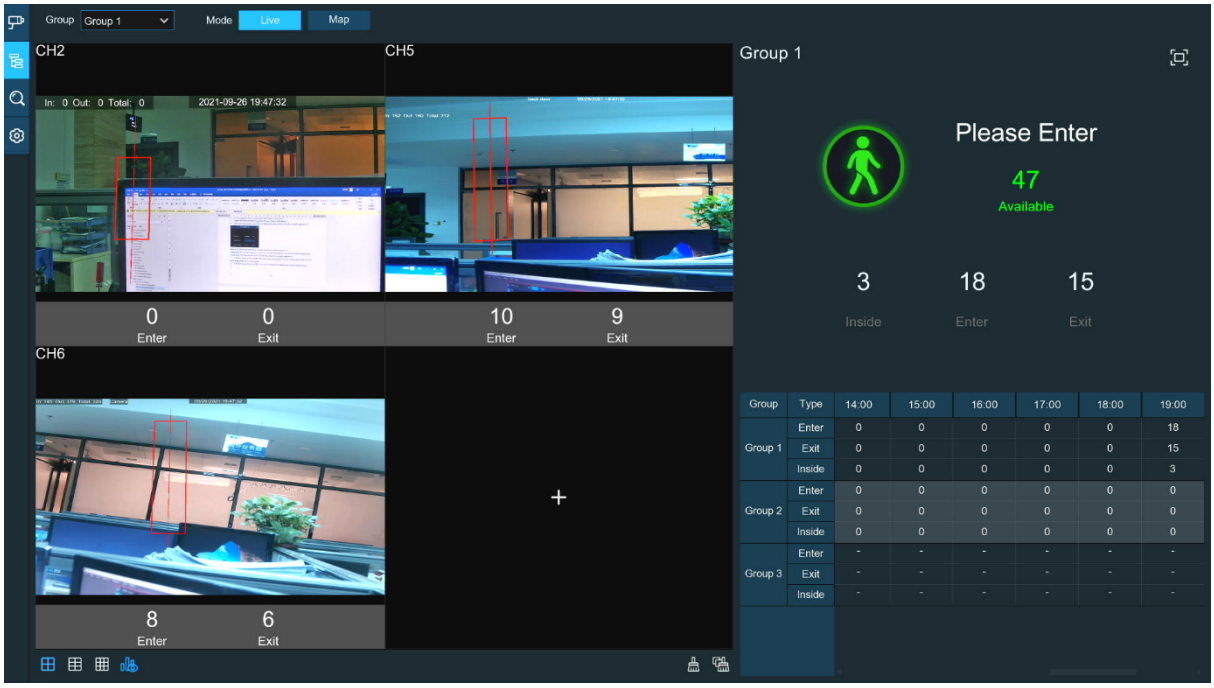
2. Click the **Add IP Camera** icon to add channel(s) to the group. Max. of 8 groups can be set, but each individual channel can be added to 1 group only. If a channel is enabled in the Channel View mode, you will be not allowed to add it to another group.

3. Check the Enable box to activate the group.
4. Set the **Capacity** number, **Start Time**, and **End Time** of each group.
5. Choose the detection target **Type**: **Person**, **Vehicle** and **Motion**.
6. Click one of the **Alarm** icons to configure the alarm actions when the **Available** number is 0.

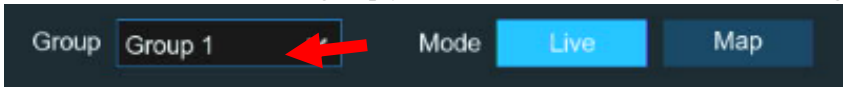
Buzzer: Set the buzzer duration in seconds when the **Available** number is 0.
Alarm Out: If your NVR supports connection to an external alarm, you can set it to emit an alarm tone.
Latch Time: To configure the external alarm time when the **Available** number is 0.

7. Click the close icon or right click your mouse to go back to previous configuration page, and then click **Apply** button to save the settings.

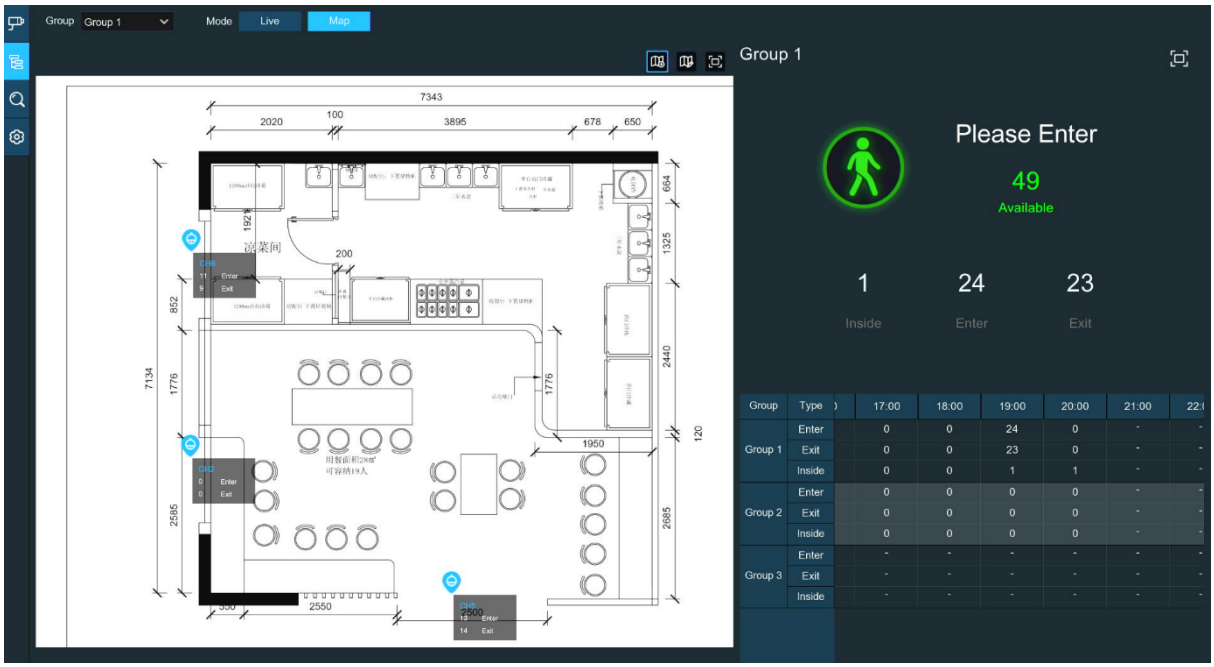
8. Click the **Group View** icon to view live images & combined counting data of all activated groups.



9. You can choose which group you want to view the real-time live images and counting data.



10. Furthermore, you can display the counting data in Map mode. Click the **Map** button to configure the settings.



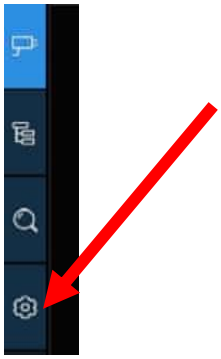
11. Click the icon to add a map image from your USB drive.

12. Click icon to adjust the location of the IP cameras. Click and hold the channel icon and move one by one to adjust the position of your IP cameras on the map. You can click icon to display the map in full screen.

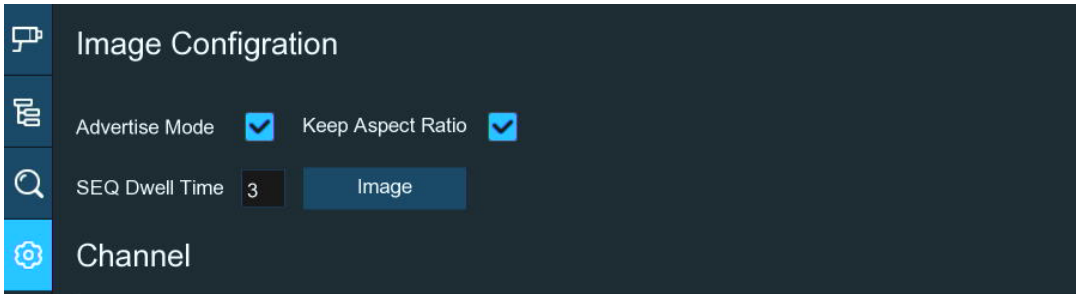
5.8.1.3 Advertise Mode

The system supports the display of advertising or other pictures with the Cross Counting functions.

1. Click the **Configuration** icon in the **Navigation bar** to get to the configuration page.

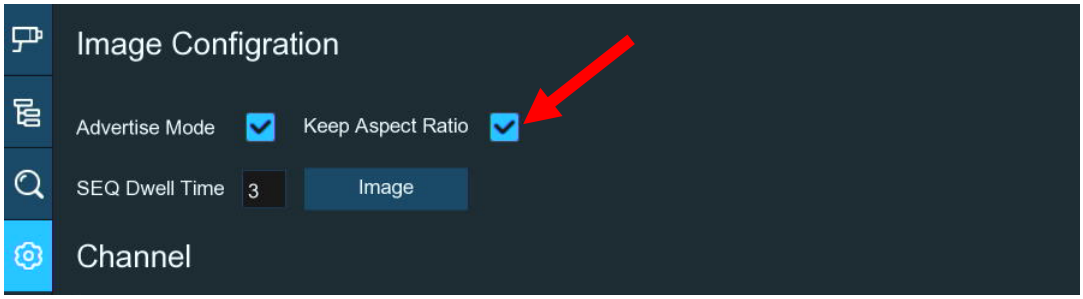


2. Check the Advertise mode toggle in the Image Configuration section.



3. Click the **Image** button to load advising pictures from your USB drive. You can add a maximum of 16 pictures in JPG, PNG and MBP formats, and the maximum resolution should be no more than 2560x1600. Click the add icon to add new picture(s) and click delete icon to delete an added picture one by one. Click the close icon or right click your mouse to go back to previous configuration page.

4. Check the **Keep Aspect Ratio** box if you want to display the images with their original aspect ratio. Uncheck the box if you want the pictures to be stretched and displayed full screen.

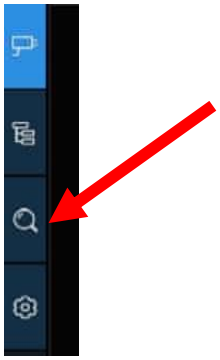


5. Set the SEQ Dwell Time in seconds to decide how long each picture will stay on the screen.
6. Click the **Apply** button to save your settings.

7. Go back to Channel View mode or Group View mode, and click the full screen button on the right upper corner to display your advertising pictures and the real-time counting data for the selected channel(s) or group(s).

5.8.1.4 Search Counting Data

1. Click the **Search** icon to search the counting data.

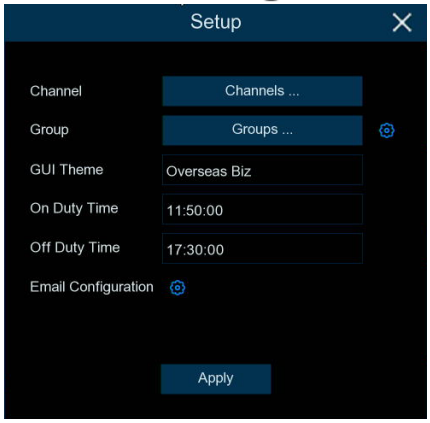


2. You can search separately for Channels and Groups. Choose the channel(s) or group(s) you want to search, set the search duration by day, by week, by month or by year and choose the target type you want to search. Click the search icon, the result will be displayed on the right side of the window.

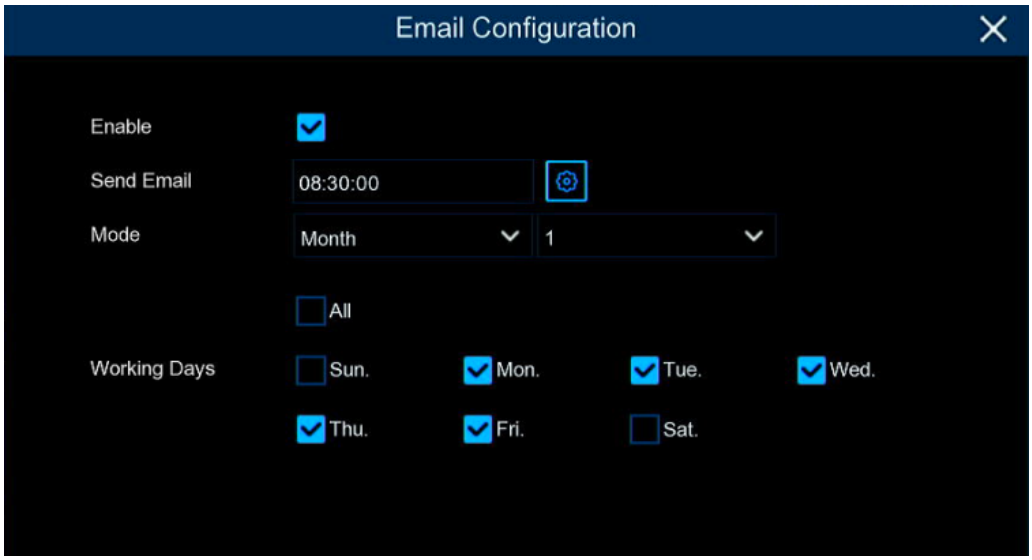
5.8.2 Face Attendance

Face Attendance is an AI application based on Face Detection. You're able to view and check the real-time statistical data of attendance management visually.

1. Custom title.
2. Overall attendance statistical data of all selected groups.
3. Individual attendance statistical data of each selected group.
   The total number of people whose attendance is being tracked
   The number of people who have arrived for the period.
   The number of people who haven't arrived.
4. Live view screen: to display the live camera images. Select the screen split icons ☐, ◫, ⊞ to change the display layout.
5. Push notifications of latest people who have arrived, including the Name/ID of the person, captured face image, group, clock in time and clock out time. Normal clock in & clock out times will be displayed in green. Abnormal clock in & clock out time will be displayed in red. Click the screen split icons ☐, 12, ⊞ to change the display layout.
6. Click search icon to search the face attendance data. See more at 6.10.5 Face Attendance.
   Click Settings icon to configure the face attendance settings.

