June 2023

User Manual

GW55 Series NVR

SAFETY INSTRUCTION

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

- The device should be used in compliance with local laws, electrical safety regulations, and fire prevention regulations.
- Use the power supply attached or specified by the manufacturer only. Never operate the equipment by using an unspecified power supply.
- Firmly connect the plug to the power socket. Do not connect several devices to one power adapter.
- Power off the device before connecting and disconnecting accessories and peripherals.
- The NVR should not be placed in a dusty environment.
- The NVR should be placed in an area with adequate ventilation, avoiding harsh sunlight. Do not expose the NVR to moisture or liquids. If the device gets wet, unplug the power supply and contact your local dealer.
- The NVR has one or more HDD"s which produces large amounts of heat during operation. Do not block the vents (on the top, bottom and both sides) for cooling the system during operation.
- Never place the NVR in an unstable location. The NVR may fall and cause serious personal injury or death.
- Keep the surface of the NVR clean and dry. Use a soft cloth to clean the outer case of NVR and do not use liquid or aerosol cleaners.
- If smoke, odor or excessive noise are coming from the NVR, turn off the power immediately, unplug the power cable, and contact your local dealer.
- This product contains a coin/button cell battery. If the battery is swallowed, it can cause severe internal burns in just 2 hours and can lead to death.
- If you think batteries might have been swallowed or placed inside any part of the body, seek immediate medical attention.
- Keep new and used batteries away from children.
- Do not expose the battery to fire or a hot oven, or mechanically crush or cut the battery, which may cause an explosion.
- Do not leave the battery in an extremely high temperature environment, which may result in an explosion or the leakage of flammable liquid or gas.
- Do not subject the battery to extremely low air pressure, which may result in an explosion or the leakage of flammable liquid or gas.

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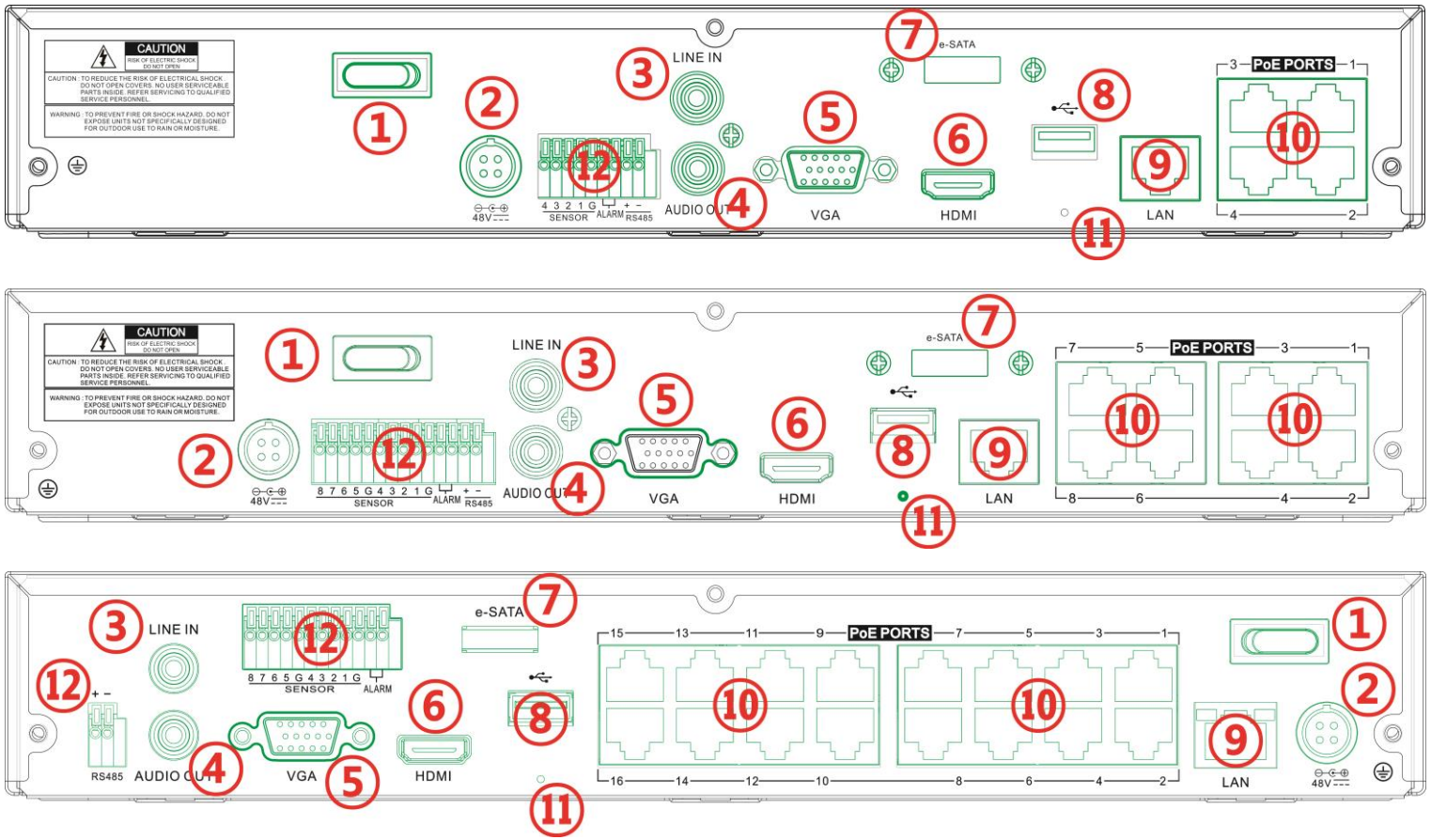
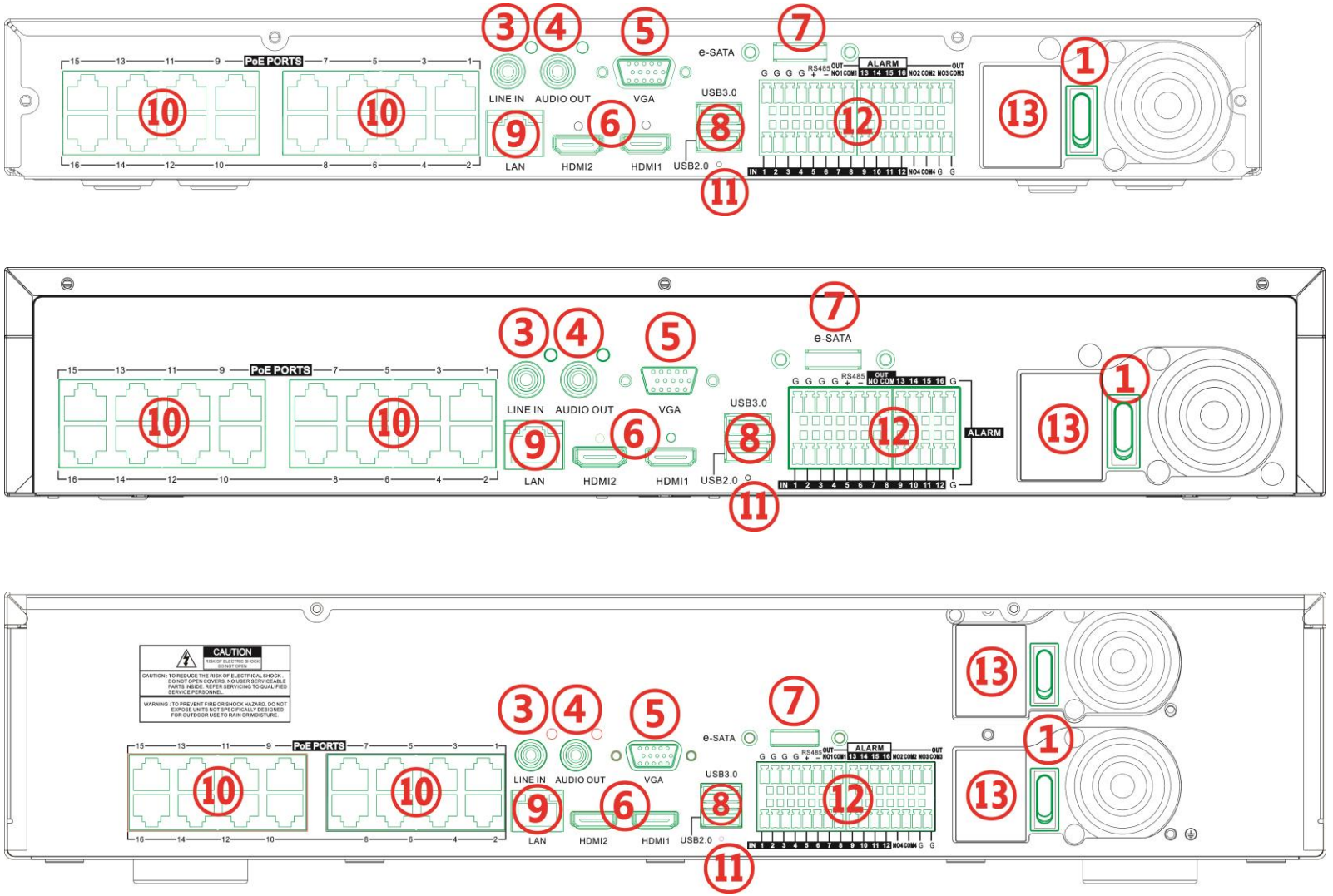
Chapter 1. Product Overview

1.1. Rear Panel





*All pictures above are for illustration purpose only. Your actual product may vary based on model.

No.	Item	Description
1	Power Switch	To turn on or turn off the power of the NVR.
2	DC Power Input	Connect to the attached DC power adapter.
3	LINE IN	Audio line input. Connect to audio input device, such as microphone, sound pick-up.
4	AUDIO OUT	Audio output. Connect to audio output device, such as loud speaker.
5	VGA	Connect to a VGA monitor.
6	HDMI	Connect to HDMI display device
7	e-SATA	Connect to an external e-SATA storage device for recording or backup.
8	USB	Connect to USB device, such as USB mouse or USB flash drive.
9	LAN Port	RJ45 network interface. Connect to router or network switch.
10	PoE Ports	PoE network ports for IP camera connection. *It is strongly recommended that only 1 camera is connected to an individual PoE port.
11	RESET Button	Press and hold 10 seconds on the button with a small pin to load all settings to default value.
12	Sensor, Alarm & RS485 Terminals	SENSOR & G：connect to external sensors; ALARM: relay output, connect to external alarm device; RS485: Connect to PTZ device, such as speed dome camera.
13	AC Power Input	Connect to AC power cord.

1.2. Remote Controller (not included with all models)

Button	Functions
0 to 9	Numeric keys; Press number 1 to 9 to display channel 1 to 9 directly. Press combination of numbers quickly to display the channel lager than 9.
ALL	Press to switch the channel display layout among multiple display modes.
MENU	Press to display the Task Bar while in live view; Exit and back to previous page while in system menu.
MUTE	Mute or activate the audio output volume.
SUBMENU	First press to display the Taskbar while in live view; Second press to display the Camera Quick Toolbar.
▲▼	Move upward or downward; Turn up or turn down the audio volume.
◀ ▶	Move left or right; Decrease or increase the parameter value in system setting menu.
SEL	To confirm the choice or setup.
◀◀	Rewind button. Press to play video fast rewind in different speed.
▶▶	Forward button. Press to play video fast forward in different speed.
▶	Play button; Enter search menu.
●	Manual record button.
■	Stop manual record or stop the video playback; Press and hold 3 seconds to reset the VGA/HDMI output resolution to default value.
▮▮	Press to pause video play.

Chapter 2. Installation & Connection

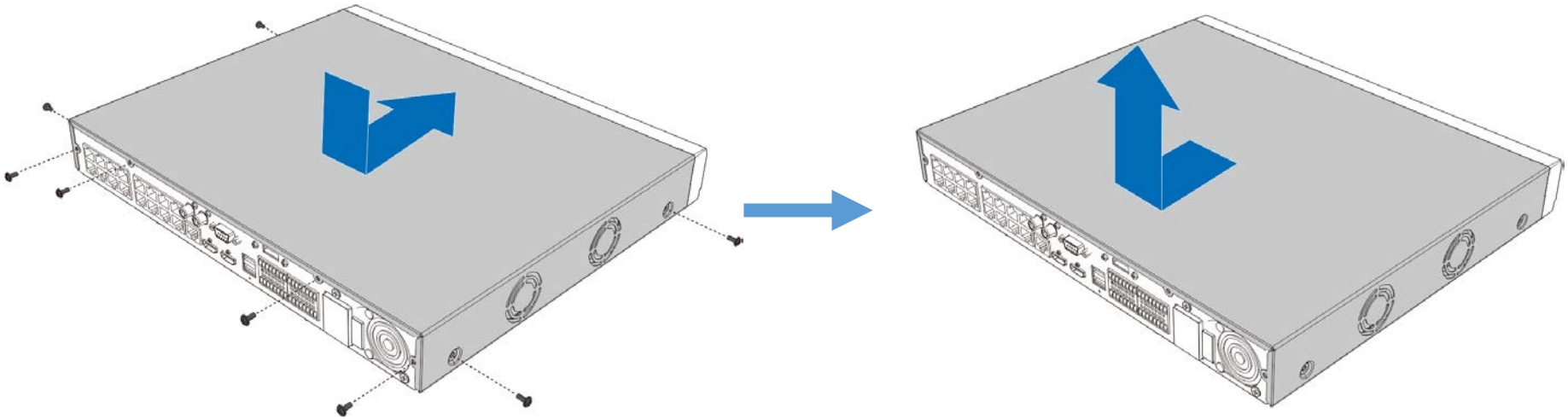
2.1. HDD Installation

Depending on the NVR you have purchased, the hard disk drive (HDD) may be pre-installed. If it is not pre-installed, follow the installation instructions in this user manual.

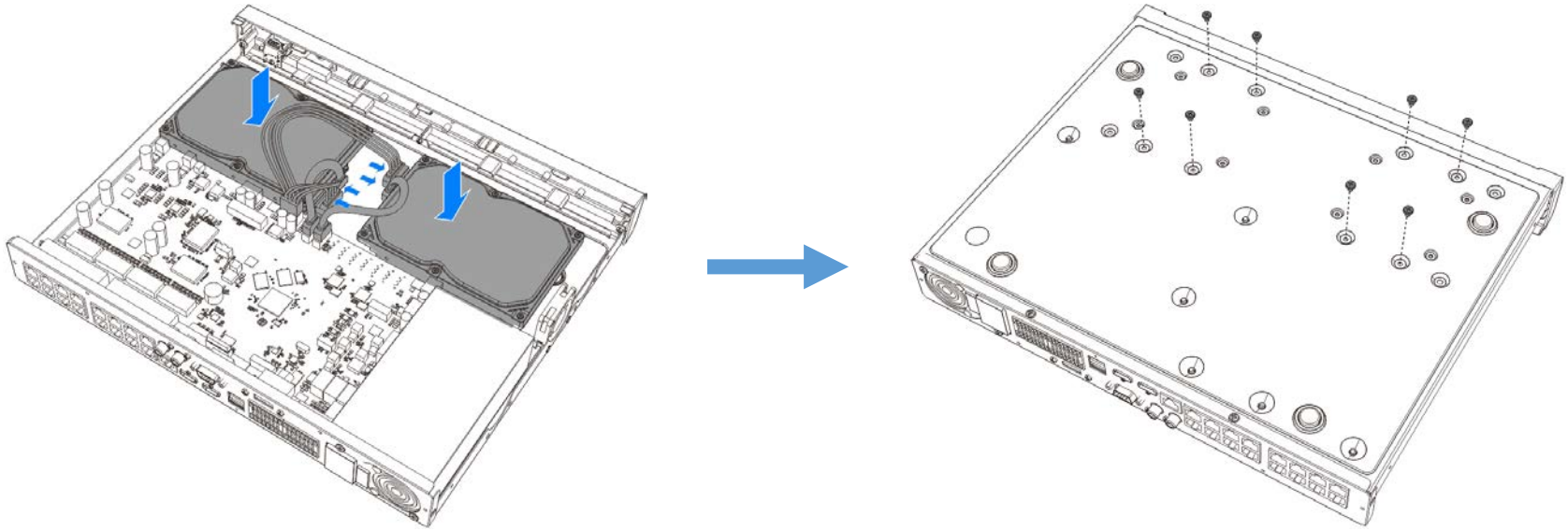
Caution: Do NOT install or uninstall the HDD while the NVR is powered on.

HDD Installation:

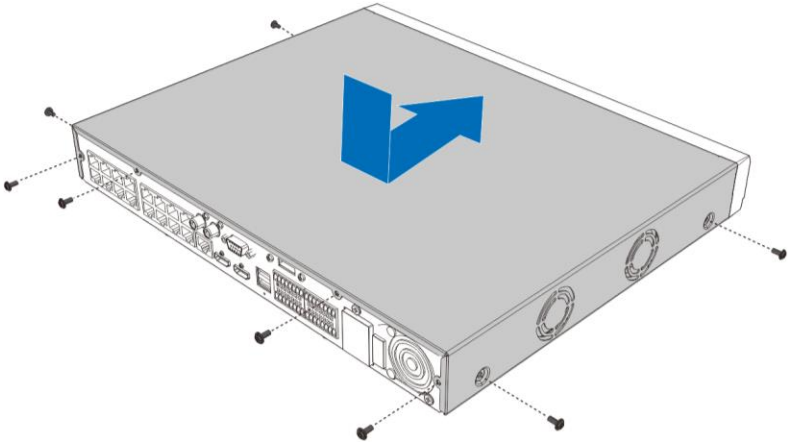
1. Power off the NVR, remove screws on both sides & rear panel and open the upper cover.



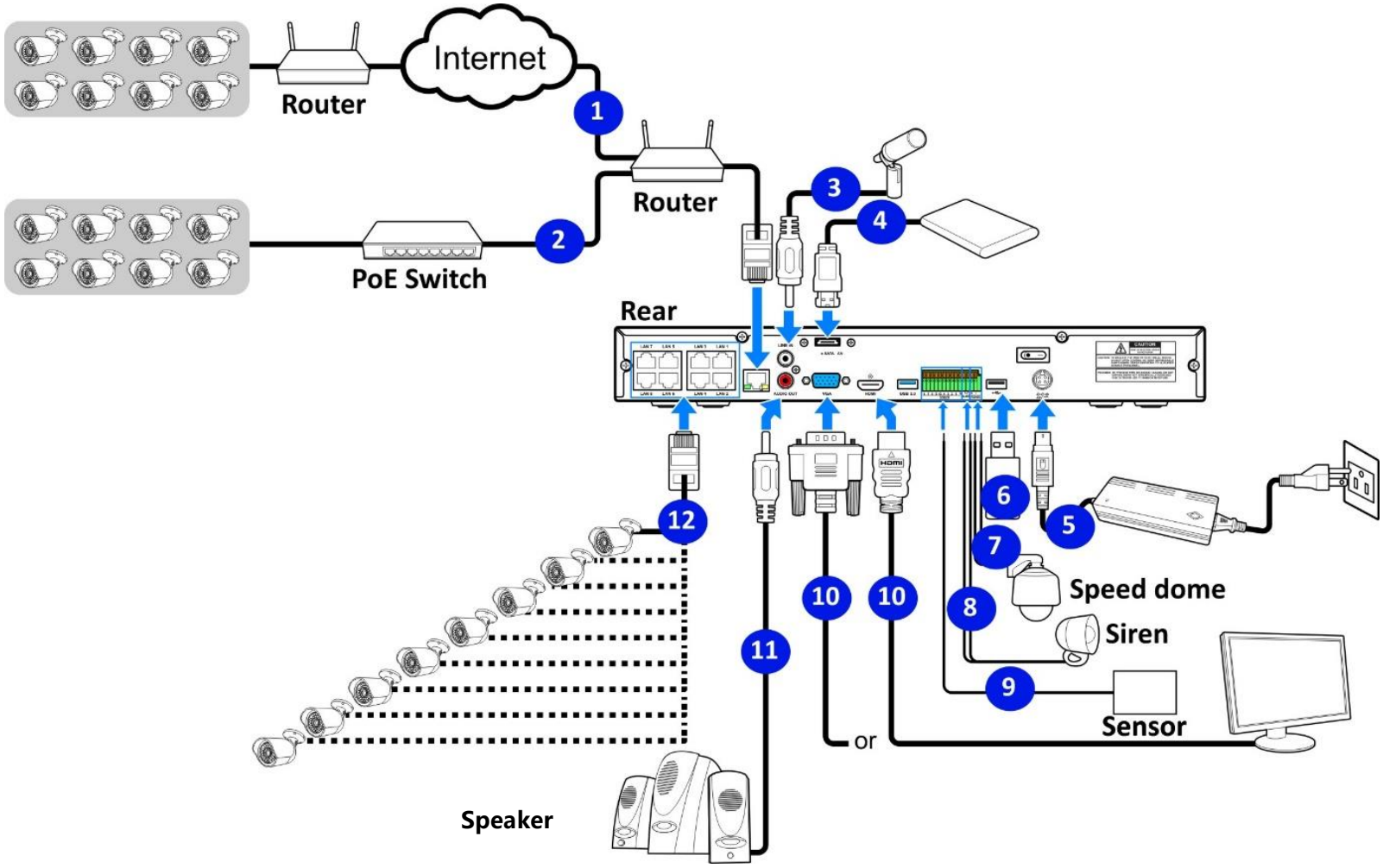
2. Connect the data and power cables to the HDD and place it on the bottom case. Carefully flip the case and secure the HDD to the case with screws. The diagrams below are for reference only. Your actual device might vary slightly.



3. Put the upper cover back carefully, and fix the cover with screws.



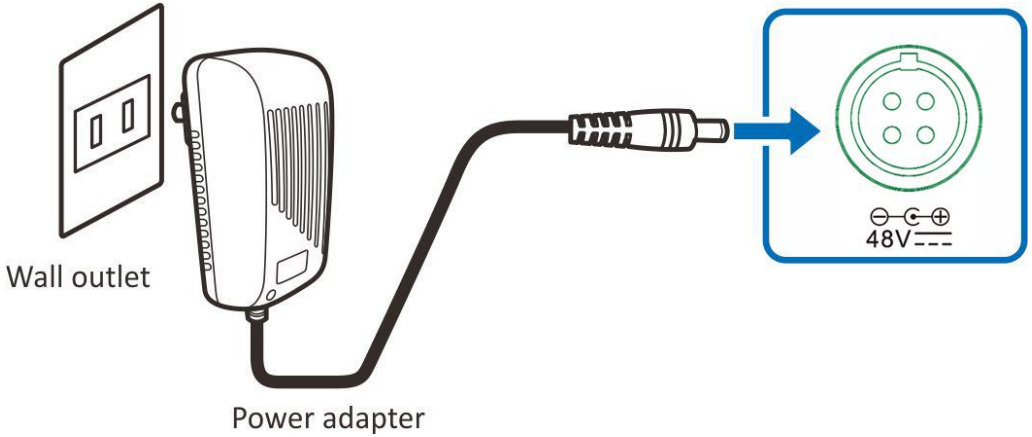
2.2. Connection Diagram



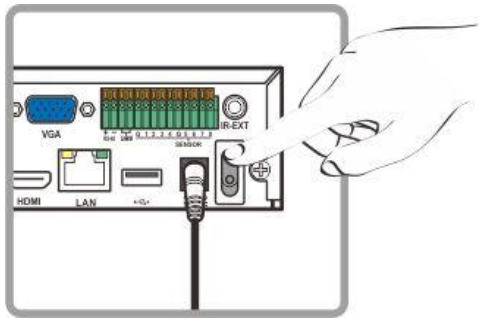
***Above connection diagram is for illustration purpose only. Your model may vary.**

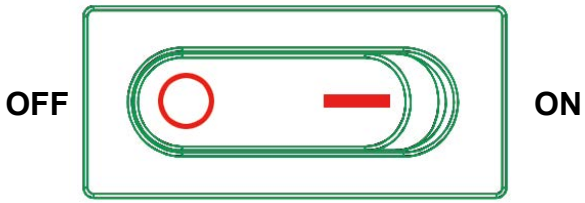
2.3. Power Supply Connection

Caution: Use the power supply supplied or specified by the manufacturer only. Contact your local dealer if any problem with the power supply is found.



You may need to press the power switch to turn on the NVR if there is a power switch on the rear panel of the NVR.

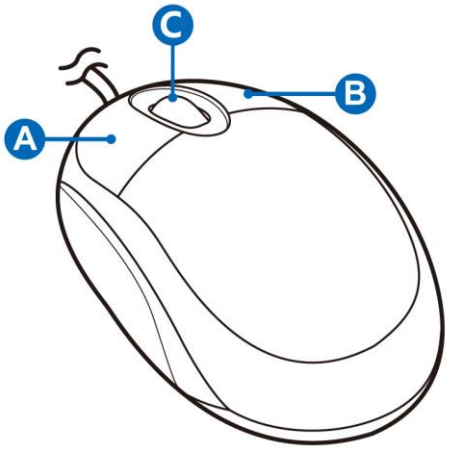




Above pictures are for illustration purpose only. Your model may vary.

Chapter 3. Common Operations

3.1. Using the Supplied Mouse



A. Left Button

- Click to select menu options.
- During live viewing in split-screen view, double-click on a channel to view it 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.

B. Right Button

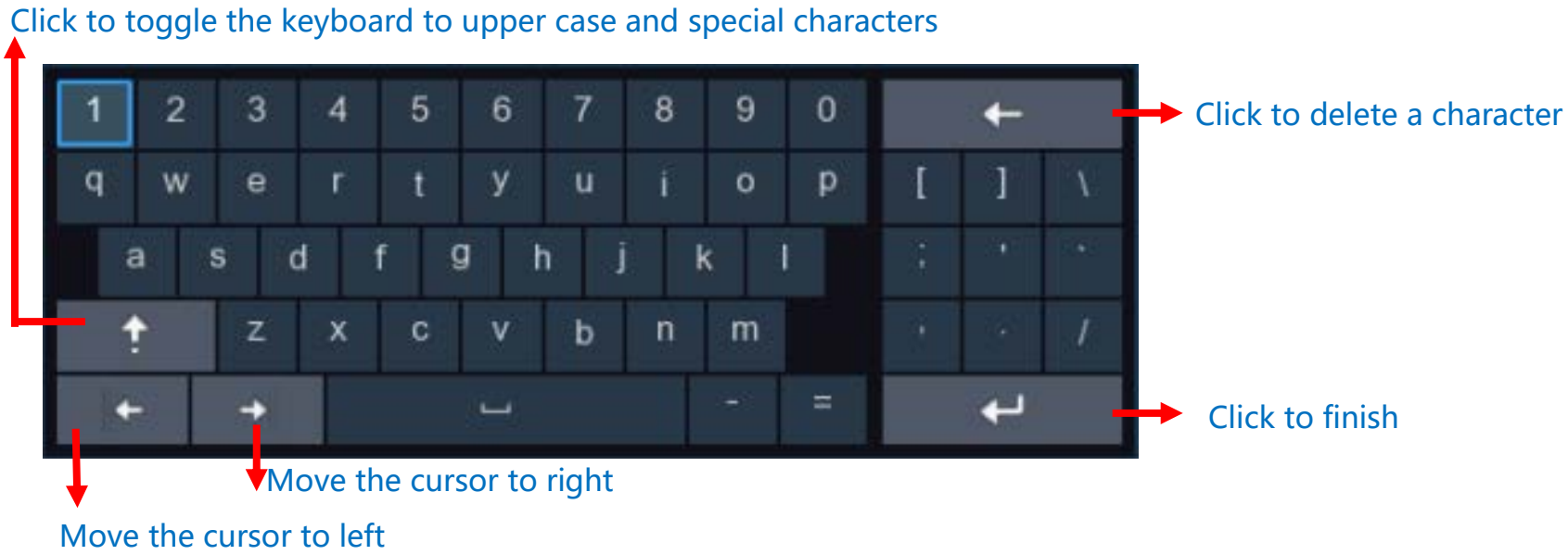
- Click once to open the Taskbar on the Live Viewing screen. View Taskbar on 4.2.2 Taskbar.
- In menu, click to go back / close menu.

C. Scroll Wheel

- In menu, 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 Virtual Keyboard

The virtual keyboard will automatically display on the screen when needed to enter data, such as enter password, camera title, etc.

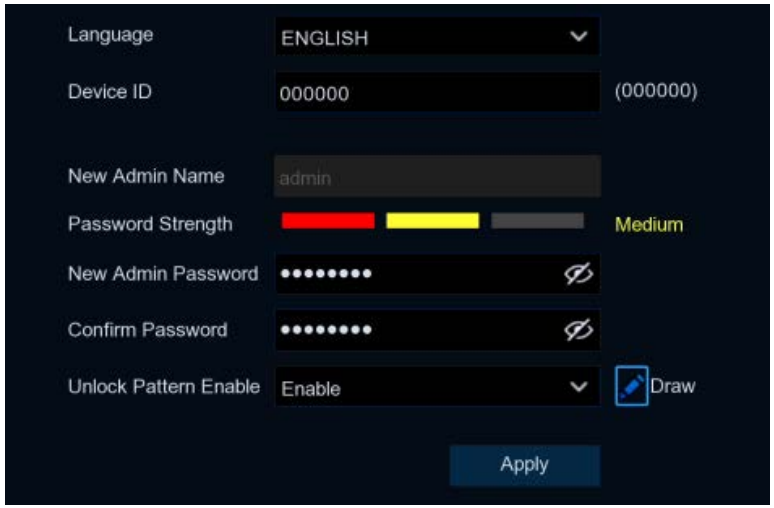


3.3. Password

Proper configuration of all passwords and other security settings are the responsibility of the installer and/or end-user.

3.3.1. Password Generation

The first time the NVR is powered on, the system will required settings a password immediately in order to protect your privacy. Please be sure to record the username and password and save them in a secure place.



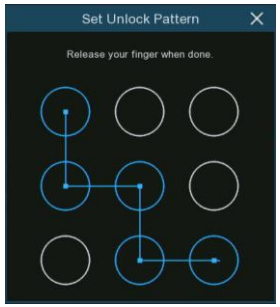
Language: Choose an available OSD language.

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 Password: To set the password. The password must be a combination of 8 to 16 characters, which is combined with at least 2 kinds of different characters from uppercase letters, lowercase letters, digit numbers and special characters.

Confirm Password: Enter the password again.

Unlock Pattern: Select **Enable** to draw the pattern lock.



Click **Apply** to confirm your settings.

The system will require setting the password recovery questions in case the password is forgotten.

Select **Security Question Configuration**, and then choose 3 questions and input the answer to each question.

If **Certificate of Authorization** is chosen, click the **Export** button to save a security key to a USB flash drive.

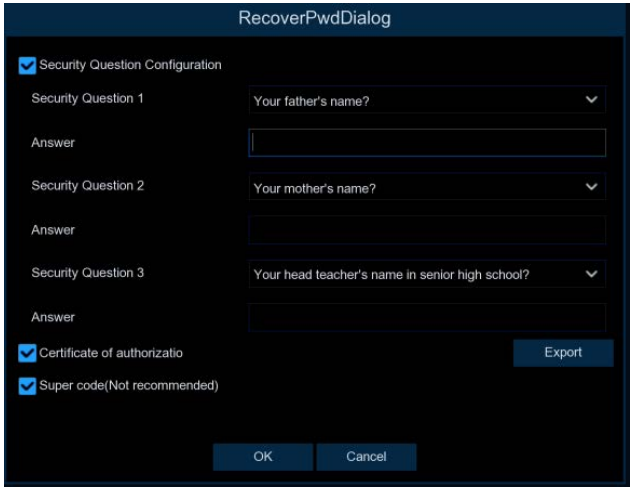
That flash drive will be needed to reset the password in the future.

Super code: Is a backup method to reset the password.

If enable, a temporary & time-bound super code can be generated by the authorized dealer.

It will allow you to login to the system with the super code and create a new password.

However, the super code is not recommended to be enabled for safety reasons.

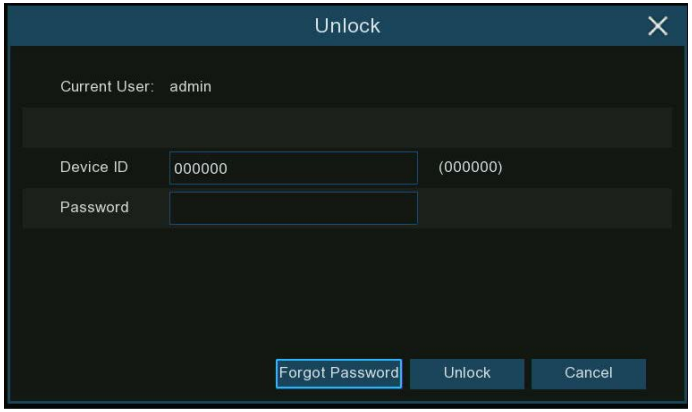


3.3.2. Reset Password

If you forget your password, you will be unable to login to the system, reset your password with the below methods:

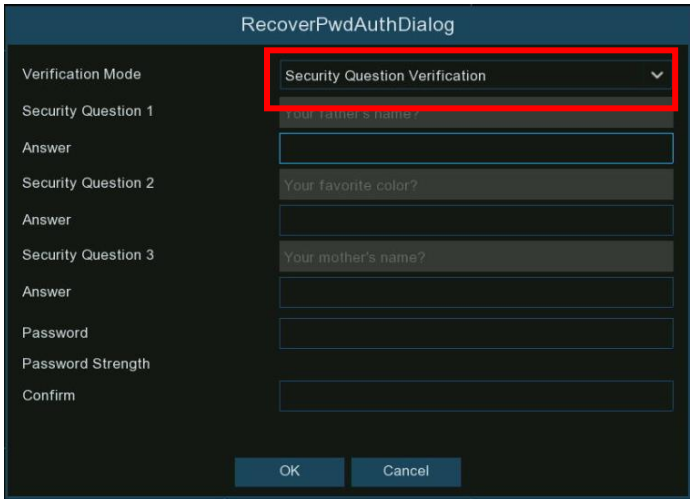
3.3.2.1. Reset with password recovery questions

If you enabled the password recovery questions in 3.3.1. Password Generation, you are able to reset your password with security questions.



1. Click the **Forgot Password** button on the login window.

2. Choose **Security Question Verification**.

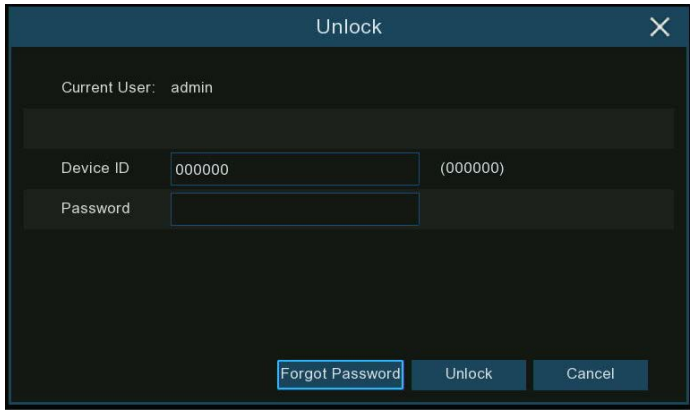


➔ Input the answer to each question and then input new password.

➔ Click **OK** to activate the new password.

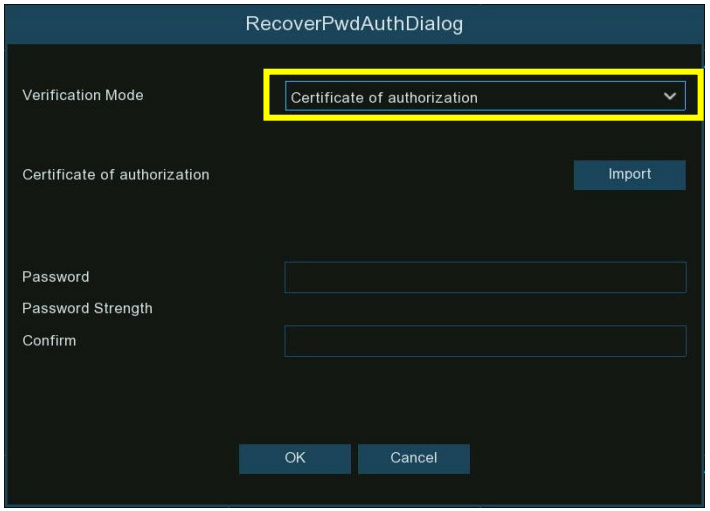
3.3.2.2. Reset with security key

If you exported the security key in 3.3.1. Password Generation, reset the password with the security key.



1. Click the **Forgot Password** button on the login window.

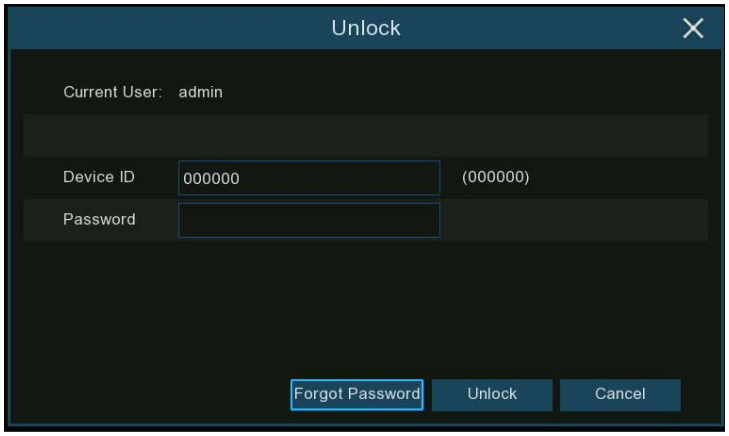
2. Choose **Certificate of Authorization**.
   - ➔ Click **Import** to load the security key from the USB flash drive.
   - ➔ Input new password.
   - ➔ Click **OK** to activate the new password.



3.3.2.3. Reset with Super Code

If you activated the Super Code in 3.3.1. Password Generation, reset your password with super code.

1. Click the **Forgot Password** button on the login window.



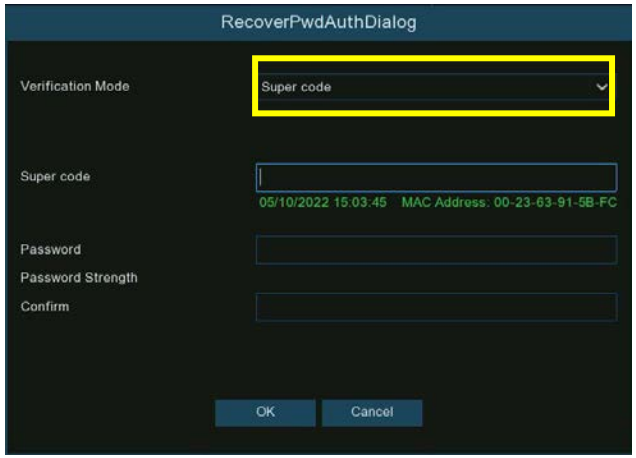
2. Choose **Super Code**.

➔ Provide the date and MAC address information to the authorized dealer.

➔ Input the Super code from the authorized dealer.

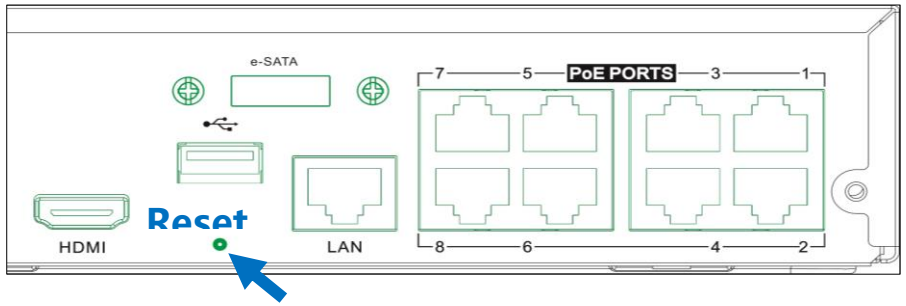
➔ Input new password.

➔ Click **OK** to activate the new password.



3.3.2.4. Hard Reset

If you are unable to reset the password with any of the methods: A, B and C, try to hard reset the NVR if there is a pin-hole reset on the rear panel.



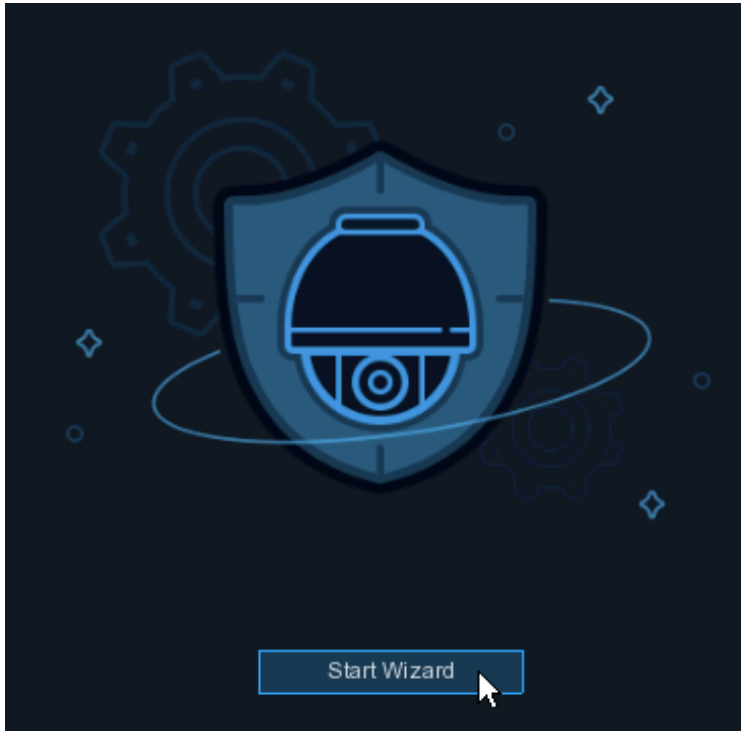
Use a small pin or paper clip, inserted into the pin-hole. Press and hold for 10 seconds, until the NVR beeps.

Note: The hard reset will not only reset the password but will also load all system settings to default value. Your self-defined settings will be lost.

Chapter 4. NVR Starting Up

4.1. Start Wizard

The first time the NVR is run, it is recommended to follow the Startup Wizard. Which will help to configure the system and get the NVR up and working quickly.



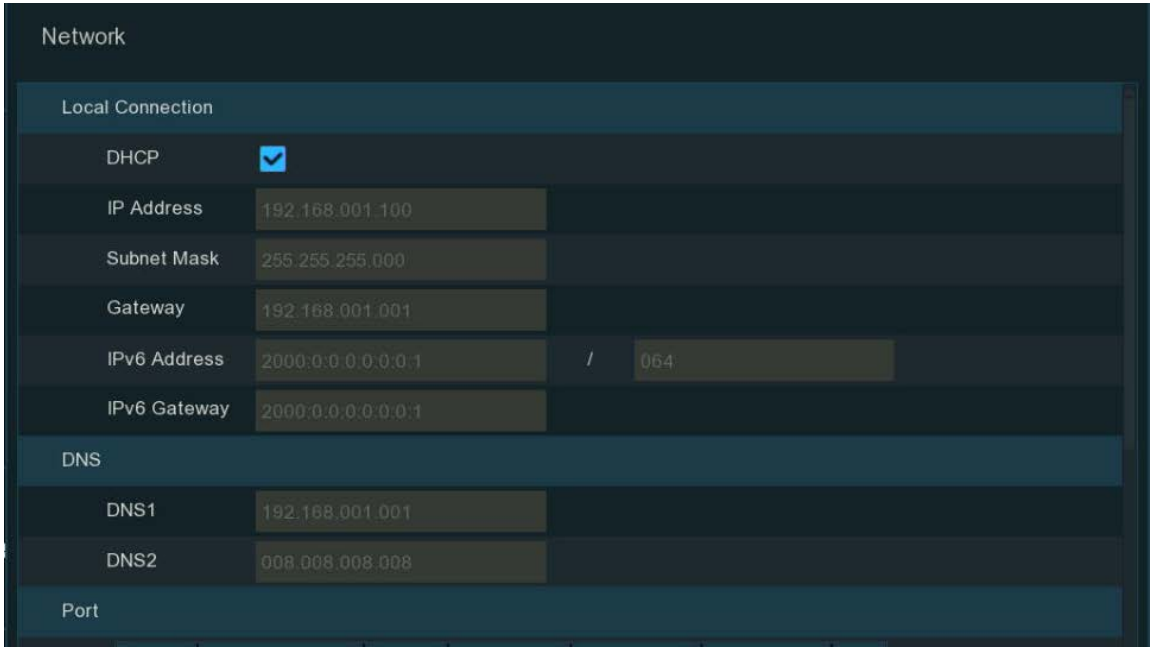
Log into the system and click
the **Start Wizard** to move to the next step.

4.1.1. Network Configuration

If the NVR is connected to a router that allows DHCP, check the **DHCP** box. The router will automatically assign all the network parameters for the NVR. If the network is manually configured, use the below parameters:

IP Address: The IP address identifies the NVR in the network. It consists of four segments 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 segments of numbers, separated by periods. For example, "255.255.000.000".

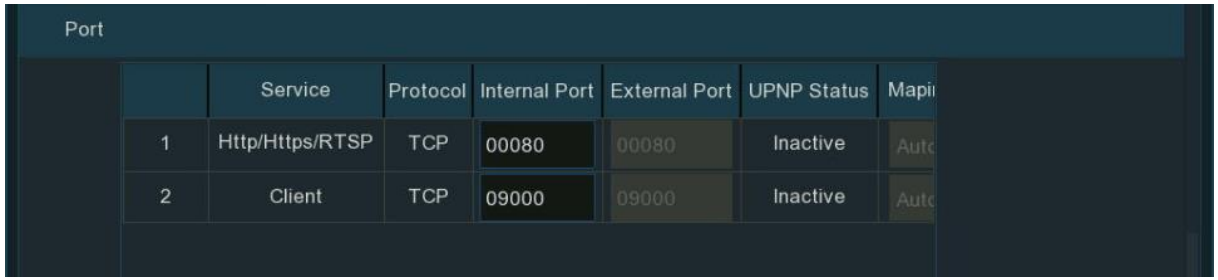


Gateway: This address allows the NVR to access the Internet. The format of the Gateway address is the same as the IP Address. For example, "192.168.001.001".

IPv6 Address: Input the IPv6 address you got from your ISP.

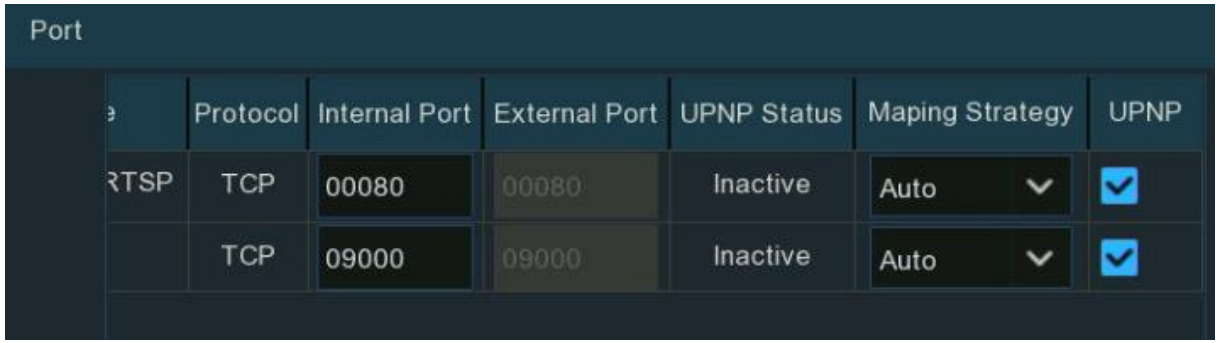
DNS1/DNS2: DNS1 is the primary DNS server and DNS2 is a backup DNS server. Usually, it should be enough just to enter the DNS1 server address.

Port



http/https/rtsp: This is the port that is used to log in remotely to the NVR (e.g. using the Web Interface), or the NVR will be allowed to transmit real-time streaming to other devices (e.g. using a streaming Media player.). ONVIF uses the same port.
If the default port 80 is already taken by another application, please change it.

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



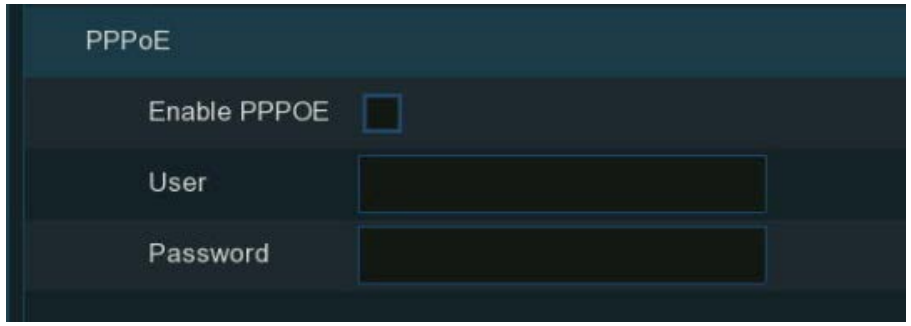
Internal Port: Generally used for LAN connection.
External Port: Generally used for WAN / Internet connection.

UPNP: To log in remotely to the NVR using the Web Interface via a different network, you need to setup port forwarding in your router. Enable UPnP, if your router supports UPnP. 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 configured manually in your router.

Mapping Strategy: If you want the port randomly distributed by the routers UPnP server, choose **Auto**; If you want to manually forward the port, choose **Manual**.

PPPoE: This is a protocol that allows the NVR to connect to the network directly via a DSL modem.

Check the **Enable PPPoE** box, and then enter the User name & Password of the PPPoE which is provided by your ISP.



4.1.2. Date/Time

Configure the Date, Time, Date Format, Time Format, Time Zone, NTP and DST.

Date/Time

Date: Click on the calendar icon to set the system date.

Time: Edit the system time.

Date Format: Choose from the drop-down menu to set preferred date format.

Time Format: Choose time format between 24Hour and 12Hour.

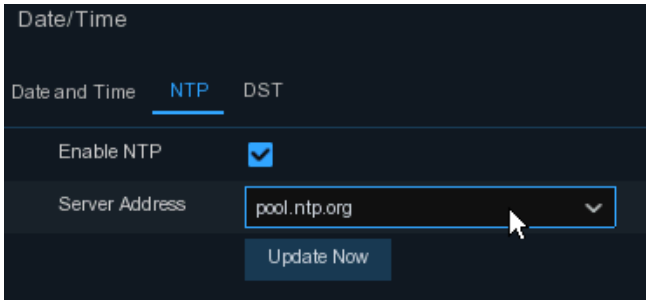
Time Zone: Choose your time zone.

NTP

NTP stands for Network Time Protocol. This allows you to synchronize the date and time automatically on the NVR over the Internet.

To use this feature , 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.

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

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

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

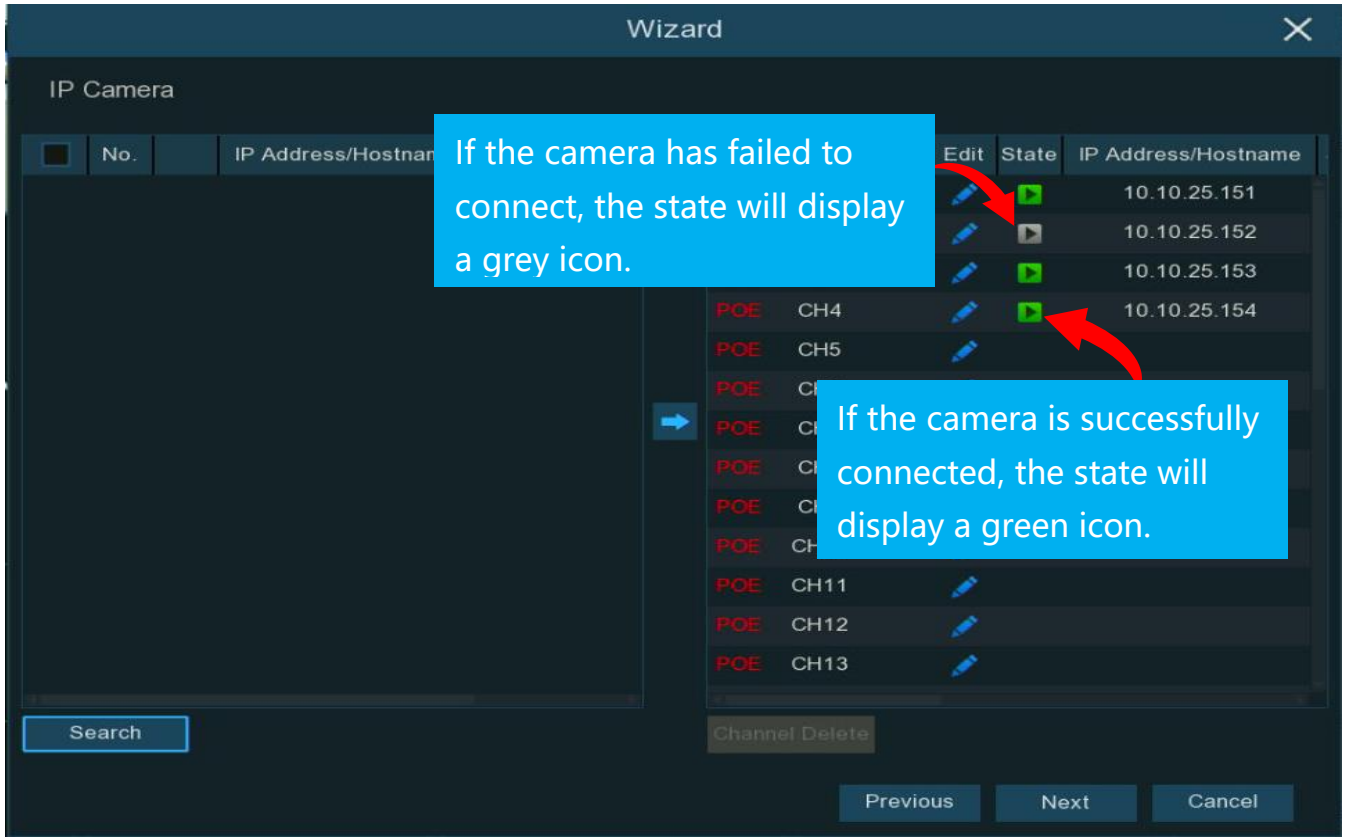
Start Time/End Time: Set the start time and end time for daylight saving

4.1.3. IP Camera

Add IP cameras to the NVR in this section.

4.1.3.1. Connect IP Camera to NVR PoE Ports

IP cameras will connect automatically if the IP cameras are connected to the PoE ports on the rear panel. The online cameras will be displayed on the right side of the window.

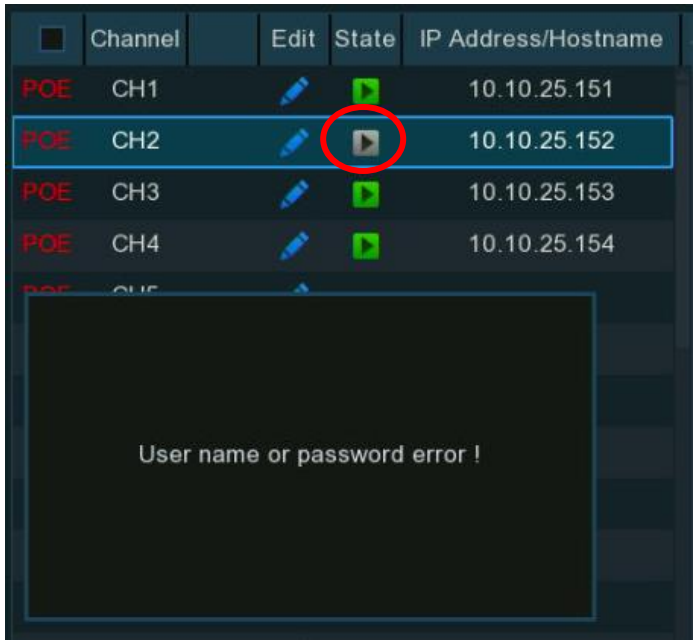


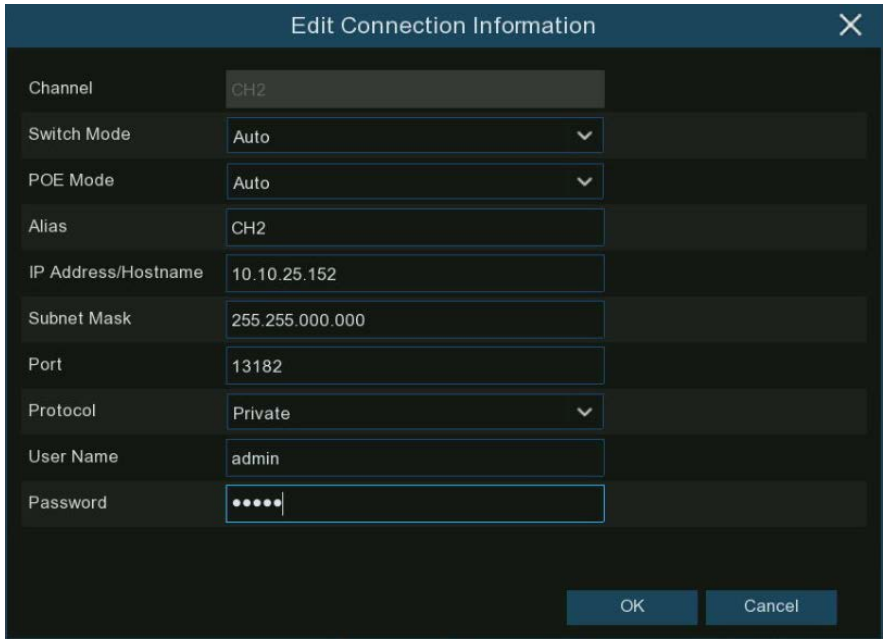
Click on the grey icon, a message will pop-up to display the failure reason.

If it shows "User name or password error!"

Click the edit icon

Input the correct user name and password of the camera.





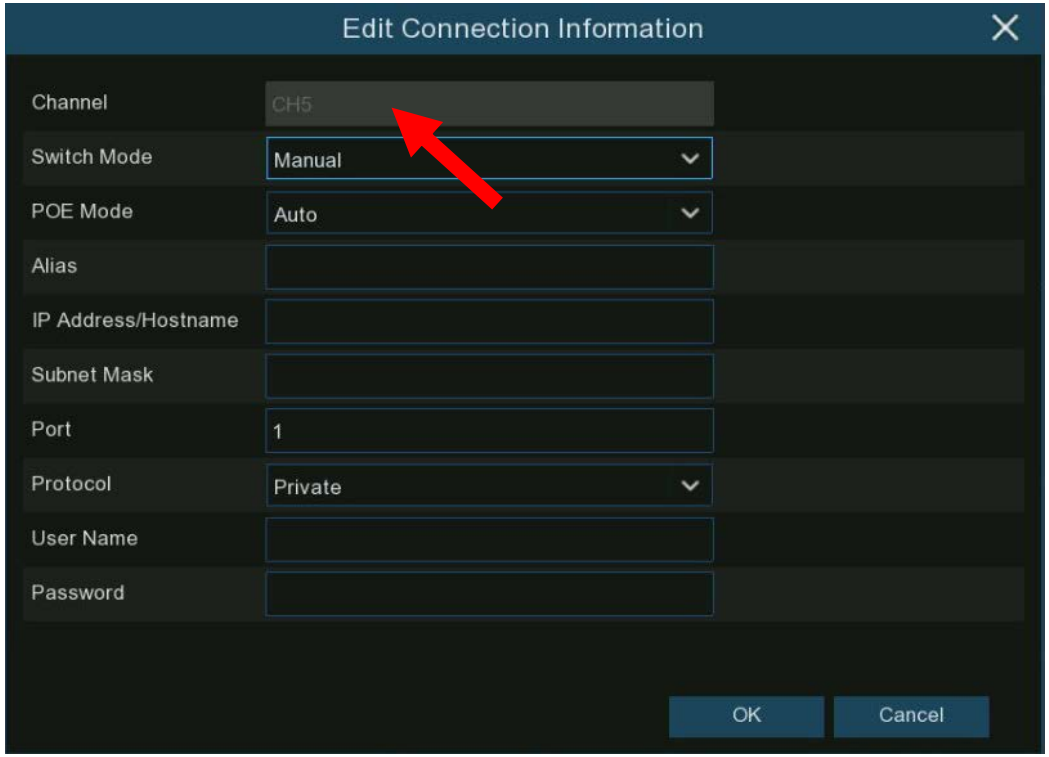
4.1.3.2. Add IP Camera to PoE NVR from LAN

To add an IP camera to the PoE NVR from the local network, make sure the NVR is connected to the LAN(local area network), and the IP camera being added is configured to the same network segment as the NVR.

1. Click the edit icon in the channel the camera is being added to.

➔ Click the drop-down arrow next to Switch Mode to select **Manual.**

➔ Click **OK** to save.

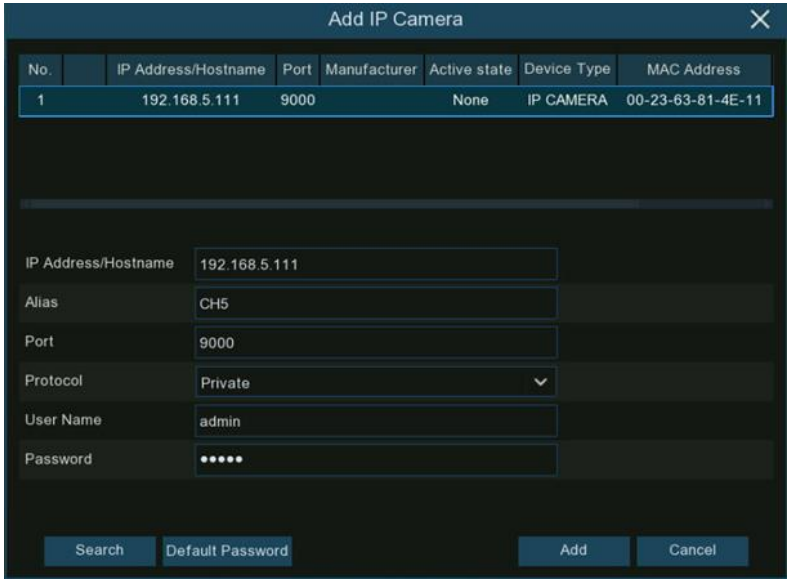


2. Click **Search.**

➔ All available cameras in the LAN will be displayed.

➔ Select the camera to add.

➔ Click the add icon ➡.



Or click the Add icon ⊕ in the channel list

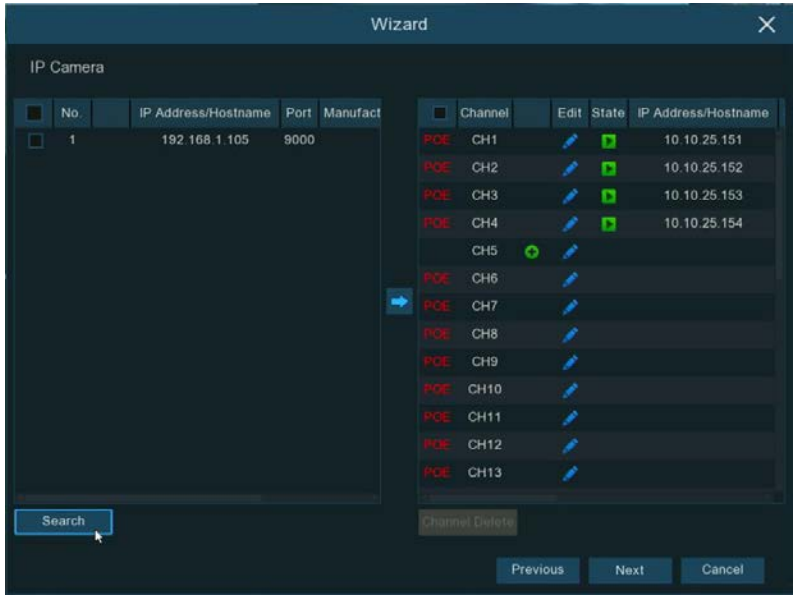
3. Click **Search.**

➔ All available cameras in the LAN will be displayed.

➔ Click on the camera you want to add.

➔ Input the user name and password of the camera.

➔ Click **Add** button to complete.



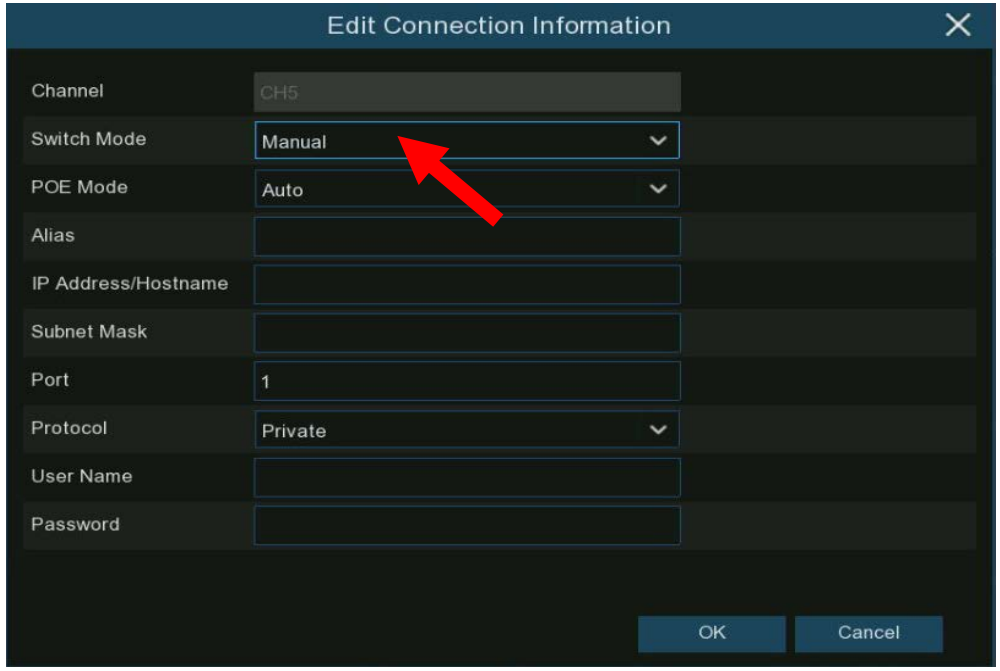
4.1.3.3. Add IP Camera to PoE NVR from Internet

To add an IP camera to the PoE NVR from internet, please make sure the NVR is properly connected to internet.

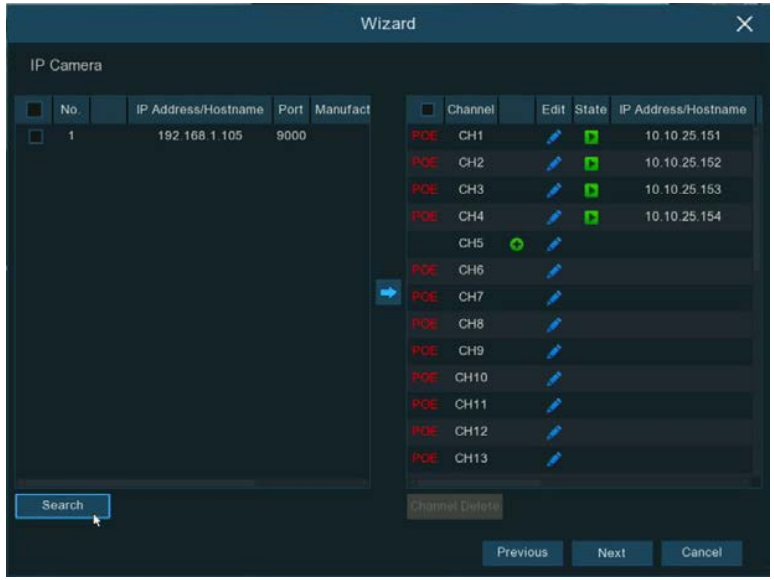
1. Click the edit icon of the channel to add.

➔ Click the drop-down arrow next to Switch Mode to select **Manual**

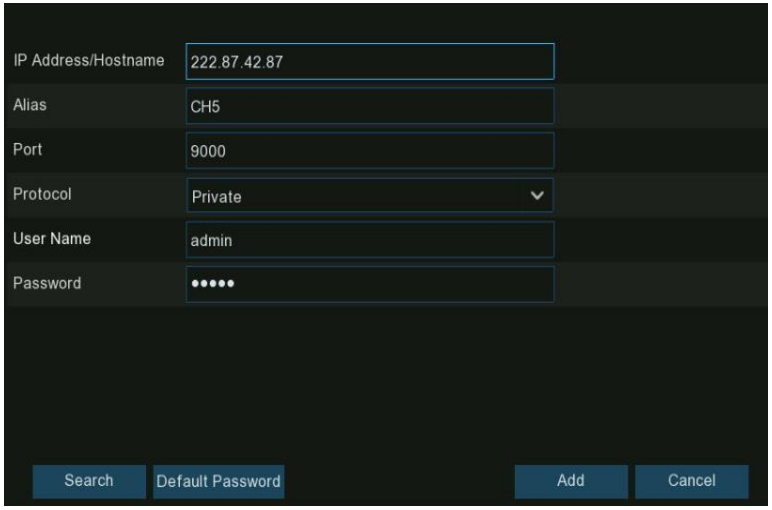
➔ Click **OK** to save.



2. Click the Add icon in the channel list.



3. Input the IP camera's IP address, port, protocol, user name and password. Click **Add** button to complete.

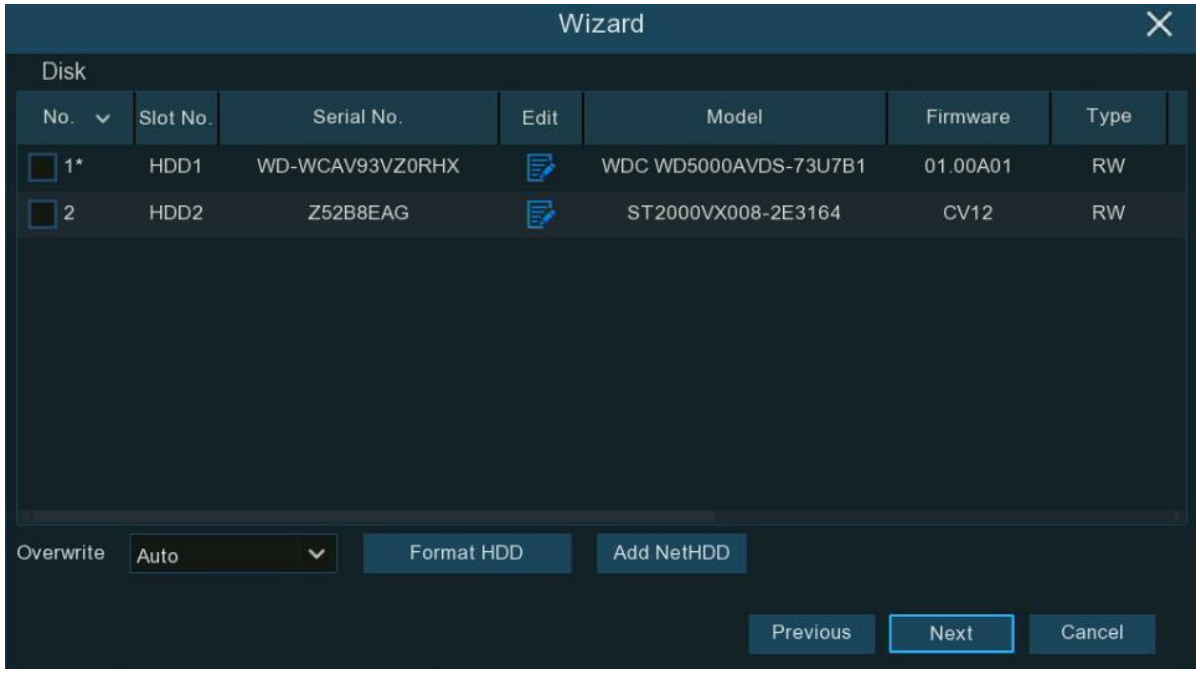


4.1.3.4. Add IP Camera to Non-PoE NVR

For Non-PoE NVR, the IP cameras need to be added manually from LAN and/or Internet manually. Please refer to 4.1.3.2. Add IP Camera to PoE NVR from LAN & 4.1.3.3. Add IP Camera to PoE NVR from Internet.

4.1.4 Disk

HDD must be formatted when it is installed in the NVR for the first time.



Select the HDD.

Click **Format HDD** to format the HDD

Overwrite: This instructs the NVR to overwrite the oldest video files as the hard drive becomes full. You also have the option of selecting the number of days for recordings to be kept before they are overwritten. For example, if you choose the option 7 days then only the last 7 day"s recordings are kept on the HDD.

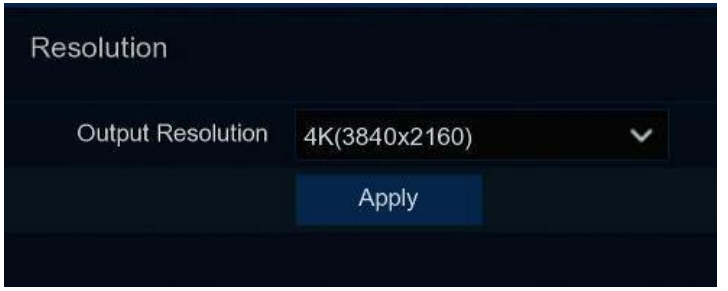
To prevent overwriting any old recordings, select **OFF**. If you have selected **OFF**, please check the HDD status regularly to make sure the HDD is not full. Recording will stop when the HDD is full. It is recommended to use the **Auto** selection as this ensures your NVR will continuously record by allowing it to overwrite the old recordings once the HDD is full.

Add NAS HDD: To add a NAS drive.

Record On e-SATA: If your NVR comes with an e-SATA port on the rear panel, you can enable it to record the video to e-SATA HDD. This function is only available when your e-SATA HDD has been properly connected to the NVR.

4.1.5. Resolution

Choose an output resolution compatible with your monitor. The NVR supports auto-adjustment of the output resolution to the best resolution for your monitor when the system is starting up.



If you connect to a 4K HDMI monitor, you are able to choose max. 4K (3840x2160) resolution.
If you connect a VGA monitor, do not select any resolution higher than 1080P(1920x1080).

4.1.6. Mobile

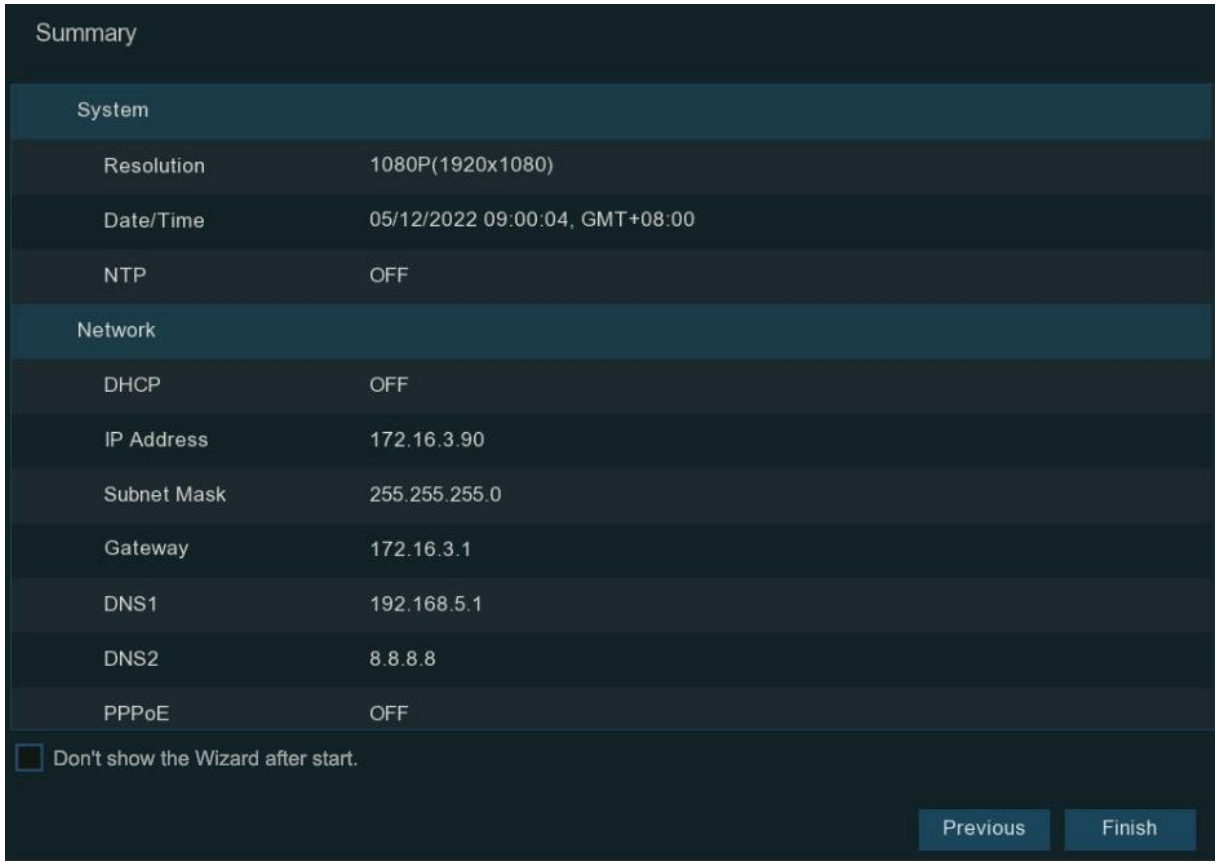
The NVR has a P2P ID, you can scan the QR code with your mobile app to add the NVR to view the NVR remotely.

4.1.7. Summary

You can review the system summary information, and finish the wizard.

Check "**Don't show the Wizard after start.**" if you don't want to display the Start Wizard every time the system starts.

Click **Finish** to save & exit.



4.2. Live View Screen Overview

4.2.1. Definitions of On-screen Icons & Messages

Status Icons	
Icon	**Meaning**
	The camera is being recorded currently
	A motion alarm has been triggered
	An intelligent or AI alarm has been triggered
	The external I/O alarm device has been triggered
	The PIR alarm has been triggered

HDD Error Icons	
Icon	**Meaning**
	HDD is uninstalled or in error
	HDD is unformatted
	HDD is full
	HDD is read-only

Channel Abnormal Message	
Message	**Meaning**
No Camera	No camera is added to this channel. You can click the add icon + to add a new camera.
Failed to connect to camera, please check the network connection!	The added camera is off-lined or lost connection. Please check the cameras working status or network connection. You can click the edit icon to check the camera status.
User name or password error!	Incorrect user name or password of the camera. Click the edit icon to modify.
Resource Not Enough	Not enough system resources to decode the camera images, please try to change the cameras to sub-stream mode; If there are 2 or more cameras are using MJPEG decoding, only 1 camera can be encoded at the same time.
No enough bandwidth for this camera!	The camera cannot get online because the total bitrate of all connected cameras exceeds the NVR's bandwidth limitation.

4.2.2. Camera Quick Toolbar

From the live view screen, click the left button of your mouse on a connected camera to display the Camera Quick Toolbar.

Icon	Meaning
	Click to manually record the channel immediately. If manual recording is in progress, the icon will be red. Click one more time to stop manual recording.
	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 last 5 minutes recorded of this channel.
	Click to enter PTZ control panel; Click to control zoom and focus of motorized varifocal cameras.
	Click to zoom-in the channel. Scroll the wheel button of your mouse to zoom in and zoom out the image.
	Click to adjust the image color of the channel.
HD SD	To switch the live view video stream between HD & SD. HD is mainstream quality, SD is substream quality.
	Click this button to enter fisheye mode. To use this feature, you must connect a camera that supports fisheye operations.
	Click to start two-way voice communication.
	If your camera has white light LEDs, click this button to turn on or turn off the LEDs.
	If your camera has a built-in speaker, click this button to turn on or turn off the alarm/siren sound.
	If your camera has warning light LEDs, click this button to turn on or turn off the LEDs.
	Tag button. It supports to fast search by adding a tag in live view. See more on 7.5 Tag Search.
AI	AI statistics. Hover the mouse over the icon to view AI statistics when the AI function is activated in your NVR.

4.2.3. Taskbar

In the Taskbar, enter the system menu, start playback and change the live view display, etc.

Icon	Meaning
	Click to bring up the Start Menu.
	Click to display 4/9/12/16 channels in live view screen.
	Click to display 20/25/36 channels in live view screen.
	Click to choose more display layouts in live view screen.
	Click to start viewing channels in a sequence. You're able to set the sequence display mode on 5.8.1.4 Output Configuration.
	Quick playback. You can choose to play the recording for all channels from the beginning of the day, or you can choose the play the latest 5 seconds, 10 seconds, 30 seconds, 1 minute or 5 minutes by clicking the triangular button ▲.
	Click to adjust audio output volume.
	Click to switch the live view image resolution for all channels between mainstream and substream.
	Click to switch the image scale for all channels between original and stretched view.
	Click to switch among real-time, balanced, or smooth view. It affects the live view video quality by changing the bitrate and frame rate.
	Click this button to restore the camera view to the original channel positions.

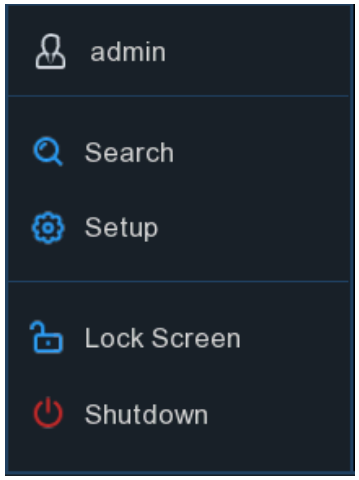
4.2.4. Status Bar

In the Status Bar, check the network connection status, turn on/off white light LEDs and alarm sounds, start and stop manual recording, check the system information, disable mouse and set the system time.

Icon	Meaning
	: Network is disconnected. : Network is connected but offline. : Network is successfully connected.
	The device is in armed state. The device is in disarmed state.
	To turn on or turn off all the white light LEDs and alarm/siren sound for available cameras.
	To operate manual record and manual relay alarm output.
	To view system information, channel information, record info and network state.
	The device is connected through USB_ WIFI and is recognized successfully. It can access the Internet through WiFi. For more information, see Section 5.5.1.4.
	Click this button to switch the mouse between the primary screen and the secondary screen. To use this feature, your device must support this function.

4.2.5. Start Menu

From the Start menu: switch user, search & playback, enter system setup menu, lock & unlock the screen, shut down, reboot & logout of the system.



Item	Description
admin	To switch user. To enable multi-user, please view on 5.7.2. Multi-user.
Search	Search & Playback. View more on Chapter 7. Search, Playback & Backup.
Setup	NVR System Setup. View more on Chapter 5. System Setup
Lock Screen Unlock	Lock & unlock screen.
Shutdown	Shutdown, reboot & logout the system.

Unlock and Lock Screen

The screen will be locked automatically to protect unauthorized OSD operation while the NVR is not in menu operation if a Menu Timeout has been set up in 5.7.1.1 System General Setting.

To lock the screen operation manually. Go to the Start Menu.

Click the Lock Screen icon to lock the system immediately.

If the system is locked, click the Unlock icon to unlock the system for further operation. Password is required to unlock the system.

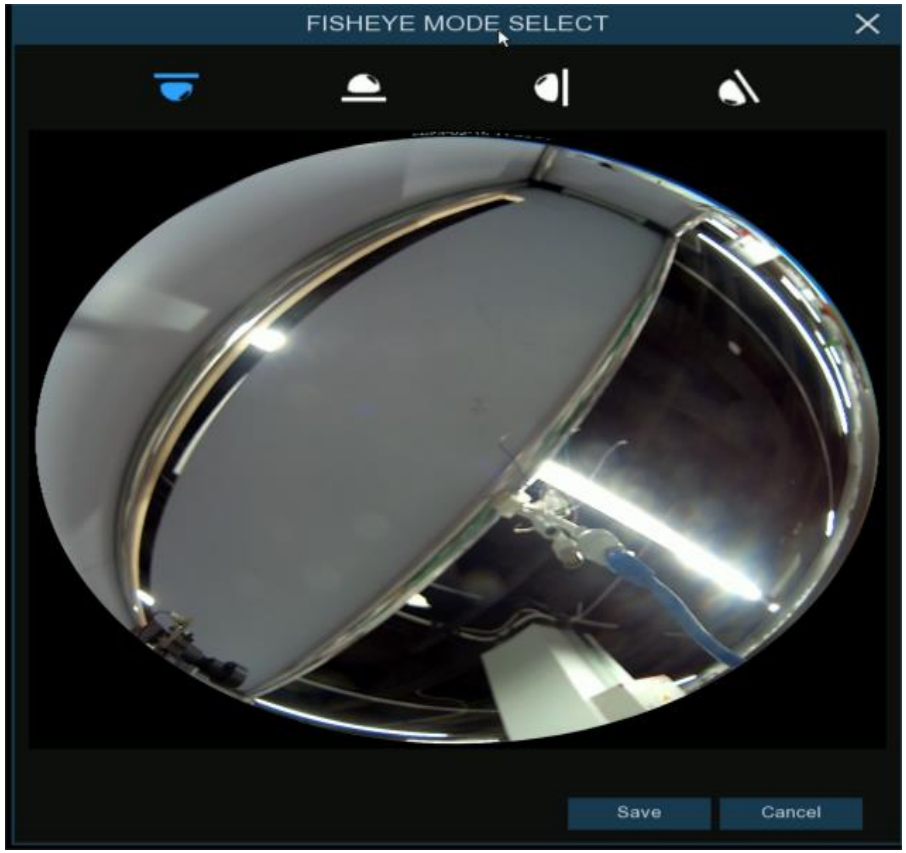
Shutdown: Click **Shutdown** from Start Menu.

The options will be to shut down, reboot or logout of the NVR.

Click **OK.** System password will be required.

4.2.6. Fisheye Camera

After a fisheye camera is added to the device and the device goes online, the fisheye operation icon is displayed in the shortcut menu of the preview channel area and the playback menu. Click the to open the fisheye-mode operation page.



On the fisheye-mode operation page:

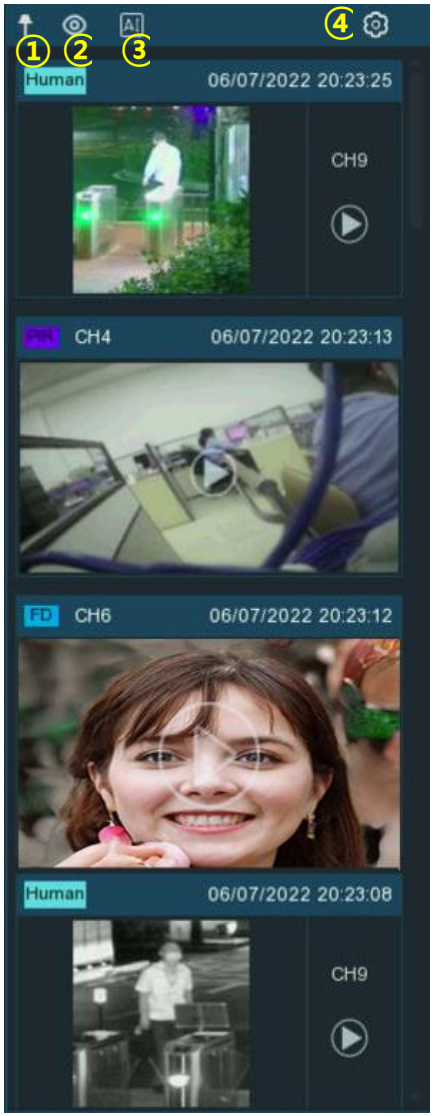
Click the ⚙ on the toolbar at the bottom to open the menu for setting the fisheye camera installation mode.

Select the mode in accordance with the actual installation mode, and save the setting.

After the corresponding fisheye installation mode is set, the viewing modes supported in the selected installation mode are displayed on the toolbar at the bottom. You can switch the modes as needed and you can also drag and zoom the screen.

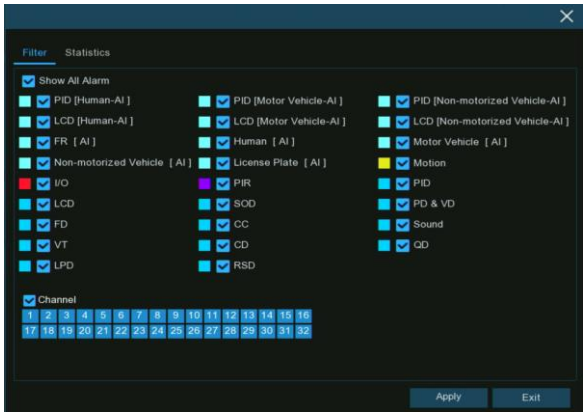
4.2.7. Alarm Notification Panel

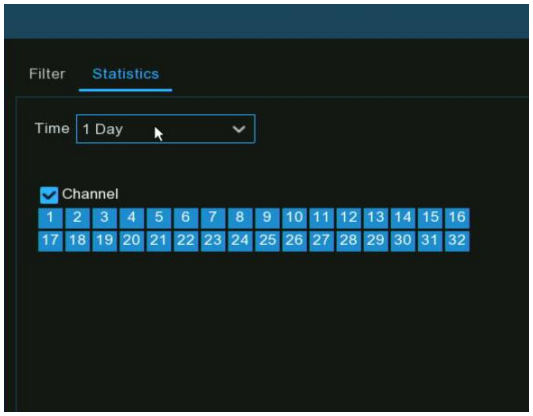
The Alarm Notification Panel displays thumbnails of alarm events that have occurred. Events are color-coded according to the event type. Use the mouse scroll wheel to scroll up and down (place the mouse cursor over the notification panel first). Click the play button next to or over the thumbnail to play the event.



1. Click to display the notification panel at all times.
2. Click to hide the notification panel.
3. Click to reveal AI statistics information.
4. Click to reveal the Filter and Statistics functions (shown below).

Use the Filter function to customize which alerts and which cameras will appear in the notification panel. As well as customize the time duration and channels to display in AI statistics.



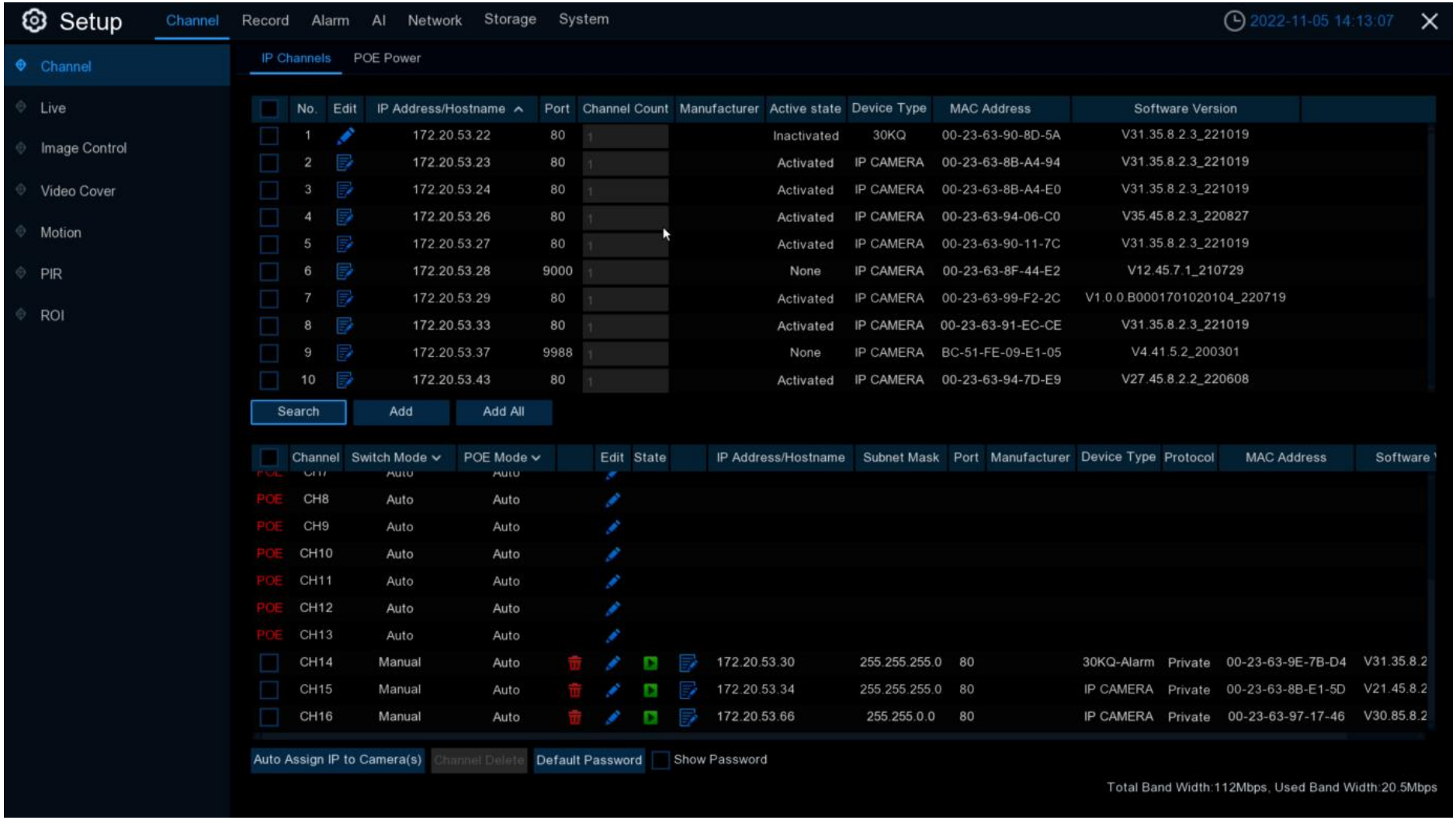


Chapter 5. System Setup

Configure the NVR settings for Channel, Record, Alarm, Network, Device, System, AI, AI Scenario.

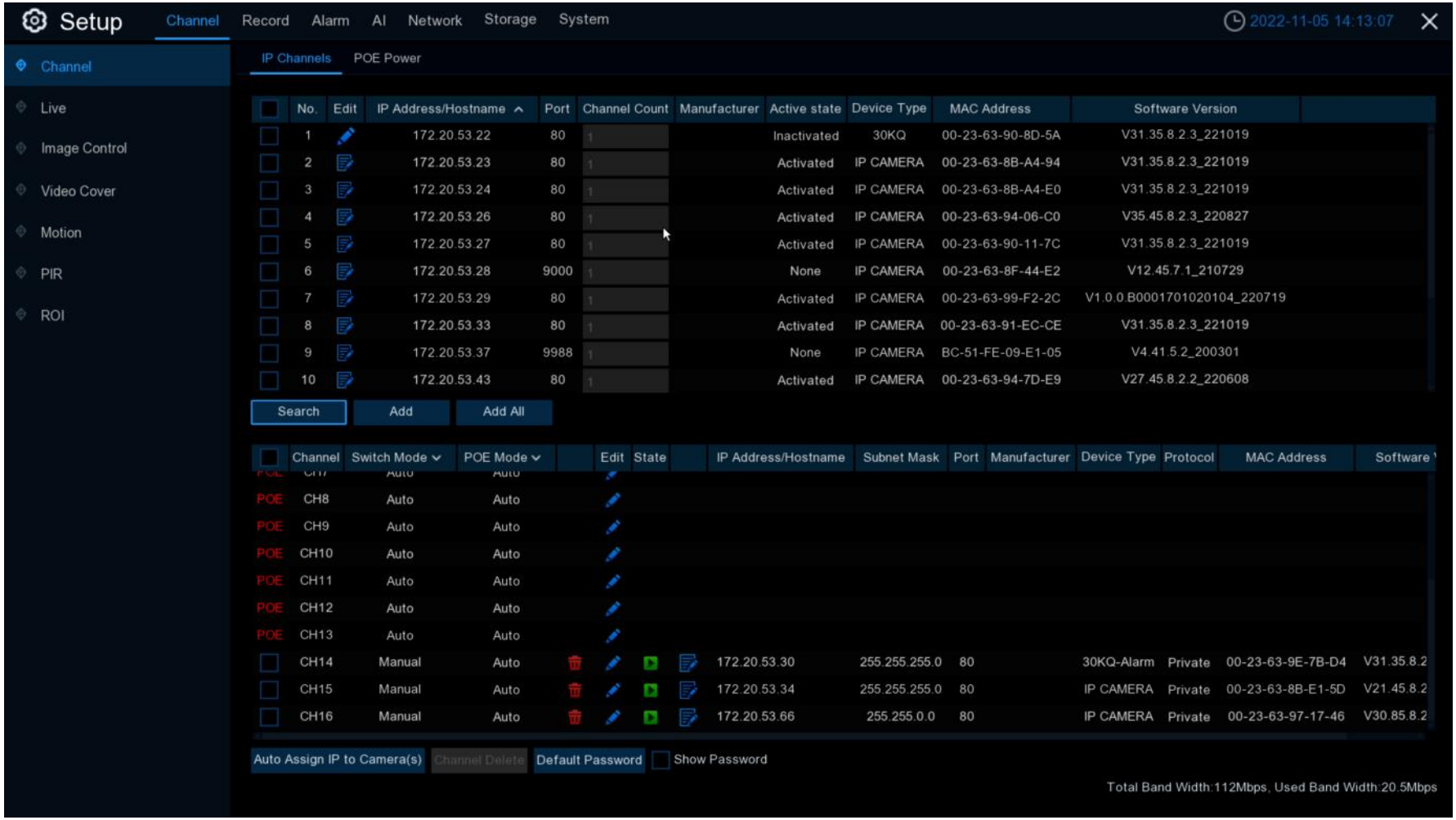
5.1. Channel

In this section, manage the camera connection, live view display, camera's image, PTZ setup, video cover, motion setup, and more.



5.1.1. Channel

Add and delete IP cameras in this menu. If the NVR comes with built-in PoE ports, it is possible to check the PoE power consumption here.

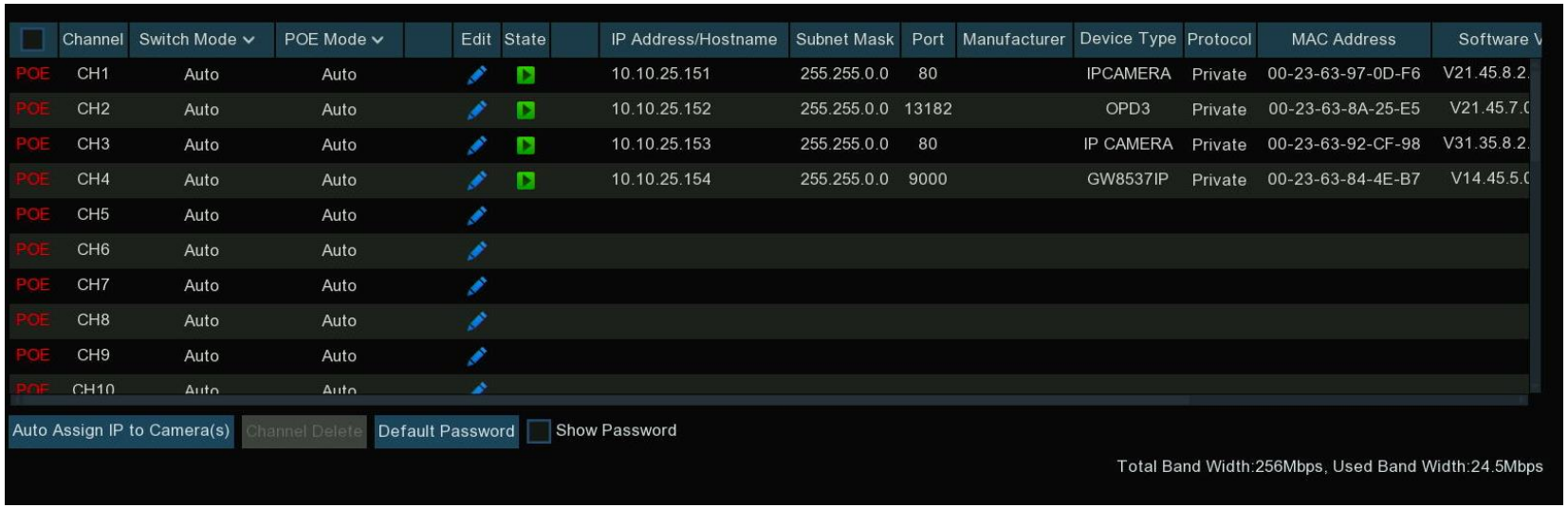


5.1.1.1. IP Channels

To add or delete IP cameras here. If the NVR comes with PoE ports, go to 5.1.1.1.1 PoE NVR Connection. If the NVR comes without PoE port, go to 5.1.1.1.1.2. Connect External Cameras from LAN or Internet.

5.1.1.1.1. PoE NVR Connection

For the built-in PoE NVR, connect the IP cameras via the internal PoE ports and/or external LAN(WAN) port. PoE not only provides power over ethernet, it supports plug & play connection for IP cameras.



Switch Mode: Auto mode supports Plug & Play connection via PoE port.

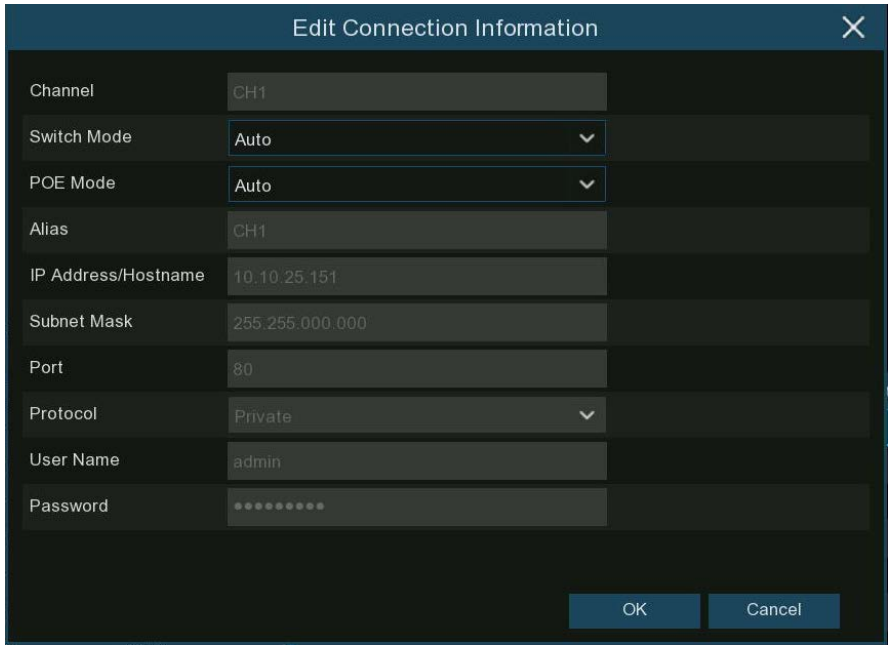
➔ To add camera(s) manually, click the edit icon ,change the mode to **Manual.**

➔ Or click the drop-down arrow to change all channels to Auto or Manual mode.

PoE Mode: with **Auto** mode, the maximum bandwidth is limited to 100Mbps.

➔ With **ePoE** mode, the maximum bandwidth is limited to 10Mbps and PoE transmission distance will be extended up to 200 meters with RJ45 cable at CAT 5E or higher standard.

➔ 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 more stable connection. If the video is stuck while in ePoE mode, try to reduce the encoding bitrate.



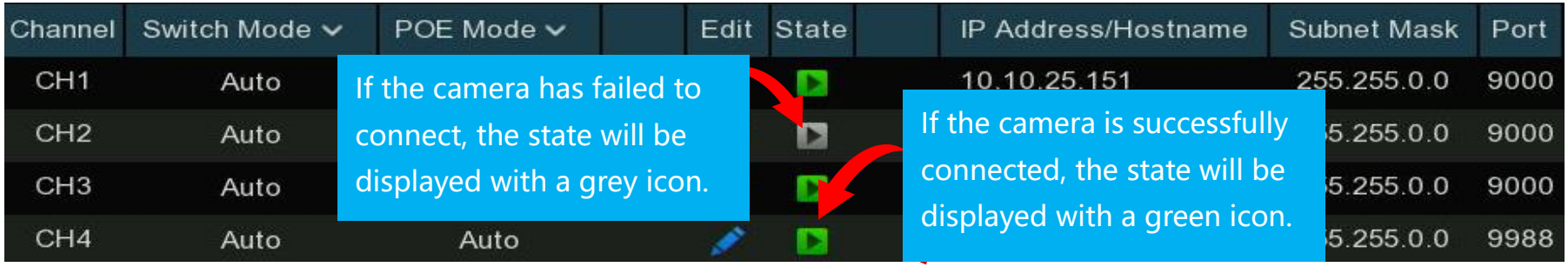
Edit: To edit the Switch mode, PoE mode, network parameters, user name and password for individual camera.

State: Show the connection status of the camera.

➔ Click on the icon, a message will display the failure reason.

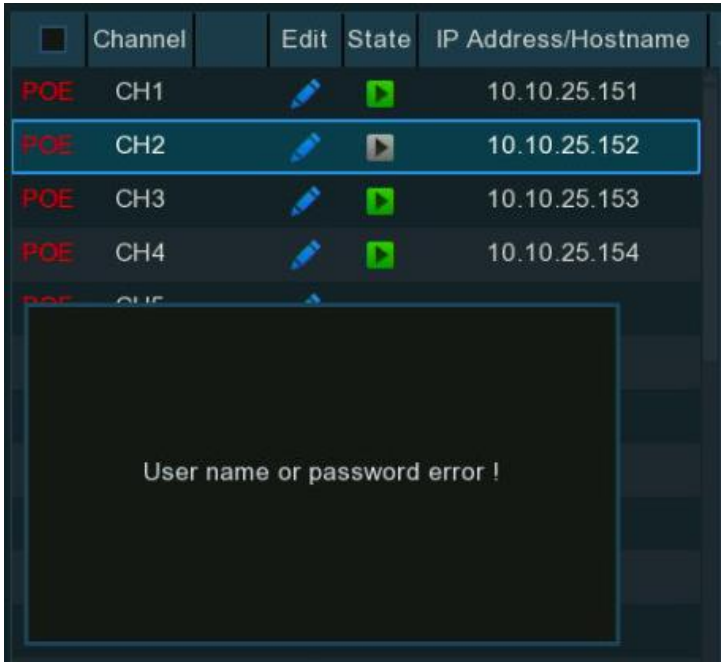
➔ If the failure reason is "User name or password error", the camera user name and password have been changed from the default.

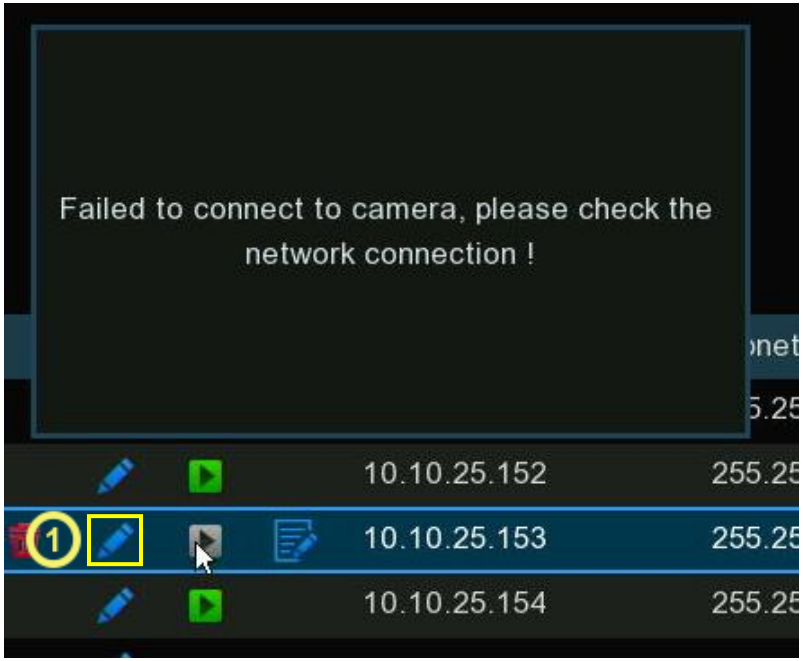
➔ Click the edit icon and enter the correct user name and password.



If the failure reason is "Failed to connect to camera, please check the network connection", the network parameters might be incorrect or incompatible with Onvif protocol.

Click the edit icon to correct network parameters.



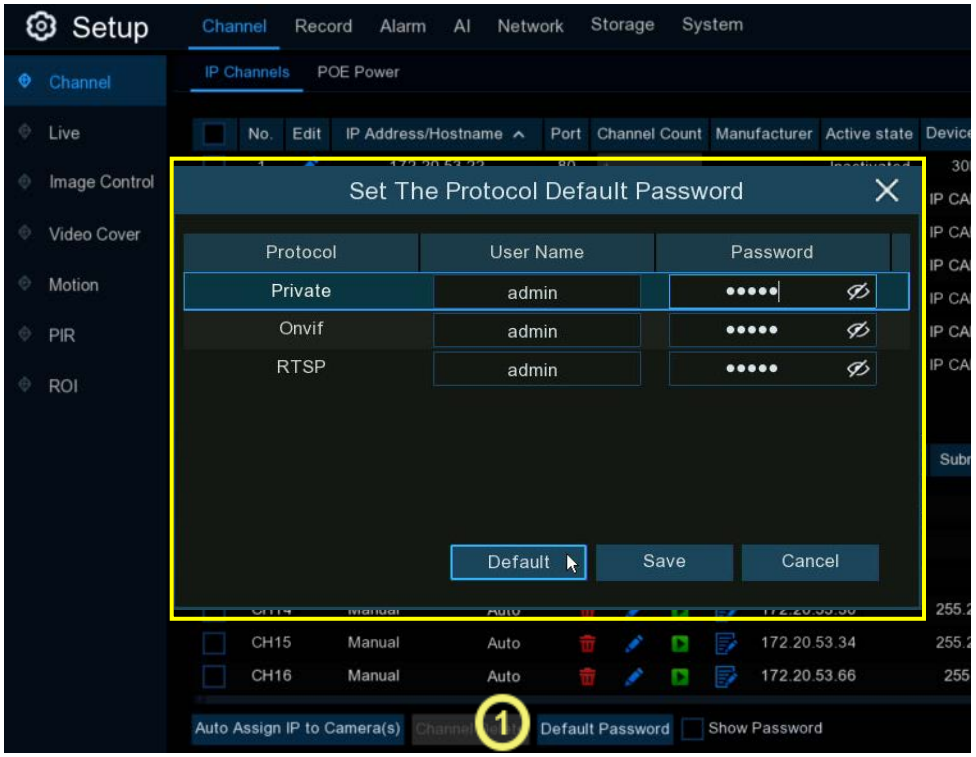


Auto Assign IP to Camera(s): If the camera being added manually is not in the same network segment, it might fail to add the camera.

1. Use this function to change the IP address of the camera(s).

Default Password

Configure the default user name and password of the cameras based on protocol type: Private, Onvif and RTSP.



Default password is "admin".

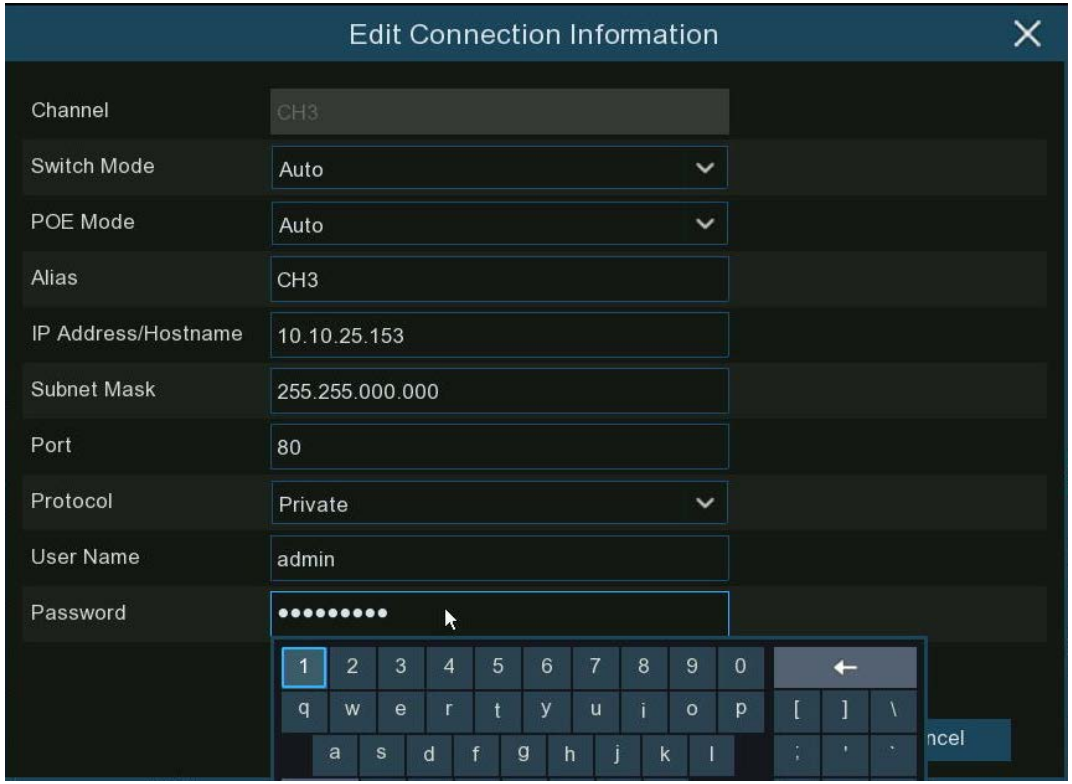
1. **Default Password:** If the password for the cameras is something other than “admin” use this function.

Please note, if the user name and password of the camera is not the same with the default values, you may need to input the user name and password each time after the NVR restarts.

Show Password: Click to show the password of connected IP camera on the channel list.

5.1.1.1.1.1. Steps to Connect Plug & Play PoE Cameras

1. Keep the default settings.
2. Change the default user name and password to match the cameras' password if camera password is not “admin”.
3. Make sure the IP camera is set to DHCP. If your camera is set to static IP address which is different from the IP address segment of the built-in poe ports, your IP camera will not connect. Check more in 5.5.1.1 Network → General.
4. Connect your IP camera into the PoE port on the rear panel.
5. Camera will be online and displayed on the camera list after reboot.



5.1.1.1.1.2. Connect External Cameras from LAN or Internet

To connect to an IP camera from LAN or internet, please make sure the NVR is properly connected to the LAN and or internet.

If the NVR comes with built in PoE ports, change the PoE Switch Mode to manual first.

To set all channels to manual:

➔ Click the drop-down arrow next to Switch Mode,

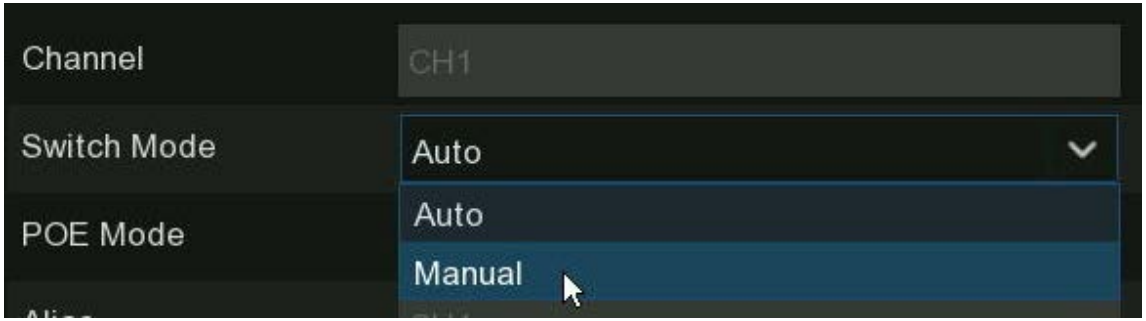
select "**Manual**".

To add a camera to an individual channel manually:

➔ Click edit in the channel list.

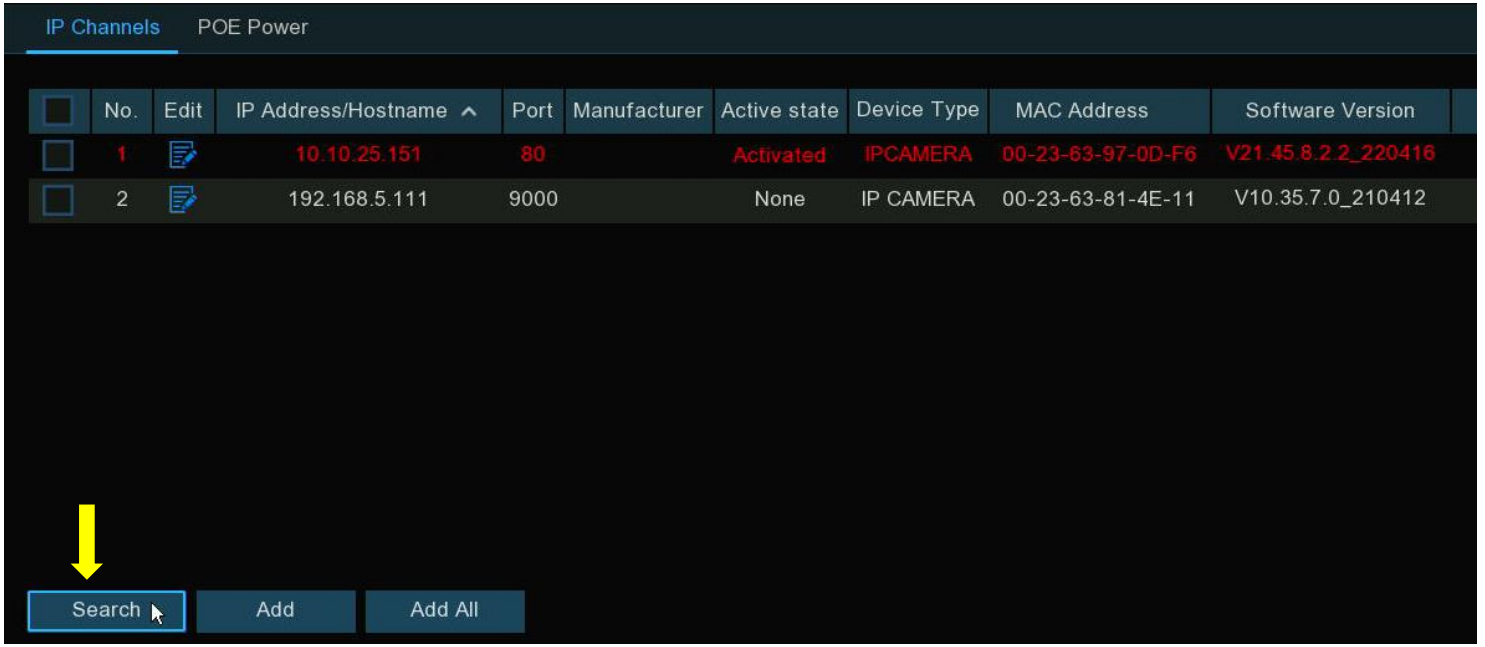
➔ Click the drop-down arrow next to Switch Mode to select "**Manual**".

