



4K ULTRA HD

Smart Security System **Professional NVR Series**

INSTRUCTION MANUAL

Important Information

FCC Verification

This equipment has been tested and found to comply with the limits for 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 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 the 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

These devices comply with part 15 of the FCC Rules. Operation is subject to the following two conditions:

- These devices may not cause harmful interference
- These devices must accept any interference received, including interference that may cause undesired operation

Important Notice: All jurisdictions have specific laws and regulations relating to the use of cameras. Before using any camera for any purpose, it is the buyer's responsibility to be aware of all applicable laws and regulations that prohibit or limit the use of cameras and to comply with the applicable laws and regulations.

FCC Regulation (for USA): Prohibition against eavesdropping

Except for the operations of law enforcement officers conducted under lawful authority, no person shall use, either directly or indirectly, a device operated pursuant to the provisions of this Part for the purpose of overhearing or recording the private conversations of others unless such use is authorized by all of the parties engaging in the conversation.

Warning: Changes or modifications made to this device not approved expressly by the party responsible for compliance could void the user's authority to operate the equipment.

Important Safety Instructions

- Do not operate if wires and terminals are exposed
- Do not cover vents on the side of your device and allow adequate space for ventilation
- Only use the power adapter supplied with your NVR

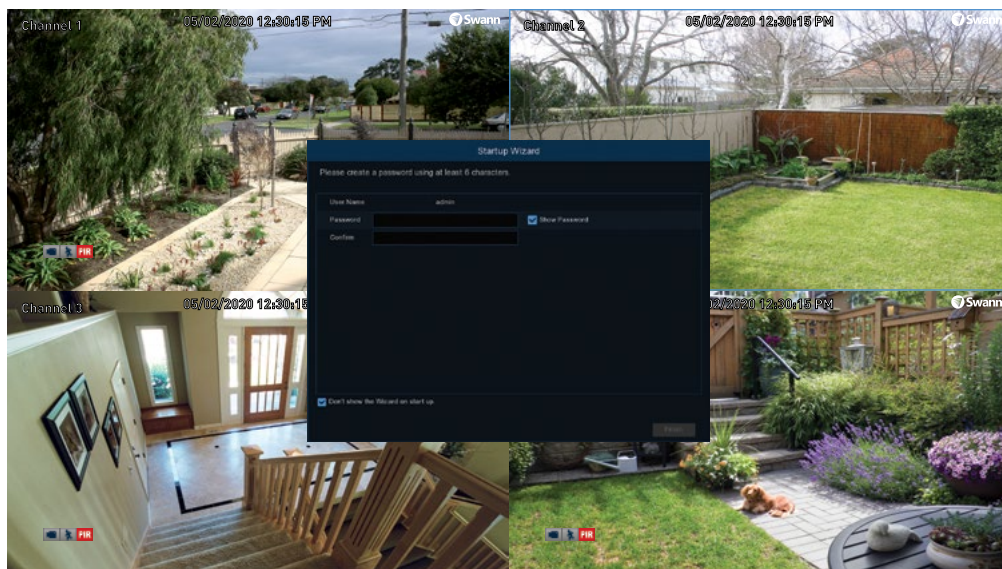
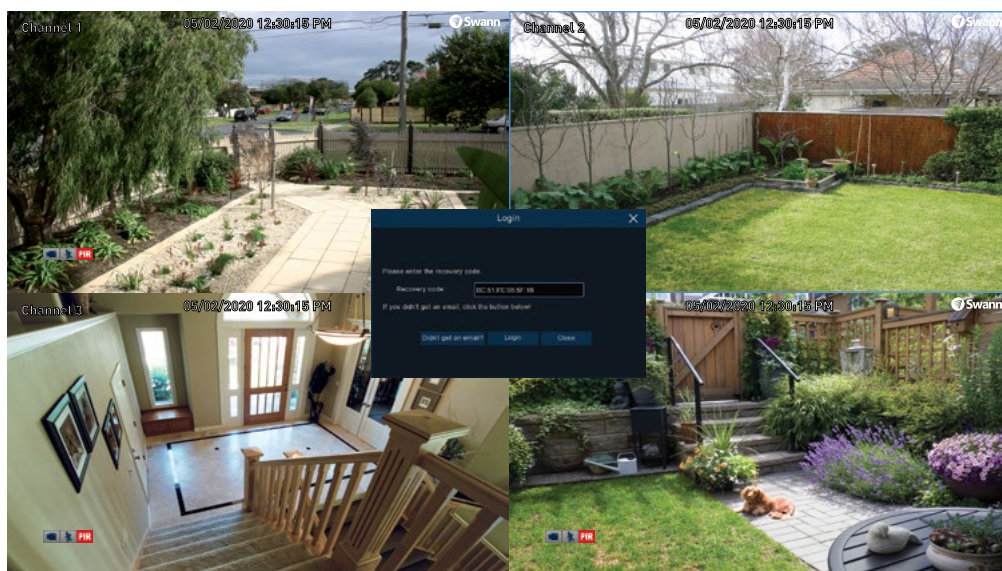
About this Instruction Manual

This instruction manual is written for Google Assistant NVR models with the System V8 operating system and was accurate at the time it was completed. However, because of our on-going efforts to constantly improve our products, additional features and functions may have been added since that time.

Important Password Information

This NVR does not have a default password. A password is created during the Startup Wizard. If password protection has been enabled and you have forgotten your password, your NVR's MAC address can be used to create a new password (see page 3 - [Password Recovery](#)).

Password Recovery



Forgotten your password? Please do the following:

1. Right-click the mouse on the Live View screen to display the Menu Bar, click the “Start” button (bottom left on the Menu Bar) then click “Setup”.
2. At the password login screen click “Forgot Password” then click “Yes”.
3. After a short moment, you will receive a password reset request email containing your NVR’s MAC address (if it’s not in your inbox, check your junk or spam folder).
4. Input the MAC address (known as the password recovery code) including the colons (see left example) then click “Login”.
5. A message will appear on-screen stating that your password has been reset. Click “OK” to continue.
6. Enter a new password. The password has to be a minimum of six characters and can contain a mixture of numbers and letters. Use a password that you are familiar with, but is not easily known to others.
7. Write down your password in the space provided below for safe keeping.
8. When finished click “Finish”. A message will appear on-screen. Click “OK” to finish.

Don't forget to write down your password: _____

I haven't created an email for my NVR, what can I do? Don't worry, you can use HomeSafe View to retrieve your recovery code, so you can reset your NVR's password (see page 102 - [Password Recovery using HomeSafe View](#)).

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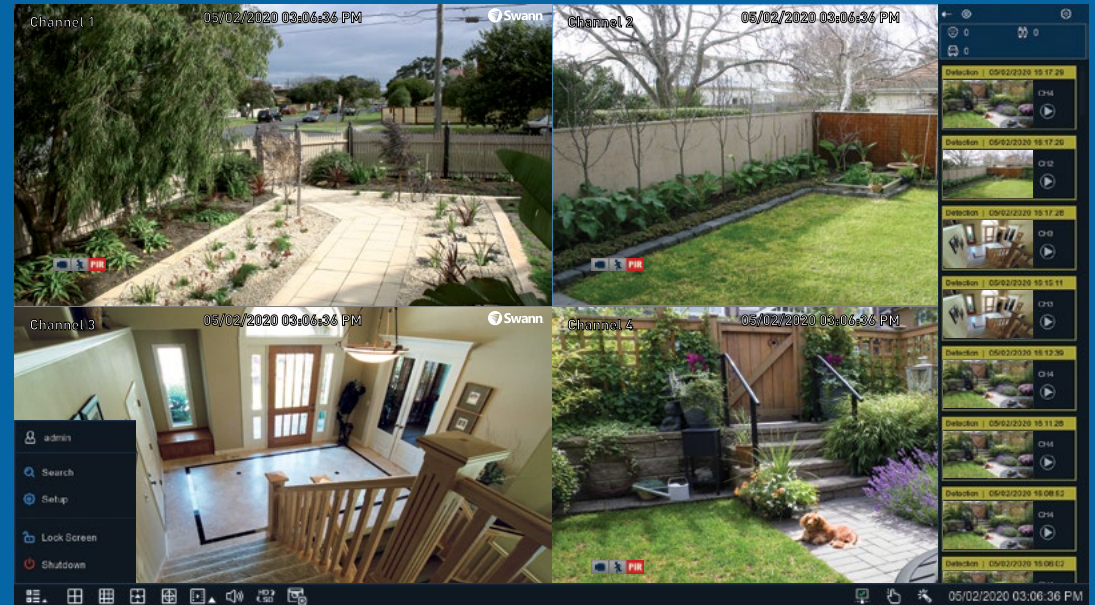
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Live View

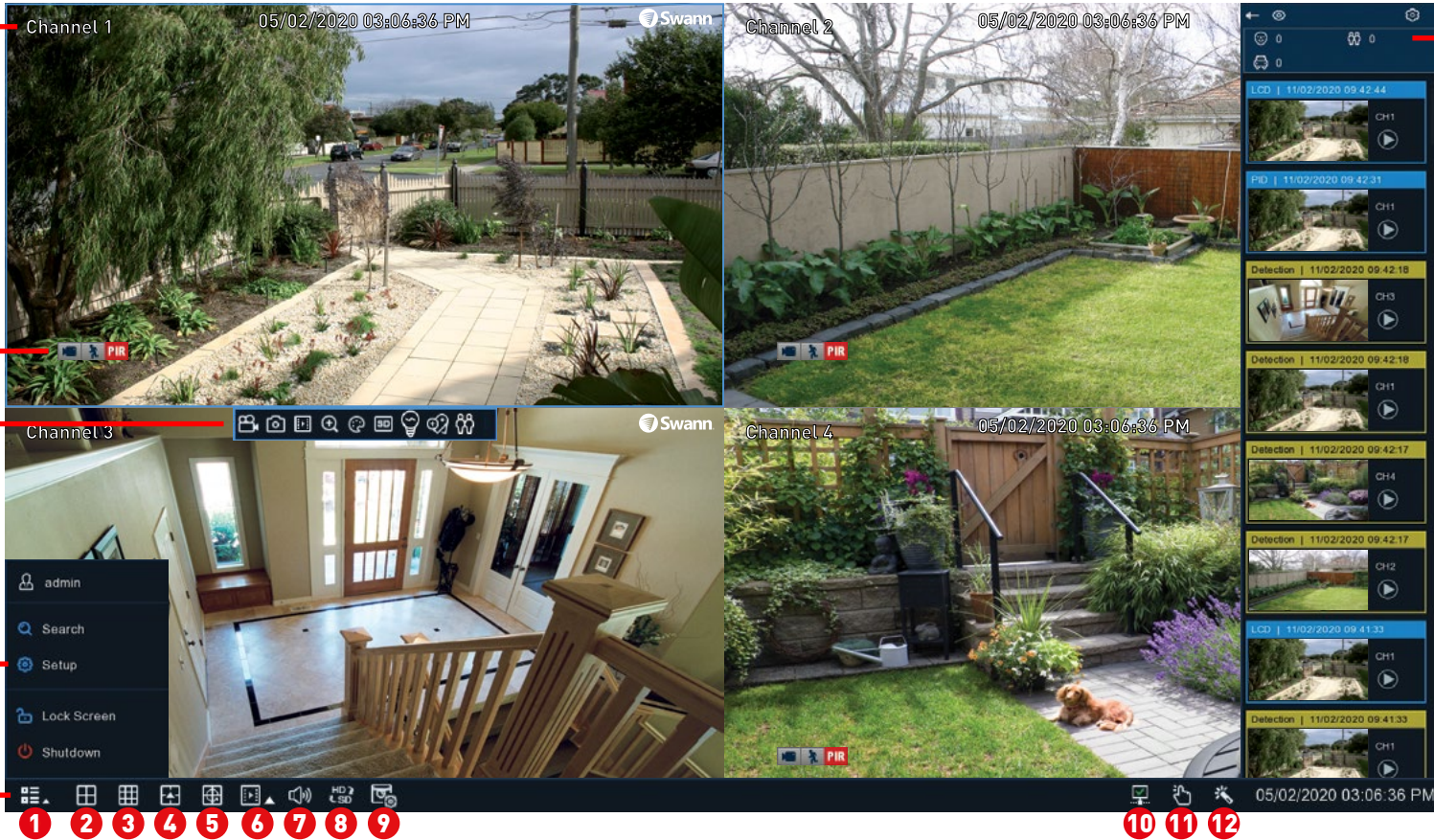
Live View is the default display mode for your NVR. Each camera connected will be displayed on-screen. You can check the status or operation of your NVR and cameras using the icons and Menu Bar on the Live View screen. Right-click the mouse to access the Menu Bar.



Live View Mode

Live View mode is the default display for your NVR. Each camera connected will be displayed (multiple view modes available). You can check the operation of your NVR by using the status icons on the Live View screen. The date and time as well as the name for each camera is also displayed.

Camera Name



Analytic Notification Panel

Status Icons

Camera Toolbar

Main Menu

Menu Bar



Double-click a live video channel to view full-screen.



Click & drag a live video channel to reposition it.

Right-click the mouse in Live View mode to display the Menu Bar (see [page 8](#) more information).

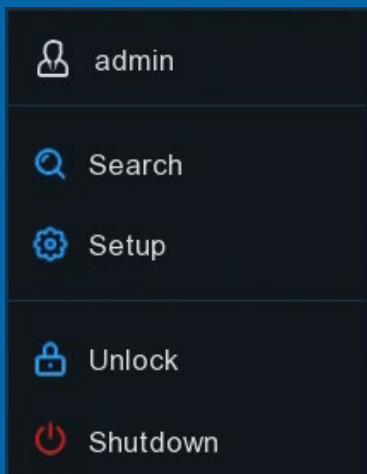
The Camera Toolbar provides access to functions such as instant playback and image settings (see [page 8](#) more information).

Live View Controls

Menu Bar

1. Click to reveal additional functions available (see dialogue box below).
2. Four camera view.
3. Nine camera view (this will display eight cameras on the 8 channel model).
4. Click to select from one of the multi-screen viewing modes available.
5. Click to repeatedly cycle through each video channel full-screen. Each video channel will be displayed for five seconds.
6. Click the larger button to access the Search menu. From here you can play previously recorded videos. Click the smaller button to play recent events.
7. Click to change the volume or to mute (click the speaker icon to mute).

Main Menu



Search: Click to search and play recorded videos (hard drive & USB), view snapshots, and access system log files.

Setup: Click to access the Main Menu.

Unlock: Click to unlock your NVR. If the Menu Timeouts function is disabled, click to lock your NVR to prevent access.

Shutdown: Click to shutdown, reboot or logout of your NVR. Always shutdown your NVR when disconnecting the power.

8. Click to change from Substream resolution to Mainstream resolution when viewing the cameras in Live View mode. Click again to change to Substream.
9. Click to change the bitrate & frame rate when viewing the cameras in Live View mode - Realtime (high bitrate/high frame rate), Balanced (a balance between Realtime and Smooth), and Smooth (high frame rate/low bitrate).
10. This icon indicates that your NVR is connected to your modem or Wi-Fi using the supplied Ethernet cable.
11. Click to enter Manual Record mode. When enabled this will bypass the current recording schedule.
12. Click this to enter the Startup Wizard.

Camera Toolbar



To access the camera toolbar, left-click a camera to display.

1. While viewing the camera, click to start a manual recording (the icon will turn red indicating that it is recording). Click again to stop.

2. Click to take a snapshot.

3. Click to play back the last recording saved (recording must be saved in the last five minutes).

4. Click to enter Zoom mode.

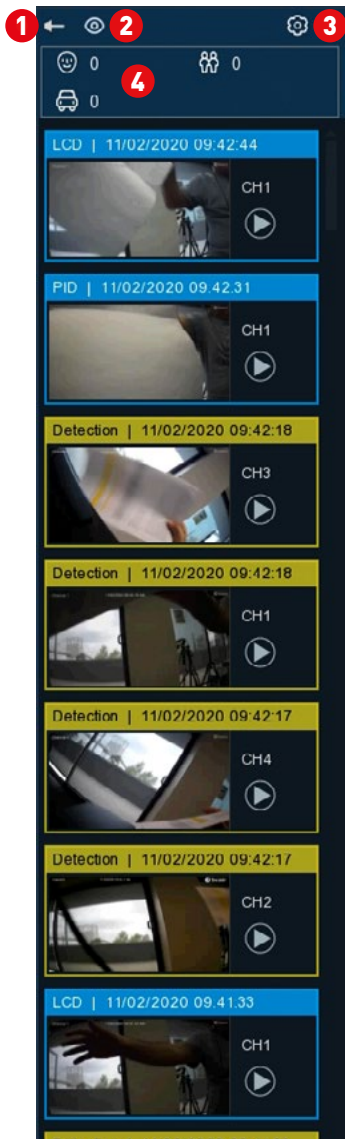
5. Click to adjust image settings.

6. Click to change from Substream resolution to Mainstream resolution. Click again to change.

7. Click to enable the camera's siren and spotlight (if supported).

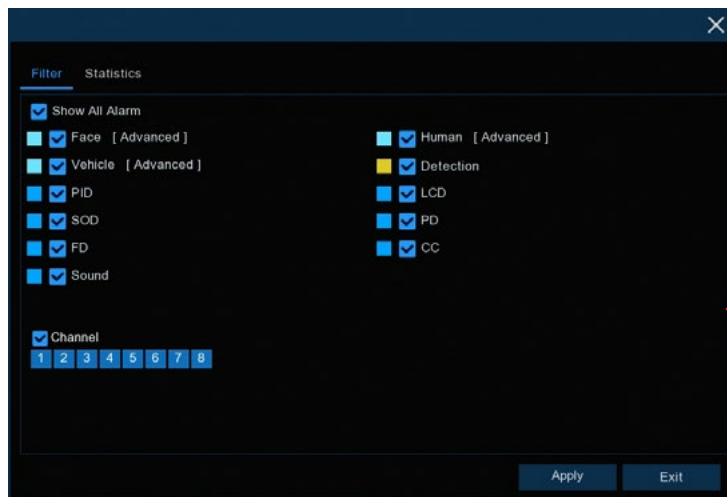
8. Click to add a Tag when recording. Tagging allows you to record information within the video.

Live View Controls



The Analytic Notification Panel will display a thumbnail of an event that has occurred via motion detection or if one or more of the analytic tools have been enabled. Events are color coded according to the event type. Use the mouse scroll wheel to scroll up and down (place the mouse cursor over the notification panel first). Click the play button next to the thumbnail to play the event.

1. Click to display the notification panel at all times.
2. Click to hide the notification panel.
3. Click to reveal the Filter and Statistics functions (Filter function shown below).
4. The counter will increase each time a face, person or motor vehicle is recognised/detected.



Status Icons



This icon indicates that the camera is being recorded (either manually or by motion).



This icon indicates that your NVR is detecting motion from the camera.



This icon indicates that the camera has detected one or more warm objects.



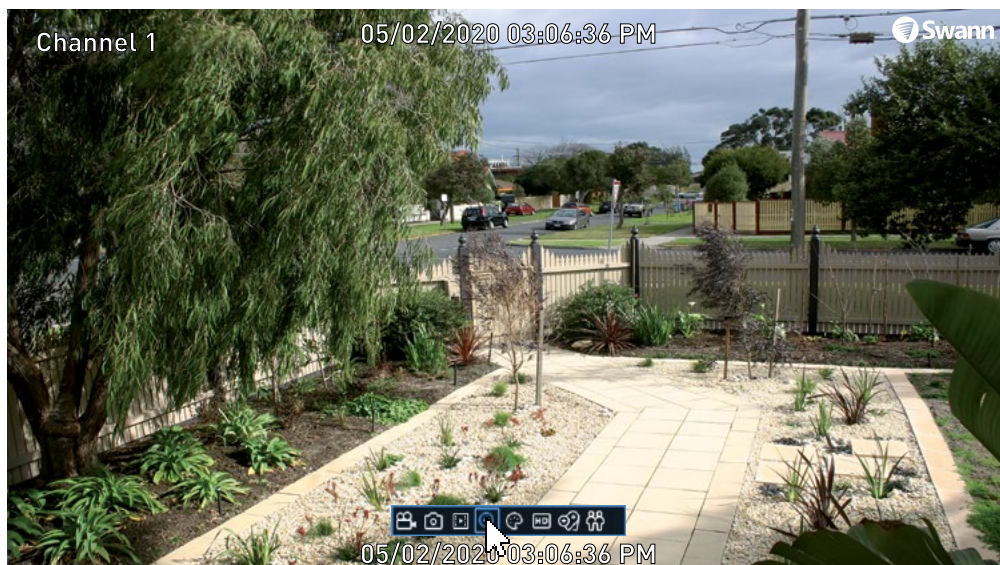
This icon indicates that an event has occurred via one of the analytic tools.

VIDEO LOSS

This icon indicates that the channel doesn't have a camera connected or has lost the feed from its camera.

Use the Filter function to customise which alerts and which camera will appear in the notification panel.

Live View Digital Zoom Mode



1. To enter Zoom mode, left-click a camera in Live View mode then click the “Zoom” button on the Camera Toolbar (as shown on the left).

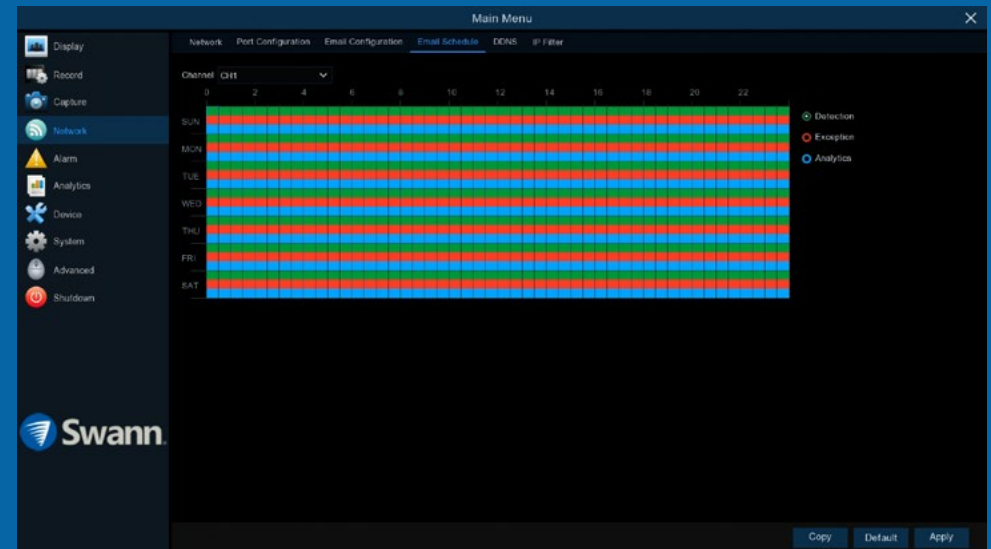
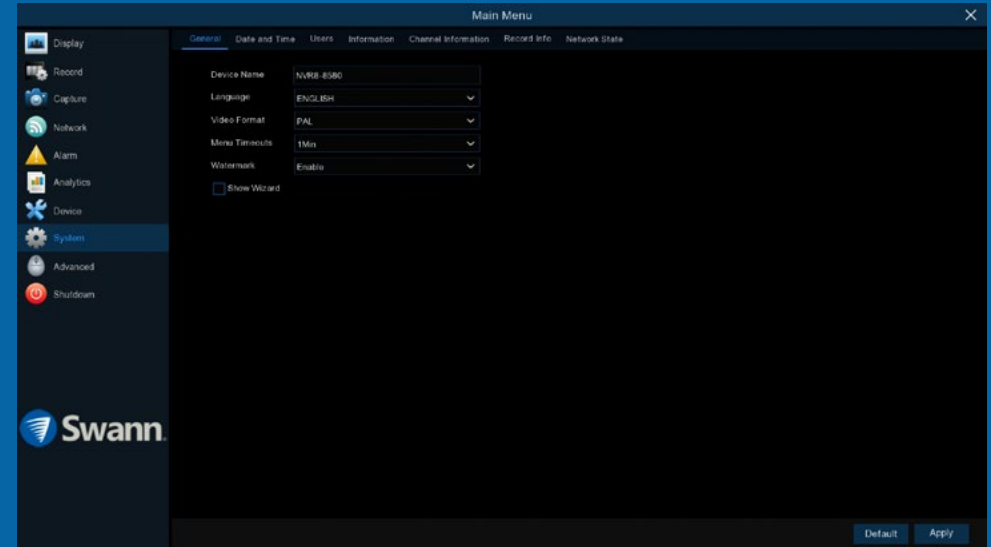
2. To zoom, move the mouse to the area or object that you want to zoom to then use the scroll wheel on the mouse to zoom in or out. When zoomed in, click and hold the rectangle (as shown bottom right of the screen) to scroll around the image. Right-click to exit.

Double-click the mouse to view multiple cameras.



Main Menu

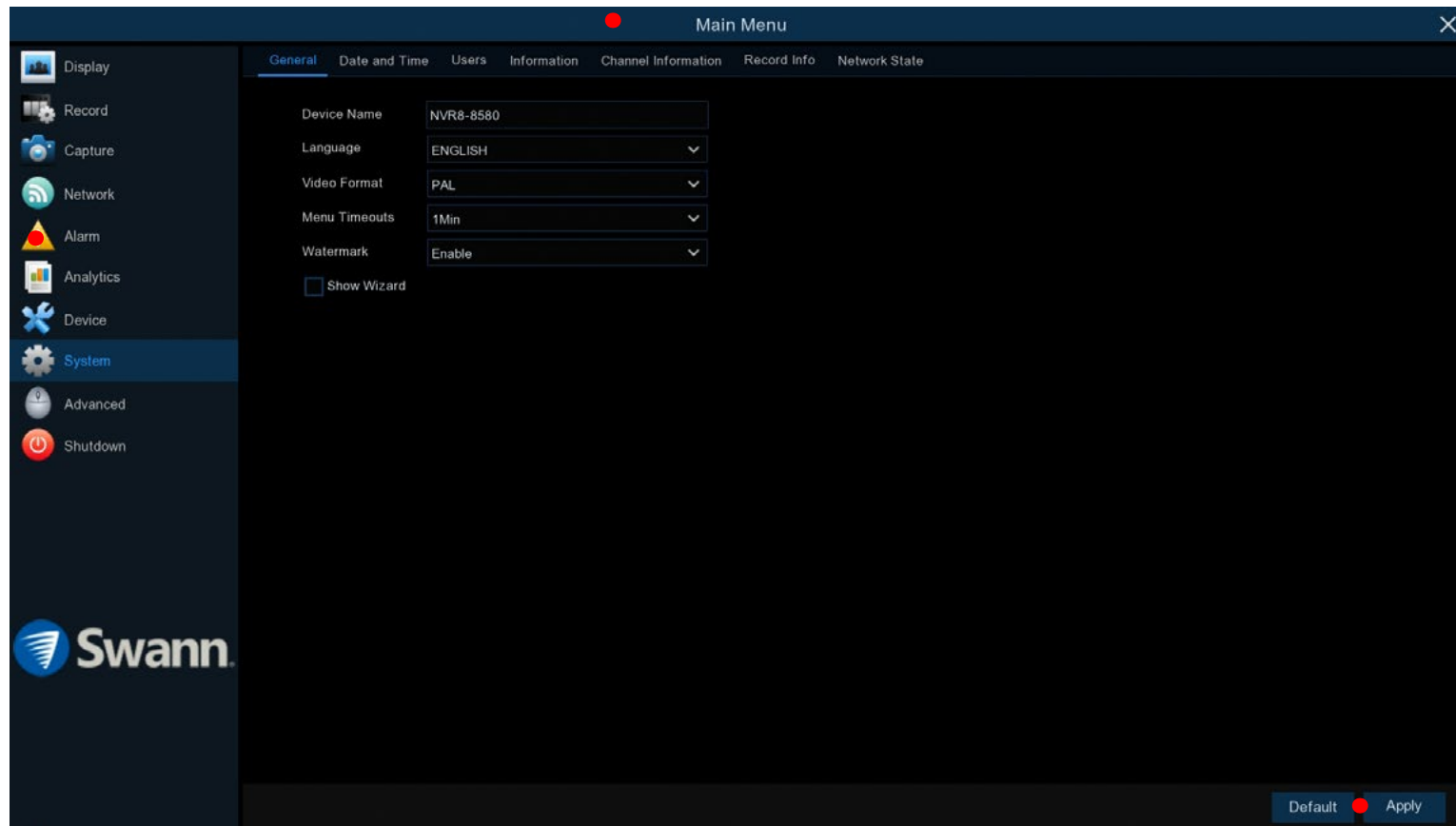
The Main Menu is where you control the various actions and options that are available on your NVR. Functions such as Privacy Mask can be enabled to obscure all or part of your image, and the option to change the default motion detection area. You can also enable Cloud Storage to copy snapshots and video to the cloud when events occur. To maintain system integrity, a firmware upgrade can be performed when available.



Menu Layout

The various functions and options available, are categorised on the left-hand side of the Menu.

Clicking each category will reveal a number of tabs or sub-categories that can be changed from their default setting.



To exit or access the previous menu, right-click the mouse.

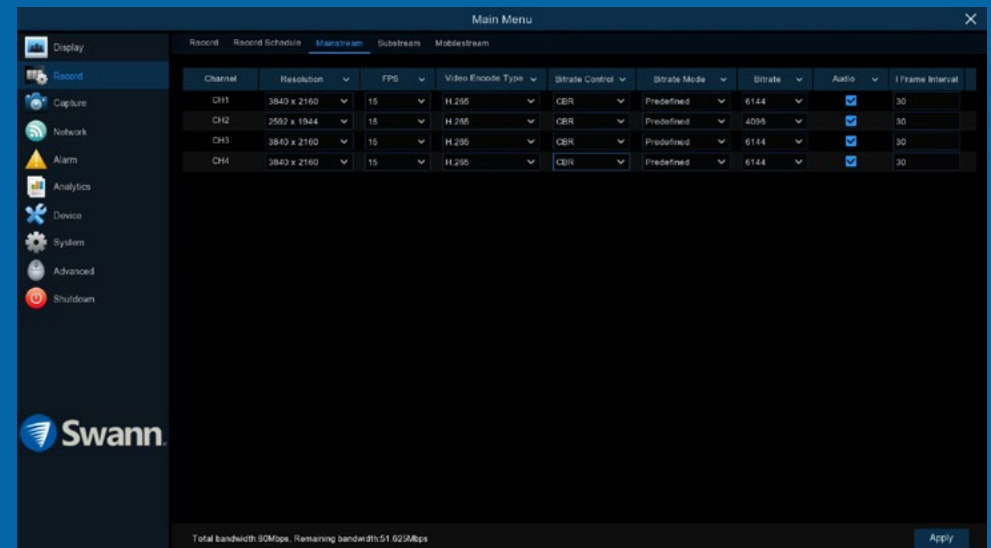
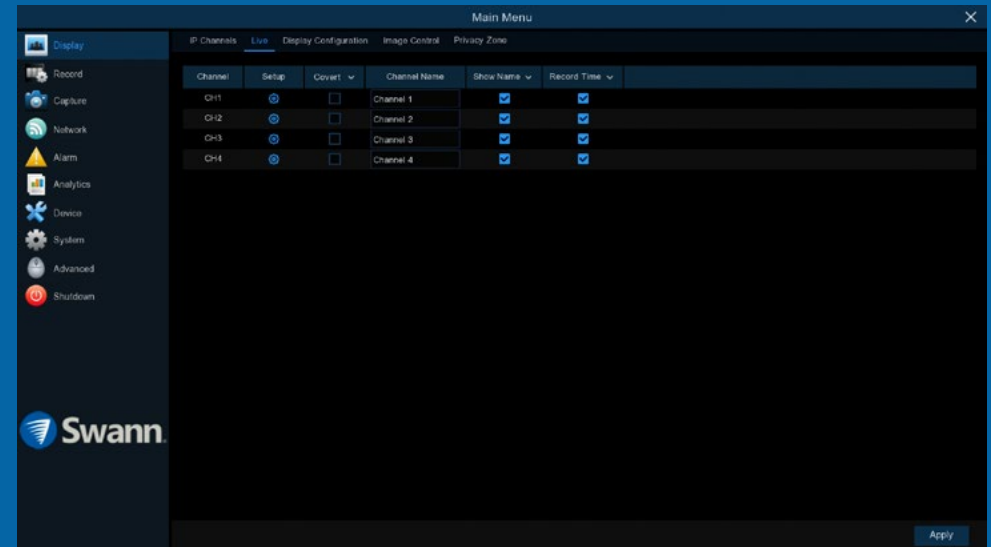


Save changes that have been made or restore default settings.

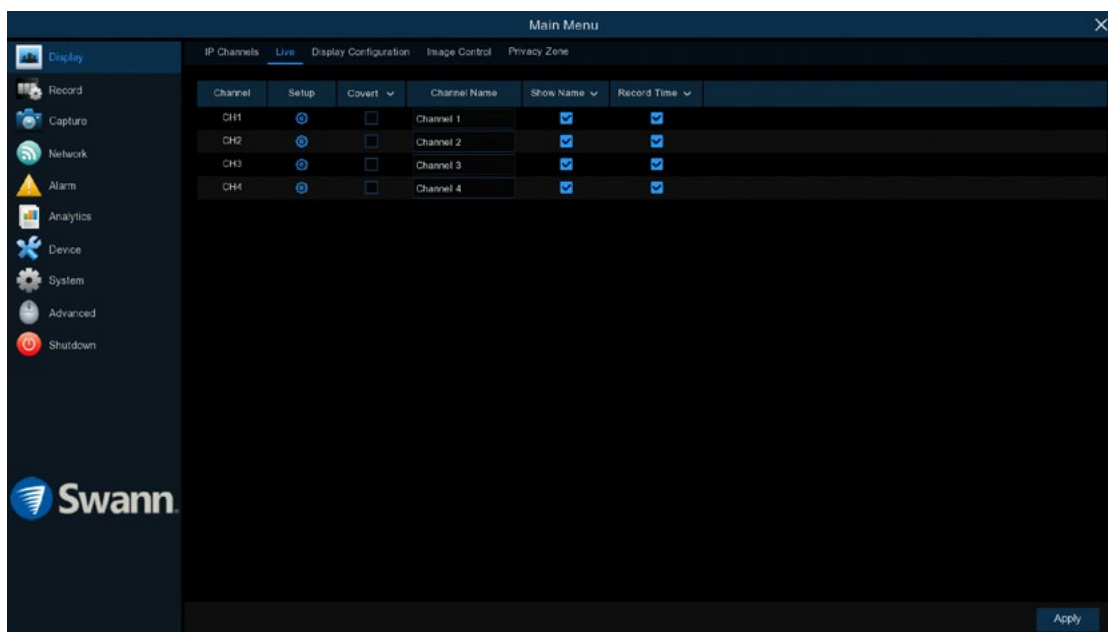


Camera Configuration

The camera configuration options are available in the “Display”, “Record” and “Alarm” menus that are accessible from the Main Menu. You can change the resolution, bitrate, OSD (on-screen display) position as well as image settings for hue, brightness, contrast and saturation. Your NVR has controls for detecting motion, allowing you to define specific areas to alert you to a potential threat in and around your home. You also have the ability to create one or more zones for privacy and setting a schedule for the camera’s sensor warning light.



Display: Live



The configuration options available allow you to name each camera relevant to where it has been installed as well as the ability to adjust image settings such as brightness and contrast. You can also enable covert mode to hide the camera's image in Live View mode.

- Click "Default" to revert to default settings.
- Click "Apply" to save settings.

Each camera input on your NVR will be displayed as CH1, CH2, etc.

Setup: Click the button to access the camera display settings. You will see the camera display settings on the left (see [page 15](#)).

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

Channel Name: Enter a name for the camera selected. It can be up to 16 characters in length.

Show Name: Leave this enabled to display the camera name in Live View mode, otherwise click the checkbox to disable.

Record Time: Leave this enabled, as a timestamp will be embedded on all video recordings. Click the checkbox if you wish to disable.

Alpha (NHD-885/886 only): This allows you to adjust how visible the OSD

(camera name, date & time) will be in Live View mode. By increasing the value (move the slider to the right), you will see a surrounding rectangle underneath the OSD. This is beneficial for cameras that are pointing towards bright areas that make it hard to see the OSD.

Hue: This changes the color mix of the image.

Bright: This changes how light the image appears to be.

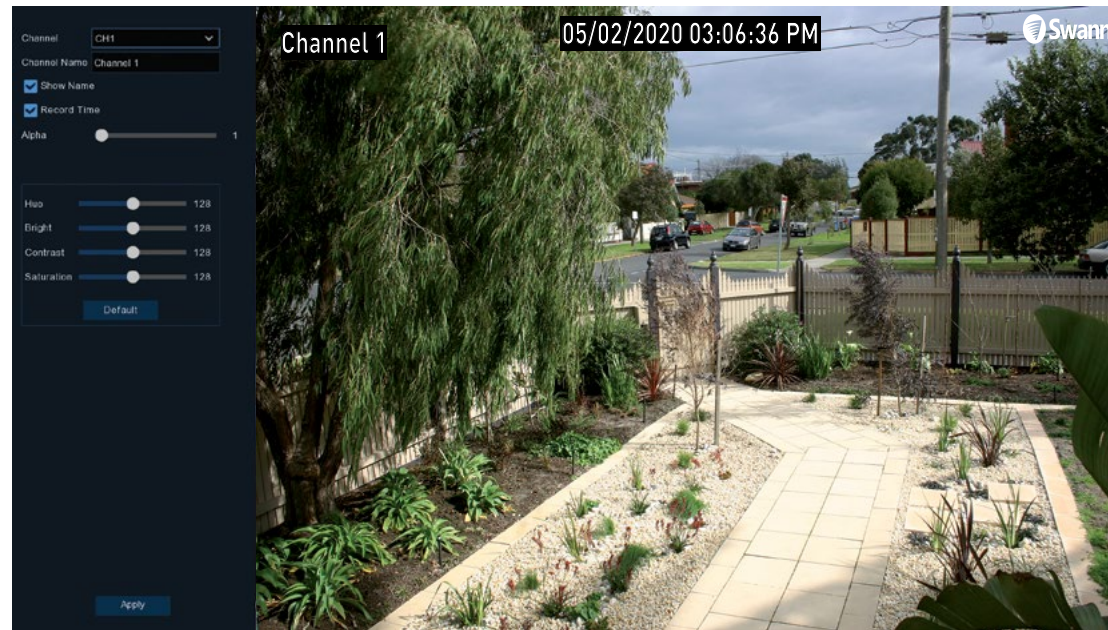
Contrast: The difference in luminance that makes an object distinguishable.

Saturation: This alters how much color is displayed in the image.

Use the slider to adjust each setting. When finished, click the "Apply" button then click "OK". Right-click the mouse to exit.

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Display: Live - Settings



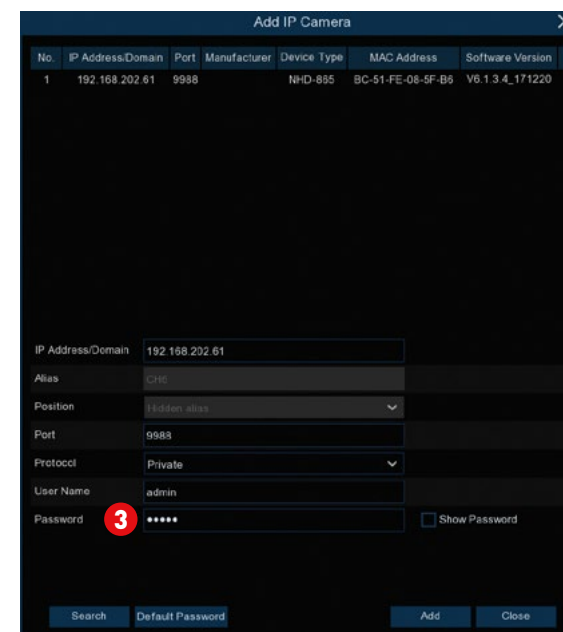
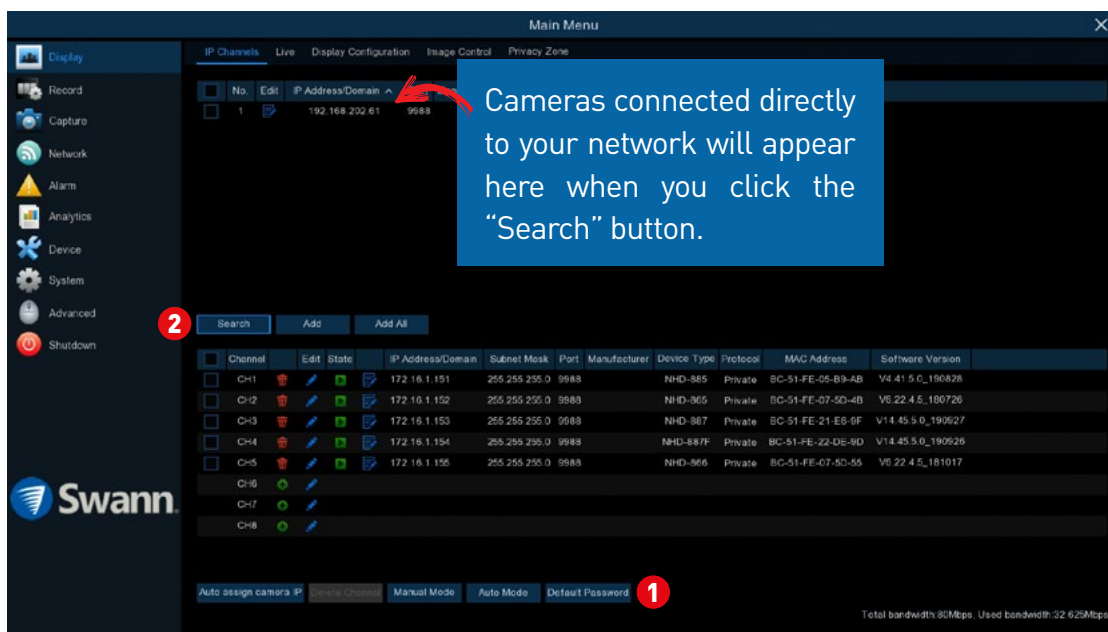
Covert: When enabled, the camera will detect motion and trigger your NVR to record, but you will not see an image of the camera in Live View mode. This may be suitable if your NVR and TV are displayed in a public area (shop, warehouse, etc.), but you don't want others to see an image from the camera.