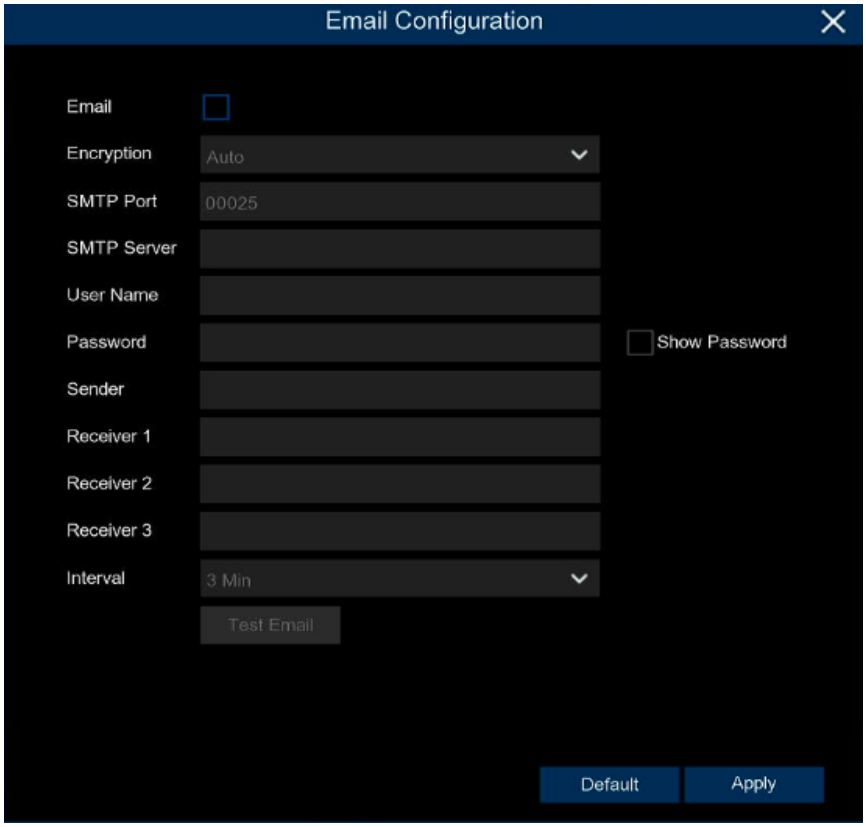


Channels: To choose the channels for face detection
Group: To choose the attendance group. If you want to edit the group database, click the icon to edit. Check more on 5.4.2.2 Database Management.
GUI Theme: To give a custom title to the face attendance.
On Duty Time: To set the on-duty time.
Off Duty Time: To set the off-duty time.
Email Configuration: To send the attendance statistical data by email. Click the icon to edit the email configuration.



Enable: Check this box if you want to send the attendance statistical data by email.
Send Email: Set the time for sending the email.
Mode: Choose to send the email once every **Day**, every **Week**, or every **Month**.
Day: Send the attendance statistical data of previous day once a day.
Week: Send the attendance statistical data of last 7 days once a week.
Month: Send the attendance statistical data of last month once a month.
Working Days: To select the days of work. It will affect the attendance statistical data.

Click the setting icon to configure your email configuration. Check more on 5.5.3.1 Email Configuration.

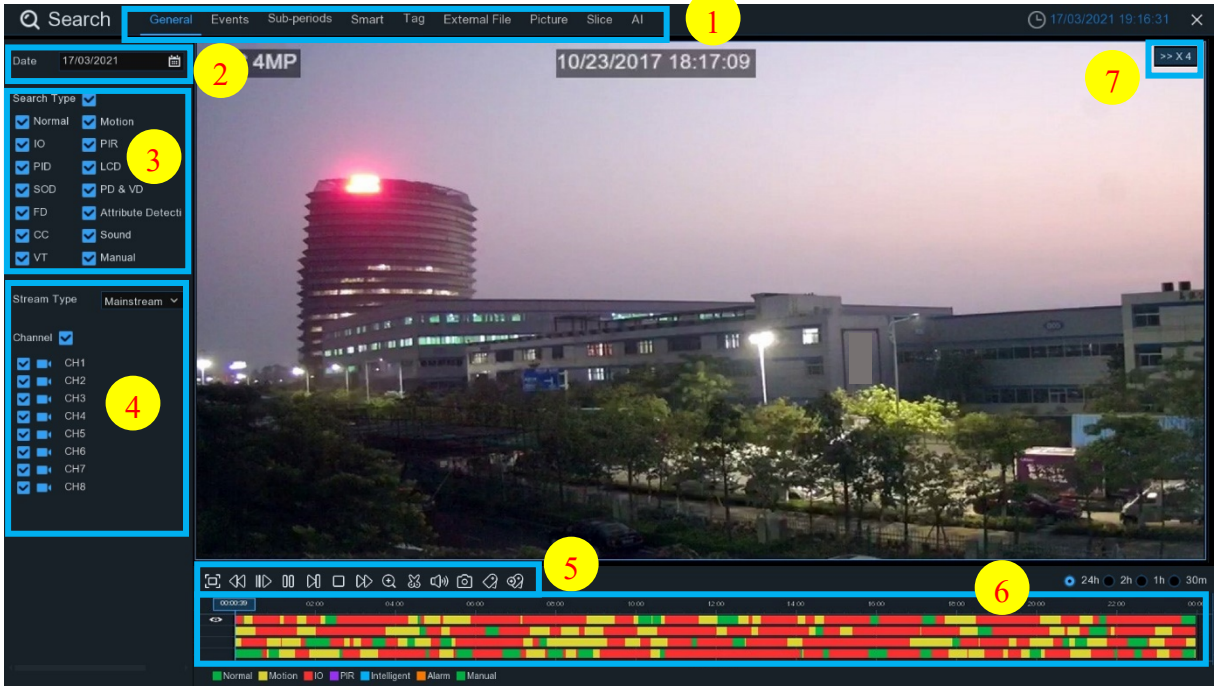


Chapter 6 Search, Playback & Backup

The Search function gives you the ability to search for and play previously recorded videos as well as snapshots that are stored on your NVRs hard drive. You have the choice of playing video that matches your recording schedule, manual recordings or motion events only. The Backup function gives you the ability to save important events (both video and snapshots) to a USB flash drive.

6.1 Using Search Function

Click **Search** button in the Start Menu to enter search section.



1. **Search Options:** the system provides various search & playback methods: General, Events, Sub-periods, Smart, Tag, External File, Picture, Slice, AI, etc.
2. **Search Date:** search for a date to play back.
3. **Search Type:** the system provides different search types to narrow your search.
4. **Channel Selection:** to choose the channels you want to search & play.
5. **Video Playback Controls:** to control the video playback.

Enlarge the video playback to full screen
Rewind, x2, x4, x8 and x16
Slow Play, 1/2, 1/4 and 1/8, 1/16 speed
Play
Pause
Play frame by frame. Click once to play a frame of the video
Stop
Fast Forward, x2, x4, x8 and x16

Digital Zoom: Click to zoom in then click-and-drag on a camera image during playback to zoom in on the selected area. Right-click to return to regular playback.

Video Clip. Quickly save a selection of video to a USB flash drive. View more at 6.1.1.1 Video Clip Backup

Save Video Clip.

Volume Control: scroll the slider bar to increase or decrease volume.

Snapshots: to capture a snapshot image to your USB flash drive. If the video playback is in split-screen view, move the mouse cursor to the channel you want to capture, and then click the icon to save the snapshot.

6. **Timeline:** Continuous recordings are shown with colored bars to represent different types of recording (legend shown in the bottom-right corner of the display). Use the timeframe options (24h 2h 1h 30m) to view a smaller or larger time period.

   Different types of recording shown in different colors:

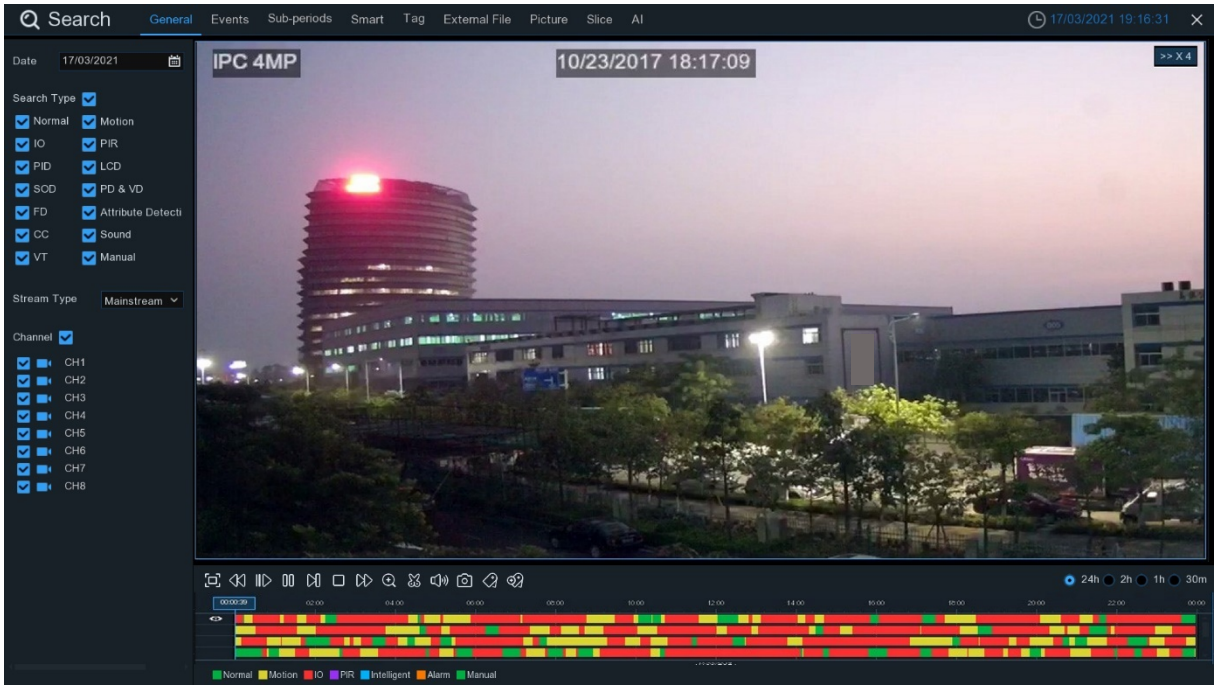
   Normal Motion IO PIR Intelligent Alarm Manual

   Continuous Recording in **Green** color;
   Motion Recording in **Yellow** color;
   I/O Recording in **Red** color;
   PIR Recording in **Purple** color;
   Intelligent Recording in **Blue** color;
   Motion & I/O Recording in **Orange** color;
   Manual Recording in **Green** color;

7. **Playback Status:** display the video play status.

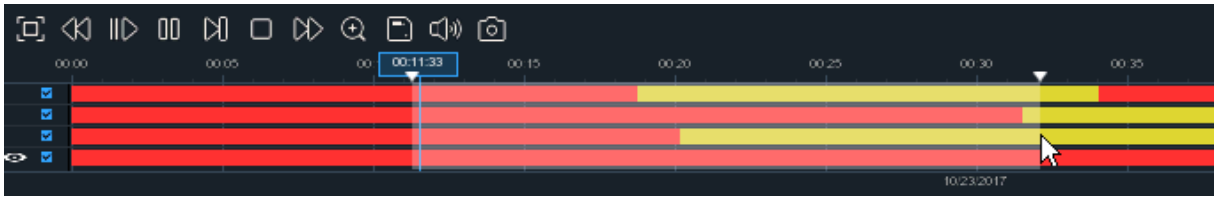
6.2 Search & Play Video in General

This menu gives an option to search & play recordings for a selected date.

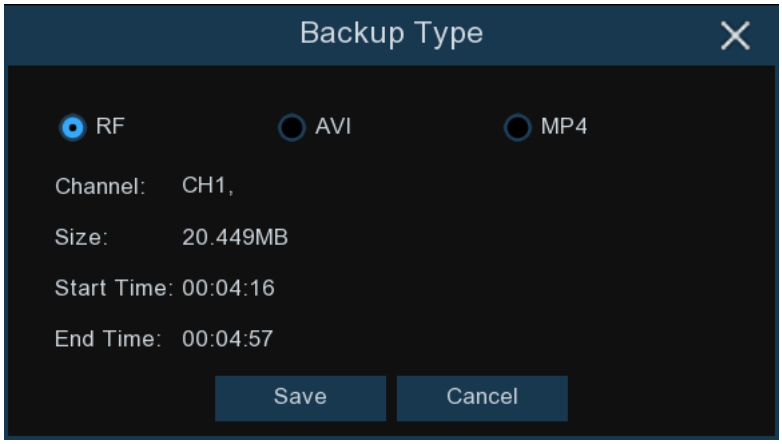


1. Select a date to search for video recordings from the calendar.
2. Choose a search type.
3. Check channels you would like to search, or check **Channel** to search all connected channels.
4. The search result will display on the timeline from 00:00 to 24:00.
5. Click ▷ button to start playback.
6. Control the playback with buttons on **Video Playback Controls.**
7. Use the timeframe options 24h 2h 1h 30m to view a smaller or larger time period.
8. If you want to quickly save a section of video during playing back to a USB flash drive, use the **Video Clip** backup function.
9. Add Tag function: click to **add customized tag**, click to **add default tag**, to make a mark in the current channel current time point. After adding, in tag playback page it will be able to jump to the "Tag" point to play.

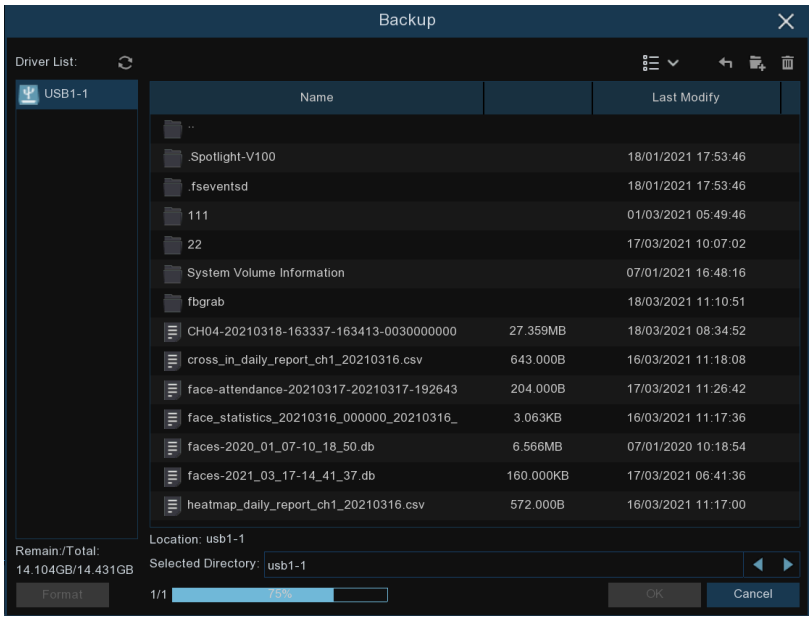
6.2.1 Video Clip Backup



1. Insert your USB flash drive to the NVR.
2. Start a video recording playback.
3. Click icon.
4. Check the channel(s) you want to make a video clip backup.
5. Move the mouse cursor to the timeline where you want to start the video clip.
6. Press and hold the left button of your mouse, and drag the drag the cursor to the timeline where you want to end the video clip.
7. The icon has been changed to icon, click to save the video clip.
8. Select a file type for your backup files, and click the **Save** button to save the video clips. Please make sure your USB drive has enough space to save the video clips.

