XI Series Network Video Recorder
User Manual

Version 1.0.0.

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Welcome

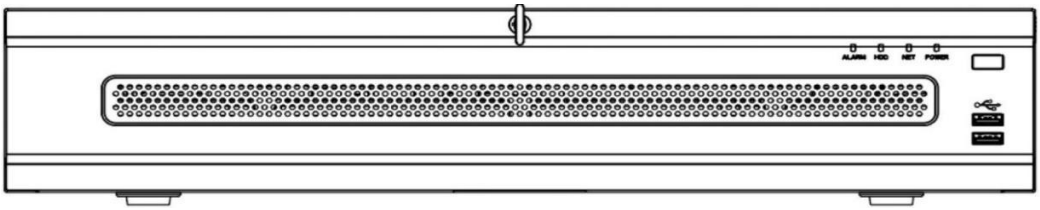
Thank you for purchasing an Amcrest NVR!

This XI series video recorders offer high-end, AI powered technology for increased cutting-edge performance. It supports high-resolution recording (up to 32MP), high bit rate inputs, powerful processing capabilities to handle multiple video streams and AI algorithms simultaneously, as well as the ability to connect multiple hard drives providing more built-in storage solutions.

Important Safeguards and Warnings

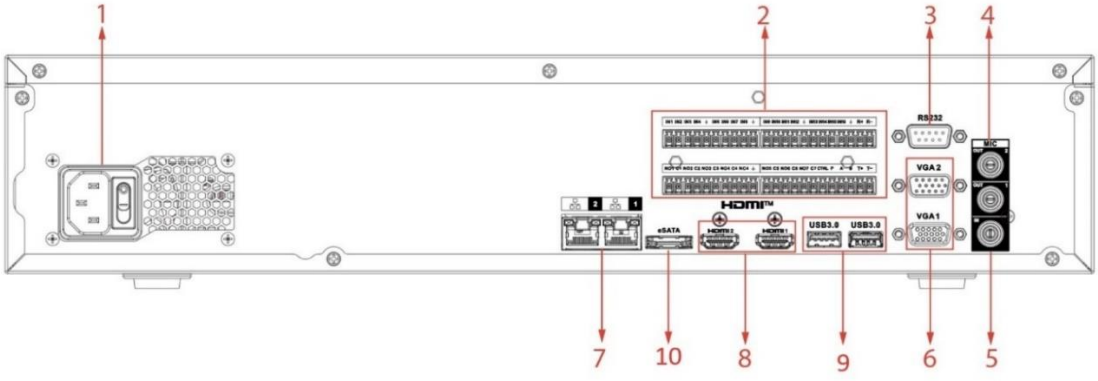
- All installations and operations of the device should conform to your local electrical safety codes.
- We assume no liability or responsibility for any of the fires or electrical shocks caused by improper handling or installation.
- We are not liable for any problems caused by unauthorized modifications or attempted repair.
- Do not submerge the device in water or install it in areas with high levels of moisture or humidity.
- Handle with care, avoid dropping or placing the device in unsecure areas.

Front Panel



Name	Icon	Function
Alarm	Alarm	Alarm indicator light
HDD	HDD	Hard drive indicator light
NET	NET	Network status indicator light
POWER	POWER	Power status indicator light
USB		USB 2.0 ports
POWER BUTTON		Power on/off button

Rear Panel



Number	Function	Function
1	Power	Plug the power chord here. Use the button to turn the NVR on or off.
2	Alarm	External alarm input and output connections.
3	RS-232 Port	Connect to a device that supports RS-232.
4	Audio Output	Connect external RCA speakers to audio out.
5	Audio Input	Connect an external RCA microphone for audio in.
6	VGA Ports	Connect VGA displays to these ports.
7	Network Ports	Ethernet network ports (RJ-45)
8	HDMI Ports	Connect HDMI output devices to HDMI1 or HDMI2.
9	USB 3.0 Ports	Connect USB devices to the NVR.
10	eSATA	Connect external hard drives and other storage devices.

Hardware Setup

Before setting up the NVR, you will need the following items. These items may not be included:

A computer monitor, or TV with either an HDMI or VGA input.
A power strip or surge protector with enough power connections.
A hard drive or multiple hard drives for storing video recordings.

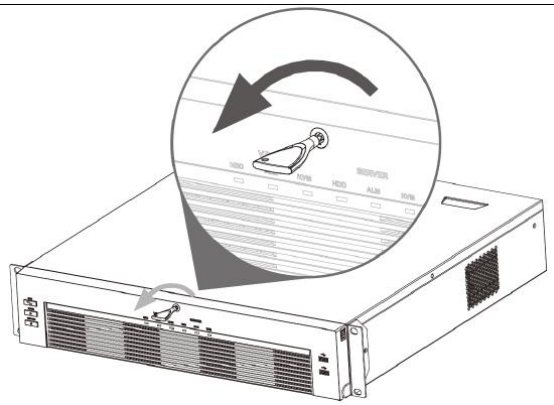
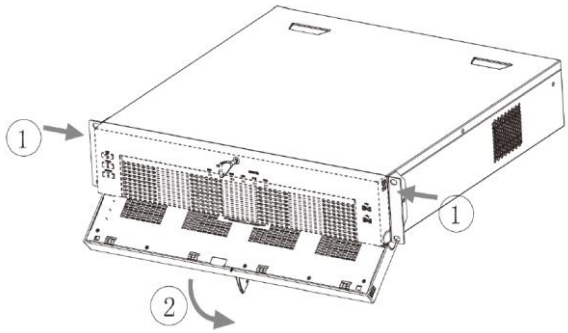
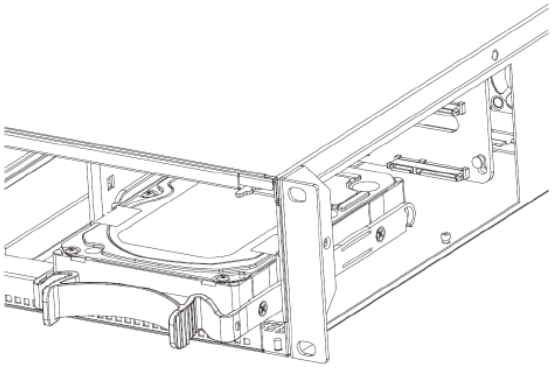
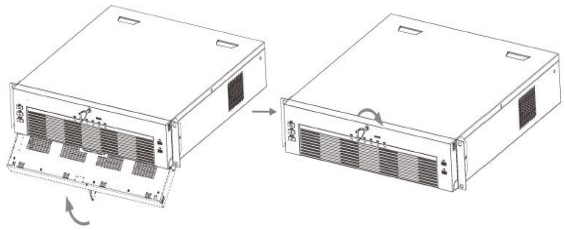
It is recommended to connect all components *before* mounting any of the cameras. This is to ensure all components are working properly before they are physically installed. If any components are not functioning, please contact Amcrest Support: https://amcrest.com/contact

Hard drive installation

A hard drive must be installed to record or save *any* footage. If no hard drives are installed, you can only view the cameras in the NVR. If a microSD card is installed in the camera, you can still view the recordings from the microSD card using the Amcrest View Pro 2 application and accessing the camera directly, however, no recordings will be retained to the NVR if a hard drive is not installed.

Note: For safety, make sure the device is unplugged from power before installing a hard drive.

The hard drives used in this NVR must be no larger than 16TB (Terabytes) per slot. For more information, please review the technical specifications or visit: https://amcrest.com/support

	
1. Use the included key to unlock the front panel of the device.	2. Press the two buttons on the sides of the NVR and lower the panel to open.
	
3. Locate the four holes on the hard drive and align them with the holes on the side of the installation bracket. Use a screwdriver to secure the hard drive to the bracket using the included mounting screws. Slide the bracket into a slot in the NVR, press to secure.	4. After installing the hard drives, close the front panel. Use the key to lock the front panel of the NVR into place.

Note: **Before installing the hard drive, make sure the NVR is powered off with the power cable disconnected.**

Setting Up the Cables

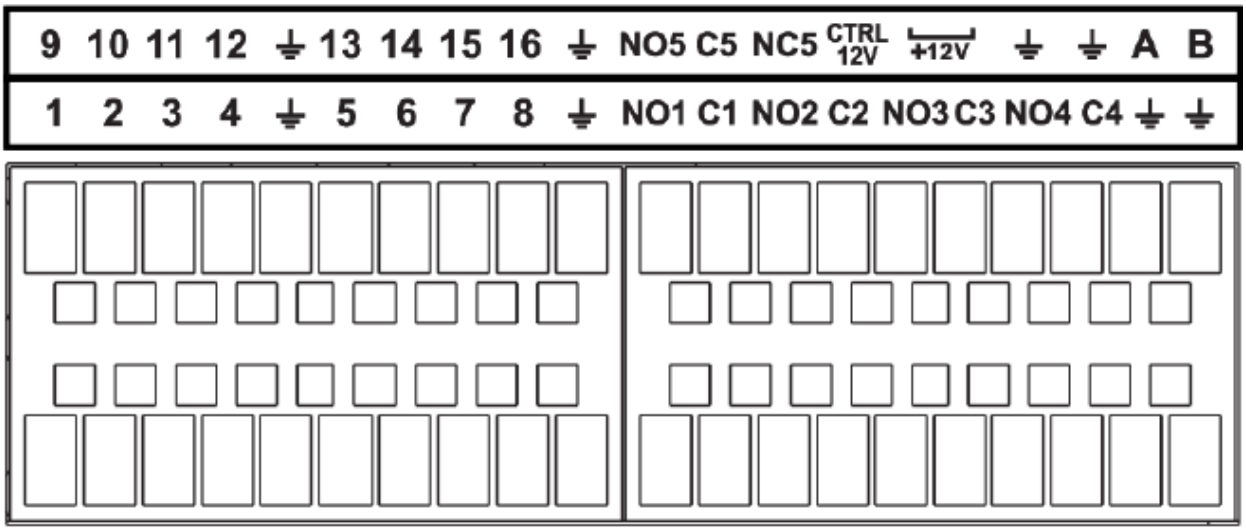
The following instructions will show you how to set up the cables for the NVR, cameras, as well as a monitor. To set up the cable connections, please refer to the steps provided below.

1. Connect a monitor to your NVR. The NVR is compatible with any monitor or screen that uses a VGA or HDMI connection. Connect the monitor to the NVR and turn the monitor on.
2. Connect an Ethernet cable to your router and connect the other end of the cable to the Ethernet port on the back of the NVR. The NVR has 2 NIC cards, it is recommended to use network port 1 as default and network port 2 as a secondary network option.

3. Connect the cameras to the same network as the NVR ensuring the cameras are properly connected and receiving power and data. Please note, if using a model with POE connections on the back, you can connect the POE cameras directly to the POE ports of the NVR using an Ethernet cable.
4. Connect a USB mouse or other USB enabled devices to the NVR using the available USB ports.
5. Connect the NVR's power adapter or cord into the power port on the back of the NVR. Connect the other end to a power outlet or surge protector and turn on the power switch. Allow the NVR to boot and complete the loading process.

Alarm Connection

The following information below will detail the physical alarm connections provided on the NVR.

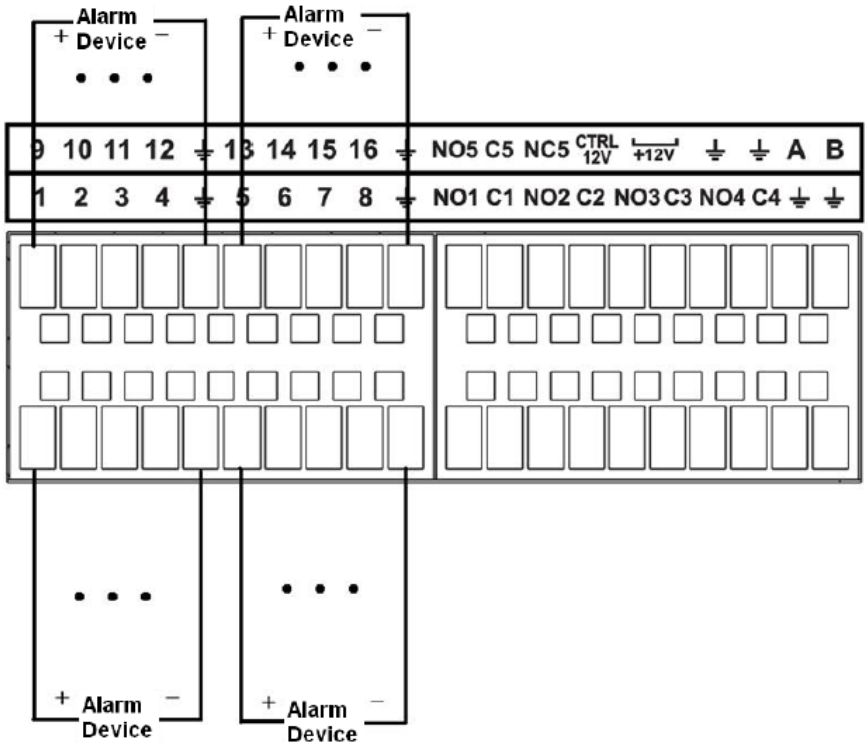


Alarm Port Description

Icon	Function
1-16	ALARM1–ALARM16. The alarm becomes activated in the low level.
NO1 C1, NO2 C2, NO3 C3, NO4 C4	Four NO activation output groups. (On-off button).
NO5 C5 NC5	One NO/NC activation output group. (On-off button).
CTRL (CTRL 12 V)	Control power output. Disable power output when alarm is canceled. Current is 500 mA.
P (+12 V)	Rated current output. Current is 500 mA.
⏚	Ground (GND)
A/B	485 communication port. They are used to control devices such as PTZ. Please parallel connect 120 TΩ between A/B cables if there are too many PTZ decoders.

Alarm Input Port

Connect the positive end (+) of the alarm input device to the alarm input port (ALARM IN 1–16) of the NVR. Connect the negative end (-) of the alarm input device to the ground end (⏚) of the NVR.



Note

● There are two alarm input types: NO/NC.

● When connect the ground port of the alarm device to the NVR, you can use any of the GND ports (⏚).

● Connect the NC port of the alarm device to the alarm input port (ALARM) of the NVR.

● When there is peripheral power supplying for the alarm device, please make sure it is earthed with the NVR.

Alarm Output Port

● There is peripheral power supplying for the external alarm device.

● Overloading these ports may result damaging the NVR please see the following relay specifications for detailed information.

● A/B cable of the RS-485 is for the A/B cable connection of the speed PTZ if needed.

Alarm Relay Specifications

Model: JRC-27F		
Material	Silver	
Rating (Resistance Load)	Rated switch capacity	30 VDC 2A, 125 VAC 1A
	Maximum switch power	125 VAC, 160 W
	Maximum switch voltage	250 VAC, 220 VDC
	Maximum switch currency	1A
Insulation	Between touches with same polarity	1000 VAC 1 minute
	Between touches with different polarity	1000 VAC 1 minute

	Between touch and winding		1000 VAC 1 minute
Surge Voltage	Between touches with same polarity		1500 V (10×160 μs)
Length of open time 3 ms max	Length of open time 3 ms max		
Length of close time 3 ms max	Length of close time 3 ms max		
Longevity	Mechanical	50 × 106 MIN (3 Hz)	
	Electrical 200 × 103 MIN (0.5 Hz)	Electrical 200 × 103 MIN (0.5 Hz)	
Temperature	-40° F ~ 158° F		

Audio Ports

The NVR provides external RCA audio ports, these ports can be used to connect an external third-party microphone or speaker for two-way talk capabilities.

Device Connection

Connect an RCA microphone to the "Audio In" port on the back of the NVR. If using an audio out device, such as an RCA speaker, plug the speaker into the "Audio Out" port on the back of the device. An additional audio out port is provided to attach another external speaker.

Most audio codecs will use ACC as a default audio codec. To adjust audio settings, log into your NVR and access the **Camera** menu and select **Encode**. In the encode menu, click on "**More**" and verify the codec and settings are correct and click **OK** to save the settings. For more information about two-way talk on your NVR, please visit amcrest.com/support

Mouse Operation

Please refer to the following section for mouse operation instructions.

Operation	Description
Left click mouse	Select a feature or navigate the interface.
	Modify checkbox or motion detection status.
	Click the combo box to pop up drop-down list
	To access the keyboard, select a field and use the built-in keyboard to enter letters, numbers, or symbols. 
Double left click mouse	Implement special control operation such as double click one item in the file list to playback the video.
	In multiple-window mode, double left click one channel to view in full window. Double left click the current video again to go back to previous multiple window mode.
Right click mouse	In real-time monitor mode, pops up shortcut menu.
	Exit the current menu without saving the modification.

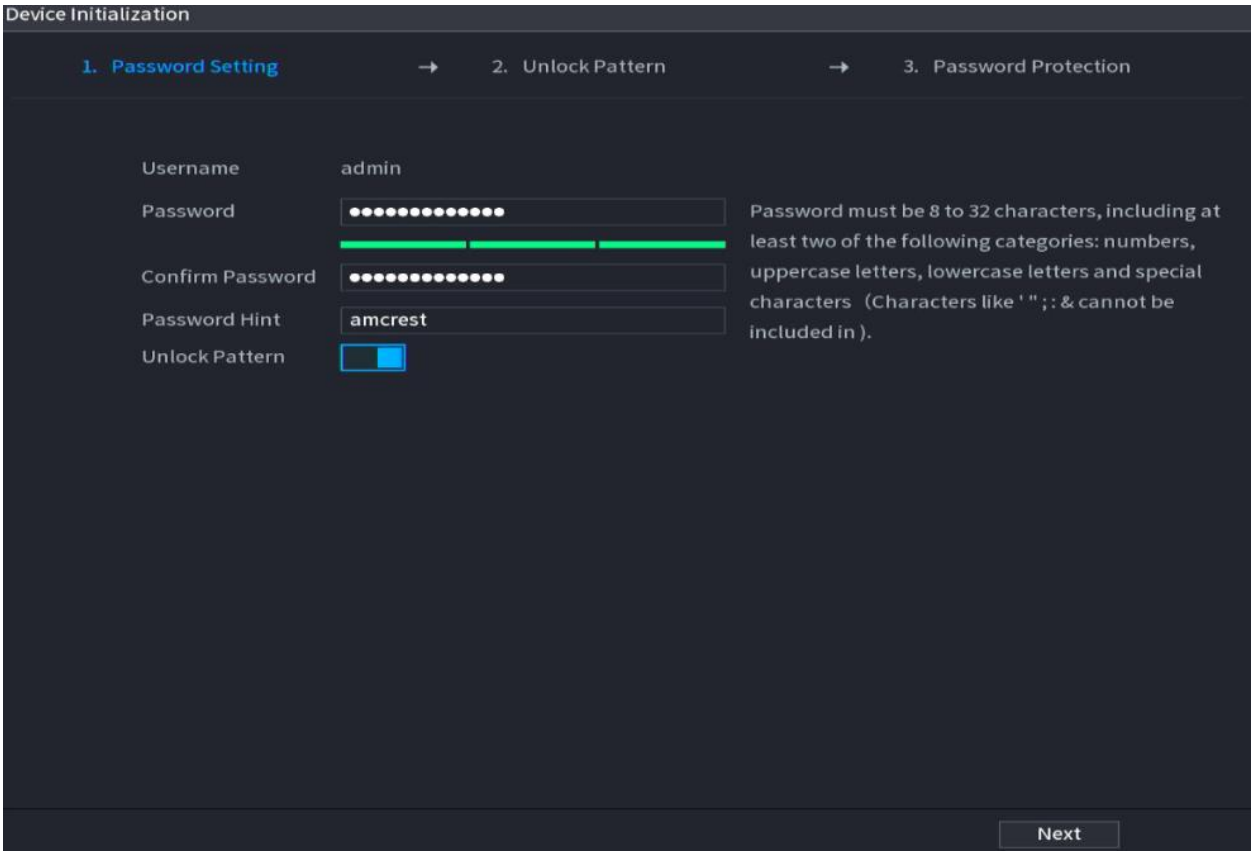
Move mouse	Select current control or move control.
Drag mouse	Select motion detection or other zones.
	Select privacy masks, etc.

NVR Initialization

After applying power and turning it on the NVR will boot. Allow the NVR to finish loading to access the **Device Initialization** screen. Select your location, language, system time, and video standard, etc. then click **Next** to continue.

Enter Password

Create a new admin password for your NVR. The password for your device should be between 8 and 32 characters. A combination of letters, numbers, and symbols are recommended when setting up your password.



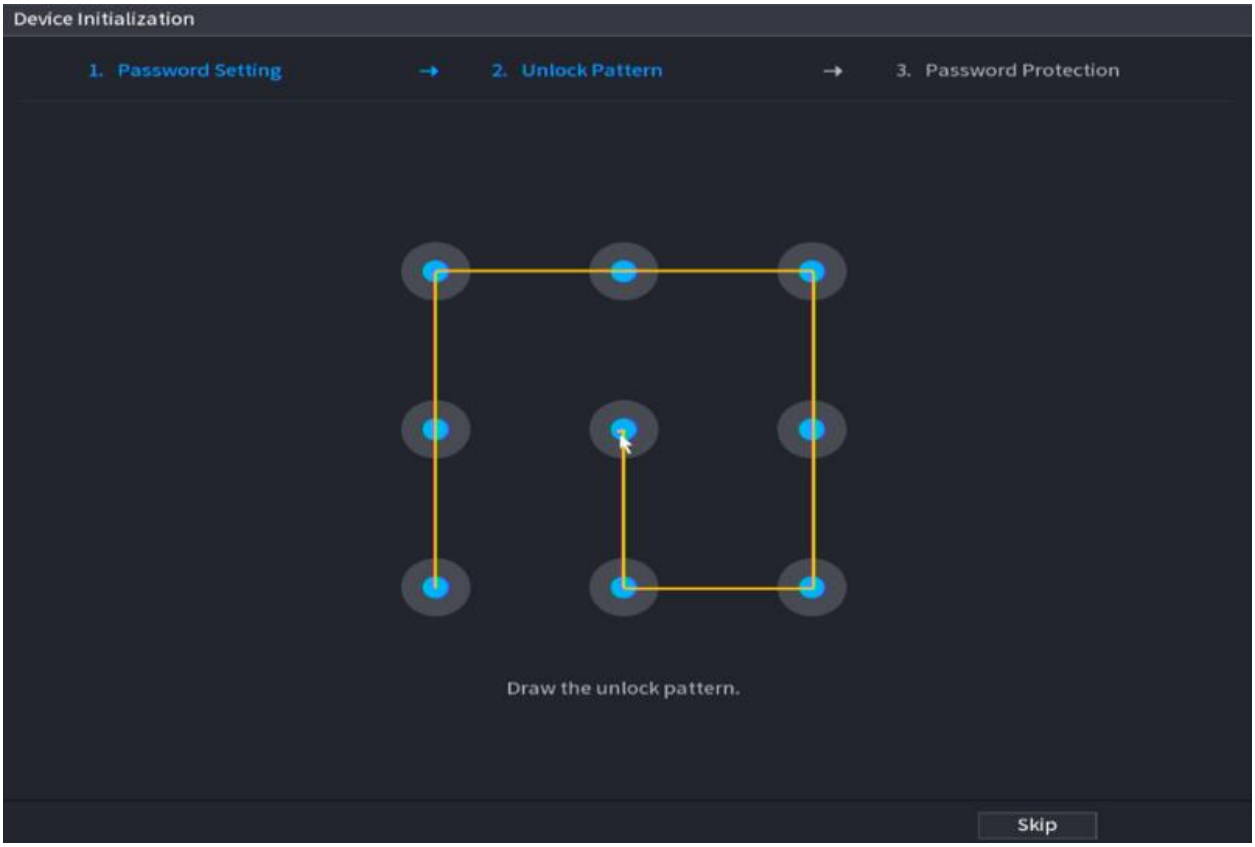
Note: Please do not use special symbols like ‘ ‘ ; : &

Once you have entered a new password for your device, confirm the password in the next field.

Lastly, you will be asked to enter a prompt question for your account. This is useful if you have forgotten your password and would like an easier way of recovering your password. Please use a prompt question that will help you remember the password for your device. If you would like an unlock pattern to be applied during initial login, please have the **Unlock Pattern** option enabled. After you have completed this section, click **Next** to continue.

Unlock Pattern

This is an optional security measure for your device and is only available in the local user interface. To set an unlock pattern, use your mouse to draw a design that you will remember**.** Draw the pattern again to confirm. If you do not want to assign an unlock pattern, you can click '**Skip**' to skip this process.



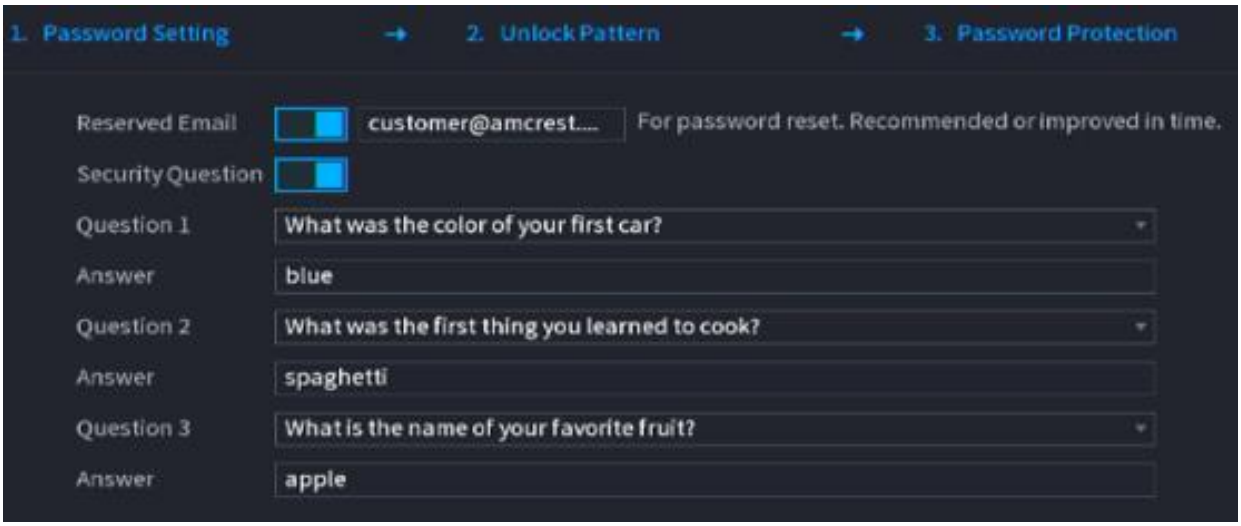
If you have been assigned an unlock pattern, you will need to draw the pattern again to confirm your assigned unlock pattern.

Password Protection

Additional methods for password protection and retrieval can be set up on this menu. If you would like to reset your password using your email, make sure the email address checkbox is enabled and enter a valid email address in the **Reserved Email** field. The email address will be retained in the system.

If you do not want to use an email address, you can disable the email address option. As a secondary means of recovering your password, you can apply security questions to your NVR. To add a question,

select a question from the drop-down menus for **Question 1, Question 2,** and **Question 3** and enter the answers to those questions in the **Answer** fields.



Once this section is complete, click the **Next** button to save your information to the device.

Startup Wizard Walkthrough

The first page of the Startup Wizard will appear which allows you to set up any general network, access P2P, add cameras, as well as a hard drive manager for the NVR. Please note, by default, the NVR's IP address will be set to DHCP which means your network has already automatically assigned an IP address to the NVR.

For optimal performance it is highly recommended to set the device's IP to static to ensure the IP of the device does not change. To set the device to a static IP, click on the **Modify** (pencil icon) for the selected NIC card and disable the DHCP toggle switch to set the NVR's network mode to static.

Network

This section will highlight the current network settings for your device. Please note, **the IP address for the NVR will be the IP address used to access your NVR's web user interface on a web browser.** It is highly recommended to disable DHCP to set the NVR to a static IP on each applicable NIC connection.

Click the **Test** to test the overall health and status of your network connection once complete, click the **Back** button to return to the previous menu. To continue with the startup wizard, click **Next.**

P2P

The next screen that appears is the P2P screen. This screen allows you to connect your NVR to your mobile device using the Amcrest View Pro, Amcrest View Pro 2 app, etc. The P2P status should read as "Online". To download the app, use your mobile device's camera and scan the **Mobile Client** QR code. When using the app, use the **Device SN** QR Code for quick access to the serial number for your NVR.

Click the **Next** to continue.

Add Camera

The next screen that appears is the **Add Camera** screen. This is where you can begin by adding cameras to the NVR. If the cameras are not directly connected to the back of the NVR, please make sure they are active and on the same network as the NVR before proceeding.

To begin adding a device, click on **Device Search** to allow the NVR to scan for connected devices on your network. A list of applicable connected devices will be shown on the screen. Select your devices by clicking on the checkbox next to the device and click **Add** to add the device into the **Added Devices** menu.

If the status of your camera is red, it indicates the camera is not properly connected to the NVR. This could be because the password for the camera is not entered properly in the system.
To modify the password for your camera, click on the edit icon (pencil) located in the **Edit** column in the **Added Device** menu.

Select the **Password** field and use the onscreen keyboard to enter the password for your camera. Once the password has been entered, click **Connect** then click **Save** to continue. Please note, if this is a new device and a password has not been added the password will be **admin.**

Once the password has been properly set the **Status** indicator will turn green, indicating the camera has been properly added.



Our H.265 compatible products will come **factory defaulted to H.264 compression**, but for increased performance, the camera's settings can be automatically switched to H.265 compression. Switching to H.265 compression reduces bandwidth **without sacrificing frames per second or resolution**. To activate H.265 compression, click on the **H.265 Auto Switch** if not enabled by default. Click **Next** to continue.

HDD Manager

The HDD manager allows you to view the status or format any hard drives that are connected inside the NVR. To format a hard drive, select a hard drive from the list and click **Format**. Select the **Clear HDD database** toggle switch and click **OK** to proceed. Enter the NVR's password that you created previously and click **OK**. The NVR will then format the selected hard drive. Click **OK** to proceed.

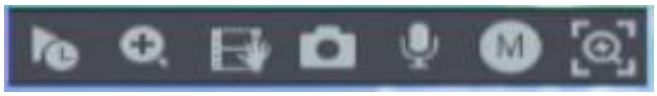
Video Wall

The video wall displays all channels connected to the NVR, double click on a channel to select it.

1		Recording status	**3**		Camera lock
2		Motion detection	**4**		Arming

Preview Control Interface

Move the mouse to the top center of the video of the current channel, and the system pops up the preview control interface. If your mouse stays in this area for more than 6 seconds and performs no operation, the control bar automatically hides.



Instant Playback

Click this button to instantly playback any previous motion detection events that were captured by the camera. Please note, a hard drive must be installed in the device to playback any recorded events or snapshots.

Digital Zoom

This option allows you to digitally zoom in on a specific area on the live view interface. To use digital zoom, click the digital zoom button and click an area on the live view screen. Drag the mouse to select a zone and release. The live view will zoom in on the set area. To exit digital zoom, right click on the live view screen to return to its original view.

Instant Record

This option allows you to manually record video. Please note, the NVR can only record videos of a single channel at a time, if multiple channels are enabled, no footage will be retained. To manually record video, insert a USB flash drive into a USB port on the NVR and click on the manual record button. Click on the manual record button again to stop recording. The recording will be saved to the USB flash drive.

Manual Snapshot

Like the manual record button, this option allows you to manually take snapshots. To manually take a snapshot, insert a USB flash drive into a USB port on the NVR and click on the manual snapshot button. The snapshot will be saved to the USB flash drive.