Any changes made to the display settings available will affect your recordings.

TIP

Display: IP Channel



This function is an advanced feature that is used to manage the cameras connected directly to your NVR as well as compatible IP cameras connected to your router. In most circumstances, the functions available here will not be needed for general use of your NVR.

1. Click this to change the default “ONVIF” password. Onvif is a global open standard for connection of IP-based security cameras. Write down the new password for safekeeping.
2. Click this to add your network connected camera. After a short moment, your NVR will detect the camera and it will appear as shown in the screenshot above-right. Click the checkbox to select.
3. Input the Onvif password that you created. Click the “Show Password” checkbox to display the password.

4. When finished, click this button. A green play button (State) will appear indicating successful connection. Right-click the mouse to exit.



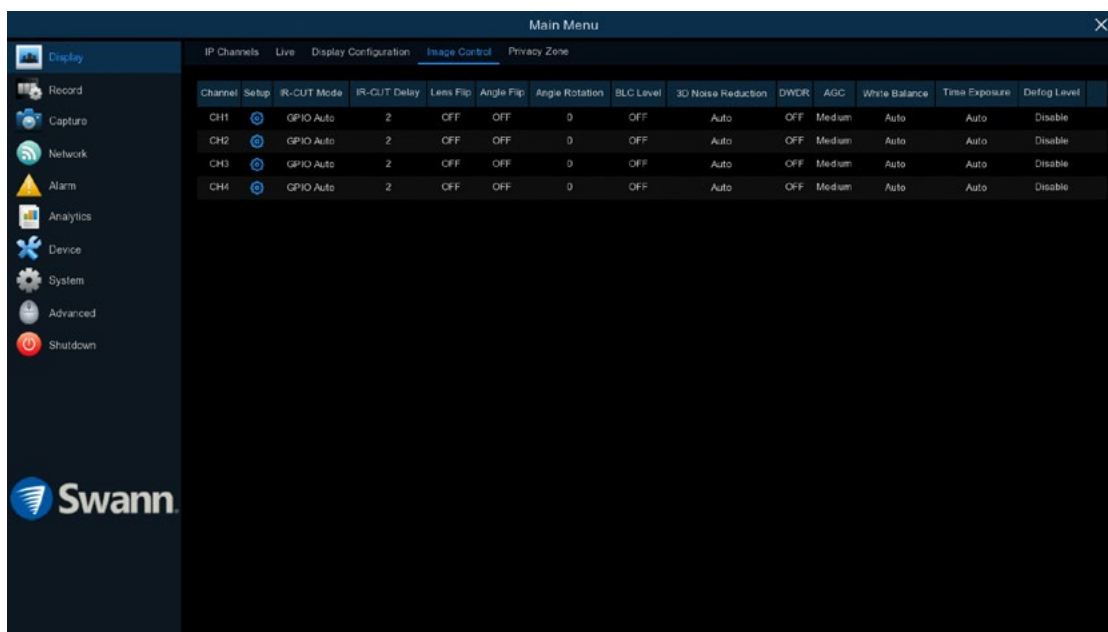
TIP

Please note: If you see a “Failed to connect to camera” error message in Live View mode for the camera that you have added, this indicates that either the password is incorrect (or has been changed) or it has been physically disconnected from your router.

Can I add additional cameras that are connected to my router, even though all the cameras inputs on my NVR are used?

When adding cameras that are connected to your router, it is assigned to an available channel on your NVR, therefore if all channels are being used, you cannot add additional cameras. You will have to disconnect one of the cameras connected to your NVR to add a router connected camera.

Display: Image Control



The functions available enable you to control the appearance and characteristics of the image shown from each camera. Each function can be adjusted to obtain the best possible image quality, providing you the flexibility to install the camera in the most challenging of lighting situations.

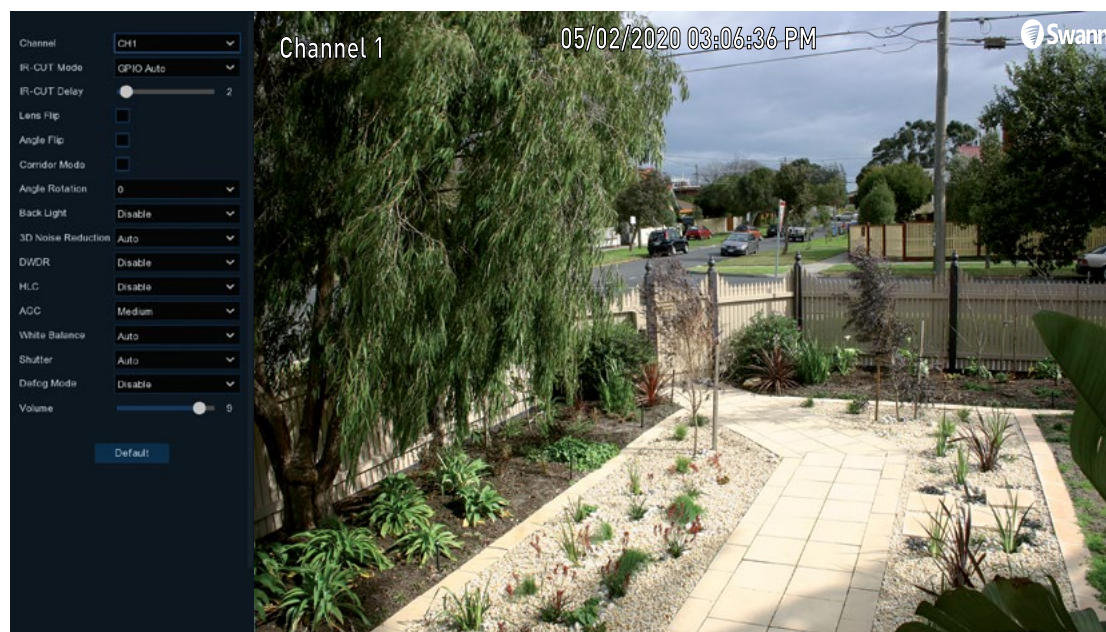
- Click “Default” to revert to default settings.
- Click “Apply” to save settings.

Each camera input on your NVR will be displayed as CH1, CH2, etc.

Setup: Click the button to access the camera image settings. You will see the camera image settings on the left (see [page 18](#)).

Any changes made to the camera image settings will be reflected here.

Display: Image Control - Settings



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

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

- **GPIO Auto:** This will instruct the camera to switch automatically from “Color Mode” to “Black White mode” and vice versa.
- **Color Mode:** This will instruct the camera to operate in color mode only. In low light conditions, the color will be quite faint. Image clarity will also be reduced in low-light conditions.
- **Black White Mode:** This will instruct the camera to operate in black & white mode only.

IR-Cut Delay: Controls the delay of the IR cut filter when transitioning from

daytime to night-time. The default setting will be suitable for most camera locations but can be adjusted if needed. Click and hold the slider left or right to change. The higher the number, the greater the delay.

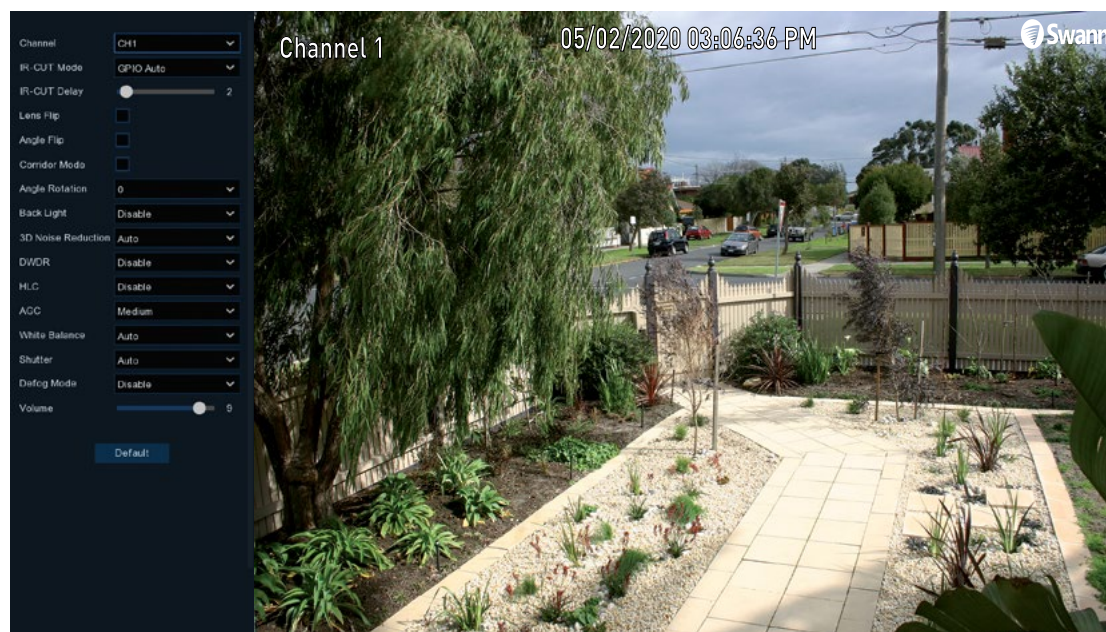
Lens Flip & Angle Flip: Turn the image upside down and/or horizontally reverse the orientation of the image.

Corridor Mode (NHD-885 only): Allows you to make better use of the camera’s vertical angle for an optimised view of long, narrow scenes. Enable this if your camera is viewing a narrow corridor.

Angle Rotation: Rotate the image by 90°, 180° and 270°.

(continued on next page)

Display: Image Control - Settings



Back Light: Improves exposure of an object that is in front of a light source. This may happen if an object is in front of a window or if a person is coming in from the outside. The camera will pick up the natural light, therefore the object or person in the foreground becomes dark. If the camera is mounted in a location where this is required, click the drop down menu to enable:

→ **BLC (Back Light Compensation) Level:** If “Back Light” has been enabled, you will see this option available. Click the drop down menu to select the level of back light compensation that you would like to apply. Some experimentation is recommended to select the best settings.

3D Noise Reduction: This function will reduce the overall noise content for recordings done at night or in lower light conditions. The “Auto” selection will be suitable for most camera locations but can be adjusted if needed:

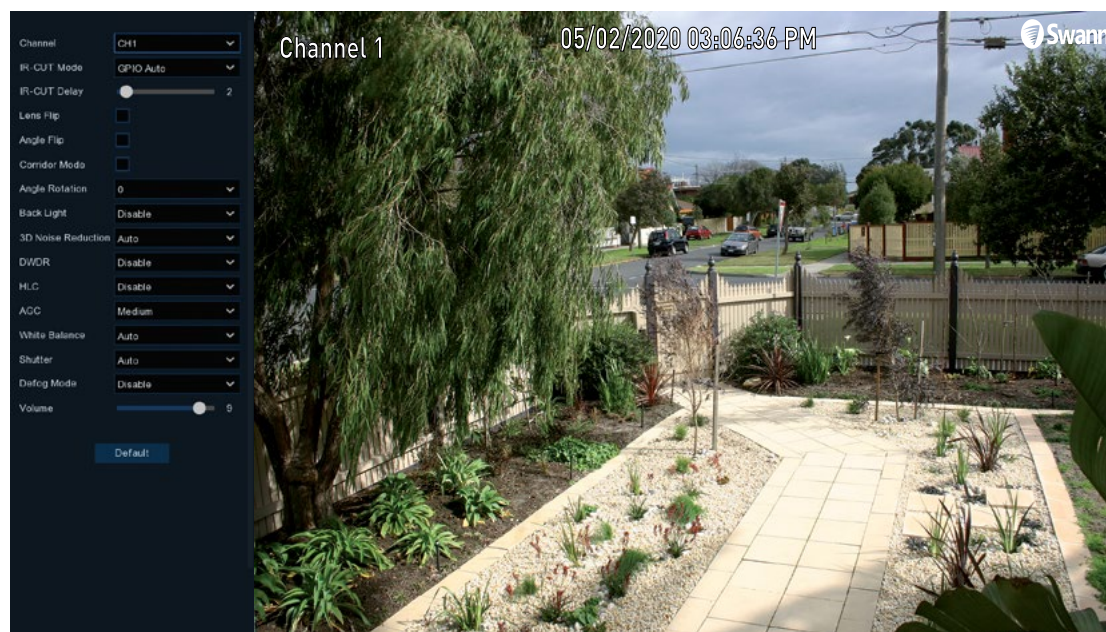
→ **Manual:** Click the drop down menu and select “Manual”. Click and hold the slider left or right to change. Just be aware that setting the value too high, can cause a motion blur on moving objects appearing on-screen.

DWDR/WDR (Wide Dynamic Range): This function will balance out images that have a large dynamic range. It does this by brightening dark areas and darkening bright areas. An example of this situation would be if an indoor camera is pointing towards a window or building entrance. The image produced during the day would be washed out due to the high brightness of the incoming light. If this is required, click the drop down menu to enable:

→ **Level:** Click and hold the slider left or right to change. The higher the number, the wider the dynamic range will appear.

(continued on next page)

Display: Image Control - Settings



HLC (Highlight Compensation, NHD-885 only): This function will deal with an image overexposed with lights like headlights or spotlights. This will greatly reduce light exposure and improve the clarity of bright areas. This is an ideal function for car parks (not recommended for indoor use). If this is required, click the drop down menu to enable:

→ **Level:** Click and hold the slider left or right to change. The higher the number, the greater the highlight compensation will appear.

AGC (Automatic Gain Control): This function allows an increase in sensitivity, enabling operation in lower light conditions. The camera will automatically boost the gain control so that objects can be seen more clearly. Click the drop down menu to select a level of control that you would like to apply.

White Balance: This function adjusts for lighting in order to make white ob-

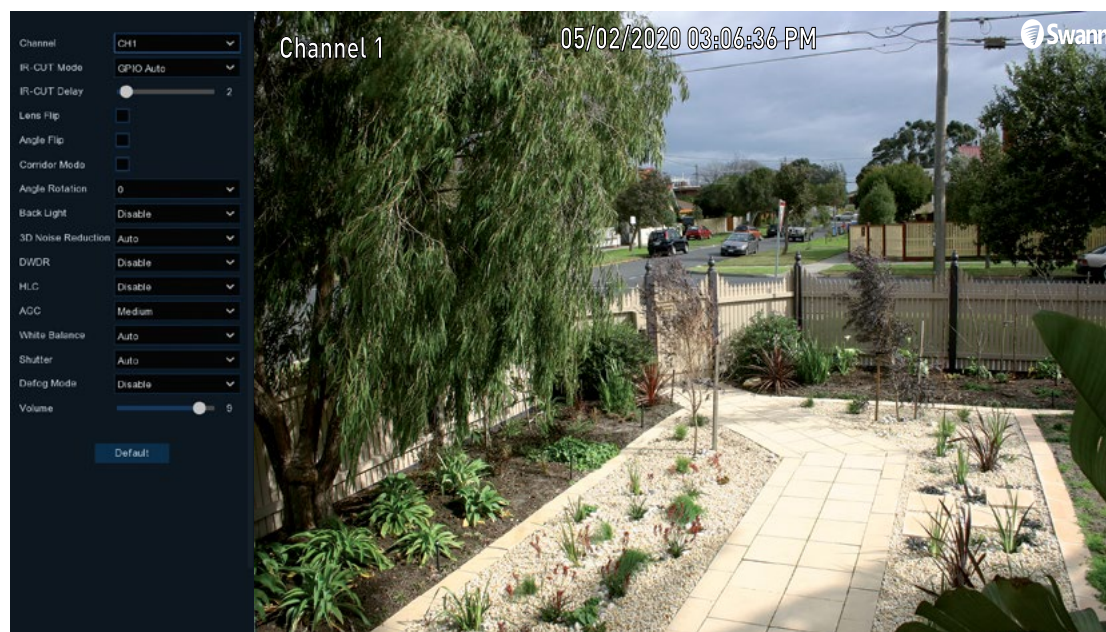
jects appear white in photos. One of the indicators for an improper white balance setting are dark colors which appear faded, shifted, or a completely different color altogether. If this is happening, click the drop down menu and change this to "Manual", otherwise leave the "Auto" setting:

→ **Manual:** When selecting this mode, click and hold the red, green and blue sliders left or right to change.

→ **Indoor:** Select this mode if the camera has been mounted inside a place of residence.

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Display: Image Control - Settings



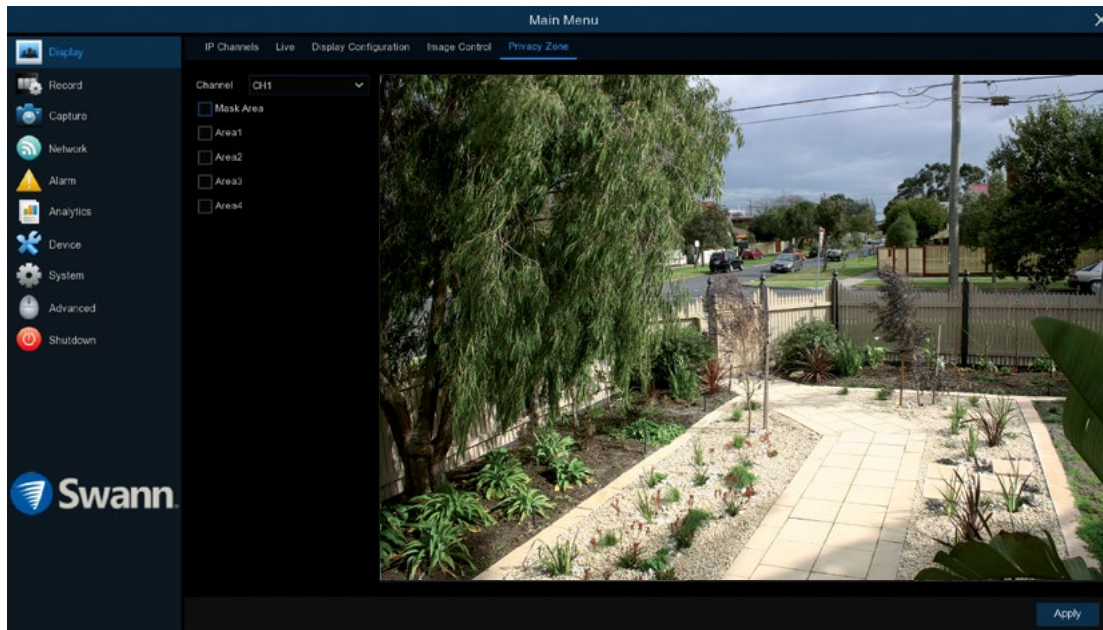
Shutter: This function controls the length of time a camera's shutter is open and the amount of light reaching the sensor. In low light situations, the shutter needs to stay open longer in order for the sensor to receive enough light. The "Auto" setting will be suitable for most camera locations but can be adjusted if needed:

→ **Time Exposure:** When selecting "Manual", click the drop down menu to select a different exposure time. The lower the number, the slower the shutter speed (may cause a motion blur on moving objects). Some experimentation is recommended to select the best settings.

Defog Mode: This function improves video quality if there is moderate to heavy fog or haze. The "Auto" setting will be suitable for most camera locations. If selecting "Manual", click and hold the slider left or right to change.

Volume: Click and hold the slider left or right to change the camera's built-in microphone volume level.

Display: Privacy Zone



This function can be used to obscure all or part of your image for privacy (up to four privacy masks can be created per camera). You can also use this to minimize false triggers when motion is detected. Areas obscured by a mask won't be shown live or recorded.

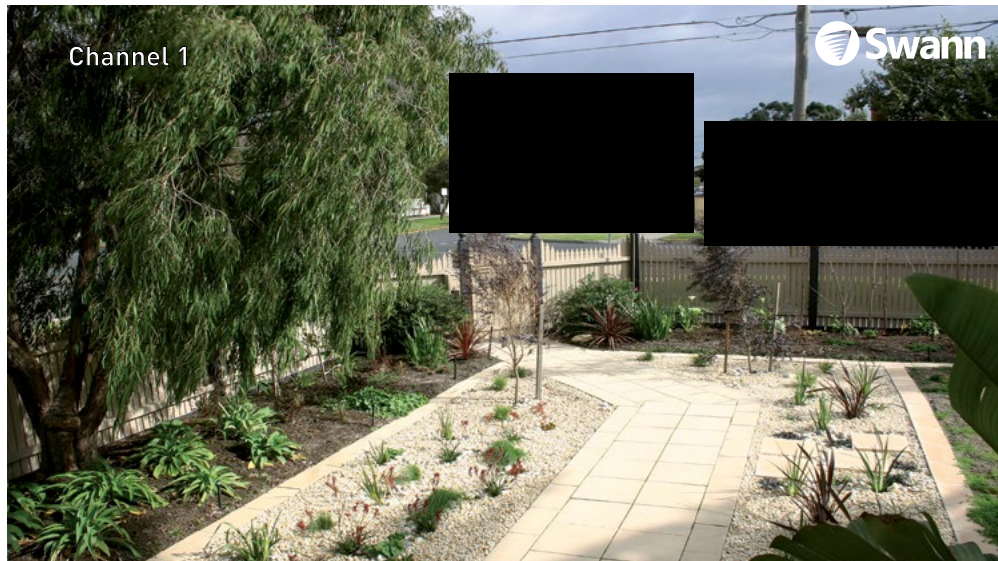
Channel: Select a camera that you would like to edit.

Mask Area: To create a mask, click the checkbox to enable.

Area 1 to 4: Click the checkbox on the number of privacy masks that you want to enable. Up to four privacy masks can be enabled per camera.

Depending on the number of privacy masks enabled, one or more masks will appear in the Live View windows (see page 22 - [Enabling a Privacy Mask](#)).

Enabling a Privacy Mask



1. Depending on the number of masks that you want to enable, each mask will be numbered. To reposition the mask, click and hold the mask number then move the mask to the desired location.

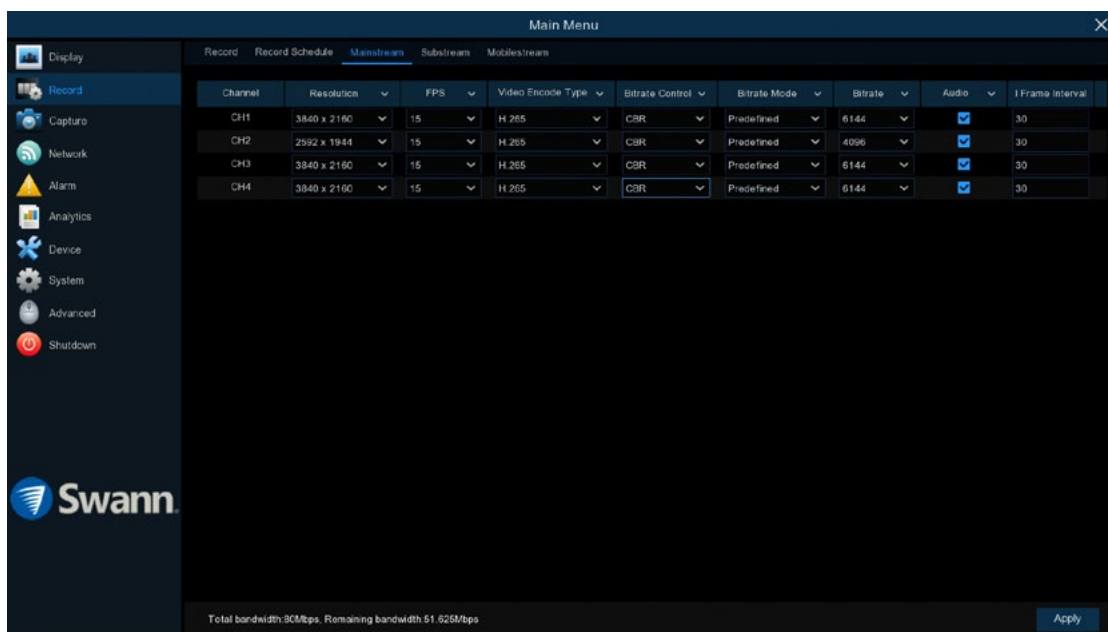
2. To resize the mask, click and hold the bottom right corner of the mask then resize to the desired size. You can reposition and resize each mask to overlap each other.

In the example provided on the left, two masks have been enabled to block out cars and pedestrians adjacent to the front yard of the house. This will minimise false triggers and block movement that is not relevant to entry via the front entrance.

3. When finished, click “Apply” to save. Areas obscured by a mask won’t be shown live or recorded (see below left).

To remove a mask, uncheck the checkbox next to the relevant area then click “Apply” to save.

Record: Mainstream



The functions available here allow you to change the resolution, frame rate, bitrate control and bitrate mode for each camera connected. By default the recording resolution is automatically selected to fit in with the capabilities of the provided cameras.

→ Click "Apply" to save settings.

Each camera input on your NVR will be displayed as CH1, CH2, etc.

Resolution: By default the recording resolution is automatically selected to match the capabilities of the provided cameras. Lower resolutions are available to select if required.

FPS: The number of frames per second (fps) that your NVR will record. The default is 15fps, however you can change this if needed.

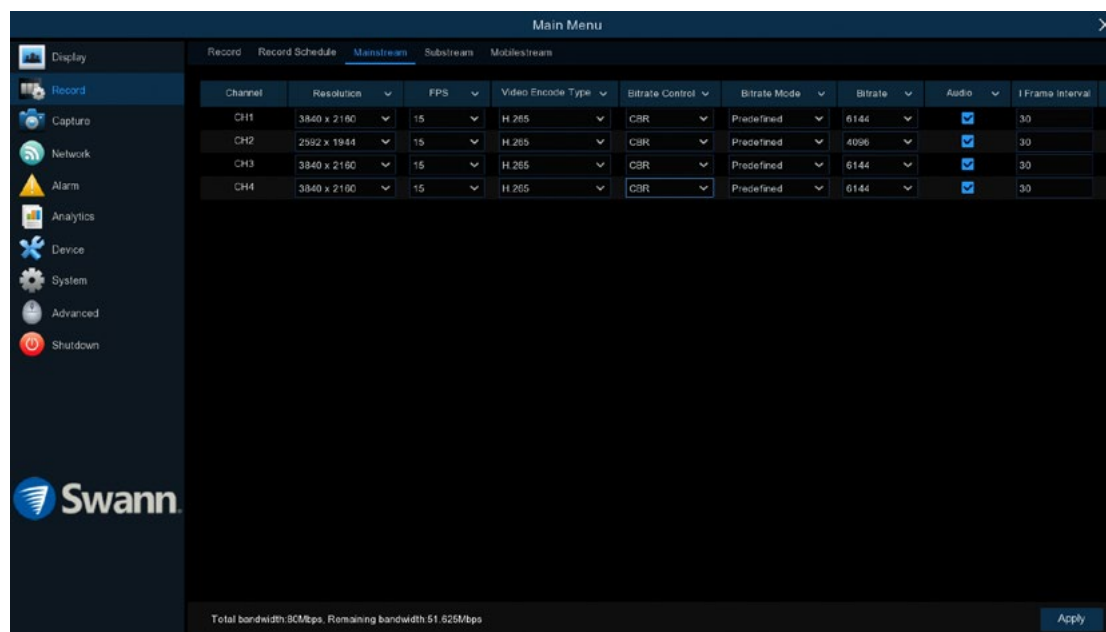
Video Encode Type: Your NVR utilizes two encoding methods to record video. The default method of compression is H.265. This will result in less hard drive space used when recording (before older videos are automatically overwritten). The second method of compression is H.264. This is a commonly used format for recording and compressing video and is used in Blu-ray players and to broadcast TV signals. If visual quality is of importance, change this to

H.264, otherwise leave the default selection.

Bitrate Control: CBR (Constant Bitrate) utilizes a fixed bitrate and bandwidth to record video. This means your NVR will use the same number of bits throughout the entire recording, regardless of what is happening on-screen. VBR (Variable Bitrate) utilizes a bitrate and bandwidth that changes when your NVR is recording. The bitrate will increase or decrease depending on how complex the scene is.

(continued on next page)

Record: Mainstream



Which method should I choose? Scene complexity can vary significantly over several hours of recorded video, and the bitrate you select will have an effect on image quality, bandwidth consumption, and hard drive storage. A complex scene with moving action, will affect image quality and bandwidth consumption more than a less complex scene with little action or movement.

CBR (Constant Bitrate): If you have cameras placed in high traffic areas, CBR is the recommended control method. As the bitrate is fixed, the image quality will be consistent and will assist when identifying people or objects.

VBR (Variable Bitrate): If you have cameras placed in low traffic areas, VBR is the recommended control method. As the bitrate is variable, your NVR can use a lower bitrate if there is little to no movement detected.

When choosing VBR, you can select the recording quality that will define the

variable bitrate used. You can select from lowest to highest.

Bitrate Mode: You have the choice of selecting a predefined or user-defined bitrate. For most instances, the default selection will be suitable.

Bitrate: The amount of data that your NVR will use to record video. A high bitrate will increase the overall video quality, but will increase the need for more data traffic and each recording will consume more space on the hard drive. The default bitrate is 6144Kbps.

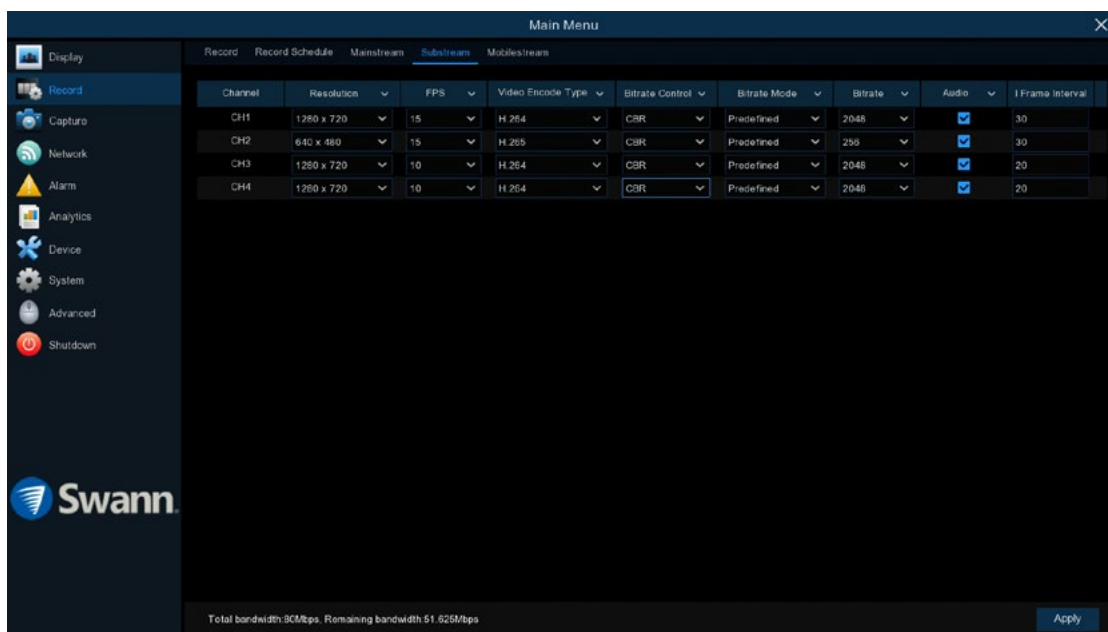
Audio: By default, your NVR will record audio using the camera's built-in microphone. If this is not required, click the checkbox to disable.



TIP

Selecting the appropriate recording settings is dependent on camera location, lighting conditions and the level of quality required.

Record: Substream



The functions available here allow you to control how video is streamed to your mobile device using the Swann Security app. You can change the frame rate, bitrate mode and bitrate control if you're having issues streaming live video from your NVR.

→ Click "Apply" to save settings.

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

Resolution: The default resolution is 1280 x 720. You can select a lower resolution if you're having issues streaming to your mobile device.

FPS: The number of frames per second (fps) that your NVR will process when streaming to your mobile device. For most instances, the default frame rate (15fps) will be suitable. This is especially the case for cameras that monitor medium to high traffic areas and will result in smoother motion, but just be aware this will increase the bandwidth required. You can lower this if monitoring low traffic areas.

Video Encode Type: Your NVR utilizes two encoding methods to record video. The default method of compression is H.264. This is a commonly used format for recording and compressing video and is used in Blu-ray players and to

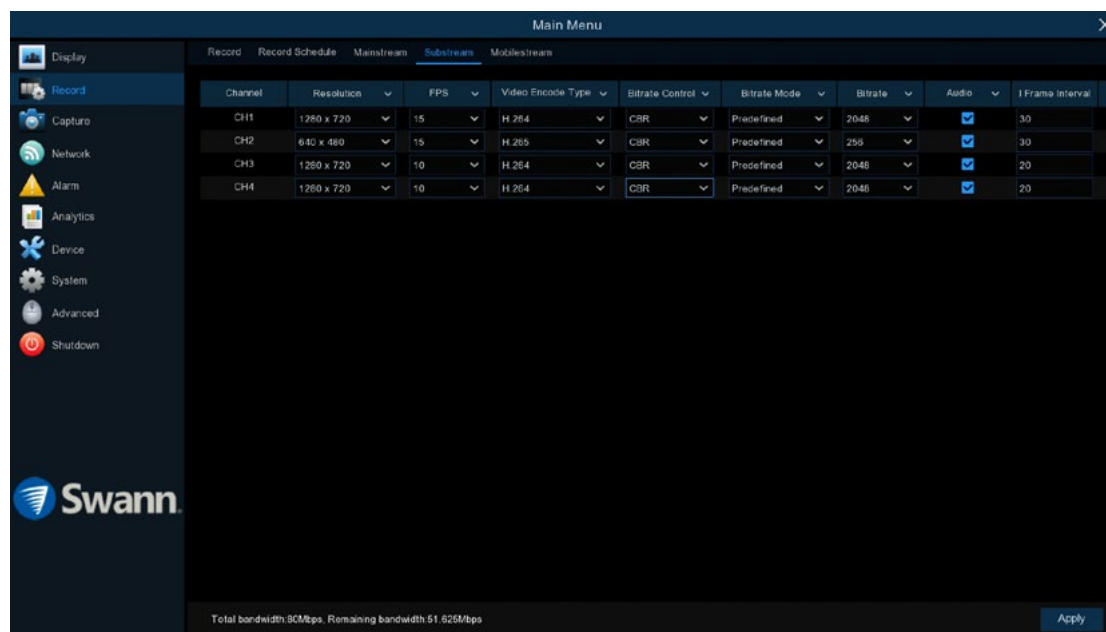
broadcast TV signals. The second method of compression is H.265. This will result in less hard drive space used when recording (before older videos are automatically overwritten) and will consume less bandwidth when using the remote playback feature in the Swann Security app. If this is of importance, change this to H.265, otherwise leave the default selection.

Bitrate Control: Change this to VBR. This will result in a lower recording size as well as a lower bandwidth requirement. You can select the recording quality that will define the variable bitrate used, from lowest to highest.

Bitrate Mode: You have the choice of selecting a predefined or user-defined bitrate. For most instances, the default selection will be suitable.

(continued on next page)

Record: Substream



Bitrate: The amount of data that your NVR will use to stream video to your mobile device. For cameras that monitor medium to high traffic areas, increase the bitrate to add more detail to the camera's image, but just be aware this will increase the bandwidth required. Increase the bitrate in small doses until you are satisfied with the image quality.

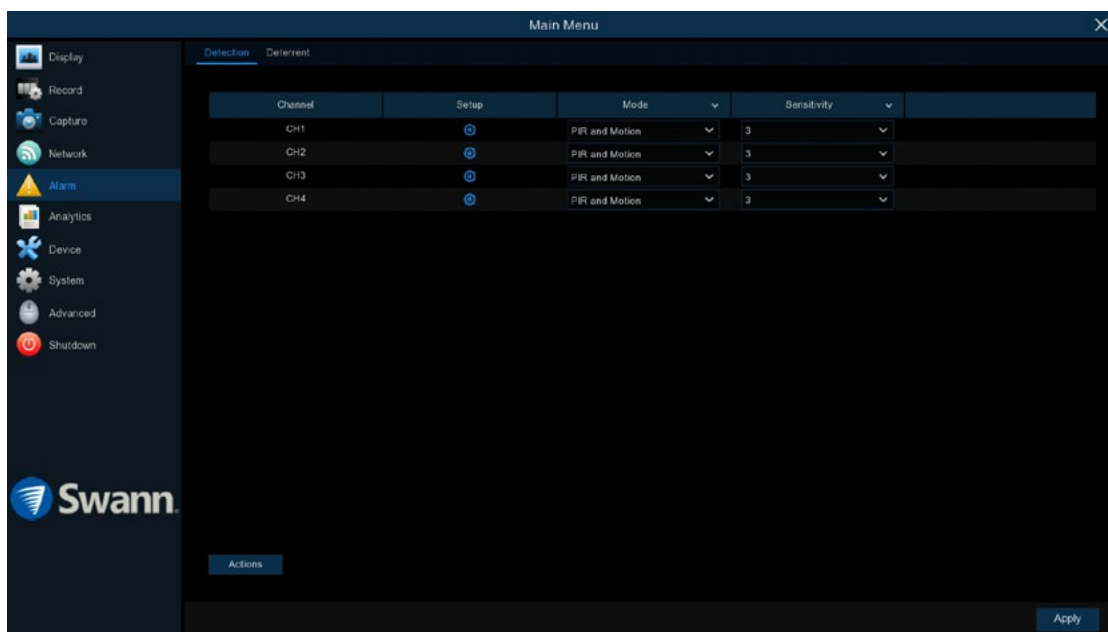
Audio: By default, your NVR will record audio using the camera's built-in microphone. If this is not required, click the checkbox to disable.



TIP

When streaming live video, the quality is dependent on your internet connection and the Substream settings utilised. This is important to remember when streaming multiple cameras at the same time.

Alarm: Detection



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

→ Click "Apply" to save settings.

Each camera input on your NVR will be displayed as CH1, CH2, etc.

Setup: Click the button to change the default motion detection area. The entire view of the camera is enabled for motion detection, however you can select certain areas if you wish (see page 30 - [Motion Detection Setup](#)).

