



The Alien EKO+ Digital Video Recorder

Operations Manual

Models: ALIEN358 ALIEN366



Special Features:

All channels recording at D1 resolution-

Simultaneous VGA & Main Composite Outputs-

*1FPS background recording switching to 25FPS
on motion detection-*

Multi-Screen Playback on all channels-

Networking & Email facility

Version 2.0.4

Last Revised: 18/10/2012

Safety Warnings and Precautions

Please pay attention to the following warnings and cautions:



Power Supply Hazardous Voltage: AC mains voltages are present within the power supply assembly. This device must be connected to an approved, enclosed power supply of the proper rated voltage and current. **No user serviceable parts inside the power supply.**



System Grounding (Earthing): To avoid shock, ensure that all AC wiring is not exposed and that the earth grounding is maintained. Ensure that any equipment to which this device will be attached is also connected to properly wired grounded receptacles and are approved devices.



Power Connect and Disconnect: The AC power supply cord is the main disconnect device to mains (AC power). The socket outlet shall be installed near the equipment and shall be readily accessible.

Installation and Maintenance: Do not connect/disconnect any cables or perform installation/maintenance on this device during an electrical storm.



Lithium Battery: This device contains a Lithium Battery. There is a risk of explosion if the battery is replaced by an incorrect type. Dispose of used batteries according to the vendor's instructions and in accordance with local environmental regulations.

Preventive and Cautionary Tips

Before connecting and operating your DVR, please be advised of the following tips:

- Ensure unit is installed in a well-ventilated, dust-free environment.
- Unit is designed for indoor use only.
- Keep all liquids away from the DVR.
- Ensure environmental conditions meet factory specifications.
- Ensure unit is properly secured to a rack or shelf. Major shocks or jolts to the unit as a result of dropping it may cause damage to the sensitive electronics within the unit.
- Use the DVR in conjunction with a UPS if possible.
- Power down the unit before connecting and disconnecting accessories and peripherals.
- A factory recommended HDD should be used for this device.
- Improper use or replacement of the battery could result in battery explosion. Replace with the same or equivalent type only. Dispose of used batteries according to the instructions provided by the battery manufacturer.

Contents	Page No
Safety Warnings and Precautions	2
Preventive and Cautionary Tips	3
Contents	4
1. Introduction	6
1.1 Overview	7
1.2 Product Features	8
1.3 Product Application Diagram	10
1.4 Operating Your DVR	10
1.5 Using the Front Panel Controls	10
1.6 ALIEN358 Rear Panel	13
1.7 ALIEN366 Rear Panel	14
1.8 IR Remote Control	15
1.9 Using a USB Mouse	16
1.10 Using the Soft Keyboard	17
2. Getting Started	18
2.1 Starting and Shutting Down Your DVR	18
2.2 Rebooting and Locking Your DVR	18
2.3 Using the Setup Wizard	19
2.4 Setting Time & Date	22
3. Live Preview	23
3.1 Live Preview On-screen Display	23
3.2 Live Preview Icons	23
3.3 Live Preview Operation	23
3.4 Mouse Operation in Live Preview	24
3.5 Digital Zoom	24
3.6 Configure Live Preview Display - Channel Zero Encoding	25
3.7 Set Camera Order	26
4. Record Settings	28
4.1 Before Record Settings	28
4.2 Initialising Record Settings	28
4.3 Scheduling a Recording	30
4.4 Starting a Manual Recording	31
4.5 Protect Recorded Files	31
4.6 Lock/Unlock Recorded Files	31
4.7 Set HDD to Read-Only	32
5. Video Playback	34
5.1 Playback Interface	34
5.2 Playback by Search	35
5.3 Playback in Live Preview Mode	36
5.4 Playback by System Log	37
5.5 Playback Frame-by-Frame	37
5.6 Digital Zoom	37