➔ Click **OK** to save.



5.1.1.1.1.2.1. Add Individual Camera in the LAN

1. Change the PoE mode to Manual.
2. Click **Search** button, all available cameras in the LAN will be displayed.



3. Or click the Add icon in the channel list to add a camera to an individual channel. Click **Search** button, all available cameras in the LAN will be displayed.
4. Click on the camera you want to connect, enter the camera information, and the input the user name and password of the camera and then click **Add** button

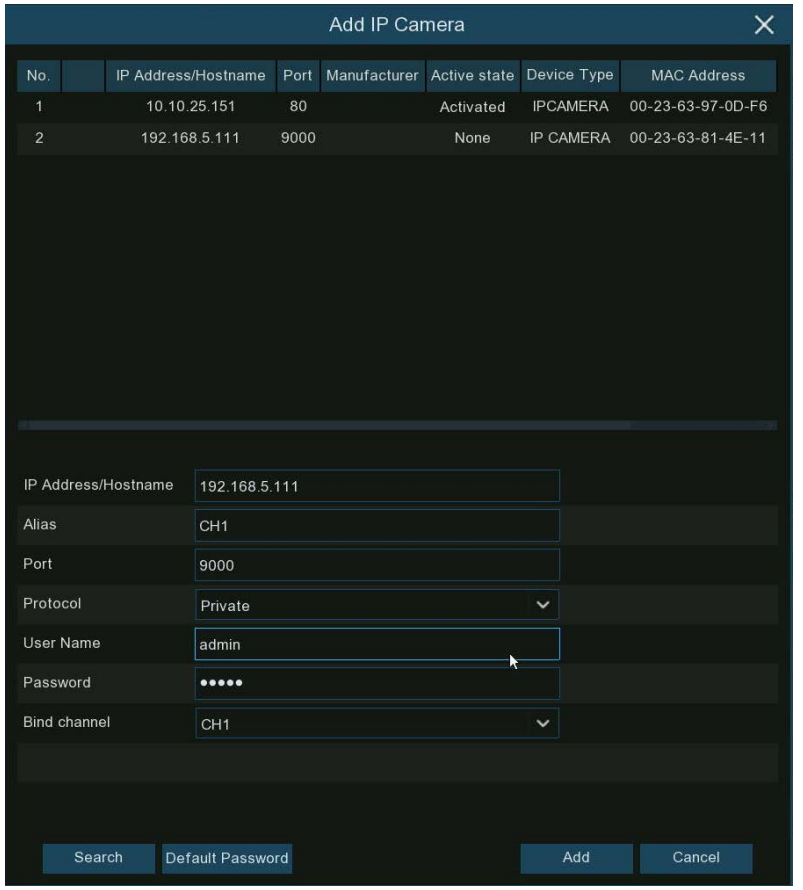
Alias: Enter the camera title you want to display in the live view screen.

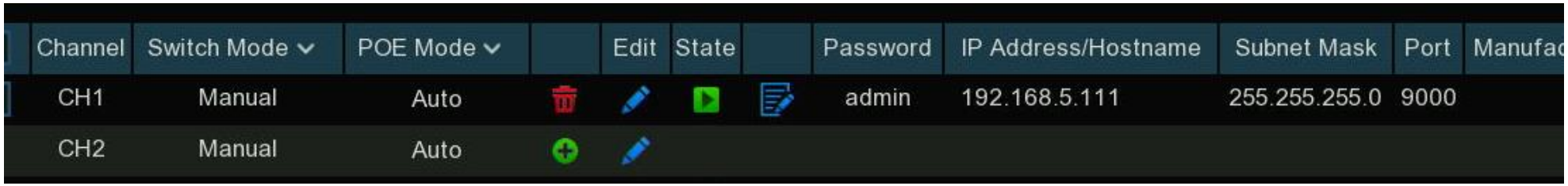
Port: Camera communication port.

Protocol: To select the connection protocol.

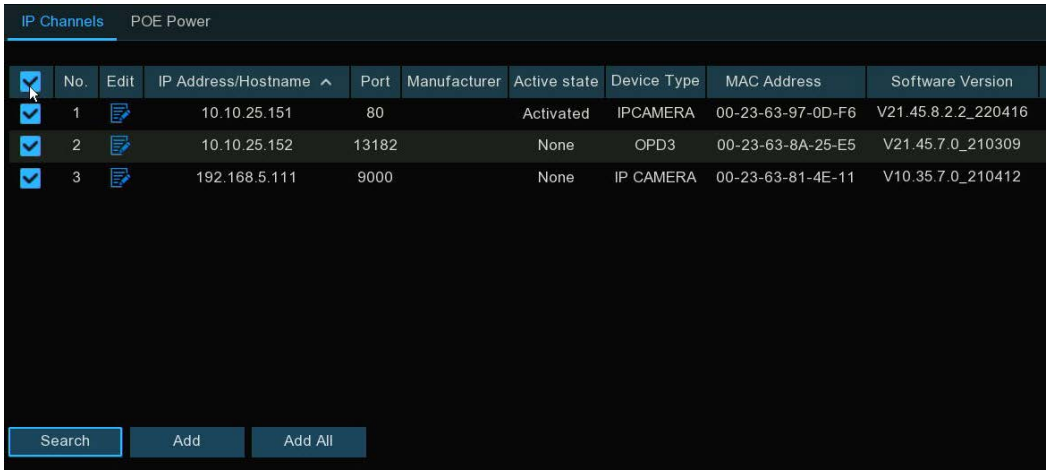
Bind channel: To determine which channel you want to add the camera.

The added camera will be displayed in the channel list.

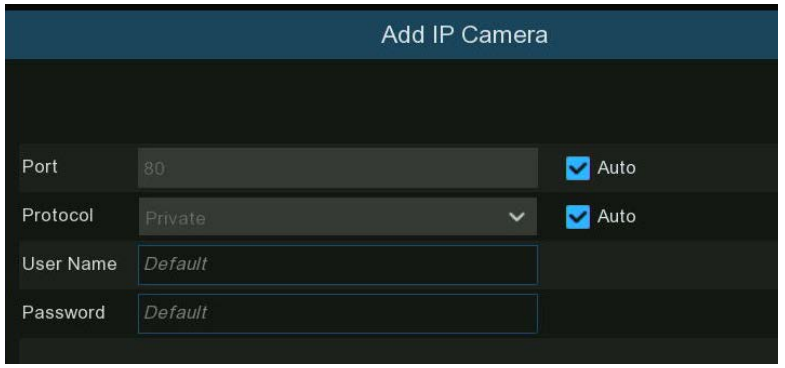




5.1.1.1.1.2.2. Add Multiple Cameras in the LAN



1. Click **Search.**
   - ➔ All available cameras in the LAN will be displayed.
   - ➔ Or click **Add All** button, the NVR will search & add all available cameras in the LAN.
2. Select the cameras from the search result.
   - ➔ Click "**Add**".
   - ➔ Input the user name and password of the cameras.
   - ➔ Make sure all the cameras being added use the same user name and password. Otherwise, the cameras with different user name and password will not connect.
3. The added cameras will be displayed in the channel list.

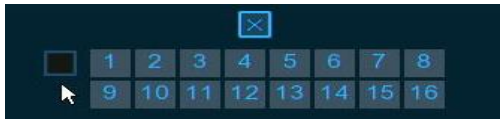


5.1.1.1.1.2.3. Add Cameras from Other NVR in the LAN

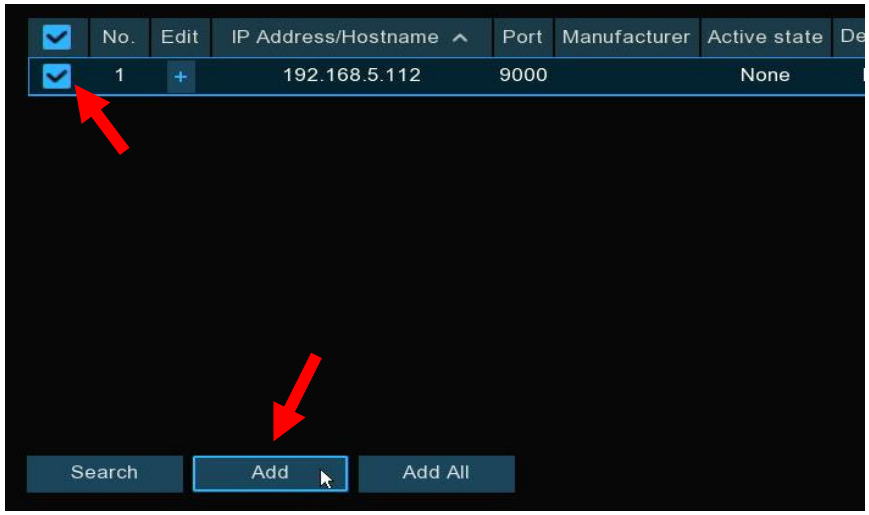
The NVR allows to add cameras from other NVR's in the local network.

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

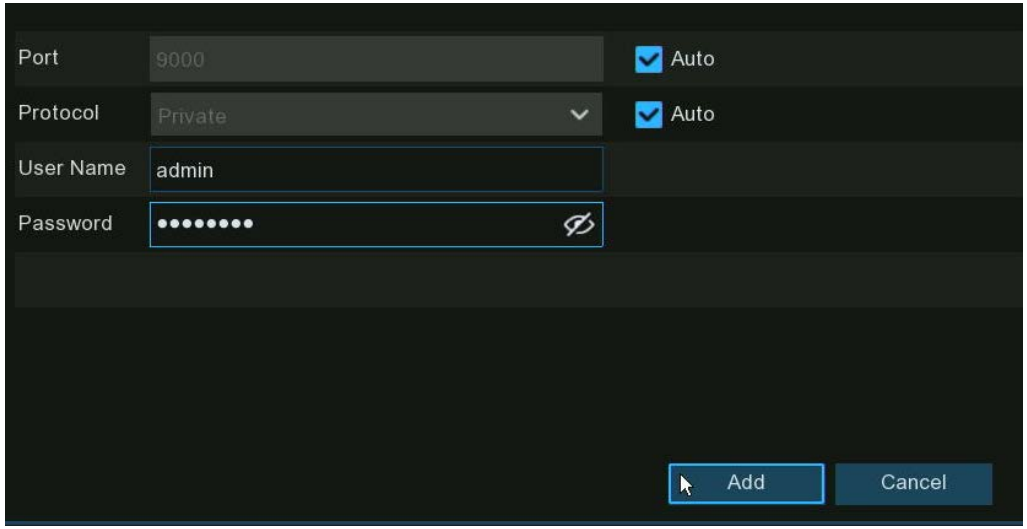
2. Click the edit icon + and select the camera channel one by one or check the box to select all cameras. Click icon to go back to search list.



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 **Add** button.

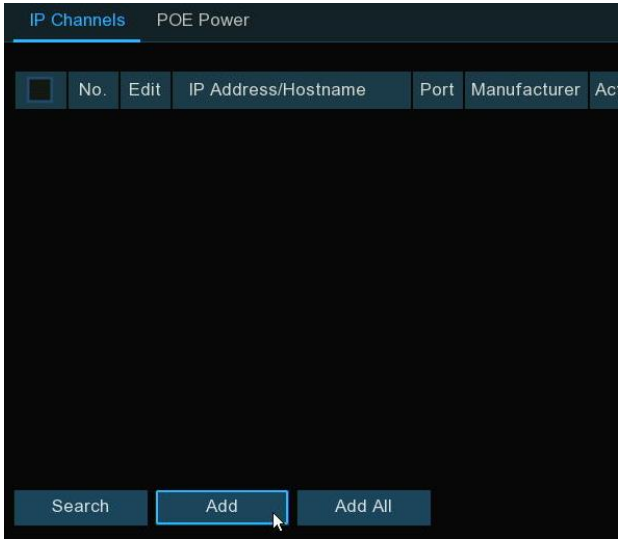


5. The added cameras will be displayed in the channel list.

5.1.1.1.1.2.4. Add Cameras from Internet

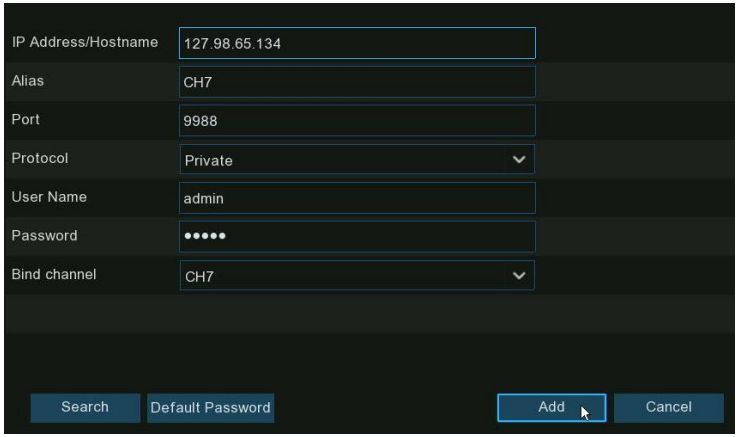
If the NVR is connected to the internet, it is possible to add cameras from the local network using the cameras IP address.

1. Click **Add** button on 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.

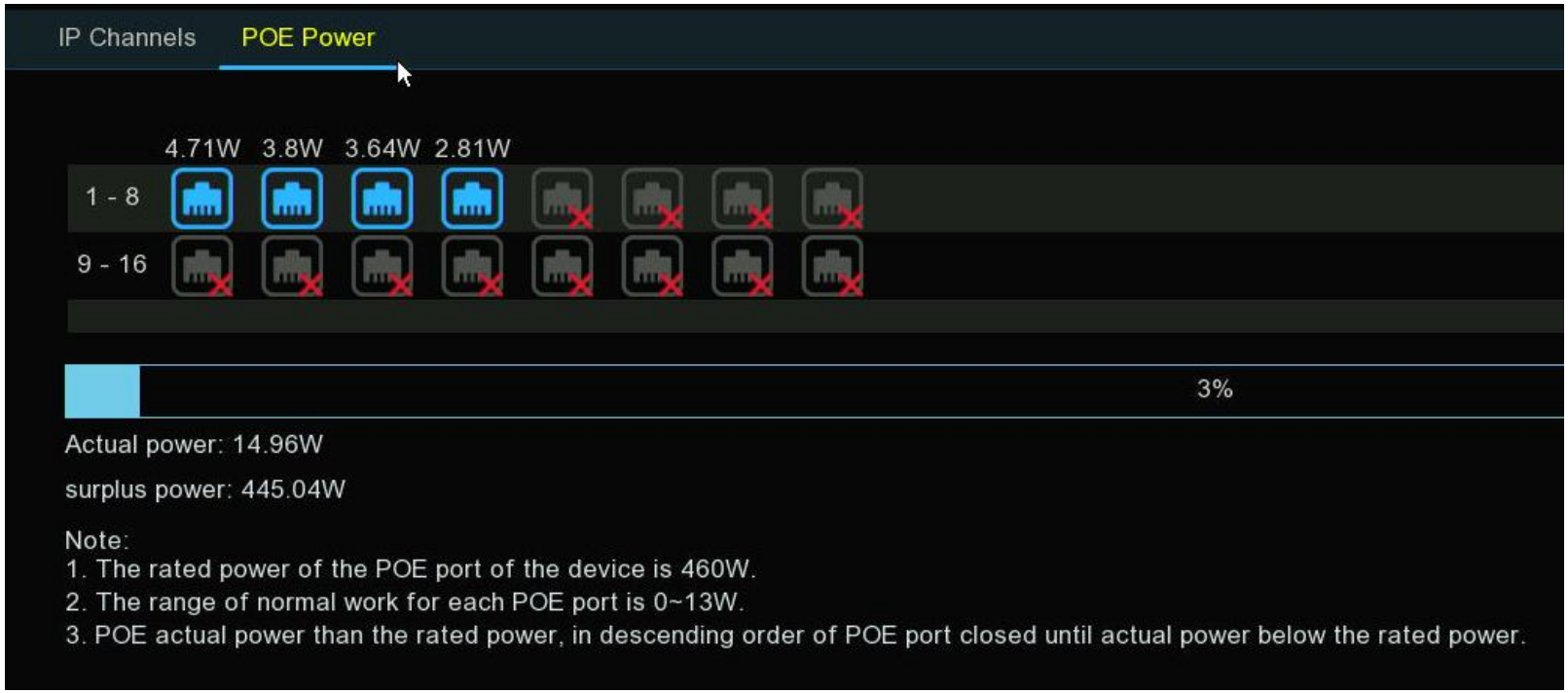


5.1.1.1.2. Non-PoE NVR Connection

For Non-PoE NVR connection, please refer to 5.1.1.1.1.2 Connect External Cameras from LAN or Internet

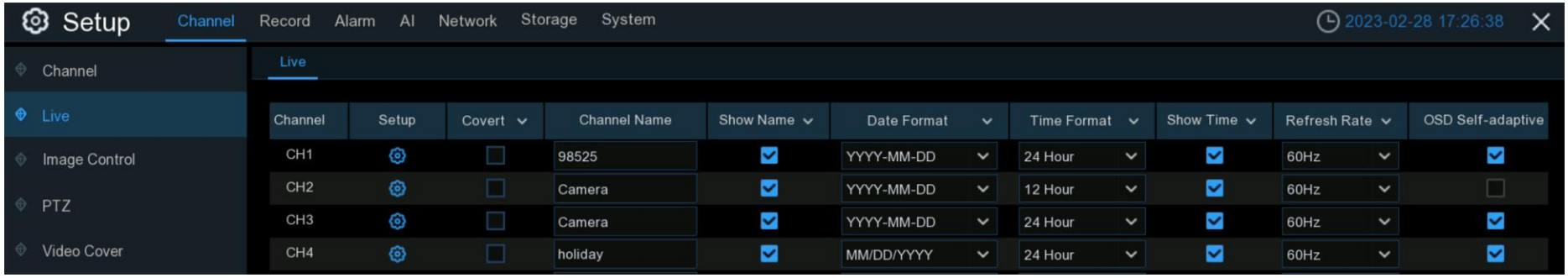
5.1.1.2. PoE Power

Check 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.



Convert: To hide the camera images in live view. If covert is enabled, only live view will be hidden. Recording won't be affected. Enable this if your NVR and TV are in a public area (shop, warehouse, etc.), and you don't want others to see an image from the camera.

Channel Name: Give a name to the camera

Show Name: Leave this enabled to display the camera name in Live View mode, otherwise click the checkbox to disable it. It affects both live view & video recorded.

Date Format: To choose a date format.

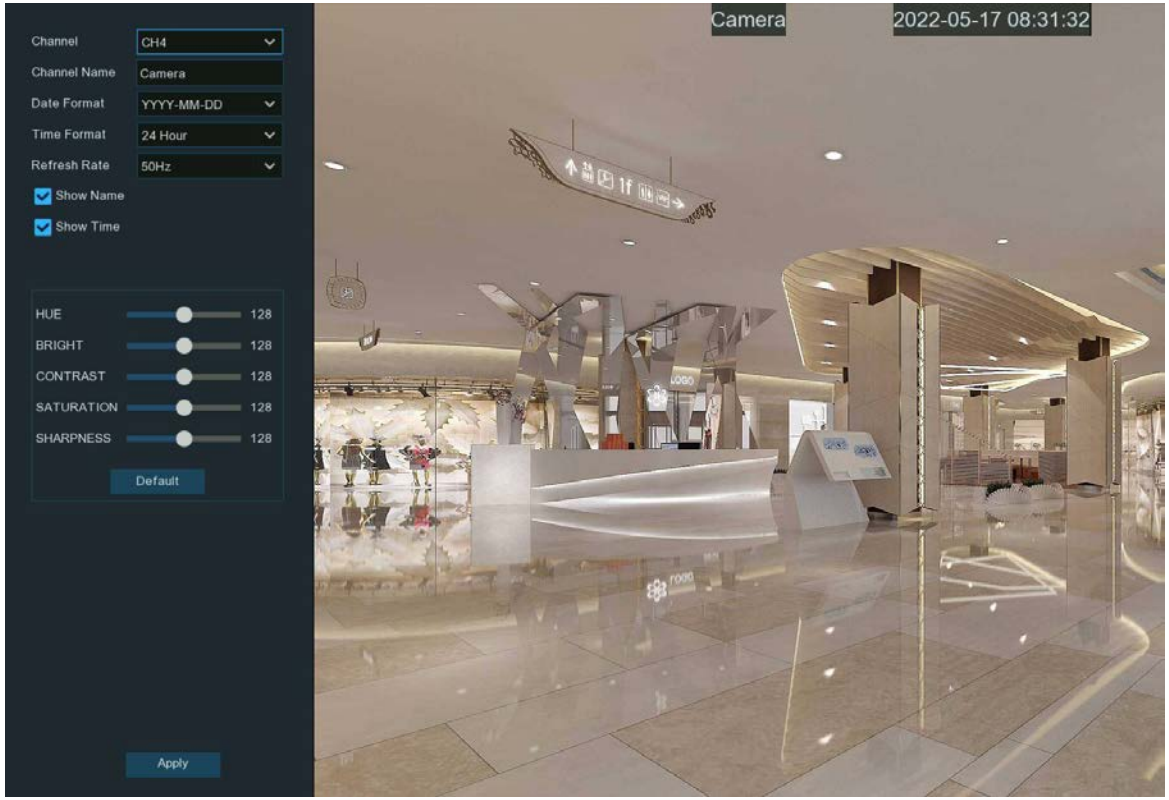
Time Format: To choose a time format.

Show Time: Leave this enabled, as a timestamp will be embedded on all video recordings. Un-check to disable it. It affects both live view & video recorded.

OSD Self-adaptive: When enabled the NVR will automatically change the font color of OSD in accordance with the screen background to ensure clear display.

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

Setup: Click icon for more settings.



Channel: Select a channel to edit

Channel Name: Give a name to the camera

Date Format: To choose a date format

Time Format: To choose a time format

Refresh Rate: Choose the correct refresh rate

Show Name: To show or hide camera name

Show Time: To show or hide date and time

HUE: Adjust the hue value which changes the color mix of the image.

BRIGHT: Adjust the brightness which changes how light the image appears to be.

CONTRAST: Adjust the difference in luminance that makes an object distinguishable.

SATURATION: Adjust the values to alters how much color is displayed in the image.

SHARPNESS: Used to adjust the image sharpness.

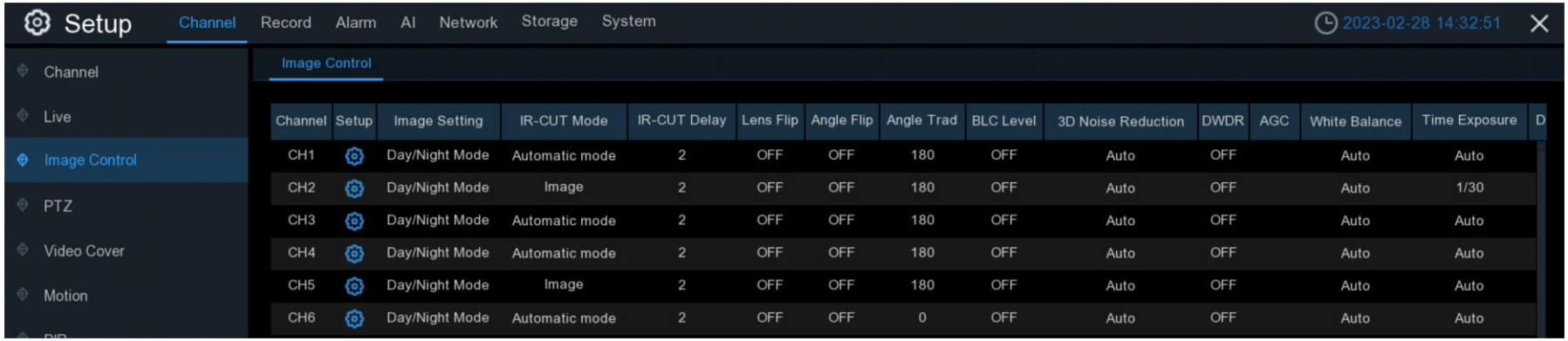
➔ Click **Apply** to save settings.

➔ Click **Default** to load default settings.

➔ Click right button of your mouse to exit.

5.1.3. Image Control

Control image settings for IP cameras that support these settings. If the camera is connected to the NVR with the Onvif protocol, these settings may not be supported.



Channel	Setup	Image Setting	IR-CUT Mode	IR-CUT Delay	Lens Flip	Angle Flip	Angle Trad	BLC Level	3D Noise Reduction	DWDR	AGC	White Balance	Time Exposure	D
CH1		Day/Night Mode	Automatic mode	2	OFF	OFF	180	OFF	Auto	OFF		Auto	Auto	
CH2		Day/Night Mode	Image	2	OFF	OFF	180	OFF	Auto	OFF		Auto	1/30	
CH3		Day/Night Mode	Automatic mode	2	OFF	OFF	180	OFF	Auto	OFF		Auto	Auto	
CH4		Day/Night Mode	Automatic mode	2	OFF	OFF	180	OFF	Auto	OFF		Auto	Auto	
CH5		Day/Night Mode	Image	2	OFF	OFF	180	OFF	Auto	OFF		Auto	Auto	
CH6		Day/Night Mode	Automatic mode	2	OFF	OFF	0	OFF	Auto	OFF		Auto	Auto	

Setup: Click icon to open the settings setup page.

Channel: Choose a channel to configure.

IR-CUT Mode: Lets you choose how the camera handles color and how it transitions from daytime to night-time and vice versa:

➔ **GPIO AUTO** sets the camera to switch automatically from "Color Mode" to "Black White mode" and vice versa. It is accomplished through the light sensor.

➔ **Color Mode** sets the camera to operate in color mode only. In low light conditions, the color will be quite faint. Image clarity will also be reduced in low-light conditions.

➔ **Black White Mode** sets the camera to operate in black & white mode only.

➔ **Image Mode** sets the camera to switch automatically from "Color Mode" to "Black White mode" and vice versa.

➔ **Schedule** allows to set the images as black & white based on scheduled time frame.

Channel
CH1
IR-CUT Mode
GPIO Auto
IR-CUT Delay
2
IR-LED
Auto
Lens Flip
Angle Flip
Angle Trad
0
Back Light
Back Light
BLC Level
2
BLC Area
Center Area
3D Noise Reduction
Auto
AGC
64
White Balance
Auto
Shutter
Auto
Time Exposure
1/25
Defog Mode
Auto
Default
1f
LOGO
L1

IR-CUT Delay: Controls the delay of the IR cut filter when transitioning from daytime to night-time.
The default setting will be suitable for most camera locations but can be adjusted if needed.
Click and hold the slider left or right to change.
The higher the number, the greater the delay.

IR-LED: To configure the IR LRD lighting method.

➔ **Smart IR:** The LED lighting will be managed by the system.

➔ **Manual**: Manually configure the brightness of the LED lights including low-beam lights and high-beam lights individually.

➔ **OFF:** Turn off the LED light completely.

➔ **Lens Flip & Angel Flip:** Turn the image upside down and/or horizontally reverse the orientation of the image.

➔ **Corridor Mode:** To make better use of the camera's vertical angle for an optimized view of long, narrow scenes.

Enable this if your camera is viewing a narrow corridor.

Angle Rotation: Rotate the image 180°.

Back Light: Used when there is a drastic difference in the brightness of the objects in the foreground and the background environment.

This setting will adjust the exposure to compensate for the difference and can improve the image.

➔ **WDR/DWDR:** Images produced by wide dynamic range (WDR) function sensors can have proper exposure on both the darker and lighter parts of the image, giving more detail across a wider dynamic range between the shadows and highlights by brightening dark areas and darkening bright areas. If it is enabled, click and hold the slider left or right to change the **WDR Level**.

➔ **HLC:** High Light Compensation (HLC) allows your camera to compensate for brighter parts of your image, maintaining detail in brighter parts of the image that would otherwise be blown out. When you enable HLC, the camera will take bright spotlight-like areas into consideration and adjust the exposure accordingly. With HLC, your camera will try to properly expose your entire scene while reducing the brightness of the highlights. If it is enabled, click and hold the slider left or right to change the **HLC Level**.

➔ **Back Light:** Back Light Compensation (BLC) allows you to choose which areas of your scene should be properly exposed instead of letting the camera choose for you. By enabling BLC, the camera over-exposes the brighter parts of your image in order to properly expose the darker parts.If it is enabled, click and hold the slider left or right to change the **BLC Level**.

➔ **Disable:** Disable exposure compensation.

3D Noise Reduction: Used to reduce the noise in the image to achieve a clearer image. There are three mode options:

➔ **Auto**: In this mode, the camera automatically selects the level of noise reduction

➔ **OFF**: The noise reduction function is disabled.

➔ **Manual**: In this mode, the noise reduction level is manually selected.

White Balance: Used to set white balance. There are two mode options.

➔ **Auto**: In this mode, the white light is adjusted by the default parameters.

➔ **Manual**: In this mode, you can manually set the synthetic gained white light of red, green, and blue.

Shutter: Used to set the shutter exposure time. There are two mode options.

➔ **Auto**: In this mode, a proper exposure time is automatically selected in accordance with the configured **Time Exposure** value.

➔ **Manual**: In this mode, the manually set **Time Exposure** value is used.

Time Exposure: Used to set the exposure time of the camera. This parameter is used together with the **Shutter** parameter.

AGC: Used to set Automatic Gain Control (AGC). (Only supported by some models.)

Defog Mode: Used to set defog mode to optimize the display effect in foggy days. There are three mode options:

➔ **OFF:** The defog function is disabled.

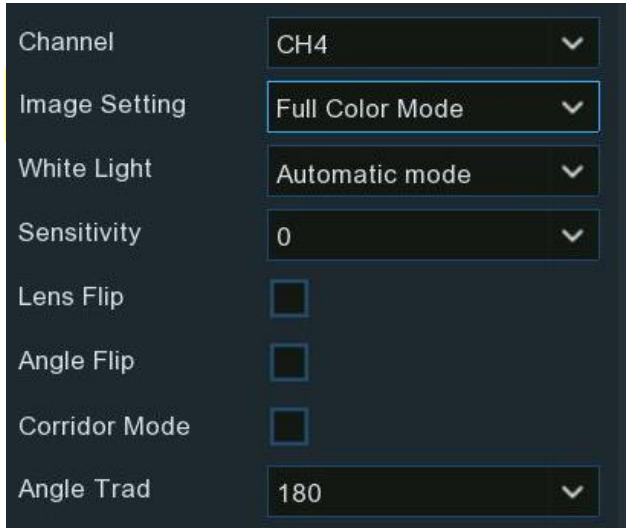
➔ **Auto:** In this mode, the camera automatically determines the level of defogging.

➔ **Manual**: In this mode, the level of defogging is manually set.

Default: Click this button to restore the default image parameter setting.

5.1.3.1. Full Color Camera Settings

If there is a full color night vision camera connected to the NVR, an **Image Setting** option is displayed under the **Image Control** setting page.



Full color camera includes not only IR LED's, but also white light LEDs. It is possible to set the operating mode of the lights:

Day/Night Mode: the camera will be working as a normal IR LED camera.

Full Color Mode: the camera will be working as a full color camera. It is possible to configure the brightness of white lights:

➔ **Auto:** The brightness of the lights will be controlled by the system automatically according to the brightness of images.

➔ **Manual:** The brightness of the lights is set manually. It is possible to set a fixed value in the **Light Brightness** bar. The higher the number, the brighter the lights are. Lights will be turned off if the value is set to 0.

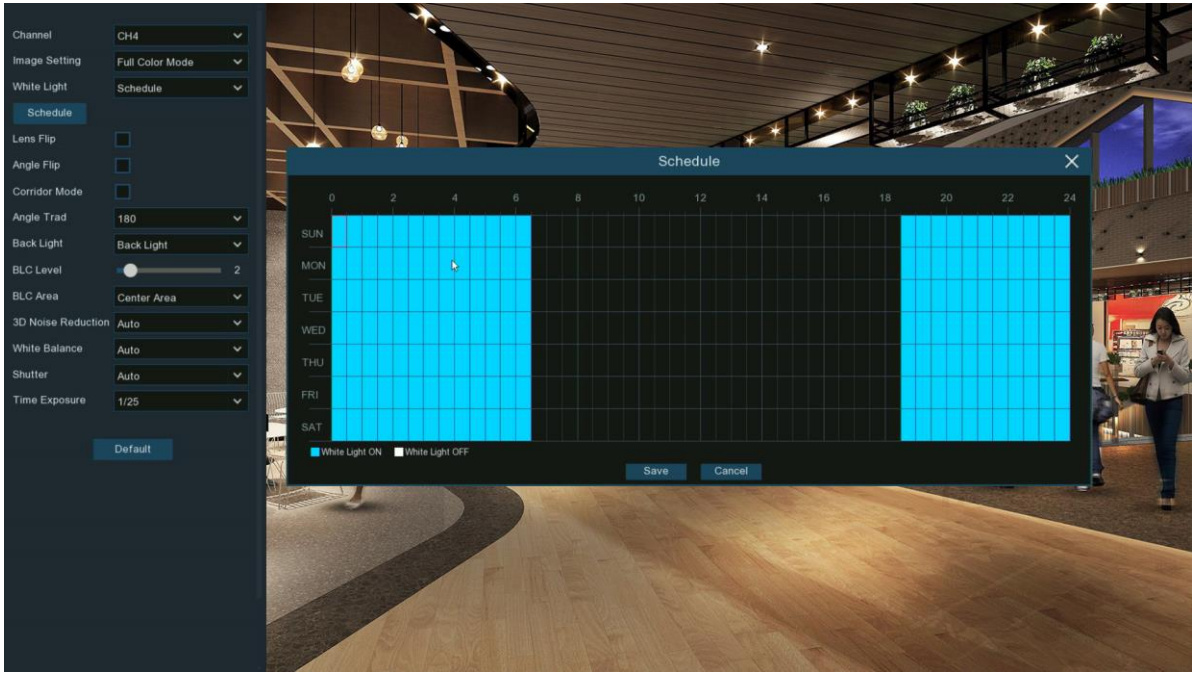
Schedule: Set the white lights to turn on or turn off at a scheduled times. Each square represents 30 minutes.

➔ Using the mouse, click on a particular square to change or click and drag the mouse over the squares to select the desired time frame.

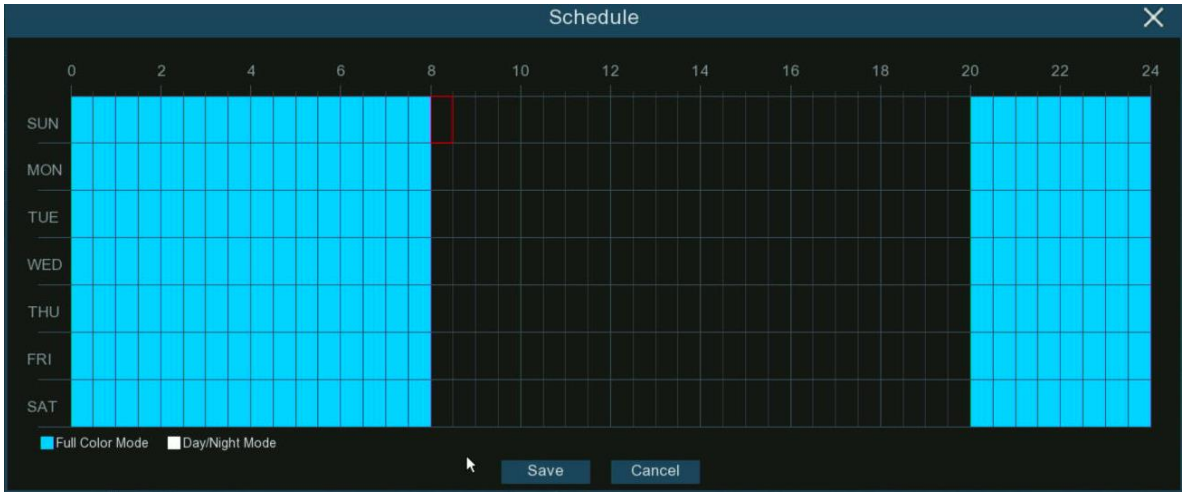
The blocks highlighted in blue are the time periods the lights will be on.The black areas are the time frame the lights will be off.

OFF: Turn off the white lights.

Sensitivity: The higher the number is, the more sensitive the system will be to light the white lights .

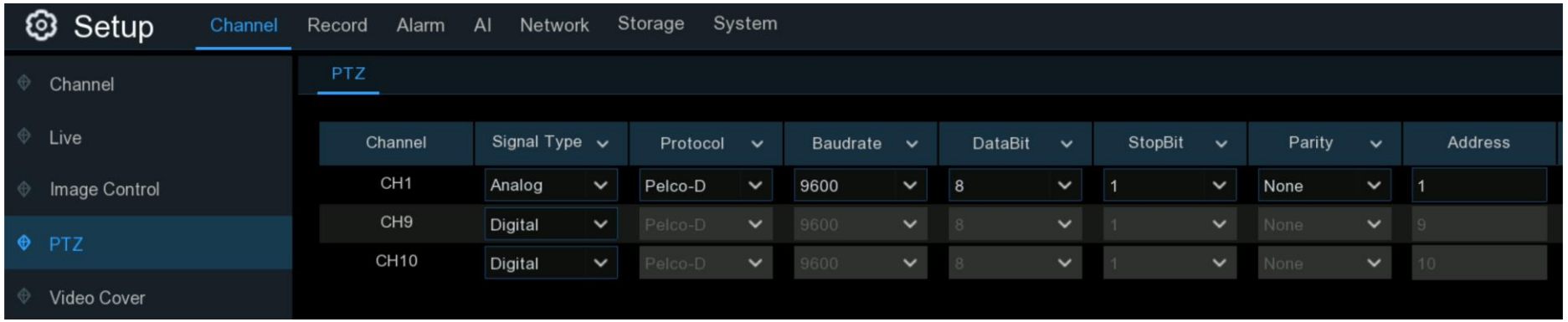


➔ **Schedule:** the lights will be on according to the schedule setup. Camera works in full color mode during the time frame highlighted in blue. The camera works in day & night mode during the time frames not highlighted.



5.1.4. PTZ

This menu configures the PTZ (Pan/Tilt/Zoom) settings for the PTZ speed dome cameras.



Channel: Channel name

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

The following items are available for Analog PTZ only:

Protocol: Choose the communication protocol between the 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 camera, to configure this setting.

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

5.1.4.1. MFZ & PTZ Control

In live view, left click the mouse on a connected camera to display the Camera Quick Toolbar. Click the PTZ icon to open the PTZ control panel.

5.1.4.1.1. Controlling a MFZ Camera

Adjust the optical lens to zoom in or zoom out if a MFZ (Motorized Focus & Zoom) camera is connected.

In live view, left click the mouse on the MFZ camera to display the Camera Quick Toolbar. Click the PTZ to open the MFZ control panel.

To operate the motorized movement of the MFZ lens:

Zoom: To control the zoom in and zoom out:

- ➔ —: Single click the button, the lens will perform a single adjustment to zoom out the image and then auto focus. Click and hold on the button to perform continuous adjustment until releasing the mouse.
- ➔ +: Single click the button, the lens will perform a single adjustment to zoom in the image and then auto focus. Click and hold on the button to perform continuous adjustment until releasing the mouse.

Focus: To manually fine tune the focus:

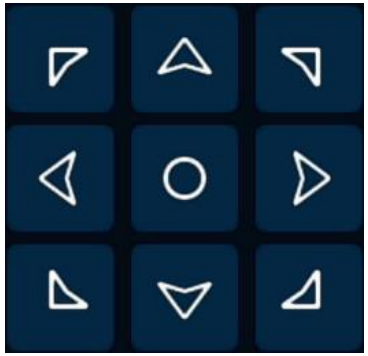
- ➔ —: A single click on the button, the lens will perform a single adjustment to focus out the image. Click and hold on the button to perform continuous adjustment until releasing the mouse.
- ➔ +: A single click on the button, the lens will perform a single adjustment to focus in the image. Click and hold on the button to perform continuous adjustment until releasing the mouse.

Auto Focus: Auto focus on the objects.

Restore: Restore the camera to default status.

5.1.4.1.2. Controlling Your PTZ Camera

In live view, click the left button of your mouse on the PTZ camera bring up the Camera Quick Toolbar. Click the PTZ button to open the PTZ control panel.



Mode: To control the PTZ camera by PTZ, Preset, Line Scan, Watch Mode, Tour and Pattern Scan.

Directional Buttons: Click and hold the directional buttons to move the camera in the direction selected. Click the middle button to continually rotate the camera towards the left (click any directional button to stop). If you want to change the rotation speed, you need to stop the rotation first, and start again after changing the speed.

Speed: Adjust the speed control to alter how fast or slow the camera will move when operating the pan or tilt functions. Move the slider to decrease or increase the speed.

Lens Control Buttons: To control the optical zoom, focus length and iris of the lens.

➔ Single click on the button, the lens will perform a single adjustment to zoom out the image and then auto focus. Click and hold on the button to perform continuous adjustment until you release the mouse button.

➔ Single click on the button, the lens will perform a single adjustment to zoom in the image and then auto focus. Click and hold on the button to perform continuous adjustment until you release the mouse button.

➔ Click and hold the button to decrease the focal length.

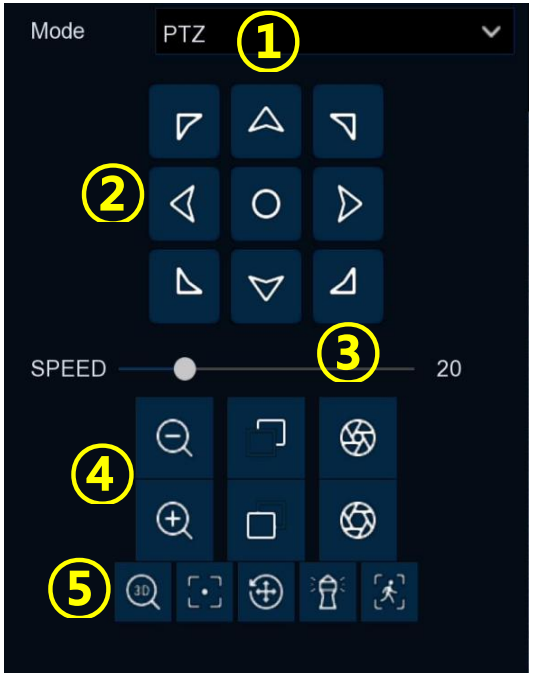
➔ Click and hold the button to increase the focal length.

➔ Click to reduce the iris value, image will get darker.

➔ Click to increase the iris value, image will get brighter.

5.1.4.1.2.1 Controlling PTZ

In this section, you're able to control the Pan/Tilt/Zoom and more.



1. Select PTZ mode.
2. Click the directional buttons to move the camera
3. To adjust the speed to pan or tilt.
4. To control the optical zoom, focus and iris of the lens.
5. Using functional buttons:

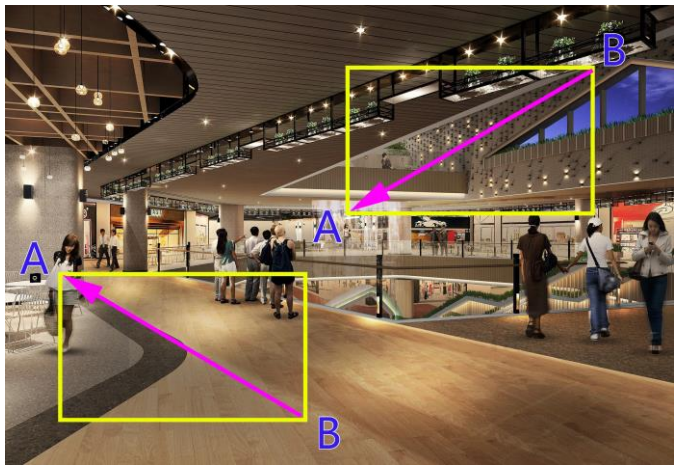
➔ 3D PTZ control. Click to control the pan/tilt/zoom directly on the live view screen.

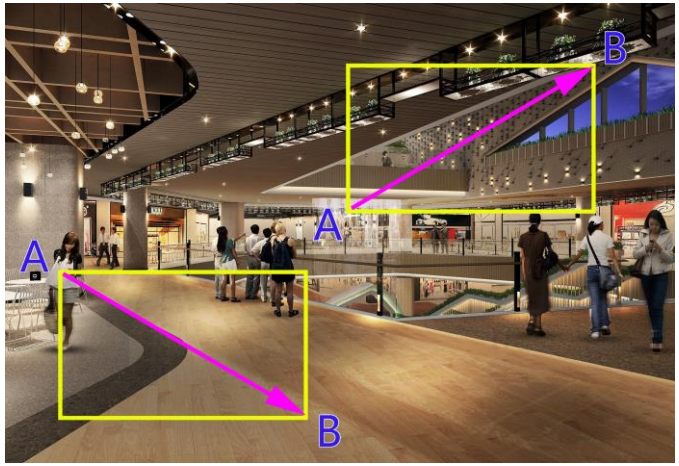
Click on any point in the image, and then the image will be centered on the clicked point.

Drag: You can zoom in or zoom out the image by dragging your mouse on the image:

Click on the image and hold the mouse to drag a rectangle from point A to point B, the camera will zoom in to make the objects closer.

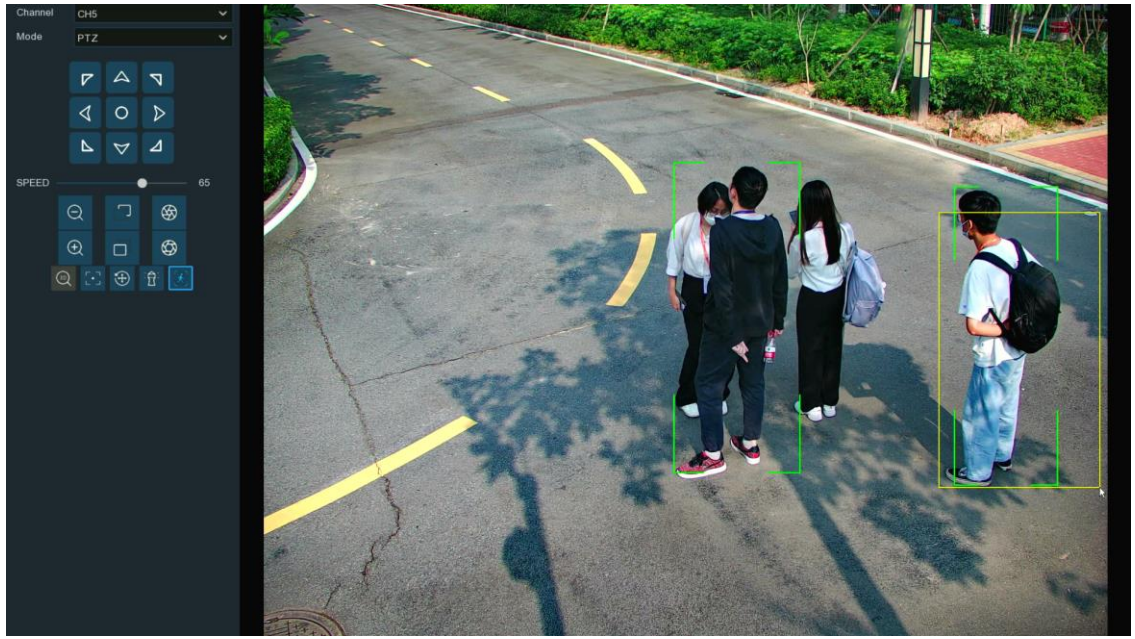
Click on the image and hold the mouse to drag a rectangle from point B to point A, the camera will zoom out to make the objects farther.





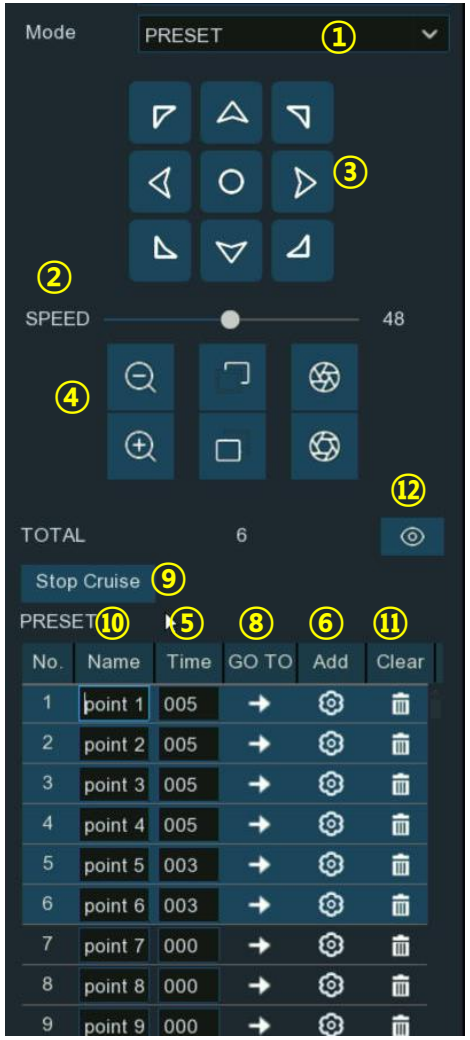
- Auto focus.
- Load default values. All the parameters set. will be lost and the default values will be restored.
- Start or stop Watch Mode. See more on 5.1.4.1.2.3 Watch Mode.
- If the PTZ camera supports auto tracking of the movement of human beings; it is possible to control the tracking manually if there are several detected targets to let the camera focused on a certain target. Before using this function, the human detection function must be enabled. The PTZ auto tracking function also must be enabled. View in 5.4.1.2. PD & VD (Human & Vehicle Detection).

Click the button, and then click and hold your mouse on the live view screen, drag a rectangle with yellow line to frame the targeted person. The camera will focus on the select person till he/she disappears from view.



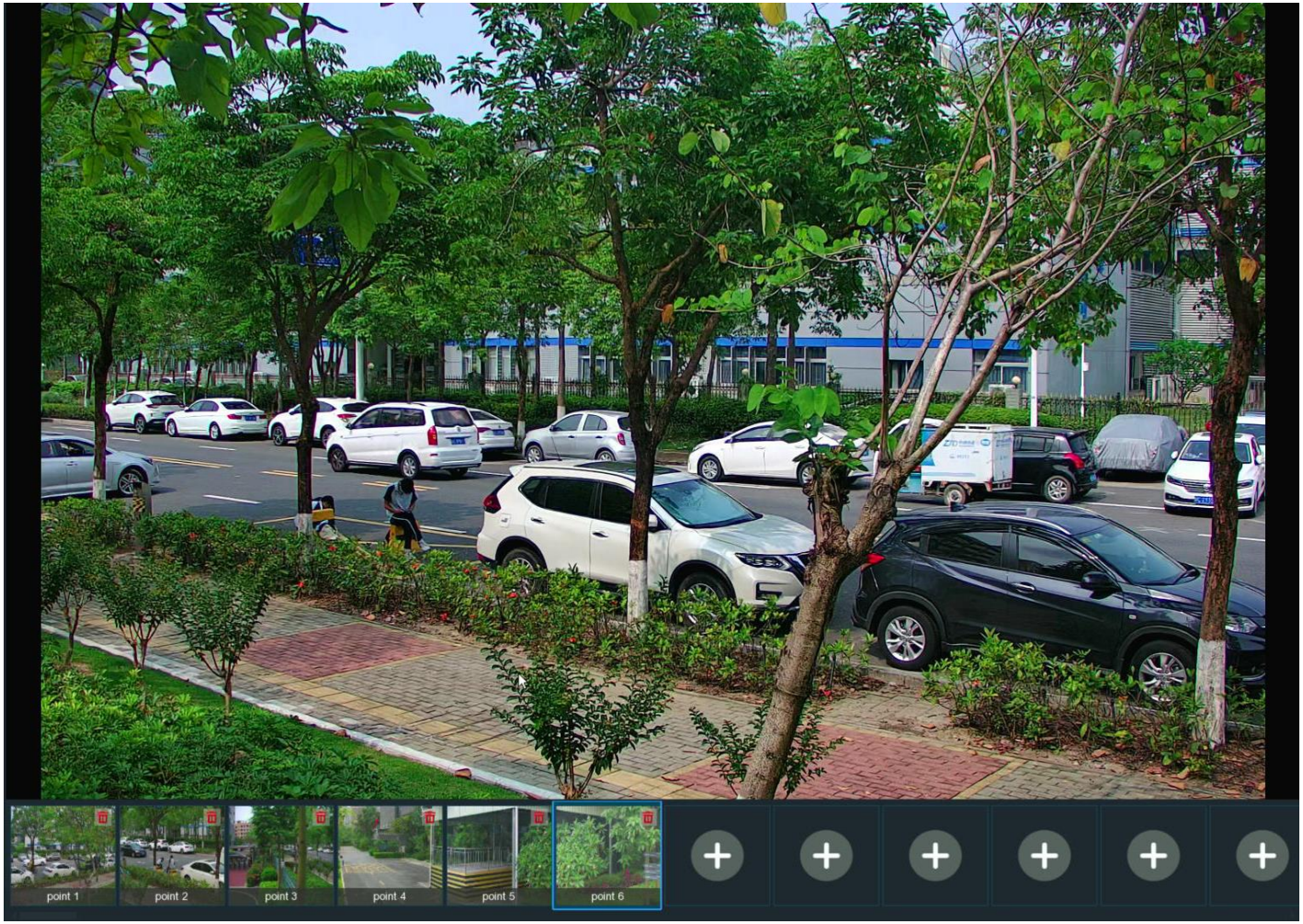
5.1.4.1.2.2 Preset Position

Configure the preset positions. A preset position is a particular position within the image that you would like the camera to focus on. Up to 255 different preset positions can be created.



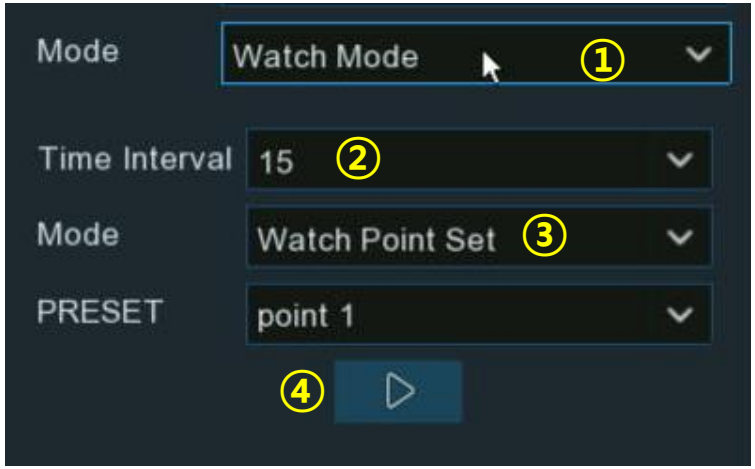
1. Select **PRESET** mode.
2. Adjust the speed control to alter how fast or slow the camera will pan or tilt.
3. Click and hold the directional buttons to move the camera in the direction selected.
4. Change the optical zoom, focus and iris of the lens if needed.
5. When the position is fixed, change the length of time (in seconds) the camera will stay at this position, before moving to the next position.
6. Click the add button to create the preset point.
7. Repeat step 1 to 6 to add more preset positions. The saved preset positions will be displayed with blue background.
8. Click the GO TO button ➔, the camera will then move to that selected position.
9. Click **Start Cruise**, the camera will move to the preset positions in sequence.
   ➔ Click **Stop Cruise** to stop.
10. Give a name to the preset position.
11. Click 🗑 to delete the preset position.

12. Click the visual icon , a thumbnail of the preset positions are displayed on the bottom of the live view image. Go to, delete or add a preset position in the visual interface.



5.1.4.1.2.3 Watch Mode

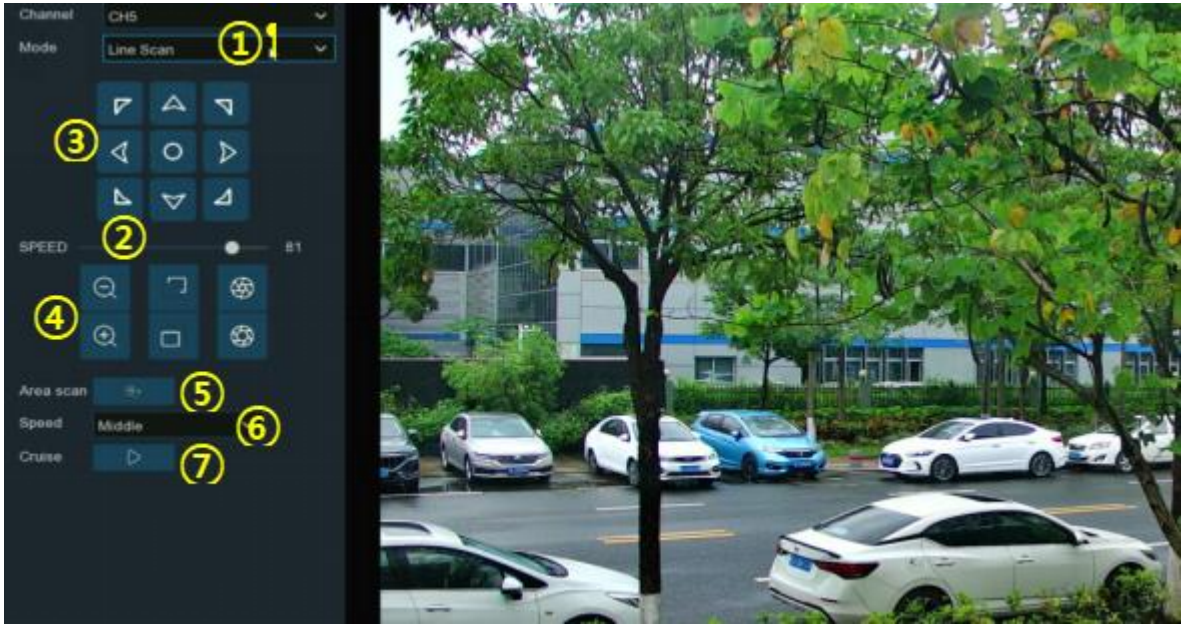
Watch mode allows the camera to perform a preset action when the camera is not performing other operations, such as moving to a preset position, starting cruise, etc.



1. Select the **Watch Mode**.
2. Set the time interval (the length of time that must elapse before the camera goes into watch mode) For example, the watch mode is enabled and the interval is set to 15, the camera will perform the watch mode action after 15 seconds from the last operation.
3. Choose the action when the watch mode is activated:
   - ➔ **Default Cruise:** The camera will be continually rotated towards the left.
   - ➔ **Preset Position:** The camera will be moved to a selected preset position and stay.
   - ➔ **Line Scan:** The camera will execute a Line Scan. See more on 5.1.4.1.2.4 Line Scan.
   - ➔ **Tour:** The camera will be execute a Tour. See more on 5.1.4.1.2.5 Tour.
   - ➔ **Pattern Scan:** The camera will execute a Pattern Scan. See more on 5.1.4.1.2.6 Pattern Scan.
4. Click ▷ button to start the Watch Mode. Press ☐ button to stop.

5.1.4.1.2.4 Line Scan

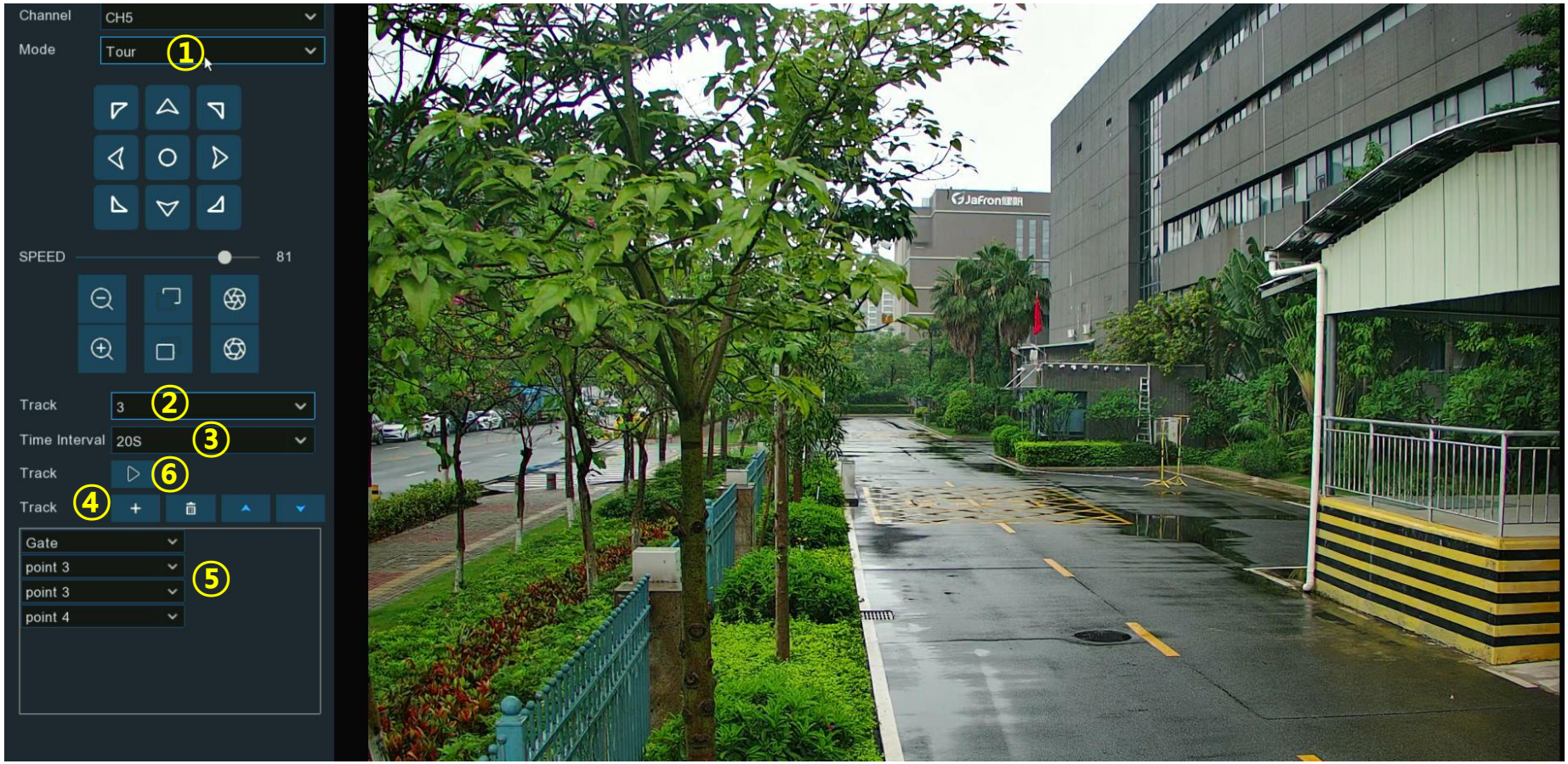
Line Scan allows the camera to automatically cruise between position A to position B horizontally.



1. Select **Line Scan** mode.
2. **Speed:** Adjust the speed control to change how fast or slow the camera will pan or tilt.
3. Click and hold the directional buttons to move the camera in the direction selected.
4. Change the optical zoom, focus and iris of the lens if needed.
5. **Area Scan:** When the camera is in the desired start position, click button to set position A. Repeat step 3 & 4 to move the camera to another position. Click to set position B.
6. Adjust the cruise speed.
7. Click button to start Line Scan.
   ➔ Press button to stop.

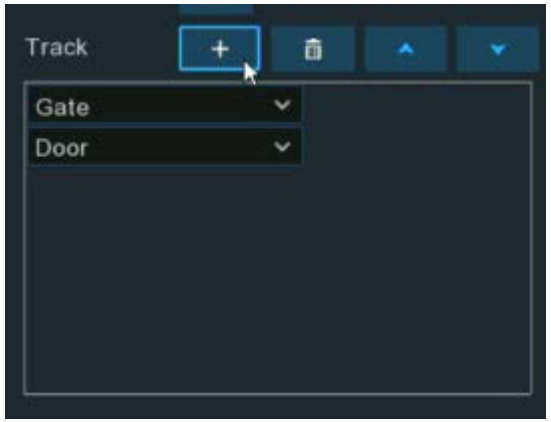
5.1.4.1.2.5 Tour

With the Tour function, it is possible to setup an auto cruise (maximum 4 tracks/different tours) by choosing different preset positions.

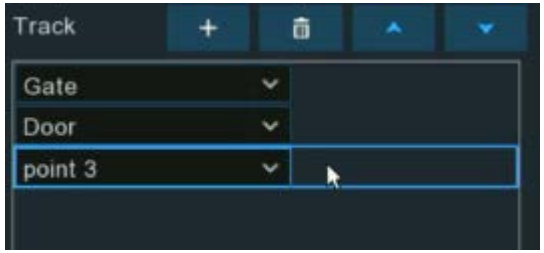


1. Select **Tour** mode.
2. Select a track. Maximum 4 tracks available.
3. Set the time interval (the length of time that the camera will stay in each preset position)

4. Click the add button +, a position box will be added and displayed in the position list.
   ➔ Click the box to choose a preset position. Maximum 32 positions can be added to a track.



5. Click on the blank area on the right side of the position box, and then delete the preset position by clicking the delete button 🗑.
   ➔ or click ▲ / ▼ button to change its sequence.

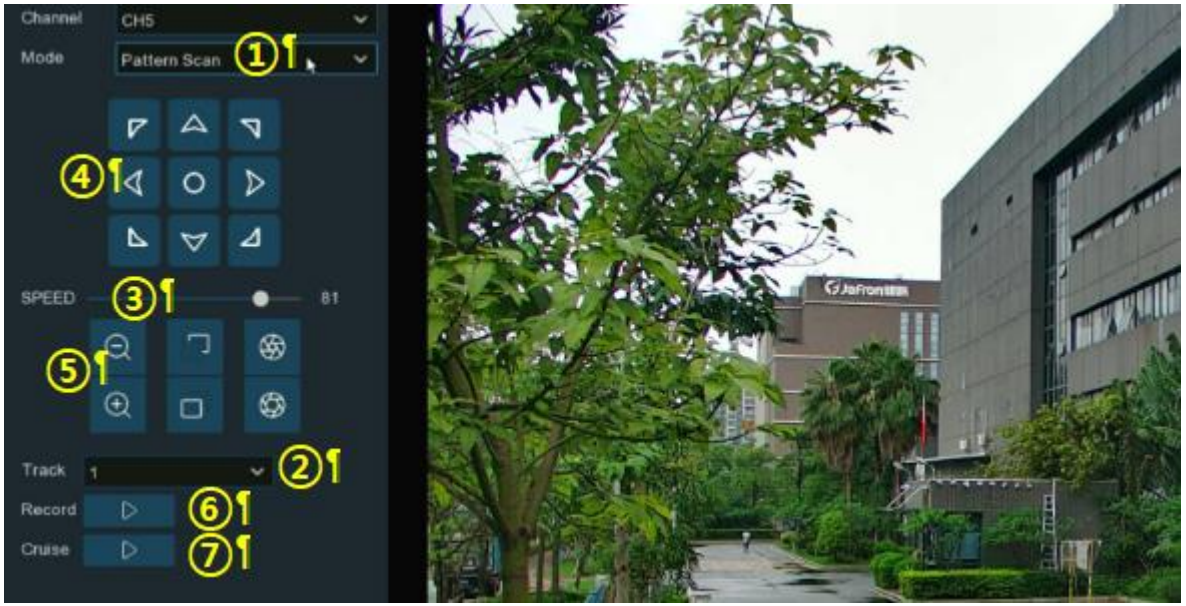


6. Click ▷ button to save and start the tour.
   ➔ Press ☐ button to stop.

5.1.4.1.2.6 Pattern Scan

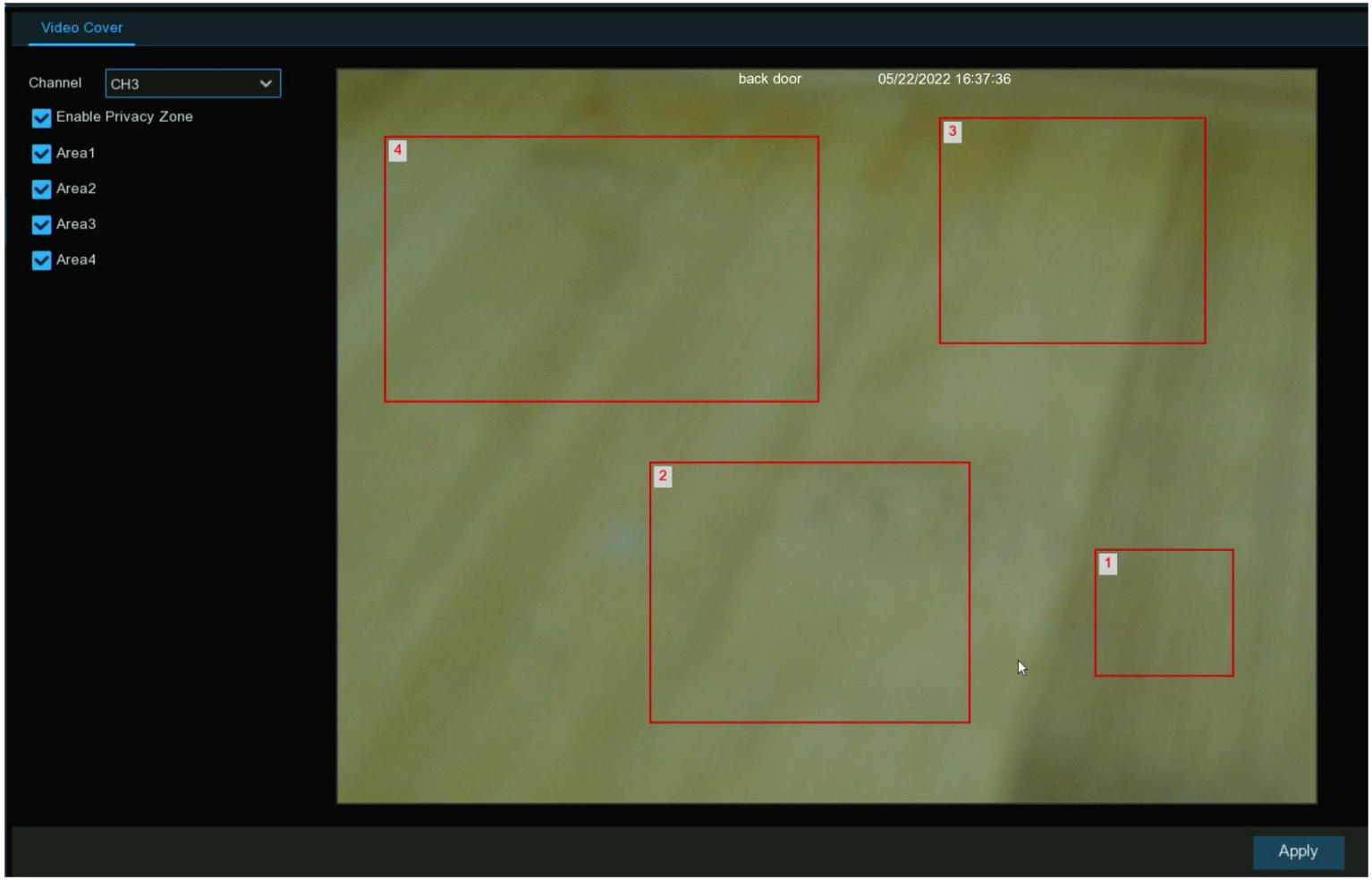
This is a function that allows the camera to implement auto cruise by following a programmed route.

1. Select **Pattern Scan** mode.
2. **Track:** Select a track. Maximum 4 tracks available.
3. **Speed:** Adjust the speed control to change how fast or slow the camera will pan or tilt.
4. Click and hold the directional buttons to move the camera in the direction selected.
5. Change the optical zoom, focus and iris of the lens if needed.
6. **Record:** When the camera is in the desired start position, click ▷ to set the position.
   - ➔ Repeat step 4 & 5 to adjust the position.
   - ➔ Press ☐ to finish setting the route.
7. Click ▷, the camera will execute the same pattern scan which was setup in step 6, including zoom, focus, direction.
   - ➔ Press ☐ to stop.



5.1.5. Privacy Zone

This function can obscure all or part of the image for privacy (create up to 4 privacy masks per camera). Areas obscured by a mask won't be shown in live view or recorded video.



Channel: Select a camera that you would like to edit.

Enable Privacy Zone: Enable/disable this function.

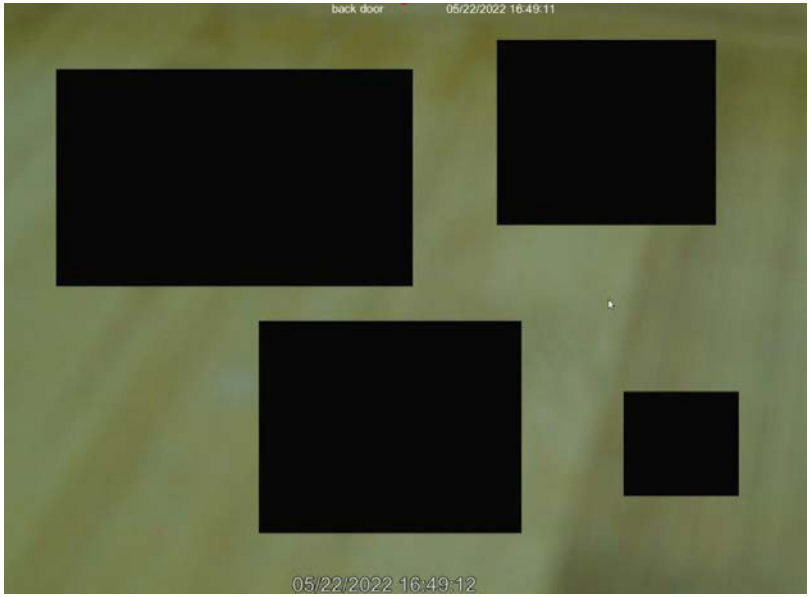
Area 1 to 4: Select the area number to enable. Up to 4 privacy masks can be enabled per camera. The masks will appear in the Live View windows.

Depending on the number of masks enabled, each mask will be numbered.

- ➔ To reposition the mask, click and hold inside the mask then move the mask to the desired location.
- ➔ To resize the mask, click and hold the bottom right corner of the mask then resize to the desired size.
- ➔ It is possible to reposition and resize each mask to overlap each other.
- ➔ Click "**Apply**" to save the settings.

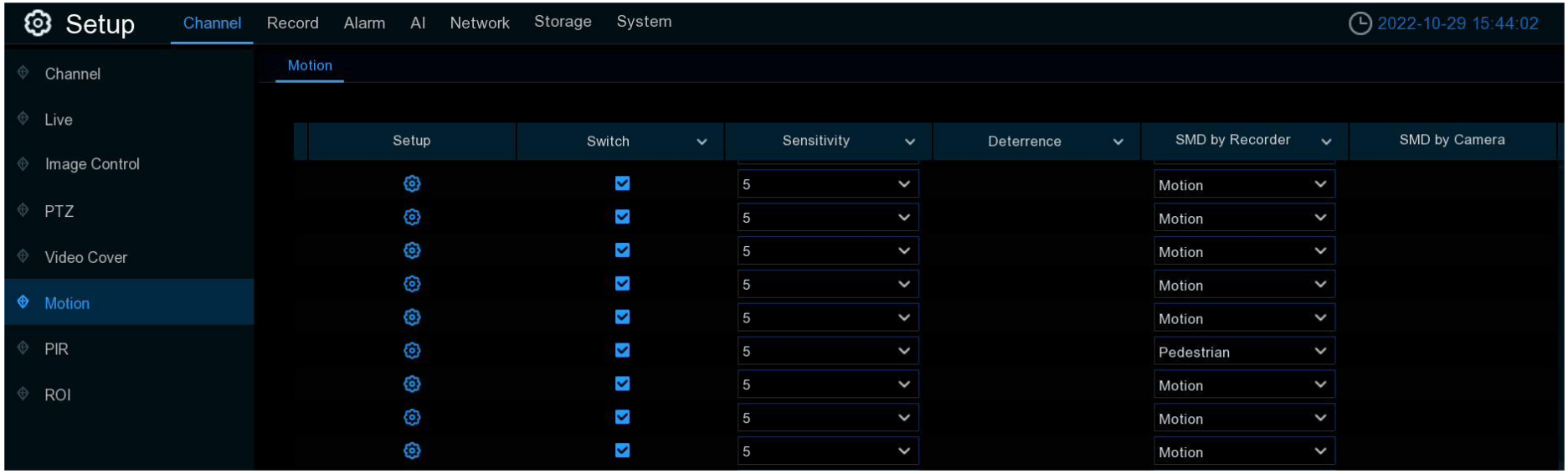
Areas obscured by a mask won't be shown in live view or recorded video.

- ➔ To remove a mask, un-check the box next to the relevant area.
- ➔ Click "**Apply**" to save.



5.1.6. Motion Detection

Configure motion parameters. When motion has been detected by one or more cameras, the NVR will send an alert. It does this by sending 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: Change the sensitivity level. The higher the number, the more sensitive the camera will be when detecting motion.

SMD by Recorder: Used for the cameras that do not support intelligent motion detection.

SMD by Camera: Used for the IP cameras that support intelligent motion detection.

There are four detection types available: Motion, Human, Vehicle, and Vehicle&Human.

➔ **Motion:** The camera will detect all motion events, including movements of human beings, vehicles, animals, trees, etc.

If the camera or NVR supports smart motion detection (SMD), these are the advanced motion trigger options to choose from:

➔ **Human:** The camera only alerts when a human being is detected.

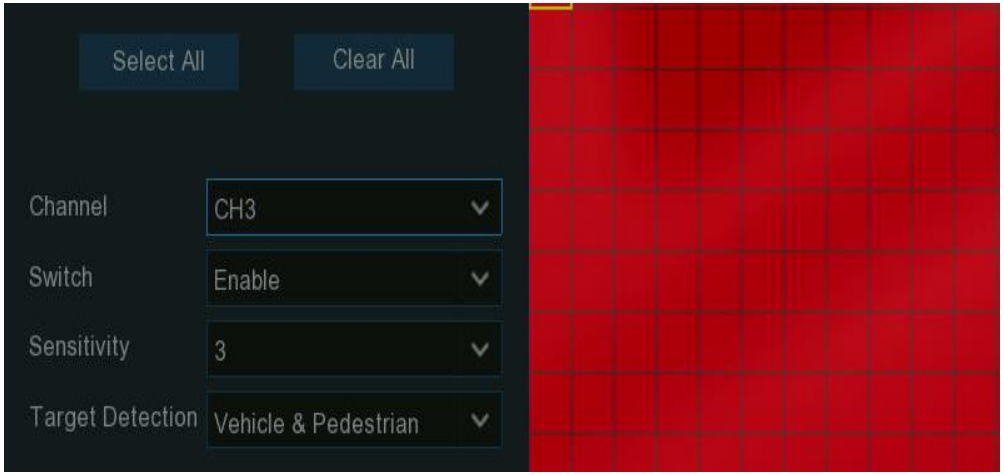
➔ **Vehicle:** The camera only alerts when vehicles are detected.

➔ **Vehicle & Human:** The camera only alerts when human beings and/or vehicles are detected.

Motion Detection Area Setup: Click icon to open the setup page.

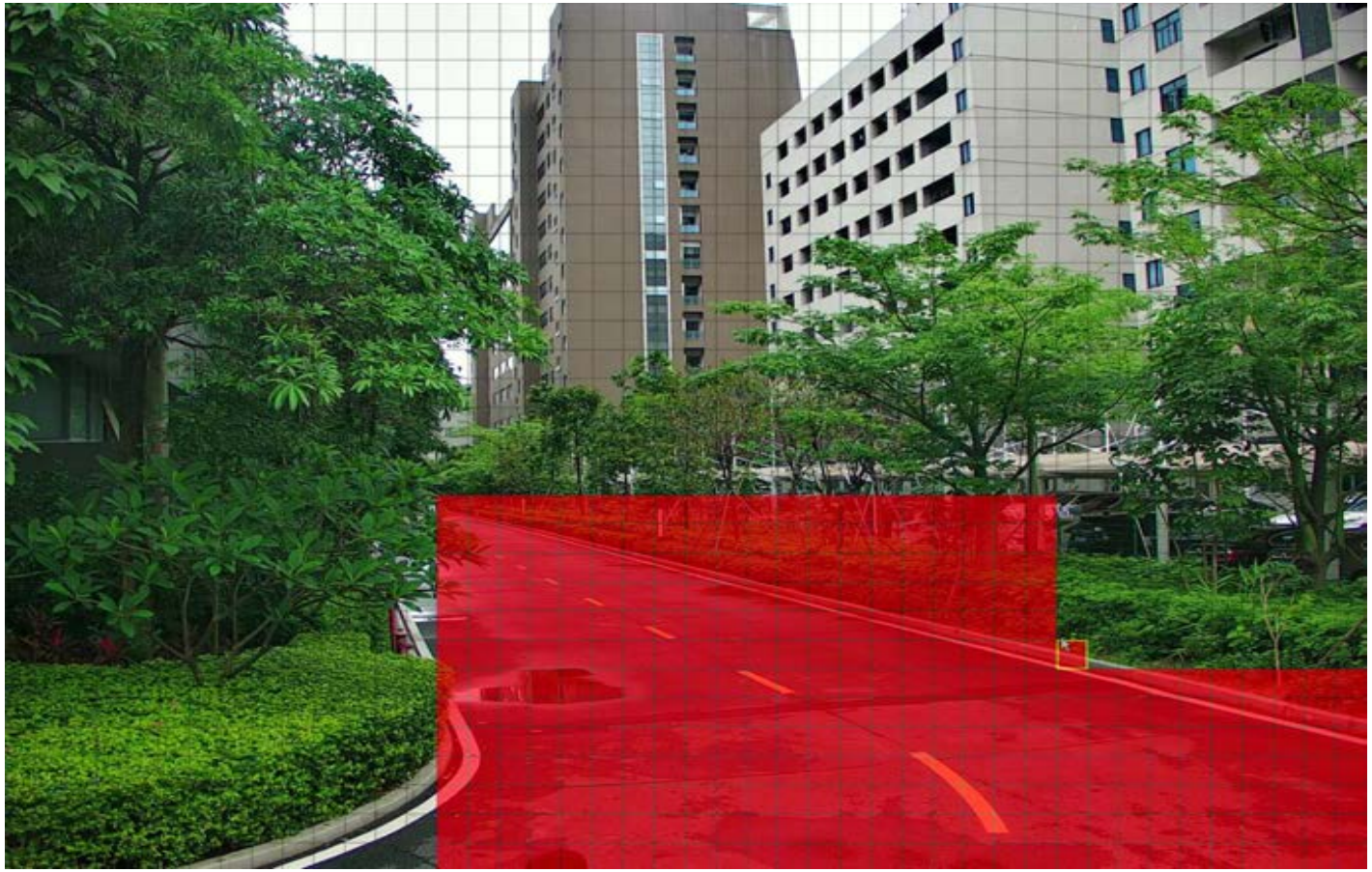
1. The entire image is marked for motion detection (red blocks) by default.

➔ Click "**Clear All**" to clear the entire default detection area.



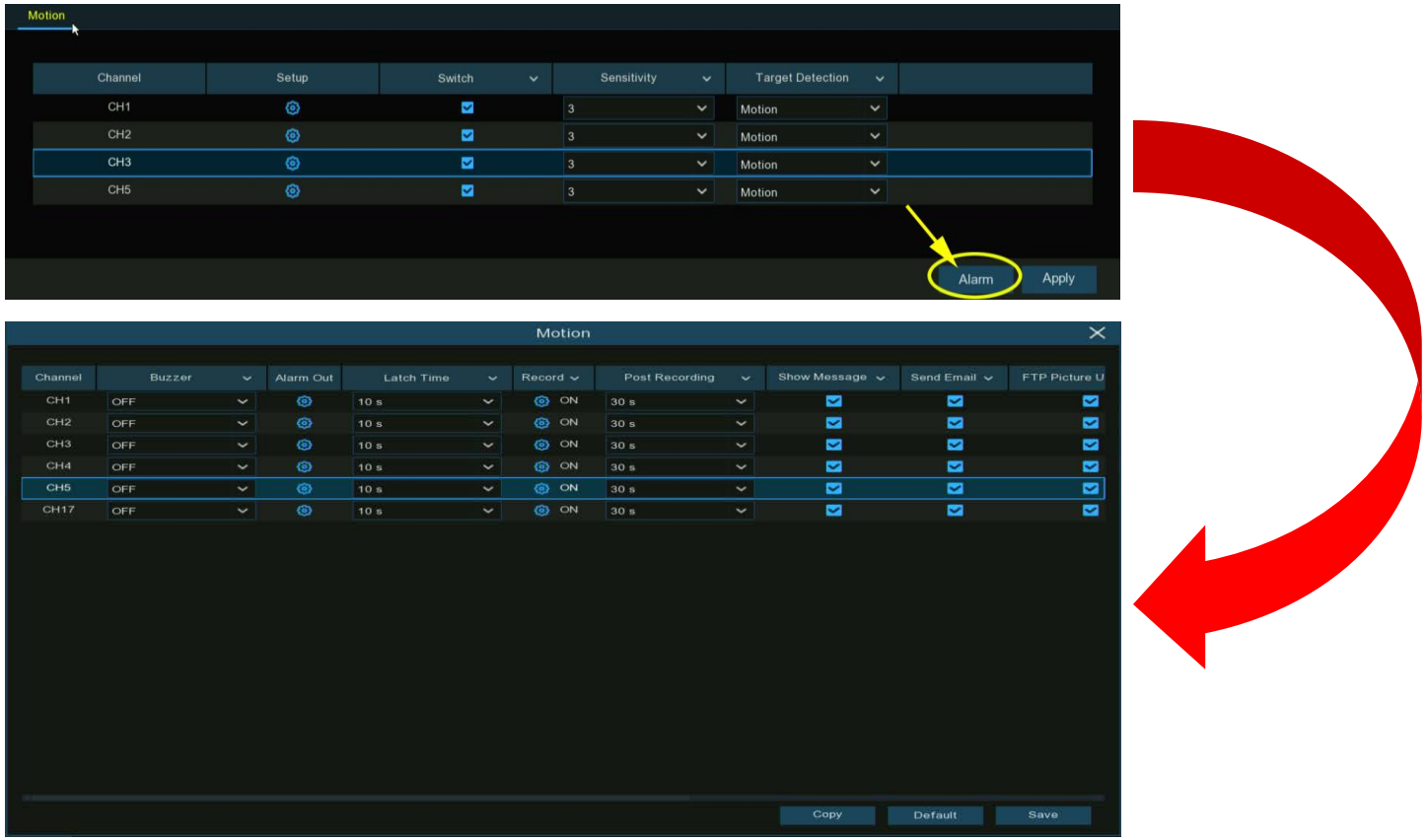
2. To create a new detection area: Press and hold the left mouse button to select a cell or square , then click and drag to select the area that motion will be detected. Release the mouse to finish.
3. Multiple areas can be created. Any cell or square can be enabled to detect motion. The same action also applies when deleting an area.
4. Movement outside of the motion detection areas won't be detected therefore will not trigger recording or event notifications.

5. Adjust the sensitivity if needed, right-click the mouse to exit.
6. Click "**Apply**" to save the settings.



5.1.6.1. Motion Alarm Settings

Click the **Alarm** button to change options for alarm notifications and more.



Buzzer: When motion is detected, it is possible to enable the NVR's buzzer to sound for a predetermined amount of time. Click the drop-down menu to select a time.

Alarm Out: If the NVR or IP camera supports connecting to external relay output devices, the system can send an alert message to the external alarm devices. Click ⚙ button, to choose the external alarm devices:

Local: External alarm devices connected to the NVR.

CH->1: External alarm devices connected to IP cameras.

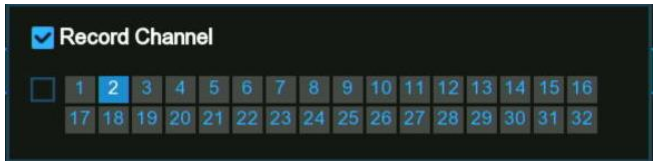
Latch Time: To configure the external alarm time when motion detection is triggered.

Record: This option allows selecting additional cameras to start recording when motion is detected by the camera.

➔ **Click** the drop-down arrow to select which cameras to record or not.

➔ **Click** icon, check the "Record Channel" box to enable recording.

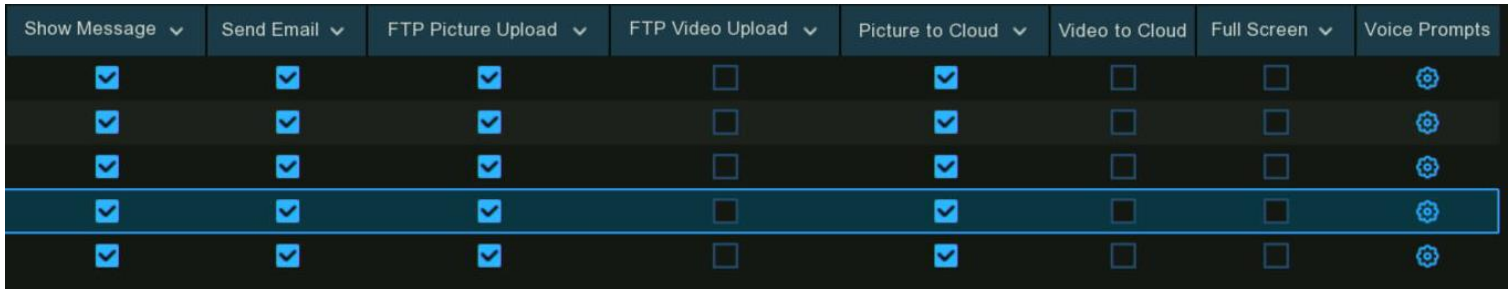
➔ Check the all box or check the box in front of the channel number to select which cameras you want to trigger to record.



Post Recording: This option instructs the NVR to record for a set length of time after a motion event has occurred. For most instances, the default selection is adequate.

Show Message: When motion is detected, the alarm icon will appear on screen.

Send Email: An email alert will be sent when an alarm event is detected. Un-check the box to disable this.



(Slide to the right to view more options)

FTP Picture Upload: Check the box to save snapshots to your ftp server when a motion event has occurred..

FTP Video Upload: Check the box to save videos to your ftp server when motion detection is triggered.

Picture to Cloud: Check the box to save snapshots to the cloud via Dropbox or Google Drive when motion detection is triggered.

Video to Cloud: Check the box to save videos to the cloud via Dropbox or Google Drive when motion detection is triggered.

Full Screen: Check the box to view the camera full-screen in Live View when motion detection is triggered.

Voice Prompts: If the NVR connects to a speaker, it is possible to select a customized voice alert when motion detection is triggered.

See how to add customized alert voice on 5.3.9 Voice Prompts.

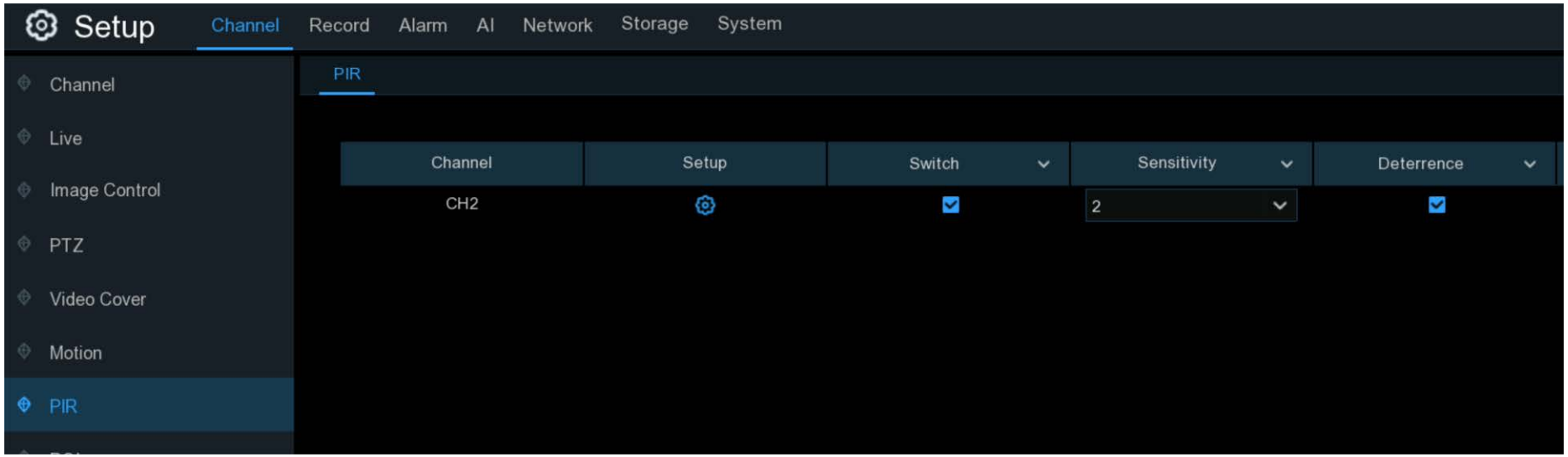
Default: Click "**Default**" to revert to default settings.

Copy: Use the "**Copy**" option to apply all of these settings to the other connected cameras.

Save: Click "**Save**" to save settings.

5.1.7. PIR

Configure PIR (passive infrared motion detector) parameters. When a PIR alarm has been detected by one or more cameras, the NVR will alert about a potential threat. It does this by sending 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 PIR detection. (only for cameras that support PIR)

Sensitivity: Set the sensitivity level. The higher the number, the more sensitive your camera will be when detecting PIR.

Deterrence: Check the box to light up the built-in white lights of the camera when a PIR event is detected.

PIR Detection Area Setup: Click icon into the setup page.

The entire image is selected for PIR detection (red blocks) by default.

➔ Click "**Clear All**" to clear the entire detection area.

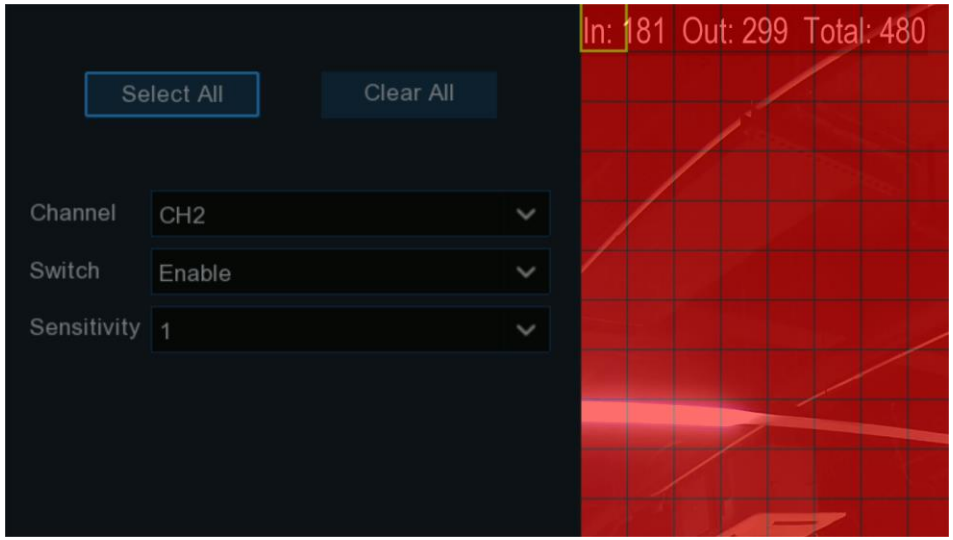
To create a new detection area: Press and hold the left mouse button to select a cell or square , then click and drag to select the area that PIR will be detected. Release the mouse to finish.

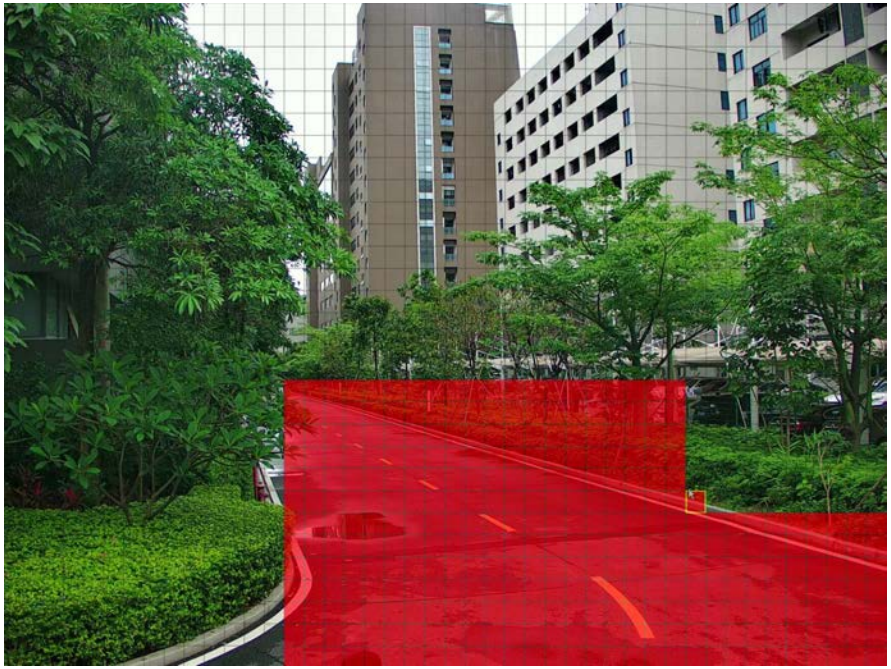
Multiple areas can be created. Any cell or square can be enabled to detect PIR. The same action also applies when deleting an area.

Movement outside of the selected areas won't be detected therefore will not trigger recording or event notifications.

➔ Adjust the sensitivity if needed. Right-click the mouse to exit.

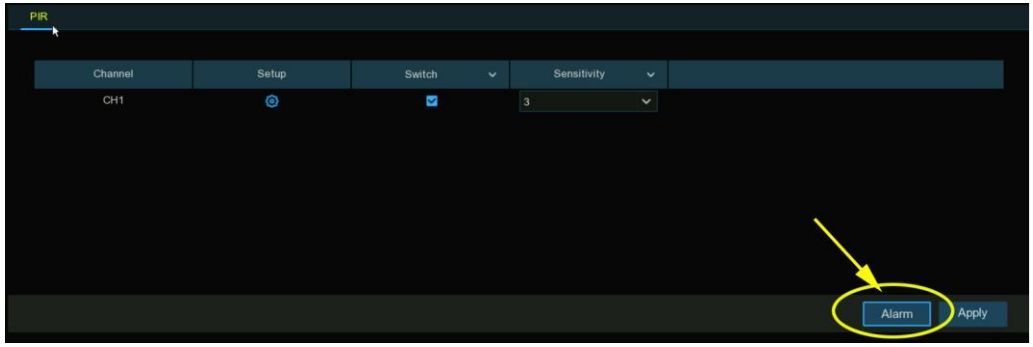
➔ Click "**Apply**" to save the settings.

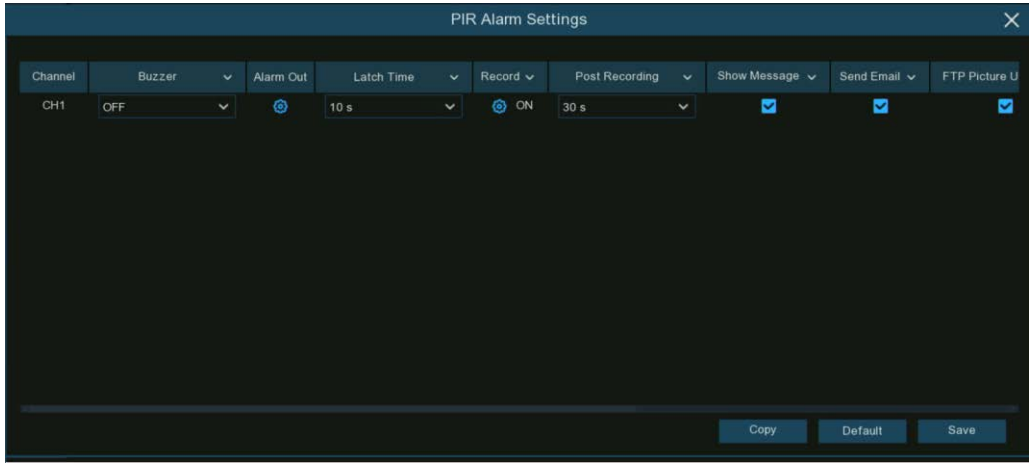




5.1.7.1. PIR Alarm Settings

Click the **Alarm** button to change options for alarm notifications, alerts and more.





Buzzer: When a PIR alarm is detected,it is possible to enable the NVR's buzzer tosound for a predetermined amount of time.

➔ Click the drop-down menu to select a time.

Alarm Out: If the NVR or IP camera supports connection to external relay output devices, the system can send an alert message to the external alarm devices.

Click button, to choose the external alarm devices:

➔ Local**:** External alarm devices connected to the NVR.

➔ CH**->1:** External alarm devices connected to IP cameras.

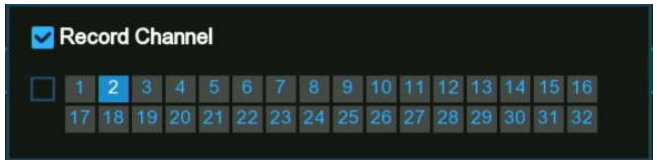
➔ Latch **Time:** To configure the external alarm time when PIR is triggered.

Record: This option allows selecting additional cameras to start recording when PIR is detected by the camera.

➔ **Click** the drop-down arrow to select which cameras to record or not.

➔ **Click** icon, check the "Record Channel" box to enable recording.

➔ Check the all box or check the box in front of the channel number to select which cameras you want to trigger to record.



Post Recording: This option instructs the NVR to record for a set length of time after a PIR event has occurred. For most instances, the default selection is adequate.

Show Message: When motion is detected, the alarm icon will appear on screen.

Send Email: An email alert will be sent when an alarm event is detected. Un-check the box to disable this.

(Slide to the right to view more options)

FTP Picture Upload: Check the box to save snapshots to a ftp server when PIR detection is triggered.

FTP Video Upload: Check the box to save videos to a ftp server when PIR detection is triggered.

Picture to Cloud: Check the box to save snapshots to the cloud via Dropbox or Google Drive when PIR detection is triggered.

Video to Cloud: Check the box to save videos to the cloud via Dropbox or Google Drive when PIR detection is triggered.

Full Screen: Check the box to view the camera full-screen in Live View when PIR detection is triggered.

Voice Prompts: If the NVR connects to a speaker, it is possible to select a customized voice alert when PIR detection is triggered.

See how to add customized alert voice on 5.3.9 Voice Prompts.

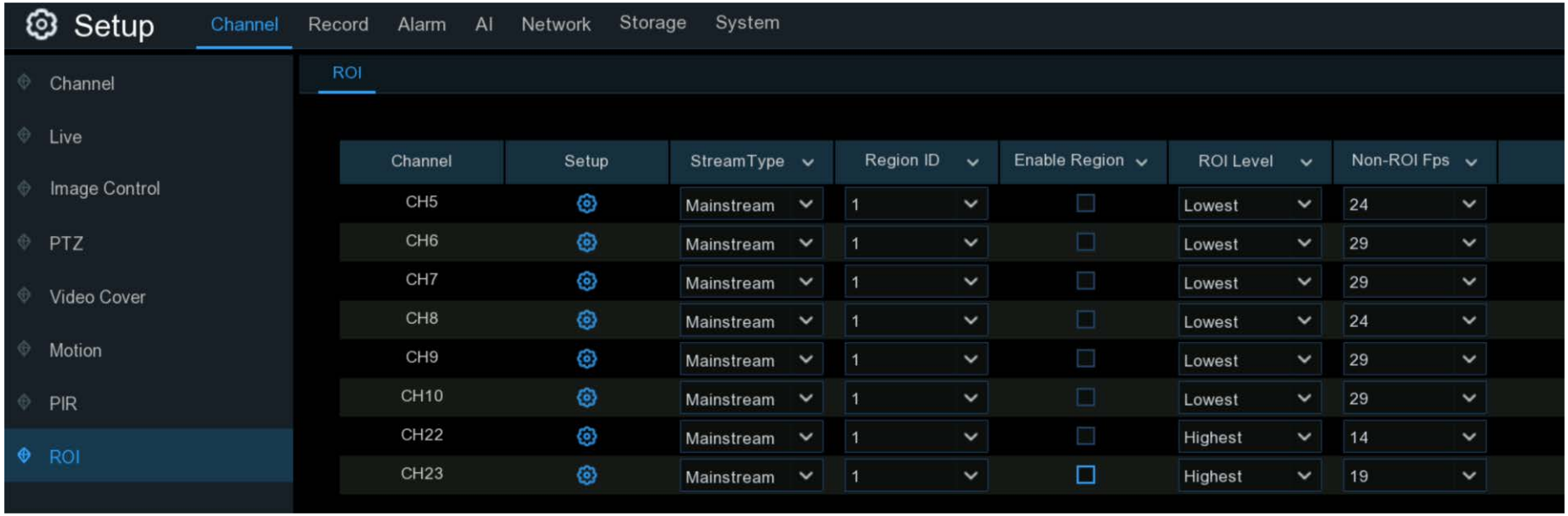
Default: Click "**Default**" to revert to default settings.

Copy: Use the "**Copy**" option to apply all settings to the other connected cameras.

Save: Click "**Save**" to save settings.

5.1.8. ROI

Regions of Interest (ROI) This function aims to improve the image encoding quality of selected regions and reduce the encoding quality in un-selected areas. To ensure the image sharpness of the selected regions while constant bitrate is the setting being used. (Note: This function needs to be supported by the camera. It cannot be used with the H.264+ and H.265+ encoding types at the same time.)



Stream Type: Select the stream type to make changes to.

Region ID: Select the region ID to be set. Maximum of eight region IDs.

Enable Region: Check the box to enable the selected regions: The **Region ID** and **Enable Region** parameters of the selected regions are mutually independent and need to be configured separately.

ROI Level: Set the image quality of the selected regions. The higher the quality is, the clearer and the smoother the image is.

Non-ROI FPS: Set the frame rate outside the selected regions.

Setup: Click ⚙ to open the settings page.

Area: Used to set whether to enable ROI selection. The configuration takes effect after clicking **Apply**.

5.2. Record

The recording configuration setting are available in the Record and Capture menus accessible from the Main Menu. From here, you can access and change the recording frame rate, resolution and recording schedule for each camera connected. As well as enable and set a schedule for the NVR to take a snapshot each time when an event occurs.

5.2.1. Encoding Settings

Configure the recording video and network transmission picture quality. Generally, Mainstream defines the recording video quality which will be saved in the HDD. Substream defines the video quality being viewed via remote access, for example web interface & VMS software. Mobile Stream defines the video quality which is being viewed via remote access via mobile devices.

5.2.1.1. Video Encoding

Configure the encode parameters of mainstream, substream and mobile stream.

Resolution: This parameter defines how large the recorded images will be. The higher the number, the greater the detail available. By default, the recording resolution of the camera is auto-selected by the NVR.

FPS: This parameter defines the number of frames per second the NVR will record. By default, the recording frame rate of the camera is auto-selected by your NVR.

Video Encode Type: It will list the codecs which are supported by the connected camera. The H.265 codec will compress the information more efficiently and provide the best video quality for a given bandwidth between each camera and the NVR. H.265+ has more compression then H.265. The other codec is H.264 which will impact the reliability of the connection between each camera and the NVR due to the higher bandwidth required. H.264+ has more compression then H.264. H265 is recommended option to use. H265 is a higher compression rate than H264. H265 is recommended over H264 as it uses about half the bandwidth and uses about half the storage space.

Bitrate Control: Select the bitrate level. For a simple scene, such as a gray wall constant bitrate is suitable (**CBR**). For more complex scenes, such as a busy street variable bitrate is suitable (**VBR**).

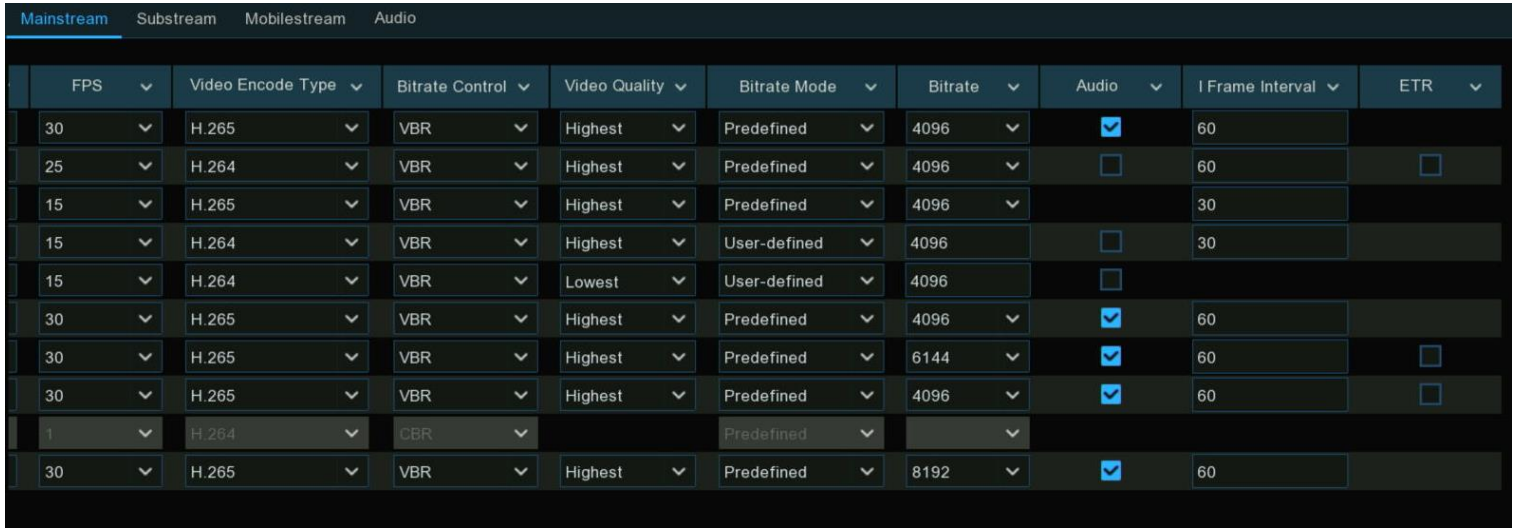
Video Quality: Available for VBR only, select the recording quality that will define the variable bitrate used, from lowest to highest.

Bitrate Mode: To set the bitrate manually.choose **User-defined** mode.

➔ To select a predefined bitrate, choose **Predefined** mode.

Bitrate: This parameter corresponds to the data transfer speed that the NVR will use to record video. Recordings that are encoded at higher bitrates, will be of better quality. For cameras that monitor medium to high traffic areas, increase the bitrate to add more detail to the camera's image. Just be aware this will increase the bandwidth required. Increase the bitrate in small increments until you are satisfied with the image quality.

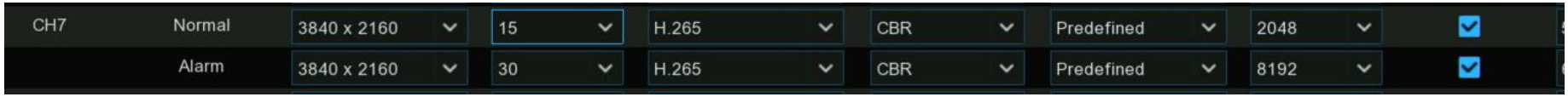
Audio: If the camera has built-in microphone or external audio input device, it is possible to record the audio streaming together with the video streaming. Check the box to disable or enable. Make sure Audio streaming has been enabled in 5.2.1.2. Audio Encoding to record the audio streaming.



(Slide to the right to view more options)

I Frame Interval: This configures the number of partial frames that occur between full frames (I-Frames) in the video stream. For example, in a scene where a door opens and a person walks through, only the movements of the door and the person are stored. The stationary background that occurs in the previous partial frames are not encoded. As the I-Frame increases, the number of partial frames also increases. Higher values are only recommended on networks with high reliability, otherwise leave the default selection.

ETR: If the camera supports ETR function, it is possible to set independent video streaming for normal and alarm triggered recording.

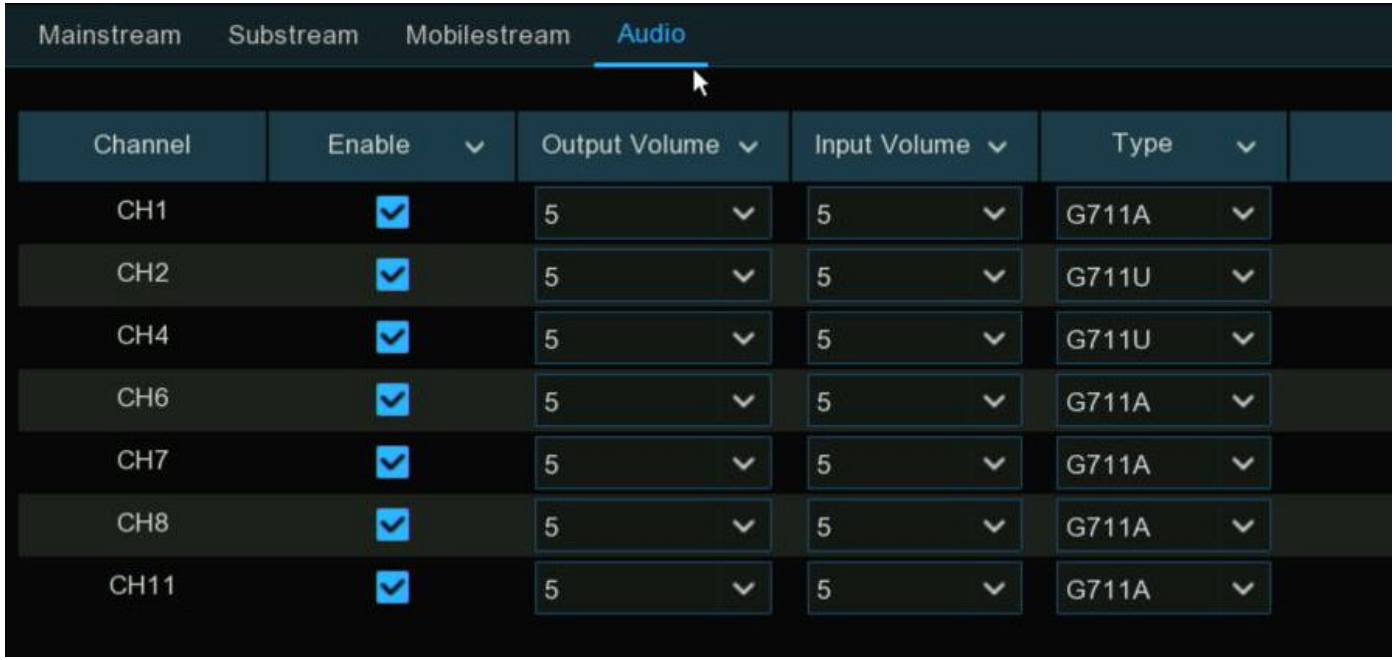


For example, decrease the frame rate and bitrate to reduce the recording file size in normal recording, and increase the frame rate and bitrate to have a clearer and more fluent camera images when an alarm event occurs.

ERT is available for mainstream only.

5.2.1.2. Audio Encoding

If the camera has built-in microphone or supports an external audio input device, it is possible to enable the audio stream, define the input/output volume, and select the audio encode type.



Enable: To turn on or turn off the audio streaming.

