

AMCREST

A2 NVR Quick Start Guide

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Welcome

Thank you for purchasing an Amcrest A2 NVR.

This document provides a quick setup and overview of your Amcrest A2 NVR and its features. **For access to a full user manual or further information regarding your device please visit:** http://amcrest.com/support

NOTE: This document is applicable to all A2 Series NVRs.

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 in areas with high levels of moisture or humidity.
Handle with care, avoid from dropping or placing the device in unsecure areas.
The NVR does not have rack mount compatibility and should be used on flat surfaces.

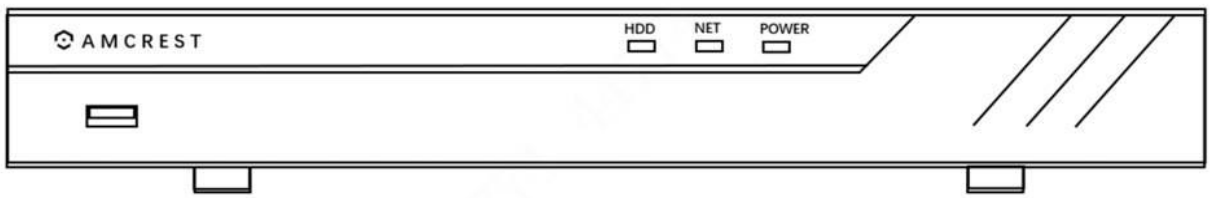
Check Packaging

When you receive the NVR, unpack it, and check all sides of the NVR to see if there is any physical damage. The protective materials used for the packaging of the NVR will protect most accidental damage during transportation, but to ensure that your equipment is operating as expected, it is recommended to inspect the product before proceeding.

On the NVR, check that the label on the bottom is not damaged. The serial number and model number of the unit is needed to add the device to other Amcrest applications.

Front Panel

Applicable for A2 Series NVRs

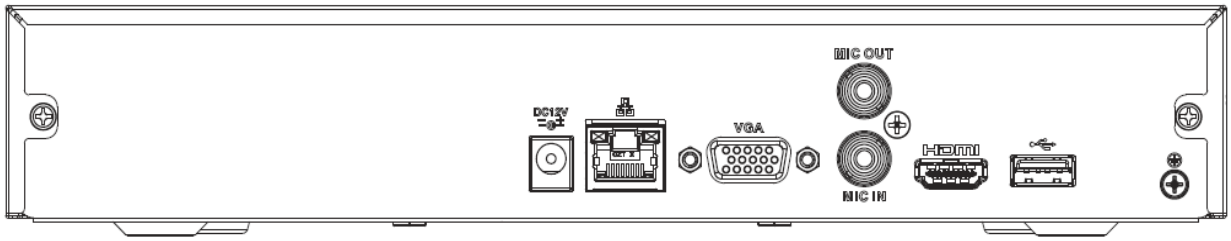


Icon	Name	Function
NET	Network Abnormality	When a network error occurs or there is no network connection, this light turns red.
PWR	Power indicator	When the NVR is on, this light remains on.
HDD	HDD abnormal indicator light	When an HDD error occurs, or the HDD capacity is below the specified threshold value, this light turns red.

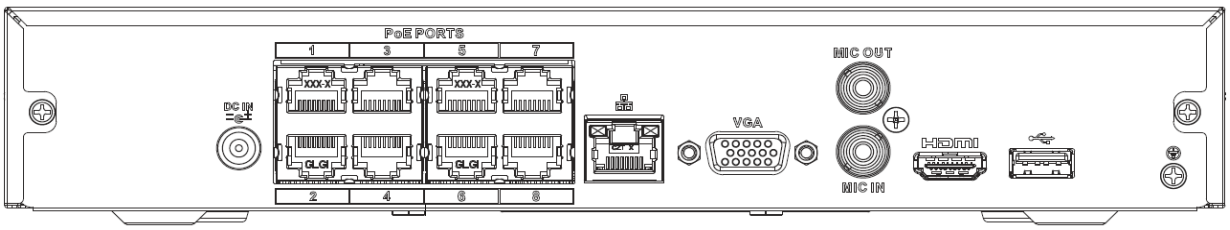
Rear Panel

The rear panel of the NVR may differ model to model. Below is a representation of the rear panel for the A2 Series.

Non-PoE ports



PoE Ports.



	USB 2.0 port	USB 2.0 port. Connect a mouse, USB storage device, etc.
	Network port	10M/100Mbps self-adaptive Ethernet port.
HDMI	HDMI Output	High-definition audio and video signal output port.
VGA	VGA video output port	VGA video output port. Outputs analog video signal. This connects to the monitor to view analog video.
	GND	Ground end
	Power Port	DC12V, DC48V Depending on model.
MIC IN	Audio input port	Bidirectional talk input port. This is used to receive the analog audio signal from the device such as a microphone.
MIC Out	Audio output port	Audio output port. This is used to output the analog audio signal to devices such as an external RCA speaker. Bidirectional talk output. Audio output on 1-window video monitoring. Audio output on 1-window video playback.
PoE Ports	PoE ports	Built-in switch on certain compatible devices. For PoE series products, you can use this port to provide power to a PoE camera.

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 with room for 4 large power plugs
A hard drive 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

Setting up the cable connections

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

Hard drive installation

Before installing the hard drive, make sure the NVR is powered off and completely disconnected from power.

Note: This section *only* applies to NVRs purchased without a hard drive already preinstalled. Most 'kits' or 'bundles will come with a pre-installed hard drive. **The hard drive must be no bigger than 10TB (Terabytes).**
To install your hard drive, the following is needed:

A medium sized (regular) Phillips-head screwdriver - *not included*
A hard drive - *not included (unless you purchased a 'kit' that **does** have one included)*
Four hard drive fastening screws - *included*

		
1. Loosen the screws on the upper cover and side panel.	2. Attach four screws in the HDD (Turn three times.)	3. Place the HDD in accordance with the four holes on the bottom.
		
4. Turn the device over secure the screws.	5. Connect the HDD data cable and power cable to the HDD.	6. Attach the cover onto the NVR and secure it using the screws.

Once the hard drive is installed, turn on the NVR. If the hard drive for your NVR was not setup properly you may hear a beeping noise. This indicates the NVR does not have the proper connection with your hard drive.

Setting Up the Cables

1. Connect a monitor or TV screen to your NVR. The NVR is compatible with any monitor or screen that uses a VGA or HDMI connection.
2. Connect an Ethernet cable to your router, then, connect the other end of the cable to the Ethernet port on the back of the NVR.
3. Connect the cameras to power.
For PoE NVRs/cameras: connect an Ethernet cable to the Ethernet port attached to the camera. Connect the other end of the Ethernet cable to a PoE port on the NVR.

Note: PoE cameras can either be powered with a PoE connection or with a standard power adapter (sold separately). If the NVR does not have PoE ports, connect the PoE camera to a PoE compatible router or switch that is on the same network as the NVR.
For non-PoE NVRs/cameras: Connect the power adapter to the power port attached to the camera. Plug the adapter into a wall outlet or power strip.
4. Connect the NVR's power adapter into the power port on the back of the NVR.
Note: If your NVR has a 3-prong power cord, connect the input of the cord into the power input of the NVR.
5. Connect the other end of the power cable into a wall outlet or power strip to turn on the NVR.

NVR Initialization

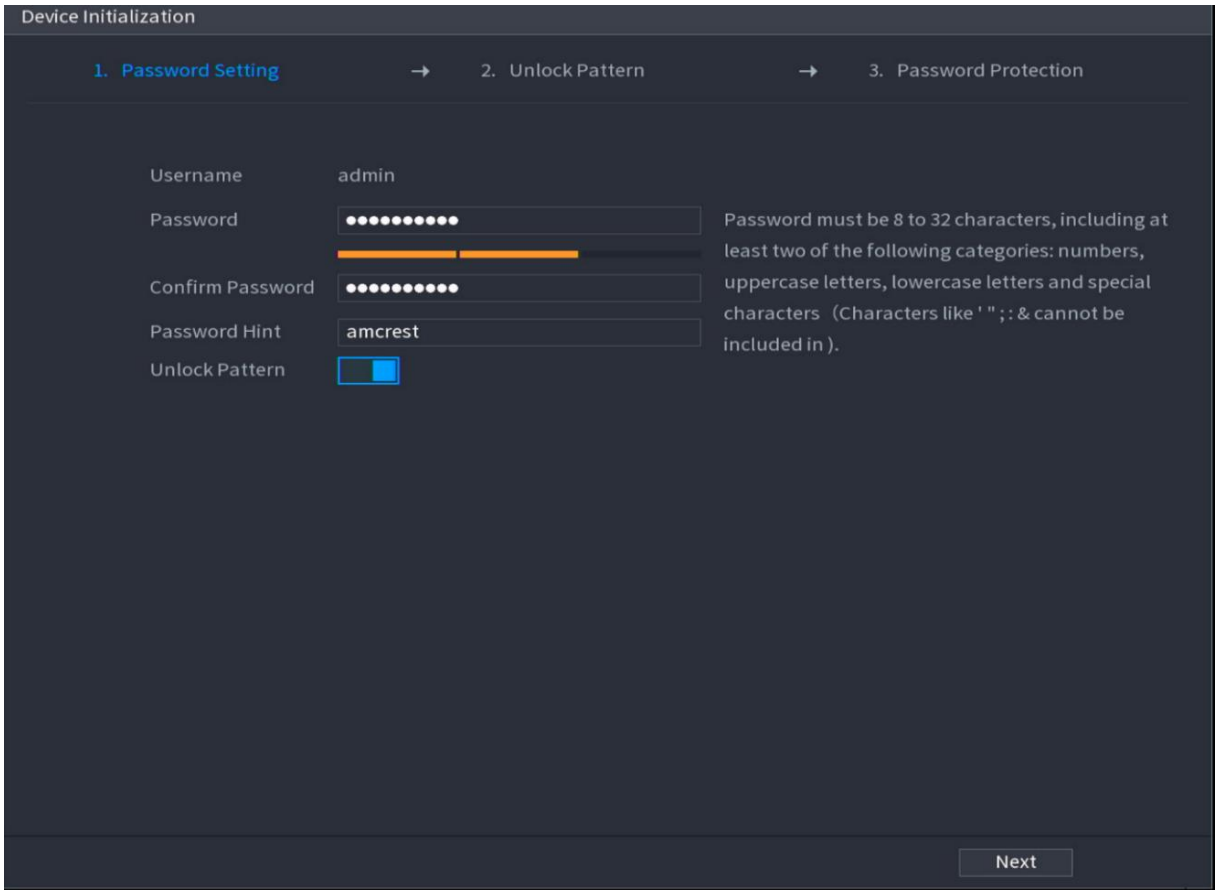
After applying power to the NVR, the system will turn on. Allow the NVR to finish loading. The **Device Initialization** screen will appear. Select your location, language, and video standard then click **Next** to continue.

Select your time zone as well as current date and time. 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.

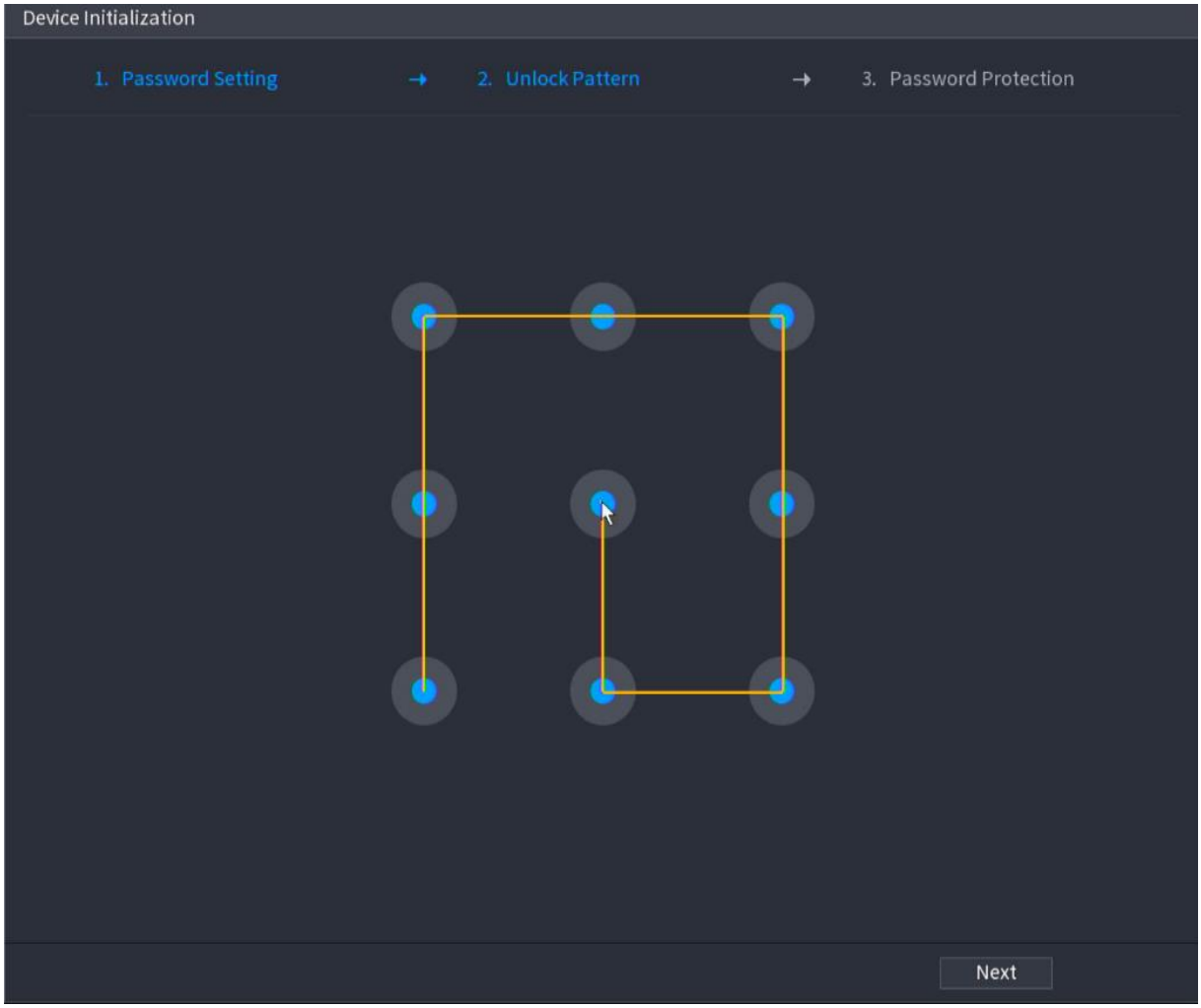
Note: Please do not use special symbols like ' ' ; : &



Once you have entered a new password for your device, confirm the password in the next field. A hint for the password is optional but is recommended in case you forget the password. You can also disable or enable the unlock pattern toggle switch as this feature is optional. Click **Next**.

Unlock Pattern

This is an optional security measure for your device. 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.

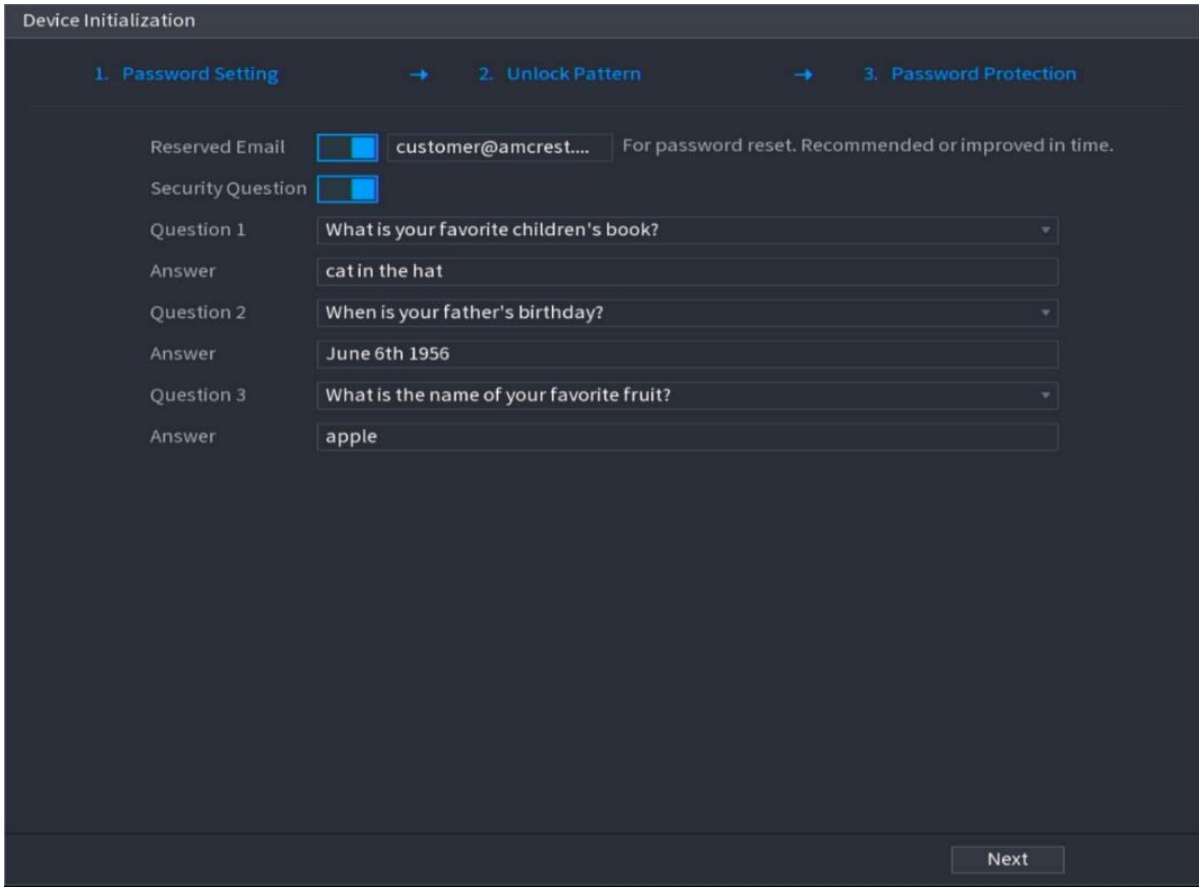


If you have assigned an unlock pattern, you will need to draw the pattern again to confirm your assigned unlock pattern.

Password Protection

Additional means of password protection and retrieval can be set up in 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 **Email Address** 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 on 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 setup any network, P2P, camera, and hard drive (HDD) settings.

Network

Unless you have a specific reason to change these settings, it is best to leave them as they are. Please note, **the IP address for the NVR will be the address used to access your NVR's web user interface on a laptop or PC**. It is highly recommended to make sure the IP is set as static. To set the NVR to a static IP address, click on "**Modify**" and disable the DHCP toggle switch. Click **Save**. This will set the network mode to **Static**.

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. 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 app. Ensure the P2P toggle switch is enabled and the P2P status reads "Online". To download the app, use your mobile device's camera and scan the **Cell Phone Client** QR code. When using the app, use the SN QR Code for quick access to the serial number for your NVR. Click **Next**.

Camera Registration

The next screen that appears is the **Camera Registration** screen. This is where you can begin 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 **Search Device** to allow the NVR to scan for connected devices on your network. A list of applicable connected devices will show 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 registered 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.