6.	Backup	39
6.1	Exporting Files	39
6.2	Export Video Clips	41
6.3	Manage Backup Devices	42
7.	Alarm Settings	43
7.1	Motion Detection Alarm	43
7.2	Sensor Alarm Settings	46
7.3	Manual Alarm Triggering	49
7.4	Video Loss Detection	49
7.5	Video Tampering Detection	51
7.6	Exception Settings	53
7.7	Understanding Exception Triggers	53
8.	Network Settings	55
8.1	Configuring Network Settings	55
8.2	NTP Server Settings	56
8.3	Remote Alarm Host Settings	57
8.4	Configuring DVR TCP Ports	58
9.	PTZ Control	59
9.1	Navigate PTZ Menu	59
9.2	Configure PTZ Settings	59
9.3	Setting PTZ Presets, Patrols & Patterns	60
9.4	Customising Presets	61
9.5	Customising Patrols	62
9.6	Customise Patterns	63
10.	Camera Management	65
10.1	OSD Settings	65
10.2	Display Settings	65
10.3	Privacy Mask Settings	66
11.	HDD Management	68
11.1	Initialising HDDs	68
11.2	Set HDD Groups	68
11.3	Set HDD Status	69
11.4	Setting HDD to Read-Only	69
11.5	Checking HDD Status	70
11.6	Configure HDD Alarms	72
12.	DVR Management	73
12.1	Configure General Settings	73
12.2	Configuring Advanced Settings	74
12.4	Managing User Accounts	75
12.4.1	Add a New User	75
12.4.2	Deleting a User	78
12.4.3	Modifying a User	78
12.5	Importing & Exporting Configuration	79
12.6	Updating System Firmware	79

12.7	Restore Default Settings	81
12.8	View System Information	81
12.9	View System Log	82
13.	Appendix	84
13.1	Glossary	84
13.2	1fps background recording switching to 25fps in CIF	85
13.3	Record Timings for ALIEN366	87
13.4	Record Timings for ALIEN358	88
13.5	Frame Rate Settings and TCP Connections for EKO+ Series	89
14.	Frequently Asked Questions	90
15.	Specifications	91

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This symbol on the products and/or accompanying documents means that used electronic equipment must not be mixed with general household waste. For treatment, recovery and recycling please return this unit to your trade supplier or local designated collection point as defined by your local council.

WEE/CG0783SS

1. Introduction

1.1 Overview

Developed on the basis of the latest technology, the Alien EKO+ range of Digital Video Recorder combines the latest in advanced H.264 video encoding and decoding technologies delivering high performance, reliability and longer recording times. The Alien EKO+ Digital Video Recorder can be used as a standalone video surveillance product, as well as the ability to build a powerful surveillance network making it is perfect for home or business applications.



ALIEN EKO+ DVR

1.2 Product Features

Compression

- PAL/NTSC adaptive video inputs.
- H.264 video compression with high reliability and superior definition.
- G.711 audio compression standard.
- Independent video encoding parameters, including frame rate, resolution, bit rate, video quality, etc.
- Scheduled and event recording parameters configurable for per individual camera.
- Dual stream support.
- Encoding for both audio/video composite stream and video stream; audio and video synchronisation during composite stream encoding.
- Compression, storage and network transmission of video images at 4CIF, 2CIF or CIF resolution.

Local Monitoring

- Up to 1280×1024 resolution for VGA output display.
- Simultaneous VGA and CVBS output.
- 1/4/8 or 1/4/9/16-camera video live view, with the camera order adjustable.
- Group switch, manual switch and automatic cycle modes selectable for video live view, with the auto cycle period configurable.
- Digital zoom in live view mode.
- Privacy masking capability.
- Multiple PTZ protocols supported, and settings and call up of presets, patrols and patterns.
- Video image zoom-in by clicking the mouse and dragging mouse in PTZ control mode.

Hard Disk Management

- Connection to 1 SATA HDD for with up to 3TB storage capacity.
- DVD writer uses one SATA connection. Can replace with additional HDD.
- S. M. A. R. T technology.
- HDD standby function.