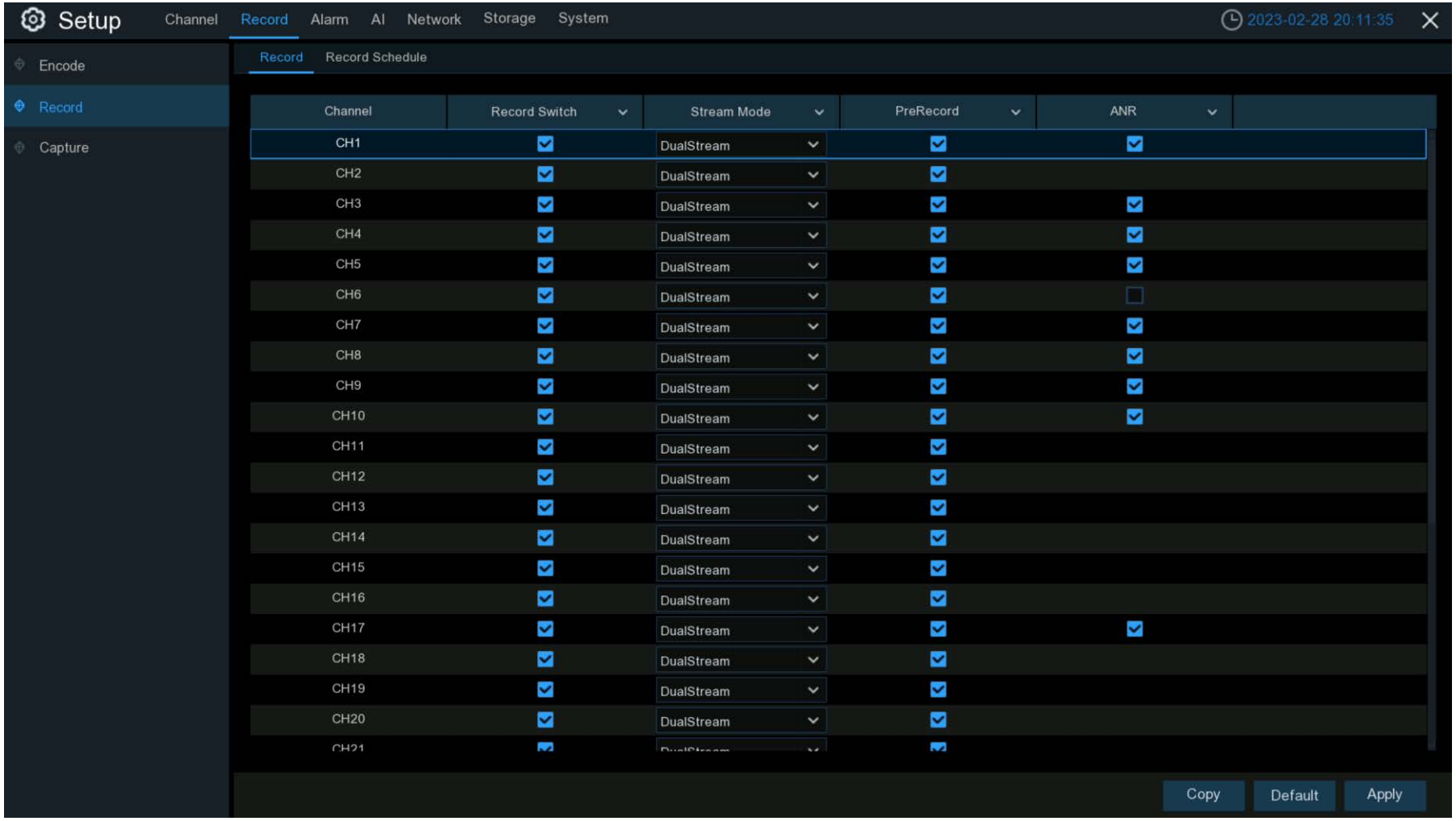
Output Volume: To choose the audio output volume

Input Volume: To choose the audio input volume

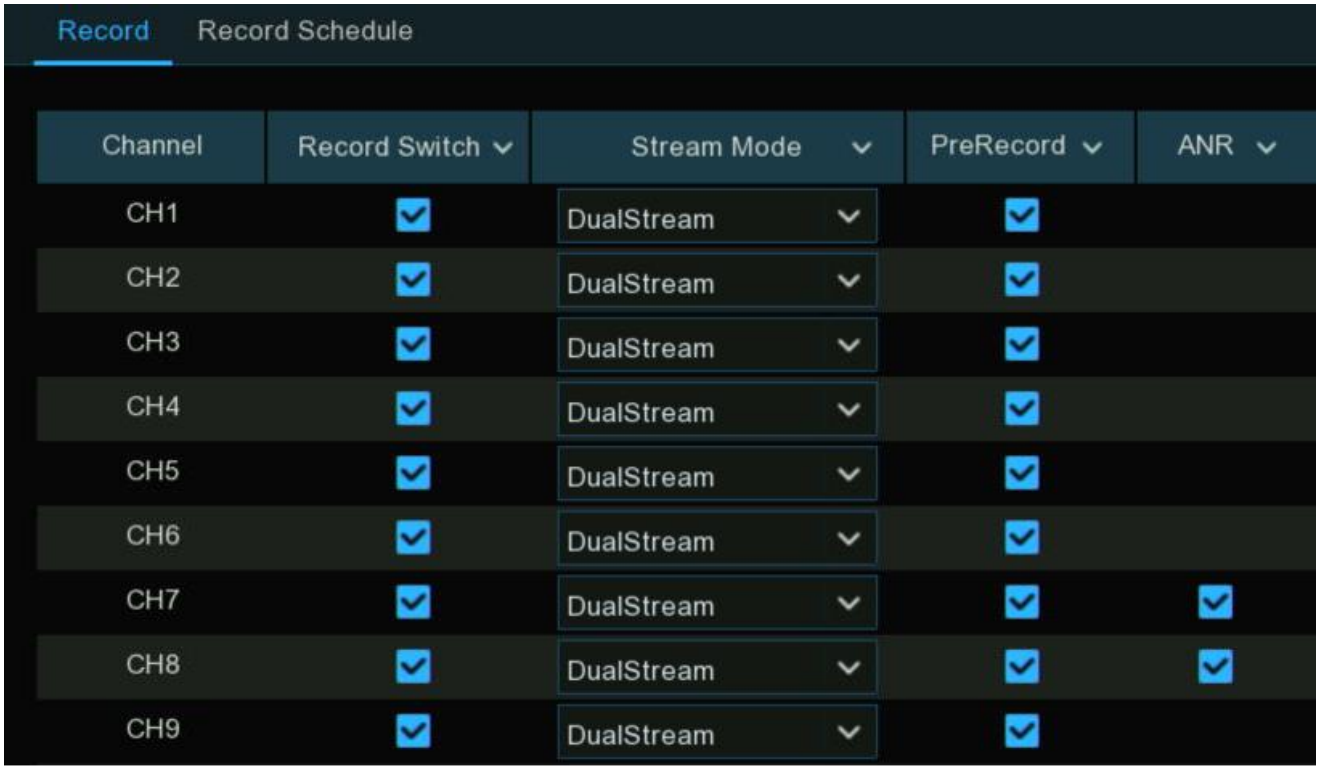
Type: To choose the audio encoding codec.

5.2.2. Record

Configure the recording parameters for each channel.



5.2.2.1. Recording Configuration



Record Switch: Check to enable the recording for this channel.

Stream Mode: By default, the NVR will record both Mainstream and Substream video (known as **Dual-stream**).

➔ **Mainstream** (high quality) is used for video playback when using your NVR console directly.

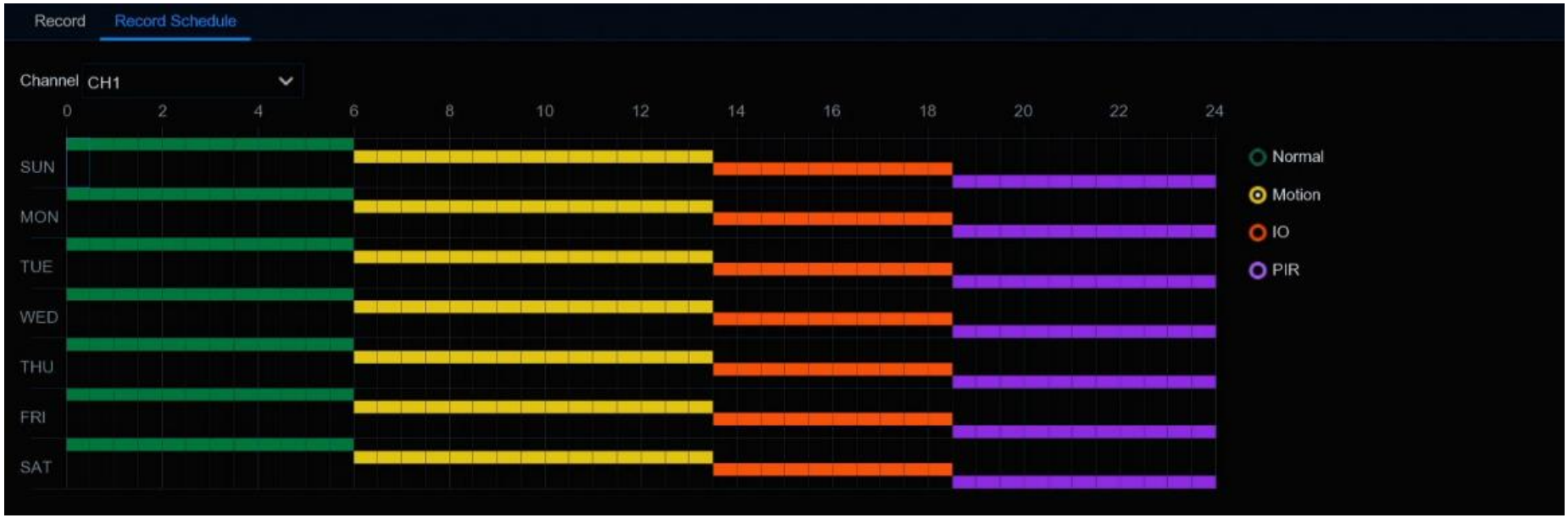
➔ **Substream** (reduced quality) is used for remote playback on your mobile device. If remote playback is not required, select Mainstream recording only to save storage space.

Prerecord: Allows the NVR to record for several seconds before an event occurs. It's recommended to leave this enabled.

ANR: Generally, videos are stored in the NVR when network connection is normal between the NVR and cameras. With ANR (Automatic Network Replenishment) function, the camera would start continuous recording and store videos in an SD card when the connection between NVR and camera is lost. Once the network is restored, the video recordings will be sent to the NVR's storage. It is recommended to enable ANR if your camera supports this function.

5.2.2.2. Recording Schedule

Specify when the NVR records video and defines the recording mode for each channel. The recording schedule allows setting daily and hour by hour schedules for normal (continuous) recording, motion recording, I/O alarm recording & PIR recording (if the camera supports). By default, the NVR is set to continuous recording 24hr/7days a week. The schedule can be customized. Each camera can have a different schedule if needed. The schedule is color coded to represent the event type.



1. Choose the **Channel** to set.
2. Click on the mode option button to choose one of the recording modes:
   - ➔ **Normal:** The NVR will constantly record for time period set. The time slot will be marked green for normal recording.
   - ➔ **Motion:** The NVR will only record when motion is detected. The time slot will be marked yellow for motion detection recording.
   - ➔ **IO:** The NVR will only record when external sensor is triggered. The time slot will be marked red for sensor triggered recording.
   - ➔ **PIR:** The NVR will only record when PIR detection occurs. Time slot will be marked purple for PIR detection recording.

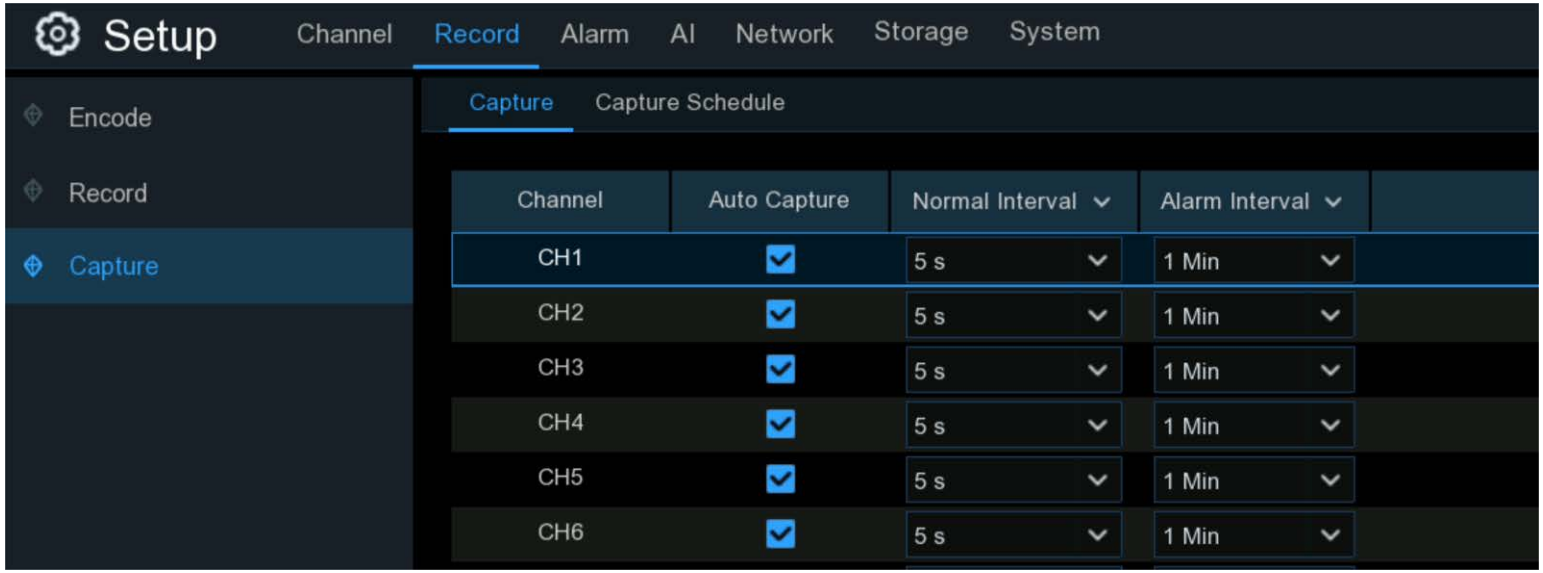
3. Drag the cursor to select the hours to schedule the recording for the desired time period.
4. The set recording schedule is valid only for one channel.
   ➔ To use the same recording schedule for other channels, use the **Copy** option.
5. If a time slot is black, there will be no recording during that time period.
6. Click **Apply** to save the settings.

5.2.3. Capture Images

Enable and set a schedule for the NVR to take a snapshot each time an event occurs. It helps to find alarm events quickly and can also be used for a timelapse photo record.

Note: The maximum resolution of a captured image is 1920x1080.

5.2.3.1. Capture Configuration



Auto Capture: When enabled, the NVR will take a snapshot each time an event occurs.

Normal Interval: The length of time that must elapse before a snapshot is taken. For example, when setting a "**Normal**" capture schedule, a snapshot is taken every 5 seconds using the default selection. This setting can be changed.

Alarm Interval: When setting an alarm (Motion, IO or PIR) capture schedule, a snapshot is taken each time an alarm is triggered, according to the interval selected.

5.2.3.2. Capture Schedule

Create a capture schedule so the NVR can take snapshots when an event has occurred or to take snapshots using a time interval (every 5 seconds, for example).

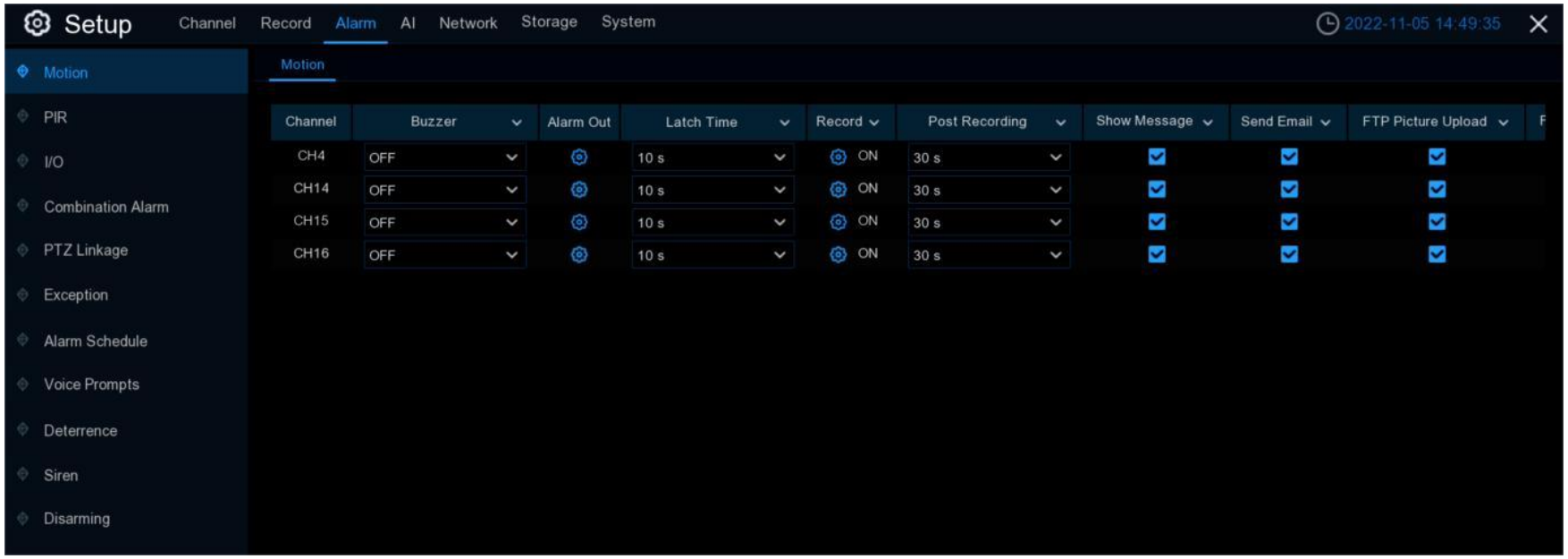
1. Choose a **Channel** to set.
2. Click on the mode button to choose one of the capture modes:
   - ➔ **Normal:** A snapshot is taken according to the normal interval setting selected (every 5 seconds, for example). Time slot will be marked green for normal capture.
   - ➔ **Motion:** A snapshot is taken during a motion alarm. The schedule will be marked yellow for motion detection capture.

   - ➔ **IO:** The NVR will only record when external sensor is triggered. The schedule will be marked red for IO recording.
   - ➔ **PIR:** The NVR will only record when PIR detection occurs. The schedule will be marked purple for PIR recording.
3. Click and Drag the cursor to select the hours for the snapshot/capture schedule.
4. The set capture schedule is valid only for one channel. To set the same schedule to other channels, use the **Copy** option.
5. If a time slot is black, there will be no snapshots/capture during that time period.
6. Click **Apply** to save the settings.

5.3. Alarm Settings

Configure the alarm actions when events occurs.

5.3.1. Motion Alarm



Buzzer: When motion is detected, it is possible to enable the NVR's buzzer to sound for a predetermined amount of time. Click the drop-down menu to select a time.

Alarm Out: If the NVR or IP camera supports connection to external relay output devices, the system can send an alert message to the external alarm devices.

➔ **Click** button, to choose the external alarm devices:

Local: External alarm devices connected to the NVR.

CH->1: External alarm devices connected to IP cameras.

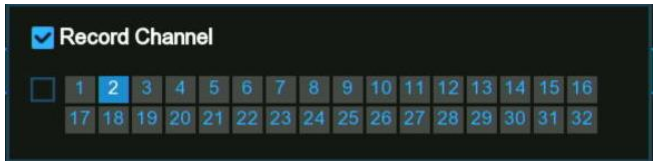
Latch Time: To configure the external alarm time when motion is triggered.

Record: This option allows selecting additional cameras to start recording when motion is detected by the camera.

➔ **Click** the drop-down arrow to select which cameras to record or not.

➔ **Click** icon, check the "Record Channel" box to enable recording.

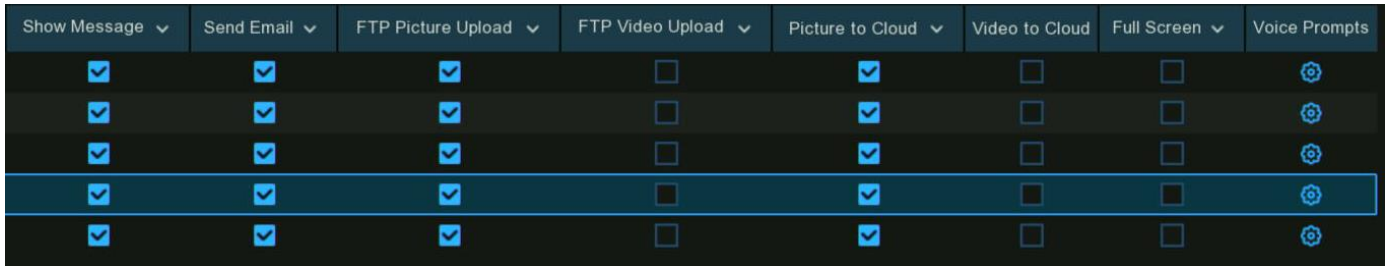
➔ Check the all box or check the box in front of the channel number to select which cameras you want to trigger to record.



Post Recording: This option instructs the NVR to record for a set length of time after a motion event has occurred. For most instances, the default selection is adequate.

Show Message: When motion is detected, the alarm icon will appear on screen.

Send Email: An email alert will be sent when an alarm event is detected. Un-check the box to disable this.



(Slide to the right to view more options)

FTP Picture Upload: Check the box to save snapshots to a ftp server when motion detection is triggered.

FTP Video Upload: Check the box to save videos to a ftp server when motion detection is triggered.

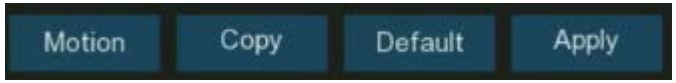
Picture to Cloud: Check the box to save snapshots to the cloud via Dropbox or Google Drive when motion detection is triggered.

Video to Cloud: Check the box to save videos to the cloud via Dropbox or Google Drive when motion detection is triggered.

Full Screen: Check the box to view the camera full-screen in Live View when motion detection is triggered.

Voice Prompts: If the NVR connects to a speaker, it is possible to select a customized voice alert when motion detection is triggered.

See how to add customized alert voice on 5.3.9 Voice Prompts.



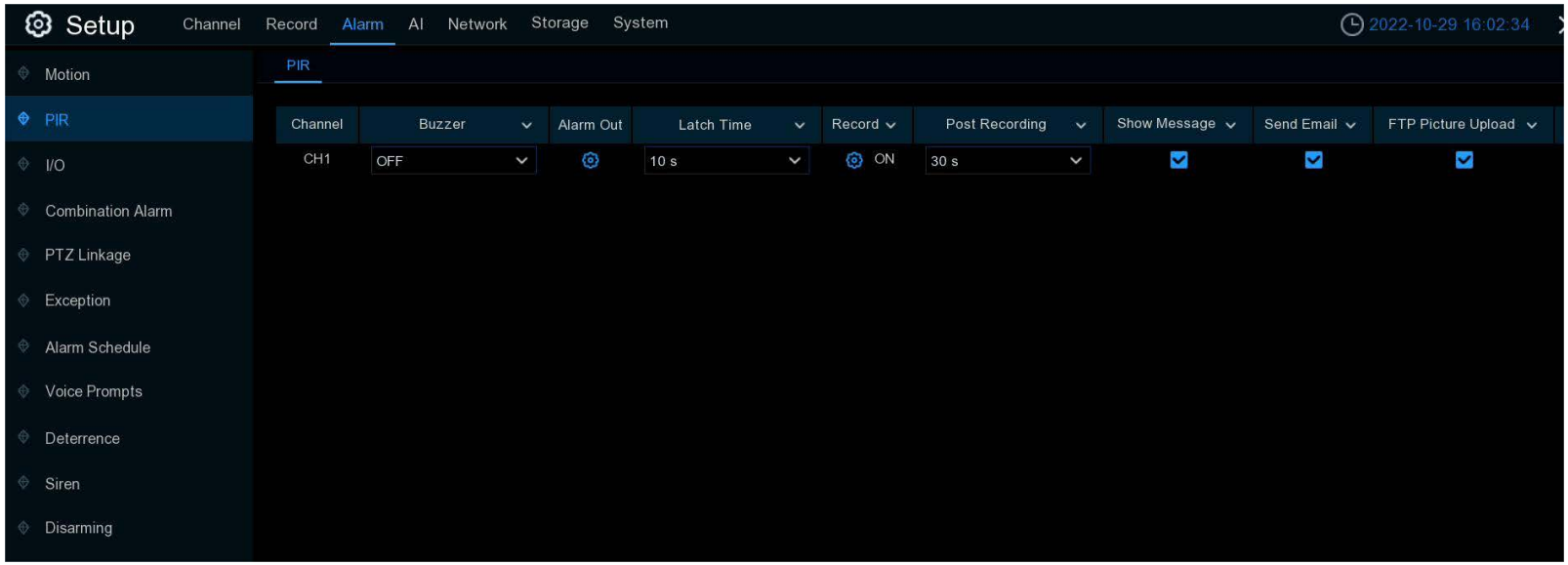
Motion: To configure the motion detection. See more on 5.1.6. Motion Detection.

Default: Click "**Default**" to revert to default settings.

Copy: Use the "**Copy**" option to apply all settings to the other connected cameras.

Apply: Click "**Apply**" to save settings.

5.3.2. PIR Alarm



Buzzer: When PIR is detected, it is possible to enable the NVR's buzzer to sound for a predetermined amount of time. Click the drop-down menu to select a time.

Alarm Out: If the NVR or IP camera supports connection to external relay output devices, the system can send an alert message to the external alarm devices.

➔ **Click** button, to choose the external alarm devices:

Local: External alarm devices connected to the NVR.

CH->1: External alarm devices connected to IP cameras.

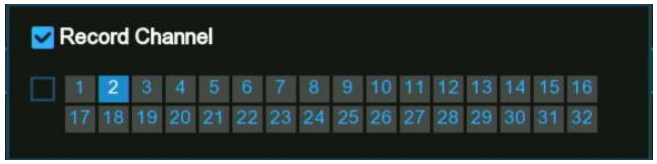
Latch Time: To configure the external alarm time when PIR detection is triggered.

Record: This option allows selecting additional cameras to start recording when PIR is detected by the camera.

➔ **Click** the drop-down arrow to select which cameras to record or not.

➔ **Click** icon, check the "Record Channel" box to enable recording.

➔ Check the all box or check the box in front of the channel number to select which cameras you want to trigger to record.



Post Recording: This option instructs the NVR to record for a set length of time after a PIR event has occurred. For most instances, the default selection is adequate.

Show Message: When motion is detected, the alarm icon will appear on screen.

Send Email: An email alert will be sent when an alarm event is detected. Un-check the box to disable this.

(Slide to the right to view more options)

FTP Picture Upload: Check the box to save snapshots to a ftp server when PIR detection is triggered.

FTP Video Upload: Check the box to save videos to a ftp server when PIR detection is triggered.

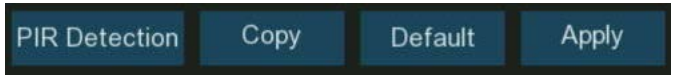
Picture to Cloud: Check the box to save snapshots to the cloud via Dropbox or Google Drive when PIR detection is triggered.

Video to Cloud: Check the box to save videos to the cloud via Dropbox or Google Drive when PIR detection is triggered.

Full Screen: Check the box to view the camera full-screen in Live View when PIR detection is triggered.

Voice Prompts: If the NVR connects to a speaker, it is possible to select a customized voice alert when PIR detection is triggered.

See how to add customized alert voice on 5.3.9 Voice Prompts.



PIR Detection: To configure the PIR detection. See more on 5.1.7. PIR.

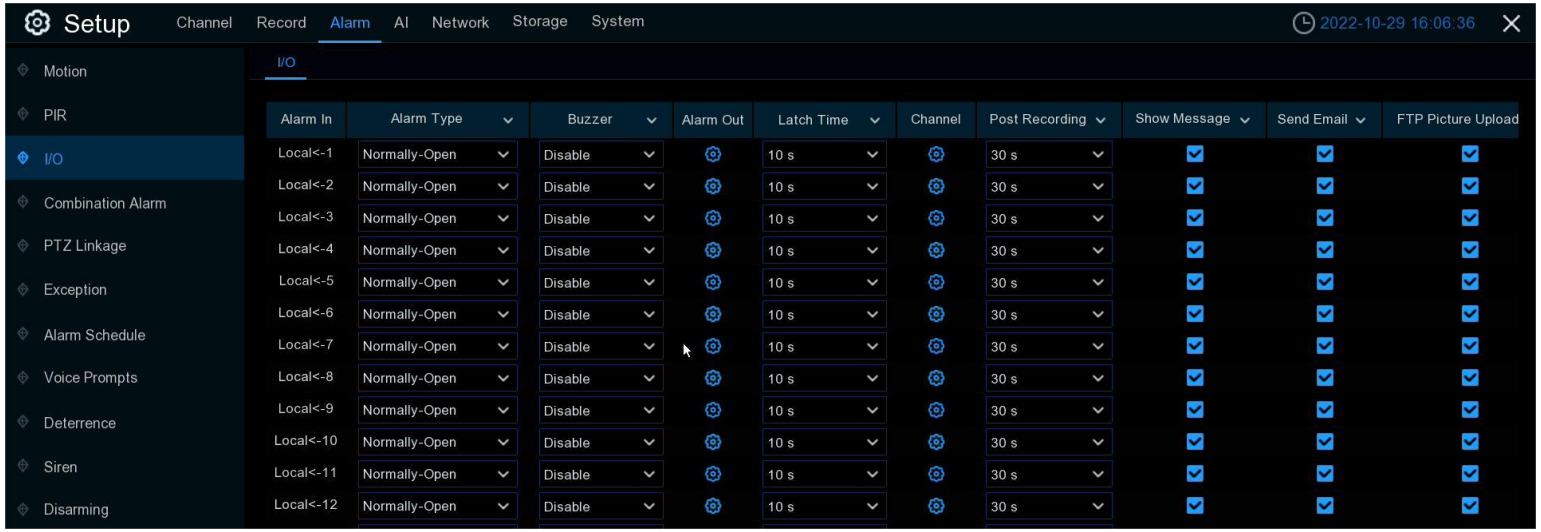
Default: Click "**Default**" to revert to default settings.

Copy: Use the "**Copy**" option to apply all settings to the other connected cameras.

Apply: Click "**Apply**" to save settings.

5.3.3. I/O Alarm

If the NVR or the connected camera has alarm input function, configure the settings to make the connected sensor work properly.



Alarm In: Alarm input channel

➔ **Local:** Alarm input devices connected to NVR

➔ **CH<- 1:** Alarm input devices connected to IP camera.

Alarm Type: There are 3 types: Normally Open, Normally Closed, and OFF.

➔ **Select** alarm type according to the type of sensor being used, or choose OFF to close the sensor trigger function.

Buzzer: When IO alarm is detected, it is possible to enable the NVR's buzzer to sound for a predetermined amount of time.

➔ **Click** the drop-down menu to select a time.

Alarm Out: If the NVR or IP camera supports connection to external relay output devices, the system can send an alert message to the external alarm devices.

➔ Click ⚙ button, to choose the external alarm devices:

Local: External alarm devices connected to the NVR.

CH->1: External alarm devices connected to IP cameras.

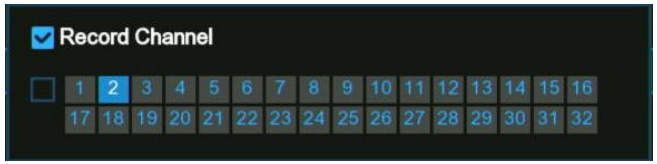
Latch Time: To configure the external alarm time when IO detection is triggered.

Record: This option allows selecting additional cameras to start recording when IO is detected by the camera.

➔ **Click** the drop-down arrow to select which cameras to record or not.

➔ **Click** ⚙ icon, check the "Record Channel" box to enable recording.

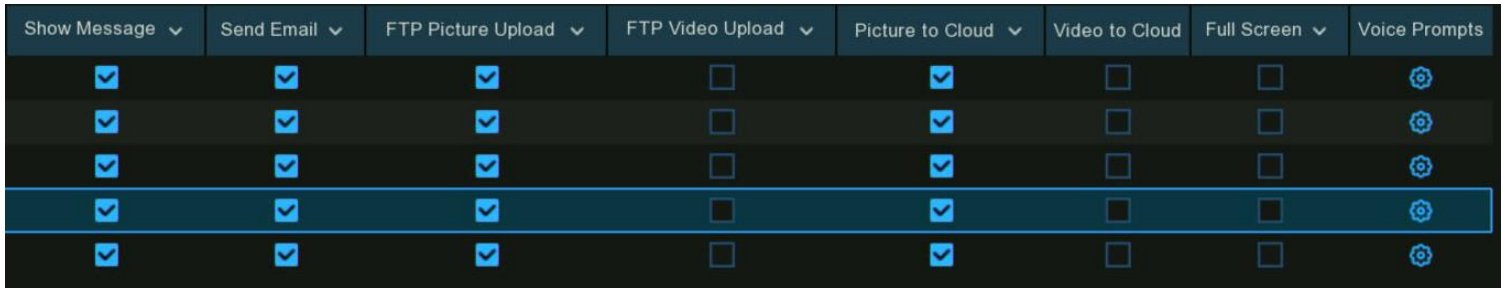
➔ Check the all box or check the box in front of the channel number to select which cameras you want to trigger to record.



Post Recording: This option instructs the NVR to record for a set length of time after a IO event has occurred. For most instances, the default selection is adequate.

Show Message: When motion is detected, the alarm icon will appear on screen.

Send Email: An email alert will be sent when an alarm event is detected. Un-check the box to disable this.



(Slide to the right to view more options)

FTP Picture Upload: Check the box to save snapshots to a ftp server when IO detection is triggered.

FTP Video Upload: Check the box to save videos to a ftp server when IO detection is triggered.

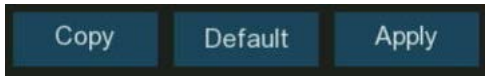
Picture to Cloud: Check the box to save snapshots to the cloud via Dropbox or Google Drive when IO detection is triggered.

Video to Cloud: Check the box to save videos to the cloud via Dropbox or Google Drive when IO detection is triggered.

Full Screen: Check the box to view the camera full-screen in Live View when IO detection is triggered.

Voice Prompts: If the NVR connects to a speaker, it is possible select a customized voice alert when IO detection is triggered.

See how to add customized alert voice on 5.3.9 Voice Prompts.



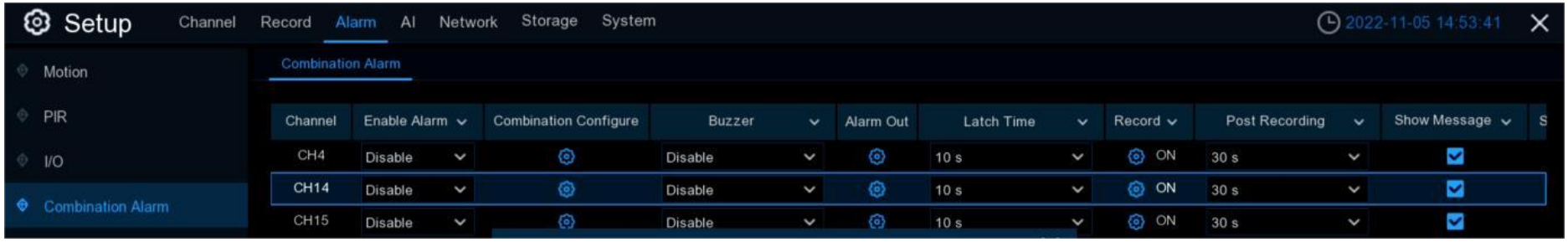
Default: Click "**Default**" to revert to default settings.

Copy: Use the "**Copy**" function to apply all settings to the other connected cameras.

Apply: Click "**Apply**" to save settings.

5.3.4. Combined Alarm

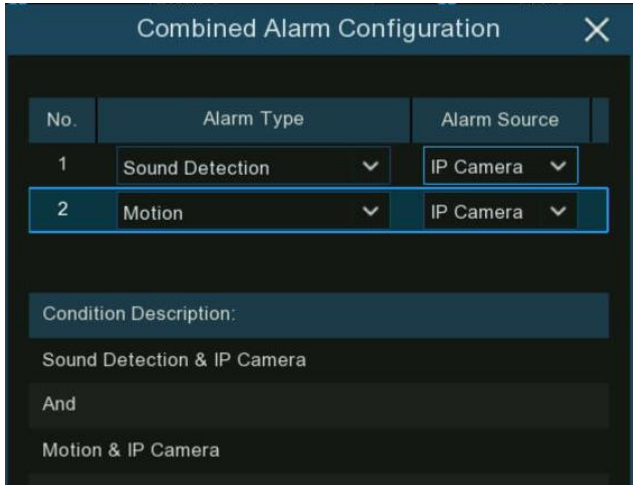
Combined Alarm function allows to setup a combination of 2 alarm types. The NVR will only alert when both alarm types are triggered at the same time. This would help to minimize the false alarm rate.



Enable Alarm: To enable or disable combined alarm.

➔ **Click** the ⚙ button on a channel to choose the alarm combination.\

Choose 2 kinds of alarm types from NVR and/or IP camera.



Note: If the combined alarm is enabled in a channel, all of the individual alarm functions you had set in that channel will be disabled. The individual alarm functions will be restored if the combined alarm function is disabled.

Buzzer: When a combined alarm is detected, it is possible to enable the NVR's buzzer to sound for a predetermined amount of time.

➔ Click the drop-down menu to select a time.

Alarm Out: If the NVR or IP camera supports connection to external relay output devices, the system can send an alert message to the external alarm devices.

➔ Click ⚙ button, to choose the external alarm devices:

Local: External alarm devices connected to the NVR.

CHx->1: External alarm devices connected to IP cameras.

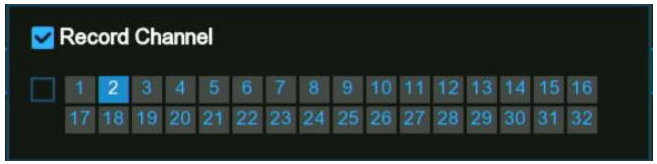
Latch Time: To configure the external alarm time when the combined alarm detection is triggered.

Record: This option allows selecting additional cameras to start recording when the combined alarm is detected by the camera.

➔ **Click** the drop-down arrow ⌄ to select which cameras to record or not.

➔ **Click** ⚙ icon, check the "Record Channel" box to enable recording.

➔ Check the all box or check the box in front of the channel number to select which cameras you want to trigger to record.



Post Recording: This option instructs the NVR to record for a set length of time after a combined alarm event has occurred. For most instances, the default selection is adequate.

Show Message: When motion is detected, the alarm icon will appear on screen.

Send Email: An email alert will be sent when an alarm event is detected. Un-check the box to disable this.

(Slide to the right to view more options)

FTP Picture Upload: Check the box to save snapshots to a ftp server when combined alarm detection is triggered.

FTP Video Upload: Check the box to save videos to a ftp server when combined alarm detection is triggered.

Picture to Cloud: Check the box to save snapshots to the cloud via Dropbox or Google Drive when combined alarm detection is triggered.

Video to Cloud: Check the box to save videos to the cloud via Dropbox or Google Drive when combined alarm detection is triggered.

Full Screen: Check the box to view the camera full-screen in Live View when combined alarm detection is triggered.

Voice Prompts: If the NVR connects to a speaker, it is possble to select a customized voice alert when combined alarm detection is triggered.

See how to add customized alert voice on 5.3.9 Voice Prompts.

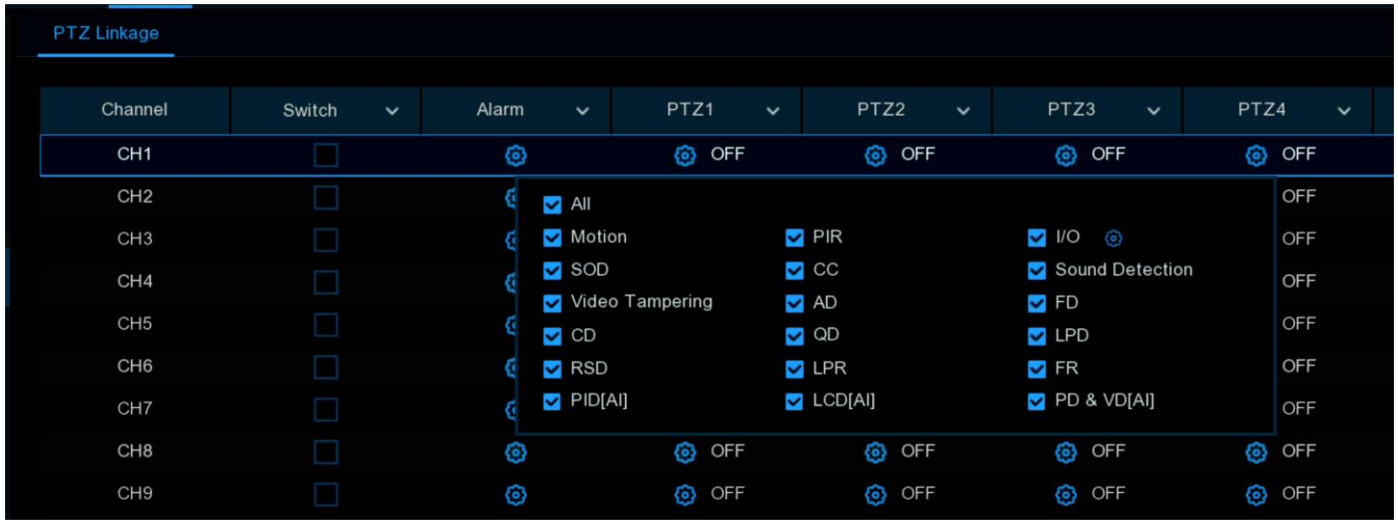
Default: Click "**Default**" to revert to default settings.

Copy: Use the "**Copy**" function to apply all settings to the other connected cameras.

Apply: Click "**Apply**" to save settings.

5.3.5. PTZ Linkage

If there are one or more PTZ cameras connected to the NVR, it is possible to set the actions of PTZ cameras when motion event, I/O sensor alarm and/or PIR alarm occurs, to move your PTZ cameras field of view to a selected preset position.

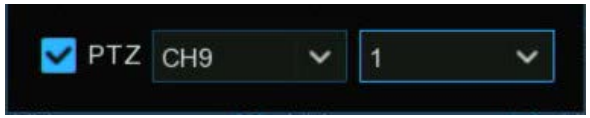


Switch: Check the box to enable the PTZ linkage function.

Alarm: Click ⚙ button to choose the alarm source to enable the PTZ linkage function when the selected alarm occurs.

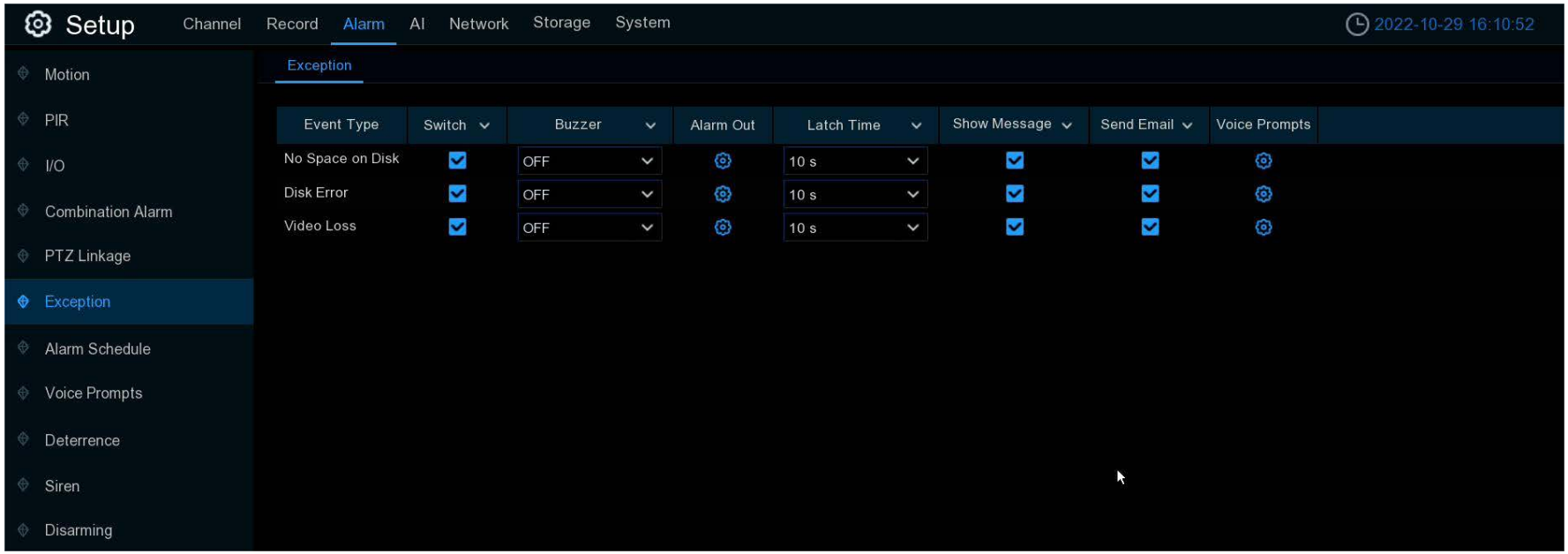
PTZ: For each channel, there are maximum 4 PTZ preset positions available to set for the PTZ linkage function.

- ➔ Click ⚙ on PTZ 1~4, select the check point to enable.
- ➔ Select the channel of connected PTZ camera and choose a preset point.



5.3.6. Exception Alarm

Set up system alerts for abnormal events in the NVR.



Event Type: There are three event types that your NVR will detect as an exception:

➔ **No Space on Disk:** no space left on the hard drive.

➔ **Disk Error:** a hard drive error.

➔ **Video Loss:** one or more channels have lost the connection.

Buzzer: When one of these alarms are detected, it is possible to enable the NVR's buzzer to sound for a predetermined amount of time.

➔ Click the drop-down menu to select a time.

Alarm Out: If the NVR or IP camera supports connection to external relay output devices, the system can send an alert message to the external alarm devices.

➔ Click button, to choose the external alarm devices:

Local: External alarm devices connected to the NVR.

CHx->1: External alarm devices connected to IP cameras.

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

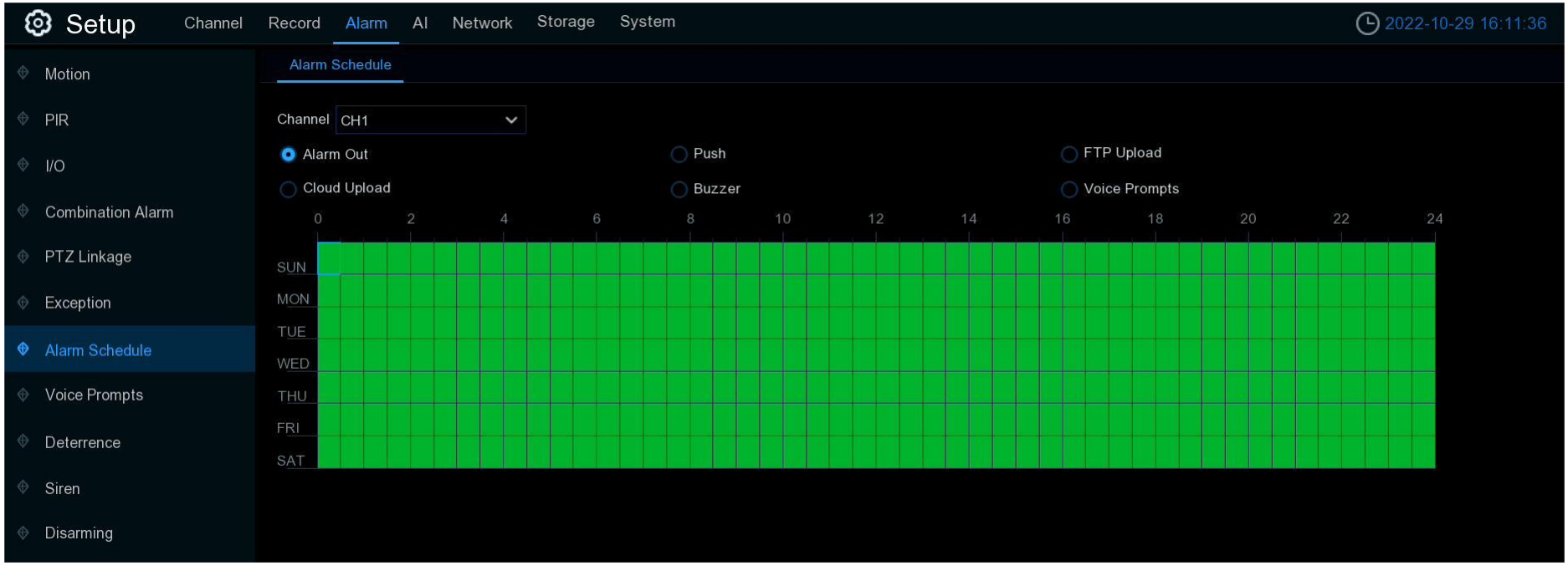
Show Message: Check the box to display a message on the screen when a No Space on Disk, Disk Error, or Video Loss event happens.

Send Email: Check the box to enable the NVR to send an email alert when an exception is triggered.

Voice Prompts: If the NVR connects to a speaker, it is possible to set a customized voice alert when an exception is triggered. See how to add customized alert voice on 5.3.9 Voice Prompts.

5.3.7. Alarm Schedule

Set the schedule individually for Alarm out, Push Notification, FTP Upload, Cloud Upload, Buzzer and Voice Prompts.



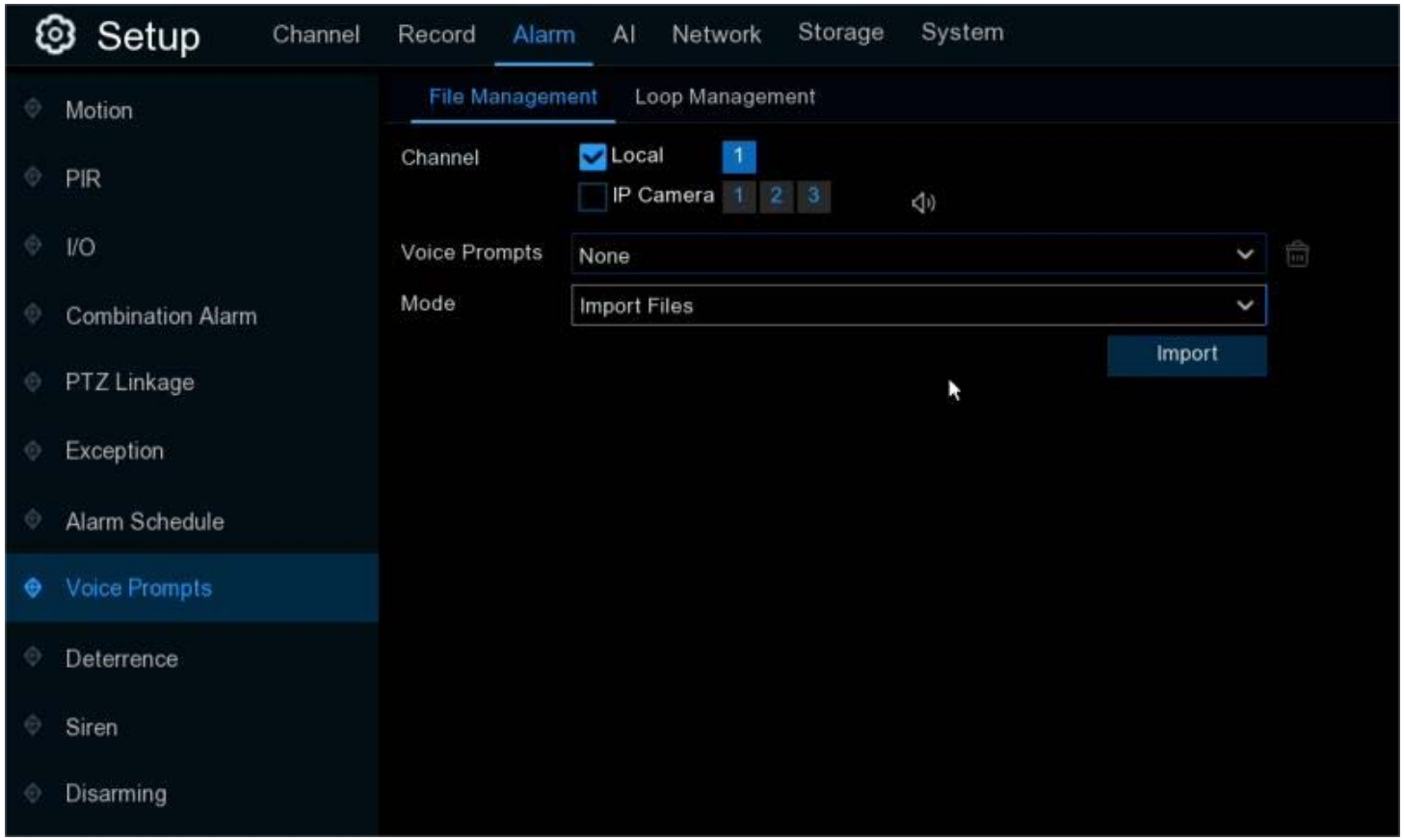
1. **Channel:** Select the channel to set the schedule.
2. Click on the radio button of the type of event to set a schedule for.
3. Click and Drag the cursor to select the time frame. The green portions of the schedule will be active for alarm notifications.
4. The schedule is valid only for the selected channel.

➔ To use the same schedule for other channels, use **Copy** function.

5. Click **Save** to save the settings.

5.3.8 Voice Prompts

If the NVR or IP camera supports the voice prompt function and has a built-in or external speaker, it is possible to set a customized voice alert when an alarm event occurs.



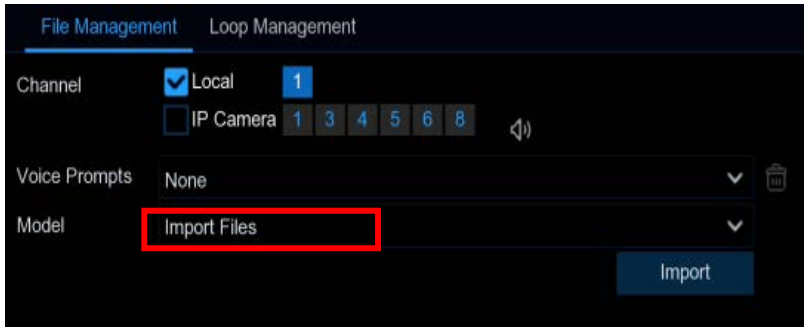
5.3.8.1. Voice File Management

You can create and delete voice files in this section.

5.3.8.1.1. Creating Voice Files

The system provides 3 different methods to create customized voice alerts: Import Files, Local Conversion and Internet Server Conversion:

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

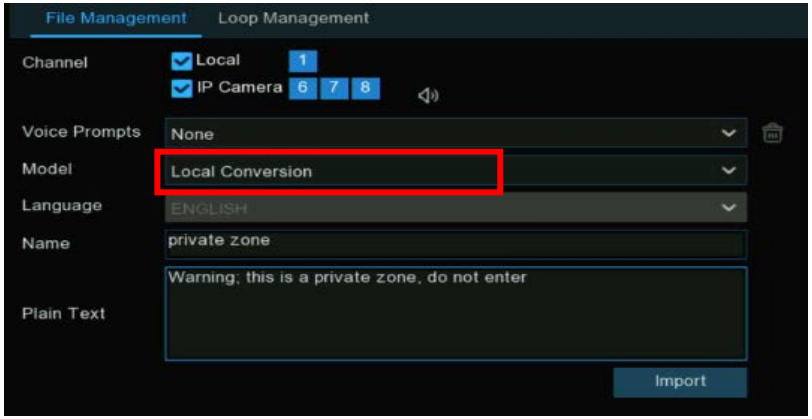


➔ Choose **Import Files** mode.

➔ Click **Import**, and choose the audio file from a USB flash drive.

Only 1 file can be added at a time. You can add multiple files at a time in the web page.

Local Conversion: The system supports to convert plain texts into an audio file by local algorithm.



➔ Choose **Local Conversion** model.

➔ Input the name of the file and type the message to be played for voice alerts.

➔ Click **Import.**

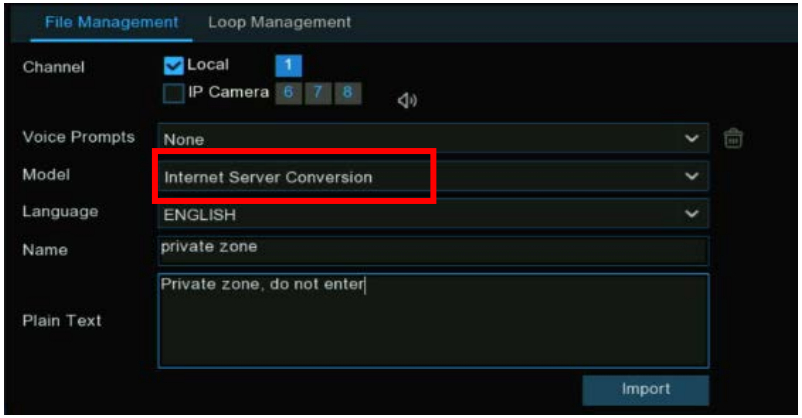
The system will convert the text input, into a voice file and save to the NVR storage.

Internet Server Conversion: The system supports converting plain texts into a multi-language audio file by internet server.

➔ Choose **Local Conversion** model and language to be spoken.

➔ Input the name of the file and type the message to be played for voice alerts.

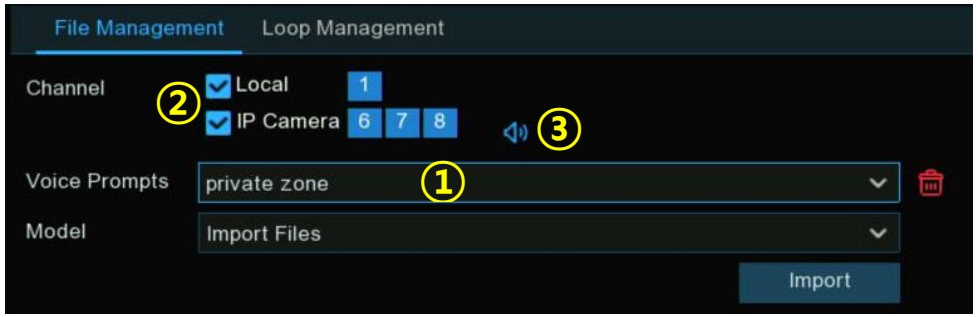
➔ Click **Import**, the system will convert the text input, into a voice file and save to the NVR storage.



It is recommended to configure these settings from the web interface for multi-language input.

5.3.8.1.2. Preview Voice

After creating the voice files, it is possible to preview them with the NVR and/or IP camera's speaker.



1. **Voice Prompts:** Select a voice file.
2. Choose the voice playing device.

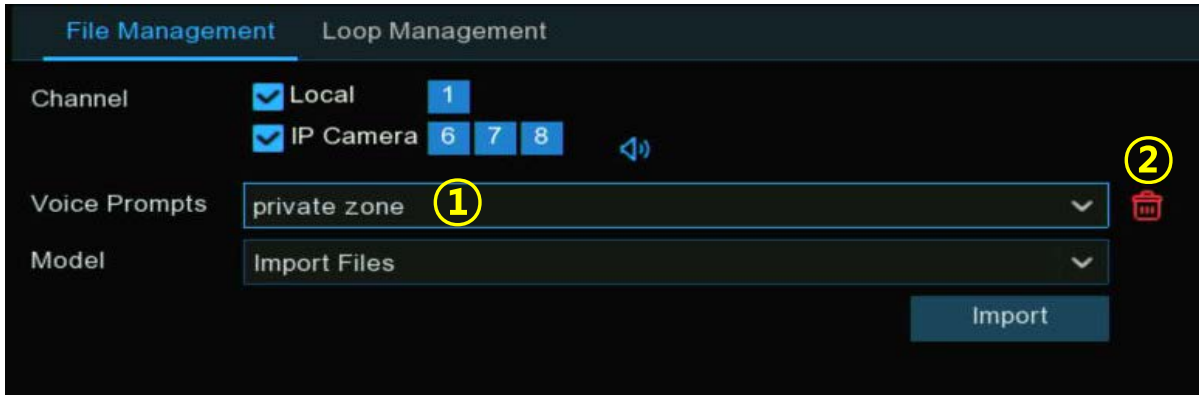
➔ **Local** indicates the NVR audio output device.

➔ **IP Camera** indicates the speaker or audio output device in the IP camera.

3. Click the play button to play a preview of the voice alert.

5.3.8.1.3. Delete Voice Files

To delete the voice file(s), follow the steps below:



1. **Voice Prompts:** Select a voice file.
2. Click the delete button to delete the file.
3. Repeat step 1 and 2 to delete additional files.

5.3.8.2. Loop Management

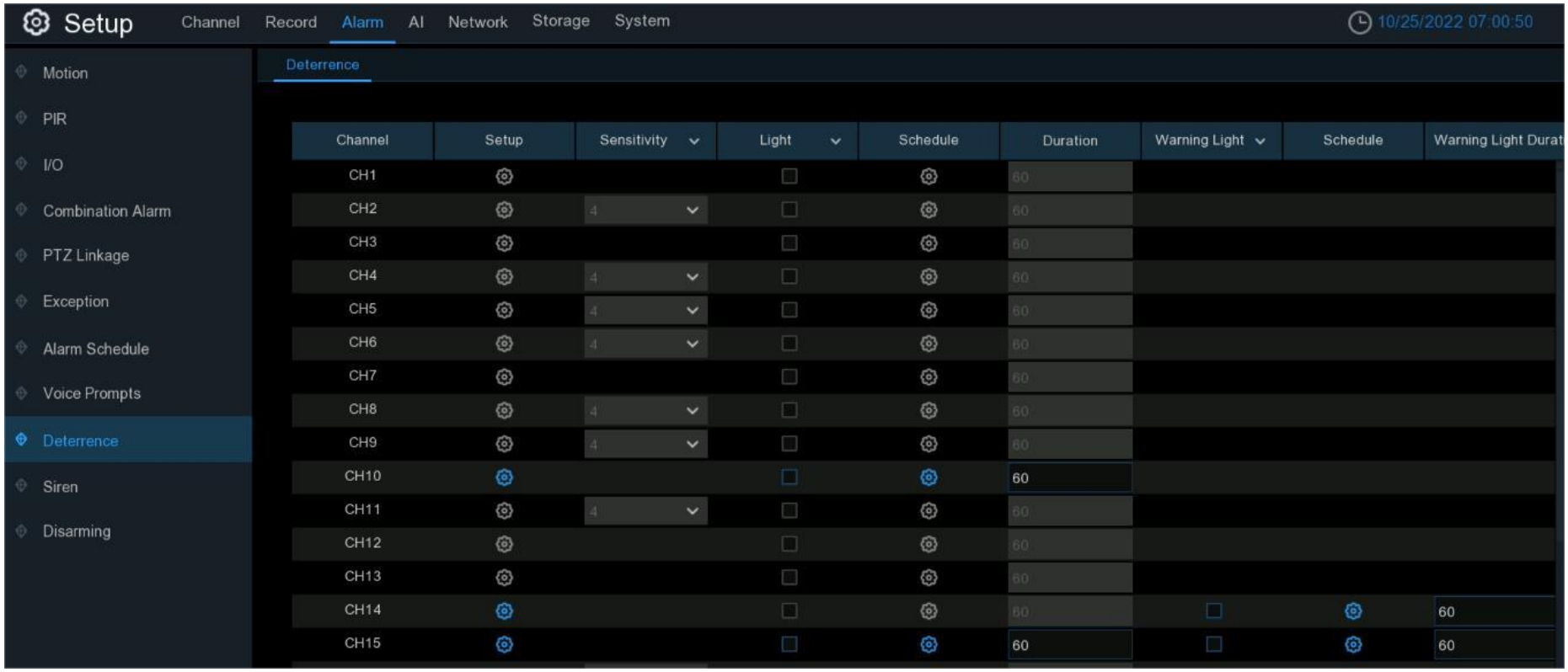
The system can play a continuous loop of the voice alerts during a scheduled time period.

1. Select the play device.
2. **Voice Prompts:** Choose a voice file.
3. Set the time period.
4. Click play button to start the audition.
5. Click add button to add another loop playlist. Maximum of 12 playlists.
6. If you want delete the loop playlist, click the delete button .
7. Click **Apply** to save your settings.

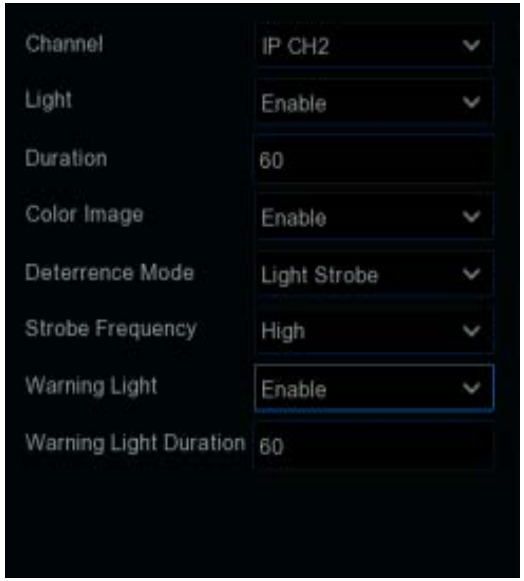
Note: The period of time in each playlist cannot overlap with others.

5.3.9 Deterrence

Configure the action of built-in white lights ("spotlights") and speaker of deterrence cameras when an alarm event is triggered. Cameras that support these features are required.



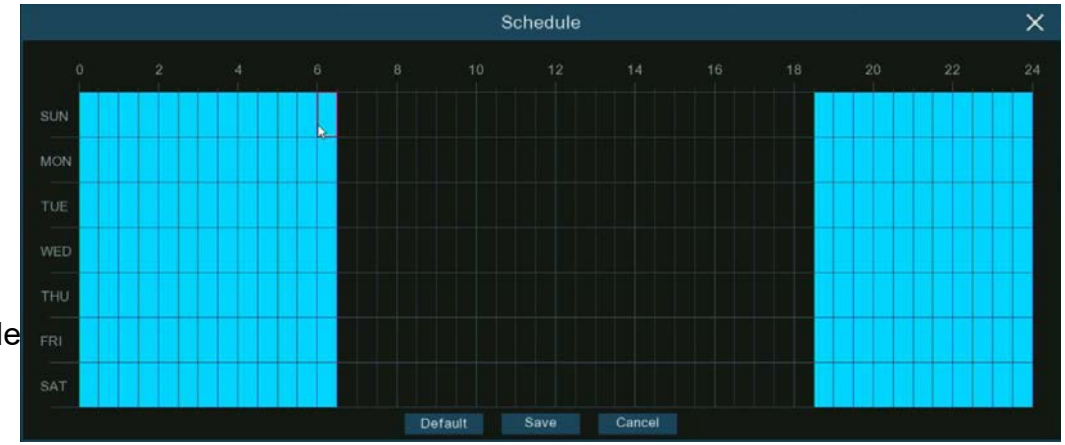
Setup: Click button to open the configuration page.



- **Light:** Click the drop-down menu to enable the camera's white light.
- **Light Brightness:** Adjust the flood light value. (Not all cameras support this setting) The greater the value, the brighter the light will be.
- **Duration:** Change the length of time the white light will remain lit when an alarm is triggered.
- **Color Image**: If enabled, the night vision images will be in color. If disabled, the night version images will remain black & white.
- **Deterrence Mode**: Click the drop-down menu to select a solid light (**Warning Light**) or a flashing light (**Strobe Light**). When picking **Strobe Light**, you can select a low, medium or high **Strobe Frequency** setting.
  - **Warning Light:** Click the drop-down menu to enable the camera's warning light.
  - **Warning Light Duration:** Change the length of time the warning light will remain lit when an alarm is triggered.

Schedule: Click button to configure the deterrence schedule:

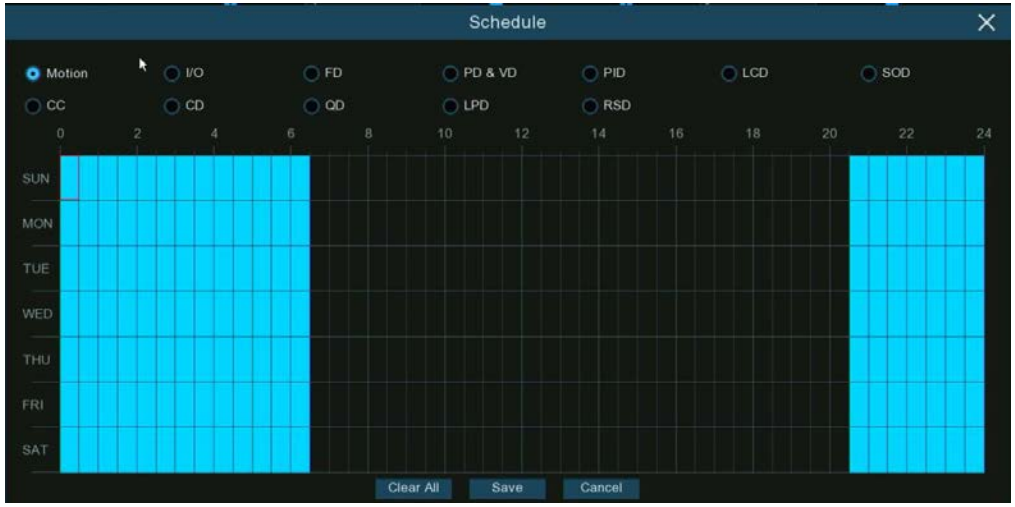
- When the camera is connected to the NVR with client port, the schedule interface might be displayed as shown.
- By default, the white lights will not trigger between and 04:30 p.m. and 06:30 a.m., however that can be changed.
- Each square represents 30 minutes. Using the mouse, click on a particular square to change or click and drag the mouse over the squares related to the time period to schedule. Squares in blue are active for deterrence.



➔ Click "**Save**" to save changes made.

➔ Right-click the mouse to exit.

When the camera is connected to the NVR with web port, the schedule interface might be displayed as shown below:



All supported alarm types are listed.

It is possible to configure the schedule for each individual alarm type.

➔ Check the box of the alarm type to set.

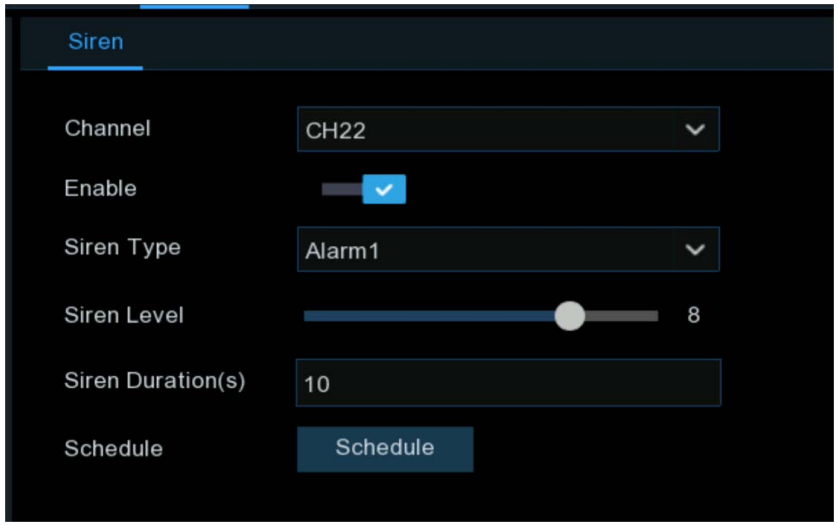
➔ Set the schedule accordingly.

➔ Click "**Save**" to save changes made.

➔ Right-click the mouse to exit.

5.3.10. Siren

Set the siren-related parameters of cameras directly connected to the NVR that have a built-in speaker.



Channel: Select the built in poe port channel.

Enable: Enable/disable the siren function.

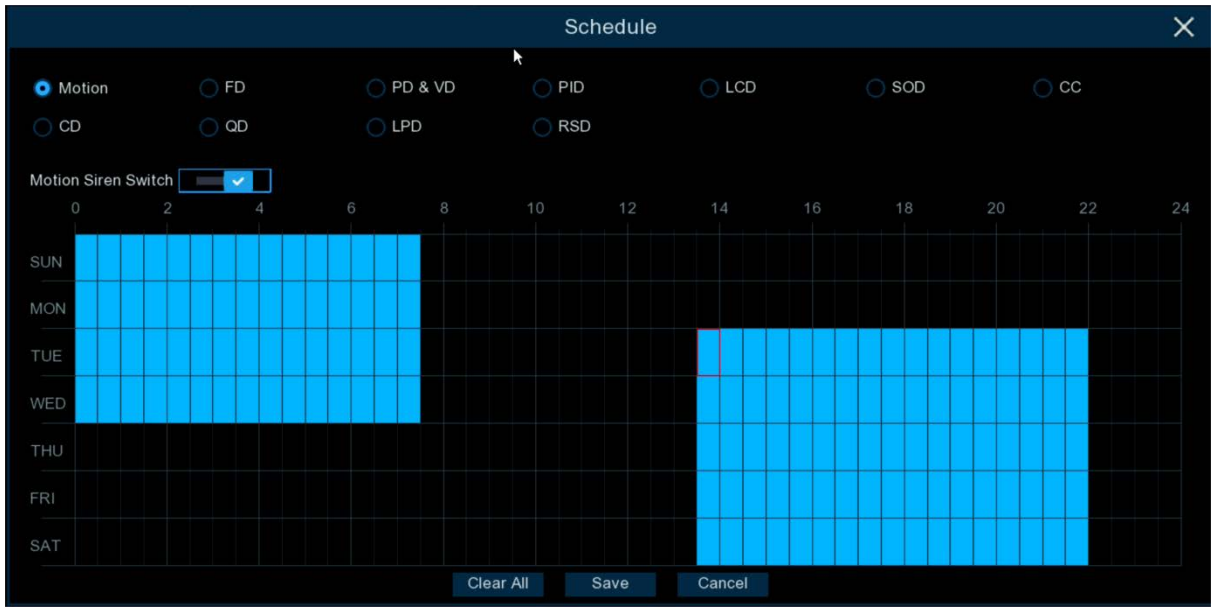
Siren Type: Select the siren audio file. By default two audio files are provided. Up to three customized audio files (PCM format or WAV format) can be imported. The audio sample rate of the imported file cannot exceed 8000 Hz, file size cannot exceed 256 KB. After selecting a customized audio file to be imported, a **Delete** button appears on the right of the file, click the **Delete** button to delete the audio file. (Only for cameras that support these functions)

File Name: If **User-defined** for **Siren Type** is selected, enter the file name and click the **Import** button on the right to import the customized audio file from a USB flash drive.

Siren Level: Set the siren volume level, which ranges from 1 to 10. The higher the level is, the louder the volume is.

Siren Duration(s): Set the siren duration. You can adjust the siren sounding time between 5 to 180 seconds.

Schedule: If the IP camera is connected to the NVR via the HTTP port, click **Schedule** to open the setting page.



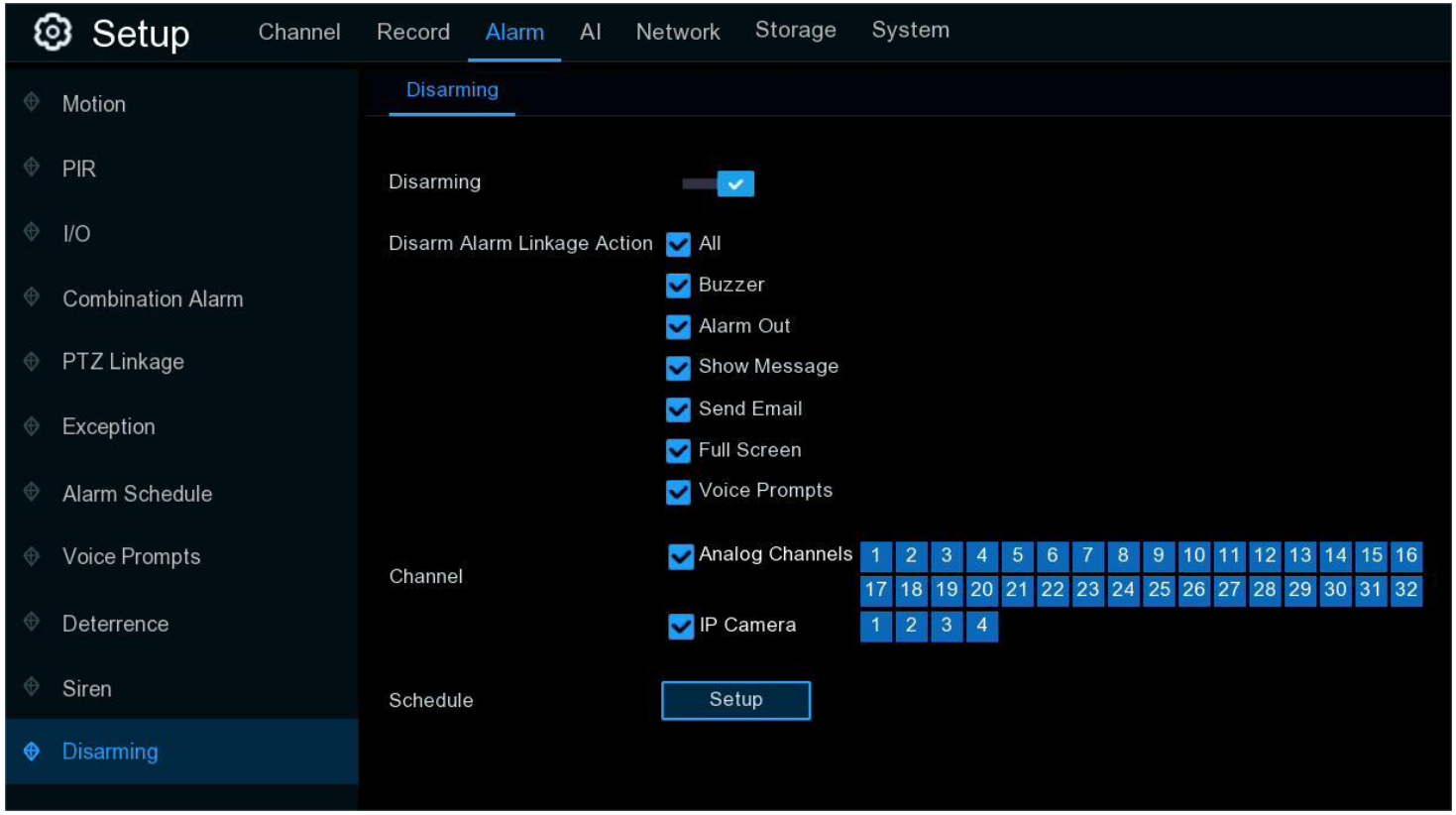
If a channel is selected in the schedule, it indicates that the channel can trigger siren alarms during the corresponding period.

Set the siren linkage alarm and effective time of a function by selecting the corresponding function sub-tab and switch.

Clear All: Click to clear the selected status on all sub-tabs.

5.3.11.Disarming

After the one-click disarming function is enabled, it is possible to cancel the response of the device to various alarms. On this page set the relevant parameters including the disarming switch, channel, type, and schedule. Note: The Exception system alarms are not controlled by one-click disarming.



Disarming: Enable/disable the one-click disarming function.

Disarm Alarm Linkage Action: Set the alarm linkage types to be disarmed.

All: Select to clear all the types.

Buzzer: Enable/disable the buzzer. When the one-click disarming function is enabled, select this option to disable the buzzer.

Alarm Out: Enable/disable external alarm output. When the one-click disarming function is enabled, select this option to disable the external alarm device when an alarm is triggered.

Show Message: Enable/disable the display messages function. When the one-click disarming function is enabled, select this option to not display the alarm messages when motion is detected on the preview page.

Send Email: Enable/disable email notifications. When the one-click disarming function is enabled, select this option to disable email notifications when an alarm is triggered.

Full Screen: Enable/disable the display in full screen function. When the one-click disarming function is enabled, select this option to stop the channel from displaying full-screen when the channel triggers an alarm.

Voice Prompts: Enable/disable voice prompts. When the one-click disarming function is enabled, select this option to disable voice prompts when a channel configured with voice prompts triggers an alarm.

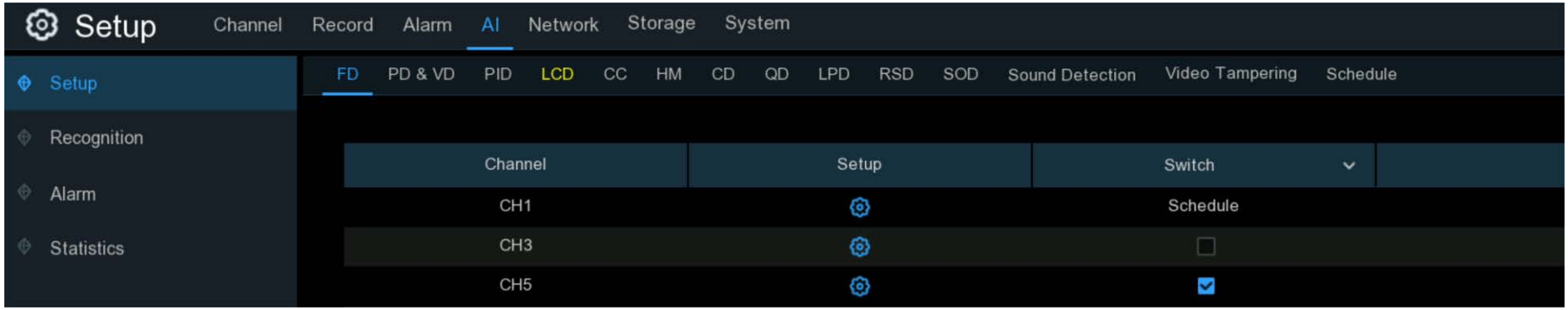
Channel: Select the channels to be disarmed.

Schedule: Click **Setup** to open the schedule settings page.

If a channel is selected in the schedule, it indicates that the channel has disarming enabled within the corresponding period.

5.4. AI

Artificial Intelligence (AI) is a set of advanced functions for the system to detect a variety of alarm events based on face detection, human detection and vehicle detection technology with AI powered IP cameras. This section will be available if the NVR has AI capabilities. Both the NVR and cameras must support these functions.



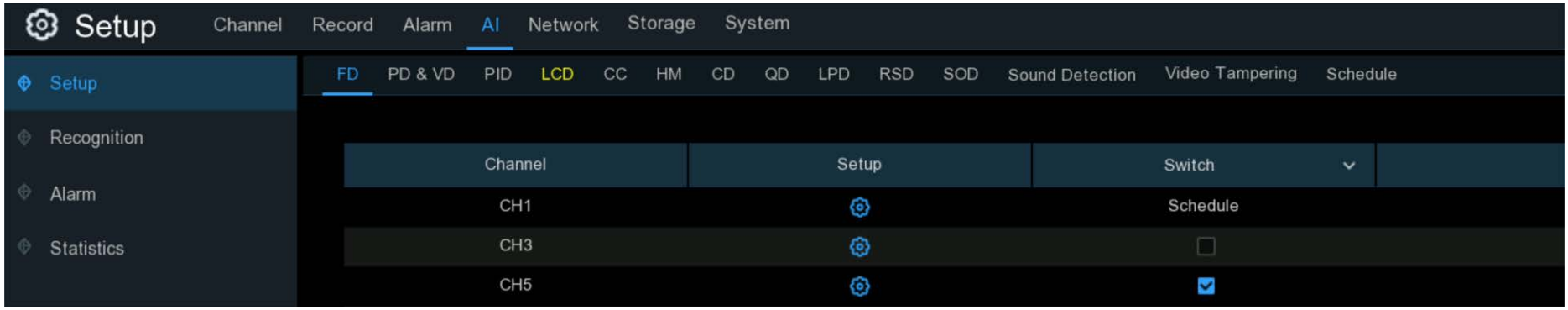
5.4.1. AI Setup

In this section, activate and configure the AI functions as needed.

Note: The detection functions, including Face Detection, Human & Vehicle Detection, Perimeter Intrusion Detection, Line Crossing Detection, Cross Counting, Crowd Density Detection, Queue Length Detection and License Plate Detection, may be mutually exclusive due to system limitations. When the Switch checkbox is grey and will not allow you to select it, another AI feature is already enabled in the camera. Most often multiple AI functions can not be enabled in the same camera at the same time.

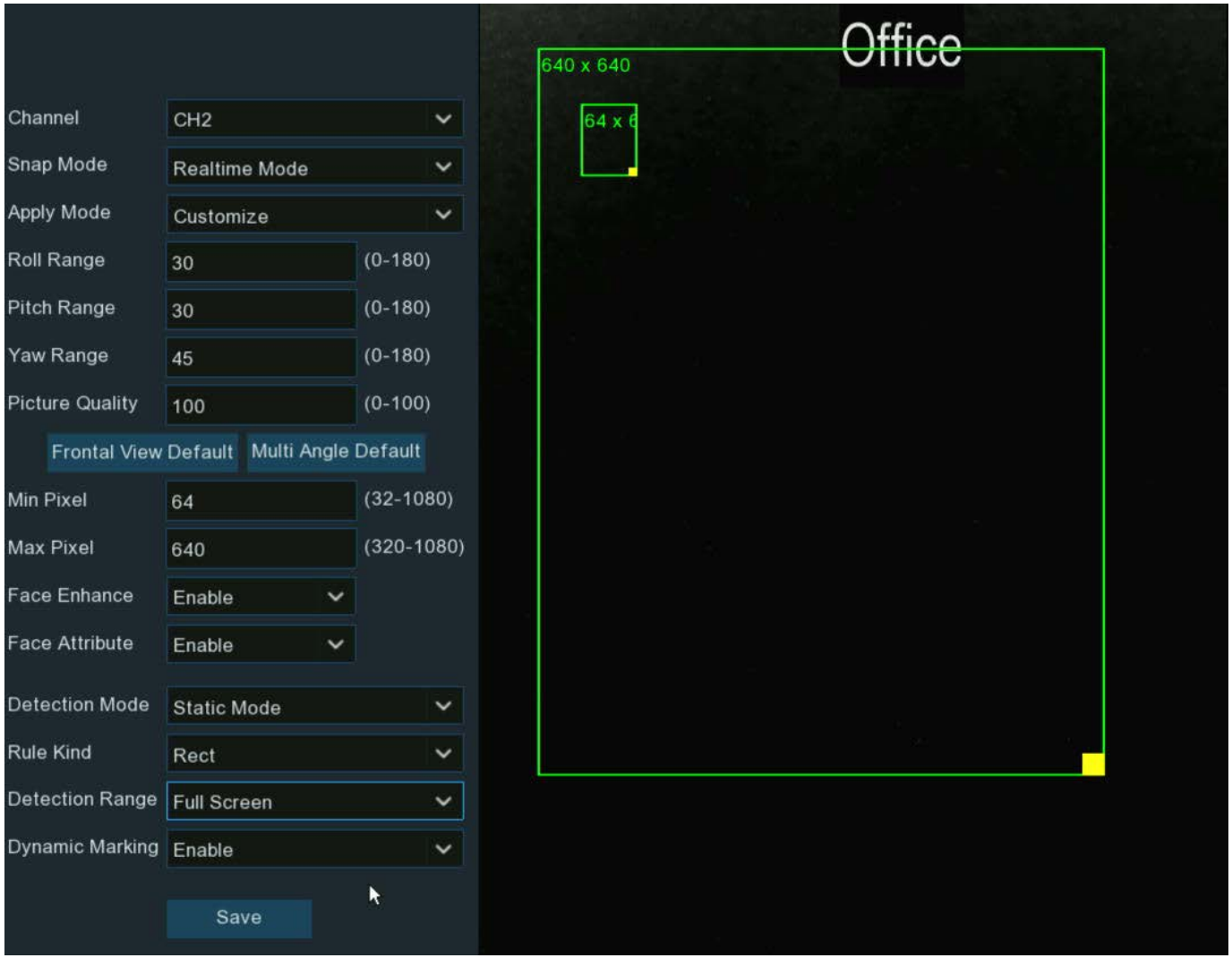
5.4.1.1. FD (Face Detection)

Enabling this function is a great way to monitor different areas. When human faces are detected, the NVR will activate recording, and it will also send an alert. This makes it ideal for restricted places where there shouldn't be people roaming around at particular times.



Switch: Check the box to enable the face detection.

Setup: Click setup to open the settings page:



Channel: Choose the channel you want to set.

Snap Mode: Set how snapshots containing a recognized face will be captured. This can affect the number of facial recognition notifications that you will receive:

- ➔ **Real time Mode:** The camera tracks and captures the face of someone entering and leaving the facial detection area. There will be two notifications in the Alarm Notification Panel - one when the face is first detected and again as the face leaves the facial detection area. This is useful to continuously monitor someone's presence in an area and get alerts in real-time.
- ➔ **Optimal Mode:** A single, „best" snapshot of the face is captured.
- ➔ **Interval Mode:** Specify the number of snapshots to take and the time interval between snapshots.
  - **Snap Num:** The number of snapshots to take.
  - **Snap Frequency:** The time interval between snapshots.

Apply Mode: There are three options available:

- ➔ **Frontal View:** The facial recognition is optimized to scan for faces approaching the camera straight-on.
- ➔ **Multi Angle:** The facial recognition engine is optimized to scan for faces approaching the camera from different angles.
- ➔ **Customize:** The facial recognition engine is optimized to scan for faces approaching the camera from customized angles.
  - **Roll Range:** Set the range of face rotation.
  - **Pitch Range:** Set the range of face pitch.
  - **Yaw Range:** Set the range of face horizontal flipping.
  - **Picture Quality:** Set the picture quality.
  - **Frontal View Default:** Load default values for front view.
  - **Multi Angle Default:** Load default values for multi angle view.

Min Pixel: The minimum face size in pixels. The smaller the number of pixels, the more faces the camera can recognize. If the camera is recognizing too many unwanted distant faces, try increasing the minimum pixel value to train the camera to look for larger faces that are typically at a closer distance.

Max Pixel: The maximum face size in pixels. For the camera to detect faces within close proximity to each other, try increasing the maximum pixel value, otherwise leave the default value.

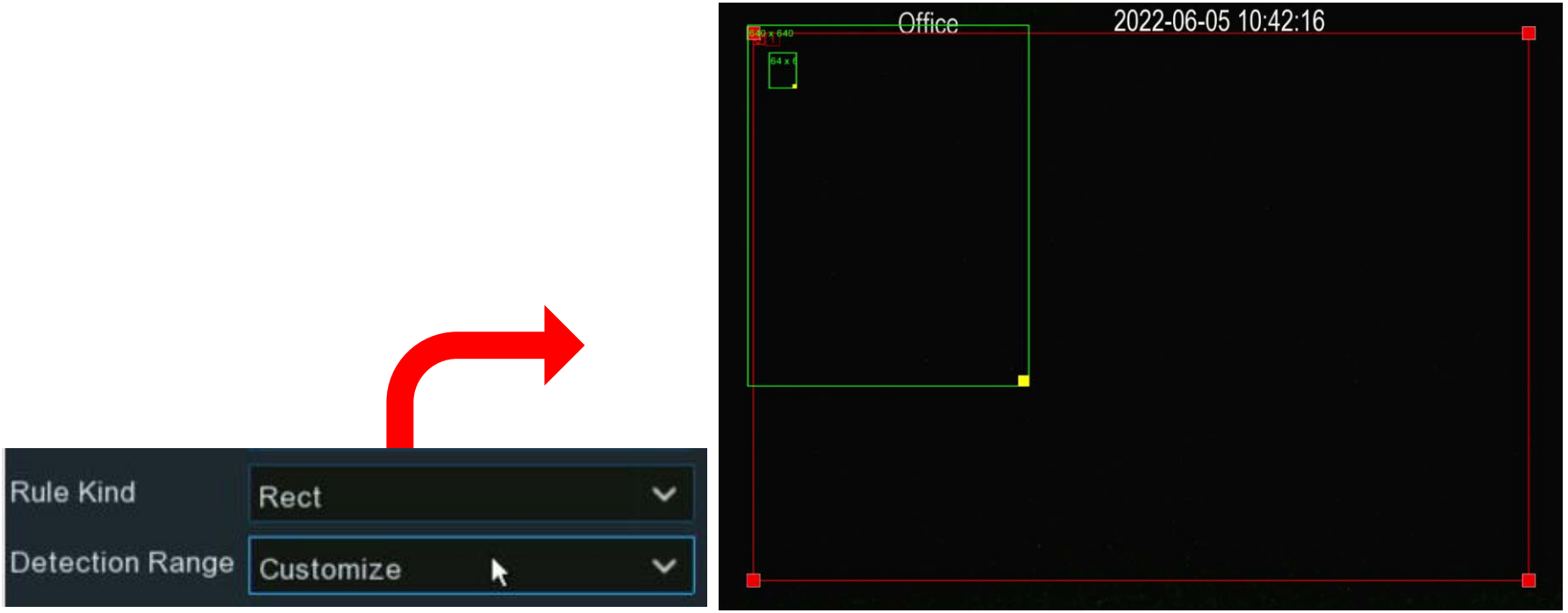
Face Enhance: Face enhancement makes it easier to recognize moving faces, but it may lower the whole picture quality.

Face Attribute: Enable this function to detect gender, age, mask, glasses and facial expression.

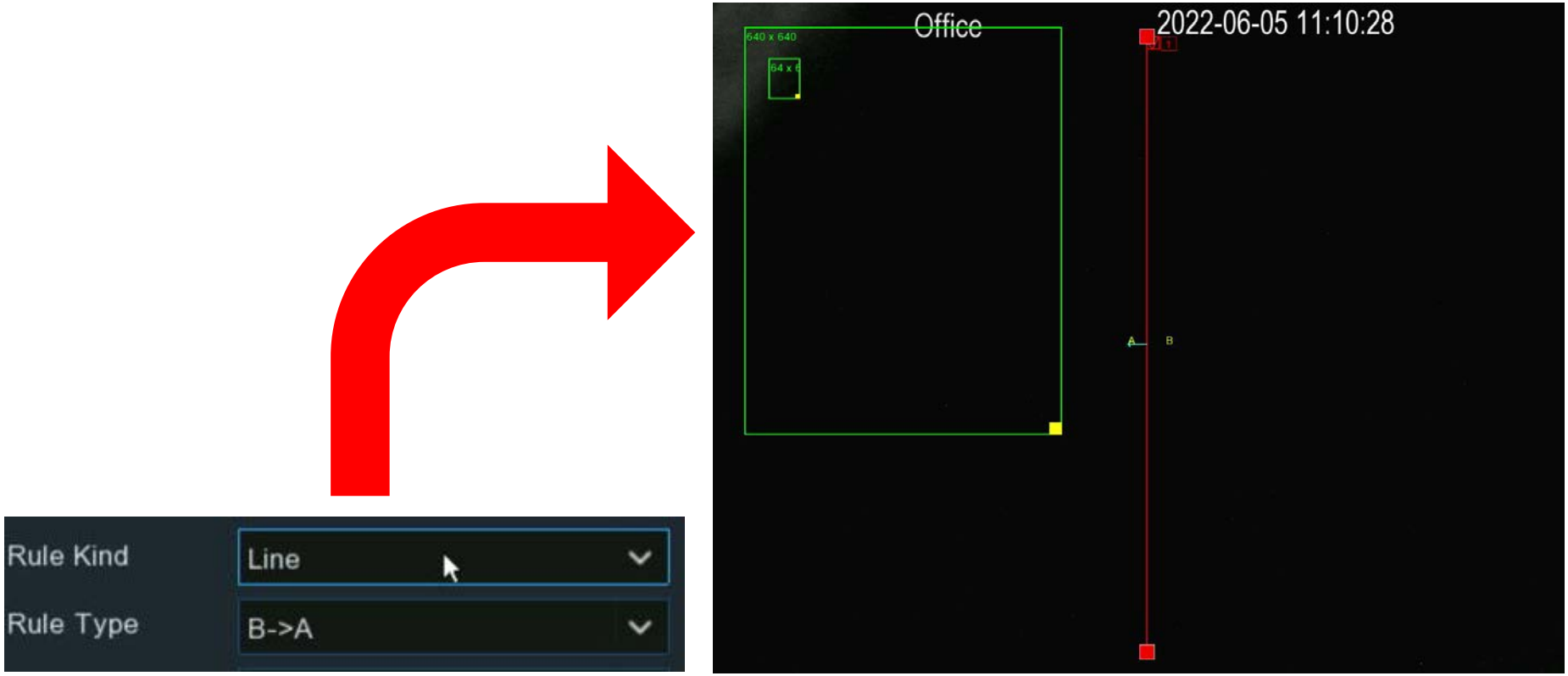
Detection Mode: In Static Mode, all objects in the camera's field of view will be analyzed. In Motion Mode, only moving objects will be analyzed.

Rule Kind: Rect (rectangular) and **Line** (linear)

➔ **Rect** mode:If "**Full Screen**" is choosen, the entire view of the camera is enabled for face detection, or choose "**Customize**" to adjust the size of rectangular to focus the detection in a certain area.



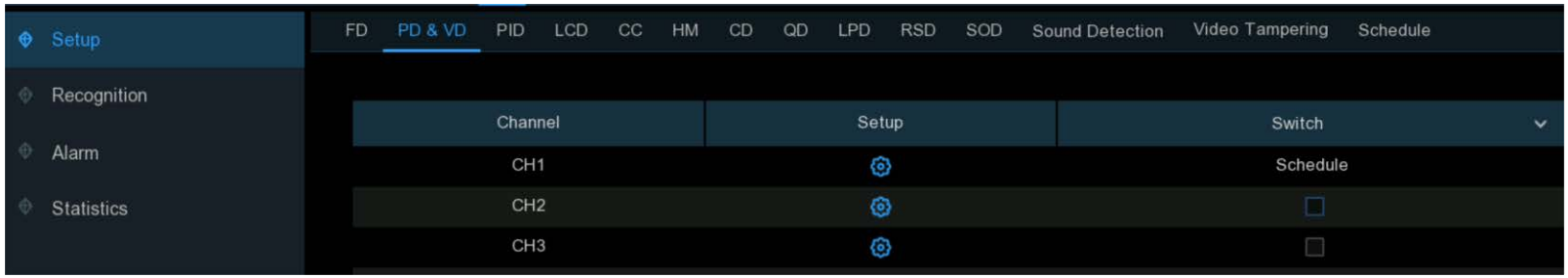
➔ If **Line** mode is choosen, adjust the position, length of the line, and choose the detection direction from B→ A or A→B.



Dynamic Marking: If Disable is selected, the green tracking frame that surrounds a detected face will not be visible during Live View mode and playback.

5.4.1.2. PD & VD (Human & Vehicle Detection)

When human beings and/or vehicles are detected, the NVR will activate recording, and it will also send an alert.



Switch: Check the box to enable the human & vehicle detection.

Setup: Click setup to open the settings page.

Channel: Choose the channel to set.

Snap Mode: Set how snapshots containing a recognized object will be captured. This can affect the number of notifications that you will receive:

- ➔ **Default:** A single, „best" snapshot of the detected human/vehicle is captured.
- ➔ **Real-time Mode:** The camera tracks and captures the people/vehicles entering and leaving the detection area. There will be two notifications in the Alarm Notification Panel - one when the human/vehicle is first detected and again as the human/vehicle leaves the detection area. This is useful to continuously monitor the people/vehicles in an area and get alerts in real-time.
- ➔ **Interval Mode:** Specify the number of snapshots to take and the time interval between snapshots.
  1. **Snap Num:** The number of snapshots to take.
  2. **Snap Frequency:** The time interval between snapshots.

Min Pixel: The minimum object size in pixels. The smaller the number of pixels, the more objects the camera can recognize. If the camera is recognizing too many unwanted distant objects, try increasing the minimum pixel value to have the camera look for larger objects that are typically at a closer distance.

Max Pixel: The maximum object size in pixels. If you would like the camera to detect objects within proximity to each other, try increasing the maximum pixel value, otherwise leave the default value.

Sensitivity: Adjust the sensitivity level of the detection area. The higher the number, the more sensitive it will be when detecting objects.

Detection Type: Choose the one or more of the detection types.

Detection Mode: In Static Mode, all objects in the camera's field of view will be analyzed. In Motion Mode, only moving objects will be analyzed.

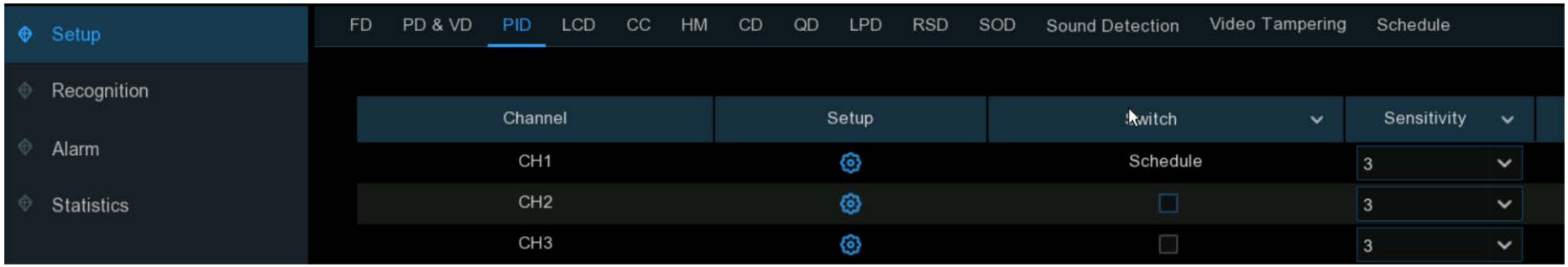
Detection Area: Choose "**Full Screen**", to have the entire view of the camera enabled for human and/or vehicle detection. Or choose "**Customize**" to adjust the size of rectangular to focus the detection in a certain area.

Dynamic Marking: If Disable is selected, the green tracking frame that surrounds a detected object will not be visible during Live View mode and playback.

PTZ Auto Tracking: If a PTZ camera (the camera must support this function) is connected, this function might be available. Enable to activate the PTZ auto tracking function. View more on 5.1.4.1.2.1 Controlling PTZ.

5.4.1.3. PID (Perimeter Intrusion Detection)

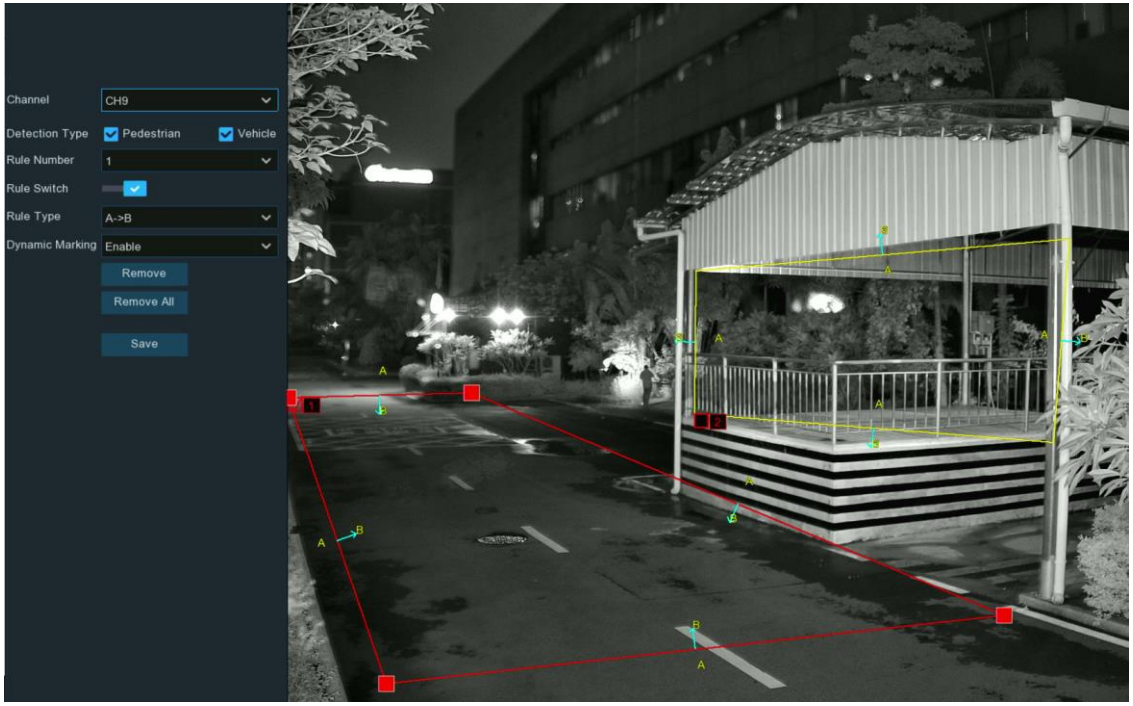
Perimeter Intrusion Detection detects people, vehicles or other objects which enter and loiter in a defined virtual region. The NVR will record and send notifications when a PID alarm is triggered.



Switch: Enable/disable the Perimeter Intrusion Detection.

Sensitivity: Adjust the sensitivity level of the PID detection. The higher the number, the more sensitive the PID detection will be.

Setup: Click ⚙ to open the settings page.



1. **Channel:** Select the channel.
2. **Detection Type:** Select the detection targeted object/s.
3. **Rule Number:** Select the number of PID areas. Maximum of 4 areas.
4. **Rule Switch:** Enable/disable PID
5. **Rule Type**: Select one of the following:
   - ➔ A→B: Only detects activity crossing from side A to side B.

- ➔ B→A: Only detects activity crossing from side B to side A.
- ➔ A←→B: Will detect activity from either side B to side A or side A to side B.

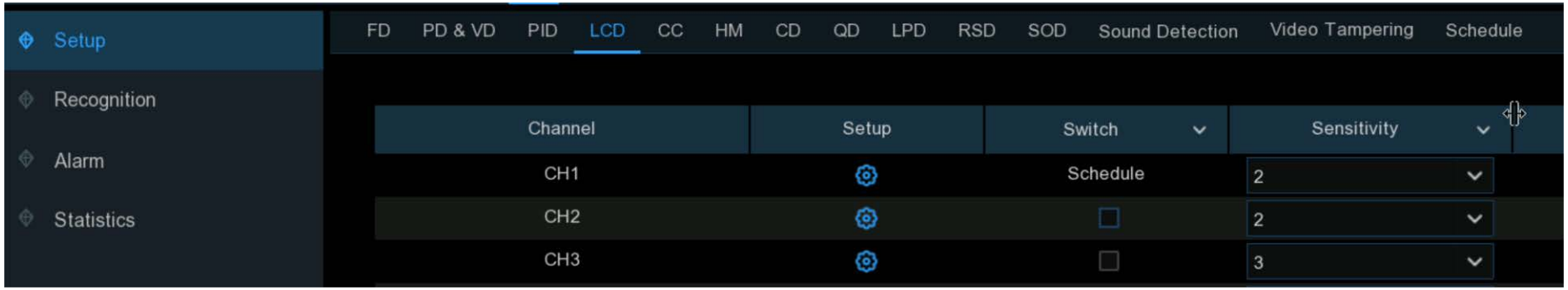
6. Use the mouse to click 4 points in the camera image to draw a virtual region.

   The shape of the region must be a convex polygon. Concave polygons will not save.

7. Click **Save** to save your settings.
8. To modify the position or shape of the region, click the red box in the region, the borders of the region will change to red. Long press the left mouse button to move the position of the region, or drag the corners to resize the region.
9. To remove a region from the camera image, click the red box in the region and click **Remove**. **Remove All** will delete all regions.
10. **Dynamic Marking:** Enable/disable the green tracking frame that surrounds a detected object to be visible/invisible during live view and playback.

5.4.1.4. LCD (Line Crossing Detection)

Line Crossing Detection detects people, vehicle or other objects that cross a defined virtual line. The NVR will record and send notifications when a LCD alarm is triggered.



Switch: Enable/disable Line Crossing Detection.

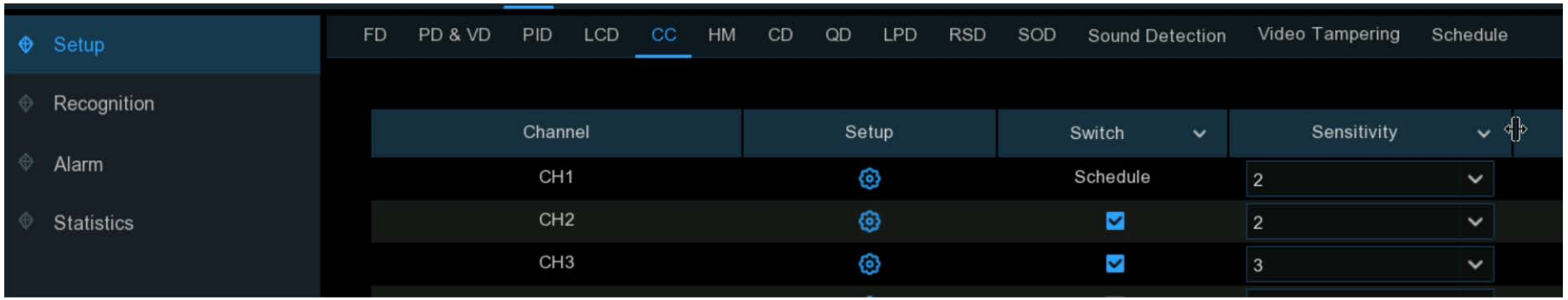
Sensitivity: Adjust the sensitivity level. The higher the number, the more sensitive the detection will be.

Setup: Click ⚙ to open the settings page.

1. **Channel:** Select the channel.
2. **Detection Type:** Select one or more of the detection types.
3. **Rule Number:** .Select which line rule to set or make changes to. (Maximum of 4 lines in the same image)
4. **Rule Switch:** Enable/disable LCD.
5. **Rule Type**: Select the rule type for each line.
   - ➔ A→B: Will only detect the activities crossing from side A to side B of the line.
   - ➔ B→A: Will only detect the activities crossing from side B to side A of the line.
   - ➔ A←→B: Will detect the activities crossing from either side B to side A or side A to side B.
6. Use the mouse to click 2 points in the camera image to draw a virtual line.
7. Click **Save** to save the settings.
8. To modify the position or length of the line, click the red box on the line, the color of the line will change to red. Long press the left button of the mouse to move the line, or drag the end points to modify the length or position of the line.
9. To remove a line from the camera image, click the red box in the line, click **Remove**. Click **Remove All** to delete all lines.
11. **Dynamic Marking:** Enable/disable the green tracking frame that surrounds a detected object to be visible/invisible during live view and playback.

5.4.1.5. CC (Cross Counting Detection)

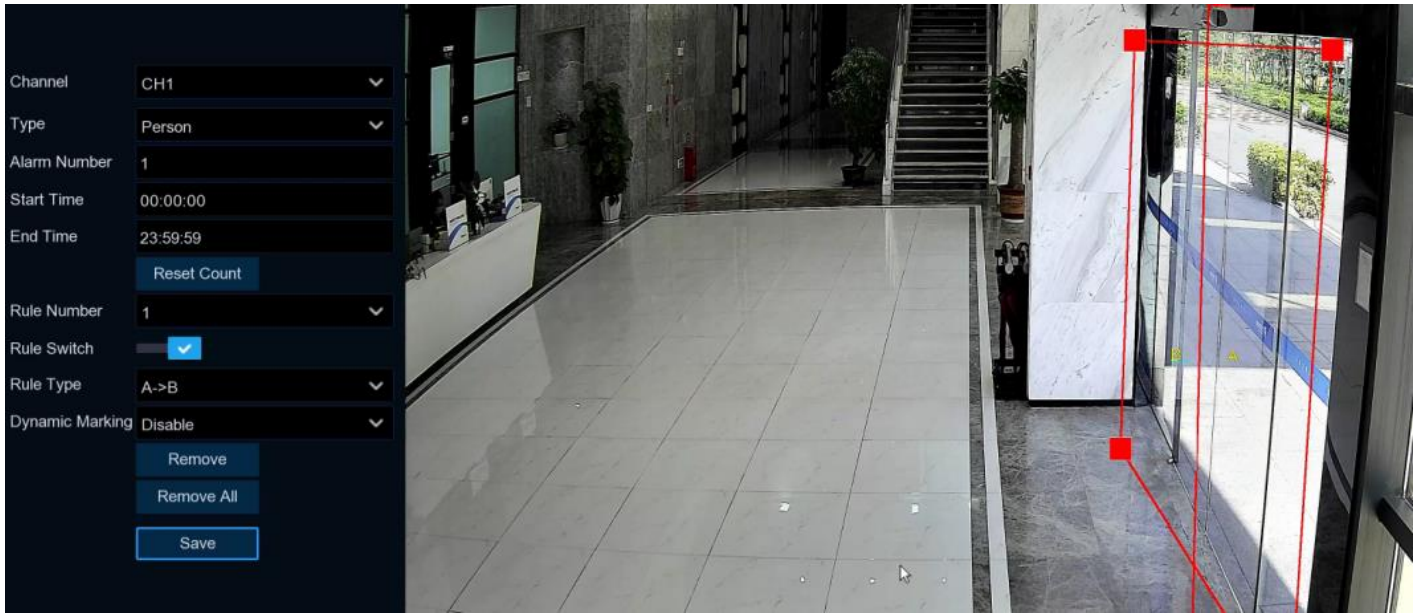
Cross Counting function will count the times an object or person has crossed a virtual line from both directions. The NVR will record and send notifications when a LCD alarm is triggered.



Switch: Enable/disable the cross-counting function.

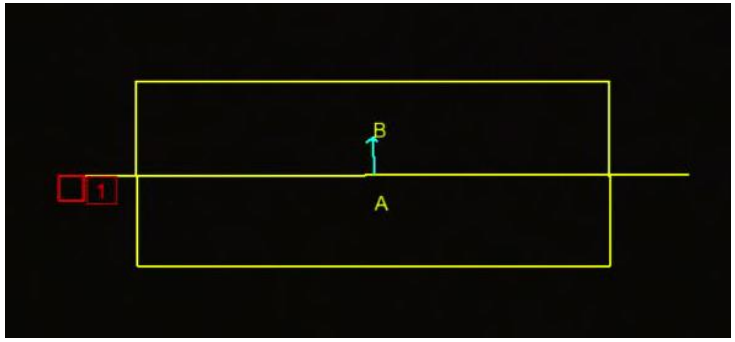
Sensitivity: Adjust the sensitivity level. The higher the number, the more sensitive the detection will be.

Setup: Click to open the settings page.



1. **Channel:** Select a channel.
2. **Type:** Select a detection type.
   - ➔ **Motion:** All moving subjects will be detected by the system
   - ➔ **Person:** Only human beings will be detected
   - ➔ **Vehicle:** Only vehicles will be detected.
3. **Alarm Number**. Input the 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 set is 200, 601-400=201 > 200, then the NVR will send an alert.
4. **Start Time:** Set the detection start time.

5. **End Time:** Set the detection end time.
6. **Rule Switch:** Enable/disable CC detection.
7. **Rule Type**: Select a rule type.
   - ➔ **A→B:** If a targeted object is detected moving from side A to side B, the system will count it as 1 entry; if a targeted object is detected moving from side B to side A, the system will count it as 1 exit.
   - ➔ **B→A:** If a targeted object is detected moving from side B to side A, the system will count it as 1 entry; if a targeted object is detected moving from side A to side B, the system will count it as 1 exit.
8. Use the mouse to click 2 points in the camera picture to draw a virtual line. It will display a rectangular box positioned along with the line. Only when the subject touches the parallel sides or both sides of the box will it be recorded as a complete cross. Adjust the size of the rectangular box according to the mounting position of camera and the size of expected detection target.



9. **Save:** Click to save the settings.
10. To modify the position or length of the line, click the red box on the line, the line will change to red. Long press the left button of the mouse to move the line, or drag the terminals to modify the length or position of the line.
11. To remove the line from the image, click the red box on the line, click **Remove.** Select **Remove All** to remove all lines/boxes.

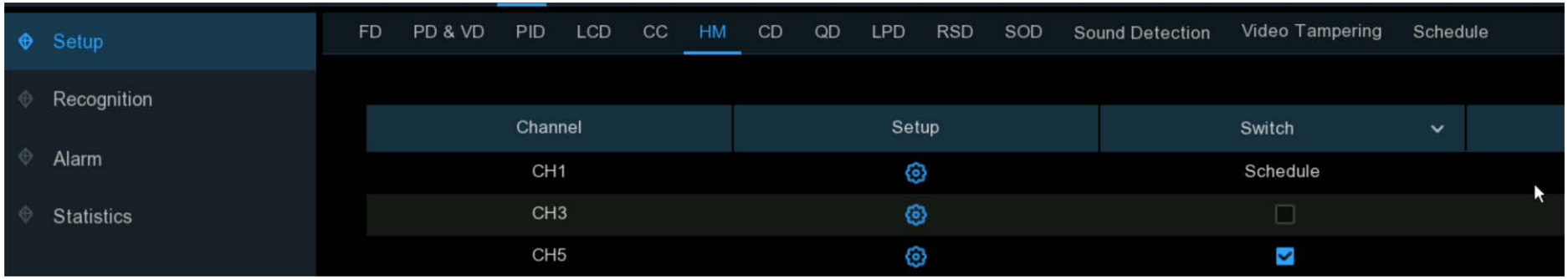
12. The Cross Counting statistical data will be displayed on the left top corner of the image.

13. **Reset Count:** Clears/resets the statistical data.

    Dynamic Marking: Enable/disable the green tracking frame that surrounds a detected object to be visible/invisible during live view and playback.

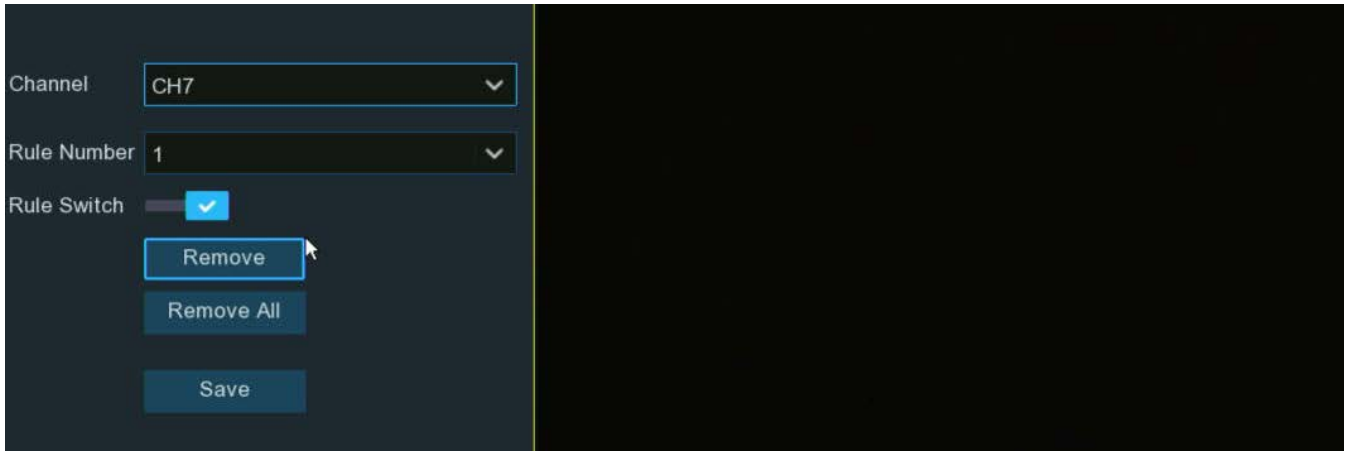
5.4.1.6. HM (Heat Map)

Heat Map is a video analytic tool to provide a heat map as a graphic overlay. Displaying the areas and frequency of detected motion. This is especially useful for retail businesses to track customer movement to better understand consumer behavior. It can also be used to evaluate the traffic of populated areas such as amusement parks or museums.



Switch: Enable/disable the heat map function.

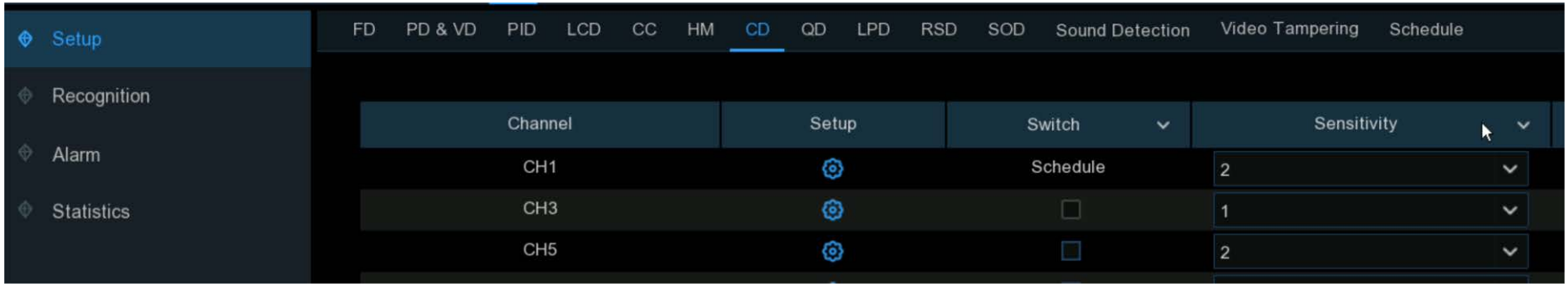
Setup: Click ⚙ to open the settings page.