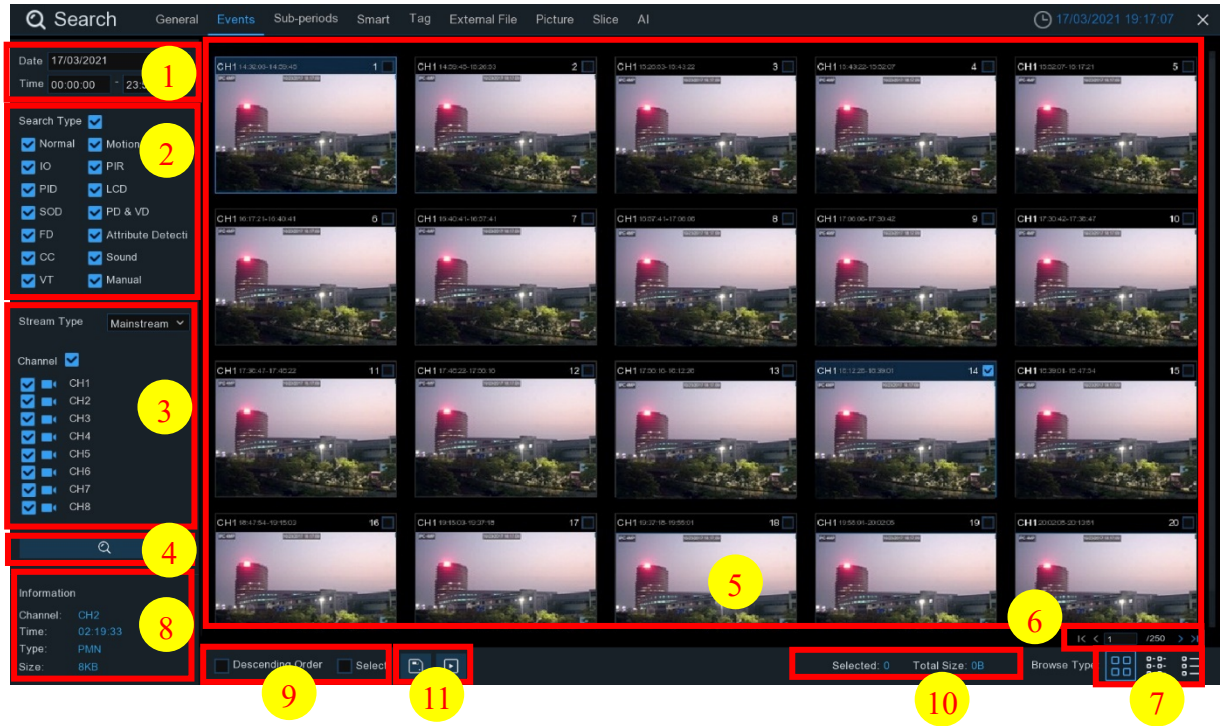


9. The backup drive menu appears. Navigate to the folder you want the backup files to save in.
10. Click **OK** to begin. The progress bar at the bottom of the window shows you the progress of the backup.



6.3 Event Search, Playback & Backup

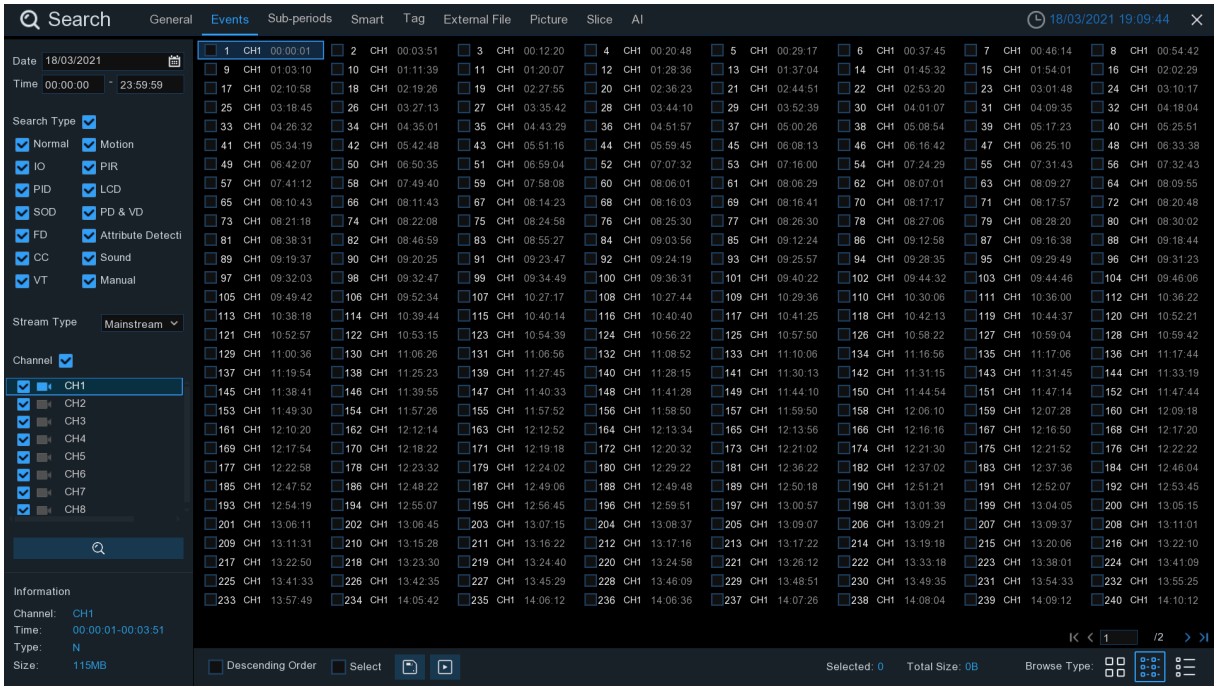
Event search lets you view a list of video recordings with the channel, start and end time, and recording type conveniently summarized. You can also quickly back up events to a USB flash drive.



To search, play & back up for events:

1. Choose the date & time you want to search.
2. Check the recording types you want to search, or check **Search Type** to choose all.
3. Choose the channels you want to search, or check **Channel** to choose all channels.
4. Click icon to start search.
5. Events fitting your search criteria are displayed in list form. You can double click the left button of your mouse upon one of the events to play the video immediately.

6. Click  icons in the bottom-right corner of the menu to browse between pages of events, or input the page you want to browse.
7. You can switch the view of the list form by clicking the following icons which are show at the right bottom corner of your screen:
   Thumbnails view. You can view the snapshots of the events.
   List view. The events will be displayed in list.



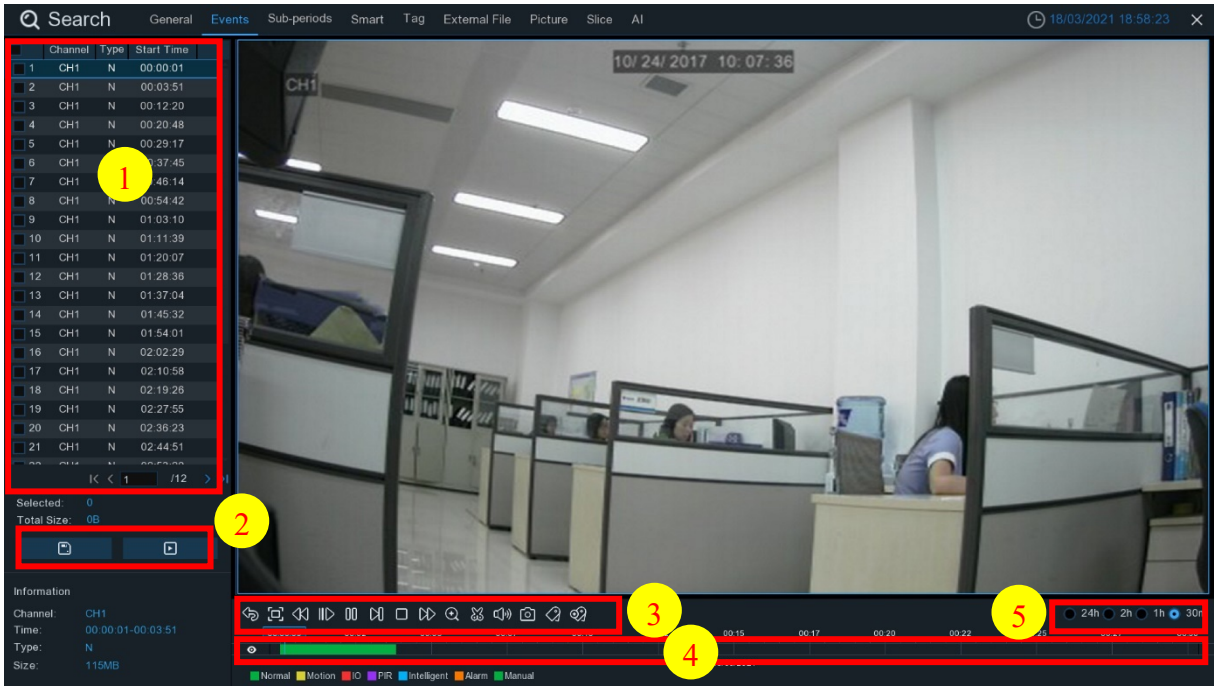
Detailed view. You can view the details of the events.

1	CH1	N	18/03/2021	00:00:01	00:03:51	115MB		
2	CH1	N	18/03/2021	00:03:51	00:12:20	254MB		
3	CH1	N	18/03/2021	00:12:20	00:20:48	254MB		
4	CH1	N	18/03/2021	00:20:48	00:29:17	254MB		
5	CH1	N	18/03/2021	00:29:17	00:37:45	254MB		
6	CH1	N	18/03/2021	00:37:45	00:46:14	254MB		
7	CH1	N	18/03/2021	00:46:14	00:54:42	254MB		
8	CH1	N	18/03/2021	00:54:42	01:03:10	254MB		
9	CH1	N	18/03/2021	01:03:10	01:11:39	254MB		
10	CH1	N	18/03/2021	01:11:39	01:20:07	254MB		
11	CH1	N	18/03/2021	01:20:07	01:28:36	254MB		
12	CH1	N	18/03/2021	01:28:36	01:37:04	254MB		
13	CH1	N	18/03/2021	01:37:04	01:45:32	254MB		
14	CH1	N	18/03/2021	01:45:32	01:54:01	254MB		
15	CH1	N	18/03/2021	01:54:01	02:02:29	254MB		
16	CH1	N	18/03/2021	02:02:29	02:10:58	254MB		

In the detailed view mode, you can lock the video events to keep events from being overwritten in the hard drive. Click the icon to lock or click to unlock the events.

8. When you click the left button of your mouse on one of the events, the system will show the event information on the left bottom corner of the screen.
9. Check the box next the number of the event to select files, or check the box next **Select** to select all events in the page.
10. The number of selected files, total size information will be displayed at the right bottom of the screen.
11. After selecting a file, you can click icon to save the video to a USB flash drive. Or click icon into event playback control window to play the video.

6.3.1 Event Playback Control



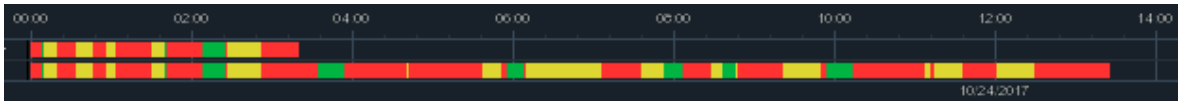
1. Event List: you can select events here.
2. Click icon to save your selected event videos to a USB flash drive. Click icon to play video.
3. Control the playback with buttons on **Video Playback Controls.** You can click icon or click right button of your mouse to exit the playback and return to event search window.
4. The event you are playing now will be displayed on the timeline.
5. Use the timeframe options 24h 2h 1h 30m to view a smaller or larger time period.
6. Add Tag function: click to **add customized tag**, click to **add default tag**, to make a mark on the current channel current time point. After adding, it will be able to jump to the "Tag" point playing on the tag playback page.

6.4 Subperiod Playback

Subperiod playback allows you to play multiple normal recordings and motion events simultaneously from a single channel. With normal and event recordings, the video is divided evenly depending on the split-screen mode that has been selected. For example, if the video is an hour long and you have selected Split-screens x 4, each split-screen will play for 15 minutes.

To search & play video in sub-periods:

1. Choose the date & time you want to search.
2. Choose the split-screens you want the videos to be played in.
3. Check the recording types you want to search, or check **Search Type** to choose all.
4. Choose the channels you want to search. Please note that this function only supports to search & play one channel at a time.
5. Click the play button ▷ to start playing. Control the playback with buttons on **Video Playback Controls.**
6. Videos are being played in split-screens.
7. Click the left button of your mouse upon a particular split-screen, and the time period of the video split-screen will be displayed on the timeline. The color bar on the top of the timeline indicates the time span of the video split-screen you have clicked. The color bar on the bottom of the timeline indicates the time span for the whole video you have searched.



8. Use the timeframe options (24h 2h 1h 30m) to view a smaller or larger time period.
9. Add Tag function: click to **add customized tag**, and click to **add default tag**, to make mark in the current channel current time point. After adding, in tag playback page you will be able to jump to the "Tag" point.

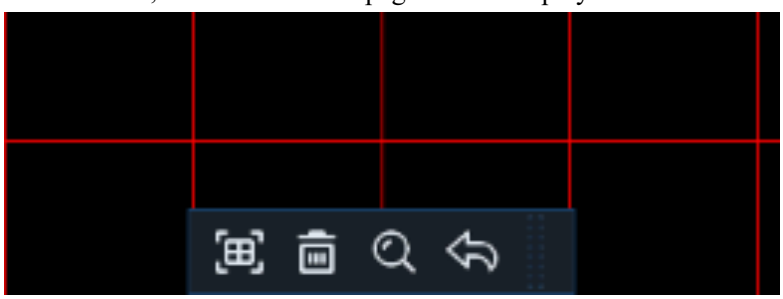
6.5 Smart Search

With Smart search function, you will be able to quickly search and play the motion recording videos which were triggered by human beings.