Talk

This option allows for bidirectional talk. Please note, an external microphone and speaker will need to be applied to the audio in and audio out ports on the back of the NVR for this to function. To activate, click on the audio talk button and use an external RCA microphone and speaker to talk. To disable this function, click on the audio talk button again.

Switch Stream

This option allows the device to switch between mainstream and sub stream feeds. Please note, switching to a sub stream feed will provide less quality than a mainstream feed.

AcuPick

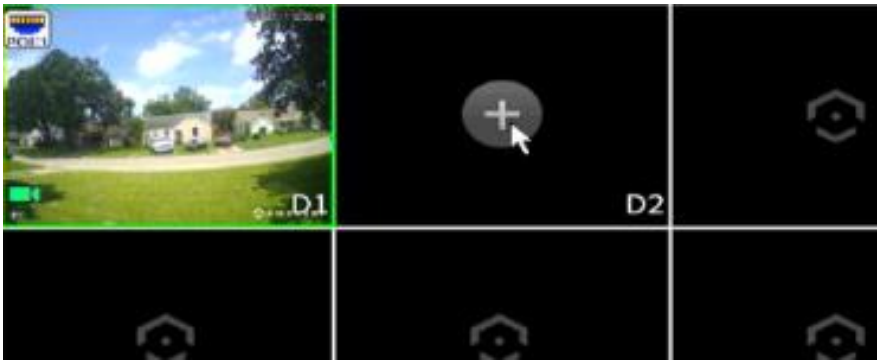
AcuPick is an intelligent search technology that works to simplify video surveillance and enhance the accuracy of event detection. This feature enables users to quickly locate specific footage by identifying and isolating individuals or vehicles of interest. With its advanced algorithms and integration with AI, AcuPick eliminates the need to sift through hours of footage manually, saving both time and resources.

Note: This feature is only available on the local GUI only.

To use this feature, use your mouse to highlight a human or vehicle and click the search icon  to search and locate events or recordings related to the selected object. Click the x button to exit.

Adding Additional Devices

To add multiple devices from the video wall interface. Hover the mouse over the channel you would like to select and click the (+) icon.



This will take you to a camera registration screen. Click on **Device Search** or **Manual Add** to begin adding the device. If using Device Search, please make sure the camera is on the same network as the NVR before searching. Once the camera has been detected, click on the device to highlight it, and click **Add**.

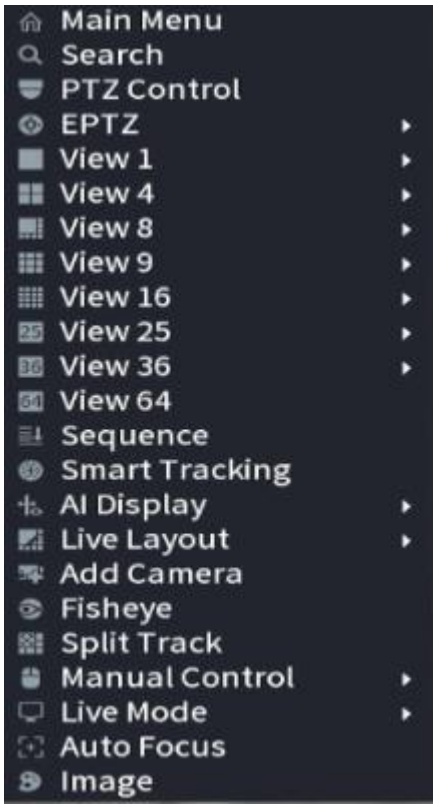
Please note, if the device is not registered to the device, the username or password may need to be updated for the camera. This can be resolved by right clicking on the video wall screen to display the shortcut menu and choosing **Add Camera**.

In the registration screen, click on the **Edit** icon (pencil) and ensure the username and password are correct and click **Connect**. Once this is verified click **Save**. The status indicator for the camera should turn green, indicating the camera has been added successfully.

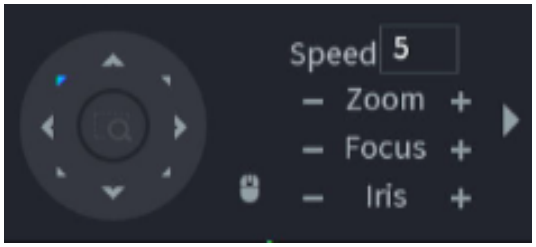
To exit the registration menu, click on the video wall to display the connected devices. The process can be repeated to add additional cameras if needed.

Shortcut Menu

To access the shortcut menu for the device, click on the video wall screen to access the shortcut options menu.



Main Menu: Click this option to exit the video wall and access the main menu options of the NVR.
Search: Click this option to access the playback menu.
PTZ Control: Click this option to access the pan/tilt/zoom interface. Please note, this option is only applicable if PTZ devices.



Speed: Controls the PTZ movement speed. Its value can range from 1, being the slowest, and 8 being the fastest.

Zoom: Use the "+" and "- "icons to zoom in or zoom out on the interface.
Focus: Use the "+" and "- "icons to focus the image.
Iris: Use the "+" and "- "icons to control the iris behavior of the camera.

Gesture Control: Click the mouse icon to activate gesture control. This option allows you to control the PTZ of your device with your mouse. Click and hold the arrow on the live view screen and PTZ the camera to a desired direction.

Click the “>” icon to open the menu. You can set presents, tour, pattern, scan, etc.



Refer to the following details below for detailed information.

Please note the above interface may vary due to different protocols. The button is grey and cannot be selected if the current function is not supported.

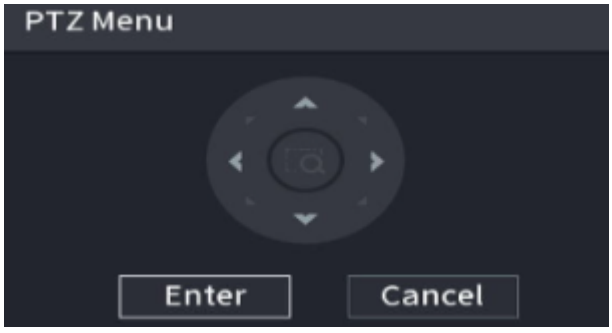
Icon	Function	Icon	Function
	Aux Switch		Enter Menu
	Preset		Auto Pan
	Tour		Flip
	Pattern		Reset
	Auto Scan		PTZ Settings

Aux Switch

Use this function if an external auxiliary option is connected to the NVR. Supports real-time display of system resources information and running status.

Enter Menu

This option opens the PTZ menu interface.



Call PTZ Function

Preset

Input the Preset value and then click to call a preset. Click again to stop the call.

Call Tour

Input the Tour value and then click to call a tour. Click again to the stop call.

Call Pattern

Input the Pattern value and then click to call a pattern. Click again to stop the call.

Call Scan

Input the Scan value and then click to call a scan. Click again to stop the call.

Auto Pan

Click to enable the camera to enable any auto pan presets set in the device. Click again to disable this preset.

Flip

Click to enable the camera to flip its image.

Reset

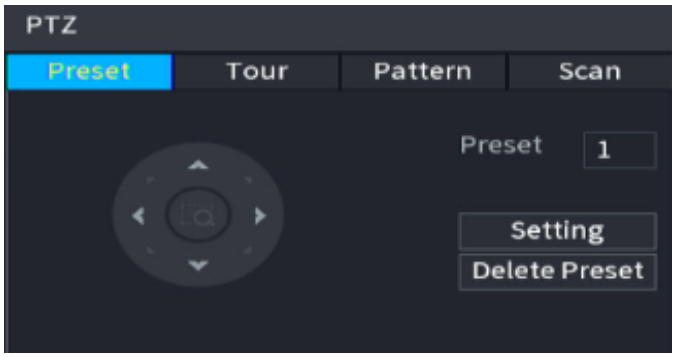
Click to return to exit the current PTZ operation.

PTZ Function Setup

Click to go to the following interface to set preset, tour, pattern, and scan.

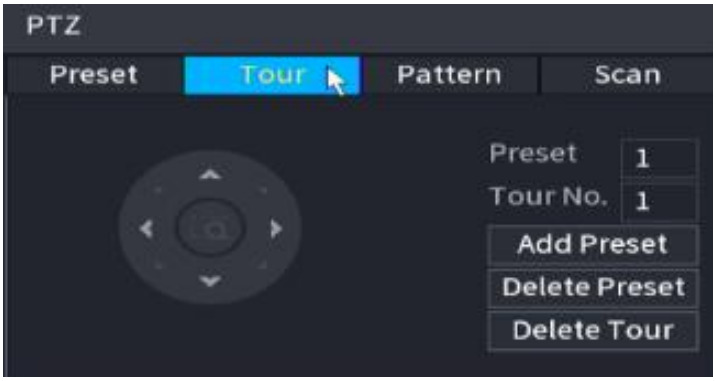
Preset Setup

Click the Preset button and use the eight direction arrows to adjust the camera to the proper position. Click the box next to Preset and then input the preset number. Click the Set button to save the current preset.



Tour Setup

Click the **Tour** tab. Input tour value and preset No. Click the **Add** preset button to add the current preset to the tour. Repeat the above steps to add more presets to the tour. Click the Del preset button to remove it from the tour. Please note some protocols do not support the delete preset function.



Pattern Setup

Click the **Pattern** button and input pattern number. lick the **Begin** button to start the direction operation. Or you can go back to the screen below to operate zoom/focus/iris/direction operation. Click the **End** button.

Scan Setup

Click the **Scan** button. Use the direction buttons to set the camera's left limit and then click the **Left** button. Use the direction buttons to set the camera's right limit and then click the **Right** button. Now the scan setup process is complete.

EPTZ: This feature allows the user to remotely control the pan, tilt, and zoom of a security camera from an NVR. This can be useful for zooming in on specific areas of interest, or for following a moving object. **This is only applicable for cameras that support this feature.** If EPTZ is enabled on your camera, click the **Open** or **Close** option to enable or disable the feature on the NVR.

View (1-64): This feature allows you to control how many window splits will be provided on the video wall.

Sequence: Allows the user to display in which sequence the cameras will be displayed in the video wall.

Smart Tracking: Allows the user to track targets manually or automatically on a supported channel.

AI Display: This feature allows you to display the AI rule, or area overlay on the live view if an IVS or other AI rule is set up on a particular channel or device.

Live Layout: Allows the user to change the layout of the channels registered on the NVR.

Add Camera: This option allows the user to register or add additional cameras to the NVR.

Fisheye: Allows the user to view and dewarp fisheye devices applied to the NVR.

Split Track: Provides split display options for supported devices. It provides a main screen display, 3 split displays with 1 main screen, or 5 split screens and 1 main screen. You can move the color-coded rectangles in the feed to scroll or manually survey the area.



Manual Control: Provides quick access to the record mode or alarm mode interfaces.

Live Mode: Allows the user to switch between a general or AI mode display on the video wall. AI mode will display a side panel view that will show how many faces, people, or vehicles events have been captured by the NVR. Filtered events can be set by selecting the () icon.

Auto Focus: Click this option to auto focus the live feed of a selected channel.

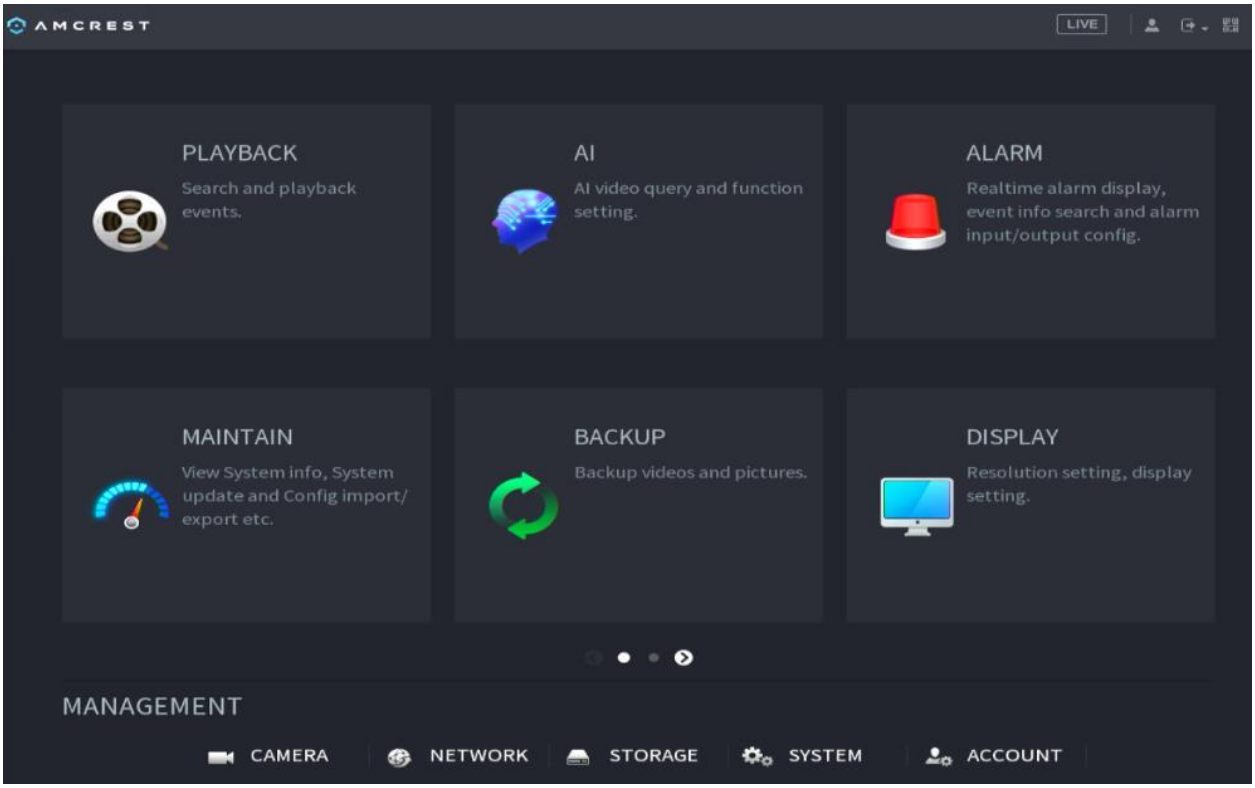
Image: This option allows you to customize and view exposure, illuminator, and other video settings related to a selected channel. Click **Apply** to save the settings.

Main Menu

The main menu for the system can be accessed via the right click menu located on the video wall interface. Right click on the video wall interface and select **Main Menu**.



The screenshot below is the main menu screen for the Amcrest NVR console interface:



Below are short descriptions for each of the menu items on the main menu:
PLAYBACK: View, search, and play recorded videos.
AI: Manage and view artificial intelligence and face recognition information and settings.
ALARM: View and search for live alarm information. Configure alarm event actions.
MAINTAIN: View system information, system updates. Import/export configuration files, etc.
BACKUP: Search and backup files using a USB flash drive.
DISPLAY: Configure resolution and display settings.
AUDIO: Configure audio announcements and import audio files.

Management

CAMERA: Add, search, review or edit settings for each camera, including video settings (e.g. quality, bit rate, color, etc.).
NETWORK: Review and edit TCP/IP, connection, DDNS, Email settings, etc. (e.g. P2P, UPnP, Multicast, etc.)
STORAGE: Set motion detection IVS schedules, as well as access the hard drive management interface, SFTP, FTP, etc.
SYSTEM: Review and edit general system settings such as video standards, date & time, as well as adjust firewall settings.
ACCOUNT: Add or remove shared user settings, groups, as well as ONVIF users. Reset security questions and update reset password email.

Camera

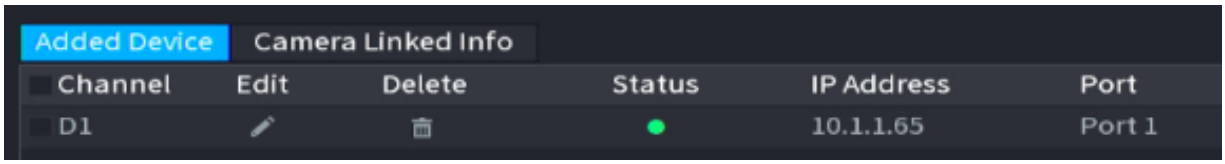
This menu allows you to add, search, review, or edit camera settings, overlays, encode, and other settings related to a connected device.

Camera

This menu allows the user to add, edit, modify, or remove cameras from the NVR. These can be cameras directly connected to the NVR (if PoE) or IPCs that need to be added over the network. If adding a device over the network, please make sure the NVR is on the same network segment as the camera that is being added. Please note, if adding a license plate reader camera to the NVR, please make sure it is registered to channel 1 during setup.

This menu also allows the user to check the device status, firmware, as well as provides an interface to update a camera's firmware directly from the NVR. Please note, the latest firmware for all Amcrest devices, including NVRs, can be found at amcrest.com/firmware

To add a camera, click Search Device to allow the NVR to search for a camera. Select the camera from the camera list and click Add. If the camera does not have a default password (admin) click the **Edit** button and enter the password for the camera into the interface, click **Connect** then click **OK**. The status of the camera should be green indicating it is successfully registered to the NVR.



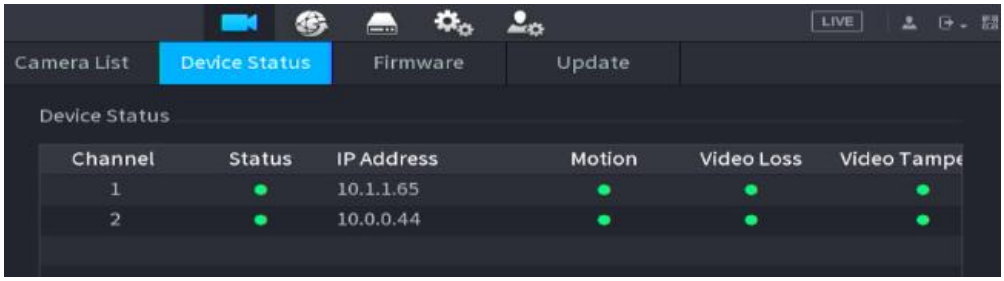
To remove a device from a selected channel, click on the trash can icon located in the Delete section. For more information on the options provided in this menu please refer to the table below.

Search Device	Click this option to scan the network for cameras on the network.
Plug and Play	Enable this option to automatically import an IPC from the camera list into the NVR registry.
H.265 Auto Switch	Automatically change a selected IPCs encode setting to H.265.
Initialize	Initialize a selected device directly from the NVR (supported by web 5.0)
Device Filters	Use these tabs to filter and display only certain devices such as a device that is not initialized, not automatically connected, or PoE devices (if applicable).
Modify IP	Select this option to modify the IP address of a selected IPC.
Live	Displays a popup window of the live view feed of a connected device.
Status	Indicates the connection status of the camera. A checkmark indicates it is ready to be added, a green dot indicates it is registered to the NVR, a red dot indicates the camera is not currently registered to the NVR.
IP Address	Displays the current IP address of a connected device.

Manufacturer	Displays the current protocol being used to add the camera (private, ONVIF, etc.)
MAC Address	Displays the MAC address of a detected device.
Port	The port number used to add the device (typically TCP)
Device Name	The name given will be displayed in the channel of the NVR.
SN	The serial number of the device that is able to be added into the NVR.
Add	Select a device from the camera list and add it to the NVR's registry.
Manual Add	Click this option to manually add an IPC into the NVR.
Change Camera Login Password	Use this option for quick access to change the password of a selected device within the NVR's registry.
Added Device	Displays the cameras that are currently added to the NVR's registry. Use the Edit or Delete options to modify or remove a camera from the registry.
Camera Linked Info	Displays the IP address and channel of a linked camera within the NVR.
Delete	Select an IPC from the registry to remove it from the NVR.
Import/Export	Use these options to import or export camera setting files from a backup USB or thumb drive.

Device Status

This tab allows the user to view the status of a connected device to the NVR including the motion detection, video loss, tampering, or other setting applied to the camera.



Below is an explanation of the fields listed in this menu:

Channel: Indicates the channel number of the camera being monitored.
Status: Indicates the connection status of the camera. It can be either green, for good connection, or red, for possible connection issue.
IP Address: Indicates the IP address of the connected camera.
Motion: Indicates the current motion detect settings are active on the camera.
Video Loss: Indicates the current video loss settings are active on the camera.
Video Tampering: Indicates the current tampering settings are active on the camera.
External Alarm: Indicates the current arming status of a connected external alarm to the NVR.
Camera Name: Displays which channel the camera is registered within the NVR.
Manufacturer: Displays which protocol is being used to register the camera to the NVR.
Type: Displays the model number of the camera.
Refresh: Allows the user to refresh settings currently applied in this menu.

 : Understanding device status icons:

 : Front-end is not supported.

 : Front-end is supported.

 : There is an alarm event from the current front-end.

 : Connection succeeded.

 : Connection failed.

Firmware

This tab allows the user to view the firmware status of a connected device to the NVR. Below is an explanation of the fields listed in this menu:

Channel: Indicates the channel number of the camera being monitored.
IP Address: Indicates the IP address of the connected camera.
Manufacturer: Indicates the current protocol that the camera is using to connect to the NVR.
Type: Indicates the model of the camera being connected to the NVR.
System Version: Indicates what firmware version the camera is running on.
SN.: Shows the serial number of the camera that is connected to the NVR.
Video Input: Indicates which video input the camera relates to.
Audio Input: Indicates which audio input the camera relates to.
External Alarm: Shows the stats for any external alarms associated with the camera.
Refresh: Allows the user to refresh settings currently applied in this menu.

Update

This tab allows the user to upgrade the firmware for their camera directly from the NVR. Please note, the latest firmware for all Amcrest devices, including NVRs, can be found at amcrest.com/firmware

Below is an explanation of the fields listed in this menu:

Device Type: Use this dropdown menu to select a connected device.
Channel: Indicates the channel number of the camera being monitored.
Status: Indicates the connection status of the camera. It can be either green, for good connection, or red, for possible connection issue.
IP Address: Indicates the IP address of the connected camera.
System Version: The current firmware version applied to the camera.
Status Allows the user to see if the firmware needs to be updated, it will be “Pending” by default.
Update: Click the **Check** button to see if the camera’s firmware needs to be updated.
Port: Shows which port the camera is using to connect to the NVR, this will typically be the TCP port.
Type: Indicates the model of the camera being connected to the NVR.
Manufacturer: Indicates the current protocol that the camera is using to connect to the NVR.

File Update: Select a channel and place the .bin file on a USB drive or thumb drive and connect it to a USB port on the NVR. Click the **File Update** option to locate the .bin file and update it directly to the camera. Please note, if actively recording the upgrade may fail, click OK to proceed with the update if needed.
Manual Check: Allows the user to manually update the IPC if a thumb drive with an appropriate .bin file is connected.
Online Update: Select a channel and click Check in the Update column. Use the **Online Update** to automatically apply any IPC updates from the internet to the IPC.

Image

The **Image** tab allows the user to adjust image settings such as, exposure, saturation, brightness, contrast, sharpness, gamma, as well as flip and mirror the image. The following options will vary depending on camera model and manufacturer.

Channel: Select a connected device from the channel dropdown list.
3D NR: This reduces the noise in the video which helps to enhance the quality of the image.
WB Mode: This dropdown menu allows the user to set white balance modes. White balance (WB) is the process of removing unrealistic color casts, so that objects which appear white in person are rendered white in the image.
Auto: The auto white balance is on. The system can auto compensate the color temperature to make sure the vide color is proper.
Outdoor: Allows the device to compensate in outdoor environments.
Natural: Allows the device to balance natural light to prevent a washed-out image.
Street Lamp: Allows device to compensate white balance during night time/street lamp conditions.
Manual: Allows the white balance of the device to be manually adjusted by the user.
Customized Area: You can set the gain of the red/blue channel. The value ranges from 0 to 100.
Illuminator: Allows the user to access night vision settings for the IPC. This pertains to both cameras that support IR and white light LEDs (color night vision)
Profile: Select a day, night, or general (full time) profile from the drop-down menu.
Brightness: This is to adjust monitor window brightness. The value ranges from 0 to 100. The default value is 50. The larger the number, the brighter the video. When you input the value here, the bright section and the dark section of the video will be adjusted accordingly. You can use this function when the whole video is too dark or too bright. Please note the video may become hazy if the value is too high. The recommended value ranges from 40 to 60.
Contrast: This is to adjust monitor window contrast. The value ranges from 0 to 100. The default value is 50. The larger the number, the higher the contrast. You can use this function when the whole video's brightness is OK, but the contrast is not correct. Please note the video may become hazy if the value is too low. If this value is too high, the dark section may lack brightness while the bright section may overexpose. The recommended value ranges from 40 to 60.
Saturation: This is to adjust the monitor window saturation. The value ranges from 0 to 100. The default value is 50. The larger the number, the stronger the color. This value has no effect on the general brightness of the whole video. The video color may become too strong if the value is too high. For the grey part of the video, distortion may occur if the white balance is not accurate. Please note the video may not be attractive if the value is too low. The recommended value ranges from 40 to 60.

Sharpness: The value here is to adjust the edge of the video. The larger the value is, the clearer the edge is and vice versa. Please note there is noise if the value here is too high. The value ranges from 0 to 100. The recommended value ranges from 40 to 60. The default value is 50.
Gamma: This threshold value changes image brightness via nonlinear method and improves dynamic display range. The higher this value, the brighter the image will be and vice versa. The value ranges from 0 to 100. The recommended value ranges from 40 to 60. The default value is 50.
Mirror: This is to flip the video horizontally (as if looking in a mirror). This function is disabled by default.
Flip: This is to flip the video upside down. This function is disabled by default.
Backlight Mode: This is to compensate for the backlight and includes several options: High/Low/Stop.
Close: This is to disable backlight compensation. Please note this function is disabled by default.
BLC: Allows the system to automatically adjust exposure according to the environment's situation so that the darkest area of the video is cleared.
WDR: This option helps balance washed out video that has a large dynamic range.
HLC: This option allows the device to lower the brightness of the brightest section according to the HLC control level. It can reduce the area of the halo and lower the brightness of the whole video.
Day & Night Mode: This is to set the device to output color or B/W video. The default setup is auto.
Auto: The device auto selects to output color or B/W video according to the device feature (The general brightness of the video or if there is IR lights or not.)
Color: The device outputs color video.
Black/White: The device outputs the black and white video.

To revert to default settings, click the **Default** button. Press the **Refresh** button to refresh the interface. To confirm settings, click the **Apply** button. Click the **Back** button to exit the interface.

Overlay

The overlay tab allows the user to change the overlay settings for each channel. By default, there is a time display, channel display, and a privacy mask tab which allows the user to customize privacy mask blocks on the interface. Below is an explanation of fields that can be modified on the overlay settings screen:

Channel: This dropdown box allows the user to select a channel from the dropdown list to modify.
Time Title: This button allows the user to select whether the system displays time on playback video. Clicking the set button allows the user to drag the timestamp to the desired position on the screen.
Channel Title: The name of the device that will be displayed in the overlay on the screen.
Custom Title: This option allows the user to add a custom overlay on the screen. Click the Setting button to adjust the settings.

To revert to default settings, click the **Default** button. Click the **Copy to** option to apply the overlay settings to multiple channels. Press the **Refresh** button to refresh the interface. To confirm settings, click the **Apply** button. Click the **Back** button to exit the interface.

Privacy Masking

Privacy masking allows the user to apply customized privacy mask blocks on certain sections of the live feed. Below is an explanation of fields that can be modified on the overlay settings screen:

Channel: This dropdown box allows the user to select a channel from the dropdown list to modify.
Enable: Click this option to enable privacy masking. Select 1, 2, 3, or 4 to begin customizing a block. Use your mouse to move or adjust the privacy block. Click **Apply** when done.

Press the **Refresh** button to refresh the interface. To confirm settings, click the **Apply** button. Click the **Back** button to exit the interface.

Encode

This tab is used to set the audio/video encoding settings for each channel. The interface will display each stream (Mainstream and Sub Stream) depending on the capabilities of the connected device.

Channel: This dropdown box allows the user to select a channel from the dropdown list to modify.
Coding Strategy: Choose between a general a smart codec. A Smart Codec is a function in most Amcrest cameras which aims to reduce bandwidth consumption without losing visible image quality by intelligently increasing compression where it will not make a visible difference in the scene.
Type: This dropdown box allows the user to select one of 3 channel types: regular, MD (Motion Detection), and alarm. Various encode parameters can be for different record types.
Compression: This dropdown box allows the user to select a compression protocol. Most Amcrest NVRs supports H.264, H.264B, H.264H, and H.265 compression protocols. For more information on H.265 compression, please refer to section *"How to Provide Optimal Performance Using H.265 and Bitrate".*
Resolution: This dropdown box allows the user to set the resolution. The system supports various resolutions, and they can be selected from this dropdown list.
Frame Rate (FPS): This dropdown box allows the user to select a frame rate. Frame rate settings range from 1f/s to 25f/s in NTSC mode and 1f/s to 30f/s in PAL mode.
Bit Rate Type: This dropdown box allows the user to select a bit rate type. The system supports two-bit rate types: CBR and VBR. In VBR mode, video quality can be set.
Quality: This dropdown menu allows the user to set a quality level for a connected device. The quality can be adjusted based on the capabilities of a connected device.
Bit Rate (Kb/S): Represents how much data is packed into every data packet per second.
More: This checkbox allows the user to enable or disable audio encode and codec settings.

To revert to default settings, click the **Default** button. Click the **Copy to** option to apply the overlay settings to multiple channels. Press the **Refresh** button to refresh the interface. To confirm settings, click the **Apply** button. Click the **Back** button to exit the interface.

How to Provide Optimal Performance Using H.265 and Bitrate

H.265 provides a more advanced technology than H.264 and allows the device to reduce file size which helps to reduce required bandwidth without sacrificing frames per second or resolution. Most Amcrest products, such as our NVRs, are H.265 compatible however, please note, H.265 compression is only an available on 4000 series and above NVRs and may not be applicable to any NVRs 2000 series or below.

However, for maximum compatibility when accessing your device in a web browser or third-party applications, our H.265 compatible products will be **factory defaulted to H.264.** But for increased performance, the device's settings can be upgraded to H.265 compression if needed. For more information on H.265 compression please visit: amcrest.com/support

Note: The bitrate for the device can also be adjusted as well if needed to increase performance. This section will also provide instructions on some recommendations for adjusting the bitrate if needed.

To switch to H.265 compression, in the **Encode** menu, choose a connected device from the **Channel** list. Locate the **Compression** dropdown menu and select **H.265**.Click **Save** to save your settings.

Please note, if you are using a camera with a built-in microphone the microphone may be disabled by default. This is due to specific guidelines which regulate built-in microphones to be enabled by default in certain areas and may need to be enabled manually to function. For more information on how to enable the built-in microphone on your device, please refer to section ***"How to Enable Audio for an IP Camera Using an NVR".***

Adjusting Bit Rate

Bit rate values create a tradeoff between bandwidth and image quality. The bitrate is the number of bits that are processed per unit time. Since H.265 compression uses roughly 30% less resources than H.264, the NVR will typically default the bitrate to a sufficient bitrate, depending on the resolution or model camera that is currently being accessed on the NVR.
For instance, when switching to H.265 on a 4K camera, the bitrate may be defaulted to 6144 Kb/S, however, adjusting the bitrate to a lower value may help to increase the overall efficiency while viewing playback or watching live view. When using a 4K camera, it is recommended to keep the bitrate around 1792 Kb/S, however, different values may be applicable depending on your specific network environment.

Note: Adjusting the bitrate to anything lower than the recommended bitrate may result in degradation to recordings or live view. For best results, if you are adjusting multiple cameras, it is highly recommended to adjust each camera **individually** when adjusting bitrates.