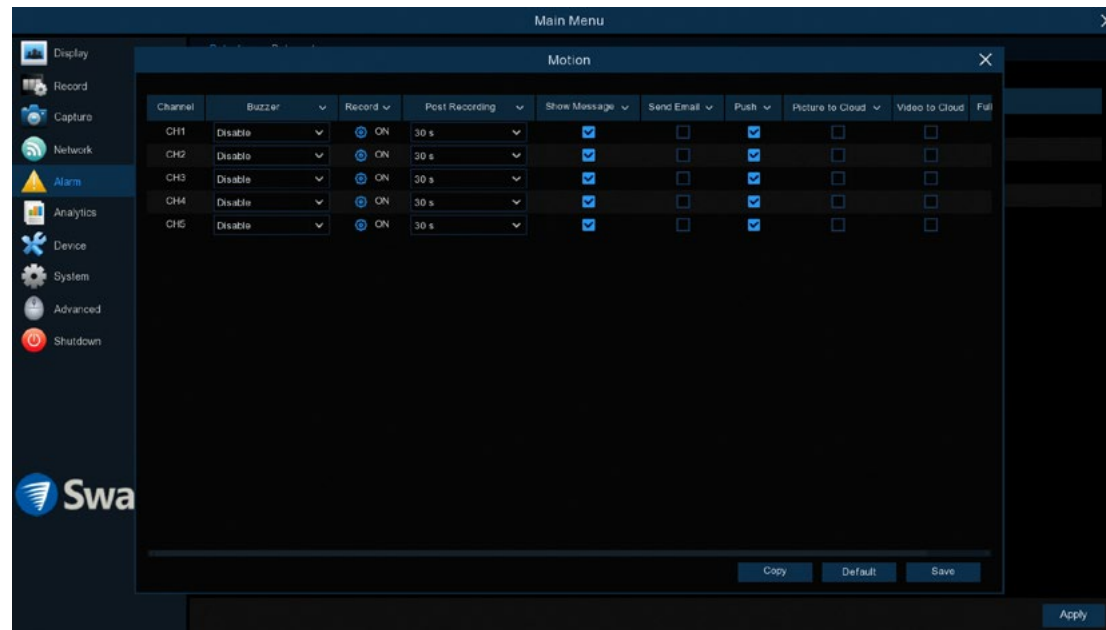
Mode: By default, your NVR will record motion only if one or more objects have been detected by the camera and the camera's built-in PIR sensor. This provides more accurate motion detection by eliminating false triggers due to wind, leaves falling and rain (see page 32 - [Thermal-Sensing Camera Tips](#)). If you're monitoring an area that doesn't require objects to be detected by the camera's built-in PIR sensor, such as a busy walkway or a building entrance, change this to "Motion".

Sensitivity: This option allows you to change the sensitivity level. The higher

the number, the more sensitive your NVR will be when detecting motion. For most instances, the default selection will be suitable, however it's recommended to conduct a test to see if the sensitivity level is correct for the camera's location (see page 31 - [Motion Detection Tips](#)).

Actions: Click the button to change options for alarm notifications, alerts and more (see page 29 - [Alarm: Detection - Actions](#)).

Alarm: Detection - Actions



Buzzer: When motion has been detected, you can enable the NVR's buzzer to alert you for a predetermined amount of time. Click the drop down menu to select a time.

Record (Record Channel): This option instructs your NVR to trigger additional cameras to start recording when motion has been detected. Click the "Analog Channels" checkbox to select all cameras or click on the individual camera number that you want to trigger for recording.

Post Recording: This option instructs your NVR to record for a set period of time after an event has occurred. For most instances, the default selection will be suitable, however you can change this if you wish.

Show Message: When motion has been detected, the motion icon will appear on-screen. Click the checkbox if you want to disable this.

Send Email: Click the checkbox to enable your NVR to send an email alert when motion has been detected.

Push: Push notifications are automatically sent via the Swann Security app. Click the checkbox if you want to disable this.

Picture to Cloud: Click the checkbox to copy snapshots to the cloud via Dropbox.

Video to Cloud: Click the checkbox to copy videos to the cloud via Dropbox.

Full Screen (slide to the right to view): Click the checkbox to view the camera full-screen in Live View mode when motion has been detected.

Click the "Save" button then click "OK". Right-click the mouse to exit.

Motion Detection Setup

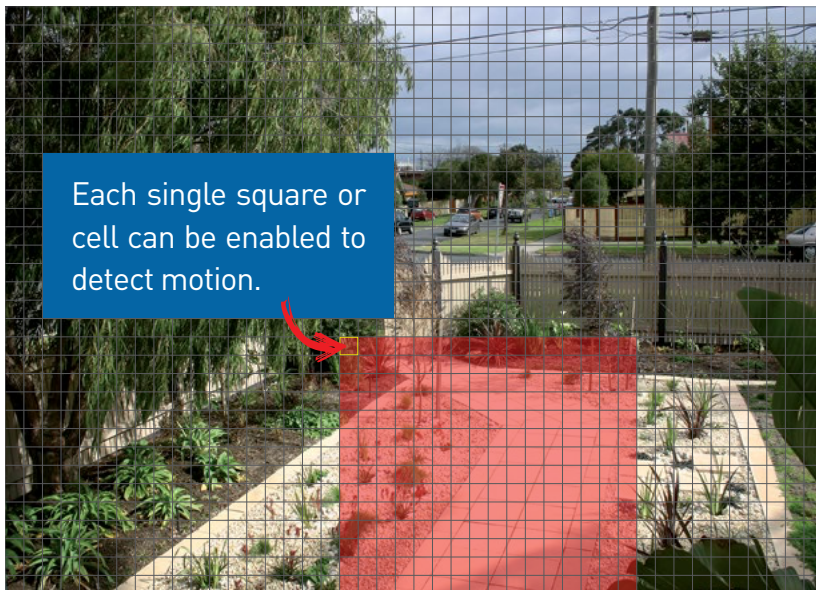


1. Click “Clear All” to delete the default motion detection area.
2. To create a new motion detection area, press and hold the left mouse button to select the cell or square that you want to start at, then click and drag to select the area that you want to create. Release the mouse to finish.
3. Multiple areas can be created. Each individual cell or square can be enabled to detect motion. The same action also applies to delete an area that has been created.

In the example provided, a motion detection area has been created for the front yard but excludes objects such as trees as well as cars and pedestrians adjacent to the front yard of the house. Anyone who walks along the path via the front entrance and approaches the front door will be detected.

Movement outside of the motion detection areas will not be detected so will not trigger recordings or event notifications.

4. Adjust the sensitivity if required then right-click the mouse to exit.
5. Click “Apply” to save changes made.



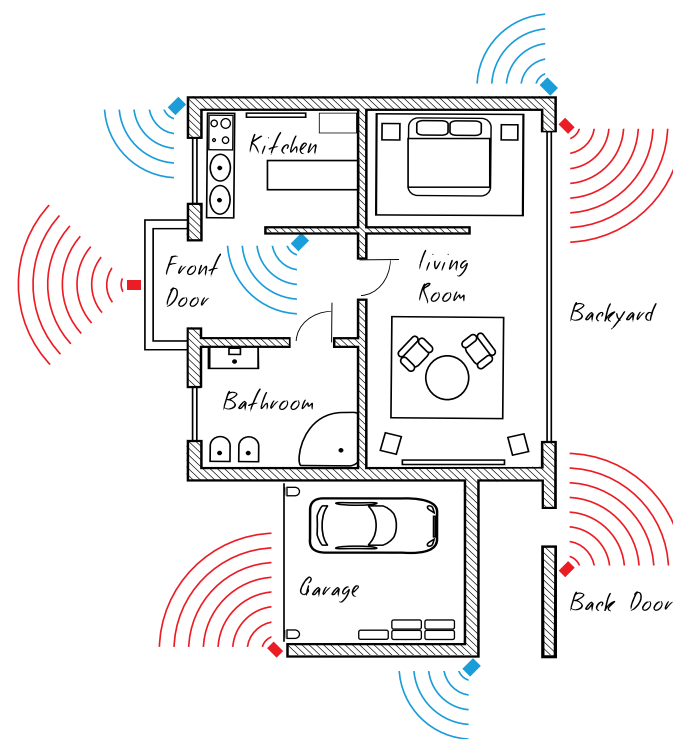
Motion Detection Tips

Placement of the cameras

1. Place cameras so they are facing areas where people have to walk through to approach your home regardless of where they are headed. A good idea is to place a camera overlooking your front door to capture an image of anyone approaching it for later reference. This is great if you have parcels delivered to your door or if the potential burglar knocks or rings the doorbell to see if anyone is home.
2. Walk around your house and assess where intruders are most likely to approach to enter, and what path they would take. Most burglars enter the home through a front or back door, so it's advisable to place the cameras near those areas so that you get the best amount of detail of anyone who approaches.
3. When installing cameras outside, it's important to keep your front and backyard as well-lit as possible for ideal night vision and the ability to detect motion. It's common for intruders to enter a home through an unlocked garage or by using a garage door opener in an unlocked car located in the driveway. Positioning your cameras to overlook cars in the driveway and similar locations can be very useful.

Avoiding False Triggers

1. A tree, shrub or foliage that is blown by the wind - angle the camera so wind-blown objects are out of the camera's view or use the camera motion detection area settings to exclude these areas from detection.
2. People moving along sidewalks or streets that are close to your home, aim your cameras and use the motion detection area settings to ensure only legitimate threats are triggering events.
3. Vehicles moving in the background - angle the camera so as to avoid movement in the background or use the motion detection area settings to stop detection of cars in the street.
4. Movement or light reflected off smooth surfaces such as glass - adjust the sensitivity level and/or avoid pointing the camera directly at glass surfaces.



The **red cameras** illustrated (see above) are your primary locations. Place your cameras close to the front door, back door, garage entrance and overlooking the backyard.

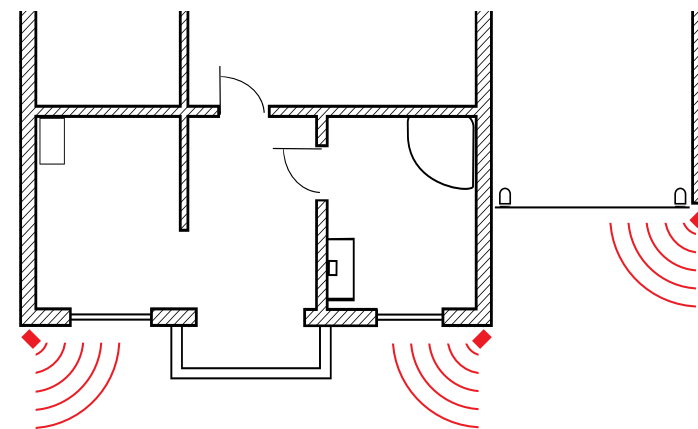
The **blue cameras** illustrated are your secondary locations. If your NVR includes additional cameras, place these at the front entrance inside the home, the front of the house (this could overlook the front garden or driveway), a side gate or if you have multiple entrances to the backyard.

Thermal-Sensing Camera Tips

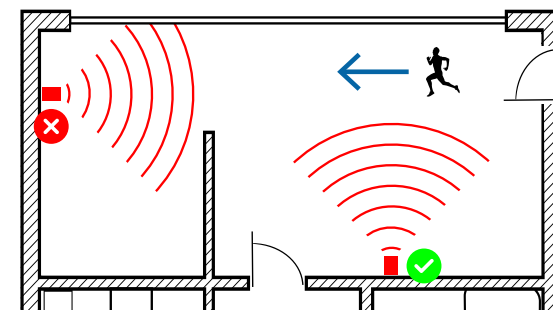
If thermal-sensing cameras have been included with your NVR or you have purchased them separately, the following tips will help you in getting the best results from your security system.

Your cameras have a built-in PIR (passive infrared motion detector) sensor. This means they can sense movement of warm objects including people, cars and animals. The advantage over cameras that don't have a PIR sensor, is they are very resistant to false triggers from changes in the image.

- PIR sensors work best when an intruder walks parallel or is passing across their "field of view" as opposed to walking directly at them. For example, in a hallway or path around the house you tend to walk parallel to the walls, not directly toward them. Position your cameras so that anyone approaching your home will cross the camera's view and trigger an event.
- For a recording to occur, the PIR must sense a warm object moving in front of it and the camera's image sensor must detect movement in the image. If either of these triggers has not occurred, no video will be recorded.
- When the PIR is triggered, the PIR icon (red box) will flash on-screen. If PIR and motion are triggered, the "running man" icon will be shown on-screen indicating that an event has occurred and that a recording is happening.
- The PIR can detect objects outside of the camera's field of view, so not everything that triggers the sensor will be visible on your camera.
- The PIR can reliably detect movement up to 30ft/9m, movement beyond this range may or may not be detected.
- Be aware that sudden changes in temperature of paths, roads, for example, can cause some minor false alerts to occur when there is also movement in the image such as trees and shadows.
- If some false triggering is occurring, use the motion area setup to remove moving objects from being detected, and to further refine your alerts (see page 30 - [Motion Detection Setup](#)).
- When used indoors, keep the cameras away from heating vents, heaters and other heat sources as they can trigger the PIR. However if there is no movement in the image, a false alert is unlikely.

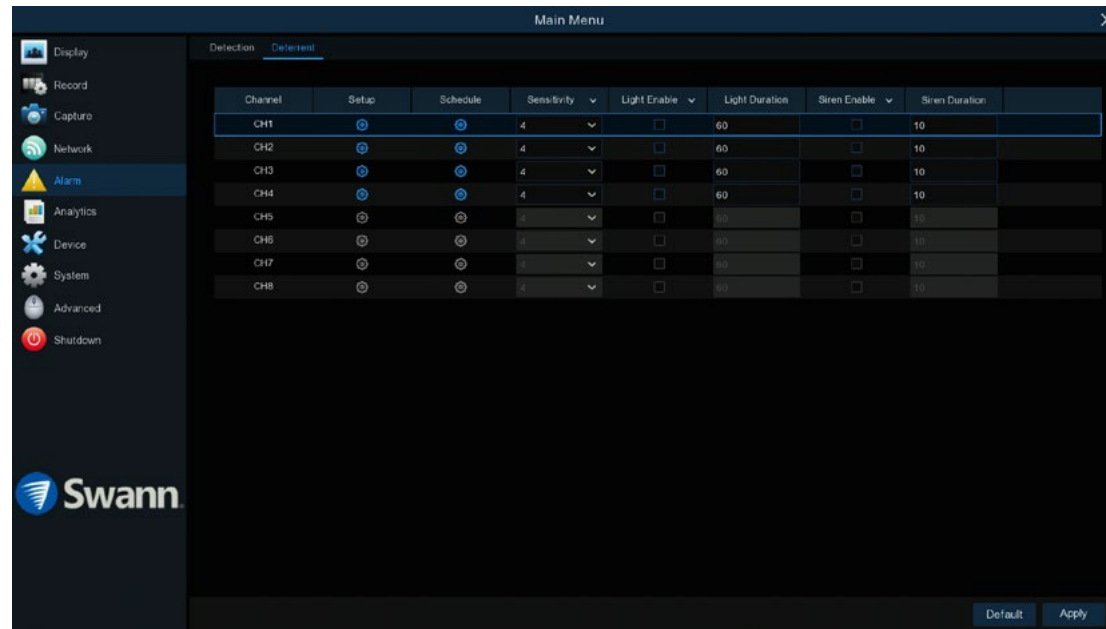


When installing cameras outside, mount them where intruders are most likely to enter (front & back doors, garage entrance). Angle the cameras so the intruder walks parallel to the sensor.



PIR sensors work best when an intruder walks parallel or is passing across their "field of view" as opposed to walking directly at them.

Alarm: Deterrent



Each camera input on your NVR will be displayed as CH1, CH2, etc.

Setup: Click the button to change the default spotlight detection area. The entire view of the camera is enabled, however you can select certain areas if you wish (see page 34 - [Deterrent Setup](#)).

Schedule: Click the button to change the default spotlight schedule (see page 35 - [Deterrent Schedule](#)).

Sensitivity: This option allows you to change how sensitive the spotlight will be when your NVR has detected motion. This is independent of the camera's sensitivity for detecting motion. As an example, you may want to record movement that is happening in the background but you don't want the spotlight and or the siren to be triggered until one or more objects gets closer to the camera. For this scenario, you would adjust the sensitivity to 1 or 2.

Light Enable: Click the checkbox to enable the camera's spotlight.

Light Duration: Lets you change the length of time the spotlight will remain lit when motion has been detected. Adjust accordingly.

Siren Enable: The camera's siren is disabled by default. If the siren is required, click the drop down menu to enable (this function is only available if your camera has a built-in siren). A warning message will appear on-screen. Click "OK" to continue.

Deterrent Setup



1. Click “Clear All” to delete the default spotlight detection area.
2. To create a new spotlight detection area, press and hold the left mouse button to select the cell or square that you want to start at, then click and drag to select the area that you want to create. Release the mouse to finish.
3. Multiple areas can be created. Each individual square can be enabled to trigger the spotlight. The same action also applies to delete an area that has been created.

In the example provided, a spotlight detection area has been created for the backyard and will trigger the spotlight when one or more objects gets closer to the rear of the house.

Movement outside of the spotlight detection area will not trigger the spotlight.

Light Enable: Click the drop down menu to enable the camera’s spotlight.

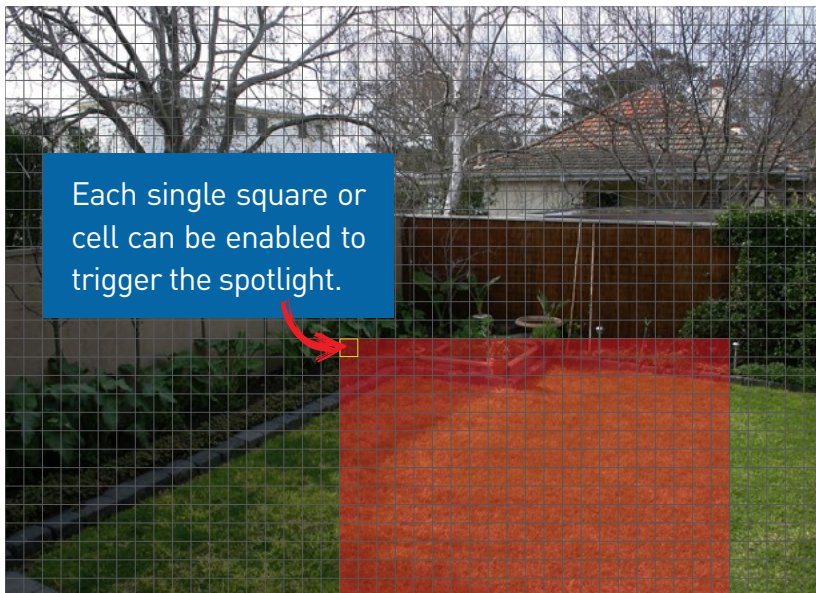
Sensitivity: Click the drop down menu to adjust the sensitivity if needed.

Siren Enable: Click the drop down menu to enable the camera’s siren. A warning message will appear on-screen. Click “OK” to continue.

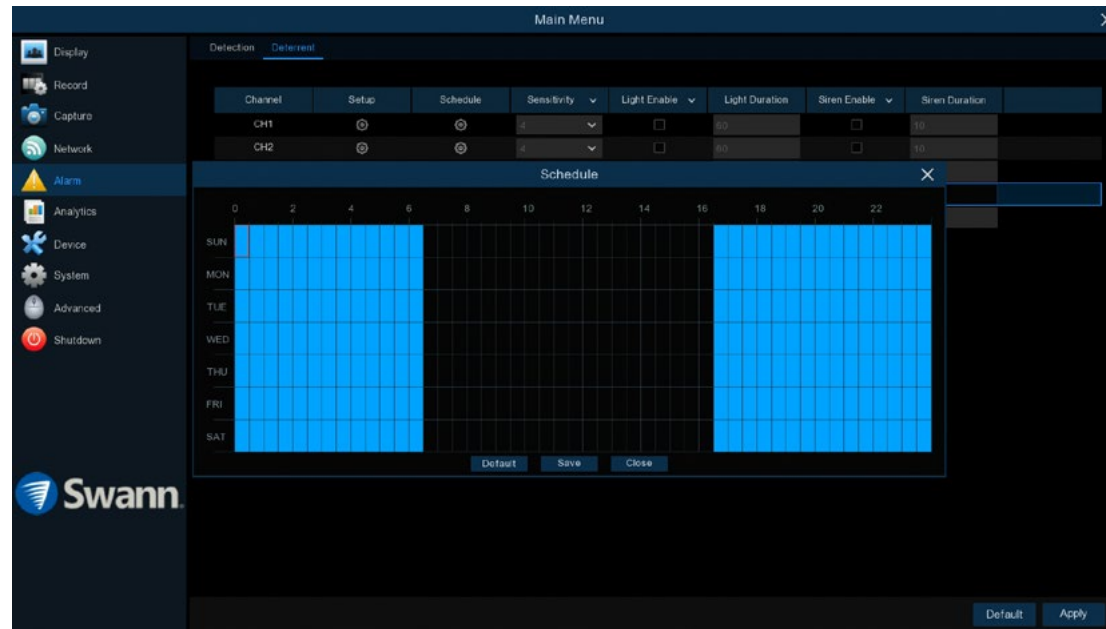
Siren Duration: Lets you change the length of time the siren will remain turned on when motion has been detected. Adjust accordingly.

4. Right-click the mouse to exit.

5. Click “Apply” to save changes made.



Spotlight Trigger Schedule



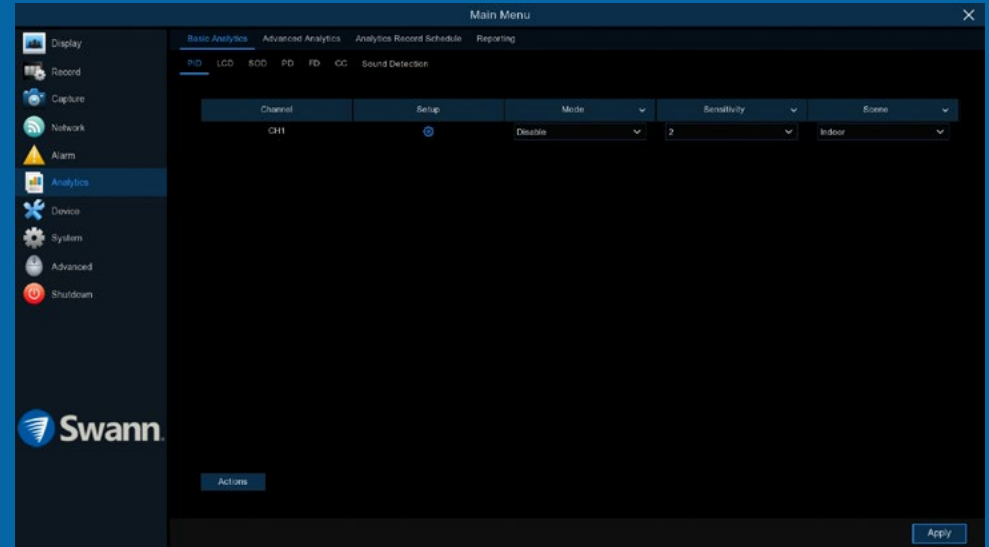
By default, the spotlight and siren will not trigger between 06:30 a.m. and 04:30 p.m., however you can change this according to your needs.

Each square represents 30 minutes. Using the mouse, click on a particular square to change or click and drag the mouse over the squares corresponding to your desired time period.

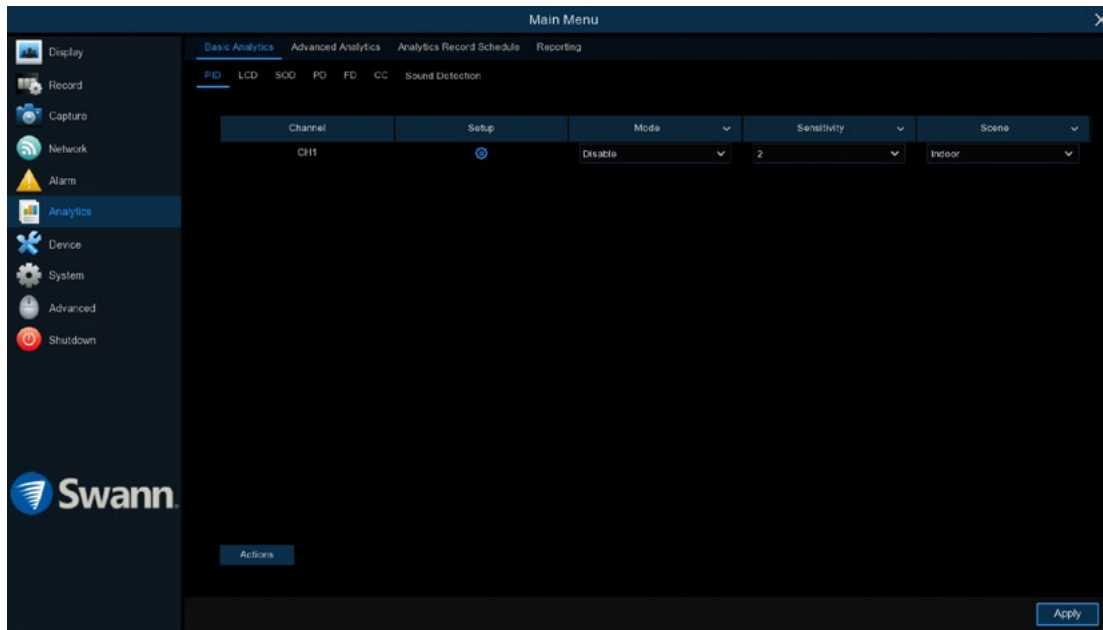
Click "Save" to save changes made. Right-click the mouse to exit.

Analytics

Analytics provides you with much greater control on how your NVR detects motion. You can enable face detection, be alerted if the camera detects static objects removed or left behind, and to count movement crossing a line that you draw on the image. By drawing a detection line, you can apply a rule on which direction your NVR detects motion, and you can also define specific intrusion areas that can alert you if one or more objects has stayed within a given time (especially helpful if people are loitering or if a car is parked where it shouldn't be).



Analytics: PID (Perimeter Intrusion Detection)



A perimeter intrusion region can be used to define specific areas that you want to monitor for motion. For example, a rule can be defined so that your NVR will alert you if one or more objects have stayed within the intrusion region for a particular time. You can also select which direction an object can enter and or exit.

→ Click “Apply” to save settings.

Each camera input on your NVR will be displayed as CH1, CH2, etc.

Setup: Click the button to draw one or more perimeter intrusion regions (see page 39 - [Drawing a Perimeter Intrusion Region](#)).

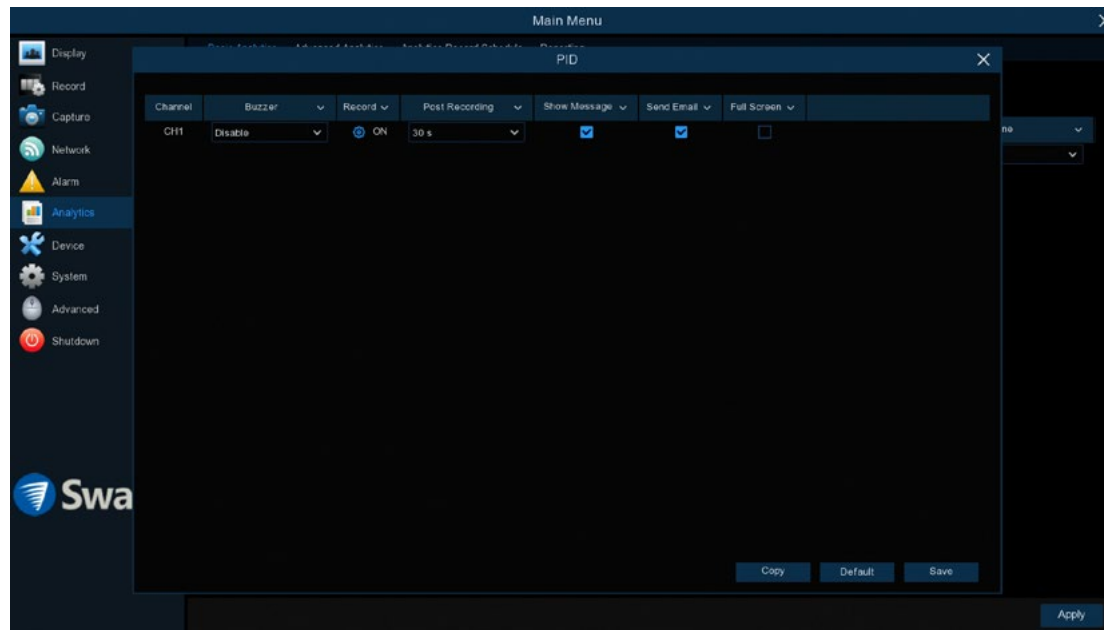
Mode: Two choices are available. Select “PID” to receive alerts when motion has been detected. Select “PID+PIR” to receive alerts when motion has been detected by the camera and the camera’s built-in PIR sensor.

Sensitivity: Adjust the sensitivity level of the perimeter intrusion region. The higher the number, the more sensitive the intrusion region will be.

Scene: Select the appropriate setting for where the camera is located.

Actions: Click the button to change options for alarm notifications, alerts and more (see page 38 - [Analytics: PID \(Perimeter Intrusion Detection\) - Actions](#)).

Analytics: PID (Perimeter Intrusion Detection) - Actions



Buzzer: When motion has been detected, you can enable the NVR's buzzer to alert you for a predetermined amount of time. Click the drop down menu to select a time.

Record (Record Channel): This option instructs your NVR to trigger additional cameras to start recording when motion has been detected. Click the "Analog Channels" checkbox to select all cameras or click on the individual camera number that you want to trigger for recording.

Post Recording: This option instructs your NVR to record for a set period of time after an event has occurred. For most instances, the default selection will be suitable, however you can change this if you wish.

Show Message: The motion icon will appear on-screen when motion has been detected. Click the checkbox if you want to disable this.

Send Email: An email alert will be sent when motion has been detected. Click the checkbox if you want to disable this.

Full Screen: Click the checkbox to view the camera full-screen in Live View mode when motion has been detected.

Click the "Save" button then click "OK". Right-click the mouse to exit.

Drawing a Perimeter Intrusion Region



To remove a perimeter intrusion region: Click the rule number checkbox to select then press the “Remove” button. Click “Remove All” if multiple regions have been drawn.

Rule Number: Click the drop down menu to select the rule number that you want to create. Up to four perimeter intrusion regions can be drawn.

Rule Switch: Leave this enabled.

Rule Type: There are three rule types that can be selected. Select the appropriate rule for the region created (each region can have a different rule).

A->B: Motion is detected when an object has crossed the line from direction A only.

B->A: Motion is detected when an object has crossed the line from direction B only.

A<->B: Motion is detected when an object has crossed the line from both directions.

Using the mouse, you need to create four points to draw a perimeter intrusion region (it can be drawn at any size). Your NVR does not allow lines to be crossed when drawing an intrusion region.

As illustrated above left, click once at the start point then move right and click once to create the second point. Move the mouse down and click once to create the third point then move left and click once to create the fourth point.

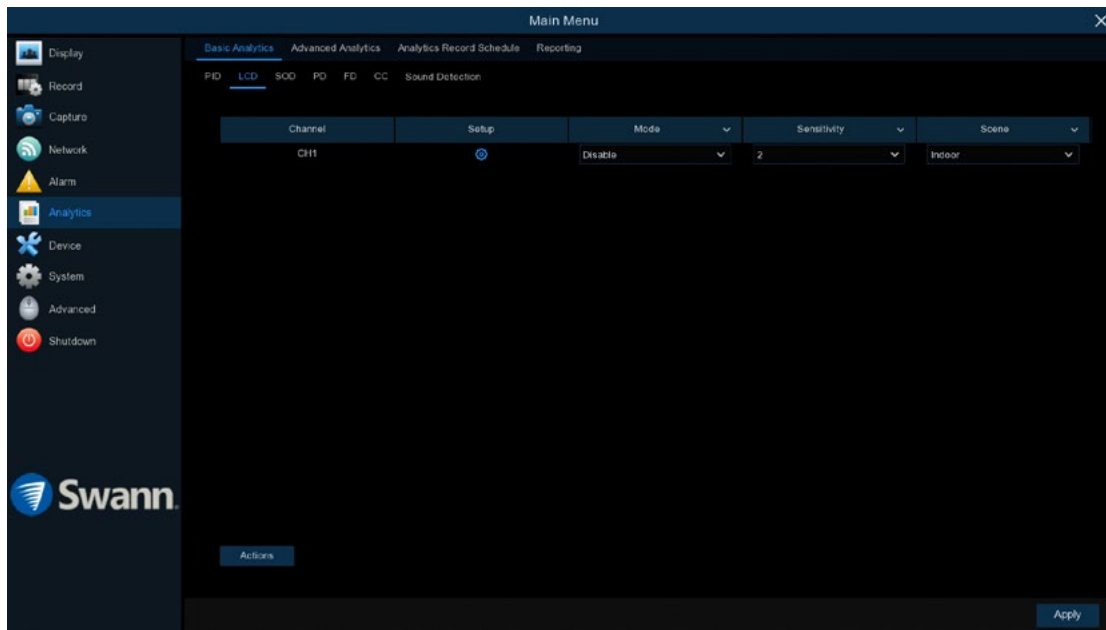
Remove: See above right example.

Remove All: Click this to remove all perimeter intrusion regions.

Save: Click this to save any changes made then click “OK” to continue.

Right-click to exit.

Analytics: LCD (Line Crossing Detection)



By drawing a detection line (it can be drawn at any orientation, length or angle), you can apply a rule on which direction your NVR detects motion. As an example, this can be used to detect people jumping a fence or entering and or exiting a doorway.

→ Click “Apply” to save settings.

Each camera input on your NVR will be displayed as CH1, CH2, etc.

Setup: Click the “Setup” button to draw one or more detection lines (see page 42 - [Drawing a Detection Line](#)).

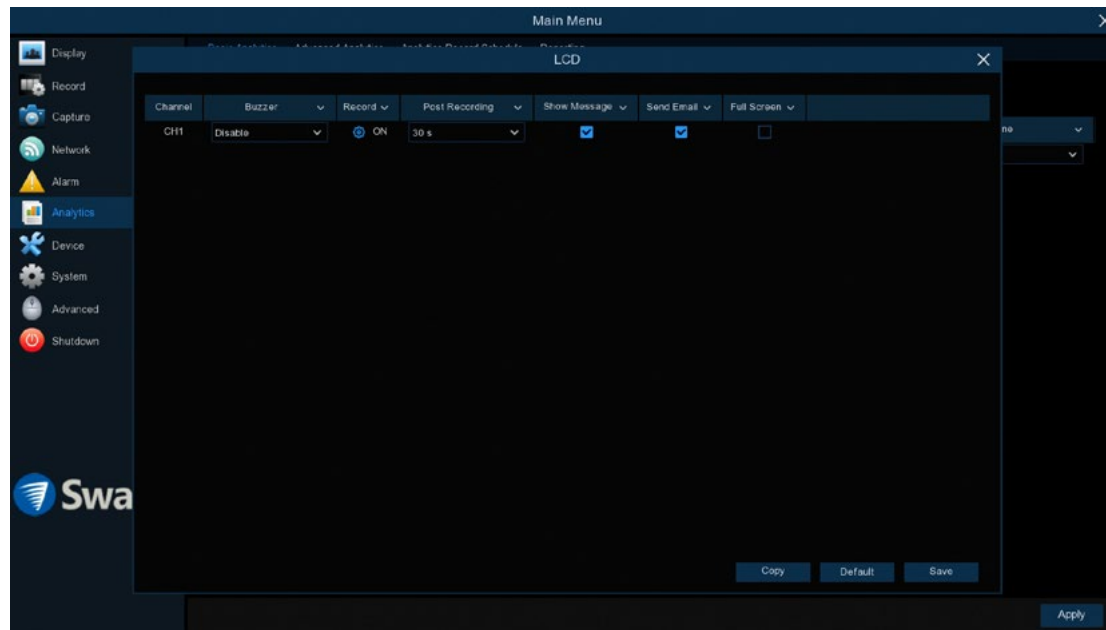
Mode: Two choices are available. Select “LCD” to receive alerts when motion has been detected. Select “LCD+PIR” to receive alerts when motion has been detected by the camera and the camera’s built-in PIR sensor.

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

Scene: Select the appropriate setting for where the camera is located.

Actions: Click the button to change options for alarm notifications, alerts and more (see page 41 - [Analytics: LCD \(Line Crossing Detection\) - Actions](#)).

Analytics: LCD (Line Crossing Detection) - Actions



Buzzer: When motion has been detected, you can enable the NVR's buzzer to alert you for a predetermined amount of time. Click the drop down menu to select a time.

Record (Record Channel): This option instructs your NVR to trigger additional cameras to start recording when motion has been detected. Click the "Analog Channels" checkbox to select all cameras or click on the individual camera number that you want to trigger for recording.

Post Recording: This option instructs your NVR to record for a set period of time after an event has occurred. For most instances, the default selection will be suitable, however you can change this if you wish.

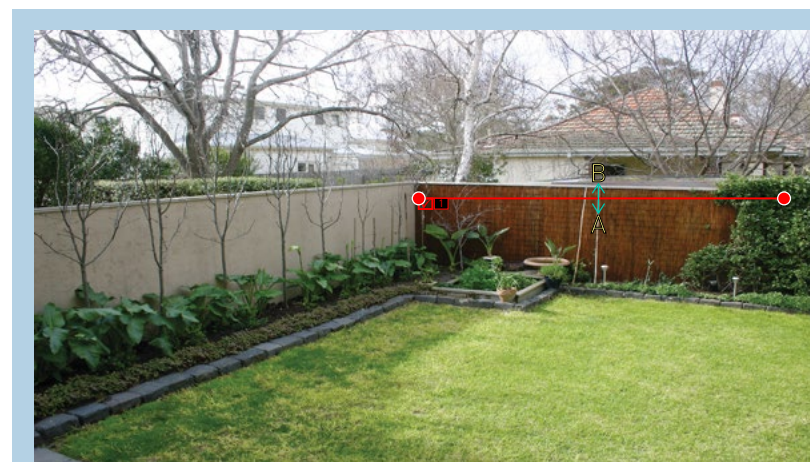
Show Message: When motion has been detected, the motion icon will appear on-screen. Click the checkbox if you want to disable this.

Send Email: Click the checkbox to enable your NVR to send an email alert when motion has been detected.

Full Screen: Click the checkbox to view the camera full-screen in Live View mode when motion has been detected.

Click the "Save" button then click "OK". Right-click the mouse to exit.

Drawing a Detection Line



To remove a detection line: Click the rule number checkbox to select then press the “Remove” button. Click “Remove All” if multiple lines have been drawn.

Rule Number: Click the drop down menu to select the rule number that you want to create. Up to four detection lines can be drawn.

Rule Switch: Leave this enabled.

Rule Type: There are three rule types that can be selected. Select the appropriate rule for the line drawn (each line can have a different rule).

A->B: Motion is detected when an object has crossed the line from direction A only.

B->A: Motion is detected when an object has crossed the line from direction B only.

A<->B: Motion is detected when an object has crossed the line from both directions.

Using the mouse, click once at the start point then click again at the end point. A detection line will be drawn between the two points. Direction A and direction B will be shown, denoting the rule that you can apply to the detection line. A detection line can be drawn at any orientation, length or angle.

As illustrated above left, a detection line has been drawn across the fence line. When selecting rule B->A, motion is detected when an object has crossed the line from direction B only.

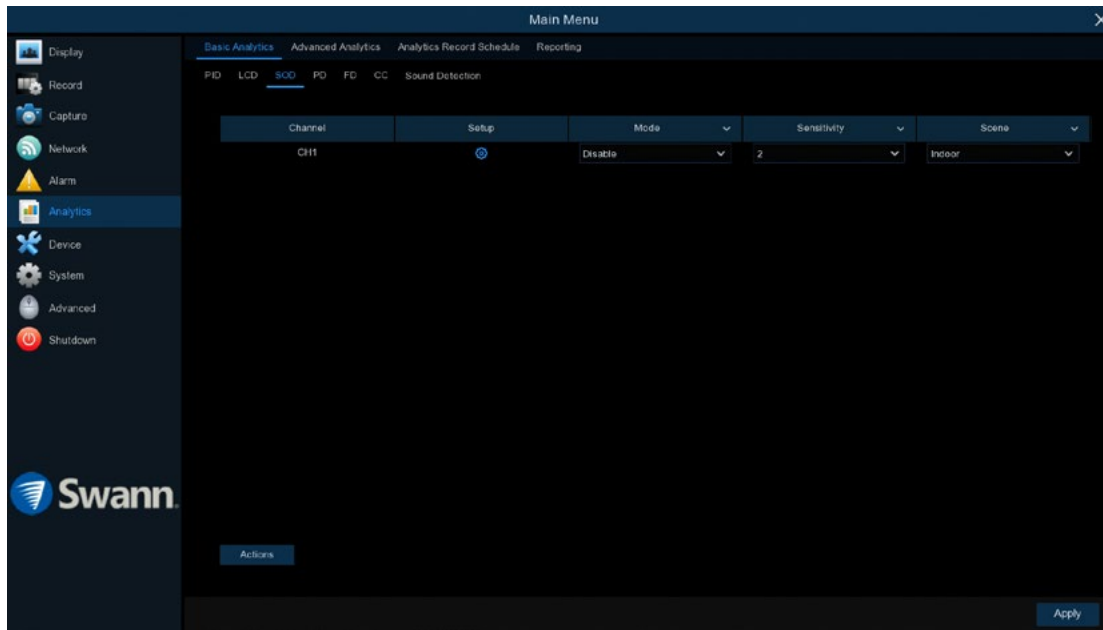
Remove: See above right example.

Remove All: Click this to remove all detection lines.