To search & play video in Smart Search:

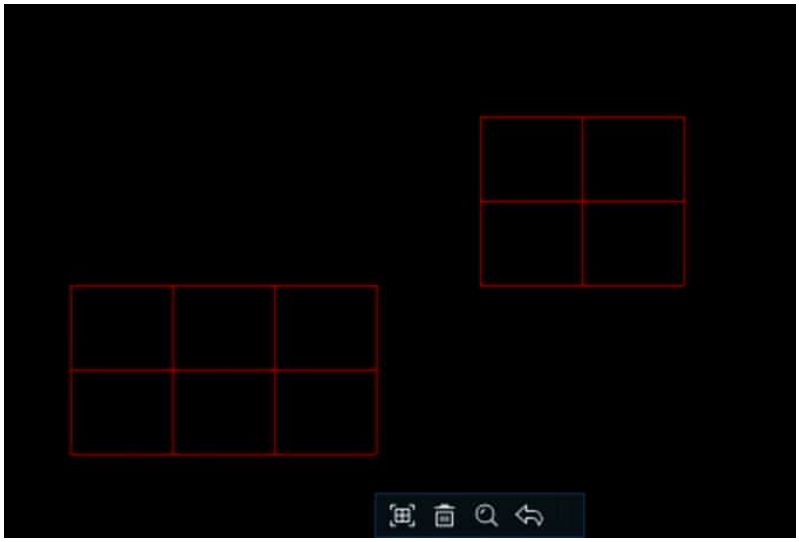
1. Choose the date & time you want to search.
2. Check the recording types you want to search, or check **Search Type** to choose all.
3. Choose the channel you want to search. Smart Search supports the search & play of only one channel at a time.
4. The Smart Search result will be displayed in the time slot in blue.

5. Click the play button ▷ to start playing. Control the playback with buttons at **Playback Controls.**
6. You can narrow the search by selecting a certain area in the images. Click the icon on the **Playback Controls** bar, the aera selection page will be displayed.



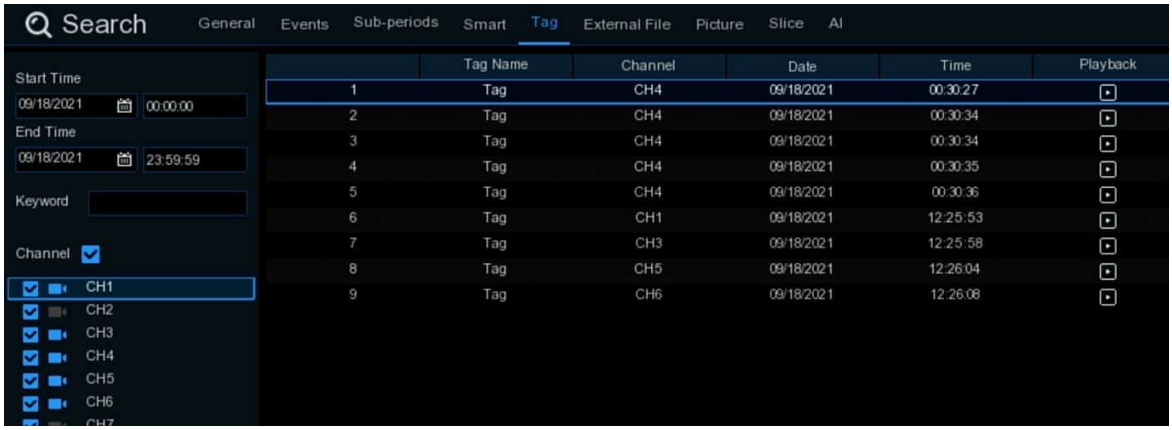
The selected aera will be marked with red grids.

: select whole image.
: clear your selection.
: go back to playback interface.
: search.
Click button to clear all selection, and then use your mouse to select the certain areas you want to search in the image. Click button, the system will search the display the smart search result for the selected areas.



6.6 Tag Search

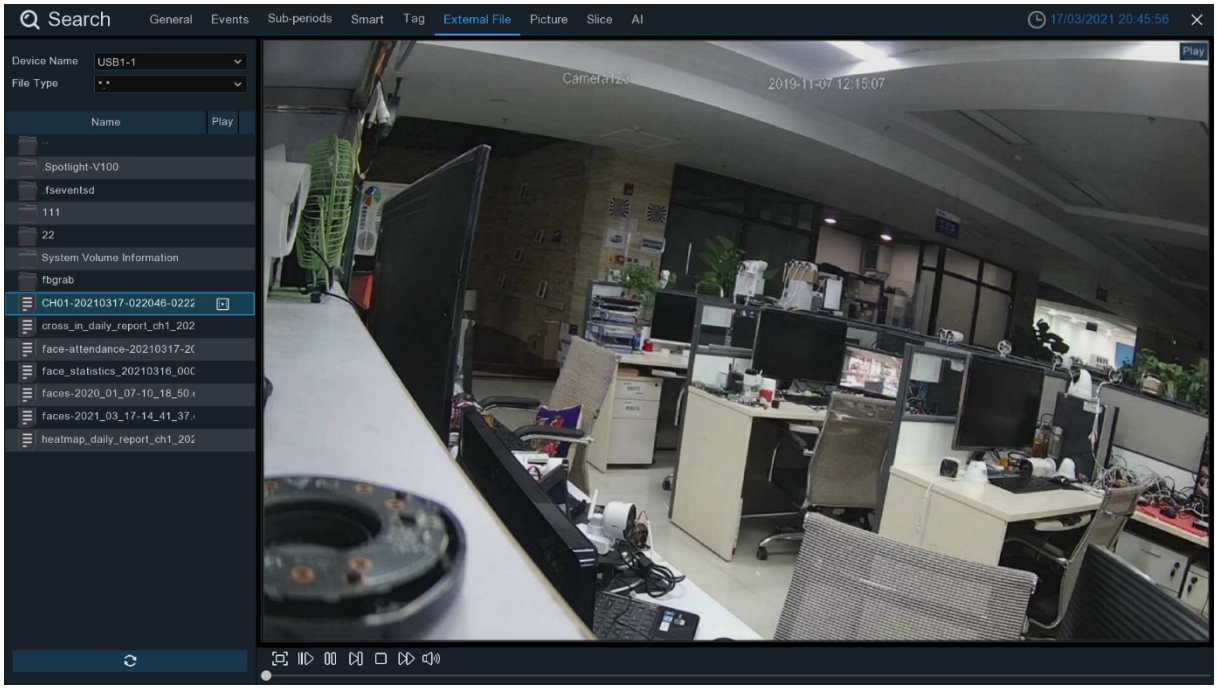
You can search, play and manage the contents with tags you added in live view and/or playback.



1. Select the start time and end time you want to search.
2. Select the channel(s) you want to search.
3. If you gave customized tag names to the tags, you can input the keyword to narrow your search.
4. Click button to search. The tags will be displayed on the right window. Click the play button to start playing.
5. If you want to modify the tag name, click button. Click button to delete the tag.

6.7 Play External File

The NVR supports to play the videos saved in the external USB memories.



Insert your USB drive into the USB port, find out the folder where the video files are saved, and then click the play icon ▶ to play the video.

6.8 Picture Search & View

This function can be used to search, play and copy snapshots to a USB flash drive.

To search, play & back up pictures:

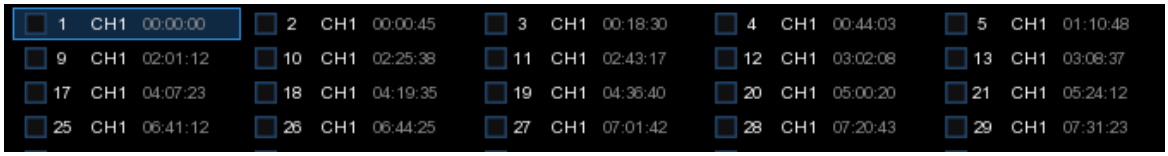
1. Choose the date & time you want to search.

2. Check the picture capture types you want to search, or check **Search Type** to choose all.
3. Choose the channels you want to search, or check **Channel** to choose all channels.
4. Click button to start search.
5. Pictures fitting your search criteria are displayed in list form. You can double click one of the pictures to get a larger view.
6. Click 

icons in the bottom-right corner of the menu to browse between pages of pictures, or input the page you want to browse.
7. You can switch the view of list form in by clicking below icons which is show at the right bottom corner of the screen:

Thumbnails view. You can view the snapshots of the events.

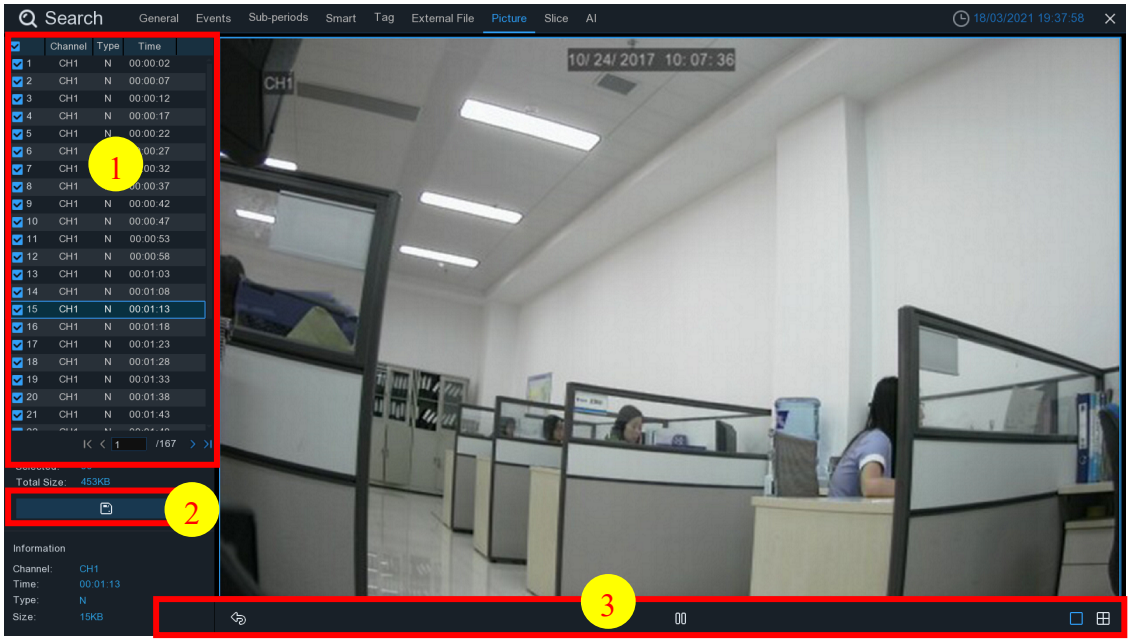
List view. The events will be displayed in list.



Detailed view. You can view the details of the events.

8. When you click the left button of your mouse upon one of the pictures, system will show the picture information on the left bottom corner of the screen.
9. Check the box next the number of the event to select files, or check the box next **Select** to select all pictures in the page.
10. The number of selected files, total size information will be displayed at the right bottom of the screen.
11. After selecting file, you can click button to save the pictures to USB flash drive. Or click button to go into picture preview control window.

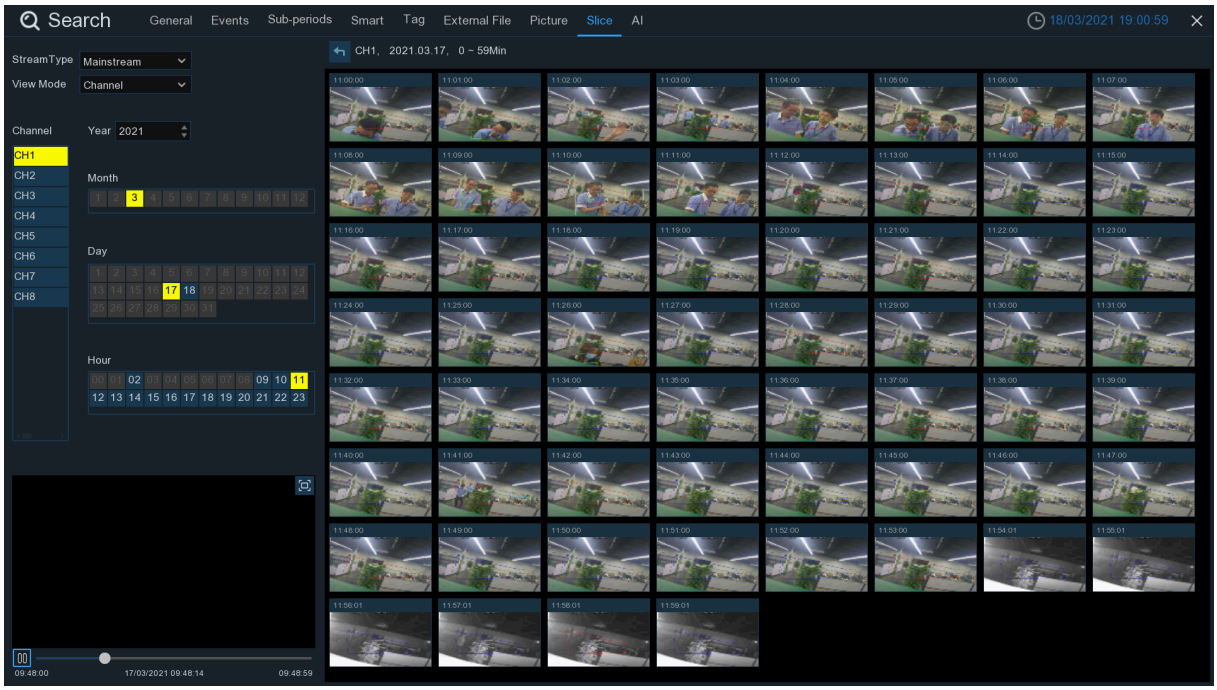
6.8.1 Picture Preview Control



1. Picture List: Select pictures here.
2. Click button to save your selected pictures to a USB flash drive.
3. Press button to exit preview control window and go back to picture search window.
   Press button to pause, press to resume slideshow.
   Press button to display previous snapshot or group of snapshots, press to display the next snapshot or group of snapshots.
   Click button to view a single snapshot at a time, click button to view four snapshots at a time, press buttons to view nine snapshots at a time.

6.9 Slice Search

This is a function to slice each hour's video into 60 fragments.

