



English



**4 / 8 Channel
Digital
Video Recorder**

FCC Verification

Note: 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, and

These devices must accept any interference received, including interference that may cause undesired operation.

Important note:

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

Modifications not approved by the party responsible for compliance could void user's authority to operate the equipment.

IMPORTANT SAFETY INSTRUCTIONS

- Make sure product is fixed correctly and stable if fastened in place
- Do not operate if wires and terminals are exposed
- Do not cover vents on the side or back of the DVR and allow adequate space for ventilation

DEFAULT PASSWORD INFORMATION

To ensure your privacy, this DVR supports password protection.

The default, all-access username is "admin", the default password is "12345".

To ensure your ongoing privacy, **we strongly recommend setting a password as soon as possible.** Choose something that you'll remember, but that others would be unlikely to guess.

IMPORTANT NOTICE - Do not lose or forget your password. To ensure that your DVR has the best security possible, password recovery has been designed to be a complicated and time consuming process. Only a select number of staff at the Swann Technical Support Telephone Helpdesk can assist. Password retrieval can take several days, which means you will not be able to access your DVR during this time.

Congratulations on your purchase of this *Swann* Digital Video Recorder (DVR). You've made a fine choice for keeping a watchful eye over your home or business. Let's take a moment to talk about some of the features this DVR offers, and how to get the most out of them.

Oh my, this is a big manual. How long will this take?

Yes, but you won't have to read all of it - you should be up and running by page 12!

It can take a few hours to connect everything and run through the setup procedure.

The latter part of this manual is for advanced users only - the DVR is seriously configurable - the out-of-the-box settings do a great job in 90% of situations, but some users will want to get into the nitty-gritty detail, so that information is presented for those who need it.

The Basic Setup

The default settings will cover most basic installation requirements of the DVR.

To get the most out of your hard drive, we've configured the DVR to record only when it detects motion - that way, you won't fill the hard drive with video of nothing happening.

Before installing anything, connect the DVR and cameras and test your system.

We ensure everything is working properly when we ship them out, but sometimes things can be damaged in transport, and occasionally components can fail. Better to find out now, before everything is fixed in place!

Getting the DVR Setup

There are three stages to getting your DVR set up. If you want to use the default settings, you'll only need to complete steps one and two.

Stage 1. Connecting the DVR (page 6 to page 8)

This section details what you can connect to the different inputs/outputs of the DVR.

Everyone's setup will vary a little bit - it depends on which cameras came with the DVR (if any) and what device(s) you've already got.

Stage 2. Basic DVR Setup

The DVR needs a few things to be set properly before it can do its thing. Follow the instructions from page 9 to page 12 to get everything working.

3. *Optional: Advanced DVR Configuration*

The latter part of this manual covers advanced DVR operations.

This DVR comes with all the professional-grade capabilities you'd expect from a quality *Swann* product, but many advanced capabilities require detailed setup to function correctly.

If you're not an advanced user, don't worry. The out-of-the-box settings really do work well, and we'd only suggest changing them if you've got a really specific plan in mind.

You'll need to read a page or two of this section if:

- you want to alter the motion detection sensitivity or the areas it applies to (page 39).

4. Accessing this DVR from your Smartphone or Tablet

This DVR supports live viewing on your Smartphone or Tablet. We have developed an app called **SwannView Plus** for the Android and iOS platforms. For Android users, please download the app from Google Play. If you have an Apple device, please go to the Apple App Store. As we are continually improving the documentation that we include with our products, you can find the latest user guide for our app at (www.swann.com).

Installation Guidelines

- **Do not expose the DVR to moisture.** Water is the arch-enemy of electrical components and also poses a high risk of electric shock.
- **Avoid dusty locations.** Dust has a tendency to build up inside the DVR case, leading to a high risk of failure or even fire.
- **Only install the DVR in a well ventilated space.** Like all electronics, the circuitry and hard drive in the DVR produce heat, and this heat needs a way out.
- **Do not open the DVR case except to install/swap the hard drive inside.** There are no user serviceable parts inside.
- **Do not cut or modify any cable for any reason.** Doing so will void your warranty, as well as pose a great risk of fire or electrical shock.
- **Do not expose the DVR to sudden bumps or shocks (for example, being dropped).** The DVR is as robust as possible, but many of the internal components are quite fragile.
- **Remember that the DVR is, in all likelihood, going to be left on 24 hours a day, 7 days a week.** Keep this in mind when choosing a location for installation.
- **Never open the case whilst the DVR is plugged in,** and never turn the DVR on whilst the case is open.

Top Panel of the DVR



1) Power LED: Will be lit whenever the DVR is supplied power and turned on.

2) HDD LED: Will flash whenever the DVR is writing to/reading from the installed hard drive.

3) LAN LED: Flashes rapidly when the DVR's network port is sending or receiving information.

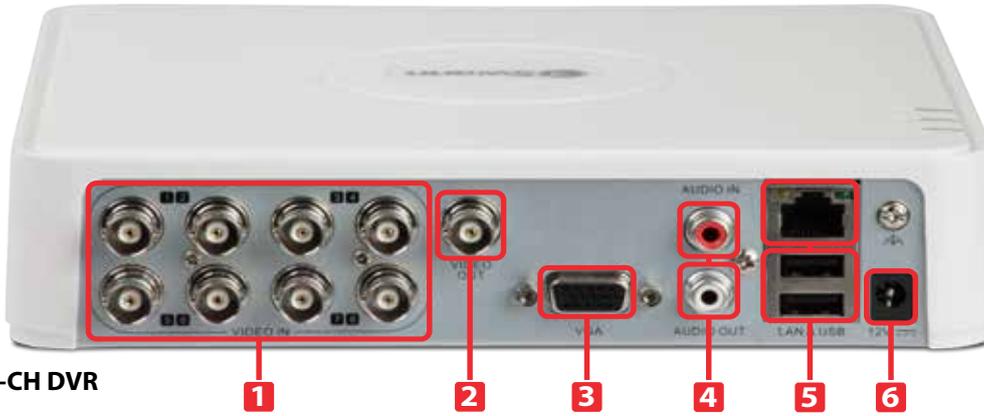
Rear Panel of the DVR



4-CH DVR

- 1) Video Inputs 1 - 4:** These are your primary video inputs. The channels are labelled by number in the same order as they will appear on your DVR's interface.
- 2) Video Out:** Connect a composite cable to the video or A/V input on your TV.
- 3) VGA Output:** For connecting a television or PC monitor with a VGA input.
- 4) Audio Input/Output:** RCA port for audio input. Used to connect an audio source such as the camera's built-in microphone. RCA port for audio output. Used to connect your speaker or headphone.

- 5) Network Port/USB 2.0 Ports:** Network Port > Where you can connect the DVR to a network, typically directly into the router or network switch. USB 2.0 Ports > The supplied mouse connects here. You can also connect USB external storage devices for backup or for applying new firmware (FAT32 file support only).
- 6) Power Input:** Where you connect the included power adapter.



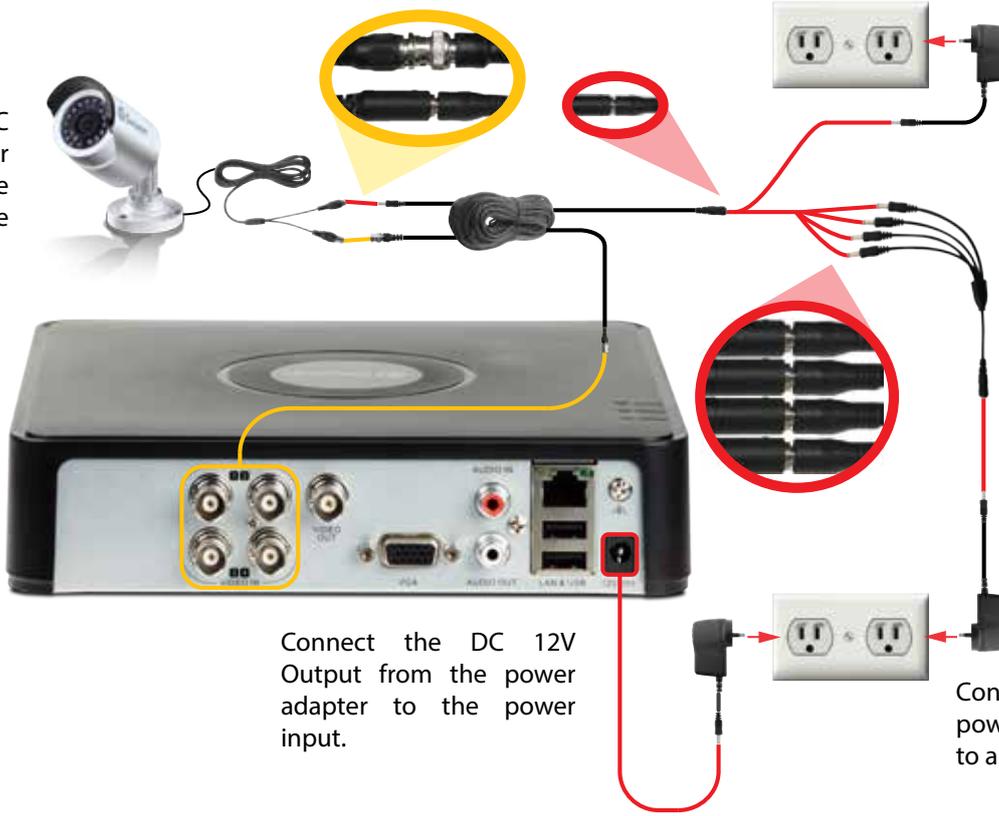
8-CH DVR

- 1) Video Inputs 1 - 8:** These are your primary video inputs. The channels are labelled by number in the same order as they will appear on your DVR's interface.
- 2) Video Out:** Connect a composite cable to the video or A/V input on your TV.
- 3) VGA Output:** For connecting a television or PC monitor with a VGA input.
- 4) Audio Input/Output:** RCA port for audio input. Used to connect an audio source such as the camera's built-in microphone. RCA port for audio output. Used to connect your speaker or headphone.

- 5) Network Port/USB 2.0 Ports:** Network Port > Where you can connect the DVR to a network, typically directly into the router or network switch. USB 2.0 Ports > The supplied mouse connects here. You can also connect USB external storage devices for backup or for applying new firmware (FAT32 file support only).
- 6) Power Input:** Where you connect the included power adapter.

Connection Diagram

Connect the BNC outputs from your cameras into the BNC inputs on the rear of the DVR.



Connect your cameras to power, using a power splitter (if included).

Connect the DC 12V Output from the power adapter to the power input.

Connect the power adapter(s) to a wall outlet.

Connecting the DVR



You can connect your PC monitor to the VGA output.

Or you can connect the composite video output to your TV.

Connect an ethernet cable from the LAN port on the DVR to a spare port on your router.

Connecting Additional Devices



Operating the USB Mouse

The controls are pretty easy to remember - heck, there are only two buttons. It couldn't be simpler.

Left click:

- Selects an item or confirms a choice.

Right click:

- Opens the menu bar from the live viewing screen.
- Returns one "step" from a sub-menu.
- Opens a context menu in some settings screens.

The Scroll Wheel:

- Can be used to adjust the values of sliders and scales when highlighted by the mouse.

Note: Wireless Mice and Bluetooth devices

Note that **Wireless Mice** and **Bluetooth** devices are **NOT** compatible with this DVR. Please use the USB optical mouse supplied.

The Setup Wizard

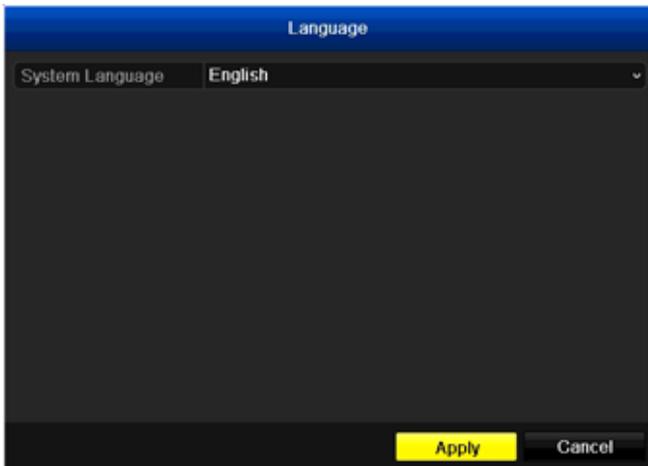


Starting the DVR for the first time:

When you first boot the DVR, it will automatically start "The Setup Wizard" which will guide you through the various setup options available. The wizard contains six quick setup screens which will allow you to choose how you want the DVR to behave. **Please be patient as it can take up to 40 seconds for the wizard to appear after the DVR is turned on.**

You'll be asked to:

- Select a language.
- Set a password for the ADMIN account.
- Configure the time, date and time zone for your location.
- Configure the DVR so it can operate on your network and access (and be accessed from) the Internet.
- Initialize and format your hard drive(s), if required.



Setup Wizard: Language

System Language: Select the language you'd like the menu system to be displayed in.



Setup Wizard: Wizard

When this check-box is left ticked, the setup wizard will run again the next time the DVR is rebooted or powered on. If you don't want the wizard to start next time the DVR is turned on, uncheck this box.

To access the wizard once it's been disabled, open **Main Menu > Configuration > General** and select **Enable Wizard**.

The Setup Wizard

Setup Wizard: Admin Password

For your on-going security and peace of mind, we strongly suggest setting a password for your **Admin** account. A password can be any combination of numbers (**no** letters) up to 16 numerals long.

Admin Password: Enter the existing Admin password here. The default password for the **Admin** account is **12345**. Don't enter what you'd *like* the password to be - that goes in the fields below this one.

New Admin Password (check-box): When checked, the DVR will accept a new password for the Admin account.

New Password/Confirm: Enter what you'd like the new password to be in the upper field, and then confirm it in the lower field.

Default Password Information

To ensure your privacy, this DVR supports password protection.

The default, all-access username is "admin", the default password is "12345".

To ensure your on-going privacy, we strongly recommend setting a password as soon as possible. Choose something that you'll remember, but that others would be unlikely to guess.

IMPORTANT NOTICE - Do not lose or forget your password. To ensure that your DVR has the best security possible, password recovery has been designed to be a complicated and time consuming process. Only a select number of staff at the *Swann* Technical Support Telephone Helpdesk can assist. Password retrieval can take several days, which means you will not be able to access your DVR during this time.

Wizard: Time, Date, Location, Live View

It's important to ensure that your DVR has the correct time and date, as well as the correct time zone set. This is particularly true in a legal context when a mistaken time or date can mean the difference between your security footage being regarded as legitimate evidence or not!

Time Zone: Select your location from the list. The East Coast of the United States is GMT -05:00 and the West Coast is GMT -08:00. The UK is at GMT+ 00:00 and the East Coast of Australia is at GMT +10:00.

Remember that these values will be displaced by an hour during DST (daylight savings time) if that applies in your locale. However, don't set that here - the DVR supports automatically adjusting the time during DST - see page 16.

Date Format: How you'd like the date to be displayed. For best results, use the standard format for your location (MM-DD-YYYY for the USA, DD-MM-YYYY for the UK and Australia).

System Date: The current date setting on the DVR. To alter this value, select the small calendar icon.

System Time: The current time setting on the DVR. To alter this value, select the small clock icon.

Note for NTP Users: Setting the date and time is less important if you're using NTP (Network Time Protocol) but we still recommend you set it here first. Just in case.

Live View Mode: 2 x 2 is the default mode for the 4-CH model and 3 x 3 for the 8-CH model. This will display up to 4 video channels on-screen for the 4-CH model and up to 8 video channels on-screen for the 8-CH model at a single time. Selecting 1 x 1 will display the first video channel full-screen - see page 24.

The Setup Wizard



Wizard: Network Settings

NIC Type: What sort of network you're using. There are a few to choose from. The vast majority of users will use the default option of 10M/100M/1000M Self-adaptive. If you're using a network other than this type, chances are you know about that.

Enable DHCP (check-box): Ensure that this is checked unless you're specifically running a manually addressed network (sometimes called static IP addressing) or your router doesn't support DHCP.

IPv4 Address, Subnet Mask, Default Gateway: When you're using DHCP, these values will self-populate. If you're using a manually addressed network, you'll need to set these to match the other devices on your network.

To learn more about the Network settings of the DVR - see page 18.

When you have completed the setup wizard, it is very important to check the settings for [UPnP](#) on page 22 and [More Settings](#) on page 23. The Server Port (8000) is used to access the DVR remotely using the *SwannView Plus* client software on your computer and the *SwannView Plus* app on your Smartphone or Tablet.