Save: Click this to save any changes made then click “OK” to continue.

Right-click to exit.

Analytics: SOD (Stationary Object Detection)



This function can be used to monitor static objects in and around your home. By drawing an area around an object, if that object is removed, your NVR will trigger recording and alert you to an event. Protect valuables or use it on your porch to detect a parcel delivered.

→ Click “Apply” to save settings.

Each camera input on your NVR will be displayed as CH1, CH2, etc.

Setup: Click the “Setup” button to draw one or more detection lines (see page 45 - [Drawing an Object Detection Region](#)).

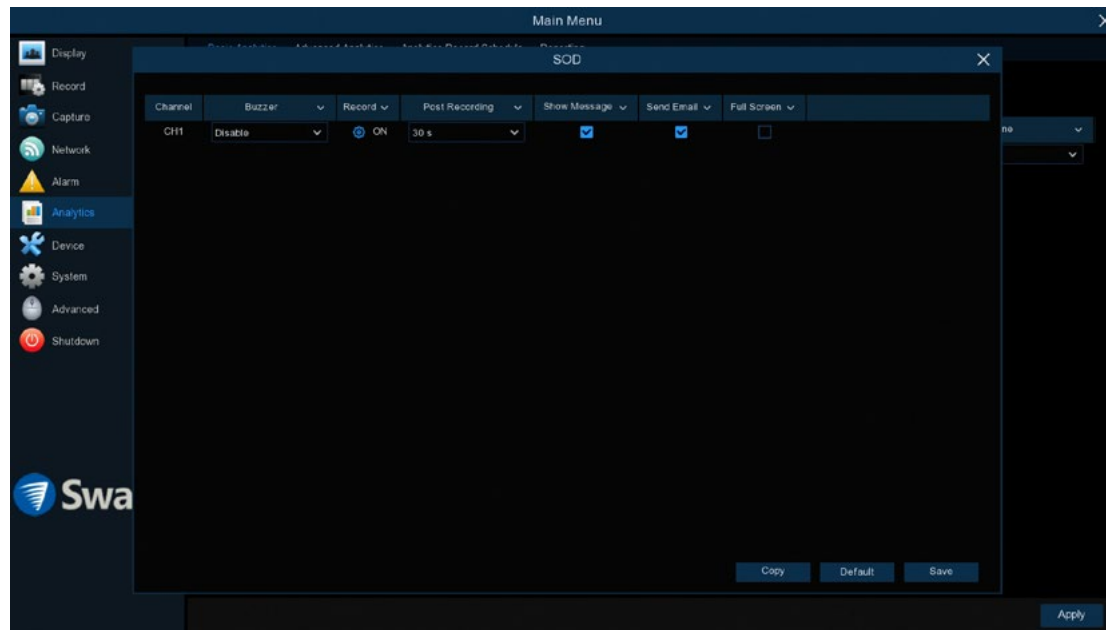
Mode: Two choices are available. Select “SOD” to receive alerts when motion has been detected. Select “SOD+PIR” to receive alerts when motion has been detected by the camera and the camera’s built-in PIR sensor.

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

Scene: Select the appropriate setting for where the camera is located.

Actions: Click the button to change options for alarm notifications, alerts and more (see page 44 - [Analytics: SOD \(Stationary Object Detection\) - Actions](#)).

Analytics: SOD (Stationary Object Detection) - Actions



Buzzer: When motion has been detected, you can enable the NVR's buzzer to alert you for a predetermined amount of time. Click the drop down menu to select a time.

Record (Record Channel): This option instructs your NVR to trigger additional cameras to start recording when motion has been detected. Click the "Analog Channels" checkbox to select all cameras or click on the individual camera number that you want to trigger for recording.

Post Recording: This option instructs your NVR to record for a set period of time after an event has occurred. For most instances, the default selection will be suitable, however you can change this if you wish.

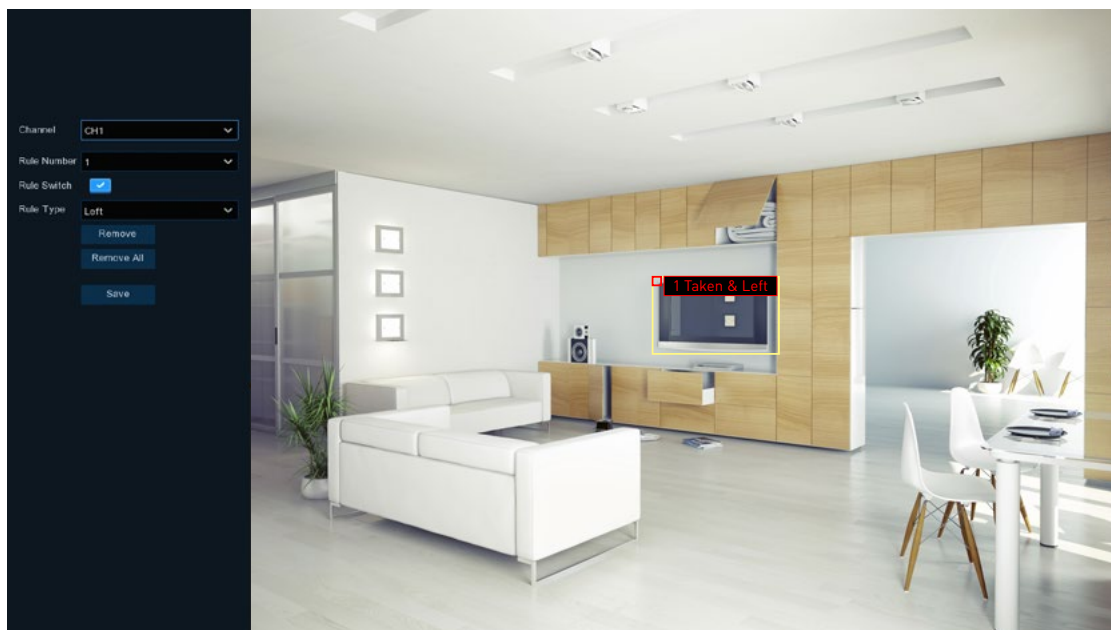
Show Message: The motion icon will appear on-screen when motion has been detected. Click the checkbox if you want to disable this.

Send Email: An email alert will be sent when motion has been detected. Click the checkbox if you want to disable this.

Full Screen: Click the checkbox to view the camera full-screen in Live View mode when motion has been detected.

Click the "Save" button then click "OK". Right-click the mouse to exit.

Drawing an Object Detection Region



To remove an object detection region: Click the rule number checkbox to select then press the “Remove” button. Click “Remove All” if multiple regions have been drawn.

Rule Number: Click the drop down menu to select the rule number that you want to create. Up to four object detection regions can be drawn.

Rule Switch: Leave this enabled.

Rule Type: Only one rule type is available.

Taken & Left: An event will occur when an object has been taken or removed and or when an object has been left within the object detection region.

Using the mouse, you need to create four points to draw an object detection region (it can be drawn at any size). Your NVR does not allow lines to be crossed when drawing a detection region. Make sure the detection region is greater than or equal to the size of the detected object.

As illustrated above left, click once at the start point then move right and

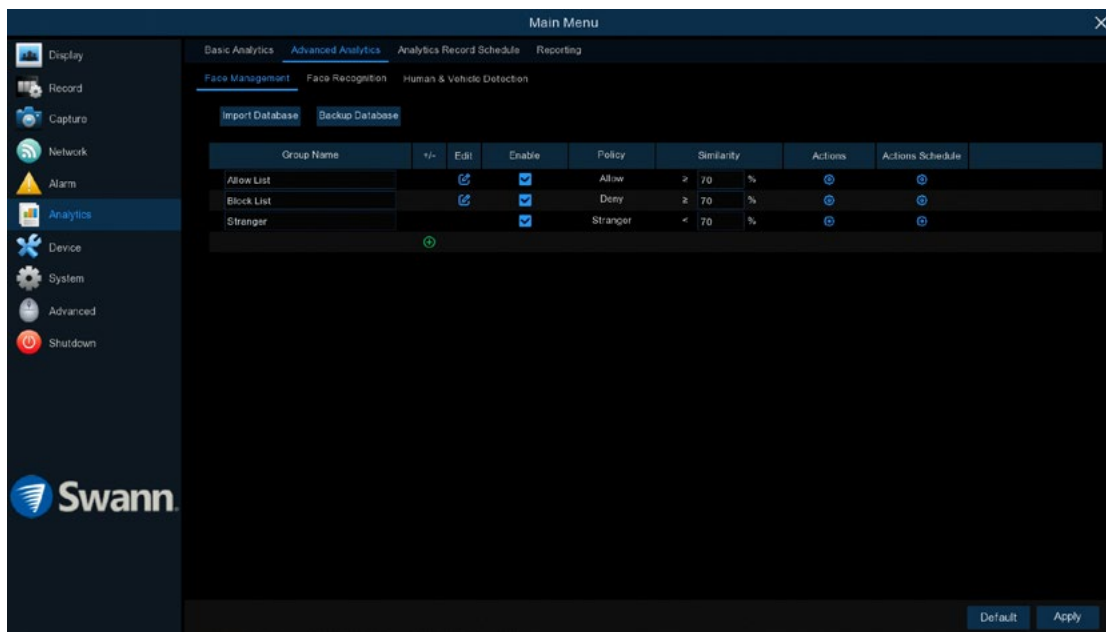
click once to create the second point. Move the mouse down and click once to create the third point then move left and click once to create the fourth point.

Remove: See above right example.

Remove All: Click this to remove all object detection regions.

Save: Click this to save any changes made then click “OK” to continue.
Right-click to exit.

Analytics: Advanced Analytics: Face Management



Use the Face Management section to create and manage face profiles in the Allow List and Block List groups, configure face matching similarity threshold, and customize group actions that will be taken when Face Recognition events are detected in the areas being monitored by compatible cameras.

- Click “Default” to revert to default settings.
- Click “Apply” to save settings.

Each camera input on your NVR will be displayed as CH1, CH2, etc.

Import Database: Restore the backup of the Allow List/Block List group’s settings and face profiles from an external storage device (e.g., USB flash drive). Please note that this will overwrite the group’s existing settings and face profiles.

Backup Database: Save the Allow List/Block List group’s current settings (Enable, Similarity, Actions, etc) and face profiles to an external storage device (e.g., USB flash drive) as a database (*.db) file.

Group Name: The name of the group. By default, there are three preset groups - Allow List, Block List, and Stranger. Unrecognized faces will initially be classified as Strangers. You can change the default group name by clicking in the field and typing the new name.

+/-: Click the icon to add a custom face group.

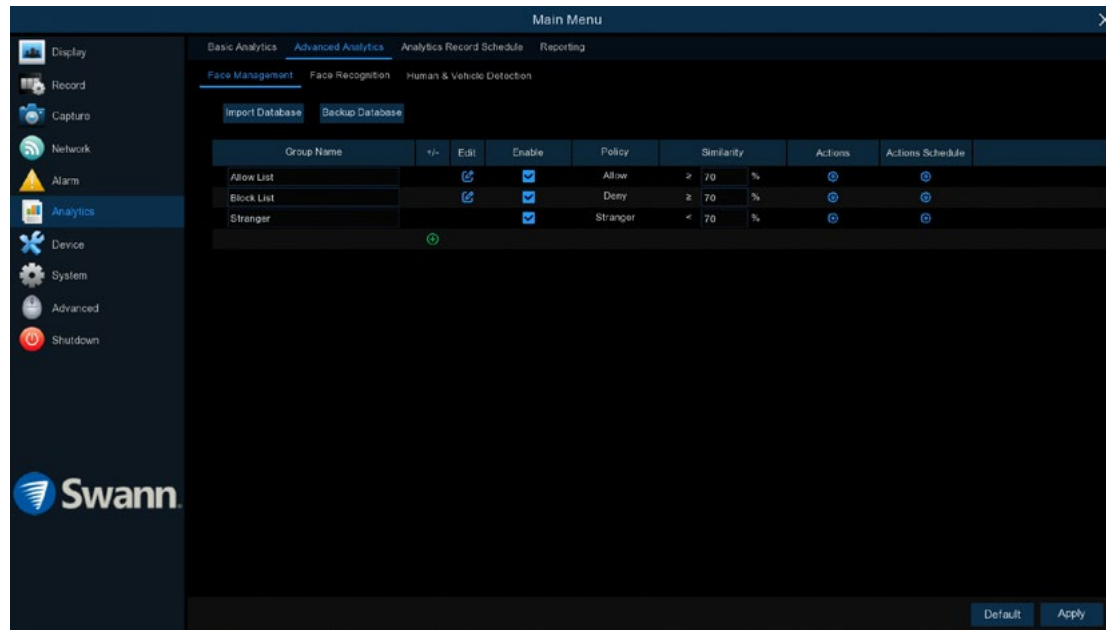
Edit: Click the icon to manage the Allow List/Block List group’s face profiles. You can search for faces in the database and create face profiles for people as well as add multiple face images to existing profiles to improve face recognition accuracy. (See “Creating Face Profiles” on page 52).

Enable: If the checkbox is not enabled, no actions specified for the group such as alarm notifications will be performed by the NVR.

Policy: This setting is non-configurable for the three preset face groups. If you have added a custom group, you can set the policy of your custom group to one of the following - Allow, Deny or Advance.

(continued on next page)

Analytics: Advanced Analytics: Face Management



Similarity: Set how closely, in percentage terms, the detected face must match a face profile in the group to be considered a recognized match. The default threshold is 70%. Higher similarity % will result in fewer false recognition results.

Actions: Click the button to specify the group actions to be taken by the NVR when a Face Recognition event has occurred. You have options to save images of the detected face, enable event notifications, and more (see “Analytics: Advanced Analytics: Face Management: Actions” on page 48).

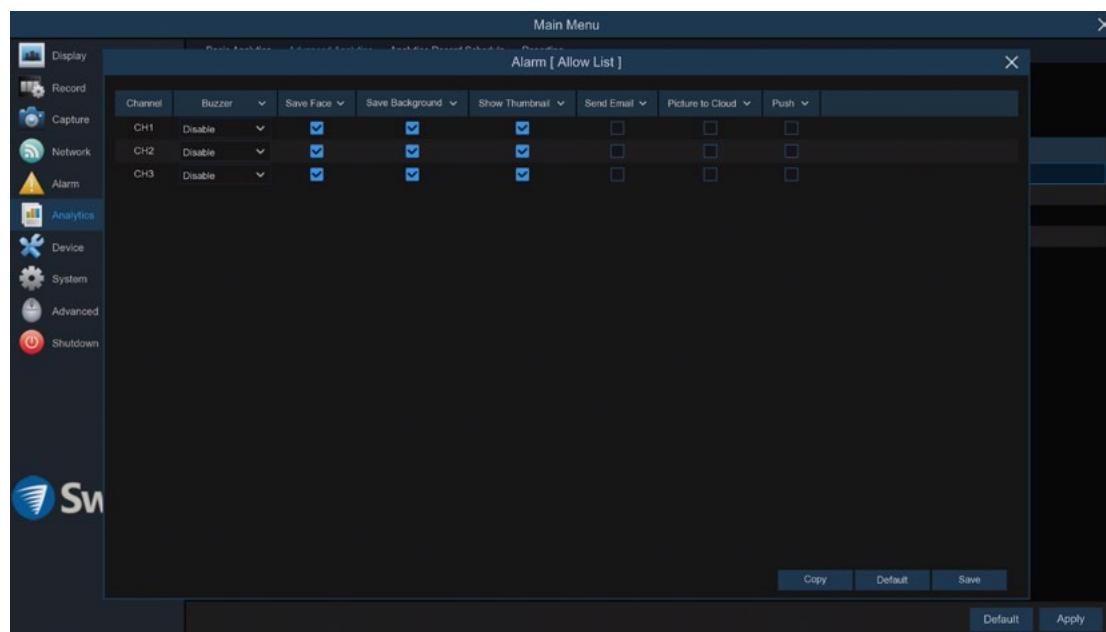
Actions Schedule: Click the button to edit the schedule (i.e., times of the day) of when actions specified for the group will take effect.



TIP

Make sure the “**Enable**” checkbox for the **Stranger** group is ticked. This allows the NVR to save the images of every single face detected, including those that do not match any existing face profiles, to the database. You can later use these face images to create or improve face profiles in the Allow List/Block List groups.

Analytics: Advanced Analytics: Face Management: Actions



Buzzer: You can enable the NVR's buzzer to alert you for a predetermined amount of time when a Face Recognition event has occurred. Click the drop-down menu to select a time.

Save Face: Whether the snapshot of the recognized face will be saved to the face database on the local storage. Leave this option enabled so more facial images can be added to profiles later to improve face recognition accuracy.

Save Background: Whether the snapshot of the background will be saved together with the face image. Leave this option enabled so that when performing advanced face search (Search > Advanced), you can right-click the face image and select "Detail Information" to view a snapshot of the background.

Show Thumbnail: Whether to generate a Face Recognition event notification that includes a snapshot of the recognized face via the Analytics notification

panel. Disabling this option will stop Face Recognition events from appearing in the Analytics notification panel.

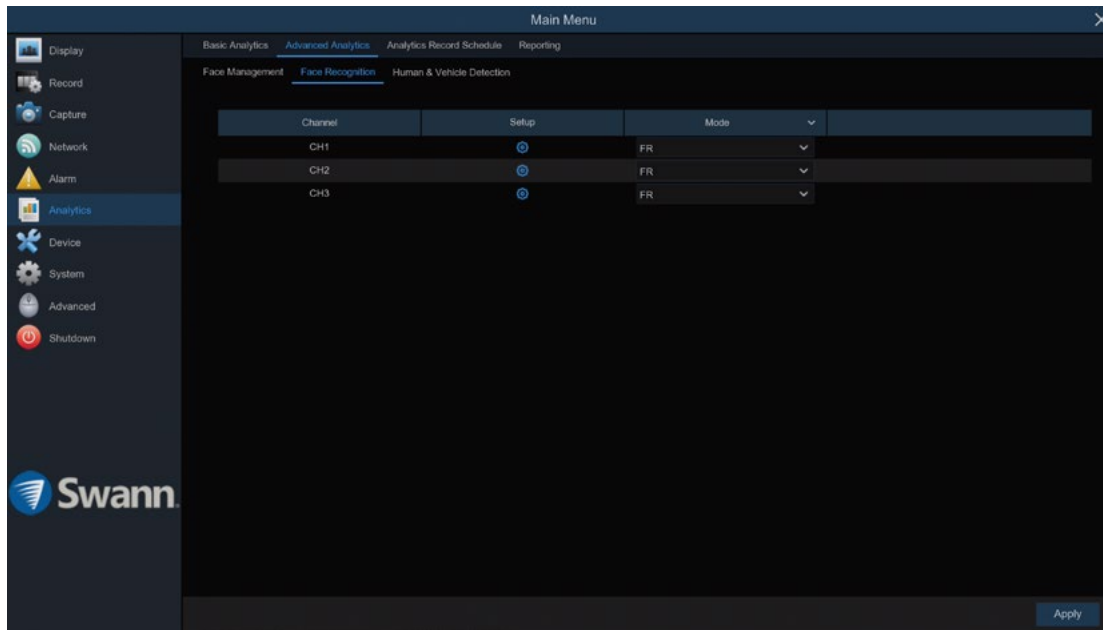
Send Email: Click the checkbox to enable your NVR to send an email alert when a Face Recognition event has occurred.

Picture to Cloud: Click the checkbox to copy snapshots to the cloud via Dropbox (see Device: Cloud Storage).

Push: Click the checkbox to receive push notifications via the Swann Security app (a push notification is the delivery of information to a mobile device from an application server).

Click the "Save" button then click "OK". Right-click the mouse to exit.

Analytics: Advanced Analytics: Face Recognition



Please note that the Face Recognition video analytic is available only on the following compatible Swann camera models:

- SWNHD-887MSB
- SWNHD-887MSFB

→ Click “Apply” to save settings.

Each camera input on your NVR will be displayed as CH1, CH2, etc.

Setup: Click the button to change the camera’s default face recognition video analytic settings such as the minimum pixel size for face recognition and the detection area.

Mode: Three choices are available:

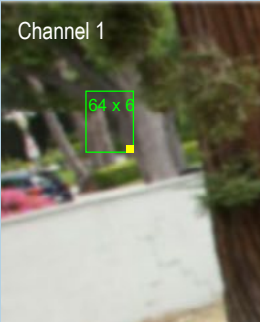
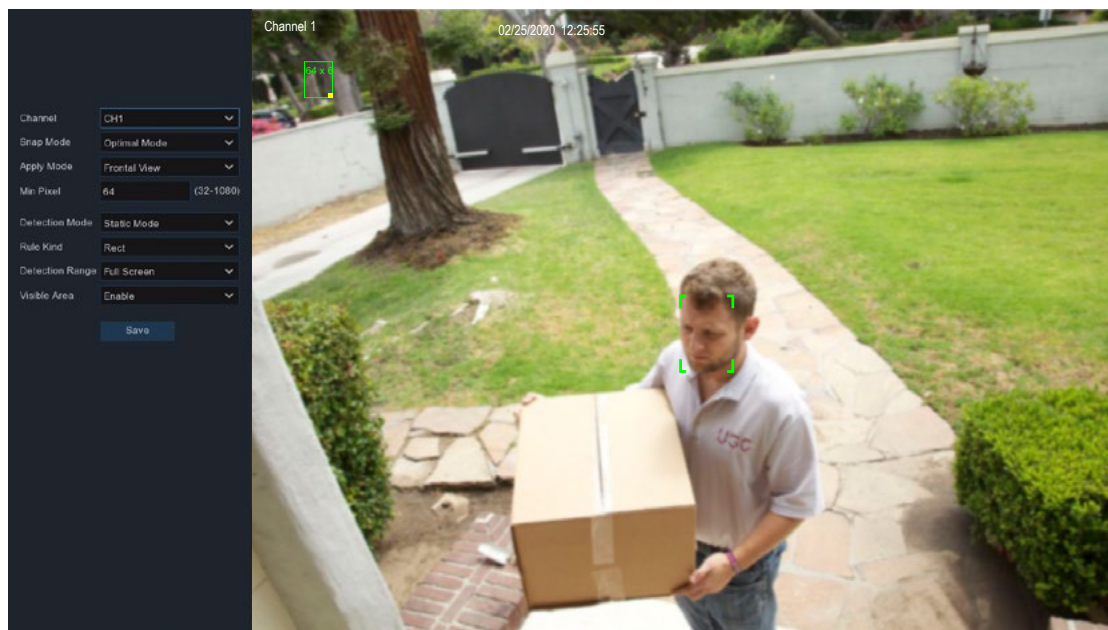
- Select “FR” to enable Face Recognition (FR) on the camera and record video whenever the camera sees a face in the FR detection area.
- Select “FR+PIR” to enable Face Recognition (FR) on the camera but record video only when the camera sees a face in the FR detection area and detects movement (with PIR sensor) at the same time.
- Select “Disable” to deactivate Face Recognition on the camera.



TIP


When the Face Recognition video analytic is enabled on the camera, Human & Vehicle Detection will be disabled, and vice-versa. It is not possible to activate both advanced analytics on the camera at the same time.

Configuring the Camera FR Analytic Settings



The green outlined box with a yellow square in the bottom right corner represents the **Min Pixel** value specified. This means a face in the detection area must be at least the size of this box (relative to the view) to trigger a FR event. Click and drag the yellow square to adjust the size of the **Min Pixel** box and its value. Click anywhere in the box and drag within the viewing area to measure and check face sizes.

When the camera recognizes a face, a green tracking frame surrounding the face appears. These green tracking frames can be seen during Live View (mainstream only) and FR video event playback.



Channel: Select the camera that you would like to configure FR.

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

- In **Real Time Mode**, the camera tracks and captures the face of someone entering and leaving the FR detection area. You'll get two notifications in the Analytics Notification panel - once when the face is first detected and again as the face leaves the detection area. This mode is useful if you want to continuously monitor someone's presence in an area and get alerts in real-time.
- In **Optimal Mode**, a single, best snapshot of the face is captured.
- In **Interval Mode**, you can specify the number of snapshots to take and the time interval between snapshots.

Apply Mode: Frontal View - The FR engine is optimized to scan for faces approaching the camera straight-on; **Multi Angle** - The FR engine is optimized to scan for faces approaching the camera from different angles.

Min Pixel: The minimum face size in pixels. The smaller the number of pixels, the more faces the camera can recognize. The default value is 64. If the camera is recognizing too many unwanted distant faces, try increasing the minimum pixel value to train the camera to look for larger faces (closer distance).

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

Rule Kind: Leave as **Rect**.

(continued on next page)

Configuring the Camera FR Analytic Settings



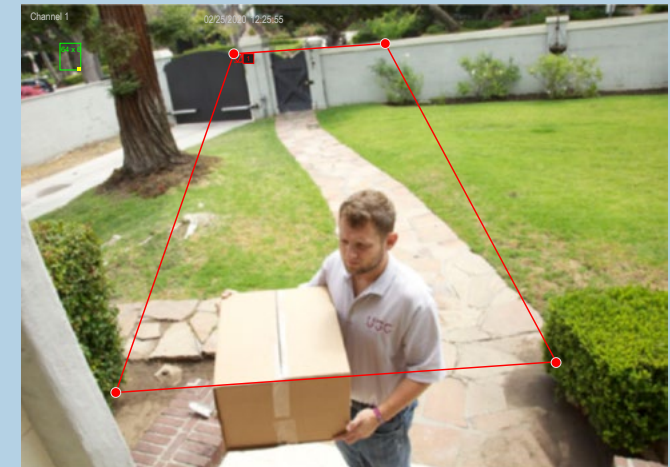
Detection Range: The entire view (i.e., **Full Screen**) of the camera is enabled for FR. Select **Customize** to change the default detection area.

Visible Area: Leave as **Enable**. If **Disable** is selected, the green tracking frame that surrounds a detected face will not be visible during Live View and FR video event playback.

Save: Click this button to save any changes you've made to the FR video analytic settings. Right-click to exit without saving.


Customizing the Face Recognition detection area

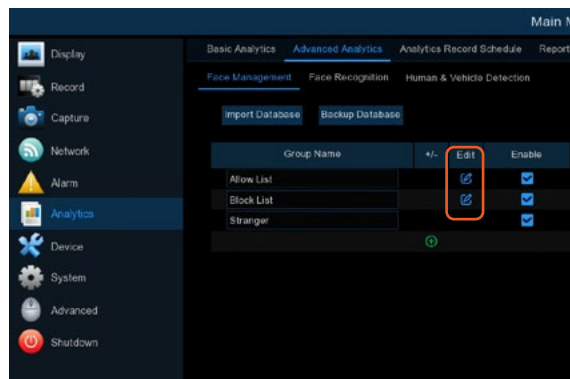
1. From the **Detection Range** dropdown list, select **Customize**. A rectangle with red border is displayed in the viewing area, as shown in the example on the left.
2. Click and drag any red circle (sizing handle) in the corners of the rectangle to shape and customize the Face Recognition detection area. You can resize the rectangle to any shape (polygon) or size to exclude the area in which Face Recognition is not needed. See below for an example.



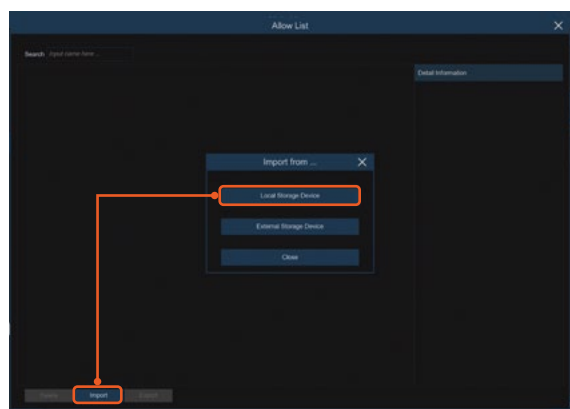
3. Once done, click the **Save** button.

Creating Face Profiles

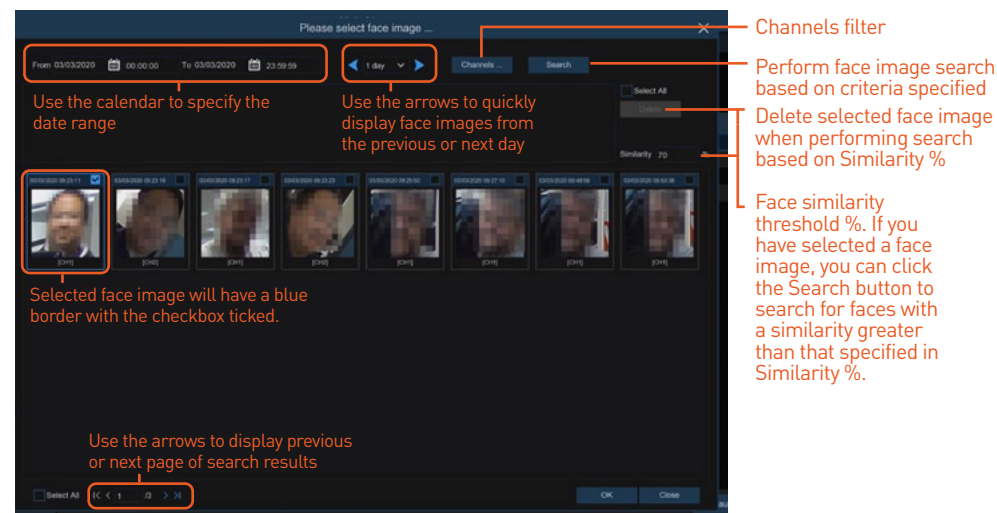
1. From **Face Management**, click the  **Edit** button of the Allow List/Block List group for which you would like to create face profiles.



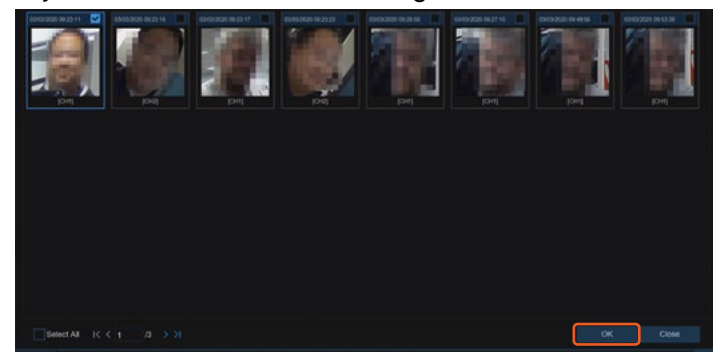
2. From the Group window, click the **Import** button then click the **Local Storage Device** button to browse the database of face images that have been captured and stored on the NVR. If necessary, you can also browse face images that were previously exported to an external storage device (e.g., USB flash drive) by clicking **External Storage Device**.



3. Select a face image of the person for which you would like to create a face profile by clicking on the checkbox. Don't select multiple face images of the same person. Only select multiple face images if creating face profiles for different people. You can add more face images of the same person once the face profile has been created (see step 7).



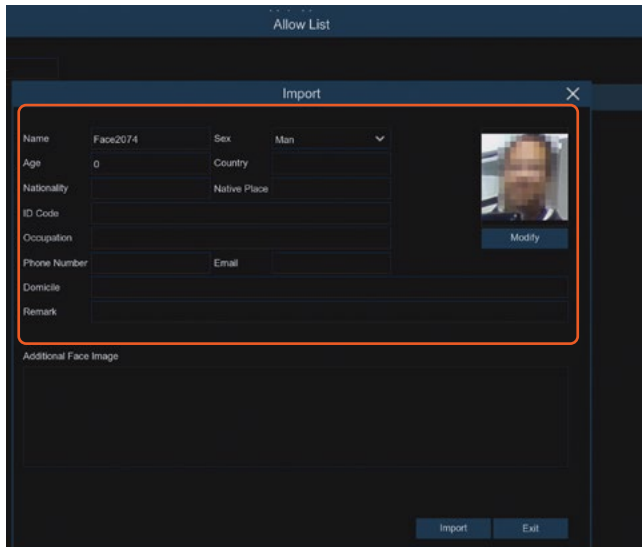
4. Once you've selected the face image(s), click the **OK** button.



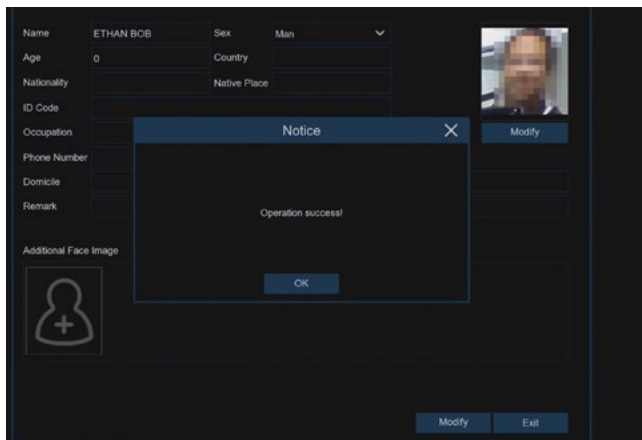
(continued on next page)

Creating Face Profiles

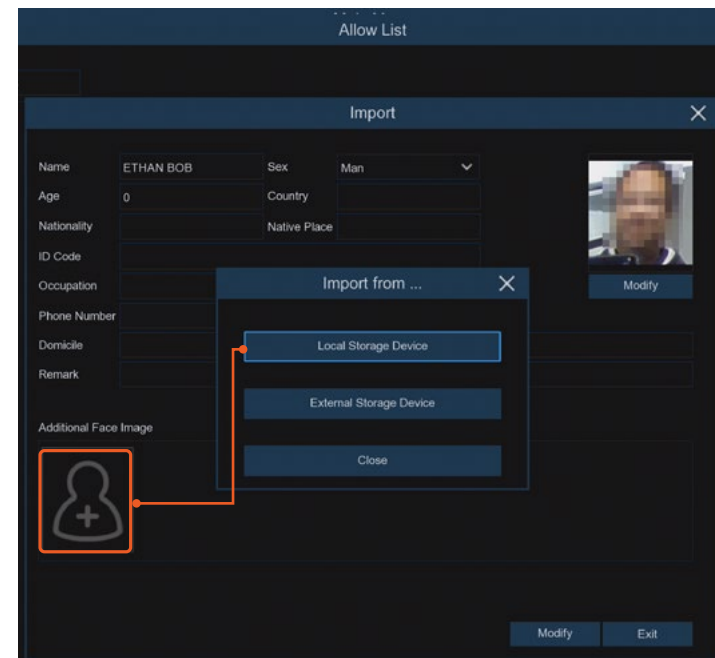
5. Enter personal identification details such as the person's name and age. Each face image, by default, is given a Face ID as its name.
7. You can add multiple face images to each face profile. This trains the FR analytic engine to detect the person from various angles and different facial expressions.



6. Once done, click the **Import** button. The face profile of the person is now created and assigned to the group.



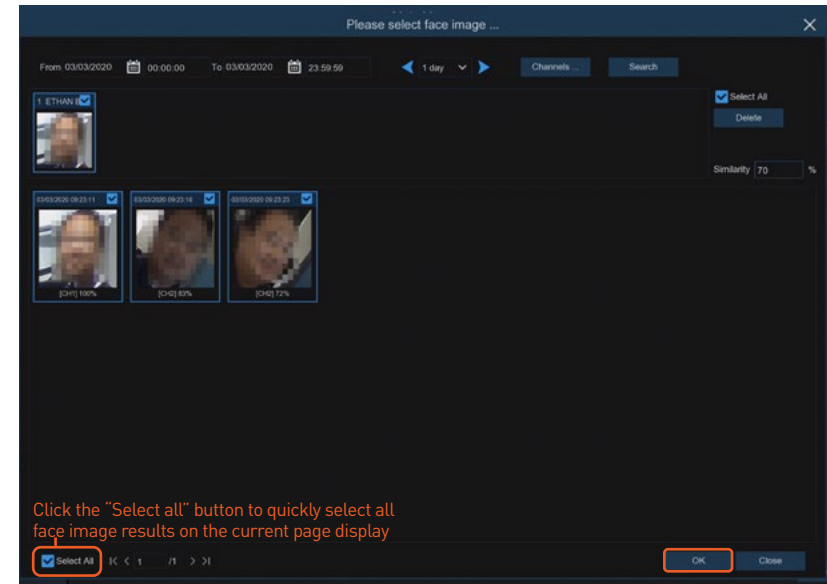
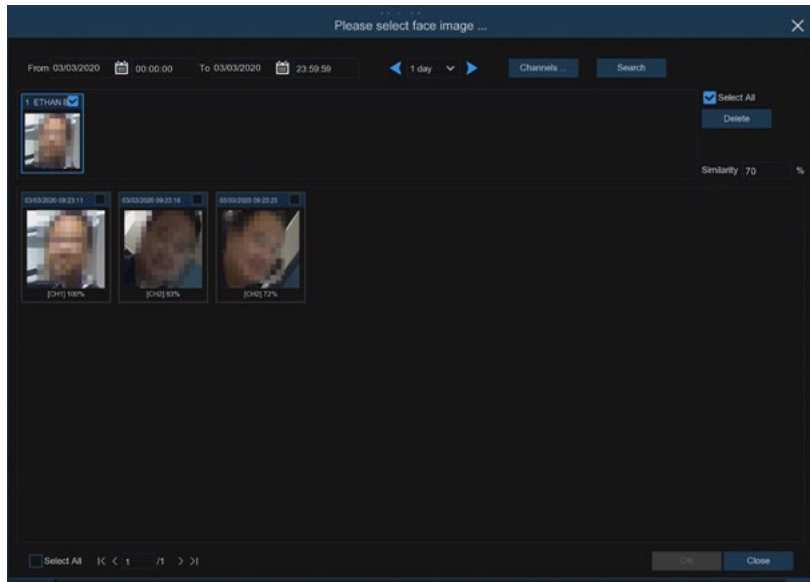
Click on the  icon under **Additional Face Image** then click **Local Storage Device**.



(continued on next page)

Creating Face Profiles

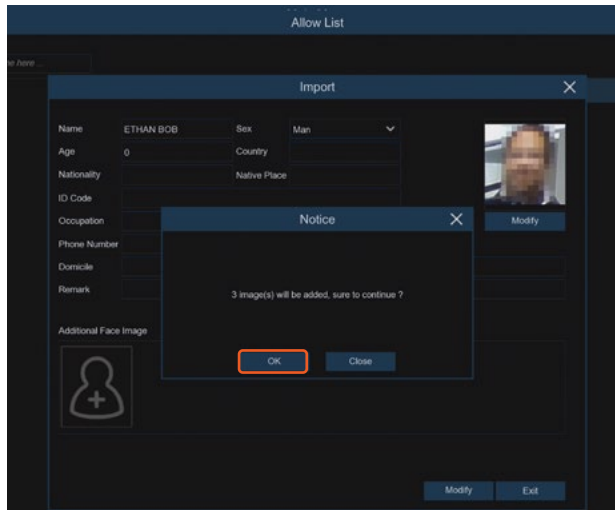
- All similar face images that have been found in the database for the current date are displayed with their percentage match (default similarity 70%) in the search results. To display more results, change the **Date Range** and **Similarity** threshold %, then click the **Search** button.
- Select the checkbox of each face image you want to add, then click the **OK** button.



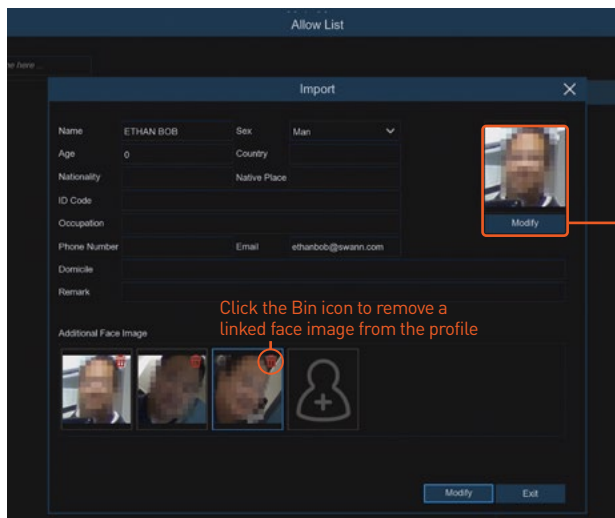
(continued on next page)

Creating Face Profiles

1. Click the **OK** button on the popup box displayed to confirm the number of face images that will be added.

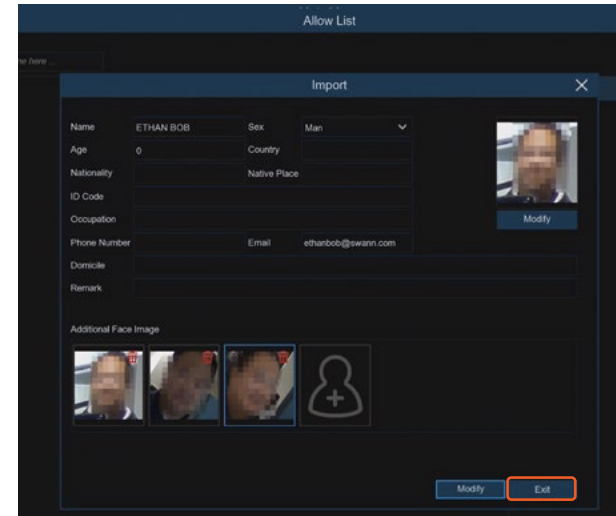


2. You can view all of the face images associated with the profile in the Additional Face Image section.



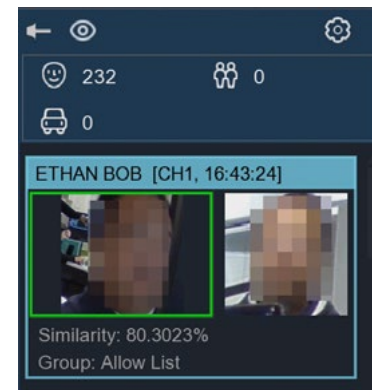
Click the Modify button to change the profile picture

3. Click the **Exit** button to return to the Group window. If you have updated any face identification fields including the profile picture, click the **Modify** button beside the **Exit** button to save the changes first.