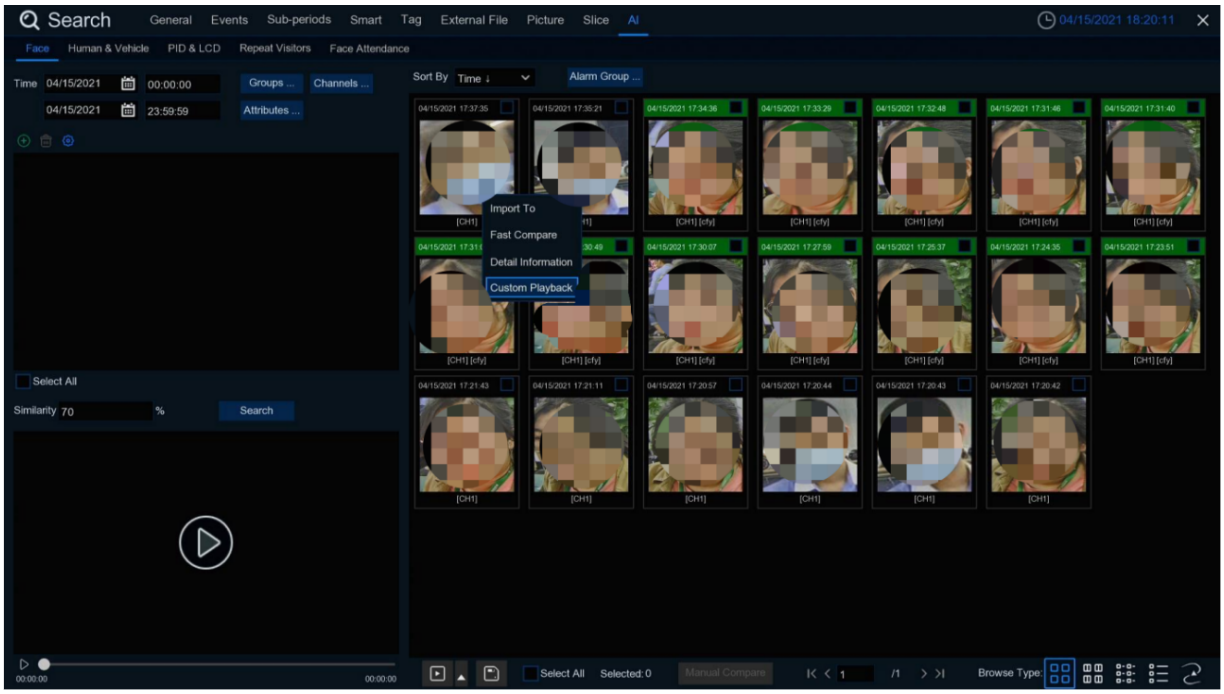


Choose the video stream type, channel, date and hour. The system will display 60 thumbnail images of each minute on the screen. Click on any one of the thumbnail images, the video will be played on the left bottom corner.

6.10 AI Search

6.10.1 Face

Choose date, time, channel, groups to search all captured faces.

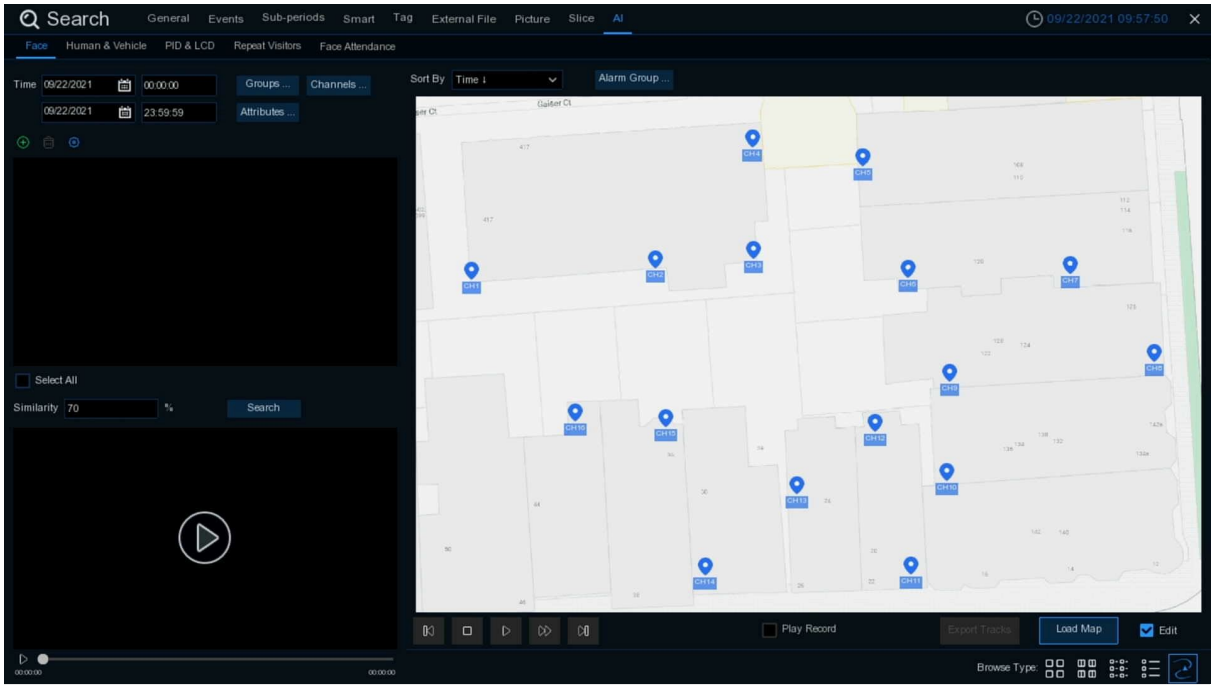


1. Click ⊕ icon to add customized faces.
2. Choose the **Channels** you want to search.
3. You can also set search conditions of the facial features in **Attributes**.
4. Choose the comparison group in **Alarm Groups**.
5. Click ⚙ icon to configure the AI settings.

6.10.1.1 E-Map

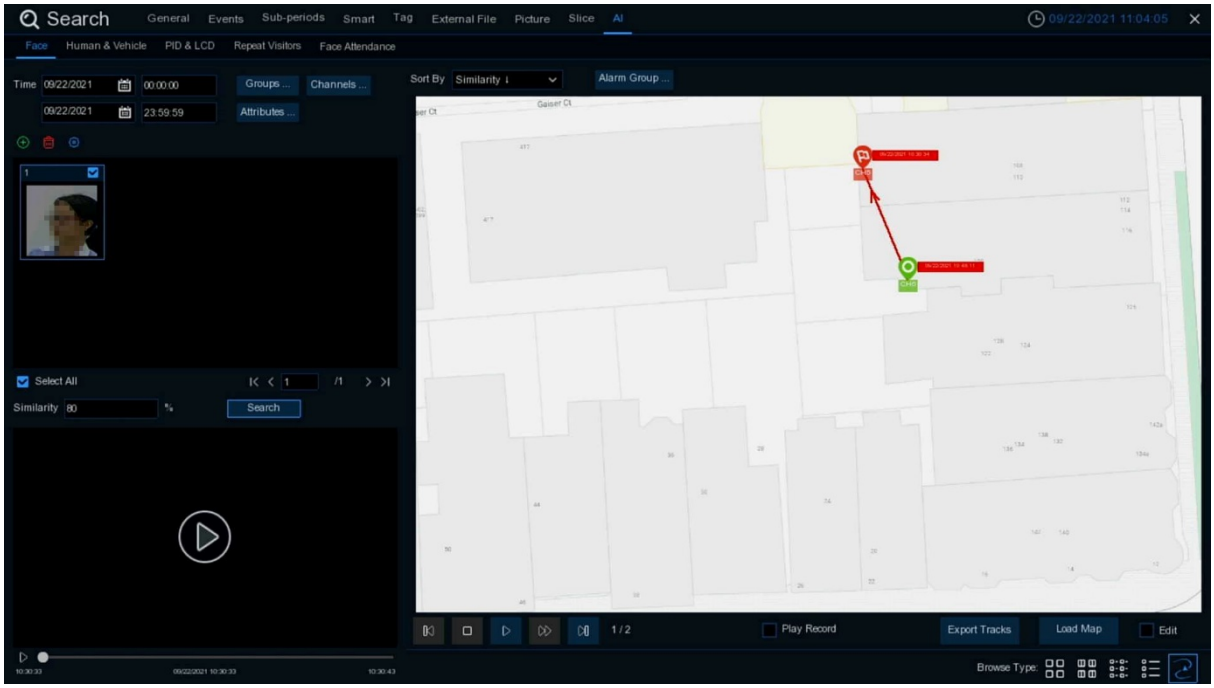
E-Map function helps track a person's face.

Click the icon to set the E-Map function.

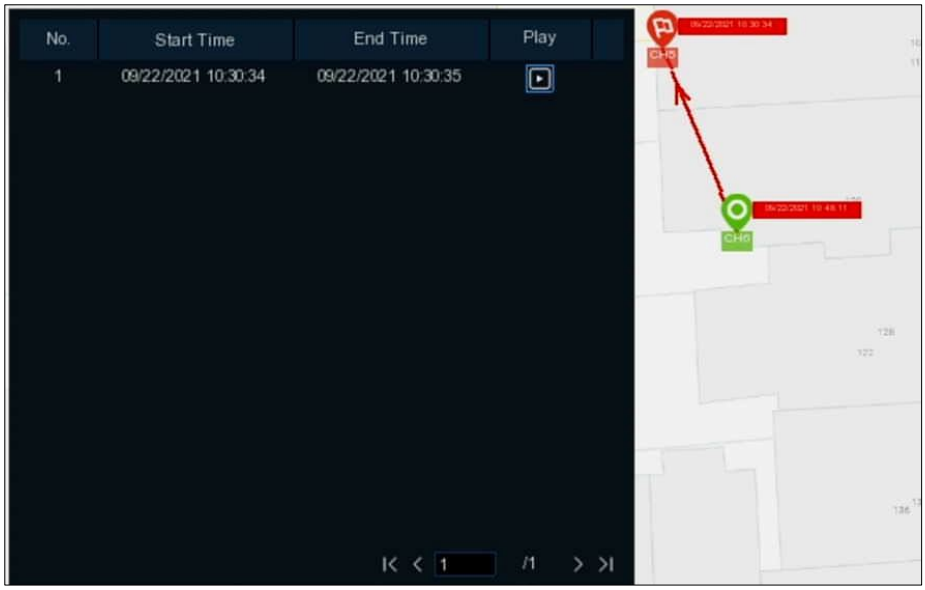


1. Click **Load Map** button to load a map image from your USB drive.
2. Check the **Edit** box. Click and hold the channel icon and move one by one to adjust the site of your IP cameras on the map. Uncheck the **Edit** box to quit editing.

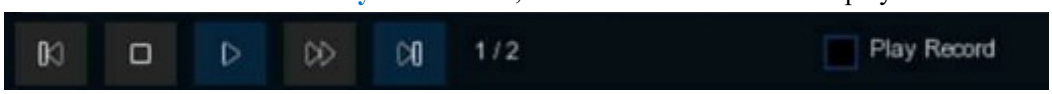
3. Click ⊕ icon to select one face image from local storage or external USB storage. Select date & time, group(s), channel(s), set the similarity rate, and then click the Search button. The system will display the results on the e-map. If the person was captured by multiple cameras, the system will display his/her movement track on the map.



4. Click upon one of the sites to display the captured date & time. Click the Play button and the recorded video will play on the bottom left corner.

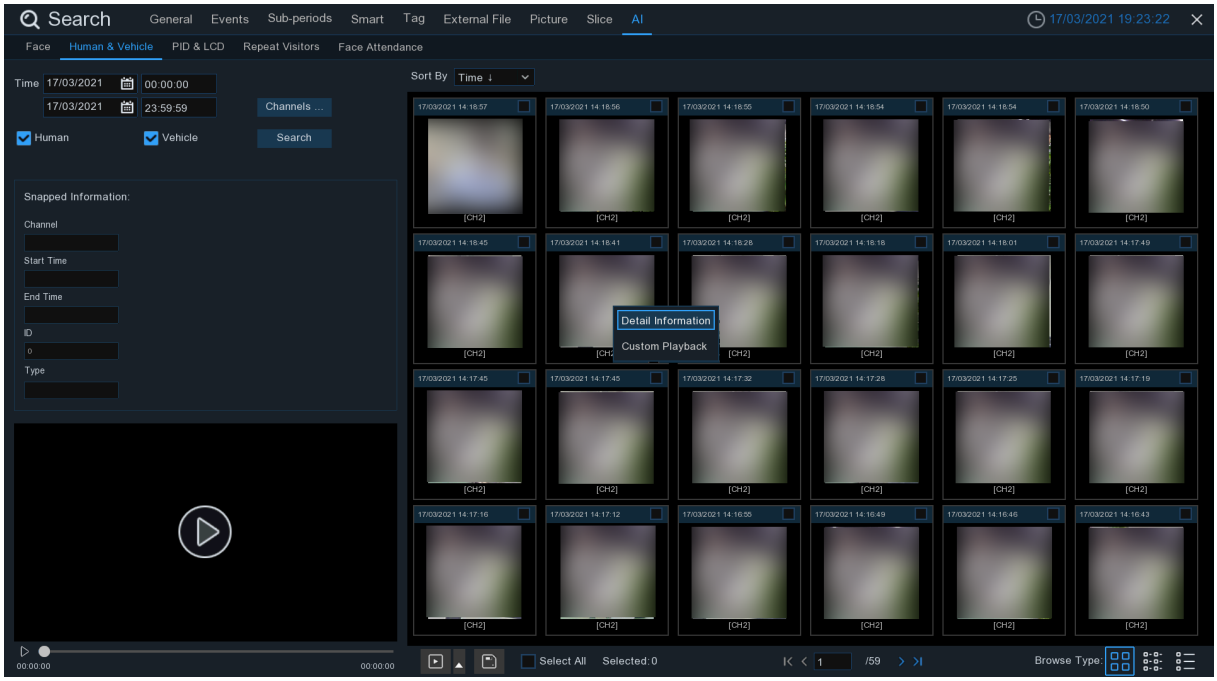


5. Click the play button ▷ on the play control and the system will automatically demonstrate the movement track. Check the **Play Record** box, and recorded videos will be played.



6.10.2 Human & Vehicle

The system provides a quick search for humans and vehicles.

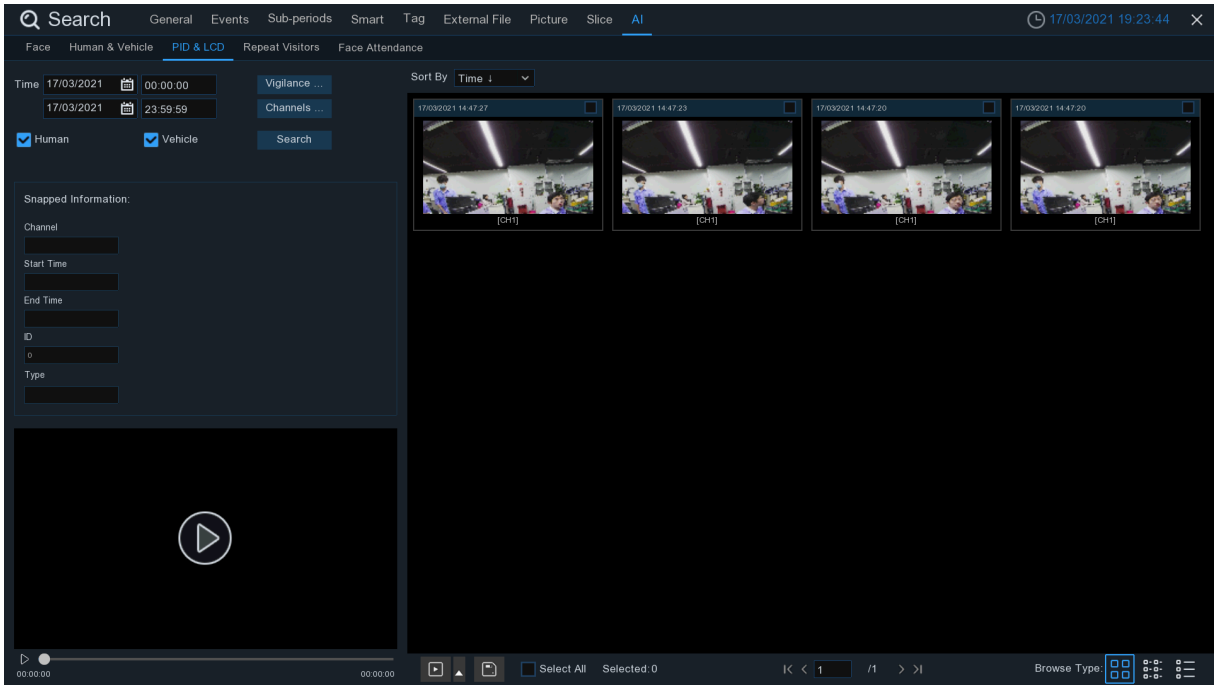


1. Select the date & time and channel(s).
2. Choose the detection type: **Human** and/or **Vehicle**.
3. Click **Search** and the results will be displayed on the right side of the window.
4. Click one of the images and the system will show the basic information on the left side of the window, and the video will play on the left bottom side.
5. Right click your mouse upon one of the images, you will have 2 options:
   A. To view the file information.
   B. To start playback of the file.