1. **Channel:** Select the channel.
2. **Rule Switch:** Enable/disable Heat Map.
3. By default, the entire image will be activated as heat map region. To modify the region, click the red box on the top left corner, the borders of the region will be change to red. Click, hold and drag each red corner dot to adjust the heat map region.
4. **Save:** Save the settings.
5. **Remove All:** Deletes the region..

5.4.1.7. CD (Crowd Density Detection)

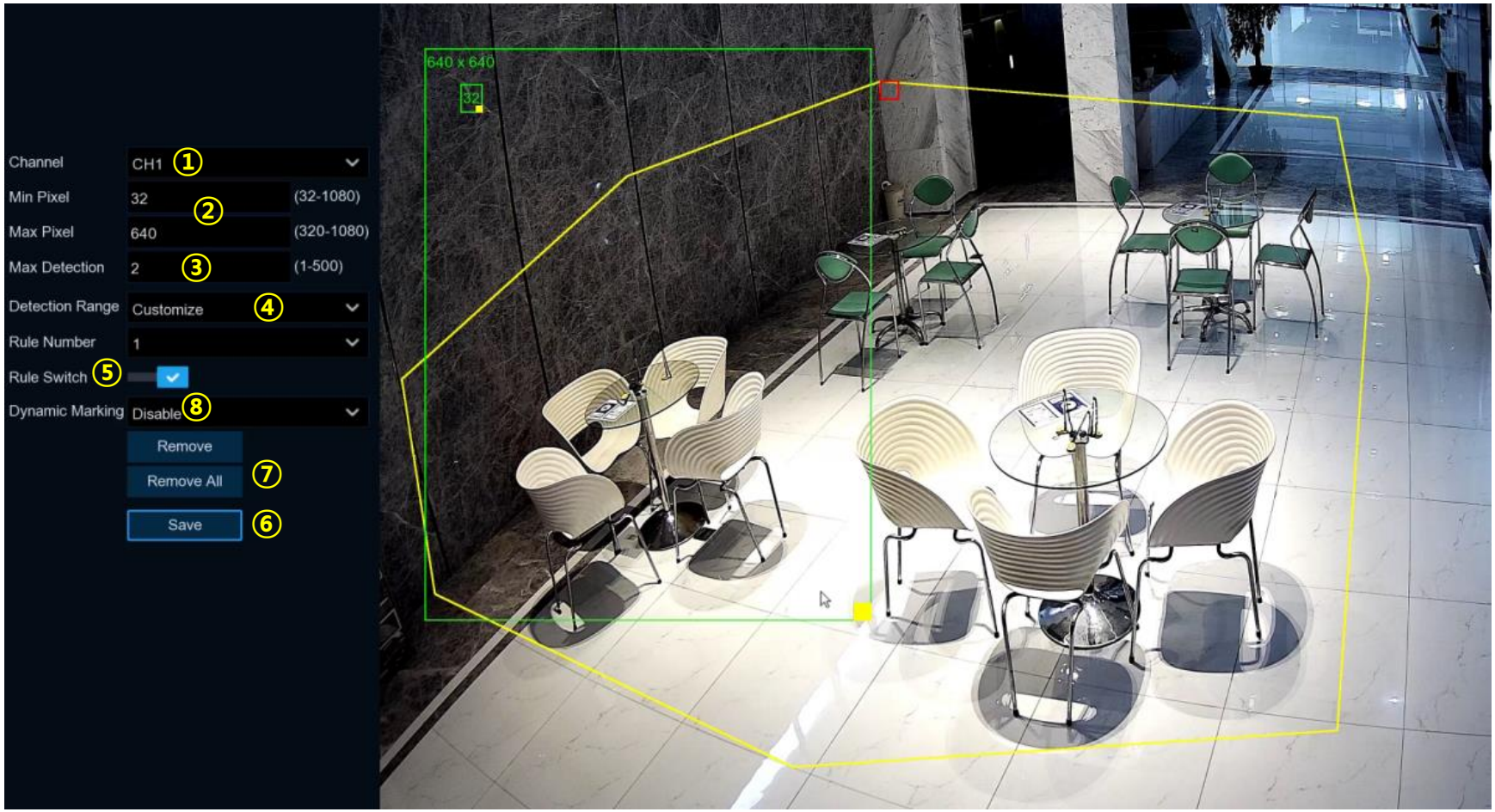
Crowd density detection is based on face detection technology, which is used to detect when a crowd is gathering to maintain control and order in a selected area. When the total number of detected people in a certain area exceeds the defined allowed number, the system will send an alert.



Switch: Enable/disable the crowd density detection function.

Sensitivity: Adjust the sensitivity level. The higher the number, the more sensitive the detection will be.

Setup: Click ⚙ to open the settings page.

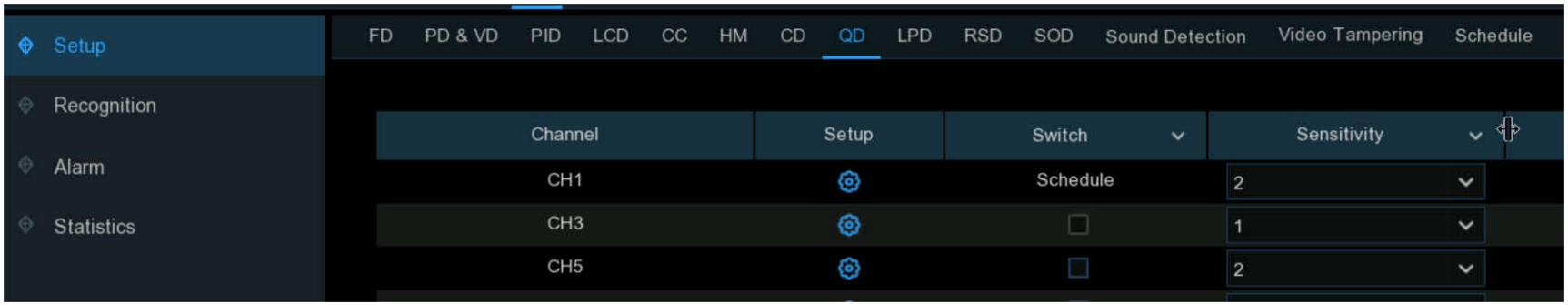


1. **Channel:** Select the channel.
2. **Min Pixel:** To set the minimum and maximum number of pixels for face detection.
3. **Max Detection:** Set the maximum allowed number for „entry/no exit". When the total number of detected people in the selected area exceeds the defined allowed number, the system will send an alert.

4. **Detection Range:** Choose one.
   - ➔ **Full Screen:** The entire image is enabled for face detection as the detection area.
   - ➔ **Customize**, Use your mouse to click 8 points in image to draw a virtual region.
5. **Rule Switch:** .Enable/disable Crowd Density Detection.
6. **Save:** Save the settings.
7. **Remove All:** .Removes all custom areas.
8. **Dynamic Marking:** Enable/disable the green tracking frame that surrounds a detected object to be visible/invisible during live view and playback

5.4.1.8. QD (Queue Length Detection)

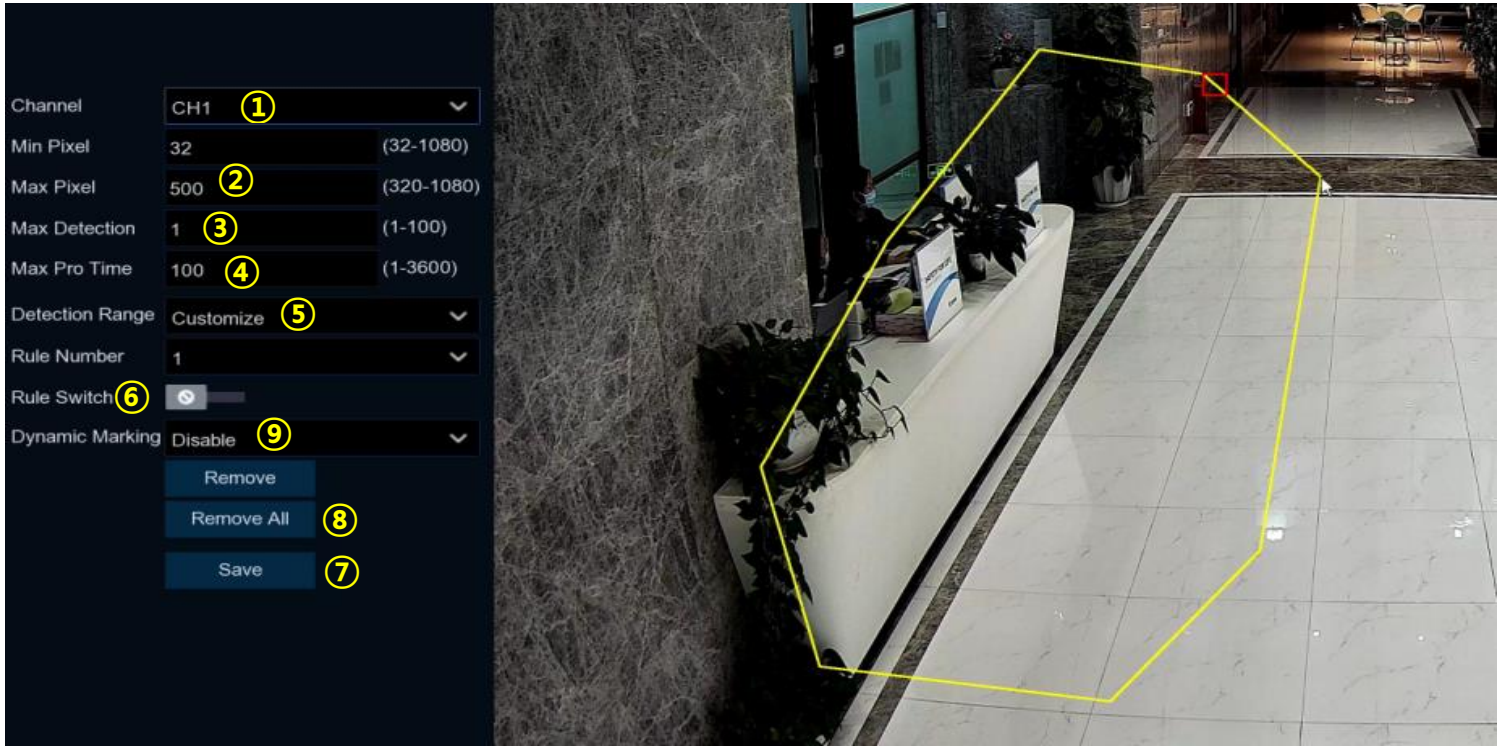
Queue length detection is used to detect the status of a queue (waiting line), including its length and staying time.



Switch: Enable/disable the queue length detection QD function.

Sensitivity: Adjust the sensitivity level. The higher the number, the more sensitive the QD detection will be.

Setup: Click ⚙ to open the settings page:



1. **Channel:** Select a channel.
2. **Min Pixel/ Max Pixel:**To set the minimum and maximum number of pixels for face detection.
3. **Max Detection:** Set the maximum allowed number. When the total number of detected people in the line within the detection area exceeds the defined allowed number, the system will send an alert.
4. **Max Pro Time:** Set the maximum time length (in seconds.) The NVR will send an alert if the waiting time of the queue/line is longer than the maximum time length.

5. **Detection Range:** Choose one.

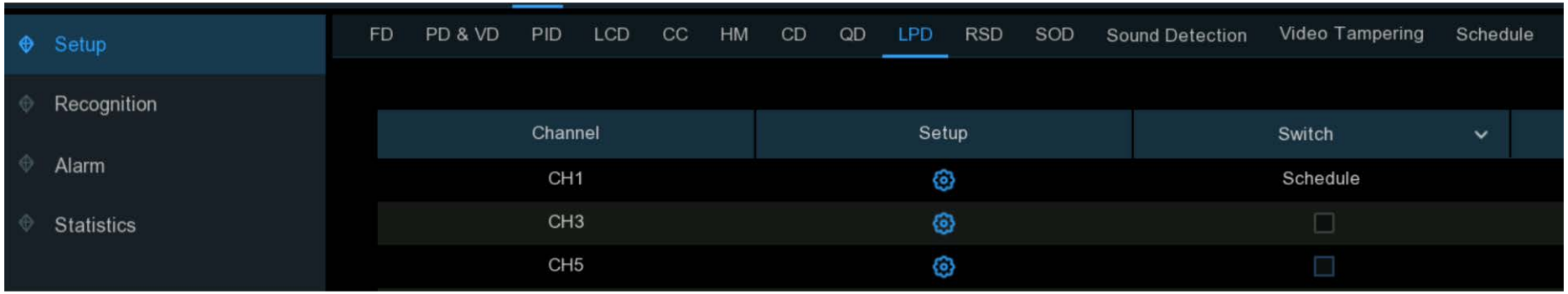
   Full Screen: The entire image is enabled for the QD detection area.

   Customize, Use your mouse to click 8 points in image to draw a virtual region..

6. **Rule Switch:** Enable/disable QD detection.
7. **Save** To save the settings.
8. **Remove All:** Removes all customized QD areas.
9. **Dynamic Marking:** Enable/disable the green tracking frame that surrounds a detected object to be visible/invisible during live view and playback.

5.4.1.9. LPD (License Plate Detection)

License Plate Detection, also called "Automatic License/Number Plate Recognition (ANPR)", helps to detect and record license plate numbers.



1. **Channel:** Select a channel.

2. **Snap Mode:** Select how snapshots containing a readable license plate will be captured. This can affect the number of license plate detection notifications received.
   - ➔ **Default Mode:** a single, „best" snapshot of the license plate is captured.
   - ➔ **Real-time Mode:** the camera tracks and captures the license plate of vehicles entering and leaving the detection area. Two notifications will be in the Alarm Notification Panel - one when the license plate is first detected and again as the vehicle leaves the detection area. This is useful to continuously monitor the vehicle's presence in an area and get alerts in real-time.
   - ➔ **Interval Mode:** Specify the number of snapshots to take and the time interval between snapshots.
     - **Snap Num:** The number of snapshots to take.
     - **Snap Frequency:** The time interval between snapshots.
3. **Min Pixel/ Max Pixel:**To set the minimum and maximum number of pixels for the license plate size.
4. **Sensitivity:** Adjust the sensitivity level. The higher the number, the more sensitive the detection will be.
5. **Detection Type:** Select the license plate type:
   - ➔ European license plate: mainly used in European countries.
   - ➔ American license plate: mainly used in United States.
6. **Detection Mode:** Select a detection mode.
   - ➔ **Static Mode:** All license plates in the camera's field of view will be analyzed.
   - ➔ **Motion Mode:** Only license plates of moving vehicles will be analyzed.
7. **Detection Range:** Select one.

   Full Screen: The entire view of the camera is enabled as the detection area.

   Customize: Adjust the size of the detection region.
8. **Dynamic Marking:** Enable/disable the green tracking frame that surrounds a detected object to be visible/invisible during live view and playback.

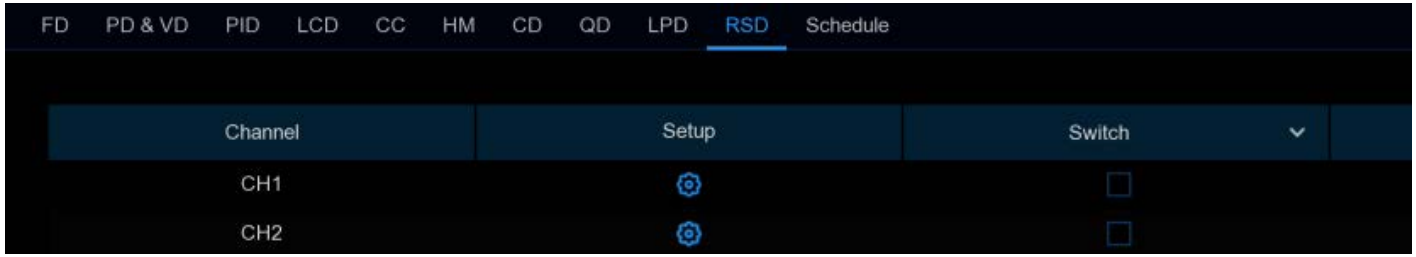
9. **LPD Enhance:** Enable/disable license plate detection enhancement.
   - ➔ **Day Level:** Set the day time level, which is applicable to day time scenarios. The larger the level value is, the brighter the image is. The lower the level value is, the darker the image is. The level value range is 0–255.
   - ➔ **Night Level:** Set the nighttime level, which is applicable to nighttime scenarios. The larger the level value is, the brighter the image is. The lower the level value is, the darker the image is. The level value range is 0–255.

Note: When the LPD function is enabled, if LPD enhancement is also enabled, the image brightness of the camera can be adjusted in accordance with the configured level value. Meanwhile, the device automatically adjusts its day time level or nighttime level in accordance with whether the camera is enabled with IR mode. The two application scenarios are independent of each other.

To use LPD enhancement, you need to set **Exposure Compensation** to **Disable** and set **Shutter** to **Auto** on the image control page. After LPD enhancement is enabled, **Time Exposure** cannot be modified.

5.4.1.10. RSD (Rare Sound Detection)

Rare Sound Detection- will alert when the NVR detects abnormal sounds like: baby crying, dog barking, and gunshot.The NVR will record and send notifications when a LCD alarm is triggered.

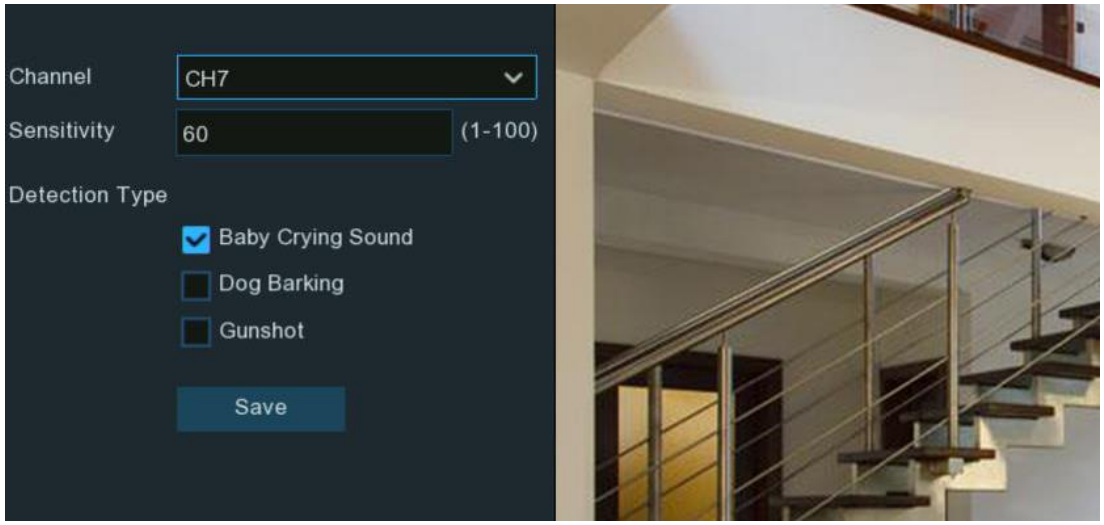


Switch: Enable/disable Rare Sound Detection.

Setup: Click ⚙ to open the settings page:

Channel: Select a channel.

Sensitivity: Adjust the sensitivity level. The higher the number, the more sensitive the detection will be.



Detection Type:

➔ **Baby Crying Sound:** Check the box to enable baby crying detection.

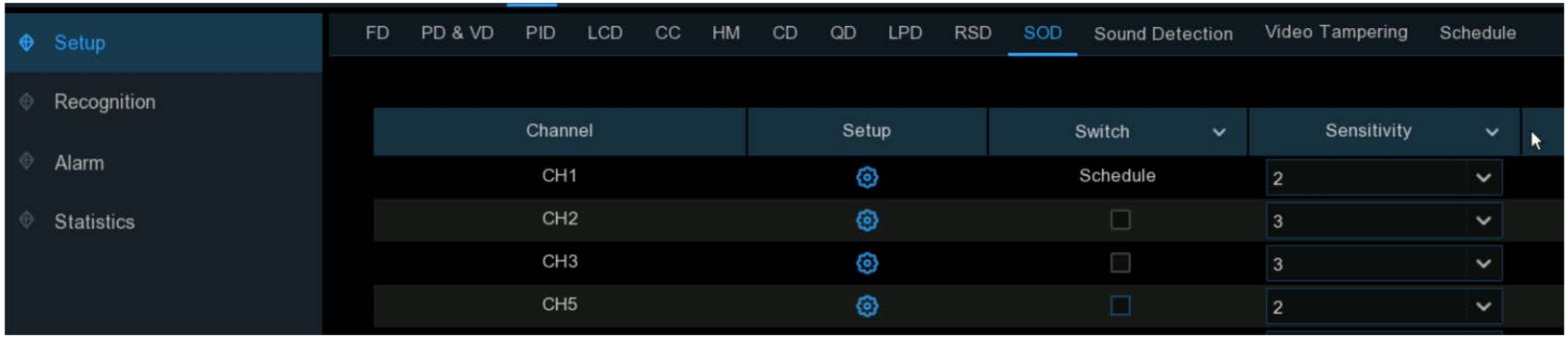
➔ **Dog Barking:** Check the box to enable dog barking detection.

➔ **Gunshot:** Check the box to enable gunshot detection.

Save: Save the settings.

5.4.1.11. SOD (Stationary Object Detection)

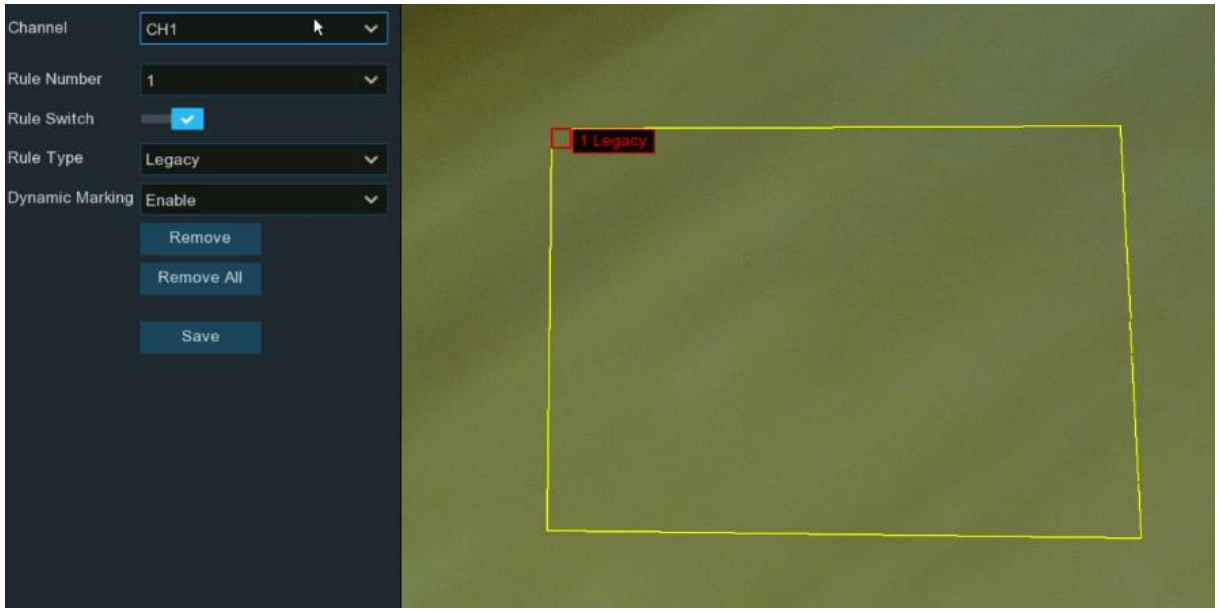
Stationary Object Detection detects the objects brought into and left in a designated area longer than a specified period of time, or items removed from a designated area: such as luggage, purse, dangerous materials, etc.



Switch: Check the box to enable SOD function.

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

Click **Setup** icon to open the settings page.



1. **Channel:** Select a channel.
2. **Rule Number**. Set the number of SOD areas. Maximum 4 areas can be set in the camera.
3. **Rule Switch:** Enable/disable SOD
4. **Rule Type**.Select one:
   - ➔ **Legacy:** NVR will only detect „left behind" objects.
   - ➔ **Lost:** NVR will only detect when objects are removed or missing.
   - ➔ **Legacy & Lost:** NVR will detect both „left behind" & removed/missing objects.
5. Use the mouse to click 4 points in the camera image to draw a virtual region. The shape of the region should be a convex polygon. Concave polygon will not save.

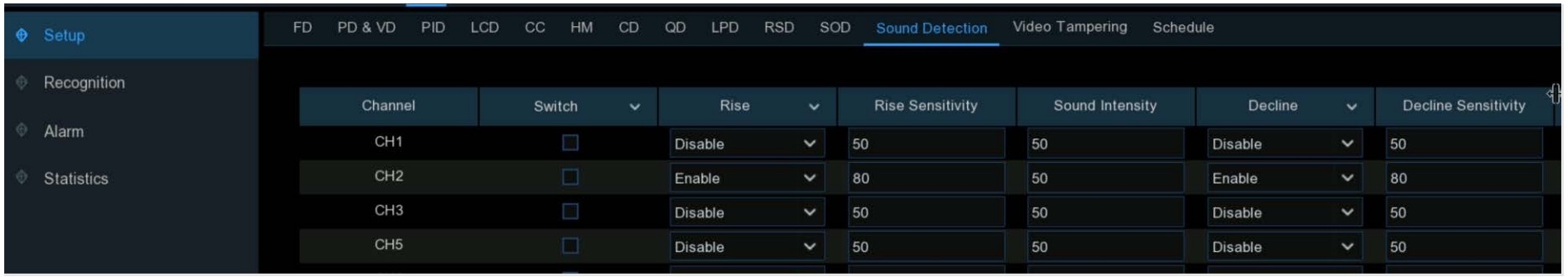
6. **Save:** To save the settings.
7. To adjust the size of the region, click the red box in the region, the borders of the region will be change to red. Long press the left button of your mouse to move the whole region, or drag the corners to resize the region.
8. **Remove:** To remove one region. click the red box in the region then click remove.
9. **Remove All:** Will delete all regions.

Note:

1. The detection area must be greater than or equal to the size of the detected object.
2. The detected object cannot be covered.

5.4.1.12. Sound Detection

Sound Detection, will alert when the NVR detects audio that matches or exceeds the set trigger level.



Switch: Enable/disable sound detection.

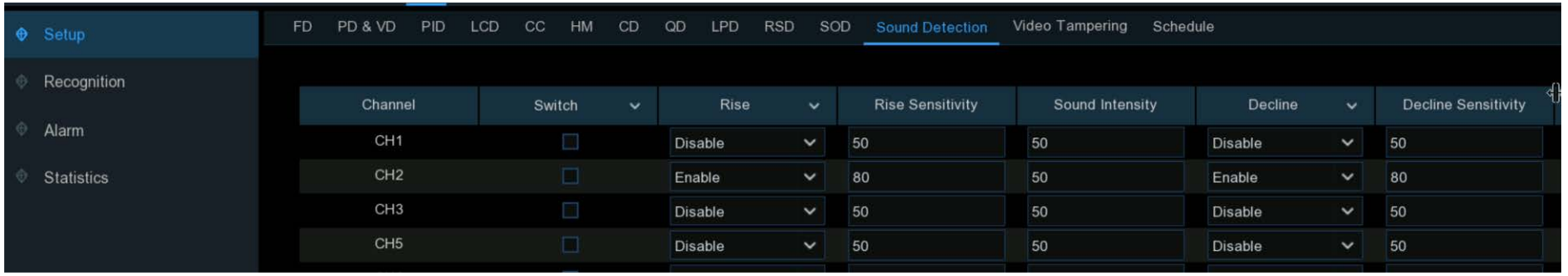
Rise: Enable/disable sound Rise detection.

Rise Sensitivity: Change the sensitivity level. The higher the number, the more sensitive the camera will be when detecting sound.

Sound Intensity: Set a threshold of sound intensity, the lower value, the more sensitivity.

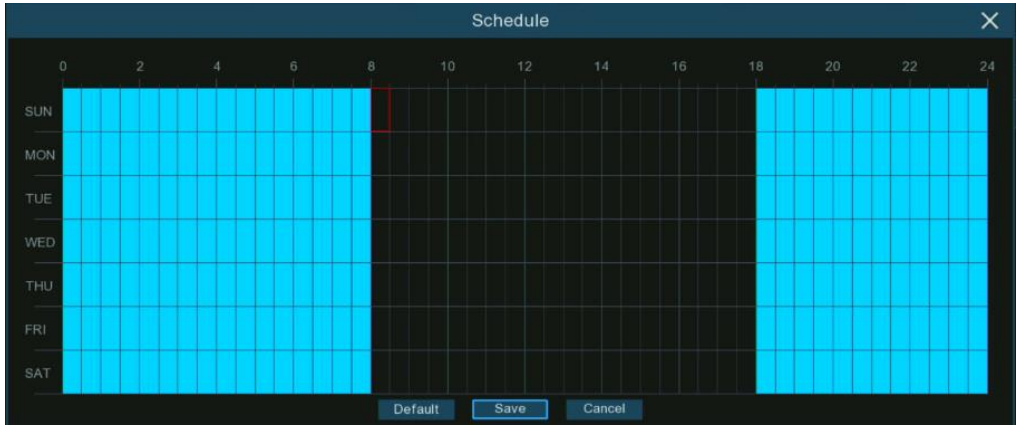
Decline: Enable/disable sound Decline detection.

Decline Sensitivity: Change the sensitivity level. The higher the number, the more sensitive the NVR will be when detecting sound.



(Slide to the right to view more options)

Schedule: Each square represents 30 minutes. Using the mouse, click on a particular square to change or click and drag the mouse over the squares corresponding to the desired time period. The sound detection will be active during the time periods shown in blue. Sound detection will not take place for the time periods indicated in black..



5.4.1.13. Video Tampering

Video Tampering detects the absence of camera images.

Switch: Enable/disable the function.

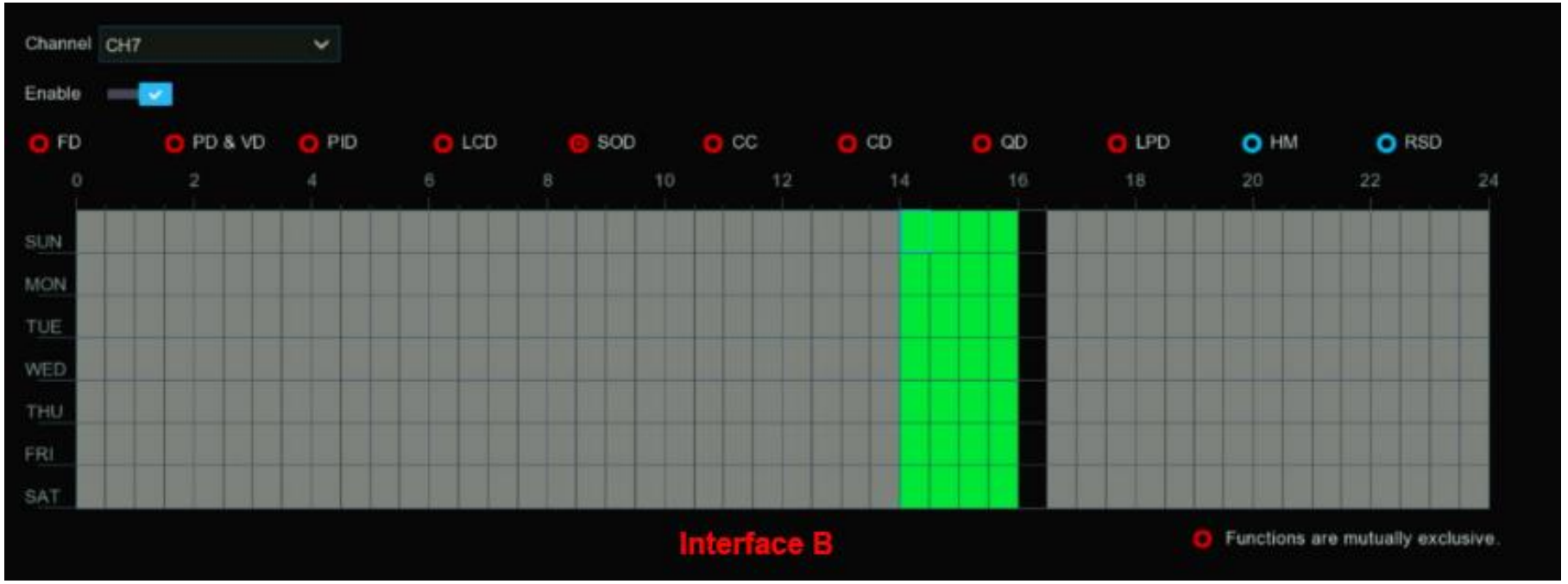
Sensitivity: The sensitivity level is from 1 to 6, with a default value of 3. The most sensitive being 6.

5.4.1.14. Schedule

Configure the recording schedule for AI detection functions.

The interface may vary based on different camera firmware:

1. **Channel:** Select the channel.
2. Click on the AI mode button to choose one of the detection functions
3. By default, the detection is setup for 24 hours / 7 days. Reset the schedule as needed.
4. Each square represents 30 minutes. Using the mouse, click on a square to select or click and drag the mouse over the squares corresponding to your desired time period. Squares in green are active.
5. The set schedule is valid only for the one channel.selected. To set the same schedule for other channels, use **Copy** option.
6. **Save:** To save changes.
7. Right-click the mouse to exit.



Interface B

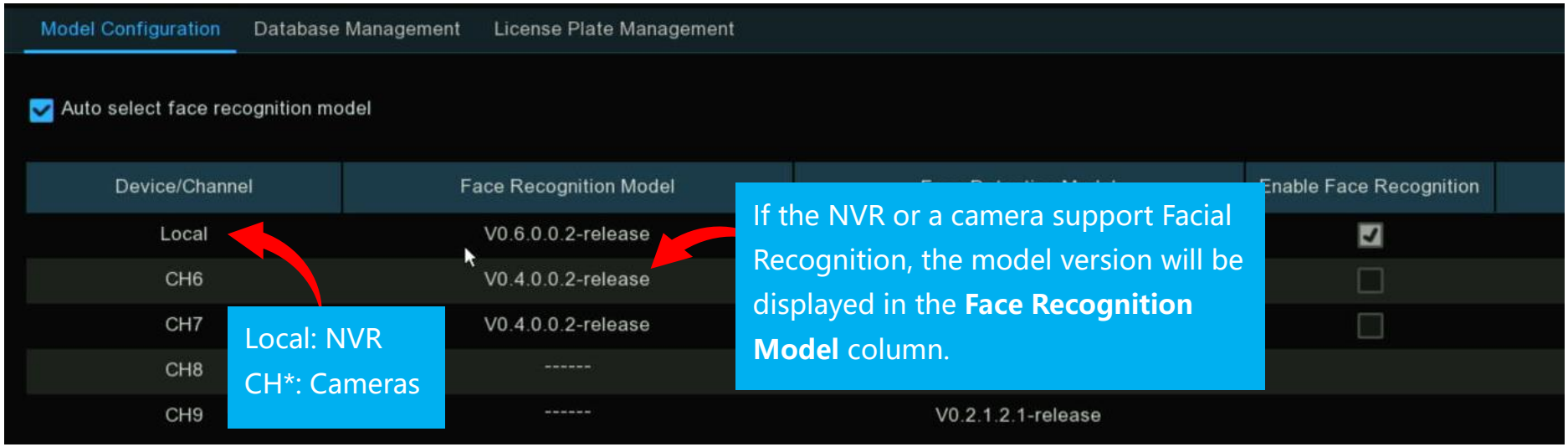
1. **Channel:** Select a channel.
2. **Enable:** Check to activate the AI recording schedule.
3. Click on the AI mode button to choose a detection function. The detection functions with red a button are mutually exclusive, one and only one of them can be activated at the same time.
4. Each square represents 30 minutes. Using the mouse, click on a particular square to select or click and drag the mouse over the squares corresponding to your desired period. Squares in green are active.
5. Blocks in grey are unavailable and can not be selected. Blocks in black are available to select.
6. Click **Apply** to save.

5.4.2. AI Recognition

The system supports Facial Recognition and License Plate Recognition. Configure the recognition settings and manage the database in the following sections.

5.4.2.1. Model Configuration

Select the Face Recognition AI algorithm model.



The face AI algorithm has two parts: Detection and Recognition.

- ➔ **Detection** is used to detect and capture face images. Generally, **Detection** is a property or function of the IP cameras.
- ➔ **Recognition** is used to extract, analyze and compare the facial features. **Recognition** capabilities are properties or functions of the NVR, although some of IP cameras also have these functions.

For face detection and recognition functions, the system will select a face recognition model automatically the first time face AI functions are set up.

To manually choose the face recognition model, deselect the "**Auto select recognition model**" box and select a face recognition model.

Rules & Guidelines for manual selection:

1. At least one face recognition algorithm model must be enabled.

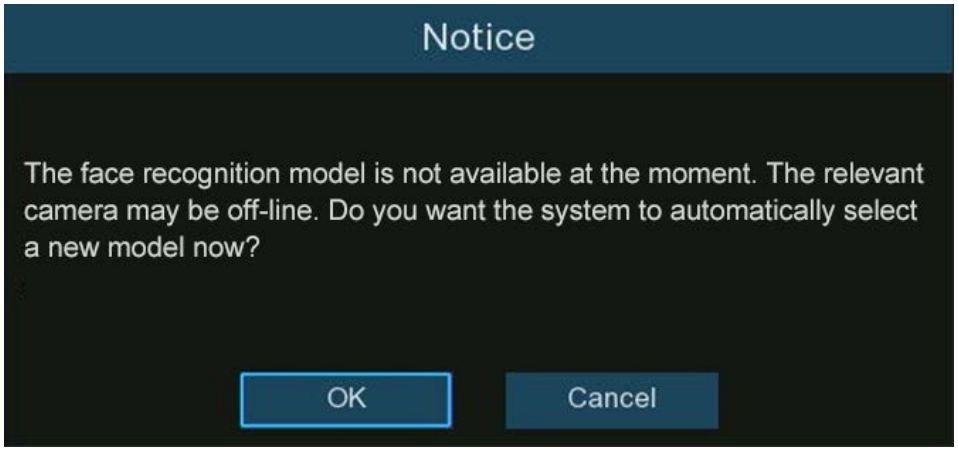
2. Only one recognition model can be enabled at a time.
3. When enabling cameras with both facial detection and facial recognition functions, they all must have the same recognition model version. They must all have the same detection model version.
4. Selecting the newest version (with bigger digital sequence) is preferred due to its algorithm optimization and database update.
5. Dual function models with the same version are allowed & recommended to be enabled. This will help to decrease the analysis loading on a single NVR or camera and accelerate the recognition.

If one or more selected cameras (not all) are off-line, the recognition functions will automatically be assigned to the rest of selected camera(s).

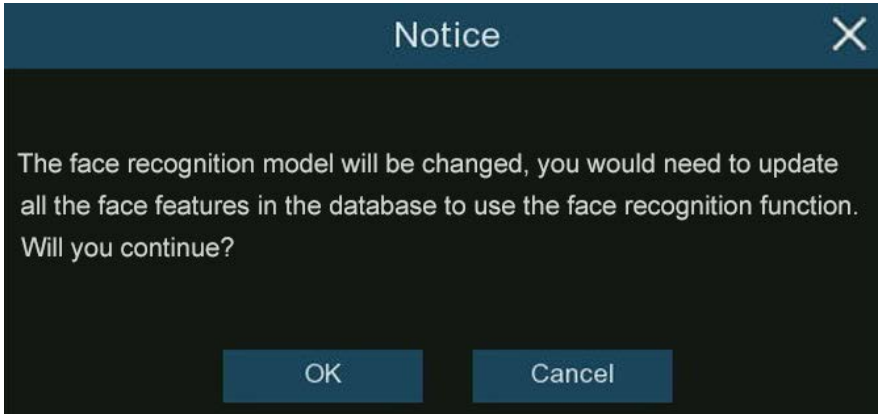
6. When the recognition model is enabled on a single camera and the camera is off-line, the face recognition will stop working. The system will send an alert/notification as shown below.

➔ Click "**OK**" to let the system automatically select a new model.

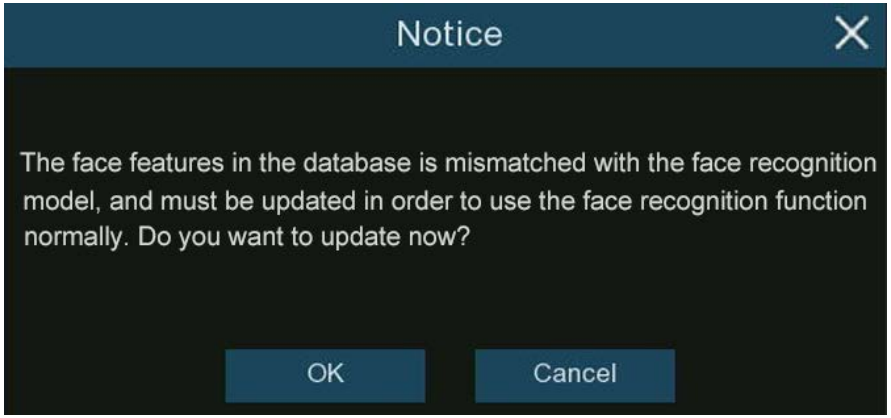
➔ Click "**Cancel**", to configured manually.

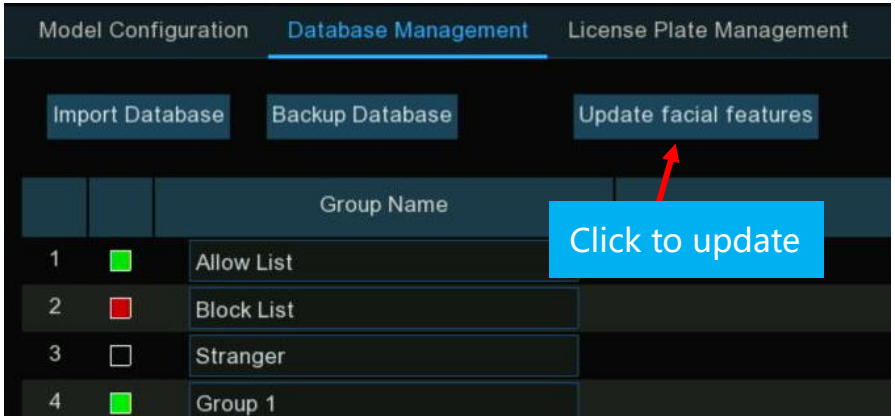


7. To change the model to a different version, the system will send a notice, click "**OK**" to continue.



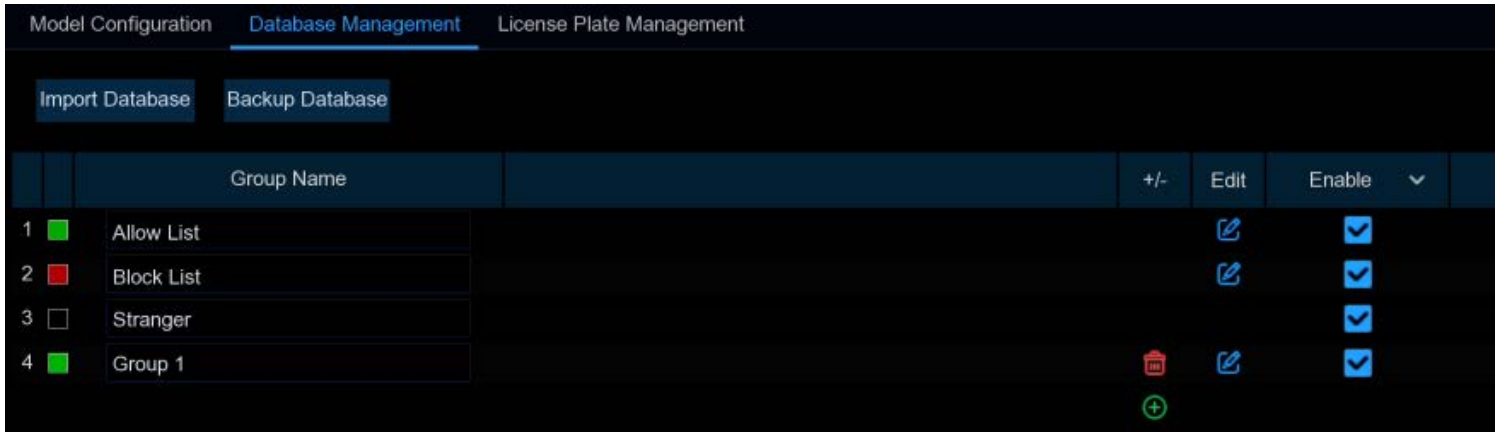
8. If the recognition model has been changed to a different version, the system will send a notice.
9. Click "**OK**" to continue.
10. Selecting "**Cancel**", will require going to "**Database Management**".
11. Click "**Update facial features**" to update the database.





5.4.2.2. Face Recognition Database Management

Create and manage face profiles (database) to classify different people into different groups. Configure the system actions for each group.



There are 3 default groups:

- ➔ **Allow List:** Used to define a list of people that are regarded as acceptable or trustworthy, such as family members, colleagues, frequent customers, etc.
- ➔ **Block List:** Mostly used to define a list of people that are regarded as unacceptable or untrustworthy and are not wanted or permitted to be in a designated area.
- ➔ **Stranger:** Any persons not already assigned to the Allow or Block list will be identified as a stranger.

Click add ⊕ to create a customized group.

Click delete 🗑 to delete a customized group.

Backup Database: To create a backup of the database and export it to a USB flash drive. The exported database can be imported to the same or another NVR.

Import Database: To import a database that was previously exported to a flash drive. (Please note, this will overwrite the existing settings and face profiles.).

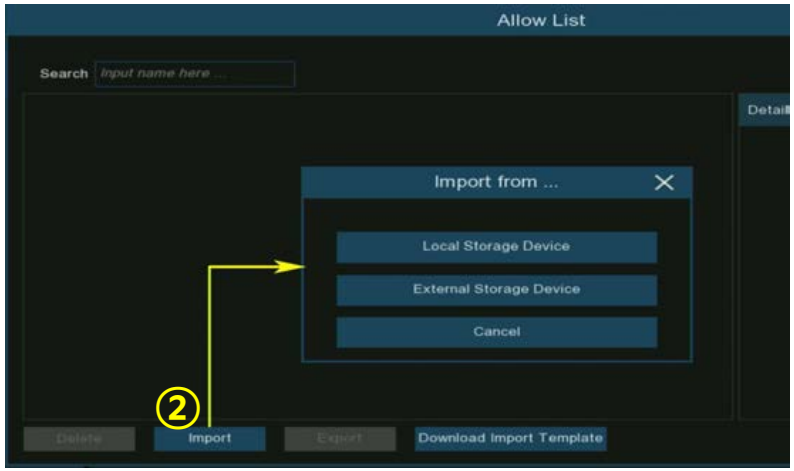
Enable: Enable a group or groups. For these features to work effectively it is highly recommended to create face profiles (add face images) for each person being added to a group.

5.4.2.2.1. Create Face Profiles from Local Storage Device

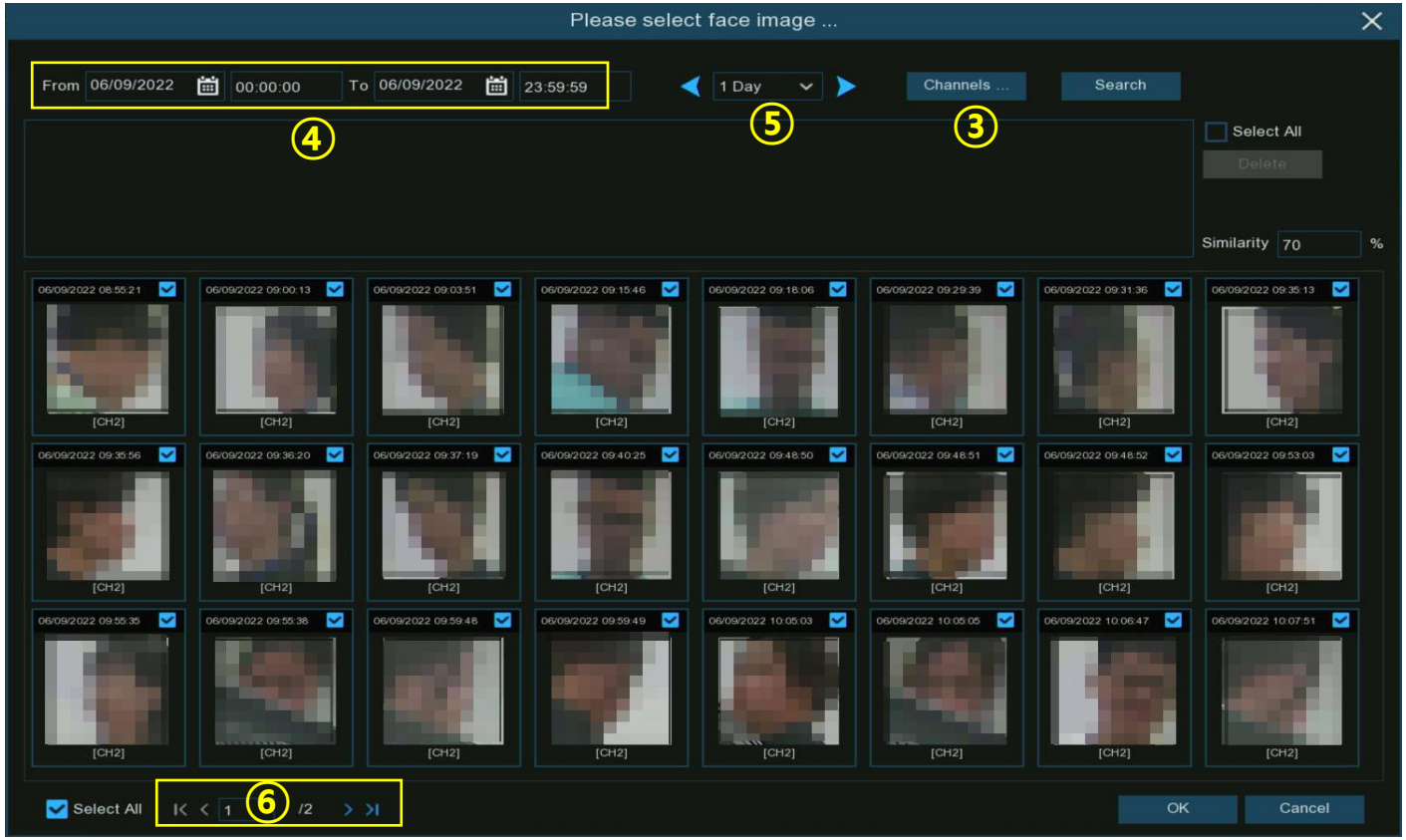
This section will show how to create face profiles from face images that have been captured and stored on the NVR.

1. Click "**Edit**" of a group to create face profiles for that group.

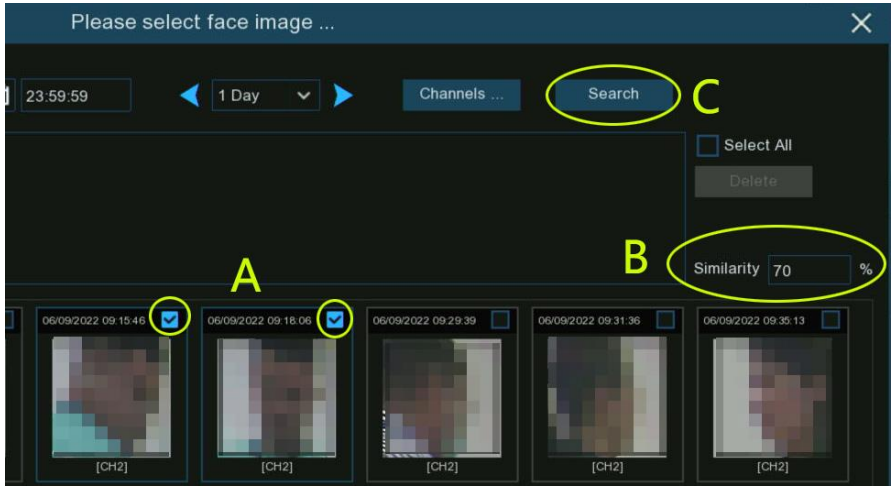
2. From the Group window, click "**Import**", select "**Local Storage Device**".



3. **Channels:** Click to specify the cameras to search.All channels are set to search by default.



4. Use the calendar to specify the date range.
5. Use the arrow buttons to quickly display face images from before the selected start dates or after the selected dates. Click the drop-down arrow to select how many days before or after the initial search dates to review.
6. **Search:** To execute a search based on the parameters selected.
7. The search results will be displayed in the face list automatically. Use the arrow buttons to display previous or next page of results.



Narrow the search result by using **Similarity**:

A. Select a face image(s) from the search result.

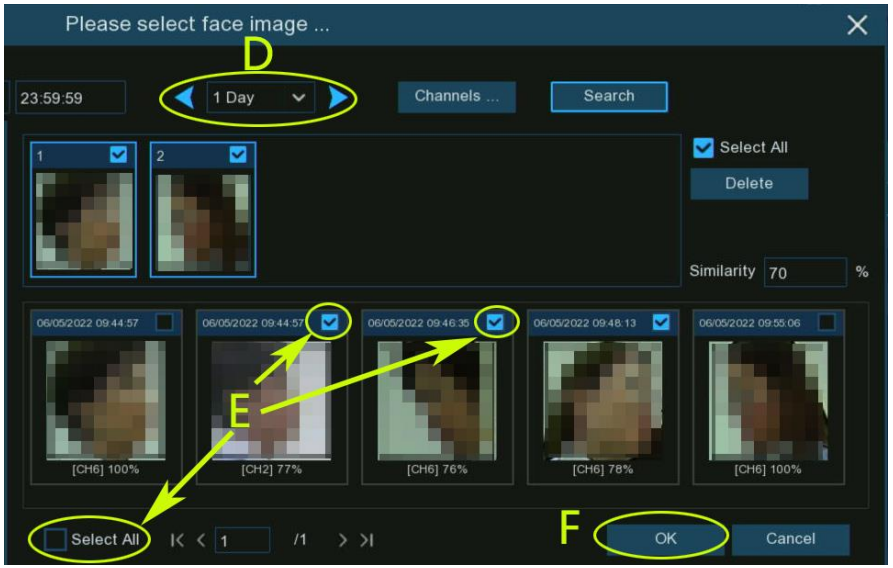
B. Similarity: Select a value. This is the face similarity threshold (%). The higher the number, the more precise the result will be.

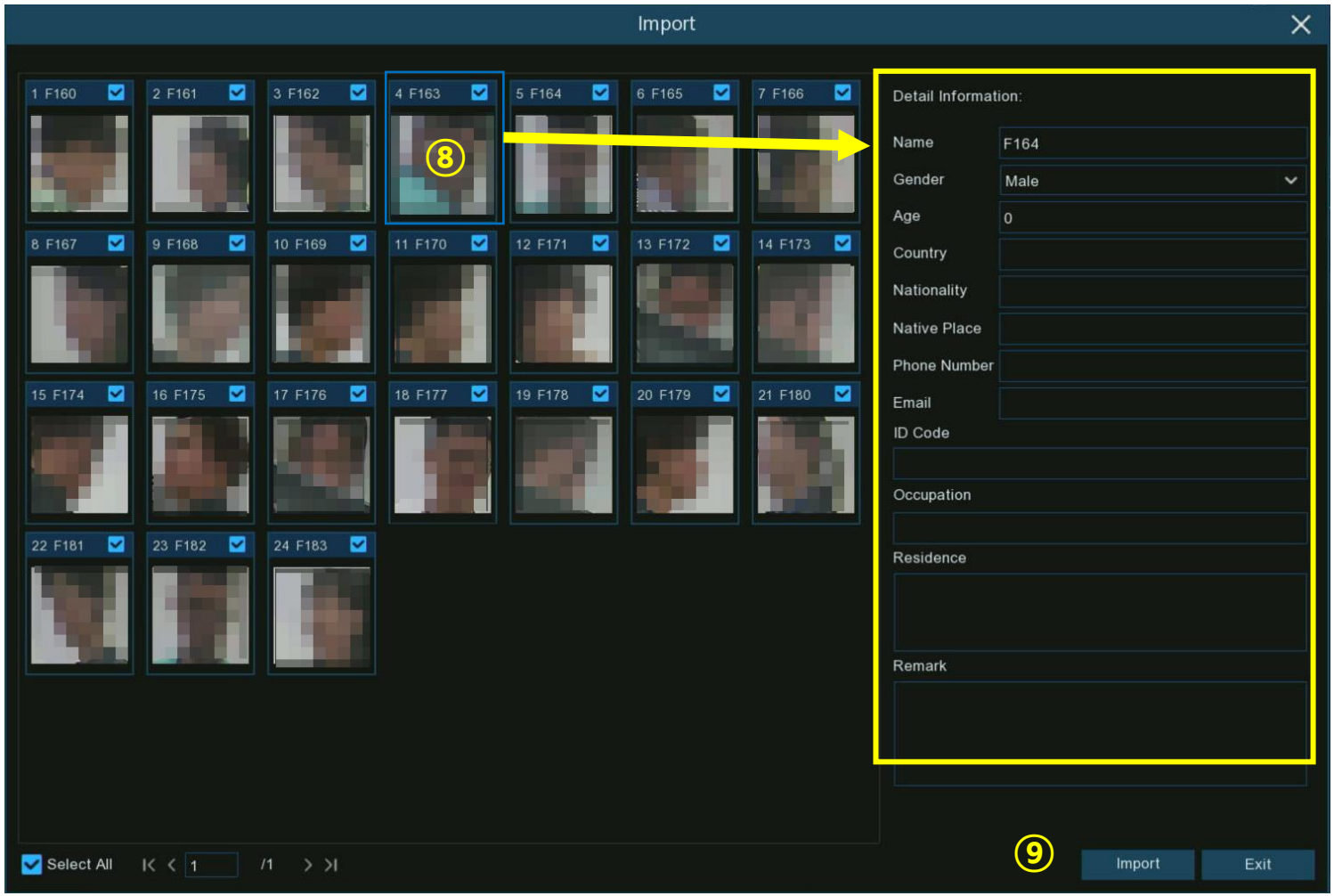
C. Search: The system will search for faces with an equal or greater similarity than the specified value.

D. To search from other days: Click the drop-down arrow to select how many days before or after the selected date range the system should search. Use the arrow buttons to view the days before or after the initial search dates.

E. Select individual face images, or "**Select All**" to select all face images in the current page of search results.

F. Click "**OK**". The system will open the profile edit page.





Profile Edit Page

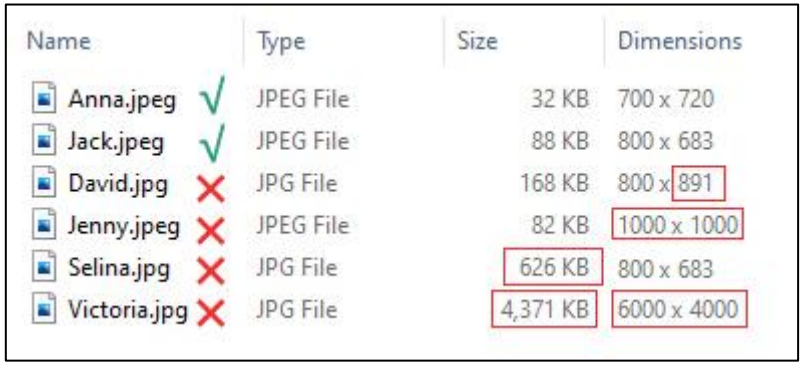
8. Click on a face image. Enter their identification details, such as the person's name and age. If a name is not manually assigned to the profile, each face image is given a face ID as its name by default.

9. Click "**Import**". The face profile is now created and assigned to the group.

5.4.2.2.2. Create Individual Face Profiles from External Storage Device

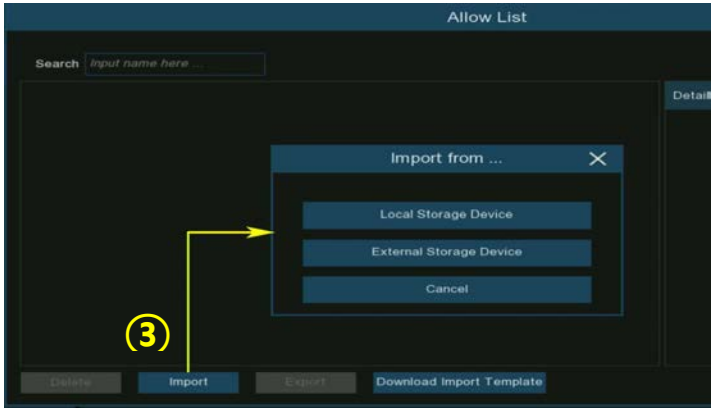
1. To create face profiles from images not captured by the NVR or an external source, download the images to a USB flash drive. Insert the USB flash drive into the USB port of the NVR.

   Note: the supported formats for face image are ".jpg", ".jpeg", ".png", and ".bmp". The supported image dimensions are from 80x80 to 800x800 pixels, maximum supported size is 500KB.

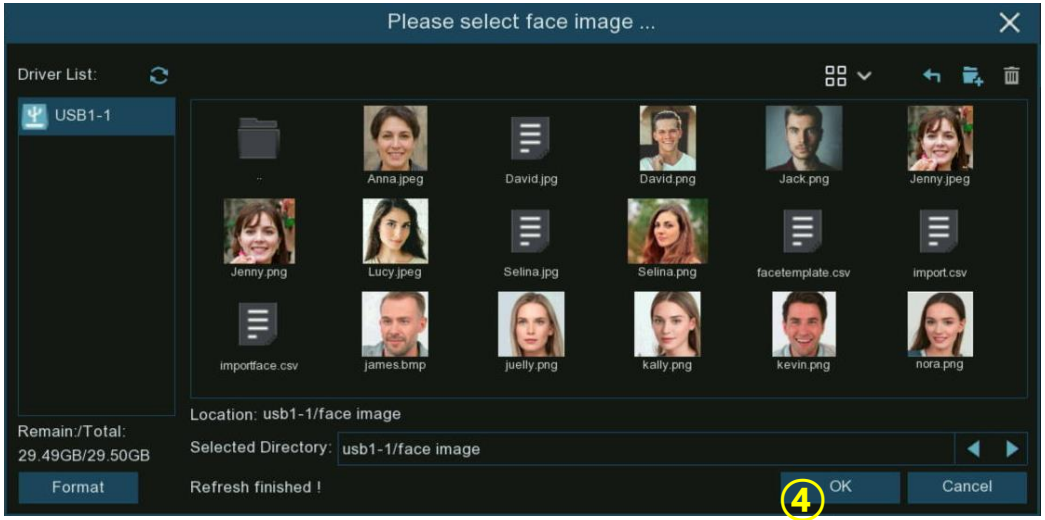


2. Click "**Edit**" of the group to create face profiles for.

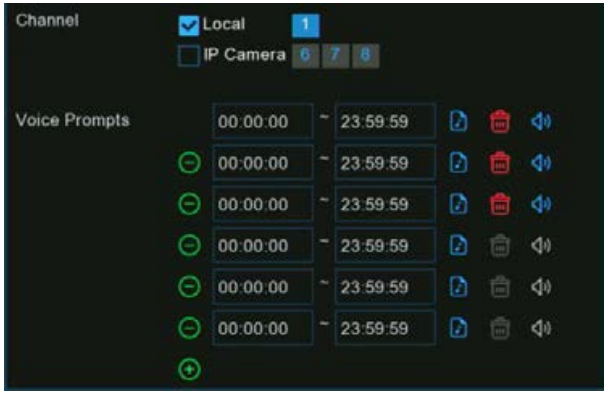
3. From the Group window, click "**Import**".
   ➔ Click "**External Storage Device**".



4. Click the face image to import. Click "**OK**".

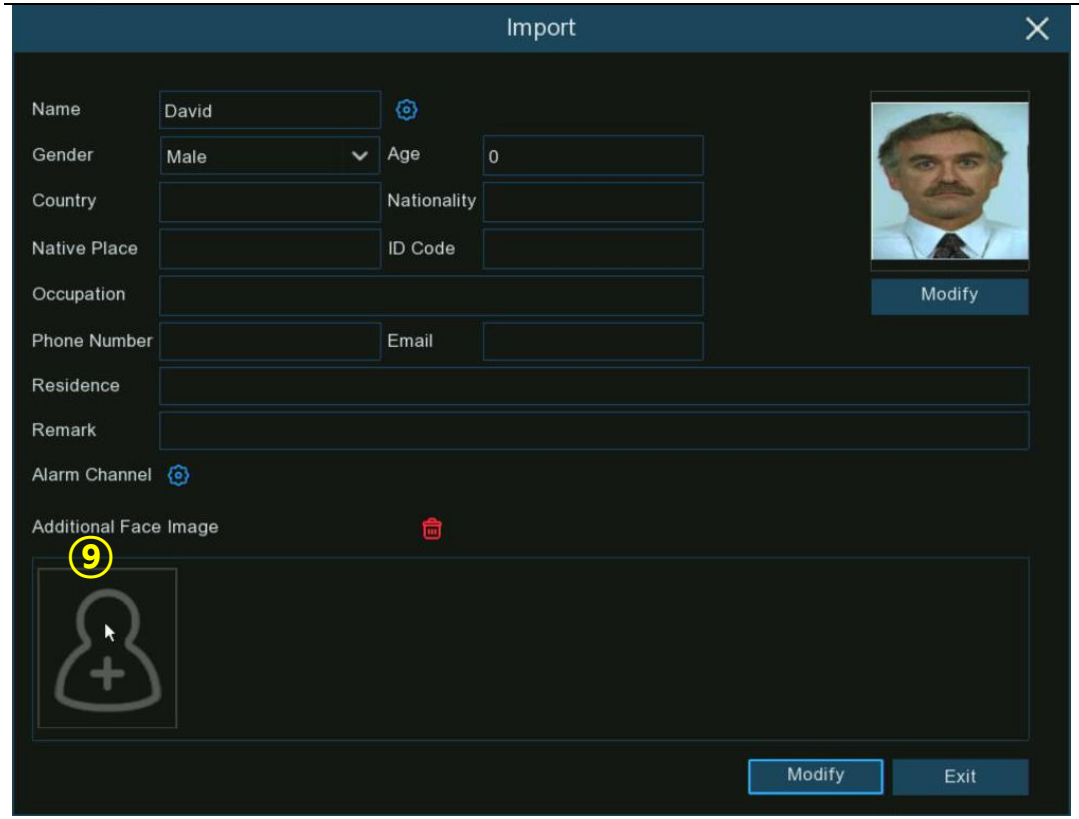


5. Input/edit the pertinent details of the persons profile.
6. Click ⚙ to configure the voice prompt for the person. View more on 5.3.9. Voice Prompts to learn how to configure this function.



Note: the voice file imported here applies only to this person. If multiple time periods are setup, a voice file must be imported for each time period.

7. **Alarm Channel:** Click ⚙ to select channels. the system will send notifications when the face is detected and captured by the selected cameras.
8. **Import:** Click to import the face profile.



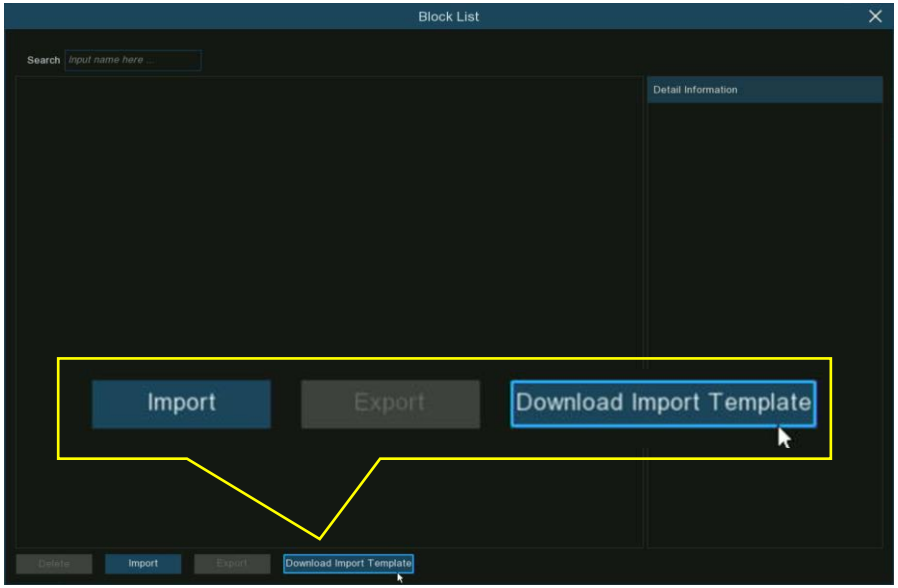
9. **Additional Face Image:** To add additional face images at different angles for the same person to improve face recognition accuracy:
   Click , to add images from local and/or external storage device. Maximum of 10 additional images.
   Click to delete the select image.
   Modify: Click **Modify** to finish and save the profile.
   Exit: To exit the settings or right click your mouse to exit.

5.4.2.2.3. Create Bulk Face Profiles from External Storage Device

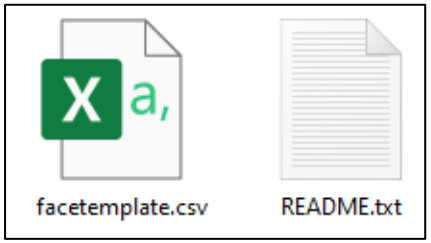
To create a batch of face profiles at once:

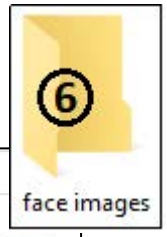
1. Click "**Edit**" of the group to create face profiles for.

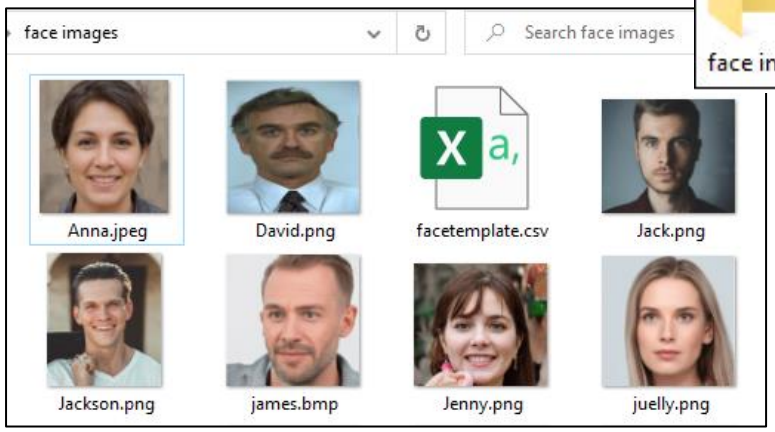
2. From the Group window, find the " **Download Import Template** ". USB flash drive is required for the next steps.



3. Insert a USB flash drive into NVR USB port. Click “**Download Import Template**”. A zip file named "import_template_enu.zip" will be downloaded on to the USB flash drive.
4. Insert the same USB drive into a PC/laptop. Unzip the file.







5. There will be 2 files as shown above.
6. Create a new folder. Name the folder.
7. Add pictures of the people that will be included in the batch of profiles being created to the “face images” folder. Supported image formats are ".jpg", ".jpeg", ".png", or ".bmp". Supported image dimensions: Minimum 80x80 up to 800x800 pixels. Maximum image size 500KB.
8. Copy and paste the "facetemplate.csv" file into the “face images”folder.

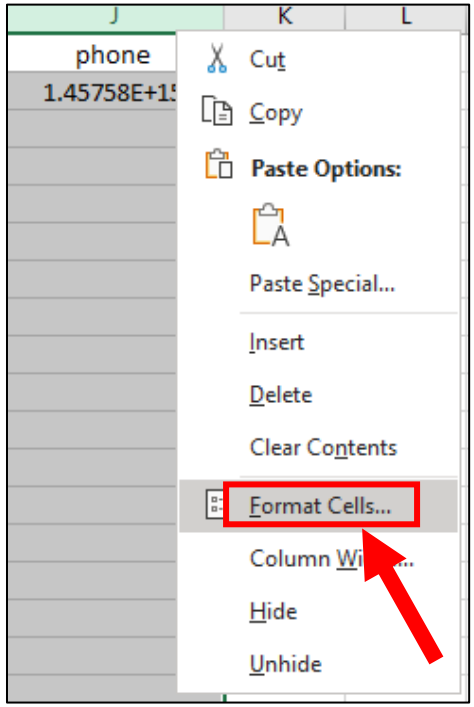
9. Double click on the "facetemplate.csv" file to run it with excel. The content will display as shown below.

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
name	gender	age	image pat	country	nation	nativepos	idcode	occupaito	phone	email	domicile	remark			
xxxx	male	30	face/impc	China	Han natio	ZhuHai	20200903	zhuhai	1.46E+15	12348545	zhuhai	bukeyishuruzhongwen,bixuyongutf8			

- **Column A:** Name of the person
- **Column B:** Gender of the person
- **Column C:** Age of the person
- **Column D:** Complete filename of the image, for example "David.png".
- **Column E:** Name of country/region where the person comes from.
- **Column F:** Race of the person
- **Column G:** Native place of the person
- **Column H:** ID number of the person
- **Column I:** Occupation/Job/Career of the person
- **Column J:** Phone number of the person
- **Column K:** Email address of the person
- **Column L:** Residence address of the person
- **Column M:** Remarks column

10. Input/Edit the cell data with the details of each person included in the batch of profiles being created. As shown below.

name	gender	age	image path	country	nation	nativepos	idcode	occupaiton	phone	email	domicile	remark
Anna Joyce	Female	30	Anna.jpeg	UK	English	England	123456789	Professor	07-123 456 789	test@xxxxxx.com	No. xx, Downing Street, London	Test
Nora Martins	Female	30	nora.png	UK	English	England	123456790	Professor	07-123 456 790	test@xxxxxx.com	No. xx, Downing Street, London	Test
Shelly Clinton	Female	30	shelly.jpeg	UK	English	England	123456791	Editor	07-123 456 791	test@xxxxxx.com	No. xx, Downing Street, London	Test
Sinna Donald	Female	30	sinna.png	UK	English	England	123456792	Photographer	07-123 456 792	test@xxxxxx.com	No. xx, Downing Street, London	Test
James Timothy	Male	30	james.bmp	UK	English	England	123456793	Director	07-123 456 793	test@xxxxxx.com	No. xx, Downing Street, London	Test
Juelly Smith	Female	30	juelly.png	UK	English	England	123456794	Cashier	07-123 456 794	test@xxxxxx.com	No. xx, Downing Street, London	Test
Kally Jones	Female	30	kally.png	UK	English	England	123456795	Reporter	07-123 456 795	test@xxxxxx.com	No. xx, Downing Street, London	Test
Kevin Williams	Male	30	kevin.png	UK	English	England	123456796	Manager	07-123 456 796	test@xxxxxx.com	No. xx, Downing Street, London	Test
Jenny Brown	Female	30	Jenny.png	UK	English	England	123456797	Guide	07-123 456 797	test@xxxxxx.com	No. xx, Downing Street, London	Test
Lucy Taylor	Female	30	Lucy.jpeg	UK	English	England	123456798	Operator	07-123 456 798	test@xxxxxx.com	No. xx, Downing Street, London	Test
David Wilson	Male	30	David.png	UK	English	England	123456799	Scientist	07-123 456 799	test@xxxxxx.com	No. xx, Downing Street, London	Test
Jack Davis	Male	30	Jack.png	UK	English	England	123456800	Professor	07-123 456 800	test@xxxxxx.com	No. xx, Downing Street, London	Test
Selina Johnson	Female	30	Selina.png	UK	English	England	123456801	Composer	07-123 456 801	test@xxxxxx.com	No. xx, Downing Street, London	Test



Please Note: If you input a number more than 11 digits (no spaces) in a cell, the system will display the number in scientific notation, e.g., "1.23457E+11". If so, change the format of the column to "Text":

To change the column format: Select the column (such as ID code and phone number) right-click the mouse. Click "**Format Cells**" from the pop-up menu.

Choose "**Text**". Click "**OK**".

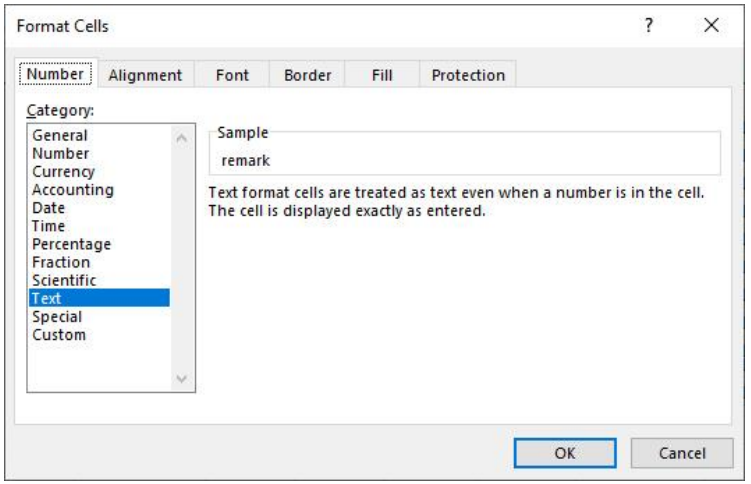
This is incorrect format.

phone
1.45758E+15

Follow the steps above to to correct the format

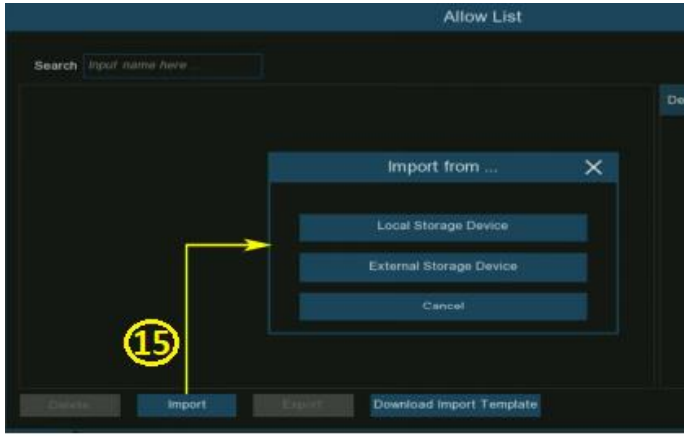
This is the correct format

phone
014575767676



11. Save the ".csv" file. Make sure the file is saved as CSV UTF-8 type.
12. Copy the "face images" folder containing the images of the people included in the batch of profiles being created and the "facetemplate.csv", paste it to the USB flash drive.
13. Insert the USB flash drive into the USB port of the NVR.
14. Click "**Edit**" of a group to create face profiles for that group.

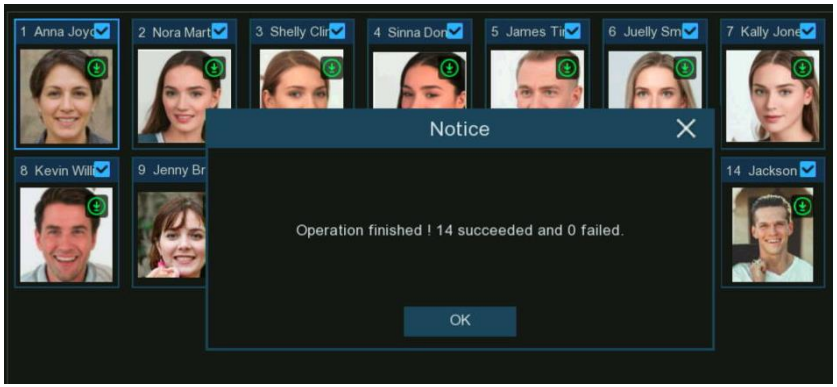
15. From the Group window, click "**Import**".
    ➔ Click "**External Storage Device**".



16. Find and click the "facetemplate.csv" file from the USB flash drive. Click **OK**.

17. The face profiles are shown here.

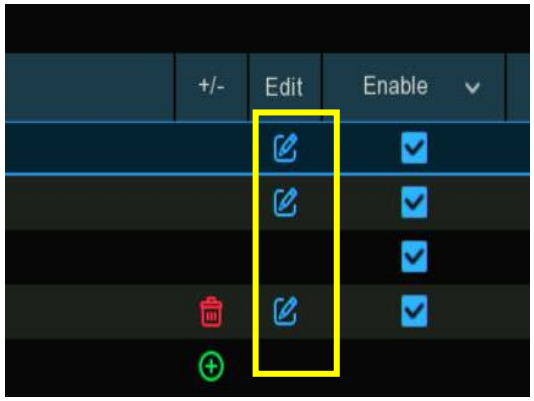
➔ Click **Import** to import the face profiles into the NVR.

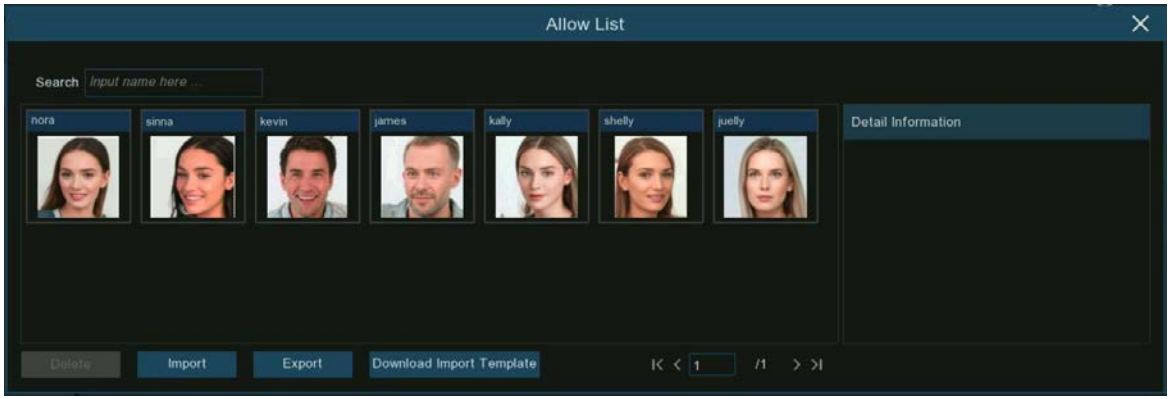


5.4.2.2.4. Edit Face Profiles

To edit or delete a face profile:

1. Click **Edit** for the group to edit.





2. Import and export images:

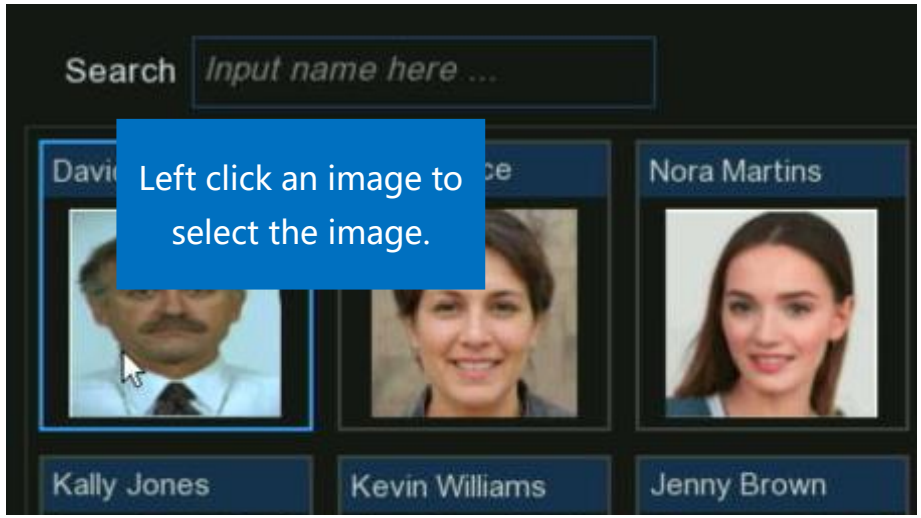
➔ **Import:** To import face images. View 5.4.2.2.1. Create Face Profiles.

➔ **Export:** To export face image(s) to external USB flash drive.

- Select an image, click **Export** to export an individual image.
- Click and hold the left mouse button, then drag the cursor to select multiple images.

  Click **Export** to export the selected images.
- Click **Export** directly to export all face images in this group.

3. Left click the mouse on an image to select the image. Right click the mouse to display a pop-up menu.



Right click the mouse to display the pop up menu.

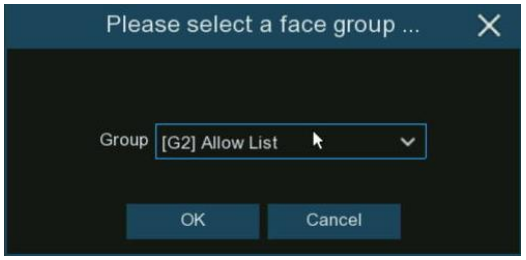
4. Select an option:

   ➔ **Edit:** Click to edit the face profile. Check how to edit 5.4.2.2.2. Create Individual Face Profile from External Storage Device.

   ➔ **Move To:** Click to move the face to another group.

Group: Select a group.

➔ Click **OK.**

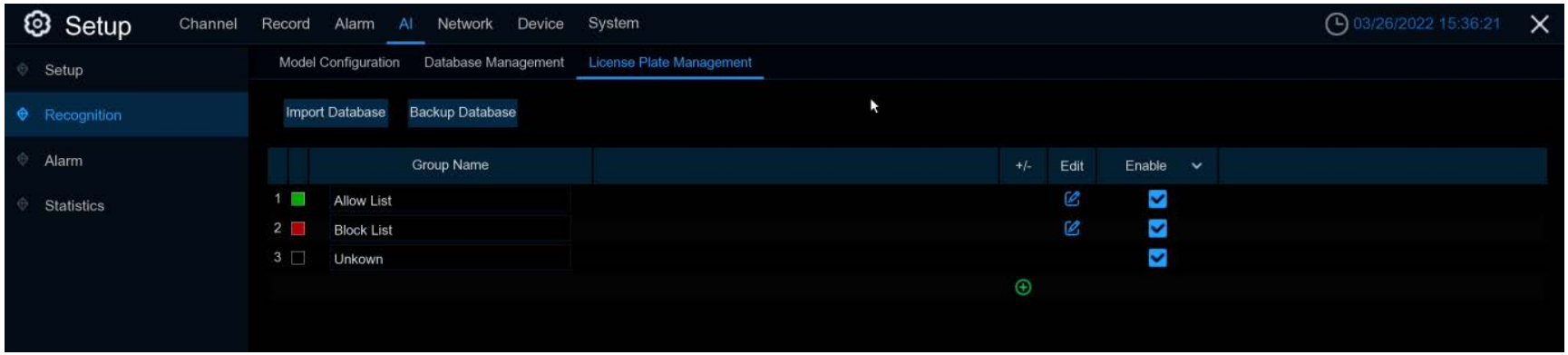


➔ **Delete:** To delete the selected face profile.

➔ **Detail Information:** Click to view the details of the selected face profile.

5.4.2.3. License Plate Management

Create and manage vehicle license plate profiles (database). Classify different vehicles into different groups in order to quickly identify vehicles as well as filter and receive notifications accordingly.



There are 3 default groups:

- ➔ **Allow List:** Generally used to define a list of vehicles that are regarded as acceptable or trustworthy. in a designated area.
- ➔ **Block List:** Generally used to define a list of vehicles that are regarded as unwanted or not permitted in a designated area.
- ➔ **Unknown:** All unspecified vehicles will be identified as unknown vehicles.

Click add ⊕ to create or click delete 🗑 to delete a customized group.

Backup Database: To create a backup of your database and export it to a USB flash drive. The exported database can be imported to the same or another NVR.

Import Database: To import a database that was previously exported to a flash drive.

Enable: Enable/disable a group or groups. For these features to work effectively it is highly recommended to create profiles to be added to a group.

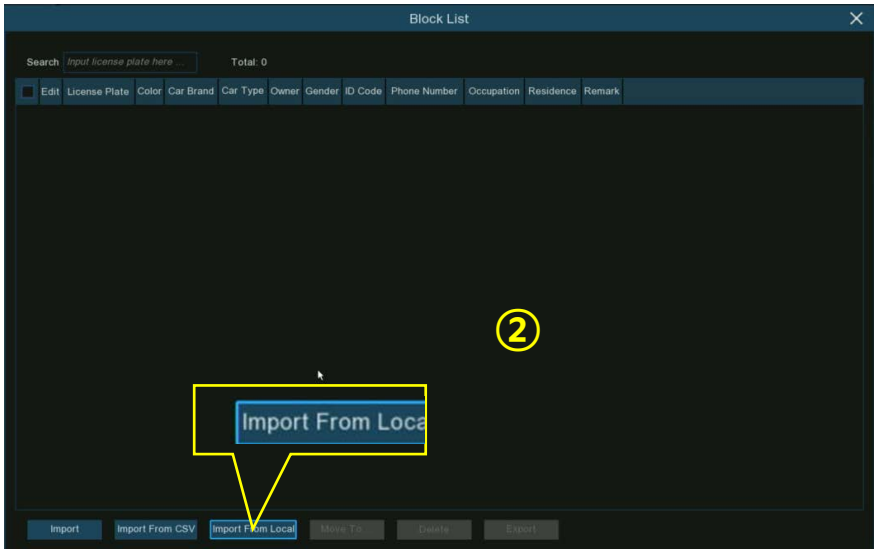
Note: The maximum number of license plate profiles that can be created in each group is 5,000.

5.4.2.3.1. Create License Profiles from Local Storage Device

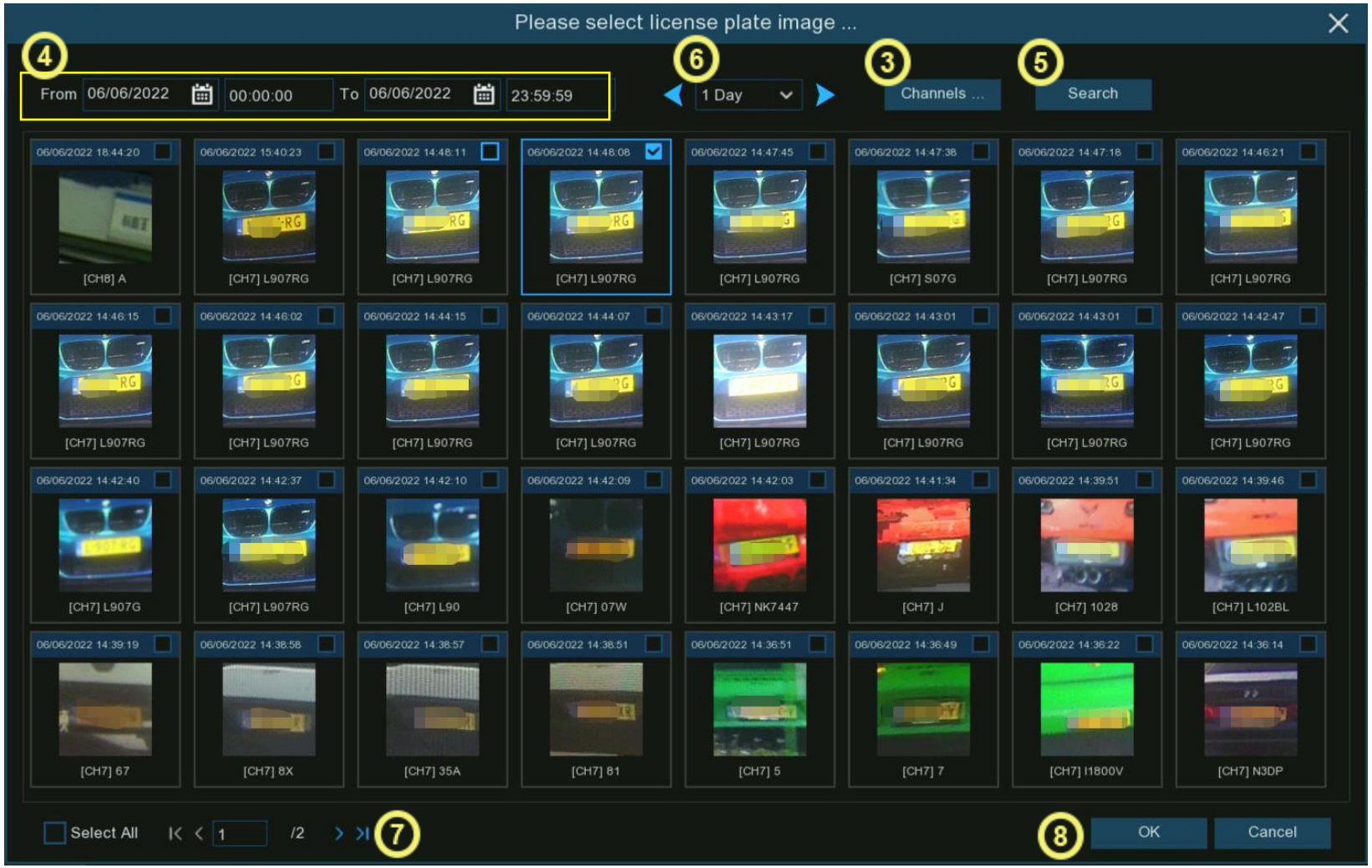
Create vehicle profiles from license plate images that have been captured and stored on the NVR.

1. Click "**Edit**" of the group to create license plate profiles for.

2. Click "**Import from Local**".

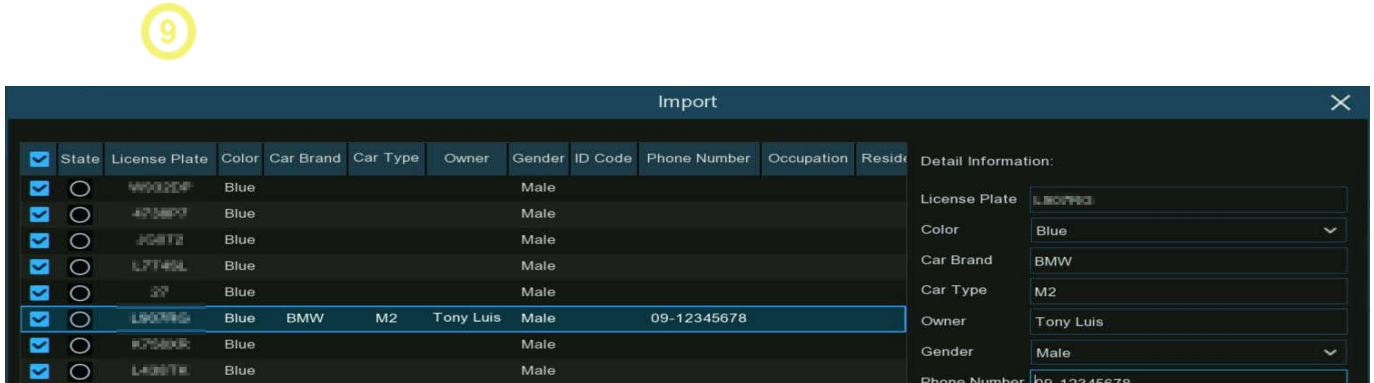


3. **Channels:** Specify the cameras to search. All channels are set to search by default.



4. Use the calendar to specify the date range.
5. **Search:** To execute a search based on the parameters selected.

6. Use the arrow buttons to quickly display license plate images from before the selected start dates or after the selected dates.
   ➔ Click the drop-down arrow to select how many days before and after the initial selected dates to search.
7. The search results will be displayed in the face list automatically.
   ➔ Use the arrow buttons to display the previous or next page of results.
8. Check the box on the top right corner of the image to select the license plate images that to import, click **OK**.
9. **Import:** Click on one of the license plates displayed (detailed information will be listed to the right) to edit the information, including license number, color, make & model of the vehicle, and the owner information.
   ➔ Click **Import** after editing, to save and add the selected license plates.

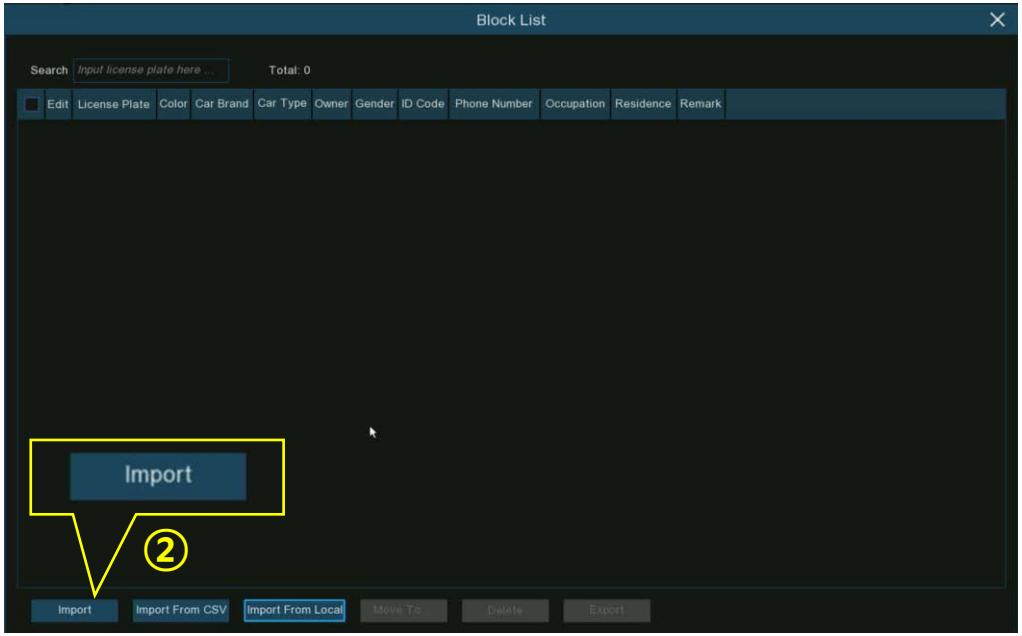


5.4.2.3.2. Create License Plate Profiles Manually

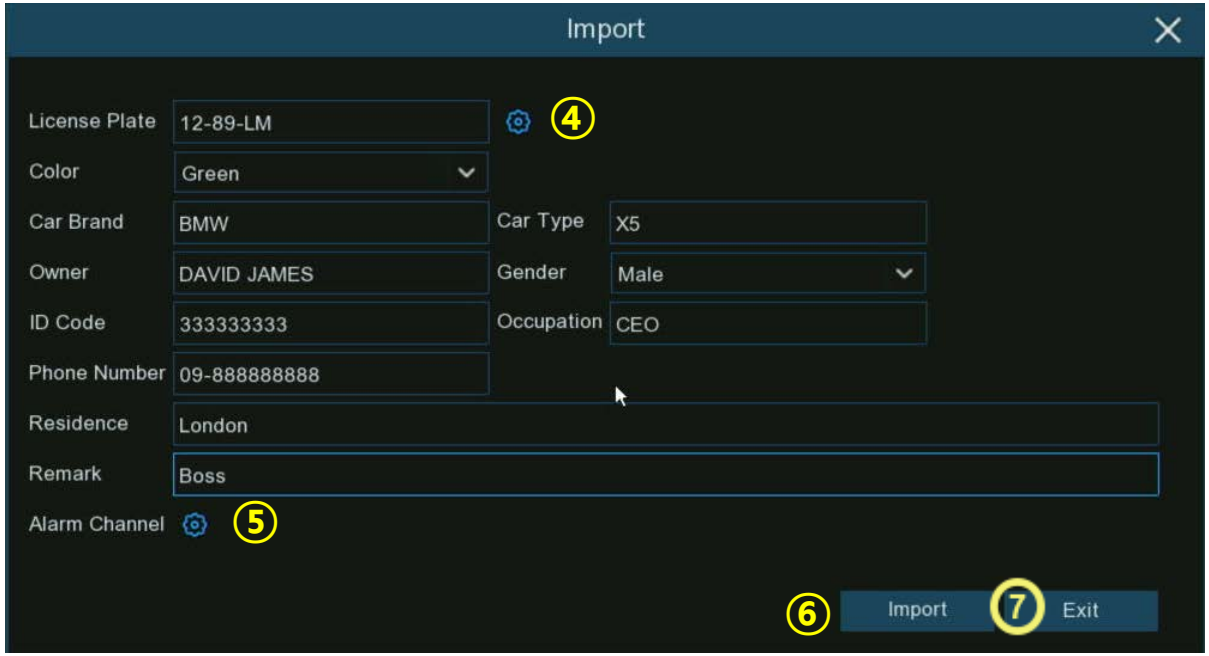
To create License Plate Profiles manualty.

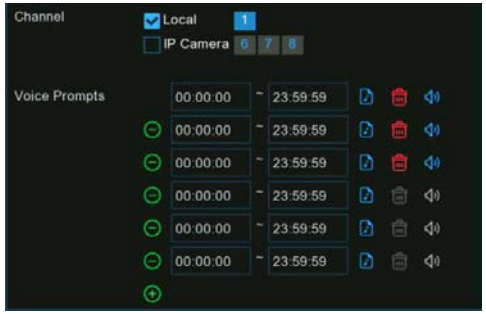
1. Click "**Edit**" of the group to create license plate profiles for.

2. Click **Import**.
3. Edit the license plate profile, including plate number, color, make/model, type of vehicle, and the owner's information.



4. Click ⚙ to configure the voice prompt for . View more on 5.3.9. Voice Prompts to learn how to configure this function.
5. **Alarm Channel:** Click ⚙ to configure.
   ➔ The system will alert when the license plate is detected and captured by the selected cameras.
6. Click **Import** after inputting the pertinent details.
7. Click **Exit** to finish.



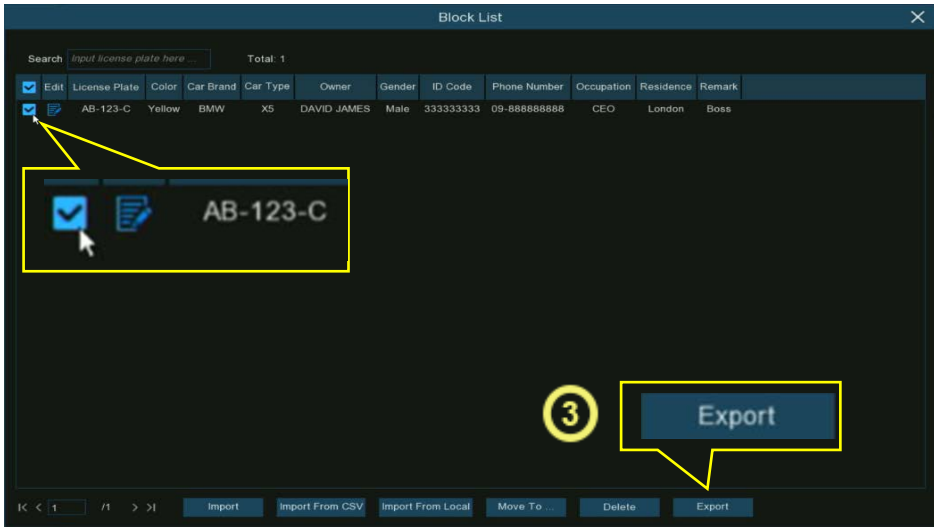


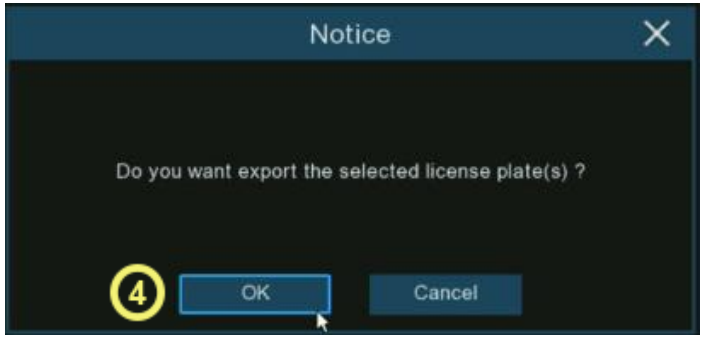
5.4.2.3.3. Create Bulk License Profiles

To create a batch of license plate profiles at once:

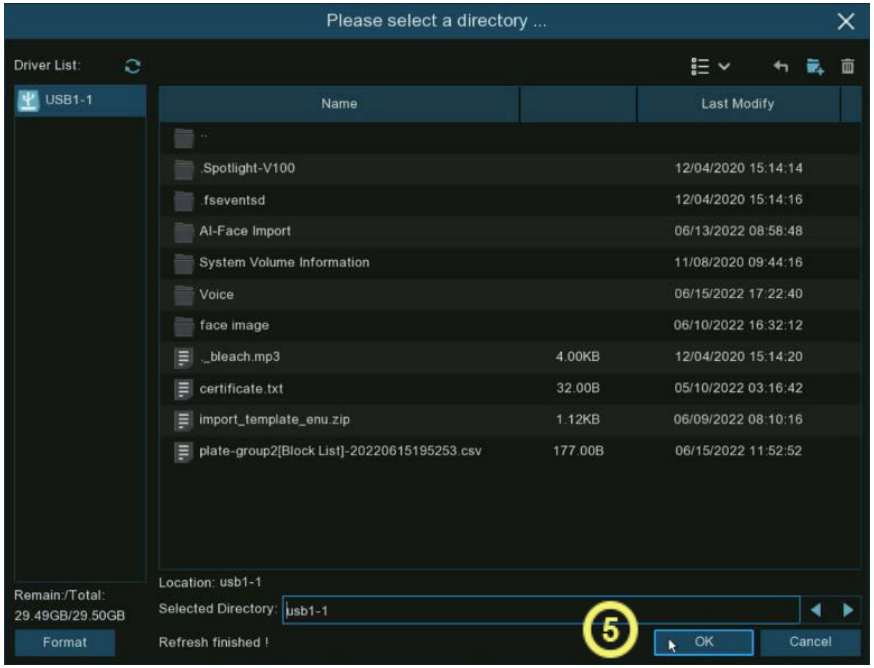
1. Insert a USB flash drive into the USB port of the NVR.
2. Click "**Edit**" of any group where at least one license plate profile already exists.

3. From the Group window, select at least one profile, click **Export**.



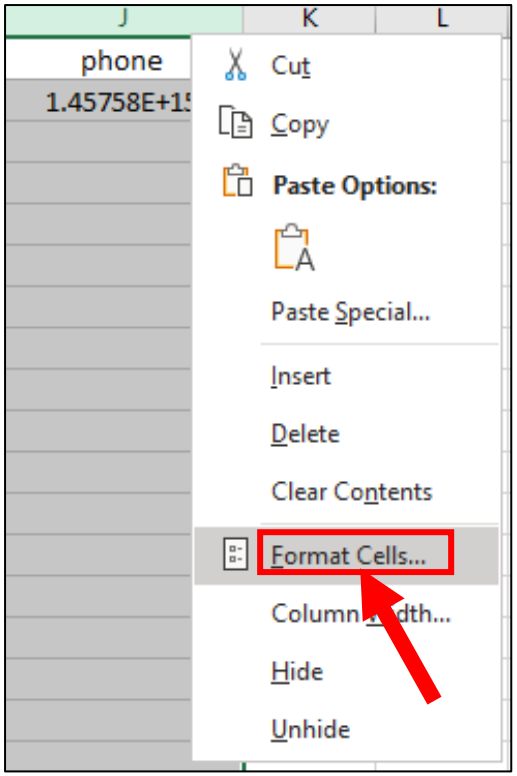


4. The ".csv" file will be exported and saved to the USB flash drive.
   Click **OK**.
5. Select the directory location to save the file.
   Click **OK**.



7. Edit the cells according to your actual conditions as illustrated as below:

License Plate	Color	Car Brand	Car Type	Owner	Gender	ID Code	Phone Number	Occupation	Residence	Remark
AB-123-2	blue	BMW	X5	Anna Joyce	Female	12345678911111	09-788 788 788	Professor	No. 10, xxx Road, London	
AB-123-3	yellow	Lamborghini	Huracan	Nora Martins	Female	12345678911111	09-788 788 789	Professor	No. 11, xxx Road, London	Boss
AB-123-4	black	Volkswagen	Bora	Shelly Clinton	Female	12345678911111	09-788 788 790	Editor	No. 12, xxx Road, London	
AB-123-5	green	Hyundai	Tucson	Sinna Donald	Female	12345678911111	09-788 788 791	Photographer	No. 13, xxx Road, London	
AB-123-6	black	Toyota	Highlander	James Timothy	Male	12345678911111	09-788 788 792	Director	No. 14, xxx Road, London	
AB-123-7	white	Honda	Accord	Juelly Smith	Female	12345678911111	09-788 788 793	Cashier	No. 15, xxx Road, London	
AB-123-8	black	Peugeot	4008	Kally Jones	Female	12345678911111	09-788 788 794	Reporter	No. 16, xxx Road, London	
AB-123-9	black	Chevrolet	Blazer	Kevin Williams	Male	12345678911111	09-788 788 795	Manager	No. 17, xxx Road, London	

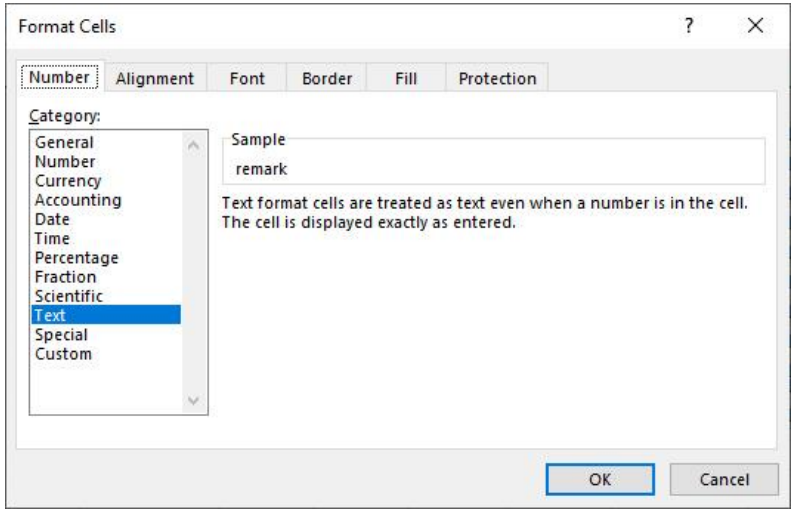


Please Note: If you input a number more than 11 digits (no spaces) in a cell, the system will display the number in scientific notation, e.g., "1.23457E+11". If so, adjust the format of the column to "Text":

Select the column (such as ID code and phone number) right click the mouse.

Click "**Format Cells…**" on the pop-up menu.

Choose "**Text**", click "**OK**".



phone
1.45758E+15

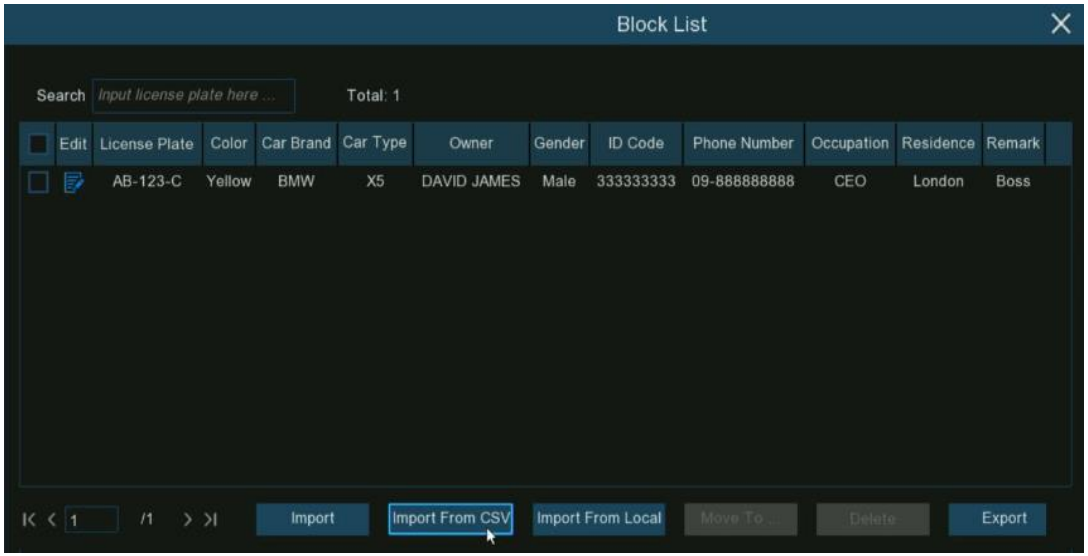
Follow the steps above to correct the format

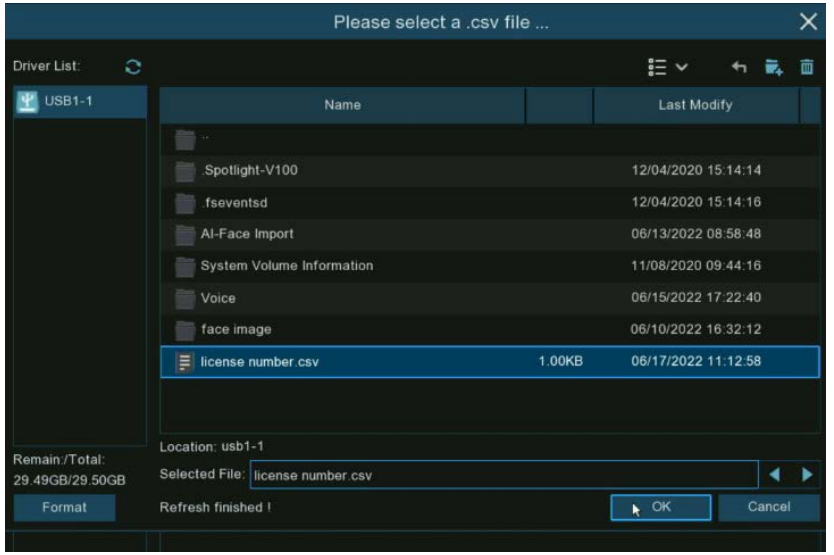
Thjs is the correct format

phone
014575767676

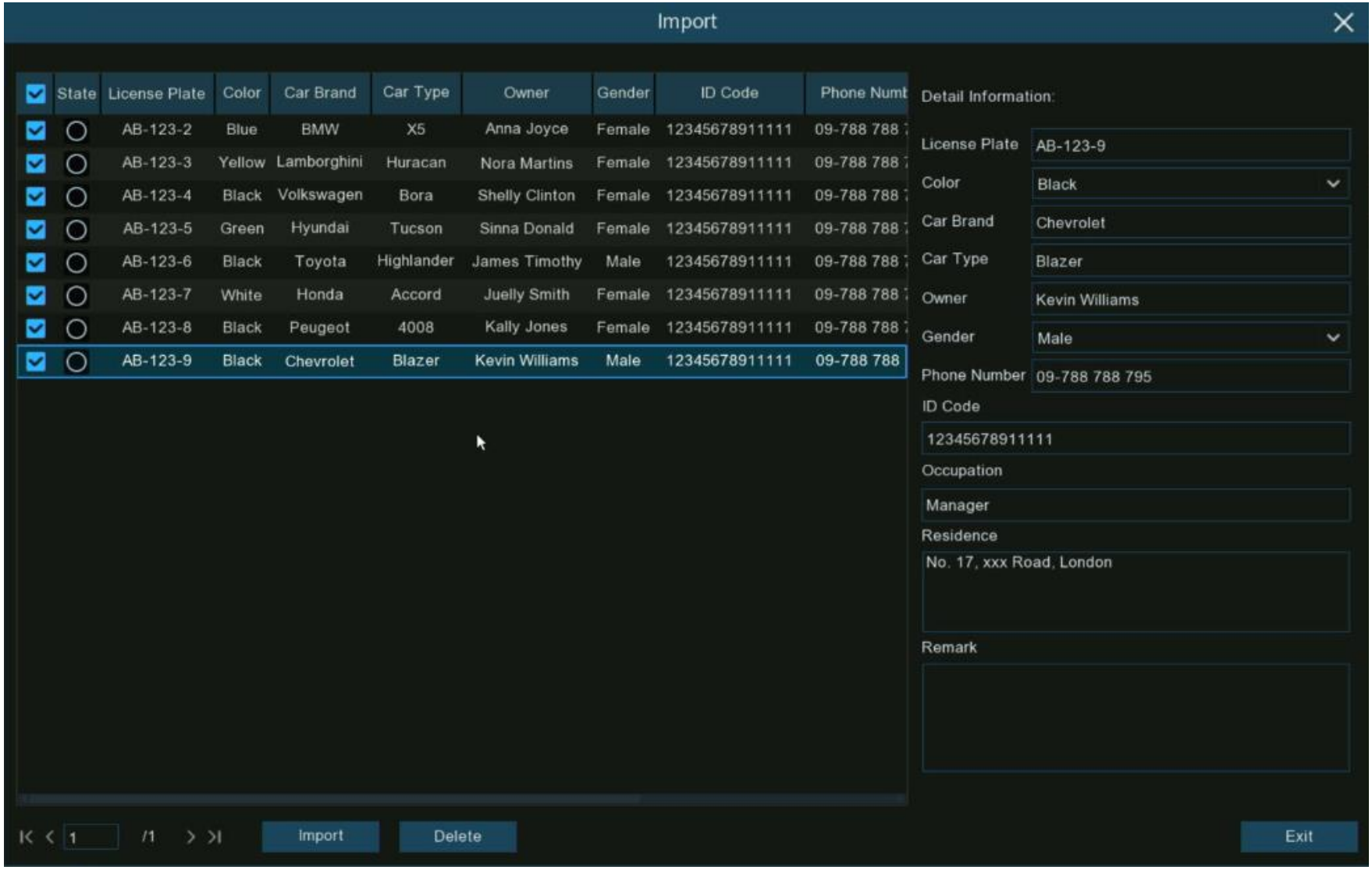
7. Save the ".csv" file. Make sure the file is saved as CSV UTF-8 type.
8. Copy and paste the ".csv" file to the USB flash drive.
9. Insert the USB flash drive into the USB port of the NVR.
10. Click "**Edit**" of a group to import vehicle license profiles to.

11. Click "**Import from CSV**" button, and then choose the ".csv" file from USB flash drive and click **OK**.





12. The list of license plate numbers will display as illustrated below.
    - ➔ Click on a license plate number, the detailed information will be list on the right.
    - ➔ Click **Import** to import the license plate profiles into the NVR.
    - ➔ Click **Exit** to finish.