For more information on how to adjust the bit rate, please refer to the information provided below. In the **Encode** menu, click on the **Bit Rate** dropdown menu, and select a bit rate.

Note: A customized bitrate may also be applicable in most cases. This may be a trial-and-error process since most network environments are unique and may vary, however, the reference bitrate can range between 1792-2048 Kb/S if using a 4K camera. An optimal customized bitrate should be around 1825 Kb/S. Click **Save** to save the adjusted bitrate settings.

Snapshot

This tab allows for the selection of snapshot settings. Below is a list of snapshot settings that can be modified on this screen:

Channel: This dropdown box allows the user to select a channel from the dropdown list to modify.
Snapshot: This dropdown box allows the user to select a snapshot mode. There are two snapshots.

Type: There are 2 snapshot modes, regular and trigger. Regular will allow the feature to retain snapshots continuously, trigger mode will allow a snapshot to be retained when an event occurs.
Size: This dropdown box allows the user to select an image size. This may be unavailable (grayed out) on certain models.
Quality: This dropdown box allows the user to select image quality. Quality is adjusted on a scale between 1, the lowest quality and 6 being the highest quality.
Interval: This dropdown allows the user to select the snapshot interval. The value ranges from 1 to 7 seconds. The maximum setting for a customized interval is 3600s/picture.
Manual Snapshot: Choose how many snapshots will be taken once a manual snapshot is taken.

To revert to default settings, click the **Default** button. Press the **Refresh** button to refresh the interface. To confirm settings, click the **Apply** button. Click the **Cancel** button to exit the interface.

Camera Name

This screen is used to modify the channel names for a connected device. Each field supports a maximum of 31 characters.
To revert to default settings, click the **Default** button. Press the **Refresh** button to refresh the interface. To confirm settings, click the **Apply** button. Click the **Cancel** button to exit the interface.

EPTZ Linkage

The EPTZ menu allows the user to observe specific areas of interest using different display modes. **This is only applicable for cameras that support this feature. Available on the local GUI only.**

For an optimal experience it is recommended to enable EPTZ on the camera side before making any adjustments in the NVR directly. For more information on how to enable or use EPTZ on your camera, please visit amcrest.com/support

Enable	Enable or disable EPTZ functionality.				
Display Mode					
	Displays a full screen image.	Provides a single detection area.	Provides 3 areas of interest.	Provides 3 areas of interest in a 4 square mode.	Provides 5 areas of interest.
Linkage Track	Enables the camera to automatically track the detected object located in a designated region of interest.				
Tracking Duration	The amount of time the camera will track the object around interest before it stops detecting it. The camera can continue to track till the object disappears or a customized duration can be set. A customized duration can be set between 5-300 seconds.				

Using EPTZ

The EPTZ option uses real time display modes to observe and monitor specific areas of interest. It works with IVS to simultaneously track up to 5 targets within a specified area. **Please make sure IVS features,**

such as tripwire and intrusion are enabled and configured before enabling EPTZ. For more information on how to use EPTZ please refer to the information provided below.

1. Open the **EPTZ Linkage** menu and click **Enable**.
2. Select a display mode. A display mode will determine how many regions of interest are displayed and configurable. Use your mouse to move or customize the regions of interest on the screen.
3. Enable the Linkage Track option to provide a tracking overlay of the object once it has been detected.
4. Set the tracking duration, by default it will be tracked until it is not detected by the camera anymore. However, it can be customized to track from up to 300 seconds if needed.
5. Click **Apply**. Return to the Live menu to view the set regions of interest.



Network

This menu controls all network related functions for the NVR and governs how the NVR interacts with a connected network.

TCP/IP

TCP/IP stands for Transmission Control Protocol/Internet Protocol and it is the language/protocol that allows communication between internet connected devices, whether on a local network, or on the Internet at large. This screen allows for TCP/IP settings to be modified for the NVR to establish connection to the network.

Below is an explanation of the fields on the TCP/IP settings screen:

IP Address: This field allows the user to enter a custom IP address.
Default Gateway: This field allows the user to enter the default gateway for the network. The default gateway should be on the same IP subnet as the NVR's IP. The specified length of the subnet prefix should have the same string. For example, if the IP address is 192.168.0.25, the default gateway should start with 192.168.0.X. The default gateway is usually the IP address of the router.
MTU: MTU stands for Maximum Transmission Unit. This field allows the user to set the MTU value of the network adapter. The value ranges from 1280-7200 bytes. The default value is 1500 bytes. Please note

MTU modification may result in network adapter reboot and the network turning off. MTU modification can affect the current network service. The system may pop up a dialog box to confirm setup when the MTU value is changed. Click the OK button to confirm current value and reboot or can click the Cancel button to terminate the current modification. Before the modification, you can check the MTU of the gateway; the MTU of the NVR should be the same or lower than the MTU of the gateway. This way, packets can be reduced, and the network transmission efficiency be enhanced. The following MTU values are for reference only.

1500: Ethernet information packet maximum value and it is also the default value. It is the typical setup when there is no PPPoE or VPN. It is the default setup of some routers, switches, and network adapters.

1492: Recommend value for PPPoE

1468: Recommend value for DHCP.

MAC address: This field shows the NVR's MAC address, which is unique to this device. This number is read-only and is used to access a local area network (LAN).

Subnet Mask: This field allows the user to enter a custom subnet mask. The default subnet mask is 255.255.255.0. This number is used to determine which subnetwork the IP address belongs to.

Mode: The current protocol that is being used on the device. This can be either static or DHCP.

Static vs DHCP: This check box allows the user to choose between a static IP address, and a dynamic IP address. DHCP stands for Dynamic Host Configuration Protocol, and this enables the NVR to automatically obtain an IP address from another network device such as a server or more commonly, a router. When the DHCP function is enabled, the user cannot modify the IP address, Subnet Mask, or Gateway, as these values are obtained from the DHCP function. To view the current IP address, DHCP needs to be disabled.

Note: When PPPoE is enabled, modification of IP Address, Subnet Mask, and Gateway becomes prohibited.

IP Version: This dropdown allows the user to select the IP version. The two options are IPV4 and IPV6.

Preferred DNS server: This field allows the user to enter the DNS server IP address.

Alternate DNS server: This field allows the user to enter the Alternate DNS server IP address.

Default Card: The current Ethernet card is being used in the system.

Virtual Host: Enable or disable a virtual host from accessing the device.

To test the connection, click **Test**. To apply the settings click **Apply**, to cancel, click **Back**.

Routing Table

This menu allows the user to access network settings that let the NVR communicate with devices on different network segments. The routing table within the NVR acts like a map, telling the NVR how to reach devices on these different subnets.

Below is an explanation of the fields in the routing table interface:

Auto Add: The system automatically adds routing information for any newly added camera whose IP address is not already in the routing table.

Manual Add: The user will manually enter the destination address, netmask, and gateway of the device, click **Add** to add it into the routing table.

Press the **Refresh** button to refresh the interface. To confirm settings, click the **Apply** button. Click **Back** to exit the interface.

Connection

This screen allows users to configure port connections. It is important that the system is rebooted if any changes are made to the settings on this screen. Also, ensure that port values do not conflict.

Below is an explanation of the fields on the Connection settings screen:

Maximum Connection: This field represents the maximum number of users that can be connected to the NVR at the same time. The maximum number of users the NVR can support at one time is 128.
TCP Port: This field designates the Transmission Control Protocol (TCP) port number. The default value is 37777.
UDP Port: This field designates the User Datagram Protocol (UDP) port number. The default value is 37778.
HTTP Port: This field designates the Hypertext Transfer Protocol (HTTP) port number. The default value is 80.
HTTPS Enable: Use this option to enable or disable an HTTPS port.
HTTPS Port: This field designates the Hypertext Transfer Protocol Secure (HTTPS) port number. The default value is 443.
RTSP Port: This field designates the Real Time Streaming Protocol (RTSP) port number. The default value is 554.
NTP Server Port: This field designates the Network Time Protocol (NTP). The default value is 123.
Auto Registration Port: Facilitates the automatic discovery and connection of compatible Amcrest devices to the NVR. How it works:

> **Port Designation:** The "Auto Registration Port" specifies the network port that the NVR will use to listen for incoming connection requests from compatible devices. The default port is usually 7000.
> **Device Broadcast:** When a compatible device (like an IP camera) is on the same network and has Auto Registration enabled, it will periodically broadcast a message seeking a compatible NVR. This message is sent to the designated Auto Registration Port (e.g., 7000).
> **NVR Response:** The NVR, listening on that port, detects the broadcast message from the device. It then establishes a connection with the device, allowing for automatic configuration and addition to the NVR's camera list.

To apply the settings click **Apply**, to cancel, click **Back**.

PPPoE

PPPoE stands for Point-to-Point Protocol over Ethernet. This screen allows users to configure PPPoE connections.

Enable: Used to enable the PPPoE function.
Username: The username used for a PPPoE connection.
Password: The password used for a PPPoE connection.

IP Address: The IP address used for a PPPoE connection.

To apply the settings click **Apply**, to cancel, click **Back**.

DDNS

DDNS stands for Dynamic Domain Name Server. This technology is used to automatically update name servers in real time to help the NVR maintain a persistent address despite changes in location or configuration. What this means is that even when the NVR is restarted, moved, or reconfigured, it can keep the same IP address, thus allowing remote users uninterrupted access to the NVR, rather than having to request a new IP address to use for remote access anytime a change is made.

To use this feature, users will need to set up an account with a DDNS service. The NVR supports a variety of DDNS services such as AmcrestDDNS, NO-IP DDNS, Dyndns DDNS, and private DDNS services. Based on which service is selected, different options may show on this screen. For the purposes of this guide, AmcrestDDNS will be used. To use AmcrestDDNS, go to http://www.AmcrestDDNS.com and register for an account. If the account is inactive for a year, AmcrestDDNS may take back the domain name, but an email will be sent beforehand as a warning.

Below is an explanation of the fields that can be configured on DDNS settings screen when set to AmcrestDDNS type. Fields with a '*' next to them appear when AmcrestDDNS is selected:

Enable: This option allows the user to enable DDNS on the NVR.
DDNS Type: This dropdown box allows the user to select which DDNS service is being used on the NVR.
Domain Name: This field allows the user to enter the domain name from the AmcrestDDNS service.
MAC address: This field shows the NVR's MAC address, which is unique to this device. This number is read-only and is used to access a local area network (LAN).
Internet Status: The DDNS connection status.

To apply the settings click **Apply**, to cancel, click **Back**.

UPNP

UPnP stands for Universal Plug and Play, and it is a protocol used to easily connect devices to the internet. In the case of this NVR, it allows the NVR to connect to the router in an easy manner to quickly allow for remote connection.

Below is an explanation of the fields in the UPnP settings screen:

Port Mapping: Enable or disable UPnP services.
Status: This field shows the UPnP status and has two options:
- **Offline:** This means that UPnP is offline.
- **Successful:** This means that UPnP is working.

LAN IP: This field allows the user to enter the IP address of the router that the NVR is trying to connect.
WAN IP: This field is where the NVR Wide Area Network (WAN) IP is populated. This IP address is used to remotely access the NVR through web access.

Port Mapping List: This table is used to show how the ports for each protocol listed below have been remapped by the UPnP protocol. The first column shows the order of the services. The second column shows the name of the services. To edit this, double click on the service line item.
The third column shows the name of the protocol used by that service. To edit this, double click on the service line item. The fourth column shows the Internal Port used by that service. To edit this, double click on the service line item. The fifth column shows the External Port used by that service. To edit this, double click on the service line item.

To apply the settings click **Apply**, to cancel, click **Back**.

Email

This screen allows for the configuring of email settings to permit the NVR to send emails when the connected cameras or alarms are triggered.

Below is an explanation of the fields on the Email settings screen:

Enable: This option allows the user to enable the email feature.
SMTP Server: SMTP stands for Simple Mail Transfer Protocol. This field allows the user to enter the SMTP server used by the email service.
Port: This field allows the user to enter the port that corresponds to the selected SMTP server.
Username: This field allows the user to enter the username used to login to the selected SMTP server.
Password: Enter the generated password provided by your email provider (App Passwords). For more information on how to set up email alerts, please visit amcrest.com/support
Anonymous: This option is used to allow the event to be sent anonymously.
Receiver: This field allows the user to enter the receiver email address. These email addresses are the ones that will receive any emails pertaining to alert and alarm emails sent by the NVR. Up to 3 email addresses can be entered in this field.
Email Address: This field allows the user to enter an email address to which the email will be sent.
Sender: This field allows the user to enter the sender email address. This email address will be the one that sends out all emails pertaining to the alerts and alarm emails sent by the NVR.
Subject: This field allows the user to define the subject line of the email that is sent to the receivers.
Attachment: This checkbox allows the user to enable the attachment of screenshots with emails.
Encrypt Type: This dropdown box allows the user to select an encryption type. There are two types of email encryption that are available.
SSL: Secure Socket Layer
TLS: Transport Layer Security
Health Enable: This checkbox allows the user to enable the function that causes the system to send out a test email to ensure if the connection is OK or not.
Interval: This field allows the user to define, in minutes, how often emails can be sent by the system. This helps to curb heavy load on the email server when multiple events are occurring.

For more information on how to setup Email Alerts, please visit amcrest.com/support

Click on the **Test** button to test the connection. To apply the settings click **Apply**, to cancel, click **Back**.

SNMP

SNMP stands for Simple Network Management Protocol. It is a network management protocol that allows you to collect and organize information about managed devices on IP networks.



SNMP can be used to monitor and manage a wide variety of devices, including Amcrest NVRs.
On an Amcrest NVR, SNMP can be used to collect information about the NVR's status, such as its IP address, firmware version, and number of channels. SNMP can also be used to configure the NVR's settings, such as its recording schedule and alarm settings.
To enable SNMP on an Amcrest NVR, you will need to log in to the NVR's web interface and navigate to the **Network** > **SNMP** page. On this page, you will need to select the SNMP version that you want to use (v1, v2, or v3) and enter the appropriate credentials.
Once you have enabled SNMP, you can use a SNMP management tool to collect information about the NVR or to configure its settings. There are many different SNMP management tools available, such as **PRTG Network Monitor** and **Zabbix**.
Here are some of the benefits of using SNMP on a Amcrest NVR:
You can remotely monitor the NVR's status and performance.
You can configure the NVR's settings remotely.
You can receive alerts when the NVR experiences problems.
You can integrate the NVR with other SNMP-enabled devices.
If you are looking for a way to monitor and manage your Amcrest NVR, SNMP is a good option. SNMP is a simple and effective way to collect information about the NVR and to configure its settings.
To apply the settings click **Apply**, to cancel, click **Back**.

Multicast

Multicast is a feature that enables the NVR to broadcast its live view to multiple computers on the same network. Below is an explanation of the fields in the Multicast settings screen:

Enable: This checkbox allows the user to enable the Multicast feature for the NVR.
IP Address: This field allows the user to enter the multicast IP address.
Port: This field allows the user to enter the port number for the multicast IP address.
For more information on how to configure multicasts, see the information below.

Multicast IP Address Range (IPV4): 224.0.0.0 through 239.255.255.255

Well-known IPv6 multicast addresses	
Address	**Description**
ff02::1	All nodes on the local network segment
ff02::2	All routers on the local network segment
ff02::5	OSPFv3 All SPF routers
ff02::6	OSPFv3 All DR routers
ff02::8	IS-IS for IPv6 routers
ff02::9	RIP routers
ff02::a	EIGRP routers
ff02::d	PIM routers
ff02::16	MLDv2 reports (defined in RFC 3810)
ff02::1:2	All DHCP servers and relay agents on the local network segment (defined in RFC 3315)
ff02::1:3	All LLMNR hosts on the local network segment (defined in RFC 4795)
ff05::1:3	All DHCP servers on the local network site (defined in RFC 3315)
ff0x::c	Simple Service Discovery Protocol
ff0x::fb	Multicast DNS
ff0x::101	Network Time Protocol
ff0x::108	Network Information Service
ff0x::181	Precision Time Protocol (PTP) version 2 messages (Sync, Announce, etc.) except peer delay measurement
ff02::6b	Precision Time Protocol (PTP) version 2 peer delay measurement messages
ff0x::114	Used for experiments

To apply the settings click **Apply**, to cancel, click **Back**.

Register

The Register menu allows the user to register to a proxy to the system which allows the user to access the NVR via a specified proxy. Please note, this section only supports IPv4 server IP addresses.

Enable: This option is used to enable the register function.
No: The number applied to the proxy in the system.
Server Address: The IP address of the registered server.
Port: The port number used when setting up the proxy address.
Sub-Device ID: The ID number that is applicable to the proxy address.

To apply the settings click **Apply**, to cancel, click **Back**.

P2P

The P2P screen allows users to access a QR code to connect their mobile device to the NVR. The device uses an app called Amcrest View Pro or Amcrest View Pro 2 and it is available on both iOS and Android.

Enable: This checkbox allows the user to enable the P2P feature for the NVR.
Status: This field shows the status of the P2P connection. Once connected using the app, this field should display the word Online.
Mobile Client: This is the unique QR code that is used as a quick reference point for downloading the Amcrest View Pro app onto your mobile device.
Device SN: This is the unique QR Code associated with your NVR's serial number. Use this as a quick reference point when setting up your NVR on the Amcrest View Pro or Amcrest View Pro 2 app.

To apply the settings click **Apply**, to cancel, click **Back**.

Amcrest View Pro 2 Setup

The Amcrest View Pro 2 app allows instant access to all live camera streams from any location. The app supports a multitude of features and includes both a plug-and-play setup as well as a manual network setup. **Please note, AI features provided by the NVR can only be modified using the local or web UIs and cannot be adjusted using the Amcrest View Pro 2 app.**

The Amcrest View Pro app can be downloaded in both the App Store and Play Store.



Before the NVR can be accessed through the app using the easy plug-and-play method (P2P Setup), **P2P must be enabled on the NVR**.

Enabling P2P

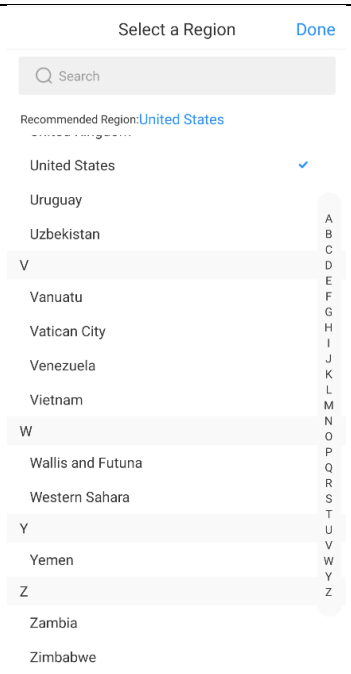
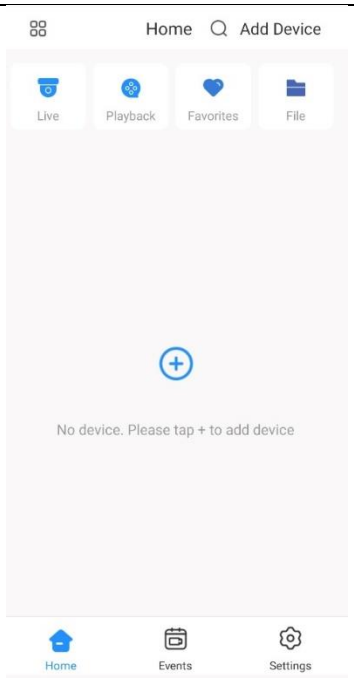
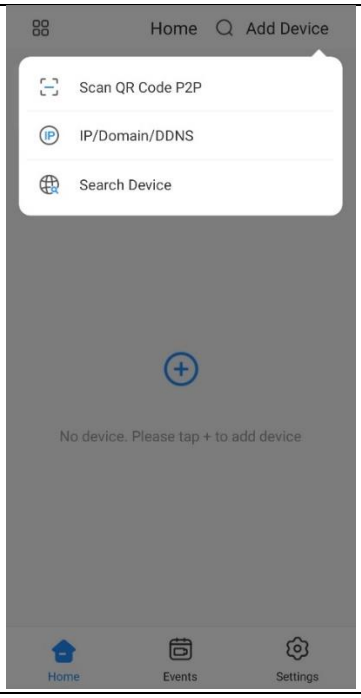
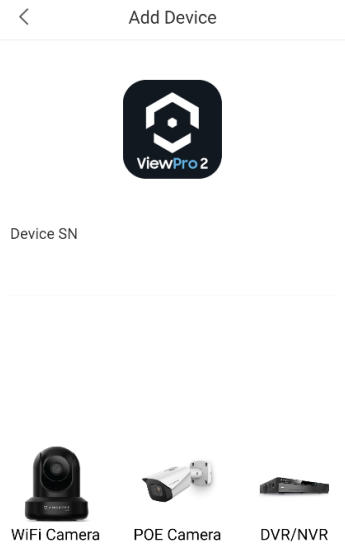
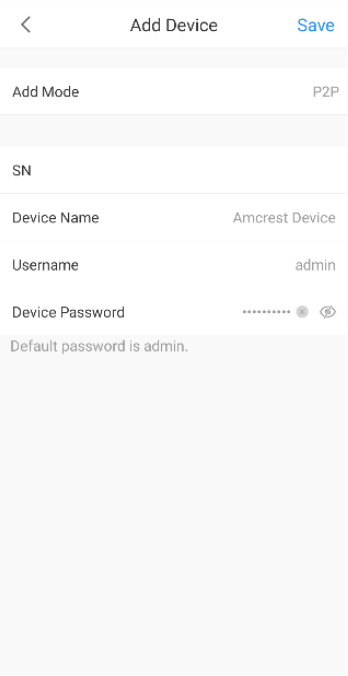
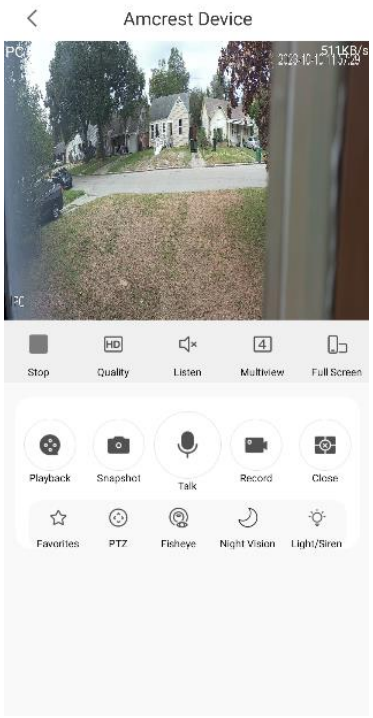
P2P should be enabled on your device by default, however, to check if P2P is enabled, please follow the information provided below.

Log into your NVR and access the Main Menu.
In the **Management** section, click on **Network** then click on **P2P**. Ensure the Enable toggle switch is enabled and the P2P status says "Online". This indicates the P2P option is enabled.

Amcrest View Pro 2 Setup

The following steps will continue the app setup process for an Android phone and, though the iPhone version of the app has slightly different steps, most of this process is identical and easy.

Open the app on your mobile device and allow the app to load.

		
1. Select your country of origin and click **Done**.	2. Tap Add Device or the “+” icon to begin adding your device.	3. Tap **Scan QR Code P2P**.
		
4. Scan the QR code and tap DVR/NVR.	5. Create a name for the device, enter the username and password. Click **Save**.	6. The device has been successfully added to the app.

Storage

This menu allows the user to update, modify, and manage device storage settings within the NVR. For more details on this menu please refer to the sections below.

Basic

This menu allows the user to set hard drive (HDD) overwrite permissions for the system. Below is a description of the features listed in this menu:

Disk Full – Allows the user to set an overwrite mode for their recordings. This option can be set to overwrite, which automatically overwrites old recordings once the hard drive is full, or to stop recording, which means the recordings will stop once the hard drive is full.
Create Video Files – Specifies the recording duration of the overwrite. The values range from 1 to 120 minutes. The default value is 60 minutes.
Delete Expired Files – Allows the user to automatically delete or customize a delete schedule. The customized field will be denoted in how many days you would like to retain information on the HDD.
Sleep Strategy: Set the NVR to automatically sleep or never sleep while idle.

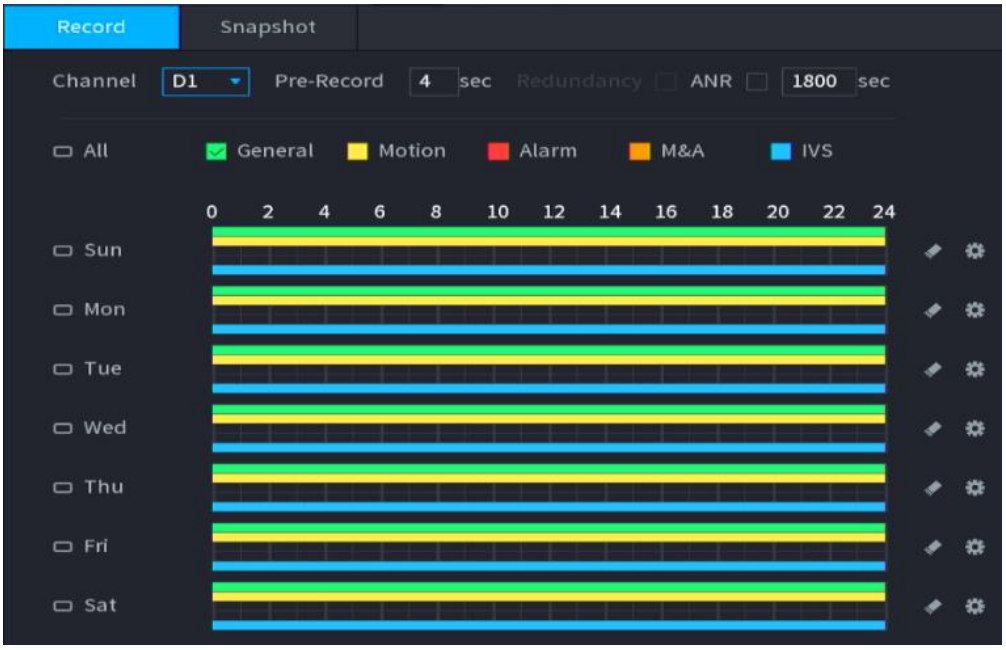
To apply the settings click **Apply**, to cancel, click **Back**.

Schedule

This menu allows the user to set recording schedules for their device. For more information on this feature, refer to the sections provided below.

Record

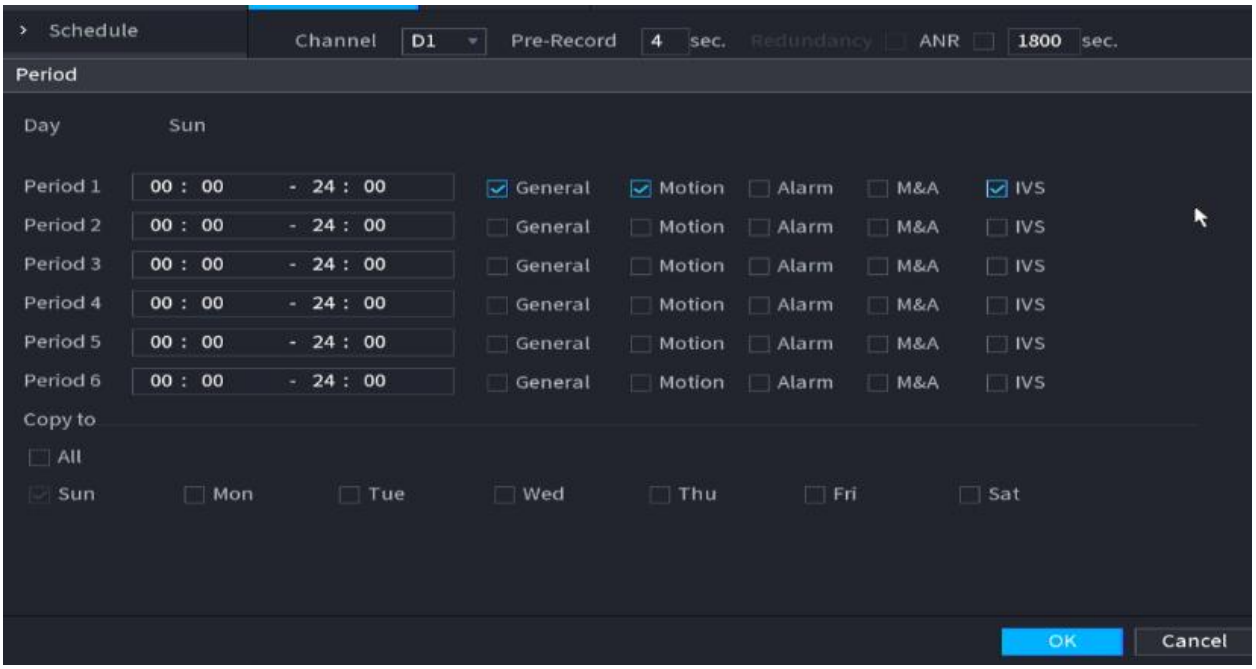
This screen is used to specify the recording schedule for both recorded video and snapshots.



Below is an explanation of the fields on the Record settings screen:

Channel: This dropdown box allows the user to pick which channel they would like to change video recording settings for.
Prerecord: This field allows the user to capture extra video that occurs before an event. Up to 30 seconds of video prior to a recording event can be captured to provide context to a recording.
ANR: This option is used to allow the device to save video to the SD card of the network camera in case the network connection fails.
All: Link all days of the week to a selected recording type schedule.
Record Types: There are 5 types of recordings:
Regular: Regular recording means that the NVR captures all footage for the specified time period. Regular recordings are represented by green.
MD: Motion Detection recording means that the NVR captures only footage when the motion detection alarm is activated. MD recording is represented by yellow.
Alarm: Alarm recording means that the NVR captures only footage when an alarm is activated. Alarm recording is represented by the color red.
M & A: This type of recording is a combination of motion detection and alarm footage, and records when either a motion detection alarm or general alarm is activated. MD & Alarm recording is represented by the color white.
IVS: This type of recording means that the NVR will capture only footage when an IVS rule is triggered. IVS events will be represented as a blue color.

To set a recording schedule for your device, click on the **Settings** icon ( ) option located on the right of the day you wish to set the schedule. The system allows for the configuration of up to 6 different time periods.



Click the text next to each period to edit the time you wish to set for that specific period. Next, choose which record type you would like to set for each period. You will also need to select the days you wish to apply these settings. To select all days, select all options to apply the settings to all days of the week. Click **OK** to save the schedule.

Click Default, to revert to default. Click **Copy to** to set to multiple channels. To apply the settings click **Apply**, to cancel, click **Back**.