TIP

The NVR will alert you via the Analytics Notification Panel (see below) when a face recognition event has occurred. Each notification will contain the snapshot of the matching face (with a green border) as well as the name, channel, detection time, similarity %, and group name. Double-click the notification to quickly playback the recording of the FR event.



Managing Face Profiles in the Group

Search for a face profile by name

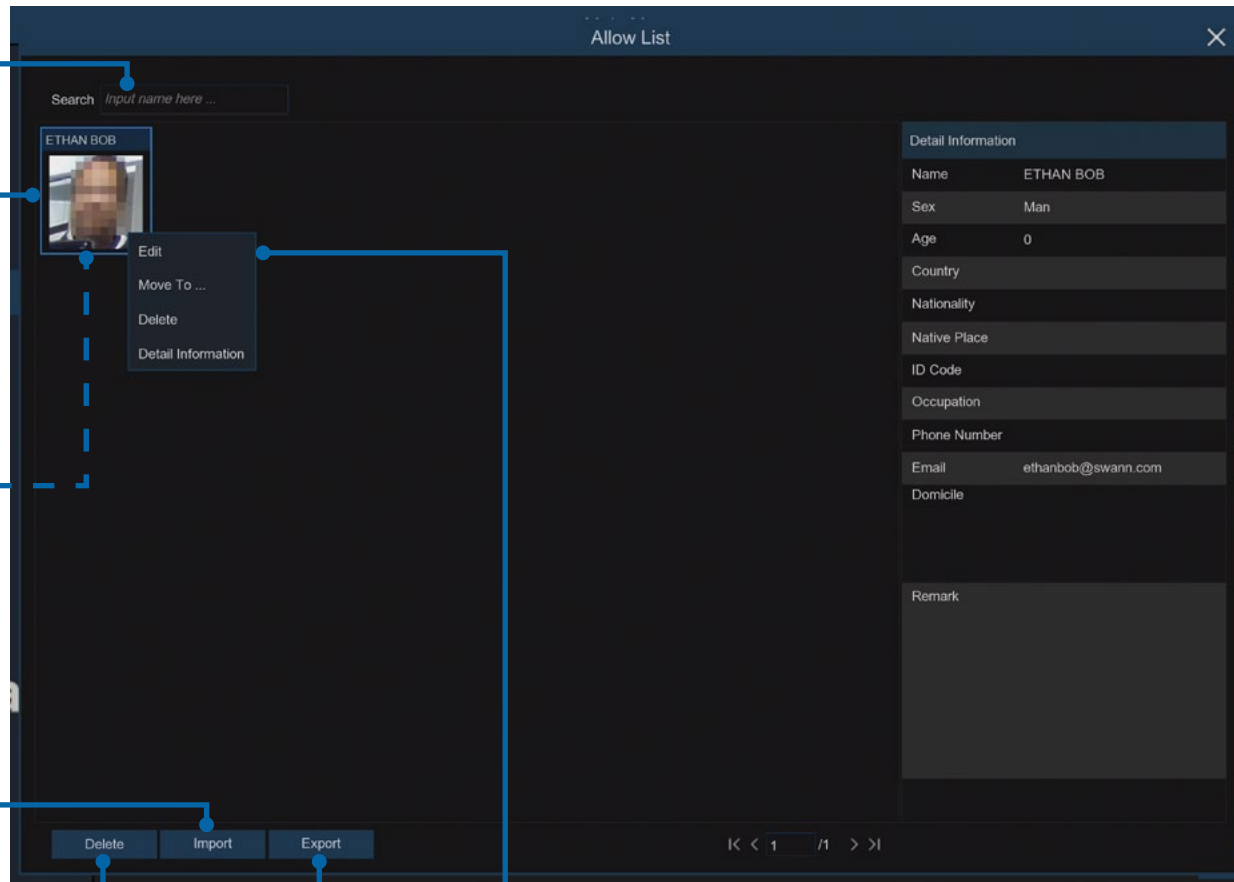
Click to select the face profile and view identification details in the Detail Information panel

To select more than one face profile for deletion or export, click and drag the mouse cursor over the face profiles. A selected face profile will have a blue border surrounding it

Click to create a new face profile

Click to delete selected face profile(s)

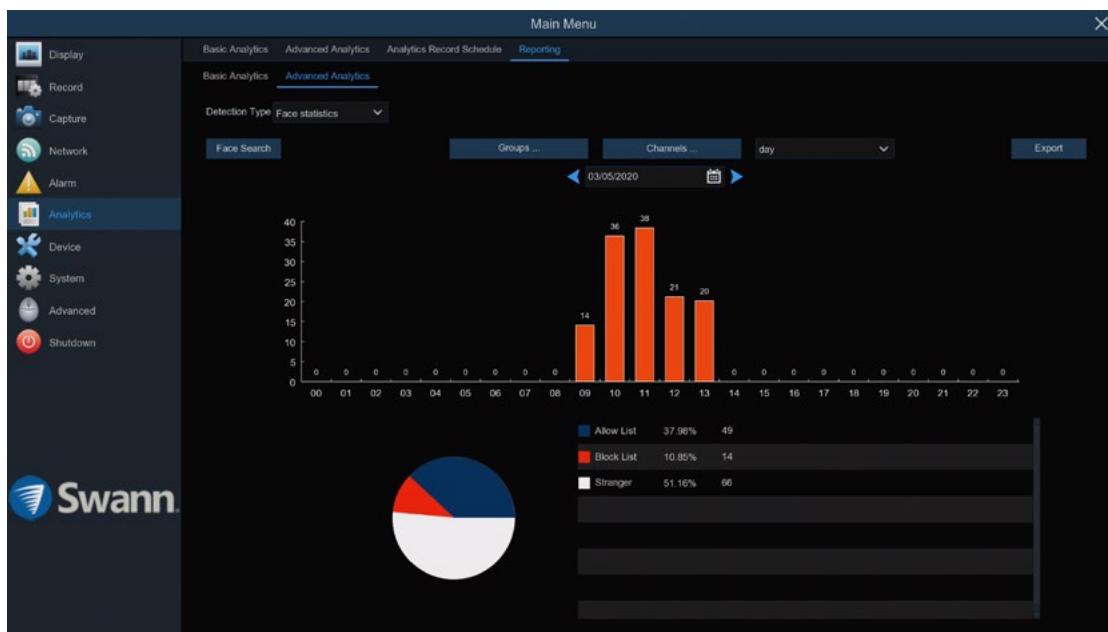
Click to save all the face images associated with the selected face profile(s) to an external storage device (e.g., USB flash drive) in *.jpg format. This requires a USB flash drive to be inserted into the NVR.



Right-click on a face profile to display the following options:

- **Edit** - Lets you edit identification details, change the face profile picture, and add more face images to the face profile
- **Move to** - Lets you move the face profile to another group
- **Delete** - Lets you delete the face profile from the group
- **Detail Information** - Opens a separate Detail Information window where you can view all the face images associated with the profile as well as identification details

Reporting: Advanced Analytics: Face Statistics



The NVR can retrieve and present statistical data relating to the detection of faces when Face Recognition video analytic is enabled on the camera. The bar chart displays the number of faces that were detected during a particular time period while the pie chart displays the percentage share and frequency of detected faces belonging to each group.

Face Search: Click to display the **Search > Advanced > Face** window where you can browse for all occurrences of Face Recognition events, compare faces, and playback recordings.

Groups: Select the groups from which the face recognition data is obtained. By default, all groups have been selected.

Channels: Select the channels from which the face recognition data is obtained. By default, all channels have been selected.

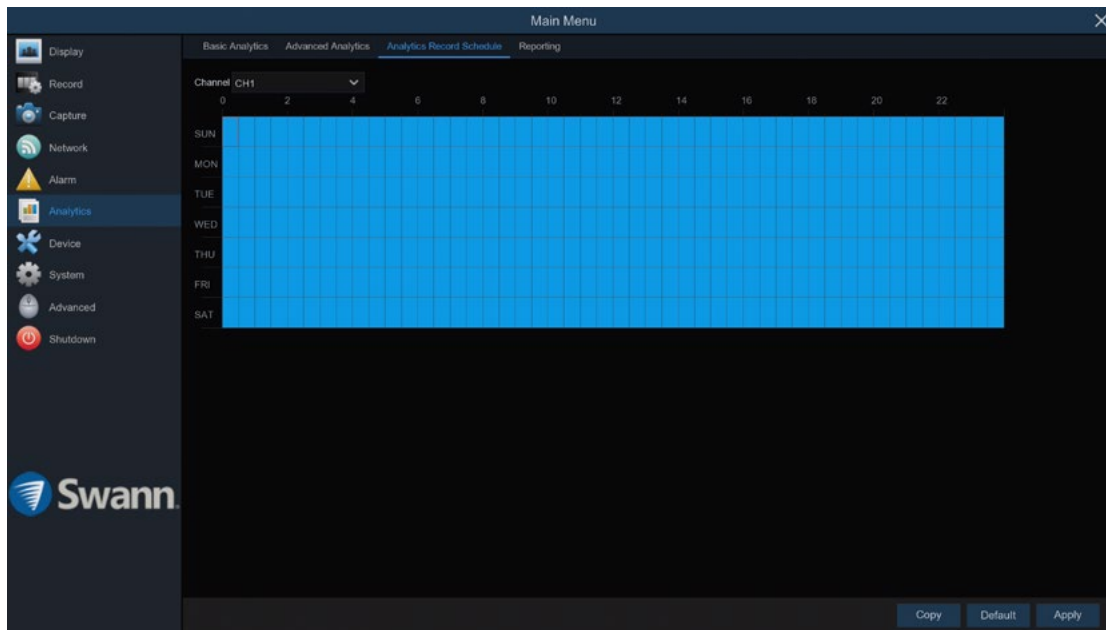
Day/Week/Month/Quarter/Year: Select the time period from which the face recognition data is obtained using the dropdown.

Calendar: Change the start date of the selected time period.

Export: Export the face recognition data for the selected time period to an external storage device (e.g., USB flash drive). The file will be saved as a *.CSV file. You can open the file in Excel (or similar software) to further analyze the data, as shown in the example below.

	A	B	C	D	E	F	G
1	Start Time	End Time	Allow List	Block List	Stranger		Summary
2	3/5/2020 0:00	3/5/2020 0:59	0	0	0		0
3	3/5/2020 1:00	3/5/2020 1:59	0	0	0		0
4	3/5/2020 2:00	3/5/2020 2:59	0	0	0		0
5	3/5/2020 3:00	3/5/2020 3:59	0	0	0		0
6	3/5/2020 4:00	3/5/2020 4:59	0	0	0		0
7	3/5/2020 5:00	3/5/2020 5:59	0	0	0		0
8	3/5/2020 6:00	3/5/2020 6:59	0	0	0		0
9	3/5/2020 7:00	3/5/2020 7:59	0	0	0		0
10	3/5/2020 8:00	3/5/2020 8:59	0	0	0		0
11	3/5/2020 9:00	3/5/2020 9:59	4	4	6		14
12	3/5/2020 10:00	3/5/2020 10:59	7	1	28		36
13	3/5/2020 11:00	3/5/2020 11:59	18	6	14		38
14	3/5/2020 12:00	3/5/2020 12:59	12	1	8		21
15	3/5/2020 13:00	3/5/2020 13:59	8	4	10		22
16	3/5/2020 14:00	3/5/2020 14:59	10	15	22		47
17	3/5/2020 15:00	3/5/2020 15:59	3	0	9		12
18	3/5/2020 16:00	3/5/2020 16:59	0	0	0		0
19	3/5/2020 17:00	3/5/2020 17:59	0	0	0		0
20	3/5/2020 18:00	3/5/2020 18:59	0	0	0		0
21	3/5/2020 19:00	3/5/2020 19:59	0	0	0		0
22	3/5/2020 20:00	3/5/2020 20:59	0	0	0		0
23	3/5/2020 21:00	3/5/2020 21:59	0	0	0		0
24	3/5/2020 22:00	3/5/2020 22:59	0	0	0		0
25	3/5/2020 23:00	3/5/2020 23:59	0	0	0		0
26							
27	Summary		62	31	97		190

Analytics: Analytics Record Schedule



To record events that are detected using the basic and advanced analytics, an analytics recording schedule must be created for cameras that have the basic and advanced analytics enabled. Each camera can have a different recording schedule if needed.

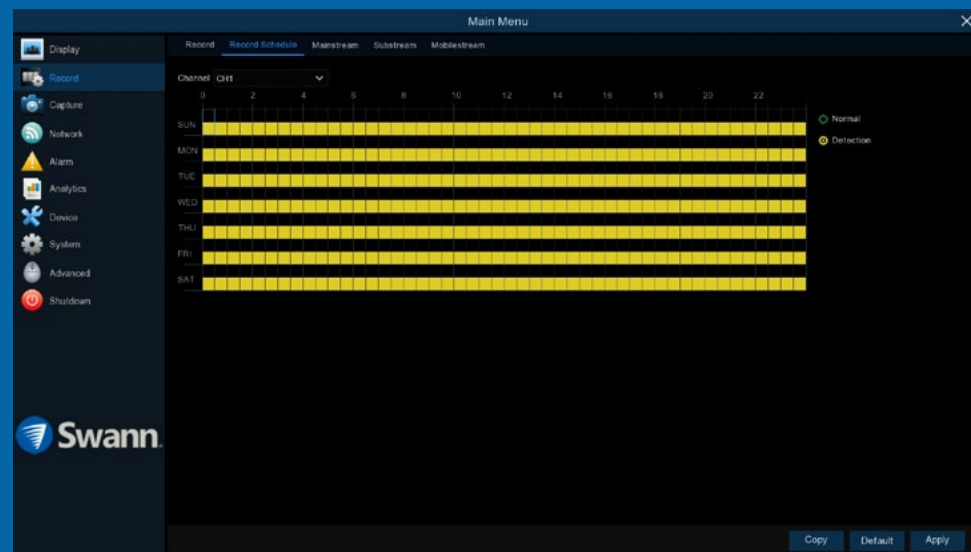
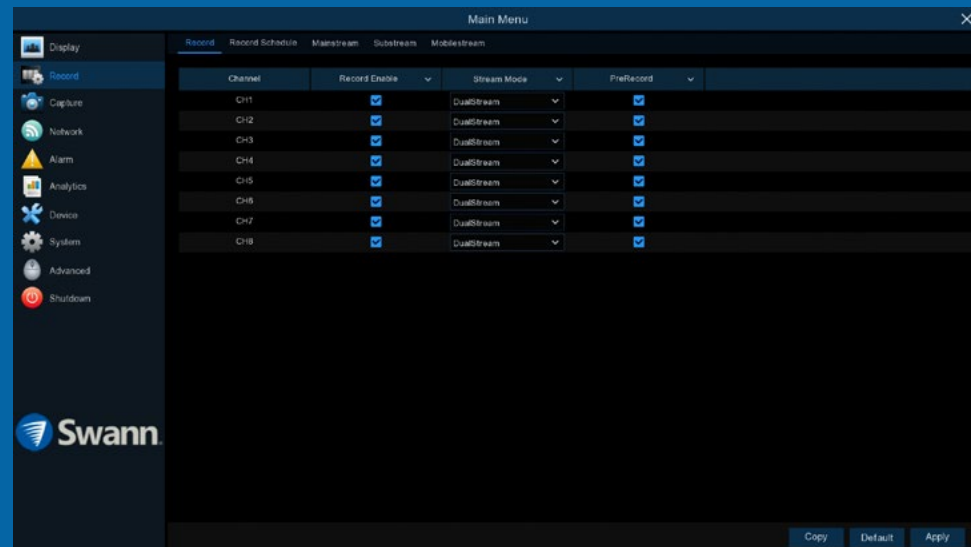
- Use the “Copy” function to apply all settings to the other cameras connected.
- Click “Default” to revert to default settings.
- Click “Apply” to save settings.

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

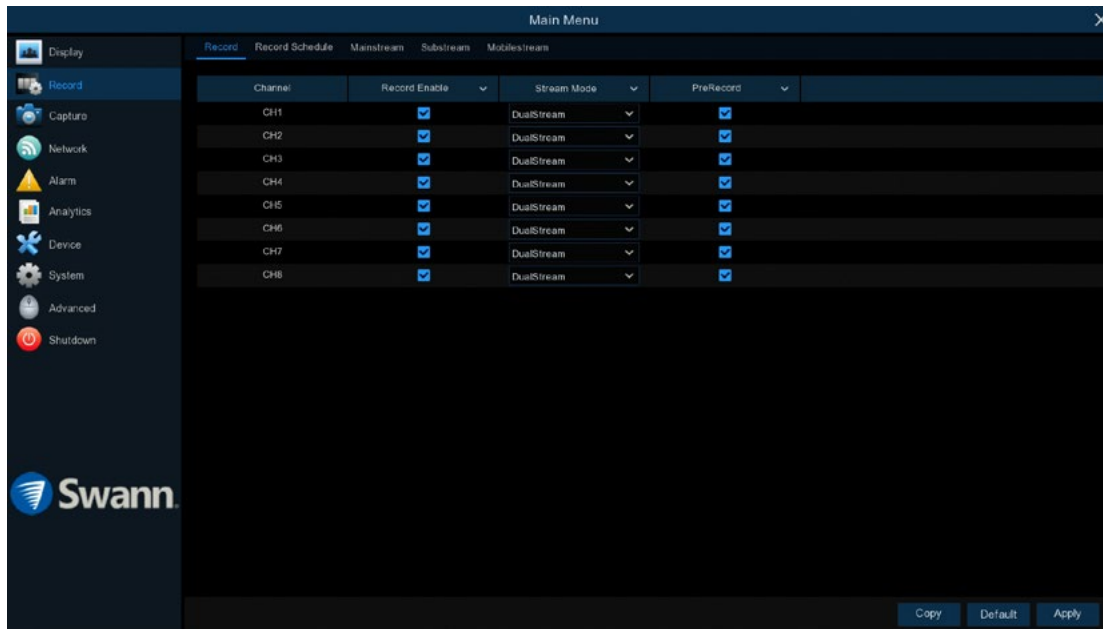
Each square represents 30 minutes. Using the mouse, click on a particular square to change or click and drag the mouse over the squares corresponding to your desired time period. The same action can also be applied if a recording schedule is not required (on one or more sections that have been enabled).

Recording Configuration

The recording configuration options are available in the “Record” and “Capture” menus that are accessible from the Main Menu. From here you can access and change the default recording schedule (presented as a 24 hour 7 days a week grid and is color coded) for each camera connected. You can also enable and set a schedule for your NVR to take a snapshot each time an event occurs.



Record: Record



- Use the “Copy” function to apply all settings to the other cameras connected.
- Click “Default” to revert to default settings.
- Click “Apply” to save settings.

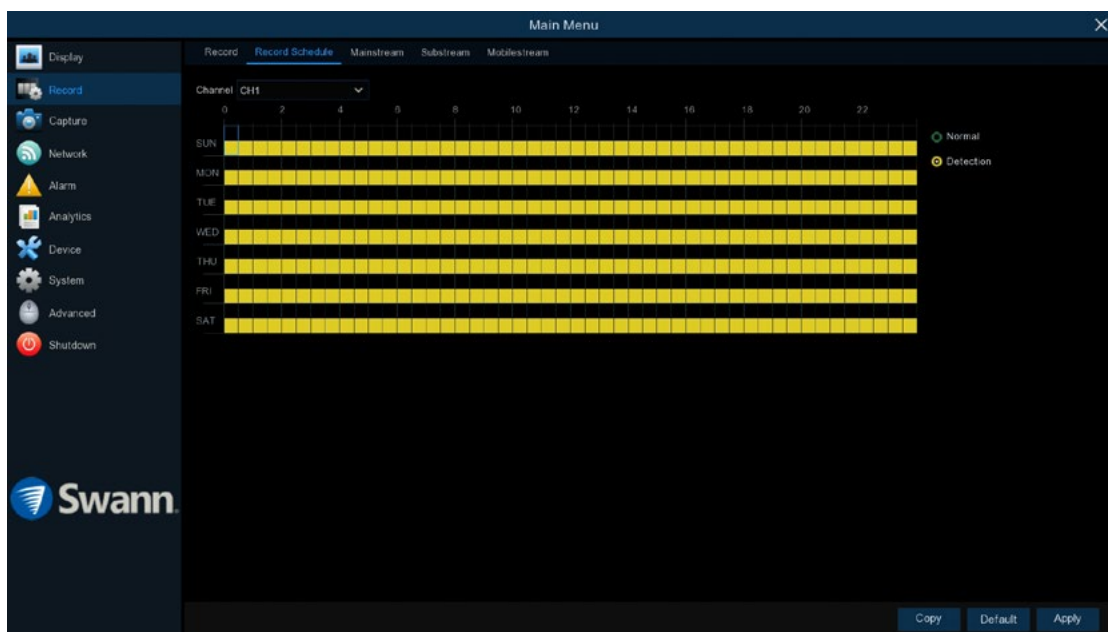
Each camera input on your NVR will be displayed as CH1, CH2, etc.

Record Enable: When disabled, your NVR will detect motion but it will not record (manual record is also disabled).

Stream Mode: By default, your NVR will record both Mainstream and Substream video (known as DualStream). Mainstream (high quality) video is used for playback when using your NVR directly, and Substream (reduced quality) is used for remote playback on your mobile device. If remote playback is not required, you can select Mainstream recording only.

PreRecord: Allows your NVR to record for a number of seconds before an event occurs. It's recommended to leave this enabled.

Record: Schedule



By default, a 24-hour 7 days a week Detection schedule has been enabled for each camera connected. The schedule can be changed to suit your needs and each camera can have a different schedule if needed. The schedule is color coded to represent the event type.

- Use the “Copy” function to apply all settings to the other cameras connected.
- Click “Default” to revert to default settings.
- Click “Apply” to save settings.

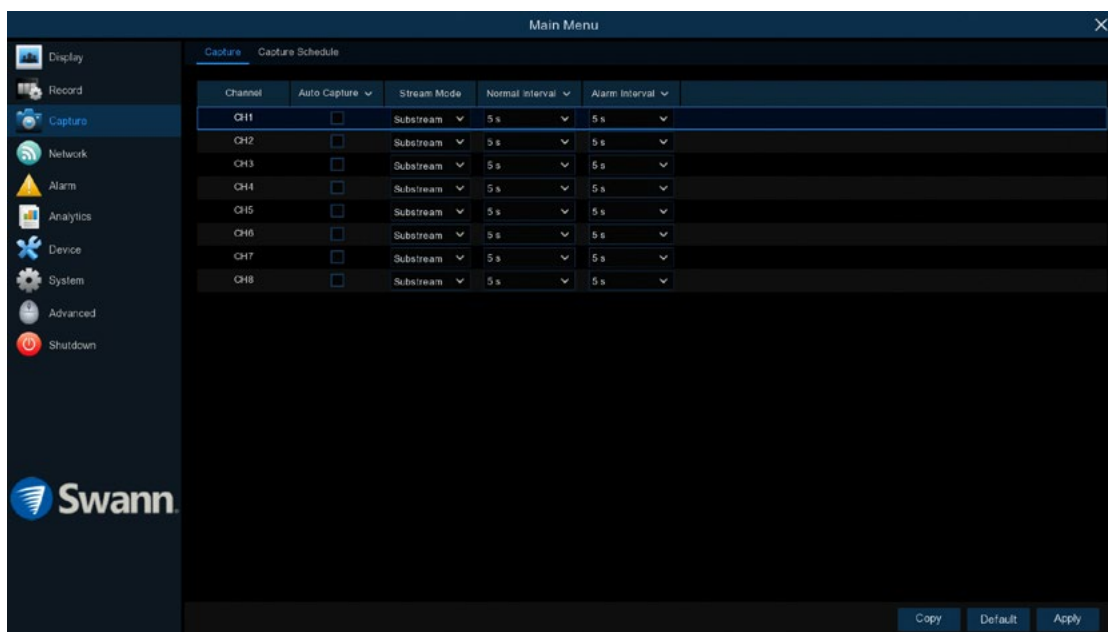
Channel: Select a camera that you would like to edit.

Normal: Your NVR will constantly record for a set period of time.

Detection: Your NVR will only record when motion has been detected from one or more cameras.

Each square represents 30 minutes. Using the mouse, select the desired recording mode then click on a particular square to change or click and drag the mouse over the squares corresponding to your desired time period. The same action can also be applied if Normal or Detection recording is not required (on one or more sections that have recording enabled).

Capture: Capture



As an added feature, you can enable and set a schedule for your NVR to take a snapshot each time an event occurs. This is particularly useful for finding motion events quickly and can also be used for different purposes such as time lapse photography.

- Use the “Copy” function to apply all settings to the other cameras connected.
- Click “Default” to revert to default settings.
- Click “Apply” to save settings.

Each camera input on your NVR will be displayed as CH1, CH2, etc.

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

Stream Mode: Leave the default selection (Mainstream). This allows you to select the camera’s native resolution (Alarm Resolution).

Normal Interval: The length of time that must elapse before a snapshot is taken. For example, when setting a Normal capture schedule, a snapshot will be taken every 5 seconds using the default selection. Adjust accordingly.

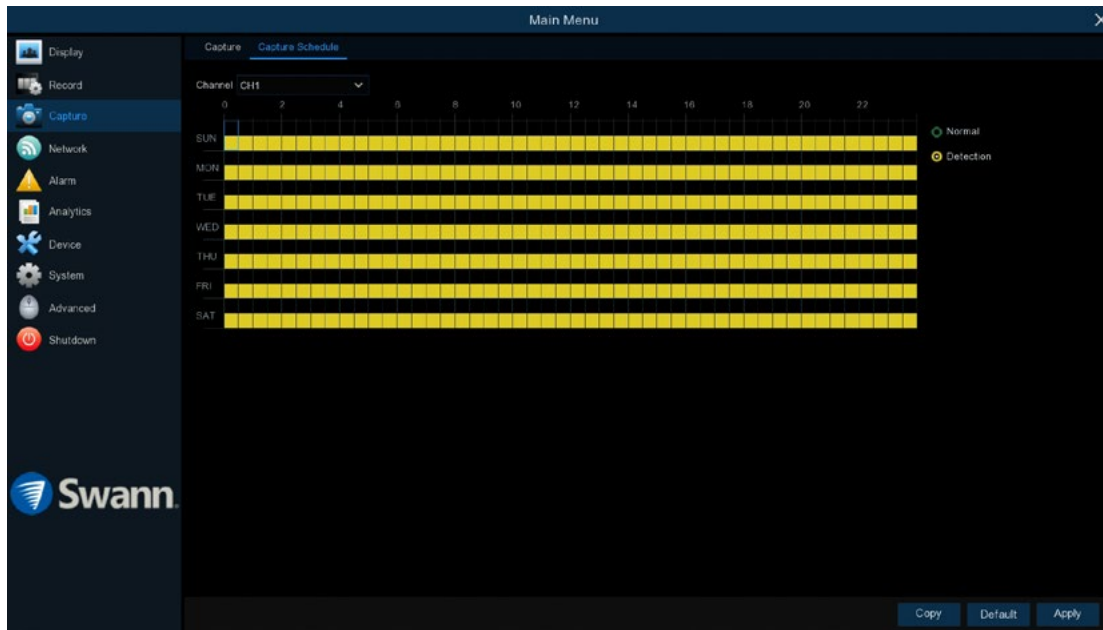
Alarm Interval: When setting a Detection capture schedule, a snapshot will be taken each time motion has been detected according to the interval selected. Adjust accordingly.

Alarm Resolution: Leave the default selection (1920 x 1080). This will save each snapshot at the highest resolution available. A lower resolution can be selected.

Alarm Quality: Leave the default selection. This will save each snapshot at the camera’s highest bitrate (the amount of data that your NVR will use to take a snapshot).

As this is an added feature, a capture schedule is not enabled by default. To enable this (see page 63 – [Capture: Schedule](#)).

Capture: Schedule



Like the analytic recording schedule, a capture schedule must be created so your NVR can take snapshots when an event has occurred or if you want to take snapshots using a time interval (every 5 seconds for example).

- Use the “Copy” function to apply all settings to the other cameras connected.
- Click “Default” to revert to default settings.
- Click “Apply” to save settings.

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

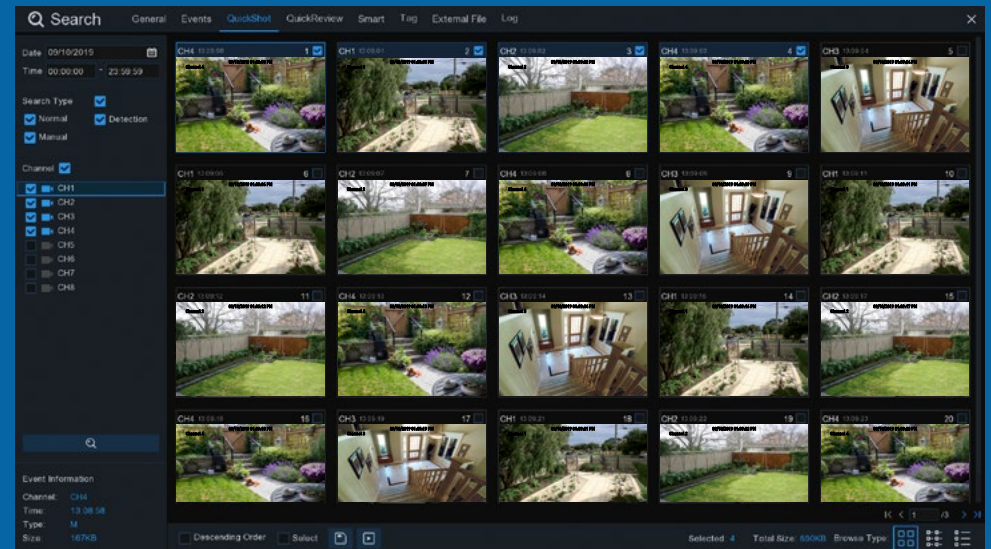
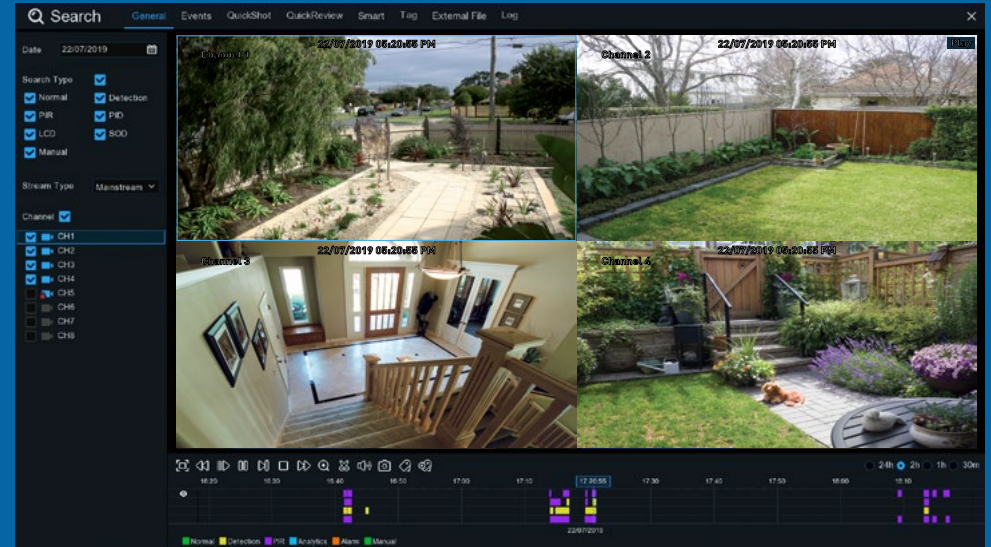
Normal: A snapshot will be taken according to the normal interval setting selected (every 5 seconds for example).

Detection: A snapshot will be taken each time motion has been detected according to the alarm interval selected.

Each square represents 30 minutes. Using the mouse, select the desired capture mode then click on a particular square to change or click and drag the mouse over the squares corresponding to your desired time period. The same action can also be applied if Normal or Detection capture mode is not required (on one or more sections that have been enabled).

Event Playback & Backup

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



Search: General

The screenshot displays the 'Search' interface with the following elements and annotations:

- 1** Date: 22/07/2019 (indicated by a red circle and a calendar icon).
- 2** Search Type: Normal, Detection, PIR, PID, LCD, SOD, Manual (indicated by a red circle).
- 3** Stream Type: Mainstream (indicated by a red circle).
- 4** Channel selection: CH1, CH2, CH3, CH4, CH5, CH6, CH7, CH8 (indicated by a red circle). A blue square highlights CH1, and an orange lock icon is visible next to CH5.
- 5** Playback controls: Full-screen, previous, play/pause, stop, next, search, volume, camera, and refresh icons (indicated by a red circle).
- 6** Timeline: A horizontal timeline showing event recordings with colored bars (indicated by a red circle).

Annotations in blue boxes:

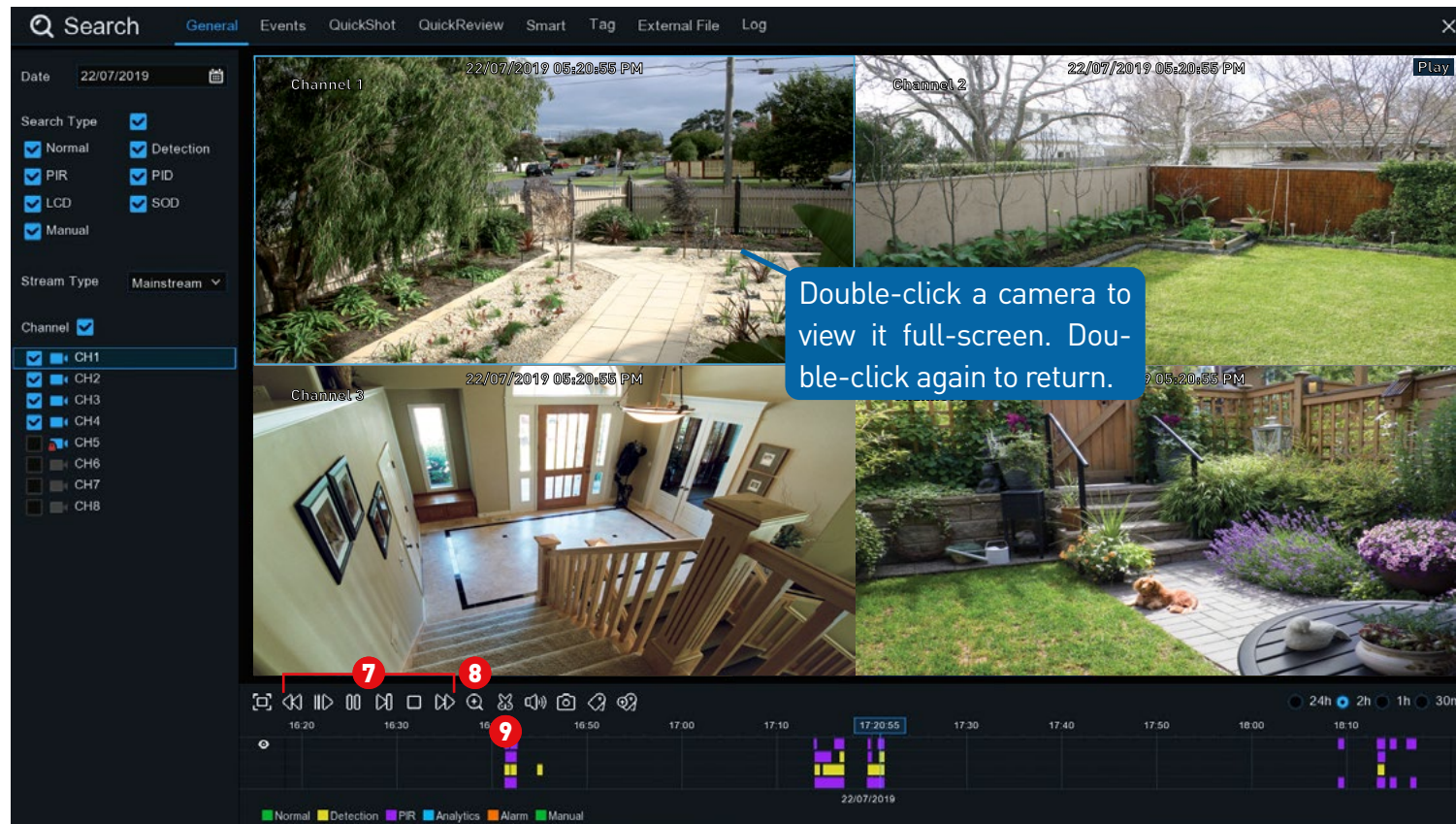
- Click on a camera to select it (a surrounding blue square is shown).
- The orange lock icon represents cameras that can't be selected for playback.
- Click and hold the time above the timeline then drag left or right to the desired time period.

- 1 Click the calendar icon to select a date that you want to search on. A red underline on a date indicates there are recordings on those particular dates.
- 2 This is the event type that you can search for. In most circumstances “Detection” and or “PIR” would be selected but you can leave all event types enabled if you want to search for all. Adjust accordingly.
- 3 Select either Mainstream or Substream for playback (Mainstream will play video at the camera’s native recording resolution).

- 4 Select from one or more cameras to display for playback (a maximum of four cameras can be selected for playback only). A blue camera indicates which cameras match your search criteria.
- 5 Click this to hide the playback interface so you can maximise your viewing area (watch full-screen). Right-click to restore.
- 6 Recordings that match your search criteria will be displayed here.