Recording

- Cycle and non-cycle recording mode.
- Scheduled and event video encoding parameters.
- Multiple recording types, including manual, continuous, alarm, motion, motion | alarm and motion & alarm recording, etc.
- 8 recording time periods with separate recording types.
- Pre-record and Post-record time for alarm and motion detection, and pre-record time for schedule and manual recording.
- Lock and unlock of video files.
- Redundant recording if second SATA HDD installed to replace writer.
- HDD property can be set to read-only or redundancy.
- Video data search and playback by channel number, recording type, time etc.
- Digital zoom function in playback mode.

- Pause, play fast, play slow, skip forward, and skip backward when playback, locating in progress bar by dragging the mouse.
- Up to 8/16-channel playback depending on model.

Backup

- Record files backed up via USB or SATA writer device (if installed).
- Select backup by file or by time.
- Record files edited for backup in playback.
- Management and maintenance for backup devices.

Alarm & Exception

- Configurable arming time for alarm in/out.
- Various alarm types supported: alarms for video loss, motion detection, video tampering, abnormal video signal, video in/out format unmatched, illegal access, network disconnection, IP conflict, hard disk error and hard disk full.
- Various alarm response actions supported: camera recording, relay out, on-screen warning, audible warning and upload to center, etc.
- Auto recovery from exceptions.

Other

- Control of DVR via front panel keys, mouse, and IR remote control.
- Three-level user management, each user with individual operating permission for DVR and camera.
- Powerful record and search for log of operation, alarm and exceptions.
- Import/export of device configuration files.

Network

- 10/100M adaptive network interface.
- TCP/IP & network protocols for the UK include SADP, DHCP & NTP
- Unicast and multicast supported; TCP and UDP protocols applicable in unicast transmission.
- Remote search, playback and download, lock/unlock of video files.
- Support breakpoint resume.
- Remote access and configuration of parameters; remote import/export of device configuration parameters.
- Remote access of device running status, system log and alarm status.
- Remote control of DVR via button operation.
- Remote lock/unlock of panel buttons and mouse.
- Remote formatting of hard disk, upgrade, reboot/shutdown and other system maintenance operations.
- RS485 channel transmission.
- Event alarm and exceptions upload to remote management host.
- Remote manual recording.
- Remote video image capture in JPEG format.
- Voice talk and broadcast.
- Built-in WEB Server.