Snapshot

This tab is where snapshot recording settings are configured. Below is a screenshot of the Snapshot settings screen:

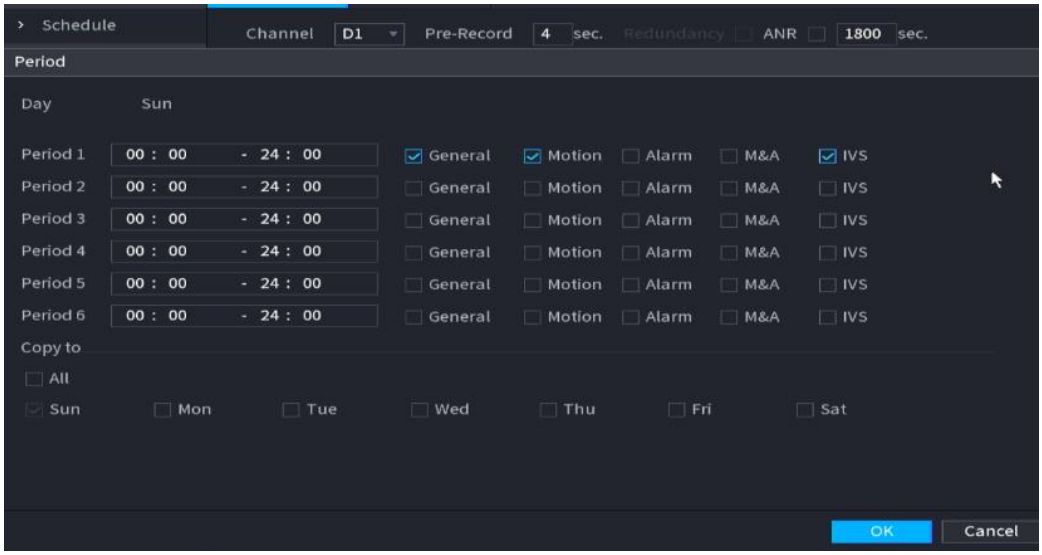


Below is an explanation of the fields on the **Snapshot** settings screen:

Channel: This dropdown box allows the user to pick which channel they would like to change video recording settings for
All: Link all days of the week to a selected recording type schedule.
Record Types: There are 5 types of recordings:
Regular: Regular recording means that the NVR captures all snapshots for the specified time period. Regular recordings are represented by green.
MD: Motion Detection recording means that the NVR captures only footage when the motion detection alarm is activated. MD recording is represented by yellow.
Alarm: Alarm recording means that the NVR captures only footage when an alarm is activated. Alarm recording is represented by the color red.

M&A: This type of recording is a combination of motion detection and alarm footage, and records when either a motion detection alarm or general alarm is activated. MD & Alarm recording is represented by the color white.
IVS: This type of recording means that the NVR will capture only footage when an IVS rule is triggered. IVS events will be represented as a blue color.

To set a recording schedule for your device, click on the **Settings** icon ( ) option located on the right of the day you wish to set the schedule. The system allows for the configuration of up to 6 different time periods.



Click the text next to each period to edit the time you wish to set for that specific period. Next, choose which record type you would like to set for each period. You will also need to select the days you wish to apply these settings. To select all days, select all options to apply the settings to all days of the week. Click **Save** to save this schedule to the system.

Click Default, to revert to default. Click **Copy to** to set to multiple channels. To apply the settings click **Apply**, to cancel, click **Back**.

HDD Manager

This screen is used to help the user monitor the NVR's hard drives. Using this screen, the user can see the current HDD type, status, and capacity. The user can also use this screen to format hard drives and change hard drive properties.

Below is an explanation of the fields on the **HDD Manager** settings screen:

1*: Displays how many HDDs the system is supported.
All: Select all HDDs detected by the system.
0 means that the current HDD is functioning normally.
X means there is an error with the hard drive connection, or that there is no connected hard drive.
? means that the hard drive is damaged and should be replaced.

Device Name: This column shows the names of the connected hard disk drives (HDD).
Physical Position: The location in which the HDD is connected to the device.
Type: This column shows the type of access the NVR has to the hard drive. To change the hard drive's type, click the downward arrow next to the HDD's type and select the desired type. There are 3 possible settings:
Read-Only: This allows the NVR to read the data but not modify it in any way.
Write-Only: This allows the NVR to write data to the HDD but not read any data from it.
Read/Write: This allows the NVR to both read and write data on the HDD.
Health Status: This column shows the status of the connected hard drive. There are 3 statues:
Normal: This means the hard drive is operating normally.
Error: This means the NVR is experiencing an error when attempting to access the hard drive.
Disconnected: This means that the HDD has disconnected from the NVR.
Free Space/Total Space: This field shows the free space on the hard drive compared to its total capacity.
Format: This option allows the user to format a connected HDD. This will erase all information from the HDD. To format the HDD, click the **Format** button, then click **Save** to complete the format.

To apply the settings click **Apply**, to cancel, click **Back**.

Record Mode

This screen allows the user to specify which channels can record and take snapshots. The settings on this screen supersede all others when it comes to allowing channels the ability to record information.

Below is an explanation of all the fields on the Record Mode settings page:

Mainstream: The mainstream is the stream through which the channels transmit data by default. There are 3 settings that can be used for the mainstream.
Auto: Channels will record as they have been scheduled, and not in any other capacity.
Manual: Channels will support all recording types. This includes scheduled recording.
Off: Channels will not record in any capacity. This includes scheduled and manual recording.
Sub Stream 1: These options allow the user to enable or disable sub stream recording types.
There are 3 settings that can be used for sub stream 1.
Auto: Channels will record as they have been scheduled, and not in any other capacity.
Manual: Channels will support all recording types. This includes scheduled recording.
Off: Channels will not record in any capacity. This includes scheduled and manual recording.
Sub Stream 2: These options allow the user to enable or disable a third stream of data if applicable.
There are 3 settings that can be used for sub stream 2.

- **Auto:** Channels will record as they have been scheduled, and not in any other capacity.
- **Manual:** Channels will support all recording types. This includes scheduled recording.
- **Off:** Channels will not record in any capacity. This includes scheduled and manual recording.

Snapshot: This set of options can either enable or disable the snapshot functionality for specific channels.
Enable: Enable snapshots to be recorded or sent from the system.
Disable: Disable snapshots from being recorded or sent from the system.

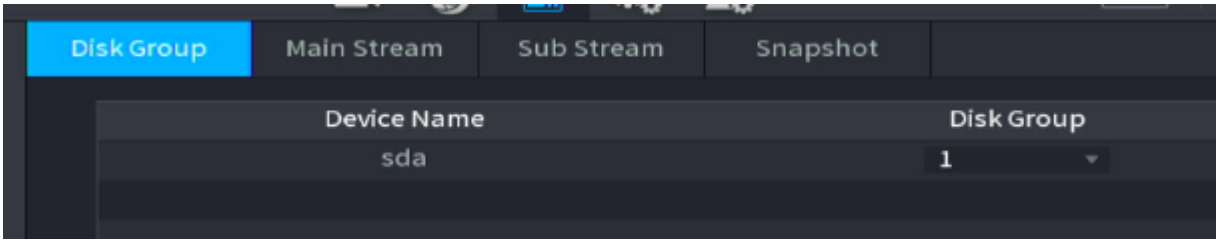
To apply the settings click **Apply**, to cancel, click **Back**.

Disk Group

This screen allows the user to set and group corresponding HDD and image settings.

Disk Group

This tab allows the user to set HDD groups and setup operations for mainstream, sub stream, and snapshot operations.



Note: This feature may not be available in all models and may be applicable to only certain model NVRs.

To apply the settings click **Apply**, to cancel, click **Back**.

Main Stream

The Mainstream interface allows the user to set corresponding HDD group to save to the mainstream configuration of a connected device.

Use the **Apply to All** dropdown menu to set all the channels to a specific HDD group. To apply to all channels, click **All**. To save the settings to the device click on **Apply.** To cancel, click **Back**.

Sub Stream

The sub stream interface allows the user set corresponding HDD group to save to the sub stream configuration of a connected device.

Use the **Apply to All** dropdown menu to set all the channels to a specific HDD group. To apply to all channels, click **All**. To save the settings to the device click on **Apply.** To cancel, click **Back**.

Snapshot

The Snapshot interface allows the user to set corresponding HDD group to save snapshot settings of a connected device.

Use the **Apply to All** dropdown menu to set all the channels to a specific HDD group. To apply to all channels, click **All**. To save the settings to the device click on **Apply.** To cancel, click **Back**.

Rec Estimate

The Rec Estimate can calculate how long the device can record video according to the HDD capacity and calculate the required HDD capacity according to the record period.

Below is a description of the information provided in this menu:

Channel: The channel which
Modify: Used to configure the resolution, frame rate, bit rate and record time for the selected channel.
Bit Rate (Kb/s): The bit rate currently used per channel.
Record Time: Represents a measure of time in which a channel is recording to the HDD.
Resolution: The current resolution of a connected device. If a device is not connected, the channel will read as 720P.
Frame Rate: The current frame rate of the connected device. If a device is not connected, the channel will read as 25 frames per second.
Known Space: Allows the user to calculate a record estimated based on the capacity, number of terabytes/gigabytes (TB/GB) and time (in days). Enter this information into the interface and click "Select" to run an estimation.
Known Time: Allows the user to calculate a record estimation based on a time (in days) and the capacity of the HDD. Enter this information into the interface and click "Select" to run the estimation.

RAID

The RAID (Redundant Array of Independent Disks) option provides a way to manage multiple hard drives within the NVR to improve data storage reliability and performance. Amcrest NVRs typically have a RAID configuration menu within their storage settings.

Note: Setting up RAID will erase all data on the selected drives, so ensure you have backups if needed. Different types of RAIDs can be created as needed.

RAID type	Required disk quantity
RAID 0	At least 2
RAID 1	Only 2
RAID 5	At least 3, however, it is recommended to use 4 to 6 hard drives
RAID 6	At least 4
RAID 10	At least 4

Self-Adaptive Synchronization: The RAID synchronization speed automatically adjusts based on system load. High-speed synchronization occurs during idle periods, while slower synchronization occurs during active use.
Sync Priority: Prioritizes RAID synchronization over other operations.
Business First: Prioritizes business operations over RAID synchronization.
Balanced: Distributes resources evenly between synchronization and business operations.

The system supports two methods for creating RAID arrays: automatic and manual.

- **One-Click Create:** To quickly create a RAID 5 array, select the desired hard drives and click "Create RAID." The system will automatically configure the selected disks as a RAID 5 array. This option is *only* available for RAID 5 configurations.

- **Manual Create:** For RAID configurations other than RAID 5, or for more advanced configuration options, select the desired hard drives and click "Create Manually." Follow the on-screen instructions to complete the RAID setup.

Note: When you delete a RAID group, the disks in the RAID group will be formatted.

RAID Info

Provides RAID information and details including type, disk space, hot spare, and status.

Hot Standby

The hot standby feature provides a crucial layer of redundancy to ensure continuous video recording and system operation in case of a main NVR failure.

Click the modify icon next to the hard drive and select the type:

Local Hot Standby : This option allows you to assign a dedicated hot spare disk to a specific target disk. If the target disk fails, the designated hot spare will automatically take its place.
Global Hot Standby : This option designates a single disk as a hot spare for the entire RAID array. If *any* disk in the array fails, the global hot spare will automatically take over.

For more information on these features and functionality, please visit amcrest.com/support

FTP

FTP stands for File Transfer Protocol. If using FTP, the recommended storage method would be SFTP. Please make sure a designated SFTP server is active before using this method. If SFTP is not set up, please use FTP and set it accordingly. Below is a description of the options provided in the SFTP or FTP mode menus.

Enable: Enable the FTP storage option.

Enable: Select between SFTP(Recommended) or FTP protocols.
Sever Address: Enter the server IP of the SFTP or FTP server.
Port: Enter the port number associated with your SFTP or FTP server. Please note, if using SFTP, use port 22, if using FTP use port 21.
Username: Enter the username associated with the SFTP or FTP server.
Password: Enter the password associated with the SFTP or FTP server.
Storage Path: Enter the destination folder or path in which the events will be retained in the SFTP or FTP server.
File Size: Designate the max file size of a recording in MB, 0 will be default.
Day: Schedule a day on which the recordings will be sent to the SFTP or FTP. If you would like the rule to apply to all days of the week, select **All.** Two separate periods can be selected with different times of the day for event or general record types.
Picture Upload Interval: The amount time in between snapshots before they are sent to the SFTP or FTP.
Channel: Click the **Setting** button to select Which channels will be recording to the SFTP or FTP.

For more information how to setup SFTP or FTP settings, please visit amcrest.com/support

To revert to default settings, click the **Default** button. To test the current settings, click **Test**. To confirm settings, click the A**pply** button. To exit the interface, click on the **Back** button.

System

These options allow the user to adjust or modify basic settings of the NVR including the date & time, security, and other settings related to the overall usage of the device.

General

This is also known as the Basic tab as it covers general basic settings of the NVR. Below is an explanation of the fields on the **General** settings screen:

Device Name: This field allows the user to customize the name of the NVR.
Device No: This field allows the user to customize the device's number.
Language: This dropdown box allows the user to select a language for the NVR. Options include English, Simplified Chinese, Traditional Chinese, Italian, Japanese, French, and Spanish.
Video Standard: This dropdown box allows the user to select a video standard. The options are between PAL and NTSC.
Sync Remote Device: This option allows device settings, including language, format, and time zone, to sync to a remotely connected device.
Instant Playback This field allows the user to set the playback time frame that is viewed in the preview interface. This value can range from 5 to 60 minutes.
Logout Time: This field allows the user to define in minutes how long the system can stay idle before a user is logged out. The value can range from 0 to 60 minutes.
Cam Time Sync: This field allows the user to define in hours how long a camera can stay idle before it is logged out. The values can range from 0 – 24 hours.
Interval: The refresh interval of the NVR can be set for 1 – 68 hours, it will be 24 hours by default.
Navigation Bar: This option allows the user to enable the navigation bar that shows on the main screen.
Mouse Sensitivity: This sliding scale allows the user to increase the movement and double click speed of the mouse.

To confirm settings, click the A**pply** button. To exit the interface, click on the **Back** button.

Date & Time

This screen displays date and time settings for the NVR. Below is an explanation of the fields on the Date & Time settings screen:

System Time: This field allows the user to set the system time and time zone. Click Save to save the system time as it is shown in the display.
Time Zone: This dropdown box allows the user to specify a time zone for the NVR to use.
Date Format: This dropdown box allows the user to specify a date and time format for the NVR to use. There are 3 options.
YYYY MM DD: Year, Month, Day.

MM DD YYYY: Month, Day, Year.
DD MM YYYY: Day, Month, Year.
Date Separator: This dropdown box allows the user to specify a date separator. There are 3 options:
– Dash
/ Forward Slash
_ Underscore
Time Format: This dropdown box allows the user to specify a time format for the NVR to use. There are two options.

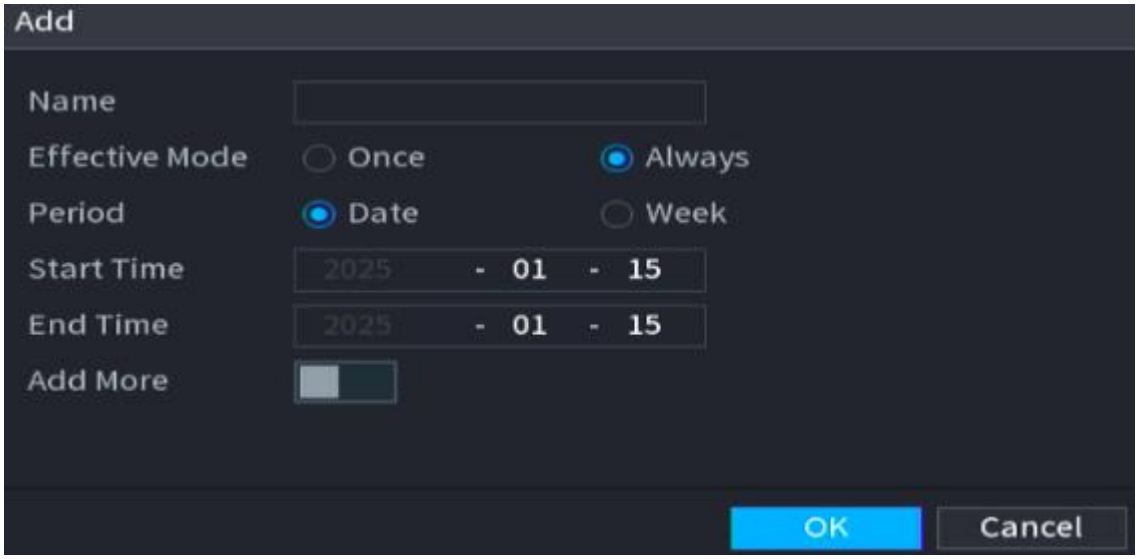
24 Hour
12 Hour

DST: This option allows the user to activate DST for the system.
DST Type: This field allows the user to pick whether DST starts on a specific day of the week, or on a specified.
Start Time: This field allows the user to enter a start date and time for DST to begin.
End Time: This field allows the user to enter an end date and time for DST to end on.
NTP: NTP stands for Network Time Protocol. This checkbox allows the user to enable the use of an NST server to synchronize the date and time settings on the NVR.
Server Address: This field allows the user to set the NTP server IP address. Clicking the **Manual Update** button pulls a time update from the server.
Port: This field allows the user to set the NTP server port number.
Interval (Min.): This field allows the user to set the NTP synchronization interval. This number determines how often the NVR queries the NTP server to get accurate date and time information. This value can be between 0 and 60 minutes.

To confirm settings, click the A**pply** button. To exit the interface, click on the **Back** button.

Holiday

This screen displays the holiday settings for the NVR. Holiday settings are used to allow the device to recognize holidays in the system which is set by the user. Click the **Add** button to configure.



Below is an explanation of the fields on the Holiday settings screen:

0: This number indicates how many holidays are in the system. Each line item has a number to signify its place in the list.
Status: This dropdown box indicates the status of the holiday. There are two options:
Open: The holiday is active, and the NVR will stop recording for that holiday period.
Stop: The holiday is inactive, and the NVR will continue normal operation for that holiday period.
Name: This column is where the name of the holiday is displayed.
Date: This column shows the date that the holiday occurs on.
Duration: This column shows the range in which the holiday occurs.
Operation: This column allows the user to edit or delete the holiday.
Edit ( ): This column has a button that allows for the editing of the holiday.
Delete ( ): This column has a button that allows for the deletion of the holiday.
Add Holidays: This button allows the user to add a holiday. Below is screenshot of the Add New Holidays screen.

Note: Holidays take precedence over the scheduled setup. Holidays do not roll over based on their inherent date. Meaning, if a holiday is set for October 30th, then the system will treat every October 30th as a holiday.
To confirm settings, click the A**pply** button. To exit the interface, click on the **Back** button.

Security

The Security menu, also known as the firewall tab, allows the user to decide which IP addresses can be whitelisted or blacklisted in the system. Below is a description of the fields in the security settings screen:

Enable: This option allows the user to enable the firewall feature.
Mode: Allows the user to choose which sites will be trusted (whitelisted) or blocked (blacklisted.
Host IP/Mac: The host IP/Mac address of the applied IP address.
Device Port: The port number of the whitelisted or blacklisted IP address.
Modify: Allows the user to edit an IP or port number of a whitelisted or blacklisted IP address.
Delete: Delete an added whitelisted or blacklisted IP address
Add: Click this button to add a trusted or blocked site into the system.

To confirm settings, click the A**pply** button. To exit the interface, click on the **Back** button.

Account

This menu is used to manage user accounts, user account passwords, and user groups. Below are a few considerations to keep in mind when editing this information:

The NVR comes with 2 usernames by default:

Username: admin **Password:** admin
Username: default **Password:** default

It is highly recommended to change the passwords for the admin and default accounts.
Each Username and user group name can only contain letters, numbers, underline marks, dashes, or dots. No empty spaces are allowed.

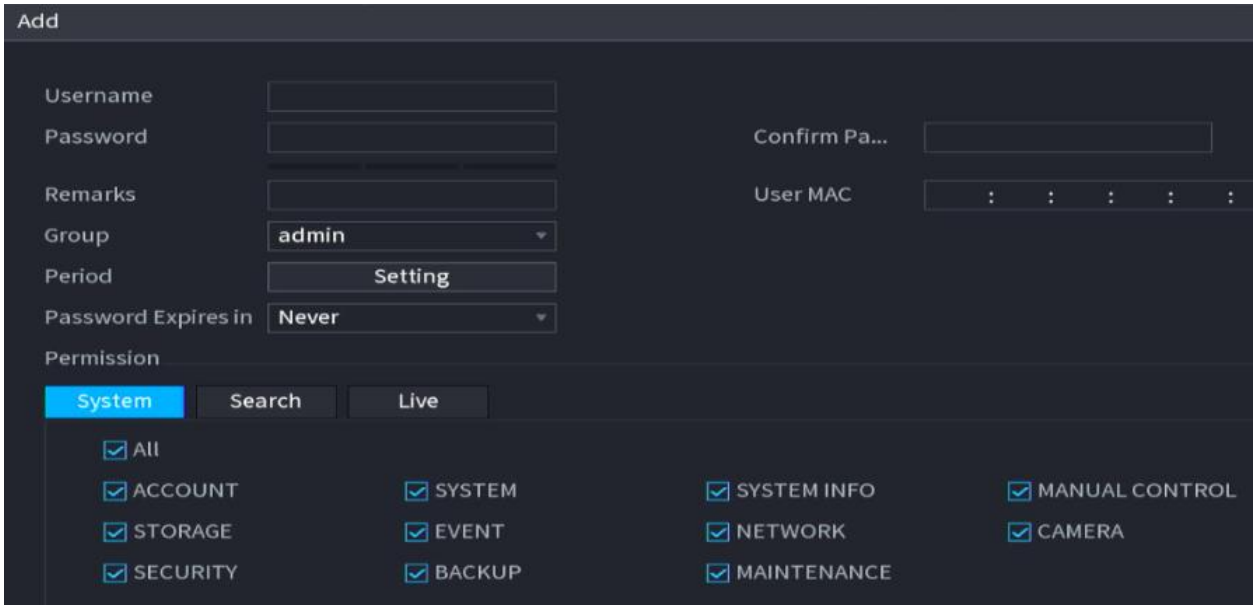
The maximum number of users is 64, and the maximum number of users that can be in one group is 20. There are two levels for user management: administrator and user. Administrator has more rights than a normal user and can modify key NVR settings. Each user can belong to only one group, and user rights cannot exceed group rights.

User

This screen is used to configure User Account settings.

Number: This number indicates how many users are in the system. Each line item has a number to signify its place in the list.
Username: This column indicates an account's username.
Group Name: This column shows which group the username belongs to.
Modify: This column has a button that allows for the account's properties to be edited.
Delete: This column has a button that allows for the account's properties to be deleted.
Status: The status of the user in the system.
MAC address: The MAC address in which the user's credentials are associated.
Memo: This column provides a brief description of the account's status in the NVR.
Add: This button allows the user to add another user account.

Below is a screenshot of the **Add User** screen.



Note: It is recommended to give the general user fewer rights than an administrative one. When a new user is created, a MAC address can be entered for the user. This can limit the user's ability to log on from

another device. If left blank, the user can log on from any MAC address. There is a total of 98 rights that can be assigned to a user.

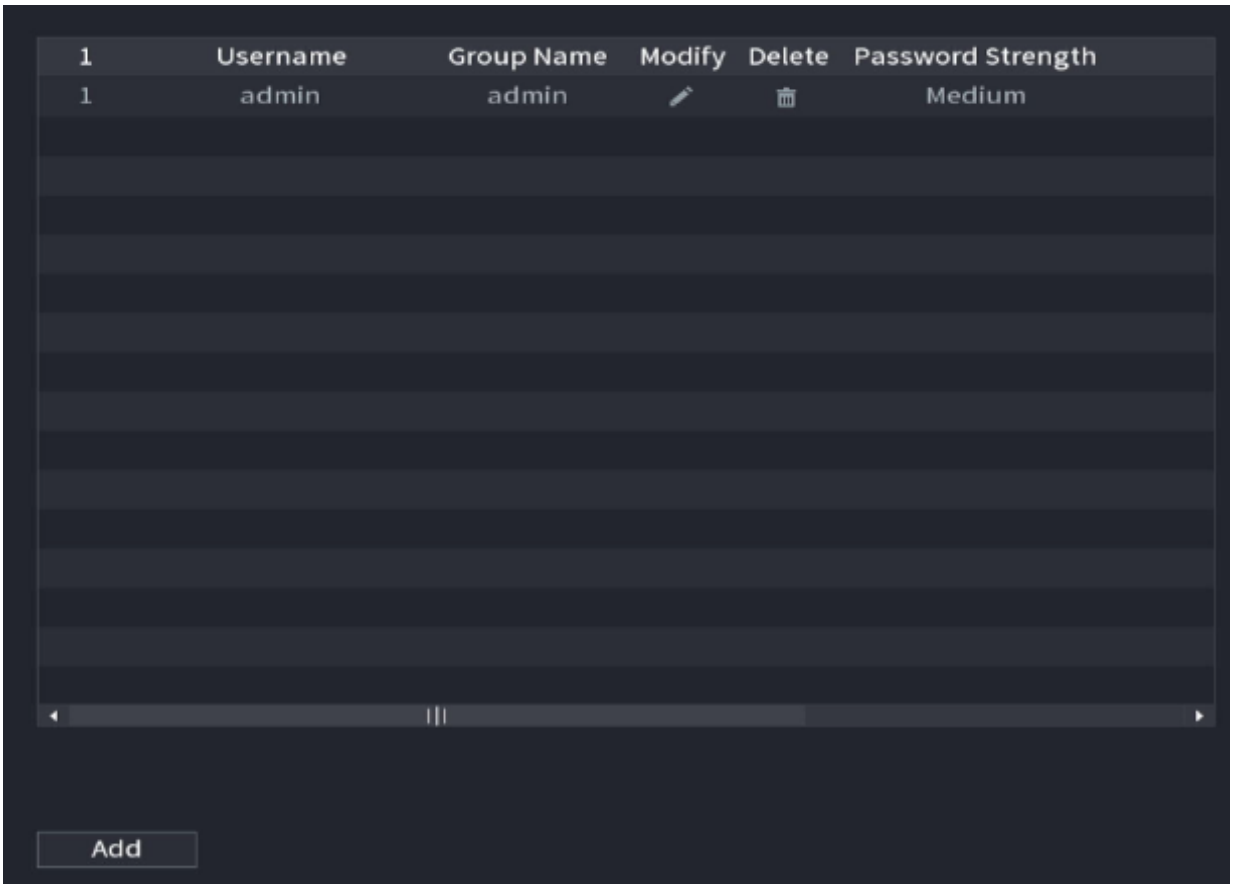
Group

This screen is used to configure Group account settings. Below is an explanation of the fields on the User Group settings screen:

Number: This number indicates how many groups there are in the system. Each line item has a number to signify its place in the list.
Group Name: This column indicates an account's username.
Modify: This column has a button that allows for the account's properties to be edited.
Delete: This column has a button that allows for the account's properties to be deleted.
Memo: This column indicates any notes about the user group.
Add Group: This button allows the user to add another user group. On the next page is a screenshot of the **Add Group** screen.

ONVIF User

This screen is used to allow ONVIF users to access the NVR using a shared user account.



Number: This number indicates how many users are in the system. Each line item has a number to signify its place in the list.

Username: This column indicates an account's username.
Group Name: This column shows which group the username belongs to.
Modify: This column has a button that allows for the account's properties to be edited.
Delete: This column has a button that allows for the account's properties to be deleted.
Password Strength: Displays the level of complexity of the ONVIF user's password.
Add: This button allows the user to add another user account.

Password Reset

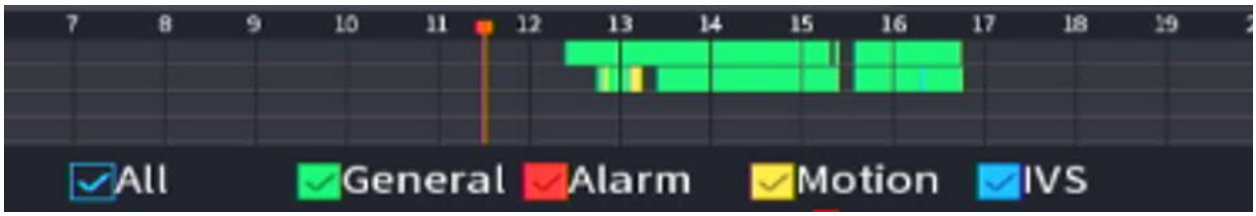
This screen is used to configure or modify security questions and email addresses used for password resets within the system. To update or modify a security question from the dropdown menu choose a security question from the **Question 1** field. Then in the **Answer** field, place the answer to that question.

Do the same for questions two. When you have finished creating your security questions, click on the **Set** button to set and apply the settings to your NVR. To delete a question, click on **Delete.**

To confirm settings, click the **Apply** button. To exit the interface, click on the **Back** button.

Playback

The **Playback** menu allows the user to view recorded data retained in the system. This includes recording types such as regular, motion detection, (MD), Alarm, and IVS. The system will need a hard drive installed to view recorded events.



Please refer to the following sheet for more information.

1. Playback Interface: The playback interface is where all searched video data will be displayed. The interface can support 1, 4, and 9 playback windows depending on the model.
2. Search Type: This area allows the user to display video or snapshot events. Events from a MicroSD card (if one is installed on the camera side) can also be selected.

From R/W HDD – Recordings or snapshots are pulled from the hard drive of the NVR.
From I/O Device – Recordings or snapshots are pulled from a microSD card on the camera side.

3. Calendar – The calendar provides dates in which events have been retained in the system. If there are any events for a specific date the data will be represented with a dot. Users can use the left and right arrow keys to switch between months.
4. CAM Name – This section provides names of connected cameras on the device. If data is applied to any of these channels, a timeline of the events will be displayed in the time bar interface. Please note, the user can switch between mainstream and sub stream recording by clicking on the "M" (mainstream) and "S" sub stream icons.

5. Duration and Modes: This section allows the user to view 24-hour, 2 hr., 1hr, or 30min recording intervals. It also provides specific modes such as fisheye mode (), mark file lists, as well as a file list mode.

Fisheye: This option is used to view fisheye recordings if a fisheye event is retained in the NVR.

Mark File List: This option is used to access the mark file list interface which allows the user to view all marked information on a current channel. For more information on this feature, please refer to section, *"Mark File List"*.

File List: This option is used to view a categorized list of all events found in the system. These are labeled by recording types such as, regular, motion events (MD), alarm, and IVS. Use the back icon () to exit the file list.

6. Recording Types: This banner allows the user to choose which recording types to view. Click the All option to view all recording types in the interface.

7. Recording Clipping/Saving – This option is used to clip and download/backup recordings onto a flash drive (if using locally) or on a computer (web UI). To use this feature, enter a start and end time for the event and click the scissors icon to clip it from the time bar. Once the file is clipped, click on the save button to download or backup the recording.

8. Time Bar – The time bar provides a linear representation of all events. The events are viewed based on the times they occurred and are color coded based on specific recording types; green (regular types), red (alarm types), yellow (motion detection types), and blue (IVS types).