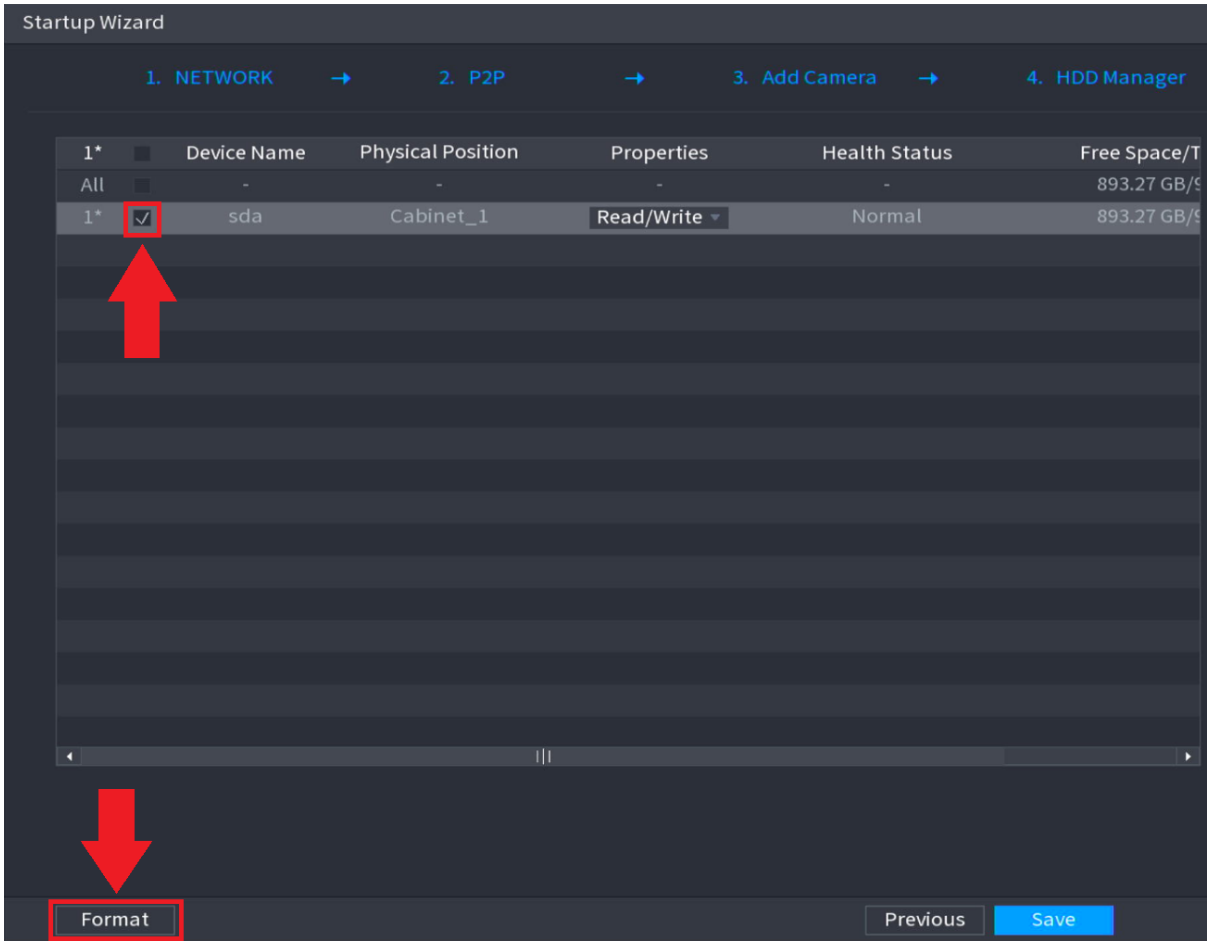
Note: If this is a new device and a password has not been added the password will be **admin.**

Once the password has been properly set the **Status** indicator will turn green indicating the camera has been properly added. Once the camera(s) have been successfully added, Click **Next.**

HDD Manager

The next screen will be the hard drive manager screen. This screen allows the user to verify the hard drive is being read by the device as well as provides an option to format. Please note, it is highly recommended to format the hard drive before proceeding.

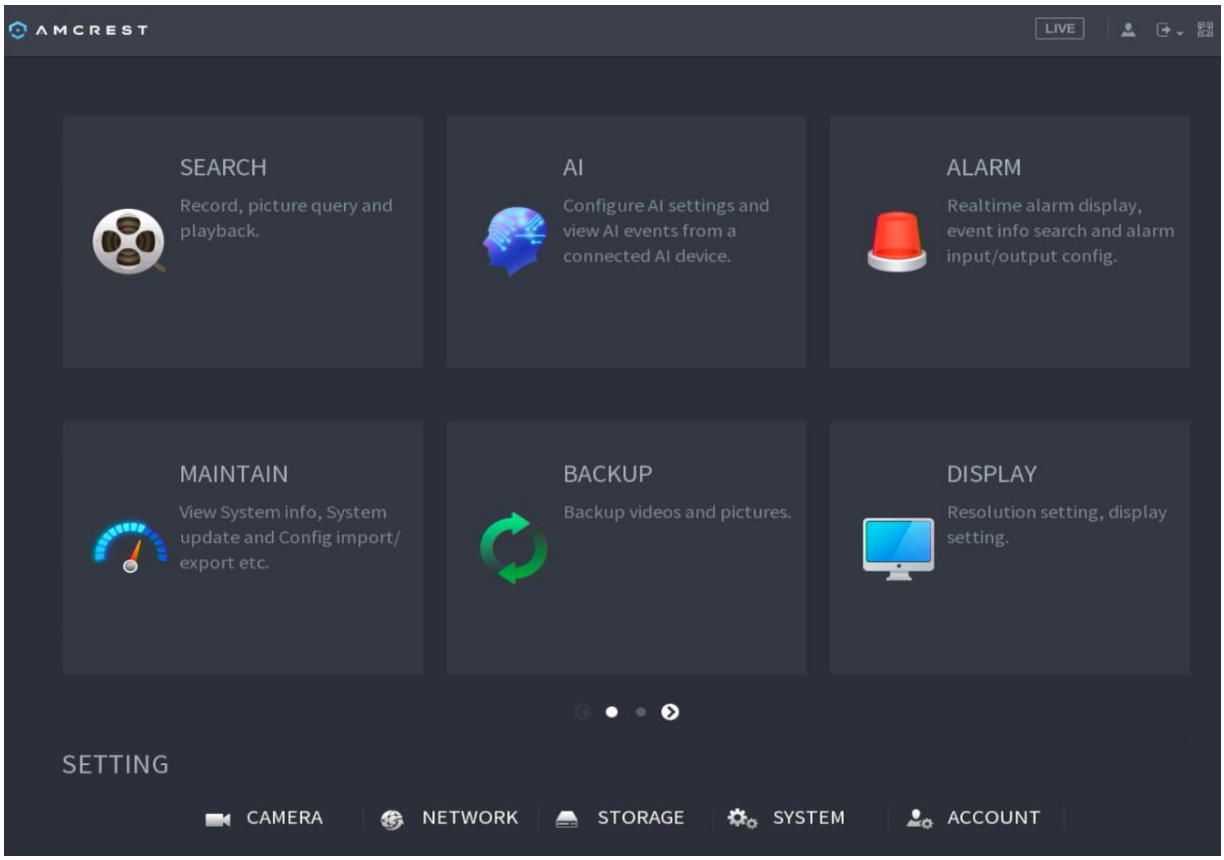
To format the hard drive, select the hard drive you would like to format from the list and click **Format**.



Toggle the **Clear HDD Database** toggle switch on and click **Save**. Enter the password for the NVR and click **Save**. Once the hard drive has been successfully formatted click **Save**. The video wall will be displayed, right-click on the interface and select **Main Menu**.

Main Menu Overview

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:

SEARCH: View, search, and play recorded videos.
AI: Manage and view artificial intelligence and face recognition information and settings.
ALARM: View and search 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.

SETTING

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, 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.

Adjusting Camera Settings for Maximum Resolution, FPS, and Bitrate

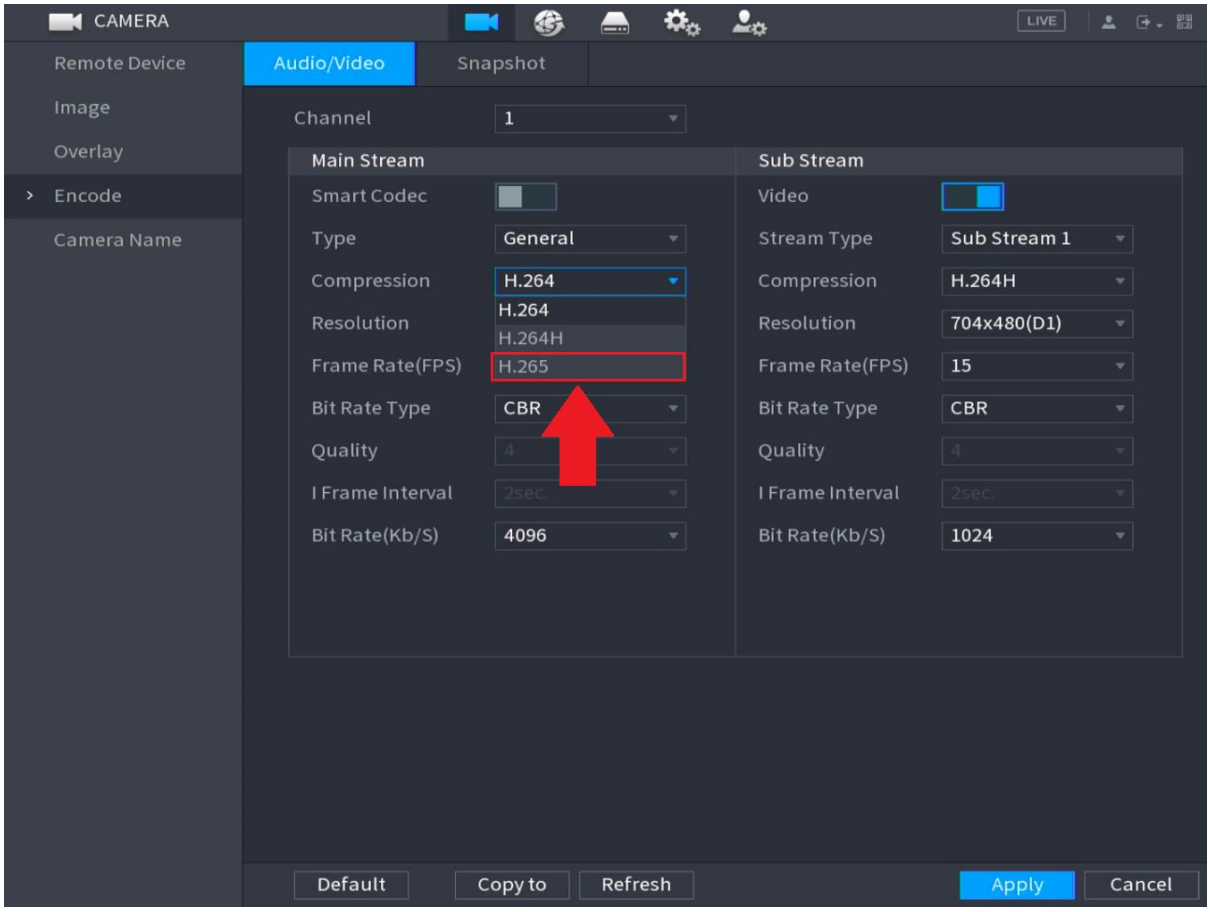
Most Amcrest products are H.265 compatible. H.265 provides a more advanced technology than H.264 and allows the camera to reduce file sizes which in turn helps to reduce required bandwidth **without sacrificing frames per second (FPS) or resolution**. However, for maximum compatibility when accessing your device in a web browser, or other third-party applications, our H.265 compatible products will come factory default to H.264**.** For optimal performance, the device's settings can be upgraded to H.265 compression if needed.

Please note, for higher performance as well when using H.265 compression it is recommended to adjust bitrate. The bitrate is the number of bits that are processed per unit time by the system and helps the system to create a tradeoff between bandwidth and image quality.

How to Adjust to H.265 Compression

If the auto switch for H.265 compression was not selected in the camera registration process, the setting can be adjusted manually. On the **Main Menu**, under **Management**, click on **Camera**.

In the **Camera** menu, select **Encode** and click on the **Compression** drop down menu and select **H.265**.



Click **Apply** to save your settings.

Adjusting Bitrate

Since H.265 compression uses roughly 30% less resources than H.264, the camera will typically come defaulted to a preset bitrate when switching to H.265. For instance, when switching to H.265 on a 4K camera, the bitrate may be defaulted to 8192 Kb/S, however, adjusting the bitrate to a lower value may help to increase the overall efficiency of the camera while viewing playback or watching live view.

To adjust the bitrate, access the **Encode** menu and click on the **Bit Rate (Kb/S)** dropdown menu. A list of preset bitrates will be displayed as well as a **Customized** selection which will allow you to set a customized bitrate if needed.

Please note, 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 requirements. Please refer to the table below regarding recommended resolution and bitrates and custom thresholds.

Resolution	Recommended Bitrate	Custom Bitrate Threshold
2MP (1080P)	Default Settings	Default Settings
3MP	Default Settings	Default Settings
4MP	Default Settings	Default Settings
5MP	1536 Kb/S	1792 Kb/S
8MP (4K)	1792 - 2048 Kb/S	1825 Kb/S

Note: Adjusting the bitrate to anything lower than the recommended bitrates above may result in degradation to recordings or to live view. For best results, if you are adjusting multiple cameras, it is highly recommended to adjust each camera **individually**. This may be a trial-and-error process since most network environments are unique and may vary, however, the bitrate should range between 1792-2048 Kb/S if using a 4K camera. An optimal customized bitrate should be around 1825 Kb/S. Click **Apply** to save the new bitrate settings.

IVS, Motion Detection, and Recording Setup

This section will cover how to set up a recording schedule for your NVR. This is applicable to regular (24/7 recordings), motion detection, and IVS recordings. IVS stands for intelligent video system analytics and is the basis for all AI rules associated with your device. This section will also cover how to set up a recording schedule, email alerts with snapshots, etc.

Note: **The NVR can only be set up to save recordings or IVS information if a hard drive has already been installed**. **However, email alerts with snapshots can still work without a hard drive installed.**

The following setup processes will be shown using the NVR's built-in interface. However, these same steps can also be done through the web interface on a computer. For more information on how to access your device from a web browser, please refer to section, *"Computer Access Setup".* Despite the difference in appearance, the settings pages have similar organizational structures.

Enabling Recording Options

This menu should be verified to ensure that all recording protocols are enabled. This menu details, per channel, which streams are enabled or disabled in the NVR. To access this menu, please refer to the information provided below.

1. On the main menu, click on **Storage**.



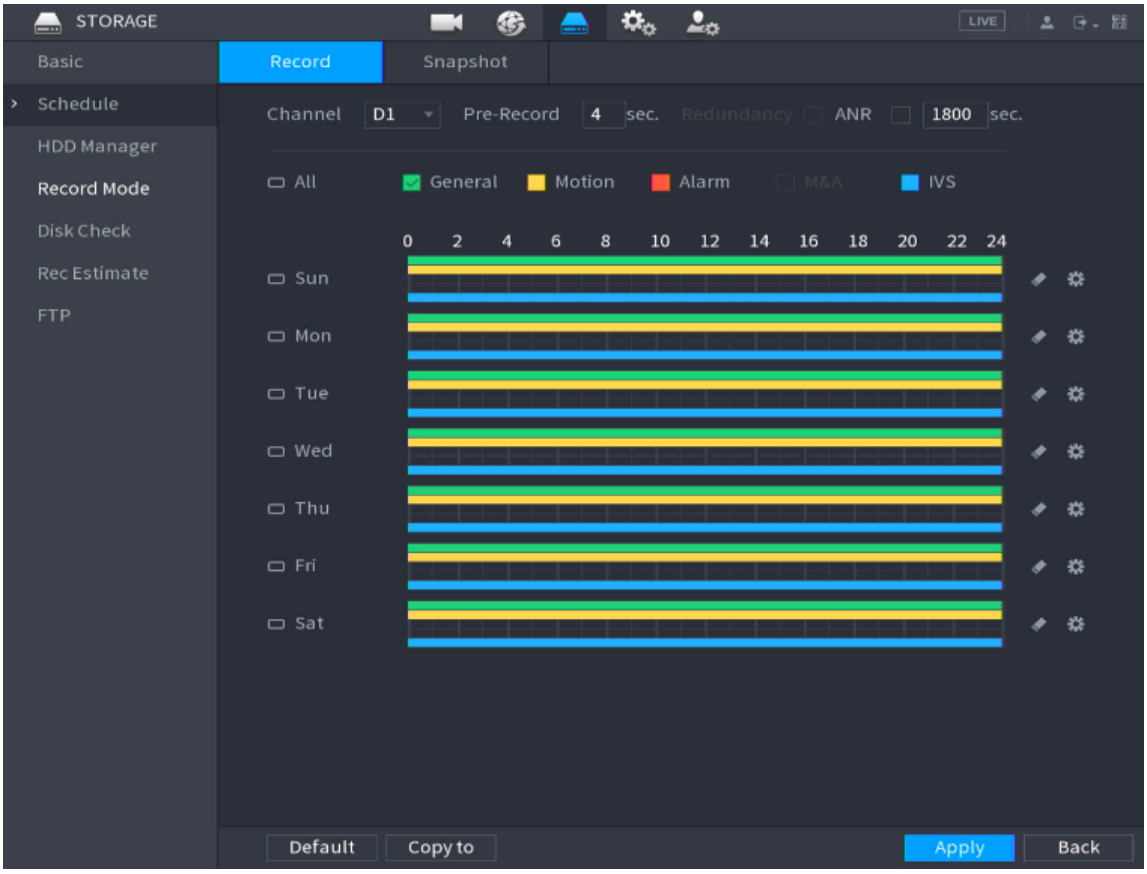
2. Click on **Record Mode**. This menu displays all active channels and streams being used for recording. If using snapshots, ensure the **Snapshot** radio button is enabled on each stream. To apply the settings to all channels, click on the **All** radio button. Click **Apply**.