6. Choose one or more files, click the play button, and the system will return to the playback interface to play the selected file(s). Click the ▲ icon to select the time duration you would like to play. Click to save the selected file(s) to your USB drive.

6.10.3 PID &LCD

The system provides quick search for Perimeter Intrusion Detection (PID) & Line Cross Detection (LCD).

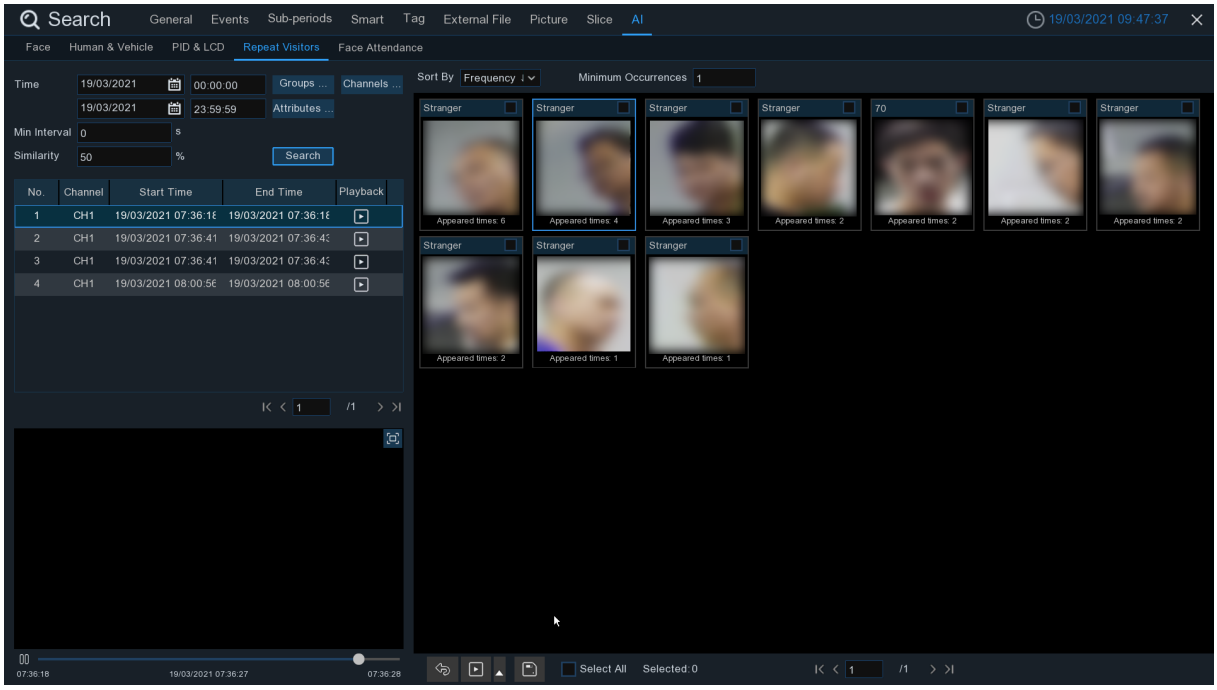


1. Select the date & time and channel(s).
2. Select PID and/or LCD in **Vigilance**.
3. Choose the detection type: **Human** and/or **Vehicle**.
4. Click **Search** and the results will be displayed on the right side of the window.
5. Click one of the images and the system will show the basic information on the left side of the window, and the video will be played at the left bottom.
6. Right click your mouse upon one of the images, you will have 2 options:
   A. To view the file information.
   B. To start playback of the file.

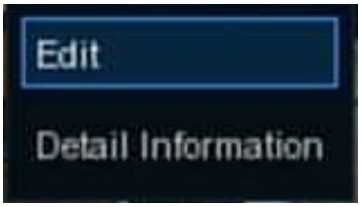
7. Choose one or more files, click the play button ▶, the system will return to the playback interface to play the selected file(s). Click the ▲ icon to select the time duration you would like to play. Click 💾 to save the selected file(s) to your USB drive.

6.10.4 Repeat Visitors

This is a function to quickly search the frequency of occurrence of specific people in a certain time period.



1. Select the date & time, group(s) & channel(s).
2. Set the **Attributes**.
3. Set the **Min. Interval** time (second).
4. Click **Search**, the result will be displayed on the right side of the window.
5. You can sort the result by **Time** and **Frequency**.
6. You can narrow the result by setting the **Minimum Occurrence** number.
7. Click one of the images, the system will show its relative information, including channel, captured start and end time on the left side of the window, and the video will be played on the left bottom side.
8. Right click your mouse upon one of the images, you will have 2 options:



A. If the face exists in the face database, you are able to edit and check the information of the contact.

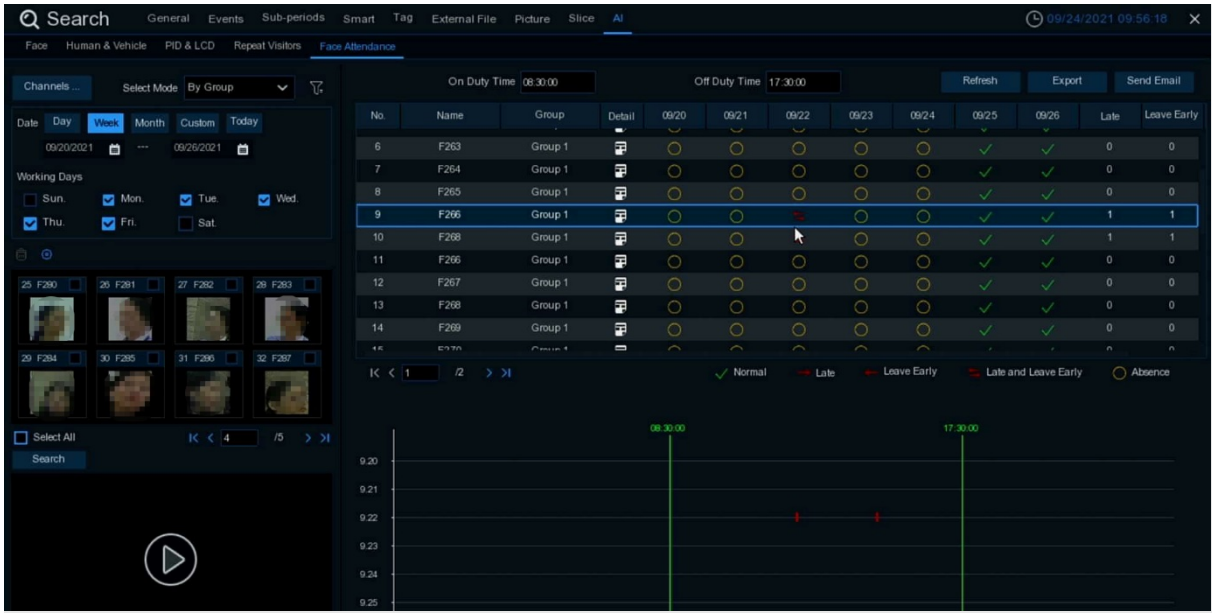
B. If the face doesn't exist in the face database, you are able to add and edit the face information.

9. Choose one or more files, click the play button, the system will return to the playback interface to play the selected file(s). Click the ▲ icon to select the time duration you would like to play. Click to save the selected file(s) to your USB drive.

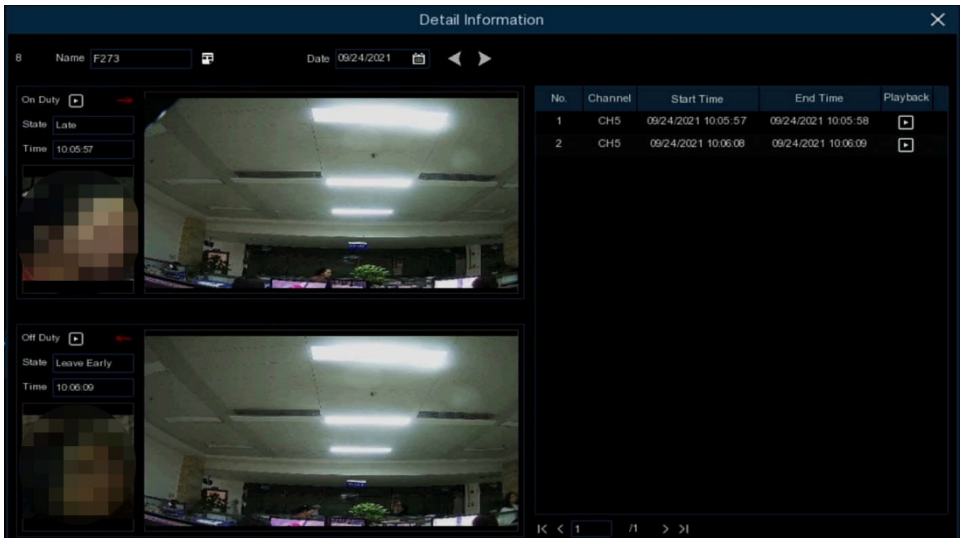
6.10.5 Face Attendance

Face Attendance is used to assist in attendance checking by faces. It will help to analyze the absenteeism, coming late and leaving early.

Note: With facial recognition still an evolving and improving science, we strongly recommend you do NOT use this face attendance function as your only means of checking attendance.



1. Select the channel(s).
2. **Select Mode** by Group or by Person. If you choose **By Group**, all the people in the selected group(s) will be searched. If you choose **By Person**, only your selected person(s) will be searched. Click the filter icon to choose group(s) or person(s). Your selected person(s) will be displayed on the left middle side of the window.
3. Select the search date by individual day, week, month, current day or customized date.
4. Set the **Working Days**, **On Duty Time** and **Off Duty Time**.
5. Click **Search** button, the result will be displayed on the right side of the window.
6. You can export or email the data.
7. Click on the detail icon, you will see the captured images and videos of the first occurrence and the last occurrence of the person in the day. Click on the play button to have a quick playback.



Chapter 7 Remote Access via Web Client

Use the Web Client to remotely access your NVR at any time via a PC. Before you access the Web Client, you need to ensure that the internet settings of the NVR are configured properly.

7.1 Basic System Environment Requirements

The minimum requirements for hardware and OS required to run Web Client are given as below.

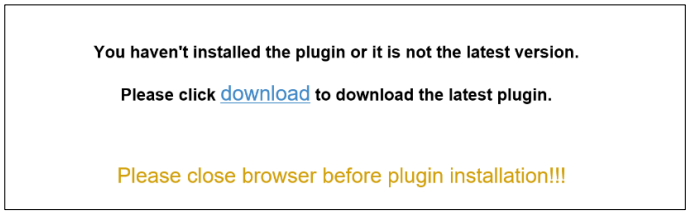
Item	Minimum	Recommended
CPU	Intel® Core™ i5 CPU	Intel® Core™ i5 CPU or higher
RAM	4G or more	8G or more
Hard Drive	500G or more	1000G or more
Display RAM	2G or more	4G or more
Display Resolution	1280*1024	1920*1080
OS	Windows 10 or above Mac OS X® 10.9 or above	
DirectX	DirectX 11	
Direct3D	Acceleration Function	
Ethernet Adapter	10/100/1000M Ethernet Adapter	
Browser	Microsoft Internet Explorer, Edge, Firefox, Google Chrome, Mac Safari	

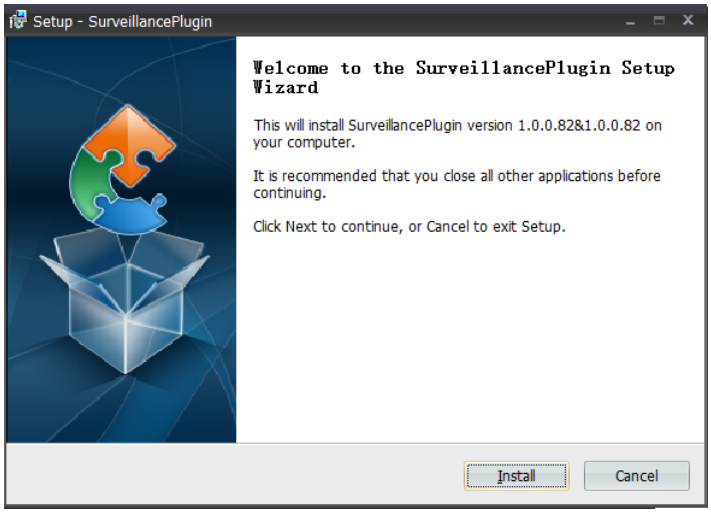
7.2 Web Plugin Download and Installation

In order to access the Web Client, you would need to install the plug-in for Internet Explorer.

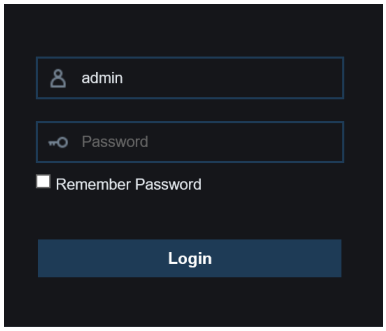
1. Launch the explorer on your PC and enter the NVR IP address or DDNS domain name (Host Name) you have set on NVR in the URL box.

2. For the first time you run the web client, system will require to install the web client plugin. Click **download** to download the plugin and install to your computer.





3. After installing the plug-in, close & launch again your browser and repeat step 1 to open the login page. Input your user name and password to login the web client.



Note: For Microsoft Edge, Firefox, Google Chrome, Mac Safari, etc., you don't need to install the plug-in, but some functions might be limited.