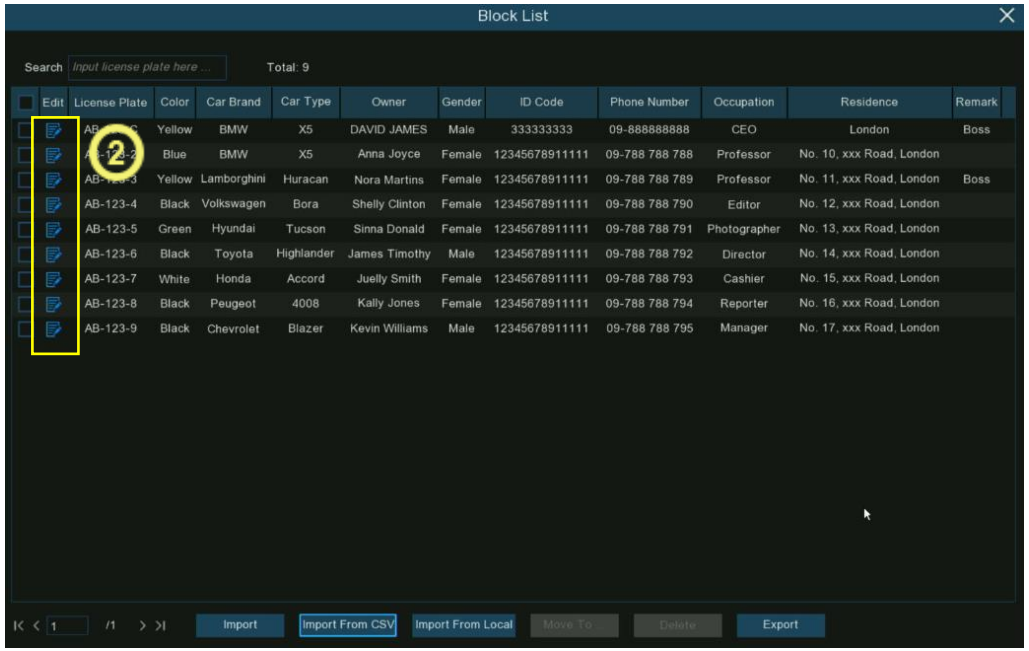

Import
State
License Plate
Color
Car Brand
Car Type
Owner
Gender
ID Code
Phone Numb
AB-123-2 Blue BMW X5 Anna Joyce Female 12345678911111 09-788 788
AB-123-3 Yellow Lamborghini Huracan Nora Martins Female 12345678911111 09-788 788
AB-123-4 Black Volkswagen Bora Shelly Clinton Female 12345678911111 09-788 788
AB-123-5 Green Hyundai Tucson Sinna Donald Female 12345678911111 09-788 788
AB-123-6 Black Toyota Highlander James Timothy Male 12345678911111 09-788 788
AB-123-7 White Honda Accord Juelly Smith Female 12345678911111 09-788 788
AB-123-8 Black Peugeot 4008 Kally Jones Female 12345678911111 09-788 788
AB-123-9 Black Chevrolet Blazer Kevin Williams Male 12345678911111 09-788 788
Detail Information:
License Plate AB-123-9
Color Black
Car Brand Chevrolet
Car Type Blazer
Owner Kevin Williams
Gender Male
Phone Number 09-788 788 795
ID Code
12345678911111
Occupation
Manager
Residence
No. 17, xxx Road, London
Remark
1
/1
Import
Delete
Exit

5.4.2.3.4. Edit License Profiles

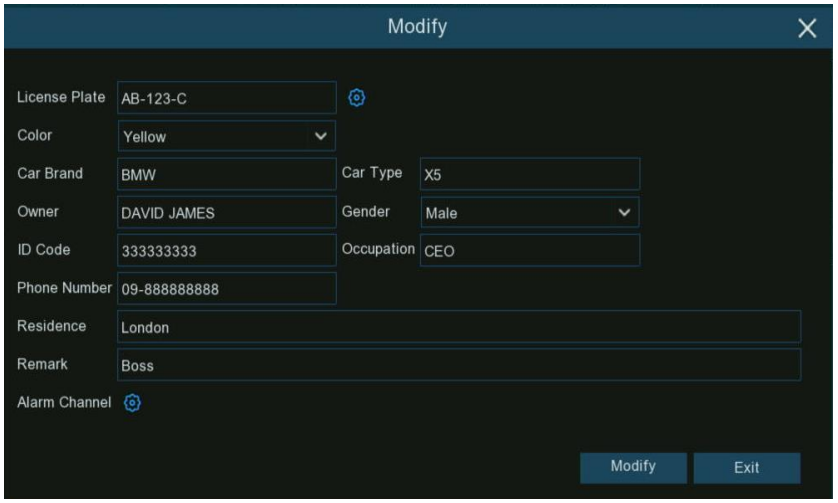
To edit or delete a face profile.:

1. Click **Edit** of a group to edit the vehicle license plate profiles in.

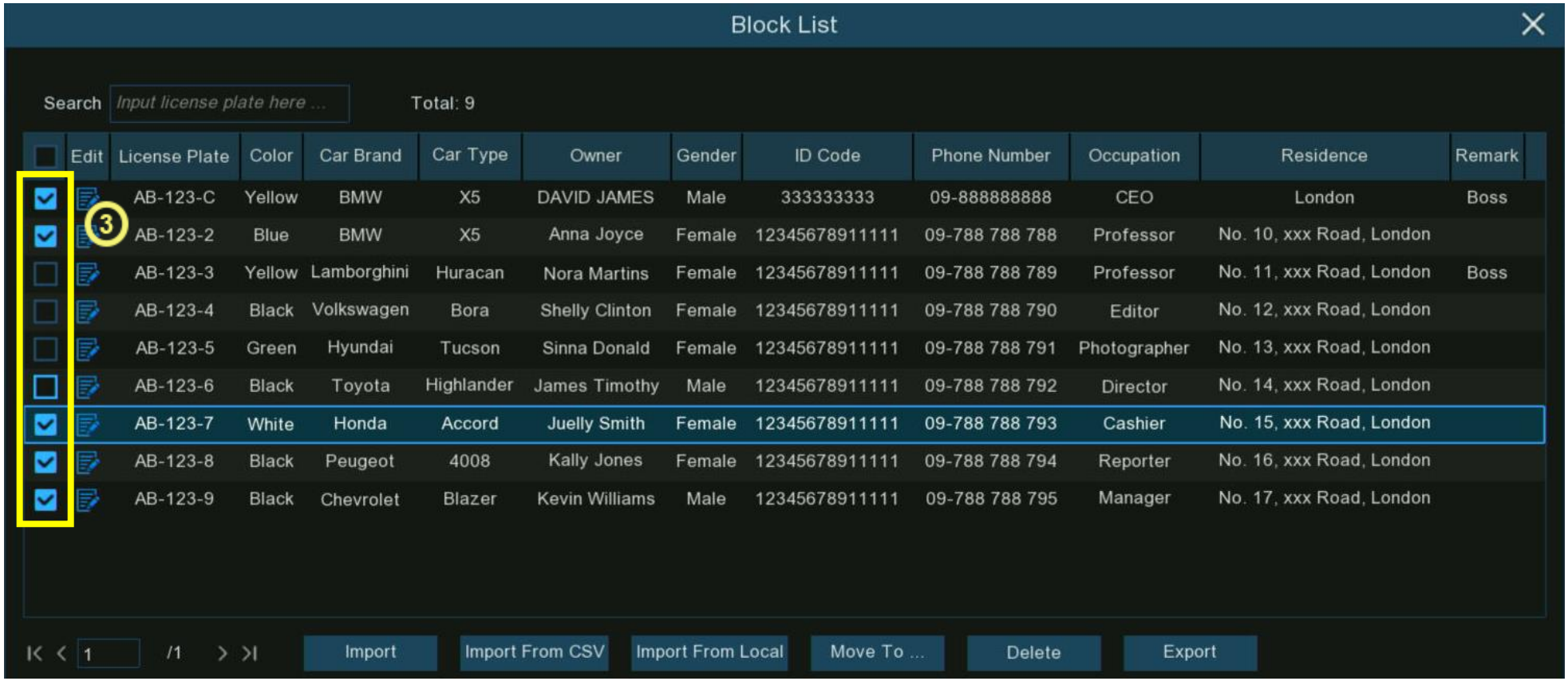
2. Click **Edit** to modify the license plate profile details.



Modify the information. Click **Modify** to apply.



To delete, move or export license profile(s):



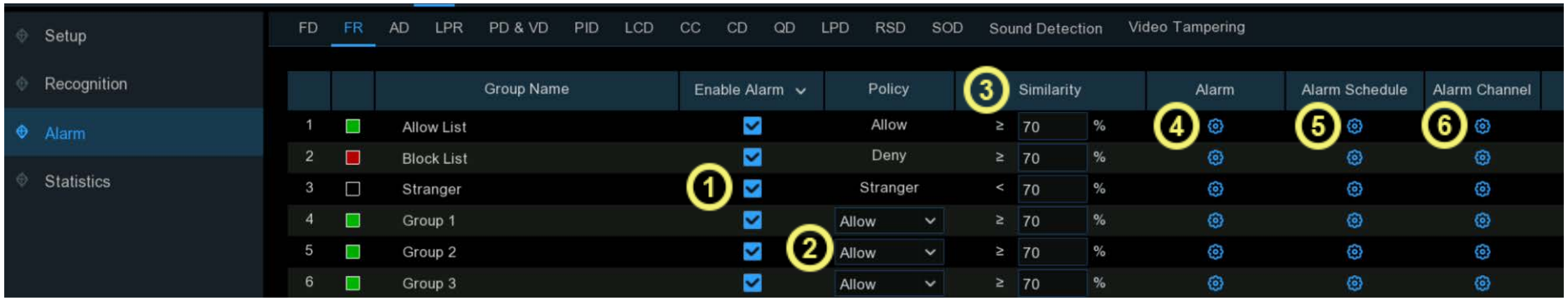
3. Select the license profile.
   - ➔ Click "**Delete**" and confirm to delete the selected license profile(s).
   - ➔ Click "**Move To…** ", select the targeted group.
   - ➔ Click "**Export**" to save a ".csv" file to a USB flash drive.

5.4.3. AI Alarm Settings

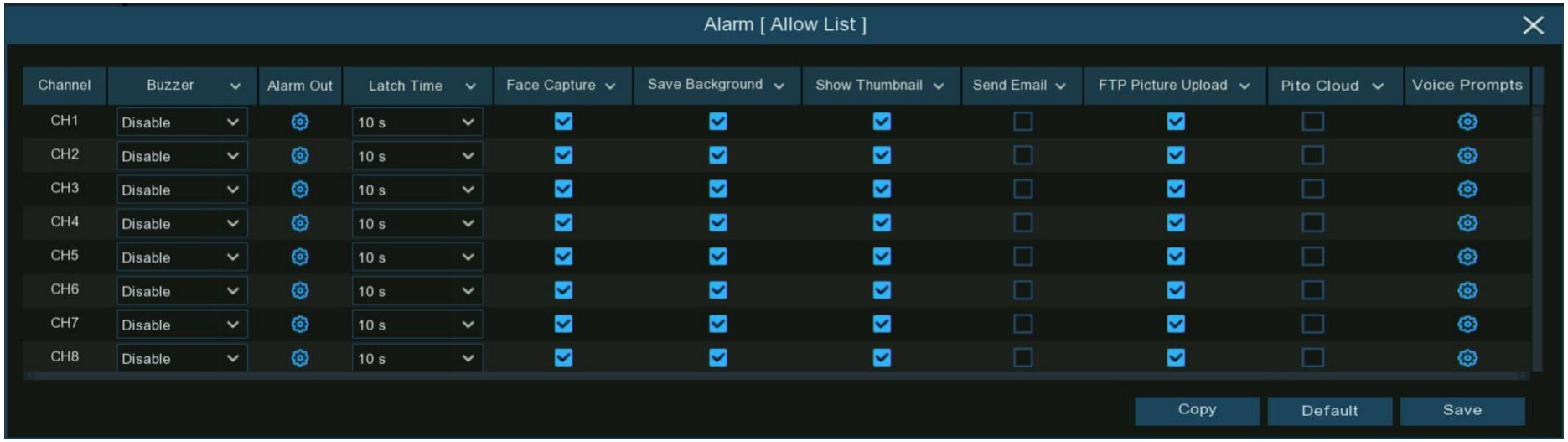
Configure the alarm actions when event occurs.

5.4.3.1. FR (Face Recognition) Alarm Settings

Configure alarm actions for different groups when faces are detected.



1. **Enable Alarm:** Select the group(s) to enable alarm functions. If the checkbox isn't enabled, no actions specified for the group such as alarm notifications will be carried out by the NVR. It is strongly recommended that the "**Stranger**" group remains enabled. This allows the NVR to save the images of every single face detected, (including those that do not match any existing face profiles) to the database. These captured face images can be used later to create or improve face profiles in the Allow List & Block List groups.
2. **Policy:** If a customized group has been created, set the policy of the customized group to either **Allow** or **Deny**.The three preset face groups: Allow, Block, and Stranger list policy can not be changed.
3. **Similarity:** Set how closely, in percentage terms, the detected face must match a face profile in the group to be considered a recognized match. The default threshold is 70%. A higher percentage of similarity will result in fewer false recognition results.
4. **Alarm:** Click ⚙ to specify the group actions to be taken by the NVR when a face recognition event has occurred.



➔ **Buzzer:** Enable/disable the NVR's buzzer sounding for a predetermined amount of time when a face is detected. Click the drop-down menu to select a time.

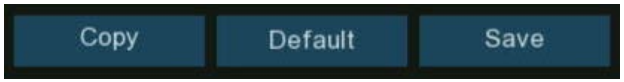
➔ **Alarm Out:** If the NVR or IP camera supports connecting to external relay output devices, the system can send an alert message to the external alarm devices. Click button, to choose the external alarm devices:

Local: External alarm devices connected to the NVR.

CH->1: External alarm devices connected to IP cameras.

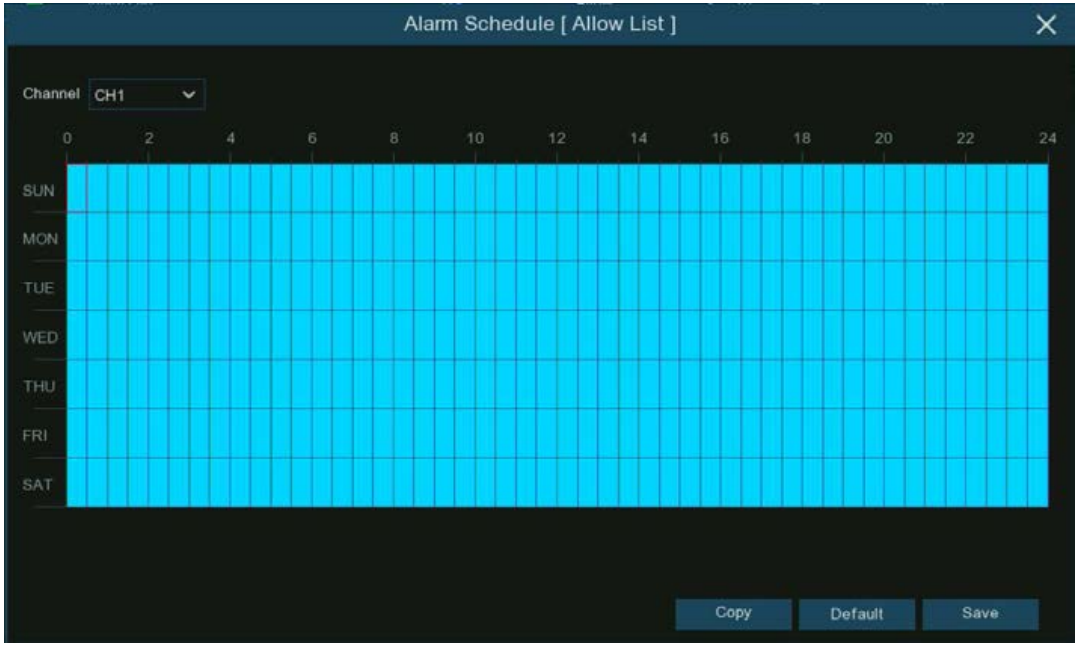
➔ **Latch Time:** To configure the external alarm time when detection is triggered.

- **Face Capture:** Enable/disable: a snapshot of the recognized face is saved to the face database in the NVR. Leave this option enabled so more facial images can be added to profiles later to improve the accuracy of face recognition.
- **Save Background:** Enable/disable: a snapshot of the background will be saved together with the face image. It is recommended to leave this option enabled.
- **Show Thumbnail:** Enable/disable: to display a snapshot of the recognized face via the Alarm Notification Panel in Live View mode. Disabling this option will stop facial recognition events from appearing in the Alarm Notification Panel.
- **Send Email:** Enable/disable: to send an email to be sent when an alarm event is detected.
- **FTP Picture Upload:** Enable/disable: to send snapshots to a ftp server when detection is triggered.
- **Picture to Cloud:** Enable/disable: to send snapshots to the cloud via Dropbox or Google Drive when detection is triggered.
- **Voice Prompts:** Enable/disable in supporting models. If the NVR connects to a speaker, a customized voice alert can play when detection is triggered. See how to add customized alert voice on 5.3.9 Voice Prompts.



- **Default:** to revert to default settings.
- **Copy:** to apply all settings to the other connected cameras.
- **Save:** to save settings.

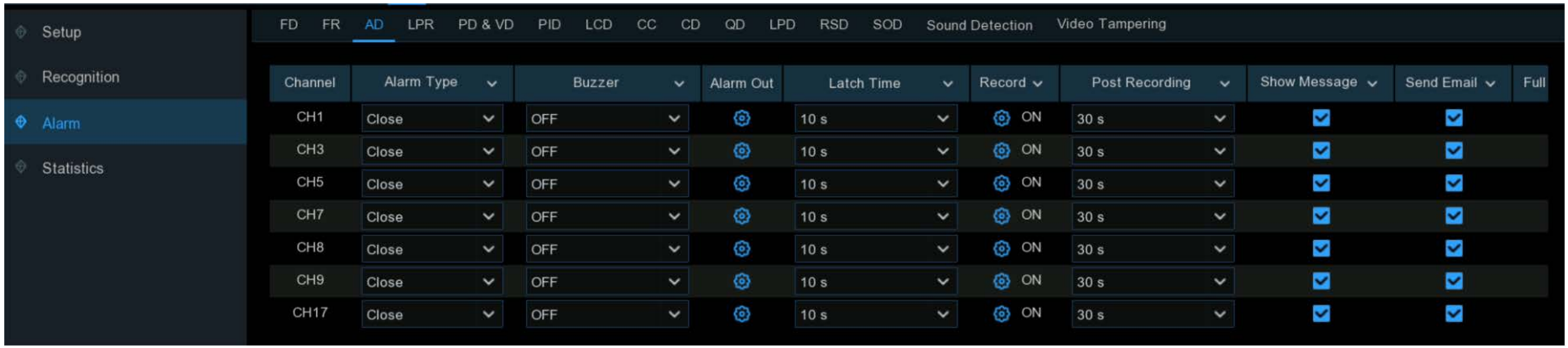
5. **Alarm Schedule:** Click ⚙ to configure the schedule of when alarm actions specified for the group will be active.
   - ➔ **Channel:** Select the channel.
   - ➔ Click the mouse on a square, drag the cursor to select the hours of the day/night the alarm schedule will be active.
   - ➔ The blue blocks are the hours that will be active for alarm actions. The schedule is valid only for the selected channel.
   - ➔ Use the **Copy** option to set the same schedule for other cameras.
   - ➔ **Save:** to save the settings.



6. **Alarm Channel:** Click ⚙ to configure when the NVR will alert for faces detected and captured by the selected cameras.
   - ➔ Use the **Copy** option to use the same settings on other channels.
   - ➔ **Save:** to save the settings.

5.4.3.2 AD (Attribution Detection) Alarm Settings

Detect people's facial features and send an alarm according to the settings.



Alarm Type: Select an alarm trigger condition:

- ➔ **No Mask:** When a person is detected not wearing a face mask, the NVR will send an automated alert
- ➔ **Wear Mask:** When a person is detected wearing a face mask, the NVR will send an automated alert
- ➔ **Close:** The face mask detection will be disabled.

Note: To enable the face mask detection function, the Face Detection and Face Attribute function must be enabled on the camera. To get an alert in real-time, set the snap mode to Real-time. View more on 5.4.1.1. FD (Face Detection).

Buzzer: Enable/disable the NVR's buzzer sounding for a predetermined amount of time when an event is triggered.

- ➔ Click the drop-down menu to select a time.

Alarm Out: Enable/disable in supporting models only. If the NVR or IP camera supports connecting external relay output devices, the system can send an alert message to the external alarm devices.

- ➔ Click ⚙ button, to choose the external alarm devices:
- ➔ **Local:** External alarm devices connected to the NVR.
- ➔ **CH->1:** External alarm devices connected to IP cameras.

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

Record: Click ⚙.Select "**Record Channel**" to enable recording.

- ➔ **Optional:** Select the channel number(s)to have those cameras also record when an event is triggered in the initial camera being set.

Post Recording: Set the length of time after an event occurs the camera will continue to record. The default selection is recommended.

Show Message: Enable/disable the alarm icon S appearing on screen when an event is triggered.

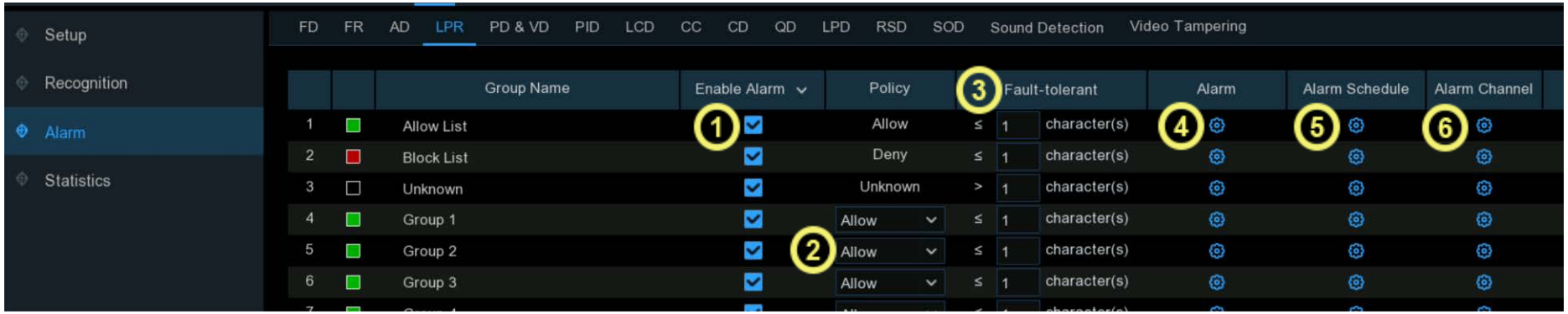
Send Email: Enable/disable an email alert to be sent when an alarm event is triggered.

Full Screen: Enable/disable the camera displaying full-screen in Live View mode when an event is triggered.

- ➔ **Default:** to revert to default settings.
- ➔ **Copy:** Use the "**Copy**" option to apply all settings to the other connected cameras.
- ➔ **Apply:** to save settings.

5.4.3.3. LPR (License Plate Recognition) Alarm Settings

Configure alarm actions for different groups when license plates are detected.



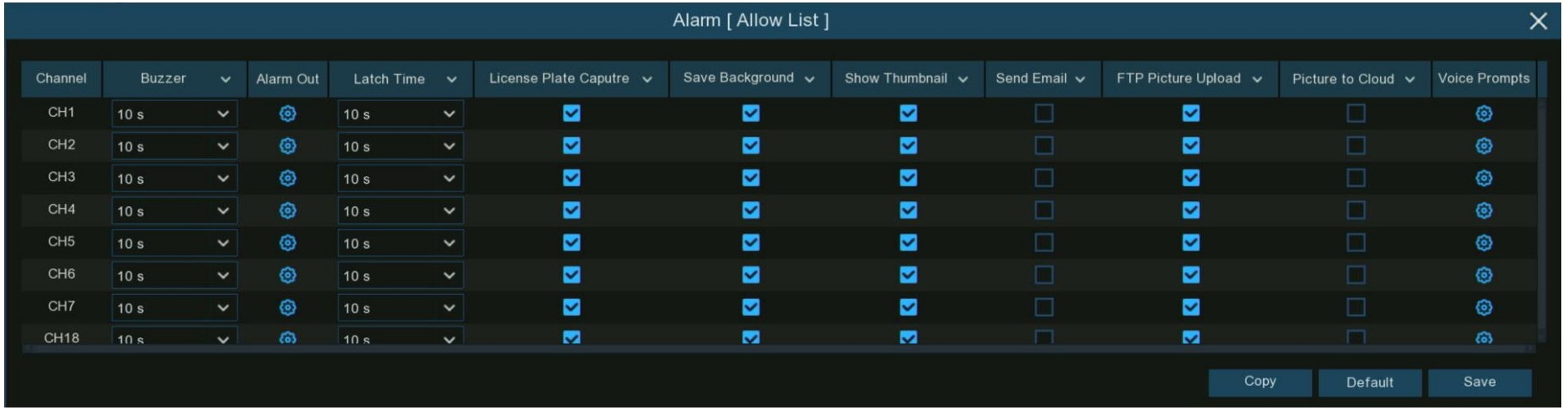
1. **Enable Alarm:** Enable/disable alarm functions for a group. If disabled, no actions, such as alarm notifications will be carried out by the NVR. It is recommended the "**Unknown**" group remains enabled. So the NVR will save the images of every license plate detected (even if they don"t match existing license plate profiles). They can be used later to create or improve license profiles in the Allow & Block List groups.
2. **Policy:** Set the policy of created groups to **Allow** or **Deny**. The preset groups: Allow, Block, and Unknown lists, can"t be changed.
3. **Fault Tolerance:** Variances in image resolution, light strength, camera angle, moving speed of the vehicle etc., can result in character(s) in the license plate number failing to be recognized. Set the Fault Tolerance for how many characters of the detected license plate can be different from the license plate number saved in the group. If the number of characters that are different between the detected license plate number and a license plate profile in the group is no more than the set value, the detected license will be considered a recognized match.

Recognized License Number	Number in License Profile	Fault Tolerance	Recognition Result
AB123C	AB-123-C	≤2 characters	True
AB123C	AB-123-C	≤0 or 1 character	False
A8I23C	AB123C	≤2 characters	True
A8I23C	AB123C	≤0 or 1 character	False
B594SB	B734KB	≤3 characters	True
B594SB	B734KB	≤2 character	False
AB132C	AB123C	≤2 characters	True
AB123C	AB123C	≤0 or 1 character	False

Samples for true of false result

Note: Only English letters and numbers will be recognized by the system. Special characters, like underline _, virgule /, hyphen -, will not be recognized. Set the Fault Tolerance accordingly if special characters are in a license plate number of any license plate profiles created.

4. **Alarm:** Click the button setup to specify the group actions to be taken by your NVR when a LPR event has occurred.



➔ **Buzzer:** Enable/disable the NVR's buzzer sounding for a predetermined amount of time when an event is triggered.

Click the drop-down menu to select a time.

➔ **Alarm Out:** Enable/disable in supporting models only. If the NVR or IP camera supports connecting external relay output devices, the system can send an alert message to the external alarm devices.

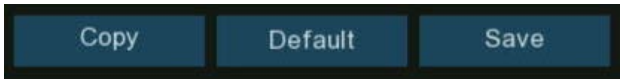
Click button, to choose the external alarm devices:

Local: External alarm devices connected to the NVR.

CH->1: External alarm devices connected to IP cameras

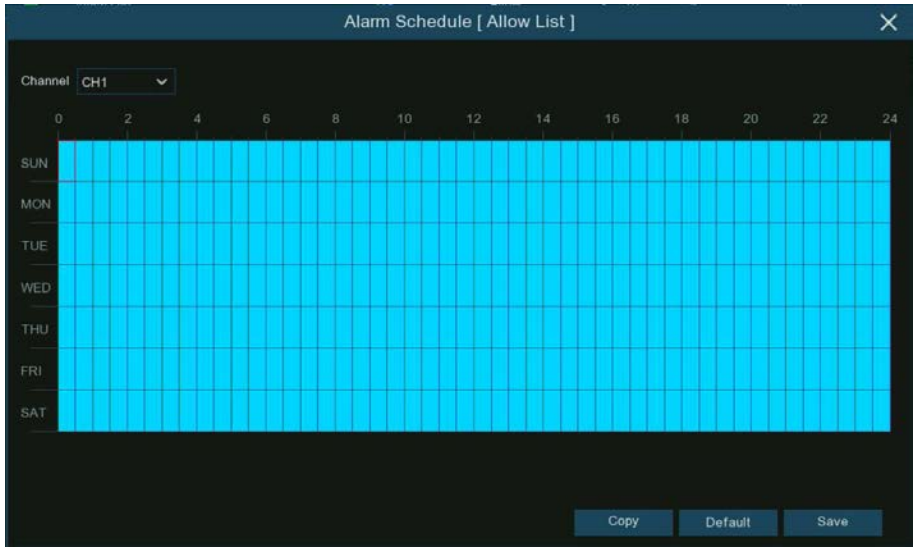
➔ **Latch Time:** To configure the external alarm time when the detection is triggered.

- **License Plate Capture:** Enable/disable: a snapshot of the recognized plate is saved to the database in the NVR. Leave this option enabled so more images can be added to profiles later to improve the accuracy of plate recognition.
- **Save Background:** Enable/disable: a snapshot of the background will be saved together with the plate image. It is recommended to leave this option enabled.
- **Show Thumbnail:** Enable/disable: to display a snapshot of the recognized plate via the Alarm Notification Panel in Live View mode. Disabling this option will stop plate recognition events from appearing in the Alarm Notification Panel..
- **Send Email:** Enable/disable: sending an email alert when alarm event is detected.
- **FTP Picture Upload:** Enable/disable: to send snapshots to a ftp server when detection is triggered.
- **Picture to Cloud:** Enable/disable: to send snapshots to the cloud via Dropbox or Google Drive when detection is triggered.
- **Voice Prompts:** Enable/disable in supporting models. If the NVR connects to a speaker, a customized voice alert can play when detection is triggered. See how to add customized alert voice on 5.3.9 Voice Prompts.



- **Default:** to revert to default settings.
- **Copy:** to apply all settings to the other connected cameras.
- **Save:** to save settings.

5. **Alarm Schedule:** Click ⚙ to configure the schedule of when alarm actions specified for the group will be active.

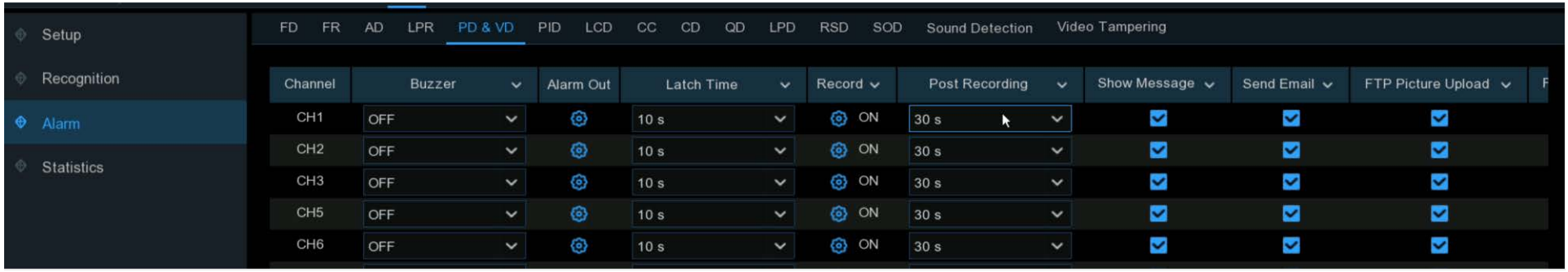


   - ➔ **Channel:** Select the channel.
   - ➔ Click the mouse on a square, drag the cursor to select the hours of the day/night the alarm schedule will be active.
   - ➔ The blue blocks are the hours that will be active for alarm actions. The schedule is valid only for the selected channel.
   - ➔ Use the **Copy** option to set the same schedule for other cameras.
   - ➔ **Save:** to save the settings.

6. **Alarm Channel:** Click ⚙ to configure when the NVR will alert for plates detected and captured by the selected cameras.
   - ➔ Use the **Copy** option to use the same settings on other channels.
   - ➔ **Save:** to save the settings.

5.4.3.4. PD & VD (Human & Vehicle Detection) Alarm Settings

Configure alarm actions when human beings and/or vehicles are detected.



Buzzer: Enable/disable the NVR's buzzer sounding for a predetermined amount of time when an event is triggered.

➔ Click the drop-down menu to select a time.

Alarm Out: Enable/disable in supporting models only. If the NVR or IP camera supports connecting external relay output devices, the system can send an alert message to the external alarm devices.

➔ Click ⚙ button, to choose the external alarm devices:

➔ Local: External alarm devices connected to the NVR.

➔ **CH->1:** External alarm devices connected to IP cameras

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

Record: Record: Click ⚙.Select "**Record Channel**" to enable recording.

➔ **Optional:** Select the channel number(s)to have those cameras also record when an event is triggered in the initial camera being set.

Post Recording: Set the length of time after an event occurs the camera will continue to record. The default selection is recommended.

Show Message: Enable/disable the alarm icon appearing on screen when an event is triggered.

Send Email: Enable/disable an email alert being sent when an alarm event is triggered.

FTP Picture Upload: Enable/disable: to send snapshots to a ftp server when detection is triggered.

FTP Video Upload: Enable/disable: to send videos to a ftp server when detection is triggered..

Picture to Cloud: Enable/disable: to send snapshots to the cloud via Dropbox or Google Drive when detection is triggered.

Video to Cloud: Enable/disable: to send videos to the cloud via Dropbox or Google Drive when detection is triggered.

Full Screen: Enable/disable the camera displaying full-screen in Live View mode when an event is triggered.

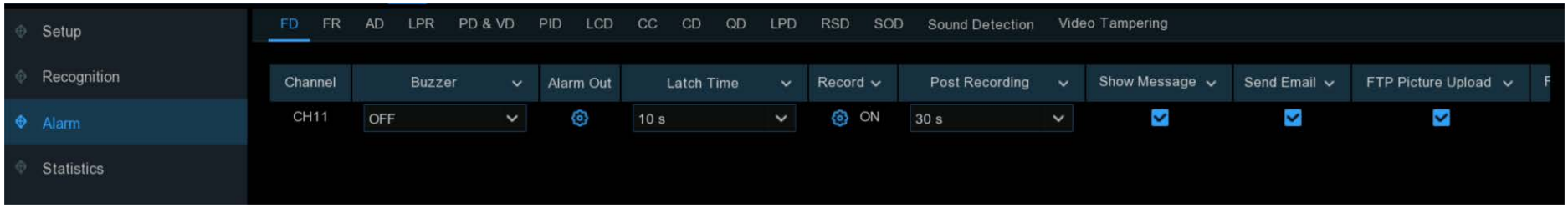
Voice Prompts: Enable/disable in supporting models. If the NVR connects to a speaker, a customized voice alert can play when detection is triggered. See how to add customized alert voice on 5.3.9 Voice Prompts.

- ➔ **Default:** to revert to default settings.
- ➔ **Copy:** to apply all settings to the other connected cameras.
- ➔ **Save:** to save settings.

5.4.3.5. FD/PID/LCD/CC/CD/QD/LPD/RSD/SOD/Sound Detection/Video Tampering Alarm Settings

The setting method to configure alarm actions is same for FD (Face Detection), PID (Perimeter Intrusion Detection), LCD (Line Crossing Detection), CC (Cross Counting), CD (Crowd Detection), QD (Queue Length Detection), LPD (License Plate Detection), RSD (Rare Sound Detection), SOD (Stationary Object Detection), Sound Detection and Video Tampering.

Note: License **P**late **D**etection differs from License Plate Recognition. LPD "detection" takes action if license plates are detected, whether the license plates match a created profile or not. LPR "recognition" triggers alarm actions for plates recognized as a match to a created profile.



Buzzer: Enable/disable the NVR's buzzer sounding for a predetermined amount of time when an event is triggered.

➔ Click the drop-down menu to select a time.

Alarm Out: Enable/disable in supporting models only. If the NVR or IP camera supports connecting external relay output devices, the system can send an alert message to the external alarm devices.

➔ Click button, to choose the external alarm devices:

➔ Local: External alarm devices connected to the NVR.

➔ **CH->1:** External alarm devices connected to IP cameras

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

Record: Record: Click .Select "**Record Channel**" to enable recording.

➔ **Optional:** Select the channel number(s)to have those cameras also record when an event is triggered in the initial camera being set.

Post Recording: Set the length of time after an event occurs the camera will continue to record. The default selection is recommended.

Show Message: Enable/disable the alarm icon appearing on screen when an event is triggered.

Send Email: Enable/disable an email alert to be sent when an alarm event is triggered.

FTP Picture Upload: Enable/disable: to send snapshots to a ftp server when detection is triggered.

FTP Video Upload: Enable/disable: to send videos to a ftp server when detection is triggered..

Picture to Cloud: Enable/disable: to send snapshots to the cloud via Dropbox or Google Drive when detection is triggered.

Video to Cloud: Enable/disable: to send videos to the cloud via Dropbox or Google Drive when detection is triggered.

Full Screen: Enable/disable the camera displaying full-screen in Live View mode when an event is triggered.

Voice Prompts: Enable/disable in supporting models. If the NVR connects to a speaker, a customized voice alert can play when detection is triggered. See how to add customized alert voice on 5.3.9 Voice Prompts.

➔ **Default:** to revert to default settings.

➔ **Copy:** to apply all settings to the other connected cameras.

➔ **Save:** to save settings.

5.4.4. Statistics

Retrieve and present statistical data when related AI detection is enabled on the camera(s).

5.4.4.1. FR (Face Recognition) Statistics

Retrieve and present statistical data relating to the detection of faces when Face Recognition is enabled on the camera. The bar chart displays the number of faces that were detected during a specified time period. The pie chart displays the percentage share and frequency of detected faces added to each group.

Groups: Select the groups to retrieve the face recognition data from. By default, all groups have been selected.

Channels: Select the channels to retrieve the face recognition data from. By default, all channels have been selected.

Day/Week/Month/Quarter/Year: Click the drop-down menu to select the time increment to use when retrieving the face recognition data.

Calendar: Select the start date, click ◀ or ▶ to move to the last or next time increments data.

Export: Export the facial recognition data for the selected time period to a USB flash drive. The file will be saved as a *.CSV file. Open the file in Excel (or similar software) to further analyze the data.

5.4.4.2. PD & VD (Human & Vehicle Detection) Statistics

Retrieve and present statistical data relating to the detection of persons and vehicles when PD&VD is enabled on the camera. The bar chart displays the number of humans and/or vehicles that were detected during a specified time period.

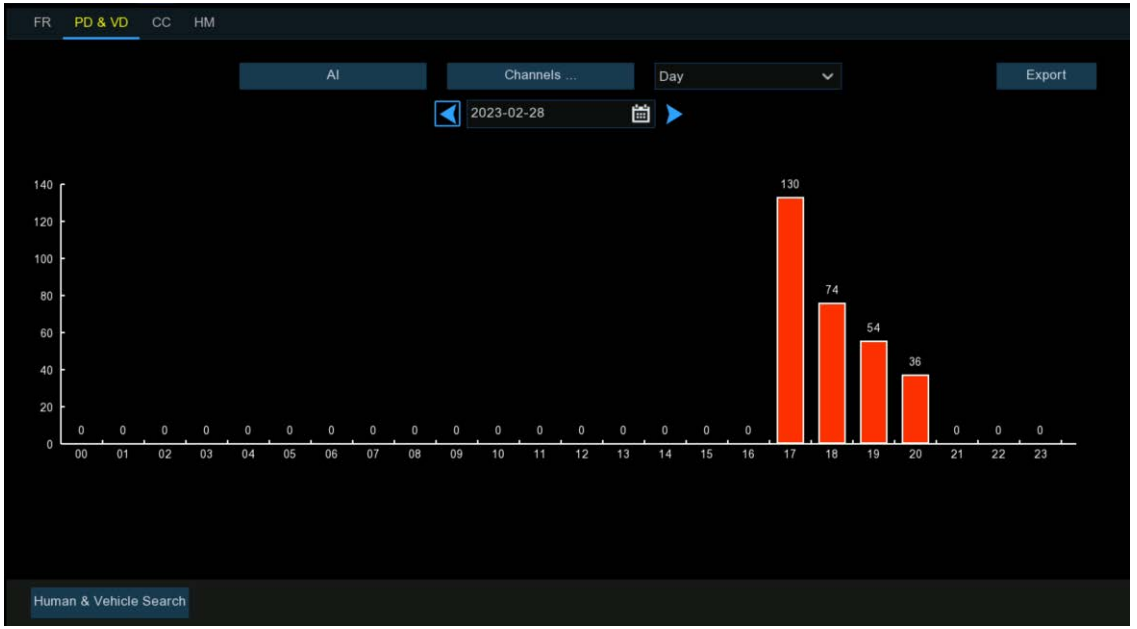
AI: Select the detection type(s) to retrieve the PD&VD detection data from. By default, all types have been selected.

Channels: Select the channel(s) to retrieve the PD&VD detection from. By default, all channels have been selected.

Day/Week/Month/Quarter/Year: Click the drop-down menu to select the time increment to use when retrieving the PD&VD data.

Calendar: Select the start date, click ◀ or ▶ to move to the last or next time increments data.

Export: Export the PD&VD data for the selected time period to a USB flash drive. The file will be saved as a *.CSV file. Open the file in Excel (or similar software) to further analyze the data.



5.4.4.3. CC (Cross Counting) Statistics

Retrieve and present statistical data relating to the times an object or person crossed a virtual counting line, when cross counting detection is enabled on the camera.

Channel: Select the channel.

Date: Select the search date.

Cross Type: Select Cross In or Cross Out.

Detection Type: Select from Motion, Person, Motor Vehicle or Non-motor Vehicle.

Click **Search.**

Column Chart: The default display mode.

Line Chart: To display as Line Chart.

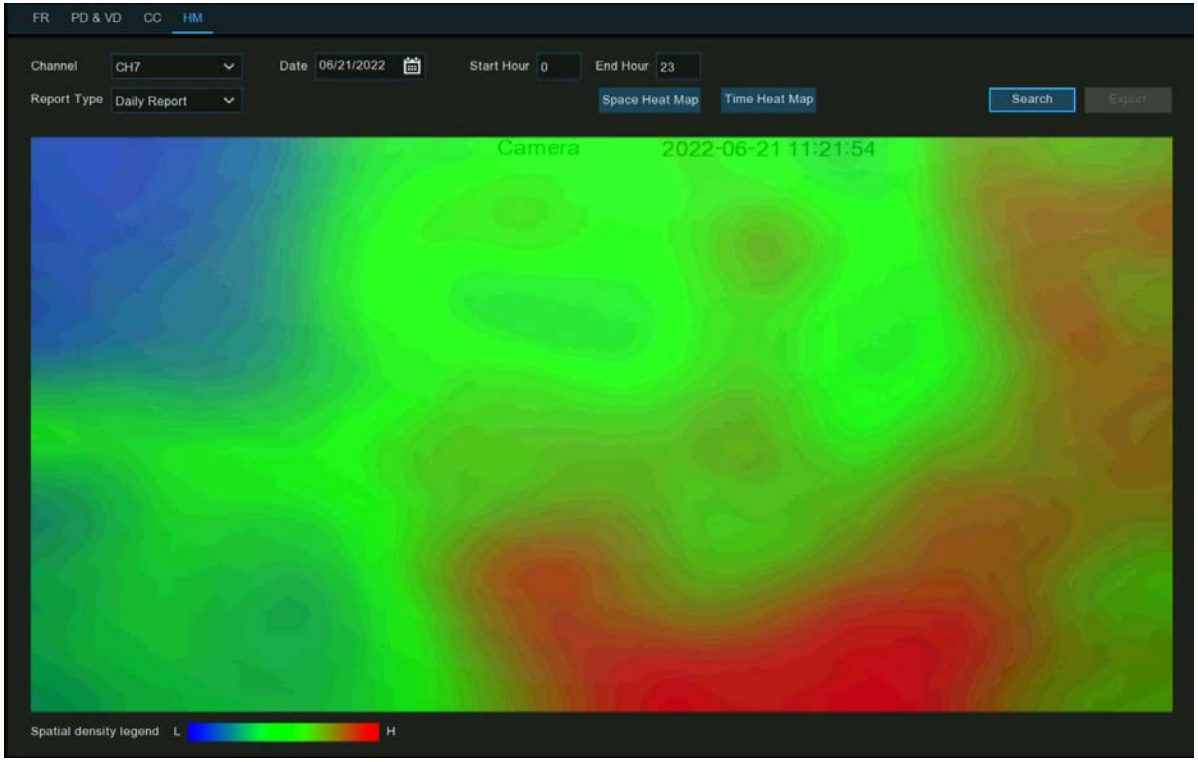
Report Type: Select a Weekly, Monthly or Annual report. The statistical data is searched and displayed as a daily report by default.

➔ **Click Search** again.

Export: Export the CC data for the selected time period to a USB flash drive. The file will be saved as a *.CSV file. Open the file in Excel (or similar software) to further analyze the data.

5.4.4.4. HM (Heat Map) Statistics

Retrieve and present statistical data relating to the detection of objects when the Heat Map function is enabled on the camera. The color map gives a visual display showing the area and frequency of motion detected. Warm colors represent high frequency and cool colors represent low frequency.



Channel: Select the channel from which the heat map statistic is obtained.

Report Type: Select daily, weekly, monthly or annual.

Date: Select the date.

Start/End Hour: Set the start and end time.

Click "**Search**" to display the heat map statistic. The Spatial Density Color represents the frequency of motion detected.

5.5. Network

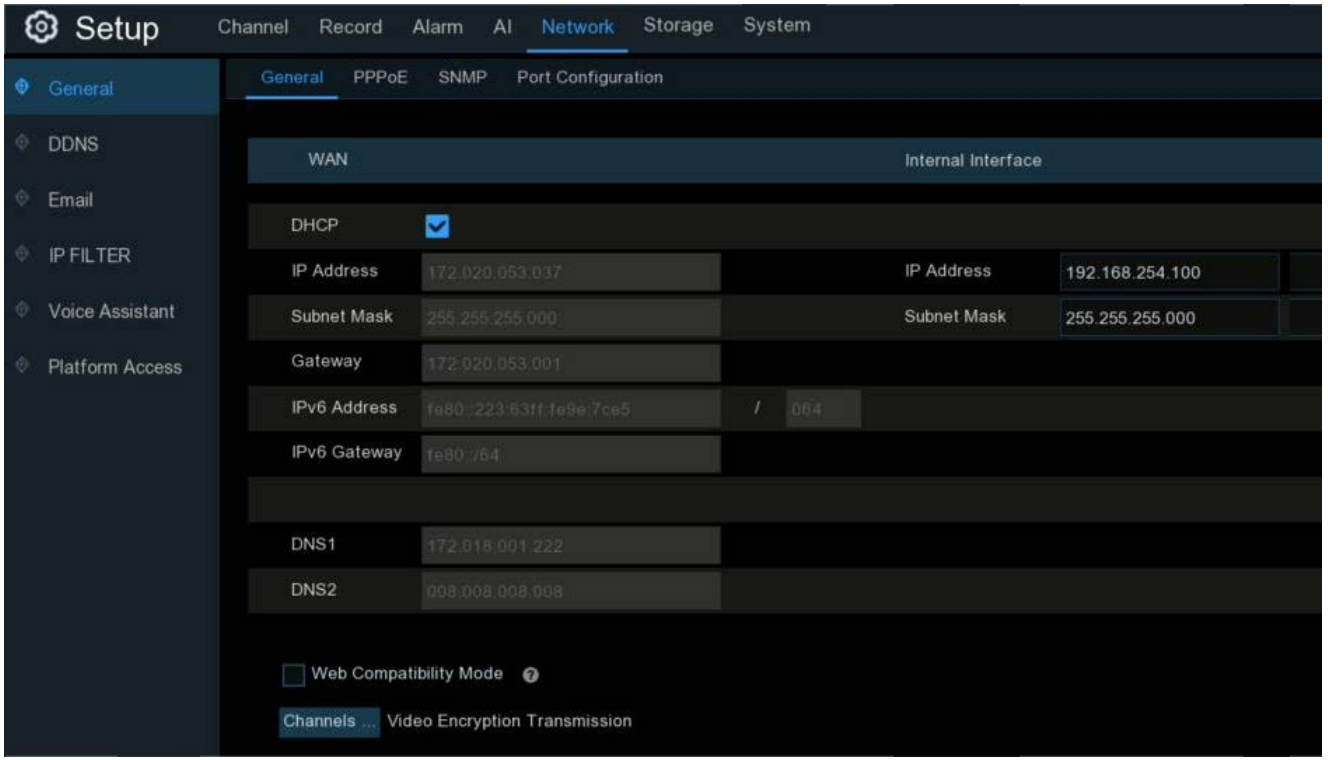
Configure network parameters

5.5.1.1. General

If connected to a router that uses DHCP (Dynamic Host Configuration Protocol), check the box to enable **DHCP**. The router will automatically assign all the network parameters for the NVR. Disable DHCP to manually configure the network. (This is for advanced users only.)

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: This allows the flow of network traffic between hosts to be segregated based on a network configuration. A typical address might be "255.255.255.0" or something similar.



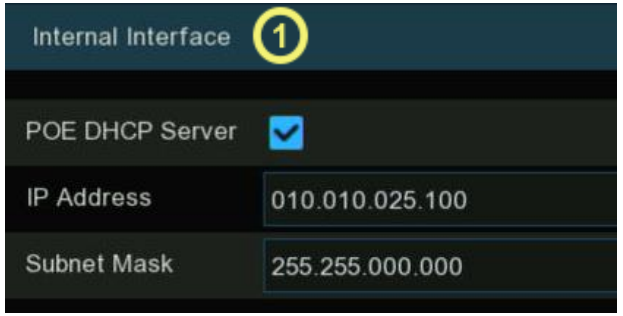
Gateway: This allows the NVR to connect to the internet and is typically the same IP address as your modem or router. The format of the **Gateway** address is the same as the **IP Address**. For example, "192.168.001.001".

DNS1/DNS2: Input the DNS settings for your internet service provider. 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.

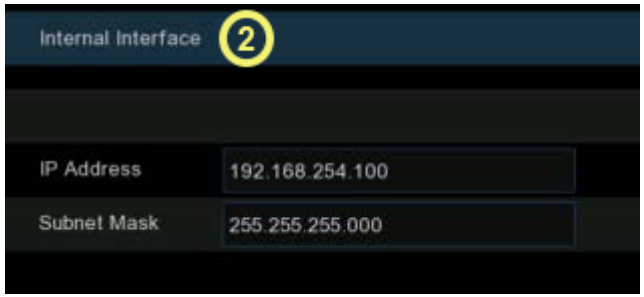
IPv6 Address: Input the IPv6 IP address if the network service supports IPv6. It consists of eight groups of characters between 0 to FFFF, separated by periods. For example, "ABCD:EF01:2345:6789:ABCD:EF01:2345:6789".

Web Compatibility Mode: If logging in to the NVR webpage with https protocol fails, enable the compatibility mode and try again. Otherwise, keep it disabled.

1. If the NVR comes with built in PoE ports, you will see the **Internal Interface** as shown:



   - ➔ **PoE DHCP Server:** Enable/disable DHCP service. It will automatically assign an IP address to each IP camera connected to the PoE ports.
   - ➔ **IP address:** Set the IP address for the internal PoE router. Leave this on the default setting.
   - ➔ **Subnet Mask:** Leave this on the default setting.

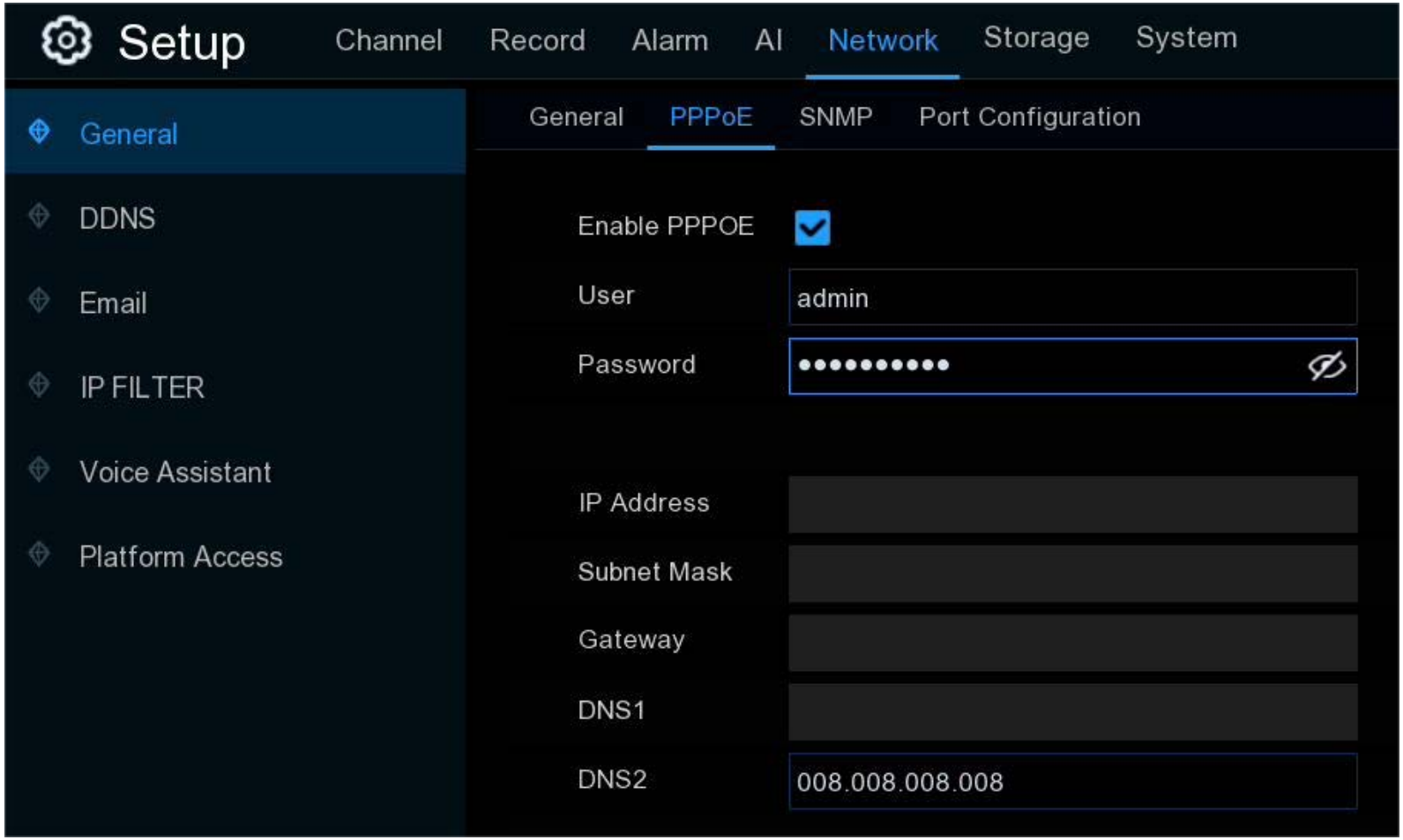


2. If the device is non-POE and supports dual LAN ports, you can see the following internal GUI:

   ➔ After manually setting the IP address and subnet mask of the LAN port, you can add cameras of different network segments to the same device through the LAN port.

5.5.1.2. PPPoE Settings

This is a protocol that allows the NVR to connect to the network more directly via DSL modem.



Enable PPPOE:
Enable/disable PPPOE.

User & Password:
Enter the username and password provided by your ISP.

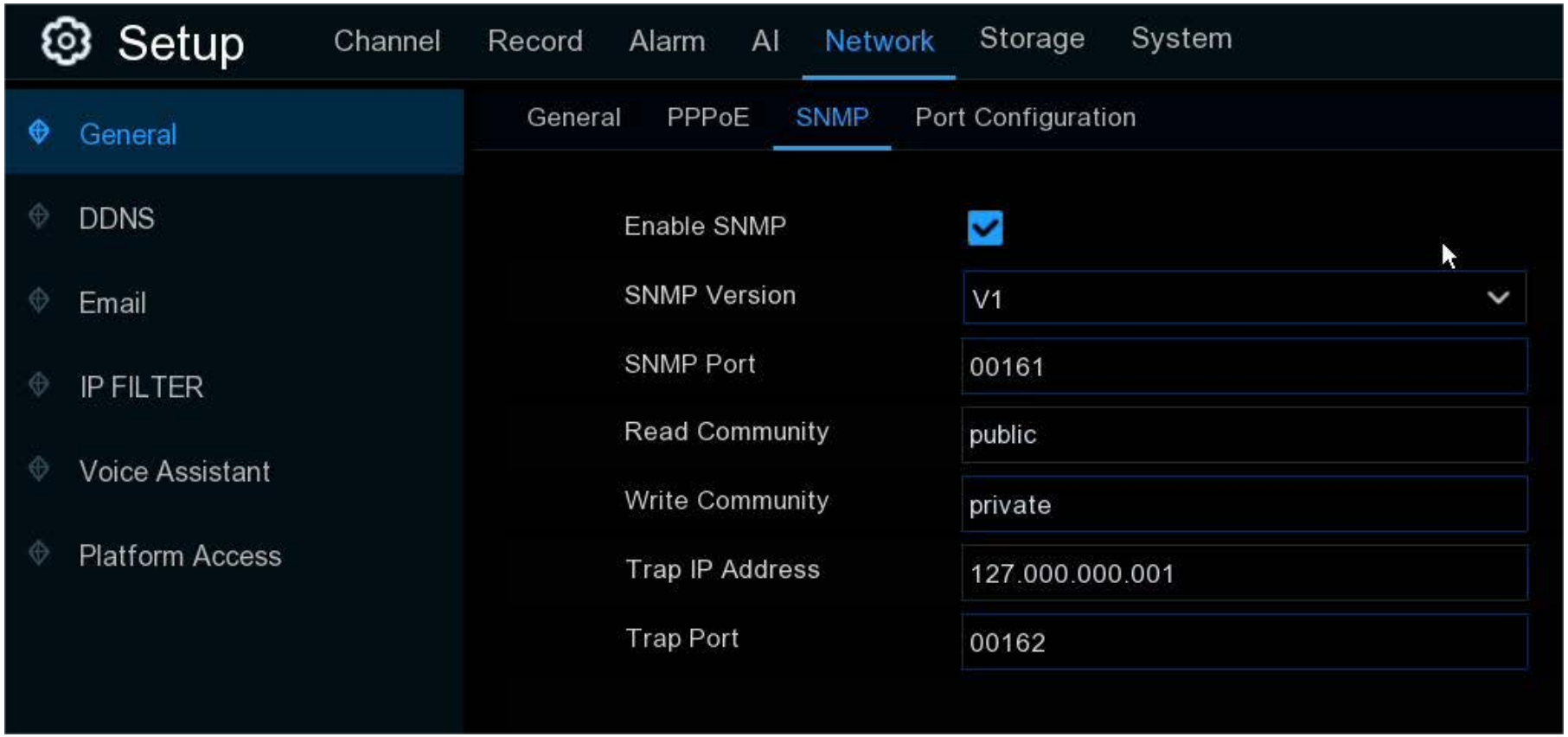
Click **Apply** to save.

The system will reboot to activate the PPPoE setting.

5.5.1.3. SNMP

SNMP (Simple Network Management Protocol) is an Internet Standard protocol for collecting and organizing information about managed devices on IP networks and for modifying that information to change device behaviour.

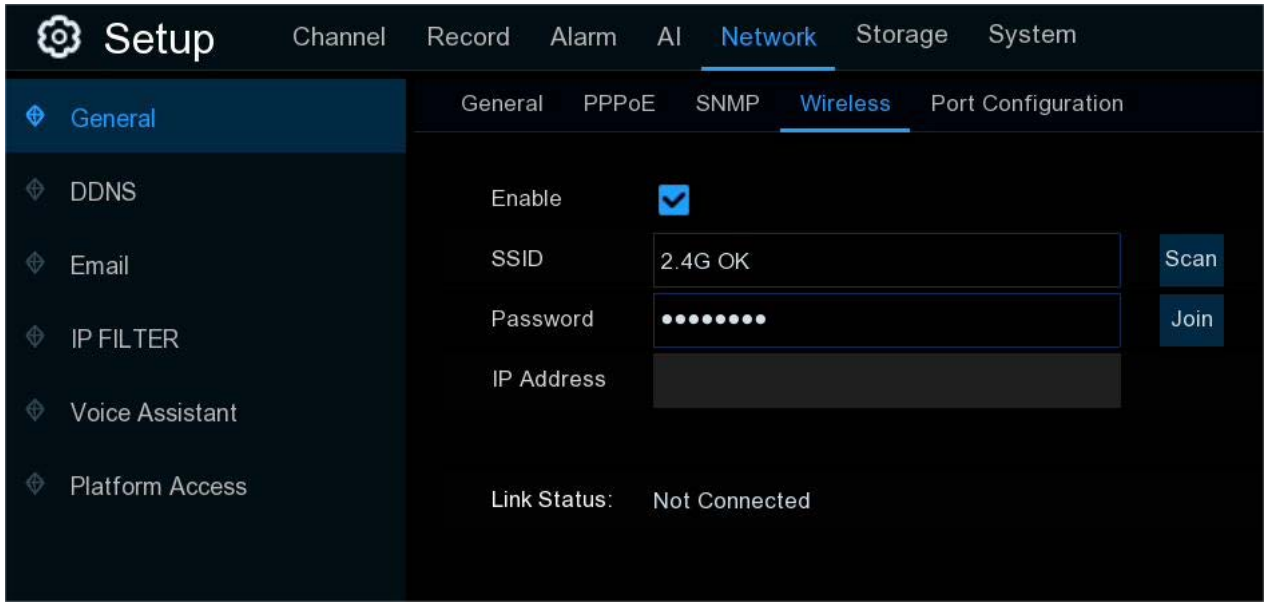
With the SNMP, the NVR can be connected with 3rd party network management platforms and acquire the NVR information, such as firmware version number, device type, resolution, frame rate, etc.



5.5.1.4. Wireless Connection

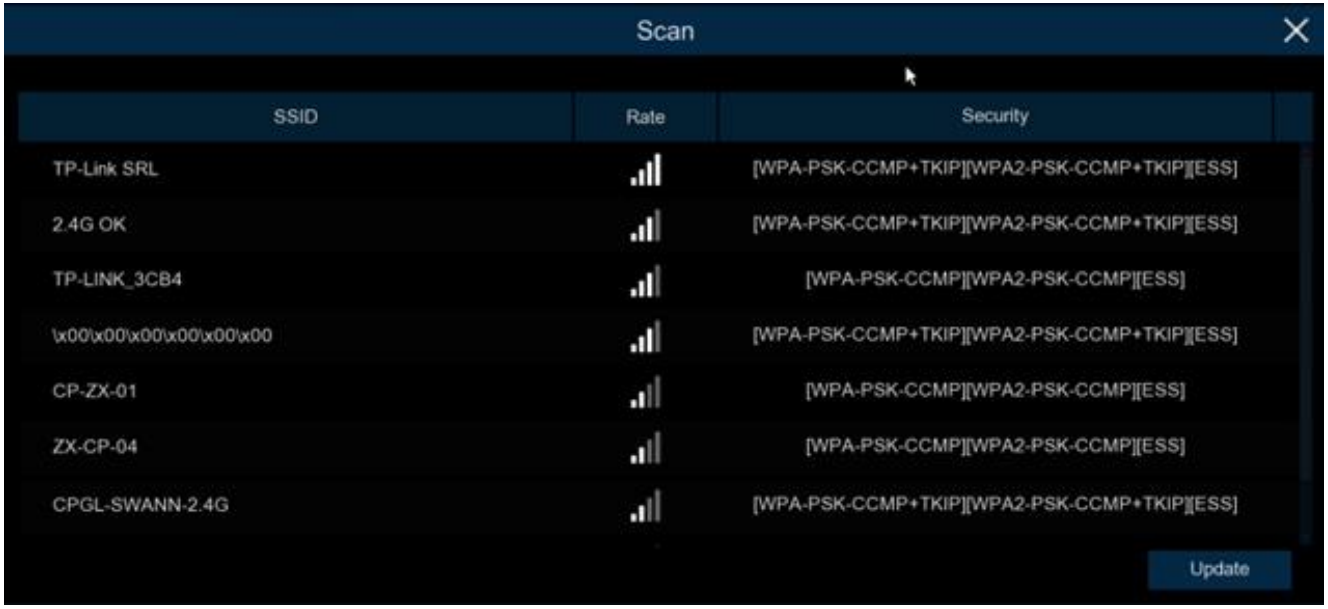
With a compatible Wi-Fi dongle connected to an available USB port on the NVR, the Wi-Fi tab will appear. This provides the flexibility of placing the NVR in a different area, without having to be physically connected to the router or modem.

Note: The Wi-Fi connection function is not supported by all models. Contact your local dealer before using this feature.



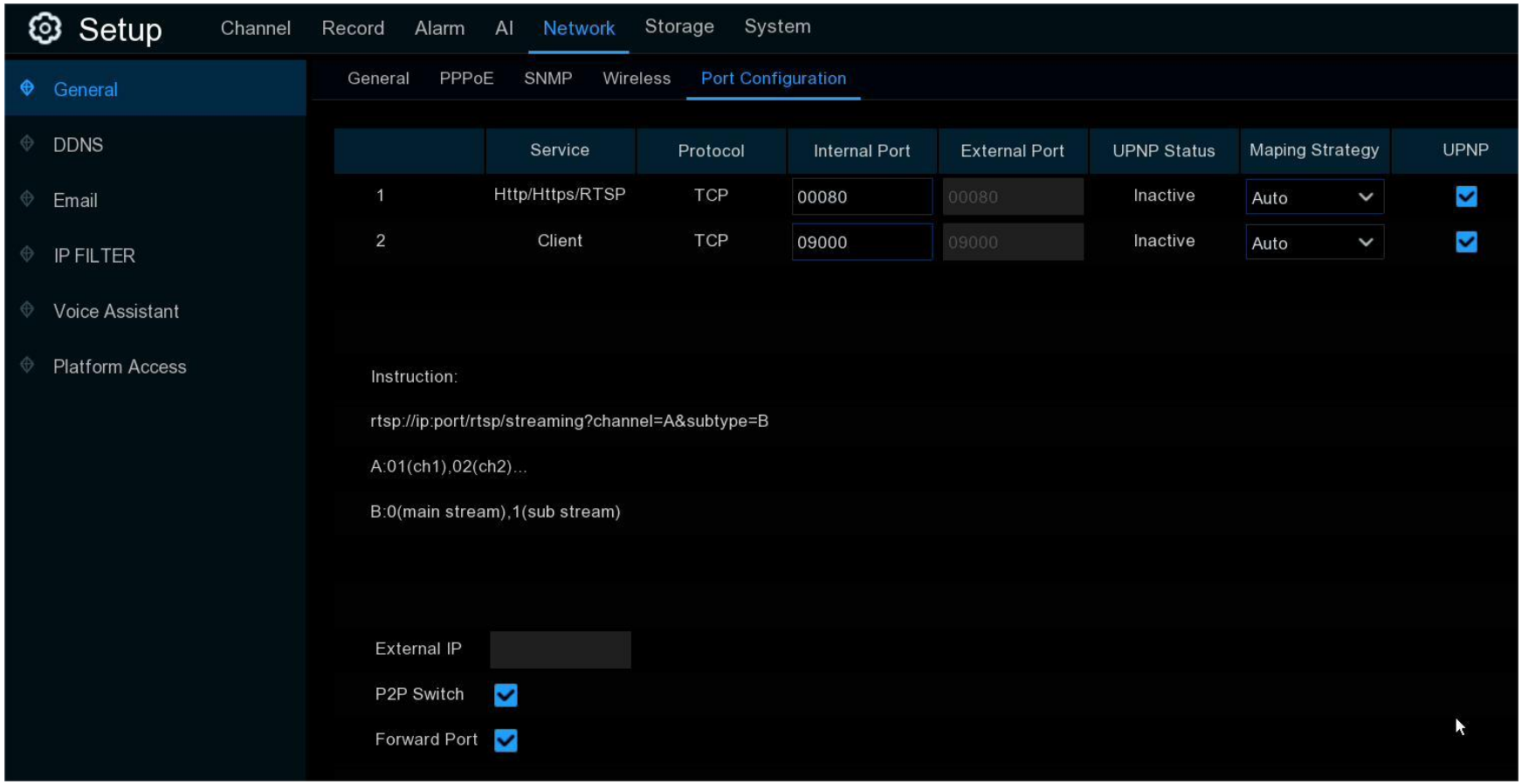
Before proceeding, disconnect the Ethernet cable from the NVR's Ethernet port (if connected).

1. **Enable:** Enable/disable the Wi-Fi connection.
2. Click **Scan.** After a short moment, a list of Wi-Fi access points detected by the NVR will be shown.
   ➔ If the access point you want to connect is not shown on the list, click "**Update**" to refresh.
3. Double click on an access point.



4. Input the password for the Wi-Fi access point.
5. Click **Join**. Ensure the password is correct before proceeding.
   ➔ After a short moment, the NVR will connect to your Wi-Fi access point.
6. Click **OK** to continue.
   ➔ The Link Status will change to Connected, showing a successful connection.
7. Click "**Apply**" to save settings.

5.5.1.5. Port Configuration



http/https/rtsp: Generally used to log into the NVR"s webpage or 3rd party streaming player using the rtsp protocol.

➔ If the default port number (80) is used by other devices in the network, it may need to be changed.

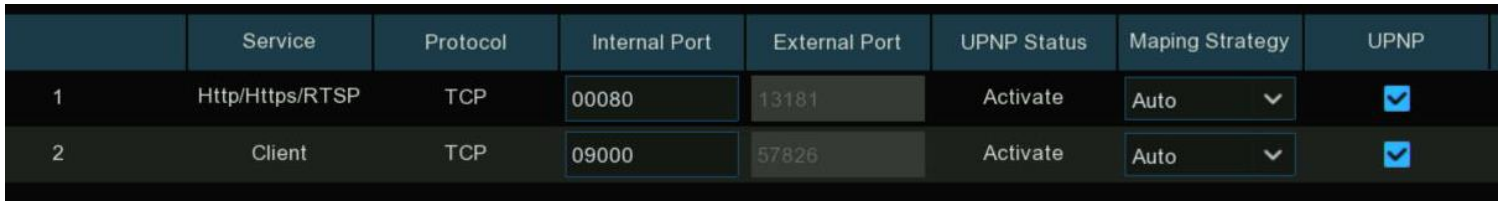
Client Port: The internal port that the NVR will use to send information through.

➔ This particular port number (9000) is not used by many devices, however, if there is another NVR-like device on the same network, it may need to be changed.

Internal Port: Generally used to access the NVR from the same LAN.

External Port: Generally used to access the NVR from a different LAN or network.

➔ Manually setting up port forwarding in the router of network the nvr is connected to may be required to access your NVR via internet (for users with advanced network experience only). Using **UPNP** is highly recommended. **UPNP** is a network protocol designed to allow network-connected devices to automatically obtain and forward the ports from the router.



	Service	Protocol	Internal Port	External Port	UPNP Status	Maping Strategy	UPNP
1	Http/Https/RTSP	TCP	00080	13181	Activate	Auto	☑
2	Client	TCP	09000	57826	Activate	Auto	☑

UPNP: Enable/disable **UPNP.**

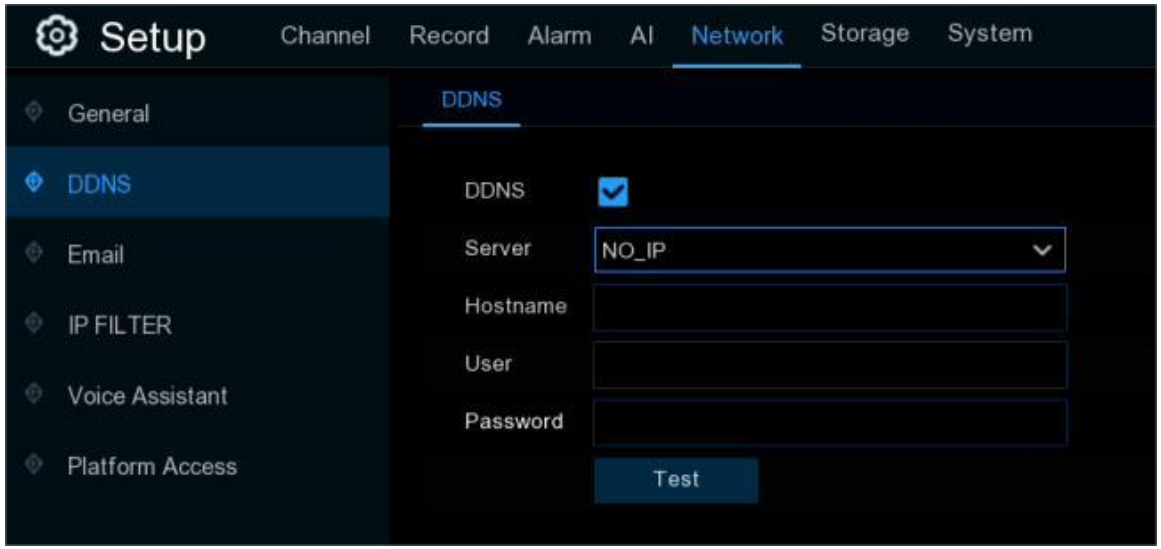
Mapping Strategy: Select **Auto** so the external port will be automatically obtained and forwarded from the router.

➔ To change the external port manually, choose **Manual** and modify the port accordingly.

P2P Switch: Enable/disable the P2P function.

5.5.2. DDNS

Configure DDNS settings. The DDNS provides a static address to simplify remote connection to the NVR. To use the DDNS, first create an account with a DDNS service provider.



DDNS: Check to enable DDNS.

Server: Select the preferred DDNS server (DDNS_3322, DYNDNS, NO_IP, CHANGEIP, DNSEXIT).

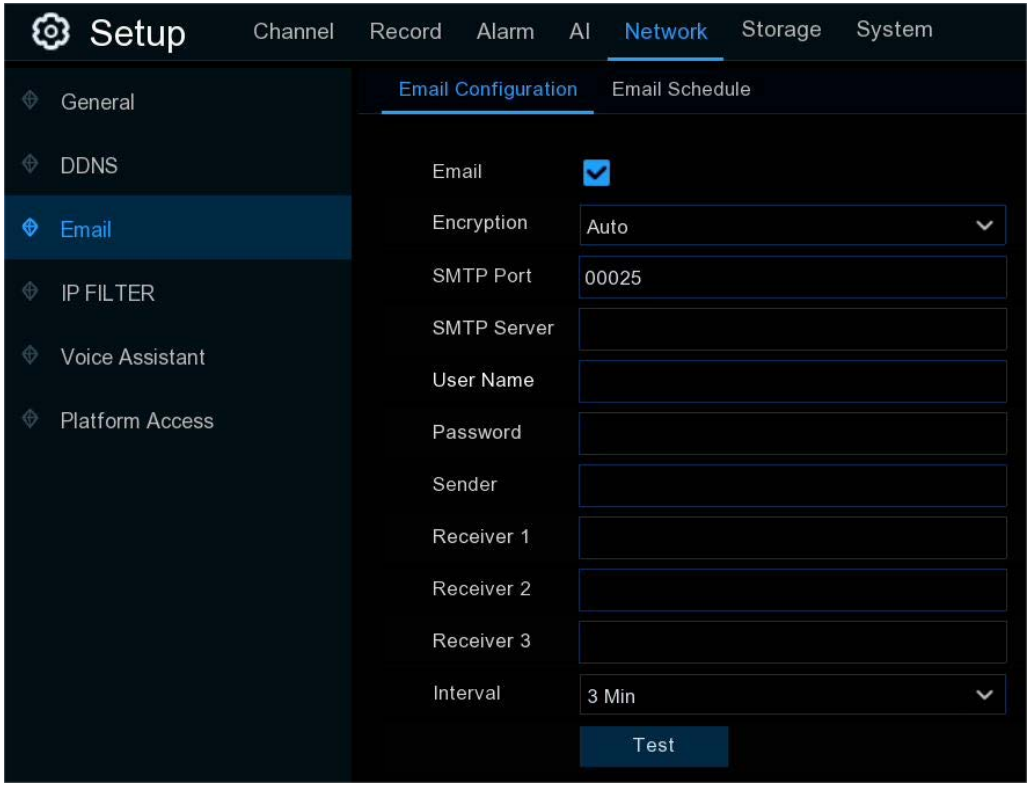
Domain: Enter the domain name you created on the web page of DDNS service provider. This will be the address to type in the URL box when connecting remotely to the NVR via PC. Fox example: "nvr.no-ip.org".

User/Password: Enter the user's name and password you obtained when creating an account on the web page of DDNS service provider.

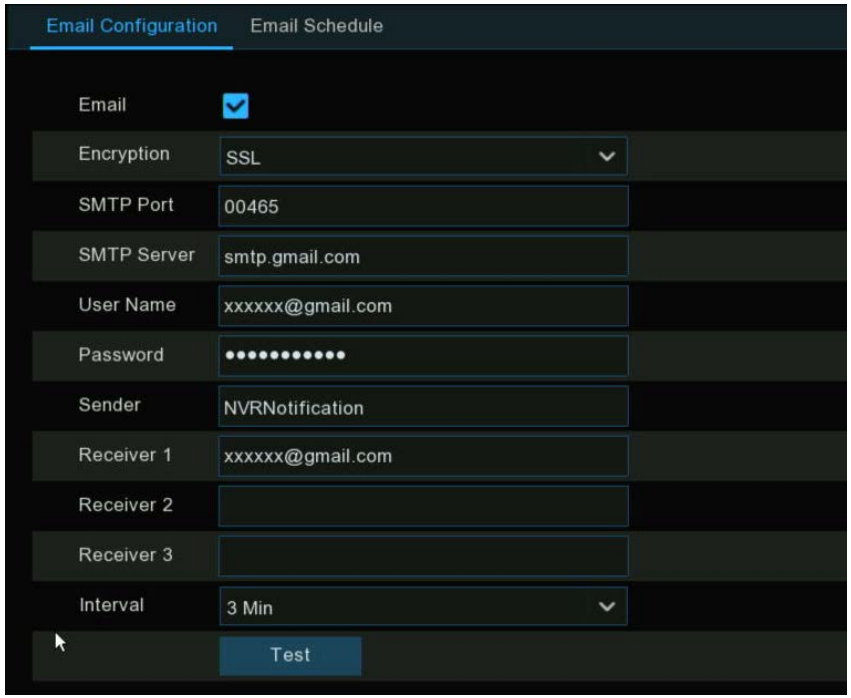
After all parameters are entered, click **Test DDNS** to test the DDNS settings. If the test result is "Network is unreachable or DNS is incorrect", please check whether the network works fine, or the DDNS information is correct or not.

5.5.3. Email Settings

Configure the email settings. Complete these settings to receive the system notifications via email when an alarm is triggered, HDD becomes full, HDD error status, or Video Loss occurs. Email is also important when a password reset is needed.



5.5.3.1. Email Configuration



Email: Enable/disable the email settings.

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 email account password.

Receiver 1~3: Input the email address(es) to send email alerts to.

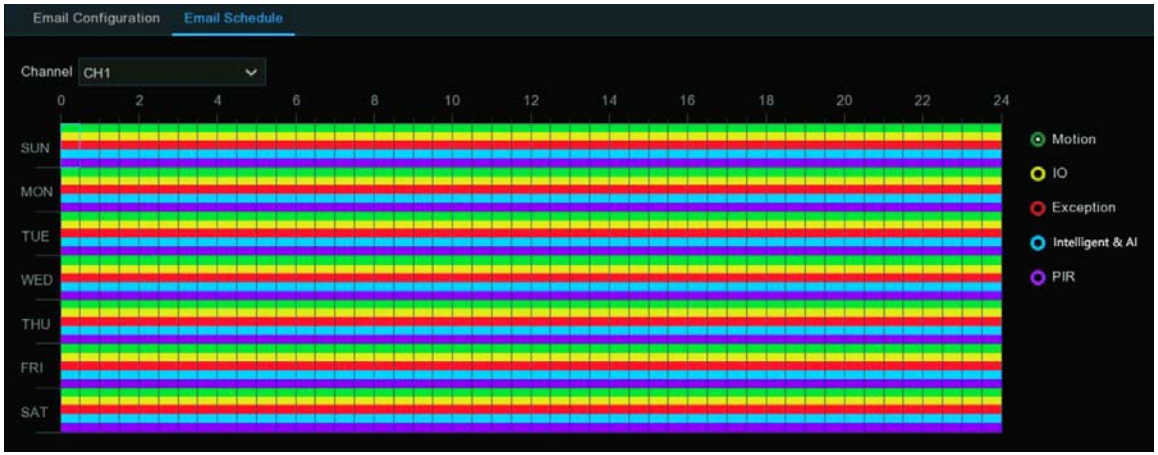
Interval: Set the length of time between email notifications being sent.

Test Email: Click to test if the email settings are set properly. The system sends an automated email message to your inbox. If you received the test email, the settings are set correctly.

5.5.3.2. Email Schedule

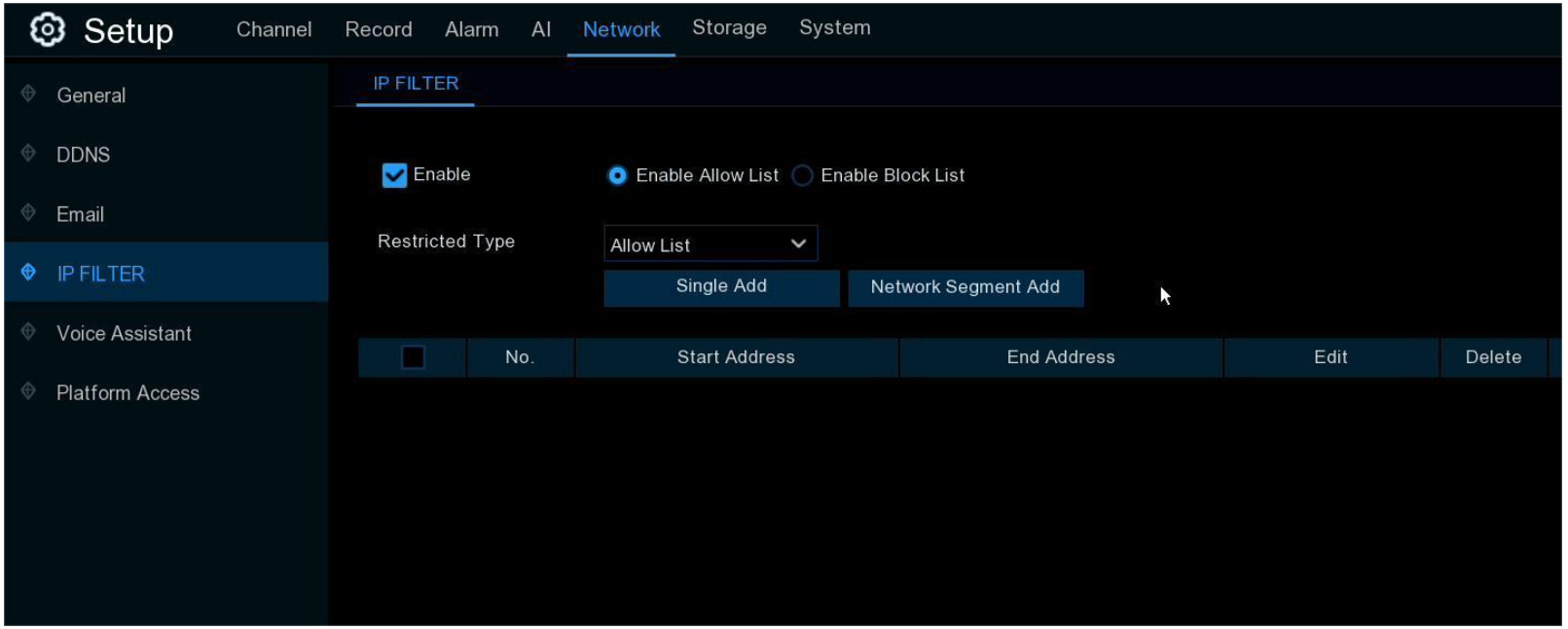
If email alerts are enabled on the NVR, alerts would be emailed 24 hours as default. The schedule can be changed for when the NVR will send those alerts. For example,to only receive alerts during the day but not in the evening, an alternative schedule can be created for each camera.

1. **Channel:** Select a channel.
2. Click on button of the alarm type to send email alerts for:
   - ➔ **Motion:** Email alerts for motion detection events
   - ➔ **IO:** Email alerts for I/O triggered events
   - ➔ **Exception:** Email alerts for exception events which include no space left on the hard drive, a hard drive error or video loss.
   - ➔ **Intelligent & AI:** Email alerts for Intelligent or AI detection events
   - ➔ **PIR:** Email alerts for PIR events
3. Using the mouse, click on a square and drag the mouse over the squares to select the hours of the day email alerts will be active.
4. Repeat step 2 & 3 to set the schedule for other alarm types.
5. The set schedule is only valid for the selected channel. To use the same schedule for other channels, use the **Copy** option.
6. **Apply:** to save the settings.



5.5.4. IP FILTER

IP Filtering is a great way to limit access to the network devices for specific groups of IP addresses. For example, if a malicious user is attacking the network, add a filter to prevent access to the devices from a single IP address or a block of IP addresses.



Allow List: It includes a range of IP addresses that indicates what IP addresses are allowed to access the NVR to prevent unauthorized IP addresses from logging into the NVR.

1. **Enable:** to activate the IP filter function.
2. Select "**Enable Allow List**".
3. **Restricted Type:** Select **Allow List.**

4. **Single IP Address:** to input a single IP address.
   ➔ Click **IP Address Range** to allow a block of IP addresses: input the start IP address and end IP address.
5. Click **Save**. Only IP address(es) from the Allow List can access the NVR now.

Block List: Define what IP addresses are forbidden to access the NVR to prevent unauthorized IP addresses logging into the NVR.

6. **Enable:** to activate the IP filter function.

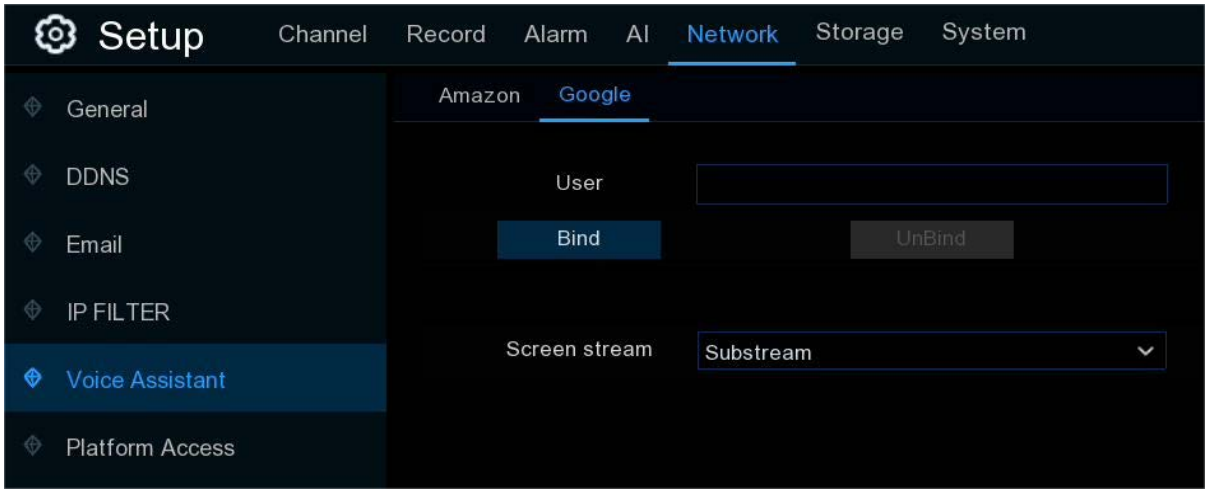
1. Select "**Enable Block List**".
2. **Restricted Type:** Select **Block List.**
7. **Single IP Address:** To input a single IP address.
   ➔ Click **IP Address Range** to restrict a block of IP addresses: input the start IP address and end IP address.
3. Click **Save**. IP address(es) on the Block List are forbidden from accessing the NVR.

5.5.5. Voice Assistant

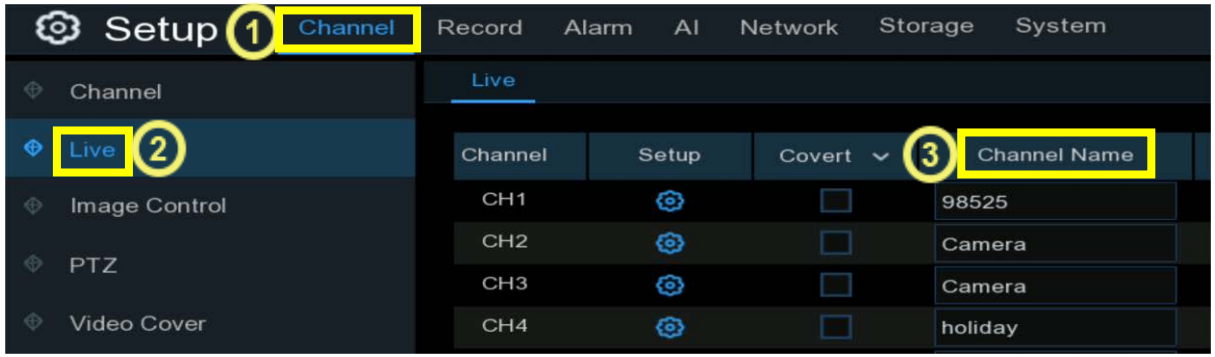
The voice assistant function connects the NVR to Google Chrome Cast to cast the real-time surveillance images on a TV monitor by voice control.

5.5.5.2. Voice Assistant with Google Chromecast

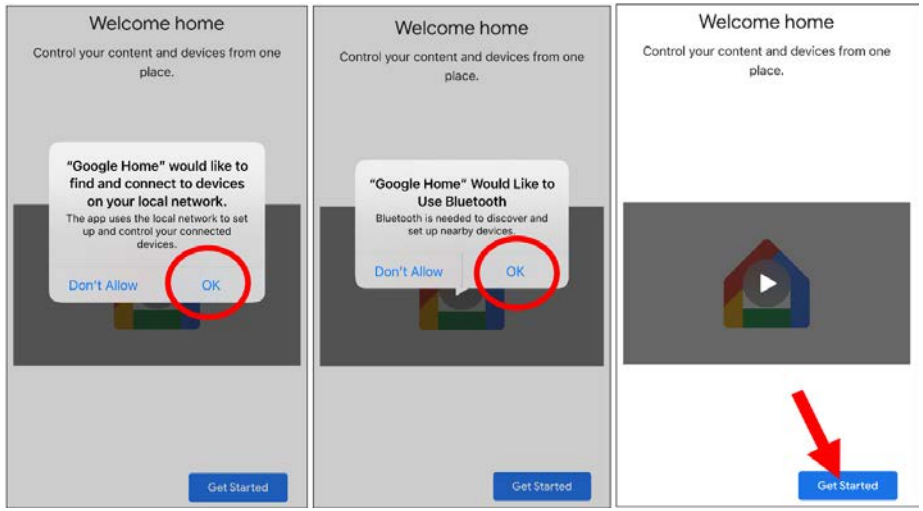
1. **User:** Input your Google account.
   - ➔ Click **Bind** to connect to your Google account.
   - ➔ Screen **Stream:** Select the video stream to cast on the TV monitor.



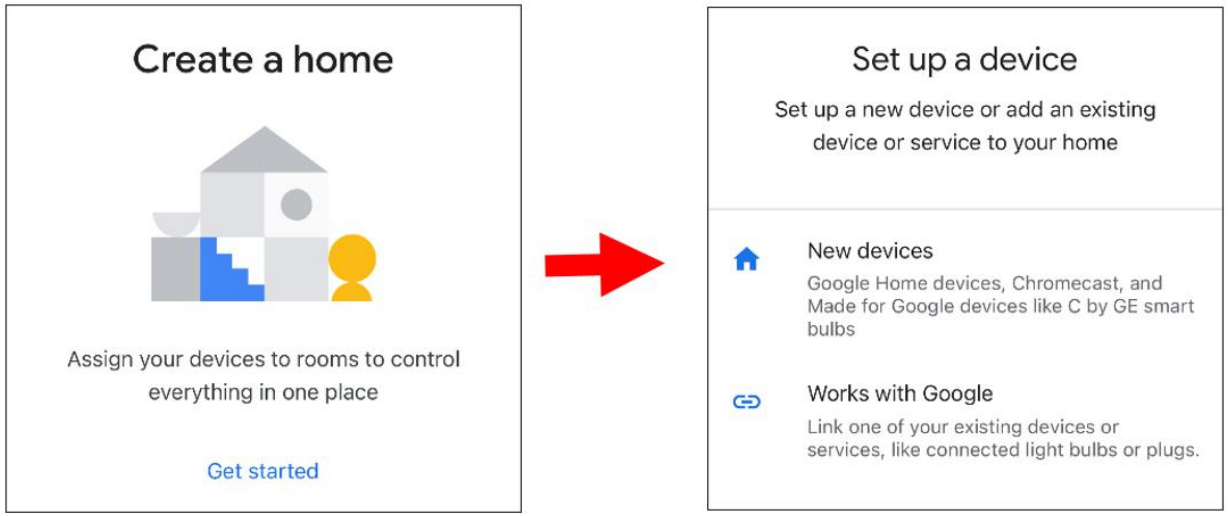
2. To use this feature, a name must be assigned any channel that will be voice controlled.
   - ➔ Go to **Channel.**
   - ➔ Select **Live.**
   - ➔ **Channel Name: Input a name that is** easy to call to the channel(s) to cast on the TV monitor.



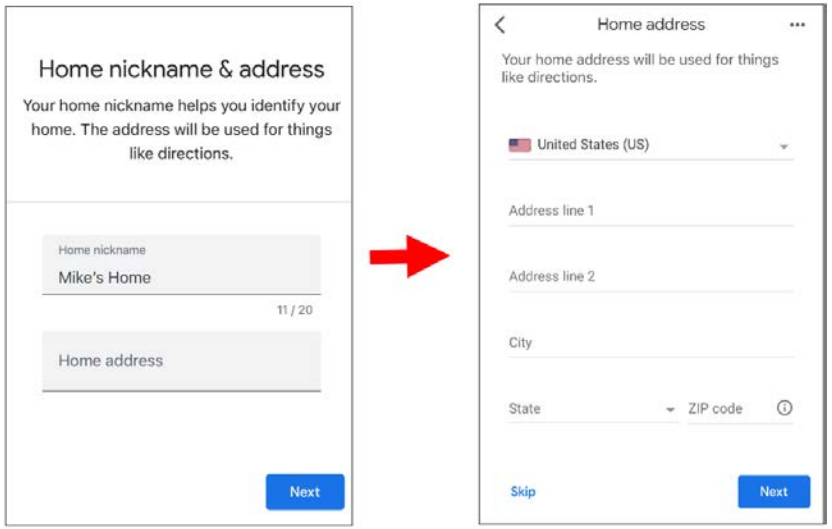
3. Connect the Chorme Cast to the TV monitor, and power on it.
4. Search and install Google Home app to your mobile phone from app store. Run the installed Google Home app, touch "**OK**" to allow the app to use your local network and Bluetooth and then touch "**Get Started**".



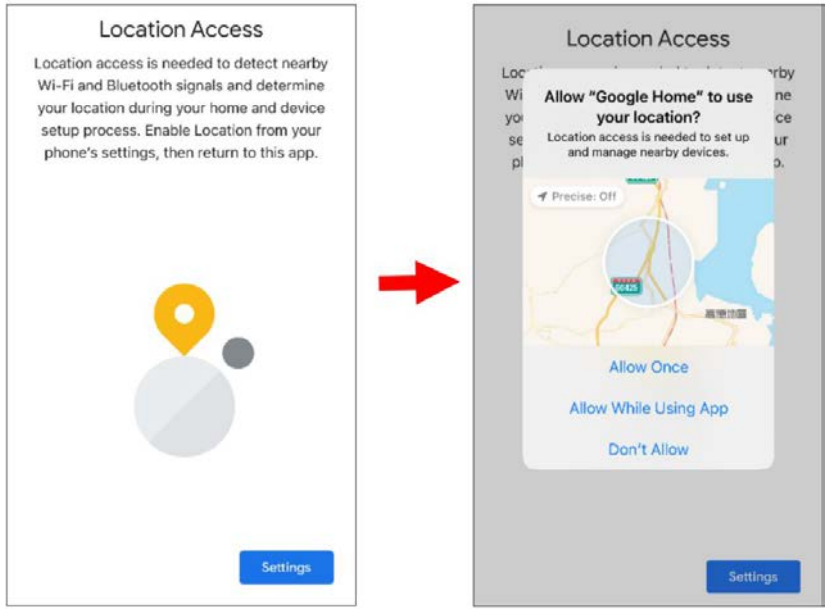
5. To login your Google account which is same as the one used to bind to the NVR.
6. Touch "**Get Started**" to create a home, and then touch "**New devices**".



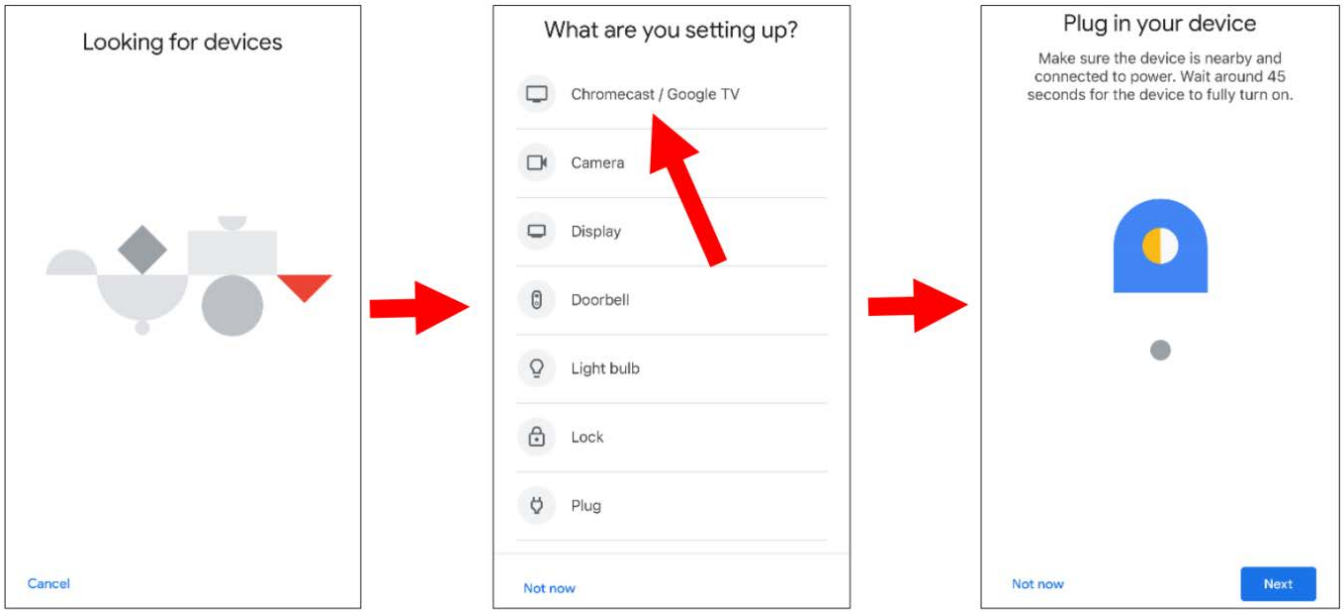
Input the Home nickname and address and then touch "**Next**".



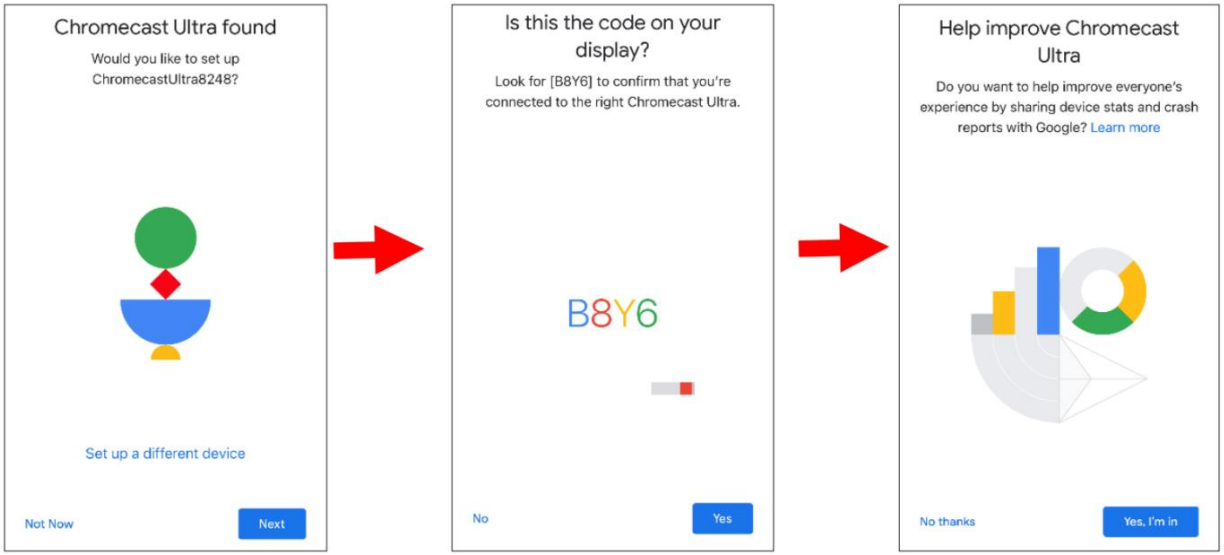
To allow location access for the app.



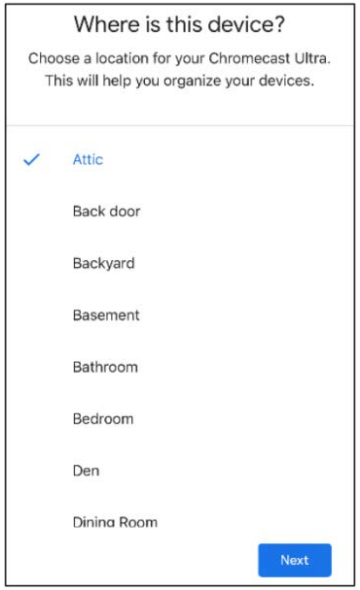
7. The app will automatically try to search devices on your local network. Choose Chrome Cast / Google TV. Make sure your Chrome Cast is turned on already, then touch "**Next**".



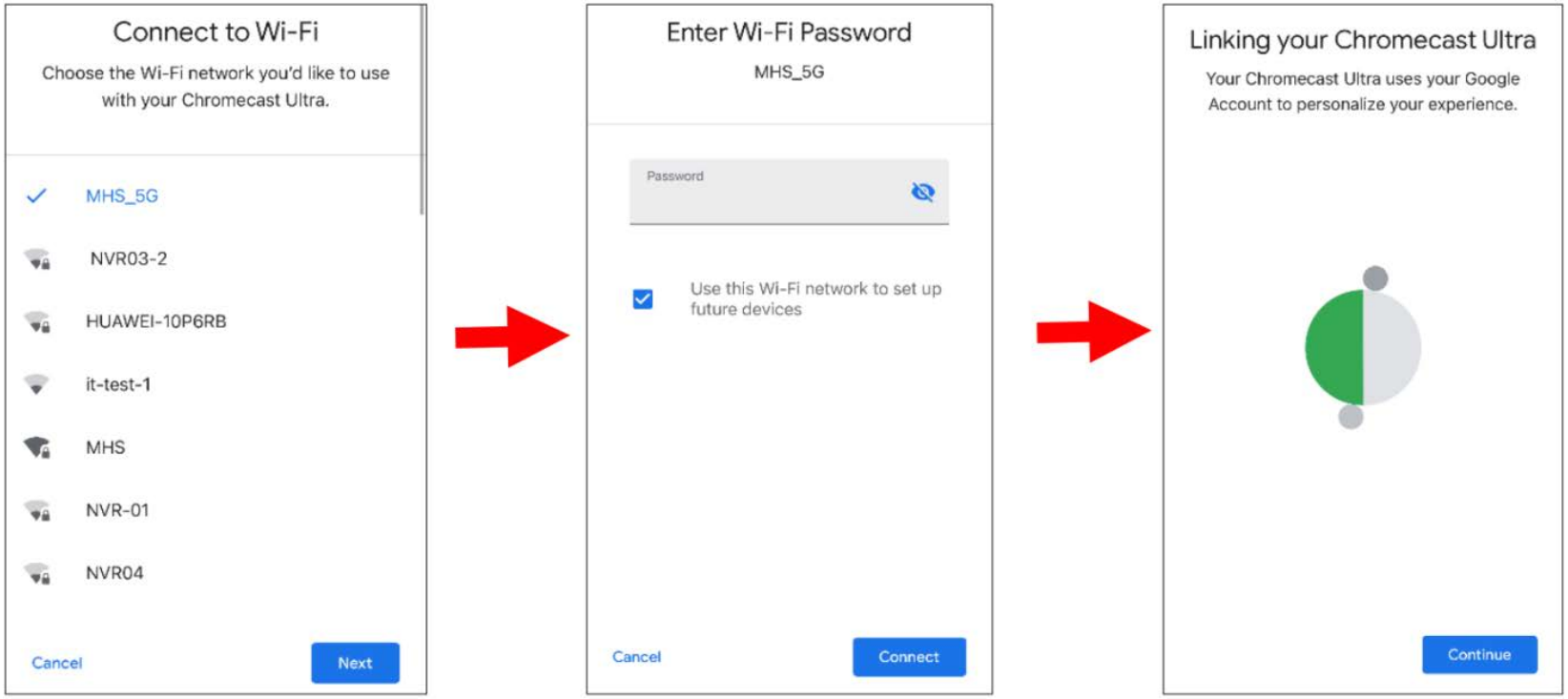
8. Your Chrome Cast will be found. Touch "**Next**" to connect. Confirm the code by touching "**Yes**".



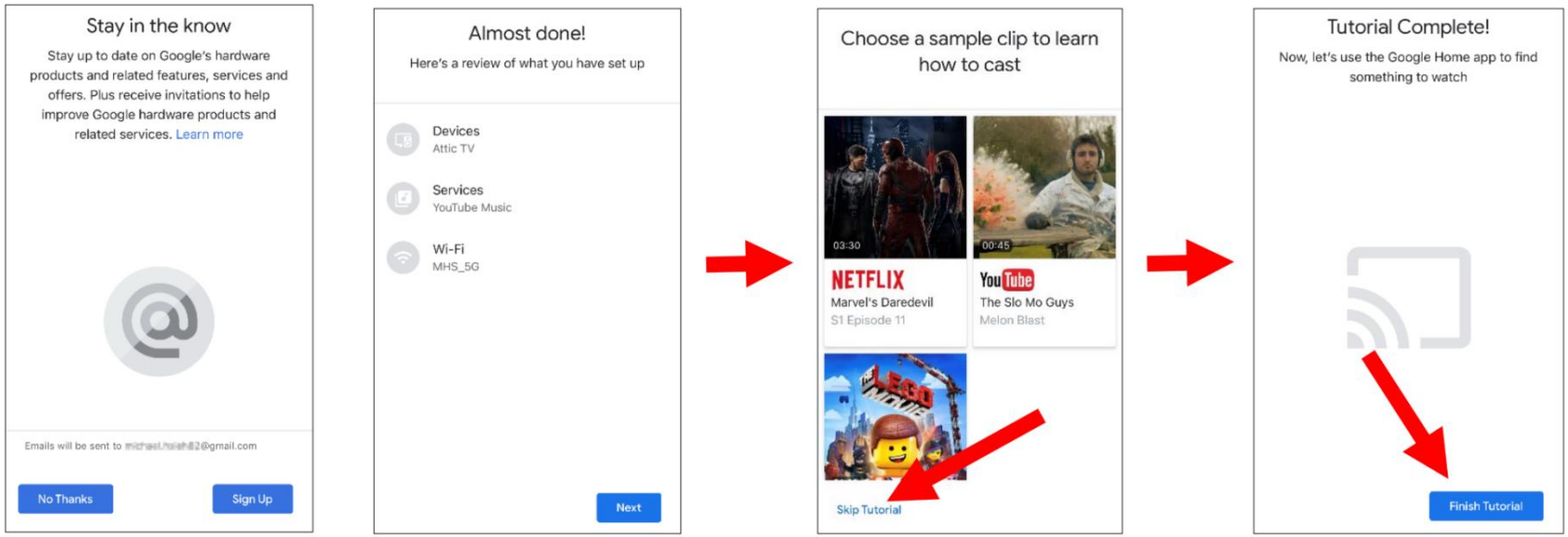
9. Choose a location for your Chrome Cast, then touch "**Next**".



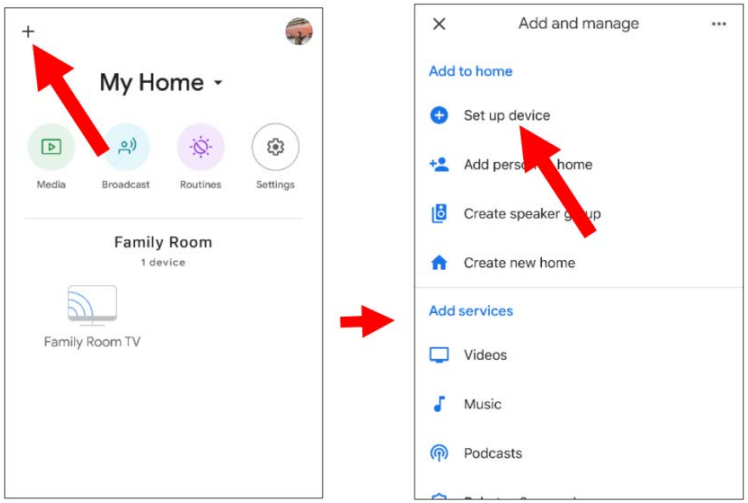
10. Choose the Wi-Fi network for your Chrome Cast and input the Wi-Fi password to connect. Make sure the Wi-Fi you choose is the same one used by your mobile phone and is in the same local network with your NVR. Touch "**Continue**" to next step.



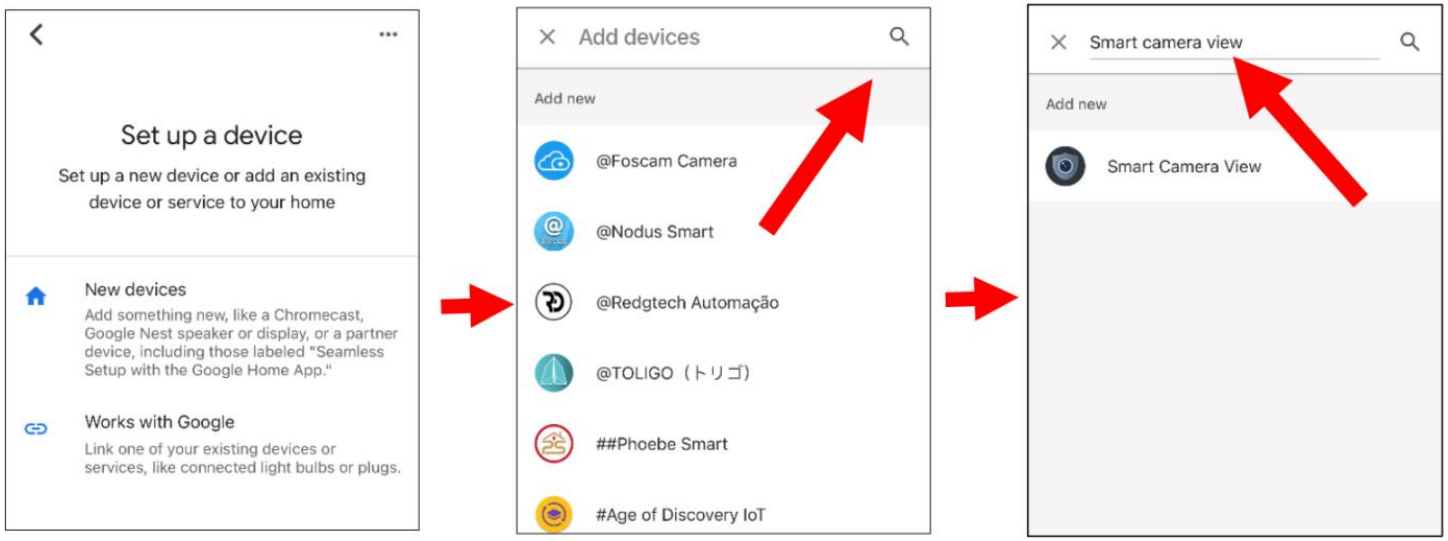
11. Touch "**No Thanks**", or "**Sign Up**" to login to your google account.
    Touch "**Next**" and "**Skip Tutorial**", and then touch "**Finish Tutorial**".



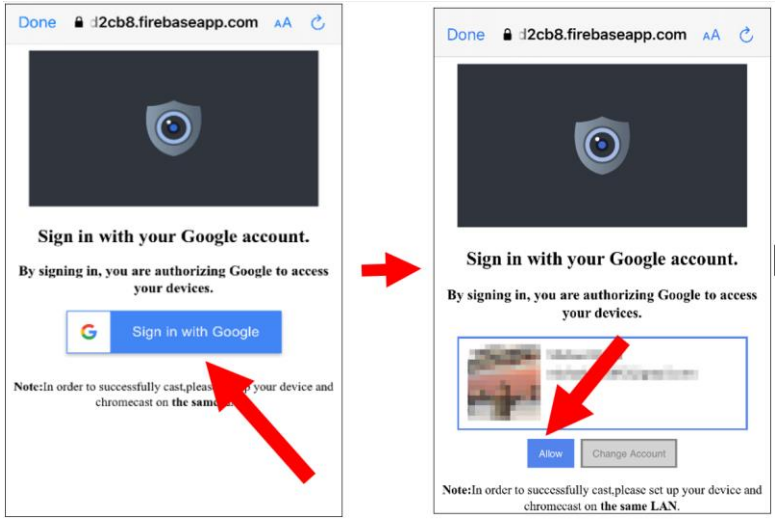
12. Now the Chrome Cast has been added to your Google Home. Touch the + icon on the left top corner. Indoor, then choose "**Set up device**".



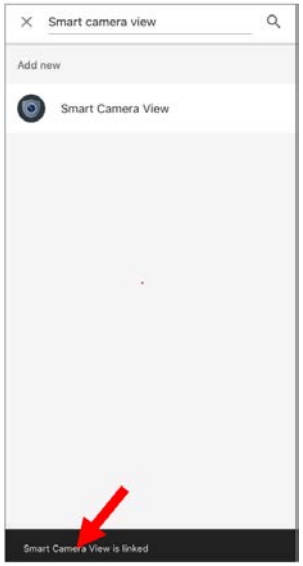
Choose "**Work with Google**", touch the search icon on the right top corner and then input "**Smart camera view**".



Touch on "**Smart Camera View**" in the search result. You will need to sign in to the Google account and allow Google to access the device.

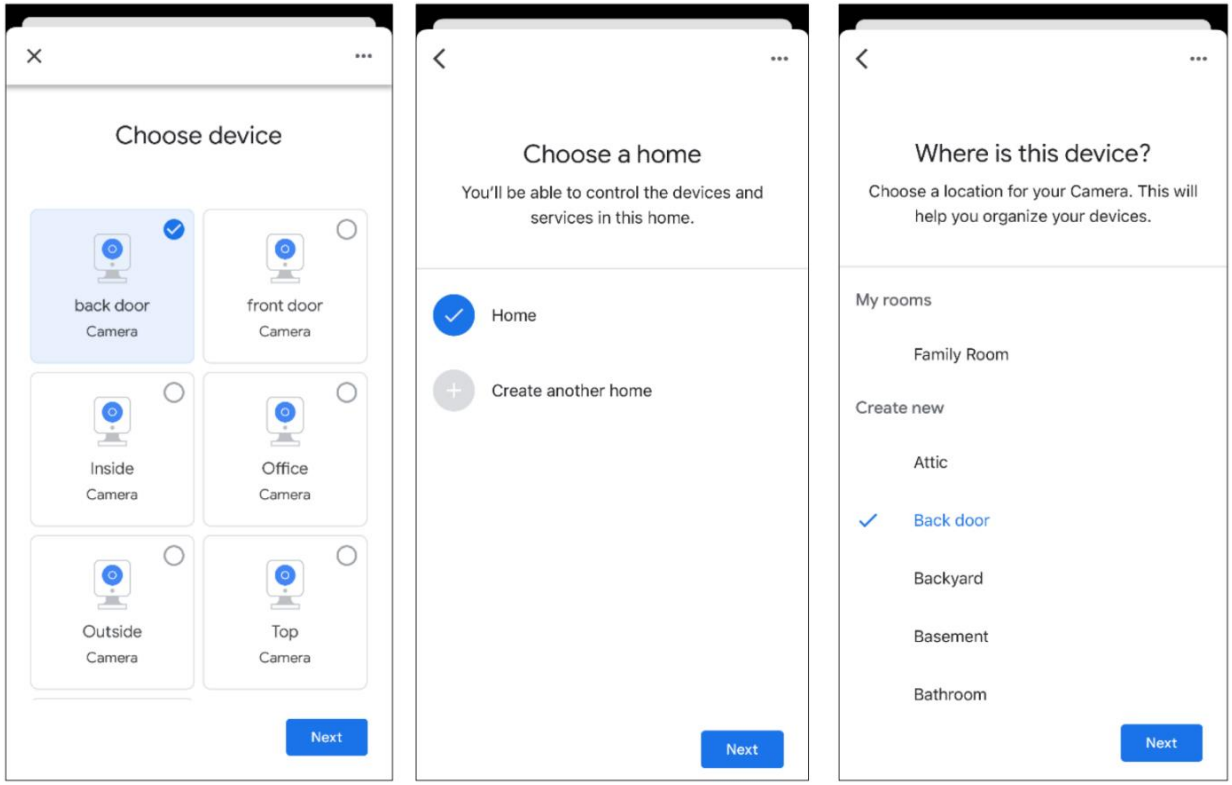


Wait for a while, the Smart Camera View application will be linked to the Google Home.



13. Now the available cameras in the NVR will be displayed. Choose one of the cameras and then touch "**Next**". Choose a home & location for the cameras step by step.