Wizard: HDD Management

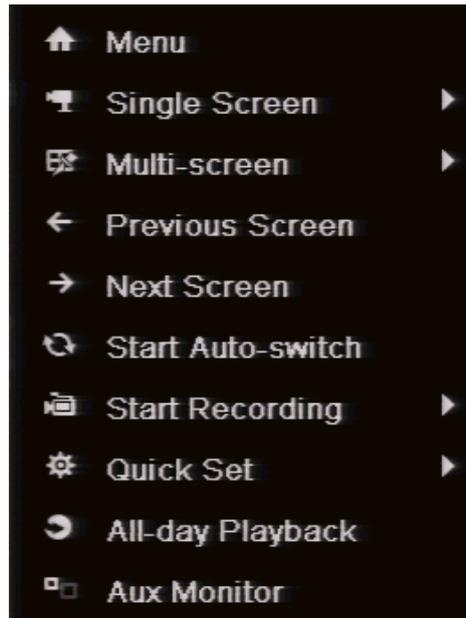
Here, you can view and initialize the hard drive(s) in the DVR. Typically, there will be only one entry here, the HDD which came with the DVR (if one was included). Each drive will be identified and be listed along with statistics such as Capacity, Status and Free Space.

If you're booting the DVR for the first time, the HDD should already be initialized or if you've just installed a new HDD, then you'll need to initialize the drive.

Init: Initializes the HDD so that it's ready to accept data.

Warning: Don't initialize a drive that already has data on it, as the initialization process will erase any information on the drive.

The Quick Menu



To access the **Quick Menu**, right click the USB mouse once.

Menu: Opens the Main Menu (see page 14).

Single Screen: Opens a single channel for viewing in full-screen mode. The slide-out menu contains a list of channels to choose from.

Multi-Screen: Select a multi-screen viewing option, where you'll be able to see multiple video feeds at once.

Previous Screen: Moves to the previous channel.

Next Screen: Moves to the next channel.

Start Auto-switch: Will periodically display a different video feed from each channel available.

Start Recording: Begins recording on all channels immediately, regardless of the current recording schedule.

Quick Set > Output Mode: Allows you to change the contrast level of the video display.

All-day Playback: Allows you to playback recordings from a single channel for the current day.

Aux Monitor: Allows you to switch the main monitor view to the composite video output. Select **Main Monitor** to switch back to VGA output.

The Quick Camera Menu



To access the **Quick Camera Menu**, left click the USB mouse once on one of the live video inputs available.

Recording: Start or stop live recording.

Instant Playback: Playback the last 5 minutes of recorded video.

Audio On: Enable or disable live audio.

Digital Zoom: Enter Digital Zoom mode. Press the left click button on the USB mouse to zoom, and press the right click button to exit. Use the PIP (Picture-in-Picture) screen on the bottom right to select a different area to zoom to.

Image Settings: Change the brightness, contrast, saturation and hue of the live video feed.

Close: Close the menu.

Hovering the mouse cursor over each button or icon will display a description of what it does.

If you're reading this page, it means that either:

- **You've got the DVR setup, but its standard recording program isn't for you.** Fair enough - we cater to all requirements here.
- **You're interested in what other options and capabilities the DVR has.** Excellent - the answer is "a lot".
- **Everything works except just that one thing that isn't right but you don't know where the option is.** Darn. We'll try and get you fixed up by the end of this page.

There are some sections of *Advanced Configuration* that we think are of benefit for most DVR owners to know about - in particular, the email configuration of the DVR.

By Default...

- The DVR has motion recording enabled on every channel, configured to operate at an average level of sensitivity.
- To be a little more likely to record a border-line motion event than not (we think it's better to get a false trigger than miss an event).
- To record video each time it detects a motion event, but not notify you via email (all events will be listed in the log).

To alter the DVR's default behaviour, you'll need to change some of the advanced settings.

You can do this on the DVR directly or by using the *SwannView Plus* client software located on the included CD. There is a fairly comprehensive manual also included. You can also access the DVR's built-in web interface using your Internet browser.

Quick Reference

Some of the more common reasons to have a look in the ***Advanced Configuration*** include:

Altering the Recording Schedule

The recording schedule is one of the most important things to get right when configuring the DVR. More information about the schedule can be found at:

- "*Record: Schedule*" on page 33

Configuring the Auto-Email Functions

If you want the DVR to notify you via email when it detects a motion event, then you'll need to configure:

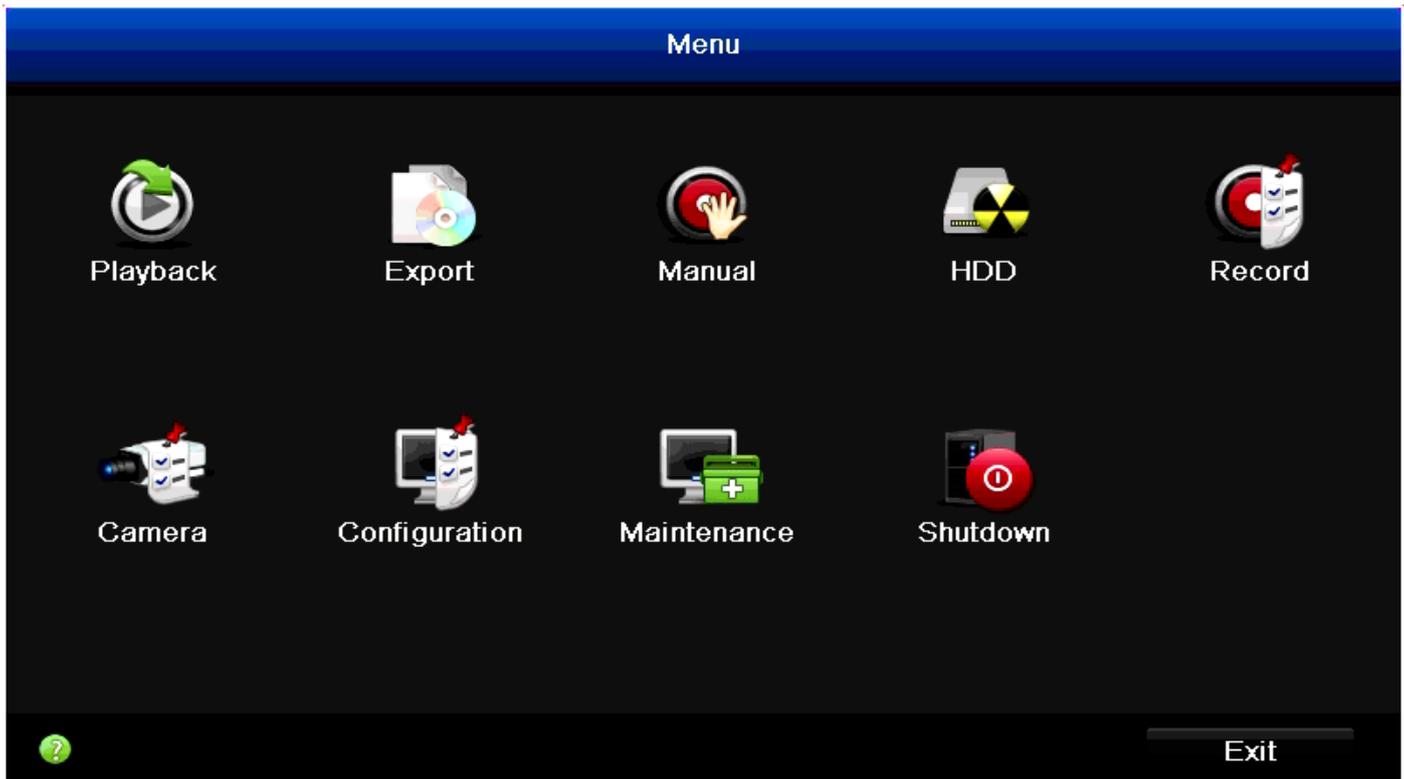
- "*Configuration: Network: Email*" on page 21
- "*Camera Management: Motion*" on page 39

Altering the Motion Detection Settings

If you want to change the way the DVR handles motion, then you'll need to look at:

- "*Camera Management: Motion*" on page 39
- "*Camera Management: Image*" on page 38

Menu Layout



Playback: To access recorded images, use the **Playback** menu. There are several playback modes to choose from, such as standard chronological playback mode, or event playback mode.

Export: To copy or backup footage from the DVR, use the **Export** menu. You'll need a compatible USB Flash Drive to store the data (FAT32 file format only).

Manual: Access manual controls for the recording and alarm functions of the DVR.

HDD: Where you'll be able to access information about and adjust the settings of your hard drive.

Record: Access recording options, such as quality, resolution, bitrate and the recording schedule.

Camera: Adjusts and configures how the DVR looks for cameras via the video inputs. Access to Motion Detection configuration is located here.

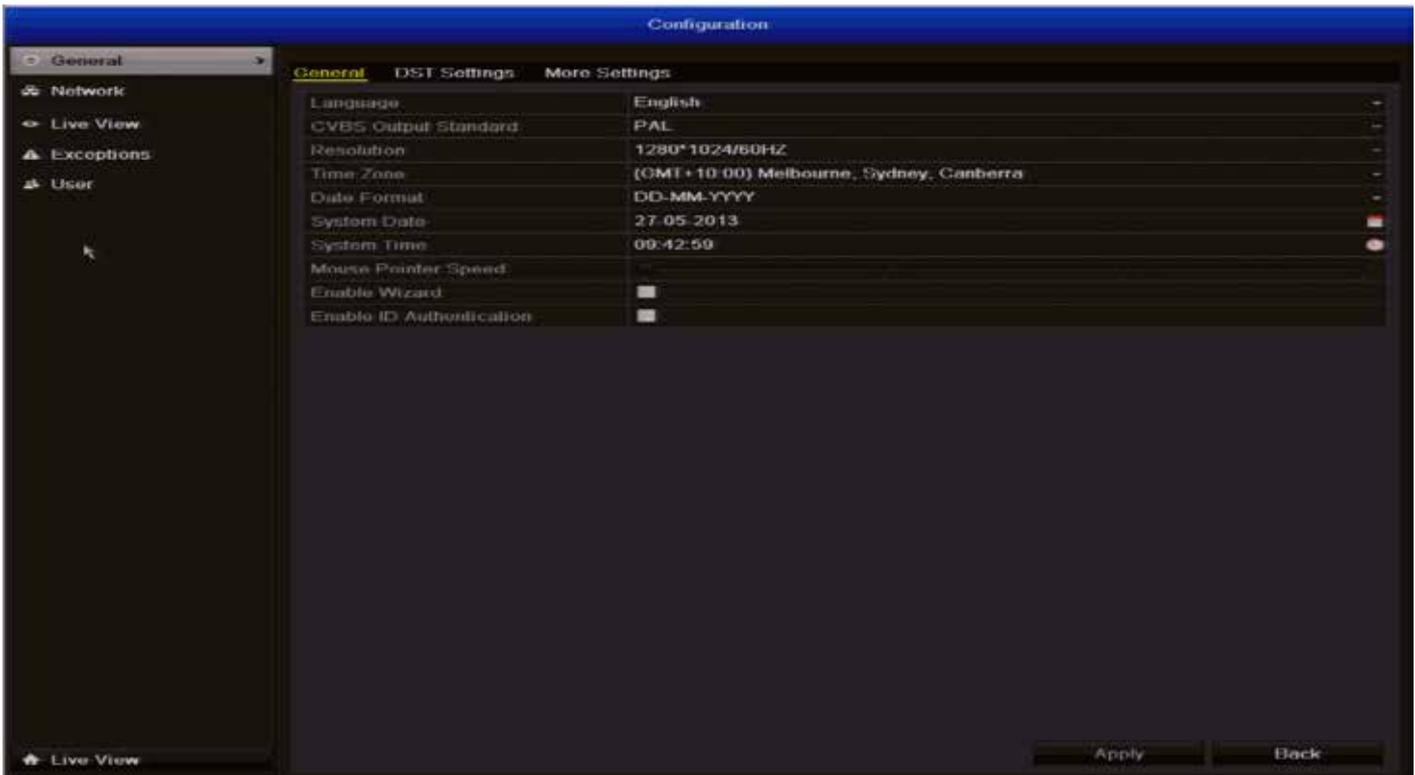
Configuration: Access and configure many settings of the DVR, including your network settings, adjusting the time and date and creating or altering user accounts.

Maintenance: For changing how the DVR performs its automatic maintenance and for upgrading the DVR's firmware.

Shutdown: If you want to shut down or reboot the DVR, or simply log out of the user account you're logged in as, click the **Shutdown** button. To ensure the integrity of your data and recordings, always select **Shutdown** when powering off the DVR.



Hovering the mouse cursor over each button or icon will display a description of what it does.



Language: The language that the DVR's menus, alerts and other communications will use. Multiple languages are available.

CVBS Output Standard: Lets you change the **Video Out** display from NTSC to PAL. NTSC is used in countries with 60Hz power such as the United States and Canada. PAL is used in countries with 50Hz power such as Australia and the United Kingdom.

Resolution: The number of "little dots" that make up an image. This should be set as high as possible, but equal to or lower than the maximum resolution your screen/monitor can display. Things change a little depending on what kind of monitor you're using, and how it's connected.

The DVR has four formats available, in two different aspect ratios:

Square (4:3) - 1024 x 768 or 1280 x 1024

Widescreen (16:9) - 1280 x 720 (720p) or 1920 x 1080 (1080p)

Square Monitor via VGA: Use one of the 4:3 formats to correctly align the DVR's output on your screen. Using a widescreen format will "stretch" the image vertically.

Widescreen Monitor via VGA: If possible, use the widescreen (16:9) format. If your monitor can't display that resolution, you might need to enable letter-boxing on your monitor and use a 4:3 format.

Time Zone: Particularly important if you've enabled NTP - set this to the time zone where you happen to be. For example, people in eastern Australia (Canberra, Sydney and Melbourne) choose GMT+10:00, whilst the Eastern Time zone in the USA and Canada is GMT-05:00. (GMT stands for Greenwich Mean Time - it's the baseline that keeps all the different time zones in sync.)

Date Format: The format of the date (DD/MM/YYYY or MM/DD/YYYY and so on).

System Date: This can be edited manually, or set to update automatically by using NTP (see "Configuration: Network: DDNS/NTP" on page 20).

System Time: This can be edited manually, or set to update automatically by using NTP (see "Configuration: Network: DDNS/NTP" on page 20).

Mouse Pointer Speed: Move the slider to increase or decrease the mouse pointer speed.

Enable Wizard: When checked, the DVR will automatically run the setup wizard when the DVR is switched on. The wizard itself contains the option to disable it.

Enable ID Authentication: When enabled, the DVR will require a username and password to access, even for local users.

Configuration: General: DST Settings



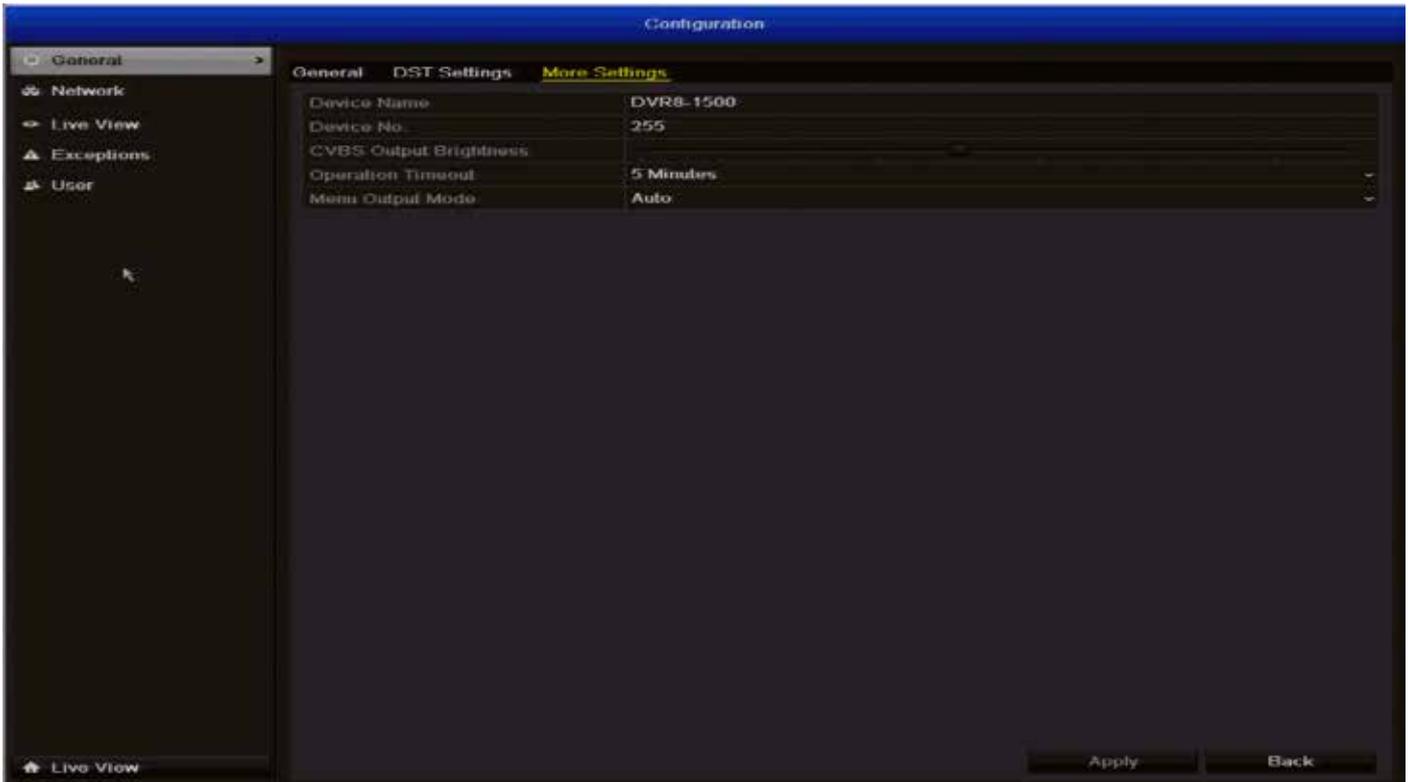
Enable DST (check-box): Enable this setting if you'd like the DVR to adjust the time when daylight savings time begins.