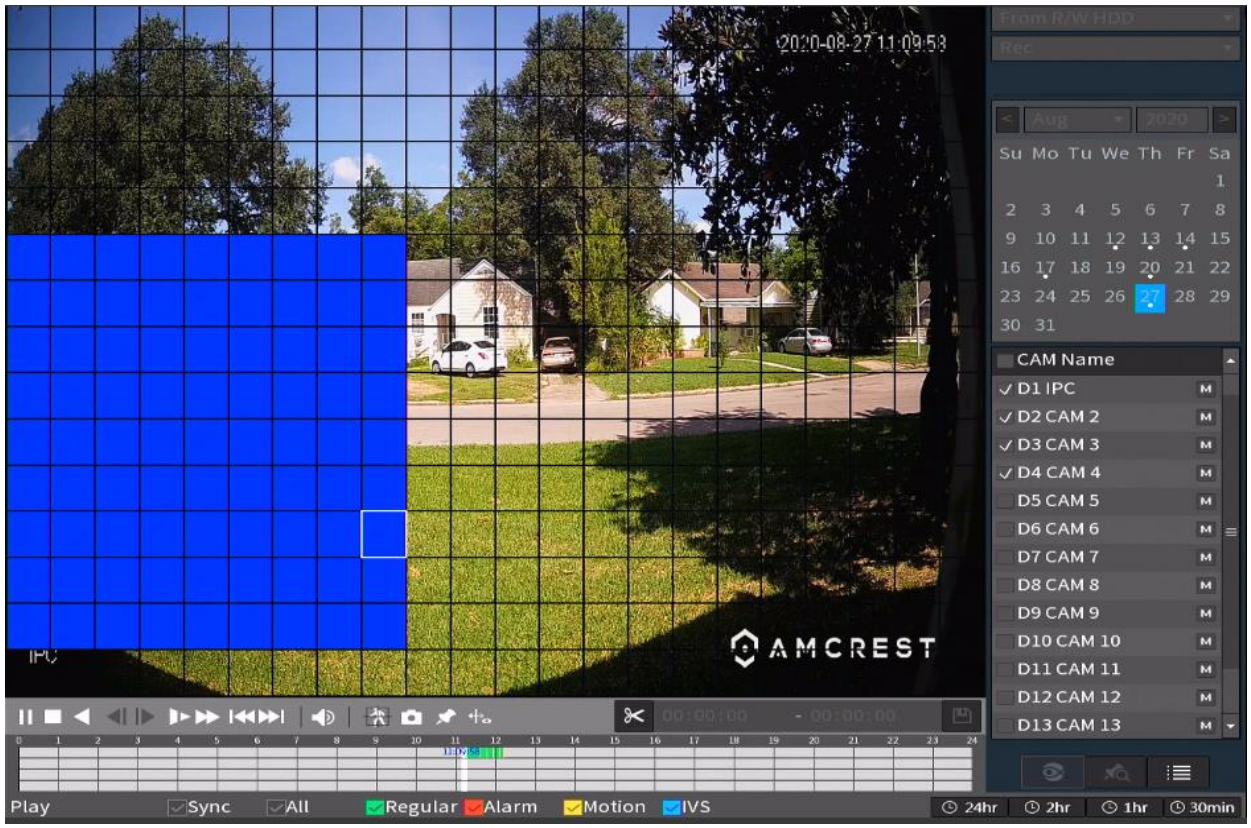
9. Playback options – Please refer to the table below:

Icon	Feature
▶	**Play:** Play a recording
⏸	**Pause:** Pause the recording
■	**Stop:** Stop the recording
◀	**Play Backwards:** Rewinds the recording. Click the play icon to resume play mode.
|◀	**Previous Frame:** Returns the recording to the previous frame in playback mode.
▶|	**Next Frame:** Moves the recording to the next frame while in playback mode.
	**Slow Play:** Plays the recording in slow motion modes.
▶▶	**Fast Forward:** Fast forwards the recording while in playback mode.
	**Volume:** Adjust the volume of the recording up or down using the volume slider.
	**Mark Button:** Adds a mark into the time bar while in playback mode.
	**IVS Overlay:** Enable/Disable IVS overlays while in playback mode.
	**Smart Search:** Provides motion grids on a recording while in playback mode.
	**Human/Vehicle:** Filter human or vehicle detection events.
	**Snapshot:** Takes a snapshot of the recording while in playback mode.
	**Quick Pick:** Provides a one-click search function to locate human/vehicle events. Only supported on cameras that support the quick pick feature. **Local GUI ONLY**.
	**Clip:** Used to clip an event by entering a start and end time for the clip.
	**Save:** Used to save and download a created clip.

Time Bar	Provides a timeline of all recording types for a selected channel. Different recordings will be displayed in different colors on the timeline. Use the recording type checkboxes to filter which recording types will be displayed in the playback timeline.
Digital Zoom	While in playback mode, select an area of the recording to digitally zoom in and out.

Smart Search

Smart search is used to create motion zones while in playback mode which helps to better define motion events. This option pertains only to motion detection events. While in full screen playback mode, click on the **Smart Search** icon to activate a motion detection zone grid and use your mouse to create a zone on the interface.



Once a motion detection zone grid has been created, click on the  icon to set a smart search. The interface will only display clips of motion events detected by the system.

To exit, click on the **Smart Search** option and select **Yes** to exit.

Accurate Playback by Time

Select records from one day, click the list, and you can go to the file list interface. You can input a time at the top right corner to search records by time.

For example, input time 11:00.00 and then click the Search button 

, and you can view all the record files after 11:00.00 (The records include the current time.). See image on the right side of the Figure 4-68 Double click a file name to playback.

Note: After you have searched files, the system implements accurate playback once you click Play for the first time.
The system does not support accurate playback for pictures.
The system supports synchronized playback and non-synchronous playback. The synchronized playback supports all channels, and non-synchronous playback only supports accurate playback of the currently selected channel.

Mark Playback

Please make sure your purchased device supports this function. You can use this function only if you can see the mark playback icon on the Search interface.

When you are playing back a record, you can mark the record when there is important information. After playback, you can use the time, or the mark key words to search for the corresponding record and then play. It is very easy for you to get important video information.

Add Mark

When system is in playback, click the Mark button , and you can go to the following interface.

Playback Mark

During 1-window playback mode, click the mark file list button  and you can go to mark file list interface. Double click one-mark file, and you can begin playback from the mark time.

Play before mark time.

Here you can set to begin playback from the previous N seconds of the mark time.

Note: Usually, the system can playback the previous N seconds of the record if there is a recording. Otherwise, the system playbacks from the previous X seconds when there is a recording.

Mark Manager

Click the mark manager button  on the Search interface; you can go to Mark.
Manager interface. The system can manage all the record mark information of the current channel by default. You can view all mark information of current channel by time.

Modify

Double click one-mark information item and you can see system pops up a dialogue box for you to change mark information. You can only change the mark name here.

Delete

Here you can check the mark information item you want to delete and then the Delete button to remove one-mark item.

Note: After you go to the mark management interface the system needs to pause the current playback. The system resumes playback after you exit the mark management interface.
If the mark file you want to playback has been removed, the system begins playing back from the first file in the list.

AI

The AI menu allows the user to manage, modify, and view artificial intelligence settings. The NVR supports the following AI features, face detection, face recognition, IVS (tripwire, intrusion, etc.), video metadata, people counting, heat map, ANPR, and Smart Motion Detection (SMD). **AI features such as people counting, heat map, and ANPR (license plate reading) will be supported on the camera side only.**

Smart Plan

A smart plan acts as the "master switch" for all AI features that are supported on the **camera side only**. Once the AI camera is registered to the NVR, a list of applicable smart plans will be displayed for the specified channel.



Select an applicable smart plan and click **Apply** before setting up the AI event by camera.

To set the click the **Refresh** button. To save a smart plan to your camera, click the **Apply** button. Click the **Back** button to cancel.

Face Detection

The face detection rule is used to capture and retain face events captured by the camera. The rule can be set up either by the NVR directly or by using a camera's smart plan if it is applicable. If using AI by camera, make sure the face detection smart plan is enabled before proceeding.

Below is a description of the features provided in the **Face Detection** menu.

Enable: This option is used to enable face detection. Use the channel dropdown to select a channel. Please note, the channel selected must reflect the same channel enabled in the smart plan menu.
Type: This menu allows the user to choose if the AI feature will be controlled by the camera or controlled by the NVR. **AI by Camera** will allow the feature to be controlled by the camera, **AI by Device** will allow the feature to be controlled by the NVR's built in face detection capabilities.
Rule: Allows the user to adjust and customize the detection area as well as name the rule if needed.
Schedule: Allows the user to set a schedule in which face detection will be triggered.
Alarm-out: Allows the user to set general settings for an external alarm.
Post Alarm: Allows the user to delay recording for a specified time after the event ends.
Send Email: This checkbox allows the user to enable the camera to send an email when an event is triggered. For more information on how to setup email alerts, please visit amcrest.com/support
Record Control: The channel is currently enabled.
Post Record: The Delay (in seconds) before the system begins detecting for the same alarm/event.
PTZ Linkage: Allows the user to activate pan, tilt, and zoom options. Please note, this is only applicable to PTZ controlled devices.
Tour: Used to set up a tour for multiple channels. Please note, this is only applicable for PTZ controlled devices.
Buzzer: Enable a buzzer to alert each time an alert is triggered.
Log: Allows an alarm signal to be uploaded to the network and retain in the log menu.
Alarm Tone: Plays an audio file set by the user once an alert is triggered.
More: Allows the user to set a remote device alarm output if needed.

- **Enable:** Enable a remote device to be triggered if connected.
- **Alarm-out:** Default will be 1.
- **Post Alarm:** Allows the user to delay recording for a specified time after the event ends.
- **Camera Audio:** Allow the camera to trigger a siren (if supported) once an object is detected.
- **Duration:** The amount of time the siren will sound.
- **File:** The type of siren that will sound once the rule has been triggered.

To reset to default settings, click the **Default** button. To refresh the page, click the **Refresh** button. To save the settings, click the **Apply** button. Click the **Back** button to cancel.

Using Face Detection

• Open the face detection parameter menu and select whether the rule will be triggered by the NVR or by the camera. Use the **Type** dropdown menu to select the record type. If using AI by Camera, please make sure the smart plan for face detection is selected in the smart plan menu.

• Click the **Enable** button and select the setting option next to **Rule**. Move and adjust the detection area as needed and give the rule a name. The rule will be **Face Detection** by default. Click **OK**.
• Modify any scheduling or remote notifications that will occur after the face event is detected. If email alerts are set in the NVR, select send email to have an email notification sent after the face event has been detected.
• Face events can be viewed in the **Smart Search** option located in the AI menu. Select Face Detection from the smart search menu, enter the date and time of the events you wish to view and click **Search**. A display of all face detection events will be displayed in the interface. To add a detected face into a face database for face recognition, click the **Add to Face Database** option, enter any additional information and select a database to move the image.

Face Recognition

Face recognition is used to locate and determine facial similarities detected by the NVR. Images are registered in a face database within the NVR, by the user, and accessed using the face recognition smart search tool that is built into the NVR.

Note: A USB flash drive with applicable facial images (in jpeg format) should be inserted into a USB port on the NVR if you are importing images locally.

Below is a description of the options in this menu:

Channel: Use the channel dropdown to select a channel. Please note, the channel selected must reflect the same channel enabled in the smart plan menu.
Type: The **Type** menu allows the user to choose if the AI feature will be controlled by the camera or controlled by the NVR.
Enable: This option is used to enable face recognition.
AI Mode: Used to switch between general and stranger alarm modes.
Schedule: Allows the user to set a schedule in which face detection will be triggered.
Target Face Database: This option is used to import a created face library.

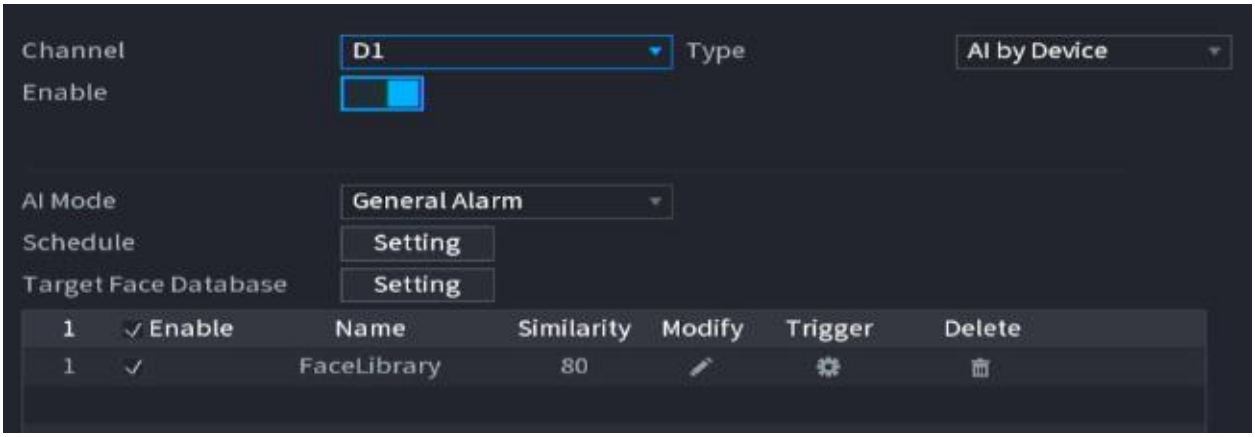
To reset to default settings, click the **Default** button. To refresh the page, click the **Refresh** button. To save the settings, click the **Apply** button. Click the Back button to **Cancel**.

Using Face Recognition

There are two methods of face recognition, general alarm mode or stranger mode. General Alarm mode allows the device to use the images registered in the face library as a reference to recognize faces. Stranger mode will alert the system once an unrecognized face is detected.

Note: General Alarm mode can only be set up locally on the NVR or by using Internet Explorer on a PC. If using Face Recognition on other browsers, such as Google Chrome or Firefox, please use Stranger Mode.

• Click on the **Face Recognition** option located in the **Parameters** section. Click **Enable** to enable face recognition. Click **Apply** to save.
• Click on the **Database** option located in the AI menu and click on **Add** to begin registering images to a face library. **A face library must be registered for this feature to function properly.** Enter a name for your face library and click **Save.**
The library will now be saved to the database. Click on the **Details** section to begin adding images into the to the face library.
If you have a single image to add click **Register ID**, if you have multiple images to add click on **Batch register**. Follow the on-screen prompts to add the images into the library. Once the images have been successfully modeled into the database, left click on the interface to exit.
• Navigate back to the **Face Recognition** menu in the **Parameters** section and click on the **Setting** option in the **Target Face Database** field. Select the face library you just created and click **OK** to insert the library of registered images into the interface.
• Select an AI mode from the **AI Mode** drop down menu. **General Alarm** mode allows the device to use the images registered in the face library as a reference. Enabling the **Stranger Alarm** to alert the system once an unrecognized face is detected. Click **Apply** to save the settings to your system.

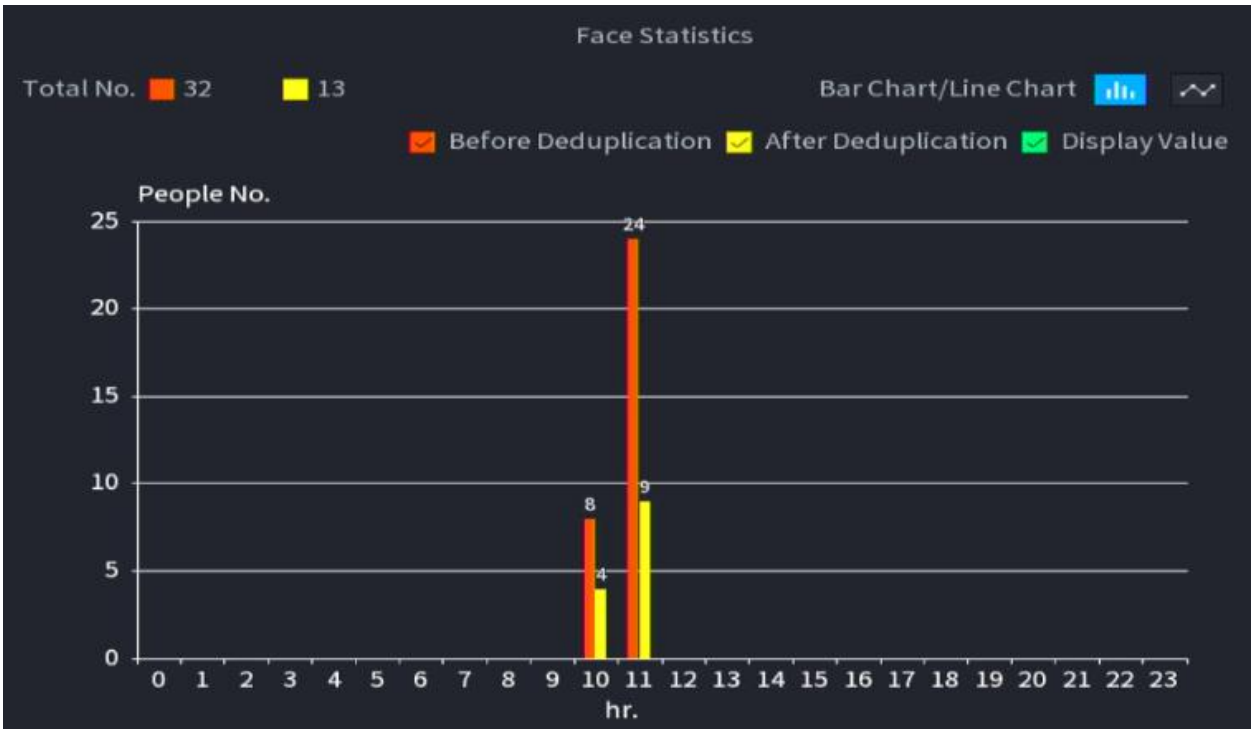


Note: To adjust **General Alarm** settings, click on the **Trigger** (gear) icon and select which additional options you would like to apply to this feature. Be sure to click **Apply** to save the settings to your device.

To view face recognition events, click on the **Smart Search** option and select face recognition. Enter a start and end time in the period section and select any additional attributes if needed. Click **Search** to display the events.

The NVR can also search for recognition events by facial images by clicking the Search by Picture option. Upload the face images using a USB flash drive to the NVR and click local upload. Enter the start and end date & time of the event and click **Search** to generate the events.

A report on all face recognition events can be viewed in the **Reports** menu by selecting **Face Statistics**. Enter the start and end time of the events and click **Search**.



Before Deduplication: The raw count of face detection events recorded by the NVR, before any filtering or consolidation of repeated detections of the same individual.
After Deduplication: The number of unique faces detected by the NVR.
Display Value: The number of events captured or displayed in the OSD overlays.

IVS

IVS stands for intelligent video system analytics. It provides advanced perimeter protection options such as tripwire and intrusion. IVS features can be controlled by the NVR or by the camera directly if using a smart plan. The NVR has 2 built-in IVS features available (Tripwire and Intrusion) whereas some Amcrest AI cameras may have additional IVS features depending on the model of the camera.

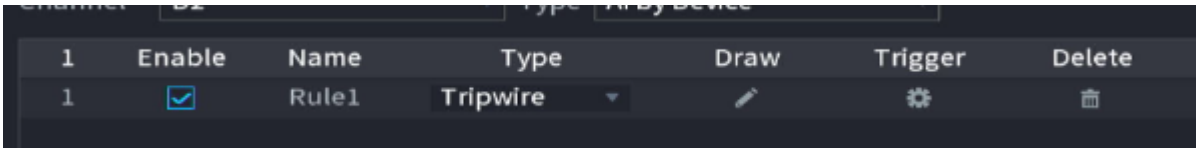
Below is a description of the features in this menu:

Channel: Use this dropdown menu to select which channel will apply to the AI feature.
Type: Select if the IVS features are controlled by the NVR or by the camera.
No: Provides the order in which the IVS rules will be displayed on the menu.
Name: Allows the user to customize a name for their rule. Double click the name in the Rule column to modify.
Type: Allows the user to choose specific IVS features available in the device.
Add: The “Add” button is used to add additional IVS rules to the live view screen.
Trashcan Icon: The trashcan icon is used to delete a set IVS rule from the device.

Setting an IVS Rule

All IVS rules can only be set or modified using the local GUI or web UI, they cannot be set any mobile apps or other platforms. For more information on setting IVS rules, please refer to the information below.

- Access the IVS parameters menu and select which channel the rule will apply.
- Click on the **Type** dropdown menu and select whether the rules will be controlled by the camera (AI by Camera) or the NVR (AI by Device). Click the trashcan icon to remove the default type. If using AI by camera, please make sure the smart plan for IVS is applied in the smart plan menu.
- Click on the **Add** button and select an IVS rule from the Type dropdown menu.



- Click on the **Draw** (pencil) icon, to begin configuring the rule.

There are 2 IVS rules available by device:

Tripwire: Allows the device to trigger an event if an object, such as a human or vehicle, crosses a set tripwire line.
Intrusion: Allows the device to trigger an event if an object, such as a human or vehicle, appears or crosses a set intrusion area.

- Use your mouse to draw an area or line on the interface. Click on the interface and use your mouse to draw an area or line, click your mouse on the interface when done, then right click to set the area or line to the system.

If you would like to add a name for the rule, enter a name in the **Name** box. The **Direction** drop down menu allows you to choose a direction in which the rule will be triggered. Object filters can be enabled for accuracy. Click **OK**.

The **Draw Target** option is used to set a minimum or maximum detection area. It is recommended to leave this as default; however, it can be modified. Use the Clear (trash can) icon to remove a drawn area or line.

The **Object Filter** switch enables object filtering options that allow you the ability to determine if a human or vehicle has entered the area. If Person is chosen, the rule will only be triggered if a human figure is detected. If Vehicle is chosen, the rule will only be triggered if a vehicle is detected by the system. Both object filtering options can be used simultaneously if needed.

If you would like to add multiple rules to the device, click on **Add** and repeat the IVS setup process for the rule. Click **Apply** once all IVS rules are set. Use the Trigger (gear) icon to apply any additional settings

to an IVS rule, such as enabling email snapshots, etc. To delete an IVS rule, click on the delete (trash can) icon.

Note: All IVS events can be viewed in the Playback interface or in the "IVS" smart search option located in the **Smart Search** menu.

Video Metadata

Video Metadata is used to monitor and provide reports of the vehicles, non-motor vehicles, or people detected by the NVR within a specific time frame. This feature can be controlled using the AI by Camera type (if supported by an AI camera) or AI by Device.

Video metadata reports can only be viewed if using the AI by Camera type, however, the NVR has built-in video metadata retention and playback options using the video metadata smart search options.

Channel: Use this dropdown menu to select which channel will apply to the AI feature.
Type: Select if the feature is controlled by the NVR (AI by Device) or by the camera (AI by Camera).
Add: Adds metadata parameters into the interface if modifying metadata types.
Enable: Enable or disable the video metadata type.
Name: The name of the metadata type being applied to the feature.
Type: Select between human detection, non-motor vehicle detection, or motor vehicle detection.

- **Human Detection:** Detects all humans metadata traits.
- **Non-motor Vehicle Detection:** Detects objects such as motorcycles, mopeds, or other vehicles that are not cars and trucks.
- **Vehicle Detection:** Detects vehicles such as cars and trucks.

Draw: Customize the detection area, name, or other options related to the metadata type.
Delete: Removes the video metadata type from the interface.

To reset to default settings, click the **Default** button. To refresh the page, click the **Refresh** button. To save the settings, click the **Apply** button. Click the Back button to **Cancel**.

Using Video Metadata

The NVR has built-in video metadata features such as human detection, non-motor vehicle detection, and vehicle detection. Choose which channel to apply the feature using the **Channel** list, then use the **Type** dropdown menu to choose a device type. In this example, we will be using the built-in video metadata features (AI by Device).



The available metadata traits will be imported; however, they can be removed using the delete icon, or the add icon, a maximum of 3 traits can be applied. Make sure the traits are enabled in the **Enable** field and use the **Draw** icon to customize the trait or detection area of the trait if needed. Click **Apply** to set the parameters. Please note, face detection and face recognition cannot be used simultaneously with video metadata.

To view events captured by the selected traits, open the **Smart Search** menu. To view all human events/traits detected, select **Human Detection**, enter the start and end times of the events as well as any other metadata traits using the provided dropdown menus if needed, click **Search**. The same method can be applied to view non-motor vehicles, and motor vehicle events. Please note, if using ANPR, license plate data can be viewed in the "Motor Vehicle Detection" smart search menu.

People Counting

People Counting is used to provide statistics based on the number of people who enter and exit a certain area. **The NVR does not support people counting directly**, this feature can only be used if the camera registered to the NVR supports people or area counting. A people counting smart plan music be enabled within the NVR for people counting to work.

Below is a description of the features listed in this menu:

Channel: Use the channel dropdown menu to select the proper channel for this feature.
Enable: This option is used to enable people counting features.
Name: The name used on the detection line. The name will default to "NumberStat1"; however, it can be modified.
Type: Enabled as **People Counting** or **In Area No.** depending on the model and type selected. People counting provided a set detection line, whereas area detection provides a custom detection area.
Draw: Used to customize the people counting rule.

- **Name:** Customize the name of the detection line or area.
- **Draw Rule:** Customize the detection area of the rule. Select either Draw Area to customize the detection area, use Draw Rule to customize the detection line.

Parameters: Used to enable/disable the OSD overlay, and set enter, exit, and stranded numbers of units.

- **OSD:** Use the reset option to reset and clear the enter/exit data in the interface.
- **Enter No.:** The number of people it takes to trigger a person entering the set area to be counted. For efficiency, it is highly recommended to leave this as default (0).
- **Exit No.:** The number of people it takes to trigger a person exiting the set area to be counted. For efficiency, it is highly recommended to leave this as default (0).
- **Stay No.:** The amount of people it takes to generate an alarm who loiter in the set area. For efficiency, it is highly recommended to leave this as default (0).

Trigger: Use these options to set notification, schedule, or modify other alarm related options.

- **Schedule:** Allows the user to set a schedule in which the feature will be applied.
- **Alarm-out:** Allows the user to set general settings for an external alarm.
- **Post-Alarm:** The Delay (in seconds) before the system begins detecting for the same alarm/event.

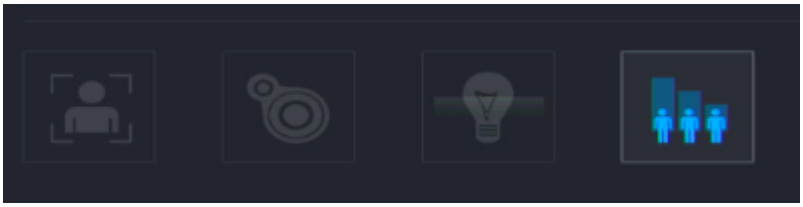
• **Send Email:** This checkbox allows the user to enable the camera to send an email when an event is triggered.
• **Record Control:** The channel is currently enabled.
• **Post Record:** Allows the user to delay recording for a specified time after the event ends.
• **PTZ Linkage:** Allows the user to activate pan, tilt, and zoom options. Please note, this is only applicable to PTZ controlled devices.
• **Tour:** Used to set up a tour for multiple channels. Please note, this is only applicable for PTZ controlled devices.
• **Buzzer:** Enable a buzzer to alert each time an alert is triggered.
• **Log:** Allows an alarm signal to be uploaded to the network and retain in the log menu.
• **Alarm Tone:** Plays an audio file set by the user once an alert is triggered.
• **Camera Audio:** Enable or disable the siren/deterrent feature of the camera (if applicable).
• **Add:** Add an additional people counting feature to the interface. A maximum of 8 can be applied.

To reset to default settings, click the **Default** button. To refresh the page, click the **Refresh** button. To save the settings, click the **Apply** button.

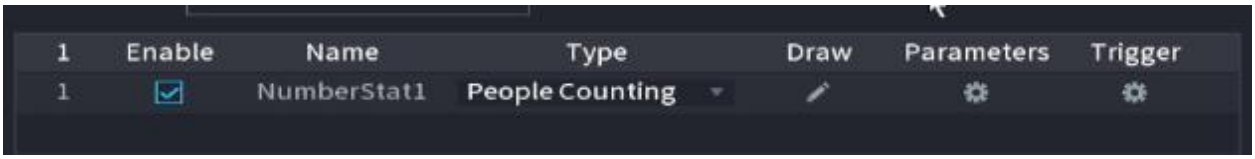
Setting A People Counting Rule

People Counting is used to provide statistics based on the number of people who enter and exit a certain area. **The NVR does not support people counting directly**, this feature can only be used if the camera registered to the NVR supports people or area counting. A people counting smart plan music be enabled within the NVR for people counting to work.

• Open the **Smart Plan** menu and activate the People Counting Smart Plan. Click **Apply**.



• Open the **People Counting** option in the **Parameters** menu and click **Enable**.



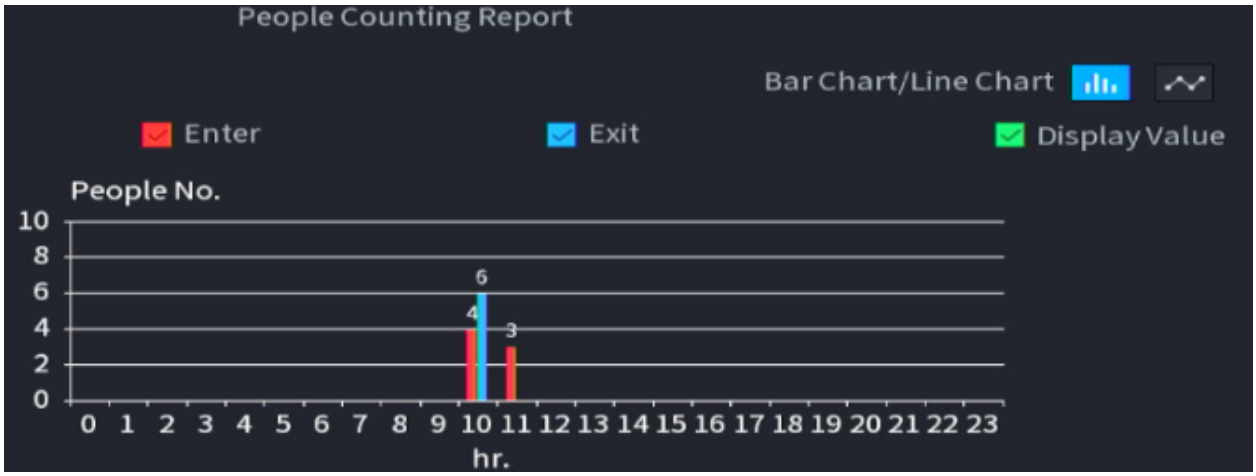
• Click on **Draw** if you would like to update the NumberStat1 line or customize the detection area. The NumberStat1 line is the threshold in which the system will count the number of people entering or exiting the area. Set any additional parameters if needed and click **OK.**
• Click on the **Parameters** option to reset any OSD information. Use the items listed in the **People Counting Alarm** section to modify how many people it will take for the alarm to trigger if a person

enters or exits an area. It is highly recommended to leave these fields as default (0) for best results. Click **OK.**

• Click on the **Trigger** button to set any additional notification or other settings related to the feature. If you would like to set a schedule for the feature, click schedule option and set a specific date or time you would like to be applicable. Click **OK**.

To reset to default settings, click the **Default** button. To refresh the page, click the **Refresh** button. To save the settings click the **Apply** button.

Note: All People Counting data can be viewed graphically in the **Reports** menu.



Heat Map

Heat Map is a tool used to determine the overall crowd flow (density) over a certain amount of time in a specific area. Heat map provides a color-coded layout of the density with red being the highest level to blue which is the lowest level.

Below is a description of the options in this menu:

Channel: Use the channel dropdown menu to select the proper channel for this feature.

Enable: This option is used to enable **Heat Map**.

Schedule: Allows the user to set a schedule in which the rule applies.

To reset to default settings, click the **Default** button. To refresh the page, click the **Refresh** button. To save the settings click the **Apply** button.

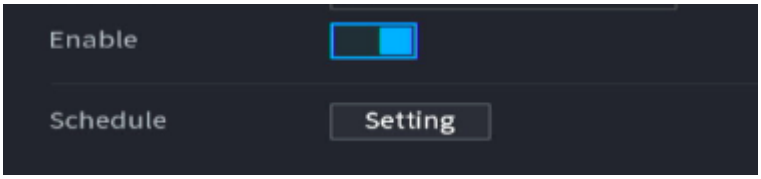
Setting up Heat Map

The Heat Map feature can be used in conjunction with an IVS rule if needed. For more information on how to set up a heat map, please refer to the information provided below.

• Open the **Smart Plan** menu and activate the **Heat Map** smart plan. Click **Apply**.



• Navigate to the **Heat Map** option in the Parameters section and click **Enable**. Click Apply.