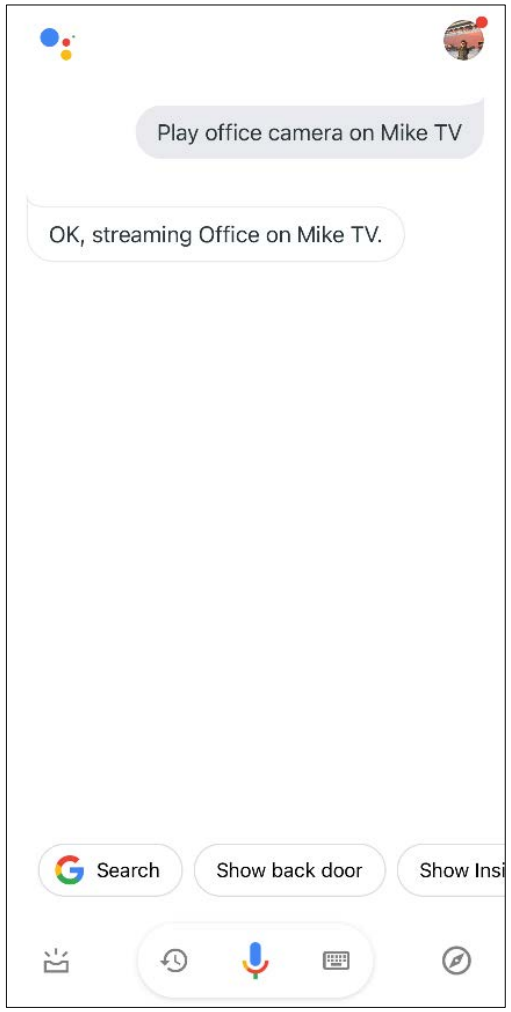
Repeat this step to add all cameras.



14. Search and install Google Assistant app to your mobile phone from app store.

15. Run the Google Assistant, login to your google account which is same as the one used to bind to the NVR.

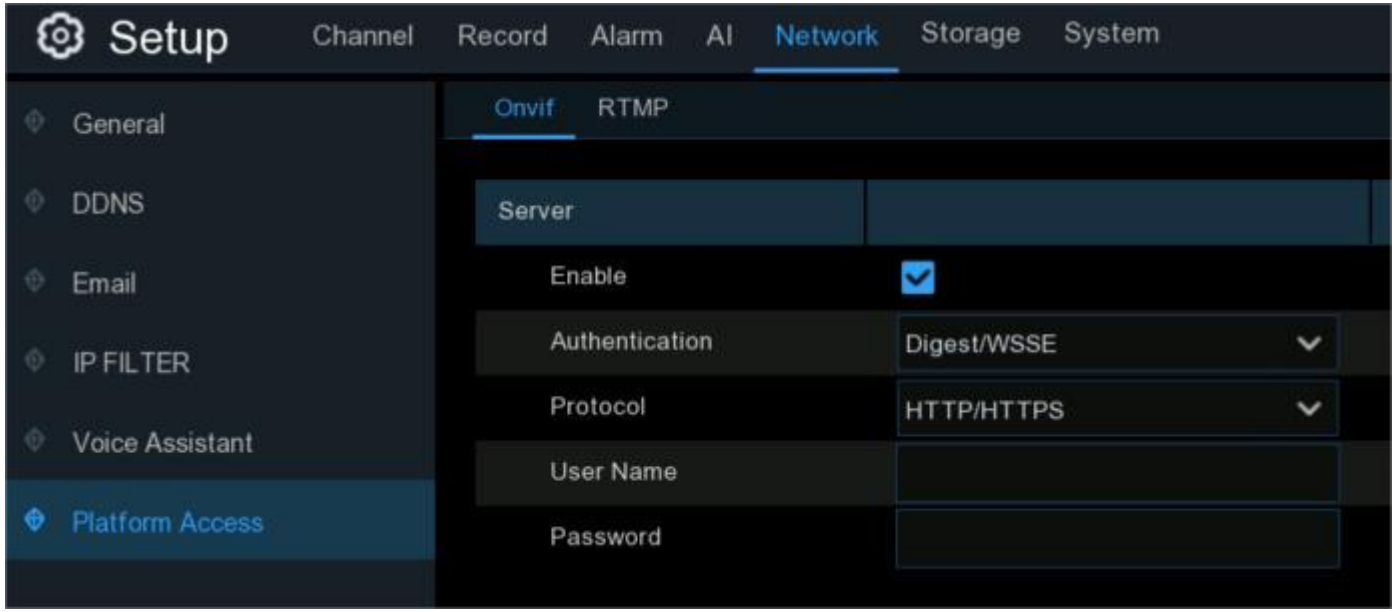
16. Now, you're able to stream your camera to your TV monitor by using text or voice command, like "Show/play the (your cameras name) Camera on (your TVs name) TV".



5.5.6. Platform Access

5.5.6.1 Onvif

This function is mainly used to connect 3rd party platform, like ECMS/NVMS via the Onvif protocol.



Enable: Enable/disable this function.

Authentication: Select a Login authentication type: Digest_sha256, Digest, Digest/WSSE, WSSE or None. Choose one of them to match to the 3rd party platform.

Protocol: Choose http, https or both.

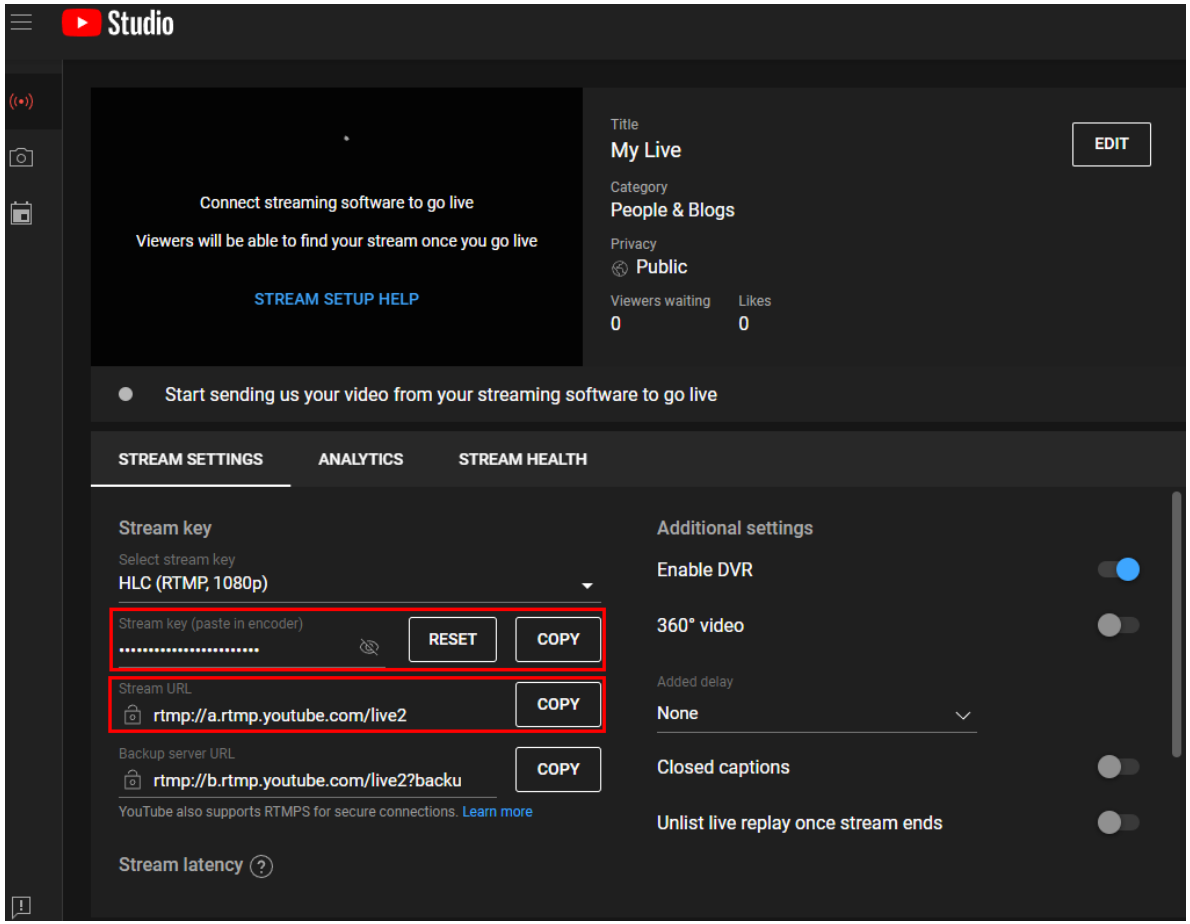
User Name: To set a user name for the platform connection.

Password: To set a password for the platform connection

Note: Only Channel 1 images will be displayed on the 3rd party platform.

5.5.6.2 RTMP

The audio and video streams of the NVR channels can be pushed to the YouTube website using RTMP for live broadcasting. To use this function, do the following: Register a YouTube account. Create a live streaming studio. Set the URL and live code of the live streaming studio. Set the live server address bar for the device. Enable and configure the code stream type and live broadcasting channels. After saving the configuration, go to the YouTube live room to refresh the page to watch live broadcasting.



Enable: Enable/disable using RTMP.

Server Address: Enter the live broadcasting address and live code of the YouTube server.

(Note: "/" is used between the live broadcasting address and live code of the YouTube server.)

Stream Type: Select the stream type of the live broadcasting channel. Both the mainstream and substream are supported.

Channel: Select the channel for live broadcasting. Only one channel can be selected.

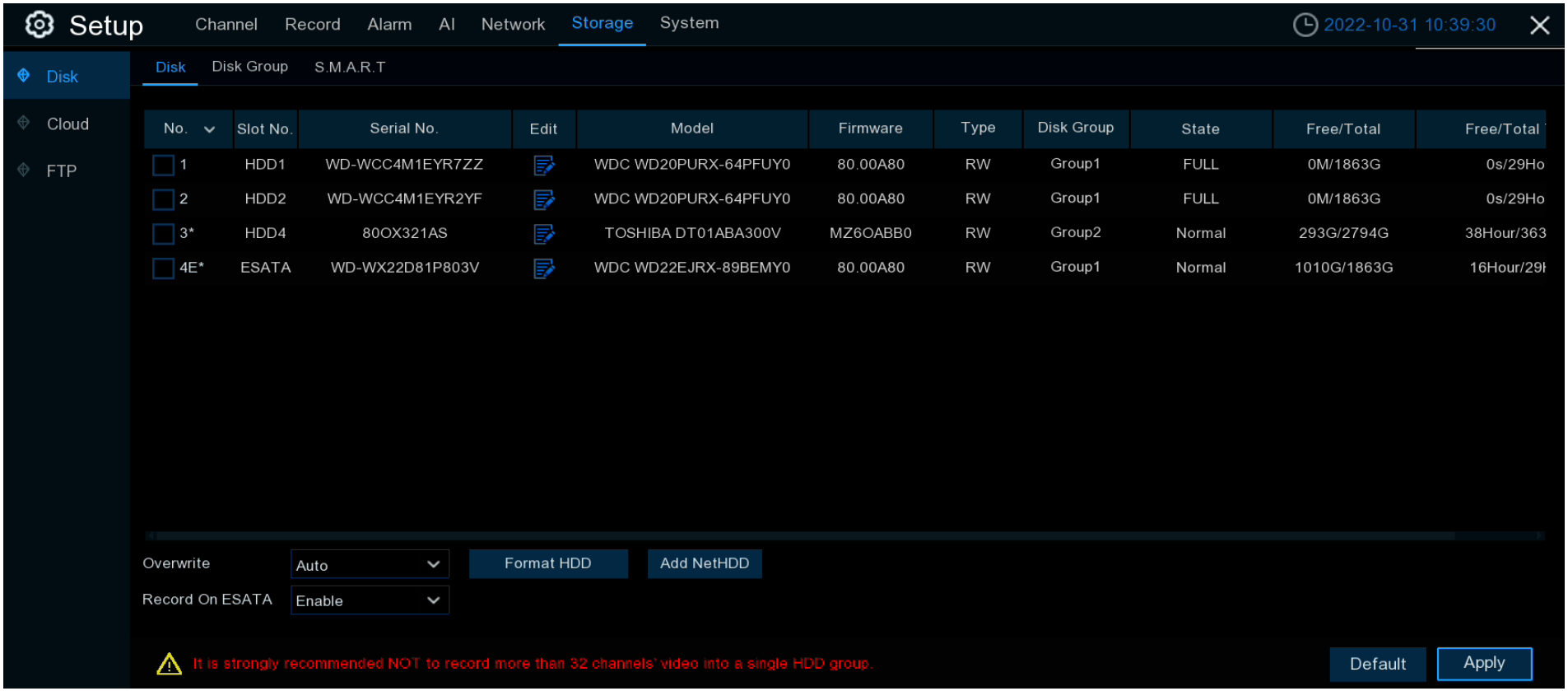
Note: To ensure the NVR is able to live broadcast, it is recommended the resolution not exceed 1920 × 1080. Live broadcasting can only be done if the camera is using the H.264 compression rate/video encoding format and G711A/U audio encoding format. A YouTube live code can be set for only one device and cannot be reused.

5.6. Device

Configure the storage devices, including the internal Hard drive storage, external NAS storage and cloud storage.

5.6.1. HDD

This allows formatting the NVR's hard drive, and it will be listed here for selection (if a new hard drive has been installed inside the NVR, it needs to be formatted before it can be used).



Format HDD:

1. Check the box(es) to select the hard drive(s).
2. Click **Format HDD**. Select one of three options:
   - Format the entire hard disk: All data will be erased: including events, log files and analytic information will be erased.
   - Only format the record partition: All record data will be erased: Only data such as videos, snapshots and log files will be erased. All analytic information will be kept.
   - Only format the general partition: All AI related data may be erased: Only analytic information will be erased. Videos, snapshots and log files will be kept on the hard drive.

   ➔ Click **OK.** The NVR password is required to execute this function.
   ➔ Input the NVR password.
   ➔ Click **Authenticate**. A message will appear noting the data that will be erased. Click "**OK**" to continue.

Overwrite: Set the NVR to overwrite the oldest video files as the hard drive becomes full. **Auto** is the recommended setting to use. Another option is selecting the number of days for recordings to be kept before they are overwritten. For example, if the option 7 days is selected, only the last 7 days' recordings are kept on the HDD.

To prevent overwriting any old recordings, select **OFF**. If **OFF** is selected, check the HDD status regularly to ensure the HDD is not full. Recording stops when the HDD is full. It is highly recommended to select **Auto** as this prevents your NVR from running out of storage space.

Record on ESATA: This menu will only be displayed if the NVR comes with an e-SATA port on the rear panel and an e-SATA HDD has been connected to the NVR. Not all models support this function.It will allow recording the video to an external e-SATA HDD to enhance your HDD capacity. If the e-SATA recording function is enabled, the e-SATA backup function will be disabled.

Add NAS HDD: Click to add a NAS disk.

Mounting Type: Select a mounting type: NFS or SMB/CIFS.

➔ Inputting the account name and password of the NAS drive will be required if SMB/CIFS is selected.

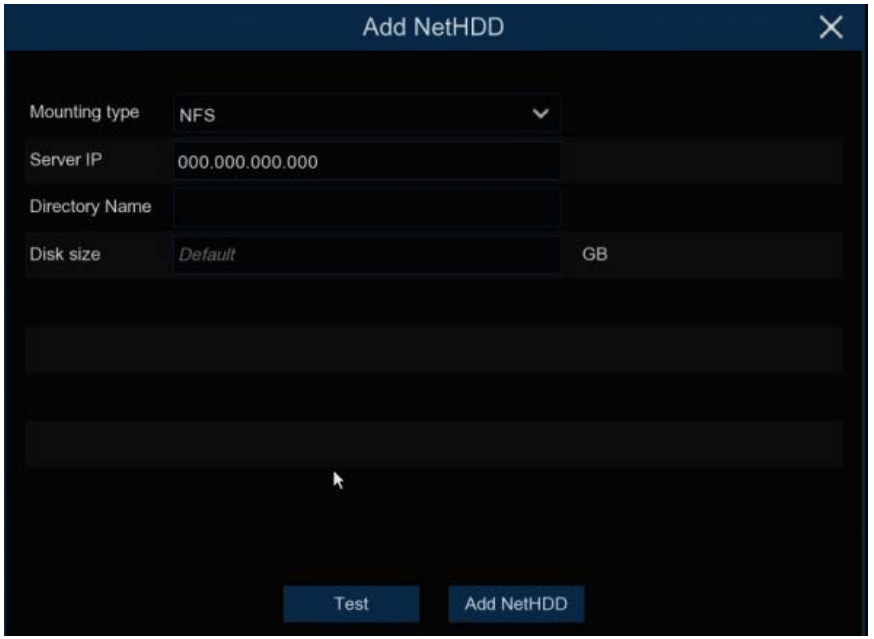
Server IP: Input the IP address of the NAS drive.

Directory Name: Input the directory name to save the recording data to.

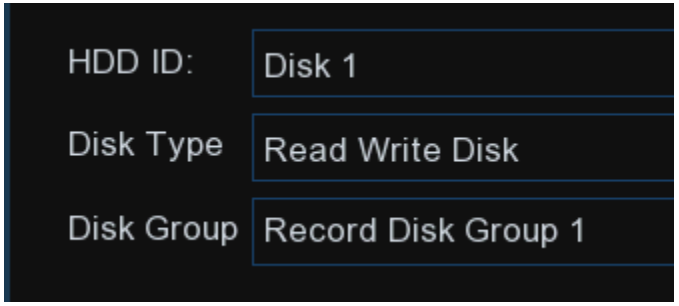
Disk Size: To set the capacity of the NAS storage.

Test: Click to test the connection to the NAS storage.

Add NAS HDD: Click to add the NAS storage.



If the NVR supports installing multiple hard drives, and more than 1 hard drive is installed in the NVR, the edit option will be available. Click to edit the HDD as below:



Disk Type: Set the hard disk to: Read Write, Read Only, or Redundant.

- ➔ **Read Write:** is the normal status for an HDD to save recordings or search recordings to play. If all the installed hard drives are set to Read Write, the NVR will save recordings to the hard drives sequentially.
- ➔ **Read Only:** New recordings will not save onto a hard drive set as **Read Only**. However, searching and playing recordings already saved to the hard drive can done. To prevent important video data from being overwritten during cyclic recording, the hard drive disk can be set as **Read Only**.
- ➔ **Redundant:** A hard drive can be set to save the same recordings as another hard drive in the NVR that has been set to Read Write. When a redundant disk is set, the redundant drive will save the recordings in parallel with the Read Write. This provides a back up copy of the recorded video should the other hard drive fail.

Note:

1. The Redundant disk only supports saving mainstream recordings.
2. If the disk type has been changed, the hard disks might be unmounted and offline for a short time. Give the system a few moments to get disk(s) mounted again.

Disk Group: It is possible set the disks into different disk group for recording. See more on 5.6.1.1 Disk Group.

5.6.1.1 Disk Group

If the NVR supports installing multiple hard disks and more than 1 hard disk is installed in the NVR, the Disk Group menu will be available. The Disk Group function can assign the cameras to be recorded to different disk groups in order to reduce the load on a single hard disk and extend the life of hard disk.

1. Click edit of the hard disk to configure.
   - ➔ Set the **Disk Type.**
   - ➔ Set the **Disk Group**.

2. Go to **Disk Group** tab.
   - ➔ **Disk Group Type:** Select the disk group type.

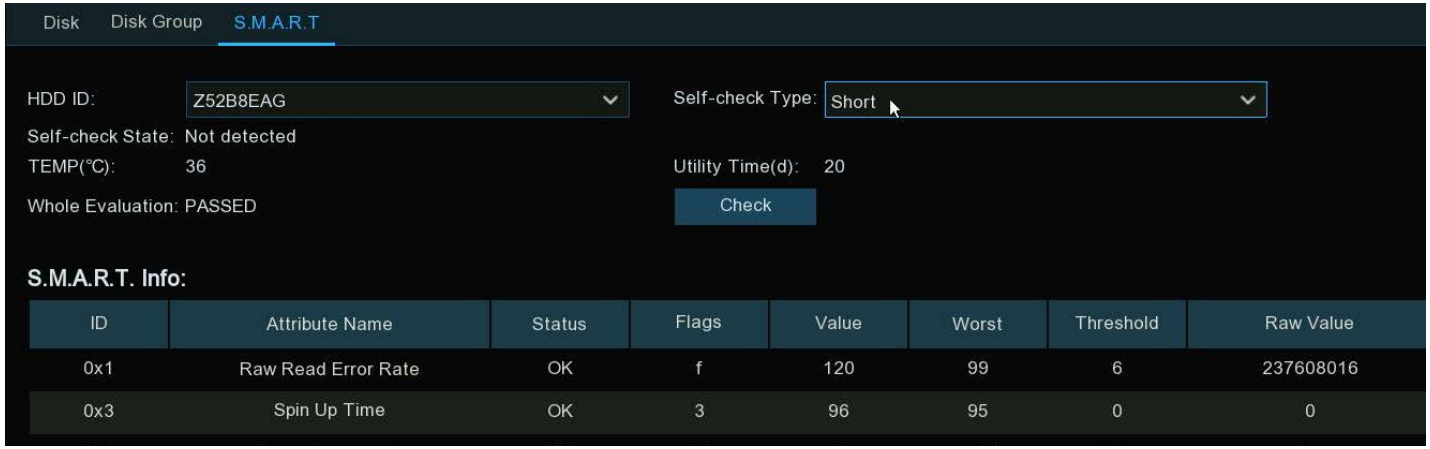
- If all the hard disks are set as Read Write, only **Record Disk Group** is available here.
- If one or more hard disks are set as Redundant, the **Redundant Disk Group** option will also be available

➔ **Disk Group:** Select a disk group.

3. **Record Channel:** Select which camera(s) will be recorded and saved into the hard disk(s) in the selected group. Maximum 16 cameras can be recorded in a group.
   ➔ **Click Apply** to save the settings.

5.6.1.2. S.M.A.R.T

Display technical information about the hard drive(s) installed inside the NVR. As well as evaluate and detect potential drive errors using testing options (three test types available).



Self-check Type: Select one:

➔ **Short:** Verifies major components of the hard drive, such as read/ write heads, electronics and internal memory.

➔ **Long:** A longer test verifying the above as well as performing a surface scan to reveal problematic areas (if any) and forces bad sector relocation.

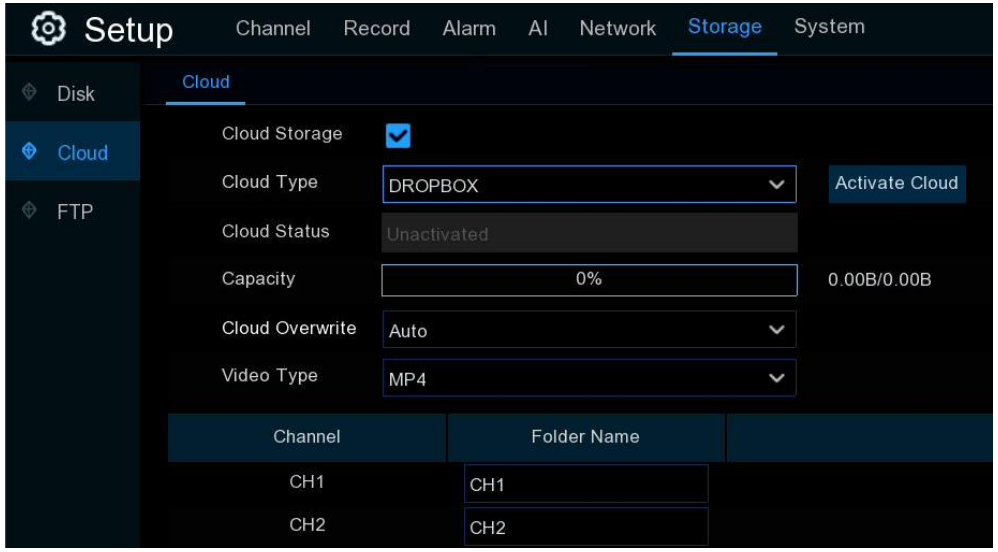
➔ **Conveyance:** This is a very quick test that verifies the mechanical parts of the hard drive are working.

When performing a test, the NVR will continue to work normally.

If an HDD S.M.A.R.T error is found, the HDD can remain in use, however, there is a risk of losing video recording and any other data stored on the HDD. It is strongly recommended to replace the HDD.

5.6.2. Cloud Storage

The NVR can send snapshots and video recordings to the cloud via Dropbox™ or Google Drive™, which is a service that allows you to store and share snapshots and video recordings. Always having them available when needed.



Cloud Storage: Enable/disable Cloud Storage.

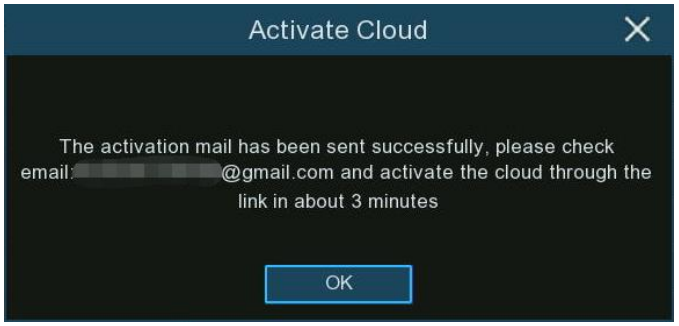
Cloud Type: Select Dropbox or Google Drive.

Cloud Status: This will change to Activated when active.

Capacity: Will display how much free space in cloud storage.

Cloud Overwrite: Set Cloud Storage to overwrite the oldest video files as Cloud Storage becomes full. Or select the number of days for recordings to be kept before they are overwritten. For example, choosing 7 days: only the last 7 days' recordings are kept.

To prevent overwriting any old recordings, select **OFF**. If **OFF** is selected, check the Cloud Storage status regularly to ensure the Cloud Storage is not full. Recording stops if Cloud Storage is full. It is highly recommended to select **Auto** as this prevents your NVR from running out of storage space.



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

Folder Name: To create a folder for each camera for saving its uploading files.

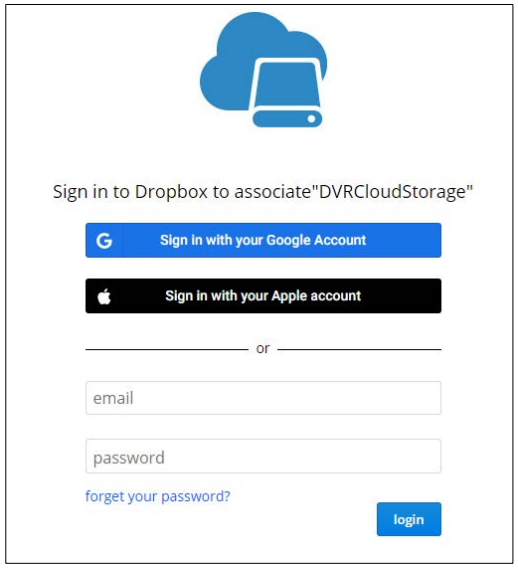
5.6.2.1. Dropbox Settings

Before activation, we recommend creating a Dropbox account. Go to www.dropbox.com.

- ➔ Input your name, email address, and a password.
- ➔ Agree to the terms & conditions.
- ➔ Click or tap the sign up button.

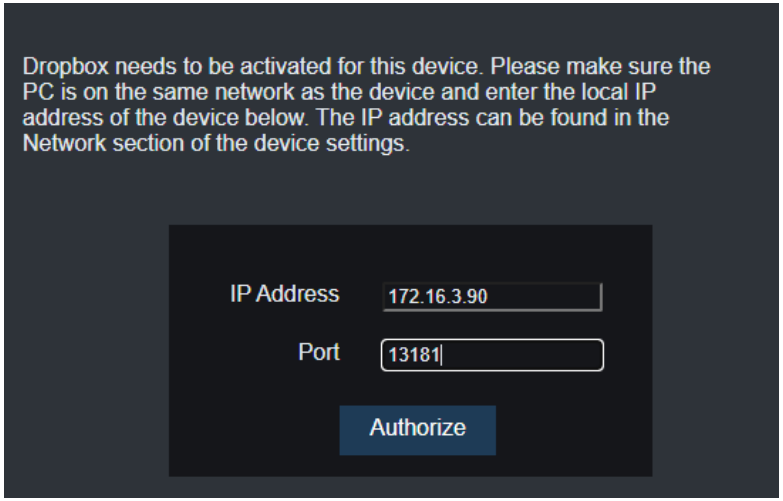
If you already have a Dropbox account, you can skip this step.

Click **Activate Cloud.** The system will send an activation letter to the receiver email address used on the Email Setup page. (See 5.5.3.1 Email Settings)



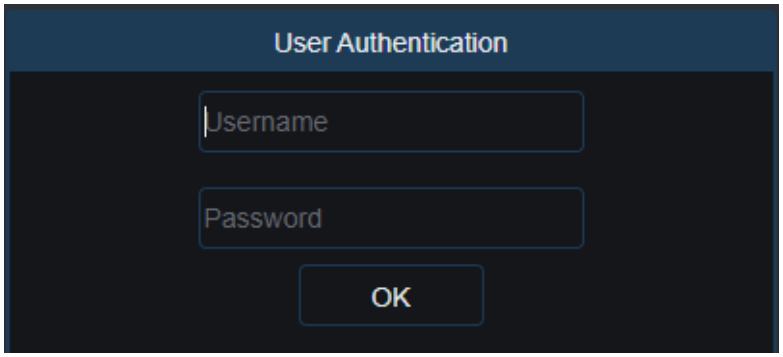
- ➔ Login to your email.
- ➔ Open the Dropbox email.
- ➔ Click the link in the email to open the cloud server authorization login page.
- ➔ Input your Dropbox account name and password to login.

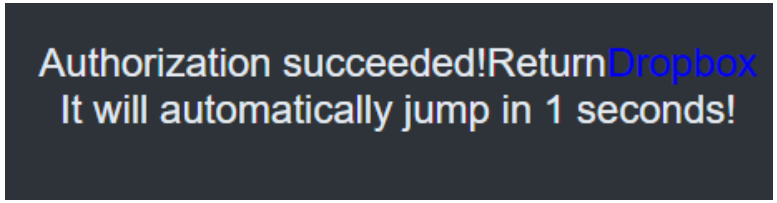
Input the NVR local IP address and web port, and then click **Authorize**.



Input the NVR user name and password.

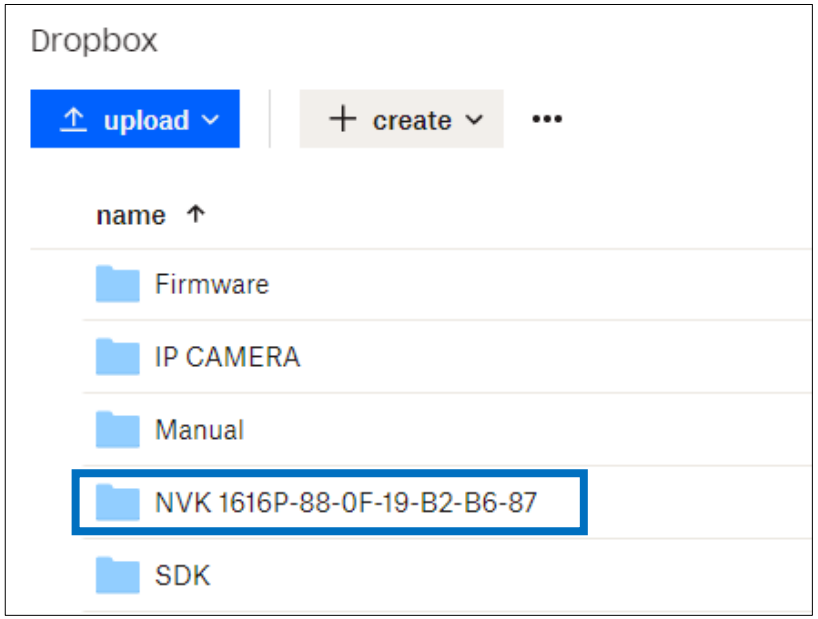
Click **OK**.





Once authorization is successful; the Dropbox web page will open.

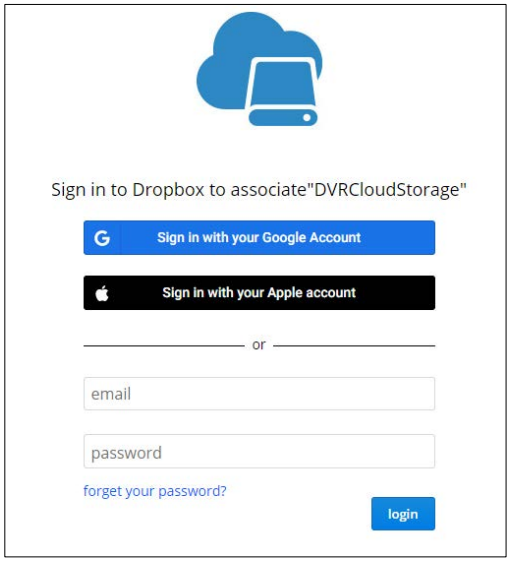
The Cloud has successfully completed the setup if there is a new folder titled with NVR device name and MAC address, in Dropbox. The alarm pictures and videos will be upload to this folder.

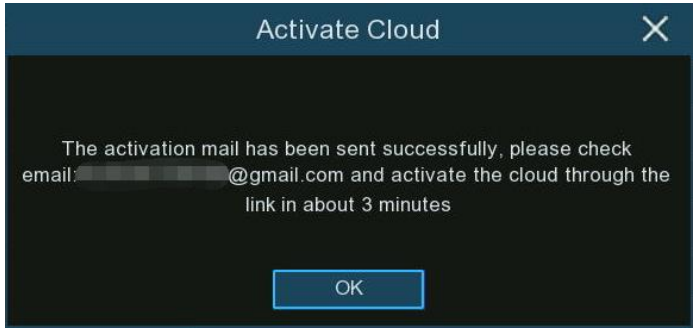


5.6.2.2. Google Drive Settings

Before activation, we recommend creating a Google Drive account. Go to https://www.google.com/drive.

- ➔ Input your name, email address, and a password.
- ➔ Agree to the terms & conditions.
- ➔ Click or tap the sign up button.

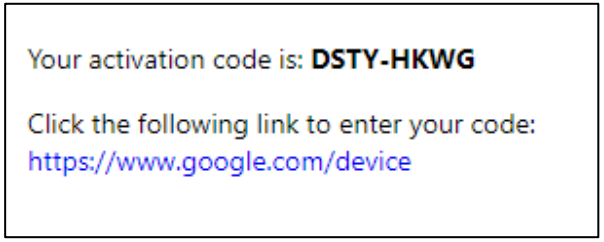


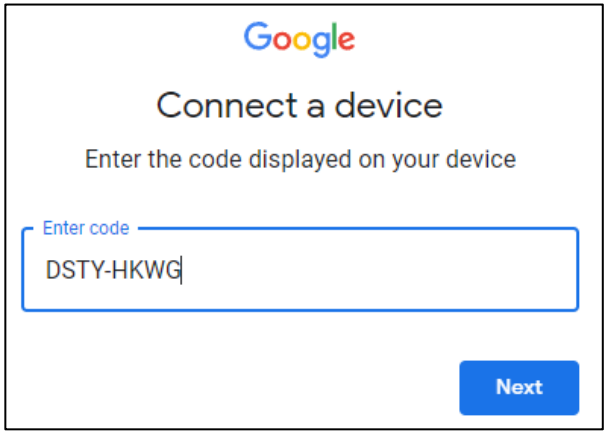


Click **Activate Cloud.** The system will send an activation letter to the receiver email address used on the Email Setup page.

(See 5.5.3.1 Email Settings)

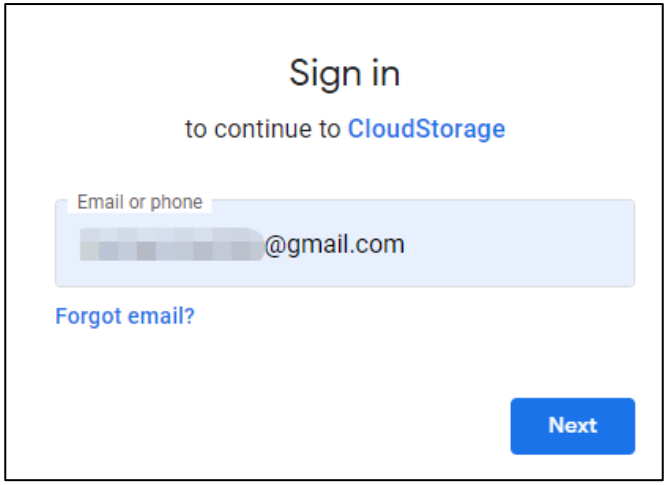
- ➔ Login to your email.
- ➔ Open the Google Drive email to find the activation code and a link as illustrated below.



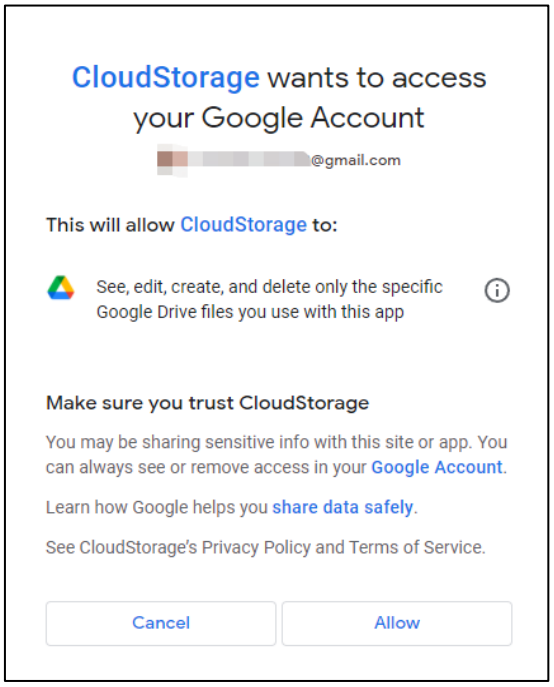


- ➔ Click the link to open: “Connect a Device”.
- ➔ Enter the activation code in the email.
- ➔ Click **Next**.

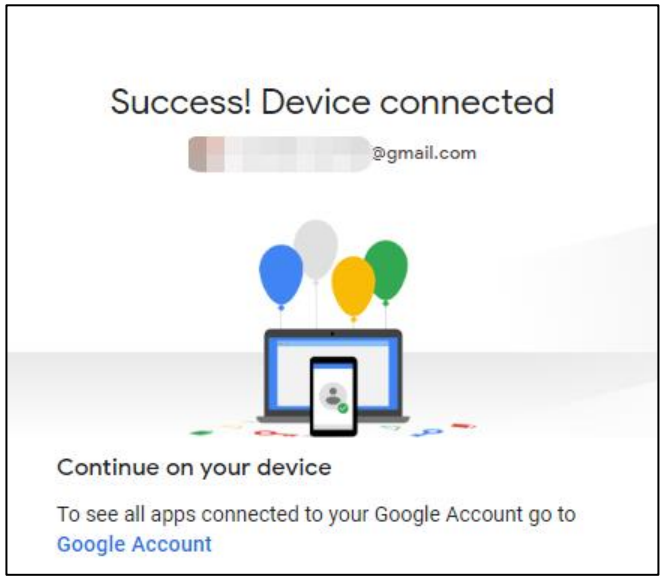
Enter your Google account and password to login your Google Drive.



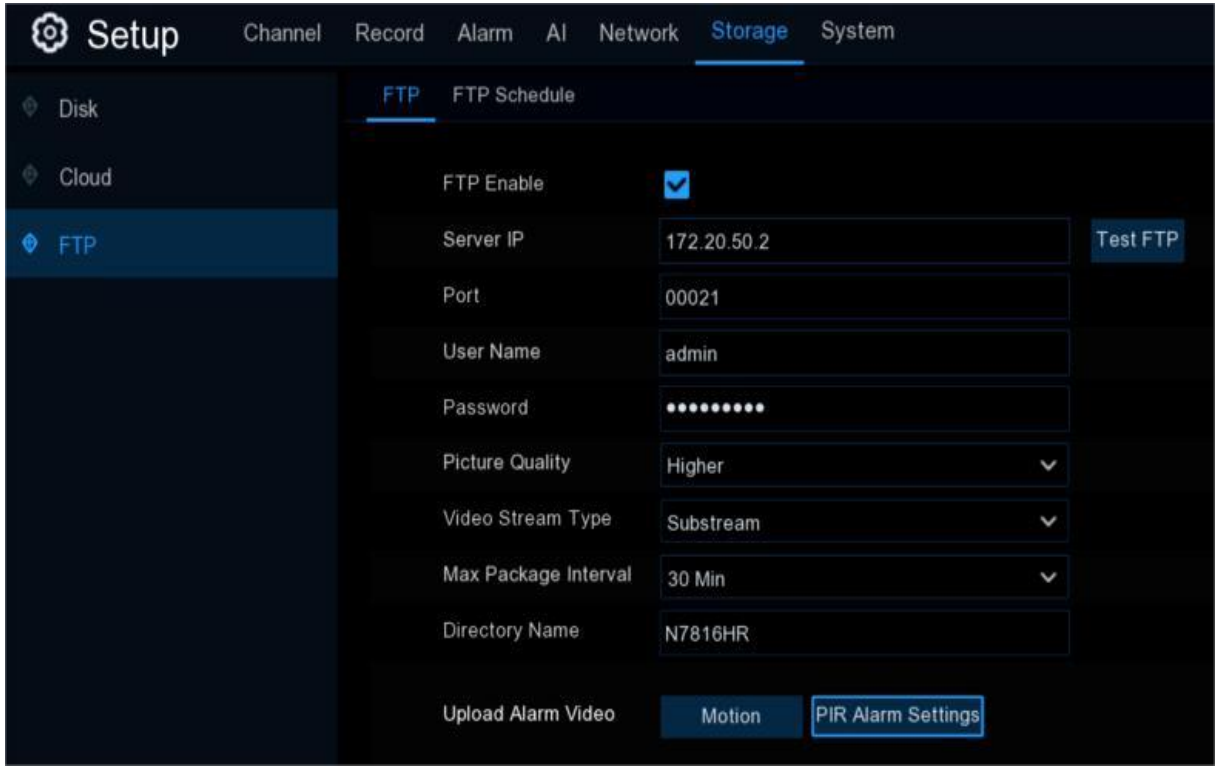
Click **Allow**.



The Google Drive cloud setup is complete.



5.6.3 FTP Settings



Configure the FTP settings for uploading captured snapshots or videos to a FTP server.

FTP Enable: Enable/disable the FTP function.

Server IP: Enter IP address or domain name of the FTP server.

Port: Enter the FTP port for file exchanges.

User Name/ Password: Enter the user name and password of FTP server.

Picture Resolution: Set the snapshot resolution to upload. Maximum resolution is 1920x1080.

Picture Quality: Select the image quality of snapshots to upload.

Video Stream Type: Select stream type to upload:

➔ Mainstream or Substream.

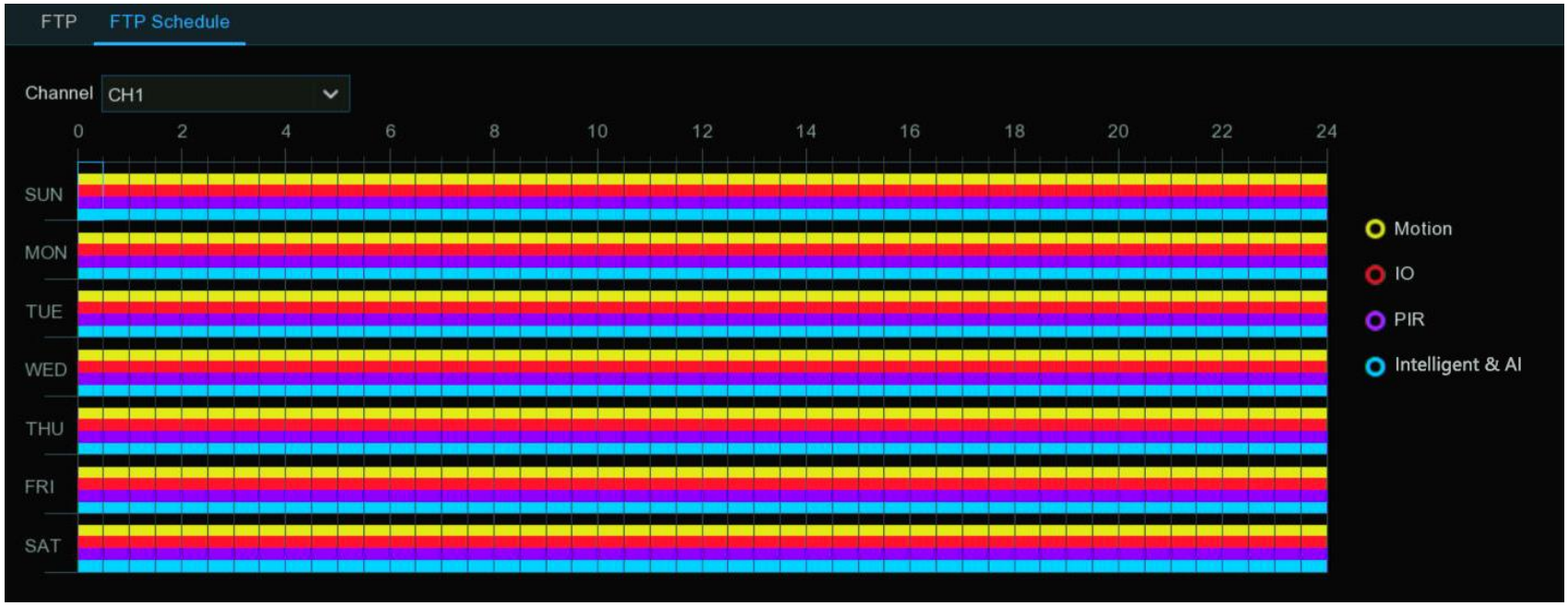
Max. Package Interval: Set the maximum time length of each uploaded video.

Directory Name: Enter the directory name in the FTP server to save the uploaded pictures and videos to.

Click **Test FTP:** The system sends an automated file to the ftp server. FTP is properly configured if a "Write to file succeeded!" message is received.

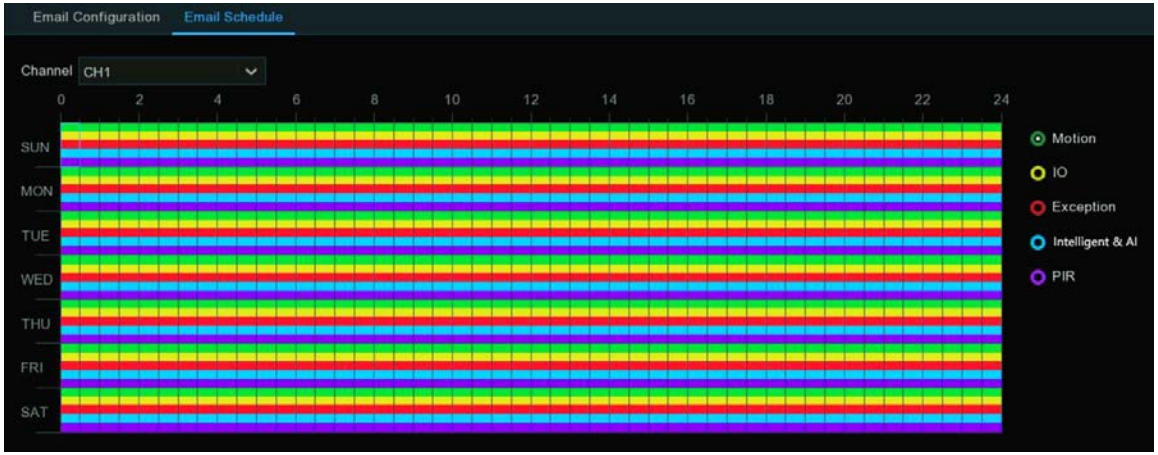
5.6.3.1. FTP Schedule

If FTP upload is enabled on the NVR, images/video would be uploaded 24 hours a day as default. The schedule can be changed for when the NVR will upload images/videos. For example,to only upload images/video during the day but not in the evening, an alternative schedule can be created for each camera.



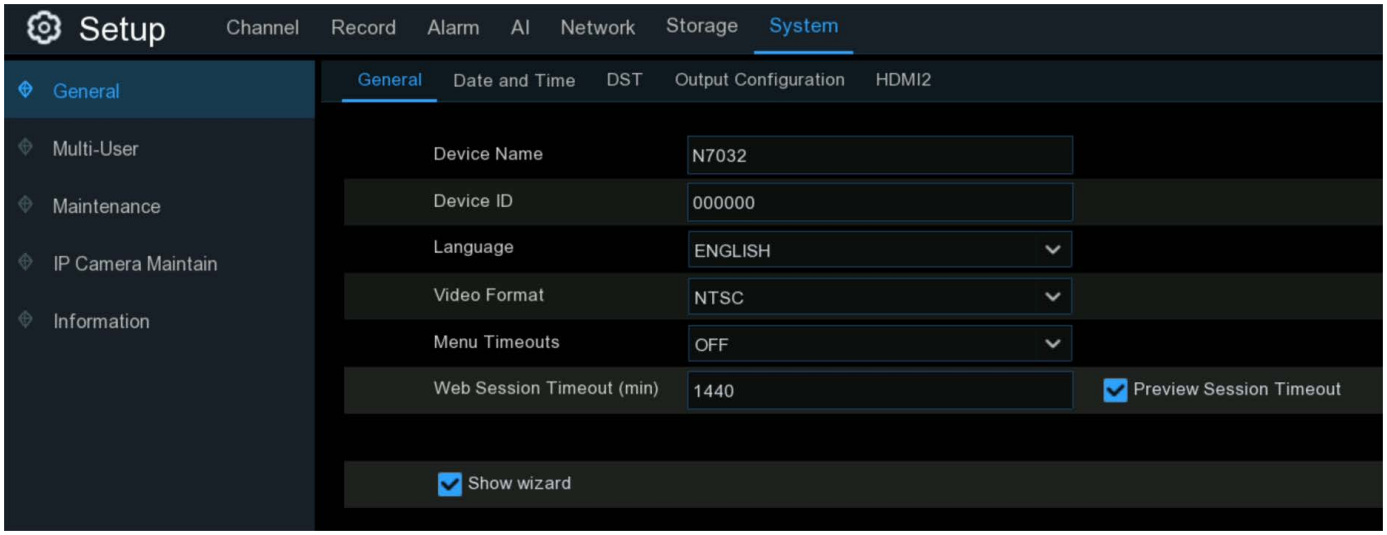
7. **Channel:** Select a channel.
8. Click on button of the alarm type to send email alerts for:
   - ➔ **Motion:** Email alerts for motion detection events
   - ➔ **IO:** Email alerts for I/O triggered events
   - ➔ **Intelligent & AI:** Email alerts for Intelligent or AI detection events
   - ➔ **PIR:** Email alerts for PIR events

9. Using the mouse, click on a square and drag the mouse over the squares to select the hours of the day FTP upload will be active.
10. Repeat step 2 & 3 to set the schedule for other alarm types.
11. The set schedule is only valid for the selected channel. To use the same schedule for other channels, use the **Copy** option.
12. **Apply:** to save the settings.



5.7. System Configuration

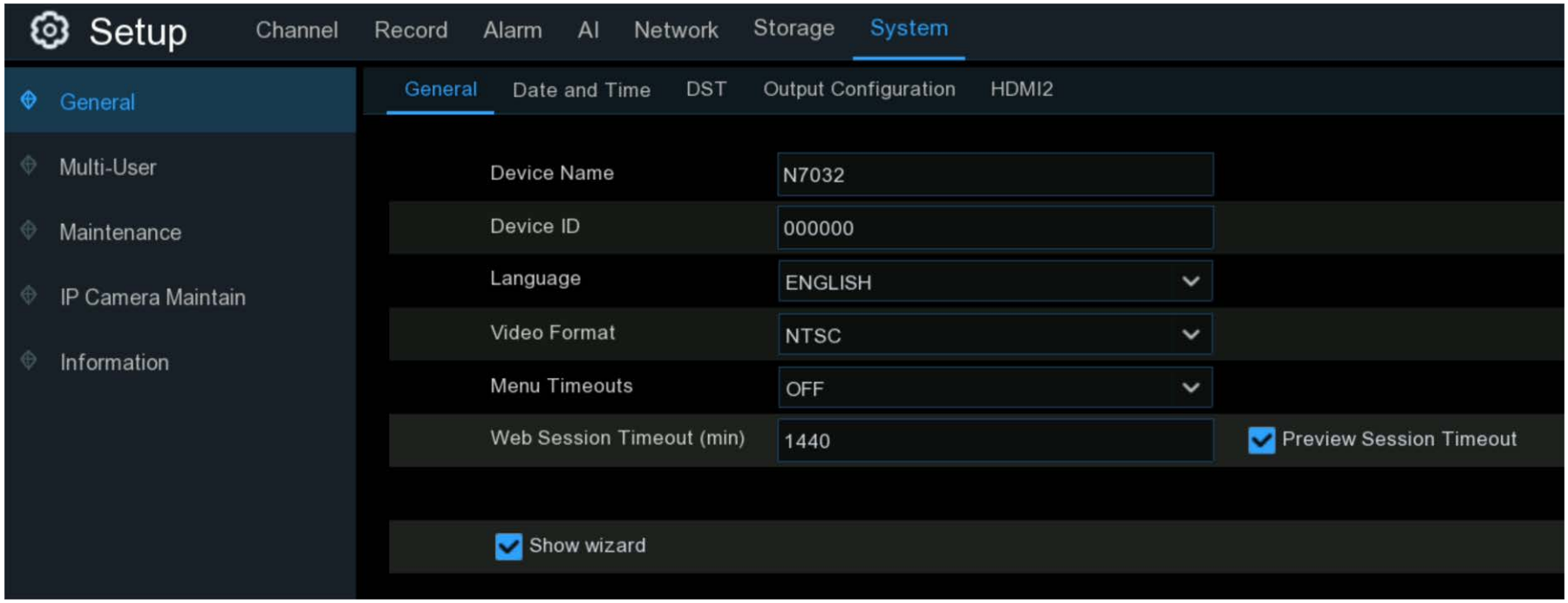
Change general system information such as date, time and region, edit passwords and permissions, system maintenance, and more.



5.7.1. General Settings

Change general system information such as language, date & time, display settings, and more.

5.7.1.1. General



Device Name: Rename the NVR(if needed). The name can include both letters and digital numbers.

Device ID: Input an ID for the NVR. Composed of numbers only (6 digits, ex: 000000 or 111111). The device ID will identify the NVR. For example: 2 NVRs are installed in the same area; operating the NVR with a remote controller, both NVRs may receive the signal from controller causing both NVRs to act at the same time. To control only the NVR with ID 111111, input the Device ID 111111 at the login page with the remote control. Only the NVR with ID 111111 responds for further operations during the current login session.

Language: Select a language the system menus will display 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 the NVR will exit the Main Menu if idle. Disable by selecting "**OFF**" (password protection will be temporarily disabled).

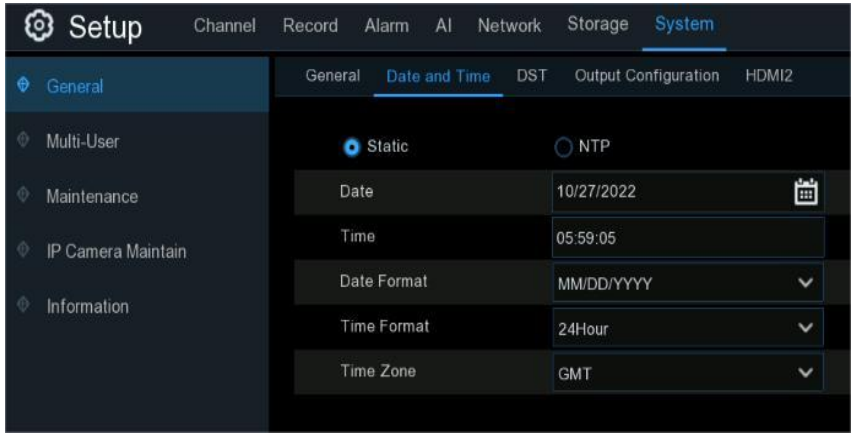
Web Session Timeouts: Enter the time (in minutes) when idle in the settings pages of the web interface, the NVR will require logging in again to resume web access. Set from 5 minutes to 1,440 minutes.

Preview Session Timeouts: Enable/disable **Preview Session Timeouts**. If enabled, web access will be exited when idle on the web interface live view page .

Show Wizard: Enable/disable the Startup Wizard displaying each time the NVR is powered on or the NVR reboots.

5.7.1.2. Date and Time

Date & Time



Date: Set the date.

➔ Click the calendar icon to change the date.

Time: Set the time.

➔ Click the dialogue box to change the time.

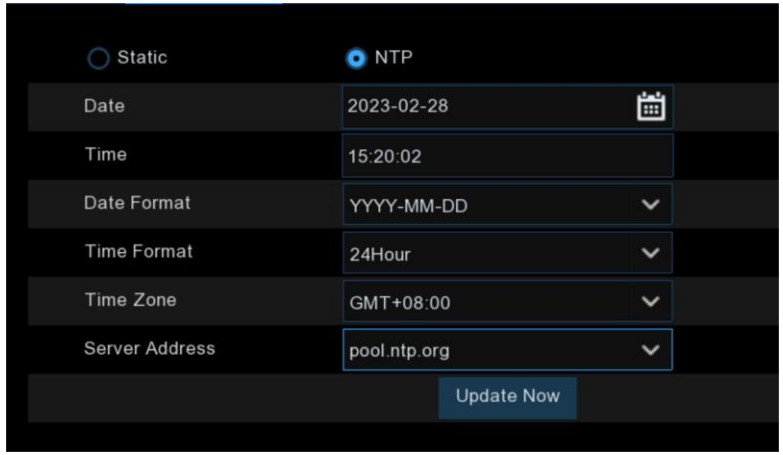
Date Format: Select the preferred date format.

Time Format: Select the preferred time format.

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

NTP Settings

The NTP (Network Time Protocol) function allows the NVR to automatically sync its clock with a time server. This ensures that the date and time are accurate and ensures correct time stamping when events occur.



Click **NTP** to enable.

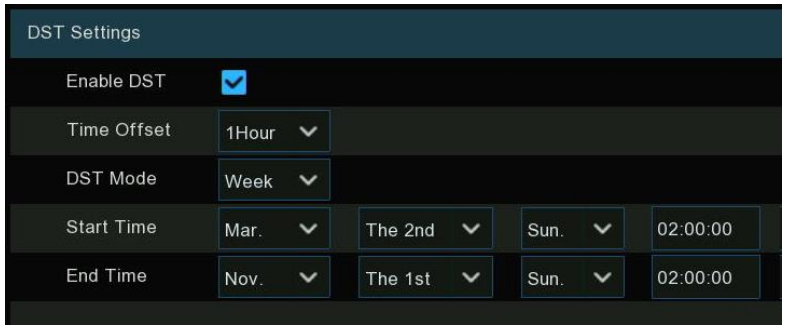
Server Address: Select a NTP server.

Click "**Update Now**" to instantly sync the date & time.When NTP function is enabled, the system time will update at 00:07:50 each day or every time the system is starting up.

Click "**Apply**" to save the settings.

5.7.1.3. DST

DST (Daylight Saving Time) allows selecting the amount of time Daylight Saving has increased by in your particular time zone or region.



Enable DST: Enable/disable DST. If **DST** applies to your time zone or region

Time Offset: Select the amount of time that **DST** has increased by in your time zone. The difference in minutes, between Coordinated Universal Time (UTC) and the local time.

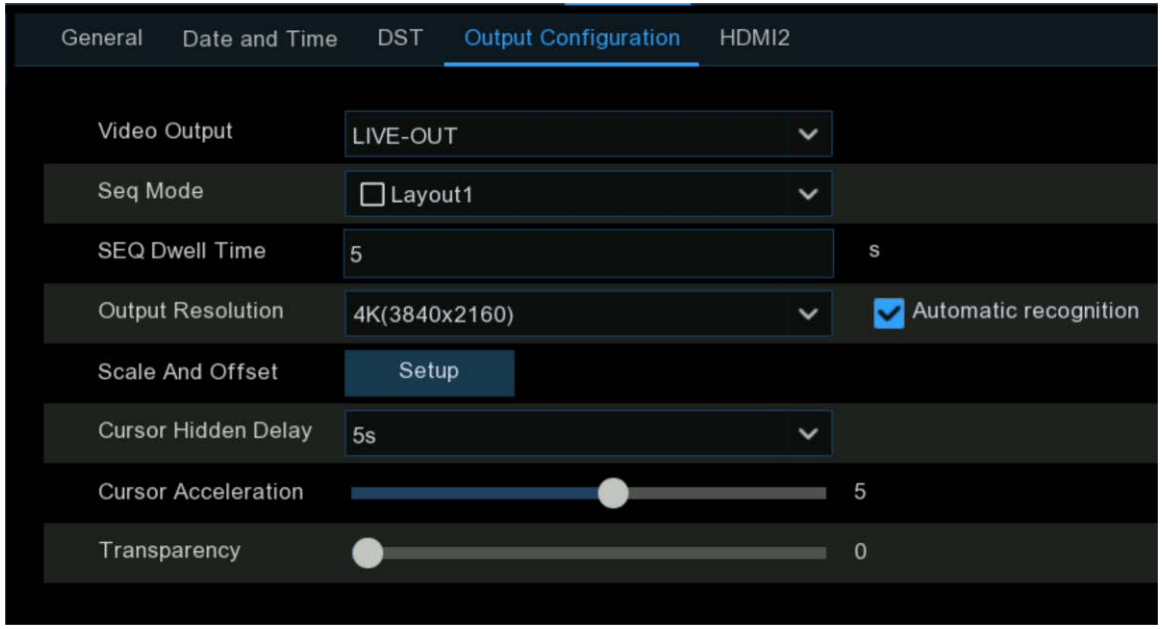
DST Mode: Select how Daylight Saving starts and ends:

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

➔ **Date:** Select the start date, end date, and time when Daylight Saving starts and ends.

5.7.1.4. Output Configuration

Configure video output parameters.



Video Output: Leave the default selection.

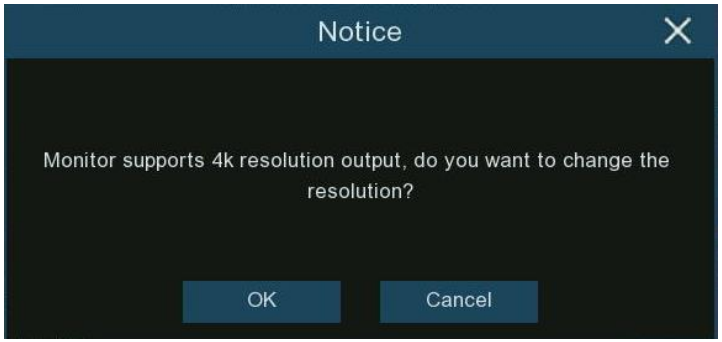
SEQ Mode: Select how many channels to display at a time when your NVR is in sequence mode.

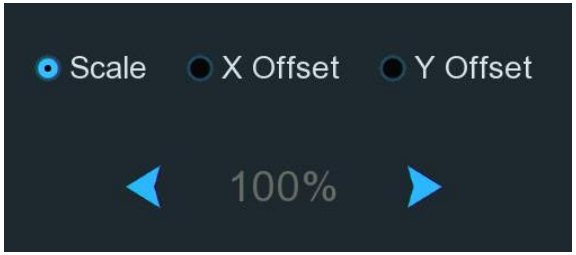
SEQ Dwell Time: Enter in seconds the maximum length of time to display the channel(s) in sequence mode before changing to the next channel(s) (300 seconds is the maximum).

VGA/HDMI Resolution: Set the VGA/HDMI output resolution.

Auto Recognition: Enable/disable. If enabled, the system will automatically set the resolution compatible with the monitor connected,when the NVR boots up.

➔ **The** system will suggest to modify the resolution if it detects a higher resolution available each time the system starts up.





Scale and Offset: Set the image scale and offset.

Click **Setup**.

Click the option to change the settings:

➔ **Scale:** To adjust the size of the display window.

➔ **X Offset:** To move the display window towards left or right.

➔ **Y Offset:** To move the display window towards up or down.

Click or long press the ◀ or ▶ button, or using scroll wheel of your mouse to adjust accordingly.

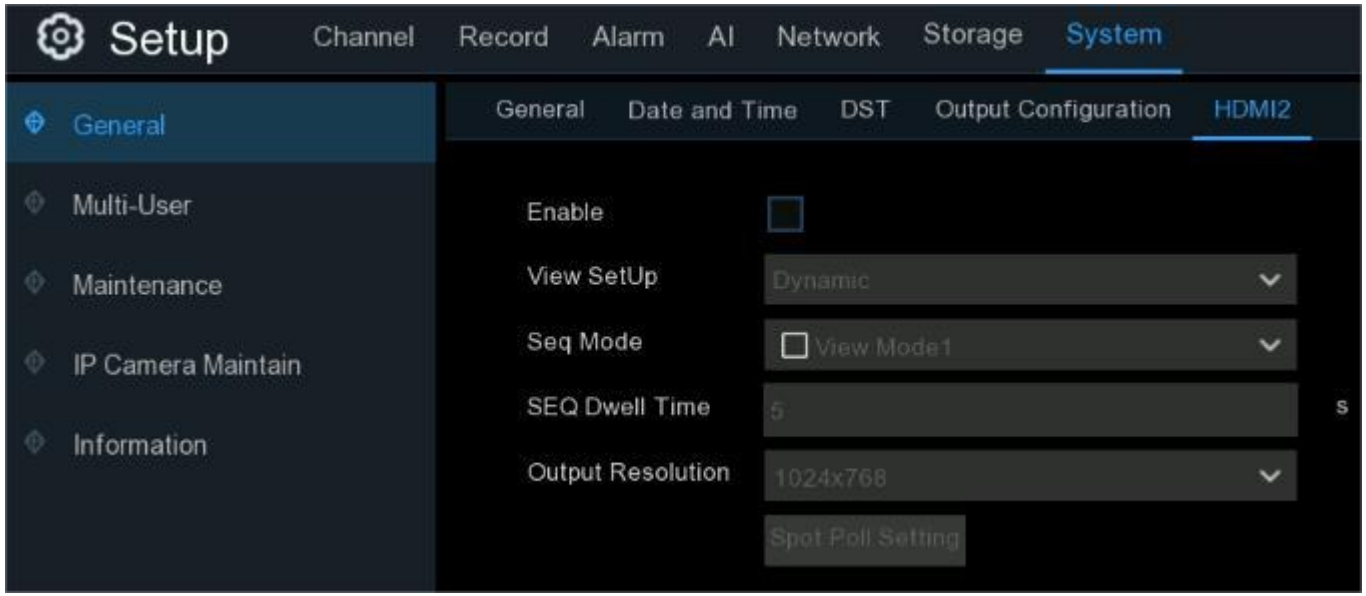
Cursor Hidden Delay: Select the time before the NVR will hide the mouse cursor when idle. Select "**OFF**" to disable.

Cursor Acceleration: Adjust the speed of the mouse cursor speed.

Transparency: Click and hold the slider left or right to change how transparent the Menu Bar and Main Menu will appear on-screen. Adjust accordingly.

5.7.1.5 HDMI2

Set the output display parameters of the secondary screen (Not all models support this feature).



Enable: Enable/disable the secondary screen display.

View Setup: Select **Static** or **Dynamic**.

➔ If **Dynamic** is selected, images are previewed on the secondary screen in a sequential manner.

SEQ Mode: Select the number of video channels to be displayed when the NVR is in HD 2 SEQ mode.

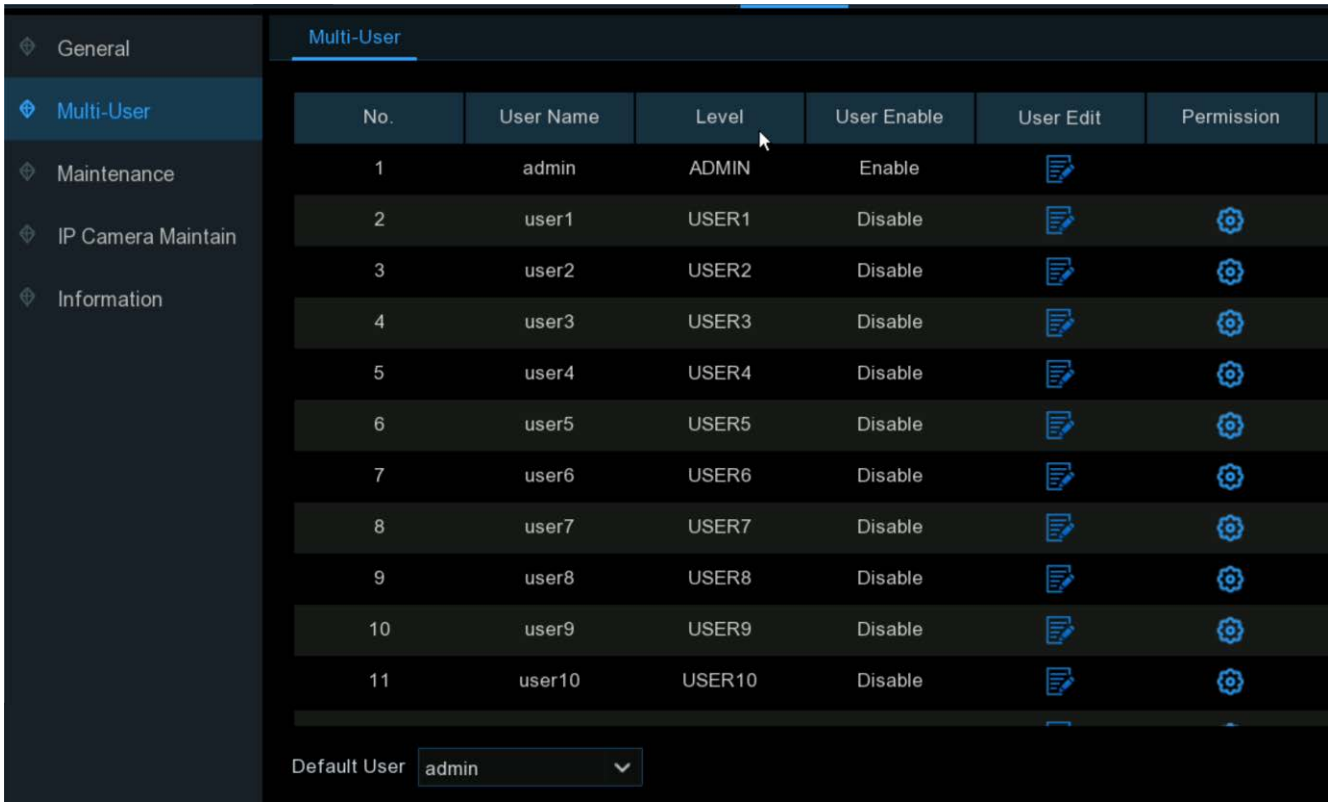
SEQ Dwell Time: Set the SEQ dwell time on the secondary screen in seconds.

Output Resolution: Select the display resolution of the secondary screen (maximum resolution is 1920x1080)

Spot Poll setting: Select the channels for sequential display on the secondary screen when in dynamic mode.

5.7.2. Users

Configure user names, passwords and user permissions.



The system supports the following account types:

ADMIN: The system administrator has full control of the system, and can change the password of both administrator and users and enable/disable password protection.

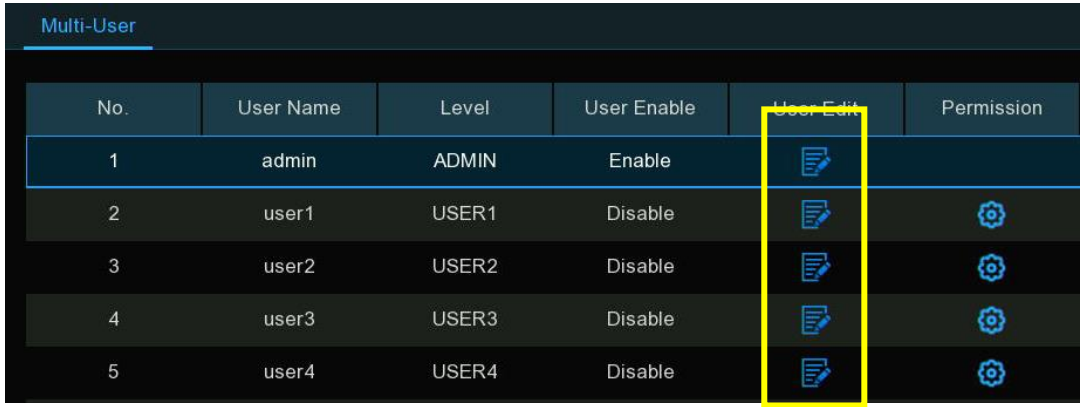
USER: Normal users only have access to live viewing, search, playback, and other functions.

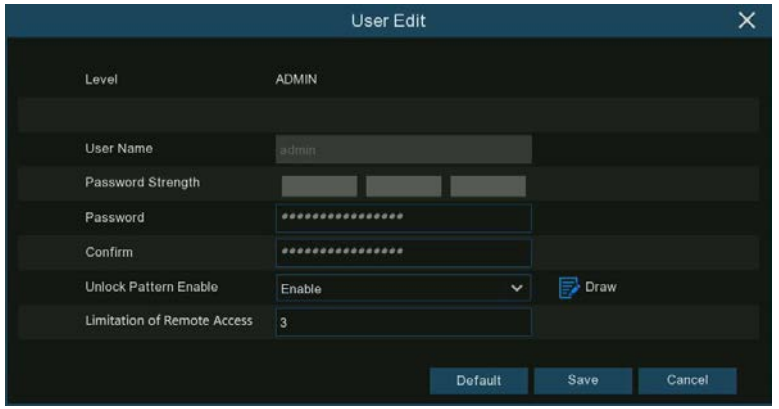
➔ Multiple user accounts with varying levels of access to the system can be set up.

Default User: Designate which user will be the default user (the default user name will auto populate in the login window when the system starts up) . Admin is the default user account. If multiple user accounts have been created, click the drop-down menu to turn this off.

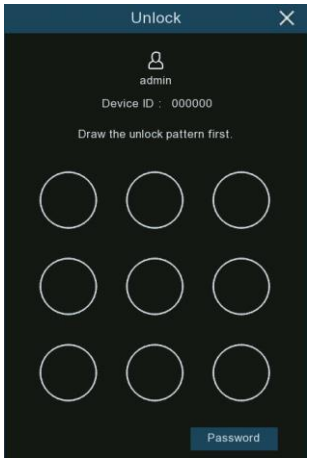
5.7.2.1. Edit Users

Edit user passwords, enable or disable a user, set permissions and set Limitation of Remote Access.





1. Click Edit of the user to configure.
2. For the Admin:
   - ➔ To change password, the password must be a combination of 8 to 16 characters, which are combined with at least 2 kinds of different characters from uppercase letters, lowercase letters, numbers and special characters.
   - ➔ Enter the new password again to confirm.
   - ➔ Click **Save** to save the new password. You will be required to input your old password to authenticate.
   - ➔ **Unlock Pattern**: Enable/disable **Unlock Pattern.** If enabled, draw a pattern and save. This allows drawing unlock pattern to gain access to the NVR, the user name and password will not be required.
   - ➔ **Limitation of Remote Access**: Limit the number of remote logins with this user account at the same time. Remote logins include but are not limited to web interface, CMS/VMS, mobile app, 3rd party platforms.



3. For a normal users:

➔ **User enable:** Enable /disable the user.

➔ **User Name:** Input a user name

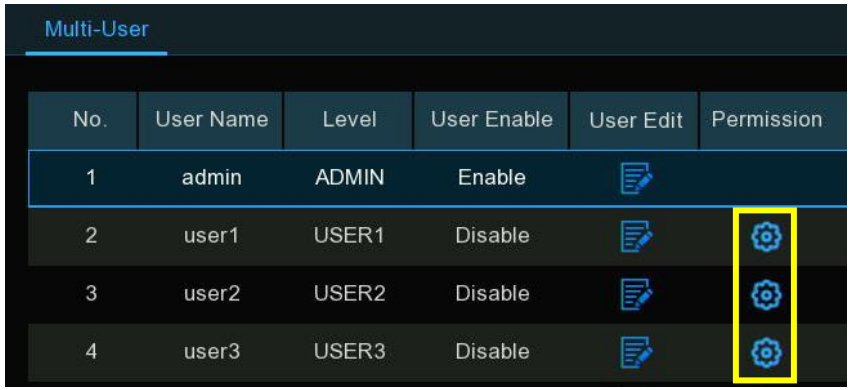
➔ **Password:** Input a password.

➔ **Confirm:** Input the password again to confirm.

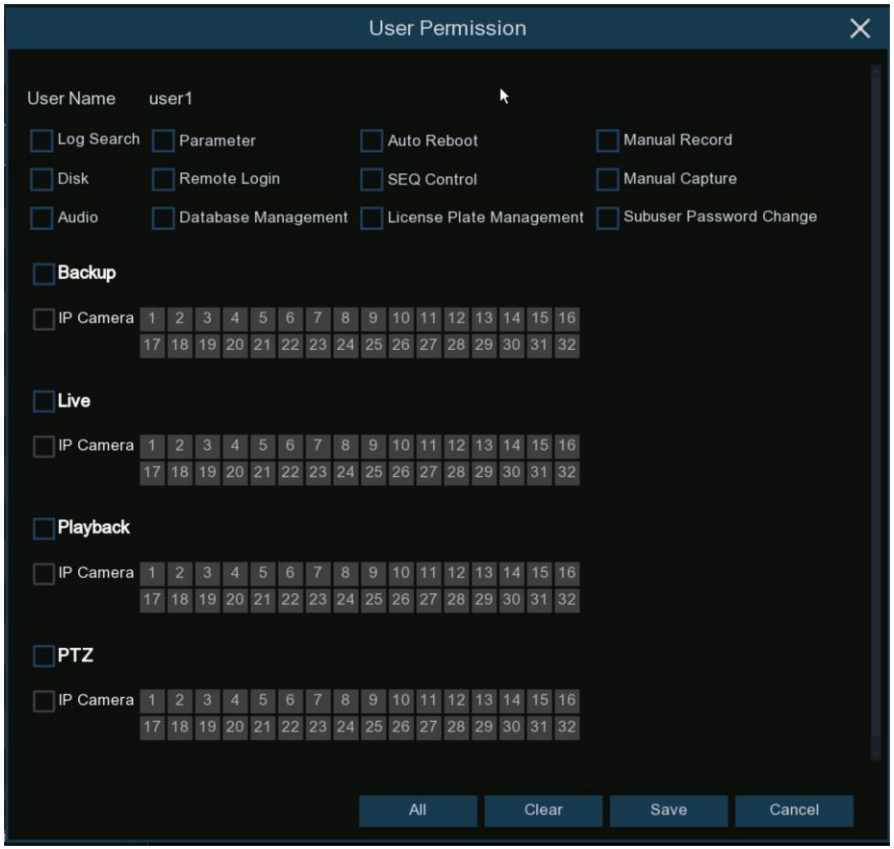
➔ **Limitation of Remote Access**: Limit the number of remote logins with this user account at the same time. Remote logins include but are not limited to web interface, CMS/VMS, mobile app, 3rd party platform.

5.7.2.2. Edit User Permissions

The administrator account is the only account that has full control of all system functions. Enable or disable access to certain menus and functions for other user accounts.

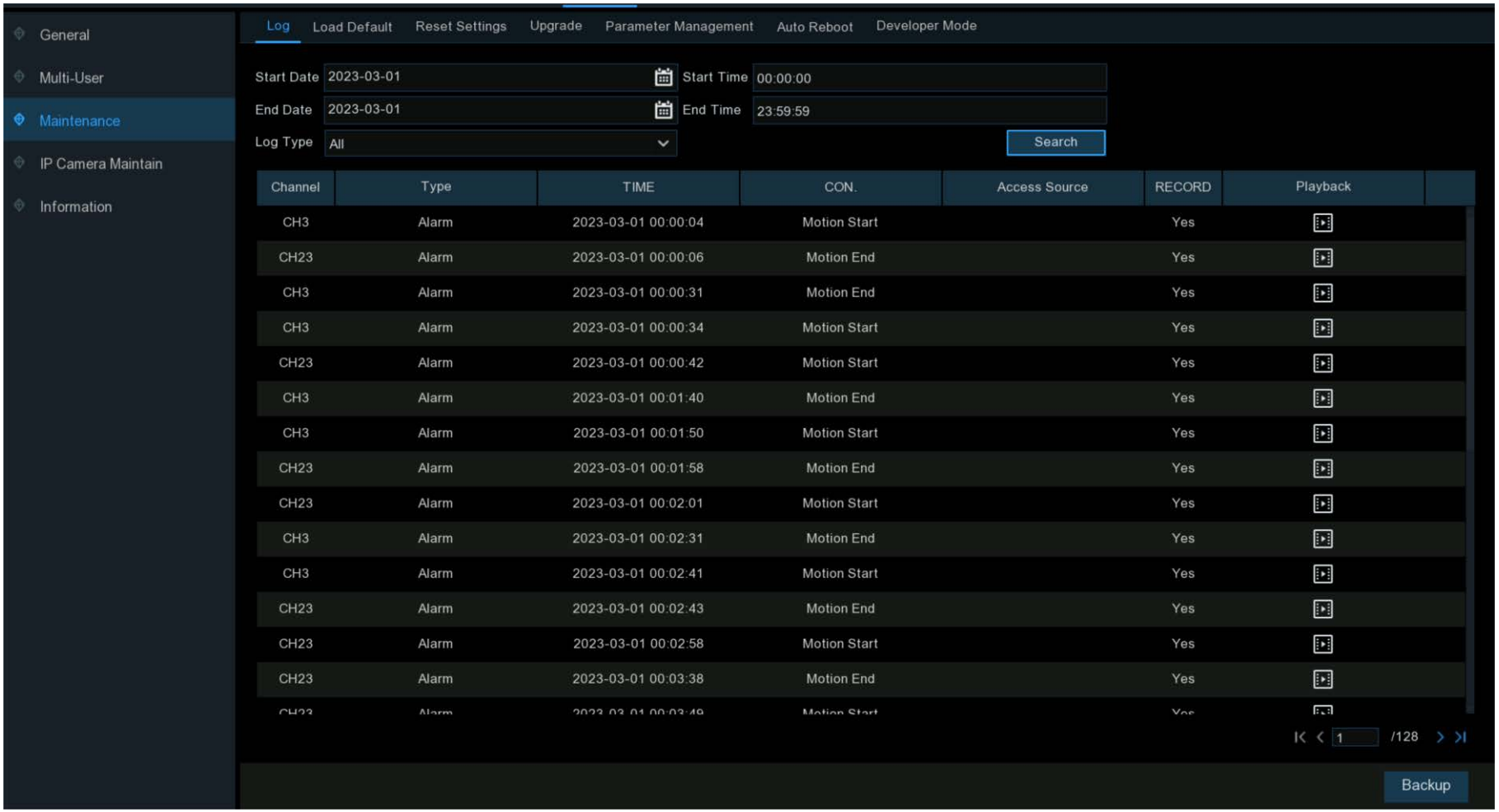


1. Click ⚙ of the user to configure.
2. Check the box of any system menus or functions to give the user access to the selected options.
3. Click **All** to select all menus and functions.
4. Click **Clear** to deselect all menus and functions.
5. Click **Save** to save the modifications.



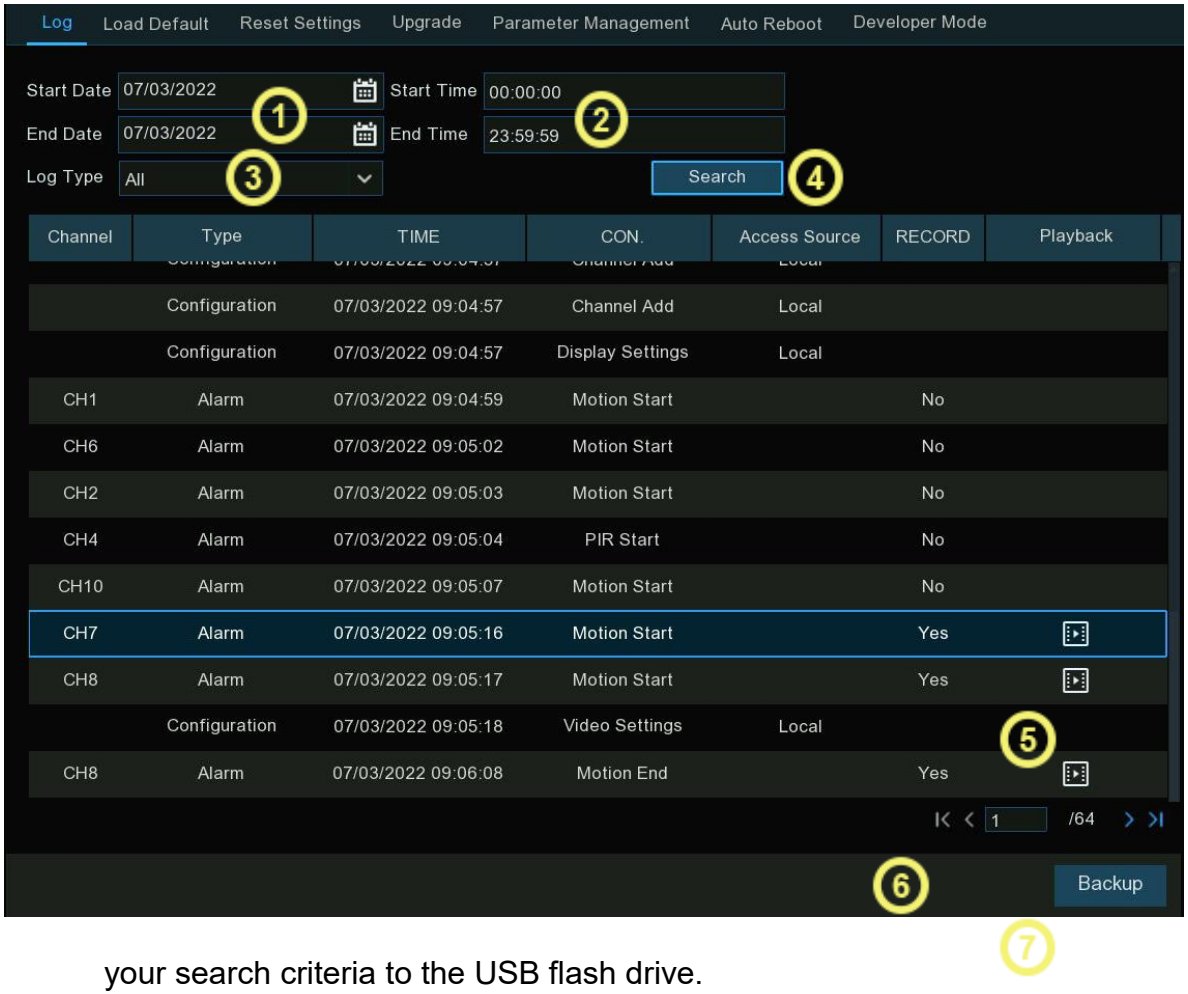
5.7.3. Maintenance

Search & view the system log, load default settings, upgrade the system, export & import system parameters, manage system auto reboot, and more.



5.7.3.1. System Log

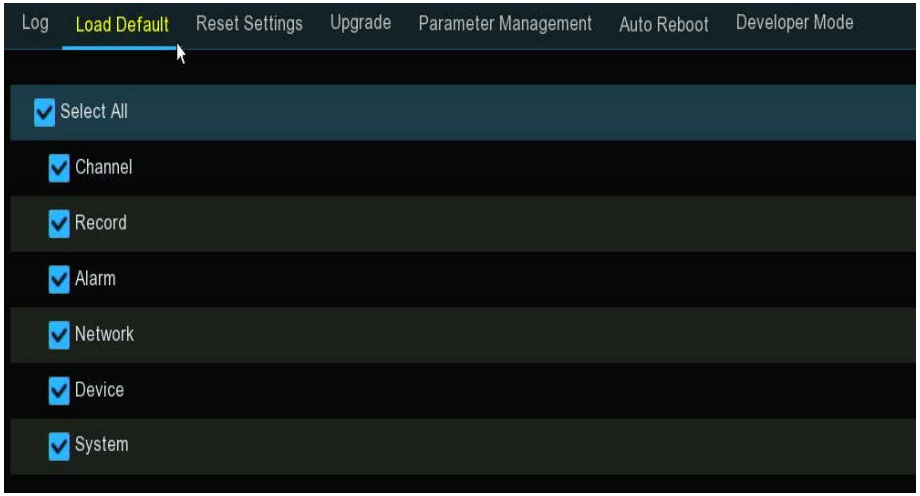
All actions and events that the NVR performs and detects are logged. These log files can be searched, viewed and copied to a USB flash drive for safekeeping.



1. **Start Date & End Date:** Click the calendar icon to select the month, year and date to search.
2. **Start Time & End Time:** Click the dialogue box to enter a specific start and end time.
3. **Log Type:** Leave the default selection or click the drop-down menu to select a specific action to search for.
4. **Search:** Click to display a list of log files that match the search criteria.
   - ➔ Double-click a file to display more information.
5. **Playback:** Click to play the video segment of the event.
6. Click the arrow controls to go to the next page/previous page of the search list.
7. Insert a USB flash drive into the NVR.
   - ➔ Click **Backup** to save the log files that match your search criteria to the USB flash drive.

5.7.3.2. Load Default

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



Select All: To reset all settings back to the default settings.

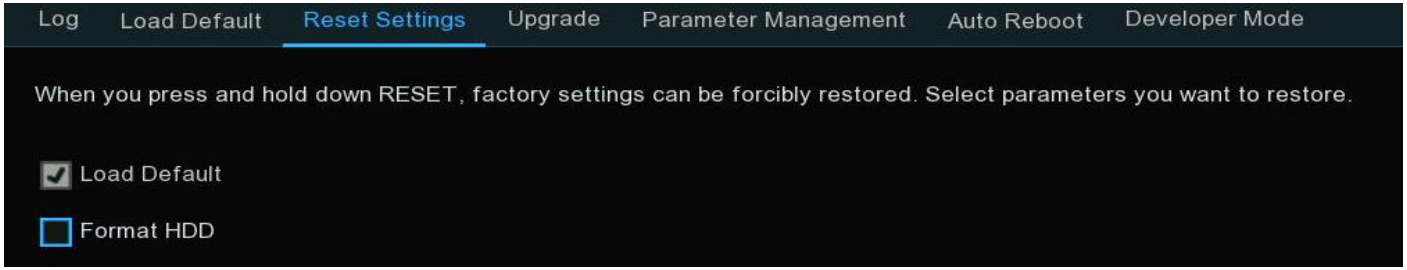
Or Select a specific topic or multiple topics to restore.

Click **Apply** to load default settings to the selected topics.

5.7.3.3. Reset Settings

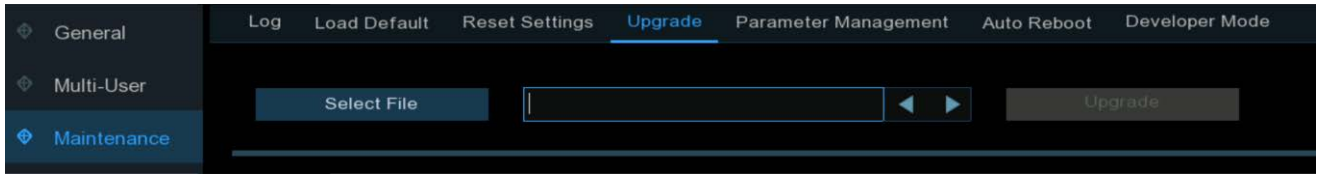
If the NVR comes with a pin-hole reset on the rear panel, this menu will be available.

By default: Using a small pin (such as a paperclip) inserted in the reset pin hole, press the reset button and hold for 10 seconds (until the NVR beeps) will restore default settings. Select **Format HDD** to format HDD if needed.



5.7.3.4. System Upgrade

To upgrade the firmware by USB flash drive or online.

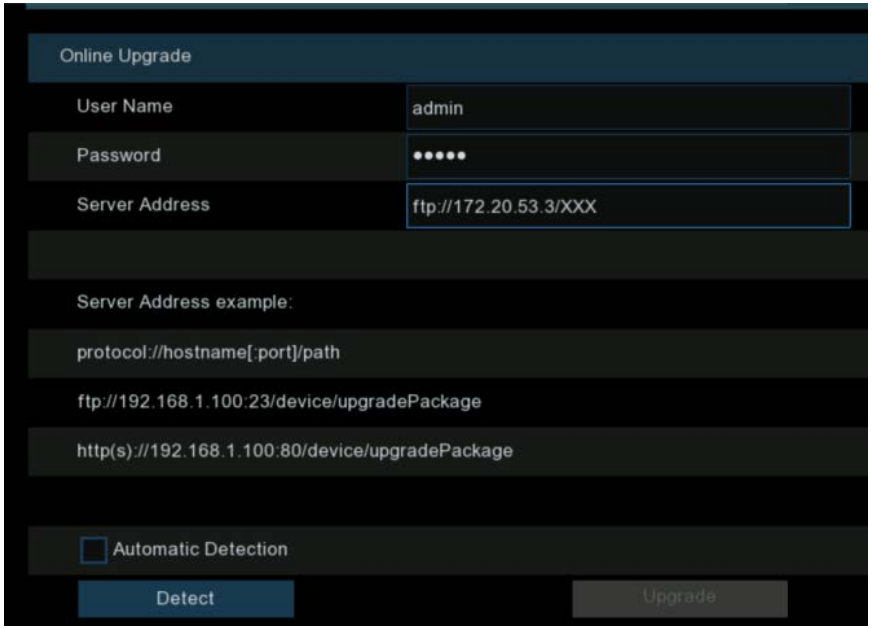


5.7.3.4.1. Upgrade by USB Flash Drive

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

5.7.3.4.2. Online Upgrade

The NVR supports upgrading firmware over the network. To use this function, set up the upgrade server in advance, create a directory for storing files on the server, and upload the upgrade firmware.



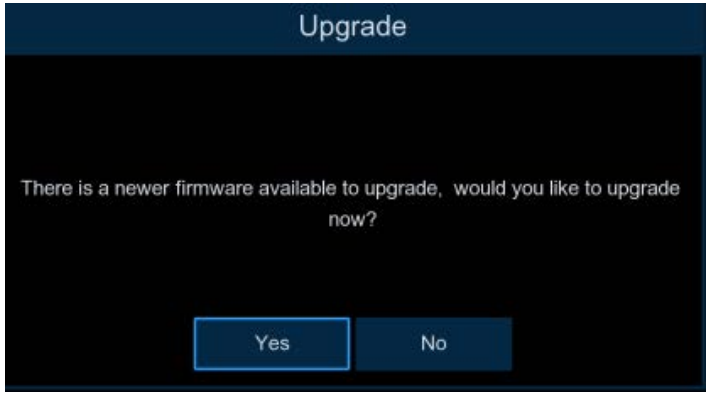
Username: Set the server user name. If the server is not configured with a user, the parameter value can be left blank.

Password: Set the server password. If the server is not configured with a password, the parameter value can be left blank.

Server Address: Set the server address. Set the upgrade address to the directory for storing the upgrade files.

Automatic Detection: If this option is selected, the device will periodically check and upgrade the firmware on the server at startup and during operation. If new firmware is available, a prompt message will display.

Detect: Click to manually detect whether the server has new firmware available.



Upgrade: When new firmware is detected on the server this option is available.

➔ Click **Yes** to install the upgrade on the device.

5.7.3.5. Parameter Management

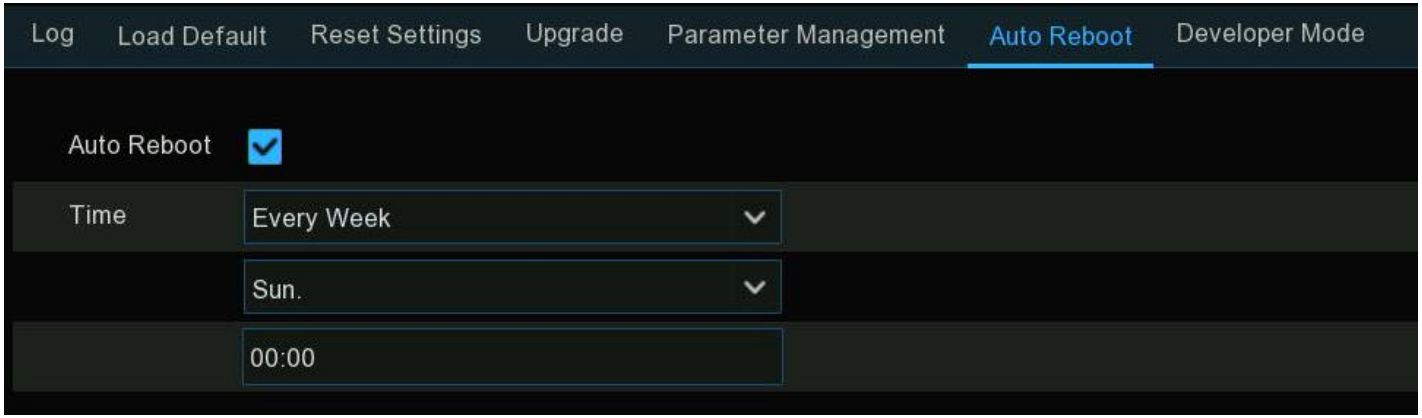
Export the system settings to a USB flash drive, or import a system settings file from USB flash drive to the NVR. Insert a USB flash drive into one of the NVR"s USB ports prior to using these functions.

Save Settings: Click this button to export a configuration file containing all the settings that you have customized.

Load Settings: Click this button to import a configuration file containing all the settings that you have customized.

5.7.3.6. Auto Reboot

Manage the systems auto reboot functions. Enable/disable automatically rebooting the NVR based on a set schedule. It is recommended to leave this function enabled, as it maintains the operational integrity of the NVR.



Auto Reboot: Enable/disable **Auto Reboot**.

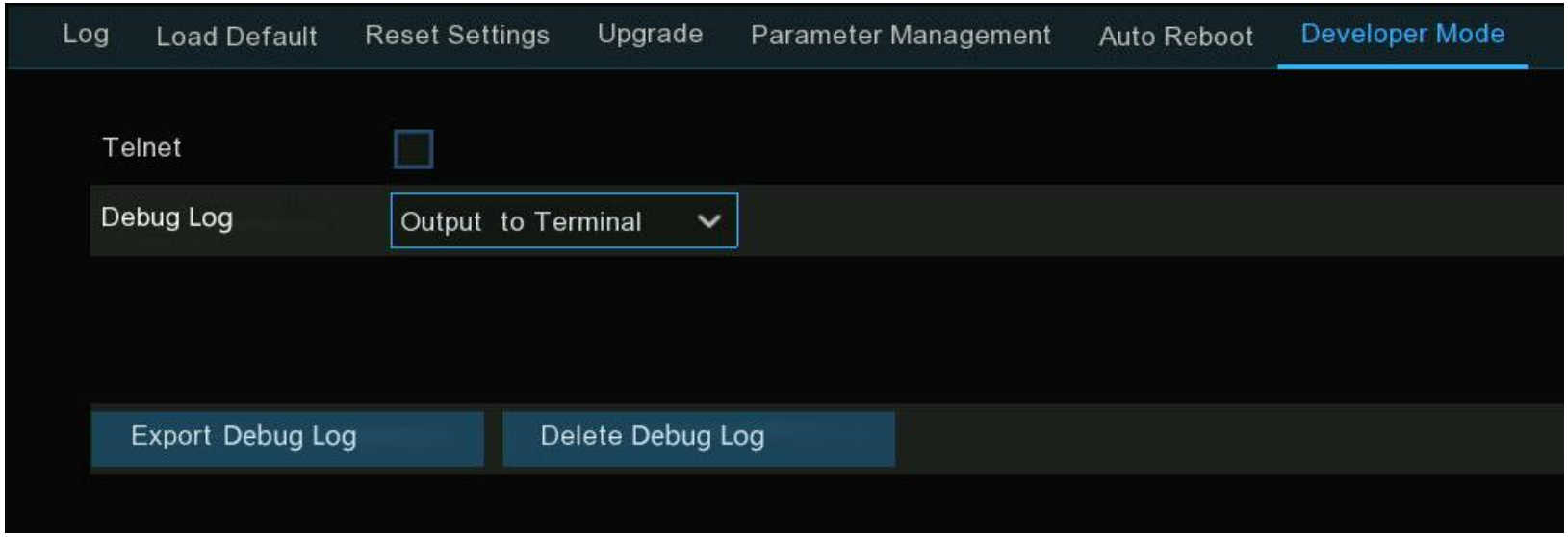
Time: Set the NVR to reboot once a day, once a week or once a month.

➔ Select the day of the week to reboot.

➔ Set the hour of the day to reboot.

5.7.3.7. Developer Mode

Manage advanced system settings. (Not available in all models). Acquire debug logs for authorized professionals when a defect is reported.



Telnet: Enable/disable **Telnet.**

- ➔ This allows an authorized technician to connect to your NVR remotely.
- ➔ Enable **Telnet** **ONLY** when requested by an authorized technician.

Debug Log: Used by authorized professionals to learn the system running status

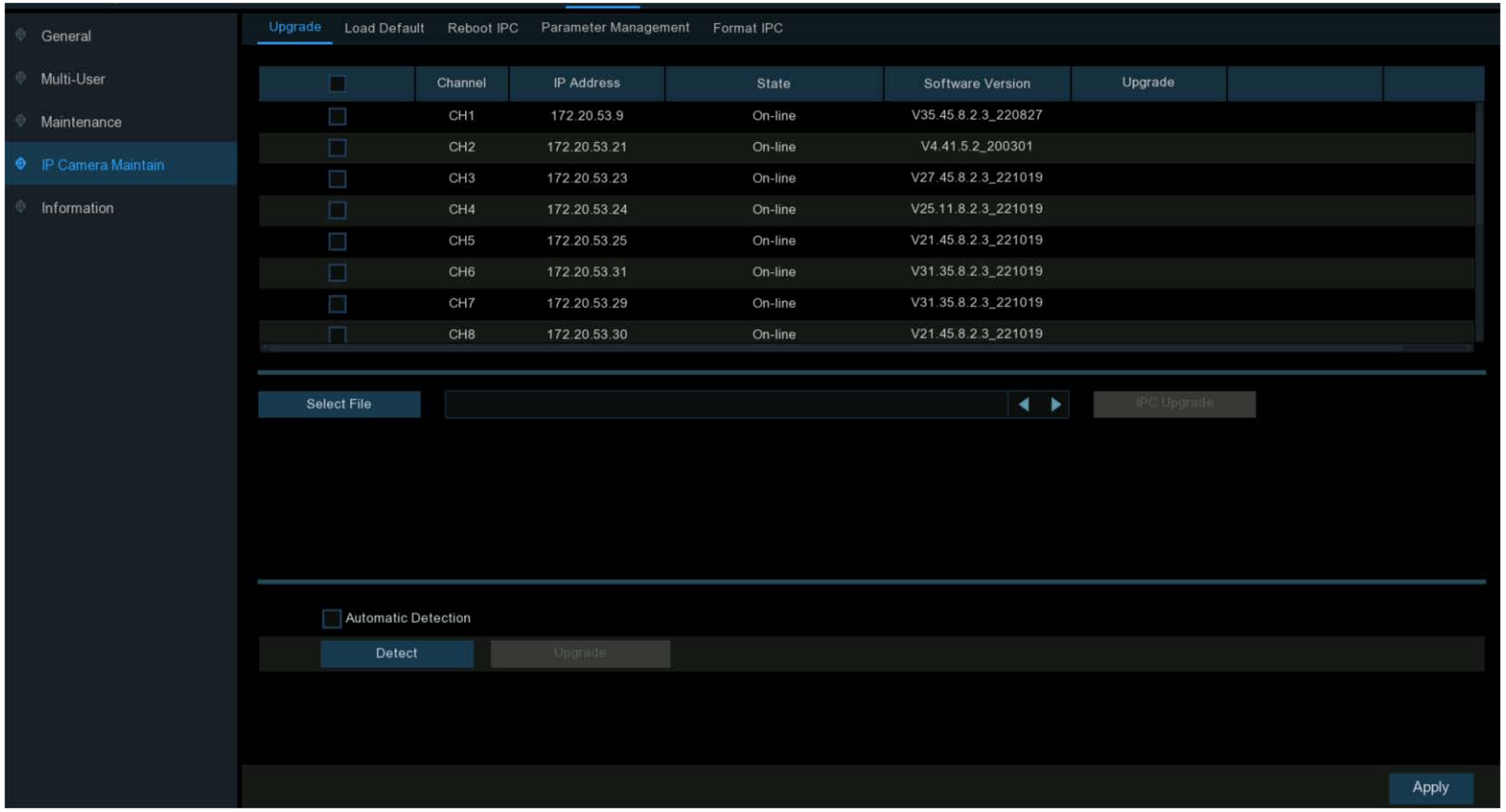
- ➔ **Disabled:** Debug log won't be saved.
- ➔ **Output to Terminal:** Debug log will be outputted to the terminal port.
- ➔ **Output to Disk:** Debug log will be saved to the hard disk drive.

Export Debug Log: Export the debug log file from the hard drive to a USB flash drive.

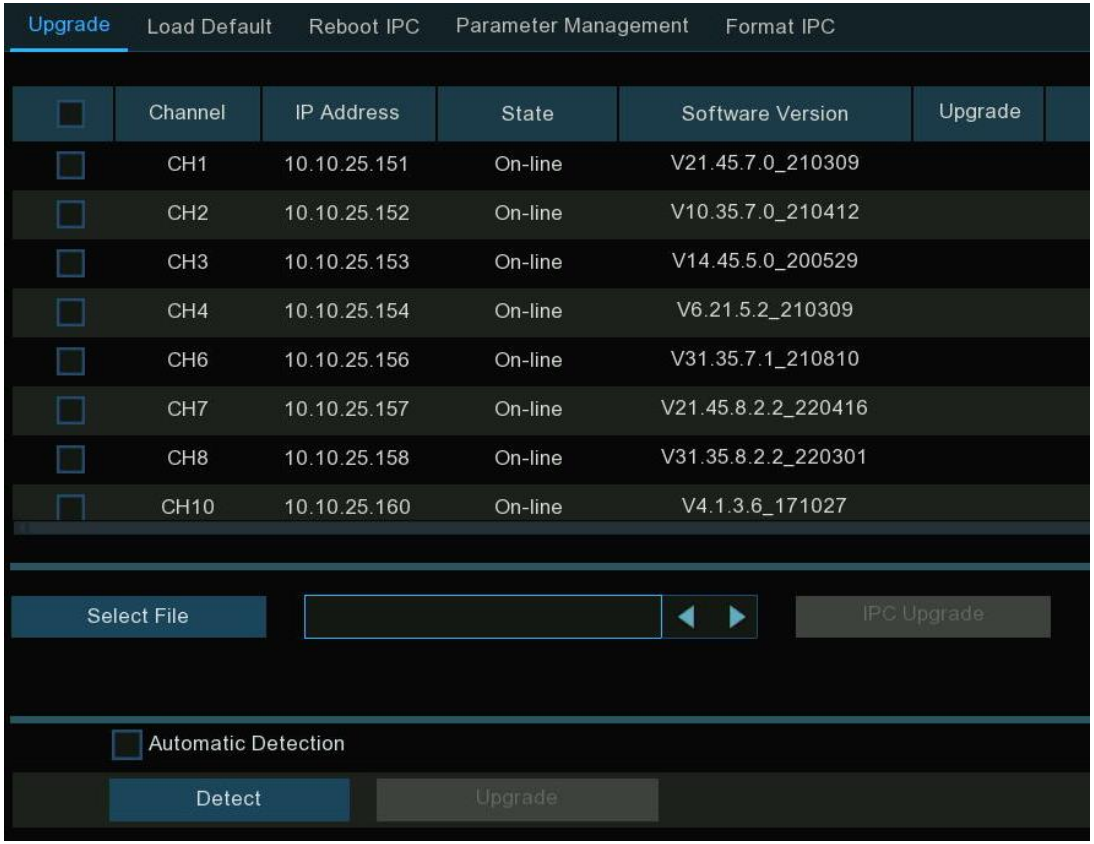
Delete Debug Log: Delete the debug file from the hard disk drive.

5.7.4. IP Camera Maintain

Manage camera maintenance options, upgrade IP camera's firmware or restore default settings of an IP camera.



5.7.4.1. Upgrade IP Camera



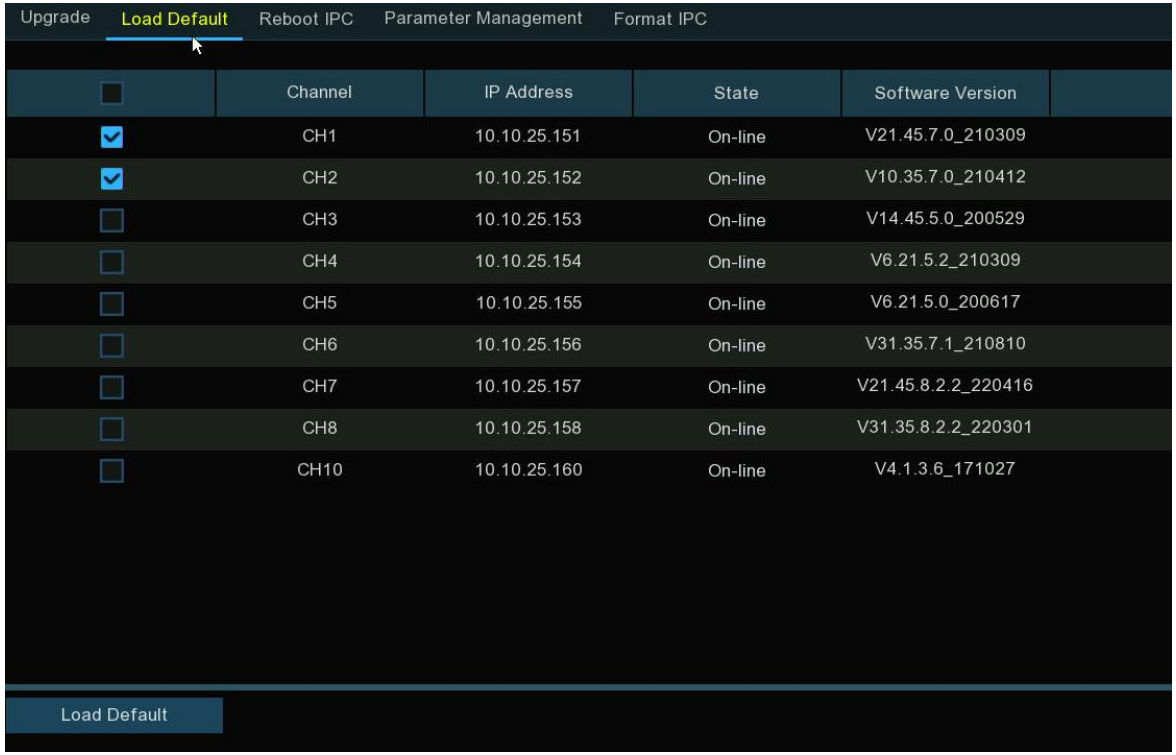
1. Select the camera(s).
2. Click **Select File:** Select the update file from a USB flash drive.
3. Click **OK**.
4. Click **IPC Upgrade** to start upgrading.

➔ The system admins password will be required to authenticate.

➔ Do **NOT** power off the NVR or IP camera or remove the USB flash drive during the upgrade process.

5. Automatic **Detection:** Some IP cameras support online upgrade. Enable **Automatic Detection** to automatically check the server for new upgrades at regular intervals. (not all models have this feature)
6. Click **Detect** to instantly check if new firmware is available. If new firmware is available, follow the on-screen instructions.

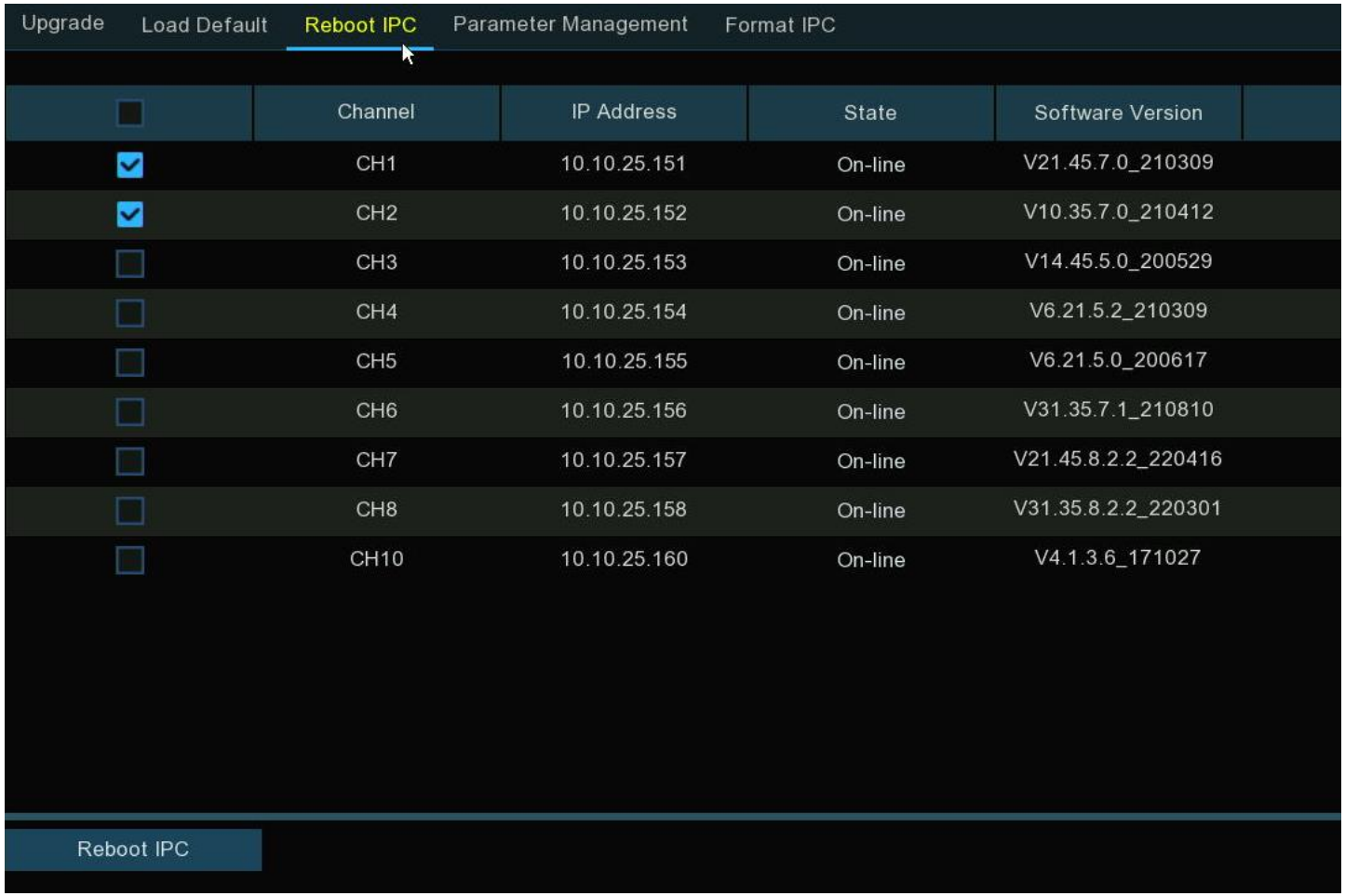
5.7.4.2. Load Default Settings of IP Camera



1. Select the IP camera(s) to restore.
2. Click **Load Default** to restore settings.
   ➔ The system admins password will be required to restore the settings.

5.7.4.3. Reboot IP Camera

Reboot IPC can be used as needed to resolve some camera issues.



Select the camera(s).

Click "**Reboot IPC**" to reboot selected camera(s).

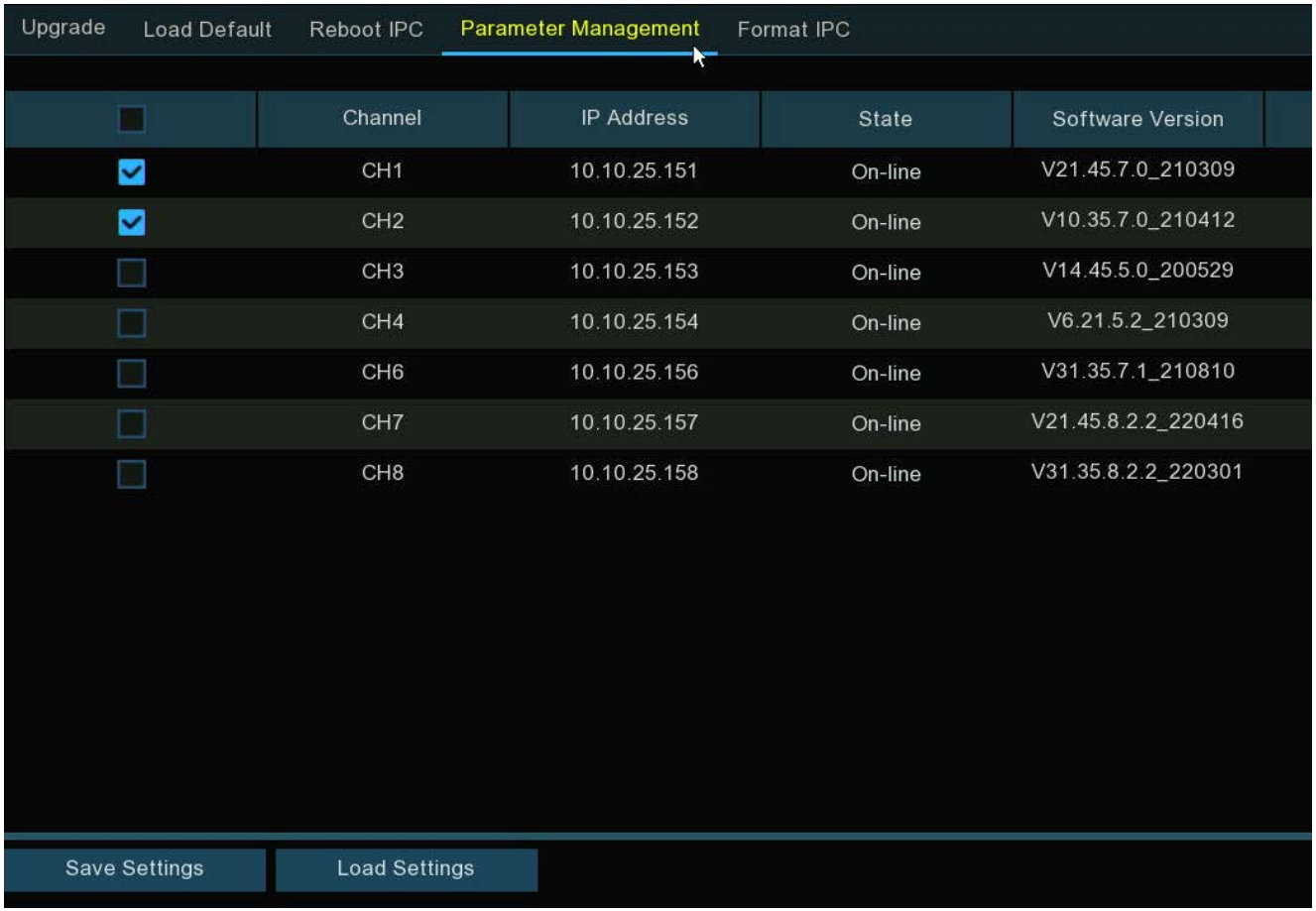
5.7.4.4. Parameter Management

Export system settings file to a USB flash drive. Import a system settings file from a USB flash drive.
Insert the USB flash drive into one of the NVR's USB ports prior to using these features.