From/To: Here you can define when daylight savings applies to your location. There are many different standards for DST which can vary dramatically even in the same time zone, so you'll need to tell the DVR when it applies to you.

DST Bias: This refers to the difference in minutes, between Coordinated Universal Time (UTC) and the local time. Select the time that DST has increased by in your time zone.

Note: Some NTP servers are NOT fully compatible with DST (Daylight Savings Time). This may cause your system to double-count adding one or removing one more hour than they should, or cancel each other out. You may need to intentionally change your time zone to compensate, or simply not use NTP and DST simultaneously.

Configuration: General: More Settings



Device Name: The name that the DVR considers to be its own and what it will use to register an IP address with your DHCP host.

Device No.: The internal device number of the DVR.

CVBS Output Brightness: Allows you to alter the brightness level of the **Video Out** connection. Note; this does not affect the image setting of your recordings.

Operation Timeout: Here you can change the time the DVR will exit the menu screen and return to the camera viewing screen if there is no activity.

Menu Output Mode: Allows you to select which display the main menu will be output to. You can select either **VGA** or **Main CVBS**.



NIC Type: The DVR has the ability to connect to your LAN (Local Area Network) at various speeds and can adjust itself accordingly depending on the network traffic. It is recommended to leave the current default setting for the best streaming performance.

Enable DHCP: DHCP (Dynamic Host Configuration Protocol) is a system where one device on your network (usually a router) will automatically assign IP addresses to devices connected to the network. This option is enabled by default and is the recommended way for the DVR to receive an IP address from your router.

If you require the DVR to have a static IP address, you will need to disable this option.

Static: Static networks require all devices to have their IP addresses manually defined, as there is no device dedicated to automatically assigning addresses.

IPv4 Address: Just as houses and businesses need to have an address which identifies their location on the road network, so too do computers and other devices need addresses (called IP ADDRESSES) to identify their position on the electronic network. The DVR uses IPv4 addressing, which consists of four groups of numbers between 0 and 255, separated by periods. For example, a typical IP address might be "192.168.1.24" or something similar. The most important thing when setting the IP address is that nothing else on your network shares that IP address.

IPv4 Subnet Mask: If the IP address is like a street address, then a subnetwork is like your neighbourhood. This will be formatted in a similar way to the IP address (i.e. four numbers up to 255 separated by periods) but contain very different numbers. In the above example, the Subnet Mask might be something like: "255.255.255.0".

IPv4 Default Gateway: This is the address of the "way to the Internet" - to continue the road analogy, this is like your local access point to the highway. This is an IP address in the same format as the others, and is typically very similar to the IP address of the DVR. To continue the above examples, it might be something such as: "192.168.1.254".

IPv6 Address 1/2/Default Gateway: IPv6 is the latest revision of the Internet Protocol (IP). It will eventually replace the older IPv4 system for assigning IP addresses to devices on your network. The majority of internet server providers (ISPs) are still using the IPv4 system but will eventually transition to IPv6. As the DVR supports IPv6, you will be able to take advantage of the new system when it arrives.

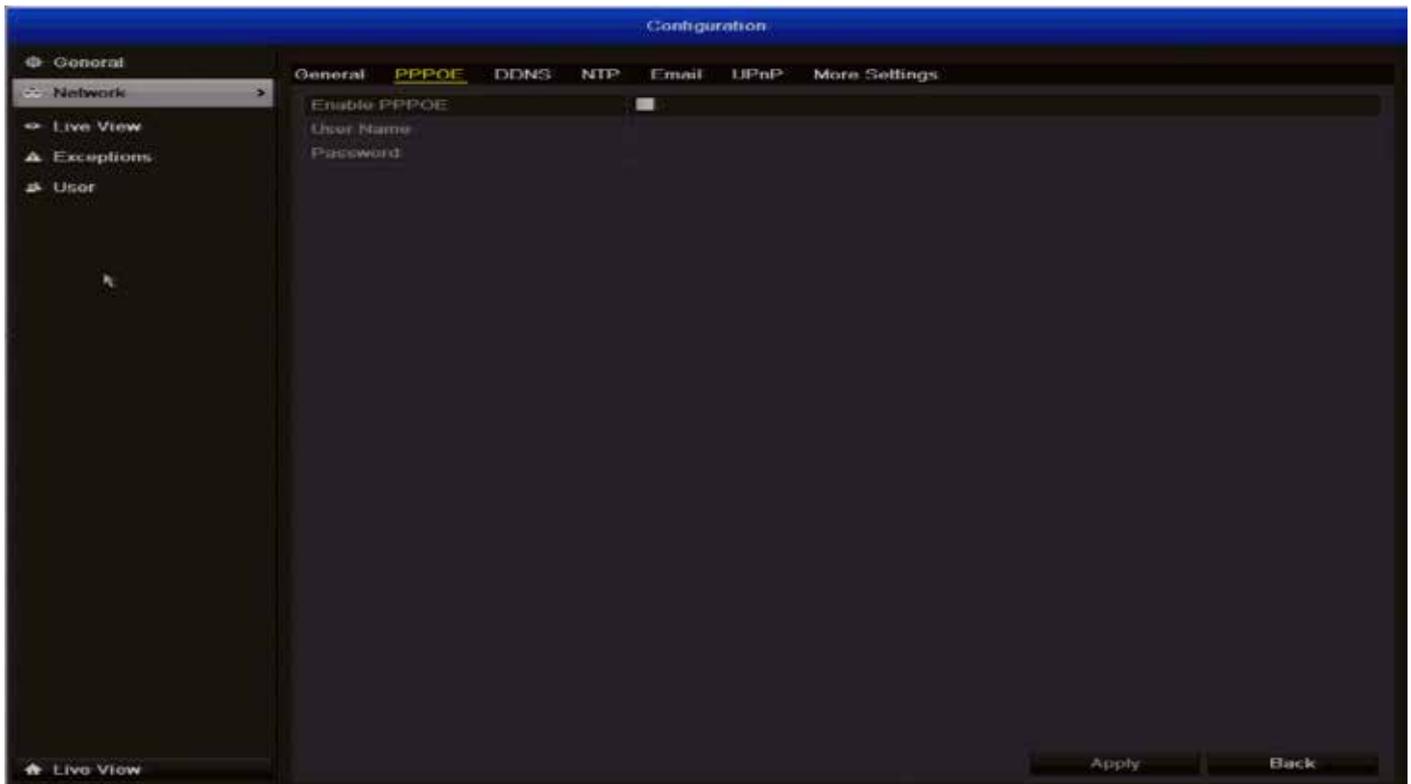
Mac Address: The Media Access Control address. This is a unique code which nothing else should share. You can't change this one - it's hard set when the DVR ships out.

MTU (Bytes): The MTU (Maximum Transmission Unit) is the size of the largest datagram that can be sent over a network. It is recommended to leave the default setting.

Preferred DNS Server: "Domain Name System". Everything on the Internet is located via an IP address - however, for ease of use, we associate domain names (such as "www.exampledomainname.com") with those IP addresses. This index is accessible in many locations online, and we call those locations "DNS servers".

Alternate DNS Server: A backup DNS server. This is here as a redundancy - your DVR will probably work without one.

Configuration: Network: PPPoE



PPPoE is an advanced protocol that allows the DVR to be more directly connected via a DSL modem. This is an option for advanced users **only**.

Username: Enter the username for your DSL account provider.

Password: Enter the password for your DSL account provider.

Configuration: Network: DDNS



Static and Dynamic IP Addresses

In much the same way as your home network can use static or dynamic IP addresses, many Internet providers don't issue (or charge more for) a static IP address for users. The easiest way to find out is to contact your Internet service provider. Alternately, you can access the (www.whatismyip.com) service, make a note of your IP, then reboot your router/gateway. This should refresh your Internet connection. If your IP address changes, you have a dynamic IP address. If it stays the same, you may have a static IP - contact your ISP to confirm.

How do I deal with a dynamic IP address?

One option is to contact your ISP and request a static IP address. They'll usually charge a small fee for doing this. It's worth noting that not all ISPs offer static IP addresses.

If your ISP does not offer static IP addresses then you can use a dynamic referencing service. We provide one free of charge.

We recommend using SwannDNS as your DNS service.

This is a free service for Swann DVR/NVR owners, which we directly support.

To create an account with SwannDNS, go to:

<http://www.swanndvr.com/>

and click the **Registration** button.

Follow the prompts to create your account.

DDNS Type: SwannDNS is automatically selected as the DNS service (www.swanndvr.net).

Device Domain Name: Enter the host name that you set up in your DDNS service. This is the address you use to access your network. For example: (yourhostname.swanndvr.net).

Username/Password/Confirm: Enter the username and password you setup with your DDNS server. These do not have to match your username/password combination in either your DVR or router (for the sake of security, we suggest making them different). Confirm your password in the field provided.

For SwannDVR users: Your username is the **email address** you used to register the account. The password is whatever you selected when you registered.

Configuration: Network: NTP



NTP: Network Time Protocol. If you've got the DVR connected to the Internet, you can have it automatically sync time with an online server.

Important:

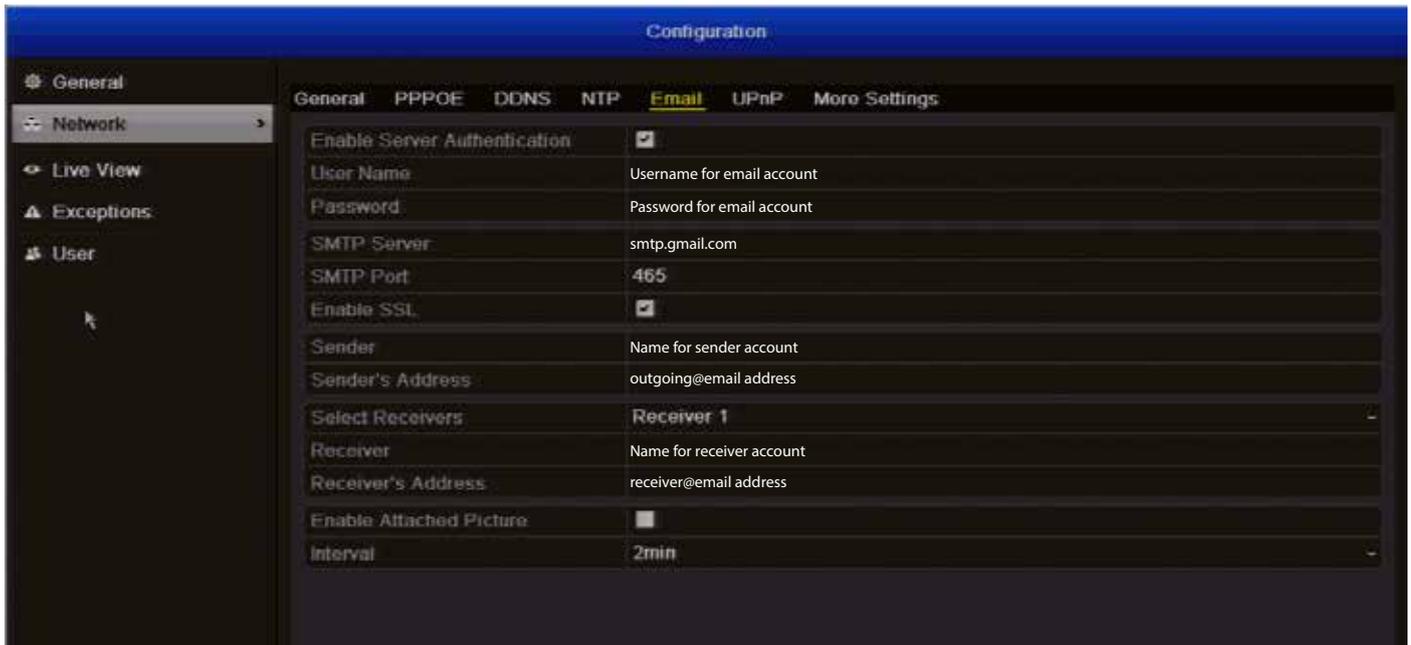
If you're using NTP, then it is **essential** that your **Time Zone** (see [page 15](#)) and **DST** (daylight savings time - see [page 16](#)) be set correctly.

Interval (min): The amount of time in minutes that will elapse between the DVR updating its internal clock to match that of the NTP server. The default period of 60 minutes is recommended.

NTP Server: The server you'd like to use for NTP. There are many available online - the default (pool.ntp.org) works just fine.

NTP Port: The port used by the NTP server of your choice. The default for pool.ntp.org is 123.

Configuration: Network: Email



We suggest using Gmail as your email client - it's quite easy to set up an account and use it solely for the DVR. We've tested the email procedure with Gmail, and it does work.

Other email servers may not work correctly - many interpret the procedurally generated email from the DVR as spam and block the mail from being sent.

For the Auto-Mail function to work correctly, the DVR will need to be correctly configured with the details of the email servers and addresses you want to use.

Enable Server Authentication: If your outgoing mail server requires authentication, ensure this box is checked.

Sender Username / Sender Password: The username and password for the outgoing email account.

SMTP Server: The name of the SMTP server of the email provider that you have selected. Here are the SMTP server names for Gmail (Google), Yahoo Mail and Windows Live Mail (Hotmail):

Gmail (Google): smtp.gmail.com
 Yahoo Mail: smtp.mail.yahoo.com
 Windows Live Mail (Hotmail): smtp.live.com

You'll need to setup an account with one of these email providers. All offer free email accounts. To signup, visit the email provider's website:

Gmail (Google): www.gmail.com
 Yahoo Mail: www.mail.yahoo.com
 Windows Live Mail (Hotmail): www.hotmail.com

SMTP Port: The SMTP port used by the email provider of your choice. The SMTP port for Gmail users is **465**.

Enable SSL: Whether the email server you're using requires a secure link. This should be left on if you're using any of the preset email servers.

If you want to use your ISP's outgoing email, then you'll need to contact your ISP to learn the correct values for the other fields (such as the correct *SMTP server*, *SMTP port*, *SSL* requirements and so on).

Sender's Address: The address you're sending the email from. This will be the username you've set up for the email server you're using, followed by "@" and then the email server. For example: "youraddress@gmail.com" or similar.

Select Receivers: You can select up to three different receivers to send an email to.

Receiver's Address: The email address you want the DVR to send emails to. This can be any email address you like, however, bear in mind that the DVR might send a large number of automatic emails under certain conditions.

Enable Attached Picture: When this is selected, the DVR will attach three small images to each email alert (where applicable).

For motion-based email alerts, this will be an image of whatever triggered the motion detection.

Interval: The length of time that must elapse after the DVR sends an email alert before it will send another.

Short **Interval** settings are likely to lead to huge numbers of alerts being sent by the DVR - perhaps even several emails for one event (if that one event lasts longer than the interval setting). On the other hand, a long interval setting might mean you'll miss a specific update that you needed. There's no right answer, and you'll probably have to fine-tune this setting to get the results you're after - it'll be different for everyone's unique circumstances.

Configuration: Network: UPnP



Enable UPnP: UPnP makes configuring your network easier and faster. To use the UPnP setting on the DVR, you'll need a router which supports this feature, with UPnP enabled. Note that many routers which do support UPnP do not come with the feature enabled by default. You may need to ask your Internet service provider to turn it on.

When UPnP is enabled on your DVR and your router, the Ports that the DVR requires to be open for access to and from the Internet will automatically be opened and closed as necessary by your router, saving you the trouble of manually forwarding these ports. If UPnP is not enabled, or your router does not support this feature, you'll need to forward the ports the DVR uses from the router to the DVR - since this is a technically challenging process; we strongly recommend using UPnP if possible.