Setting Up Recording Schedules

1. From the Main Menu, click on **STORAGE** in the **SETTING** section:

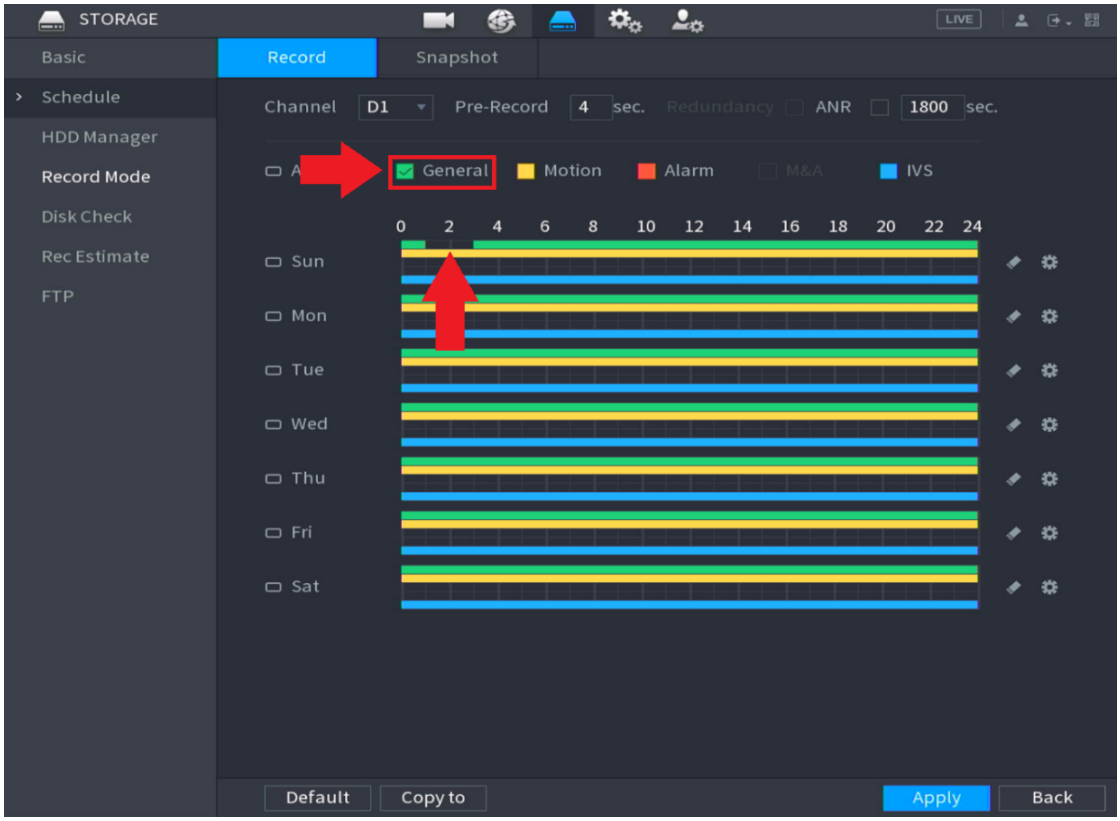


Make sure you are on the **SCHEDULE** > **RECORD** page. This is where you can configure your video recording schedules. To configure a snapshot schedule, click on the **Snapshot** tab. All video events will be saved and accessible via the playback menu, if a hard drive is installed, whereas snapshot events can be emailed. For more information on how to setup Email snapshots, please refer to section, *"Setting Up Email Alerts".* By default, **General** (24/7), **Motion** (Motion Detection), **Alarm**, and **IVS** recording types will be activated for all days as indicated by the different colored bars available in this menu.



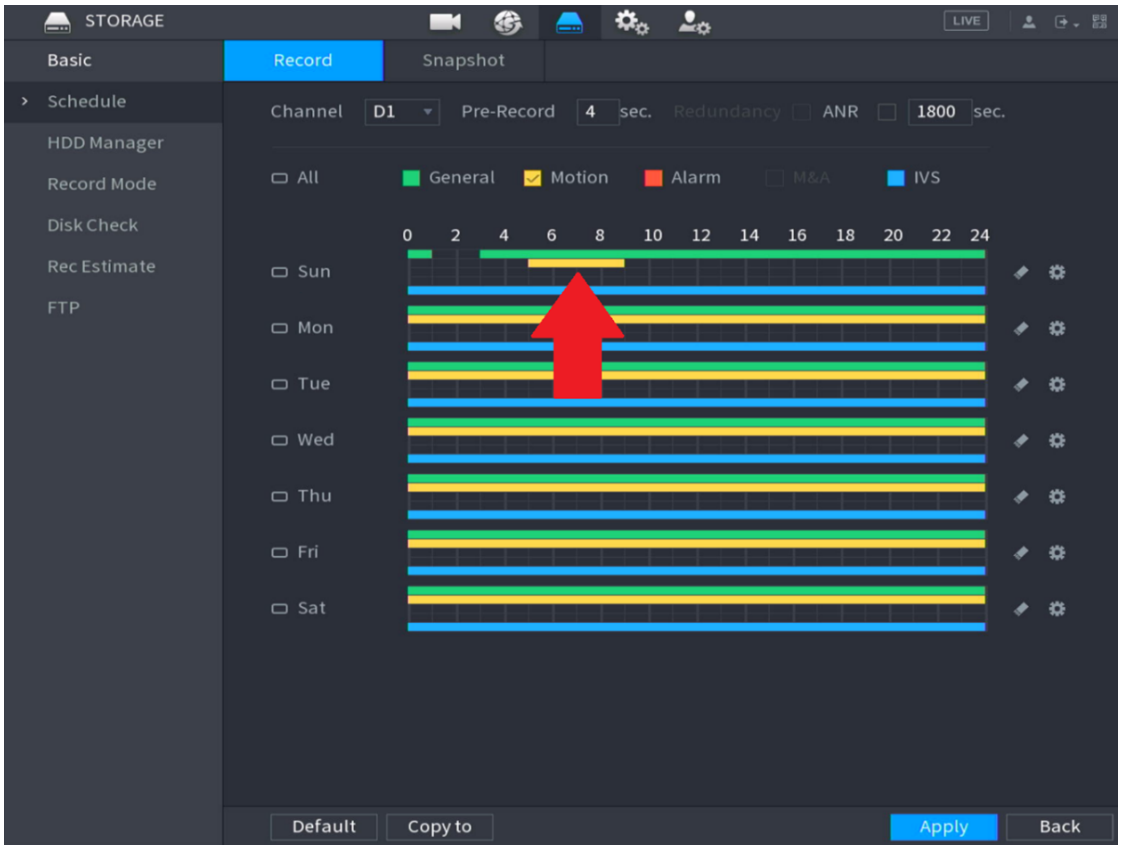
To choose a channel (or camera) for which to configure, click the number next to **Channel**, then select either a single channel or **All** if you would like the schedule to apply to all channels currently connected to your NVR.
By default, the NVR will have the schedule for each recording type to record 24/7. Also note, that the NVR uses military time from 00:00 to 24:00 hours instead of 12 a.m. to 12 a.m.

To edit a recording schedule, select a recording type from the colored boxes. Each recording type is color coded: Green: General (24/7 recording), Yellow: Motion (Motion Detection), Red: Alarm, and IVS. Select which recording type you would like to modify and then use your mouse to adjust the time via the time bar for your specific recording type.



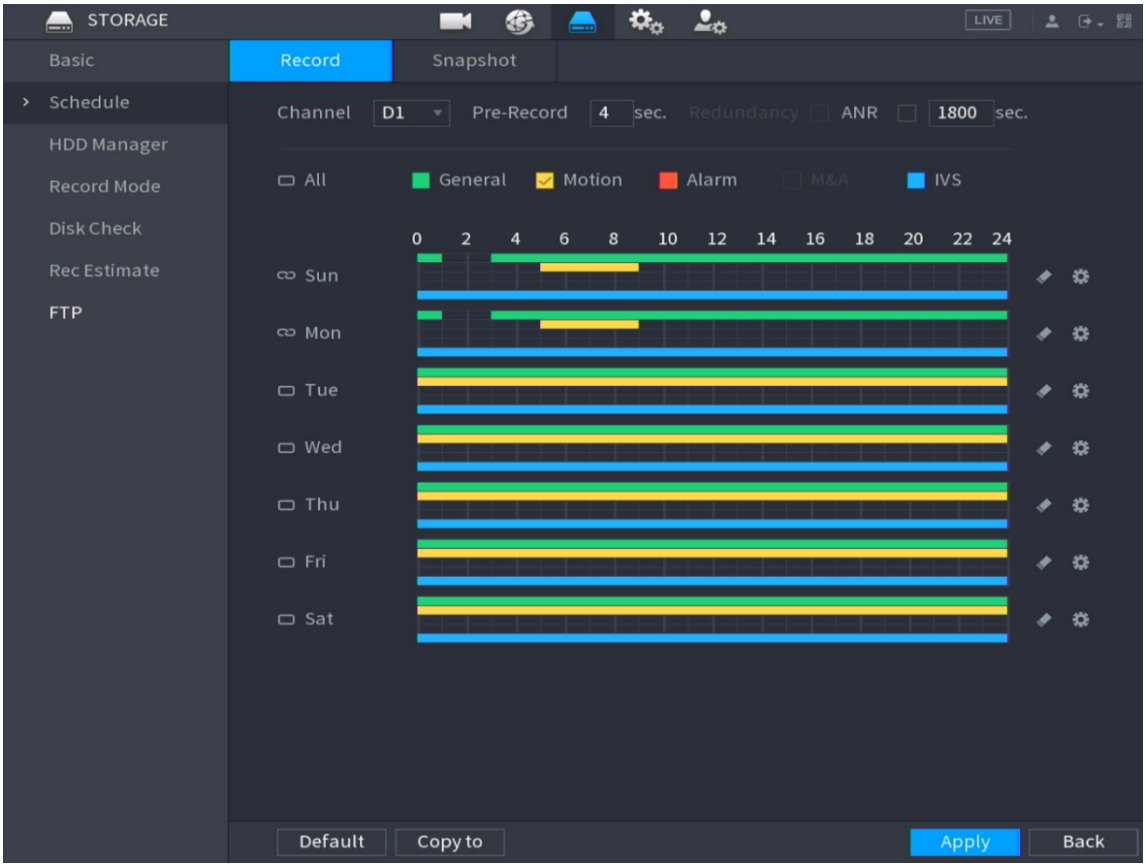
Click the eraser icon to the right of any day if you would like to clear the entire row of blocks.

To add or remove motion detection blocks to the grid, mark the yellow checkbox next to **Motion**, then click individual cells or click-and-drag for multiple blocks:



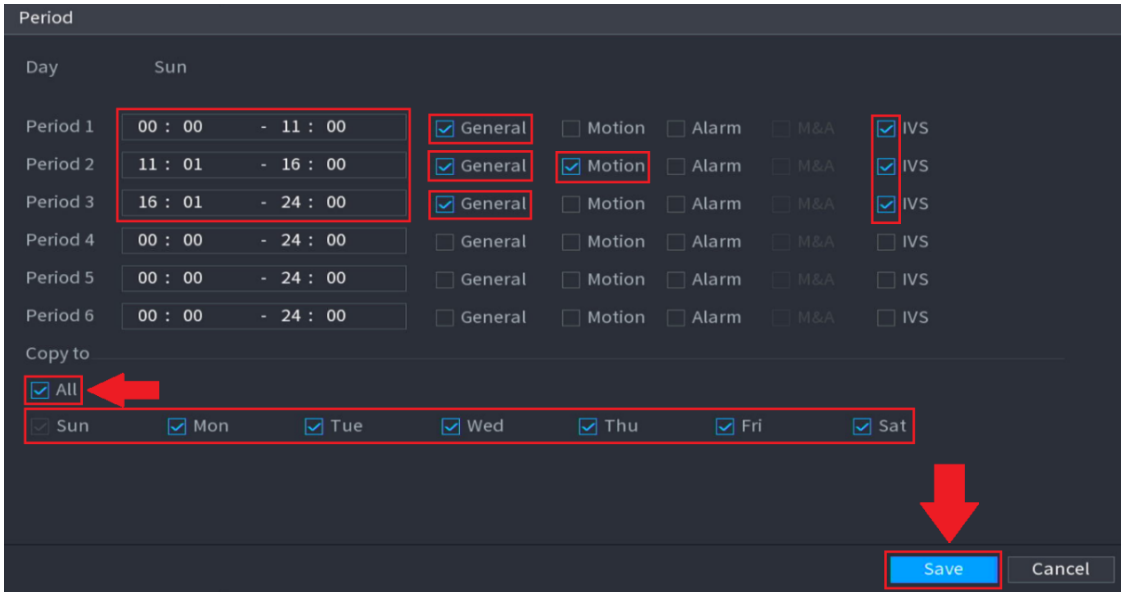
To the left of each day, there are small boxes which can be marked to ‘link’ days together. This is useful if you want to save time by instantly making changes to multiple days simultaneously.

In the below example, Sunday and Monday are linked, so any blocks that are added or removed for Sunday will automatically and immediately reflect the same for Monday and vice versa:



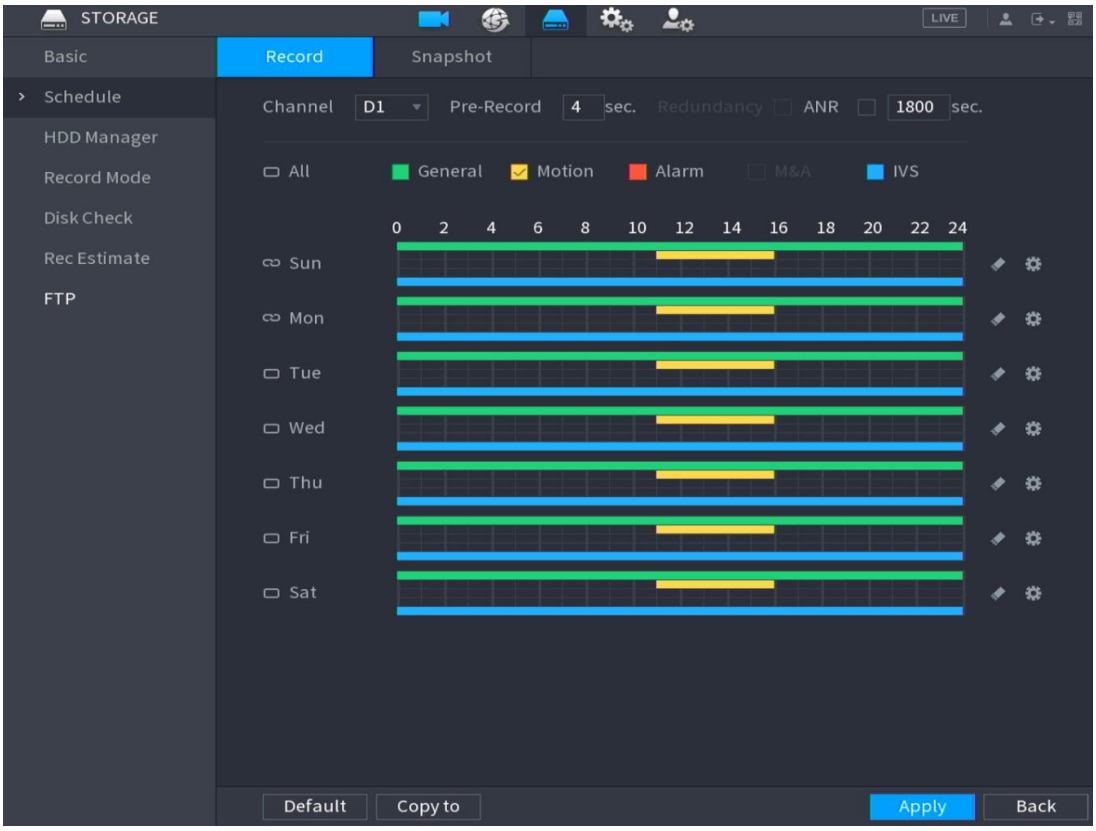
The same concept applies when configure other recording schedule types such as IVS.

Another way to configure recording schedules is by manually setting time periods. Click the “gear" icon to the far right of any day to open the **Period** page:



Here, the periods (Periods 1 - 6) will be in displayed in chronological order. You can set either **Regular**, **MD, Alarm, or IVS**, checkboxes. You can also copy the period settings over to other days by checking them individually or checking **All**. Make sure to click **Save** when finished.

Now that you have finished configuring the recording schedules, you may need to copy these settings over to other channels (or cameras). By default, D1 (Channel 1) will be selected unless you immediately selected **All** in the channel window previously. Please note, you can copy these settings directly over to another channel by clicking **Copy.**



In the **Copy** window, you can select individual channels for any cameras you have added to the NVR or select **All**:

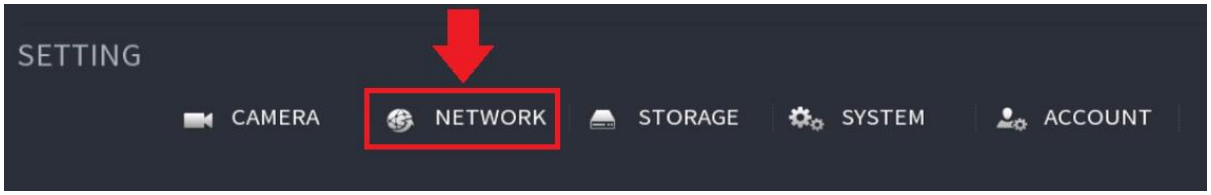
Click **Save** when finished.

When finished on this screen, click **Apply** to save your changes.

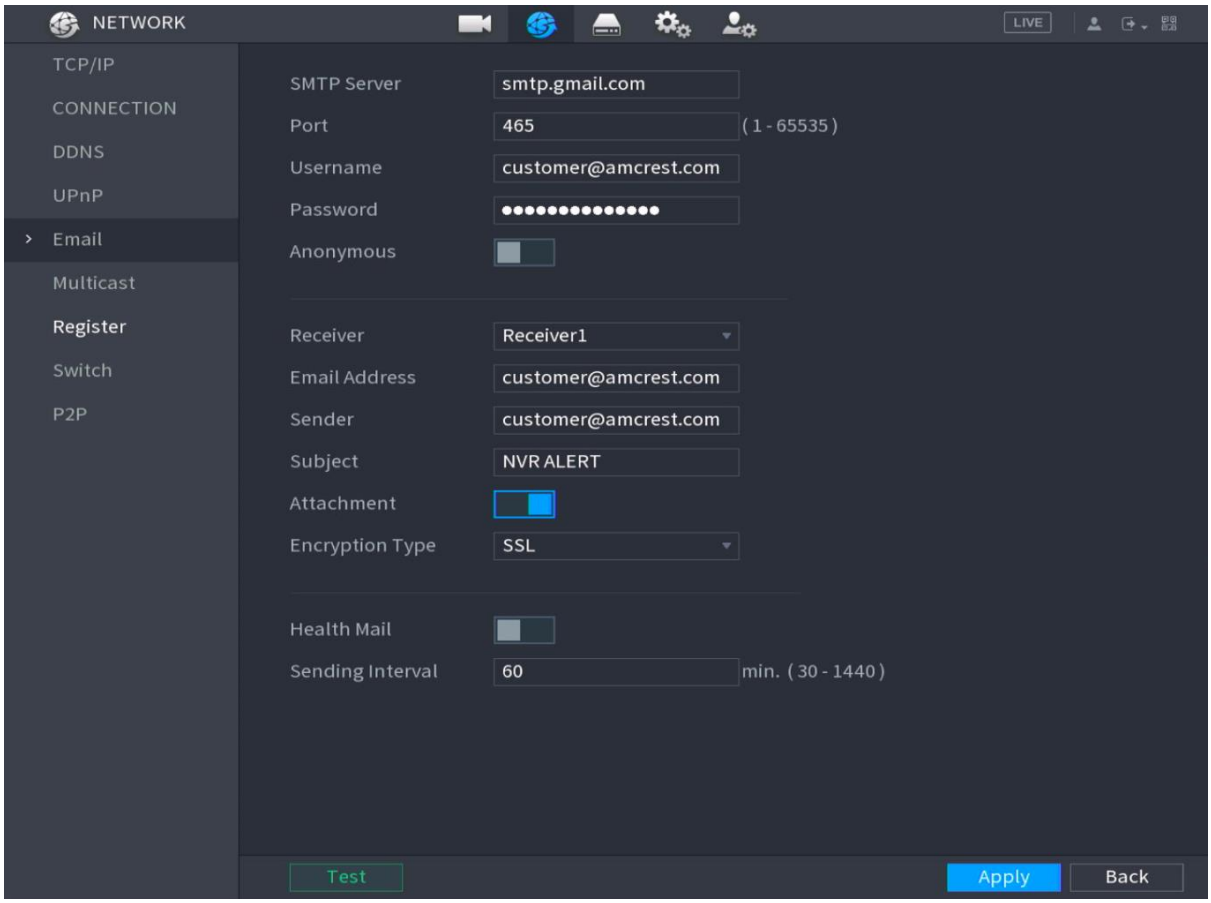
Setting Up Email Alerts

Setting up Email alerts will allow you to receive snapshots of events via your email. These events can be motion detection, IVS, Face Detection, or other events captured by your device. Each event type must have the "**Send Email**" option enabled to allow the feature to send snapshots to your email. To setup email alerts, please refer to the information provided below.