Select the camera(s) to Export settings from or Import settings to.

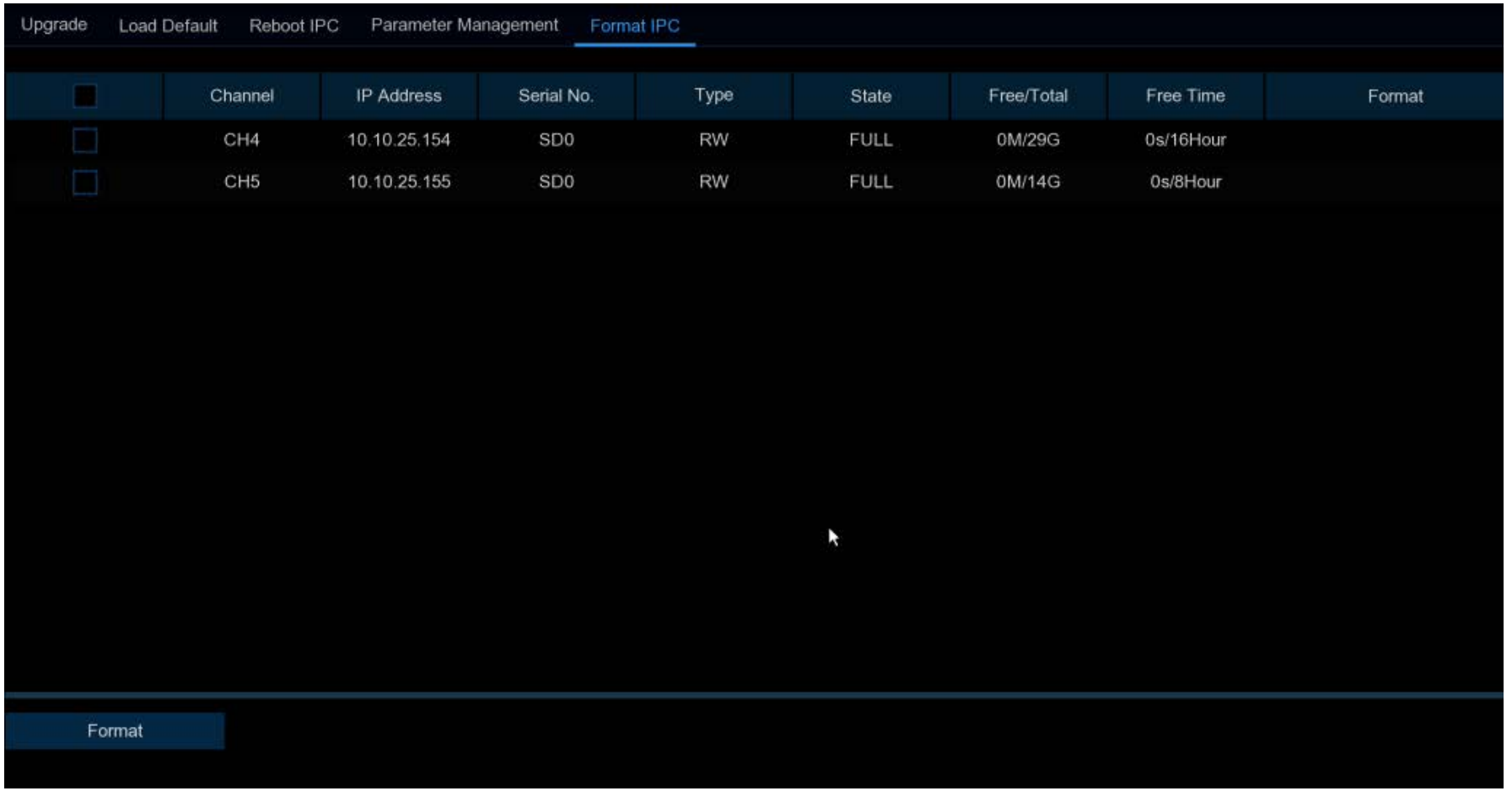
Click "**Save Settings**" to export the configuration file containing all the customized settings configured in the NVR to a USB flash drive.

Click "**Load Settings**" to import a configuration file containing all the previously configured settings from a USB flash drive.



5.7.4.5. Format IP Camera

Format the SD card installed in cameras that support SD recording functions. (not all models have this feature)

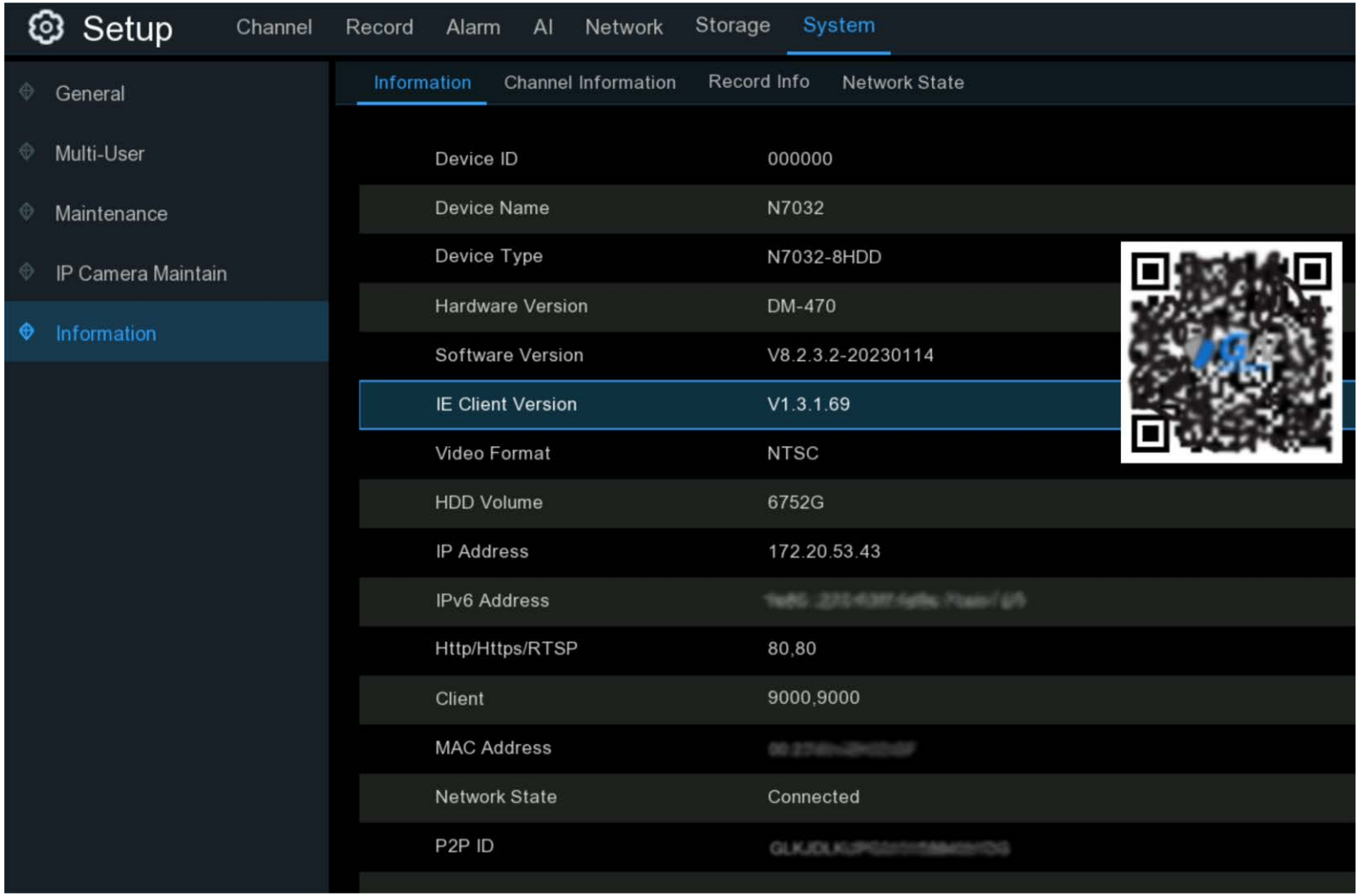


Select the camera.

Click "**Format**" to format its SD card.

5.7.5. System Information

View the system information, channel information, record information & network status.

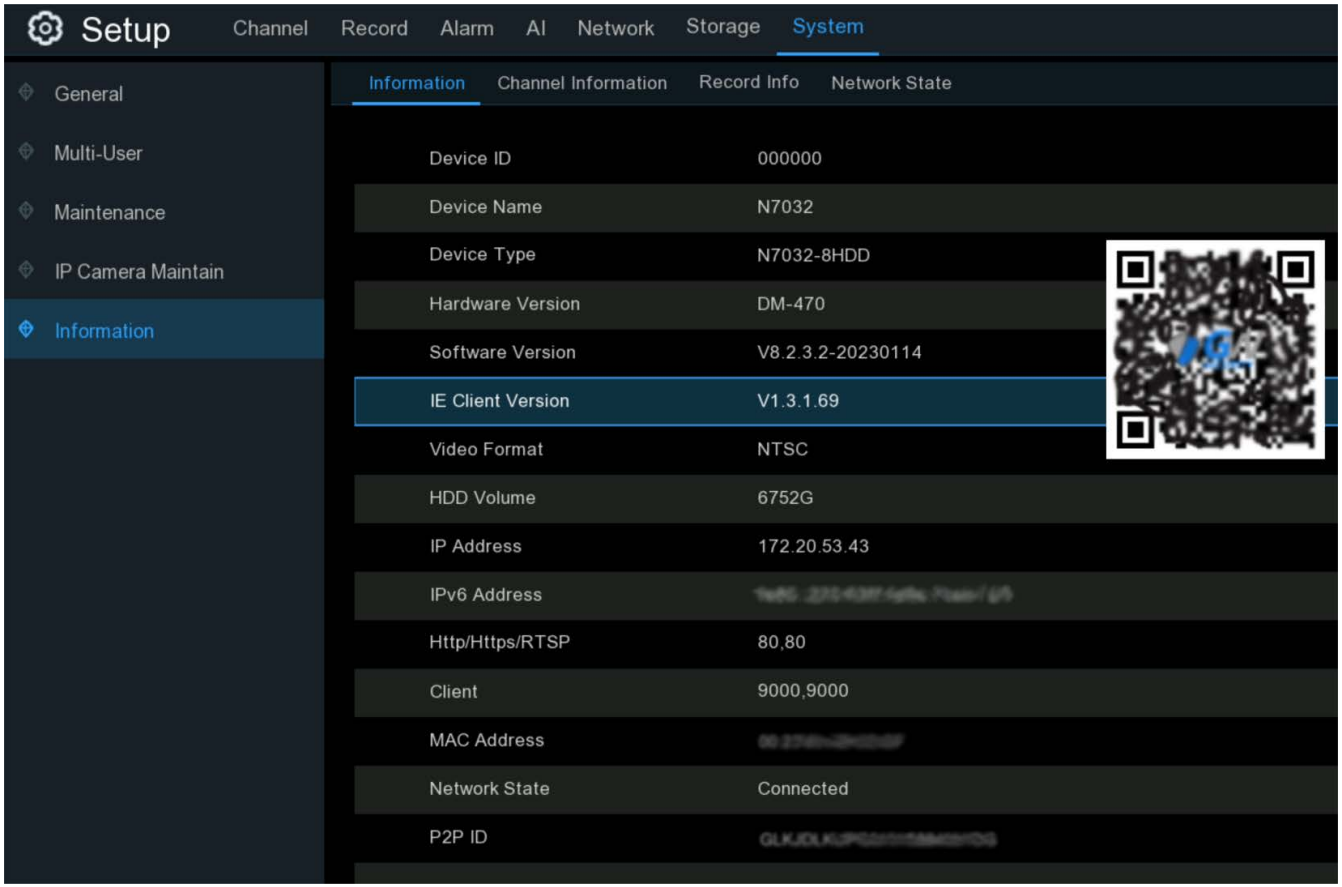


5.7.5.1. System Information

Displays technical information about the NVR, such as hardware/software version, IP address, network ports, MAC address, etc.

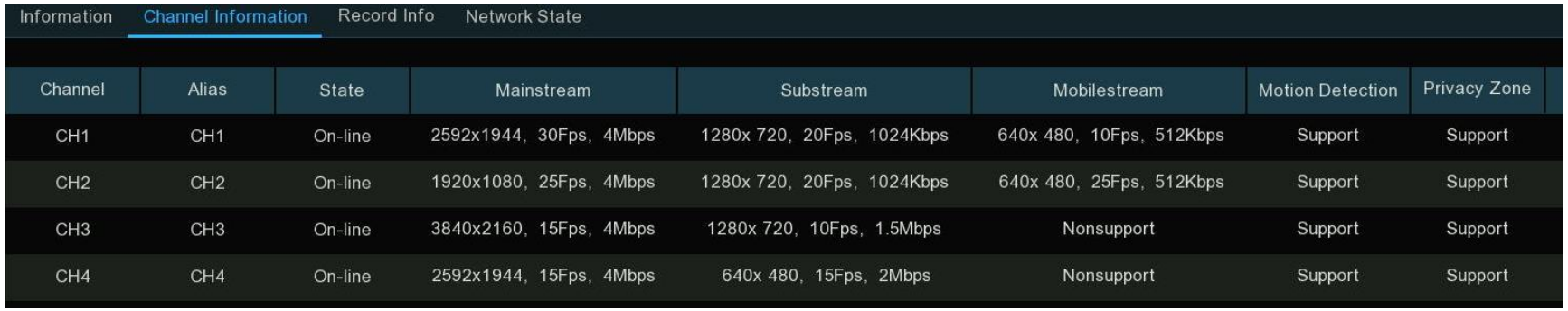
If the NVR supports P2P function:

- ➔ The P2P ID & P2P QR code are displayed on the information page.
- ➔ After downloading the Mobile Application, scan this QR code to add the NVR to the Mobile App for remote viewing.



5.7.5.2. Channel Information

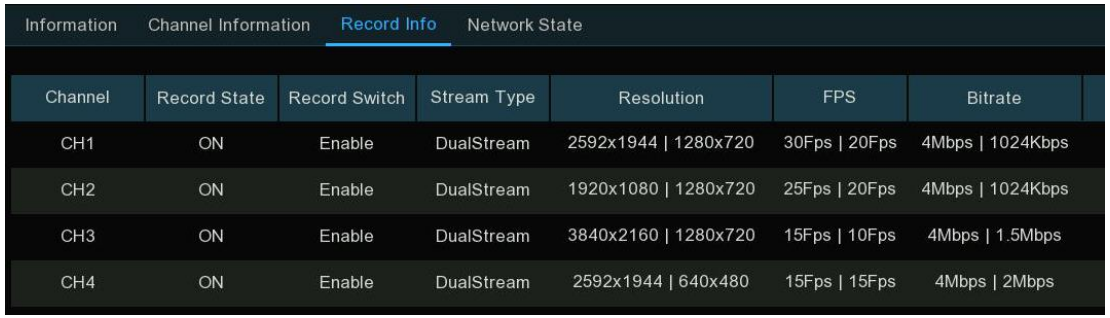
View channel information for each connected camera such as: mainstream and substream recording specifications, motion detection status & privacy zone.



Channel	Alias	State	Mainstream	Substream	Mobilestream	Motion Detection	Privacy Zone
CH1	CH1	On-line	2592x1944, 30Fps, 4Mbps	1280x 720, 20Fps, 1024Kbps	640x 480, 10Fps, 512Kbps	Support	Support
CH2	CH2	On-line	1920x1080, 25Fps, 4Mbps	1280x 720, 20Fps, 1024Kbps	640x 480, 25Fps, 512Kbps	Support	Support
CH3	CH3	On-line	3840x2160, 15Fps, 4Mbps	1280x 720, 10Fps, 1.5Mbps	Nonsupport	Support	Support
CH4	CH4	On-line	2592x1944, 15Fps, 4Mbps	640x 480, 15Fps, 2Mbps	Nonsupport	Support	Support

5.7.5.3. Record Information

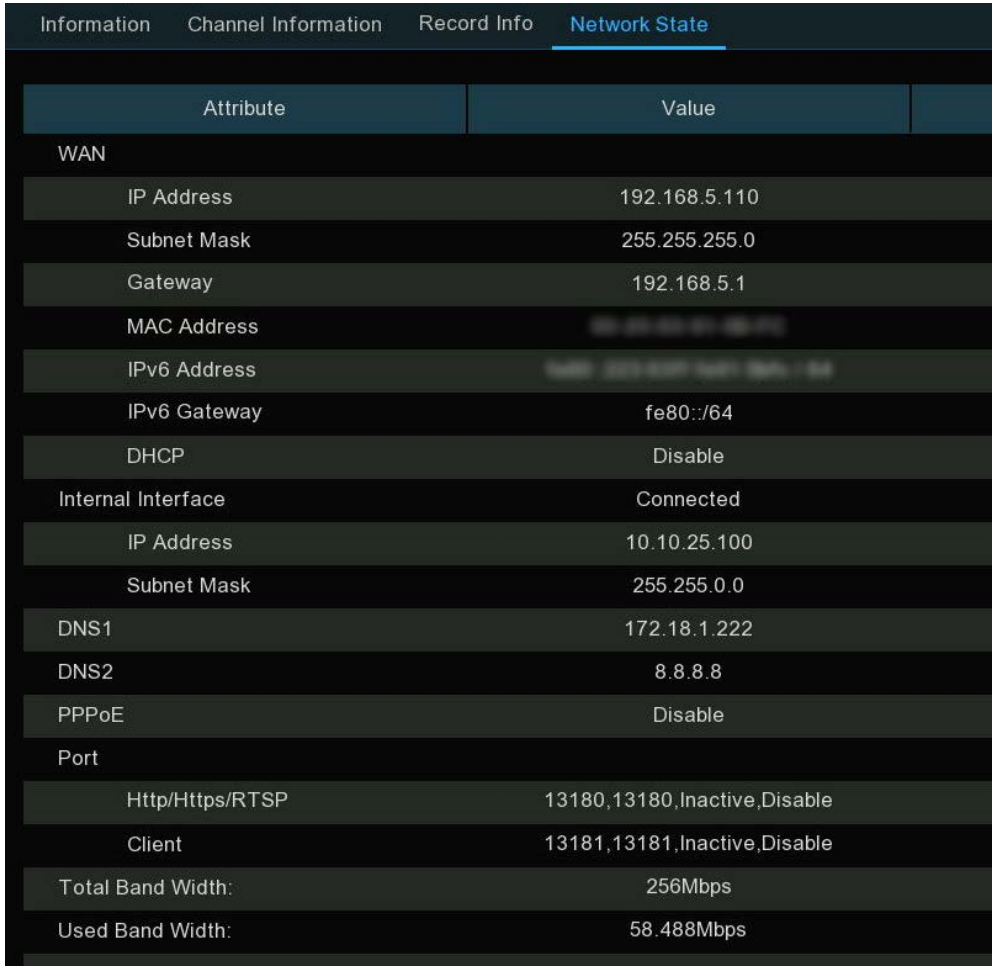
View recording information for each connected camera such as: bitrate, stream type, recording resolution and frame rate (FPS).



Channel	Record State	Record Switch	Stream Type	Resolution	FPS	Bitrate
CH1	ON	Enable	DualStream	2592x1944 | 1280x720	30Fps | 20Fps	4Mbps | 1024Kbps
CH2	ON	Enable	DualStream	1920x1080 | 1280x720	25Fps | 20Fps	4Mbps | 1024Kbps
CH3	ON	Enable	DualStream	3840x2160 | 1280x720	15Fps | 10Fps	4Mbps | 1.5Mbps
CH4	ON	Enable	DualStream	2592x1944 | 640x480	15Fps | 15Fps	4Mbps | 2Mbps

5.7.5.4. Network State

Displays the network settings used by your NVR.

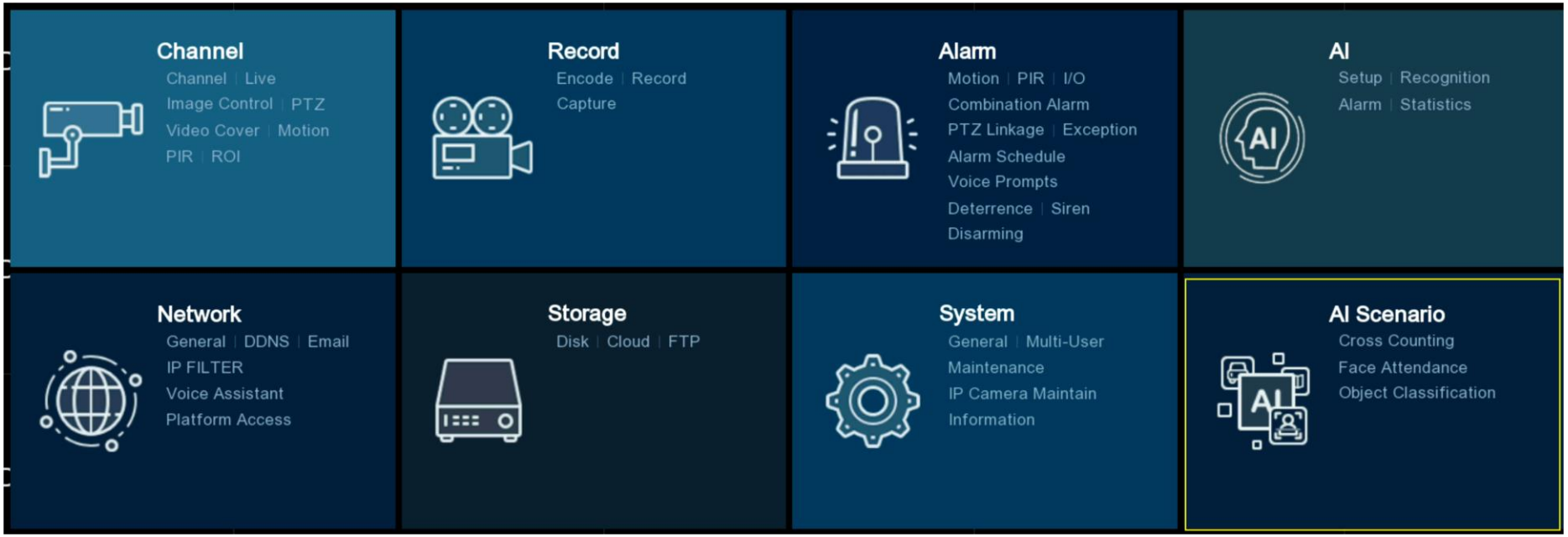


Total Bandwidth: Total input bandwidth available for the NVR.

Used Bandwidth: Bandwidth being used by the NVR.

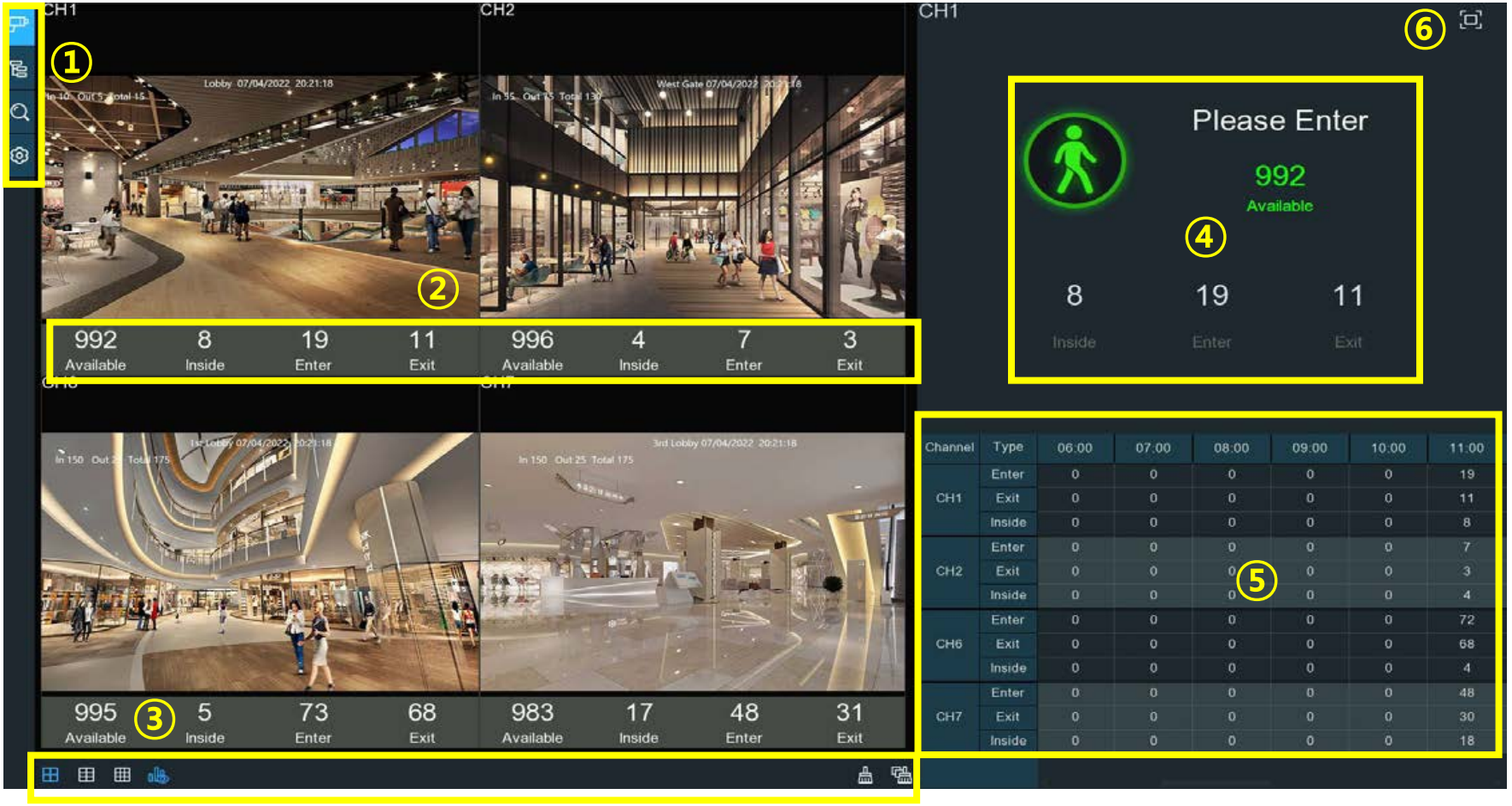
Chapter 6. AI Scenario

AI Scenario functions provide a variety of AI Detection types. Select an AI Detection type from the main setup page to open the settings pages of the selected function.



6.1. Cross Counting

This is an AI based application. The Cross Counting function detects the number of customers/visitors/vehicles in public places, like restaurants, parks, zoos, theaters, museums, car parks, etc.



6.1.1. Real-time Display & Controls

1. Navigation Bar

Button	Function
	Channel View Mode: To count and view the real-time result of individual camera(s). Commonly used for small places with a single entrance & exit.
	Group View Mode: To count and view the real-time result of a group(s). Commonly used for larger places with multiple entrances & exits, monitored by multiple cameras.
	Data Search: To search Cross Counting data.
	Configuration: To configure the settings.

2. Real-time Counting Statistics

- ➔ **Available:** The number of people that can enter the designated area before reaching the maximum person count specified in the Cross Counting settings.
- ➔ **Inside:** Current person count inside the designated area.
- ➔ **Enter:** Recorded total number of entrants into the designated area.
- ➔ **Exit:** Recorded total number of exits from the designated area.

3. Screen Display Controls

Button	Function
	Screen display layout of 4/6/9 channels. Continuously click a button to display next page.
	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 Statistics Information Bar

This bar will display the real-time counting statistics for the selected channel.

- ➔ **Available:** The number of people that can enter the designated area before reaching the maximum person count specified in the Cross Counting settings.
- ➔ **Inside:** Current person count inside the designated area.
- ➔ **Enter:** Recorded total number of entrants into the designated area.
- ➔ **Exit:** Recorded total number of exits from the designated area.

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

If the available number is 0, the figure will be red

5. Statistic Data Chart

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

Channel	Type	09:00	10:00	11:00	12:00	13:00	14:00
CH1	Enter	0	0	34	48	29	21
	Exit	0	0	28	8	15	17
	Inside	0	0	6	46	60	64
CH2	Enter	0	0	38	5	28	42
	Exit	0	0	27	16	28	29
	Inside	0	0	11	0	0	13
CH6	Enter	0	0	183	53	239	296
	Exit	0	0	165	63	210	293
	Inside	0	0	18	8	37	40
CH7	Enter	0	0	134	47	152	197
	Exit	0	0	118	63	147	197
	Inside	0	0	16	0	5	5

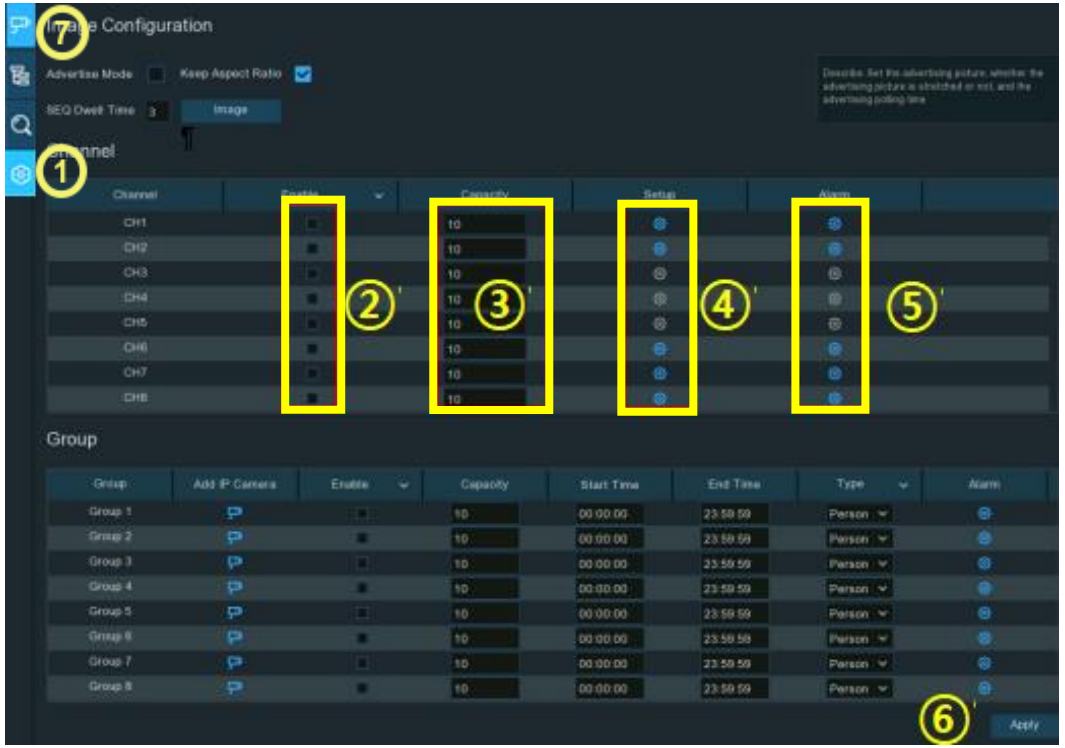
6. Full Screen Display

➔ Click to display the Real-time Counting Statistics Information Bar in full screen.

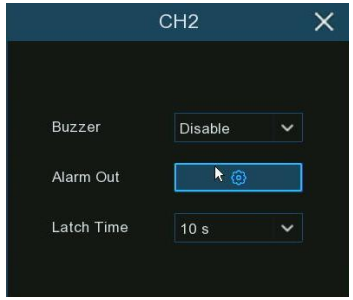
➔ Right click the mouse to exit.

6.1.2. Settings of Channel View Mode

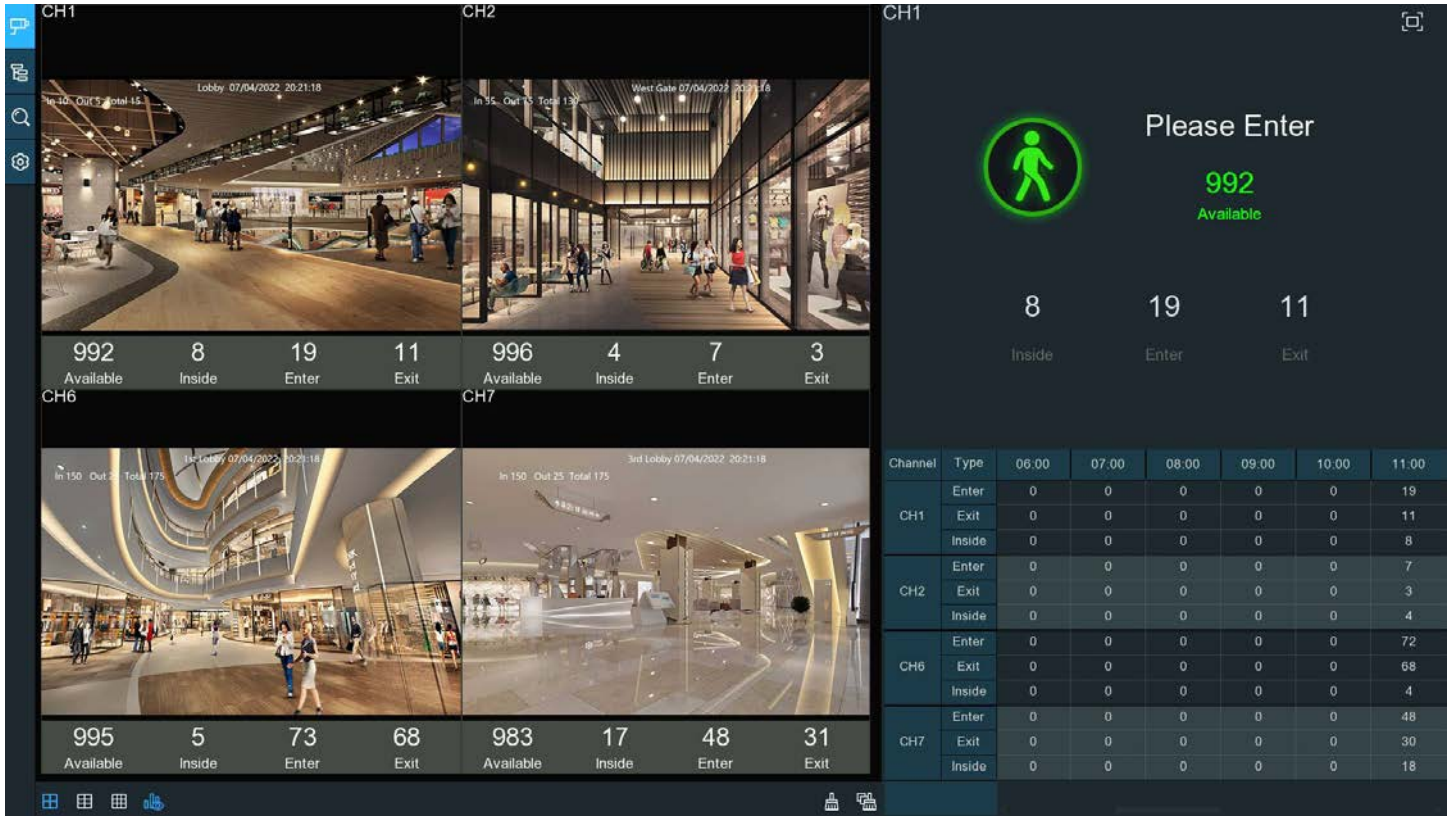
1. Click ⚙ to open the configuration page.
2. Check to **Enable** a channel(s) The Setup & Alarm icon ⚙ will be blue if the camera in that channel supports AI function. If the ⚙ is gray, then the camera does not support this function.
3. Set the **Capacity** number for each channel, which is the maximum person count for a designated area.
4. Click **Setup** ⚙ of the camera to configure the detection conditions. Check more on 5.4.1.5. CC (Cross Counting Detection).
5. Click **Alarm** ⚙ of the camera to configure the alarm actions when the **Available** number is 0.



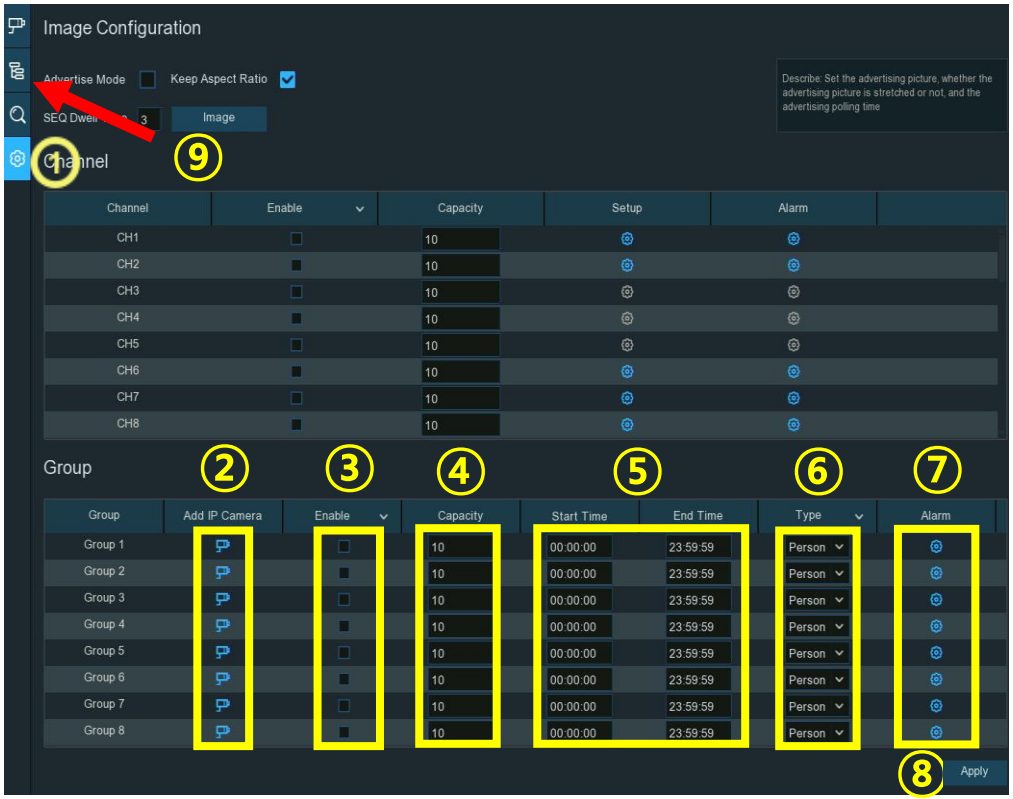
- ➔ **Buzzer:** Enable/disable Set the buzzer duration in seconds when the **Available** number is 0.
- ➔ **Alarm Out:** If your NVR support connection to external alarm devices, set an audio alarm to sound.
- ➔ **Latch Time:** To configure the external alarm time when the **Available** number is 0.
- ➔ **Right** click the mouse to exit the alarm setup page.
- ➔ Click **Save** to save the settings.



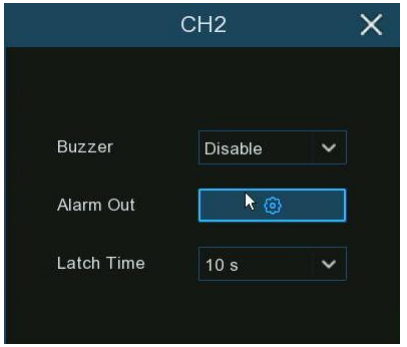
6. Click **Apply** to save.
7. Click **Channel View** to view the live images & counting data of all activated channels.

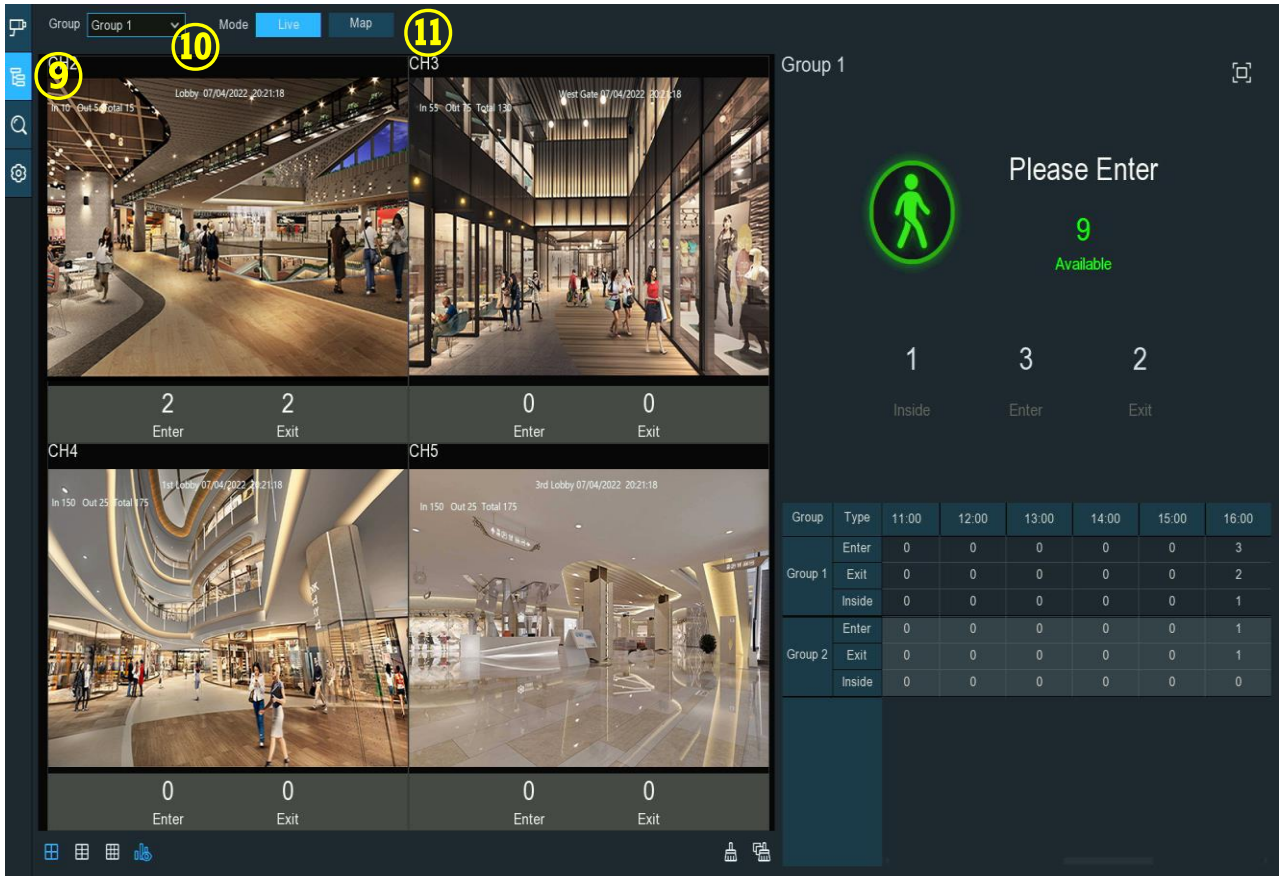


6.1.3. Settings of Group View Mode

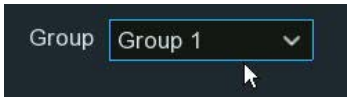


1. Click ⚙ to open the configuration page.
2. Click **Add IP Camera** to add channel(s) to the group. (Max. 8 of group. Each individual channel can only be added to 1 group. If a channel is enabled in the Channel View mode, it can not be added to any group).
3. **Enable/disable** a the group to activate.
4. Set the **Capacity** number for each group, which is the maximum person count for the designated area.
5. Set the **Start/End Time** of each group.
6. Choose the detection **Type: Person**, **Vehicle** or **Motion**.
7. Click **Alarm** ⚙ of the group to configure the alarm actions when the **Available** number is 0.
   - ➔ **Buzzer:** Enable/disable Set the buzzer duration in seconds when the **Available** number is 0.
   - ➔ **Alarm Out:** If the NVR supports connection to external alarm devices, set an audio alarm to sound.
   - ➔ **Latch Time:** To configure the external alarm time when the **Available** number is 0.
   - ➔ **Right** click the mouse to exit the alarm setup page.
   - ➔ Click **Save** to save the settings.
8. Click **Apply** to save.
9. Click **Group View** to view the live images & counting data of all activated groups.





10. Choose which group to view the real-time live images and counting data.



11. Click **Map:** to display the counting data in Map mode.

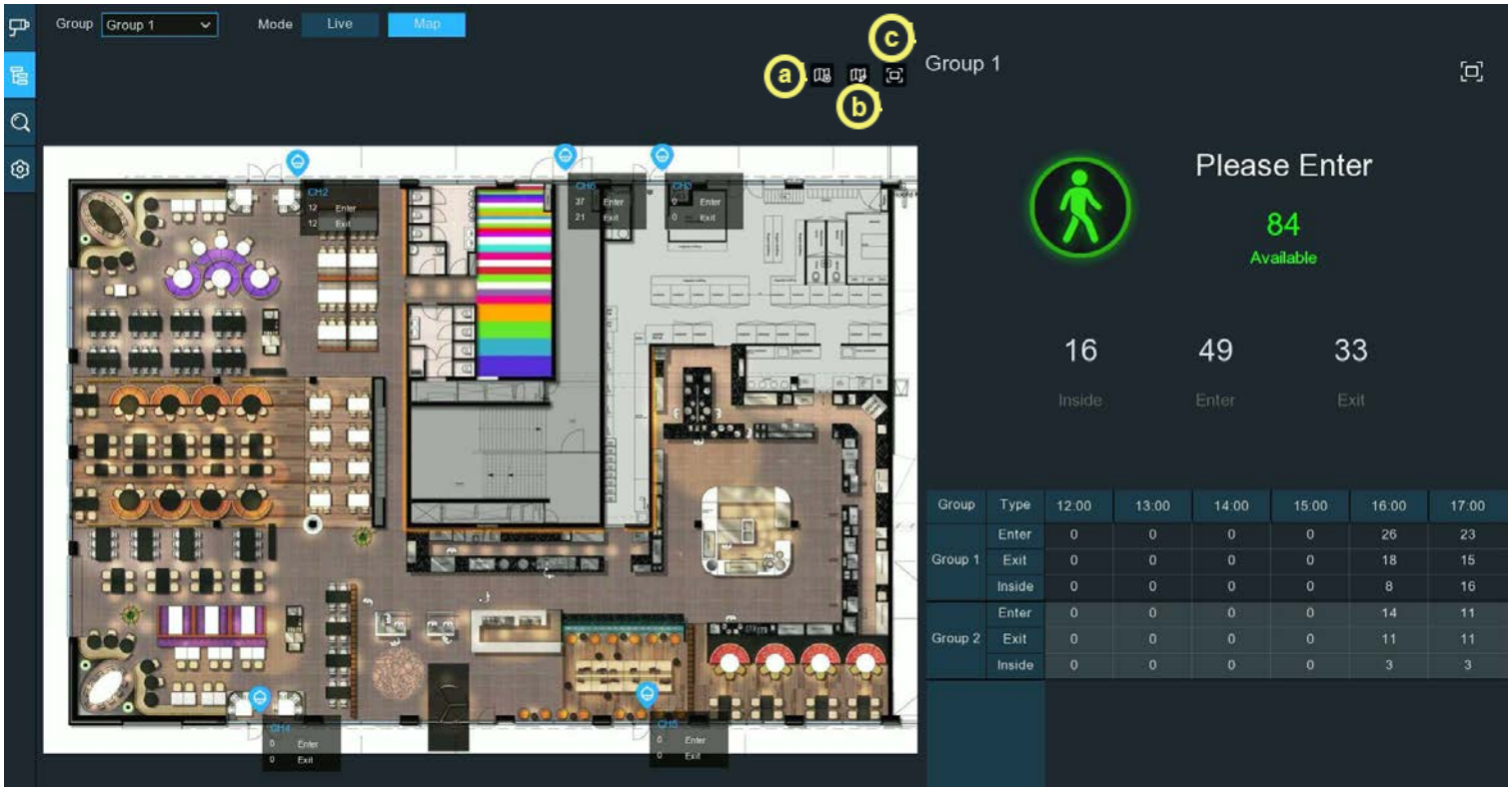
a. Click to add a map image from a USB flash drive.

b. Click to adjust the location of the IP cameras.

➔ Click & hold the channel icon, drag the icon to the desired position on the map. Repeat for each camera.

c. Click to display the map in full screen,

➔ click button to exit full screen.



Group	Type	12:00	13:00	14:00	15:00	16:00	17:00
Group 1	Enter	0	0	0	0	26	23
	Exit	0	0	0	0	18	15
	Inside	0	0	0	0	8	16
Group 2	Enter	0	0	0	0	14	11
	Exit	0	0	0	0	11	11
	Inside	0	0	0	0	3	3

6.1.4. Advertise Mode

Display advertising pictures with the Cross Counting functions.

1. Click Configuration in the Navigation bar to open the configuration page.
2. Check "**Advertise Mode**"
3. Click "**Image**" to load advising pictures from a USB flash drive.
   - ➔ Add maximum 16 pictures (jpg, png or bmp file format).
   - ➔ Maximum resolution no more than 2560x1600.
   - ➔ Click to add new picture(s).
   - ➔ Click to delete the added picture one by one.
   - ➔ Click the close button or right click the mouse to go back to previous configuration page.

4. Check "**Keep Aspect Ratio**" to display the images with their original aspect ratio. Not checked; the pictures will be stretched and displayed full screen.
5. Set the "**SEQ Dwell Time**" in seconds: how long each picture will display..
6. Click "**Apply**" to save the settings.
7. Go to Channel View mode or Group View mode.
   - ➔ Click full screen to display the advertising pictures and the real-time counting data for the selected channel(s) or group(s).

➔

Please Enter
49
Available
1
Inside
16
Enter
15
Exit

6.1.5. Search Counting Data

Click **Search** in the Navigation bar to search page.

1. Search for Channels or Groups separately.
2. Choose the channel(s) or group(s) to search.
3. Set the search duration by day, by week, by month or by year.
4. Choose the targeted type to search.
5. Click the search button .

➔ The results will be displayed on the right side of the window.

Click to display the result as a column chart.

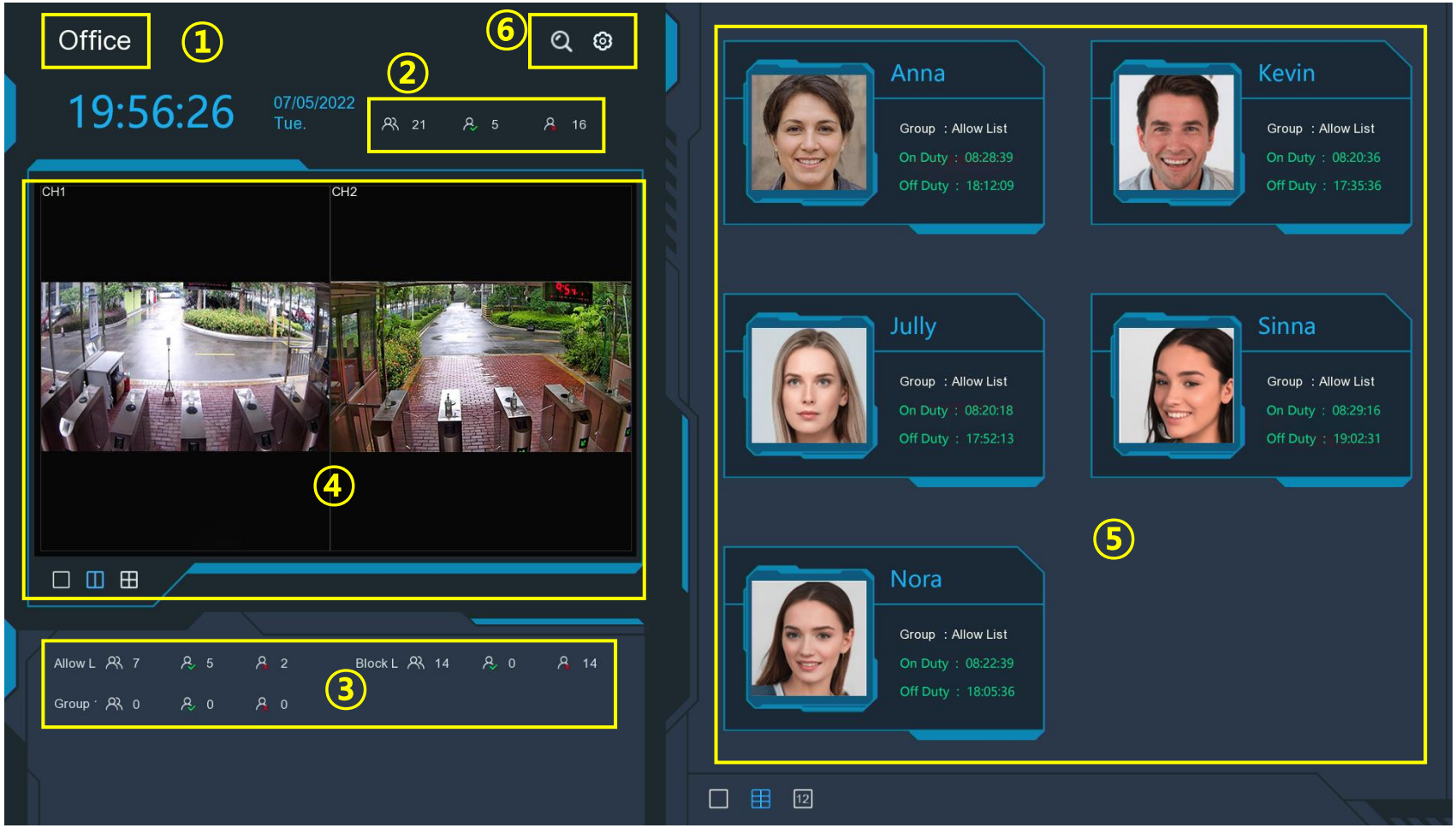
Click to display the result as a tendency chart.

Click to display the result as a detail chart.

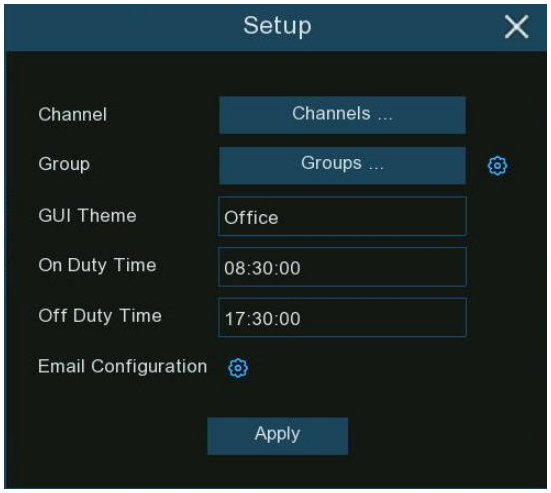
Click to export the result to USB flash drive.

6.2. Face Attendance

Face Attendance is an AI application based on face detection. View and check the real-time statistical data of attendance management visually.



1. Customized title of the face attendance.
2. Overall attendance statistical data of all selected groups.
3. Individual attendance statistical data of each selected group:
   - ➔ The total number of people who need to check attendance
   - ➔ The number of people who have checked attendance already
   - ➔ The number of people who haven't checked attendance.
4. Live view screen: to display the live camera images.
   - ➔ Click the screen split buttons to change the display layout.
   - ➔ Continuously click a button to display next page.
5. Push notifications of latest persons who have been detected as **in attendance**, including the Name/ID of the person, captured face image, group, clock in time and clock out time. Normal clock in & clock out time will be displayed in green. Abnormal clock-in & clock-out time will be displayed in red.
   - ➔ Click the screen split icons to change the display layout.
6. Click search icon to search the face attendance data. Check more on 7.1.9.6 Face Attendance.
   - ➔ Click Setting icon to configure the face attendance settings:



Channels: Choose face attendance channel(s).

Group: Click to choose face attendance group(s).

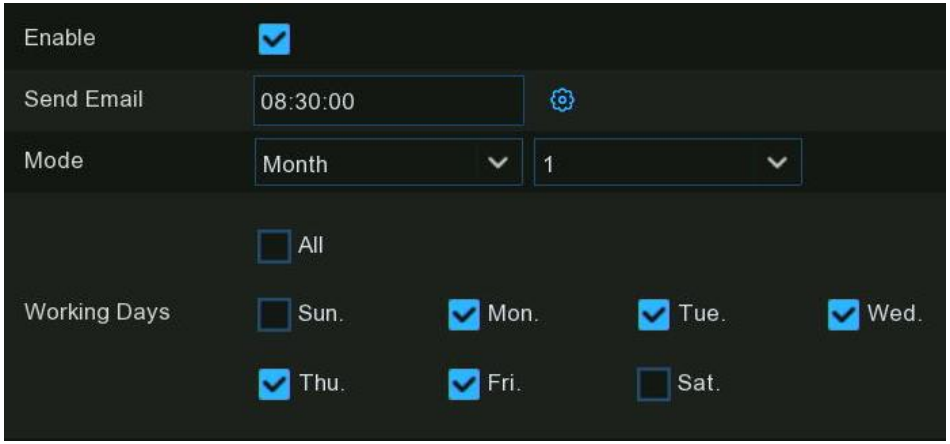
➔ To edit the group database, click the icon to edit.

➔ Check more on 5.4.2.2. Face Recognition Database Management.

GUI Theme: To give a customized 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: Send attendance data by email.Click to edit the email configuration.

➔ **Enable**: Enable/disable emails for face attendance.

➔ **Send Email**: Set the preset time for sending the email.

➔ **Mode**: Send email once a **Day**, every **Week**, or every **Month**.

Day: Send the attendance data of previous day, once a day.

Week: Send the attendance data of last 7 days once a week.

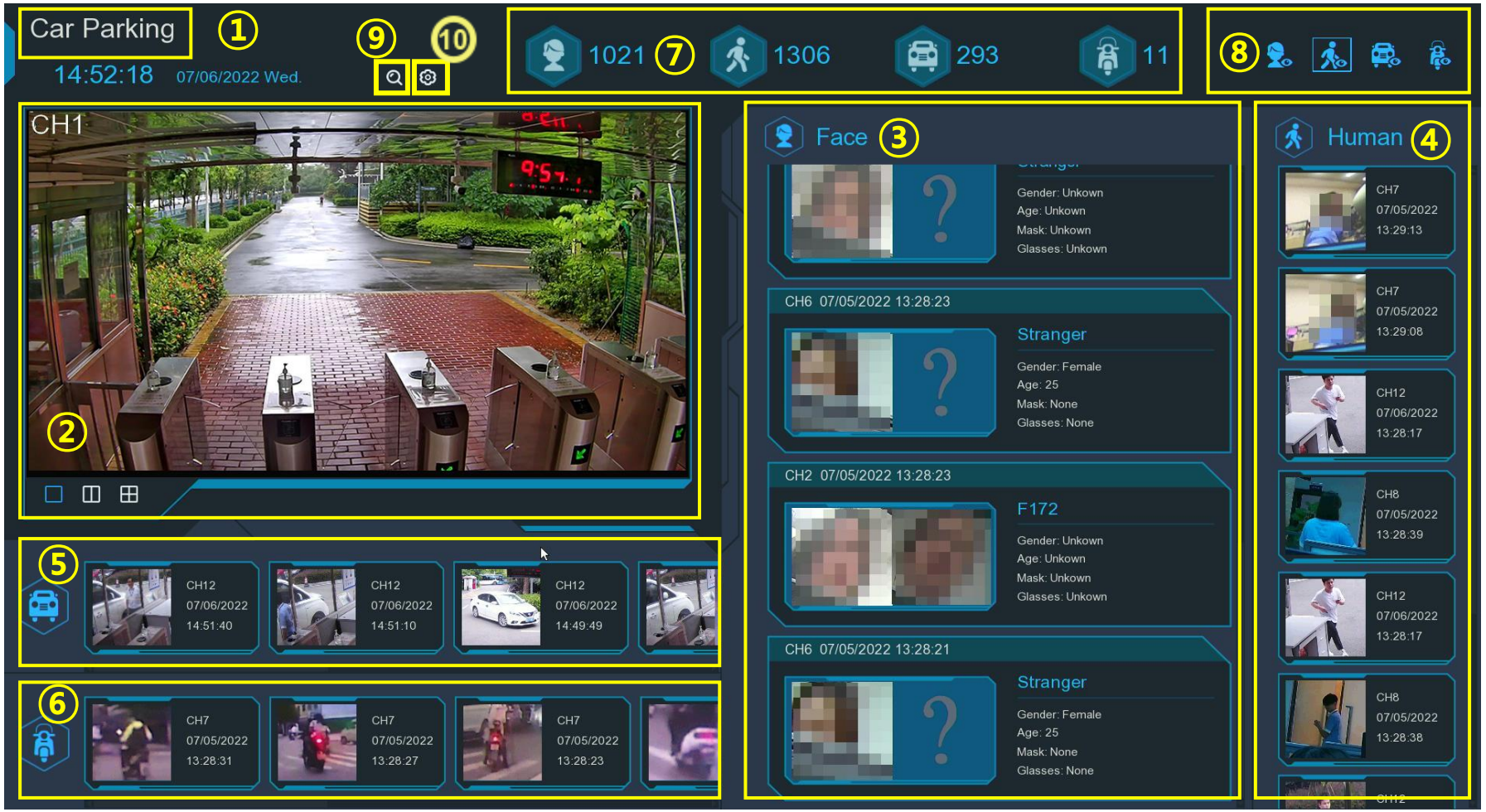
Month: Send the attendance data of last month once a month.

➔ **Working Days**: To select the working days. It will affect the attendance statistical data.

Check more on 5.5.3.1 Email Configuration.

6.3. Object Classification

Object Classification is an AI application based on face detection and human/vehicle detection. which is used to classify and count the number of detected faces, human beings, motor vehicles and non-motor vehicles in a certain period.



1. Customized title of the object classification.
2. Live view screen: Display the live camera images.
   - ➔ Click the screen split buttons ☐ ◫ ⊞ to change the display layout.
   - ➔ Continuously click a button to display next page.
3. Notifications of detected face images. Use the mouse wheel to move up and down.
4. Notifications of detected human images. Use the mouse wheel to move up and down.
5. Notifications of detected motor vehicles. Use the mouse wheel to move left and right.
6. Notifications of detected non-motor vehicles. Use the mouse wheel to move left and right.
7. Statistical data of detected objects in a selected period.
8. Click the icons to display or hide relative object:

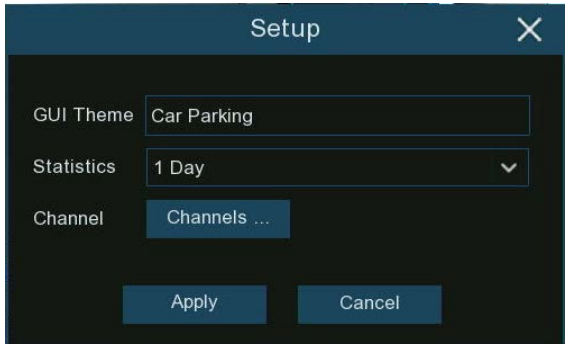
   To display or hide face images.

   To display or hide human images.

   To display or hide motor vehicle images.

   To display or hide non-motor vehicle images.

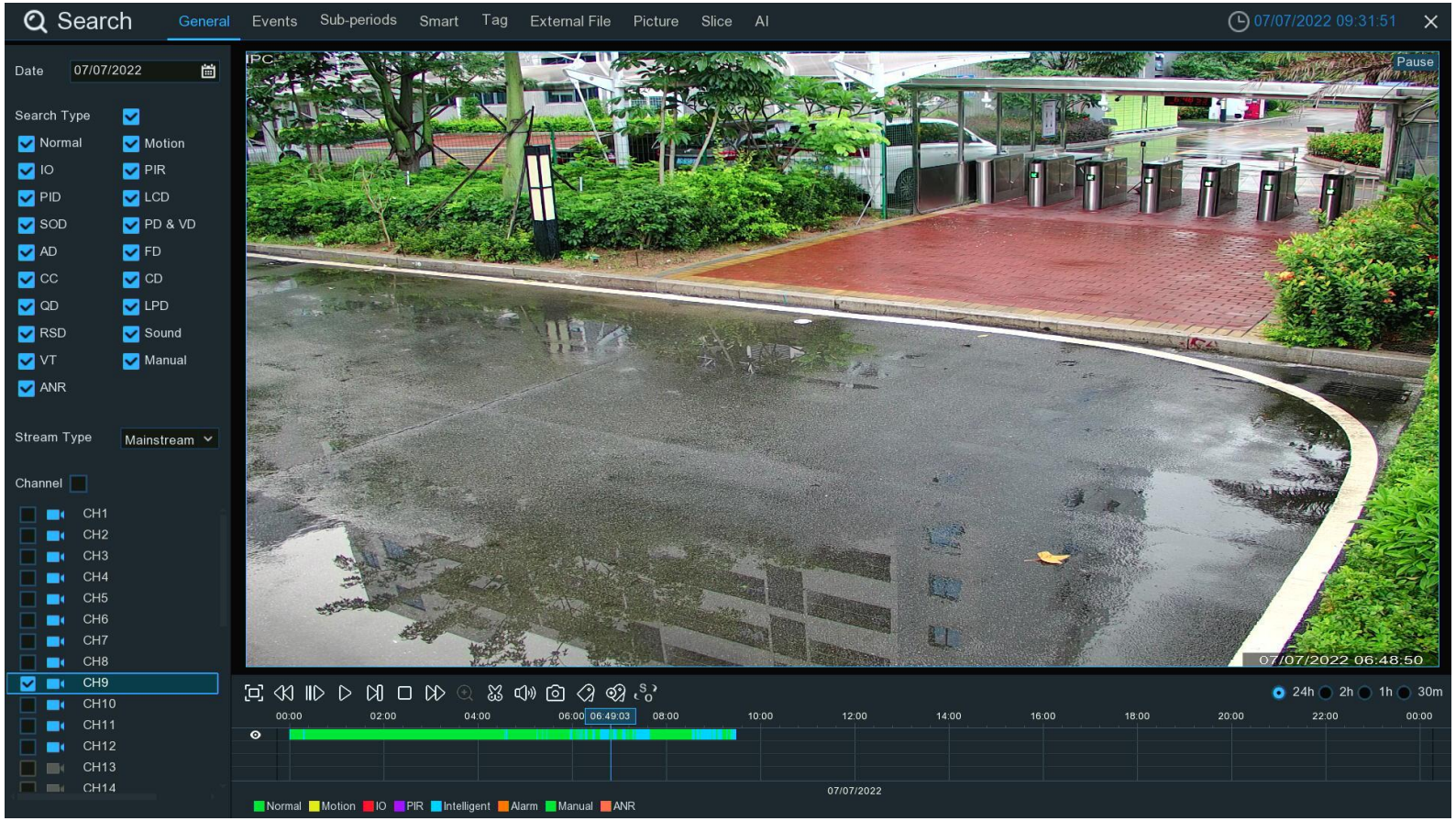
9. Click search icon to search the recording of human & vehicle detection events.
   - ➔ Check more on 7.1.9.3 Human & Vehicle.
10. Click Setting icon to configure the object classification settings:
    - ➔ **GUI Theme:** Give a customized title to the object classification.
    - ➔ **Statistics:** Select the time period to show the data.
    - ➔ **Channels:** Click to choose channel(s) to show data for.



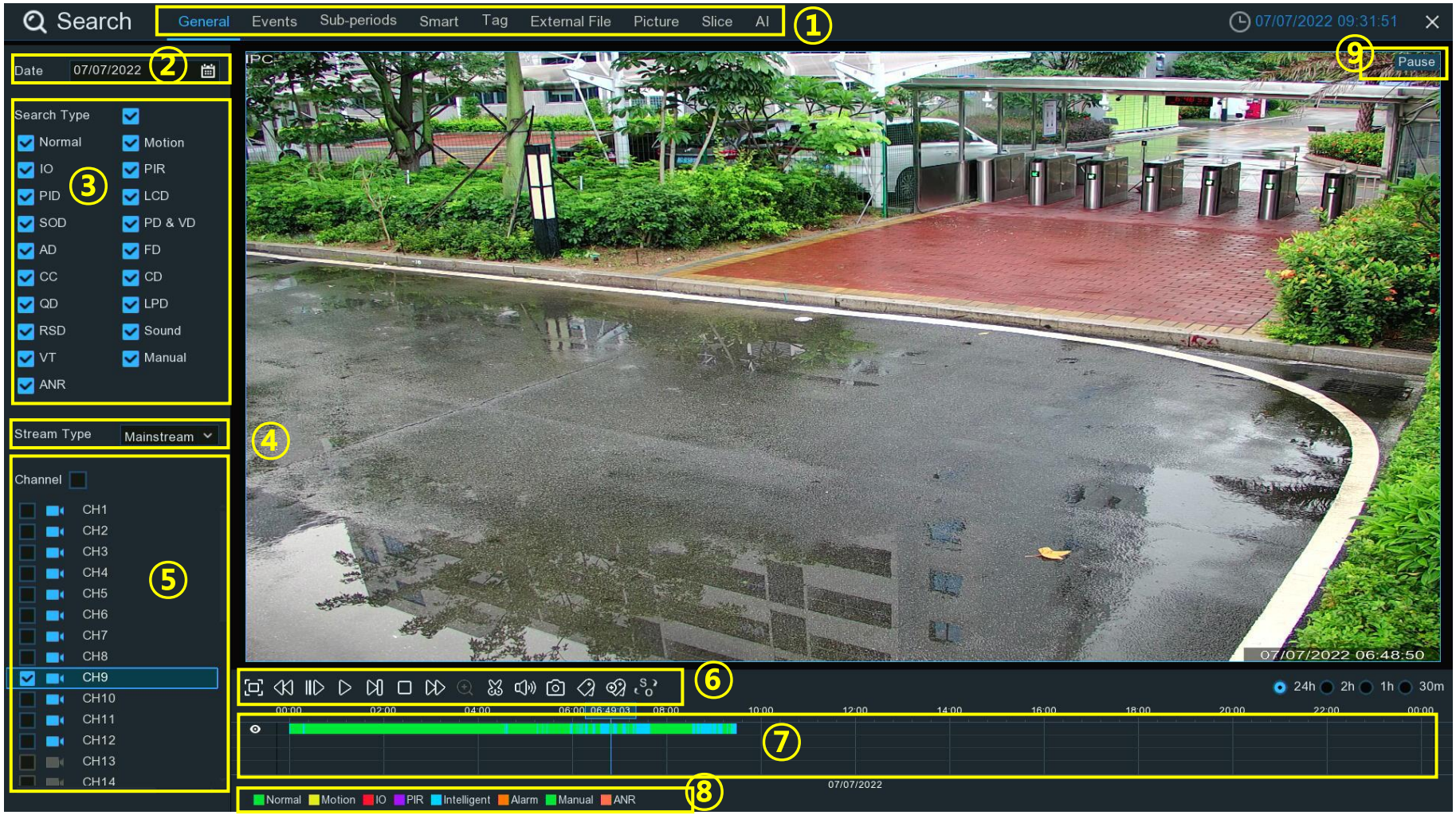
Chapter 7. Search, Playback & Backup

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

Use the Search function to search for and play previously recorded videos as well as snapshots that are stored on the NVR's hard drive(s). Search and Play videos based on recording schedule, manual recordings or alarm events. The Backup function will save important events (both videos and snapshots) to a USB flash drive.



7.1. Search & Play in General



1. **Search Options:** Select one: General, Events, Sub-periods, Smart, Tag, External File, Picture, Slice & AI. Click the tab to search different event recordings.
2. **Search Date:** Click the calendar icon to select a date to search on.
   ➔ A red underline on a date indicates recordings on those particular dates.
3. **Search Type:** Select event type to search for.
   ➔ Leave all event types checked to search for all.
   ➔ Or select one or more specific event types to narrow the search.
4. **Stream Type:** Mainstream is the default option.
   ➔ Substream can be selected if dual-stream recording is enabled.
5. Channel **Selection:** to choose the channels you want to search & play.
6. Playback **Control Bar:** to control the video playback.

Button	Function
	Enlarge the video playback to full screen.
	Rewind button, subsequent presses of the button will change the rewind speed.
	Slow Play, subsequent presses of the button will change the play speed.
	Play in normal speed.
	Pause.
	Play frame by frame. Click once to play a frame of the video.

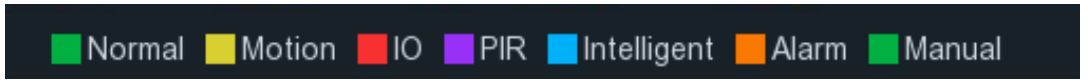
	Stop playing.
	Fast forward button, subsequent presses of the button will change the speed.
	Select a camera, click this button then use the scroll button on the mouse to zoom. Use the picture-in-picture screen to select a different area to view. Right-click to exit.
	This button allows editing the video by setting mark in and mark out points which can then be copied to a USB flash drive. View more on 7.1.1. Video Segment Backup.
	Click to adjust audio output volume.
	Click to take a snapshot and save to your USB flash drive.
	Tag recording information such as a person or object within the video. Click on a camera to select, pause the video when a person/object is seen, click this button to create the tag.(multiple tags can be created).
	Same as above, but you can name the tag.
	Click to switch the image scale for all playing cameras between original and stretch.

7. **Timeline:** Quickly go to any point in time to playback by double clicking on the desired point on the time line. .

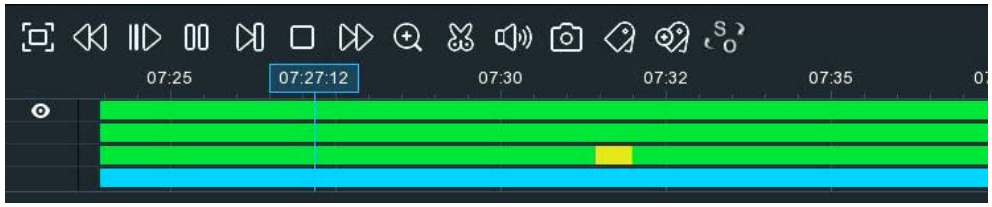
   ➔ Zoom in or zoom out the timeline by using the time frame options. Choose the time span that will be displayed on the time line to make it easier to select the exact moment to playback.

8. Indicates the video type displayed on the timeline.

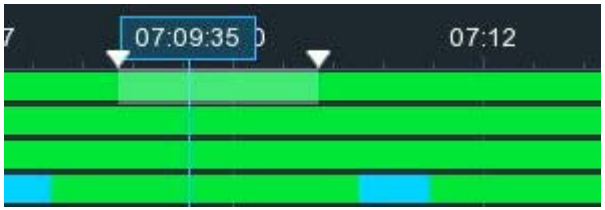
9. **Playback Status:** display the playing status.



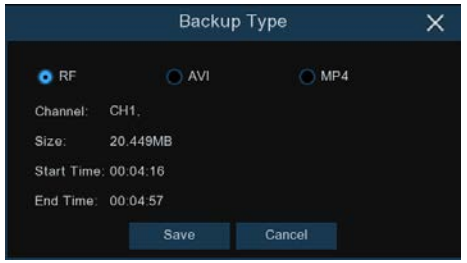
7.1.1. Video Segment Backup



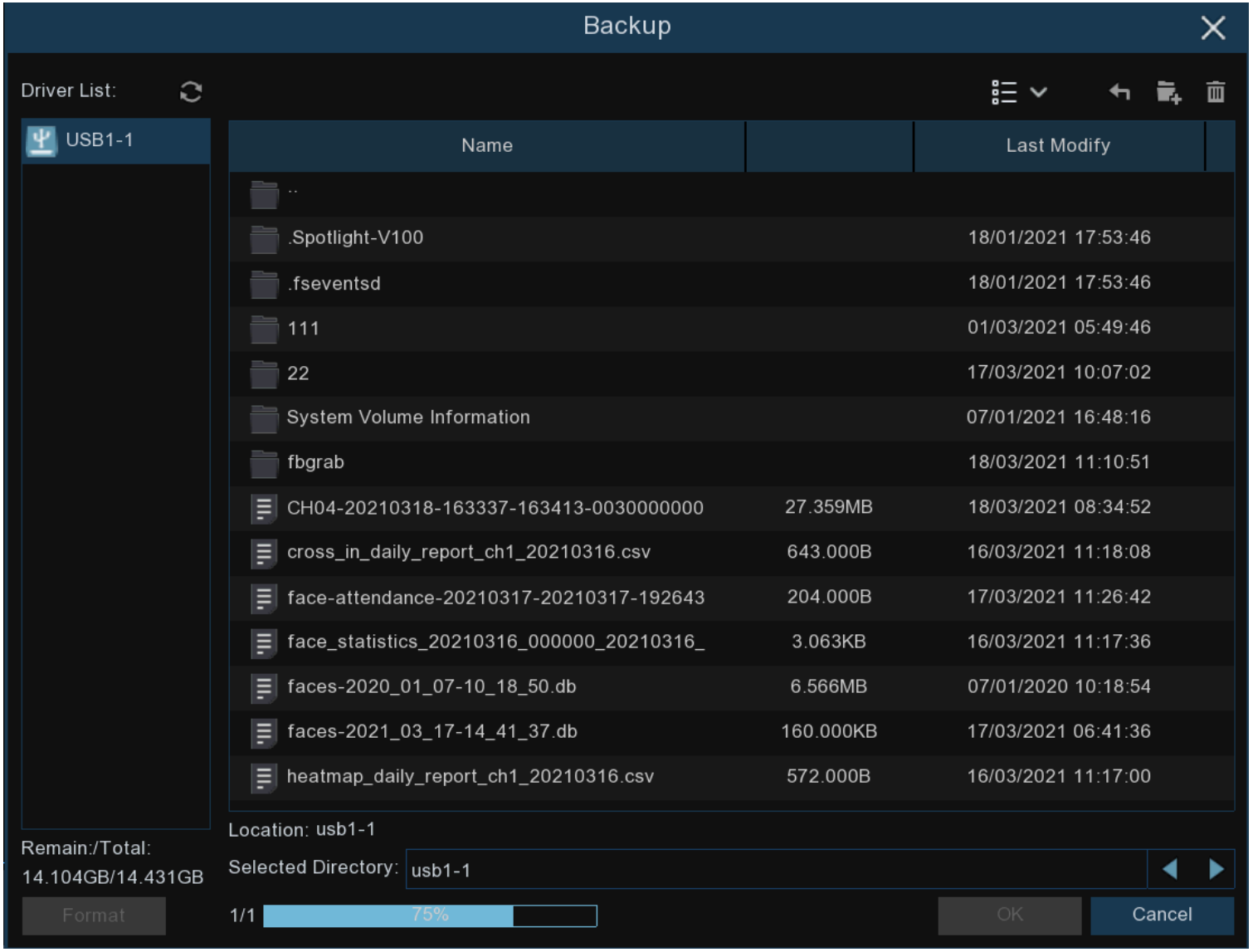
1. Insert a USB flash drive into an available USB port on the NVR.
2. Search and start a video playback.
3. Move the mouse cursor, where on the timeline to cut a segment and click.
4. Click There will be two white triangles on the timeline. Move them left or right on the section of the video that to be edited. To select multiple channels, click on position of the start time, hold and drag the mouse to select more channels, release the mouse at the position of the end time.



5. The icon will change to .
   ➔ Click to save the video segment.
6. Select a file type for the backup files.
   ➔ Click **Save** to save the video segment(s).(Make sure the USB flash drive has enough space to save the video file(s) being backed up.)

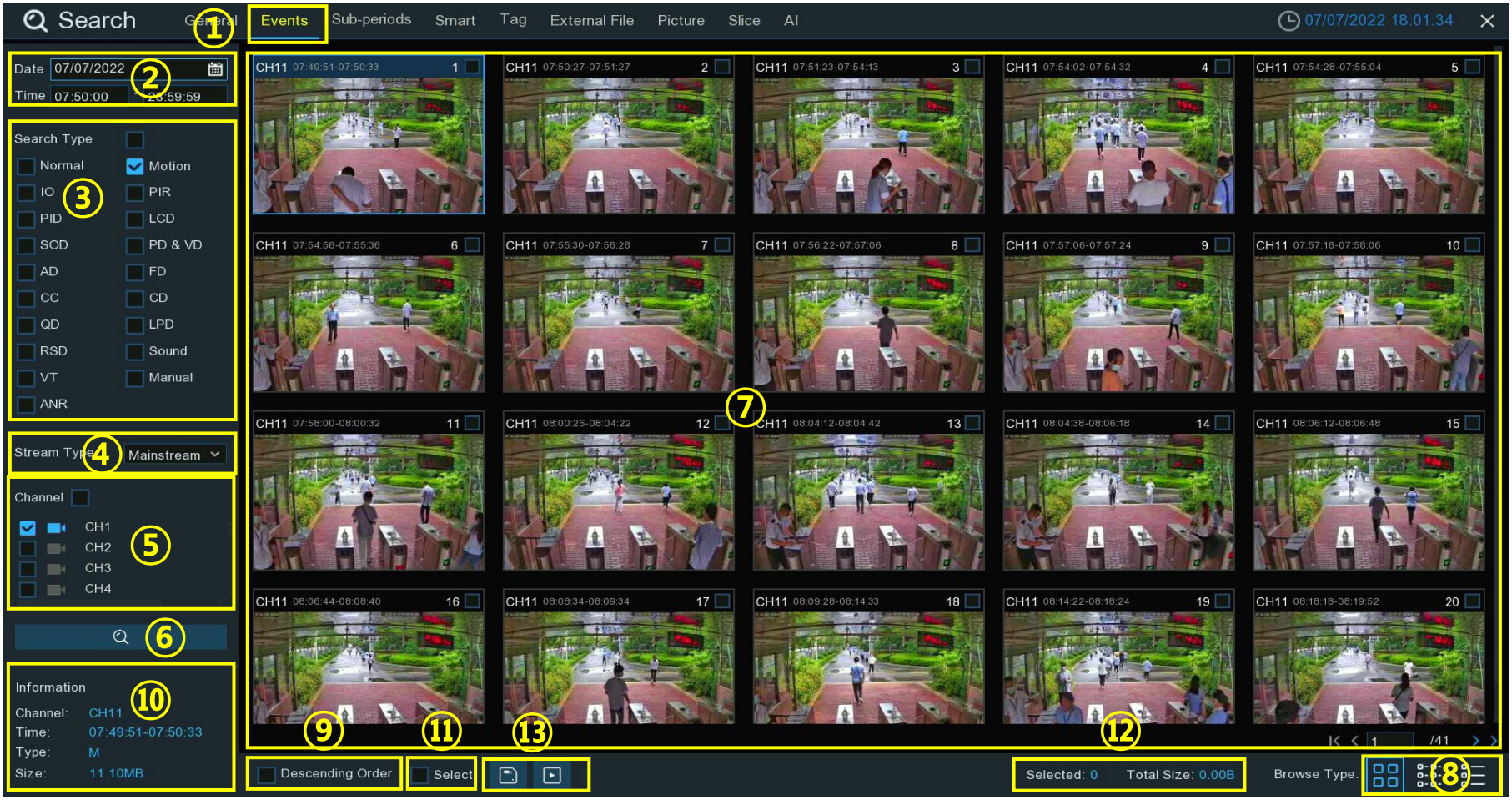


7. Choose the directory in the USB flash drive to save the video segment(s) to.
   ➔ Click **OK**.
   ➔ The progress bar at the bottom of the window shows the backup progress.


Backup
Driver List:
USB1-1
Name
Last Modify
..
.Spotlight-V100 18/01/2021 17:53:46
.fseventsd 18/01/2021 17:53:46
111 01/03/2021 05:49:46
22 17/03/2021 10:07:02
System Volume Information 07/01/2021 16:48:16
fbgrab 18/03/2021 11:10:51
CH04-20210318-163337-163413-0030000000 27.359MB 18/03/2021 08:34:52
cross_in_daily_report_ch1_20210316.csv 643.000B 16/03/2021 11:18:08
face-attendance-20210317-20210317-192643 204.000B 17/03/2021 11:26:42
face_statistics_20210316_000000_20210316_ 3.063KB 16/03/2021 11:17:36
faces-2020_01_07-10_18_50.db 6.566MB 07/01/2020 10:18:54
faces-2021_03_17-14_41_37.db 160.000KB 17/03/2021 06:41:36
heatmap_daily_report_ch1_20210316.csv 572.000B 16/03/2021 11:17:00
Location: usb1-1
Remain:/Total:
14.104GB/14.431GB
Selected Directory: usb1-1
Format
1/1
75%
OK
Cancel

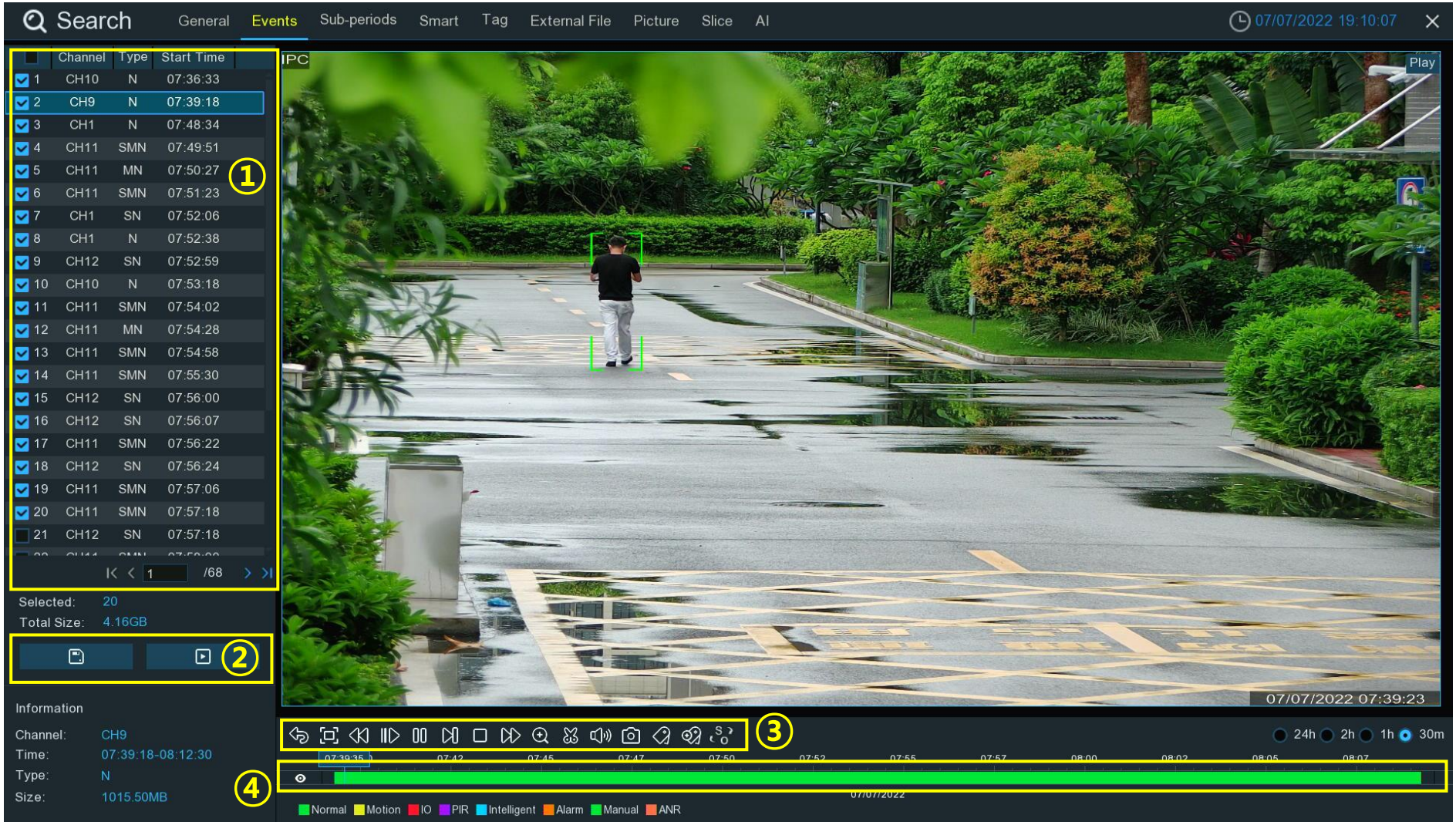
7.2. Search, Play and Back Up Event Recordings

Event search displays a list of video recordings with the channel, start/end time, and recording type, conveniently summarized. Great for quickly backing up events to a USB flash drive.



1. Click the **Events** tab.
2. Select the **Date** and **Time** to search:
   - ➔ **Date**: Click the calendar icon to select a date to search. A red underline on a date indicates recordings on those particular dates.
   - ➔ **Time:** Use the keypad to enter a specific start and end time.
3. **Search Type:** Select one or more event types. Leave all event types checked to search for all types.
4. **Stream Type:** Mainstream is the default option.
   - ➔ Substream can be selected if dual-stream recording is enabled.
5. **Channel:** Select one or all cameras to search.The camera icon will be blue for cameras that match the search criteria.
6. Click **Search** to execute a search.
7. A thumbnail of each event that matches the search criteria will display on the result window.
   - ➔ Use the arrow buttons to turn page or use the keypad to navigate to a specific page.
8. **Browse Type:** Select how the events are displayed. Thumbnail, List or Detail.
   - ➔ In the detailed view mode, events can be locked to keep them from being overwritten in the hard drive.
   - ➔ Click to lock or click to unlock the events.
9. **Descending Order:** To view the events in descending order.
10. Click on an event thumbnail, relative information will be displayed on the left bottom corner.
11. **Select:** To select all events in current page. Or check the box above an event thumbnail to select it.
12. The number of events and total size of selected event(s) will be displayed here.
13. Click to save all selected events to the USB flash drive directly.
14. Or click to enter the playback window. See more on 7.2.1. Event Playback Control.

7.2.1. Event Playback Control



1. Select the events.
   - ➔ Use the arrow buttons to turn page or use the keypad to navigate to a specific page.
   - ➔ Double-click on an event to play it directly.
2. Click to save selected events to the USB flash drive.
   - ➔ Click button to play selected events.
3. **Video Playback Controls:** to control the video playback.

Button	Function
	Return to event search page.
	Enlarge the video playback to full screen.
	Rewind button, subsequent presses of the button will change the rewind speed.
	Slow Play, subsequent presses of the button will change the play speed.
	Play in normal speed.
	Pause.
	Play frame by frame. Click once to play a frame of the video.
	Stop playing.

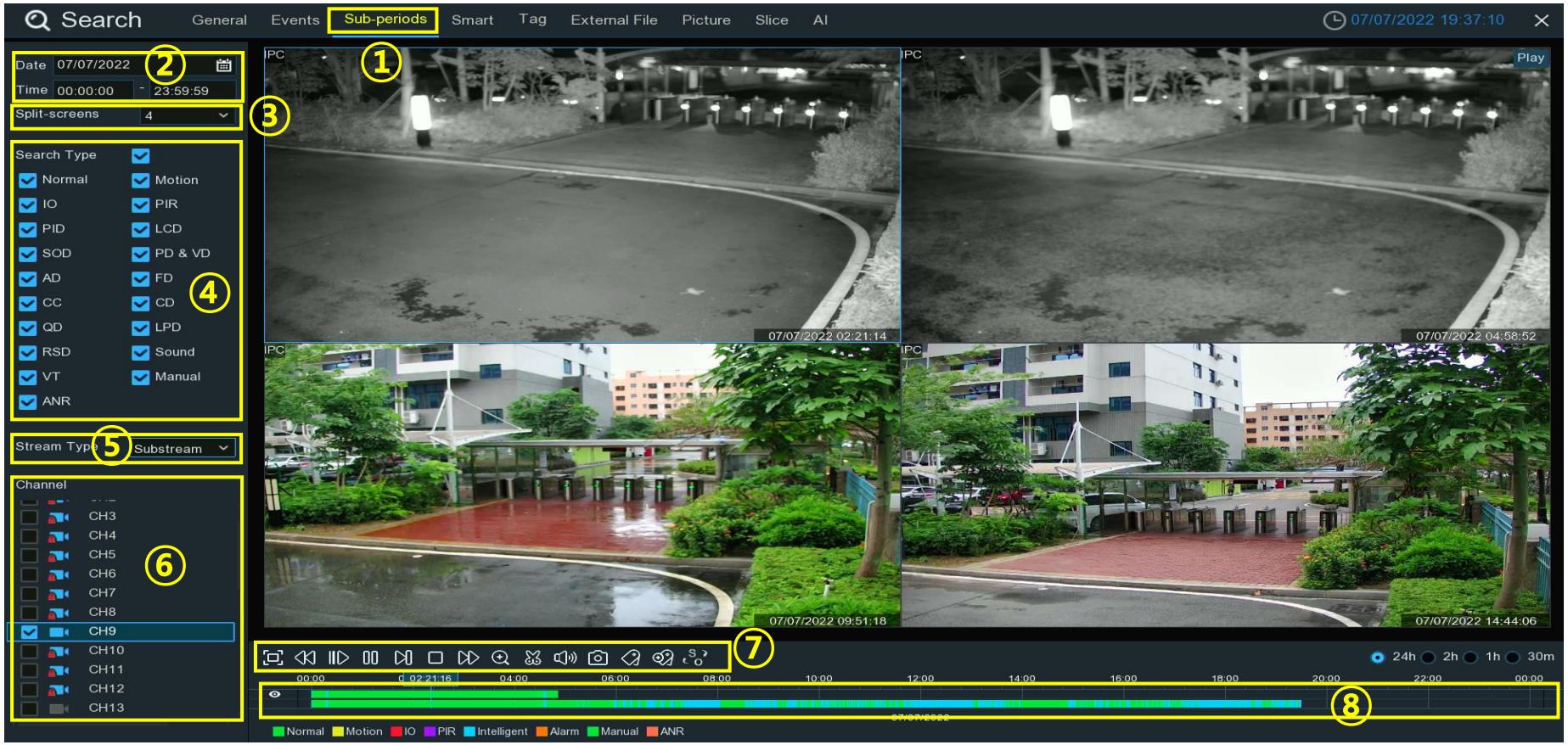
	Fast forward button, subsequent presses of the button will change the speed.
	Select a camera, click this button then use the scroll button on the mouse to zoom. Use the picture-in-picture screen to select a different area to view. Right-click to exit.
	This button allows you to edit the video by setting mark in and mark out points which you can then copy to a USB flash drive. View more on 7.1.1. Video Segment Backup.
	Click to adjust audio output volume.
	Click to take a snapshot and save to the USB flash drive.
	Tagging allows recording information such as a person or object within the video. Click on a camera to select, pause the video when a person/object is seen, press this button to create the tag(multiple tags can be created).
	Same as above, but you can name the tag.
	Click to switch the image scale for all playing cameras between original and stretch.

10. **Timeline:** Quickly go to any point in time to playback by double clicking on the desired point on the time line. .

➔ Zoom in or zoom out the timeline by using the time frame options. Choose the time span that will be displayed on the time line to make it easier to select the exact moment to playback

7.3. Sub-periods Playback

Sub-periods playback allows to play multiple video segments with different time periods simultaneously from a single channel. The recordings in a selected time period are divided evenly depending on the split-screen mode that has been selected. For example, if the time length of the video is an hour and Split-screen view is 4 cameras, the video will be divided in to 4, 15 minutes segments and played individually in each screen.



1. Click the **Sub-periods** tab.
2. Select the **Date** and **Time** to search:
   ➔ **Date**: Click the calendar icon to select a date to search. A red underline on a date indicates recordings on those particular dates.
   ➔ **Time:** Use the keypad to enter a specific start and end time.
3. **Split Screens:** Select the number of Split-screens, it indicates the number of video segments the recordings will be divided into evenly and played in each screen.
4. **Search Type:** Select one or more event types. Leave all event types checked to search for all types.
5. **Stream Type:** Mainstream is the default option.
   ➔ Substream can be selected if dual-stream recording is enabled.
6. **Channel:** Select the channel to search.
   ➔ Only one channel can be searched and played at a time.
7. Click ▷ to start playing.

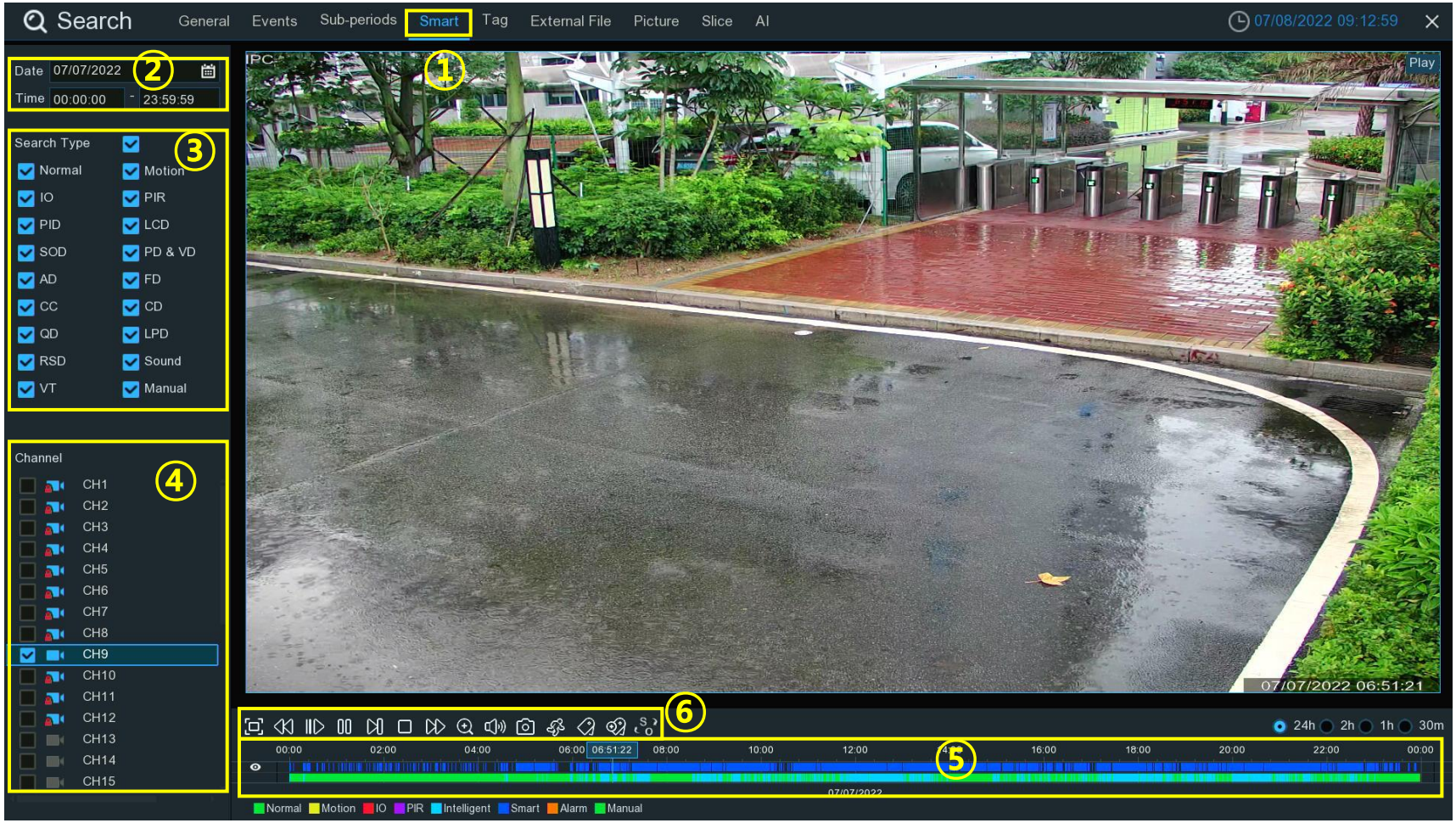
Button	Function
⛶	Enlarge the video playback to full screen.
◁◁	Rewind button, subsequent presses of the button will change the rewind speed.
▷|	Slow Play, subsequent presses of the button will change the play speed.
▷	Play in normal speed.

	Pause.
	Play frame by frame. Click once to play a frame of the video.
	Stop playing.
	Fast forward button, subsequent presses of the button will change the speed.
	Select a camera, click this button then use the scroll button on the mouse to zoom. Use the picture-in-picture screen to select a different area to view. Right-click to exit.
	This button allows you to edit the video by setting mark in and mark out points which you can then copy to a USB flash drive. View more on 7.1.1. Video Segment Backup.
	Click to adjust audio output volume.
	Click to take a snapshot and save to your USB flash drive.
	Tagging allows recording information such as a person or object within the video. Click on a camera to select, pause the video when a person/object is seen, press this button to create the tag(multiple tags can be created).
	Same as above, but you can name the tag.
	Click to switch the image scale for all playing cameras between original and stretch.

8. Click on any one of the split-screens, the time period of the video playing in the selected split-screen will be displayed on the timeline. The top color bar on the timeline indicates the time span of the selected split-screen video you. The bottom color bar of the timeline displays the time span of the entire recording being split.

7.4. Smart Search & Playback

Quickly search and play the motion events of a supported camera, even if motion is not specifically set up for the camera. As well as define one or more specific areas within the video, to make it easier to find what you are searching for.



1. Click the **Smart** tab.
2. Select the **Date** and **Time** to search:
   - ➔ **Date**: Click the calendar icon to select a date to search. A red underline on a date indicates recordings on those particular dates.
   - ➔ **Time:** Use the keypad to enter a specific start and end time.
3. **Search Type:** Select one or more event types. Leave all event types checked to search for all types.
4. **Channel:** Select the channel to search.
5. The Smart search results will be displayed on the time line in dark blue color.

6. Click ▷ to start playing.

Button	Function
	Enlarge the video playback to full screen, right-click to restore.
	Rewind button, subsequent presses of the button will change the rewind speed.
	Slow Play, subsequent presses of the button will change the play speed.
	Play in normal speed.

	Pause.
	Play frame by frame. Click once to play a frame of the video.
	Stop playing.
	Fast forward button, subsequent presses of the button will change the speed.
	Select a camera, click this button then use the scroll button on the mouse to zoom. Use the picture-in-picture screen to select a different area to view. Right-click to exit.
	This button allows you to edit the video by setting mark in and mark out points which you can then copy to a USB flash drive. View more on 7.1.1. Video Segment Backup.
	Click to adjust audio output volume.
	Click to take a snapshot and save to your USB flash drive.
	Smart Search button.
	Tagging allows recording information such as a person or object within the video. Click on a camera to select, pause the video when a person/object is seen, press this button to create the tag(multiple tags can be created).
	Same as above, but you can name the tag.
	Click to switch the image scale for all playing cameras between original and stretch.

Define one or more specific areas of the video.

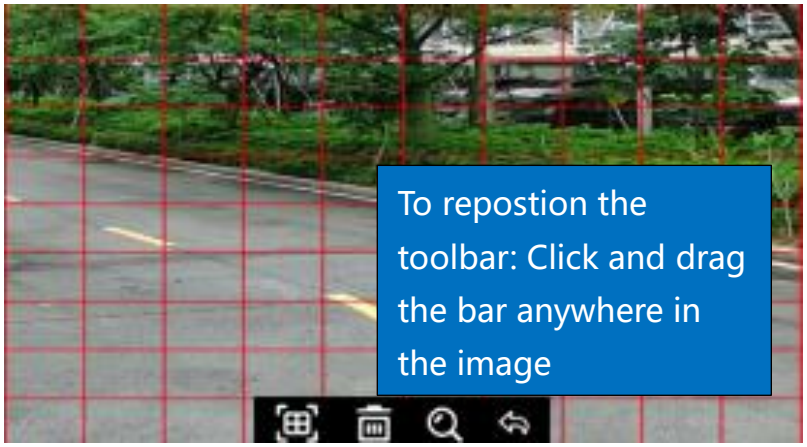
7. Click on the Playback Control bar.
   - ➔ The camera will be shown full screen, and the Smart mode controls will be visible.

   Select a full-screen detection area.

   Delete all areas created.

   Search and play video based on the areas defined.

   Return to the playback interface.



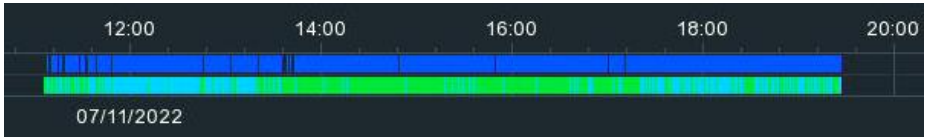
8. Click to delete all areas.

Click and drag to define an area.

- ➔ Multiple areas can be defined.

Click Search

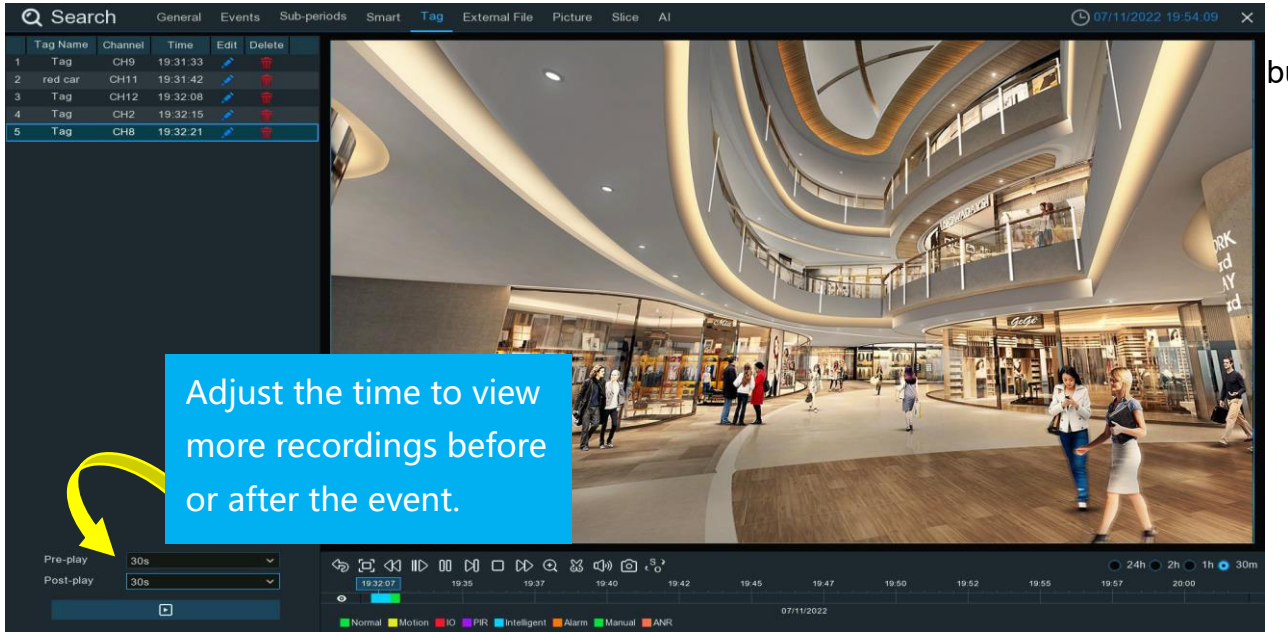
- ➔ You'll be returned back to the playback interface.
- ➔ Segments matching your search criteria will be shown on the timeline in dark blue color.



7.5. Tag Search & Playback

Search, play and manage recordings with tags added in live view or playback.

1. Click the **Tag** tab.
2. Select the **Date** and **Time** to search:
   - ➔ **Date**: Click the calendar icon to select a date to search. A red underline on a date indicates recordings on those particular dates.
   - ➔ **Time:** Use the keypad to enter a specific start and end time.
3. **Keyword:** If one or more customized tags have been created, input the tag name (tag names are case sensitive).
4. **Channel:** Select the channel to search.
5. Click to search.
6. A list of videos with tags matching your search criteria will be displayed in the right window.
7. Click play to start playing.
8. To modify the tag name, click button.
   Click button to delete the tag.



7.6. Play External File

Play videos that have been saved to a USB flash drive.

1. Click the **External File** tab.
2. **Device Name:** If multiple USB flash drives are connected, click the drop-down menu to select the drive to read from.
3. **File Type:** Select the file type to search and play. The default setting will search all supported formats.
4. Select the directory folder where the video files are saved.
   ➔ Double-click an event to play.
5. Click to refresh the USB flash drive.
6. Play controls:

Button	Function
	Enlarge the video playback to full screen, right-click to restore.
	Slow Play, subsequent presses of the button will change the play speed.
	Play in normal speed.
	Pause.
	Play frame by frame. Click once to play a frame of the video.
	Stop playing.
	Fast forward button, subsequent presses of the button will change the speed.
	Click to adjust audio output volume

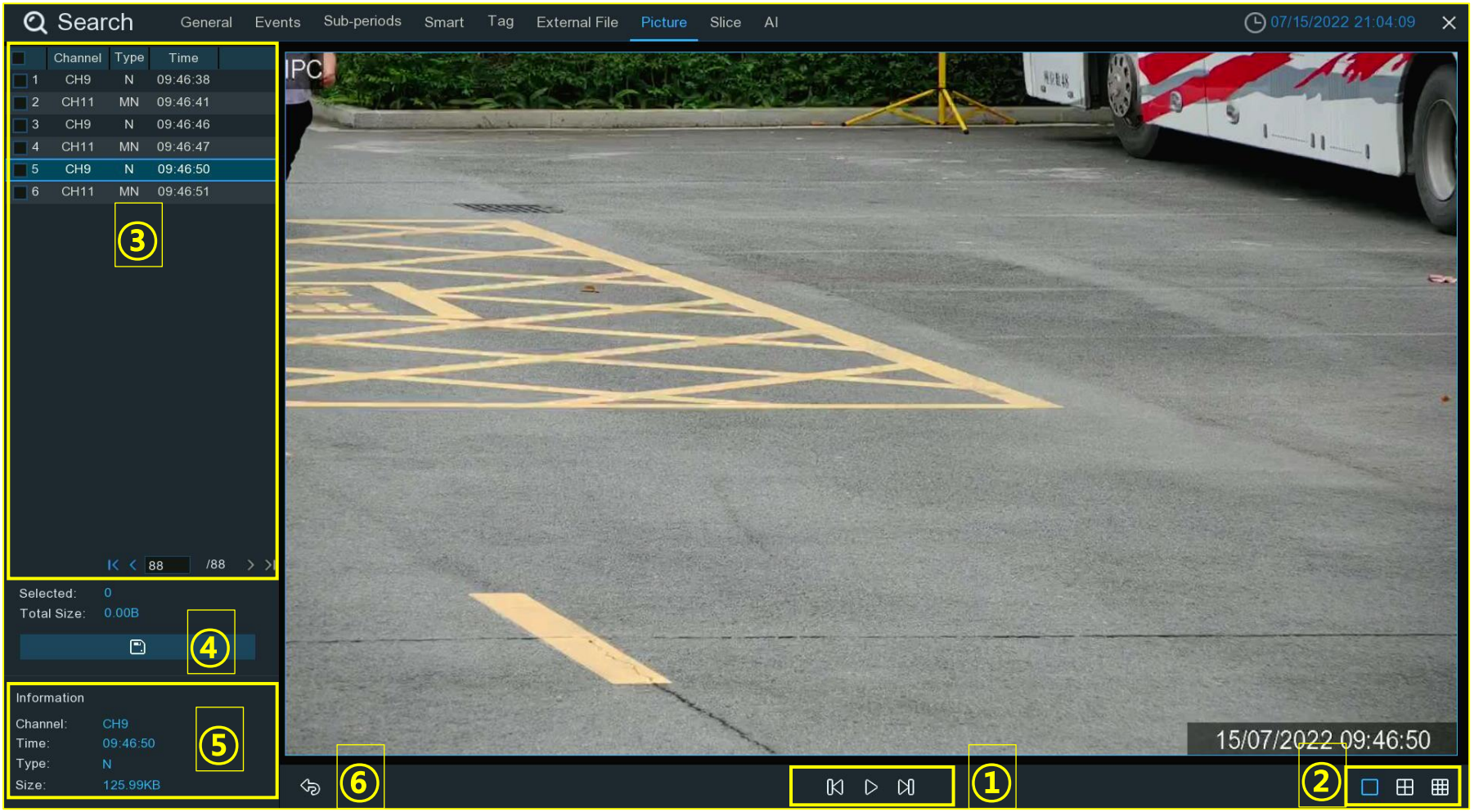
7.7. Search & View Snapshots

View and save snapshots to a USB flash drive.

1. Click the **Picture** tab.
2. Select the **Date** and **Time** to search:
   - ➔ **Date**: Click the calendar icon to select a date to search. A red underline on a date indicates recordings on those particular dates.
   - ➔ **Time:** Use the keypad to enter a specific start and end time.
3. **Search Type:** Select one or more event types. Leave all event types checked to search for all types.
4. **Channel:** Select from one or more cameras to search on. Cameras with a blue camera icon match the search criteria. Only cameras with a blue camera icon can be selected.
5. **Search:** Click to execute a search.
6. A thumbnail of each snapshot that matches the search criteria will be displayed in the result window.
   - ➔ Use the arrow buttons to turn page or use the keypad to navigate to a specific page.
7. Change how the snapshots are displayed. Thumbnail, List or Detail.
8. **Descending order:** Check the box to view the results in descending order.
9. Click on a thumbnail, relative information will be displayed on the left bottom corner.
10. **Select:** To select all events in current page. Or check the box above an event thumbnail to select it.
11. Selected file information will be displayed:
    - ➔ **Selected:** The total number of snapshots selected.
    - ➔ **Total Size:** The total file size of all the selected snapshot(s).
12. Click to save all the selected snapshots to a USB flash drive directly.
    - ➔ Click to enter the slideshow window.
    - ➔ See more on 7.7.1. Playing Slideshow.

7.7.1. Playing Slideshow

Play selected snapshots as a slideshow.



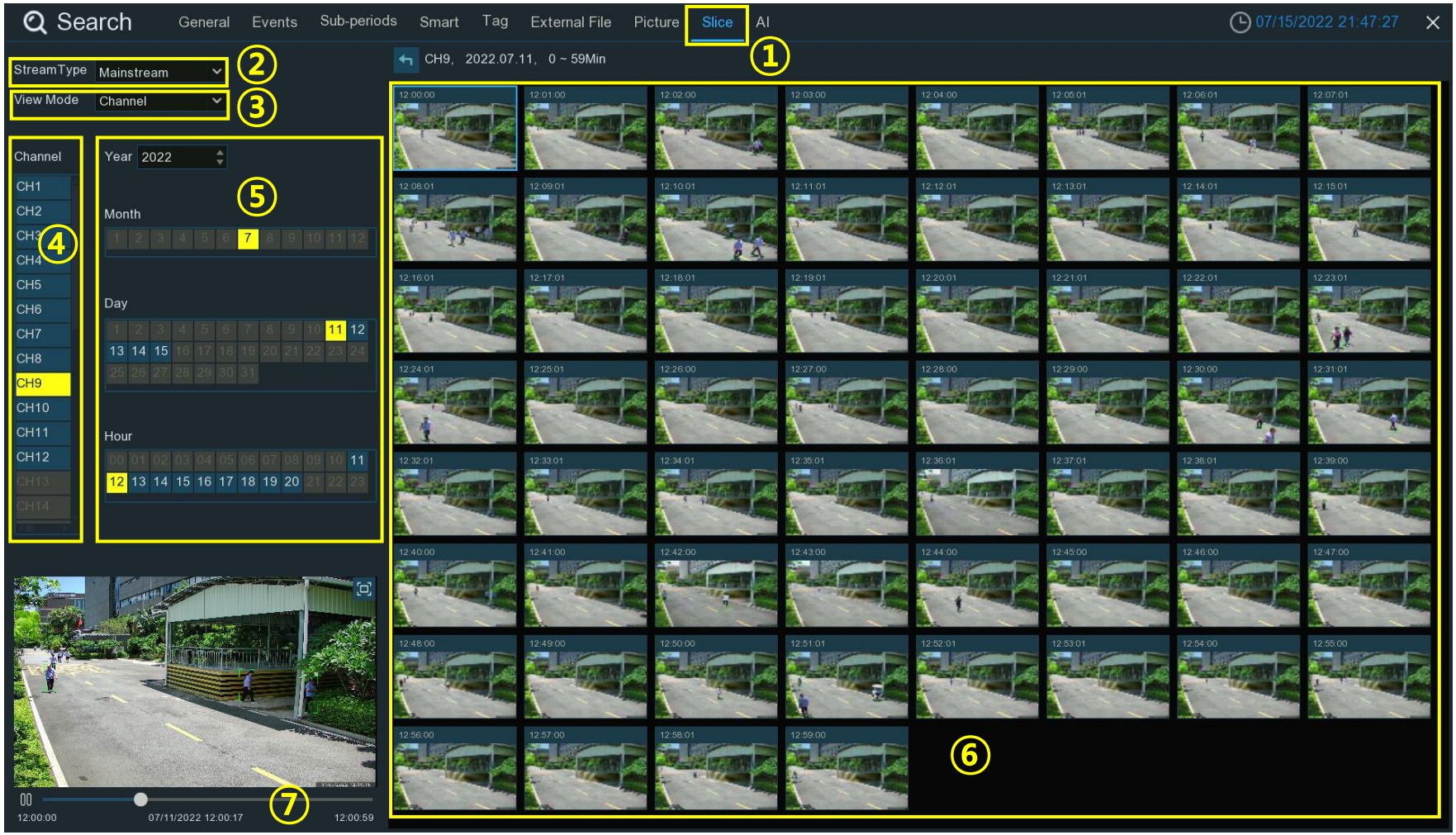
1. Play control buttons:

Button	Function
	Click to pause slideshow.
	When the slideshow is paused, you can click this button to view previous snapshot.
	Click to play slideshow.
	When the slideshow is paused, you can click this button to view next snapshot.