(continued on next page)

Search: General

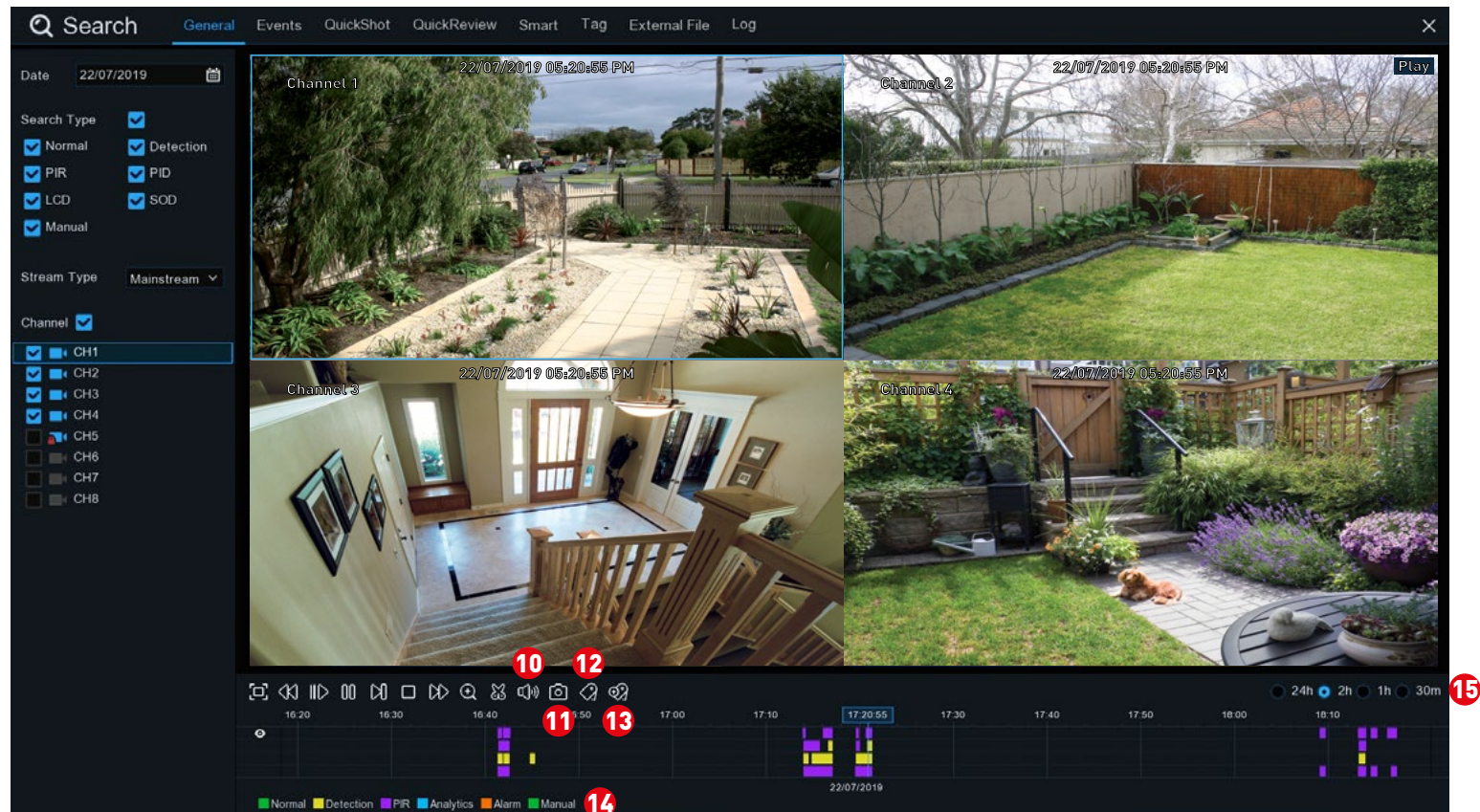


- 7** From left to right, these are your reverse, slow motion, play/pause, frame advance, stop and fast forward controls. Subsequent presses of the reverse, slow motion and fast forward buttons will increase the speed of each action.
- 8** Select a camera, click this button then use the scroll button on the mouse to zoom. Use the picture-in-picture screen to select a different area to view. Right-click to exit.
- 9** This button allows you to edit the video by setting mark in and mark out

points which you can then copy to a USB flash drive. Click on a camera to select it then press this button. You will see two white triangles on the timeline. Move them left or right on the section of video that you want to edit. Click the disk icon (Back-up) to save. For the backup type, leave the default selection (mp4) for wider playback compatibility on your computer. Insert a USB flash drive to your NVR then click "Save". Click "OK" to save then click "Close" when finished.

(continued on next page)

Search: General



10 Click this button to mute or unmute the audio.

11 This button allows you to save a snapshot to a USB flash drive. Click on a camera to select it then press this button.

12 Tagging allows you to record information such as a person or object within the video. Click on a camera to select, pause the video when you see a person or object to be tagged then press this button (multiple tags can be created).

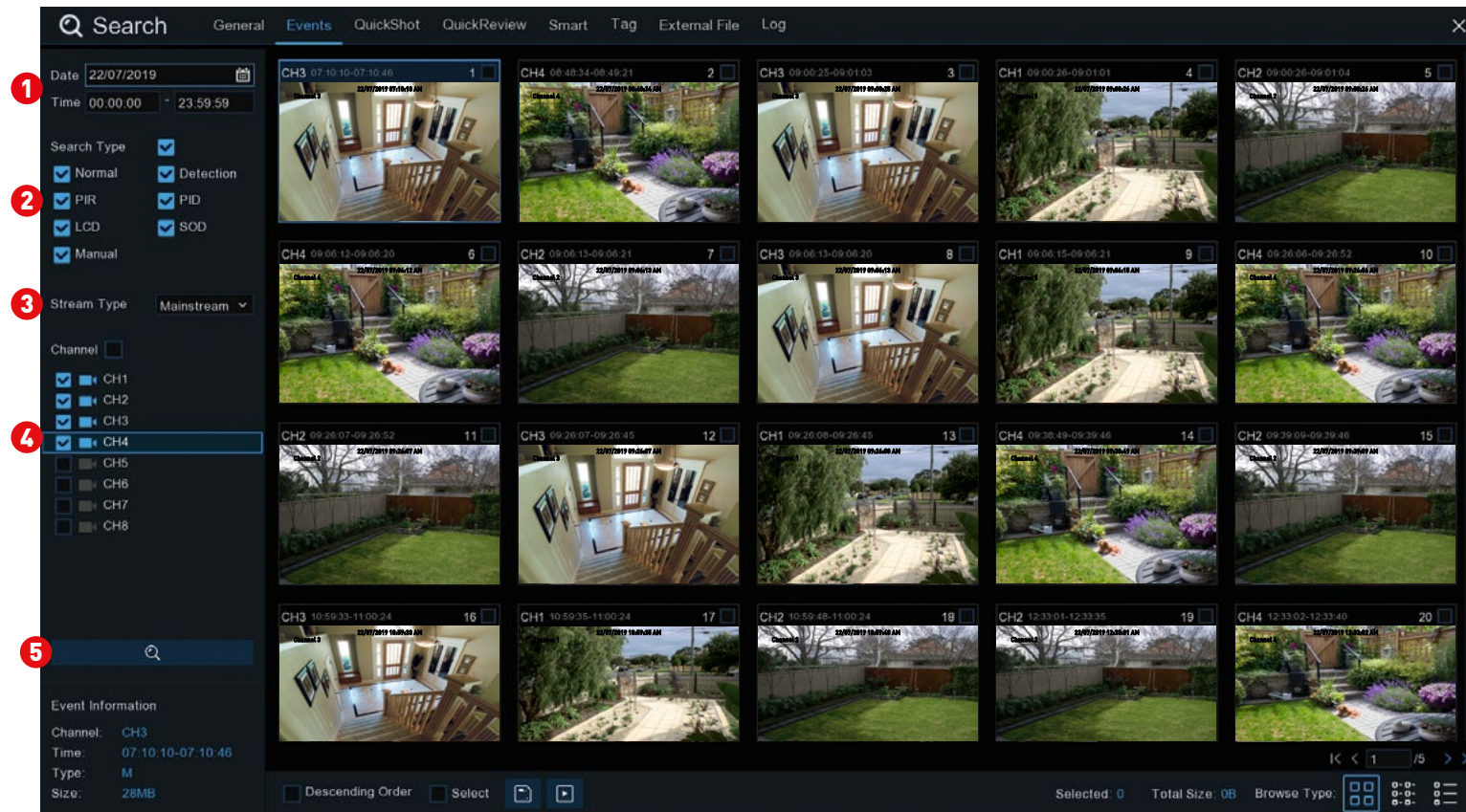
As above but you can choose your own tag name.

14 Indicates the video type on the timeline.

15 This represents the time period that is visible. Click on a different time period to zoom in for precise control or to zoom out.

To search for tags (see page 75 - [Search: Tag](#)).

Search: Events (copy events to a USB flash drive)



Use this function to search, play and copy events to a USB flash drive.

1 Click the calendar icon to select a date that you want to search on. A red underline on a date indicates there are recordings on those particular dates. For time, you can search over a 24 hour period or you can use the keypad to enter a specific start and end time.

2 This is the event type that you can search for. Adjust accordingly.

Select either Mainstream or Substream to search for (Mainstream will play

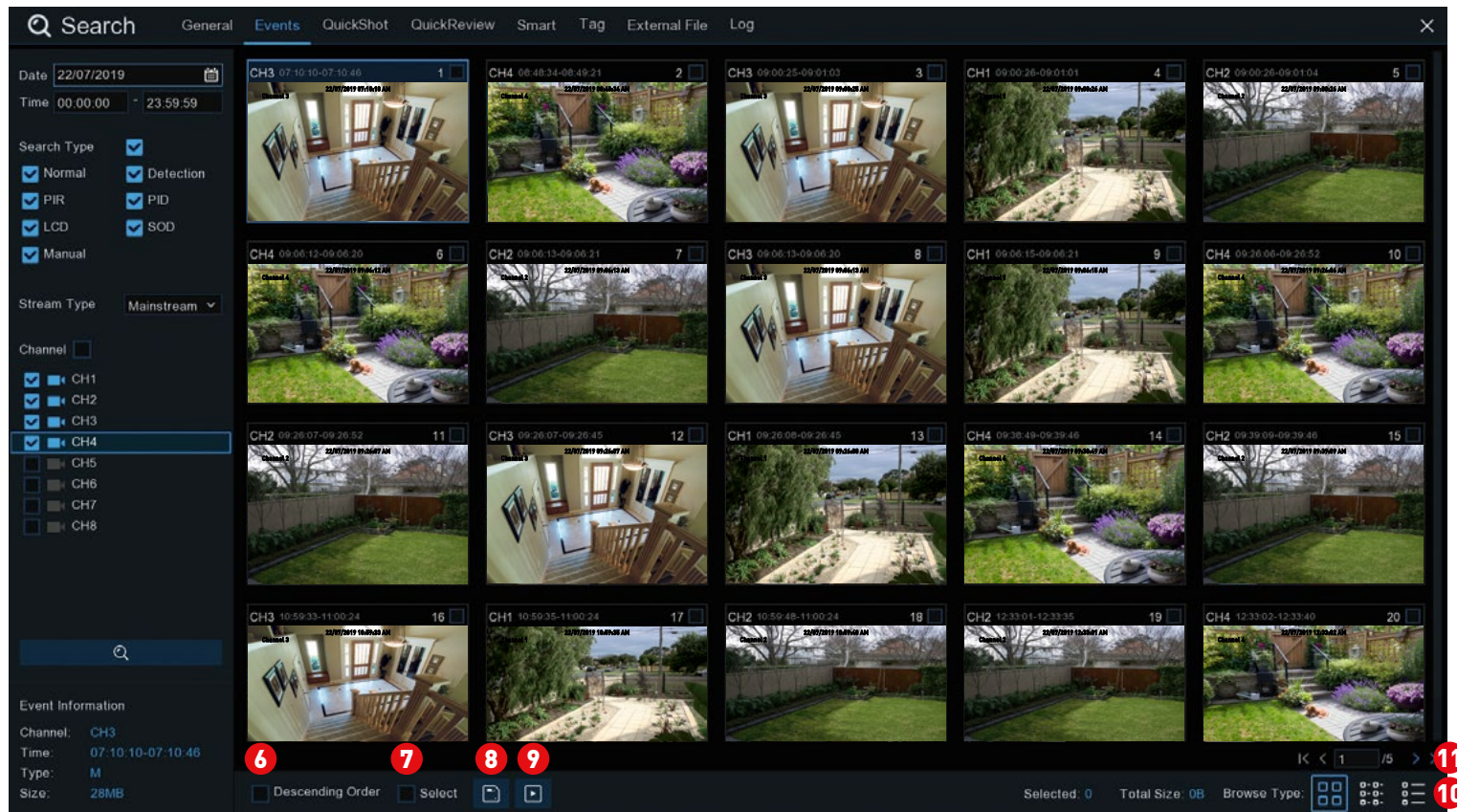
video at the camera's native recording resolution).

4 Select from one or all cameras that you would like to search on. A blue underline on a date indicates there are recordings on those particular dates. A blue camera indicates which cameras match your search criteria.

5 Click this button to commence a search. You will see a thumbnail of each event that matches your search criteria. Click the checkbox above each thumbnail to select it.

(continued on next page)

Search: Events (copy events to a USB flash drive)



6 Click the checkbox to view the events in descending order.

7 Click the checkbox to select all events.

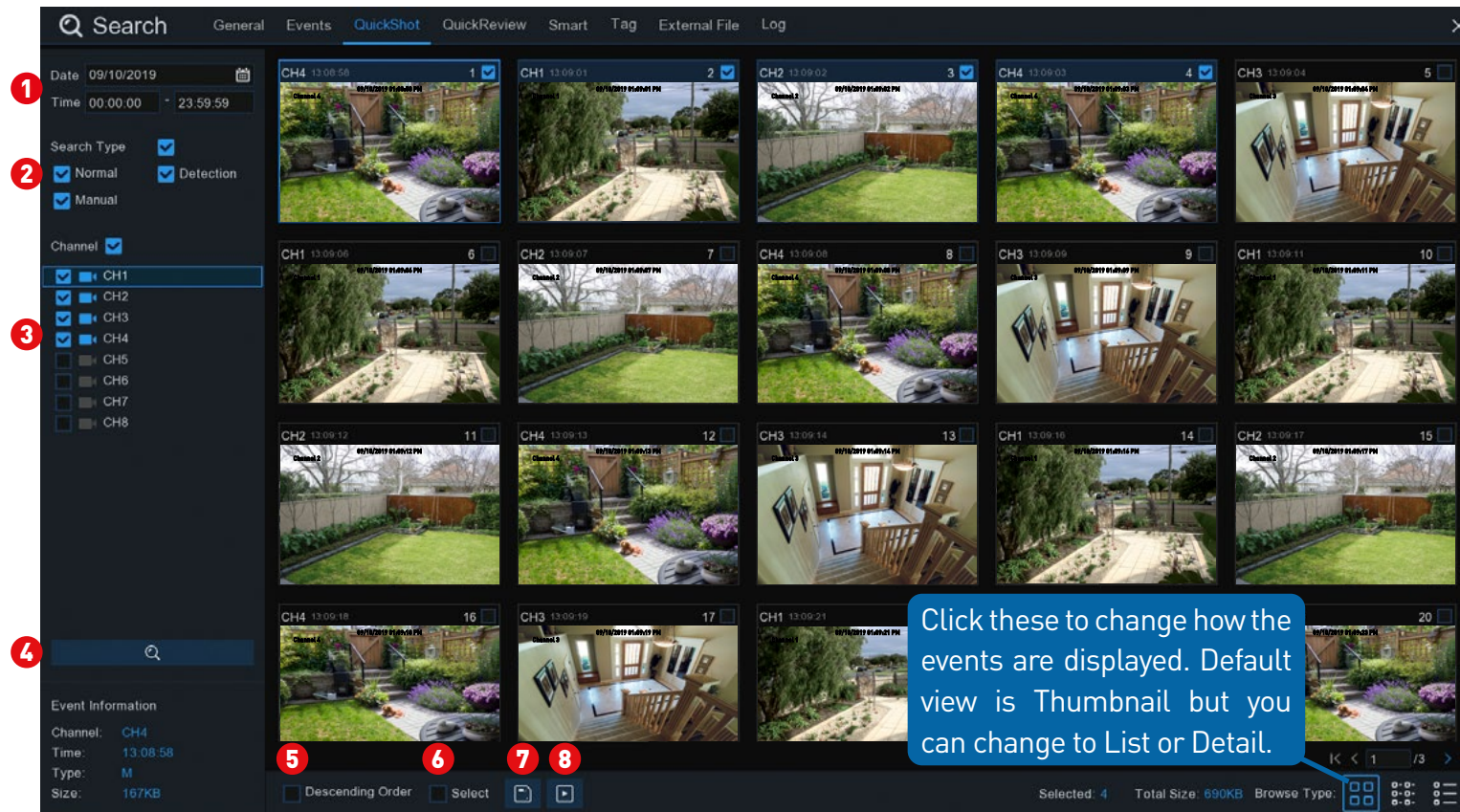
8 When one or more events have been selected, click this button to copy to a USB flash drive. For the backup type, leave the default selection (mp4) for wider playback compatibility on your computer. Insert a USB flash drive to your NVR then click "Save". Click "OK" to save then click "Close" when finished.

9 Click this button to play a selected event. Right-click to exit.

10 Click these to change how the events are displayed. Default view is Thumbnail but you can change to List or Detail.

11 Click these to navigate to a different page available. Use the keypad to navigate to a specific page.

Search: QuickShot (copy snapshots to a USB flash drive)

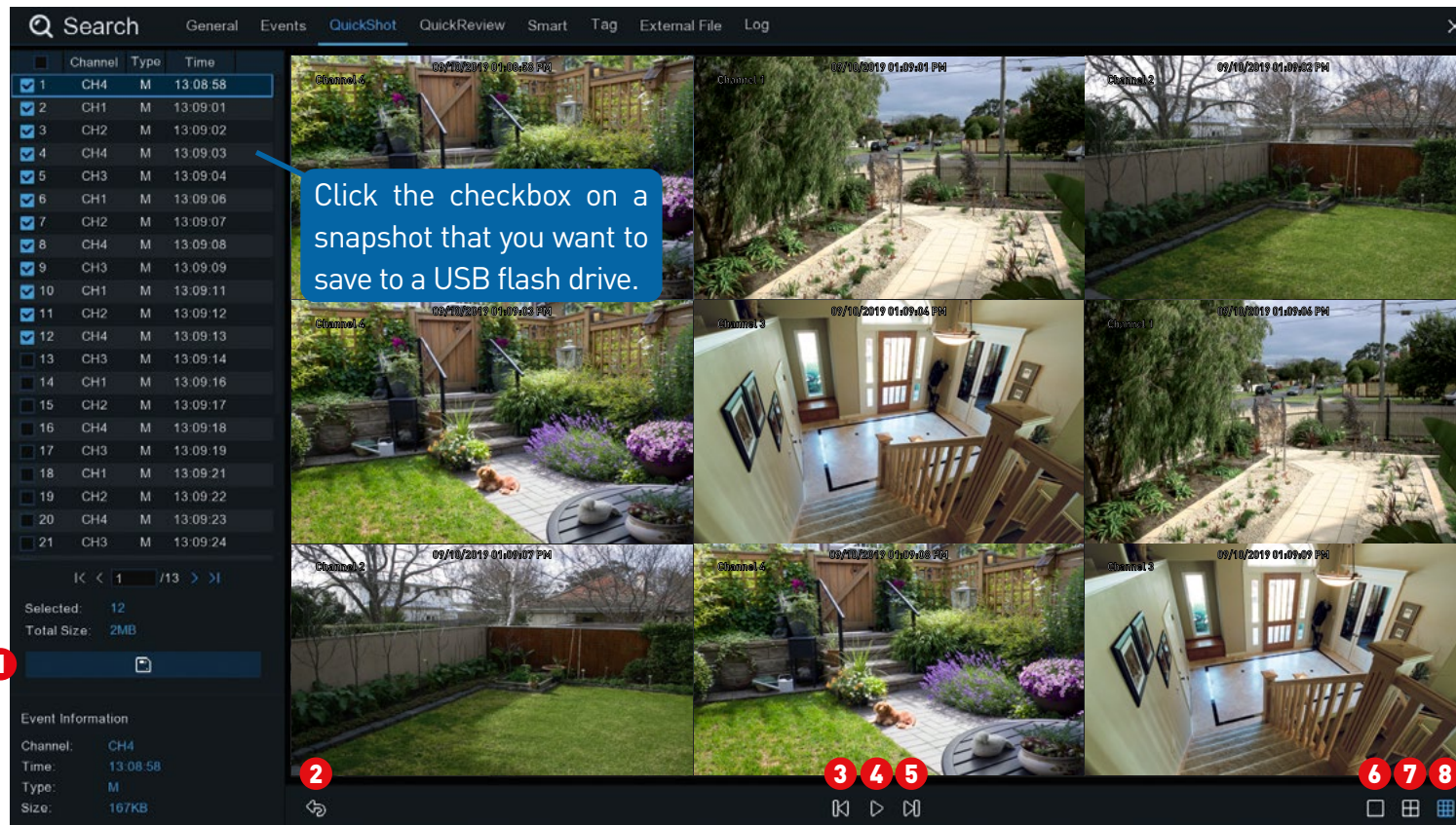


Use this function to search, play and copy snapshots to a USB flash drive.

- 1 Click the calendar icon to select a date that you want to search on. A red underline on a date indicates there are recordings on those particular dates. For time, you can search over a 24 hour period or you can use the keypad to enter a specific start and end time.
- 2 This is the event type that you can search for. Adjust accordingly.
- 3 Select from one or all cameras that you would like to search on.

- 4 Click this to commence a search. You will see a snapshot of each event that matches your search criteria.
- 5 Click the checkbox to view snapshots in descending order.
- 6 Click the checkbox to select all snapshots.
- 7 Select a snapshot then click this button to copy to a USB flash drive.
- 8 Click this to play a slideshow (see page 71 - [Playing a Slideshow](#)).

Playing a Slideshow



- 1 Select a snapshot then click this button to copy to a USB flash drive.
- 2 Click this to go back to the previous screen.
- 3 Click this to display the previous group of snapshots.
- 4 Click this to pause or play a slideshow.
- 5 Click this to display the next group of snapshots.
- 6 Click this to view a single snapshot at a time.

- 7 Click this to view four snapshots at a time.
- 8 Click this to view nine snapshots at a time.

Search: QuickReview

The screenshot displays the QuickReview search interface. On the left is a control panel with the following elements:

- 1** Date: 22/07/2019 (with a calendar icon)
- 2** Time: 00:00:00 - 23:59:59
- 3** Split-screens: 4 (dropdown menu)
- 4** Search Type: Normal, Detection, PIR, LCD, Manual (checkboxes)
- 5** Stream Type: Mainstream (dropdown menu)
- Channel list: CH1, CH2 (selected), CH3, CH4, CH5, CH6, CH7, CH8 (checkboxes)

The main area shows a 2x2 grid of video thumbnails from Channel 2, each with a timestamp:

- Top-left: 22/07/2019 09:26:27 AM
- Top-right: 22/07/2019 12:33:03 PM
- Bottom-left: 22/07/2019 02:36:14 PM
- Bottom-right: 22/07/2019 04:41:32 PM

At the bottom is a timeline with a play button and a legend for event types: Normal (green), Detection (yellow), PIR (purple), Analytics (blue), Alarm (orange), Manual (red).

Two blue callout boxes provide instructions:

- Top-right: "Click on a split-screen to select it (a surrounding blue square is shown)." (A blue square is visible around the top-right thumbnail.)
- Bottom-right: "Within the split-screen selected, you can select a different time period on the timeline." (A blue square is visible around the 09:26:27 mark on the timeline.)

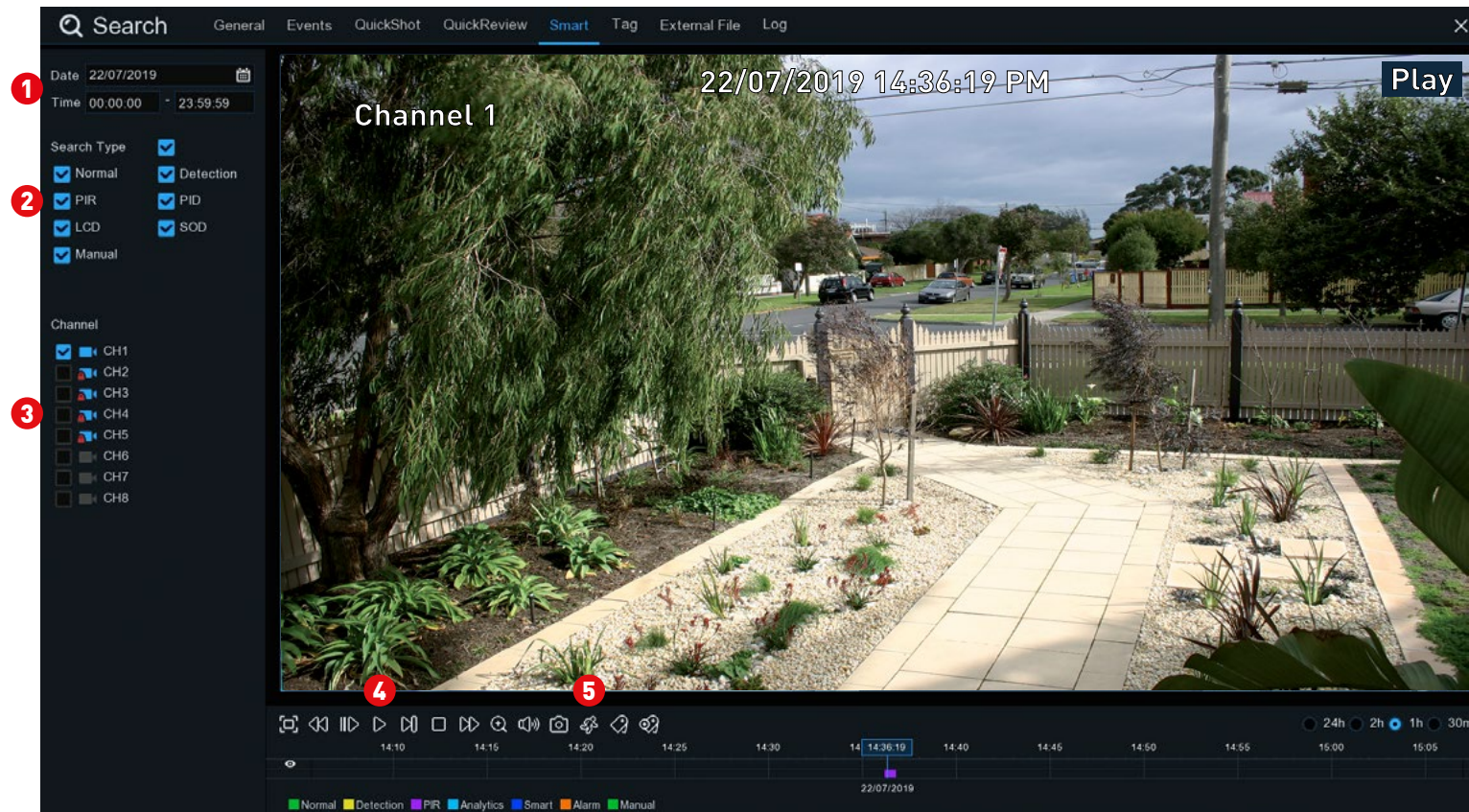
QuickReview allows you to play multiple normal recordings and motion events simultaneously from a single channel. With normal and event recordings, the video is divided evenly depending on the split-screen mode that has been selected. For example, if the video is an hour long and you have selected Split-screens x 2, each split-screen will play for 30 minutes.

1 Click the calendar icon to select a date that you want to search on. A red underline on a date indicates there are recordings on those particular dates. For time, you can search over a 24 hour period or you can use the keypad to

enter a specific start and end time.

- 2** Click the drop down menu to select the preferred split-screen mode.
- 3** This is the event type that you can search for. Adjust accordingly.
- 4** Select either Mainstream or Substream to search for.
- 5** Select the camera that you would like to search on.

Search: Smart



Smart mode allows you to define one or more specific areas of the video which then makes it easier to find what you are searching for. For example, you may have movement on the left-hand side of the yard, but you want to see what is happening on the right-hand side.

1 Click the calendar icon to select a date that you want to search on. A red underline on a date indicates there are recordings on those particular dates. For time, you can search over a 24 hour period or you can use the keypad to enter a specific start and end time.

2 This is the event type that you can search for. Adjust accordingly.

3 Select the camera that you would like to search on.

4 Click the “Play” button to play each event.

5 Click this button to enter Smart mode. The camera will be shown full screen and the Smart mode controls will be visible.

(continued on next page)

Search: Smart




- 6 Click this to define a full screen detection area.
- 7 Click this to delete all areas created.
- 8 Click this to search and play video based on the areas defined.
- 9 Click this to return to the playback interface.

To define one or more specific areas, please do the following:

- 10 Click and drag to select the area that you want to define. Multiple areas can be defined. You can also use the same action to remove sections of the defined area or to delete it entirely.
- 11 When finished, click the search button (magnifying glass) to play video based on the areas defined.

You'll be returned back to the playback interface. Segments matching your search criteria will be shown on the timeline in dark blue.

 **Can I use Smart mode on multiple cameras at the same time?** Due to the complexities and processing power required, you can only use Smart mode on one camera at a time.

Search: Tag

The screenshot shows the 'Search Tag' interface. On the left, there are input fields for 'Start Time' (22/07/2019 00:00:00), 'End Time' (22/07/2019 23:59:59), and 'Keyword'. Below these is a 'Channel' list with checkboxes for CH1 through CH8. At the bottom left is a search button. The main area is a table with columns: Tag Name, Channel, Date, Time, Playback, Edit, and Delete. The table contains six rows of tag data. At the bottom right is a pagination control.

	Tag Name	Channel	Date	Time	Playback	Edit	Delete
1	Tag	CH4	22/07/2019	07:10:16	▶	✎	🗑️
2	Tag	CH3	22/07/2019	07:10:29	▶	✎	🗑️
3	Tag	CH3	22/07/2019	09:00:38	▶	✎	🗑️
4	Tag	CH1	22/07/2019	09:00:42	▶	✎	🗑️
5	Tag	CH4	22/07/2019	09:06:16	▶	✎	🗑️
6	Tag	CH2	22/07/2019	09:39:27	▶	✎	🗑️

- 1 Click the calendar icon to select a date that you want to search on. For time, you can search over a 24 hour period or you can use the keypad to enter a specific start and end time.
- 2 If you have created one or more customized tags, click this to input the tag name (tag names are case sensitive).
- 3 Select the camera that you would like to search on.
- 4 Click this button to commence a search. Tags matching your search cri-

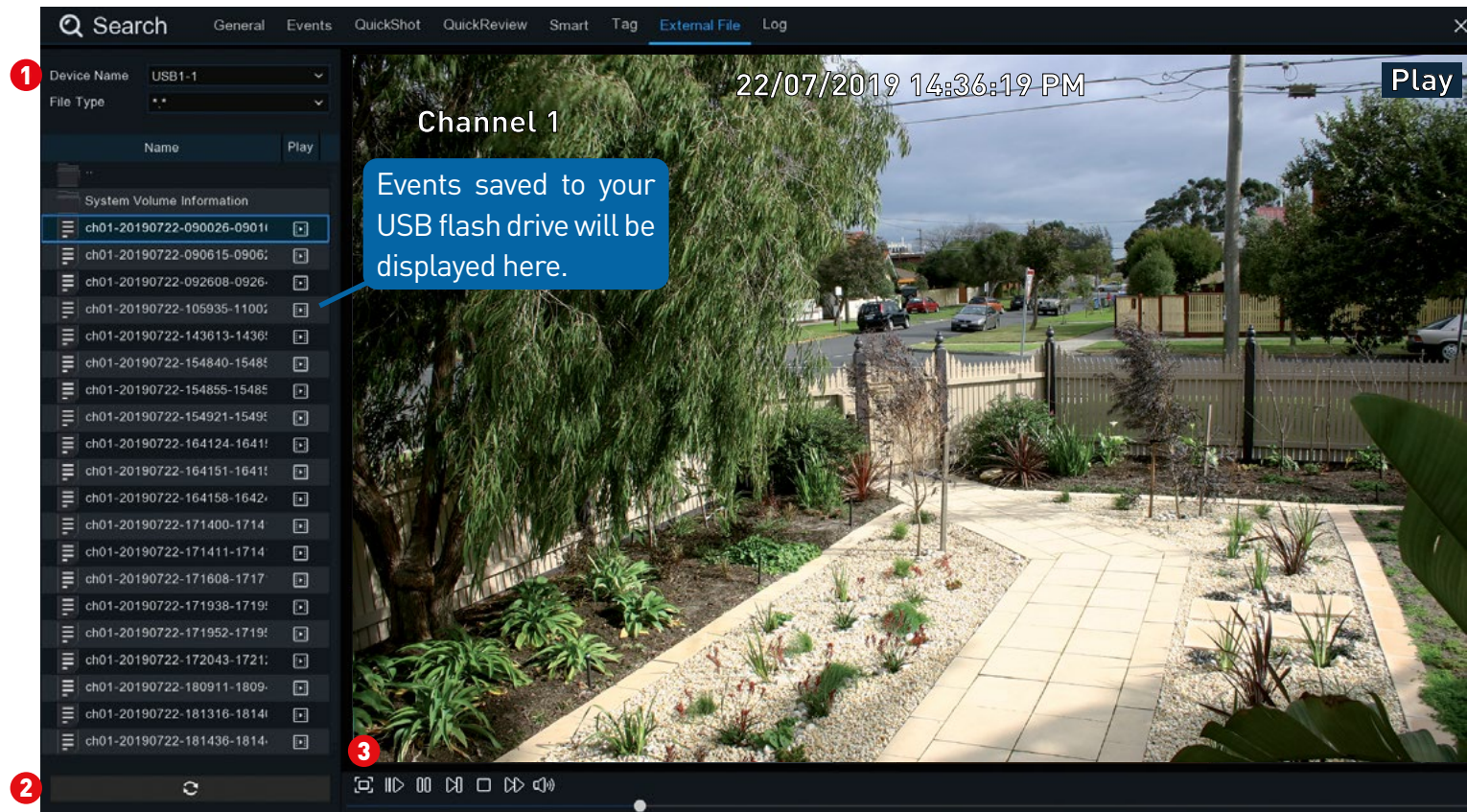
teria will be displayed.

- 5 Select an event then click this to play or double-click an event to play.

Edit: Click this to edit the tag name.

Delete: Click this to delete the tag.

Search: External File



Use this function to play events that you have copied to a USB flash drive.

1 If multiple USB flash drives are connected, click the drop down menu to select the drive that you want to read from.

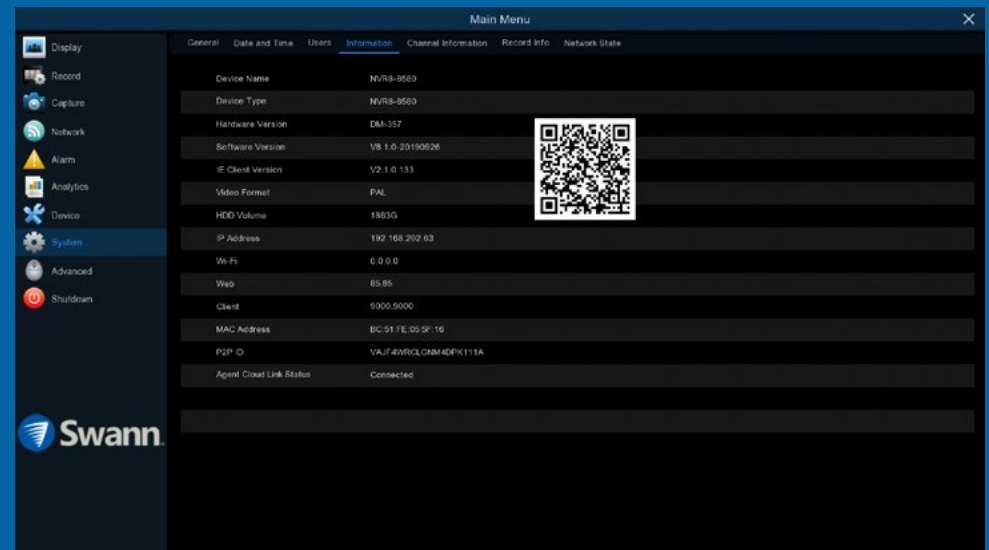
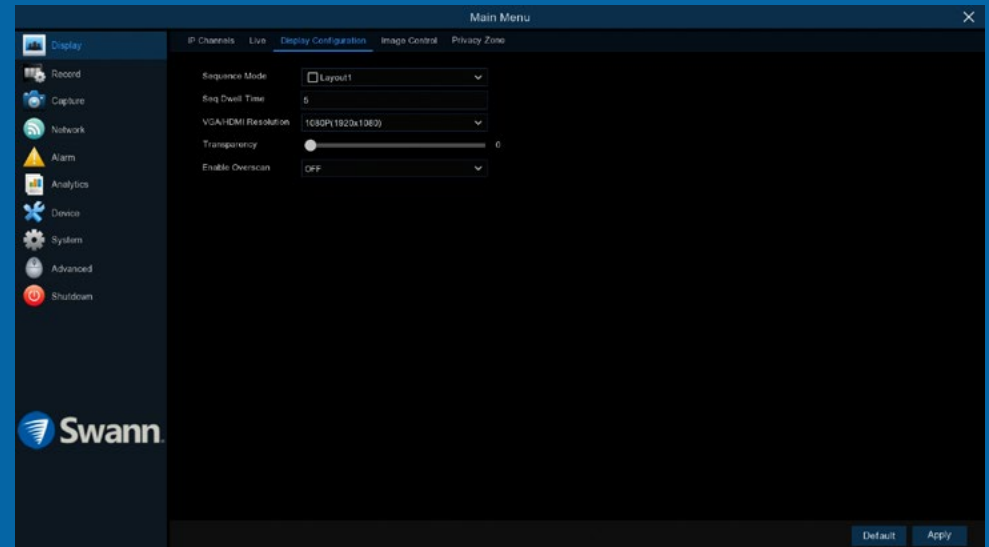
2 Click this button to refresh the USB flash drive.

Double-click an event to play.

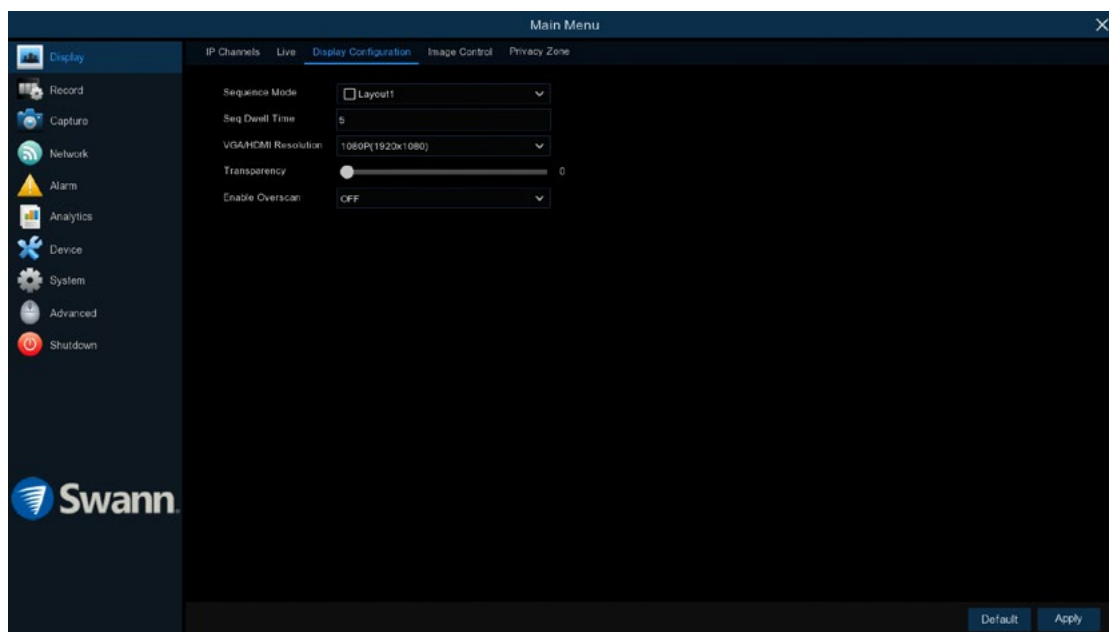
3 Click this to hide the playback interface so you can maximise your viewing area. Right-click to restore.

System Configuration

The options available give you complete control on how your NVR is configured and how it operates. Some of the options such as display resolution, time zone, email configuration, Daylight Saving and password creation are configured during the Startup Wizard. For experienced network users, your NVR provides options that can be configured to suit your particular requirements. You can also perform a firmware upgrade when available.



Display: Display Configuration



- Click “Default” to revert to default settings.
- Click “Apply” to save settings.

Sequence Mode: Select how many video channels you would like to display when your NVR is in sequence mode. You can select from one, four or six cameras to display at a time.

Sequence Dwell Time: Enter in seconds the maximum length of time you would like to display a video channel in sequence mode before displaying the next video channel (300 seconds is the maximum).

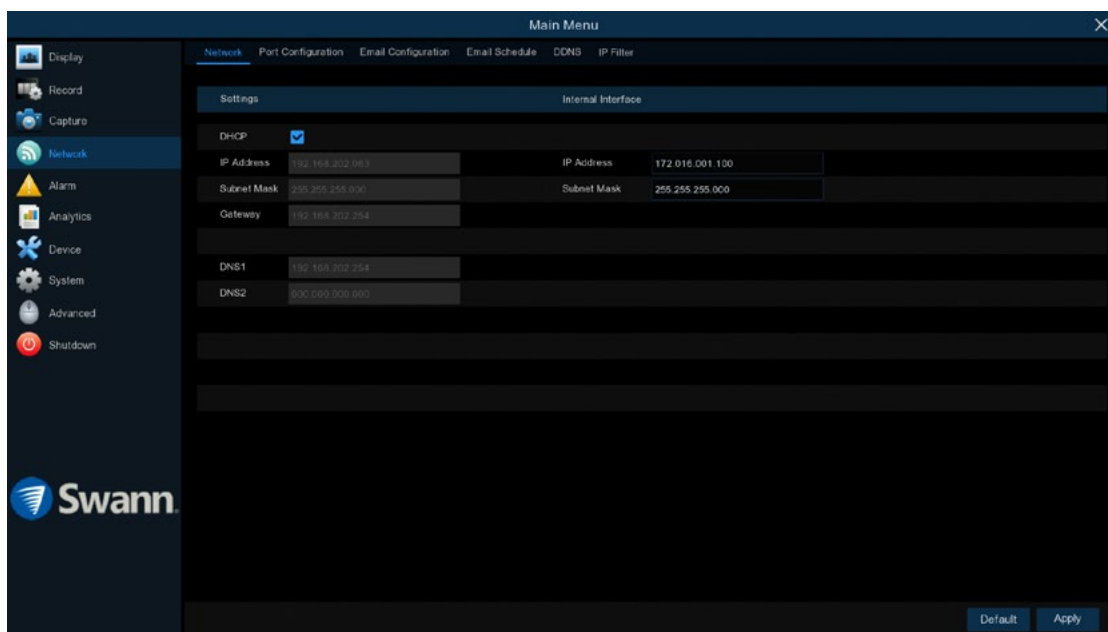
VGA/HDMI Resolution: Select a display resolution that is suitable for your TV.