Note: A schedule can be set for this feature by clicking on the **Setting** button in the **Schedule** field. This will allow the feature only to function during specific times set by the user.

Note: All Heat Map data can be viewed graphically in the **Reports** menu under the **Heat Map** option. If dewarping is needed for fisheye cameras, select the fisheye tab and search for the heat map reports in this menu.

ANPR

The ANPR option allows the user to sync vehicle blocks and allow lists as well as view license plate data if a license plate reader camera is applied to the NVR. Please note, this option is only applicable to license plate reader cameras, all other models that do not support ANPR will not be compatible with this option.

Please note, this option is only for license plate detail retention. The camera must be set up for ANPR first before applying it to the NVR for retention. **All other ANPR camera settings, such as LPR capture areas, will have to be modified in the license plate camera directly using a web user interface**. For more information on license plate reader cameras, please visit amcrest.com/support

Below is a description of the features in this menu.
Channel: Use the channel dropdown menu to select the proper channel for this feature.
Sync Vehicle Blocklist/Allowlist: Sync any block/allow lists that have been applied to the camera.
General: Select whether the rules applied will apply to all license plate numbers.
Block List: Select whether the rules will be applied to only blocklisted plate numbers.
Allow List: Select whether the rules will be applied only to plate numbers authorized by the camera.
Schedule: Allows the user to set a schedule in which the feature will be applied.
Alarm-out Port: Allows the user to set general settings for an external alarm.
Post-Alarm: The Delay (in seconds) before the system begins detecting for the same alarm/event.
Send Email: This checkbox allows the user to enable the camera to send an email when an event is triggered.
Record Control: The channel is currently enabled.

Post Record: Allows the user to delay recording for a specified time after the event ends.
PTZ Linkage: Allows the user to activate pan, tilt, and zoom options. Please note, this is only applicable to PTZ controlled devices.
Tour: Used to set up a tour for multiple channels. Please note, this is only applicable for PTZ controlled devices.
Buzzer: Enable a buzzer to alert each time an alert is triggered.
Log: Allows an alarm signal to be uploaded to the network and retain in the log menu.
Alarm Tone: Plays an audio file set by the user once an alert is triggered.

To reset to default settings, click the **Default** button. To refresh the page, click the **Refresh** button. To save the settings click the **Apply** button.

How to Use ANPR

The capture area and other settings must be applied on the camera side before enabling this feature in the NVR. If any license plate numbers have been placed on the allow or block lists in the camera, please select **Sync Vehicle Blocklist/Allowlist**.

The additional notification options will apply to all events, block list events, or allow list events if needed. Select the notification type or any other applicable settings, then click **Apply** to save.

Once ANPR data is captured, click on the **Smart Search** and select Motor Vehicle Detection. option to view the events. Enter the date and time range of the event and click **Search**. A list of LPR data will be shown. Select an event to view, use the play option to view the event. Events can be backed up on a USB drive or thumb drive if needed to export locally.

SMD

The SMD menu allows the user to set human and vehicle detection. This option can be controlled by the camera (if the camera supports this function) or by the NVR.

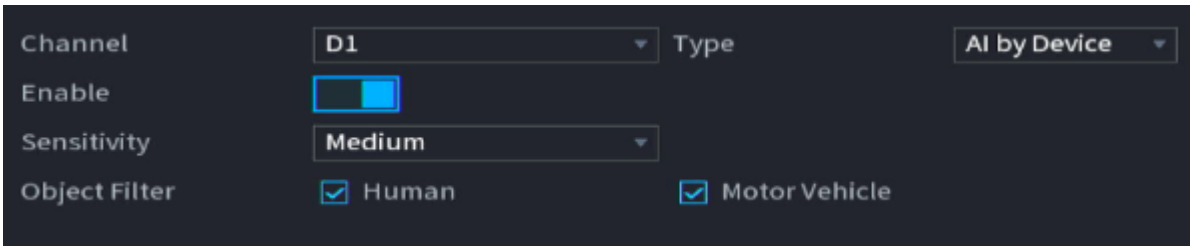
Schedule: Allows the user to set a schedule in which the feature will be applied.
Alarm-out Port: Allows the user to set general settings for an external alarm.
Post-Alarm: The Delay (in seconds) before the system begins detecting for the same alarm/event.
Send Email: This checkbox allows the user to enable the camera to send an email when an event is triggered.
Record Control: The channel is currently enabled.
Post Record: Allows the user to delay recording for a specified time after the event ends.
PTZ Linkage: Allows the user to activate pan, tilt, and zoom options. Please note, this is only applicable to PTZ controlled devices.
Tour: Used to set up a tour for multiple channels. Please note, this is only applicable for PTZ controlled devices.
Buzzer: Enable a buzzer to alert each time an alert is triggered.
Log: Allows an alarm signal to be uploaded to the network and retain in the log menu.
Alarm Tone: Plays an audio file set by the user once an alert is triggered.

To reset to default settings, click the **Default** button. To refresh the page, click the **Refresh** button. To save the settings click the **Apply** button.

Setting An SMD Event

The SMD menu allows the user to set human and vehicle detection. This option can be controlled by the camera (if the camera supports this function) or by the NVR. In this example, we will be using the NVR to set up SMD.

1. Select a channel and click **Enable**.



2. Select an object filter, either human, vehicle, or both, and click **Apply**.

3. After an SMD event is captured, access the smart search menu, enter a start and end range for the events and click **Search** to view the events.

Smart Search

The **Smart Search** menu allows the user to view and access AI events from a centralized location. For more information, please refer to the information provided below.

Viewing Face Detection Events

All face detection data retained by the system can be accessed via the **Face Detection** option located in the **Smart Search** menu. Enter a start and end date and time for the event you would like to view in the Smart Search interface and click **Search**.

A display of all face detection data will be displayed along with facial attributes. Click on the event you would like to view, and a clip of the event will be displayed in the built-in player. Click on the play icon to view the event.

Storing a Face Detection Event

Face detection events can be stored on a USB flash drive. Insert the flash drive into a USB port on the device then click the check box next to the event you wish to store. If you would like to store all files, click on the **All** checkbox at the top of the interface. Click **Backup** to store the event, or multiple events to the USB flash drive. There will be a “File Type” drop down menu, select MP4 from the file type menu can click **Start**.

Once the backup process is complete, click **Save**. The files will be stored onto your USB flash drive and the MP4 recordings can be viewed on a computer.

Viewing Face Recognition Events

All face recognition data retained by the system can be accessed via the **Face Recognition** option located in the **Smart Search** menu. A search by attributes or a search by image can be performed. Searching by attributes will load all face recognition data found in the system whereas searching by an image will filter and display only the faces chosen by the user.

To search by attributes, enter the start and end time of the event in the interface and then click **Search**. The interface will display all face recognition data. To view the event, click on the event you would like to view then click the play button in the interface.

To view specific face recognition data by image, click on the **Search by Image** tab located in the **Face Recognition** interface.

If searchable images are already uploaded into a face library click on **Face Library** and select an image from the interface, then click **Save** to begin a search. If you would like to add images locally click **Local Upload** and follow the on-screen prompts to upload images. A USB flash drive with applicable images (in jpeg format) can be used to upload images to the NVR. Once an image has been loaded, enter the start and end time of the event, and click **Search.**

The system will display all face recognition data based on the image selected. All face recognition data can be backed up locally using a USB flash drive.

Viewing IVS Events

Any IVS data retained on the system can be viewed using the IVS Smart Search interface or via the playback menu if an IVS schedule is set in the system.

To view IVS data using the IVS smart search interface, click on the **IVS** option located in the Smart Search menu. Enter the start and end time of the event and click **Search**. A layout of all IVS events will be displayed for the selected date & time range. To view the event, select the event from the interface and click the play button. The event can also be stored using a USB flash drive.

Viewing Human Detection Events

The human detection smart search menu will allow you to view all video metadata human events captured and retained on the NVR. Metadata filters can also be applied to view human events with attributes such as gender, age, work wear, face masks, etc.

To view human detection events using the smart search interface, click on the Human Detection option in the Smart Search menu. Enter the start and end times of the event and click **Search**. A layout of all human detection events will be displayed for the selected date & time range. To view the event, select

the event from the interface and click the play button. The event can also be stored using a USB flash drive.

Viewing Motor Vehicle Events

The motor vehicle smart search menu allows you to view all vehicle video metadata and ANPR (license plate) events captured and retained on the NVR. Metadata filters can be applied to these events such as vehicle types, color, specific license plate number, logos, etc.

To view motor vehicle events using the smart search interface, click on the Motor Vehicle Detection option in the Smart Search menu. Enter the start and end times of the event and click **Search**. A layout of all motor vehicle events, including any license plate data (if using an LPR camera) will be displayed for the selected date & time range. To view the event, select the event from the interface and click the play button. The event can also be stored using a USB flash drive.

Viewing Non-Motor Vehicle Events

Non-motor vehicle events include objects such as bicycles, motorcycles, or other smaller vehicles. The non-motor vehicle smart search menu allows you to view all these events captured and retained on the NVR. Metadata filters can be applied to these events such as vehicle types, color, number of passengers, whether they are wearing a hat, etc.

To view non-motor vehicle events using the smart search interface, click on the Non-Motor Vehicle Detection option in the Smart Search menu. Enter the start and end times of the event and click **Search**. A layout of all non-motor vehicle events will be displayed for the selected date & time range. To view the event, select the event from the interface and click the play button. The event can also be stored using a USB flash drive.

Viewing SMD Events

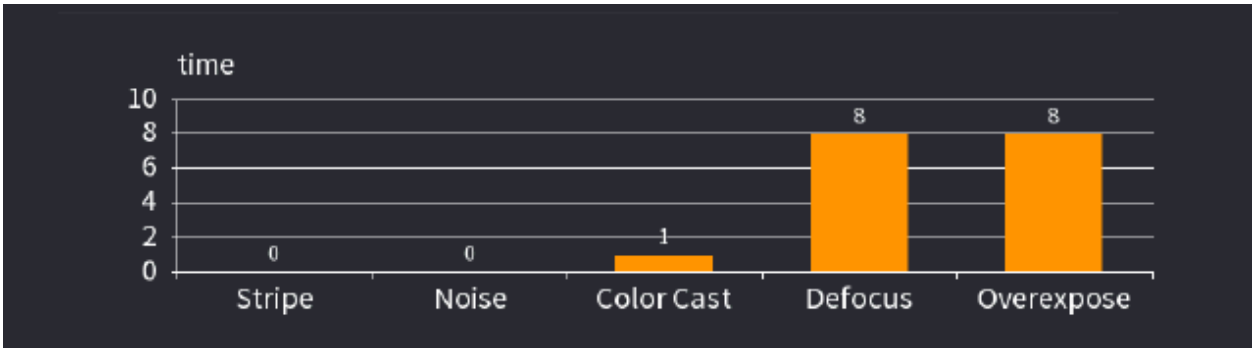
SMD (Smart Motion Detection) events are related to human and vehicle only events retained on the NVR. A list of all SMD events can be viewed or exported in the smart search menu.

To view SMD events using the smart search interface, click on the SMD option in the Smart Search menu. Enter the start and end times of the event and click **Search**. A layout of all SMD events will be displayed for the selected date & time range. To view the event, select the event from the interface and click the play button. The event can also be stored using a USB flash drive.

Analytics List

The Analytics List option allows you to view and manage the intelligent video analytics events that have been triggered by the cameras connected to the NVR. These events can include things like face detection, intrusion detection, tripwire, and people counting. This option is only applicable on the local interface and only supported by cameras that support this function.

To view an analytics list using the smart search interface, click on the Analytics List option in the Smart Search menu. Enter the start and end times and click **Search**. A list with the date & times of the events as well as a graph of the number of times the event occurred will be displayed in the interface.



Database

The database menu allows the user to set face databases for face recognition as well as add or search for vehicle block/allow lists for ANPR events.

Face Database

A face database can be assigned to an NVR to allow the device to retain specific face images to recognition rules. This can be a local or remote database; however, it is recommended to store it locally. A passerby database can also be applied which works to enhance facial recognition capabilities by automatically storing images of faces that are detected but not recognized as belonging to individuals already in your existing face database.

For more information on how face libraries function please refer to the *face recognition* section. If setting locally, ensure a USB flash drive with applicable images is connected to a USB port on the NVR, all images modeled in the database will have to be in “jpg” format.

To add a face library, click the **Add** button and enter a name for the library. Select **Details** and click **Register**. Click the “+” icon to import an image. Enter a name, gender, and other additional information into the interface, then click **OK**. The NVR will begin to model the images. After the database has been “Armed” you can then apply it to a face recognition rule within the NVR.

Vehicle Blocklist/Allowlist

This option is only applicable to license plate reader cameras. To add a plate number into this list click Add. Enter the plate number, owner’s name, and use the Type drop down menu to select whether it will be placed on the allow or block list. Verify the validity period of the rule and click **OK**.

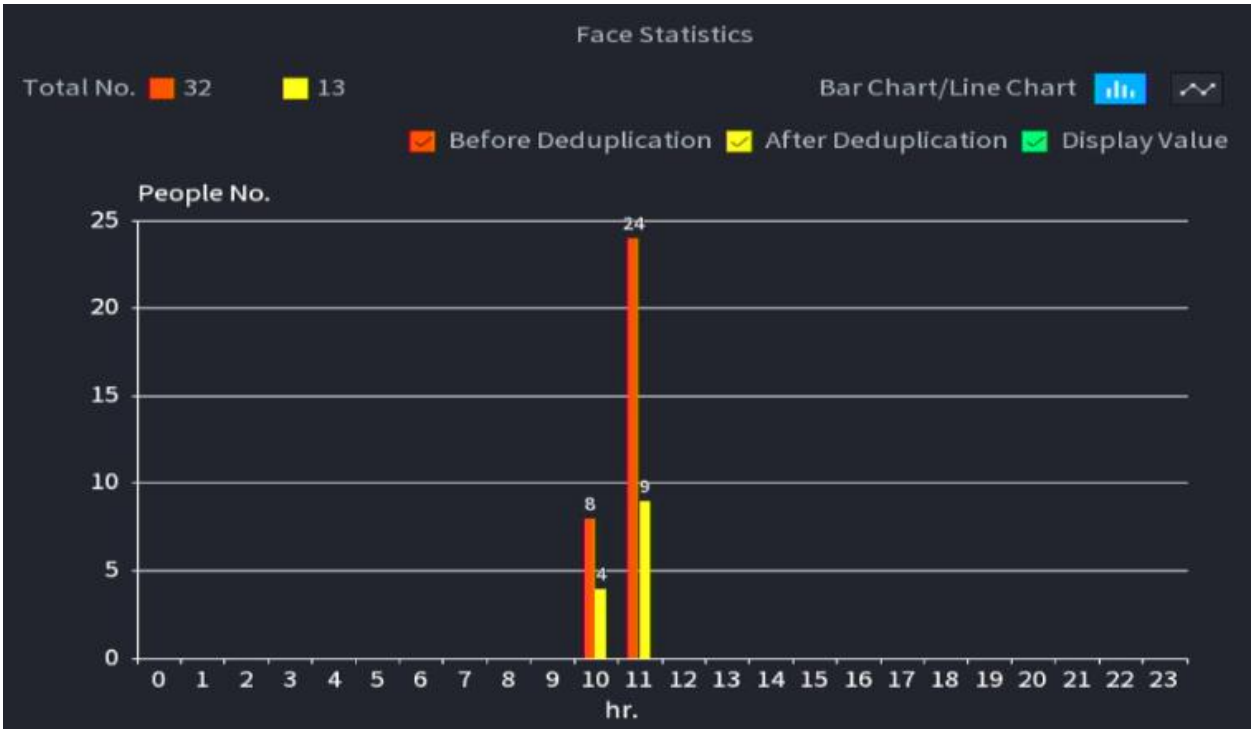
To search for a plate number, enter the plate number, owner’s name, etc. and click **Search**. This will display the data in the interface. To export the data to a USB thumb drive, insert a USB drive into the NVR and click **File Backup**. Enter the backup information into the interface and click **Backup** if needed.

Reports

This menu allows you to view, access, and export reports for features such as face events, people counting, video metadata, and heat maps.

Viewing Face Statistics

A report on all face recognition events can be viewed in the **Reports** menu by selecting **Face Statistics**. Enter the start and end time of the events and click **Search**.



Before Deduplication: The raw count of face detection events recorded by the NVR, before any filtering or consolidation of repeated detections of the same individual.
After Deduplication: The number of unique faces detected by the NVR.
Display Value: The number of events captured or displayed in the OSD overlays.

An excel spread sheet of this data can be exported and backed up via a USB flash drive. To export this data to a USB flash drive, insert a USB flash drive into a USB port on the NVR. Click **Export** in the interface. Click **OK**, this will export the excel sheet to your flash drive.

Viewing People Counting Data

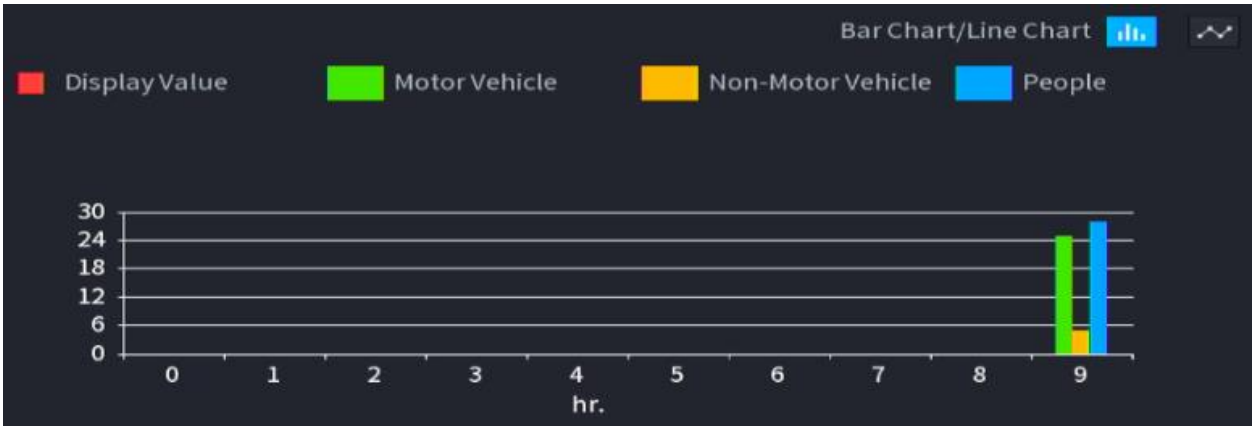
People counting data shows the number of people reported by the system entering or exiting the area within a specified amount of time. This information is displayed graphically using a histogram or a line graph and can be exported to a USB flash drive if needed. For more information on how to view people counting data please refer to the information provided below.

• Click on the **People Counting** option located in the **Smart Search** menu. Enter the start and end time of the report in the **Start Time** and **End Time** fields and click **Search**.
2. Reports can be pulled in daily, monthly, or yearly increments. Click on the **Report Type** drop down menu to access additional reports if needed. Click **Search** to view statistics.

• A chart will be displayed on the interface showing how many people have entered or exited the area. You can use the Histogram/Polygon buttons to switch between different report types.
• An excel spread sheet of this data can be exported and backed up via a USB flash drive. To export this data to a USB flash drive, insert a USB flash drive into a USB port on the NVR. Click **Export** in the interface. Click **OK**, this will export the excel sheet to your flash drive.

Viewing Video Metadata Reports

Video metadata reports represent graphically the number of motor vehicles, non-motor vehicles, and people detected by a camera. This can be a daily, monthly, or yearly reporting if needed. **A video metadata report can only be viewed if using AI by Camera, it does not support AI by device**. To view a video metadata report, select a channel and choose a reporting type. Enter the start and end times of the reporting and select a specific "direction" in which the event occurred if needed, this can be from A to B, B to A, or A <-> B. The "None" option will display all directions, click **Search**.



An excel spread sheet of this data can be exported and backed up via a USB flash drive. To export this data to a USB flash drive, insert a USB flash drive into a USB port on the NVR. Click **Export** in the interface. Click **OK**, this will export the excel sheet to your flash drive.

Viewing Heat Map Data

Heat Map data determines the overall crowd flow (density) over a certain amount of time in a specific area. Heat map provides a color-coded layout of the density with red being the highest level to blue which is the lowest level.

To view Heat Map data, click on the **Smart Search** option and click on **Heat Map**. Enter a start and end time into the interface and click **Search**. The heat map period cannot exceed one month of reporting. All heat map data will appear in the interface.

Note: To back up a heat map image, click on **Export** then click **OK**. This will save a BMP image to an external USB flash drive.

Alarm

The **Alarm** menu allows the user to view live alarm information as well as configure alarm event actions such as motion detection. To access the Alarm section, click on the Alarm option located on the main menu.

Alarm Info

This feature allows the user to search for specific types of alarms related to the system. These specific types of alarms include Motion Detection, Video Loss, Tampering, Abnormalities, Local Alarms, Intel, etc. You can also select **All** to view all log and alarm information.

To use this feature, access the alarm info interface and select the type of alarm you are searching for from the dropdown menu. Enter the start and end times in the **Start Time** and **End Time** fields and click **Search.** The alarm you are viewing will be accessible via the alarm info list. In this list you can view information such as the log time, event type and playback. To playback the event, click on the playback icon.

If you require to back up any alarm events, the alarm info interface has a backup option. When selected, all selected files will be saved to an external USB storage NVR. To backup events from this menu, click on **Backup** and follow the on-screen instructions. Also, for a more detailed description of the selected event, click on the **Details** options located next to the backup button.

Alarm Status

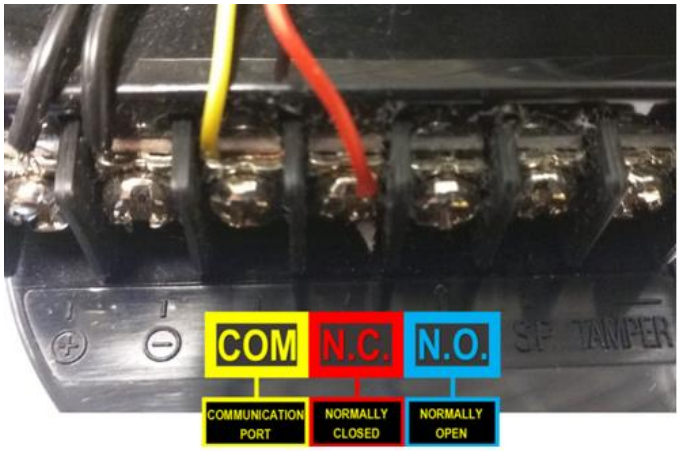
This feature provides the status of a set alarm type. The information provided in this menu will be automatically generated by the system if an alarm has been set in the system. The alarm **Type** section indicates the type of alarm that is set up and the alarm **Status** portion shows the status of the alarm.

Alarm-in

This feature is related to an external alarm system. If you have your system hooked up to an external alarm system, via an RS485 port on the NVR you will be able to view alarm events from the NVR on this screen. This screen also allows you to send email alerts and configure status, config, and PTZ settings if applicable. To check the status of your alarm box, click on the **Status** button located on this menu. alarm events can also be accessed in this menu by clicking on the **Alarm** tab.

These options allow the user to configure an external alarm information. The external alarm must be physically installed on the device to use this feature. For more information on how to set an external alarm, please refer to the information provided below.

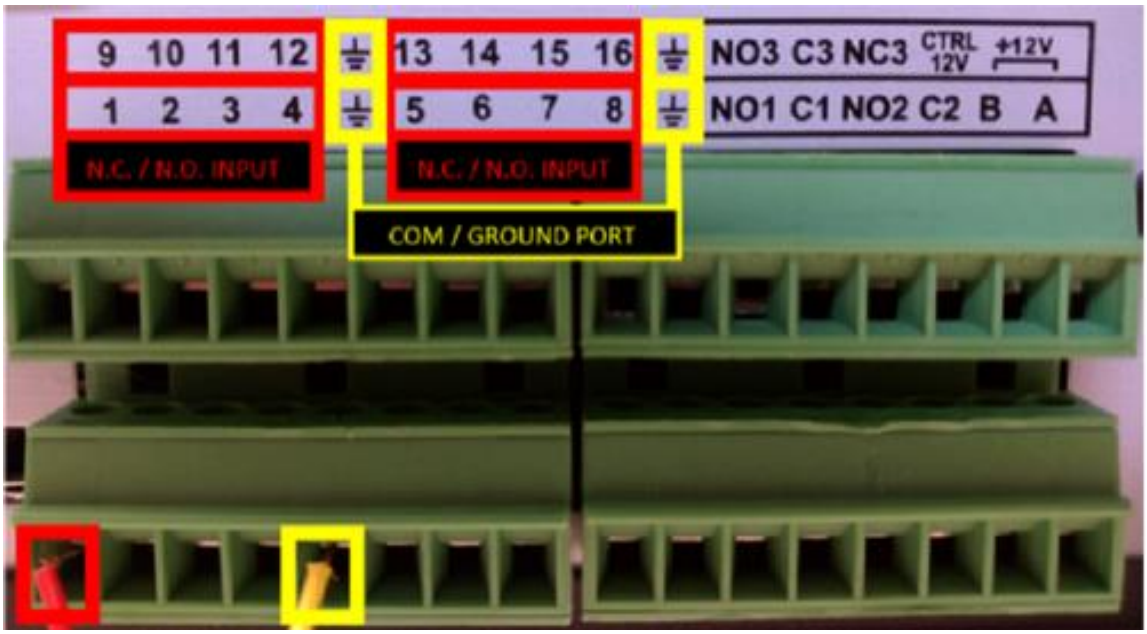
1. Identify the connections to the alarm trigger.



COM: Communication Port or Ground N.C: Normally Closed - A Trigger that initiates when an object disrupts the communication line of 2 sensors
N.C: Normally Closed - A Trigger that initiates when an object disrupts the communication line of 2 sensors
N.O: Normally Open - A Trigger that initiates when an object completes the communication line of 2 sensors.

2. Connect the N.C. (Normally Closed) wire to one of the numbered ports. Connect the COM wire to the COM / Ground Port.

Alarm Inputs are grouped in four.
Each group uses the Communication/Ground Port on the right. Alarm Inputs are grouped in four. Each group uses the Communication/Ground Port on the right.



3. Once the alarm has been physically installed, navigate to the **Alarm Input** menu, and click **Enable**.

4. Select the Alarm In port that was connected in step 2.



5. Set the Alarm trigger type.

Normally Closed: (NC) A Trigger that initiates when an object disrupts the communication line of 2 sensors.
Normally Open (NO): A Trigger that initiates when an object completes the communication line of 2 sensors.



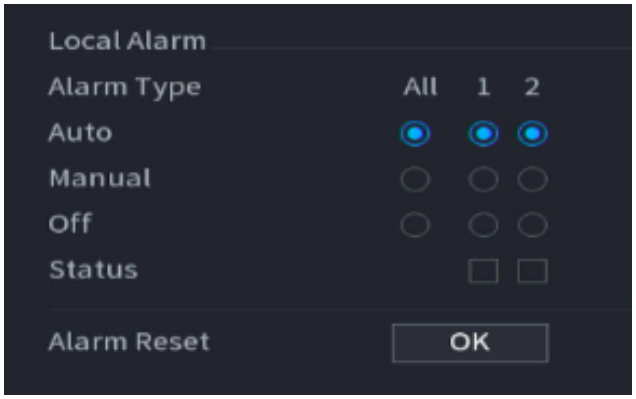
6. Configure the alarm trigger settings. Click **Apply**.

Show Message: An alert will appear on the display attached to the system when the alarm is triggered.
Record Channel: Configure the alarm to trigger recording on a specific channel, or all.
Send Email: A Snapshot will be taken and sent to an email address if one is set up in the system.

The other **Alarm Input** tabs can be used to setup other alarms such as a network alarm, which allows a network connected alarm (on the same network segment as the NVR) to be configured, IPC external alarm, which allows an external camera (with alarm output connections) to be configured to the NVR, and IPC Offline, which allows an offline IPC device, such as a camera, to be configured to the alarm inputs of the NVR.

Alarm-Out

When the system receives an alarm, the connected external alarm will generate an alarm which can be configured in this section. You can connect to the output port of the NVR if a port is available on your specific model NVR.



Auto: When an alarm event is triggered on the NVR, the connected alarm NVR generates alarms.
Manual: The alarm NVR is forced to keep generating alarms.
Off: The alarm output function is not enabled.
Status: The connection status of the alarm.
OK: Click the **OK** button to release the alarm.

For more information about the parameters listed in this menu, refer to the table provided below.

Parameter		Description
General Alarm	Alarm Type	Select alarm type for each alarm output port.
	Status	Indicates the status of each alarm output port.
Ext. Alarm	Alarm Box	Select the alarm box number corresponding to the address number configured by the DIP switch on the Alarm Box.
	Alarm Type	Select the alarm type for each alarm output port.
	Status	Indicates the status of each alarm output port.
Alarm Release		Click **OK to** clear all alarm output status.
White Light *optional		Select if applicable to certain models that detect specific light spectrums and may be disabled by default.
Siren *optional		Select if applicable to certain models that enable siren technology. This option may be disabled by default.

Video Detection

The detect tab allows users to set Motion Detection, Video Masking, and Video Loss events for their system.

Tips:
The motion detection icon will be present if the motion detection alarm has been triggered on the current channel.
To set the motion detection region, click and drag the mouse over the desired region. Once the region has been set, click the **Apply** button to save the current region setup, and right click on the mouse to exit the motion detection interface.

Motion Detection

The motion detection settings screen is where motion detection can be set up for each individual channel. Based on the active motion detection region, the NVR can generate a motion detection alarm when a moving signal is detected in a specified area.

Below is a description of the fields on the Motion Detection settings page:

Channel: The channel dropdown menu is used to select which channel you would like to use to set your motion detection.

Enable: This checkbox allows the user to enable the motion detection function for a specific channel. To select a channel, click on the drop-down menu provided on the right.
Schedule: This setup button takes the user to the motion detection period settings screen.
Click and drag on the yellow bars to specify time zones for motion detection. To edit multiple days at once, either click the checkboxes next to the names, or click the checkbox next to All to edit all the days at once. Once the checkbox is clicked, press save to save and apply your detection settings. Click Cancel to undo any changes and return to the motion detection settings screen. Click **Default** to use the default settings.