1. On the Main Menu, click on **Network** located in the **SETTING** section.



2. Select **Email** and **Enable** the toggle switch.
3. Enter the SMTP information for your email. In this example we will be using Gmail, however other email services can also be used. If using Gmail, type in "**smtp.gmail.com**"
4. Enter a port number. This is based on the type of encryption used by your email service. In this example we will be using port **465**, which uses an **SSL** encryption type. If using **TLS**, the port number will be **587**.
5. Enter the email address you will be using in the **Username** field.
6. Enter the password for the email address in the **Password** field.
7. In the **Receiver** field, enter your email address. Enter that same email address in the **Sender** field.
8. Update the subject line for your alerts in the **Subject** field. The default subject line will be NVR Alert however this can be changed to anything you would like to use.
9. Make sure the **Attachment** toggle switch is enabled to enable snapshots to be sent.



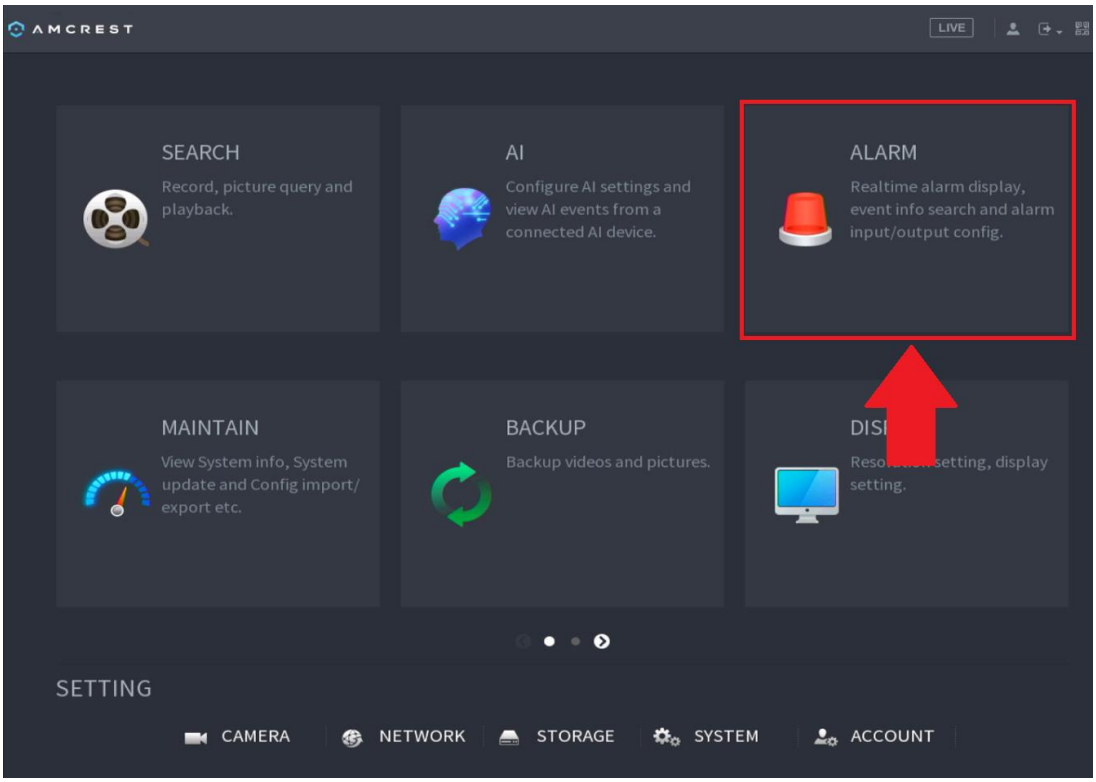
10. Click **Apply** and **Test** to verify connectivity. Once the test has been successfully sent, click **Save** to continue.

11. Check your email to see if you received the email test.
Now, whenever your camera detects motion, you will get email alerts sent to the email that was set up in the system. This will include an email with a snapshot of what was seen when the event was triggered.

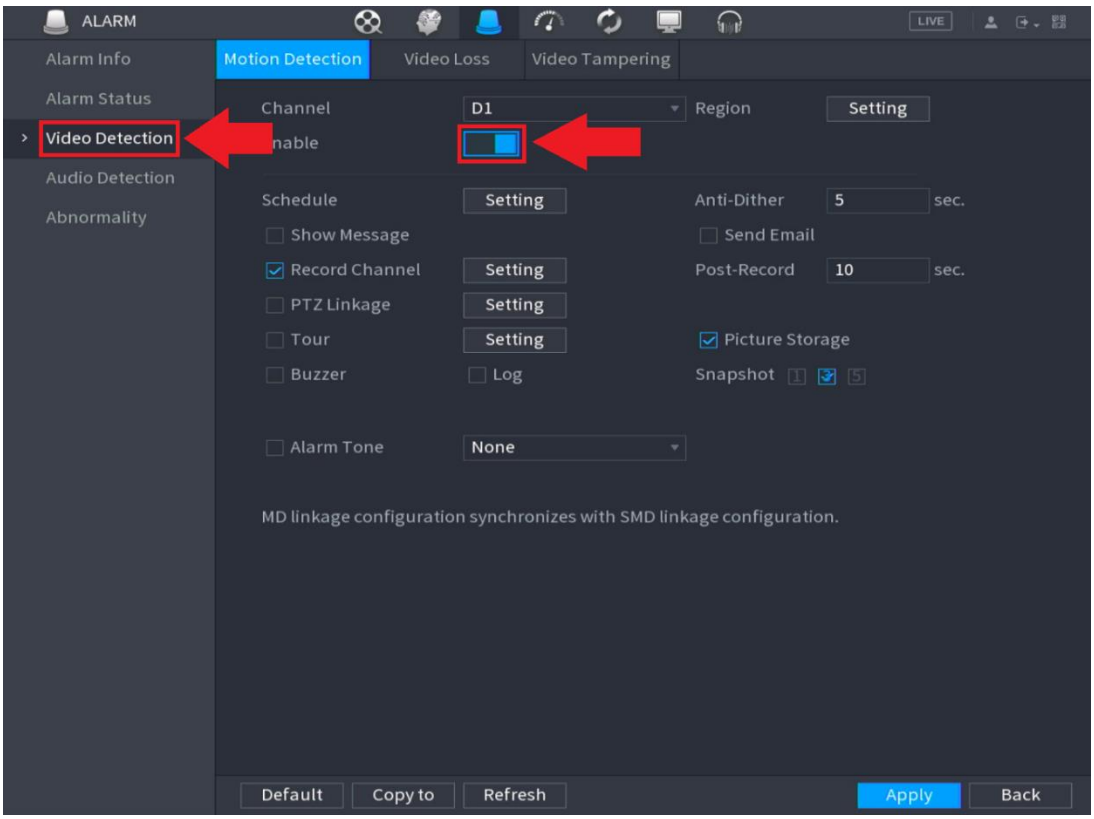
Setting Up Motion Alerts

This will allow snapshots of motion detection events to be emailed to you. Motion detection events are different from IVS or other AI events as they do not use AI algorithms to function and can be used in conjunction with IVS or other rules as they are separate features in the system. For more information on configuring motion detection, please refer to the information below.

1. On the Main menu, click on **Alarm**

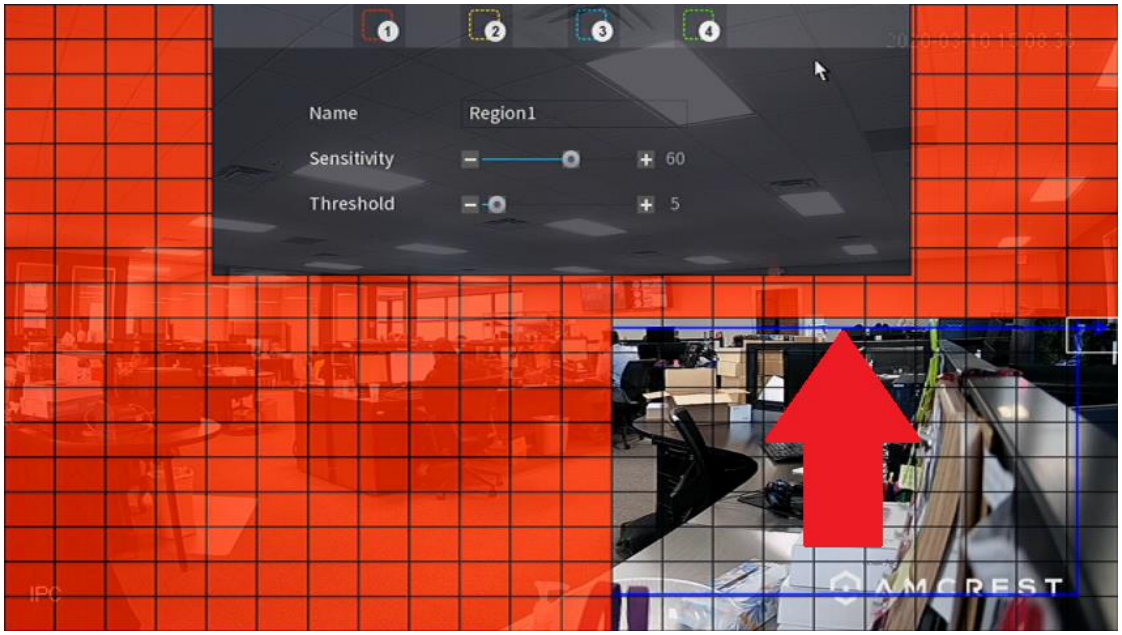


2. Select **Video Detection** to access the **Motion Detection** menu. This is the main configuration page for your motion detection settings. Select which channel you are configuring from the **Channel** drop down menu and click the **Enable** switch. This will enable motion detection. Please note, this should be enabled by default.



Adjusting Region Settings

You can set up “regions" for motion detection using the region grid on your NVR. By default, the entire area of view for your cameras will be highlighted with red blocks indicating that all areas of the live view screen will have active motion detection. However, to prevent false events from occurring, you can use your mouse to block out certain areas.



If you hover your mouse pointer over the top-center edge of this window, another small window will appear with options to configure **sensitivity** and **threshold** settings as well as to choose from up to **four regions**.

Sensitivity - is the measure of how many pixels on the screen need to change before being considered motion. **0** is the lowest value and **100** is the highest.

In plain English: Sensitivity is the difference between a squirrel running up a tree, versus a big dog running up to and barking at that tree. A squirrel would trigger motion detection at a *higher* sensitivity because it takes *less change or movement to qualify as motion*. But the dog would trigger motion detection at a *lower* sensitivity because it takes *more change or movement to qualify as motion*.

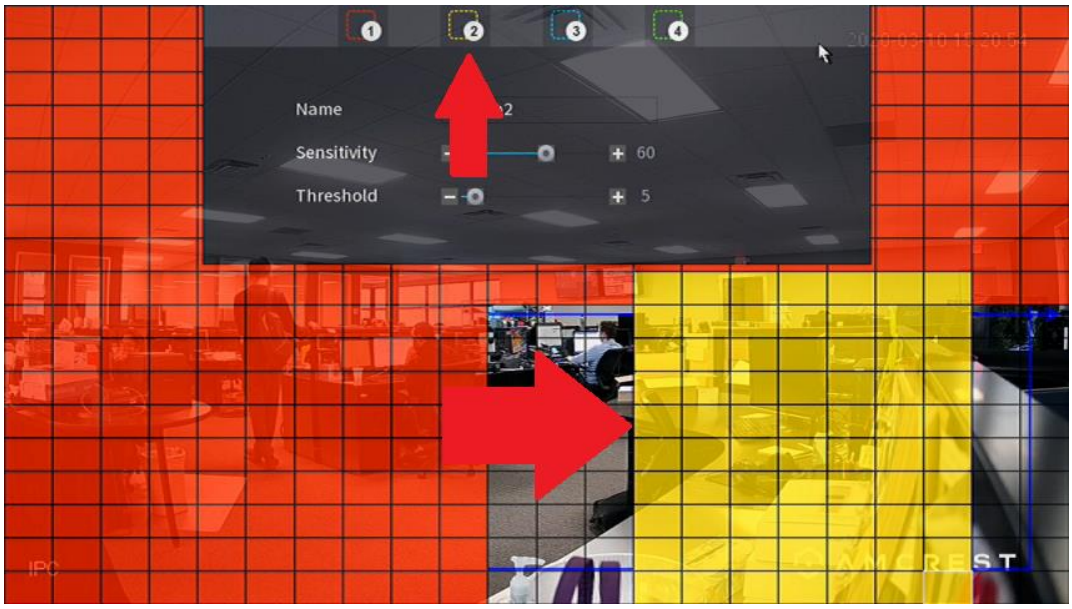
Threshold - is the degree of movement that needs to occur before the motion is defined as a motion event and is triggered. **0** is the lowest value and **100** is the highest.

In plain English: Threshold is the difference between a car driving quickly by on a street and a car driving into the field of view, slowing down, and turning into a driveway. The car driving past *would not* trigger motion detection based on a certain threshold setting, but the parking car *would* trigger motion detection with that *same* threshold setting. The *higher* the threshold, the *more time* motion needs to occur before motion detection is triggered. The *lower* the threshold, the *less time* motion needs to occur before motion detection is triggered.

If sensitivity is set to 100 and threshold to 0, motion detection will be triggered by almost any change in the field of view, large or small. But if sensitivity is set to 0 and threshold to 100, motion detection will be extremely difficult to trigger.

The **four regions** are all different colors, so you can customize the field of view of any camera to your specific preferences.

To choose another region, hover your mouse pointer near the top center of the region window, and a small window will appear. Keep your mouse pointer inside that small window and select either region 2, 3, or 4:



You will be able to click individual blocks or click-and-drag an area with the new selected color to highlight portions of the screen. Each new region (or color) has its own unique sensitivity and threshold settings. The different regions/colors can also overlap one another. To exit the regions setting screen, right click your mouse on the interface.

Adjusting Motion Detection Schedules

Motion detection schedules work the same as the schedules outlined in section: "*Setting Up Recording Schedules."* To adjust a motion detection schedule, click on **Period** and use your mouse to adjust the timeline. Click on the settings (gear) icon to set multiple periods. Click on **Save** to save your schedule.



3. Click on the **"Send Email"** checkbox. To enable the NVR to send an email once a motion is detected.

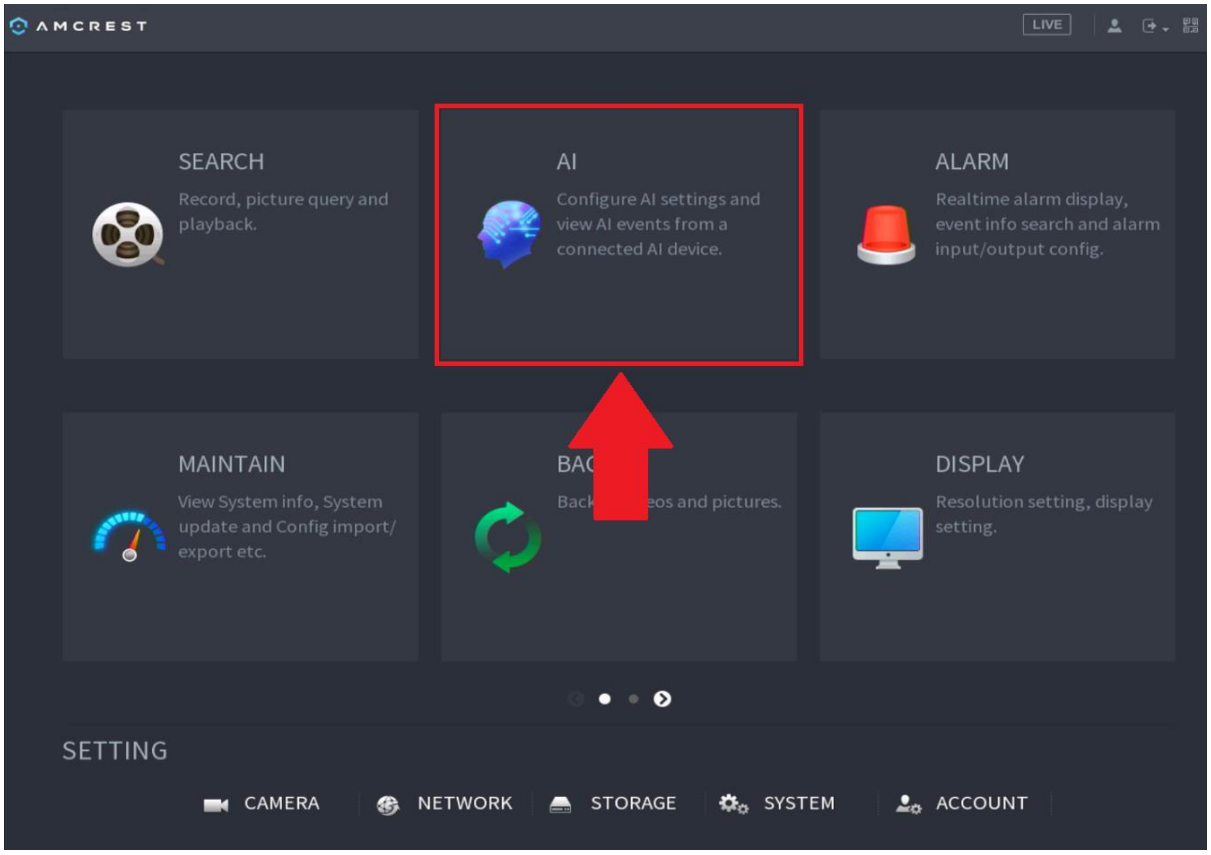
4. Click on **Apply** to save the settings to your system.

Once you have set up your settings for one channel, you can copy them to other channels in the system. If you did not select **All** after clicking **Channel** as previously described, click **Copy**, select channels to copy to, then click **Save**.
Click **Save** again to save all the settings made on this page. Click **Apply** in the Motion Detection menu to finish saving your motion detection settings to your device.

Setting Up AI Events

The AI features listed on the NVR include, "Face Detection, IVS, People Counting, Heat Map, and SMD (Smart Motion Detection). The features available for use in the NVR will be dependent on the type of camera used during setup as the **AI features are controlled by the camera only.** The NVR allows the user to implement the AI features from an Amcrest AI camera into the NVR and store the recorded events.

The AI events from the AI camera are stored locally and can be accessed in the **Search** menu or by using the **AI Search** option located in the AI menu. Please note, features such as heat map will only be available to view using the AI search menu as it is displayed graphically. To begin setting up AI events, click on the **AI** option shown on the main menu.