Transparency: Click and hold the slider left or right to change how transparent the Menu Bar and Main Menu will appear on-screen. Adjust accordingly.

Enable Overscan: Is mainly used on older television sets to display the entire viewable area correctly on-screen. It does this by cutting off the edges of the picture. This is not required for modern Plasma and LCD TVs as the image is

digitally processed to display the correct aspect ratio.

Network: Network



As SwannLink Peer-to-Peer technology is utilised to communicate with your network and mobile device, configuration of the network settings is not required. If you have networking expertise and require specific settings, you do have the ability to change them.

- Click “Default” to revert to default settings.
- Click “Apply” to save settings.

DHCP (Dynamic Host Configuration Protocol): Your router will automatically assign an IP address to each device connected to your network. This is enabled by default and is the recommended method of connection.

If you are disabling DHCP, the following five options can be changed (this is for advanced users only):

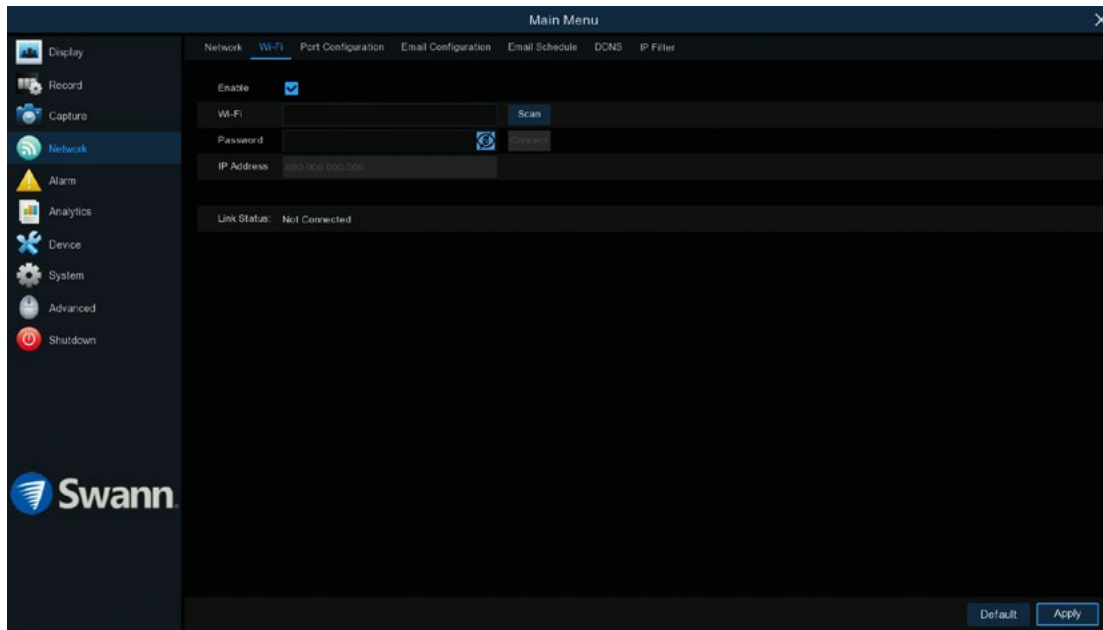
IP Address: Each device on your network must have a unique IP address. A typical address might be “192.168.1.24” or something similar.

Subnet Mask: This allows the flow of network traffic between hosts to be segregated based on a network configuration. A typical address might be “255.255.255.0” or something similar.

Gateway: This allows your NVR to connect to the internet. This is typically the same IP address as your modem or router.

DNS (Domain Name System)1/2: Input the DNS settings for your internet service provider.

Network: Wi-Fi



If you have a compatible Wi-Fi dongle connected to an available USB port on your NVR, the Wi-Fi tab will appear. This gives you the flexibility of placing your NVR in a different location, without having to be physically connected to your router or modem.

- Click “Default” to revert to default settings.
- Click “Apply” to save settings.

Before proceeding, disconnect the Ethernet cable from your NVR’s Ethernet port (if connected).

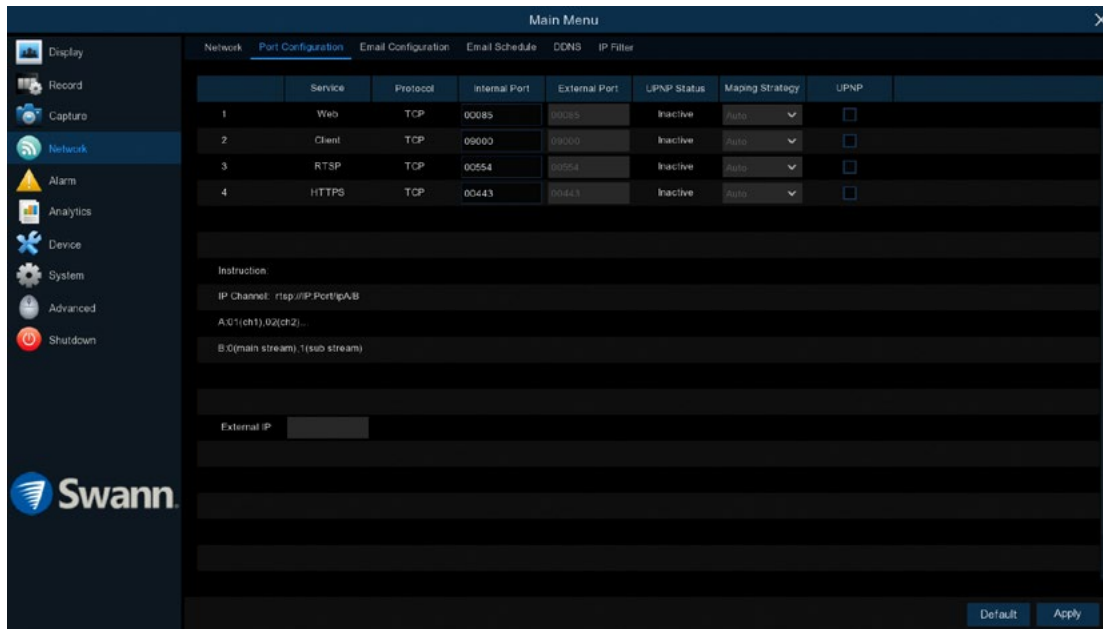
1. Click the “Scan” button. After a short moment, a list of Wi-Fi access points that your NVR detects, will be shown. Select your Wi-Fi access point then click the “Save” button.
2. Input the password for your Wi-Fi access point then click the “Connect” button. Make sure the password is correct before proceeding (click the eye icon to display the Wi-Fi password).
3. After a short moment, your NVR will connect to your Wi-Fi access point. Click “OK” to continue (if the connection has failed, check that the password is correct).

The Link Status will change to Connected indicating a successful connection.

Click “Apply” to save settings.

If the Wi-Fi dongle needs to be removed, click the “USB Wi-Fi” button on the Menu Bar (next to the date & time), then click “Safely remove USB Devices”. Remove the Wi-Fi dongle then click “OK”.

Network: Port Configuration & RTSP



- Click “Default” to revert to default settings.
- Click “Apply” to save settings.

The cog symbol (top right) indicates functions that are suitable for experienced users and/or some networking knowledge is required.

In most circumstances there is no need to change the settings here. The following is for advanced users only.

Web: This port is used to log into your NVR via your network or remotely. The default port number (85) is seldom used by other devices, however if you have another device using this port, you may need to change it. An alternative port number to use is 90.

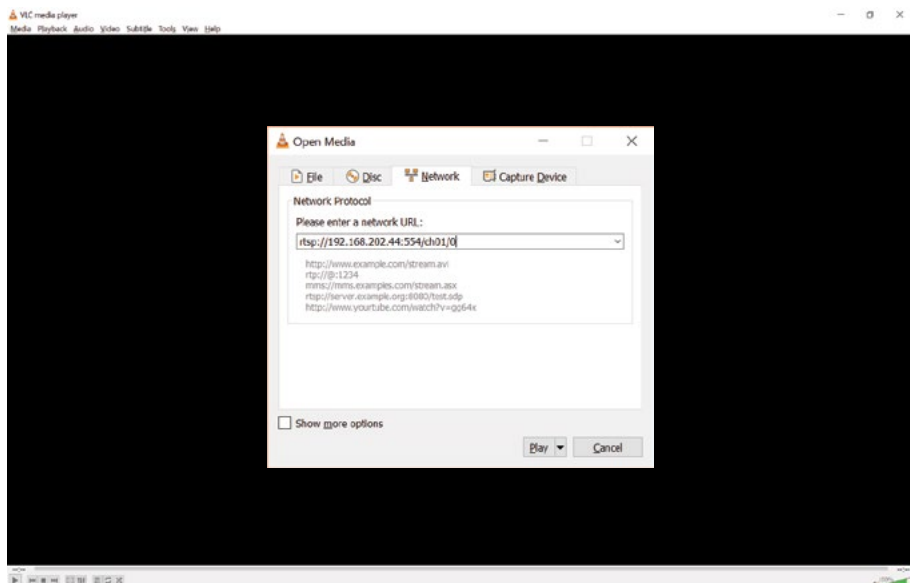
Client: This is the internal port that your NVR will use to send information through. This particular port number (9000) is not used by many devices, however if you have another NVR-like device, you may need to change it

RTSP: This port can be used to stream a camera’s live view image to your computer, using video streaming software such as VLC media player (see page 82 - [Using RTSP](#) for more information).

HTTPS: Basically the same as HTTP Port but with an additional layer of security. The default port number (443) is seldom used by other devices.

UPNP: A network protocol designed to allow network connected devices to automatically configure the router for the purposes of remote access. Click the checkbox to enable (not required to be enabled when using UID).

Using RTSP



The following instructions are for the VLC media player software (you can download a free copy from www.videolan.org). After download, double click the file then follow the on-screen instructions for installation.

1. On your computer, load the VLC media player software. Click “Media” then click “Open Network Stream” (as shown on the left).

2. Enter the IP address of your NVR (on your NVR click “Network” in the Main Menu to display the IP address) into VLC. The following is an example of what you need to enter - `rtsp://192.168.202.44:554/ch01/0`.

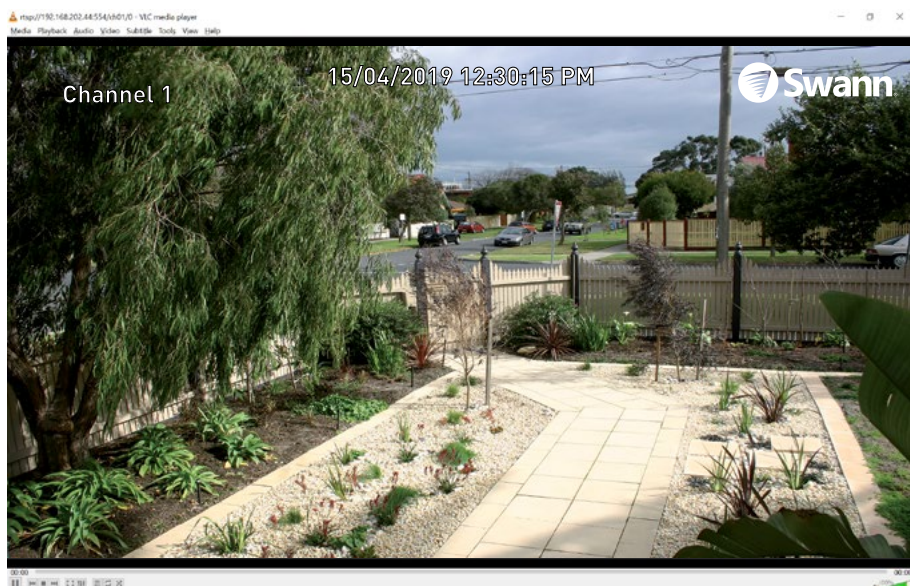
rtsp://192.168.202.44: This is the IP address of your NVR.

554: This is the RTSP port of your NVR.

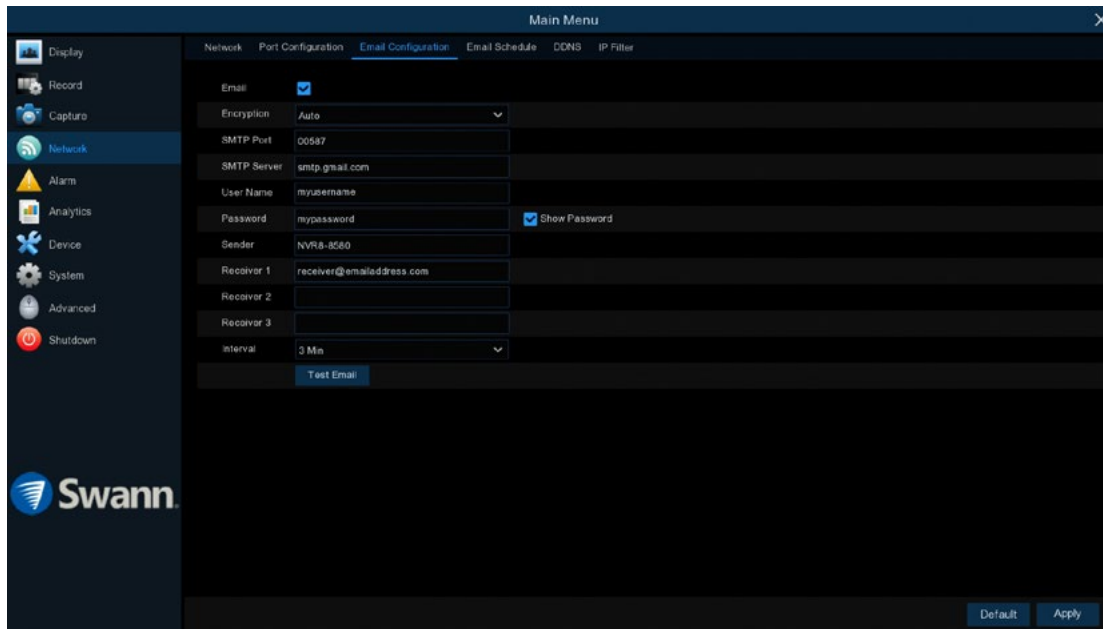
ch01: This represents channel 1. To display channel 2 enter ch02, etc.

0: This represents Mainstream. For Substream enter 1 instead.

3. Click “Play” then enter the user name and password. You will now see a live view image from the camera.



Network: Email Configuration



Why do I need to create an email for my NVR?

So your NVR can send you email alerts and to send you a password reset request if you have forgotten your password. The following email providers are supported - Gmail gmail.com and Outlook outlook.com. On your computer or mobile device, create an email account then input those details here.

→ Click “Default” to revert to default settings.

→ Click “Apply” to save settings.

Email: Click the checkbox to input your email details.

Encryption: Leave this on “Auto”. This ensures your NVR will always use the correct encryption for your email provider.

SMTP Port: Gmail input 00587. Outlook input 00587.

SMTP Server: Gmail input “smtp.gmail.com”. Outlook input “smtp.live.com”.

User Name: Input the email user name for the account you created.

Password: Input the email password for the account you created. Click the “Show Password” checkbox if you would like to hide your password.

Sender: Input a name for your email account, for example NVR8-4580V.

Receiver1: Input the email address that you want to send email alerts to.

Interval: This is the length of time that must elapse after your NVR sends an email alert before it will send another. Adjust accordingly.

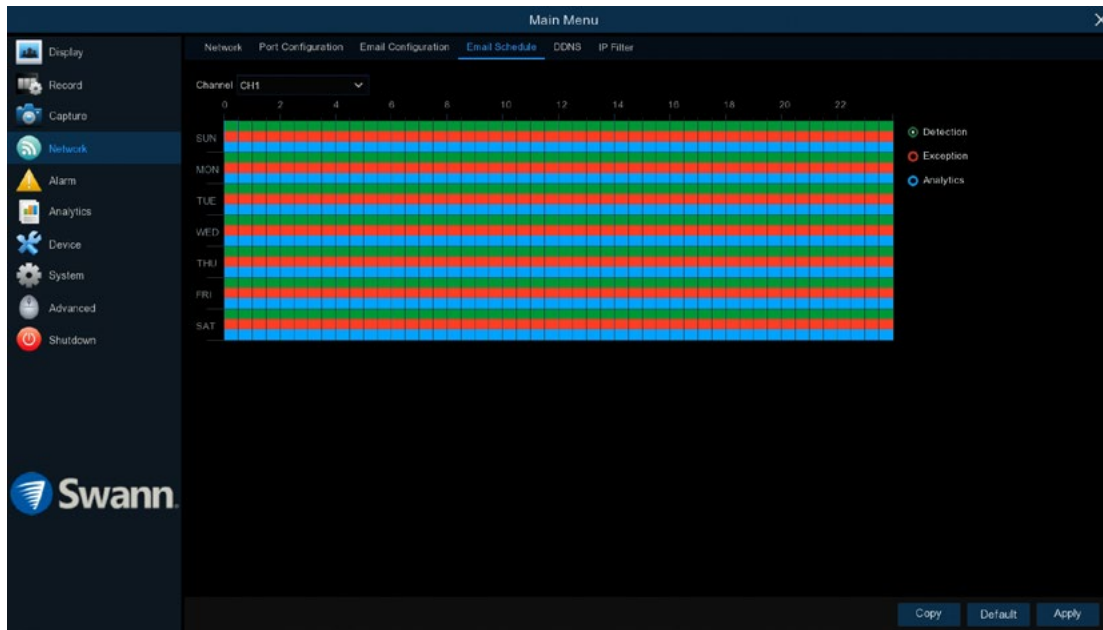
Test Email: Click to verify the information is correct then click “OK”. A message will appear if the test has been successful. Click “OK” to continue.

If the test email is not in your inbox, check your junk or spam folder.

Email not working? Please try the following:

1. Check that your email user name and password are correct.
2. Located at the back of your NVR, you should see one or two flashing LEDs (above the Ethernet port). If you don't see this, disconnect then reconnect the Ethernet cable or try a different port on your modem or router.
3. Search “less secure apps” at support.swann.com.

Network: Email Schedule



- Use the “Copy” function to apply all settings to the other cameras connected.
- Click “Default” to revert to default settings.
- Click “Apply” to save settings.

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

Detection: If email alerts have been enabled for motion detection, you can change the schedule on when your NVR can send those alerts. For example, you may only want to receive alerts during the day but not in the evening. A different schedule can be created for each camera.

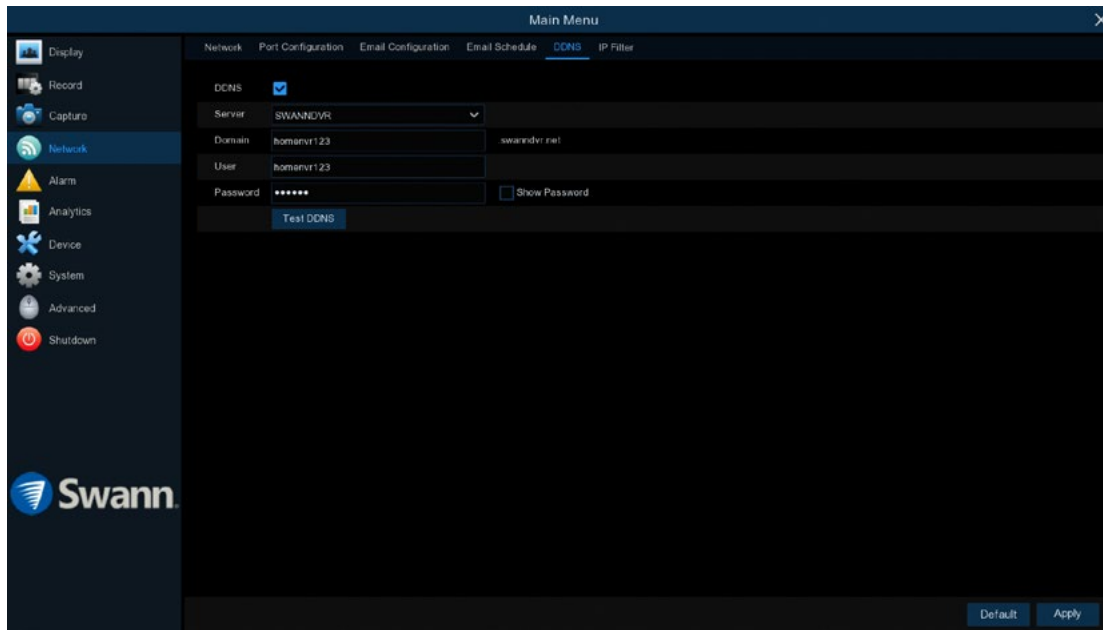
Exception: There are three event types that your NVR will detect as an exception - no space left on the hard drive, a hard drive error and if one or more channels has lost the feed from its camera. It's recommended to leave the default schedule in place in case there is an exception that you need to be alerted to.

Analytics: If any of the analytic functions have been enabled, an email alert will automatically be sent when motion has been detected. A different sched-

ule can be created for each camera.

Each square represents 30 minutes. Using the mouse, click on a particular square to change or click and drag the mouse over the squares corresponding to your desired time period.

Network: DDNS



Prior to developing our SwannLink Peer-to-Peer technology, our SwannDNS service was used to connect to your NVR remotely. This service is still active and we recommend creating an account as a means of backup.

- Click “Default” to revert to default settings.
- Click “Apply” to save settings.

Go to www.swannNVR.com and click the “Registration” button. Follow the prompts to create your account.

DDNS: Click the checkbox to enable.

Server: SWANNNVR is automatically selected.

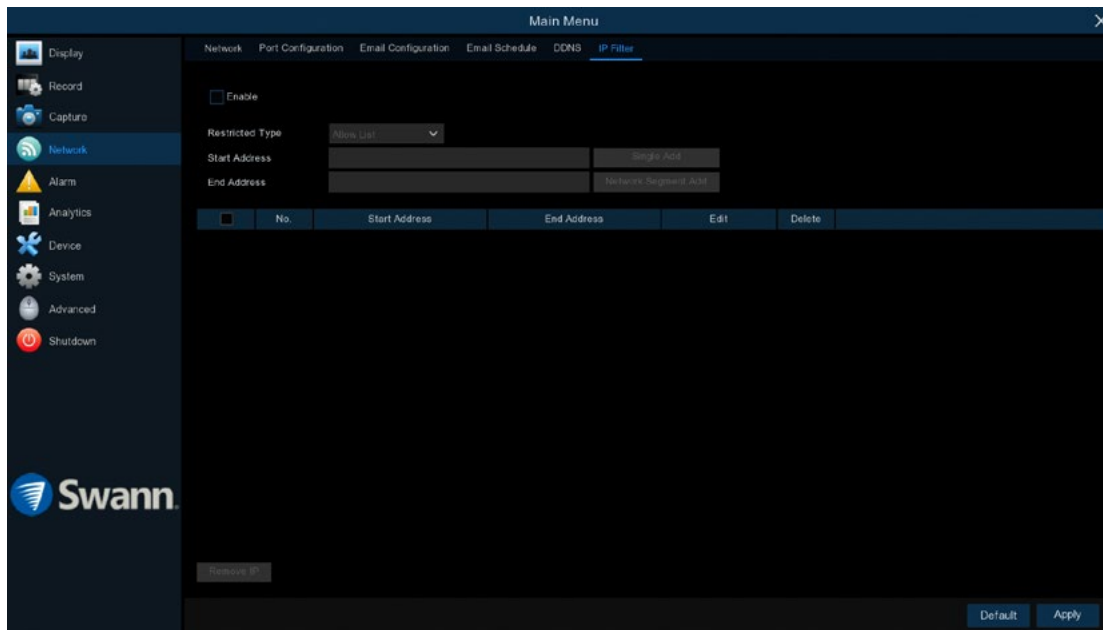
Domain: Enter the domain name that is hosted on your account. For example - (username.swannNVR.net).

User: Enter the username (host name) for your account.

Password: Enter the password for your account.

Test DDNS: Click this button then click “OK” to confirm your account details. After a short moment you will see “DDNS test is successful!”. Click “OK” to close.

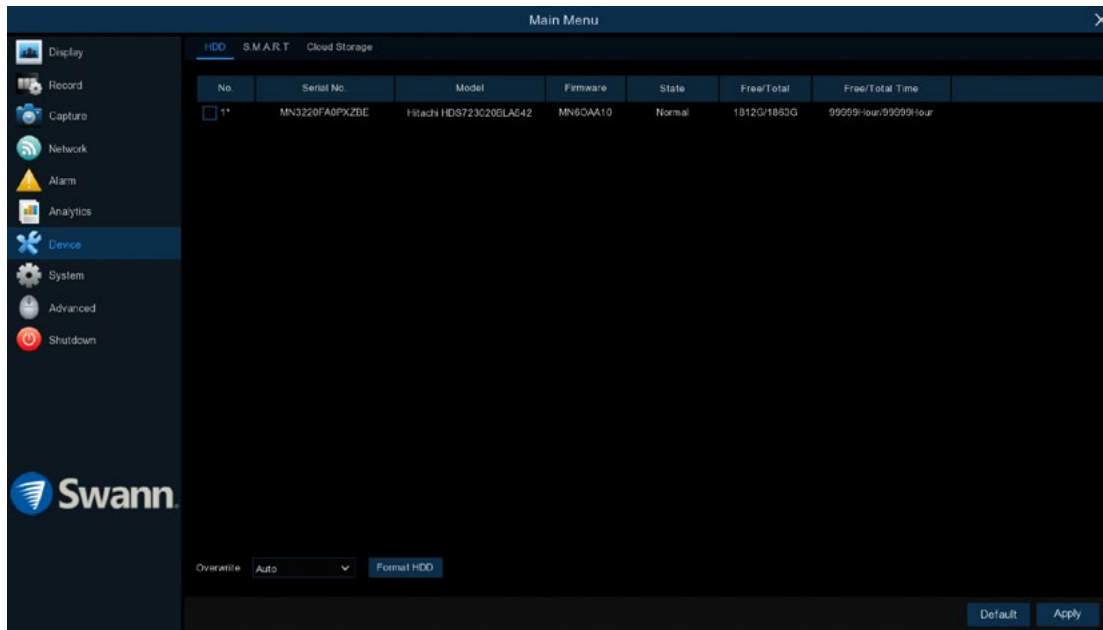
Network: IP Filter



- Click “Default” to revert to default settings.
- Click “Apply” to save settings.

IP Filtering is a great way to limit access to your network devices for specific groups of IP addresses. For example, if you had a malicious user attacking your network, you could add a filter to prevent access to your devices from a single IP address or from a block of IP addresses. For the day-to-day function of your NVR, this function is not required.

Device: HDD



This function gives you the option of formatting your NVR's hard drive, and it will be listed here for selection (if a new hard drive has been installed inside your NVR, you need to format the drive before it can be used).

- Click "Default" to revert to default settings.
- Click "Apply" to save settings.

Overwrite: This instructs your NVR to overwrite the oldest video files as the hard drive becomes full. You also have the option of disabling this or selecting the amount of days events are kept before they are overwritten. It's recommended to leave the default selection as this prevents your NVR from running out of storage space.

Format HDD: Click the checkbox to select the hard drive then click this button to format. A message will appear noting that all data will be erased. Click "OK" to continue.



TIP

From time to time, we recommend that you format the hard drive. This ensures that your NVR maintains system integrity. Connect a USB flash drive to copy events that you want to save. Remember, formatting the hard drive erases all your recordings.

Device: S.M.A.R.T

ID	Attribute Name	Status	Flags	Value	Worst	Threshold	Raw Value
0x1	Raw Read Error Rate	OK	b	100	100	16	0
0x2	Throughput Performance	OK	5	136	136	54	82
0x3	Spin Up Time	OK	7	194	194	24	391 (Average 231)
0x4	Start Stop Count	OK	12	68	68	0	50320
0x5	Reallocated Sector Ct	OK	33	100	100	5	4
0x7	Seek Error Rate	OK	b	100	100	67	0
0x8	Seek Time Performance	OK	5	138	138	20	25
0x9	Power On Hours	OK	12	68	68	0	15473
0xa	Spin Retry Count	OK	13	100	100	60	0
0xc	Power Cycle Count	OK	32	100	100	0	445
0xc0	Power-Off Retract Count	OK	32	58	58	0	50690
0xc1	Load Cycle Count	OK	12	56	56	0	50690
0xc2	Temperature Celsius	OK	2	130	130	0	46 (Min/Max 20/59)
0xc4	Reallocated Event Count	OK	32	100	100	0	4
0xc5	Current Pending Sector	OK	22	100	100	0	0
0xc6	Offline Uncorrectable	OK	8	100	100	0	0
0xc7	UDMA CRC Error Count	OK	a	200	200	0	1

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

Self-check Type: There are three types available:

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

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

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

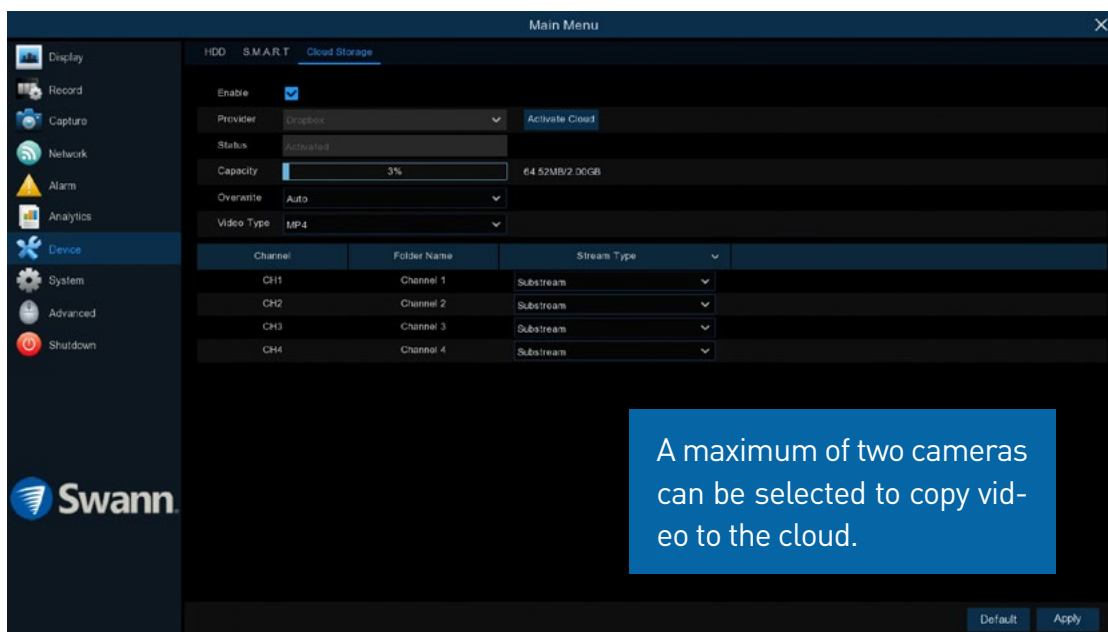
When performing a test, your NVR will continue to work as normal.

In most circumstances, the information here will not be needed for general use of your NVR, however one of our Swann Helpdesk & Technical Support

staff may ask you to access this if you call for assistance.

Right-click the mouse to exit.

Device: Cloud Storage



Your NVR has the ability to copy snapshots and video recordings to the cloud via Dropbox™. Dropbox™ is a service that allows you to store and share snapshots and video recordings and always have them on hand when needed.

- Click “Default” to revert to default settings.
- Click “Apply” to save settings.

A maximum of two cameras can be selected to copy video to the cloud.

Before activating the cloud function, we recommend that you create a Dropbox account using the same email address and password used for your NVR. On your computer go to www.dropbox.com, input your name, email address and password, agree to the terms & conditions then click the sign up button (don't log out of your account after sign up).

Enable: Click the checkbox to enable.

Overwrite: The default setting will overwrite the oldest files first. Click the drop down menu if you would like to select a particular time period instead.

Video Type: Leave the default selection for wider playback compatibility.

Activate Cloud: Click this to activate then click “OK” to confirm.

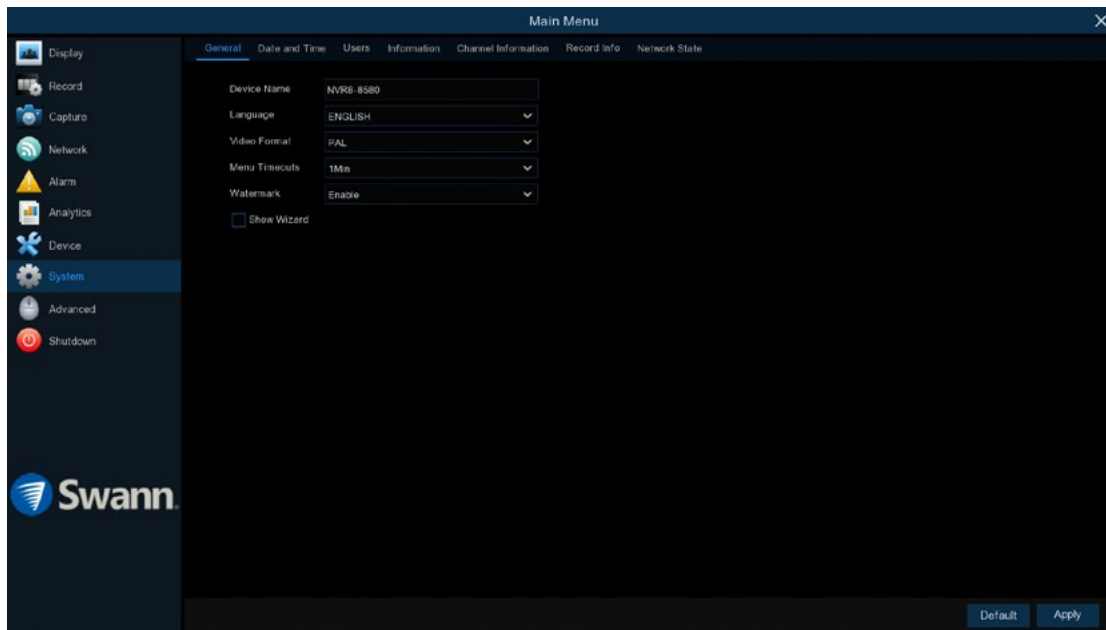
Stream Mode: Click the drop down menu if you would like to select Sub-

stream (reduced quality) or Mainstream (high quality) video to be copied to the cloud.

1. After a short moment, you will see a message on-screen. An activation link has been sent to your email (the email address used to receive email alerts).
2. On your computer, check your email then click the link within to activate.
3. Open the Swann Security app on your mobile device, tap the “Menu” button (top left) then tap “Cloud”. Tap your device shown then scan the QR code displayed on your computer. A code will be displayed within the app, tap “Authorize”. A message will appear stating authorization successful. Tap “OK” to finish.

With the cloud function enabled, you need to instruct your NVR to send alerts to the cloud (see page 29 - [Alarm: Detection - Actions](#)).

System: General



- Click “Default” to revert to default settings.
- Click “Apply” to save settings.

Device Name: Click the dialogue box to rename your NVR (if required).

Language: Select a language you would like the system menus to be displayed in. Multiple languages are available.

Video Format: Select the correct video standard for your country. USA and Canada are NTSC. UK, Australia and New Zealand are PAL.

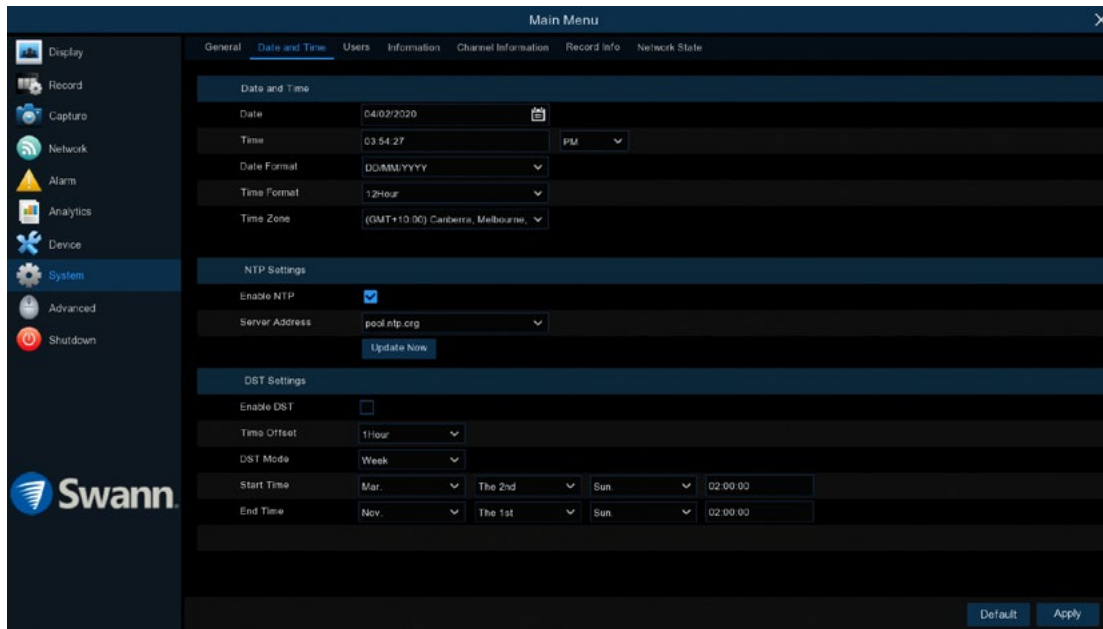
Menu Timeouts: Click the drop down menu to select the time your NVR will exit the Main Menu when idle. You can also disable this by selecting “OFF” (password protection will be temporarily disabled).

Mode: Your NVR supports an additional mode called XVR. This allows you to configure IP cameras, that are connected to your home network, to work with your NVR. This mode will be covered in a future manual update.

Watermark: By default, the Swann logo is overlaid as a watermark for each camera connected. If this isn't required, click the drop down menu to disable.

Show Wizard: Click the checkbox if you would like to display the Startup Wizard each time you turn on or reboot your NVR.

System: Date and Time



- Click “Default” to revert to default settings.
- Click “Apply” to save settings.

Date and Time

If the date, time and time zone are incorrect, click the relevant dialogue boxes and drop down menus to change.

NTP Settings

The NTP (Network Time Protocol) function gives your NVR the ability to automatically sync its clock with a time server. This ensures that the date and time are accurate and ensures correct time stamping when events occur.

1. Click the “Update Now” button to automatically synchronize your NVR’s internal clock with the time server instantly.
2. A message will appear on-screen stating that the time has been successfully updated. Click “OK” to continue.

DST Settings

Enable DST: If Daylight Saving applies to your time zone or region, click the drop down menu to enable.

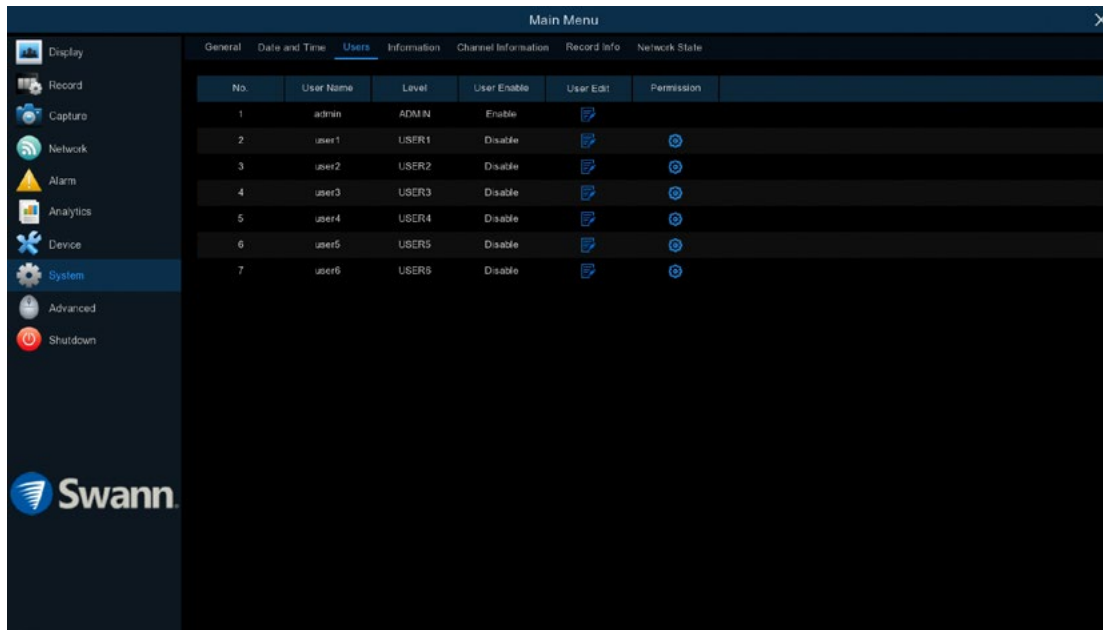
Time Offset: Select the amount of time that Daylight Saving has increased by in your time zone. This refers to the difference in minutes, between Coordinated Universal Time (UTC) and the local time.