7.3 Web Client Manager

The web client allows you to fully control the NVR with an administrator account. Please make sure to protect your user name & password to prevent unauthorized access.

7.3.1 Live Interface

This is the first screen that opens after you have logged in to the Web Client. Here you can open or close live preview, record video to a local computer manually, take snapshots of the screens, PTZ control, color adjustment, etc.

1- **Channel List:** Open the channel list for quick access to camera functions

Click button to display the Channel List.
Click button to hide the Channel List.

Turn the Live video stream on/off. The button will be blue if the live video stream is on.
Manual Recording buttons. Click to start manually recording live stream video. Click again to stop recording. Manual recordings are saved to your computer. While in recording, the button will be blue.
Manual snapshot button. Click to save a snapshot of the current live display to your computer.
Bitrate button. Set camera to use mainstream, substream or mobile stream video settings. Mobile stream is available for IP channels only.

2- **Live Video Stream Options:**

Mainstream: View all live videos using high-quality mainstream video settings.
Substream: View all live videos using middle-quality substream video settings.
Mobile Stream: View all live video using lower-quality mobile stream video settings to conserve bandwidth. Available for IP channels only.

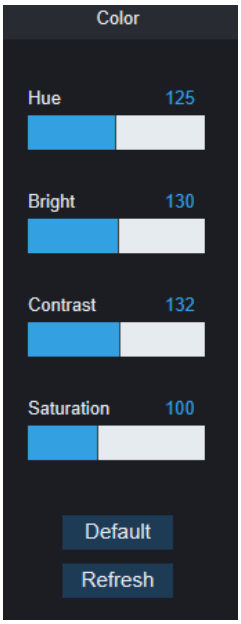
3- **Main Menus:**

Live: View live video from cameras.
Playback: View recorded video which is saved in NVR's HDD.
Remote Setting: Access functions of the NVR setting menus.
Local Settings: Set download locations for recordings and snapshots taken using Web Client, and choose file type for video files.

4- **Information:** Hover over to see system details.

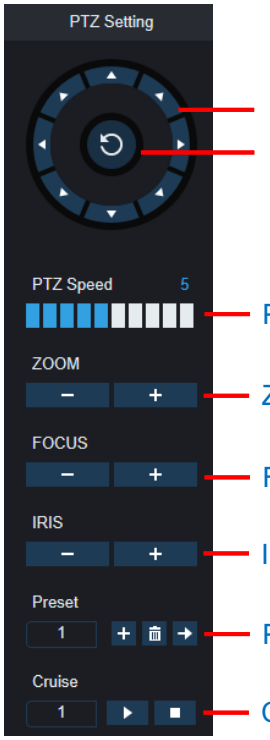
5- **Exit.**

6- **Color Controls.** Click to display or hide the color controls.



7- **PTZ Controls:** Click to display or hide the PTZ controls for using PTZ cameras.

8- PTZ Controls



Directional Arrows: Click to move the PTZ camera

Automatic line scan.

PTZ Speed: Click to set the speed of the PTZ camera's movement.

Zoom: Click –/+ to zoom in or out.

Focus: Click –/+ to adjust focus.

Iris: Click –/+ to adjust iris.

Preset Point: Add, remove, or go to preset point.

Cruise: Start/stop PTZ cruise

9- Live View Control Buttons:

Open the images on Live window.

Close all the Live channels

Original Proportions: Shows live video at the original proportions

Stretch: Stretch live video to fit the full area for each channel on screen.

To enlarge the web client to full screen.

Manual Recording: Click to start manually recording for all displayed channels. Click again to stop recording. Manual recordings are saved to your computer.

Snapshot: Click to save snapshots of all current displayed channels to your computer.

Digital Zoom: Click upon on a live image, then click-and-drag over an area of the live image to enlarge. Right-click to return to the normal display.

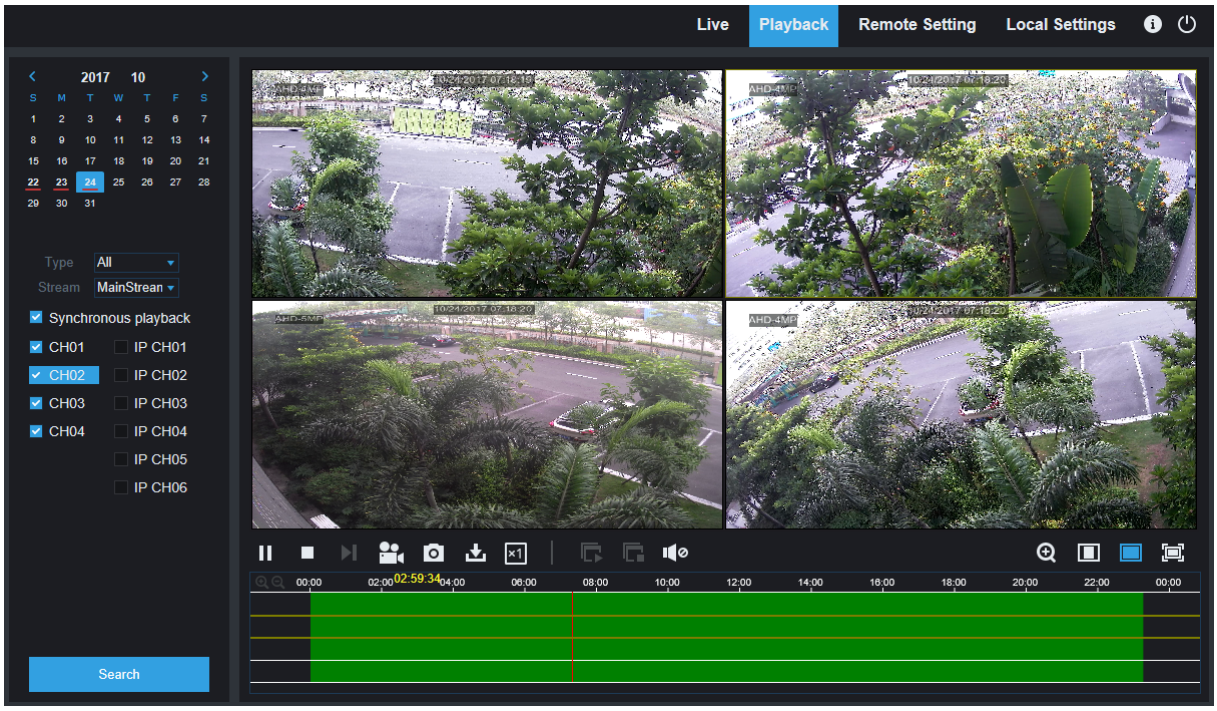
Volume Control. Volume is mute.

10- Navigation: Shows current page number for the channels shown on screen. Use the arrow keys to switch between pages.

11- Page View: Click to select how many channels appear on screen at a time.

7.3.2 Playback

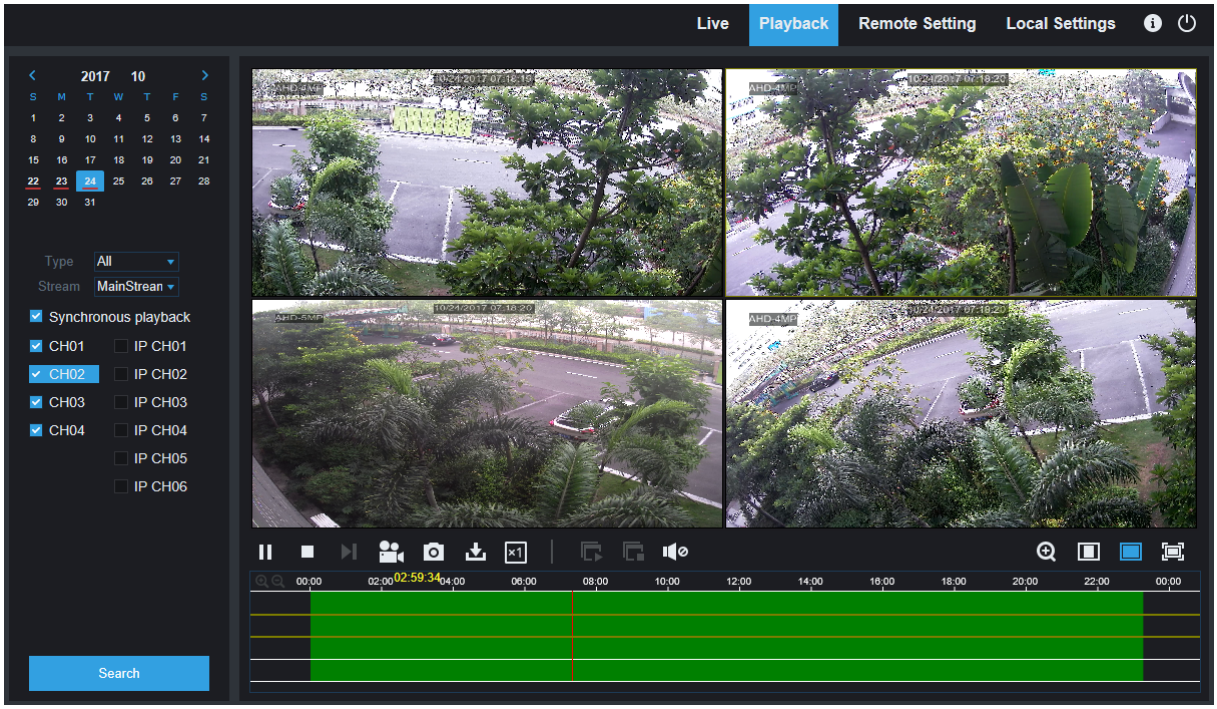
You can search & play recorded videos stored on the HDD inside the NVR, and download the videos to your computer.



To search recordings:

1. Click **Playback** on the top-right corner of the window.
2. Select a day on the calendar to search for recordings from. Days with recordings appear with a red underline.
3. Select the recording type to search from the dropdown next to **Type**, or select **All** to search for all recordings.
4. To choose the video stream you want to search & play. If you want to play Substream recordings, please make sure you had set the NVR to record with Dualstream at 5.2.2.1 Record.
5. Check the channels you would like to search for recordings from. Check **Synchronous playback** to play all channels at once.
6. Click **Search**.
7. Recordings that fit your search will be displayed in the timeline. Click a section of video where you would like to begin playback and click the ▶ play button.

7.3.2.1 Playback Control Buttons



Play the recordings

Pause

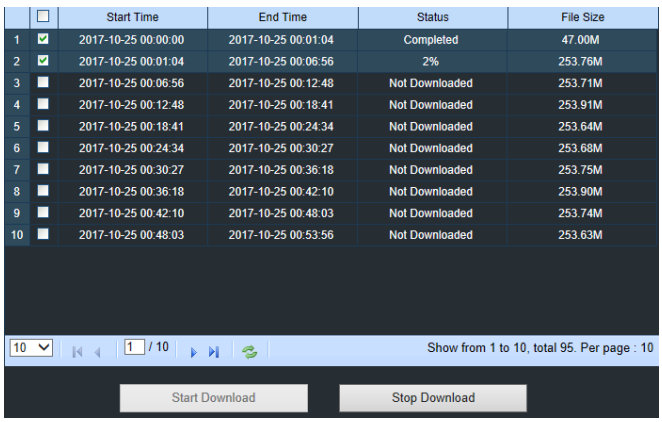
Stop

Go Forward One Frame: Move frame-by-frame through playback. Only available when the **Synchronous playback** option is not checked.

Click on one of the channels being played and then click the record button to record current video to your computer. Click again to stop recording.

Click upon one of the channels being played and then click the capture button to take a snapshot and save to your computer.

Opens the Download menu, which allows you to download several video recordings at once.



Choose the files you want to download. Press **Start Download** button to begin and you will see the download status. Press **Stop Download** button to stop.

Playback Speed. Click to choose the playing speed.

Play All Channels: Click to play all channels you have chosen to search. Only available when the **Synchronous playback** option is not checked.

Stop All Channels: Click to stop playing all channels. Only available when the **Synchronous playback** option is not checked.

Digital Zoom: Click on on a playing video, then click-and-drag over an area of the video to enlarge. Right-click to return to the normal display.

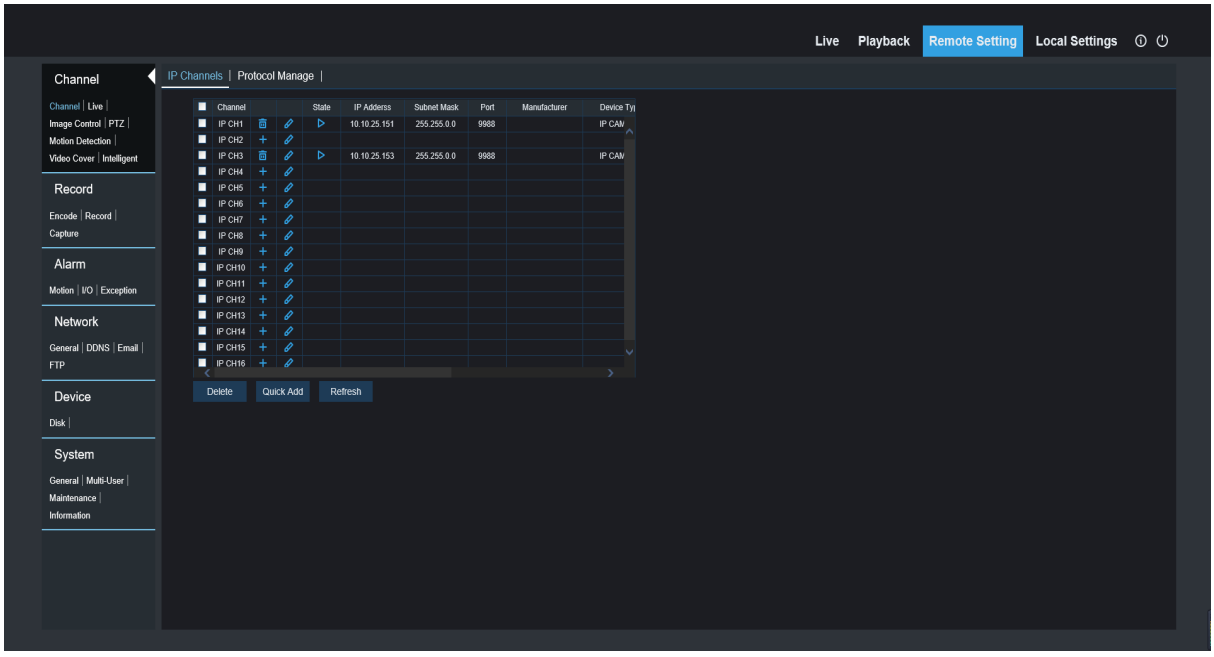
Original Proportions: Shows the playing video at the original proportions

Stretch: Stretch the playing video to fit the full area for each channel on screen.