Mapping Type: We recommend changing this to the **Auto** setting.

Edit: Allows you to change the current External Port number.

Make sure that the number used for the External Port and Internal Port match, otherwise the UPnP function will not work. See page 23 on how to change the internal port numbers.

Mapping IP Address: Will display the public IP address of the router that the DVR is connected to.

Status: If UPnP is working correctly, you will see **Active** displayed. If UPnP is not enabled or you haven't forwarded the correct port number, the status will be **Inactive**.

Configuration: Network: More Settings



Alarm Host IP: The location on your network where an IP-based alarm system is hosted.

Alarm Host Port: The port associated with the IP-based alarm system.

Server Port: This is the internal port that the DVR will use to send information through. The most important things are:

- You'll need to enable UPnP on your router so your router can selectively open these ports, allowing the DVR to communicate via the Internet. If your router doesn't support UPnP, you have two options. You can either get a new router (which we'd actually recommend - UPnP is such a good feature!) or you can manually forward ports from the router to the DVR. Port forwarding is a technical and involved process, recommended only for the technically inclined.
- Nothing else uses this port.** The default port number is 8000, which is not used by many other devices/programs. However, particularly if you have another DVR or DVR-like device, something might be using this port already. **If this is the case, change this value to be unique.**
- You'll need to know this port value when logging within your network or remotely - so, if you change it, remember what it is!**
- Make sure that the number used for the External Port and Internal Port match, otherwise the UPnP function will not work.**

HTTP Port: This is the port through which you will be able to log in to the DVR.

- Like the RTSP port, it will need to be forwarded properly in order to ensure smooth, latency-free communication.** The default value is "85", as this port is seldom used by other devices or applications. If there is another device on your network using this port, you'll need to change it to be unique.
- You'll need to know this port value when logging within your network or remotely - so, if you change it, remember what it is!**

Multicast IP: Multicast IP is a technique for one-to-many and many-to-many real-time communication over an IP infrastructure in a network. The receiver will receive data from that IP without the need to contact individual devices directly. In most circumstances this option is not required.

RTSP (Real-Time Streaming Protocol) Port: This port is used to stream real-time images through, and is the port that will be used to communicate with mobile devices. If you are having issues streaming video to your mobile device or your mobile service provider is blocking access, we recommend to change this value to 5554. Do **not** change this if everything is working ok.

What port number(s) should I use?

If the default port numbers are in use (85 and/or 8000) then the simplest solution is just to keep "adding one" until you find a port which is not in use. So, if 85 is already taken, try 86 or 87.

*There's no "right" port number(s) to use - any port number will work provided the DVR is the **only** device using it. For this reason, **avoid using port numbers 80, 81, 82, 88, 90, and 99 as these are often used by other devices/programs/protocols.***

Configuration: Live View: General



Video Output Interface: You can select from VGA or Main CVBS.

Live Video Mode: 2 x 2 is the default mode for the 4-CH model and 3 x 3 for the 8-CH model. This will display up to 4 video channels on-screen for the 4-CH model and up to 8 video channels on-screen for the 8-CH model at a single time. Selecting 1 x 1 will display the first video channel full-screen. Other views available on the 8-CH model are 1 + 5 and 1 + 7.

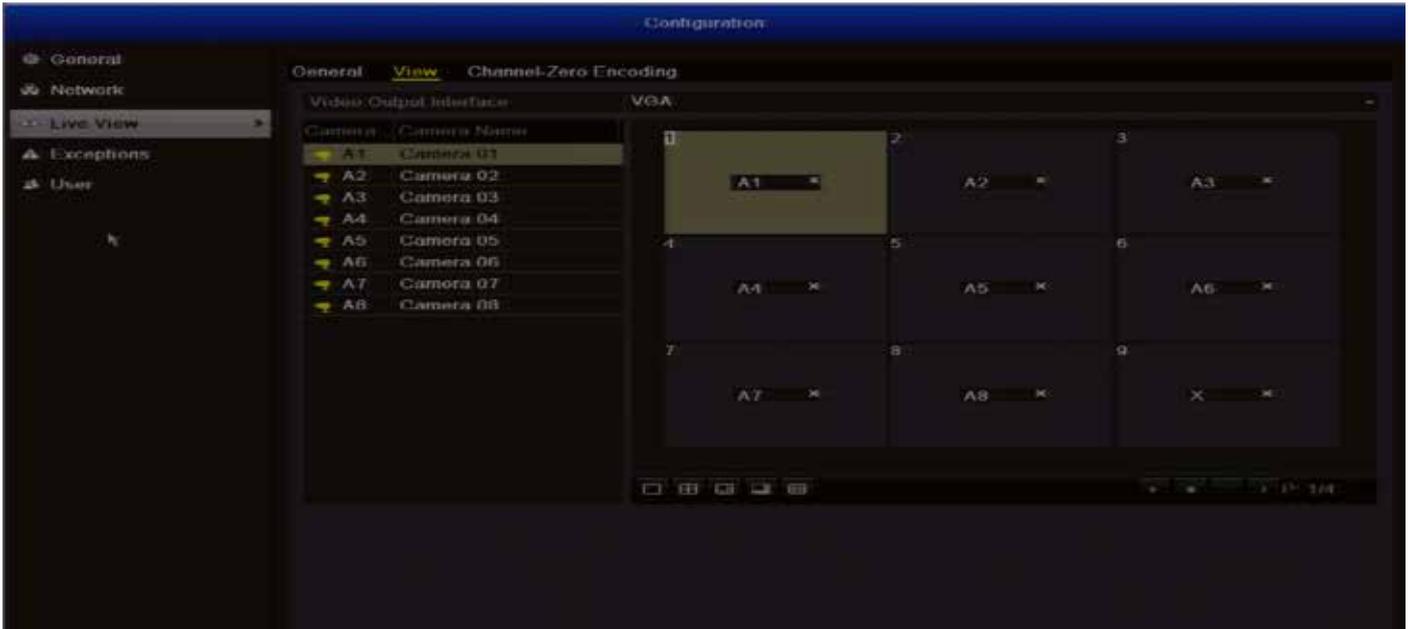
Dwell Time: The time in seconds to dwell on a video channel when enabling **Start Auto-switch** in Live View. This only works when the **Live Video Mode** is set to 1 x 1.

Enable Audio Output: This will enable the audio output on the DVR.

Event Output: You can select from VGA or Main CVBS.

Full Screen Monitoring Dwell Time: The time in seconds to show an alarm event screen.

Configuration: Live View: View



In Live View, you can change the display order of each camera connected -

1. Select an available viewing window on the right-hand side.
2. Double click one of the available cameras on the left-hand side that you would like to place in the viewing window that you have selected.

Play: Pressing the **Play** button will start the live view of all cameras connected to the DVR.

Stop: Pressing the **Stop** button will stop the live view of all cameras connected to the DVR.

Please note: Pressing the stop button means that you will not see a real-time view of all the cameras connected to the DVR at the main viewing screen. Press the play button to enable real-time view.

Configuration: Live View: Channel-Zero Encoding



Enabling **Channel-Zero Encoding** will decrease the overall network or Internet bandwidth required when viewing remotely or with the *SwannView Plus* client software, without sacrificing the image quality on the DVR. This is suitable if you are trying to view multiple real-time channels at the same time and you don't want to increase the network traffic or Internet bandwidth that is required.

Frame Rate: The number of frames per second (fps) that the DVR will display when viewed remotely.

Maximum Bitrate Mode: This option is set to **General** and cannot be changed.

Maximum Bitrate (Kbps): The amount of data that the DVR will use when viewed remotely.

Configuration: Exceptions



An **Exception** is any deviation from the DVR's normal behaviour - phrased another way, it's like saying the DVR's been working fine **except** for these events.

Exception Type: What event type you'd like the DVR to react to. By configuring the Action for these events, you can create any combination of audio alerts (see below) or auto-emails to be sent for different event types.

HDD Full: As the name suggests, this event occurs when the DVR runs out of space on the hard drive to save new footage. This event is redundant if you've got **overwrite** enabled, as the DVR will automatically delete old footage to ensure it can continue to record.

HDD Error: Occurs when the DVR has trouble accessing its hard drives, or when it cannot detect one at all.

Network Disconnected: Will occur if the DVR has problems connecting to the Internet. This may indicate a problem with the DVR's configuration, a fault with your network or a problem with your Internet Service Provider (ISP).

IP Conflicted: This event will occur if the DVR detects another device on the same network with a conflicting IP address. It's a little like two houses with the same number being on the same street - one house might get the other's mail, or get woken up at all hours of the night being asked if someone named "Big Bob" lives there.

Basically, it indicates that two devices are trying to use the same IP address. This shouldn't occur if you're using DHCP addressing, unless one or more devices is set to use a STATIC IP (the static addressing method overrides the automatic assignment process).

Illegal Login: This will occur if the DVR detects a login with an incorrect username or password.

Input/Output Video Standard mismatch: If the camera connected is not capable of matching the resolution selected in the **Record: Encoding** menu and **CVBS Output Standard** in the **Configuration: General** menu.

Record Exception: This will occur if there are unexpected errors during capture such as a HDD failure, if the HDD is full or if the HDD quota has been changed.

Audible Warning: The DVR will use its internal buzzer to emit an alarm tone. It sounds like an old computer indicating an error, or a large truck backing up.

Alert CMS Software: This will alert the *SwannView Plus* client software installed on your computer.

Send Email: The DVR will send an auto-email alert when the event type you've selected occurs.



The **Configuration: User menu** is where you can define and configure the different levels of access various users have to the DVR.

We suggest that at minimum the admin account be password protected, as it has access to all aspects of the DVR's operation.

To add additional users, choose **Add**.

To customize a user's level of access, choose **Edit**.

To remove a user, choose **Delete**.

User's MAC Address: To restrict remote user access, you can input the MAC address of the remote computer that will be used to access DVR. The DVR will only allow remote access from a computer with this MAC address to gain access.

You cannot modify the access level of the default admin account - they can do everything.

This is to prevent an unfortunate incident where, for example, no user has the permissions required to change another user's permissions - which could lead to the DVR being, in at least some senses, inoperable.



To initiate playback:

Analog: Select the camera that you'd like to playback. Up to four cameras can be selected on the 4-CH model and up to eight cameras can be selected on the 8-CH model. Please note, the **Playback: Smart Search** function will only work when you select one camera for playback - see page 29.

Start/End time of record: This will display the start time and date and the end time and date from when the DVR was first configured to record video. This will typically be the first day that you setup and configured the DVR right through to the current day. If you have recently formatted the hard drive, the start time and date will be displayed from that day.

Record Type: Select the type(s) of video you'd like to playback. The options are **Normal, Motion, Manual** and **All**.

FileType: Select from **Unlocked, Locked** and **All**.

Start Time: Set your start date and time.

End Time: Set your end date and time.

- Select **Search**.
- Choose which **event(s)** you want to play back, and up to four cameras you'd like to view the **video(s)** from.
- To initiate playback, select **Play**.

There are two additional options that you can also select -

Detail: This will display a graphical representation of the type of video recorded. Each record type is color coded, for example **Normal** is blue, **Motion** is green.

Playback: To playback all normal and event recordings from each camera at the same time. You can forward, rewind and pause playback. Double-clicking any of the available cameras will display it full-screen. Double-click again to exit full-screen



When you click the **Search** button, the **Search result** dialogue box will appear as above. You will see a list of video files located on the hard drive, according to the search criteria that you selected. Select a file and click the **Play** button to play the video. If you would like to keep the video so it is not deleted by the overwrite option (see page 35), press the **Lock** button to lock the file. Press the **Lock** button again to unlock the file.

While you're playing back footage, the DVR continues to monitor and record normally. Recording from multiple channels simultaneously is so resource intensive that playback performance may be sacrificed to ensure ongoing reliable recording.

When we say "near real-time", this doesn't mean things will be in slow motion. Rather, the action will unfold at normal speed, but be represented by half the number of frames per second (12.5fps/PAL or 15fps/NTSC).

Playback: Event/Tag

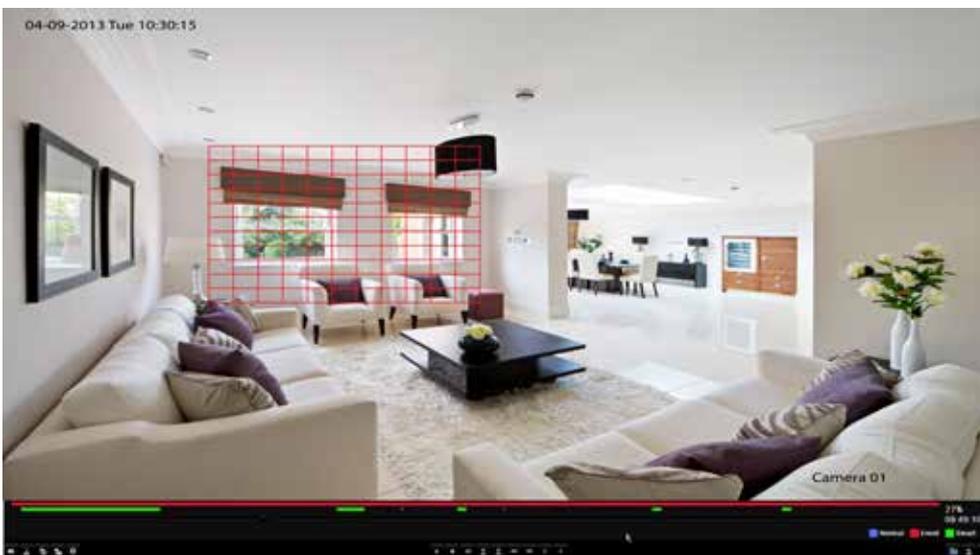


The **Event Search menu (above)** will show you recordings that were triggered by the DVR detecting motion. Up to four cameras can be selected on the 4-CH model and up to eight cameras can be selected on the 8-CH model.

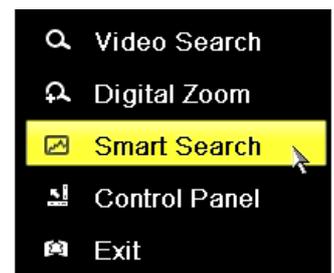
The **Tag Search menu (below)** will isolate video events based on the tag information that video carries. It's similar to Event playback, but it can be easier to group multiple recordings of a similar type.



Playback: Smart Search



The menu controls allow you to select full screen detection or to enable smart search.



Right click in the play area to access the smart search function.

The **Smart Search** function allows you to select an area of the video that may have detected motion. The DVR will then display these areas of motion with a green highlight on the timeline (see above). This makes it very easy to navigate to the sections of video that has motion recording related to that area.

- You will see a grid of red boxes. **The outlined boxes mark the area that you want to select to search for motion.**
- By left clicking an area in the grid, you can toggle motion detection **ON** or **OFF** in that location.
- Multiple areas of the video can be selected.

- Use the mouse to move the cursor around the screen.
- Click and drag to select the area you want to search for.

Playback: Smart Search (ctd)



1) Mute: Mutes audio playback.

2) Start clipping: This button allows you to set mark in and mark out points on your video which you can then export to a USB flash drive or USB hard drive. It's a basic way to edit a video file that you have selected to play. When you have selected to play a video file, press the **Start clipping** button at the mark in point and press it again at the mark out point. To save the file, press the **Exit** button. You will then be prompted if you would like to save the file; click **Yes** to save. If you have made a mistake, click the **Exit** button and click **No**. Repeat the above process. Multiple mark in and mark out points can be applied.

3) Add default tag: Tagging allows you to record information such as location or people at a certain point within the video. The default tag name is **TAG**. Multiple tags can be added.

4) Add customized tag: Same as above but you can choose your own tag name.

5) Tag management: This button allows you to edit or delete tags that you have added to the video.

6) Play controls: These are your play, pause, rewind and forward controls.

7) Video Search/Hide/Exit: These buttons allow you to go back to video search, to hide the playback interface and to exit playback.

Export: Normal/Event



The **Export: Normal menu (above)** will show you all recordings that you can export to a USB Flash Drive.

From the **Record Type** menu, select the type(s) of video you'd like to playback. The options are **Normal, Motion, Manual** and **All**. Set your **Start Date/Time** and your **End Date/Time** and click the **Search** button.

The **Export: Event menu (below)** will show you recordings that were triggered by the DVR detecting motion.

Event Type: Only Motion can be selected.

Set your **Start Date/Time** and your **End Date/Time** and click the **Search** button.





The **Manual: Record** menu allows you to override any default recording schedules in place. The recording schedule for each camera connected, can be changed. Pressing the button next to **Analog** will stop recording on all cameras. You can also control each camera by pressing the button next to each of the camera names. You can select normal recording (Recording by manual operation) or motion detection recording (Recording by schedule).