DST Mode: You can select how Daylight Saving starts and ends:

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

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

System: Users



- Click “Default” to revert to default settings.
- Click “Apply” to save settings.

To change your NVR’s password, click the “Edit” button. The password has to be a minimum of six characters and can contain a mixture of numbers and letters. Enter your new password again to confirm.

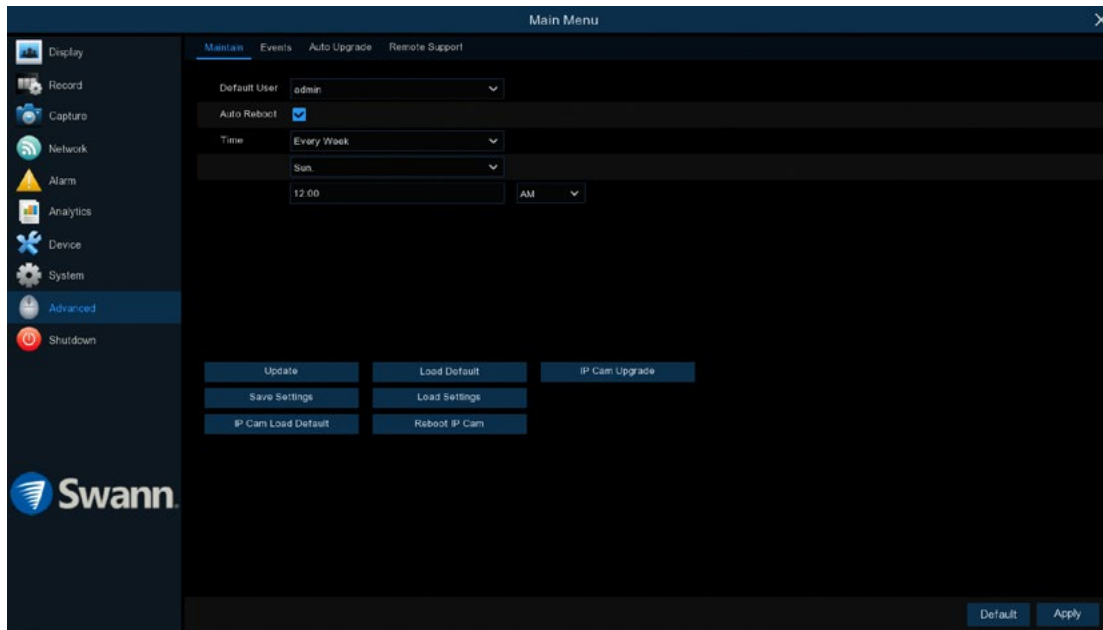
the “Save” button then click “OK” to confirm.

Additional user accounts can also be enabled:

1. Select “user1” then click the “Edit” button.
2. Click the drop down menu to enable.
3. Enter a user name and password.
4. Click the “Save” button, enter the admin password then click “OK” to confirm.

To change permissions, click the “Permission” button then select which options you would like to enable. Click the “All” button to select all options. Click

Advanced: Maintain



- Click “Default” to revert to default settings.
- Click “Apply” to save settings.

Default User: Admin is the default user account. If multiple user accounts have been created, click the drop down menu to disable.

Auto Reboot: It is recommended to leave this enabled, as it maintains the operational integrity of your NVR.

Time: Choose an appropriate day and time to reboot your NVR.

Update: Click this button to update the firmware from a USB flash drive. Select the firmware file then “OK” to confirm. When the firmware update has completed, your NVR will reboot automatically.

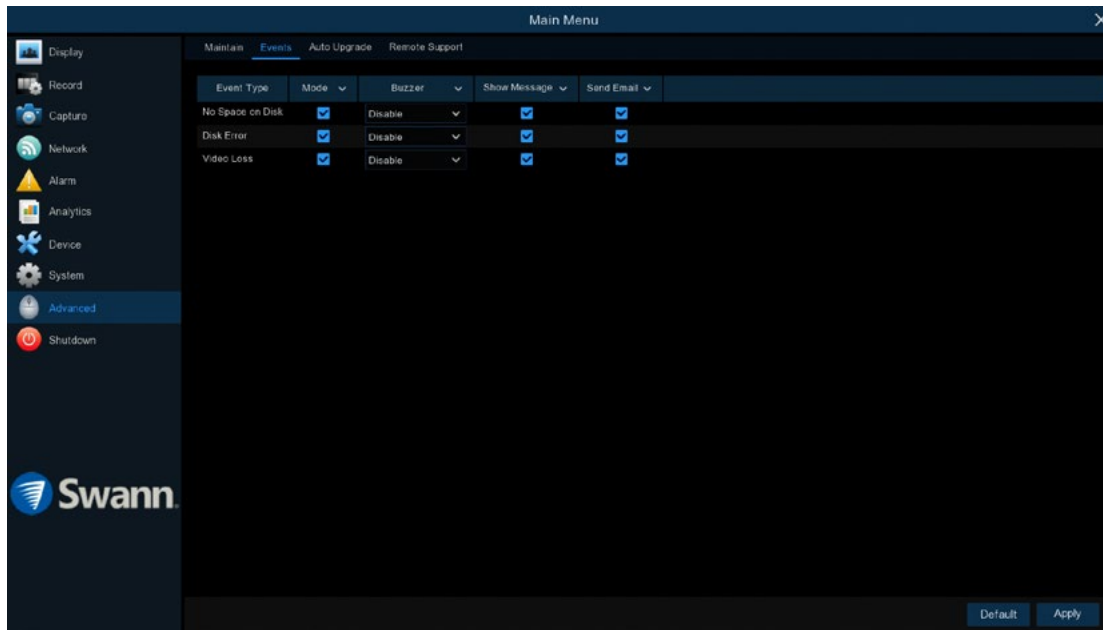
Save Settings: Click this button to export a configuration file containing all the settings that you have customised.

Load Default: Click this button to restore factory default settings. Click “All”

then click “Save”. Your NVR will reboot and the Startup Wizard will appear on-screen.

Load Settings: Click this button to import a configuration file containing all the settings that you have customised.

Advanced: Events



Whenever there is an event or if your NVR displays unusual behaviour, you can be alerted to in multiple ways such as receiving an email, displaying a message on-screen, receiving an alert in the Swann Security app and activating its internal buzzer. There are three event types that your NVR will detect as an exception.

- Click “Default” to revert to default settings.
- Click “Apply” to save settings.

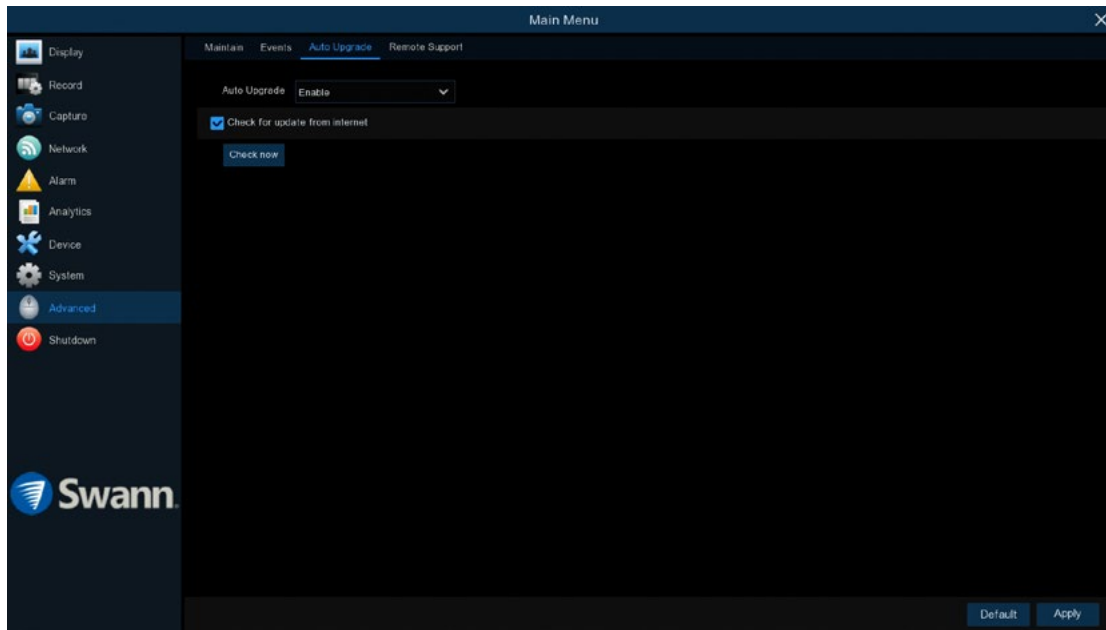
Enable: Click the checkbox if you would like to disable alerts for the event available.

Buzzer: Click the drop down menu and select the time period for the internal buzzer to activate for the event available.

Show Message: Click the checkbox if you like to disable the on-screen message for the event available.

Send Email: Click the checkbox if you would like to disable email alerts for the event available.

Advanced: Auto Upgrade



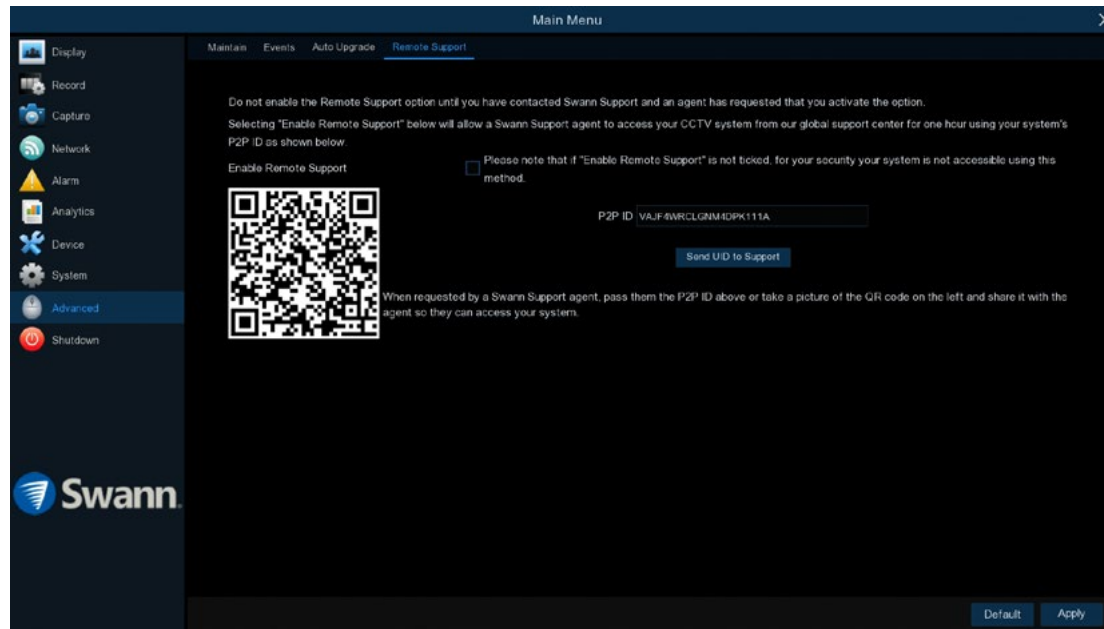
- Click “Default” to revert to default settings.
- Click “Apply” to save settings.

Auto Upgrade: By default, your NVR will automatically download and install new firmware when available. Click the drop down menu if you would like to disable this feature.

Check for update from internet: By default, your NVR will automatically check and alert you if new firmware is available for download. Click the checkbox if you would like to disable this feature.

Check now: Click this button to check if new firmware is available. If new firmware is available, follow the on-screen instructions.

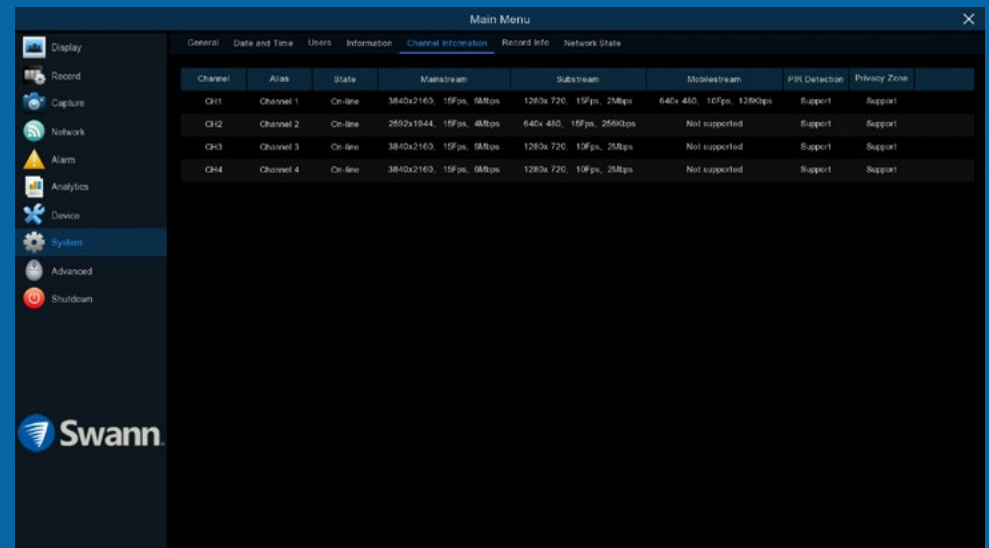
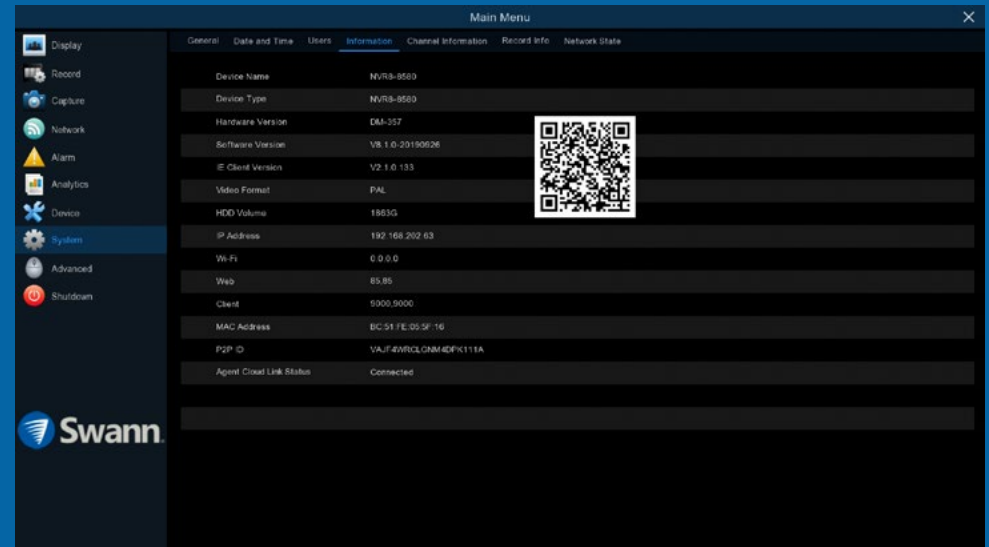
Advanced: Remote Support



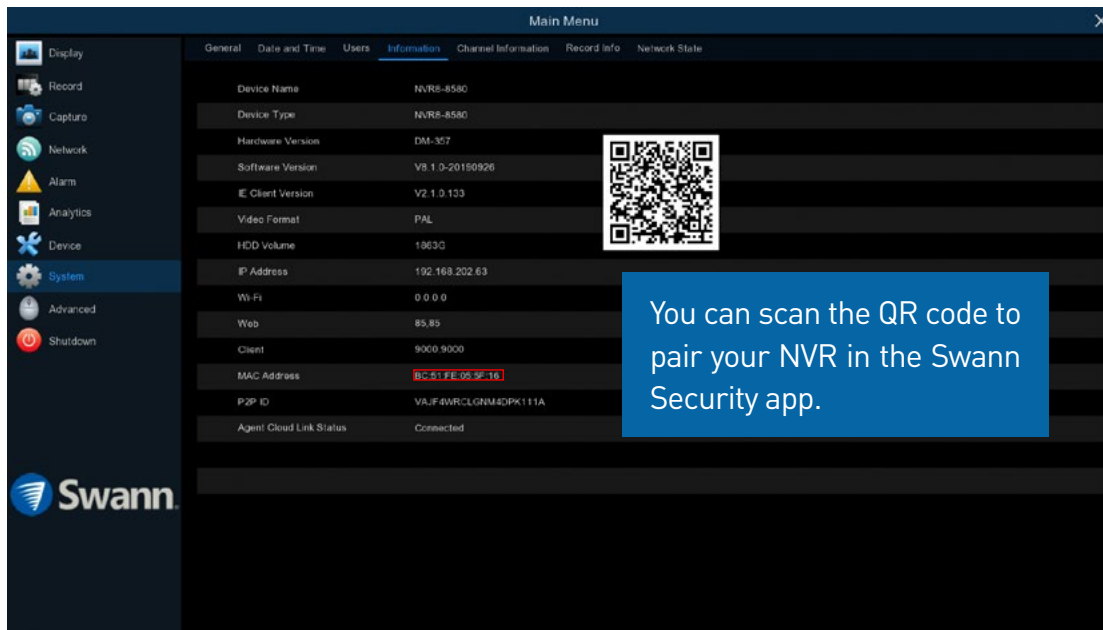
If you call for assistance, the Remote Support function can be used by our Swann Helpdesk & Technical Support staff, to remotely connect to your NVR. This will assist them in diagnosing any issues that you may be having. This function is not used in the day-to-day operation of your NVR.

System Status

The various status tabs give you an overview of the various settings and options that have been selected for your NVR to function. Each action that your NVR performs as well as events detected are logged, which you can search and view. If you call our helpdesk for assistance, our staff may ask you to access these tabs to assist them in solving any technical issues that you may be having.



System: Information



The screenshot shows the 'System: Information' tab in the Swann NVR web interface. The interface has a dark theme with a sidebar on the left containing icons for Display, Record, Capture, Network, Alarm, Analytics, Device, System (selected), Advanced, and Shutdown. The main content area displays a table of system information:

Property	Value
Device Name	NVR8-8580
Device Type	NVR8-8580
Hardware Version	DM-357
Software Version	V8.1.0-20150926
E Client Version	V2.1.0.133
Video Format	PAL
HDD Volume	1863G
IP Address	192.168.202.63
Wi-Fi	0 0 0 0
Web	85.85
Client	9000-9000
MAC Address	BC:51:FE:09:3F:16
P2P ID	VAJF6WRCLGNM4DPK111A
Agent Cloud Link Status	Connected

A QR code is displayed to the right of the table. A blue callout box with white text says: "You can scan the QR code to pair your NVR in the Swann Security app." The Swann logo is visible in the bottom left corner of the interface.

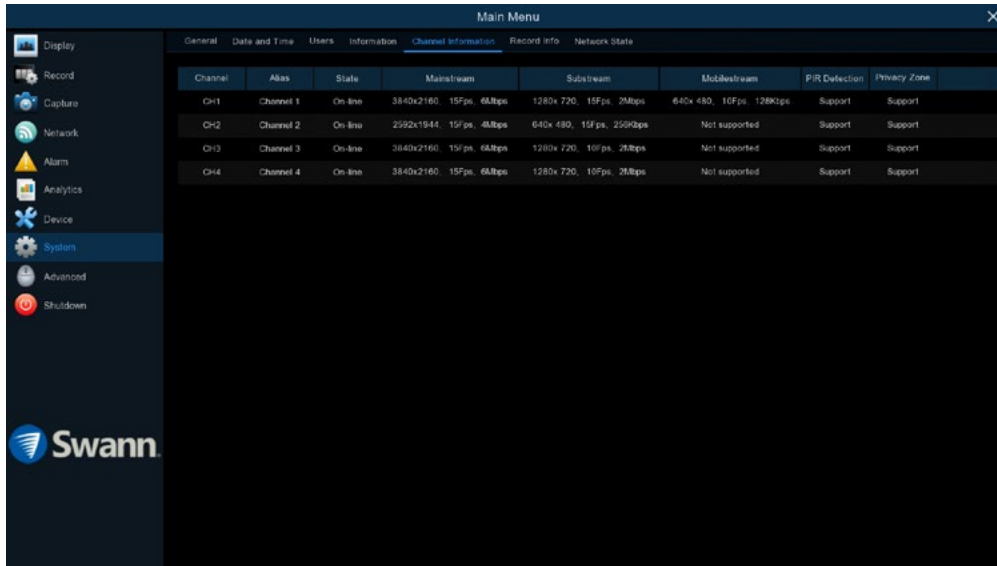
This tab displays technical information about your NVR as well as your device ID (P2P ID) and QR code. If you call our helpdesk for assistance, our staff may ask you to access this tab to assist them in solving any technical issues that you may be having.

MAC Address: You can use this as a recovery password if you have forgotten your current password.

If you call our helpdesk for assistance, our staff may ask you to access this tab to assist them in solving any technical issues that you may be having.

Write down your MAC Address: _____

System: Channel Information & Record Info



Main Menu

General Date and Time Users Information Channel Information Record Info Network State

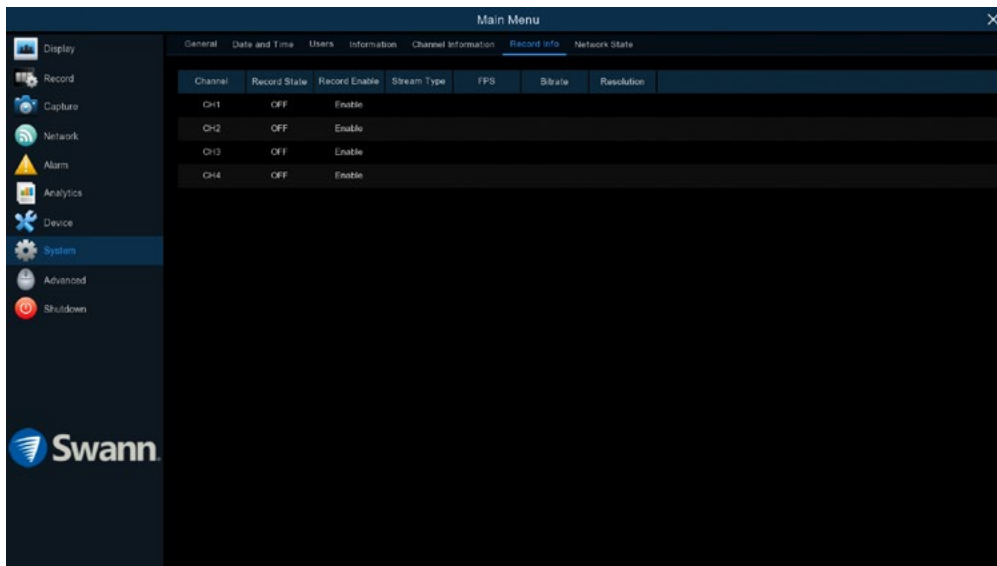
Channel	Alias	State	Mainstream	Substream	Mobilestream	PIR Detection	Privacy Zone
CH1	Channel 1	On-line	3840x2160, 15Fps, 6Mbps	1280x 720, 15Fps, 2Mbps	640x 480, 10Fps, 128Kbps	Support	Support
CH2	Channel 2	On-line	2592x1944, 15Fps, 4Mbps	640x 480, 10Fps, 250Kbps	Not supported	Support	Support
CH3	Channel 3	On-line	3840x2160, 15Fps, 6Mbps	1280x 720, 10Fps, 2Mbps	Not supported	Support	Support
CH4	Channel 4	On-line	3840x2160, 15Fps, 6Mbps	1280x 720, 10Fps, 2Mbps	Not supported	Support	Support

Swann

Displays the Mainstream, Substream and the recording settings used for each camera connected (for Record Info, the settings will only be shown when one or more cameras are recording).

If you call our helpdesk for assistance, our staff may ask you to access this tab to assist them in solving any technical issues that you may be having.

Right-click the mouse to exit.



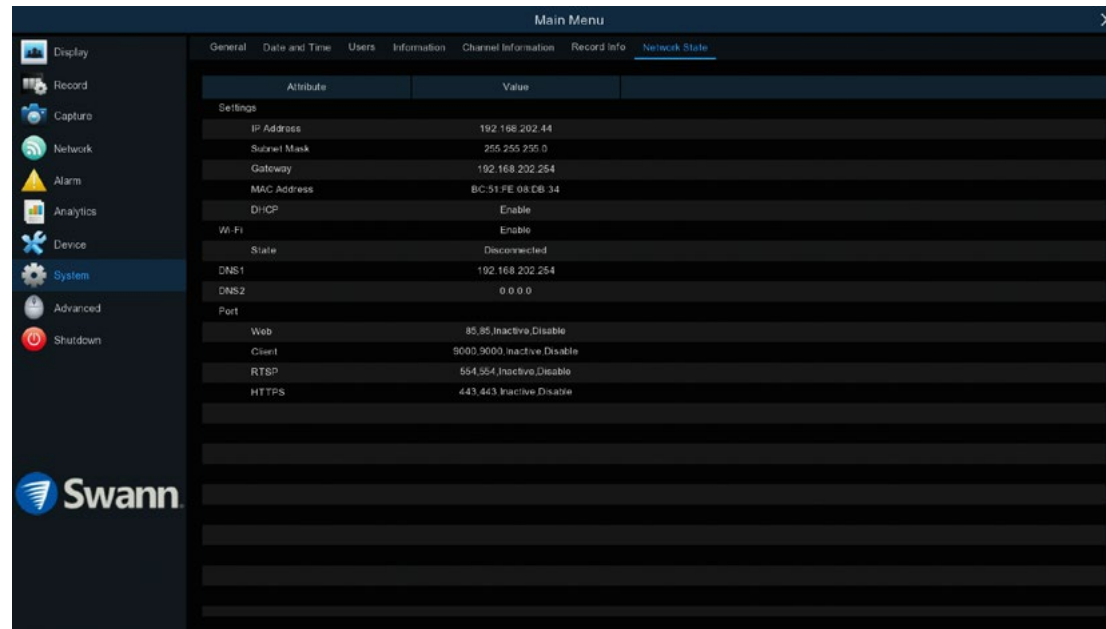
Main Menu

General Date and Time Users Information Channel Information Record Info Network State

Channel	Record State	Record Enable	Stream Type	FPS	Bitrate	Resolution
CH1	OFF	Enable				
CH2	OFF	Enable				
CH3	OFF	Enable				
CH4	OFF	Enable				

Swann

System: Network State

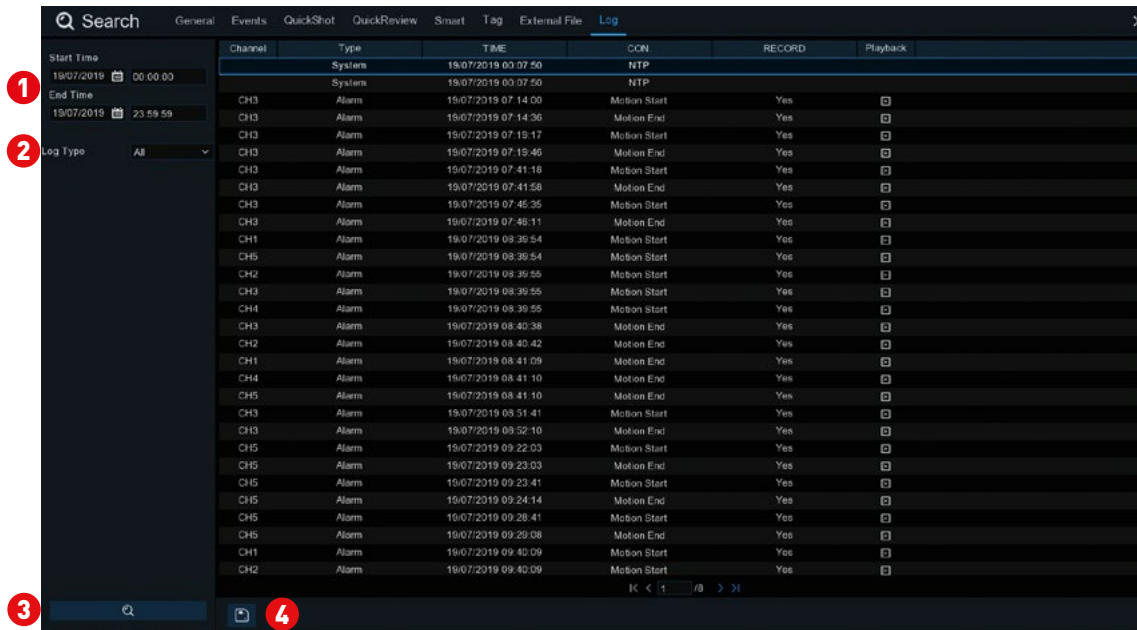


Displays the network settings used by your NVR.

If you call our helpdesk for assistance, our staff may ask you to access this tab to assist them in solving any technical issues that you may be having.

Right-click the mouse to exit.

Search: Log



Each action that your NVR performs as well as events detected are logged. These log files can be searched, viewed and copied to a USB flash drive for safe keeping.

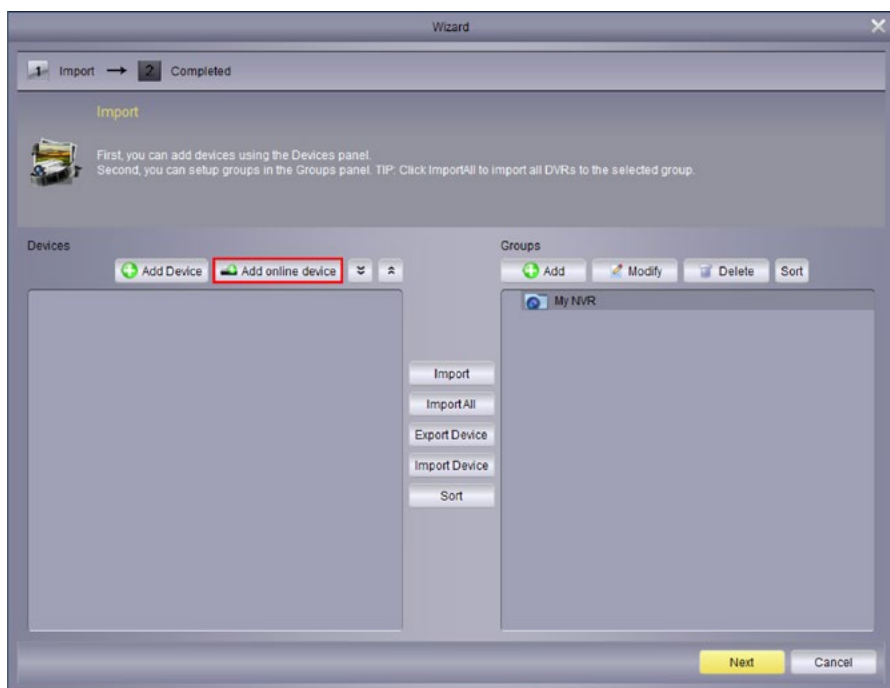
- 1 Start/End Time:** Click the calendar icon to select the month, year and date that you would like to search on. Click the dialogue box to enter a specific start and end time.
- 2 Log Type:** Leave the default selection or click the drop down menu to select a specific action that you would like to search for.
- 3 Search:** Click this to display a list of log files that match your search criteria. Double-click a file to display information about that log.
- 4 Backup:** Insert a USB flash drive to your NVR then click this to copy the log files that match your search criteria. You have the choice of formatting the flash drive or creating a new folder if required. Click “OK” to save then click “OK” again to close.

Password Recovery using HomeSafe View

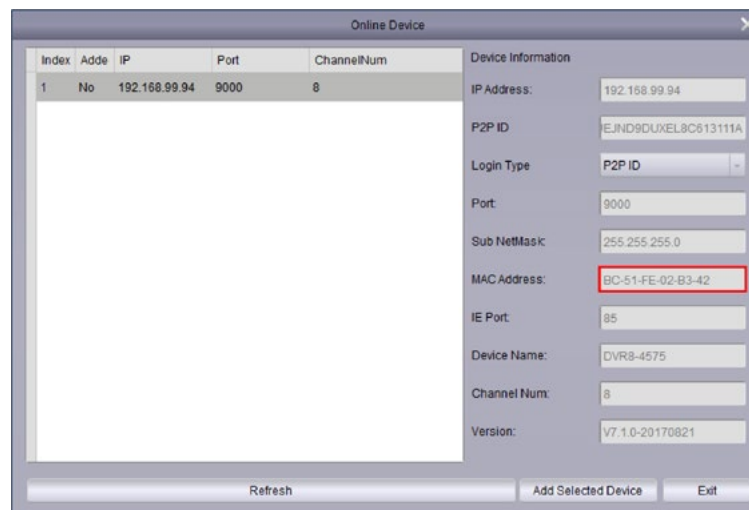
I haven't created an email for my NVR, what can I do? Don't worry, you can use HomeSafe View to retrieve your recovery code. You can use this to reset your NVR's password. Download the relevant version for your computer and follow the on-screen instructions to complete installation.

HomeSafe View Windows click [here](#). **HomeSafe View Mac** click [here](#).

1. When you first run HomeSafe View, you will see an introduction screen. Click "Next" to continue. You will see the following screen:

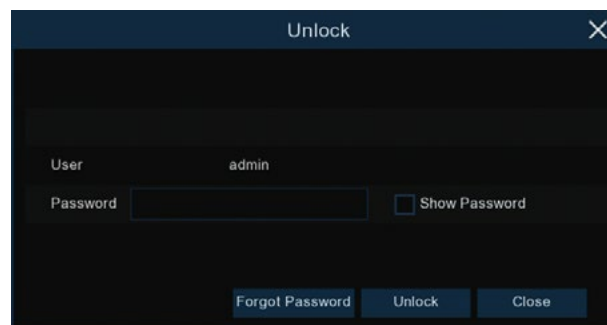


2. To display your NVR connected to your router, click the "Add online device" button as shown above (if your NVR does not appear, check that your device is connected to your router using the supplied Ethernet cable).



3. You will see this screen as shown above. Click your NVR to display its MAC Address. This is your recovery code that is used to reset the password. Write this down and replace the dashes (-) with colons (:).

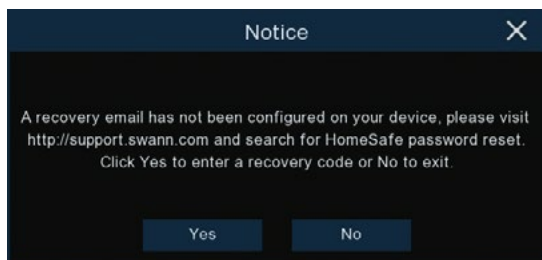
4. Now it's time to enter the recovery code on your NVR. Right-click the mouse on the Live View screen to display the Menu Bar then click "Main Menu". The login prompt will appear on-screen:



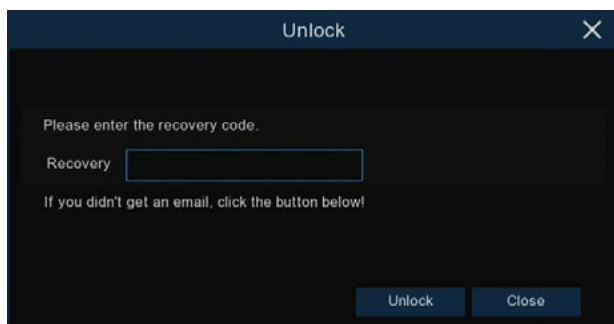
(continued on next page)

Password Recovery using HomeSafe View

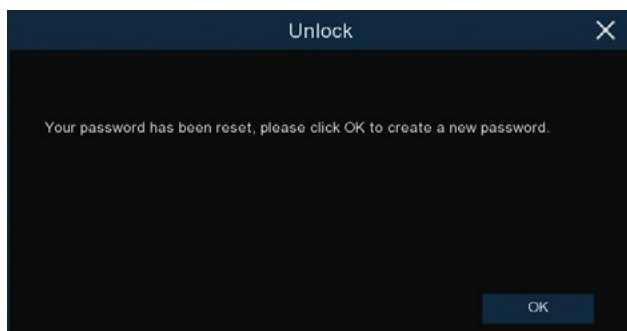
5. Click “Forgot Password”. A message will appear on-screen:



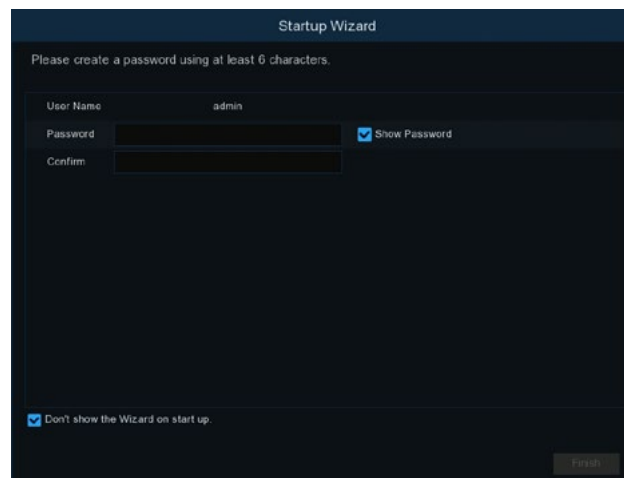
Click “Yes” to continue. The recovery code prompt will appear on-screen:



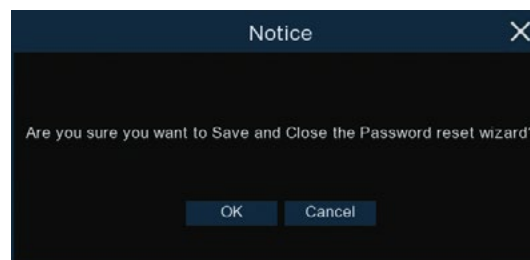
Click the dialogue box, enter the recovery code (MAC Address), for example BC:51:FE:02:B3:42 then click “OK”. A message will appear on-screen stating that the password has been reset. Click “OK” to continue.



6. You will now be prompted to enter a password:



The password has to be a minimum of six characters and can contain a mixture of numbers and letters. Use a password that you are familiar with, but is not easily known to others. Write down your password for safe keeping. When finished click “Save”. You will now see the following screen:



Click “OK” to finish.

Don't forget to write down your password: _____

Warranty Information

USA

Swann Communications USA Inc.
12636 Clark Street
Santa Fe Springs CA 90670
USA

Australia

Swann Communications
Suite 5B, 706 Lorimer Street
Port Melbourne Vic 3207
Australia

United Kingdom

Swann Communications LTD.
Stag Gates House 63/64 The Avenue
S0171XS
United Kingdom

Warranty Terms & Conditions

Swann Communications warrants this product against defects in workmanship and material for a period of one (1) year from its original purchase date. You must present your receipt as proof of date of purchase for warranty validation. Any unit which proves defective during the stated period will be repaired without charge for parts or labour or replaced at the sole discretion of Swann. The end user is responsible for all freight charges incurred to send the product to Swann's repair centres. The end user is responsible for all shipping costs incurred when shipping from and to any country other than the country of origin.

The warranty does not cover any incidental, accidental or consequential damages arising from the use of or the inability to use this product. Any costs associated with the fitting or removal of this product by a tradesman or other person or any other costs associated with its use are the responsibility of the end user. This warranty applies to the original purchaser of the product only and is not transferable to any third party. Unauthorized end user or third party modifications to any component or evidence of misuse or abuse of your device will render all warranties void.

By law some countries do not allow limitations on certain exclusions in this warranty. Where applicable by local laws, regulations and legal rights will take precedence.

For Australia: Our goods come with guarantees which cannot be excluded under Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to major failure.

Help & Resources

Visit Swann Support Center at support.swann.com. You can register your product for dedicated customer support, download guides, find answers to commonly asked questions, and more.



Product Registration



Customer Support



Product Manuals



Frequently Asked Questions



Support Community



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