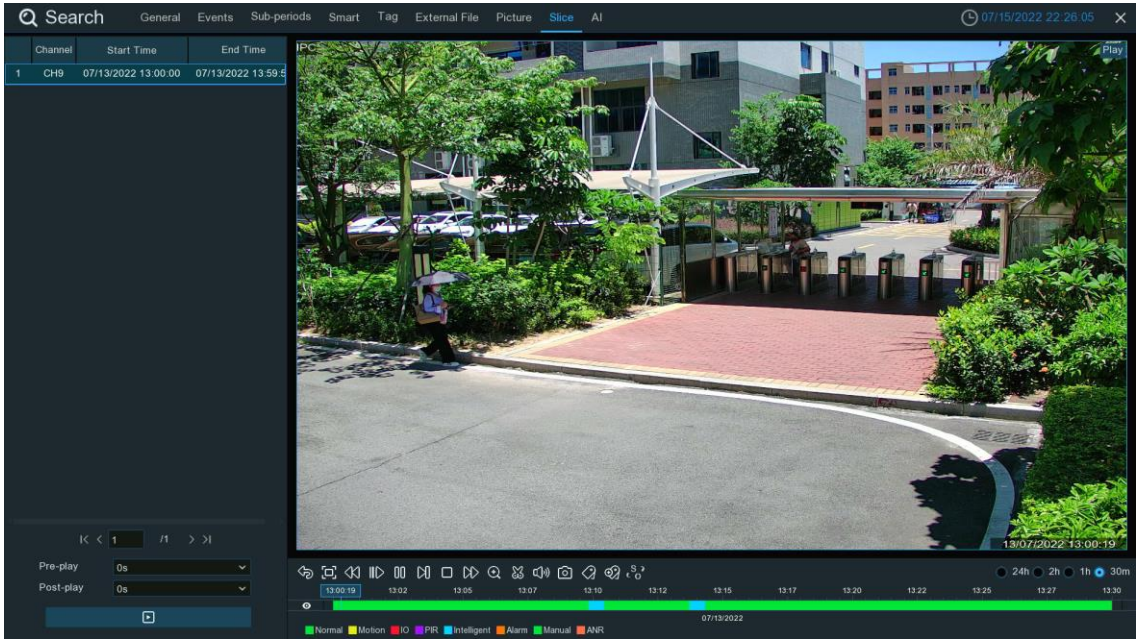
2. Select the viewing layout; how many snapshots to display at once on the screen.
3. Selected snapshots will be displayed here.
   ➔ Use the arrow buttons to turn page or use the keypad to navigate to a specific page.
4. Select a snapshot, click to save it to a USB flash drive.
5. Displays the snapshot information of the current snapshot displayed on the screen.
6. Click to go back to the previous screen.

7.8. Slice Search

Slice the recordings into one minute video clips, which helps to quickly search and find important details and events..



1. Click the **Slice** tab.
2. **Stream Type:** Mainstream is the default option.
   ➔ Substream can be selected if dual-stream recording is enabled.
3. Select the View Mode:
   ➔ **Channel:** Search different time periods for the selected camera.
   ➔ **Time:** Search a designated time period across multiple cameras.`
4. **Channel:** Select the channel to search.
   ➔ Only one camera at a time can be searched.
5. Set the date and time to search for. The search time is by one hour increments.
6. The available one-hour recordings will be sliced into 60, one minute segments.
   ➔ The thumbnail images of each minute will be displayed on the screen.
7. Click on any one of the thumbnail images, the video will be played in the bottom left corner.
   ➔ Click on the time bar to adjust the play position.
   ➔ Click ⛶ to view the playback on full screen.
   ➔ Backup functions are available in full screen view.

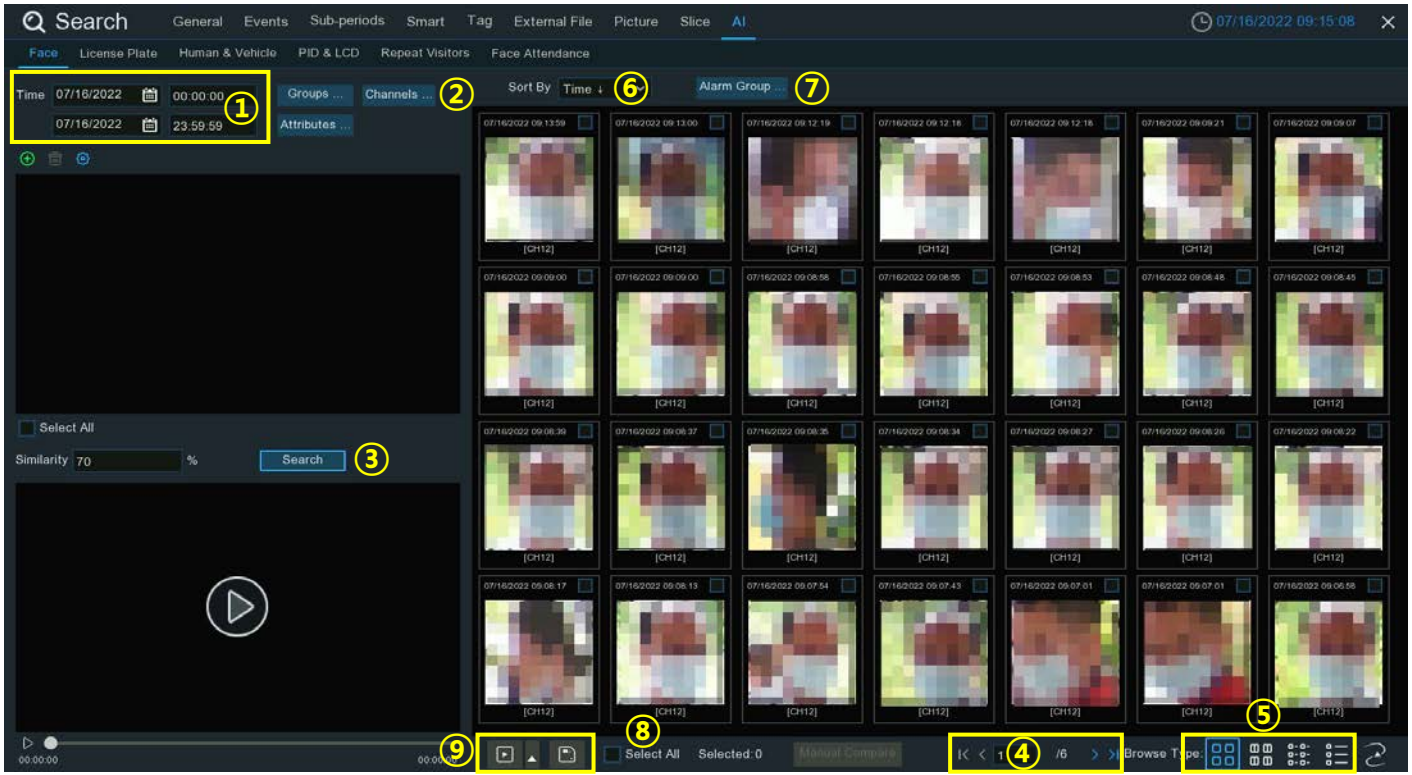


7.9. AI Search

Search AI related events: face detection, license plates, human & vehicle detection, PID & LCD, repeat visitors and face attendance.

7.9.1. Face Detection Events

Click **Face** tab to open Facial Recognition based search functions. For cameras that have face detection enabled, the face images captured by all supporting cameras for the current day will be displayed



1. Select the **Date** and **Time** to search:
   - ➔ **Date**: Click the calendar icon to select a date to search. A red underline on a date indicates recordings on those particular dates.
   - ➔ **Time:** Use the keypad to enter a specific start and end time.
2. **Channels:** Select a specific channel(s) to search. The system searches all cameras by default.
3. Click **Search** to execute a search.
4. Use the arrow buttons to turn page or use the keypad to navigate to a specific page.
5. Change how the snapshots are displayed. Thumbnail, List or Detail.
6. **Sort By:** Change how the images display. In Ascending or Descending order.
7. **Alarm Groups:** Narrow the search by selecting specific alarm group(s).
8. **Select All:** To select all events in current page. Or check the box above an event thumbnail to select it.
9. Click to save all selected face images to a USB flash drive.
   - ➔ To save video files as well as images, check "**Record**".
   - ➔ Select the video format.
   - ➔ Set the length of time to save before and after the events.
   - ➔ Click to play the selected events,
   - ➔ Click ▲ to add more time before and after the event and then play.
   - ➔ See more on 7.9.1.1. Playing Events.

7.9.1.1. Playing Events

1. Event List. Use the arrow buttons to turn page or use the keypad to navigate to a specific page.

   ➔ Double-click on an event to play it directly.

2. Add time before and after the event to review.

   ➔ click ▶ to play.

3. **Video Playback Controls:** to control the video playback

Button	Function
	Return to event search page.
	Enlarge the video playback to full screen.
	Rewind button, subsequent presses of the button will change the rewind speed.
	Slow Play, subsequent presses of the button will change the play speed.
	Play in normal speed.
	Pause.
	Play frame by frame. Click once to play a frame of the video.
	Stop playing.

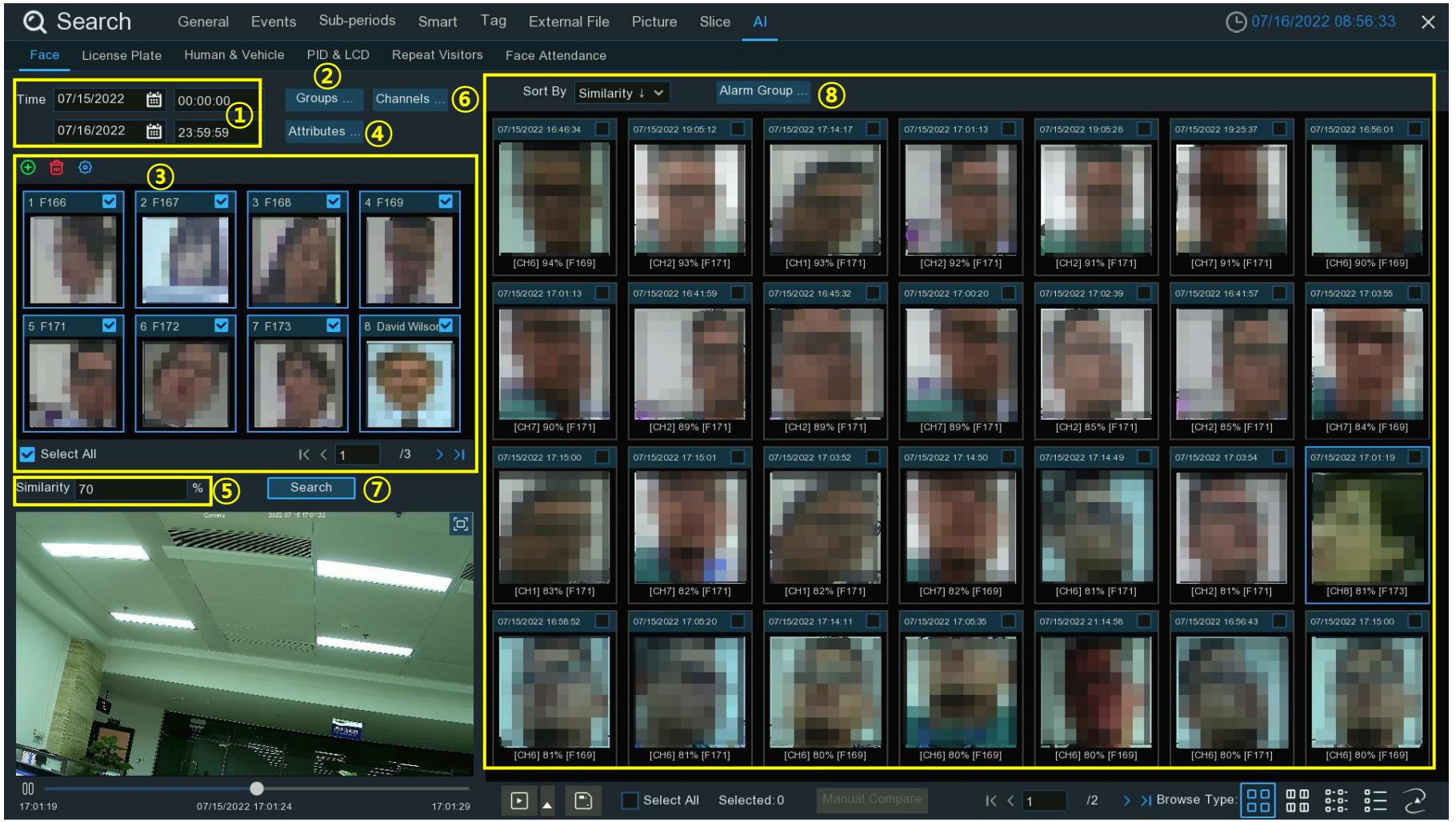
	Fast forward button, subsequent presses of the button will change the speed.
	Select a camera, click this button then use the scroll button on the mouse to zoom. Use the picture-in-picture screen to select a different area to view. Right-click to exit.
	This button allows you to edit the video by setting mark in and mark out points which you can then copy to a USB flash drive. View more on 7.1.1. Video Segment Backup.
	Click to adjust audio output volume.
	Click to take a snapshot and save to your USB flash drive.
	Tagging allows recording information such as a person or object within the video. Click on a camera to select, pause the video when a person/object is seen, press this button to create the tag(multiple tags can be created).
	Same as above, but you can name the tag.
	Click to switch the image scale for all playing cameras between original and stretch.

4. **Timeline:** Quick locate the playback position by clicking on the time line.

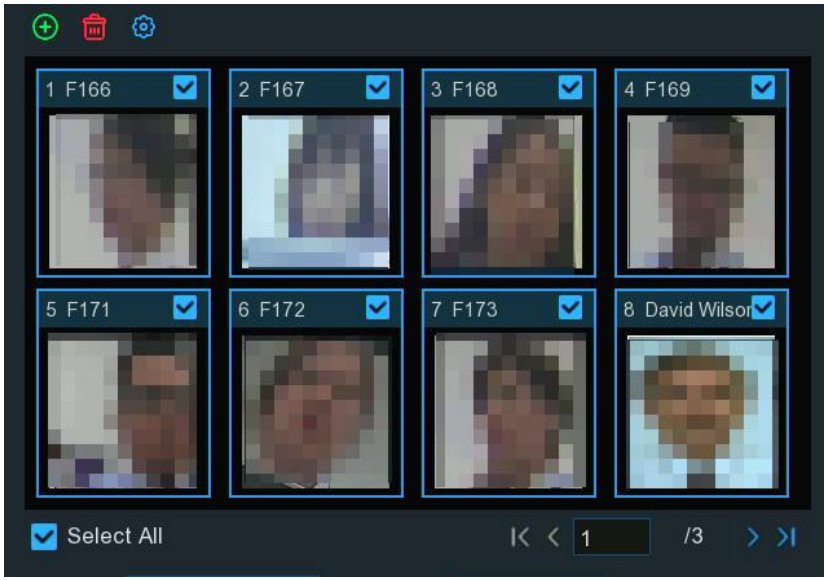
➔ Zoom in or zoom out the timeline by using the time frame options. Choose the time span that will be displayed on the time line to make it easier to select the exact moment to playback.

7.9.1.2. Search & Compare Face Images (Recognition)

Select one or more face profiles from the facial recognition data base to search. The system will compare and display the face images that match the search criteria.



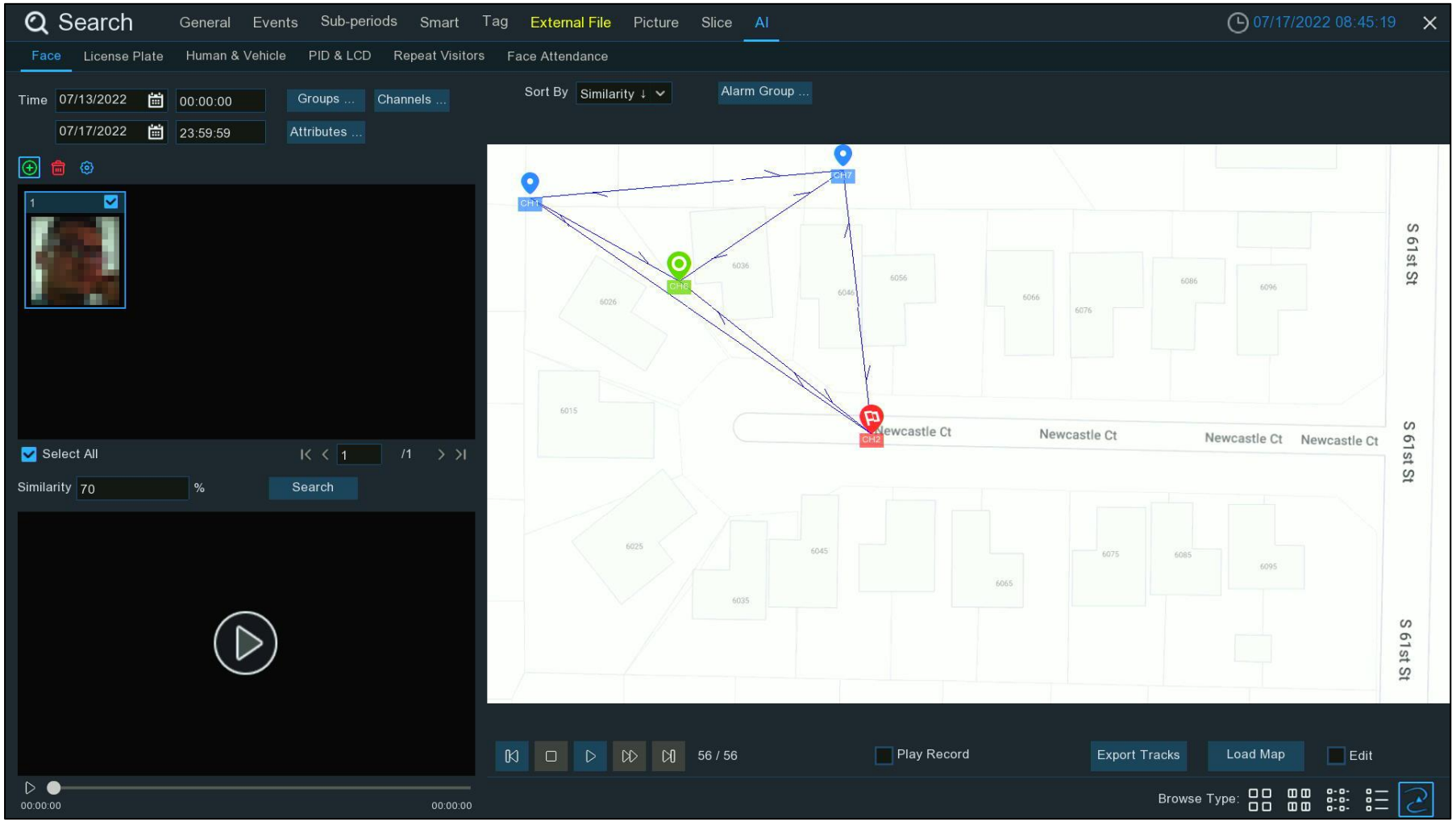
1. Select the **Date** and **Time** to search:
   - ➔ **Date**: Click the calendar icon to select a date to search. A red underline on a date indicates recordings on those particular dates.
   - ➔ **Time:** Use the keypad to enter a specific start and end time.
2. **Group:** Select the groups where the targeted face profiles are saved.
3. All existing face profiles in the selected group(s) will be displayed.
   - ➔ All face profiles are selected by default.
   - ➔ **Select All:** Enable/disable select all.
   - ➔ Check the box above each image to select or deselect it.
   - ➔ To delete a face profile, click on the image, click .
   - ➔ To add more targeted face images, click select face images from internal or external storage device.



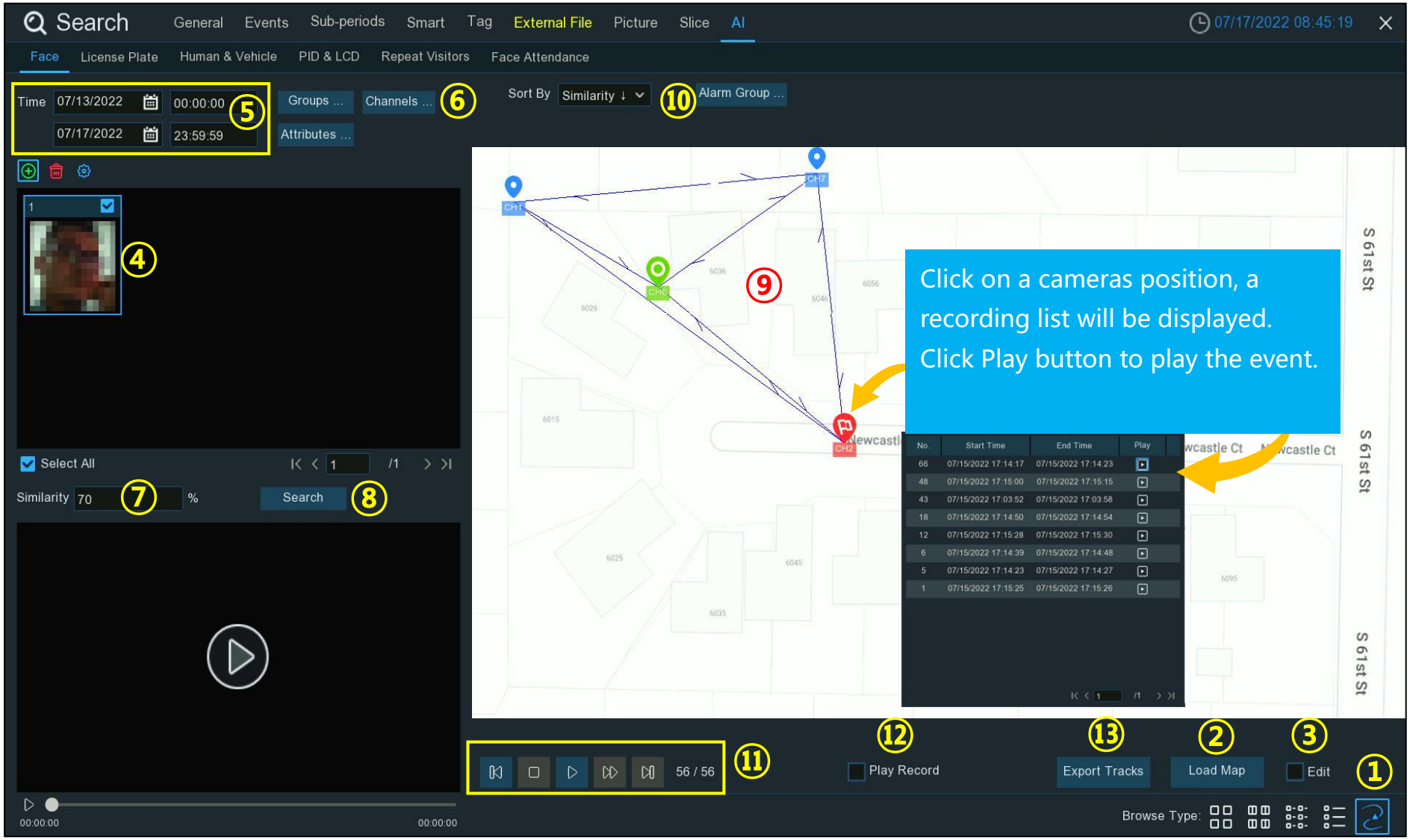
4. **Attributes:** If Face Attributes detection has been enabled in the camera(s)(5.4.1.1. FD), click here to appoint the attribute(s) to search.
5. **Similarity:** Set how closely, in percentage terms, the detected face must match a selected face profile to be considered a recognized match.
   - ➔ The default threshold is 70%. A higher similarity % will result in fewer false recognition results.
6. **Channels:** Select specific channel(s) to search for.The system searches all channels by default.
7. Click **Search** to execute a search.
8. The face images that match your search criteria will be displayed.
   - ➔ Narrow your search by selecting specific alarm group(s).

7.9.1.3. Tracking Face

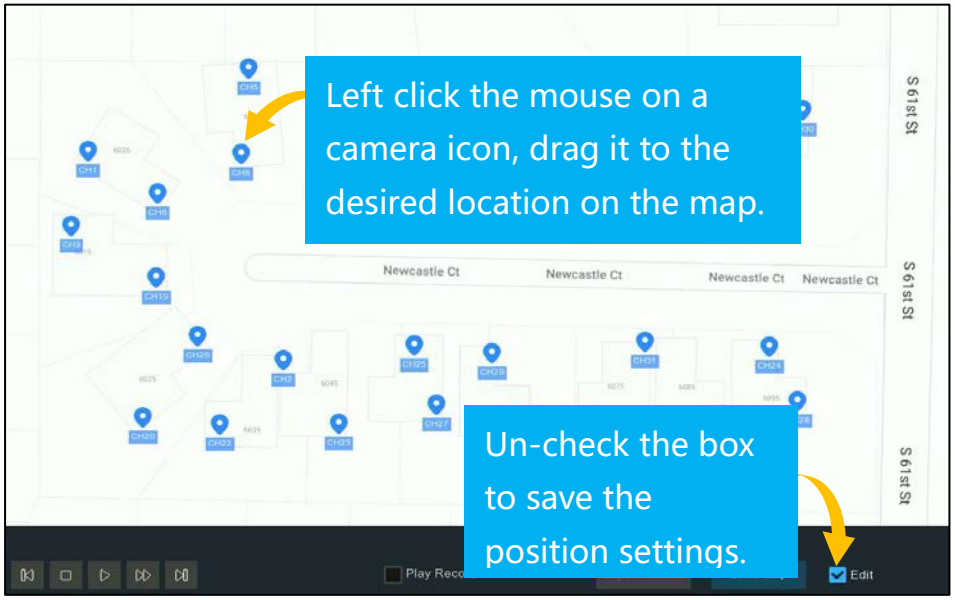
Easily see someone's entering and exiting an area, relative to their position in selected cameras. Load a map, indicate the cameras position in the environment. Use the tracking function to track a persons movements during the selected time period.



1. On the Face search page, click the tracking icon to open the operation page.



2. Click "**Load Map**" to load a map image from a USB flash drive.
3. **Edit:** Check the box to edit the map to indicate the camera locations within the uploaded map.
   - ➔ Location icons representing each NVR channel/camera will be displayed.
   - ➔ Move the cameras icons to the cameras actual location on the map.



4. Click , select a face image from internal or external storage device.
   - ➔ Please note: the system can only track one face at a time.
5. Select the **Date** and **Time** to search:
   - ➔ **Date**: Click the calendar icon to select a date to search. A red underline on a date indicates recordings on those particular dates.
   - ➔ **Time:** Use the keypad to enter a specific start and end time.
6. **Channels:** Select specific channel(s) to search for.The system searches all channels by default.

7. **Similarity:** Set how closely, in percentage terms, the detected face must match a selected face to be considered a recognized match.
   ➔ The default threshold is 70%. A higher similarity % will result in fewer false recognition results.
8. Click **Search** to execute a search.
9. Several camera site icons are displayed on the map with different colors and illustrations.
   ➔ Displaying when and where the person appeared the first time, and when and where the person was last detected by a camera.

First Detected Point

Last Detected Point

First & Last Detected Point

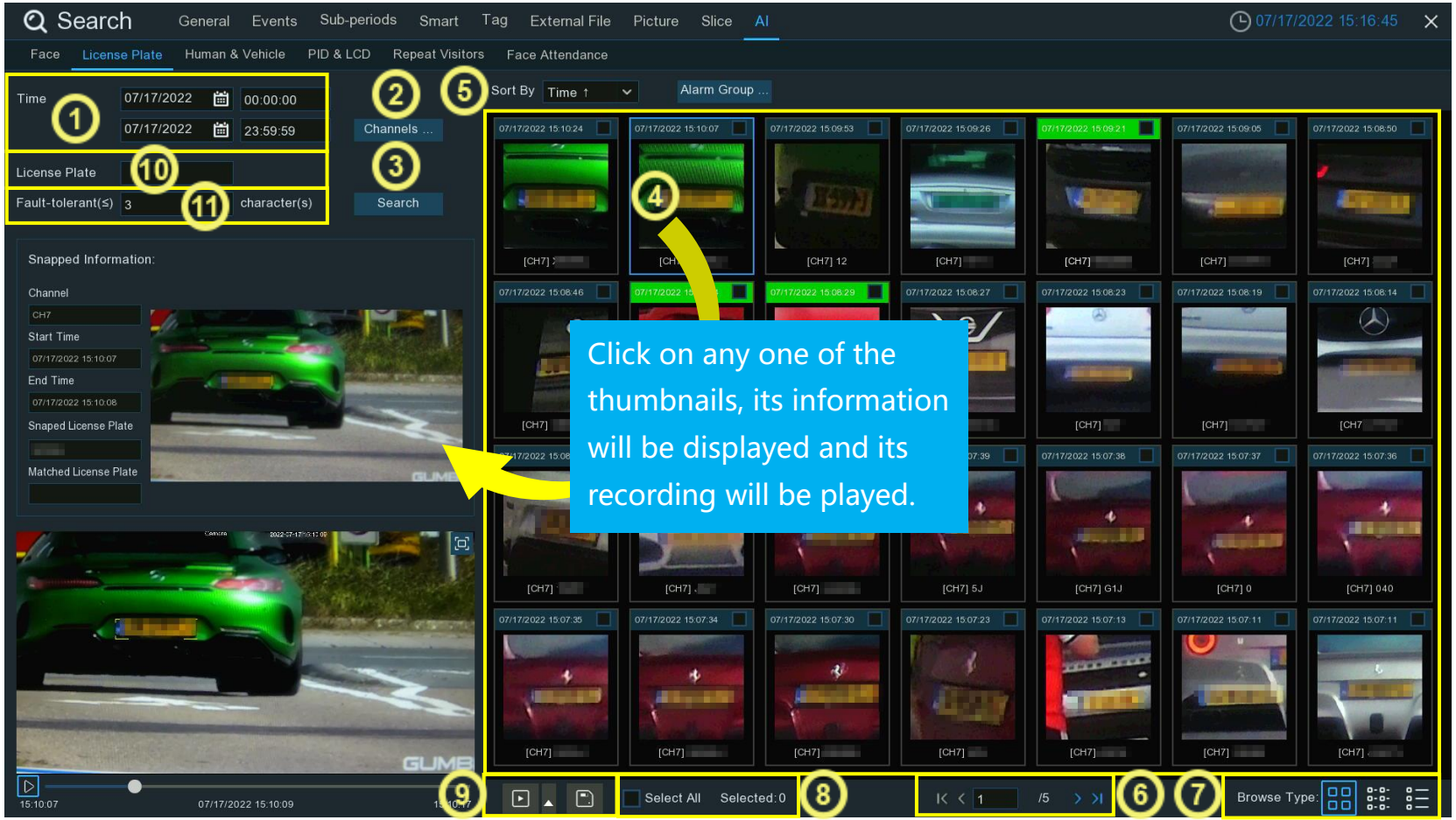
Waypoint

10. **Sort By:** Choose "**Time** ↑" to sort the events from oldest to newest.
11. Click ▷ to start playing an animation demonstration of the person's movement track. Control the playing with the buttons below:
12. **Play Record:** Select to play the animation of movement track together with the event recording.
13. **Export Tracks:** Save the data for the selected time period to a USB flash drive.
    ➔ The file will be saved as an excel file. Open the file in Excel (or similar software) to further analyze the data.

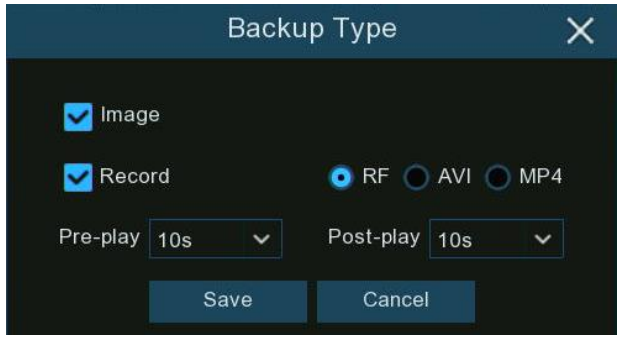
⏮	Click to display previous movement
□	Stop
▷	Play
⏸	Pause
⏩	Click to adjust the play speed
⏭	Click to display next movement

7.9.2. Search License Plate

Click **License Plate** tab to enter the license search section, if the license plate detection is enabled in camera(s), the license detection events captured on the current day will be displayed.



1. Select the **Date** and **Time** to search:
   - ➔ **Date**: Click the calendar icon to select a date to search. A red underline on a date indicates recordings on those particular dates.
   - ➔ **Time:** Use the keypad to enter a specific start and end time.
2. **Channels:** Select specific channel(s) to search for.The system searches all channels by default.
3. Click **Search** button to commence a search.
4. The search result will be displayed on the right side of the screen.
5. **Sort By:** Select how to display the results: ascending or descending order.
6. Use the arrow buttons to turn page or use the keypad to navigate to a specific page.
7. **Browse Type:** Select how events are displayed: Thumbnail, List or Detail.
8. **Select All:** To select all events in current page. Or check the box above an event thumbnail to select it.
9. Click to save all selected face images to a USB flash drive.
   - ➔ To save video files as well as images, check "**Record**".
   - ➔ Select the video format.
   - ➔ Set the length of time to save before and after the events.
   - ➔ Click to play the selected events,
   - ➔ Click ▲ to add more time before and after the event and then play.
   - ➔ See more on 7.9.1.1. Playing Events.
10. **License Plate:** Input a license plate number.



11. **Fault Tolerance:** Set the fault tolerance.

➔ Variances in image resolution, light strength, camera angle, moving speed of the vehicle etc., can result in character(s) in the license plate number failing to be recognized. Set the Fault Tolerance for how many characters of the detected license plate can be different from the license plate number saved in the group. If the number of characters that are different between the detected license plate number and a license plate profile in the group is no more than the set value, the detected license will be considered a recognized match.

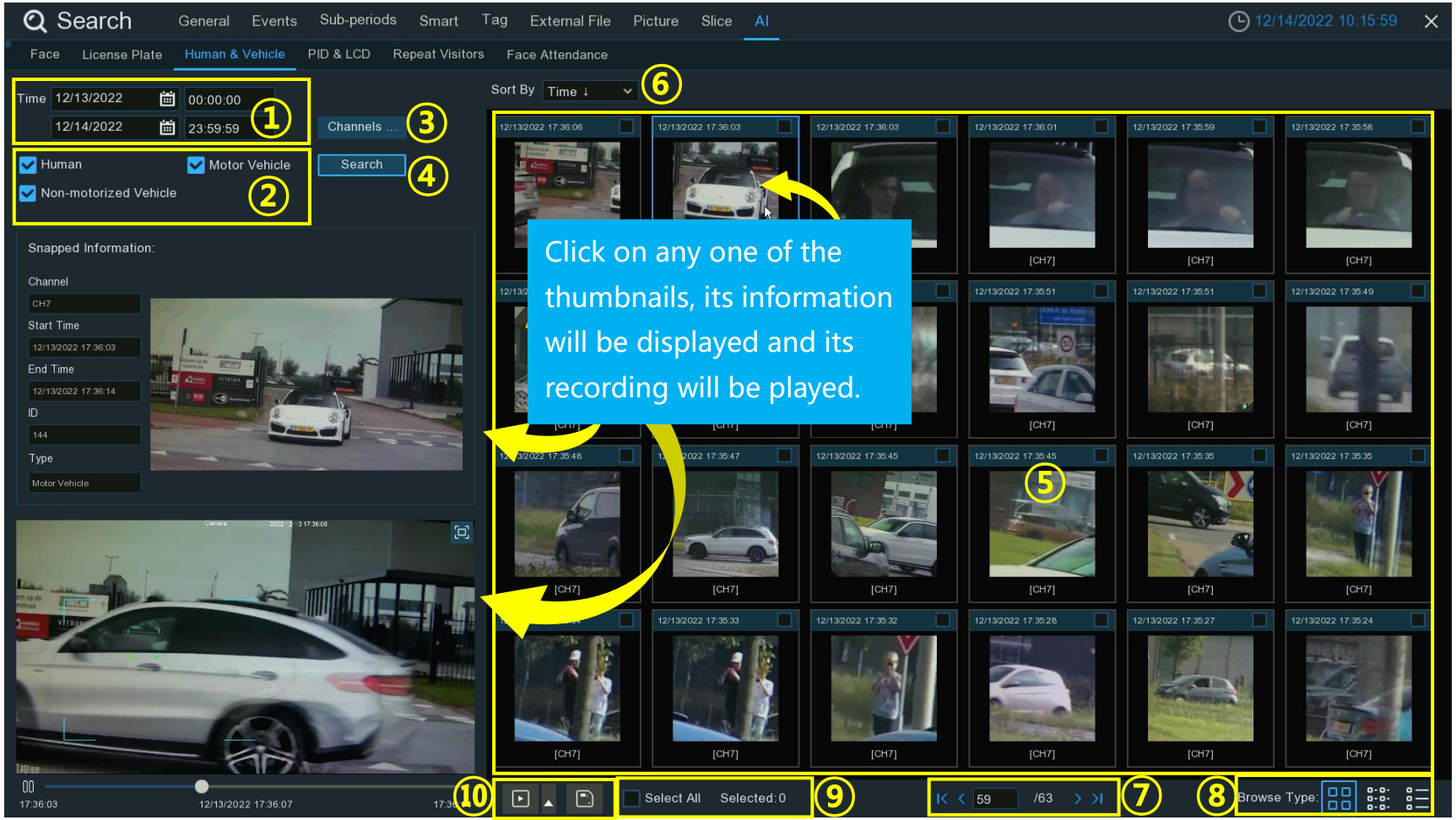
Recognized License Number	Input Number	Fault Tolerance	Recognition Result
AB123C	AB-123-C	≤2 characters	True
AB123C	AB-123-C	≤0 or 1 character	False
A8I23C	AB123C	≤2 characters	True
A8I23C	AB123C	≤0 or 1 character	False
B594SB	B734KB	≤3 characters	True
B594SB	B734KB	≤2 character	False
AB132C	AB123C	≤2 characters	True
AB123C	AB123C	≤1 or 1 character	True

Samples for true of false result

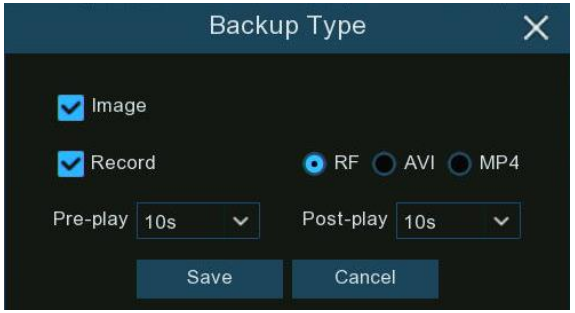
Note: Only English letters and numbers will be recognized by the system. Special characters, like underline _, virgule /, hyphen -, will be not be recognized. Set the Fault Tolerance accordingly; if special characters have been used when inputting the license plate number when creating a license plate profile.

7.9.3. Human & Vehicle

Click the **Human & Vehicle** tab to open the Human & Vehicle search section. If Human & Vehicle detection has been enabled in the camera(s), the Human & Vehicle detection events captured on the current day will display.

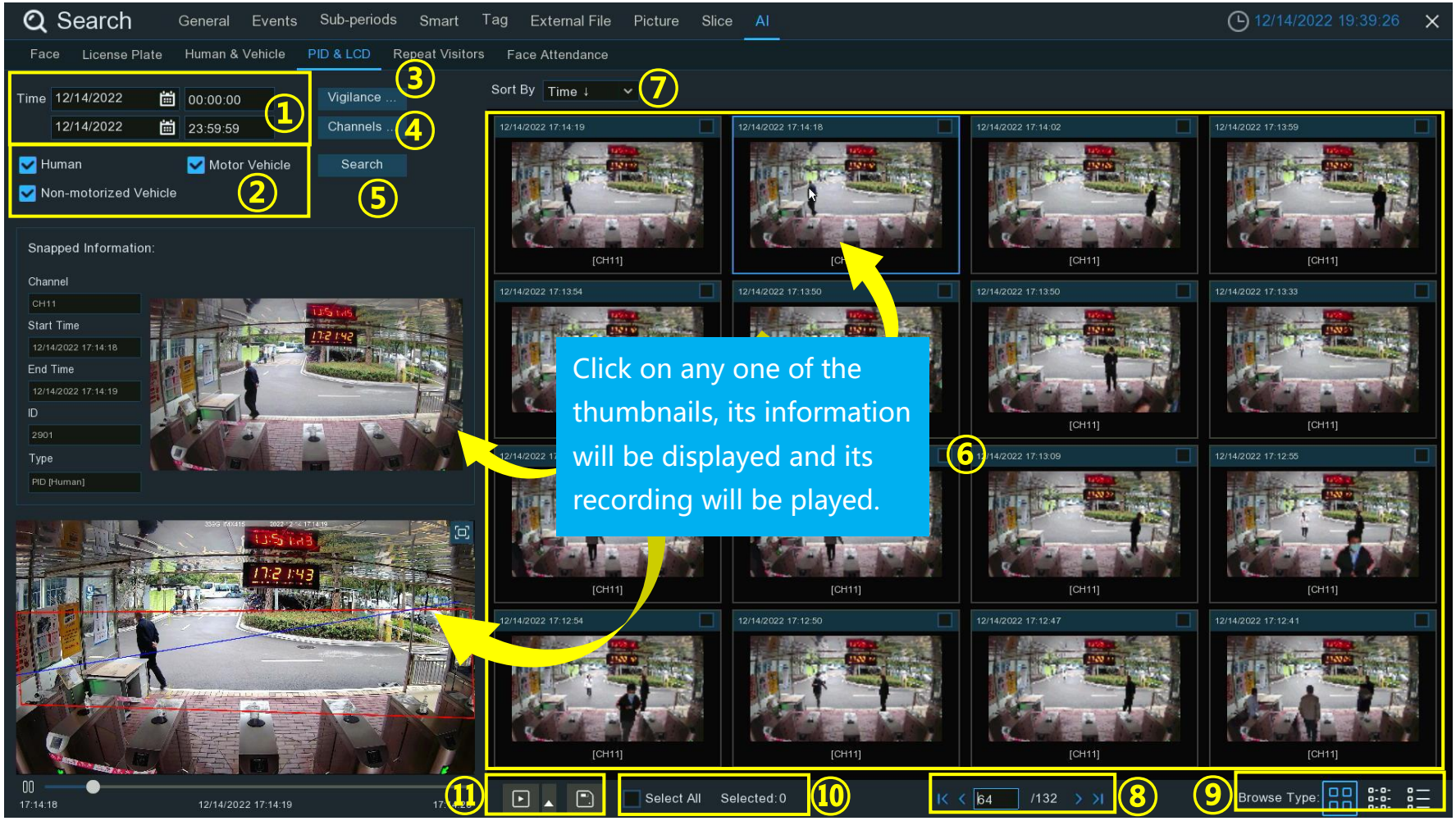


1. Select the **Date** and **Time** to search:
   - ➔ **Date**: Click the calendar icon to select a date to search. A red underline on a date indicates recordings on those particular dates.
   - ➔ **Time:** Use the keypad to enter a specific start and end time.
2. Select the target type(s) to search for: **Human**, **Motor Vehicle and Non-motorized Vehicle.**
3. **Channels:** Select specific channel(s) to search for.The system searches all channels by default.
4. Click **Search** button to commence a search.
5. The search result will be displayed on the right side of the screen.
6. **Sort By:** Select how to display the results: ascending or descending order.
7. Use the arrow buttons to turn page or use the keypad to navigate to a specific page.
8. **Browse Type:** Select how events are displayed: Thumbnail, List or Detail.
10. **Select All:** To select all events in current page. Or check the box above an event thumbnail to select it.
11. Click to save all selected face images to a USB flash drive.
    - ➔ To save video files as well as images, check "**Record**".
    - ➔ Select the video format.
    - ➔ Set the length of time to save before and after the events.
    - ➔ Click to play the selected events,
    - ➔ Click ▲ to add more time before and after the event and then play.
    - ➔ See more on 7.9.1.1. Playing Events.

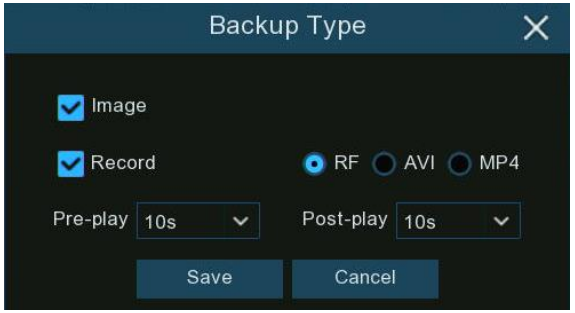


7.9.4. PID & LCD

Click **PID & LCD** tab to open the PID (Perimeter Intrusion Detection) & LCD (Line Crossing Detection) event search section. If PID and/or LCD has been enabled in the camera(s), the detection events captured on current day will be displayed.

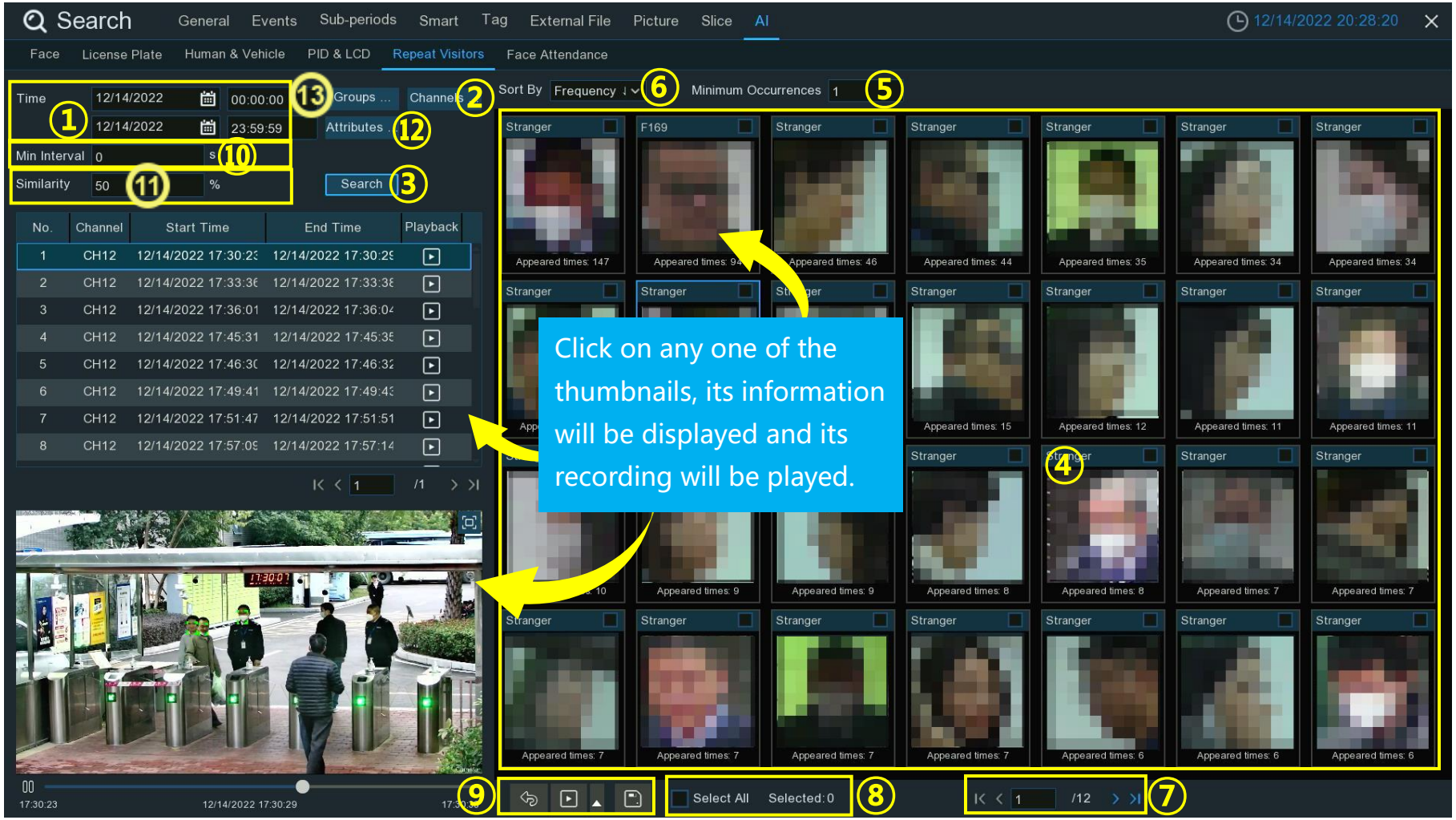


1. Select the **Date** and **Time** to search:
   - ➔ **Date**: Click the calendar icon to select a date to search. A red underline on a date indicates recordings on those particular dates.
   - ➔ **Time:** Use the keypad to enter a specific start and end time.
2. Select the target type(s) to search for: **Human**, **Motor Vehicle and Non-motorized Vehicle.**
3. **Vigilance:** Select PID and/or LCD.
4. **Channels:** Select specific channel(s) to search for.The system searches all channels by default.
5. Click **Search** to execute a search.
6. The search result will be displayed on the right side of the screen.
7. **Sort By:** Select how to display the results: ascending or descending order.
8. Use the arrow buttons to turn page or use the keypad to navigate to a specific page.
9. **Browse Type:** Select how events are displayed: Thumbnail, List or Detail.
12. **Select All:** To select all events in current page. Or check the box above an event thumbnail to select it.
13. Click to save all selected face images to a USB flash drive.
    - ➔ To save video files as well as images, check "**Record**".
    - ➔ Select the video format.
    - ➔ Set the length of time to save before and after the events.
    - ➔ Click to play the selected events,
    - ➔ Click ▲ to add more time before and after the event and then play.
    - ➔ See more on 7.9.1.1. Playing Events.



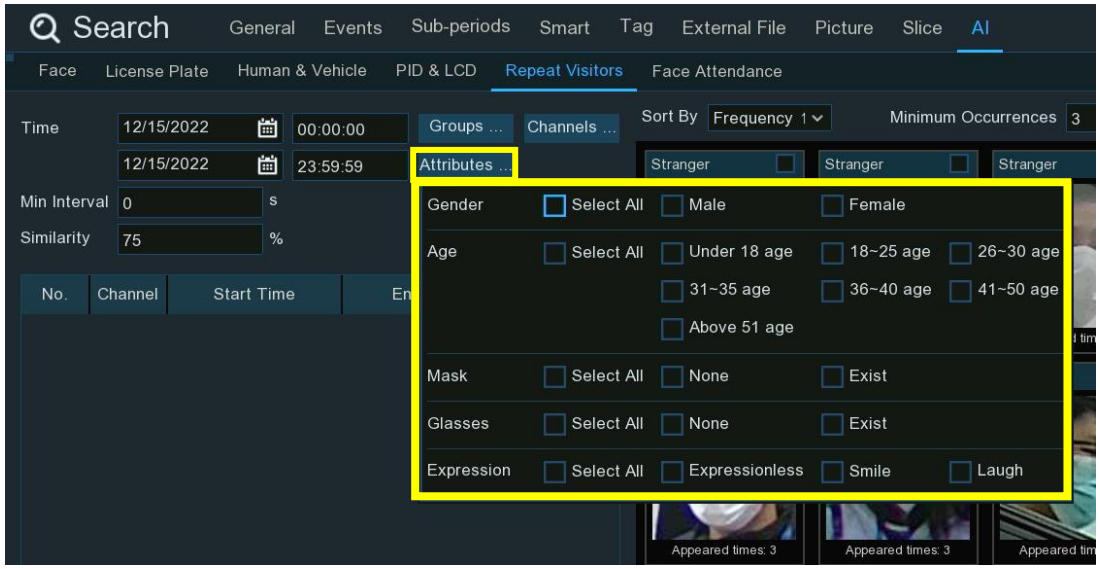
7.9.5. Repeat Visitors

This is a function to fast search the frequency of occurrence of persons in a certain time period.



1. Select the **Date** and **Time** to search:
   - ➔ **Date**: Click the calendar icon to select a date to search. A red underline on a date indicates recordings on those particular dates.
   - ➔ **Time:** Use the keypad to enter a specific start and end time.
2. **Channels:** Select specific channel(s) to search for.The system searches all channels by default.
3. Click **Search** to execute a search.
4. The search result will be displayed on the right side of the screen.
   - ➔ **Appeared Times:** Under each thumbnail image indicates how many times the person was captured during the search period.
5. Minimum **Occurrences:** Set the minimum number of times a specific person is detected before being included in the search results.
   - ➔ Persons detected fewer than the minimum occurrence number will be excluded from search results.
6. **Sort By:** Select how to display the results: by time or frequency in ascending or descending order.
7. Use the arrow buttons to turn page or use the keypad to navigate to a specific page.
8. **Select All:** To select all events in current page. Or check the box above an event thumbnail to select it.
9. Click to save all selected face images to a USB flash drive.
   - ➔ To save video files as well as images, check "**Record**".
   - ➔ Select the video format.
   - ➔ Set the length of time to save before and after the events.
   - ➔ Click to play the selected events,
   - ➔ Click ▲ to add more time before and after the event and then play.
   - ➔ See more on 7.9.1.1. Playing Events.

10. **Min. Interval:** Narrow the search by adjusting the Min. Interval time.
    ➔ **Min. Interval** is used to reduce the quantity of searched face images that are repeatedly captured within a short period time. For example, if the Min. Interval is set to 20 seconds, then starting from the time the first face image searched on the selected date, no other matching or similar face images will display for 20 seconds. The system will display the first image captured every 20 seconds.
11. **Similarity:** Narrow the search by adjusting the Similarity.
    ➔ **Similarity** is used to set how closely, in percentage terms, the searched faces must resemble each other to be considered a recognized match. A higher percentage of similarity will result in fewer false recognition results.
12. **Attributes:** Click to select facial features to further refine the search.
    ➔ Click **Search** again.



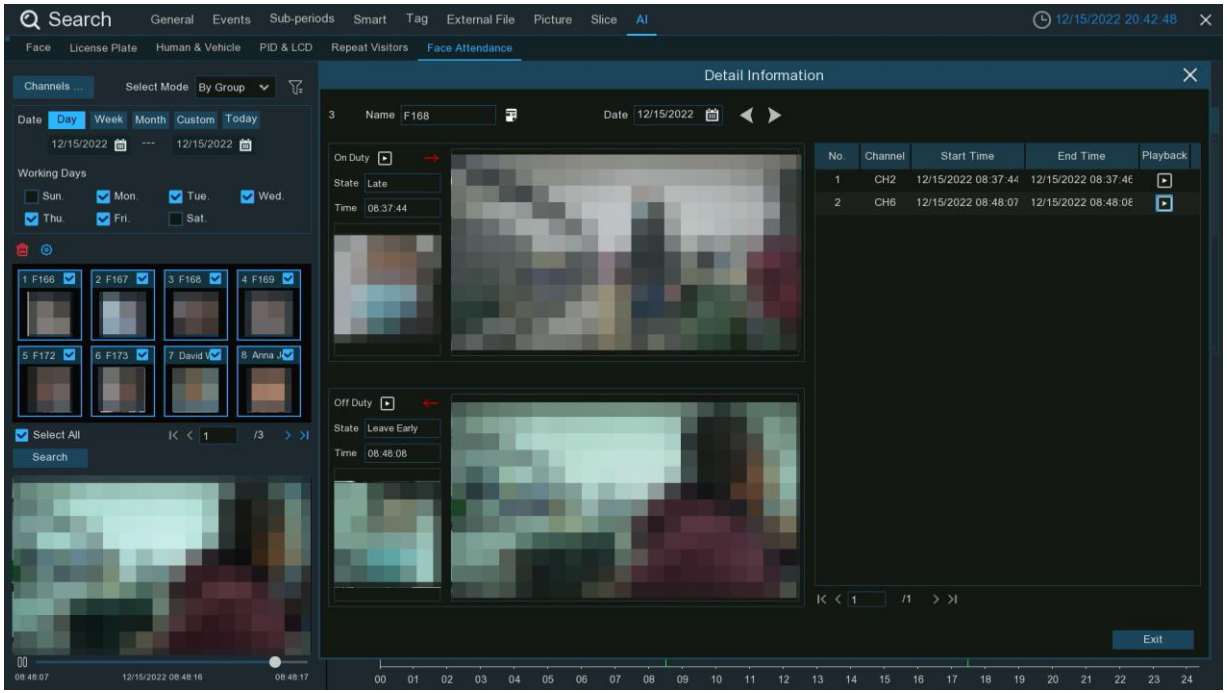
13. **Groups:** By default, the system will search and display all captured face images found for the time period searched.
    ➔ To just search for persons whose face profiles are in a specific group or groups, click **Group** to select one or more face group(s) accordingly.

7.9.6. Face Attendance

Face Attendance is used to assist in attendance checking based on facial recognition. Analyze absenteeism, arriving late and leaving early.

Note: In the instance of no matches found, do NOT use the face attendance function as your only measure to check attendance.

1. **Channels:** Select the channel(s).
2. **Select Mode:** Select search mode. Group or Person.
   - ➔ **By Group**, all the persons in the selected group(s) will be searched.
   - ➔ **By Person**, only your selected person(s) will be searched.
   - ➔ Click filter to choose group(s) or person(s).
   - ➔ The selected person(s) will be displayed on the left side of the window.
3. **Date:** Select the search date as an individual day, week, month, current day or customized date.
4. **Working Days:** Set the Working Days.
5. **On Duty Time/Off Duty Time:** Set the On Duty Time and Off Duty Time.
6. Click **Search.**
   - ➔ The result will be displayed on the right side of the window.
7. **Export** the data to a USB flash drive.
   - ➔ Or send by email.
8. **Details**: Click on the detail icon, to see the captured images and videos of the first occurrence and the last occurrence of the person in the day.
   - ➔ Click play to quickly playback the results



Chapter 8 Remote Access Through the Web Client

Use the web interface on a PC to access the device remotely at any time. Before using the web interface, ensure the NVR network settings are properly configured and the NVR is connected to a network.

8.1 Basic System Environment Requirements

The minimum requirements for the hardware and PC operating system for running the web interface are as follows.

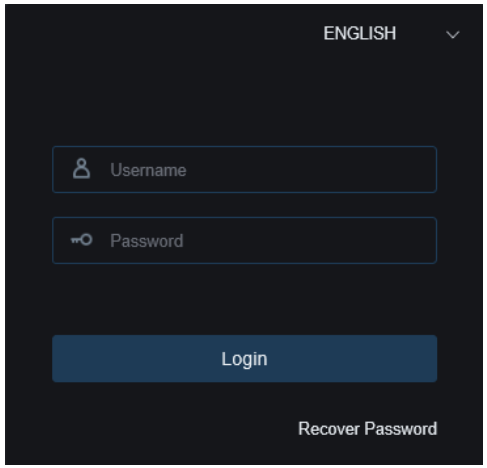
Item	Minimum Value	Recommended Value
CPU	Intel® Core™ i5 CPU	Intel® Core™ i5 CPU or higher
RAM	≥ 4 GB	≥ 8 GB
Hard disk drive	≥ 500 GB	≥ 1000 GB
Video memory	≥ 2 GB	≥ 4 GB
Display resolution	1280*1024	1920*1080
OS	Windows 7 or above Mac OS X®10.9 or above	
DirectX	DirectX 11	
Direct3D	Acceleration Function	
Ethernet adapter	10/100/1000 M Ethernet adapter	
Internet Explorer (IE) web browser	Microsoft Internet Explorer (version: V11, V10)	
Firefox web browser	V52 or above	

Google Chrome web browser	V57 or above
Apple Safari web browser	V12.1 or above
Edge web browser	V79 or above (using the Chromium core)

8.2 Web Plug-in Downloading and Installation

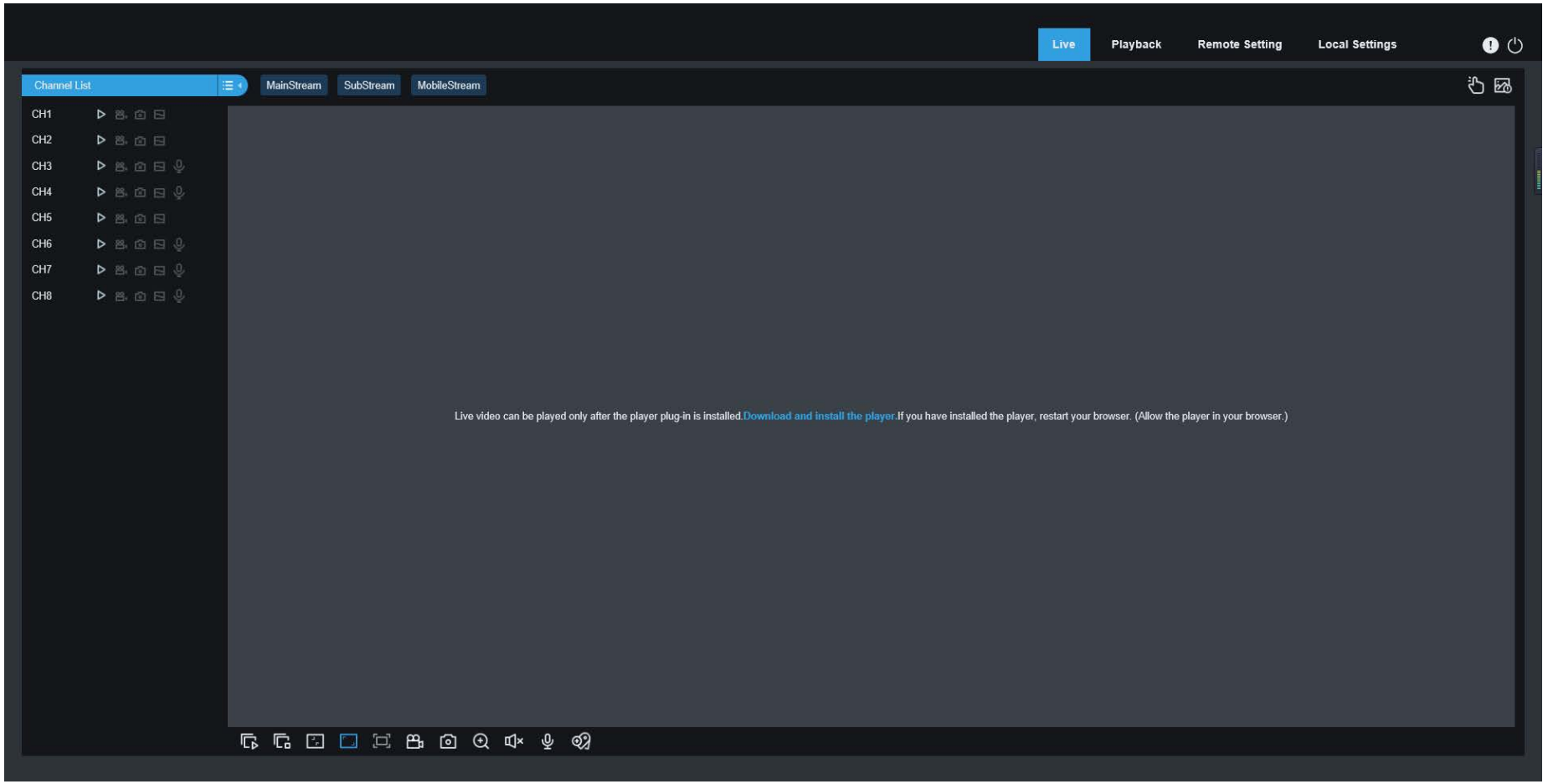
To access the Web interface:

1. Open the web browser.
   - ➔ Enter the IP address or "DDNS + port number" of the NVR into the URL/address bar to reach the login screen.
   - ➔ Enter the correct NVR user name and password to log in to the web interface.
   - ➔ (If you enter an incorrect password for consecutive five times, your account will be locked for 180 s.)

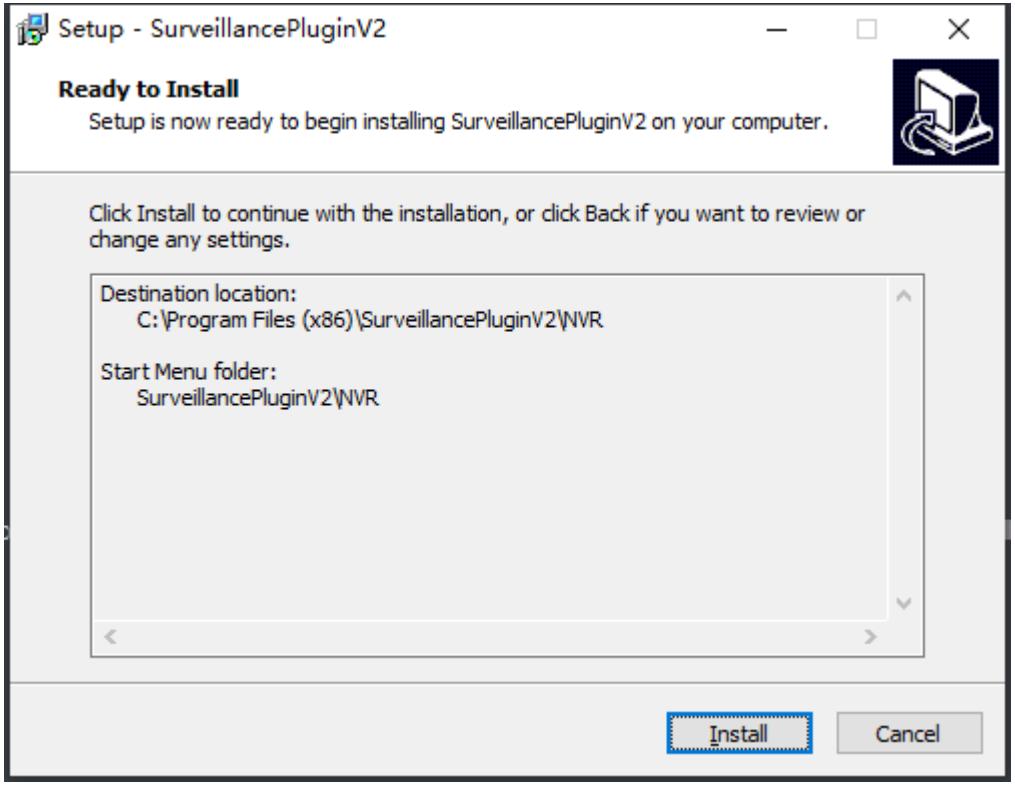


2. When accessing the web interface through IE for the first time, the system requires installing a plug-in.

➔ Click **Download and install the player** to download the plug-in and install it on the computer.



3. After installing the plug-in, refresh the page, and click **Allow** in the pop-up dialog box at the bottom of the page. Then, images can be displayed properly.

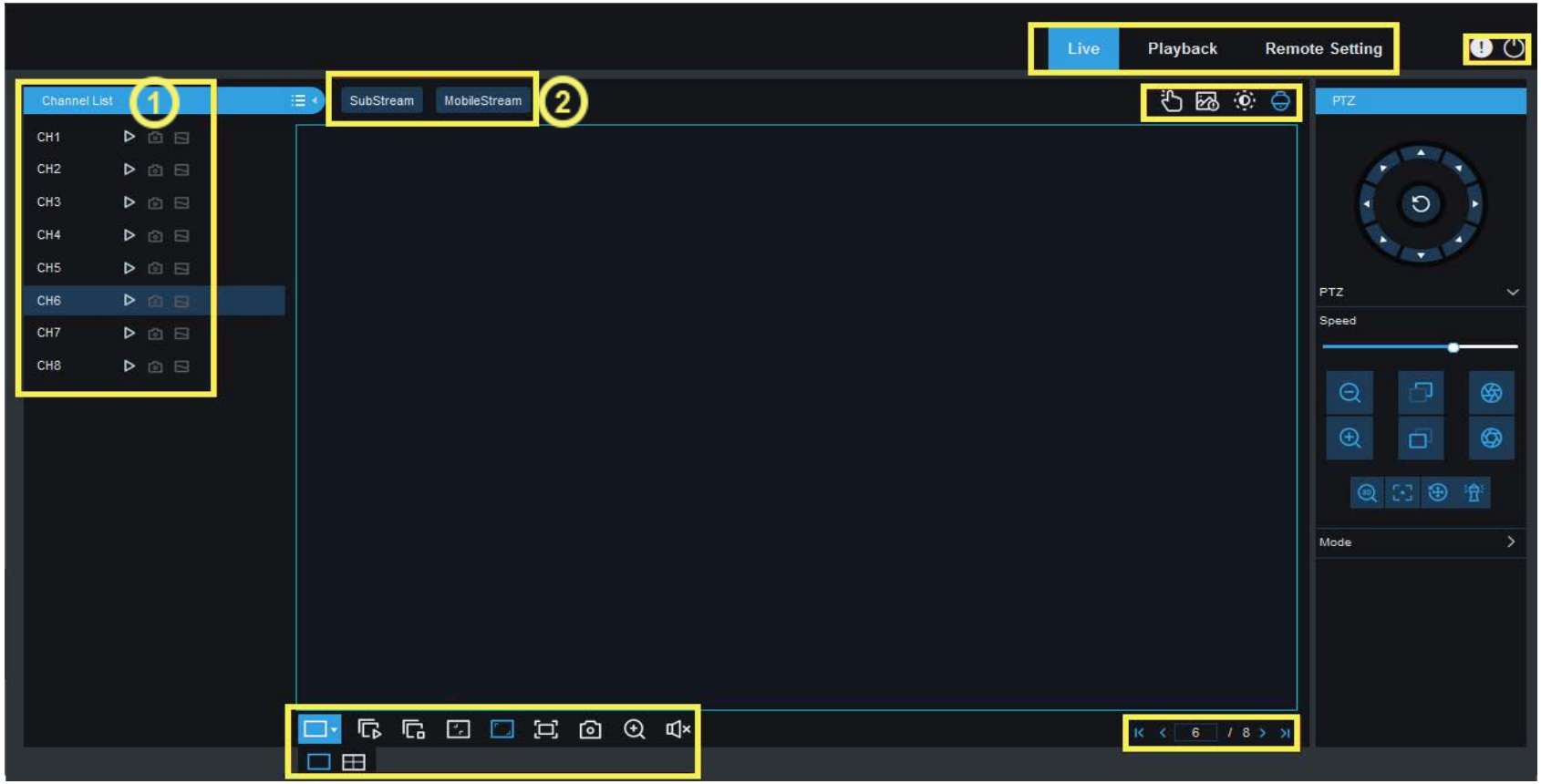


Note: Apple Safari, Google Chrome, Firefox, or Microsoft Edge web browsers, do not require downloading the plug-in and can directly log in to the device.

8.3 Web Client Management

8.3.1 Live View Page

After logging into the web interface, the live view page of the NVR is displayed. From here: enable or disable the live view, manually record video to the local computer,capture screen snapshots, PTZ control, and color adjustment



1. **Channel list**

   Click to display the channel list.

   Click to enable/disable live view/video streaming of the channel. When live view/video streaming is enabled the icon is blue.

   Click to manually start recording the channels video. Click again to stop recording.

   ➔ The manually recorded video is stored on the computer. During recording, the icon is blue.

   Click : to manually capture and store the real time snapshot currently displaying, to the computer.

   Bit rate icon. For cameras, main stream, substream, or mobile stream video settings can be used. The mobile stream setting is only applicable only for IP cameras that support mobile stream use.

2. **Stream switching**

   Mainstream: The web interface is automatically switched to Mainstream mode when a single channel is view full screen.

   Substream: The web interface displays in Substream mode when videos are viewed in multiple split-screens.

   ➔ Select the appropriate stream mode for video viewing in accordance with the actual network environment.

3. **Main menu**

   ➔ **Live:** Displays the live video streams of the camera(s) in real time.

   ➔ **Playback:** Remotely play the recorded videos stored in the NVR.

   ➔ **Remote Setting:** Remotely access the system settings to set parameters of the NVR.

4. : Hover the mouse to display system user and web version information.

   : Exit the web client.

5. **Manual Alarm:** Manually enable or disable I/O alarms.

6. **Live View Control Buttons:**

	Switch display mode in the channel area.
	Open all channel previews.
	Close all channel previews.
	Original proportions: The live video is displayed in the original proportions.
	Stretch: The live video is stretched to fit the entire area of each channel on the screen.
	The web client is enlarged to full screen.
	Manual recording: Click to start manual recording of all displayed channels. Click again to stop recording. The manually recorded video is stored on the computer.
	Manual capture: Click to capture the images of all displayed channels and store them on the computer.
	Digital zoom: Click an active image, drag the mouse to get an area on the active image to zoom it in. Right-click the area to return to normal view.
	Volume control: Adjust the volume by adjusting the level value.
	Mute the audio.
	Intercom: Click to enable the intercom between the client and the device. Click again to disable the intercom. (Requires cameras that support 2 way audio operations)

	White light control. White light deterrence can be enabled manually (Requires cameras that support this function).
	Alarm bell control. Alarm bell can be enabled manually (Requires cameras that support this function).
	Warning light control. Warning light alarm can be enabled manually (Requires cameras that support this function).
	Click to add a custom tag event.

7. **Display Page:** Use the arrow controls to move to the next page/previous page.

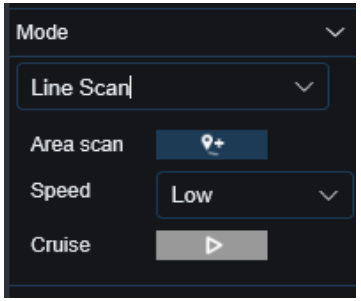
PTZ Control Panel:

1. **Directional controls:** Use the arrow keys to control the

➔ Also used to navigate the cameras OSD menu

2. **Default Cruise:** Click to execute a default cruise.
3. **Speed:** Set the speed of the camera movements or cameras rotation.
4. **Zoom in/ Zoom out:** Click - / + to zoom in or zoom out the image (Optical Zoom).
5. **Iris:** Adjust the iris size.
6. **Focus:** Click - / + to adjust the focus.
7.

	3D PTZ
	Automatic Focus
	Preset Point Reset
	Watch Mode
	Manual Tracking. For detailed information see: 5.1.4.1



Line Scan Mode:

Area scan: Click to record the start position

8. **PTZ rotation mode:** Select: PTZ, Preset, Line Scan, Watch Mode, Tour, Pattern.
9. **Cruise:** Start/ Stop PTZ Cruise.
10. **Preset Points**

point 1 **eset Point settings.**

3	Set the time (in seconds) the camera will pause at this preset point before moving to the next preset point.
	Go to / Execute the presets action.
	Set / Configure the Preset Point.
	Delete the Preset Point.

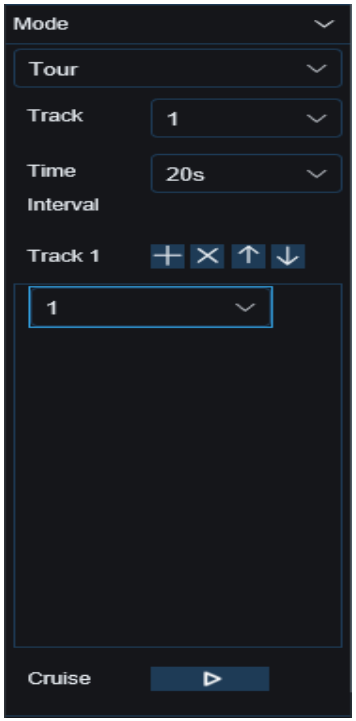
and rotate the PTZ camera.

Click to record the stop position.

Speed: Select the linear cruise speed.

Click to start linear cruise.

In this mode, the PTZ camera moves on the same horizontal plane only.



Tour Mode:

Time Interval: Dwell time at each preset point.

Click to add a preset point.

Click to delete the preset point.

Click / to move up/down the preset point.

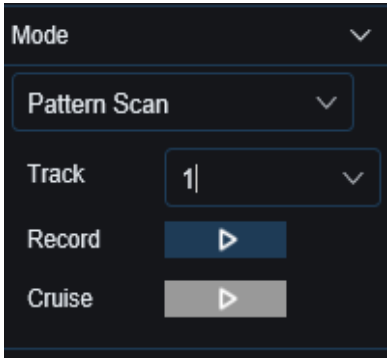
Click to start cruise.

Pattern Scan Mode:

Record: Click to start recording the cruise route.

Click to stop recording.

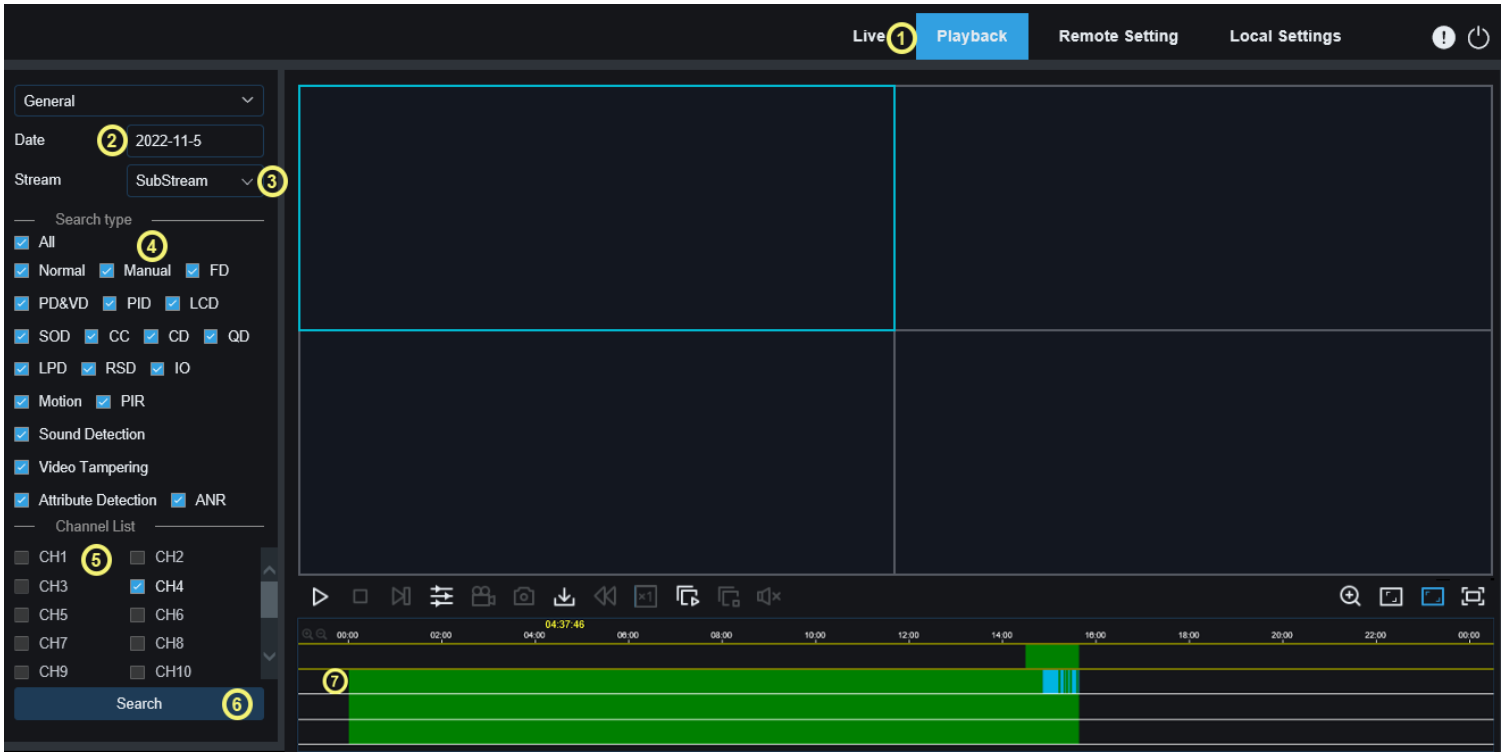
Cruise: Click to start cruise in accordance with the recorded route and action.



8.3.2 Playback Page

Search and play back the videos stored on the hard drives of the NVR. Download recordings to a PC.

Searching Videos:



1. Click **Playback** to open the **Playback** page.
2. **Date:** Select the date to search. The days with video recording are underlined in red.
3. **Stream:** Select the video stream to be searched.
4. **Search type:** select one or more recording types to search. Select **All** to search all recording types.
5. **Channel List:** Select the channels to search and play back. (Search maximum of four channels at the same time.)
6. Click **Search** to search recordings.
7. The search results are displayed on the timeline.

   ➔ Click the time line of a camera to select it to play a video clip,

   ➔ Click ▶ to play the video.

8.3.2.1 Playback Control Icons

Play a single video.

Pause a single video.

Stop playing the video of a single channel.

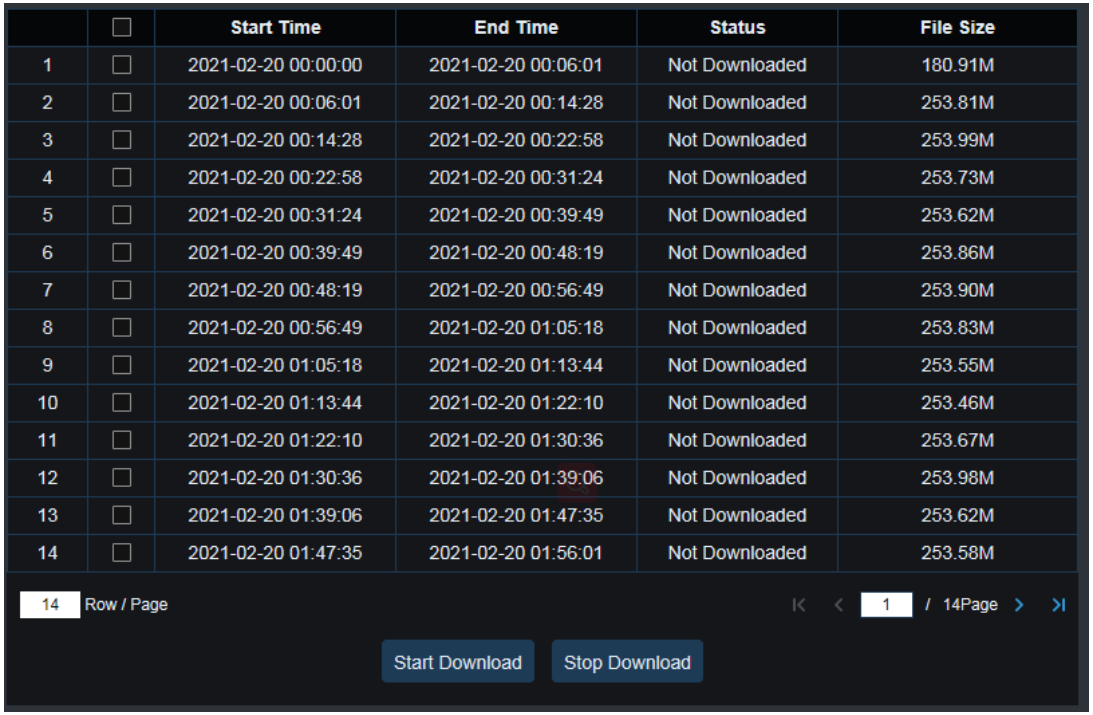
Play videos frame by frame: Advance the playback by one frame. Only available when the synchronous playback option is not selected.

Synchronous playback: Click this icon to synchronously play the same time period in the selected channels.

Manual record: Click this icon to select a channel being played.

- ➔ Click the record icon to record the current video to the computer.
- ➔ Click this icon again to stop recording.

Select a channel being played, click to take a **Snapshot** and store it on the computer.



		Start Time	End Time	Status	File Size
1	☐	2021-02-20 00:00:00	2021-02-20 00:06:01	Not Downloaded	180.91M
2	☐	2021-02-20 00:06:01	2021-02-20 00:14:28	Not Downloaded	253.81M
3	☐	2021-02-20 00:14:28	2021-02-20 00:22:58	Not Downloaded	253.99M
4	☐	2021-02-20 00:22:58	2021-02-20 00:31:24	Not Downloaded	253.73M
5	☐	2021-02-20 00:31:24	2021-02-20 00:39:49	Not Downloaded	253.62M
6	☐	2021-02-20 00:39:49	2021-02-20 00:48:19	Not Downloaded	253.86M
7	☐	2021-02-20 00:48:19	2021-02-20 00:56:49	Not Downloaded	253.90M
8	☐	2021-02-20 00:56:49	2021-02-20 01:05:18	Not Downloaded	253.83M
9	☐	2021-02-20 01:05:18	2021-02-20 01:13:44	Not Downloaded	253.55M
10	☐	2021-02-20 01:13:44	2021-02-20 01:22:10	Not Downloaded	253.46M
11	☐	2021-02-20 01:22:10	2021-02-20 01:30:36	Not Downloaded	253.67M
12	☐	2021-02-20 01:30:36	2021-02-20 01:39:06	Not Downloaded	253.98M
13	☐	2021-02-20 01:39:06	2021-02-20 01:47:35	Not Downloaded	253.62M
14	☐	2021-02-20 01:47:35	2021-02-20 01:56:01	Not Downloaded	253.58M

14 Row / Page 1 / 14Page

Start Download Stop Download

Click to open the **Download** page.

- ➔ Select the channel(s)
- ➔ Select the date and time to download.
- ➔ Search. The files matching your search criteria will be displayed.
- ➔ Select the files to be downloaded.
- ➔ Click the **Start Download** button to start downloading. The download status is displayed.
- ➔ Click the **Stop Download** button to stop downloading.

Rewind video: Is available only when the synchronous playback option is not selected.

Playback speed: Click to select the playback speed.

Play all channels: Click this icon to play all channels of the selected search types. It is available only when the synchronous playback option is not selected.

Stop playing all channels: Click to stop playing all channels. It is available only when the synchronous playback option is not selected.

Digital zoom: Click a video being played. Click and drag the mouse to get an area on the video to zoom it in.

- ➔ Right-click the area to return to normal view.

Original proportions: The video is displayed in the original proportions.

Stretch: The video being played is stretched to fit the entire area of each channel on the screen.

The web interface is enlarged to full screen.

8.3.2.2 Image Playback

After the capture function is enabled for the device, search the captured images from this page. A maximum of 5000 images can be searched at a time.

Searching images:

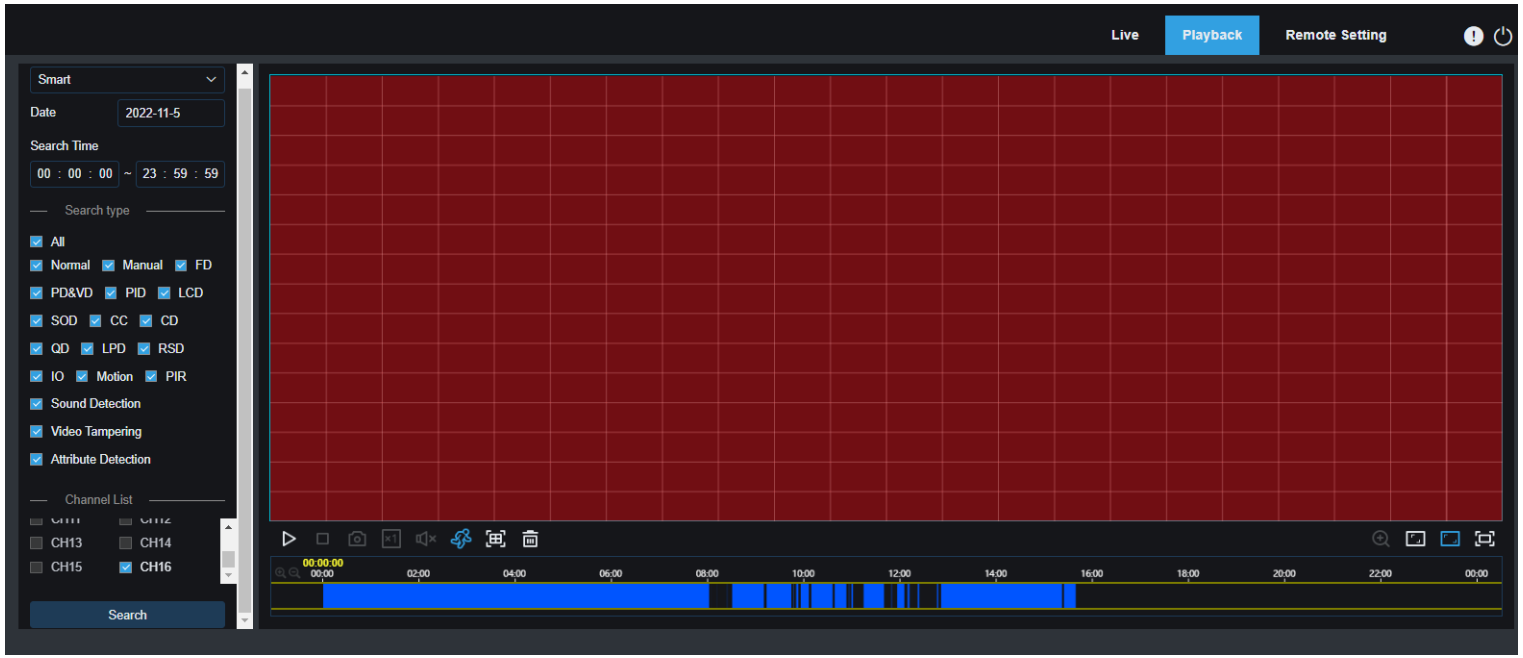
1. Click **Playback.**
2. Select **Picture** .
3. **Date & Time:** Select the day and time to search on the calendar. The dates with snapshots are underlined in red.
4. **Search Type:** Select one or more image types, or select **All** to search all image types.
5. **Channel List:** Select the channels to search.
6. Click **Search**.
7. The search results/images will be displayed.

➔ Double-click an image, the video with the time periods before and after the image will be played back.

➔ Click to return to the previous page.

8.3.2.3 Smart Playback

Search the smart playback video for motion detection alarms triggered. Motion detection must be enabled and configured to use this function.

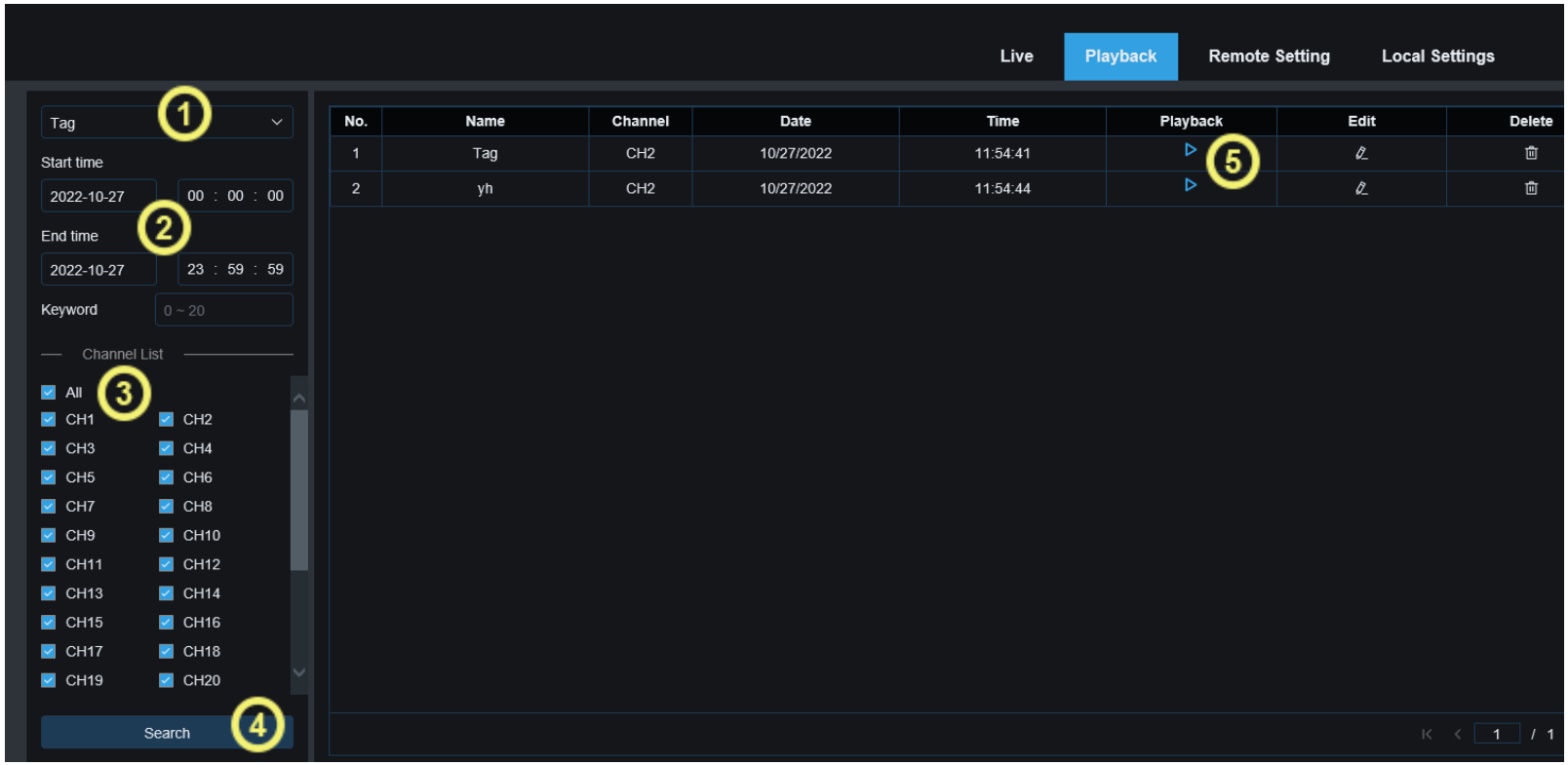


Click to display the smart setting area.

Click to select all areas.

Click to clear all selected areas.

8.3.2.4 Playback by Tag



Search all added **Tags**. Search, edit, play back, or delete a tag(s).

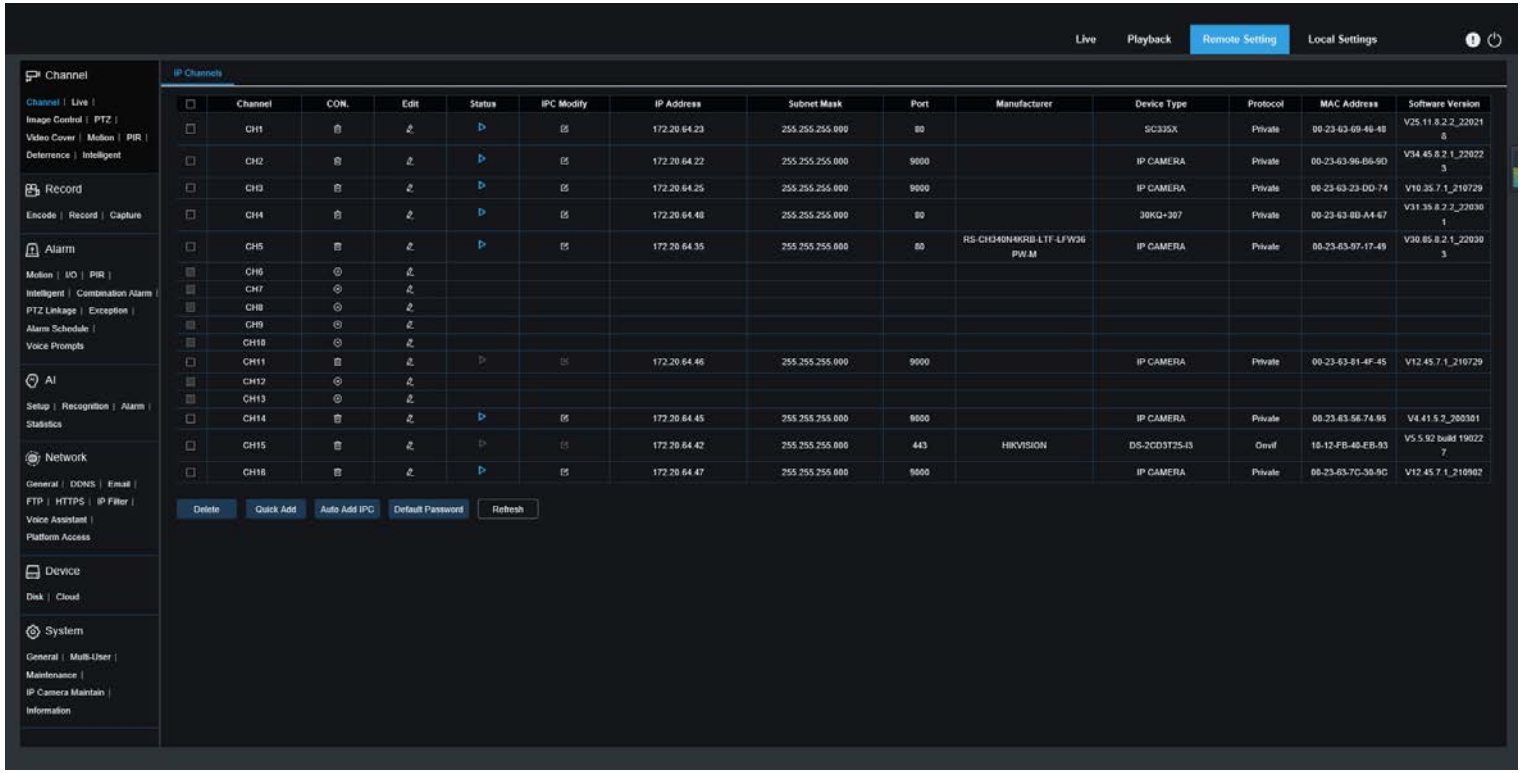
1. Select **Tags** from the drop down.
2. **Date & Time:** Select the date and time to search.
3. **Channel List:**, Select one or more channels to search or select **All** to search all cameras.
4. Click **Search** to complete the search.
5. Click **Playback** to jump to the position marked by the tag and play back the video.

8.3.2.5 AI Playback

After the AI alarm function is enabled for the device, search AI alarm events on this page. including face detection, license plate detection, pedestrian and vehicle detection, PID&LCD, repeat customers, and face attendance events.

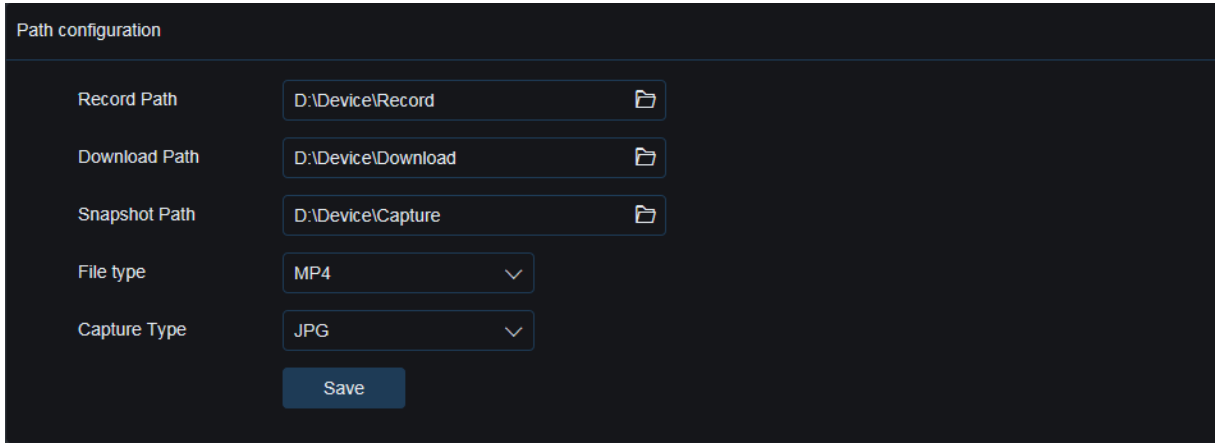
8.3.3 Remote Setting

On this page you can remotely set device parameters, including channel, video, alarm, AI, network, device, and system parameters.



8.3.4 Local Setting

Configure where the videos and snapshots saved through the web interface are downloaded, and select the file type for the saved videos.



Record Path: Click to select the folder where the manually recorded videos are stored on the computer.

Download Path: Click to select the folder where the downloaded videos are stored on the computer.

Snapshot Path: Click to select the folder where the manually captured snapshots are stored on the computer.

File Type: Select the type of the manually recorded video files.

Save: Click this button to save the changes.

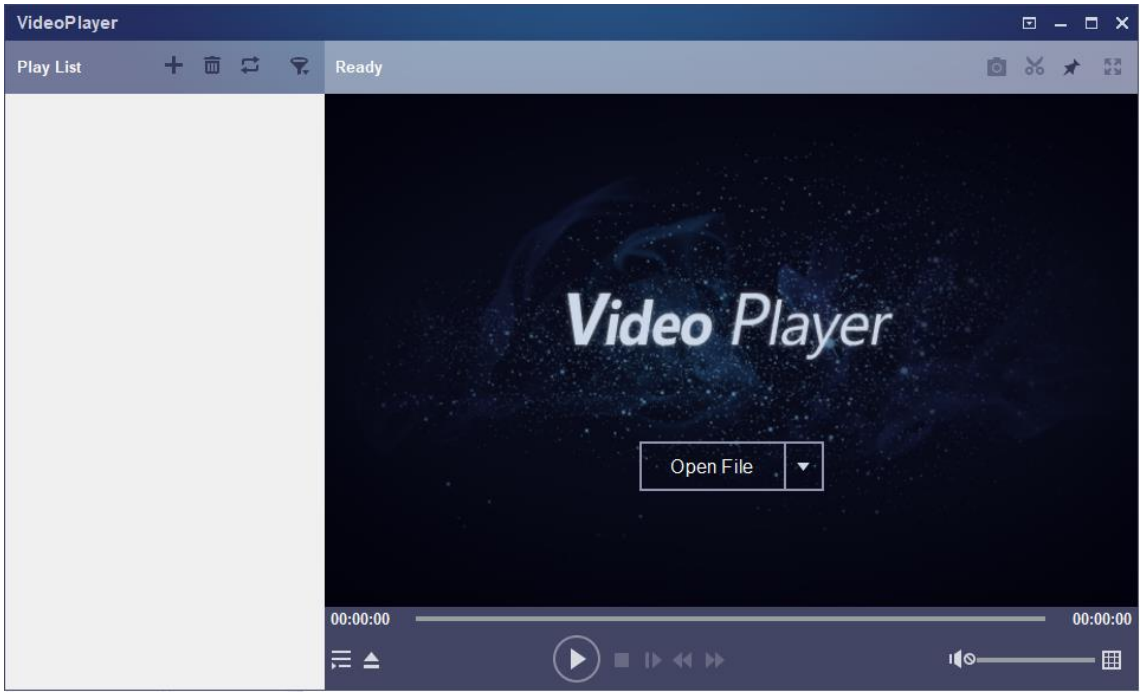
Chapter 9 Backup Video Playing

How to use the **Video Player** software tool to play the video files downloaded/backed up from the NVR.

Minimum Requirements for the Computer System

- CPU: Intel I3 or above
- Operating system: Windows XP/7/8/10/11, MacOS 10
- Memory: 2 GB
- Video memory: 1 GB

1. Install the video player software from the CD included with the NVR and run the program.



2. Copy the backup file to the computer.
3. Click **Open File** or click the "+" icon in the **Play List** pane to load one or multiple video files.
   - ➔ The supported video file formats include .rf, .avi, and .mp4.
   - ➔ Click ▼ to load a backed up video file folder.

Video Player Control

1. Play list

Add files.

Delete files.

Select play mode: Play a single file and then stop; play all listed files in sequence; play one file repeatedly; play all files repeatedly.

Filter files by file name.

2. Hide/Show the play list.

Open a file or load a file folder.

3. Play control

Play the video.

Pause playing the video.

Stop playing the video.

Play the video frame by frame: One frame is played every time this icon is clicked.

Play the video on a low speed: You can set the video to be played at 1/2, 1/4, 1/8, or 1/16 of the normal play speed.

Fast forward: You can set the video to be played at 2×, 4×, 8×, or 16× of the normal play speed.

4. Volume control.

Multi-screen play. Multiple videos can be played at a time. After clicking this icon, you can drag the videos in the play list to the play page.

5. Snapshot.

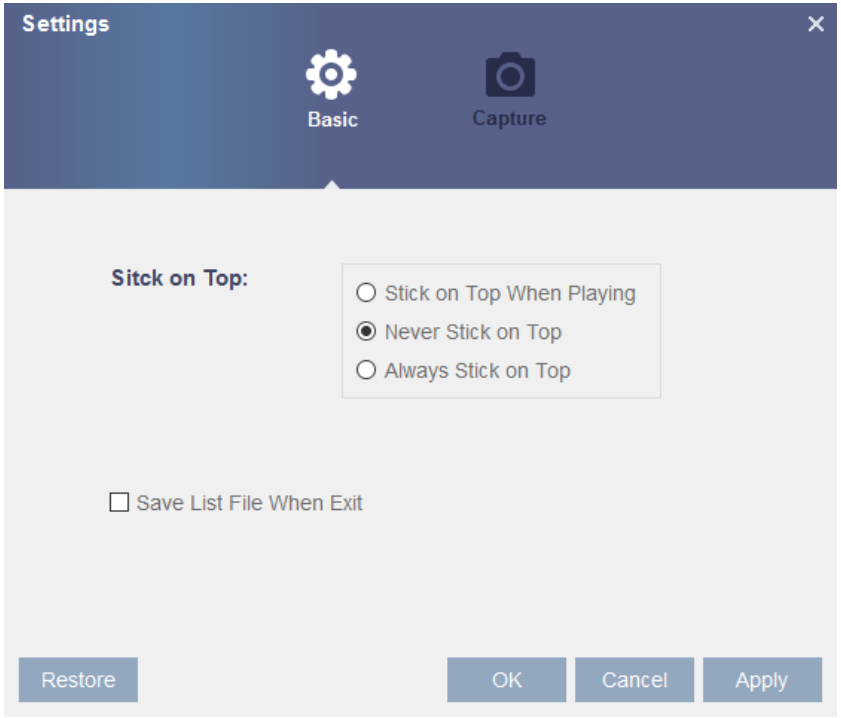
Click this icon to store a video clip on the computer. You can click it to start video clipping, and then click it again to stop video clipping.

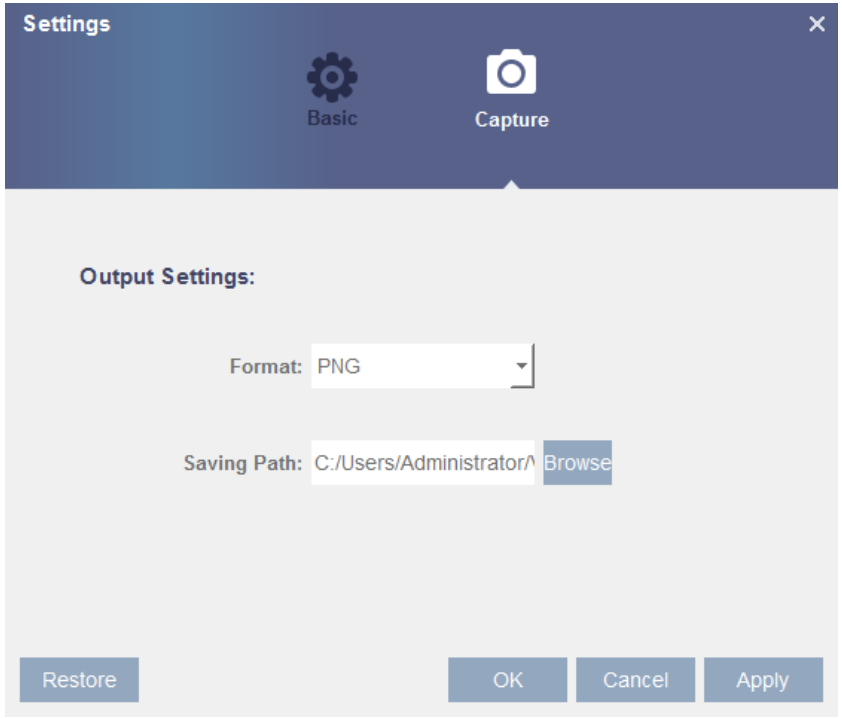
Keep the video player at the top.

Enlarge the video page to full screen.

6. **Advanced setting menu:** Select language for the video player, and configure the player functions.

Basic Settings: Set how to keep the player at the top.



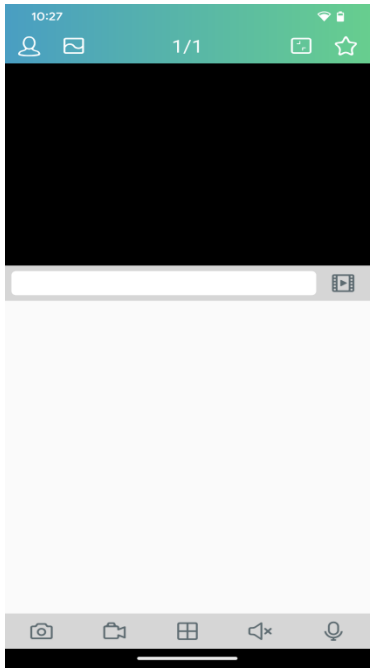


Capture Settings: Set the file format and path for saving snapshots.

Chapter 10 Remote Access Through Mobile Devices

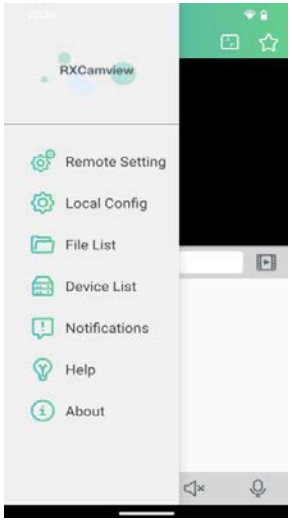
The NVR supports remote access through the mobile devices with Android or iOS operating systems. For Android or iOS devices, download RXCamView mobile application from Google Store or Apple Store and then install the software.

1. Open the app to display the live view screen.

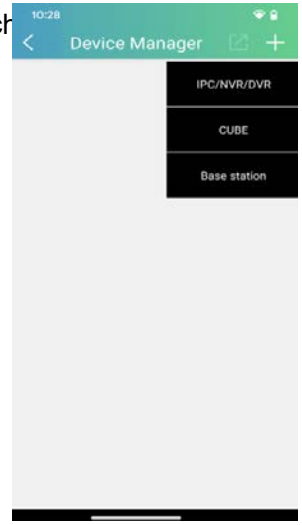


2. Click the icon to open the menu

click **+** to add a device.

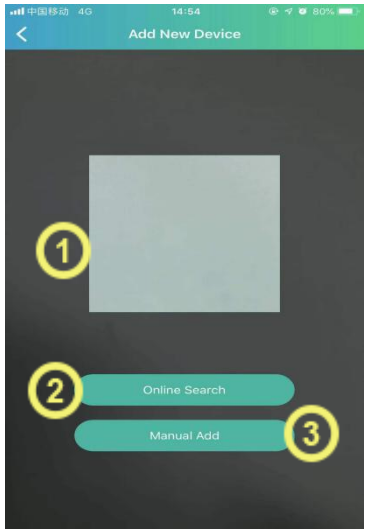


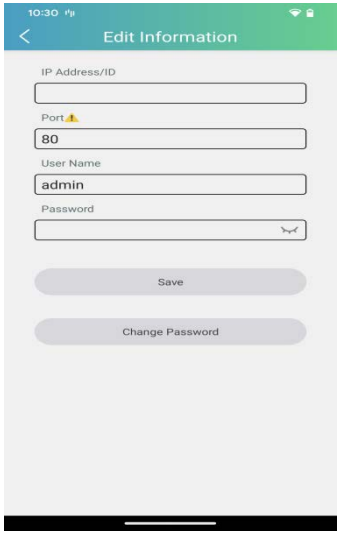
ch



then

3. Click **Manual Add**, and enter the device information to add a new device.





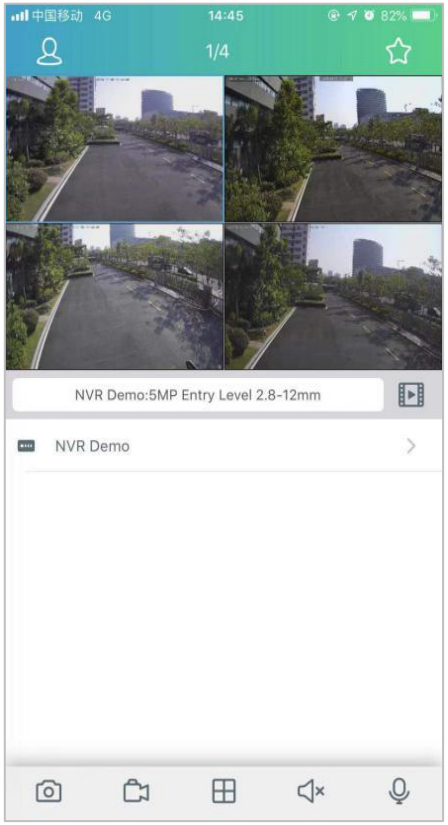
1. **Scan the QR code:** Scan the QR code to add a device.
2. **Online search:** Search and add a device in the same LAN as the device.
3. **Manual Add:**

IP Address/ID: Enter an IP address or a P2P ID.

Port: Enter the port number of the device.

User Name/Password: Enter the user name and password of the device.

4. Click **Save**. If the device is connected properly, the app will go to realtime display status.



1-channel display.

4-channel display.

6-channel display.

8-channel display.

9-channel display.

16-channel display.

Note: The app can only display 16 channels on one screen. Swipe the screen to the left/right to switch between pages to view another 16 channels. A total of 80 channels can be displayed.

Capture: Capture the images of the selected channel, and save them in the file list of the app. You can download the captured images in the file list to a mobile phone.

Video recording: Record the images of the selected channel, and save it in the file list of the app. You can download the recorded videos in the file list to the mobile phone.

Audio: Enable or disable the sound.

Intercom: Intercom: two-way device intercom (NVR and Cameras must support 2 way audio to use this function)

PTZ control (camera support required).

Shut down the channel: This icon appears at the top of the screen when you press and hold the video image. You can drag the video to the icon to close the video preview.

Chapter 11 Appendix

11.1 FAQ

1. Q: What should I do if I cannot detect the hard disk?

   A: If no hard disk is detected, you need to verify the following:

   (1) The data cable and power cable of the hard disk are well connected.

   (2) The ports of the hard disk on the main board are in good condition.

   (3) The hard disk is supported as described in the specifications.

2. Q: What should I do if I forget the password after I change it?

   A: When the administrator forgets the password, you can reset the password through the password retrieval function or restore the factory settings of the device through the physical reset button. It is recommended that you set a password that is both easy to remember and relatively secure.

3. Q: After the NVR and cameras are connected, the NVR is plugged in and has power, but there are no video signals or the outputted images are not normal. Why?

   A: Verify that the network cable connecting the camera is connected properly and is not damaged or too old, and verify that the NTSC/PAL system configurations are the same both in the NVR and camera.

4. Q: What effect does heat or high temperature environments have on the NVR itself during operation?

   A: Because a certain amount of heat is generated during the device operation, you need to place the device in a safe and well-ventilated environment to prevent the device from being exposed to high temperatures, which may affect the stability and service life of the system.

5. Q: Why isn't the remote control of the NVR working? The monitoring screen is normal and the panel buttons are working?

   A: Align the remote control with the IR signal on the front panel of the NVR when trying to control the NVR with the remote. If the remote control still fails, check and/or replace the batteries. If the remote has good batteries, and still fails to work, verify that the remote control is not damaged.

6. Q: Can I use the hard disk drive on my PC in the device?

   A: It is recommended that you use a hard disk designed for video surveillance to ensure the stability of device operation.

7. Q: Can I play back videos while recording videos?

   A: Yes. This device supports recording video and playback simultaneously.

8. Q: Can I delete some of the video recordings on the hard disk?

   A: You cannot delete select recordings. If you really need to delete video recordings, the only option is to format the hard disk. Which will erase all the data on the hard disk.

9. Q: Why can't I log in to the device client?

   A: Verify that the network connection configuration is correct and the NVR is connected to the network with an working ethernet cable. If the network login password switch is enabled, verify that the user name and password you entered are correct.

1. Q: Why can't I find any recorded information when trying to playing back videos?

   A: Verify that the data cable of the hard disk is connected properly. If the problem persists after restarting, verify that the hard disk is not damaged.Verify the system date and time are current. If the NVR date and time are not set correctly, try searching for the date actually displayed in the NVR.

2. Q: Why can't the device control the PTZ?

   A: The problem may due to the following causes:

   a) The front-end PTZ is faulty.

b) The setting, connection, or installation of the PTZ encoding is incorrect.

c) The PTZ settings of the NVR are not configured correctly.

d) The PTZ encode protocol does not match the NVR protocol.

e) The PTZ address does not match the device address.

1. Q: Why doesn't motion detection work?

A: Verify that the motion detection time and motion detection area settings are correct, and verify that the sensitivity setting is not too low.

13. Q: Why do the alarms fail?

A: Verify that the alarm setting, alarm connections, and alarm input signals are correct.

14. Why does the buzzer keep sounding?

A: Check the following items: alarm settings, whether the motion detection function is enabled, whether there are always moving objects detected, and whether the I/O alarm is disabled. Verify that the hard disk alarm settings are correct.

15. Q: Why is the NVR still in recording even when I click the **Stop** icon or click **Stop Recording** in the shortcut menu?

A: If you click the **Stop** icon or click **Stop Recording**, only manual recording is stopped. To stop scheduled recording, you need to change the recording functions by removing disabling the record schedule. To stop the NVR from automatically recording when it powers on, you need to change the recording mode to scheduled recording or manual recording, and then stop recording as described above. Or, you can set the channel status to disabled.

11.2 Use and Maintenance

1. To turn off the NVR, first turn off the system on the software GUI, and then turn off the power supply. Do not turn off the power supply directly to avoid data loss or even damage of the hard disk.
2. Ensure that the hard disk recorder is far away from the places with high temperatures or heat sources.
3. Regularly remove the dust accumulated inside the device, and keep good ventilation around the case of the NVR to facilitate heat dissipation.
4. Do not hot-plug the audio and video signal cables and interfaces such as RS-232 and RS-485; otherwise, such interfaces may be damaged.
5. Regularly check the power cable and data cable inside the device to prevent them from aging.
6. Try to avoid the impact of other electric appliances on audio and video signals, and prevent the NVR from being damaged by static electricity or induced voltage.

   If the interface connecting the network cable is frequently plugged in and pulled out, it is recommended that you replace the connection cable regularly to avoid unstable input signals.
7. The device is a Class-A product. In the living environment, the product may cause radio interference. In such cases, practical measures should be taken to cope with the interference.

11.3 Attached Accessories (Subject to the Actual Product)

☐ Power Adapter

☐ Warranty Card

☐ USB mouse

Warning :

Using a wrong battery may increase the risk of explosion.

Used batteries should be handled in accordance with the instructions.

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