Normal: The DVR will constantly record for any period where **Normal** is selected. You won't miss anything, but constant

recording will fill your hard drive very quickly. (The DVR does record the equivalent of a DVD film every two hours on every channel, so that's rather a lot of data!) Typically, we suggest Motion as a better recording mode for most users.

Motion: The recommended recording setting for most applications. The DVR will only record when it detects something moving in front of a camera, and will then only record footage from the camera(s) that do detect motion unless you alter your Action settings "Camera Management: Motion" on page 39 to include other channels.

HDD: General



The **HDD: General** menu allows you to initialize the hard drive(s) in the DVR. Don't initialize a drive that already has data on it, as the initialization process will erase any information on the drive.

Init: Initializes the HDD so that it's ready to accept data.

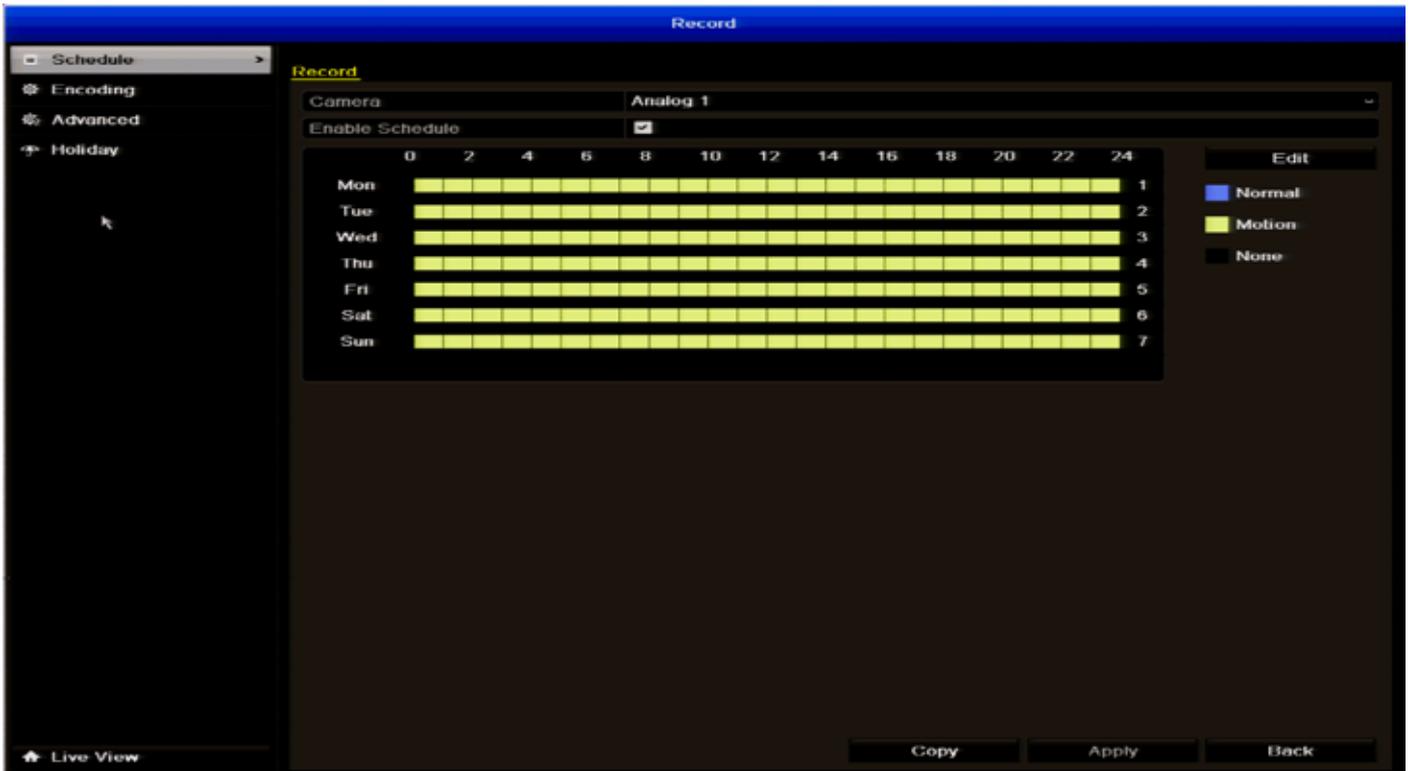
HDD: Advanced/HDD Detect



The **HDD: Advanced** menu allows you to configure a quota on the HDD for each camera that is connected to the DVR. Each camera can be allocated a certain amount of space that is available on the HDD.

The **HDD: Detect** menu will display technical specifications of the hard drive installed. If you're looking at this screen, you've probably been directed to do so by *Swann* Technical Support.

Record: Schedule



Important Guidelines

The schedule presented on-screen applies to **one channel** only.

Use the **Copy** function to quickly assign identical schedule layouts to multiple channels at once.

Be careful when programming your schedule. It's one of the most important aspects of setting up your DVR, and if it's wrong in any way, it could lead to disastrous complications later.

Camera: Select a camera that you would like to add a schedule to.

Enable Schedule: Select this to enable the schedule.

Copy (Channel): Located at the base of the screen, this will allow you to copy the schedule from the channel you're editing to another channel or channels.

Note: The Action Options for Motion Detection will affect the way the schedule works.

By default, all channels are armed to use Motion Detection as their recording mode.

Recording Modes:

There are two types of recording to choose from.

Normal: The DVR will constantly record for any period where **Normal** is selected. You won't miss anything, but constant recording will fill your hard drive very quickly. (The DVR does record the equivalent of a DVD film every two hours on every channel, so that's rather a lot of data!) Typically, we suggest Motion as a better recording mode for most users.

Motion: The recommended recording setting for most applications. The DVR will only record when it detects something moving in front of a camera, and will then only record footage from the camera(s) that do detect motion.

Before setting any of your schedule to Motion, ensure that **Motion Detection** is properly configured for the channel(s) you want to associate with it. See "Camera Management: Motion" on page 39 for more information about setting up and configuring Motion Detection.

None: As the name suggests, **the DVR will not record anything.**



Encoding Parameters: Each video feed of the DVR is comprised of two components, the **Main Stream** and the **SubStream**.

Both the Main Stream and the SubStream are always active - you don't have to choose one for the DVR to use as it's always using both. You can, however, change the quality, size and types of compression used for either.

Camera: Select a camera that you would like to alter.

Main Stream: The images you'll see in the live-view interface of the DVR. This is the higher quality of the two streams, and is what you'll see on the DVR itself or via a local network. You can alter settings for both Normal and Event recording, and it is recommended to select the same settings for both recording types.

Stream Type: What kind of data you want the stream to contain. The cameras included with the DVR stream video only.

Resolution: This DVR has a fixed resolution (D1) and cannot be changed.

Frame Rate: The number of frames per second (fps) that the DVR will record. The default (and maximum) is referred to as "Full Frame" and is 30fps (NTSC) or 25fps (PAL).

Video Quality: The actual amount of data the DVR will use to record video. You have the choice of low, medium and high quality.

Pre-record: While Pre-record is enabled, the DVR will record between X and Y seconds **before** an event occurs. It's a little like making the DVR psychic (but not really - it's actually just caching a few seconds of video which it adds to event recordings as they occur).

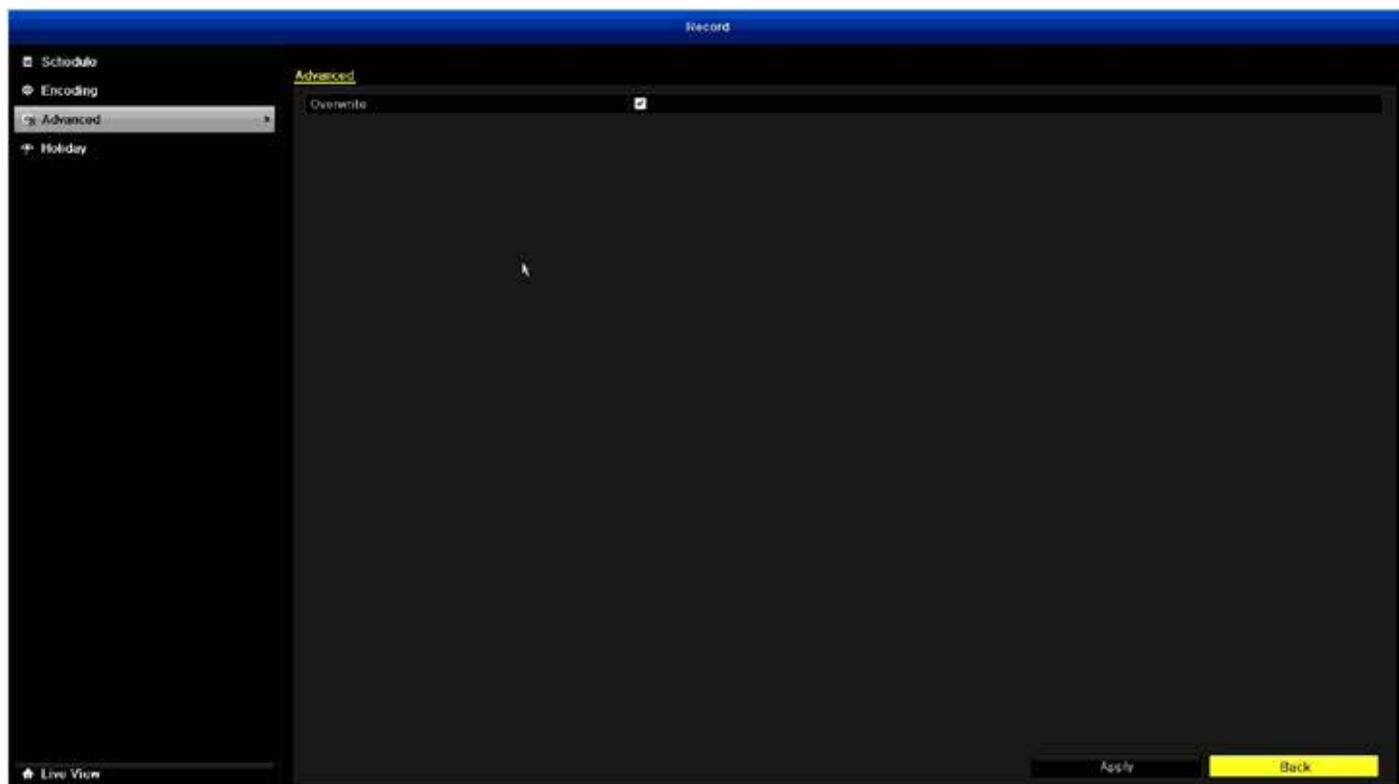
If you're using **Motion Detection** (recommended) as your primary recording method, then it's a really good idea to use Pre-record - sometimes, if an event is fast enough, it might have left view before the DVR can trigger a recording. With Pre-Record, there's almost no chance you'll miss it.

Post-record: How long after an event occurs that the DVR will continue to record. It can be very useful - for example, if an intruder or potential target triggers the motion detection but pauses in view; having Post-record enabled will get a much better look at them. 30 seconds is the recommended length for the Post-record setting, but it can be set higher (the options are 5 seconds, 10 seconds, 30 seconds, 60 seconds, 120 seconds, 300 seconds, 600 seconds) depending on your unique circumstances.

Expired Time (day): Determines how long the video footage will remain on the hard drive without it being overwritten. The default value 0, instructs the DVR to auto overwrite.

Record Audio (check-box): Whether the DVR will record audio from this camera. The camera must contain a compatible audio device for this option to be selectable.

Substream: A fraction of the Main Stream, and what you'll see over the Internet or via a mobile device. Typically, the Substream will be of significantly lower quality and bitrate than the main stream.



Overwrite: When enabled, the DVR will record over the files already stored on the hard drive. The DVR will always record over the **oldest** files on your hard drive first.

Using the overwrite option is advisable, as the DVR will always be able to record events as they happen. However, it does mean that you'll need to get important events off the HDD before they're overwritten.

Record: Holiday



There will be occasions when you don't want the DVR to record using its normal programming. Perhaps you require it to record more, or less, or just at different times.

The **Record: Holiday menu** allows you to define periods of time where the DVR will employ an alternate recording mode.

You can define up to 32 holiday periods. These periods can be delineated by date, by weeks or by the month.

Holiday Name: Choose a title for the holiday period in question.

Enable: Whether the selected holiday period is enabled or not.

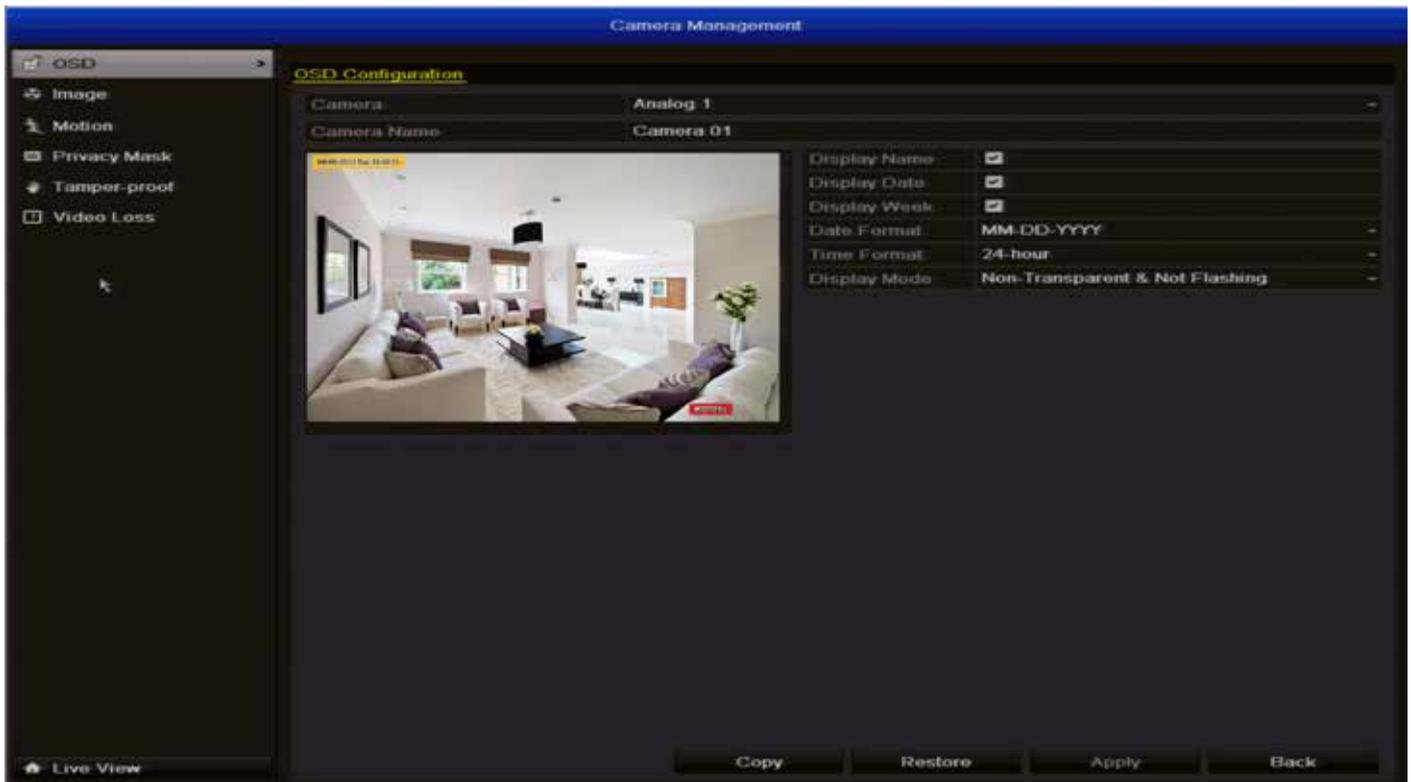
Mode: Select mode by date, week or month.

Start Date: Select a start date.

End Date: Select an end date.



Camera Management: OSD (On-screen Display)



The **Camera Management: OSD menu** is where you can configure the on-screen display for the display name, display date, date format, time format and font size.

Camera Name: Select a name for the camera you've selected. By default, all channels are named as the *Camera No.* field, but this can be set to anything you'd like up to 32 characters.

Display Name: Whether the name of the camera will be part of the OSD information. This is entirely optional, and depends on your preference.

Display Date: Whether the current date will be part of the OSD information. *We **strongly** recommend leaving this box checked, and ensuring that the date is correct! For best results, use NTP (see Configuration: Network: DDNS/NTP - page 20).*

Display Week: Whether the current day will be part of the OSD information. *We **strongly** recommend leaving this box checked, and ensuring that the date is correct! For best results, use NTP (see Configuration: Network: DDNS/NTP - page 20).*

Date Format: How you'd like the date to be displayed. We strongly suggest setting this to the default standard for your locale. For example: MM-DD-YYYY for the USA or DD-MM-YYYY for the UK or Australia.