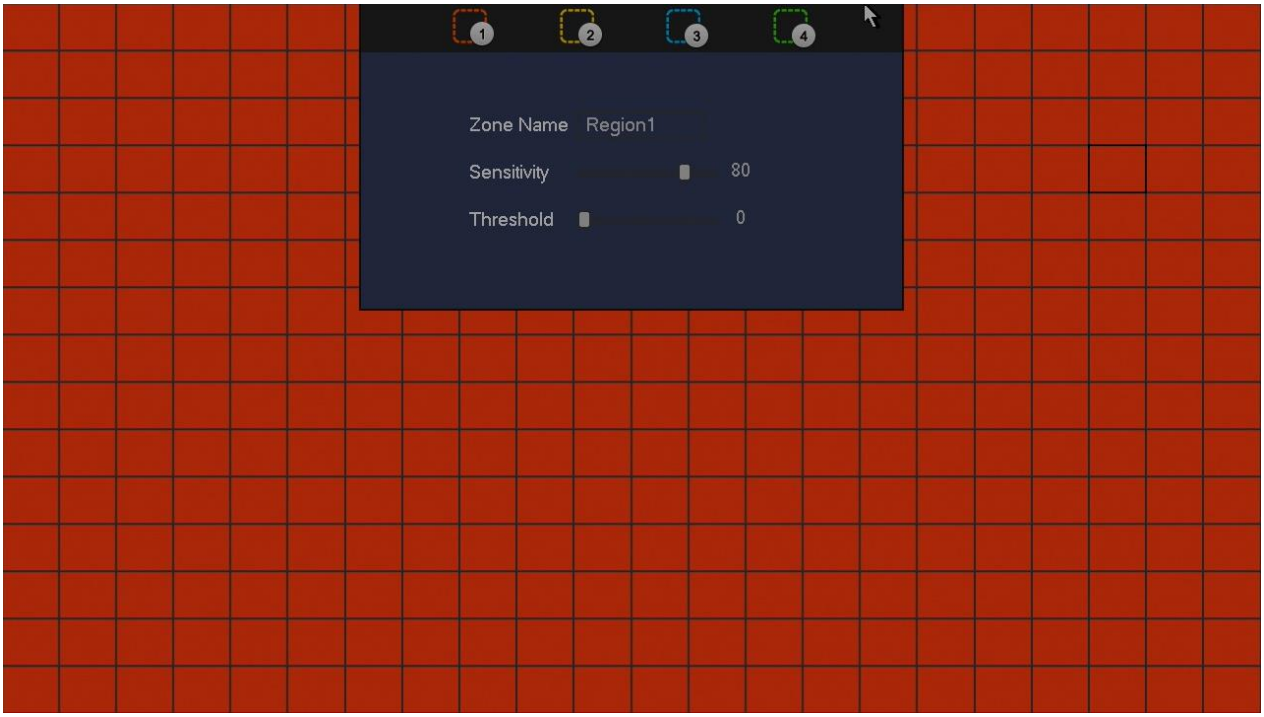
To specify time zones in greater detail for each day, click the Setup button to the left of the time bar, and the Time Period setup screen will appear.

The system allows for the configuration of up to 6 different time periods. Click the checkbox to the left of the time period to enable that time period. Click the text next to each period to edit the time period. To copy time periods, click the checkboxes next to the days of the week that you would like to copy the settings. Once finished on this screen, click Save to return to the time period settings screen.

Anti-Dither: This field allows the user to set the anti-dither time. The values in this field can range from 5 to 600 seconds. This time value controls how long the alarm signal lasts. Based on motion detection, a buzzer can go off, a tour can begin, PTZ can be activated, a snapshot can be taken, or a channel can begin recording.

For example, if the anti-dither time is set to 10 seconds, each alarm may last 10 seconds if the local alarm is activated. During the process, if the system detects another local alarm signal at the fifth second, the buzzer, tour, PTZ activation, snapshot, record channel functions will begin another 10 seconds while the screen prompt, alarm upload, email will not be activated again. After 10 seconds, if the system detects another alarm signal, it can generate a new alarm since the anti-dither time has expired.

Alarm Out: Click **Setting** to display setting interface.
General Alarm: Enable alarm activation through the alarm NVRs connected to the selected output port.
External Alarm: Enable alarm activation through the connected alarm box. Wireless Siren: Enable alarm activation through NVRs connected by USB gateway or camera gateway.
Post Record: Set a length of time that will delay turning off alarms after the external alarm is cancelled. The value ranges from 0 seconds to 300 seconds, and the default value is 10 seconds. If you enter 0, there will be no delay.
Region: The setup button takes the user to the motion detection region setup screen for that specific channel. On the next page is a screenshot of the motion detection region screen.



When the setup button is clicked, the current channel's interface comes into a full screen view. The user can then set up 4 regions, each with their own region name, sensitivity (1-100), and threshold (1-100). Each region has a specific color, and the region selector tool is displayed when the mouse is moved to the top of the screen.

Sensitivity is the amount of change required to increase the motion detected by a percentage. The lower the sensitivity, the more movement is required to trigger an alarm.
The threshold is the level that the motion detection needs to reach to trigger an alarm.
The lower the threshold, the more likely that motion will trigger an alarm.

To designate a zone, click and drag the mouse over the desired area. When a colored box is displayed over the live feed, that area is now enabled for motion detection. Clicking the FN button will switch the mode between armed and disarmed, so that clicking and dragging the mouse can either designate a motion detection zone or remove any motion detection zone markers.
After the motion detection zone is set, click the enter button to exit the motion detection screen. Remember to click the save button on the motion detection settings screen, otherwise the motion detection zones will not go into effect. Clicking the escape button to leave the motion detection zone will not save the zone setup.

Record Channel: This checkbox allows the user to enable the system to record video for that channel when a motion detection alarm is triggered. Delay is also associated with this tab; it is the This field specifies in seconds how long the delay between alarm activation and recording should be.
PTZ Activation: Allows the user to activate PTZ functionality to applicable PTZ devices.
Tour: Allows the user to enable the camera to activate a PTZ tour when a motion detection alarm is triggered.

Snapshot: Allows the user to enable the camera to take a snapshot when a motion detection alarm is triggered.
Show Message: This checkbox allows the user to enable the system to show an on-screen message when a motion detection alarm is triggered.
Send Email: This checkbox allows the user to enable the system to send an email when a motion detection alarm is triggered.
Tour: Allows the user to enable the camera to activate a PTZ tour when a motion detection alarm is triggered.
Buzzer: Check this box to enable a buzzer to be sound on your device if an event occurs.
Log: Check this box to enable a log of the abnormality to be retained into the system.
Picture Storage: When an alarm occurs, the NVR triggers a snapshot for the selected channel.
Alarm Tone: Check this box to enable an imported voice prompt to be used if an event occurs. To use this feature, select a file from the dropdown box in the **File Name** section.

To reset to default settings, click the **Default** button. To refresh the page, click the **Refresh** button. To save the settings click the **Apply** button.

Video Loss

The video loss settings screen is where the NVR can be set up to notify the user any time there is video loss on any of the channels.

Below is a description of the fields on the masking settings page:

Channel: The channel dropdown menu is used to select which channel you would like to use to set your motion detection.
Enable: This checkbox allows the user to enable the motion detection function for a specific channel. To select a channel, click on the drop-down menu provided on the right.
Schedule: This setup button takes the user to the motion detection period settings screen.

Click and drag on the green bars to specify time zones for motion detection. To edit multiple days at once, either click the checkboxes next to the names, or click the checkbox next to All to edit all the days at once. Once the checkbox is clicked, press save to save and apply your detection settings. Click Cancel to undo any changes and return to the motion detection settings screen. Click Default to use the default settings.

To specify time zones in greater detail for each day, click the Setup button to the left of the time bar, and the Time Period setup screen will appear.

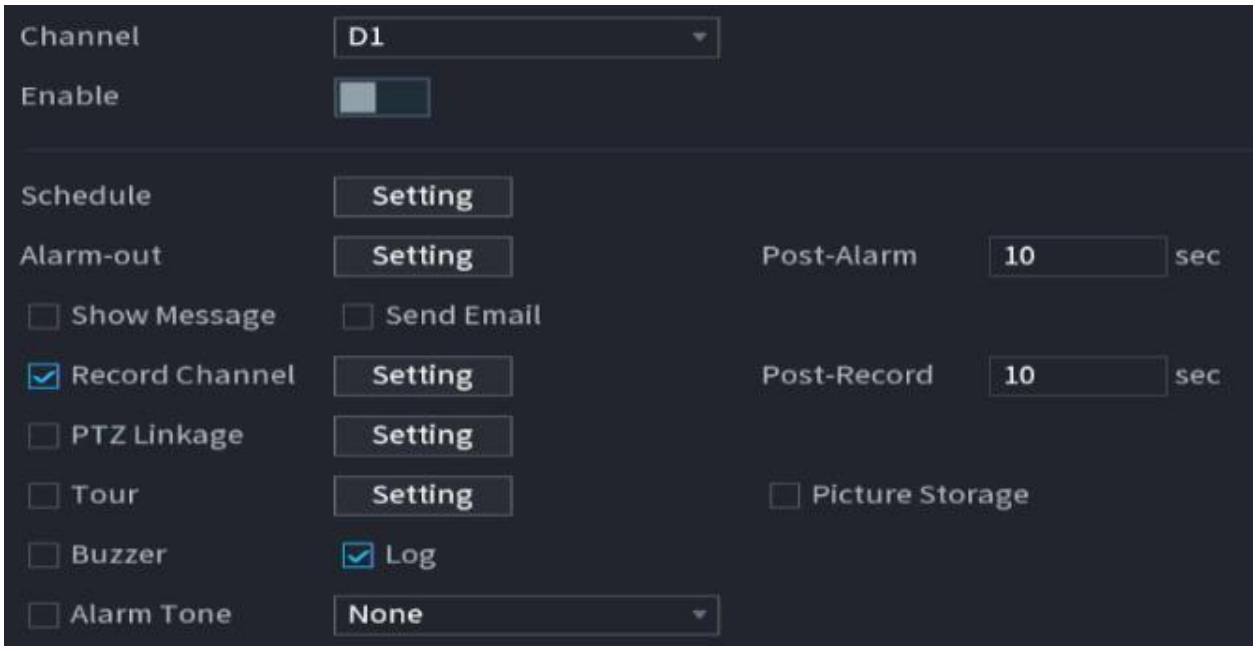
The system allows for the configuration of up to 6 different time periods. Click the checkbox to the left of the time period to enable that time period. Click the text next to each period to edit the time period. To copy time periods, click the checkboxes next to the days of the week that you'd like to copy the settings to. Once finished on this screen, click Save to return to the time period settings screen.

Record Channel: This checkbox allows the user to enable the system to record video for that channel when a motion detection alarm is triggered. Delay is also associated with this tab; it is the This field specifies in seconds how long the delay between alarm activation and recording should be.
PTZ Activation: Allows the user to activate PTZ functionality to applicable PTZ devices.
Tour: Allows the user to enable the camera to activate a PTZ tour when a motion detection alarm is triggered.
Snapshot: Allows the user to enable the camera to take a snapshot when a motion detection alarm is triggered.
Show Message: This checkbox allows the user to enable the system to show an on-screen message when a motion detection alarm is triggered.
Send Email: This checkbox allows the user to enable the system to send an email when a motion detection alarm is triggered.
Post Record: This allows the user to set a delay between masking events measured in seconds.
Tour: Allows the user to enable the camera to activate a PTZ tour when a motion detection alarm is triggered.
Buzzer: Check this box to enable a buzzer to be sound on your device if an event occurs.
Log: Check this box to enable a log of the abnormality to be retained into the system.
Picture Storage: When an alarm occurs, the NVR triggers a snapshot for the selected channel.
Alarm Tone: Check this box to enable an imported voice prompt to be used if an event occurs. To use this feature, select a file from the dropdown box in the **File Name** section.

To reset to default settings, click the **Default** button. To refresh the page, click the **Refresh** button. To save the settings click the **Apply** button.

Video Tampering

The tampering settings screen is where the NVR can be set up to notify the user any time a camera is tampered with or if the output video is only displaying in one color.



To reset to default settings, click the **Default** button. To refresh the page, click the **Refresh** button. To save the settings click the **Apply** button.

Audio Detection

This screen is used to configure audio detection settings. Audio detection uses an "Audio In" interface (external or internal microphone) to trigger an alarm if audio is detected.

Below is a description of the features in this menu:

Channel: The channel dropdown menu is used to select which channel you would like to use to set your motion detection.
Audio Exception: Interprets if an audio input is abnormal, such as clipping audio, etc.
Intensity Change: Interprets if the intensity value surpasses the set threshold; it can record, send a snapshot, and an alarm according to the result.
Sensitivity: Adjust and control the sensitivity of the audio from the camera.
Threshold: Adjust the threshold in which the audio will be detected by the camera.
Period: This setup button takes the user to the motion detection period settings screen. Below is a screenshot of the motion detection period settings screen.
Alarm Out: Click **Setting** to display setting interface.
General Alarm: Enable alarm activation through the alarm NVR connected to the selected output port.
Alarm Out: Enable an alarm channel in which an external alarm is connected.
Post-Alarm: Set a length of time that will delay turning off alarms after the external alarm is cancelled. The value ranges from 0 seconds to 300 seconds, and the default value is 10 seconds. If you enter 0, there will be no delay.
Show Message: This checkbox allows the user to enable the system to show an on-screen message when a motion detection alarm is triggered.
Alarm Upload: This checkbox allows the user to enable the system to upload alarm information when a motion detection alarm is triggered.
Send Email: This checkbox allows the user to enable the system to send an email when a motion detection alarm is triggered.
Delay: This allows the user to set a delay between masking events measured in seconds.
Record Channel: This checkbox allows the user to enable the system to record video for that channel when a motion detection alarm is triggered. Delay is also associated with this tab; it is the This field specifies in seconds how long the delay between alarm activation and recording should be.
PTZ Activation: Allows the user to activate PTZ functionality to applicable PTZ devices.
Post Record: This allows the user to set a delay between masking events measured in seconds.
Tour: Allows the user to enable the camera to activate a PTZ tour when a motion detection alarm is triggered.
Buzzer: Check this box to enable a buzzer to be sound on your device if an event occurs.
Log: Check this box to enable a log of the abnormality to be retained into the system.
Picture Storage: When an alarm occurs, the NVR triggers a snapshot for the selected channel.
Alarm Tone: Check this box to enable an imported voice prompt to be used if an event occurs. To use this feature, select a file from the dropdown box in the **File Name** section.

To reset to default settings, click the **Default** button. To refresh the page, click the **Refresh** button. To save the settings click the **Apply** button.

Abnormality

This screen is used to specify system action in the case of either hard drive abnormality, or network abnormality.

Disk

This screen allows the user to specify actions that occur when there is an abnormality with the NVR's hard disk drive (HDD). Below is a screenshot of the HDD abnormality settings screen:

Below is an explanation of the fields on the HDD Abnormality settings screen:

Event Type: This field allows the user to specify which HDD abnormality event type they would like to configure settings for.

- **No Disk:** No hard drive is detected.
- **Disk Error:** The hard drive has an error.
- **Disk No Space:** The hard drive is about to or has run out of space.

Enable: This option allows the user to enable the features below for the specified event type.
Alarm-out: Click **Setting** to display setting interface.
Post-Alarm: Set a length of time that will delay turning off alarms after the external alarm is cancelled. The value ranges from 0 seconds to 300 seconds, and the default value is 10 seconds. If you enter 0, there will be no delay.
Show Message: This checkbox allows the user to enable the system to show an on-screen message when an HDD abnormality occurs.
Alarm Upload: This checkbox allows the user to enable the system to upload alarm information when an HDD abnormality occurs.
Send Email: This checkbox allows the user to enable the system to send an email when a motion detection alarm is triggered.
Buzzer: Check this box to enable a buzzer to be sound on your device if an event occurs.
Log: Check this box to enable a log of the abnormality to be retained into the system.
Alarm Tone: Check this box to enable an imported voice prompt to be used if an event occurs. To use this feature, select a file from the dropdown box in the **File Name** section.

To save the settings click the **Apply** button.

Network

This screen allows the user to specify actions that occur when there is an abnormality with the NVR's network connection. Below is an explanation of the fields on the Network Abnormality settings screen:

Event Type: This field allows the user to specify which Network abnormality event type they would like to configure settings for.
Net Disconnection: The network connection has been disconnected.
IP Conflict: There is a device on the network with the same IP address.

MAC Conflict: There is a device on the network with the same MAC address.
Enable: This option allows the user to enable the features below for the specified event type.
Alarm-out: Click **Setting** to display setting interface.
Post-Alarm: Set a length of time that will delay turning off alarms after the external alarm is cancelled. The value ranges from 0 seconds to 300 seconds, and the default value is 10 seconds. If you enter 0, there will be no delay.
Show Message: This checkbox allows the user to enable the system to show an on-screen message when an abnormality occurs.
Buzzer: Check this box to enable a buzzer to be sound on your device if an event occurs.
Log: Check this box to enable a log of the abnormality to be retained into the system.
Alarm Tone: Check this box to enable an imported voice prompt to be used if an event occurs. To use this feature, select a file from the dropdown box in the **File Name** section.

To save the settings click the **Apply** button. Click **Back** to cancel.

Device

This screen allows the user to set specific device-based abnormality alarms such as a fan speed exception. This will allow the user to be notified if the fan speed of the device is diminished or not functional.

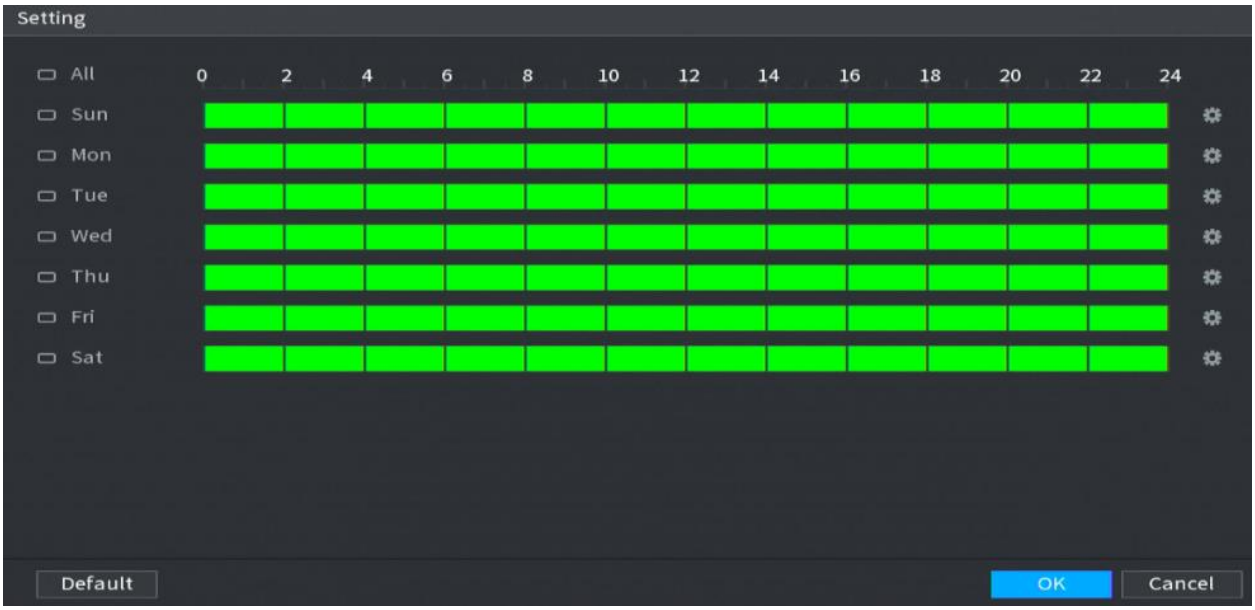
Event Type: This field allows the user to specify which device abnormality is associated with the device. This will be a fan-based exception.
Fan Speed Exception: Notifies the user if the fan speed of the NVR is diminished or not functioning properly.
Enable: Enable or disable this function.
Alarm-out: Click **Setting** to display setting interface.
Post-Alarm: Set a length of time that will delay turning off alarms after the external alarm is cancelled. The value ranges from 0 seconds to 300 seconds, and the default value is 10 seconds. If you enter 0, there will be no delay.
Show Message: This checkbox allows the user to enable the system to show an on-screen message when an abnormality occurs.
Send Email: This checkbox allows the user to enable the system to send an email when a motion detection alarm is triggered.
Buzzer: Check this box to enable a buzzer to be sound on your device if an event occurs.
Log: Check this box to enable a log of the abnormality to be retained into the system.
Alarm Tone: Check this box to enable an imported voice prompt to be used if an event occurs. To use this feature, select a file from the dropdown box in the **File Name** section.

To save the settings click the **Apply** button. Click **Back** to cancel.

Disarming

This menu allows you to set disarming settings for specific channels which allow the NVR to disable motion detection or other features related to a connected device.

Disarming: Turn the disarming feature on or off.
Disarm by period: Set a schedule for the disarming feature. Please note, the disarm schedule will be valid after one-click disarm is disabled).
Duration of Disarm by Period: Use this menu to set the schedule for the disarm feature.



Use your mouse to set the hours and days applicable for the schedule, click OK when finished.
Event Notifications: Allow the NVR to send a notification of the disarming event. Turn these notifications on or off.
Disarm Alarm Linkage Action: Set which alarm notifications will be applied once the feature has been disarmed.
Sync Disarm Config with Channels: This feature allows the user to set the disarm feature to activate on specific channels if needed. Click the **Setting** option and set specific channels, click OK to set the channels.

To reset to default settings, click the **Default** button. To save the settings click the **Apply** button.

Maintain

The **Maintain** menu allows the user to view system information, update, import and export configuration settings, etc.

Log

This menu allows the user to view log information retained in the system. The system will automatically retain logs of events which occur during normal operation.

Below is a description of the features in this menu:

Type: Use this dropdown menu to select a log type.
Start Time: The start time in which logged events will be displayed

End Time: The end time in which a logged event will be displayed.
Search: Run a query of logs based on the start and end time.
Go To: Go to a specific log in the query.
Backup: Used to download data from the query to an inserted flash drive.
Details: Provides details of a selected log such as the login group, IP address, user, time, etc.
Clear: Clears the query.

System Info

This menu allows the user to view information about their system such as the current system and firmware version, hard drive details, BPS, and hard drive health detection.

Version

The version tab provides details about the NVR such as the model, system version, and other basic information related to the system.

Please note the following figure is for reference only.

Disk

The HDD tab provides information about a connected hard drive in the system.

Below is a description of the fields listed in this menu:
Number: The number represented in the system for the hard drive.
Device Name: The name assigned by the system for the connected hard drive.
Physical Position: Displays the location of the connected hard drive on the system.
Type: The read and write type assigned to the hard drive.
Total Space: The total space used on the hard drive.
Free Space: The total free space available on the hard drive.

Record

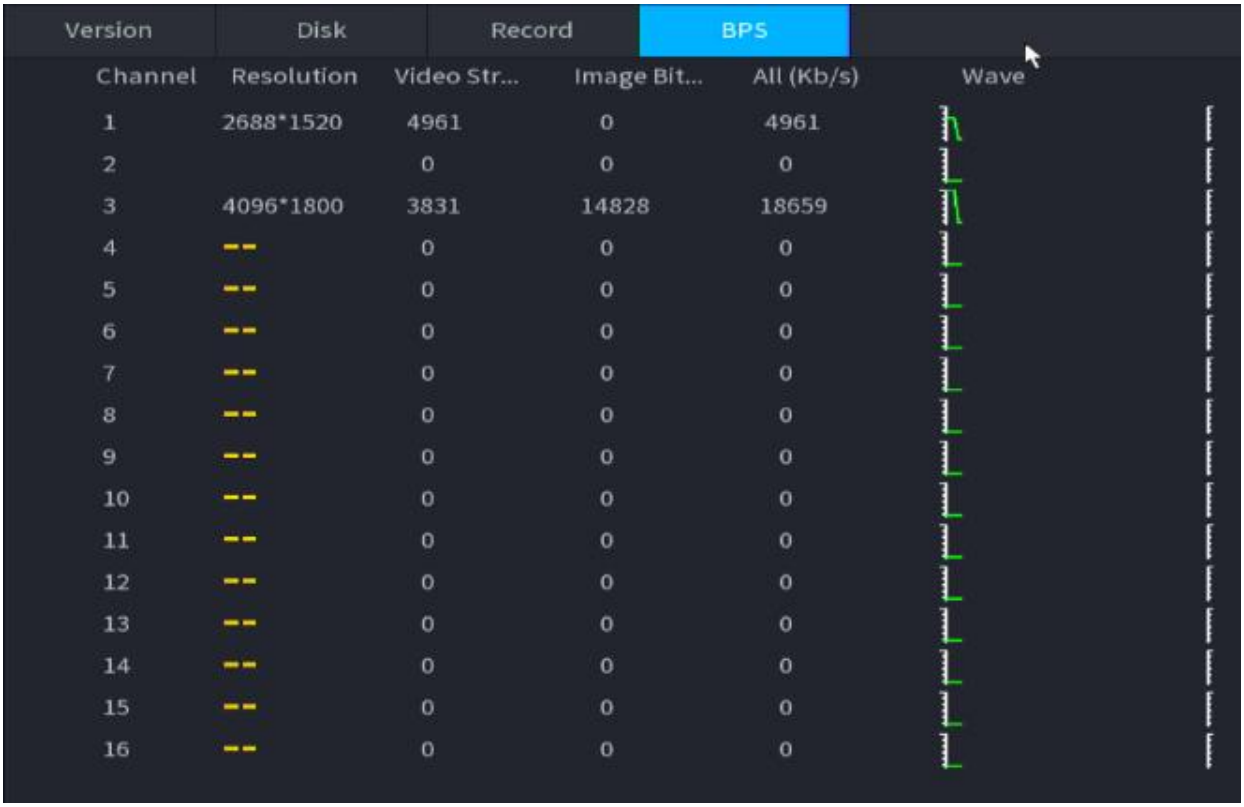
This menu displays the start and end operating time of an installed hard drive.



BPS

The BPS tab allows the user to view current video bit rate (kb/s) and resolution provided for each connected channel.

Below is a screenshot of this menu:



The menu will show the current channel and resolution of that specific channel. The kb/S section denotes the amount of kb/S used by that channel and the **Wave** menu shows, in wave format, the amount of kb/S used by that specific channel output.

Device Status

This menu provides an overview of the fan speed, CPU usage, temperature, etc. of the NVR.

Network

The Network menu provides an overview of all online users currently logged into the system.

Online User

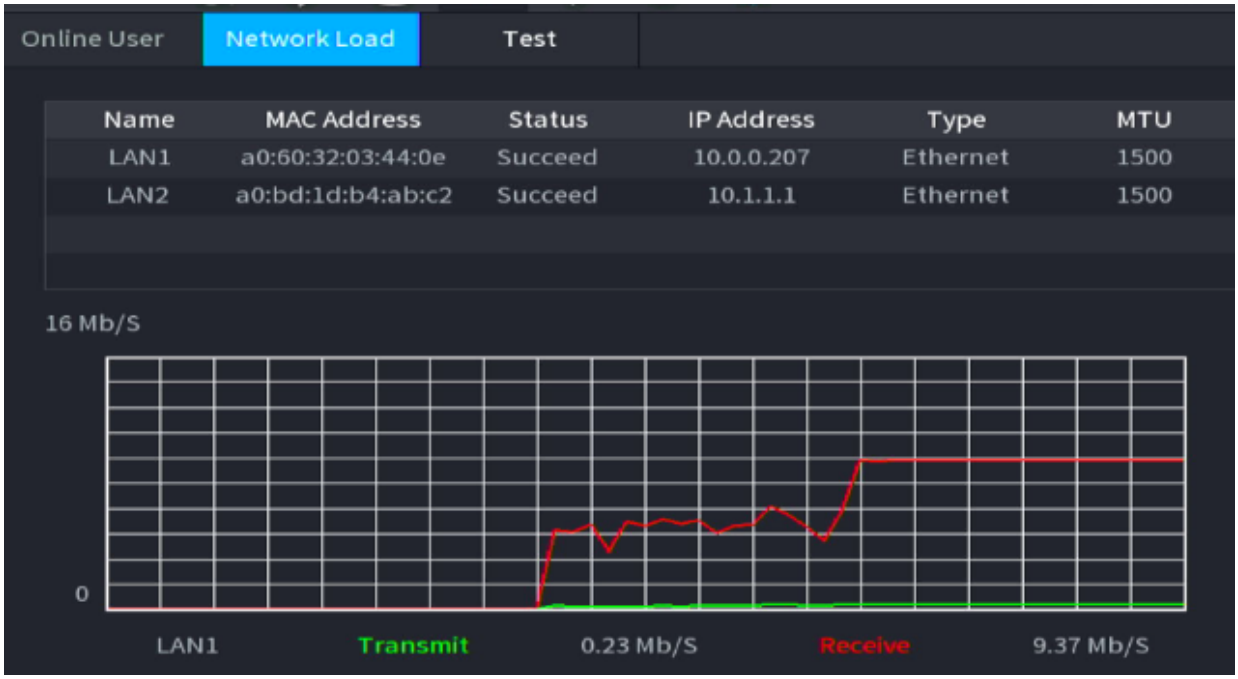
The Online Users tab allows the user to manage online users connected to your NVR. Below is a description of the fields listed in this menu:

No: The number assigned to the user in the system.
Username: The username of the connected user.

Group Name: The group name associated with the connected user.
IP address: The IP address is used by the connected user to access the system.
User Login Time: The date & time which the user logged into the system.

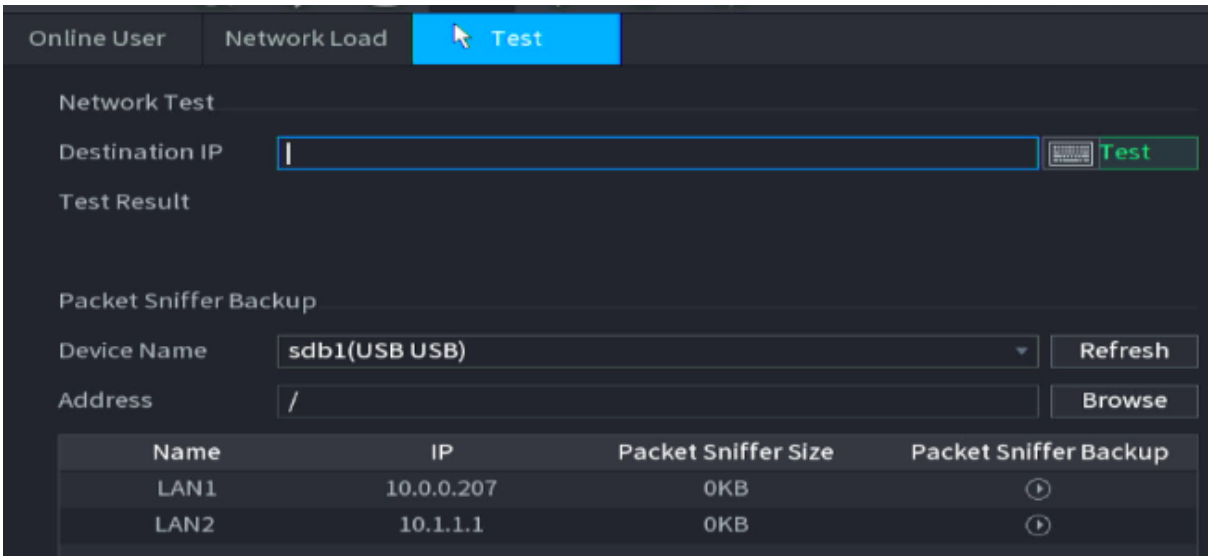
Network Load

Graphically displays the transmit and receive data of both the LAN ports.



Test

Allows the user to test a destination IP address, this feature acts as a packet sniffer for each LAN port. A report can be backed up locally to a USB flash drive if needed.

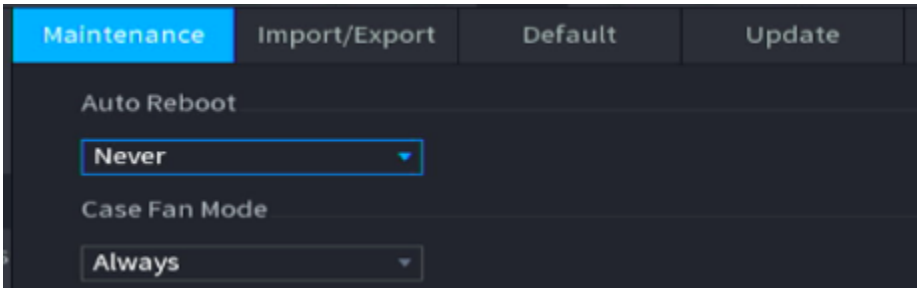


Manager

The manager menu allows the user to set auto maintenance settings, import/export settings, reset the device back to its default settings, and upgrade firmware.