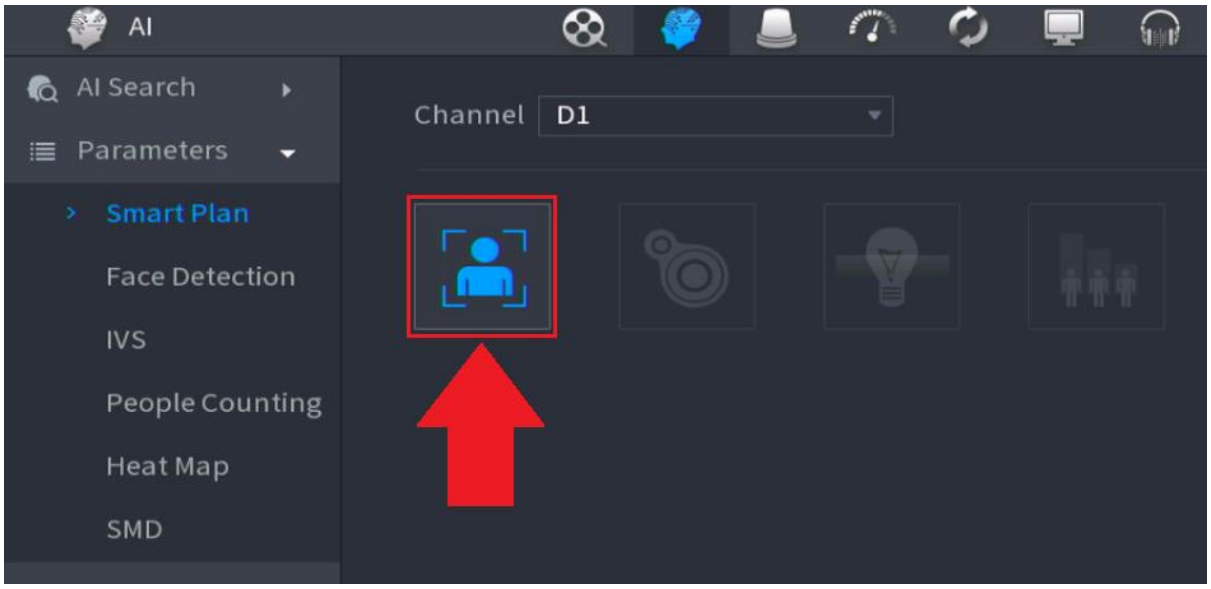
Set a Smart Plan

A smart plan acts as the "master switch" for all AI features. The smart plan menu is in the **Parameters** section in the AI menu. The smart plans available in this interface will vary camera model to camera model as the AI events are controlled on the camera side, not the NVR. Please note, a smart plan must be enabled for an AI feature to be activated.

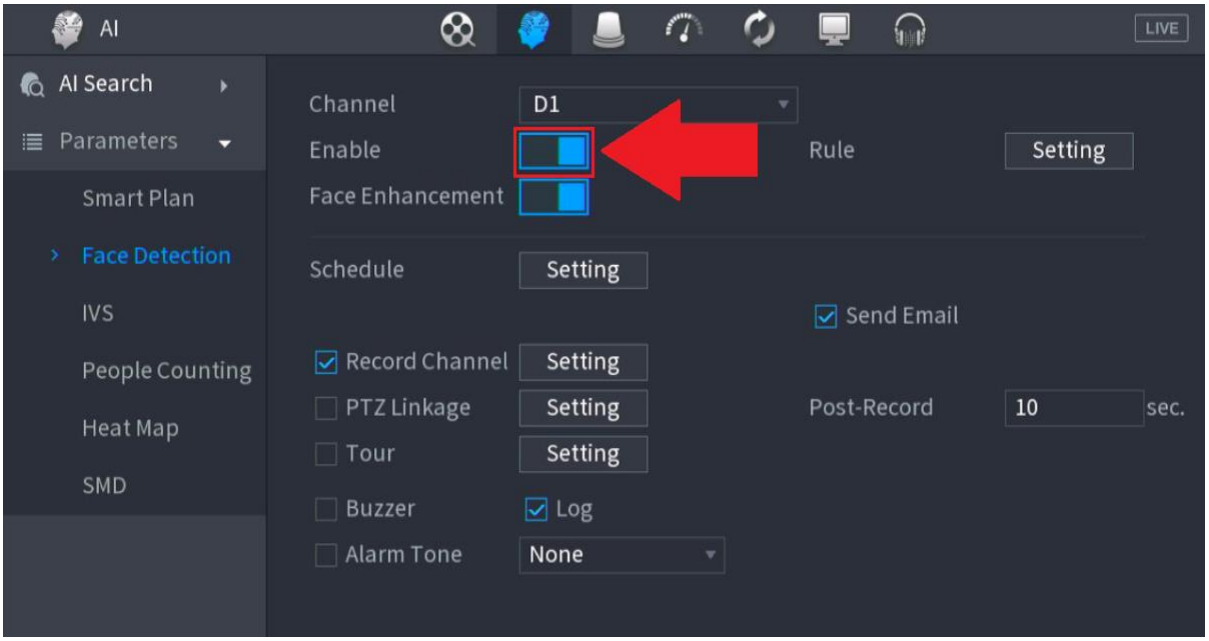
Setting Up Face Detection

Face detection is used to allow your device to detect face events. Please note, this feature may differ depending on which model camera is being used on the NVR. Not all AI cameras support this feature. For more information on setting up face detection, please refer to the information provided below.

1: Access the **Smart Plan** menu and select the channel you would like to configure from the **Channel** drop down menu. Click on the **Face Detection** icon and then click **Apply**. If using a non-AI camera, a smart plan may not be available for the specific channel.

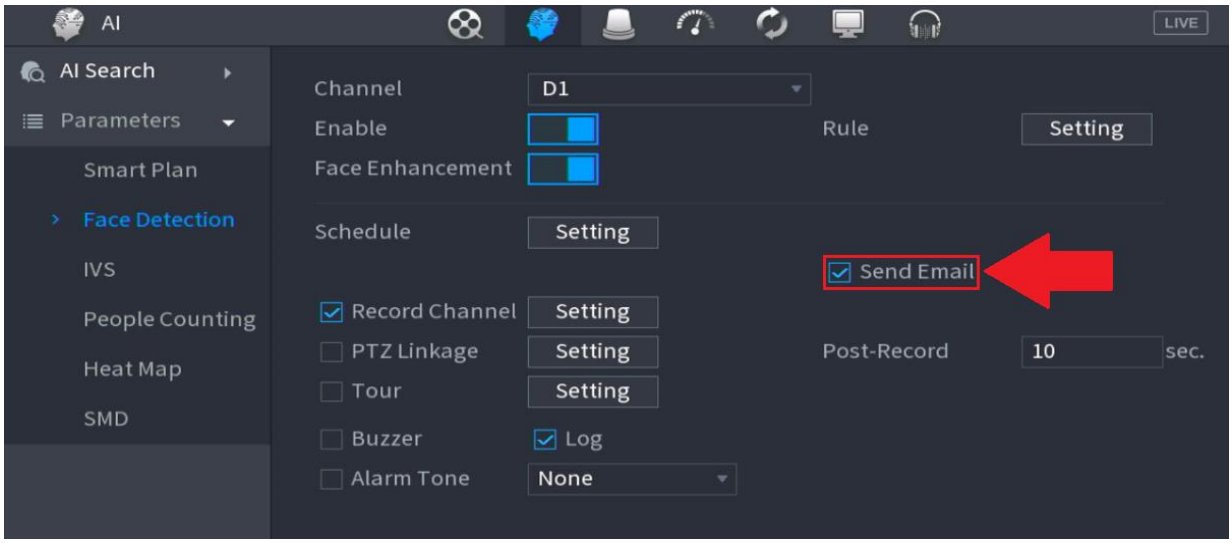


2. Click on the **Face Detection** option located in the **Parameters** section and select which channel to configure from the **Channel** drop down menu and enable the face detection toggle switch. Click **Save**.



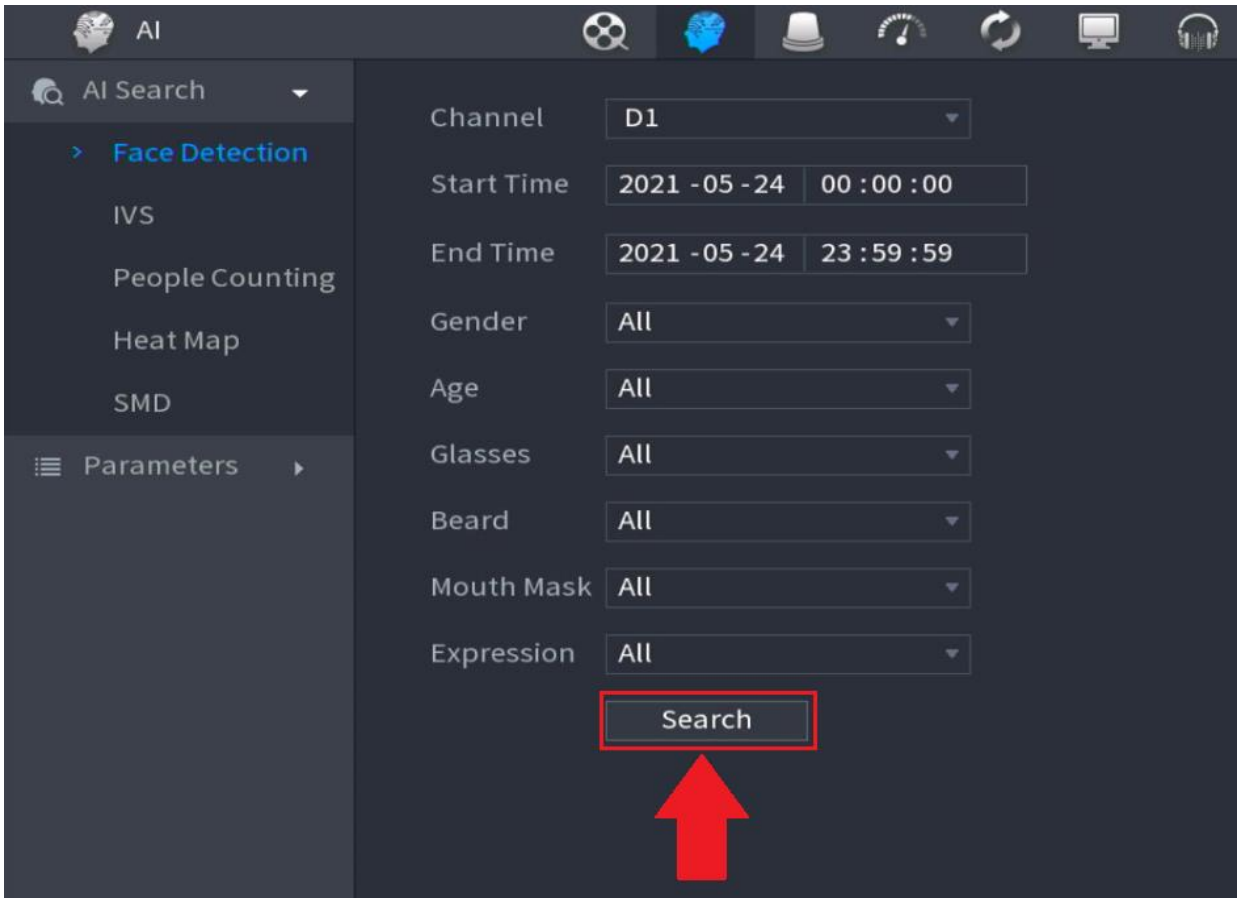
3. It is best to leave the **Rule** settings as default, however, they can be adjusted by clicking on the **Setting** button. Use your mouse to adjust the minimum (Min) and maximum (Max) size of the face detection area.

4. When triggered, the face detection event will be retained in the face detection smart search menu or snapshots of the event can be emailed to you. To have a snapshot of the event emailed to you, setup email alerts as described in section: *Setting Up Email Alerts* and click on the **"Send Email"** checkbox. Click **Apply** to save the setting.

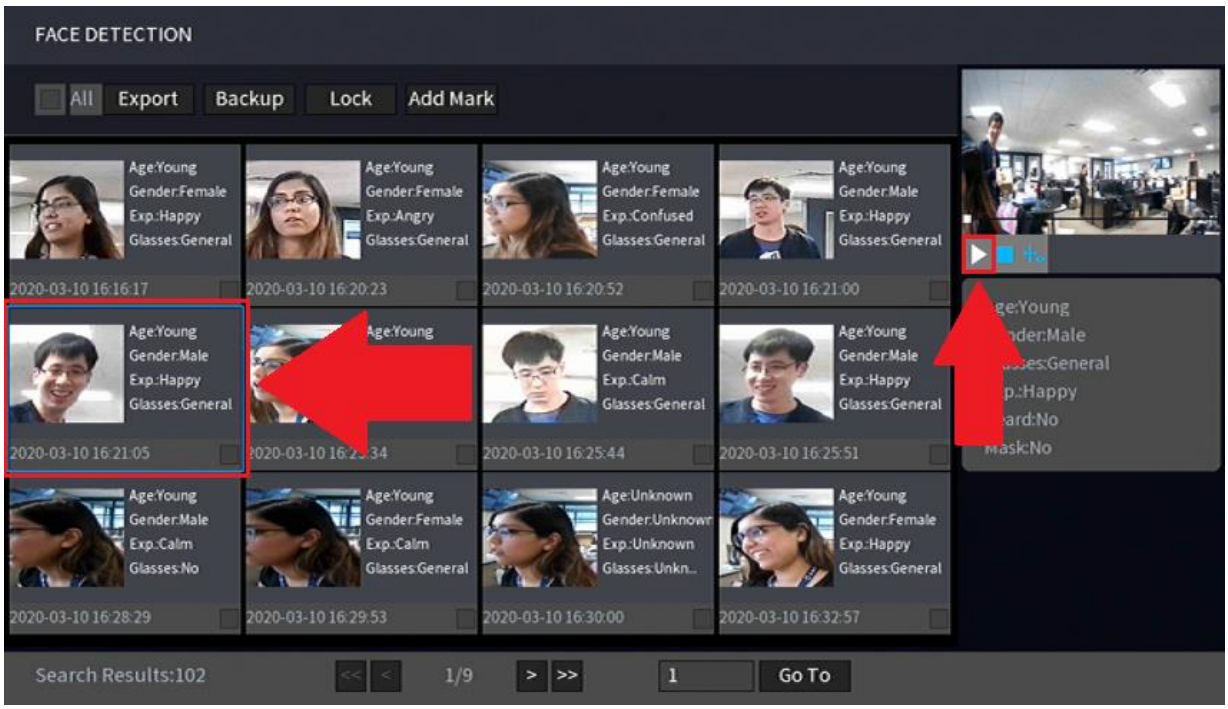


Viewing Face Detection Data

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 **Smart Search**.



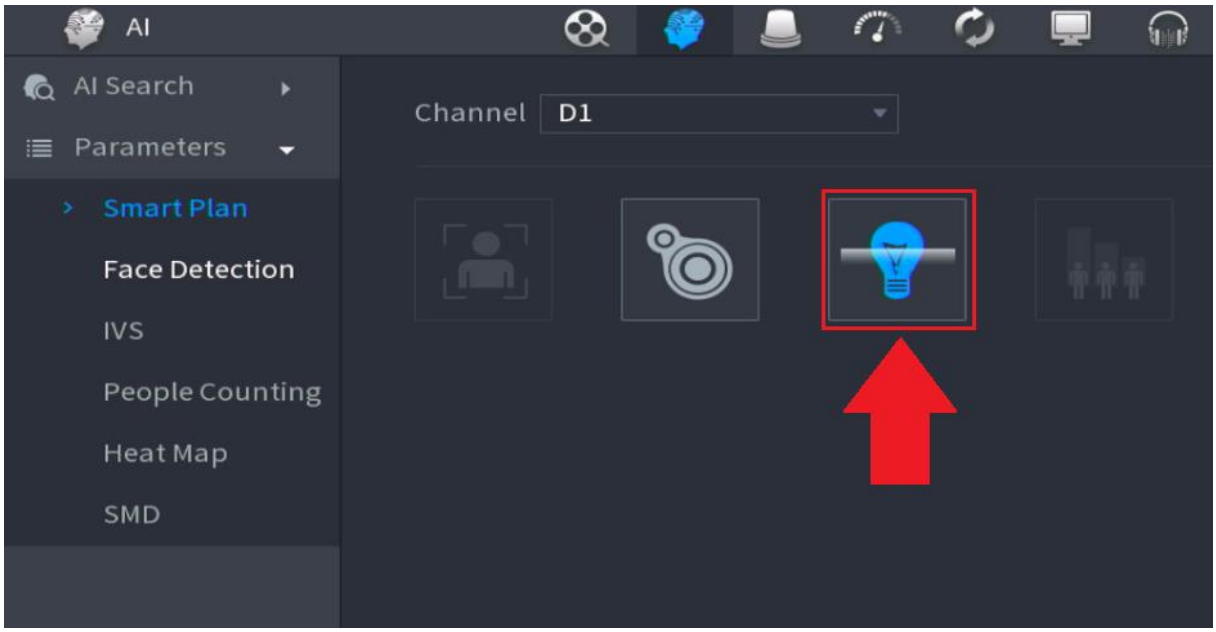
A display of all face detection data will be displayed along with facial attributes. Click on the event you would like to view, and a clip of the event will be displayed in the built-in player. Click on the play icon to view the event.



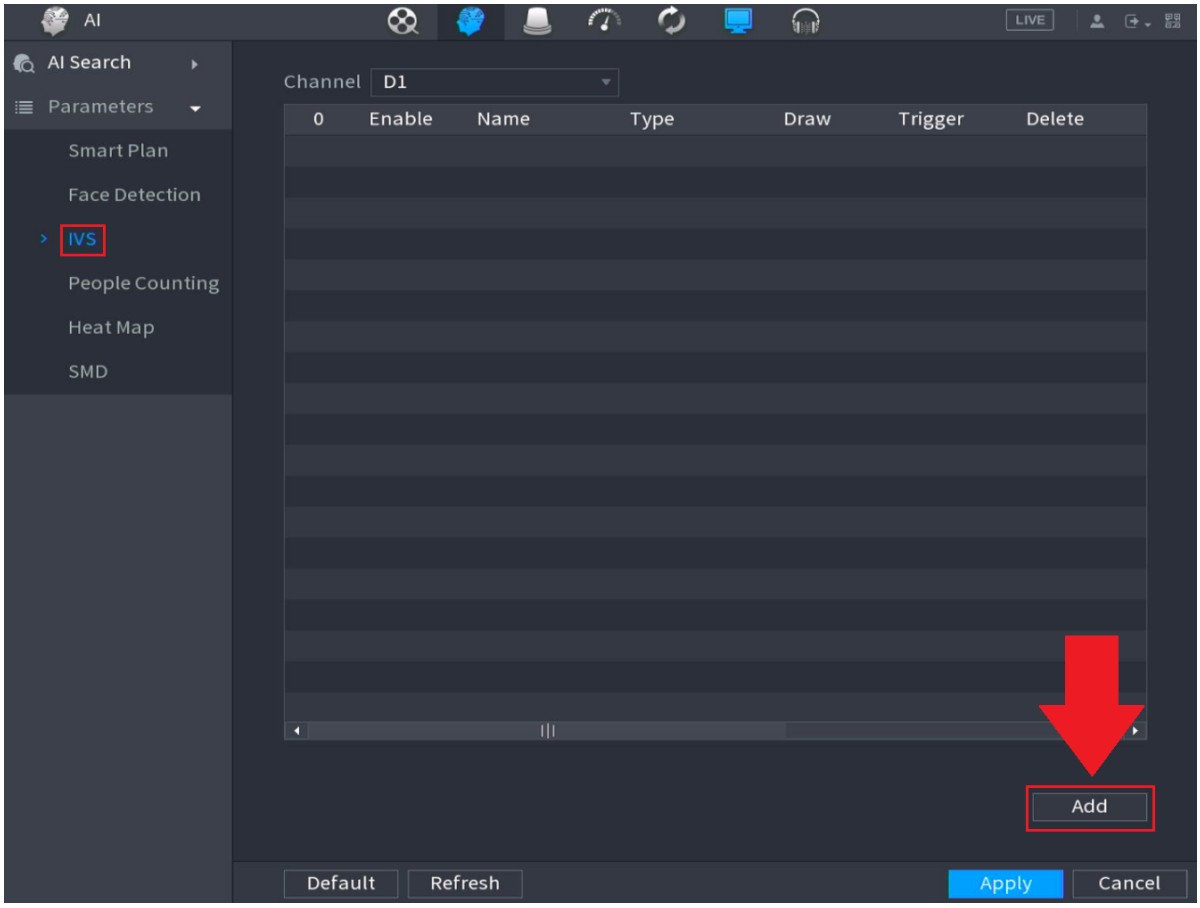
Setting Up IVS Rules

IVS stands for intelligent video system analytics and is the basis of most AI rules associated with your camera. Please note, the amount of IVS features available in the NVR will be dependent on the amount of IVS features that are included with your camera. The IVS menu allows you to customize and set IVS rules which allow the camera to produce general behavior analytics and reporting to the NVR. An IVS smart plan must be enabled to set up IVS rules. For more information on how to setup IVS and heat map, please refer to the information provided below.