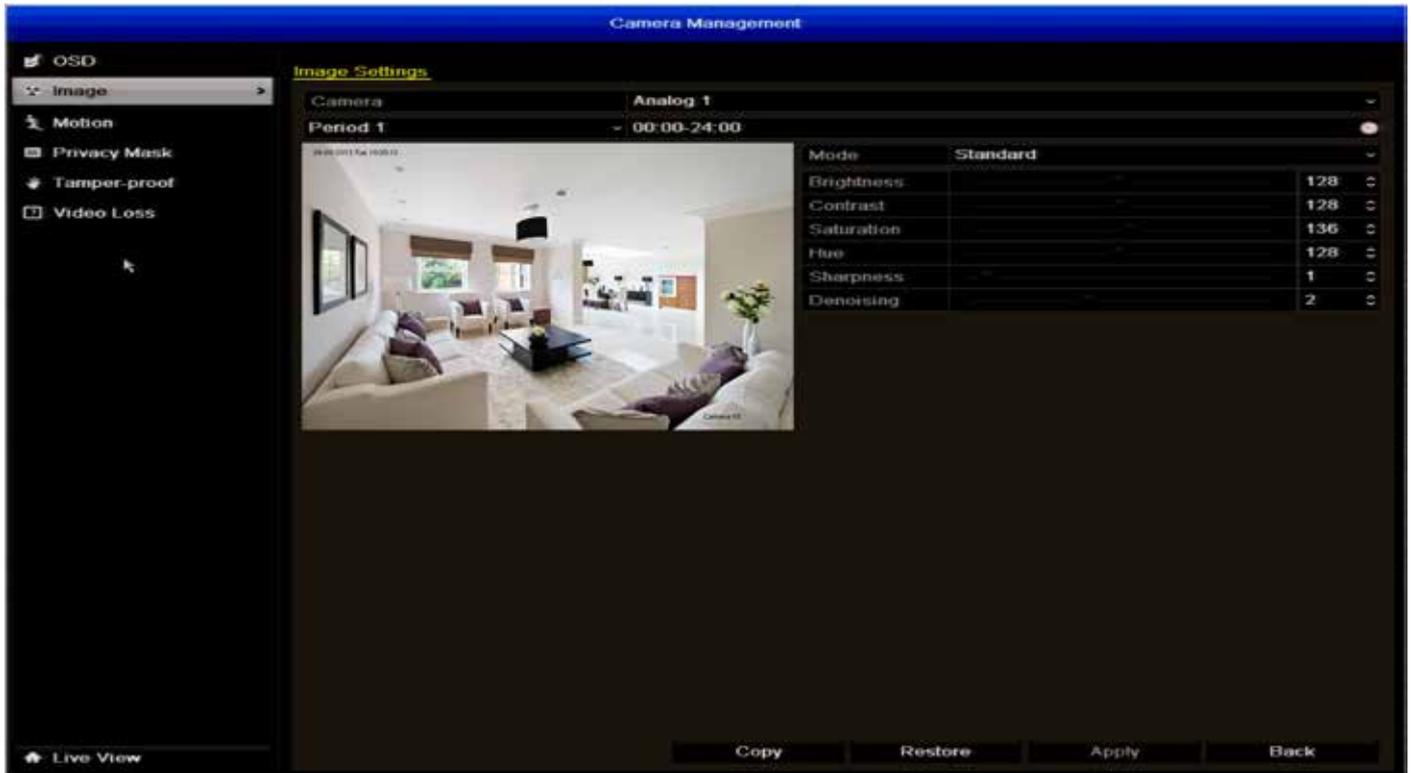
Time Format: Choose between 12-hour and 24-hour time.

Display Mode: How you would like the OSD to be displayed. Bear in mind that some OSD settings (such as *Transparent* and/or *Flashing*) are harder for a video forger to impersonate or modify than other settings - on the other hand, they're harder to read. Select the best setting for your circumstances - it's worth having a look at a few settings to see what options are available.

OSD Display Position: The inset OSD position window allows you to set the exact positions of any overlaid text, such as the camera name and the date and time.

Simply select any item you want to move (such as the **Channel Name** and/or the **Date and Time**) and click and drag it to the position you'd like it to be.

Camera Management: Image



Camera: Select the camera that you would like to change the image settings for.

Period 1: This determines the period that you would like to apply the settings for. The default setting is for 24hrs. This is particularly useful if you would like to have different image settings for different times of the day. You may want to have a different set of image settings for daytime and night time for example.

Period 2: If you have changed the settings for Period 1, then the remaining hours will be set to Period 2.

Mode: There are four preset modes that you can select from. These are **Standard**, **Indoor**, **Dim Light** and **Outdoor**. You can select one of these modes for **Period 1** and **Period 2**.

You also have the option of changing the following settings:

Brightness: Changes how light the image appears to be. However, it can't make the camera see further in the dark, or increase the clarity of an ill-lit image.

Contrast: Increases the difference between the blackest black and the whitest white in the image. Useful if sections of the image "grey out" but setting the contrast too high will degrade image quality.

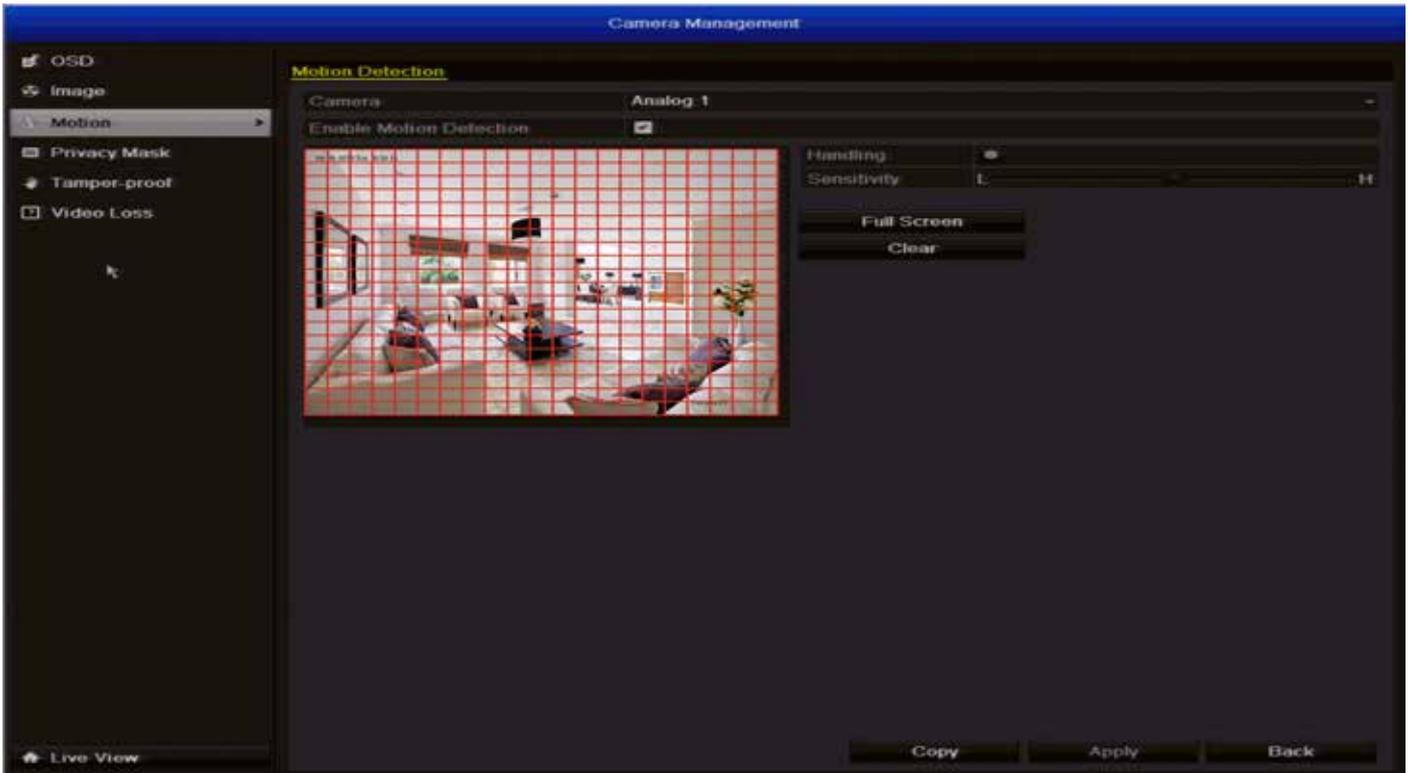
Saturation: Alters how much color is displayed in the image. The higher the saturation, the more bright and vivid colors will appear to be. Again, setting this too high can degrade image quality.

Hue: Changes the color mix of the image (this can have very dramatic results). It's somewhat like moving through a rainbow.

Sharpness: How crisp your images will be. Setting the sharpness too high will make your pictures look pixelated, like old computer graphics. On the other hand, setting the sharpness too low will make everything look soft and blurry – a bit like looking through lightly frosted glass.

Denosing: Select the level of noise reduction to be applied to the video signal.

Camera Management: Motion



As Motion Detection is the default recording mode for the DVR, it's worth taking a moment to ensure it is properly configured.

If the motion detection sensitivity is **too sensitive**, then the DVR will record frequently or continually - any benefit of motion detection will be lost.

If the motion detection sensitivity is not sensitive enough, then the DVR will not record when it should and may not record anything at all.

We think that motion detection is the best way to get your DVR to operate almost autonomously for long periods of time (typically weeks to months) without you having to worry about losing old footage.

However, it can be important that it's configured correctly!

How Motion Detection Works

The way that the DVR looks for motion is quite straight forward - it's a process where it compares one frame (that is, a single image taken approximately a 25th/30th of a second from the previous image) with the next. A certain amount of "difference" between these two "frames" is interpreted as motion.

As a result, the DVR is able to detect when there is a change in the picture. However, this does not necessarily need to be something moving in the frame. For example, a light being turned on or off, a lightning flash or even the sun coming out momentarily on a cloudy day might be enough to trigger the motion detection on the DVR. However, as these events last only a moment (and are relatively rare) they will only create a few very short redundant clips, which will not take up too much space or pose a problem with scanning through footage.

Here, you'll be able to set the motion detection features of the DVR for each channel. We suggest that motion detection is, under most circumstances, the most practical recording method for the DVR to employ.

False Triggers

Setting the motion detection at high sensitivity levels increases the frequency of false alarms. On the other hand, low sensitivity levels increase the risk that a significant motion event (such as an intruder) will not trigger the motion detection to record.

Check the Motion Detection settings both during the day and at night. In low-light conditions (or when your cameras are using infrared night vision) the DVR may be more or less sensitive to motion, depending on your unique circumstances. The difference might be very dramatic!

Weather

The weather conditions are going to affect your motion detection. Dramatic weather phenomenon such as heavy rain, strong winds, lightning and so on, may trigger the motion detection with surprising frequency.

On the other hand, things like fog, mist and other obscuring kinds of weather might mask or obscure something moving to the point that the DVR fails to detect them.

- **Limit the motion sensitive area to only the areas in view that a target could be. In particular, large featureless areas in the camera's view are the ones most likely to give false triggers - turning off the motion sensitivity to any area a target cannot move in front of will help reduce false triggers - see page 41.**

Note: The motion detection feature will seem more sensitive at night. We recommend that you test your motion detection sensitivity both during the day and at night to ensure your sensitivity setting is suitable for either lighting condition.

Some tips to customizing your motion detection sensitivity and actions:

- **Consider how important it is to be notified of motion events as they happen.**

Using the email alerts is a great way to be kept up-to-speed on what's happening, but may quickly become annoying if something occurs which will generate a number of false triggers. As a rule, we suggest employing the email alert only on interior cameras during times that **no one** should be moving about in front of them.

- **It can be important to have a complete record of a subject's movements and actions for legal reasons.**

If your cameras capture an illegal event (typically an intruder, but we're continually surprised by stories from our users) it is important to have as much information as possible. For example, images of someone in your home may not actually *prove* that they broke in - but footage of them breaking a window does. If you use a camera inside the home to trigger all exterior cameras with pre-record enabled, then you will have a record of how they entered in addition to what they did.

- **Always consider what's really important.**

Which is the bigger problem - a dozen false triggers per day, or missing one critical event?

There's no magic setting which will make motion detection work *perfectly*. There will always be some events that it's not sensitive enough to catch, or minor happenings that will trigger an overly sensitive camera to record. Typically, the best motion detection settings are one's that give few false triggers but *don't miss anything*.

Even motion detection which false triggers a few times per hour will still save a significant amount of hard drive space compared with a constant recording schedule for the same duration.

You can also use the **Privacy Mask** option to minimize false triggers by obscuring different parts of your image - see page 42.

How it Works: Once motion detection has been enabled for a channel, it will register to the DVR as a **Motion Event**. Thus, you can use the Motion recording mode in the schedule to trigger the DVR to record when motion is detected.

Enable Motion Detection: Whether or not motion detection is enabled on a specific channel. Each channel can be configured independently of one another.

Say, for example, you are trying to monitor your front yard, whilst in the background there is a busy street, and the cars driving past continually set off the motion detection. What can you do about it? Setting only part of the camera's view to be motion sensitive might be the answer. This is useful in a number of circumstances, such as monitoring one particular door at the end of a busy hallway, or a backyard with a tree that keeps blowing in the wind.

Handling: Here you can define what will happen when the camera you've selected detects motion. You can trigger additional cameras to start recording, you can adjust your arming schedule, send alerts to the *SwannView Plus* client software and to send an email.

Motion Detection Area Configuration



To set the MOTION DETECTION AREA

In the **MOTION DETECTION** menu, select the AREA SETUP (shown above) for the channel you wish to setup the MOTION DETECTION AREA for.

- You will see a grid of red boxes. **The outlined boxes mark the area that is sensitive to motion.** The area **without** the red outlines is **not** sensitive to motion.
- Use the mouse to move the cursor around the screen.
- By left clicking an area in the grid, you can toggle motion detection **ON** or **OFF** in that location.
- Click and drag to select the area you want to select or de-select.

In the sample image above, a person entering the room through the window would trigger the motion detection. However, a person entering from the right of screen should avoid the motion sensitive area. This is a good solution to monitor the windows (left of image) without getting false triggers every time someone enters the room from the right.

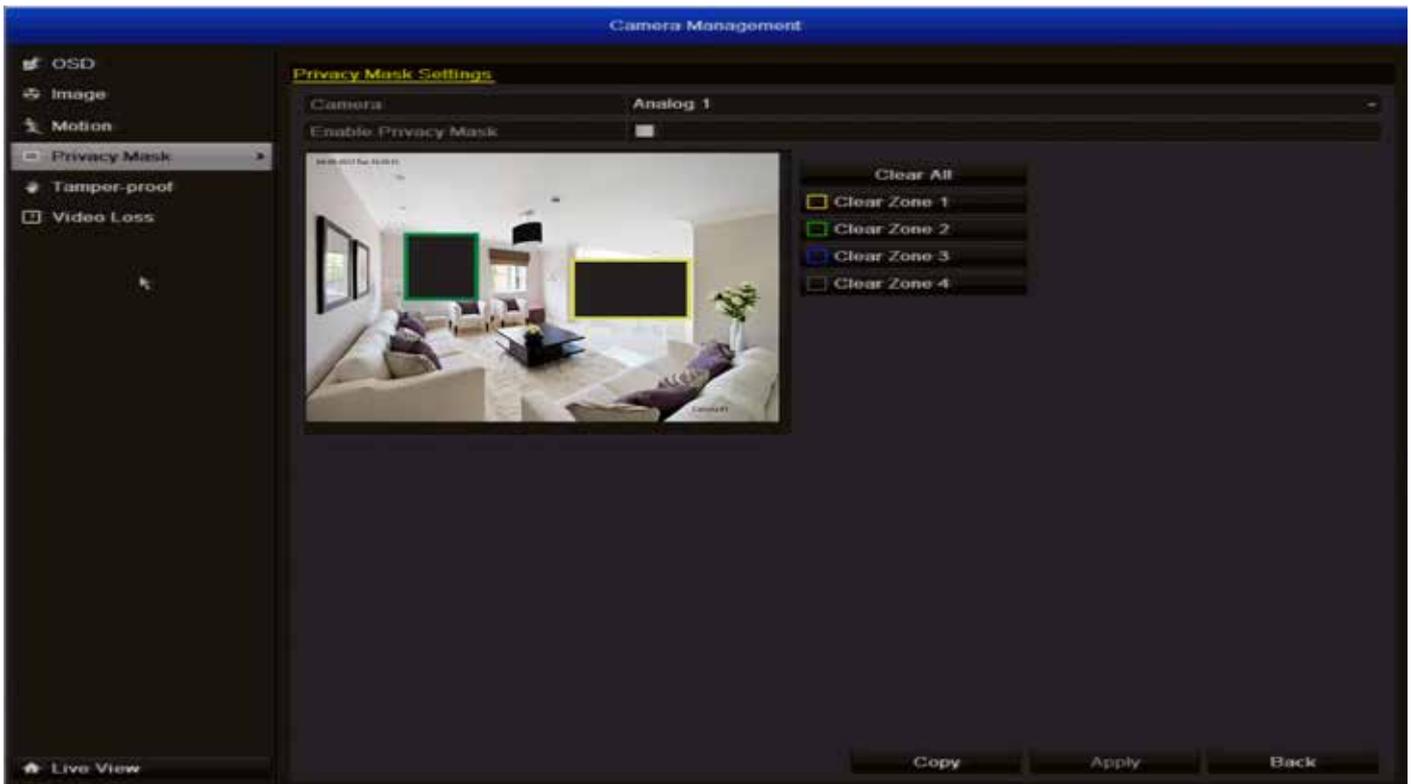
Sensitivity: The Sensitivity setting is controlled by a slider, allowing you to set a value between L (low) and H (high). The closer to H the slider is set, the more sensitive the motion detection will be.