Maintenance

This screen is used to configure Maintenance settings for the system including auto reboot, emergency maintenance, as well as a case fan mode.



Auto Reboot: Use this feature to set the device to automatically reboot. It can be set to reboot every day or specific days of the week and times.

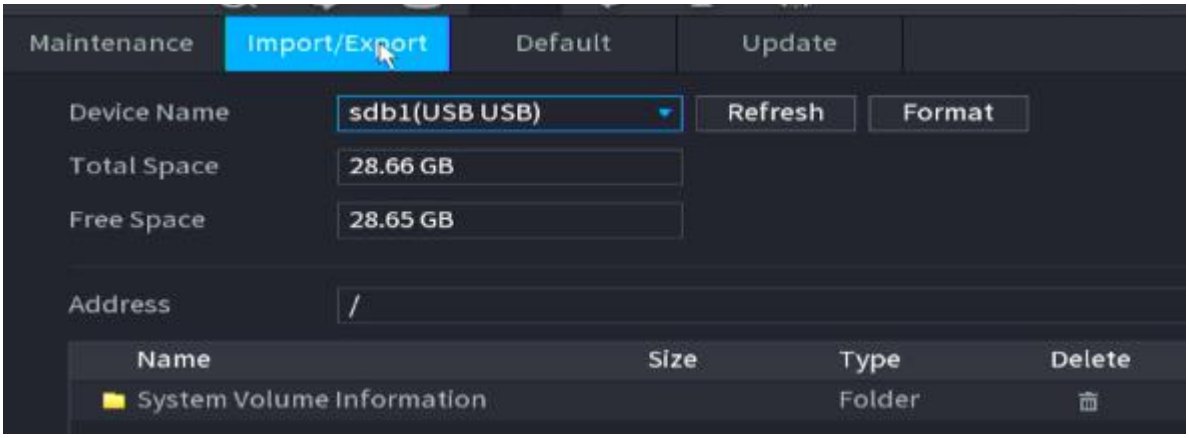
Case Fan Mode: The internal fan will always be on by default however it can be set to auto to allow the fan to stop once the board has reached a certain temperature.

Emergency Maintenance:

To confirm settings, click the **Apply** button. Click the **Refresh** button to refresh the interface.

Import Export

This screen is used to manage importing and exporting system configurations. This feature can be used to import and export NVR settings. Insert a USB flash drive into the NVR to import or export configurations.



Device Name: Displays the name of the inserted USB flash drive.

Refresh: Refreshes the import export interface.

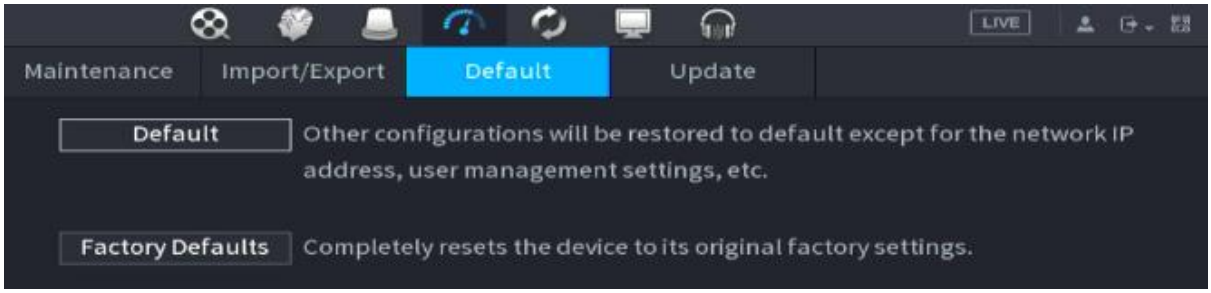
Total Space: The total available space on the inserted USB flash drive.

Free Space: The amount of free space (GB) available on the USB flash drive.
Address: The current destination of the exported config file on the USB flash drive.
New Folder: Create a new folder within the USB flash drive to store a config file.
Import: Click this button after the config file has been imported into the interface to import the settings.
Export: Export the current config file to the USB flash drive.

Note: Imported configurations will be overwritten if the USB flash drive is full.

Default

This menu allows the user to reset configuration defaults or to completely factory reset the NVR. Please note, selecting default will not fully restore the NVR back to factory defaults and will only impact settings such as the network IP address, user management settings, etc.



To perform a full factory reset, click on the **Factory Default** button. A prompt will be displayed, click the **OK** button to begin the factory reset. The device will be rebooted and restored back to its original factory settings.

Upgrade

This screen is used to update the NVR's firmware. To conduct a system update, it is required to put an updated .bin file onto a USB storage device and plug it into the NVR. For more information on how to download a firmware file, please visit https://amcrest.com/firmware

To upgrade the firmware, select Update and locate the .bin file you placed on the USB flash drive. Click OK and allow the system to update.

The system is set to check online automatically for updates available, however, if you are on the most up to date firmware it will display, "You are using the latest version." Please note, after updating the firmware the NVR will restart.

Intelligent Diagnosis

Intelligent Diagnosis is a feature on Dahua NVRs that helps to identify and troubleshoot potential problems with the NVR or its connected cameras. The feature uses a variety of sensors and algorithms to monitor the NVR's performance and to detect any potential issues. If a problem is detected, the Intelligent Diagnosis feature will generate an alert and provide information about the problem so that it can be quickly resolved.

To export the data, insert a USB flash drive into the NVR and click Data Export. Export the data to the USB flash drive and view it on a computer.

Back Up

This menu allows the user to backup file information from the device to an external USB storage device. To access the backup menu, click on the Back Up option on the main menu.

Here is a brief explanation on how to use the backup feature listed in this menu:

In the Path field, choose a file path in which the file will be backed up. This can be a local USB flash drive, if inserted locally or a folder path if using a web user interface. Click the Browse option to select a file path. Choose a channel in which the file is located and choose a record type if necessary. Enter a start and End time of the event and the file format from the File Format dropdown menu. Click Search to import all recorded data.

Note: A preview button can be found next to each event in the interface.

Select the event from the interface and click **Back Up**. The chosen files will be backed up to the file path previously chosen.

Note: Click on the Watermark option to verify the watermark information assigned to the downloaded file.

Display

This menu allows the user to configure resolution and display setting outputs as well as set up a display tour if multiple displays are being used. To access the Display menu, click on the next screen in the main menu and select the **Display** option.

Display

This menu provides you with quick access to your display and output information associated with your NVR. You can configure the display effects such as resolution, time delays, channel titles, etc.

For more information on the settings provided in this menu, refer to the table provided below.

Parameter	Description
Main Screen	The main display outputs. The device should be VGA+HDMI by default.
Screen Enable	Enables the Main Screen output.
Screen No.	The default main display outputs. The device should be VGA+HDMI by default.
Resolution	This drop-down menu provides output different output resolutions of the NVR.
Transparency	Use this slider to choose a transparency rate for the output of your device.
Time Delay	Enable and disables a time overlay in the output display.
Channel Display	Enable and disable a channel overlay in the output display.
Image Enhance	Enable and disable image enhancement settings of the output display.

IVS Rule	Enable and disable IVS overlays in the output display.
Original Rate	Enable the default rate of a specific channel in the system.

Click **Default** to set the display settings back to its original default settings. Click **Refresh** to refresh the interface. Click **Save** to save display settings.

Tour Setting

This screen is used to activate tour functionality for the live preview.

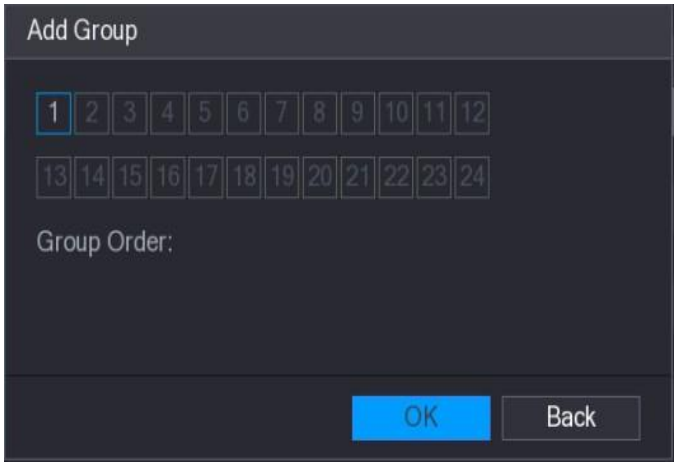
Below is an explanation of the fields on the Tour screen:

Enable: This checkbox allows the user to enable the tour functionality.
Interval: Enter the amount of time that you want each channel group to display on the screen. The value ranges from 5 seconds to 120 seconds, and the default value is 5 seconds.
Video Detect: Select the View 1 or View 8 for **Motion Detect** tour.
Alarm: Select the View 1 or View 8 for Alarm tours (system alarm events).
Window Split: In the **Window Split** list, select **View 1**, **View 4**, **View 8**, or other modes that are supported by the NVR.
Add: This button allows the user to add a channel to the tour.
Delete: This button allows the user to remove a channel from the tour.
Move Up: This button allows the user to move a camera up in the tour queue.
Move Down: This button allows the user to move a camera down in the tour queue.

Click the **Default** option to set the tour settings back to default. Click the **Refresh** option to refresh the interface. Click the **Save** option to save the tour settings.

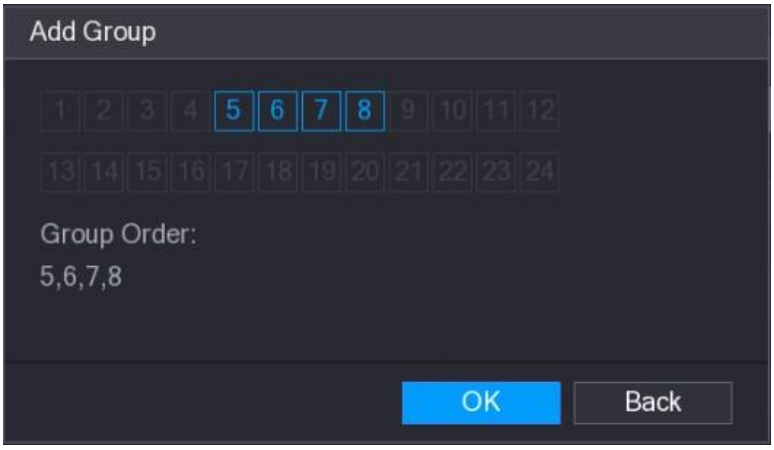
Adding a Channel Group

This function provides you with the ability to group together channels to more efficiently use the tour options set up on the NVR. To utilize this function, enable the **Enable** toggle switch and click on the **Add** button located in the **Main Screen** tab of the **View Cycle** menu. This will take you to the **Add Group** interface.



From the interface, select the channels that you want to group with the established tour settings.

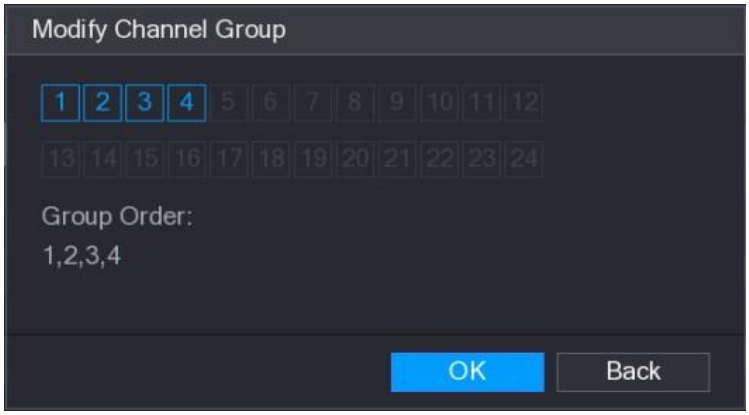
Note: If you want to select more than one channel, in the **Window Split** list, do not select **View1**.



When you have finished selecting the appropriate group order, click **OK** to complete the process. If you do not wish to proceed with the group function, click **Back** to exit the add group interface.

Modifying a Channel Group

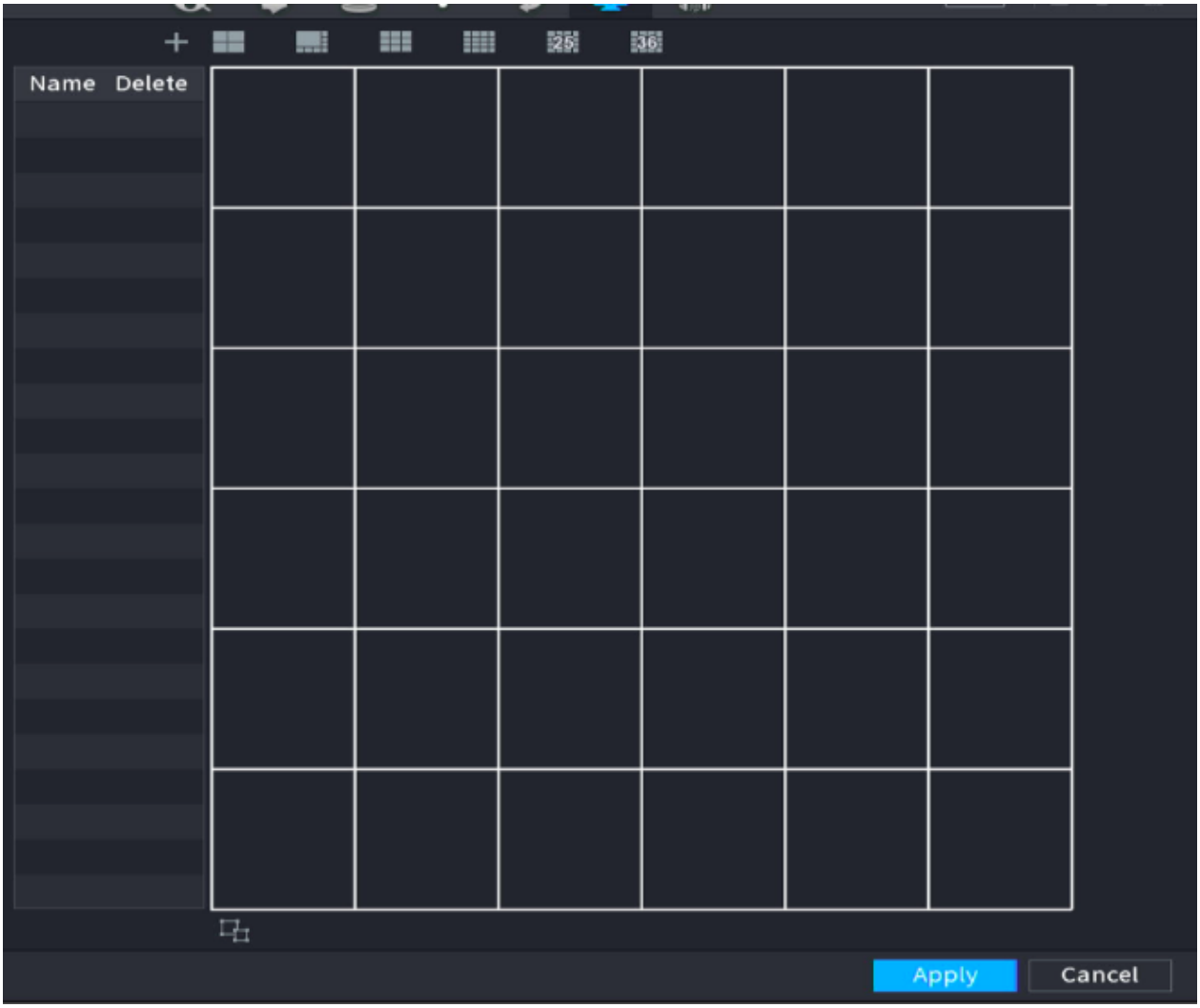
To modify an established channel group, double-click on a channel group to access the **Modify Channel Group** interface.



In the modify channel group interface, select the group order for your selected group and click **OK** to complete the process. If you do not want to proceed with the modification, click the **Back** button to exit the modify group interface.

Custom Layout

This option allows the user to set a custom layout for the video wall. Select a view from the top panel and click “+” to add it to the side panel. Click Apply to save the settings.

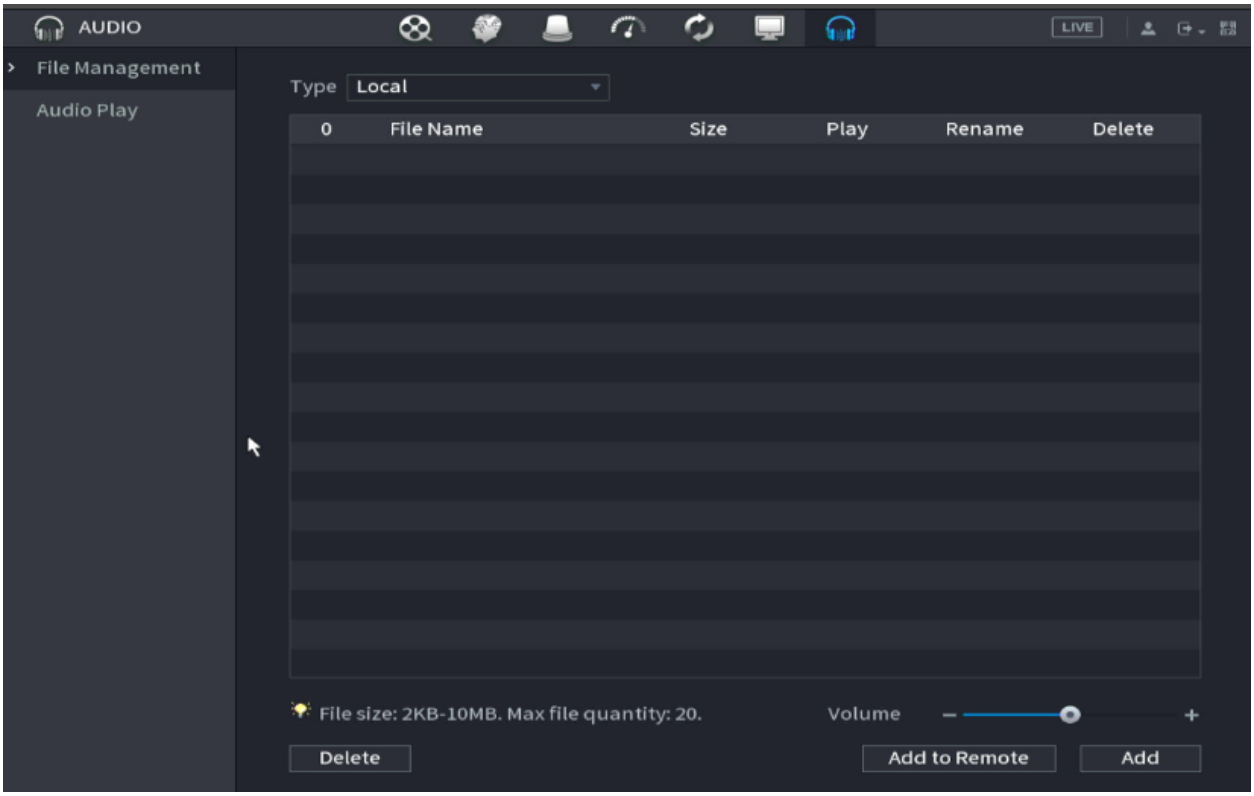


Audio

This function tile allows you to manage audio functions such as audio file management and configuring audio playing schedules which can be associated with specific alarm events. To access the Audio menu, click the **Audio** option located in the main menu.

File Management

The file manager tab allows the user to configure audio files to a set schedule. Below is a screenshot of the file management screen:



To begin configuring audio files click on **Select audio file** to import the audio files into the system via a flash drive or a computer if using the web user interface. Click **Add** and select the audio files you wish to import. Click on **Save** to import the file.

Click **Add to Remote** to apply the audio file to a remotely connected device. Click **Refresh** to refresh the interface. Click **Save** to save the audio file to the system.

Audio Play

The schedule tab allows you to schedule downloaded audio to specific alarms in the device. For more information on the features listed in this menu, refer to the table provided below.

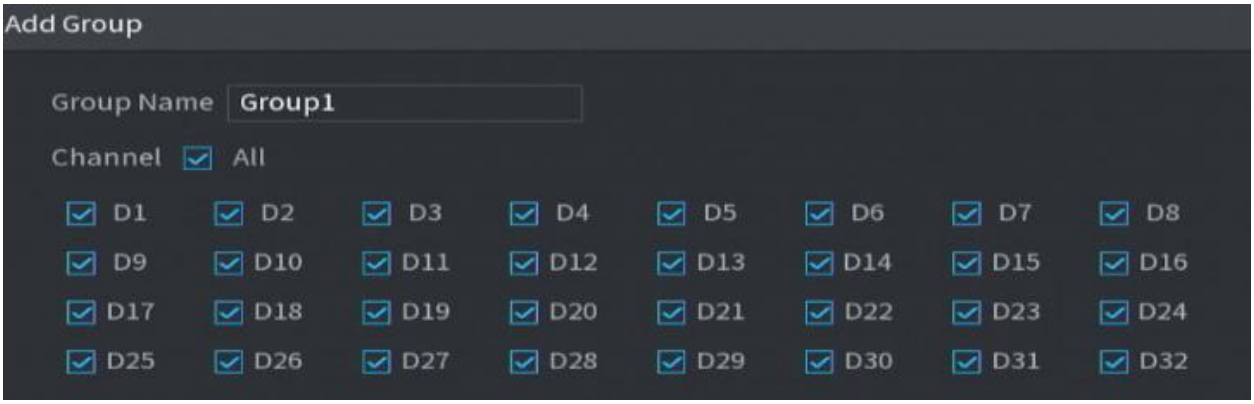
Parameter	Description
Period	In the **Period** box, enter the time. Select the check box to enable the settings. You can configure up to six periods.
File Name	In the **File Name** list, select the audio file that you want to play for this configured period.
Interval	In the **Interval** box, enter the time in minutes for how often you want to repeat the playing.
Repeat	Configure how many times you want to repeat the playing in the defined period.

Output	Includes two options: MIC and Audio. It is MIC by default. The MIC function shares the same port with talkback function and the latter has priority.

Note: Use the file manager to configure audio files for your schedule.

Broadcast

The broadcast menu allows you to set and group specific channels to apply to different audio files set in the NVR. Click **Add Group** and select specified channels that will apply to this feature if needed. Name the group and add the channels that will apply. If All channels will be applicable, select All, click **Save** when finished to apply the setting.



Web Operation

This device features the latest in JS technology which allows you to access your device using a wide variety of web browsers including Google Chrome, Firefox, Safari, and other mainstream web browsers. For more information on how to access your device from your computer please refer to the information below.

To access your device from your computer you will need to first locate the device's IP address. To locate the device's IP address, it is highly recommended to download our free Amcrest IP Config Tool software. The Amcrest IP Config Tool can be downloaded at the following web page: amcrest.com/downloads

In the **All Downloads** menu, click on **IP Config Software** to begin the free download. Once the download has been completed installing, locate the IP address associated with the device you would like to view in the browser.

Please note, the IP address listed in the image above is just an example. The IP address for your device may be different than the one represented in the image.

Open the web browser and enter the IP address into your browser. Press enter to access the web user interface. In the web user interface, enter the login credentials for your device. If this is the first time accessing the device, the username and password will both be **admin.** Click on **Login**.

If the process above is not working, please contact Amcrest Support by visiting, amcrest.com/contact.

Remote Web Access

There are two main methods for setting up remote access: UPnP/DDNS, and Port Forwarding.

UPnP/DDNS Remote Access Setup

Using Universal Plug and Play (UPnP) and Dynamic Domain Name Server (DDNS) functionality is the easiest way to set up stable remote access. For this method, your router should support the uPnP networking protocol and the protocol should be enabled. Please refer to your router manufacturer's documentation to learn how to enable uPnP on your router.

Below is a step-by-step walkthrough that details how to set up for Remote Web Access using UPnP and DDNS:

1. Login to your NVR, open the main menu then go to Management -> Network.
2. Using the left-hand menu, go to the Connection menu, and write down the HTTP port. It is recommended to ensure the port number is at least 5 digits long to prevent any port conflicts. If need be, change the port to a 5digit number that is less than 65535, note the number down, and click save before proceeding to the next step.
3. The system will prompt you to reset the NVR. Click OK and wait for the NVR to restart.
4. Login to your NVR, open the main menu then go to Management -> Network.
5. Click the Connections menu item on the left-hand menu and ensure that the HTTP port has changed.
6. Click the DDNS menu item on the left-hand menu, click the enable checkbox, and then click the Apply button on the bottom right.
7. Write down the entire Domain Name field, including the white text that says.quickddns.com
8. Click the UPnP menu item on the left-hand menu and click the enable radio button at the top.
9. While in the UPnP menu, double click the HTTP port, and change both the internal and external HTTP ports to match the number that was used in step 2.
10. Uncheck the last 4 checkboxes in the PAT table on the UPnP menu.
11. Click apply and ensure the UPnP status field says "Searching."
12. Exit this menu to go back to the main menu, then re-enter the UPnP menu, and ensure the UPnP status says "Success".
13. Open a web browser and enter in the DDNS domain name address from step 3, enter in a colon, then type the port number from step 4 on to the end.

a. For example, if the DDNS domain name is http://abc123456789.quickddns.com and your HTTP Port is 33333, the URL would be http://abc123456789.quickddns.com:33333

14. The browser may prompt you to install a plugin. Click install to download the plugin, and then click on the plugin installation file to install the plugin.
15. If the browser prompts you to allow the plugin to work on the computer, hit Allow to ensure the plugin can run successfully.
16. Enter login details into the username and password fields.
17. Click the WAN option, and then click Login.
18. Once the main interface opens, click the plug icons next to each camera on the list on the left-hand side, and activate the mainstream for each of them to enable the live feed.

If the process above is not working, please contact Amcrest Support by visiting, amcrest.com/contact.

Port Forwarding Remote Access Setup

Port Forwarding is an alternative method to setting up remote access for your NVR. This method should only be used if the UPnP/DDNS Remote Access method did not work.

Below is a step-by-step walkthrough that details how to setup for Remote Web Access using UPnP:

1. Login to your NVR, open the main menu then go to Management -> Network.
2. Open the TCP/IP settings screen.
3. By default, the NVR has the mode set to Static. Click the radio button next to DHCP to change this to DHCP. The IP Address, Subnet Mask, Default Gateway, Preferred DNS, and Alternate DNS should all change to 0s.
4. Click Save to save these settings. This should now open the main menu.
5. From the main menu, go to Management -> Network.
6. On the TCP/IP settings screen, the IP Address, Subnet Mask, Default Gateway, Preferred DNS, and Alternate DNS should all be populated.
7. Click the radio button next to Static, to change the mode to Static.
8. Write down the IP Address that is currently in the IP address field.
9. Click the Save button.
10. Using the left-hand menu, go to the Connection menu, and write down the TCP, UDP, and HTTP port number. It is recommended to ensure that these port numbers are at least 5 digits long to prevent any port conflicts. If need be, change each of these port numbers to a 5-digit number that is less than 65535, note the numbers down, and click save before proceeding to the next step.
11. Go to http://www.canyouseeme.org/ and check to ensure each of the port numbers specified in step 10 are open.
12. Write down the manufacturer name, brand, and model name for the router that the NVR is connected to and then proceed to portforward.com on your web browser.
13. Open the port forwarding guide section on the left-hand side menu.
14. Find the router brand name in the list and click it.
15. Find the router model number and click it.
16. Click the Default Guide link near the middle of the page.
17. This guide will help you take the step necessary to port forward on the router. Follow these steps and then return to the NVR.
18. Login to your NVR, open the main menu then go to Settings -> Network.
19. Click the DDNS menu item on the left-hand menu, click the enable checkbox, and then click the Apply button on the bottom right.
20. Write down the entire Domain Name field, including the white text that says.quickddns.com
21. Open a web browser and enter the DDNS domain name address from step 20, enter in a colon, then type the HTTP port number from step 10 on to the end.

a. For example, if the DDNS domain name is http://abc123456789.quickddns.com and your HTTP Port is 33333, the URL would be http://abc123456789.quickddns.com:33333

22. The browser may prompt you to install a plugin. Click install to download the plugin, and then click on the plugin installation file to install the plugin.
23. If the browser prompts you to allow the plugin to work on the computer, hit Allow to ensure the plugin can run successfully.
24. Enter login details into the username and password fields.
25. Click the TCP option, and then click Login.
26. Once the main interface opens, click the plug icons next to each camera on the list on the left-hand side, and activate the mainstream for each of them to enable the live feed.

If the process above is not working, please contact Amcrest Support by visiting, amcrest.com/contact.

FCC Statement

1. This NVR complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this NVR may not cause harmful interference, and (2) this NVR must accept any interference received, including interference that may cause undesired operation.
2. The user's manual or instruction manual for an intentional or unintentional radiator shall caution the user that changes, or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. In cases where the manual is provided only in a form other than paper, such as on a computer disk or over the Internet, the information required by this section may be included in the manual in that alternative form, provided the user can reasonably be expected to have the capability to access information in that form.
3. For a Class B digital NVR or peripheral, the instructions furnished by the user shall include the following or similar statement, placed in a prominent location in the text of the manual:

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital NVR, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to the radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

-- Reorient or relocate the receiving antenna.

-- Increase the separation between the equipment and receiver.

-- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected. -- Consult the dealer or an experienced radio/TV technician for help.

4. RF exposure warning

This equipment must be installed and operated in accordance with the instructions provided and the antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all people and must not be co-located or operated in conjunction with any other antenna or transmitter. End-users and installers must be provided with antenna installation instructions and transmitter operating conditions for satisfying RF exposure compliance.

IC Warning Statement

This NVR complies with Industry Canada's license-exempt RSSs. Operation is subject to the following two conditions:

(1) This NVR may not cause interference; and

(2) This NVR must accept any interference, including interference that may cause undesired operation of the NVR. *Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio* exempts *de l icence. L'exploitation est autorisée aux deux conditions suivantes : (1) apparel ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.*

This equipment complies with IC RSS-102 radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated at a minimum distance of 20cm between the radiator and any part of your body.

Pour se conformer aux exigences de conformité CNR 102 RF exposition, une distance de séparation d'au moins 20 cm doit être maintenue entre l'antenne de cet appareil ettoutes les personnes.

Appendix A: Toxic or Hazardous Materials or Elements

Component Name	Toxic or Hazardous Materials or Elements					
	Pb	Hg	Cd	Cr VI	PBB	PBDE
Sheet Metal (Case)	O	O	O	O	O	O
Plastic Parts （Panel）	O	O	O	O	O	O
Circuit Board	O	O	O	O	O	O
Fastener	O	O	O	O	O	O
Wire and Cable/Ac Adapter	O	O	O	O	O	O
Packing Material	O	O	O	O	O	O
Accessories	O	O	O	O	O	O

Note

O: Indicates that the concentration of the hazardous substance in all homogeneous materials in the parts is below the relevant threshold of the SJ/T11363-2006 standard.

X: Indicates that the concentration of the hazardous substance of at least one of all homogeneous materials in the parts is above the relevant threshold of the SJ/T11363-2006 standard. During the environmentally friendly use period (EFUP) period, the toxic or hazardous substance or elements contained in products will not leak or mutate so that the use of these (substances or elements) will not result in any severe environmental pollution, any bodily injury or damage to any assets. The consumer is

not authorized to process such kind of substances or elements, please return to the corresponding local authorities to process according to your local government statutes.

Slight differences may be found in the user interface based on specific model numbers.
All the designs and software here are subject to change without prior written notice.
All trademarks and registered trademarks mentioned are the properties of their respective owners.

If you have any questions or concerns, please contact us at https://amcrest.com/contact/