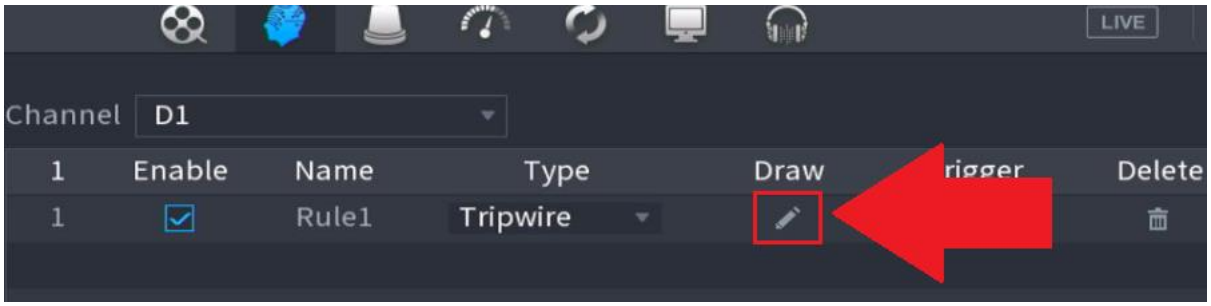
1. Ensure the **IVS** option is enabled in the **Smart Plan** menu. Click **Apply**. Please note, if your camera supports heat map, it can also be enabled in this menu.



2. Click on the **IVS** option located in the **Parameters** menu and verify the correct channel is being used then click **Add**.



3. Click the Type dropdown menu to select an IVS rule. Please note, the number of IVS features available will be dependent on the number of IVS features the camera supports. Click on the **Draw** (pencil) icon, to begin configuring the IVS rule.



4. 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 **Save**.



The Target Filter 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 effective target options allow object filtering options which 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.

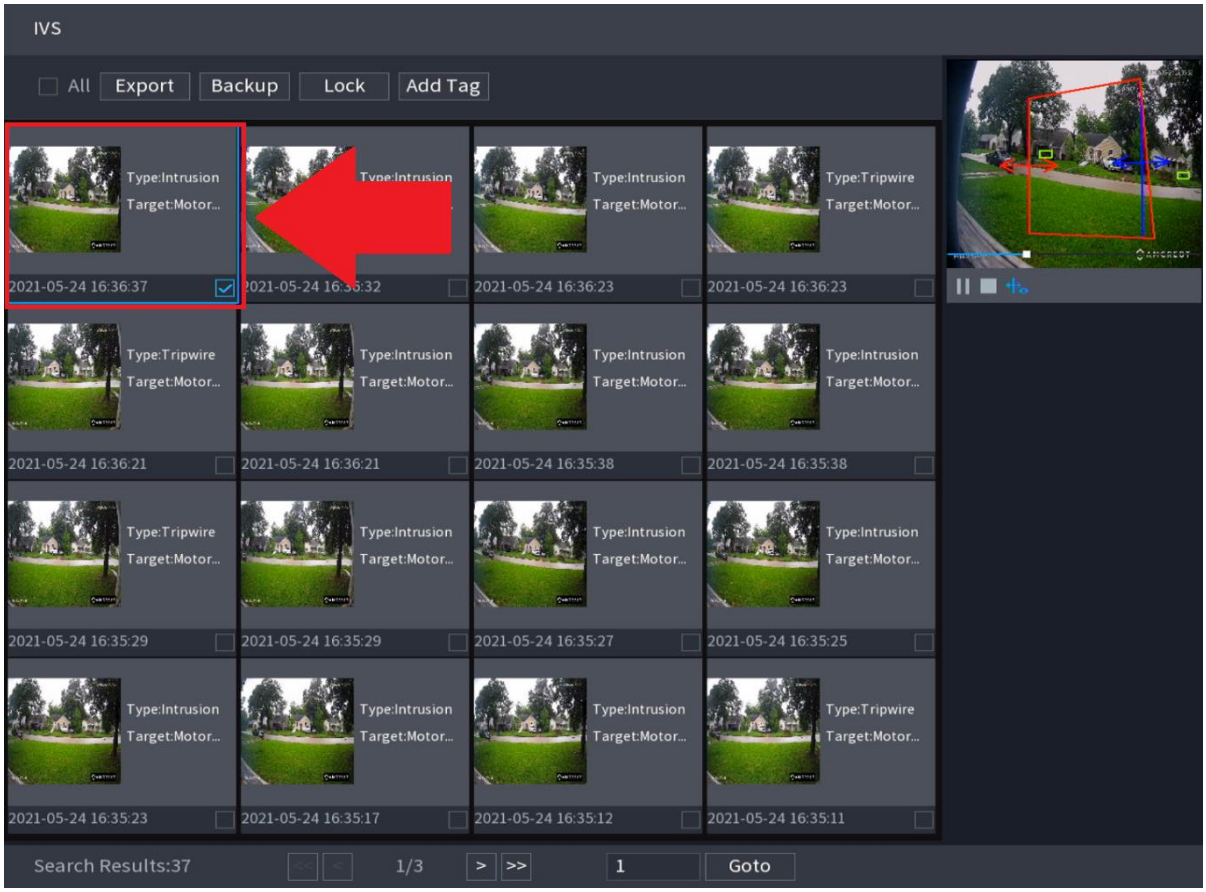
5. If you would like to add multiple rules to the device, click on **Add** and repeat the IVS setup process for the rule. Click **Apply** once all IVS rules are set.

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.

Viewing IVS Data

Any IVS data retained on the system can be viewed using the IVS AI Search interface or using the playback menu if an IVS schedule is set in the system. To learn more about recordings schedules, please refer to section *"Setting Up Recording Schedules".*

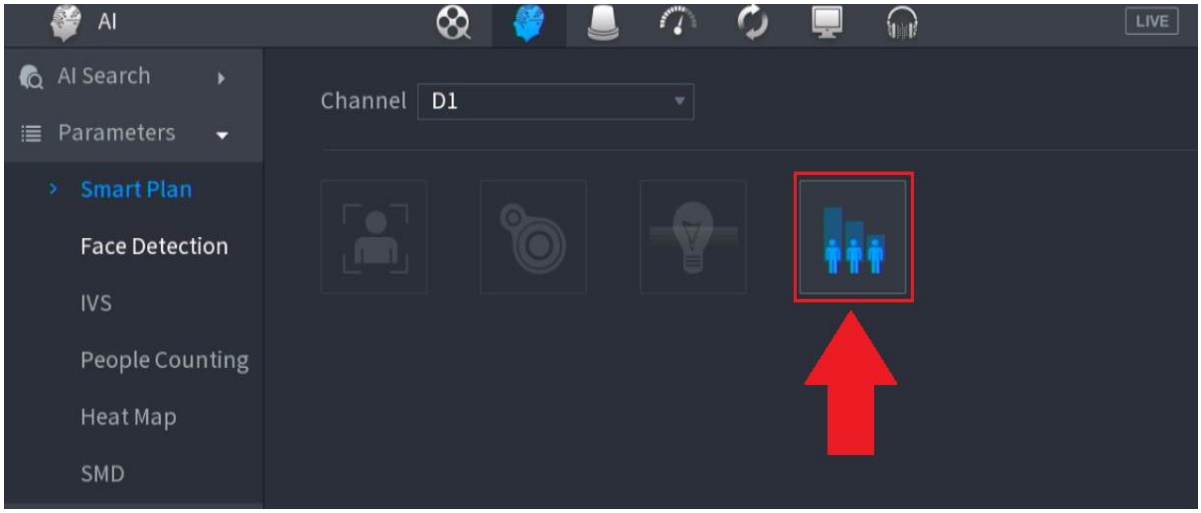
1. To view IVS data using the IVS smart search interface, click on the **IVS** option located in the Smart Search menu. Enter a start and end time of the event and click **Search**. A layout of all IVS events will be displayed. To view the event, select the event from the interface and click the play icon.



Using People Counting

People Counting is typically used to provide a statistic based on the number of people who enter and exit a certain area. Please note, this feature may differ depending on which model camera is being used on the NVR. Not all AI cameras support this feature. For more information on using people counting please refer to the information provided below.

1. Enable the **People Counting** icon in the **Smart Plan** menu. Click **Apply**.

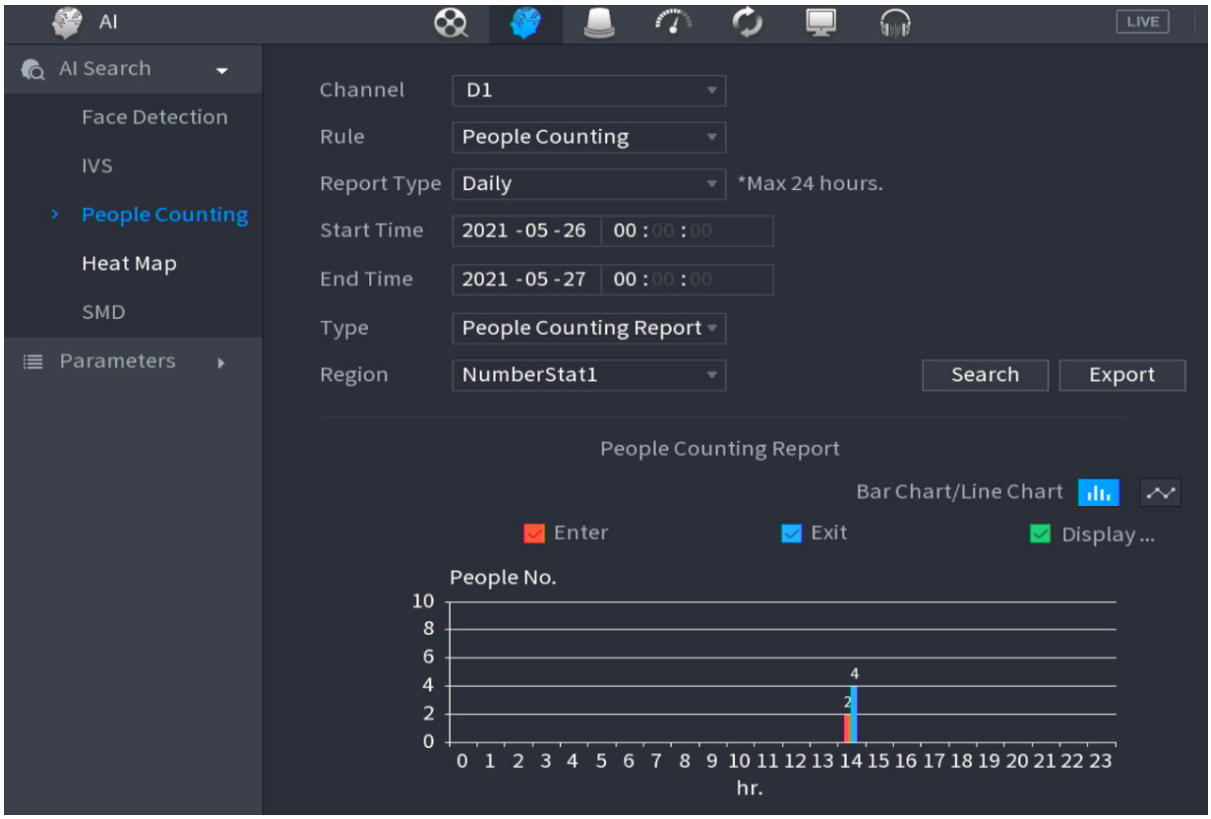


2. Click on the **People Counting** option located in the **Parameters** menu and ensure the **Enable** checkbox is enabled. For more information on the people counting option for your specific camera, please visit amcrest.com/support

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 bar or line chart. For more information on viewing people counting data, please refer to the information provided below.

1. Click on the **People Counting** option located in the **AI Search** menu. Select a report type from the dropdown menu and enter a start and end time of the report in the **Start Time** and **End Time** fields. Click **Search**.



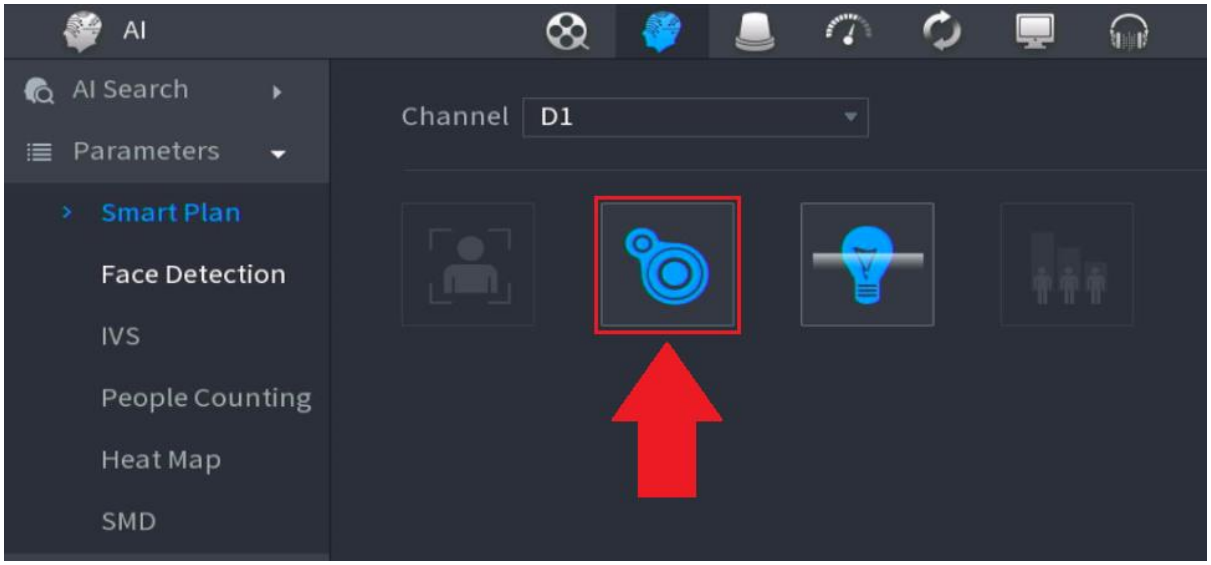
Note: An excel spread sheet of this data can be exported and backed up via a USB flash drive. To export this data to a USB flash drive, insert a USB flash drive into a USB port on the NVR. Click **Export** in the interface. Click **Save**, this will export the excel sheet to your flash drive.

Using Heat Map

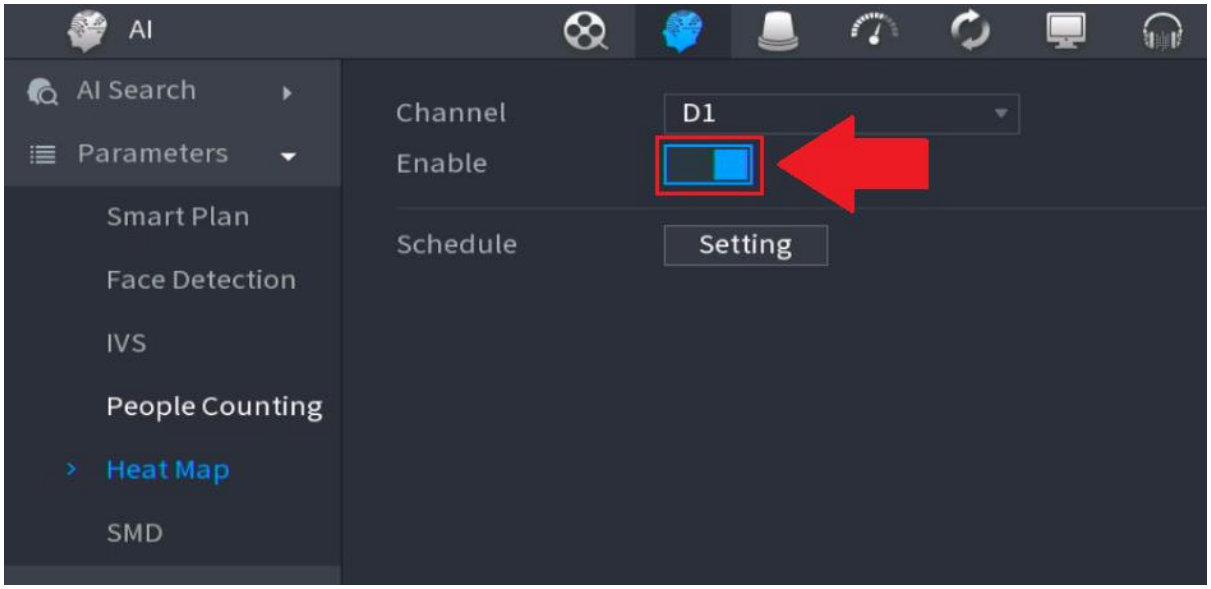
Heat Map is a tool used to determine the overall crowd flow (density) over a certain amount of time in a specific area. Heat map provides a color-coded layout of the density with red being the highest level to blue which is the lowest level. Please note, this feature may differ depending on which model camera is being used on the NVR. Not all AI cameras support this feature.

For more information on how to use heat map, please refer to the information provided below.

1. Ensure the **Heat Map** icon is enabled in the **Smart Plan** menu. Click **Apply**.

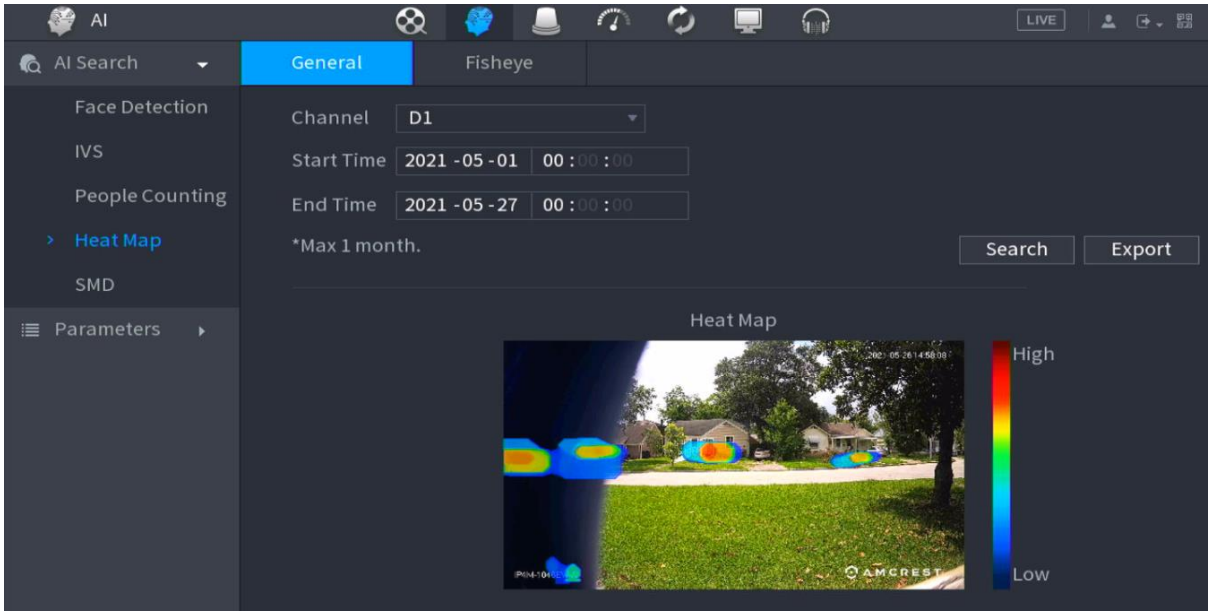


2. Enable the Heat Map toggle switch to turn on the feature. Click **Apply.**



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.