Full Screen: Will select the entire area for motion detection.

Clear: Will clear the entire area.

Get an able-bodied volunteer to move about in front of the cameras you'd like to tune the sensitivity for. The ideal sensitivity level is when your volunteer moving about always triggers the motion detection, but there are no false triggers (or very few) when your volunteer isn't moving about.

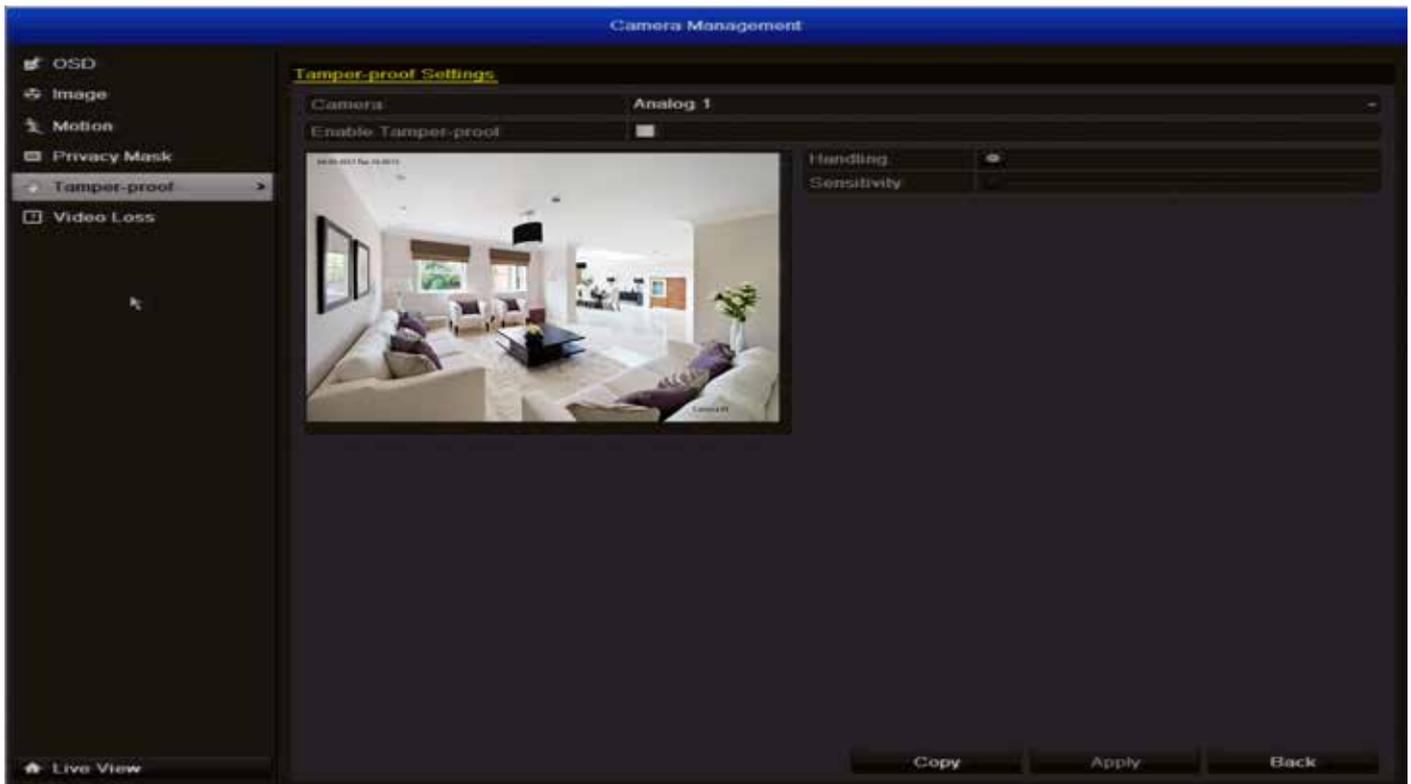
Camera Management: Privacy Mask



A **Privacy Mask** can be used if you want to obscure part of your image. You can also use this option to minimize false triggers for motion detection. You can define up to four areas per channel to mask. Click and drag to select the area you want to select or de-select.

Remember: Anything obscured by a privacy mask won't be shown in **Live View** and will **not** be recorded.

Camera Management: Tamper Proofing



Tamper Proofing can be used in scenarios where someone may cover up the camera's field of view or if they are attempting to tamper with the video signal.

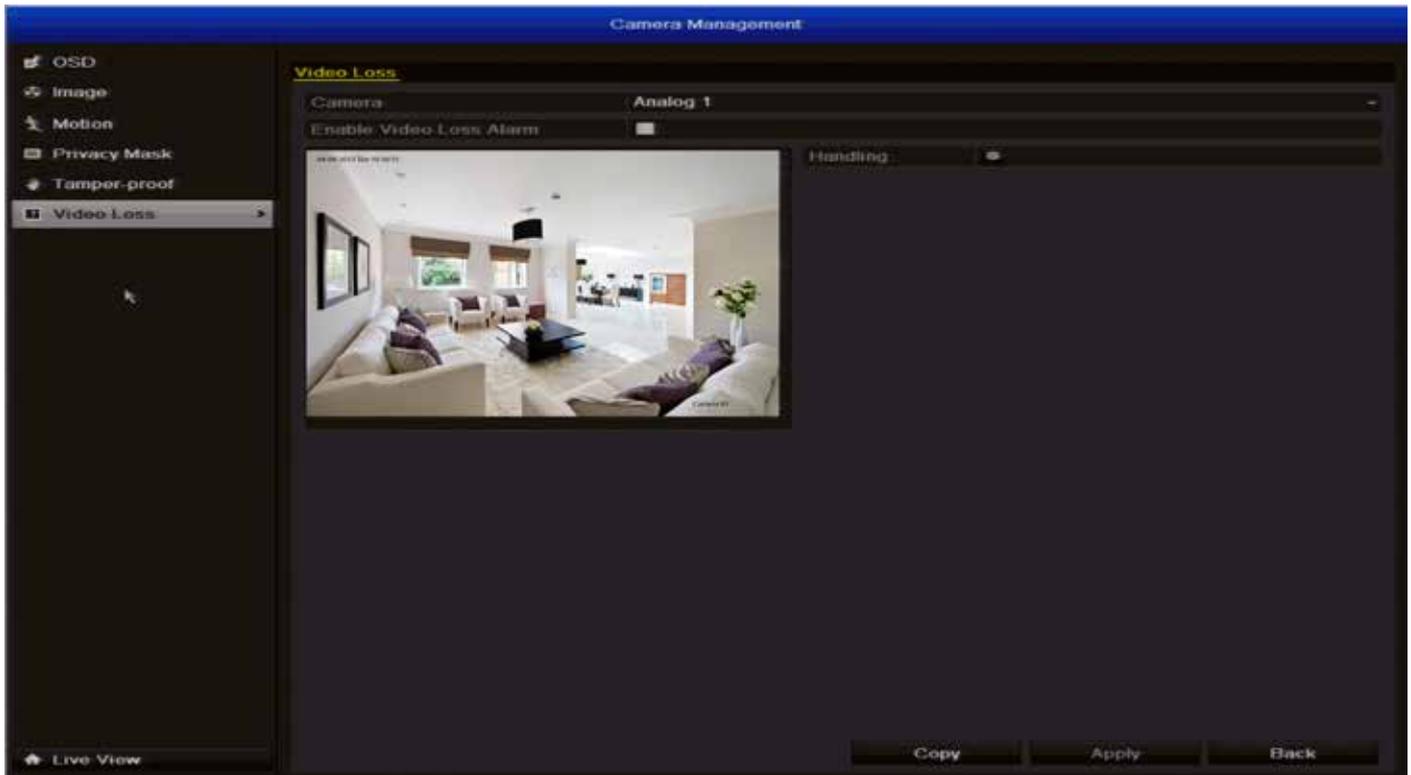
Camera: Select the channel that you want to enable for tamper proofing.

Enable Tamper-proof: Select this to enable.

Handling: Here you can define what will happen when the camera you've selected detects tampering. You can adjust your arming schedule, send alerts to the *SwannView Plus* client software and to send an email.

Sensitivity: Increase or decrease the level of sensitivity.

Camera Management: Video Loss



Camera Management: Video Loss

Video Loss is regarded as a potential alarm event, and is considered to occur any time that the DVR doesn't receive an active video signal on any of its inputs.

The default behaviour of the DVR, when a channel has no incoming video signal, is simply to display "No Video" in white text on a black background over the associated channel. If you're not using all the inputs on your DVR, then some channels will be in "permanent" video loss state. Just be sure that you don't enable a video loss action for these channels.

Camera: Which channel/camera you'd like to set the video loss behaviour for.

Enable Video Loss Alarm: Whether the selected channel has video loss monitoring active or not.

Camera Management: Video Loss - Handling

Full Screen Monitoring: When the video signal has re-established connection, the camera will display a full screen image momentarily.

Audible Warning: The DVR will use its internal buzzer to emit an alarm tone. It sounds like an old computer indicating an error, or a large truck backing up.

Alert CMS Software: A warning message is sent to the *SwannView Plus* client software installed on the computer.

Send Email: The DVR will send an auto-email alert when the event type you've selected occurs. To configure your email settings - see "Configuration: Network: Email" on page 21 for details.

Maintenance: System Info



If you're looking at the System Information screen, you've probably been directed to do so by Swann Technical Support.

If we haven't told you to come here, you might be wondering what all the information means. On a day-to-day level, the answer is "very little". However, if you're still curious:

Device Info: Displays the Device Name, Model, Serial Number, Firmware and Encoding Version of the DVR.

Camera: Displays the cameras connected to the DVR.

Record: Displays the current recording settings.

Network: Displays the current network settings.

HDD: Displays the current status of the hard drive installed. Please note, 0MB free is normal when the overwrite option is enabled.

Maintenance: Log Information



The **Maintenance: Log Information** menu contains information for operation, exceptions and information of the DVR.

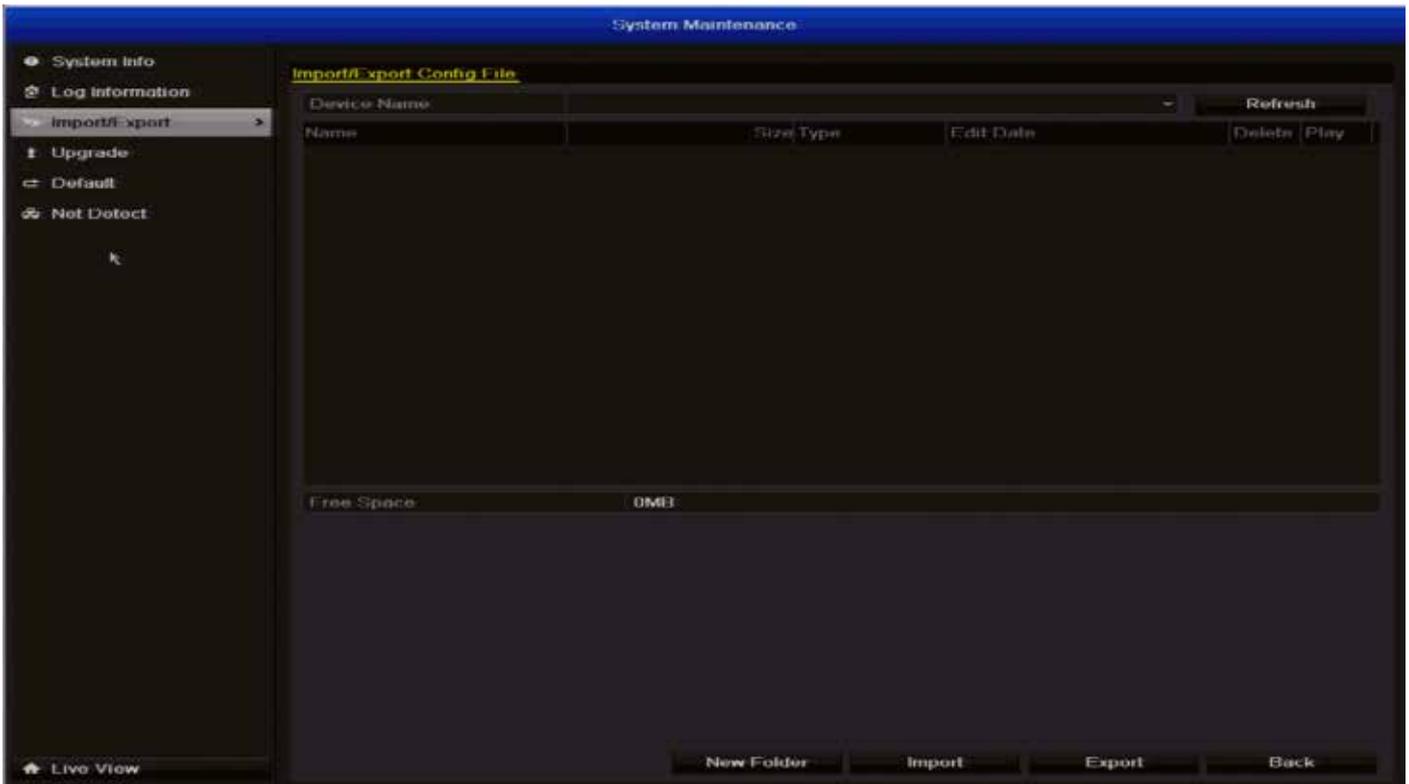
1. Set the log search conditions to refine your search including the **Start Time**, **End Time**, **Major Type** and **Minor Type**.
2. Click the **Search** button to start searching the log files.
3. The matched log files will be displayed. Up to 2000 log files can be displayed each time.
4. Double click each file to view detailed information contained in the log.
5. Click the **Play** button to view the video that is related to that log file.

6. If you want to export the log file, click the **Export** button to enter the Export menu. Click the **Search** button first otherwise the **Export** button will not be active.

7. Select the backup device from the **Device Name** dropdown list. Click **New Folder** to create a new folder or **Format** to format the backup device. Click **Export** to export the log files to the backup device.

To export all the log files, click the **Log Export** option, select the hard drive that you want to export, select the backup device from the **Device Name** dropdown list, then click the **Export** button.