To enlarge the web client to full screen.

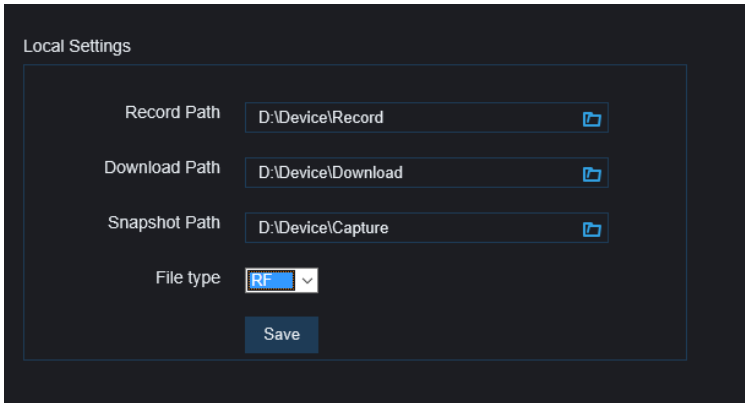
7.3.3 Remote Setting

Here you can remotely configure the settings of the NVR. Please see "Chapter 5 NVR System Setup" for more details on the NVR settings.



7.3.4 Local Setting

Set download locations for recordings and snapshots taken using Web Client, and choose file type for video files.



Record Path: Click to browse for and select the folder where you would like the manual video recordings to be saved on your computer.

Download Path: Click to browse for and select the folder where you would like to save the download video recordings to your computer.

Snapshot Path: Click to browse for and select the folder where you would like the manual capture snapshots to be saved on your computer.

File Type: Choose your preferred file type for manual recordings.

Save: Click to save the modifications.

Chapter 8 Viewing Backed Up Video on PC/Mac

This section will help you to play backup files with the powerful video player which is attached on the enclosed CD or you can download at http://www.specotech.com

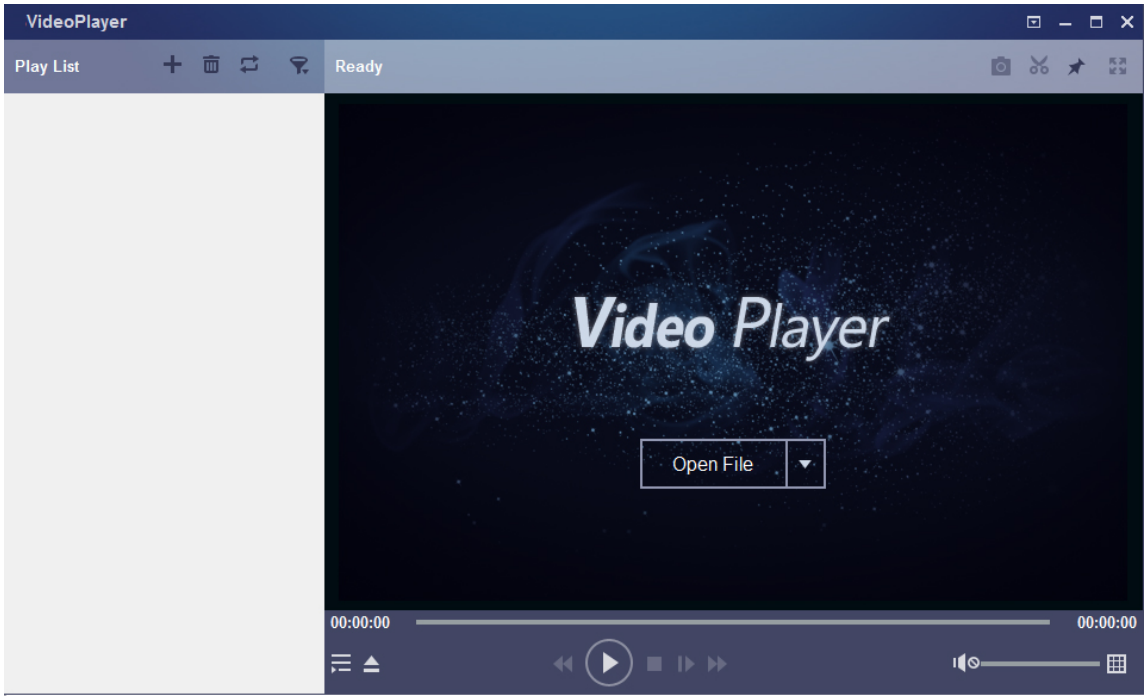
For Mac users, please install the app "VideoPlayer_x.x.xx_xxxx_xx_x.dmg", for example: VideoPlayer_1.0.32.dmg.

For Windows users, please install the software "VideoPlayer_x.x.xx_xxxx_xx_xx.exe", for example: VideoPlayer_1.0.41_2021_02_25.exe.

Minimum System Requirements

- Intel Pentium 4 or above
- Microsoft Windows XP / Vista / 7 / 8 / 10
- 256MB RAM
- 16MB video memory

1. Install the Video Player software in the CD and run.



2. Copy the backup files to your computer.

3. Click **Open File** button or click + button on the Play List to load single or multiple video files. You can add & play ".rf", ".avi", ".mp4", ".264" and ".265" files. Click button to load a folder with backed-up videos.

Video Player Control

1. Play List

Add files

Remove files

To choose play mode: play a single file and stop; play all listed files by sequence; repeat one file; repeat all files.

Filter by file name

2. Hide/Show Playlist

Click to open files or load a folder.

3. Play Controls

Play

Pause

Stop

Play frame by frame. Click once to play a frame of the video

Slow Play, 1/2, 1/4 and 1/8, 1/16 speed

Fast Forward, x2, x4, x8 and x16

4. Volume control

Multi-screen play. It allows to play multiple videos at a time. When you choose multi-screen, you can drag the video in Play List to the play screen.

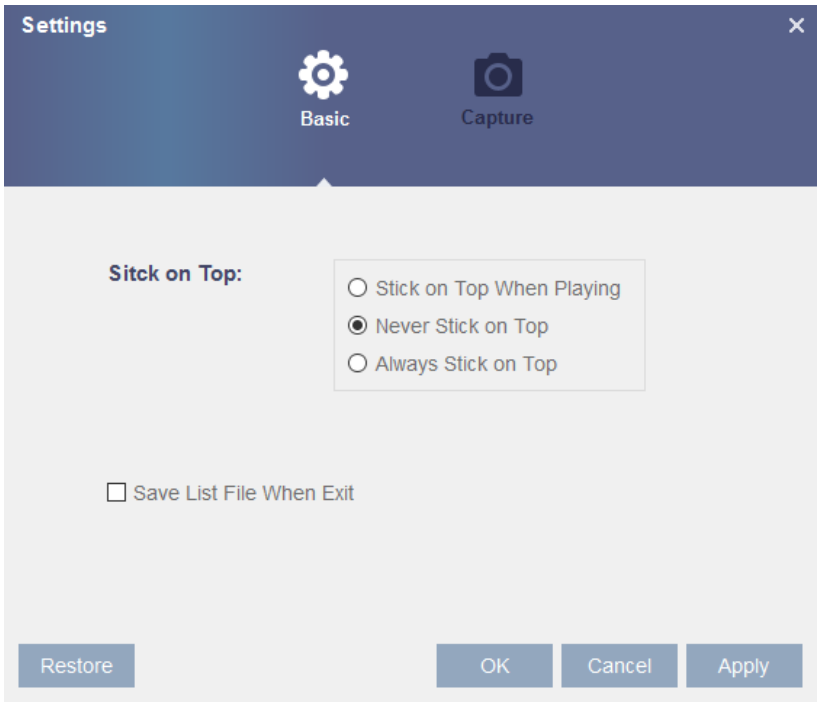
5. Take snapshot

To save a video clip to your computer. Press once to start, press again to end the video clip.

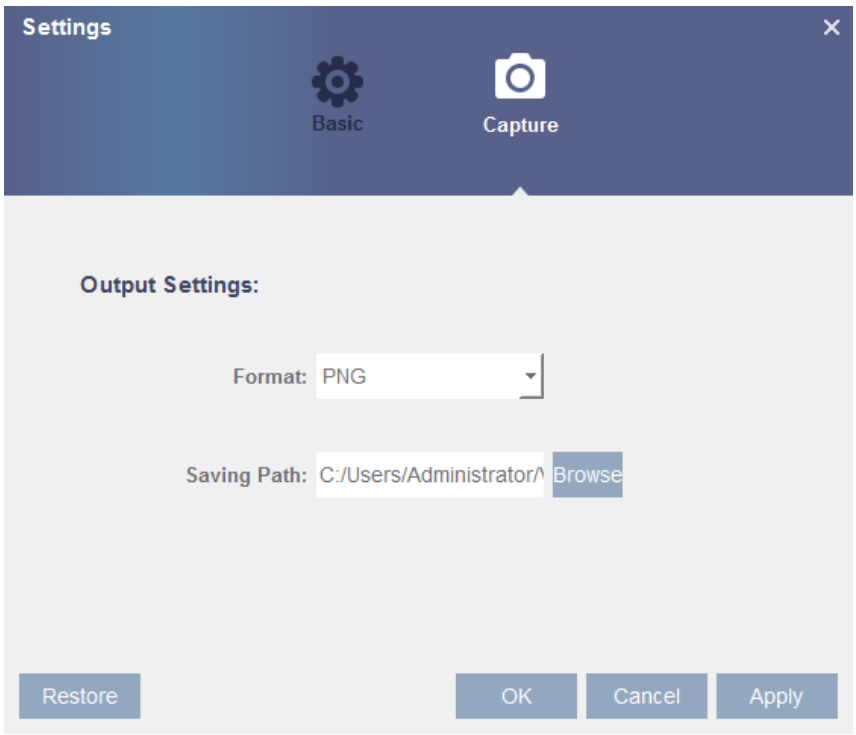
Keep the video player on top

Enlarge the video to full screen

6. **Advanced Setup Menu** allows you to choose the OSD language of the video player, and configure the setting of video player.



Basic Settings: Set on-top mode



Capture Settings: Set the format and the path to save snapshots.

Chapter 9 Remote Access via Mobile Devices

The NVR supports to remote access via mobile devices based on Android & iOS operating system.

Search Speco Gray by Speco Technologies from Google Play Store for android devices or App Store for iOS devices and install.

Chapter 10 Appendix

10.1 Troubleshooting

1. Q: What can I do if the system does not detect the HDD?
   A: Check if the power supply, data cord and power cables are securely connected, and if something wrong with the HDD interface.
2. Q: I have changed the password but forgot the new password, how can I access the system?
   A: If you forget your password, please contact Speco Technologies technical support for help.
3. Q: We see an abnormal video signal or even no video signal by connecting the NVR and camera together. The power supply for both devices is OK. What is wrong?
   A: Check network cable at NVR side to see if the cable is firmly connected and if it is worn out and needs to be replaced, and then check if NTSC or PAL is selected properly.
4. Q: How do I prevent NVR from overheating?
   A: The NVR needs to dissipate heat while it is running. Please place the NVR in a place with good air circulation and away from heat sources to ensure stability and life of the NVR.
5. Q: The NVR remote control doesn't work but the monitor screen is OK and panel keys are functional. Why?
   A: Operate again by aiming the remote control at the IR receiver on front panel. If it still doesn't work, please check if the batteries in the remote control are dying. If not, check if the remote control is broken.
6. Q: I want to take out the HDD from my PC and install it in my NVR. Can it work?
   A: Replacing your HDD without approval from Speco Technologies and without using an approved HDD will void your warranty. Please contact your local Speco Technologies sales representative for more information.
7. Q: Can I playback while recording?
   A: Yes. The system supports the function of playing while recording.
8. Q: Can I clear just some recordings on the HDD of NVR?
   A: In consideration of file security, you may not clear partial recordings. If you want to remove all the records, you can format HDD.
9. Q: Why can't I log into the NVR client?
   A: Please check if the network connection settings are correct and the RJ-45 port has proper contact. And check if your account and password are correctly input.
10. Q: Why can't I find any records during playback?
    A: Please check if the data line connection for HDD is OK and system time is properly adjusted. Try a few times and restart. If it still doesn't work, check if the HDD is broken.
11. Q: Why can't my NVR control a PTZ?

A: Please check if:

a) PTZ hardware is powered and functioning properly.
b) Settings, connection and installation of PTZ decoder are correct.
c) NVR's PTZ setting is correct.
d) The protocol of PTZ decoder matches that of the NVR.
e) The IP Address of the PTZ decoder matches that of the NVR.
f) If many decoders are connected, the farthest installed AB line of PTZ decoder should add 120Ω resistance to realize reflection suppression and impedance matching. Otherwise, PTZ control will be unstable.

12. Q: Why doesn't dynamic detection work?
    A: Please check if the motion detection time and motion detection regional setting are correct and if the sensitivity is set too low.
13. Q: Why doesn't alarm work?
    A: Please check if the alarm settings, alarm connections and alarm input signals are correct.
14. Q: Why does buzzer keep sounding?
    A: Please check the alarm setting, check if motion detection function is enabled and object motion is detected all the time and if I/O alarm is set as Always Off. Also, refer to corresponding HDD alarm setting.
15. Q: Why can't I stop recording by pressing "STOP" button or click "Stop Recording" in context menu?
    A: Pressing Stop or Stop Recording can only stop manual record. If you want to stop Scheduled recording in certain time frame, please change the settings to No Record. To stop Startup recording, please change record mode to scheduled recording or manual recording. Then you may stop recording by the prescribed methods. Another way of stopping recording is to set channel as off status in record setting.

10.2 Usage Maintenance

1. To shut down NVR, please first shut down the system via the menu and then turn off the power. Do not turn off the power directly or HDD data will be lost or damaged.
2. Please keep NVR away from heat sources or hot areas.
3. Clean dust regularly. Make sure there's good ventilation so as to ensure good heat dissipation.
4. Please do not connect audio and video cables, or cables connected to ports like RS-232 or RS-485 while the unit is turned on. Otherwise, the ports will be damaged.
5. Please check the HDD cable and data cable regularly to see if they are ageing or fraying.
6. Please prevent the audio and video signals of NVR from being interfered with by other electronic devices, and prevent the HDD from being damaged by static electricity and induced voltage. If the network cable is frequently plugged and removed, it is suggested to replace the connecting line regularly or the input signal may be unstable.
7. This is a class A product and might bring wireless interference to nearby products. Under this situation, it need user to make measures.

10.3 Accessories (For reference only)

☐Remote Controller

☐ Power Adapter

☐ Warranty Card

☐ USB mouse

Model: N4JLN/N8JLN/N16JLN

Federal Communications Commission (FCC) Statements

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

FCC Responsible Party:
Speco Technologies
200 New Highway
Amityville, NY 11701
www.specotech.com

Speco Technologies is constantly developing and improving products.

We reserve the right to modify product design and specifications without notice and without incurring any obligation.