3. To view Heat Map data, click on the **AI 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.

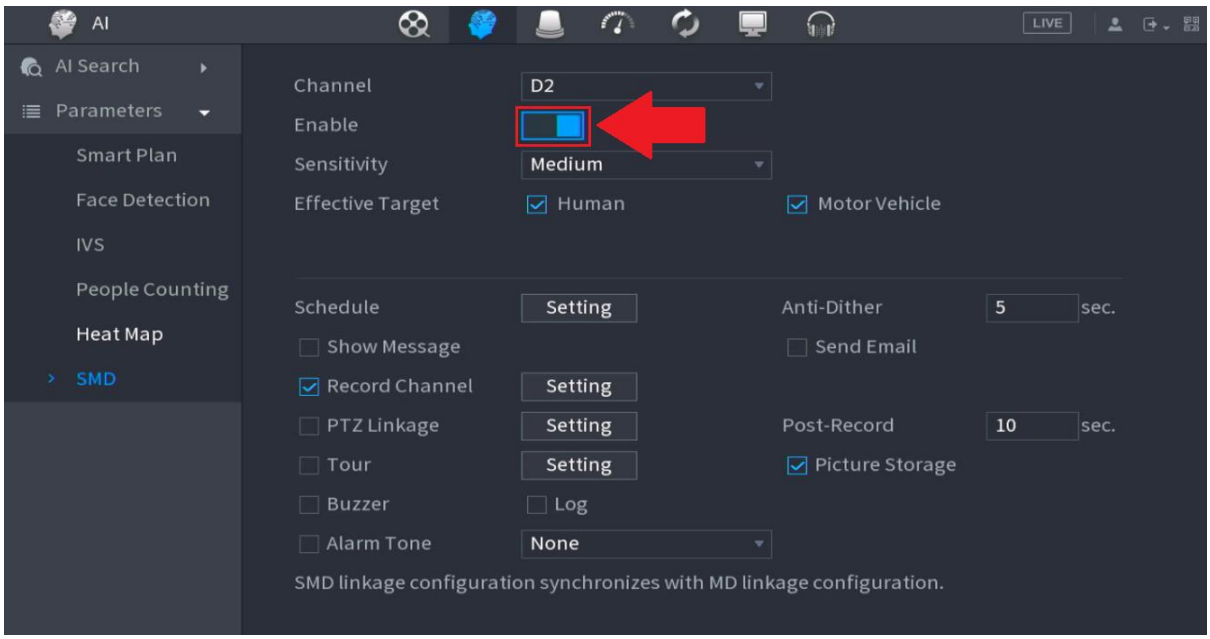


Note: To back up a heat map image, click on **Export** then click **Save**. This will save an image of the heat map to an external USB flash drive.

Using Smart Motion Detection

Smart Motion Detection (SMD) uses an advanced algorithm to differentiate between human and motor vehicle shapes within a scene and send alarms only when a person or vehicle is detected. Please note, this feature may differ depending on which model camera is being used on the NVR. Not all AI cameras support this feature.

1. Ensure the Smart Motion Detection toggle switch is enabled in the **Parameters** menu. Click **Apply**.



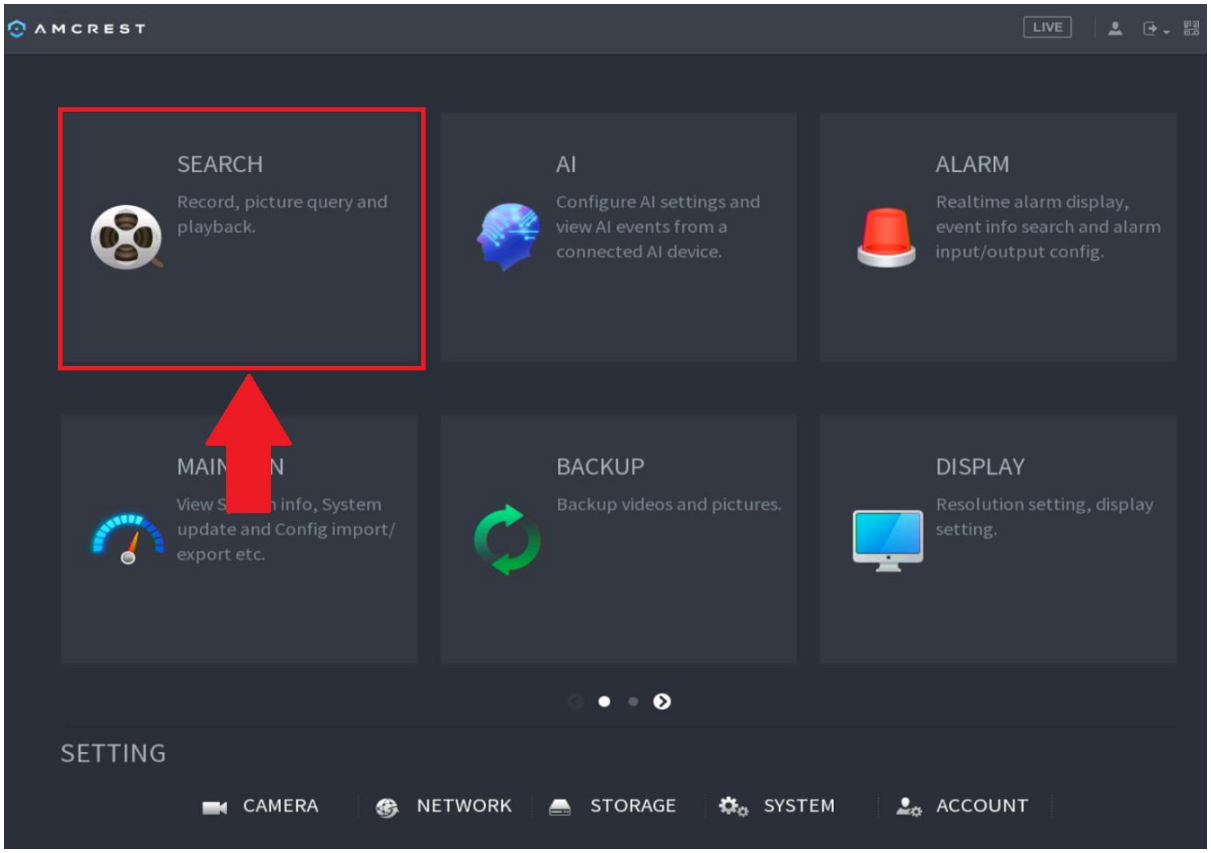
2. Use the Effective target options to select if the camera will detect human or motor vehicles. By default, both will be enabled. Click **Apply**.

3. To view SMD data, click on AI Search and access the SMD menu. Select a channel and type from the respective dropdown menus and enter a date and time of the event. Click Search. A list of SMD events retained in the system will be displayed. Click the **Pla**y button next to the event to play to recording.

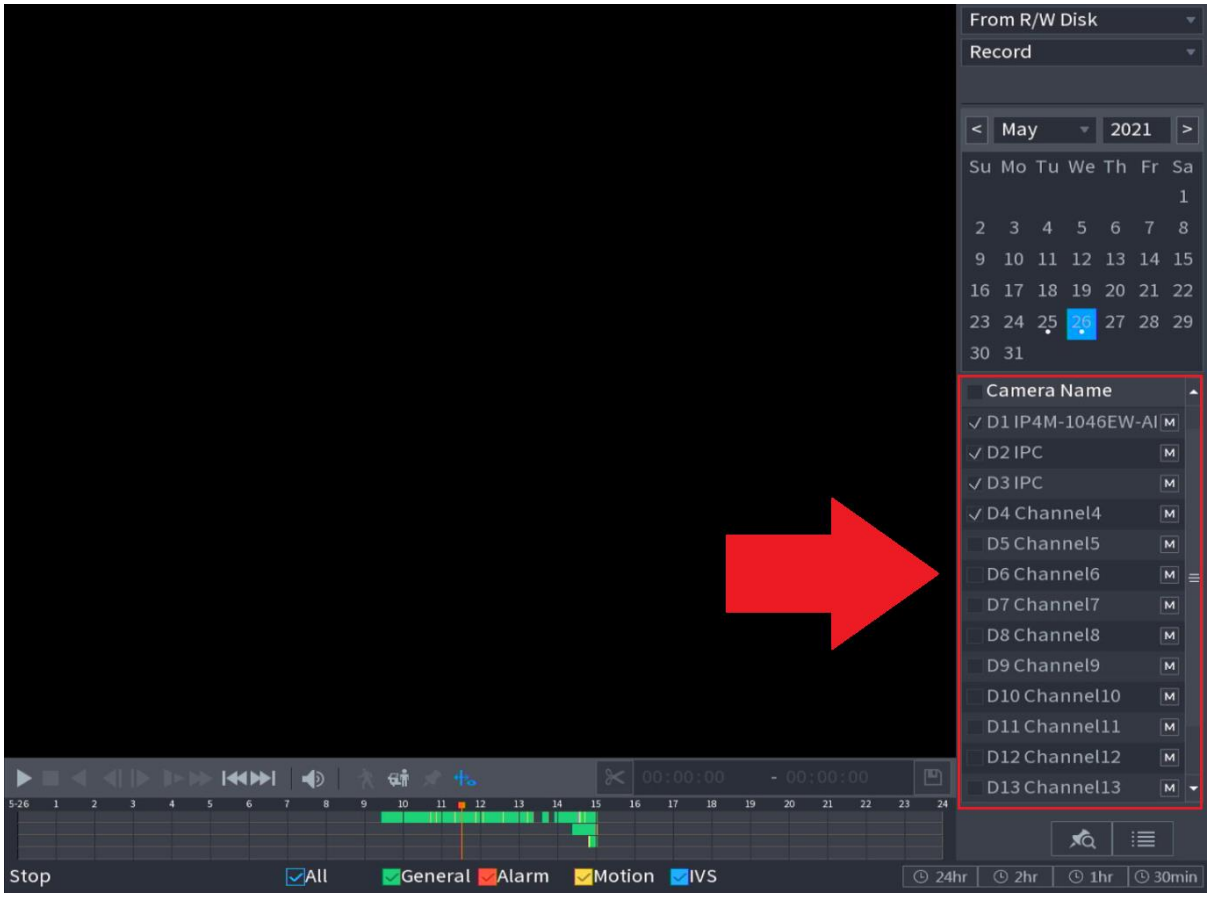
A SMD recording can be downloaded to a USB flash drive if needed. To download the recording, select the event from the list of displayed recordings and insert a USB flash drive. Click **Backup** and follow the prompts to download the recording to the USB flash drive.

Accessing Playback

Recordings can be accessed in the **Search** option on the main menu. **A hard drive must be installed to access and view recordings from this menu.** To access the playback interface, click on the **Playback** option located in the main menu.



To view recordings from the search menu, select the camera you wish to view from the **Camera Name** section by clicking on a checkbox next to the device.



A timeline of the recordings will appear in the interface.

Click the **Play** button ( ) to play all recordings available on the timeline.

Additionally, all days with recordings available will be highlighted in the calendar portion of the interface with a dot.
To select specific days/months or years, use the navigation arrows provided in the calendar. A file list of recordings can also be shown by clicking on the **File List** icon ( ) located in the interface. Once clicked, a list of recordings will be shown based on the time the events were recorded.

Note: In the File List menu, "**R**" stands for regular/continuous recordings, "**M**" stands for Motion Detection recordings, and "**I**" stands for IVS recordings.

To play a recording from the file list menu, double click on the file you want to view. The recording will automatically begin to play in the interface.

Downloading a Recording

Recordings can be exported to a USB flash drive or to a computer if using a web browser. To download a recording from the search menu, ensure a USB flash drive is inserted into a USB port on the NVR. Select the recording from the file list and click on the **Video Clip** icon ( ) then click on the **Export** button ( ). Ensure the correct recording is being exported and click **Backup**.

How To Upgrade System Firmware

Keeping the firmware on your NVR up to date is an important part of overall system health. For security purposes, it is highly recommended to upgrade the firmware on your device every time a new firmware is available. To locate the most up to date firmware for your NVR please visit https://amcrest.com/firmware-subscribe

Upgrading the firmware for your NVR can be done locally, using a USB flash drive, or via a web browser using the web user interface. For more information on how to access the web user interface please see section, *"Computer Access Setup".*

Upgrading the Firmware Locally

1. Insert a USB flash drive into your computer and go to https://amcrest.com/firmware-subscribe
2. Locate the most up to date firmware for your device and download it to your computer. Save the file to your USB flash drive.
3. Insert the USB flash drive into a USB port on your NVR.
4. On the NVR, go to **Operation** and click on **System Maintain,** then click on the **Upgrade** tab.
5. Click on **System Upgrade**.
6. Locate the firmware file that is on the USB flash drive and then click **Save**.
7. Allow the system to upgrade. The device may reset after the firmware update is complete.

Computer Access Setup

There are 2 ways to access your NVR from a computer, locally or remotely.
Local Access: Logging into your NVR's web interface from a computer or laptop connected to the same network as your NVR (home, office, etc.).
Remote Access: Logging into your NVR's web interface from a computer or laptop connected to a network outside of your home or business network (coffee shop, work computer, etc.)

The following section will cover both means of access (local and remote). Keep in mind that any user can have *both* local *and* remote access simultaneously if they so choose.

The following must be considered before accessing the web user interface:

*You must access the NVR's web interface with its **IP address**.*
*You must install the Amcrest web **browser plugin** If using Internet Explorer (Recommended)*
You must use a compatible web browser such as Internet Explorer (recommended), Firefox (49.0.2) or Safari 11. The NVR can be accessed using Chrome and other browsers; however, some features may be compromised.

Note: If you prefer not to use a web browser plugin to access your NVR you can use our free Amcrest Surveillance Pro software to access your device on a computer. To download the software please visit: https://amcrest.com/downloads

If using a web browser, there are 2 ways to access the NVR's IP address:
(1) **Amcrest IP Config**
(2) **Built-in interface**

Amcrest IP Config

Amcrest IP Config software can be installed for free onto your computer from Amcrest's official website. The IP Config software is available for both Windows and Mac operating systems. To get to the downloads page please visit: https://amcrest.com/downloads

After you have downloaded the Amcrest IP config software, please follow the information provided below:

1. Once you see the first page of the installer wizard, click **Next** to continue.
2. On the next page, check the box next to '**I agree'**, then click **Install**.
3. After the progress bar completes, if you see a Windows Security Alert popup, click **Allow access** (if applicable).

4. This brings you to the main screen of the Amcrest IP Config Software. Your NVR will automatically be found on your network and appear in the list (if properly connected with an Ethernet cable to your router). You will also see the IP address associated with your NVR.

The 'e' icon to the right allows you to launch directly into your web browser from this screen.

Built-in interface method

1. Log into your NVR. The live view interface will load.
2. Left-click on the main video wall screen to access the Main Menu, or right-click and choose it from the list.
3. Click the **Network** option located in the **Management** section of the interface.
4. In the **Network** settings page locate the **TCP/IP** option on the left panel list. Then, locate where it says **IP Address** on the main center page of the window.
5. Write it down. It will look something like '192.168.xx.xxx', or '10.0.XX.XXX' depending on your network, router, or service provider.

Note: It does not matter what your IP address looks like, however, the IP address is needed to access the NVR from a web browser. If DHCP is enabled, it is highly recommended to disable it to allow the device to maintain a static IP address. This will help to increase the overall efficiency and security of your device.

Accessing the Web User Interface

To access the web user interface (web UI) for your NVR, open a web browser and type the IP address for your NVR into the browser and press **Enter**. This will pull up the device initialization screen. Set a location, language and video standard then click **Next** to continue.

Choose your Time Zone and System Time then click **Next** to continue.

Enter Password

Like accessing the NVR directly, if you are accessing the NVR for the first time you will need to enter a password for the device. Enter a password. Click **Next** to continue.

Next, it is recommended to secure your NVR with an Email address and security questions. The Email address entered can be used for password recovery purposes in case a password is forgotten or needs to be reset.
Enter a valid email address and then select and answer the security questions provided in the dropdown menu. Click **OK** when done.
When the NVR has been setup successfully you will hear a beep from the NVR and a prompt in the browser letting you know that the initialization is complete. You will then be taken to the login screen. Enter the **username** and **password** for your NVR then click **Login**.

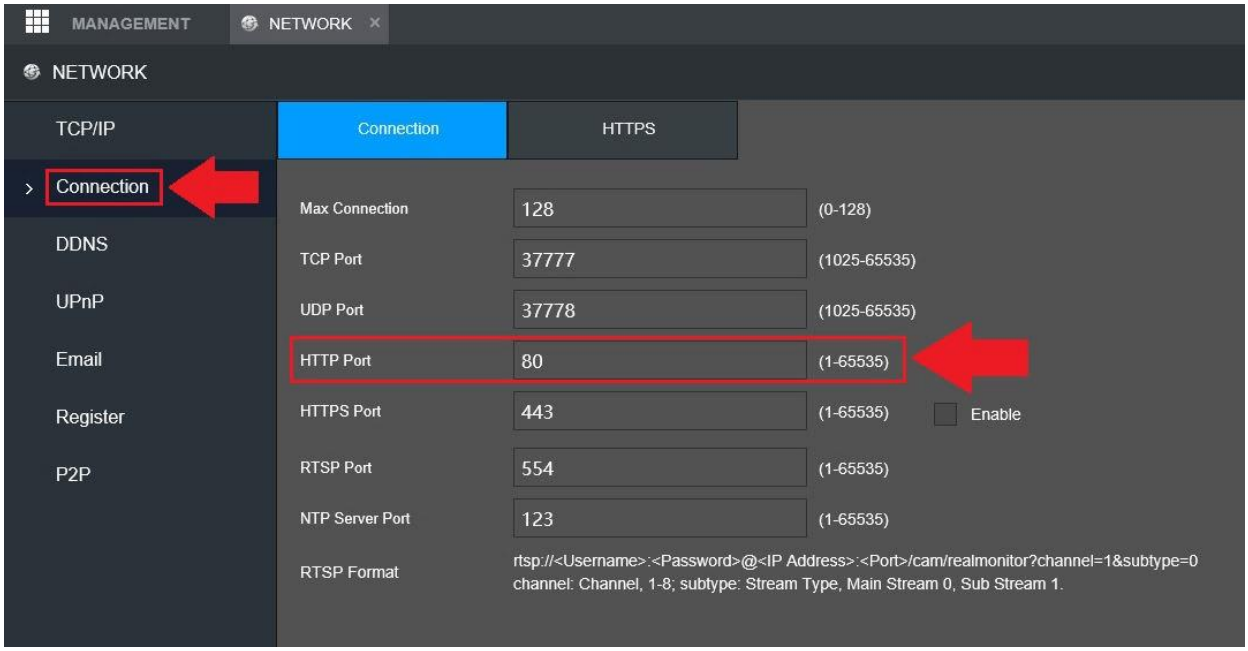
Note: Please allow all permissions to allow the plugins to function in your browser. Once the plugins are allowed the main menu screen will appear.