Maintenance: Import/Export

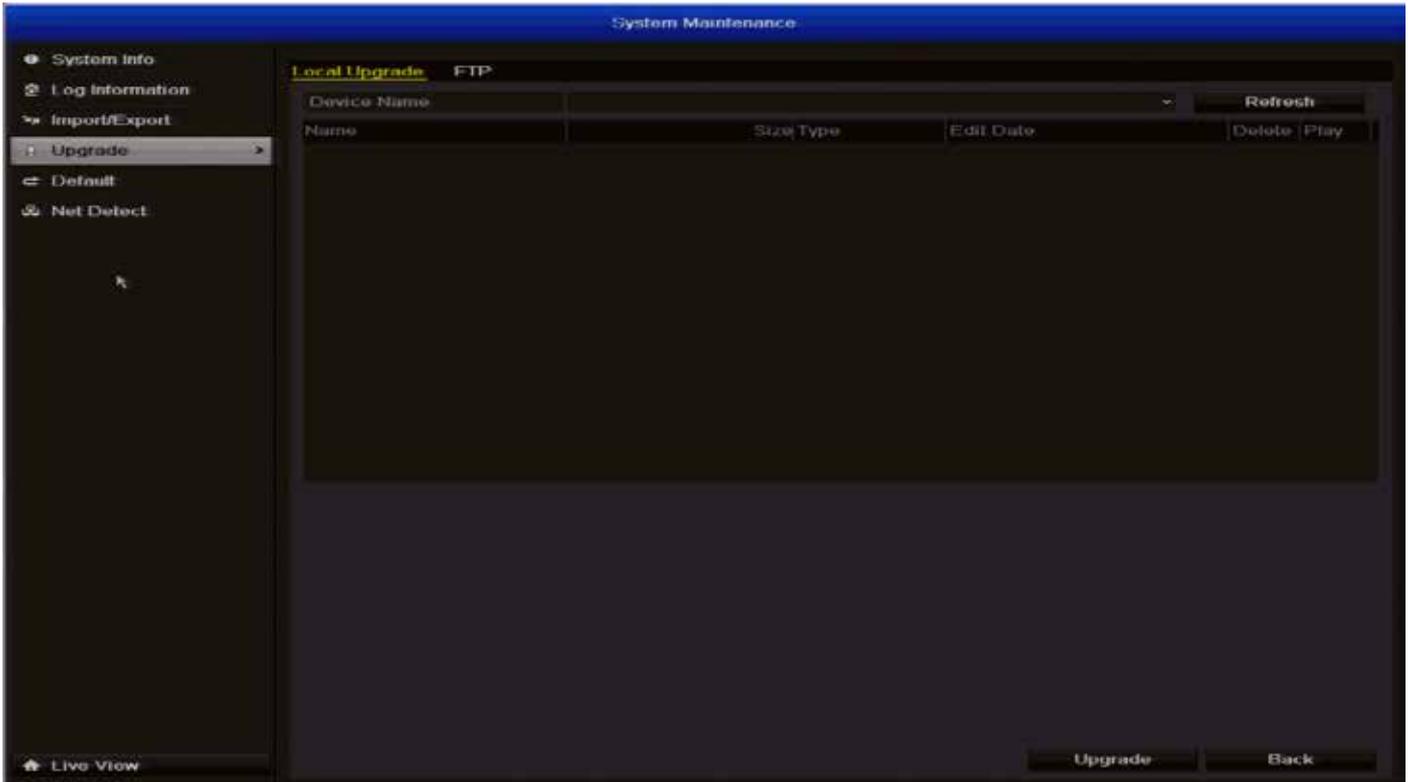


The **Maintenance: Import/Export menu** allows you to import or export your current configuration settings. This will come in handy as it will save you time if you have to reset the DVR back to factory default settings.

To export your current configuration file, select the backup device from the **Device Name** dropdown list. Click **New Folder** to create a new folder or **Format** to format the backup device. Click **Export** to export the configuration file to the backup device.

To import a previously saved configuration file, select the backup device from the **Device Name** dropdown list. Select the configuration file - it will be called **devCfg_(serial number)_(year/month/time).bin**, then click the **Import** button. After the configuration file has been imported, the DVR will reboot automatically.

Maintenance: Upgrade

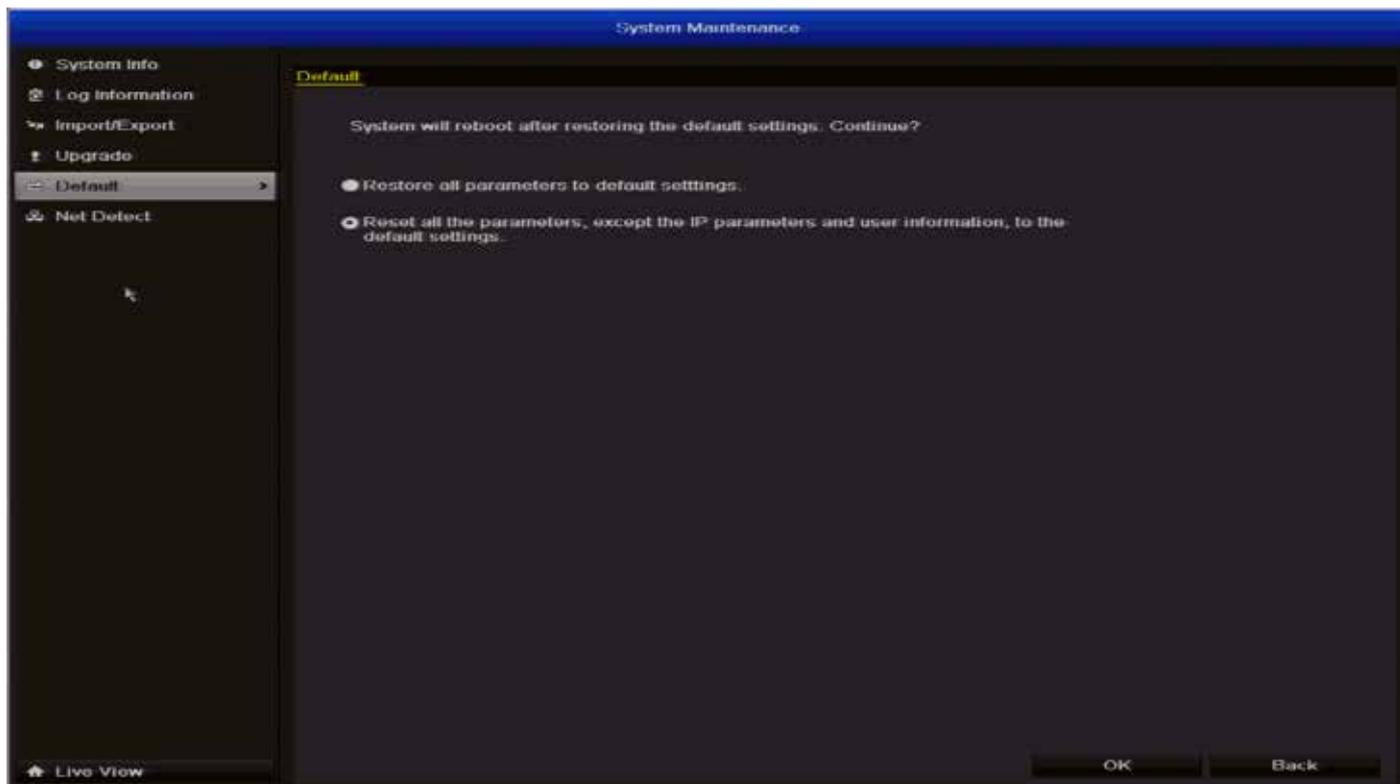


The **Maintenance: Upgrade menu** allows you to upgrade the firmware of the DVR. You'll only need to use these options if instructed to do so by *Swann Technical Support*.

Local Upgrade: The firmware will be updated locally using a USB Flash Drive or USB Hard Drive. Click the **Upgrade** button to commence the update.

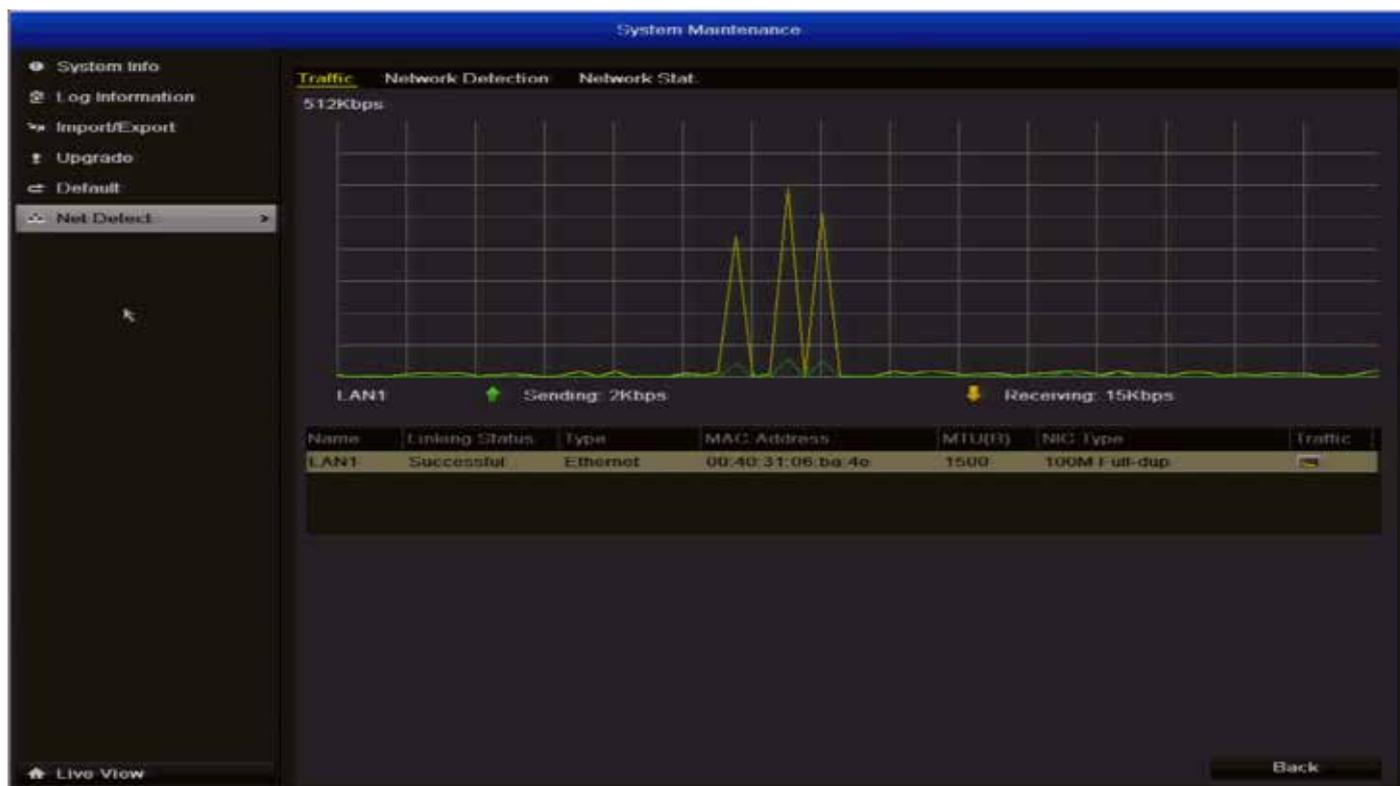
FTP: The firmware will be updated using your computer as a FTP server. Make sure that both your computer and DVR are connected to the same Local Area Network (LAN). You will need to download and install 3rd party TFTP software onto your computer. Place the firmware file into the root directory of the TFTP software and input the IP address of your computer into the DVR. Click the **Upgrade** button to commence the update.

Maintenance: Default



The **System Maintenance: Default** menu allows you to reset the DVR and load factory default settings. There are two options available - you can select the first option which will reset all the parameters including network and user settings, or you can select the second option which will do the same but will maintain your network and user settings. The DVR will reboot after pressing the **OK** button. Please note, all data on the HDD will remain.

Maintenance: Net Detect



The **Maintenance: Net Detect** menu allows you to check network traffic and to obtain real-time information from the DVR such as network detection, network status and sending and receiving network traffic.

Q: I can't login to or unlock the DVR - it says my password is wrong.

A: The default username/password combination for the DVR is "admin" with the password "12345". If that doesn't work (and you haven't set a password of your own that you've forgotten) then something strange has happened - contact *Swann* technical support (contact details are on the rear cover).

Q: The DVR will boot up and show live images, but there are no menus being displayed. Why?

A: There might be a fault with one (or more) of the hard drives installed in the DVR. Before the menu system is displayed, the DVR attempts to detect what drives are connected. If there is an ambiguous signal preventing the DVR from ascertaining whether there is a drive connected or not, then it will keep looking and waiting for the drive to respond.

If you've just installed a new drive, disconnect it and see if that fixes the problem. You can also try disconnecting one drive at a time to see if that one is the culprit.

Q: How do I eliminate false-triggers on my motion detection?

A: There's no guaranteed way to eliminate false triggers, but - in the majority of cases - you can fine-tune the DVR's motion detection settings to reduce the number of false triggers you're likely to get. (See "Camera Management: Motion" on page 39 for more detailed information about setting motion detection.)

1. *Mask any redundant movement.* This includes obvious things like trees blowing in the wind, roads with cars passing and so forth. Some less obvious things which might cause false triggers include: the "flickering" of screens, monitors or fluorescent lights, reflections of movement in windows/mirrors and so on, lights which are often turned on or off, shadows passing and so on. We can't possibly imagine what you're going to find in your unique circumstances, so we encourage you to experiment.

2. *Fine-tune your sensitivity.* There's no substitute for getting a volunteer to play the part of intruder and experimenting. Some cameras are just more "touchy" than others; some lighting conditions are harder to get the settings "right" for.

Q: I'm getting too many email alerts from the DVR.

A: There are a few things that might help, depending what's generating the email alerts. Here are a few possibilities:

- **The emails are for real events, however it is telling me about it multiple times.**

This indicates that the DVR is functioning properly, but that the **Interval** setting for your email alerts is too low. Increasing the Interval time will decrease the number of email alerts the DVR sends.

- **The DVR sends email alerts when nothing seems to be happening.**

This suggests that there might be something amiss with your Motion Detection settings, or with the configuration of your sensors (if used).

The most likely explanation is that there is something in view of your cameras which is moving, or causes the illusion of movement. Have a look at "Camera Management: Motion" on page 39 for some more information.

- **The DVR keeps reporting errors (such as Video Loss, HDD Error or similar).**

There seems to be a hardware or configuration fault with the DVR. These are most often caused by a faulty (or simply poorly connected) connection or cable. Check the integrity of your cables and connections.

Addendum: Third Party Hardware

Due to its nature as a networked device, the DVR is often required to operate with third party hardware. We do everything we can to ensure the DVR is compatible with as many third party devices as possible; there will always be some that require a little extra configuration.

Routers

I'm using a router which doesn't support DHCP addressing.

or

Some devices on my network require STATIC addressing.

You'll need to set the address of the DVR manually. You'll need to:

- **Find Your Network's IP Address Range**
- **Create a Unique IP Address**
- **Assign the IP address information to the DVR**

Finding your Network's IP Address Range

First, you'll need to know the **IP address**, **Subnet Mask** and **DNS Server** of *at least* one other device on your network. It's easiest to find these addresses by using a computer on the same network.

For Windows-based PCs:

- Open the **Start Menu**, navigate to **Accessories** and open **Command Prompt**
- Type "**ipconfig**" and press **Enter**
- Your IP Address information will be displayed

For Mac-based systems:

- From the **Apple** menu, select **System Preferences**
- Click on the **Network** pane
- Click on the **Advanced** button and look under the **TCP/IP**, **DNS**, and **Ethernet** tabs

Creating a Unique IP Address

The IP Address of your computer will be made up of four groups of numbers, separated by periods: *aaa.bbb.ccc.ddd*

The first three groups of numbers (*aaa.bbb.ccc*) must be the same as the other device on your network. The last number (*ddd*) must be changed to something unique that nothing else on your network uses.

For example:

If your computer's IP address is 192.168.1.10, then a suitable unique IP address for your DVR will be 192.168.1.210

Note: Each number in the IP address cannot exceed 255.

Assigning the IP Address information to the DVR.

*We recommend doing this locally (on the DVR itself) even if you can access the DVR via the network (using the **SwannView Plus** client software) in the meantime.*

If you're connected remotely and the networking information changes, you might lose the connection to the DVR.

- Open the **Configuration: Network: General** menu on your DVR (see page 18)
- Select **Static** addressing
- **IP Address:** Enter the unique IP that you created for the DVR here
- **Subnet Mask:** Enter the same value as the computer's Subnet Mask
- **DNS Server:** Enter the same value as the computer's DNS

The DVR should now be accessible via your local network.

Before you can access the DVR remotely, you'll need to **Forward Ports** (STATIC addressing does not support UPnP, see below).

I'm using a router which doesn't support UPnP. How do I "forward ports"?

It depends on what type of router you have. There's no standard procedure for forwarding ports - each manufacturer has their own user interface and procedure for customising the behaviour of the router.

First, check the router's documentation - the instructions may be there.

If your router's documentation doesn't describe the method for port forwarding, then open a web browser and navigate to (**www.portforward.com**) - they've got instructions on port forwarding for (literally) thousands of different routers.

We can't offer much more information about forwarding ports here, as this is a process totally dependent on third-party hardware. If you do run into trouble, we suggest contacting the manufacturer of the router.

Alternately, if you're using an older router which doesn't support UPnP, then it might be time for an upgrade - modern routers are increasingly powerful and are (in most cases) easier than ever to setup. We think that UPnP is a fantastic feature that's well worth having, not just for DVRs.

Warranty Information

USA

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

Australia

Swann Communications
Unit 13, 331 Ingles Street,
Port Melbourne Vic 3207
Australia

United Kingdom

Swann Communications LTD.
Stag Gates House
63/64 The Avenue
SO171XS
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 the 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.

Helpdesk / Technical Support Details

Swann Technical Support

All Countries E-mail:

tech@swann.com

Telephone Helpdesk

USA toll free
1-800-627-2799

AUSTRALIA toll free
1300 138 324

USA Exchange & Repairs
1-800-627-2799 (Option 1)
(M-F, 9am-5pm US PT)

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