Accessing the Web User Interface Remotely

For the purposes of this guide, we will outline the most common method for setting up web access. Port forwarding using the HTTP protocol and using Dynamic Domain Name Server (DDNS) is the easiest way to setup stable remote access.

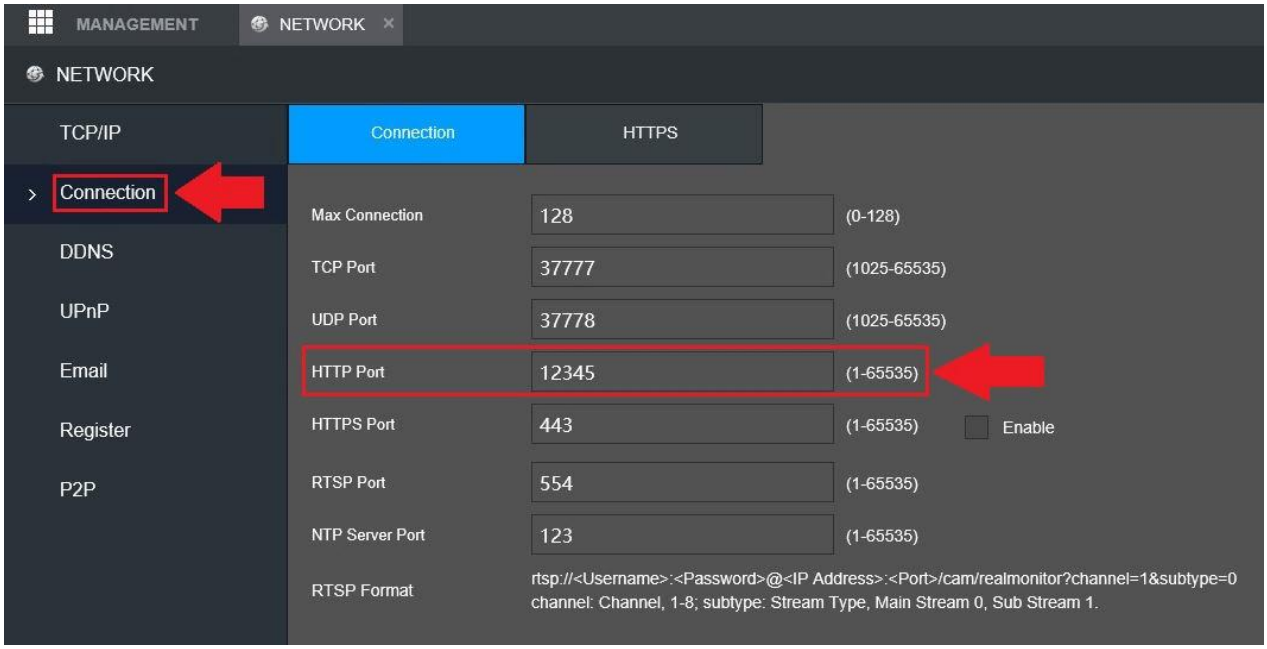
For this method, you should have direct access to your router as well as the ability to port forward the device using the router's built-in interface.
Below is a step-by-step walk through that details how to setup the NVR for remote web access using DDNS.

1. Log into the web UI and go to **Management>>Network>>Connection.** In the Connection tab, note the HTTP Port information for your NVR.



It is recommended to ensure the port number is at least 5 digits long to prevent any port conflicts. You can change the port to any 5-digit number that is less than 65535 (e.g. 12345) by clicking the number field and entering a new port number. Write it down, then click **OK**.

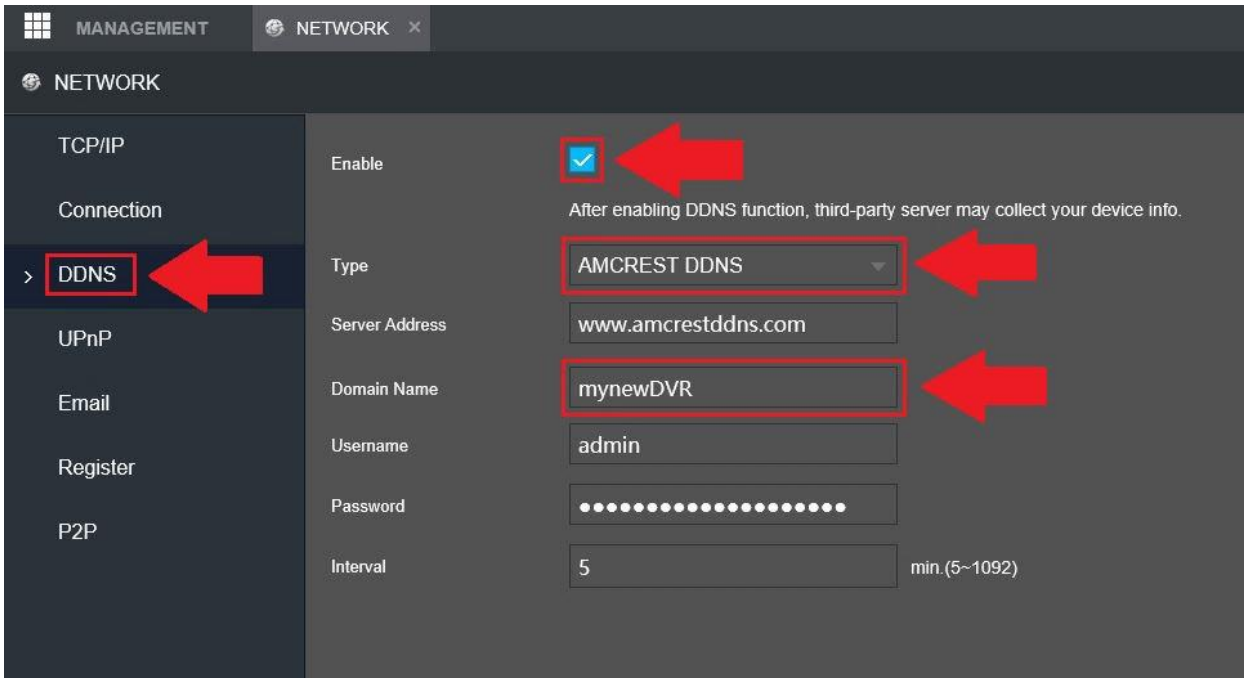
2. The system will need to reboot for this change to take effect. Click **OK**.
3. Once the NVR has come back online, log back into the web UI and navigate back to the Connection menu to verify the HTTP port has been updated properly.



4. Access your router's user interface and port forward the device using the HTTP port information displayed in the system. Every router's port forwarding protocols are unique. For more information on how to port forward your specific device, please visit portforward.com or refer to the user manual for your specific router.

Note: When port forwarding the NVR in your router, make sure to use the TCP, UDP and updated HTTP protocols displayed in the NVR. If DDNS is not an option, the device can be accessed remotely using the public IP address for your network and the HTTP port used that was port forwarded in your router. To locate your public IP address and verify the connectivity of your system, please visit: canyouseeme.org

5. Click on the **DDNS** menu located in the **Network** tab in the left panel. In the DDNS menu, click on the Enable checkbox to enable DDNS. Make sure the **AMCREST DDNS** type is selected and a domain name for the NVR (one you create) is entered in the Domain Name field. As an example, the Domain Name will be in the following format: mynewNVR.amcrestddns.com



Click **Save** once the DDNS information is entered.

Accessing the Device Remotely
After setting up the NVR in the previous steps provided, open a web browser, and enter in the DDNS domain name address previously setup for your NVR.

For example, if the DDNS domain name is http://abc123456789.amcrestddns.com and your HTTP Port is 12345, the URL would be http://abc123456789.amcrestddns.com:12345

Remote access not working? (troubleshooting steps)

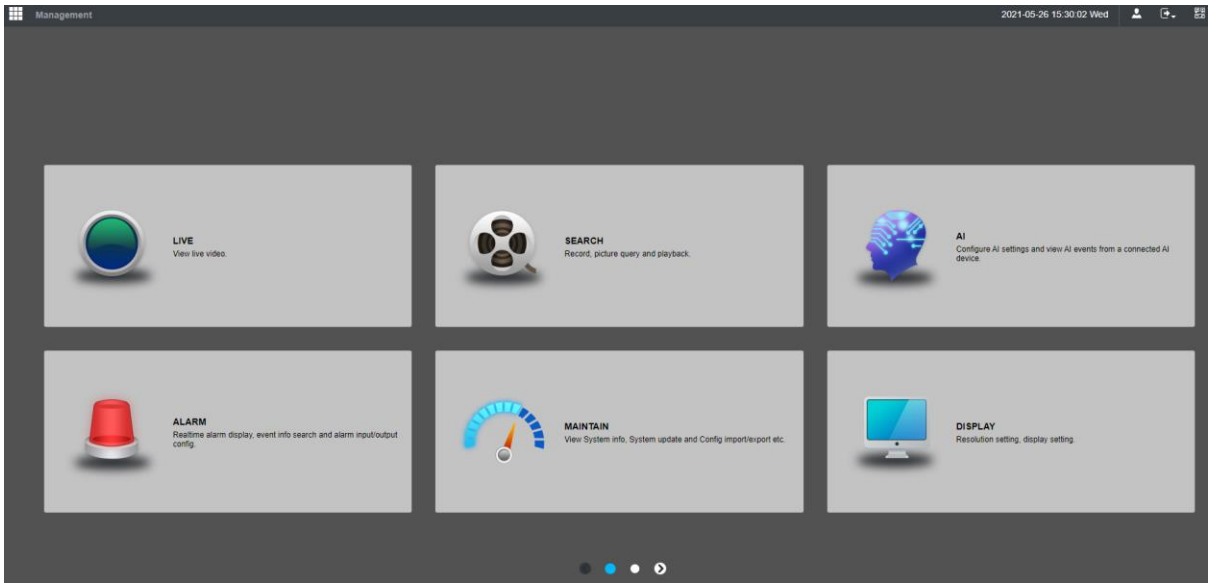
Please contact Amcrest Support via one of the following options:

Visit http://amcrest.com/contact and use the email form.

Call Amcrest Support using one of the following numbers
Toll Free: (888) 212-7538
International Callers (Outside of US): +1-713-893-8956
USA: 713-893-8956
Canada: 437888-0177
UK: 203-769-2757

Web Interface Walkthrough

The web interface will be the main hub for all of you NVR's features. This interface allows you to view manage and control every aspect of your device similarly to the built-in local user interface. This section provides a brief description of the items listed in this menu.



Management: This menu allows you to access camera settings and registration, network settings, storage options, system, and account management. For more information on these features or access to a full user manual, please visit https://amcrest.com/support

Live: This menu takes you to a live view interface. In this menu you can view real-time live video from all connected devices as well as access to Pan/Tilt/Zoom functions (if applicable), and other related live view settings for your device.

Search: This menu allows you to view playback of motion detection, IVS, or continuous recording events. For more information on the features included in the playback menu, please refer to section, *"Accessing Playback".*

AI: This menu allows you to manage and view artificial intelligence features such as, face detection, IVS, etc. For more information on the features listed in this menu, please refer to section, *"Setting Up AI Events".*

Alarm: This tab allows you to view and search live alarm information, configure alarm events and controls such as, Motion Detection, Audio Detection, Abnormality, or other related alarm features. For more information on the features listed in this menu, please refer to the full user manual which can be found at https://amcrest.com/support

Maintain: This tab allows you to access system logs, current firmware/version information, import/export system config files, upgrade firmware, and other related system operation features. For more information on the items listed in this menu please refer to the full user manual which can be found at https://amcrest.com/support

Display: This tab allows you to configure resolution and display settings for your system. This includes tours and video output settings for your device.

Back Up: This tab allows you to back up information from your system onto an inserted USB flash drive. An external USB flash drive is needed to store information such as configuration files or other data related to your system.

Audio: This tab allows you to configure audio announcements and import audio files into your system. These audio announcements can be used as voice prompts within the system.

Amcrest View Pro App Setup

The Amcrest View Pro 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 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 on the NVR

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

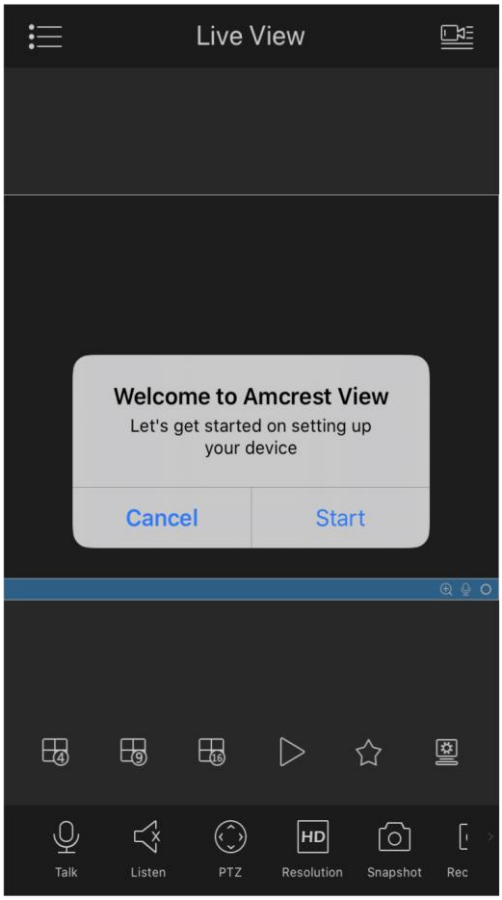
1. Log into your NVR and access the Main Menu.
2. In the **Management** section, click on **Network** then click on **P2P**. Ensure the Enable toggle switch is enabled and the P2P status says “Online”. This indicates the P2P option is enabled.

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.

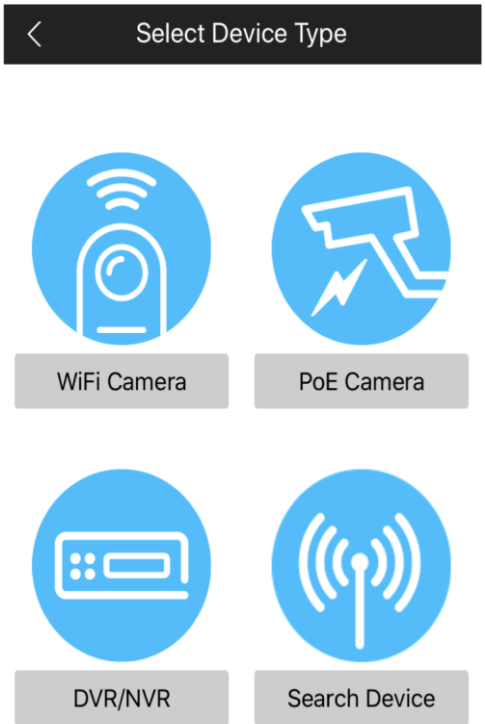
1. Download and install the Amcrest View Pro app for the App Store or Google Play Store.



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



3. Tap **“Start”.**

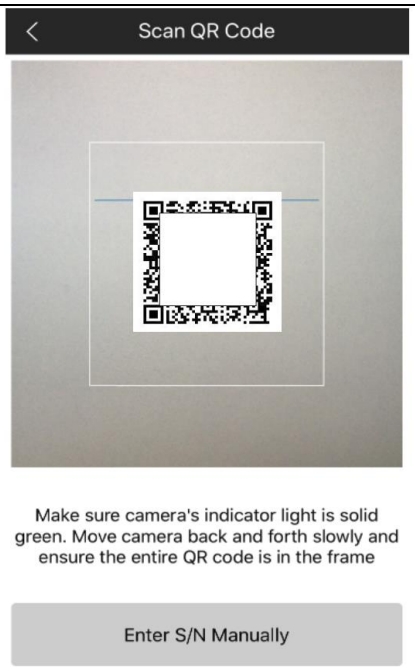


4. Tap **“NVR/NVR”.**

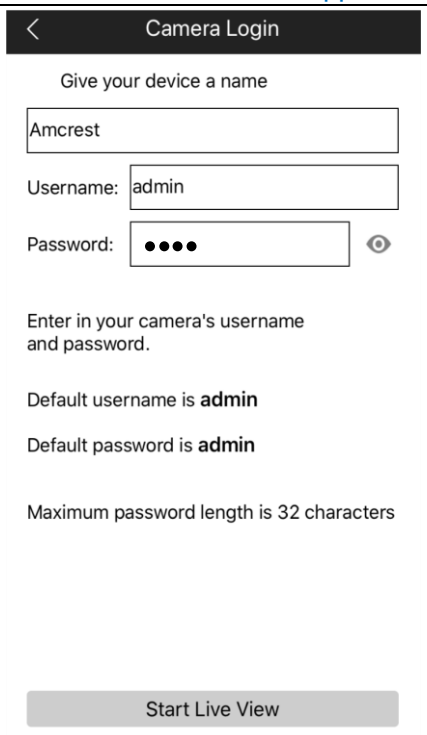


5. Tap **"P2P Connection".**

Note: IP/Domain/DDNS can be used to establish a DDNS connection. For more information on how to setup a DDNS connection, visit amcrest.com/support

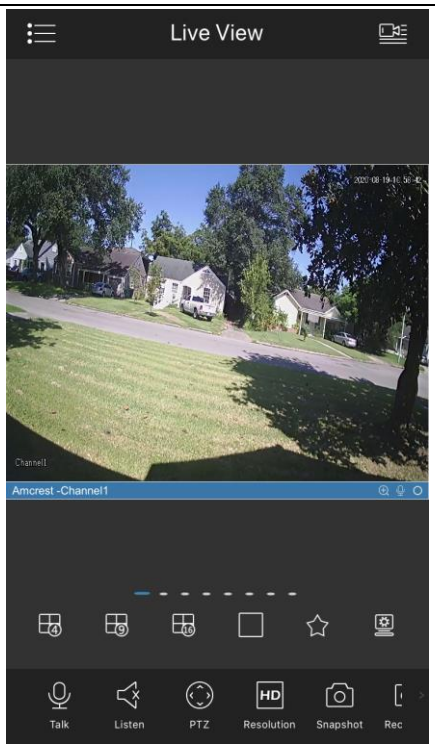


6. Scan the QR code. The QR code can be found on the serial tag along with a scannable barcode.



7. Create a name for the device and enter a username and password. The default username and password will be admin.

Tap **"Start Live View".**



8. Update the default password for the device and tap **"Start Live View"** to view the device.

Note: To locate the serial number, you must either have physical access to the NVR or computer access to the web interface to access the P2P menu. The SN QR code will be the serial number for your device. For more information regarding the Amcrest View Pro app, please visit: https://amcrest.com/support

FCC Statement

1. This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
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. (b) For a Class B digital device or peripheral, the instructions furnished 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 device, 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 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 provided instructions and the antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating 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 device complies with Industry Canada's license-exempt RSSs. Operation is subject to the following two conditions:

(1) This device may not cause interference; and

(2) This device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil 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 with 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.

References & Contact Information

To view setup videos for many of the steps outlined in this guide, go to http://amcrest.com/videos
For more supplemental information, a full user manual, or to view articles related to your device visit http://amcrest.com/support

For contact information please visit us at https://amcrest.com/contact or reach out to us directly at 1-888-212-7538

This quick start guide is for reference only. Slight differences may be found in the user interface.
All the designs and software here are subject to change without prior written notice.
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