1.3 Product Application Diagram

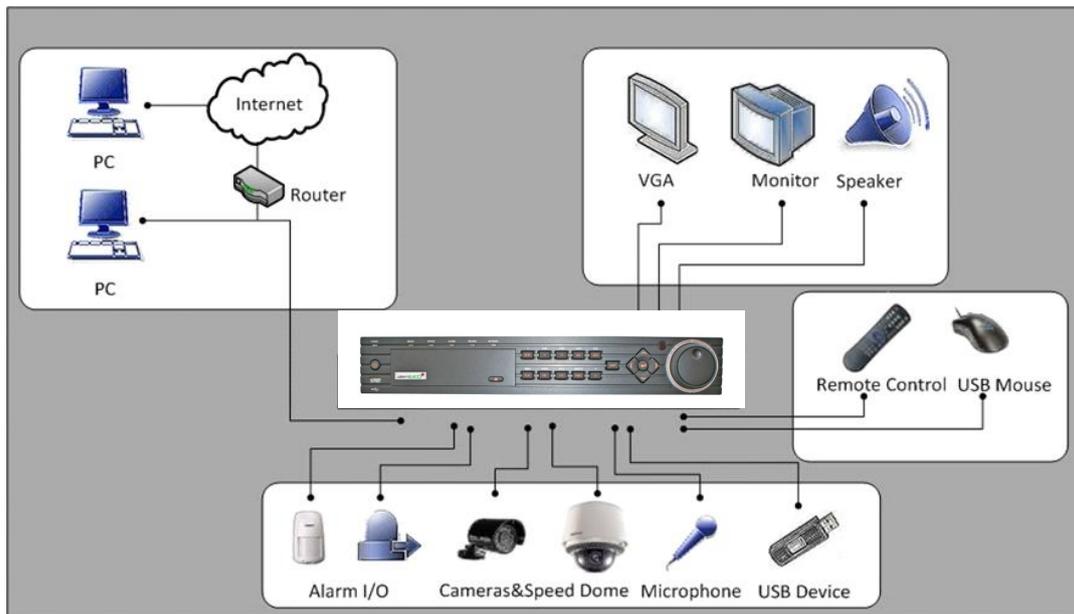


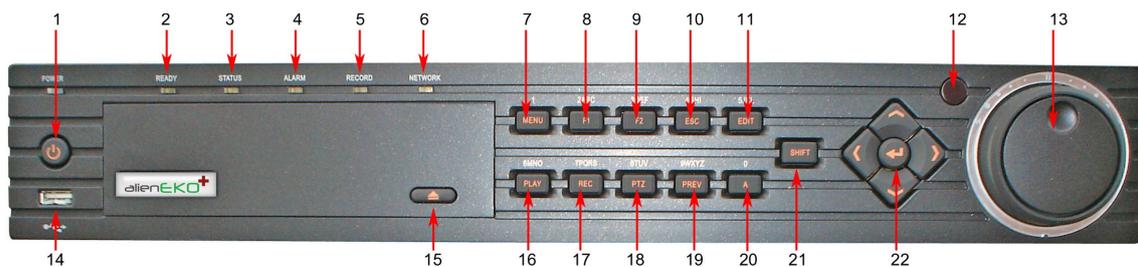
Figure 6. Product Application Diagram

1.4 Operating Your DVR

There are numerous ways to navigate and operate your DVR. You may use the **Front Panel Controls**, the included **IR (Infrared) Remote**, a **Mouse** or a **Soft Keyboard**.

1.5 Using the Front Panel Controls

ALIEN EKO+ Front Panel



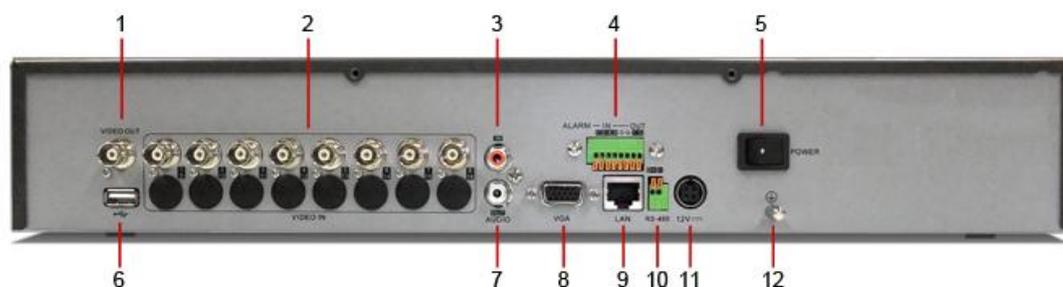
- 1. Power On/Off/LED:** Press and hold the button to turn off the device.
The indicator lights in green when DVR is powered up.
- 2. READY:** the indicator lights in green when the device is running normally.
- 3. STATUS:** the indicator lights when the compound key switches to numeric/letter input mode.
- 4. ALARM:** the indicator lights in red when there is sensor alarm occurring.
- 5. RECORD:** the indicator lights in green when the unit is under recording.
- 6. NETWORK:** the indicator flickers in green when network connection is functioning normally.
- 7. MENU:** (1) Enter numeral “1”; (2) Access the main menu interface.
- 8. 2ABC/F1:** (1) Enter numeral “2”; (2) Enter letters “ABC”; (3) The F1 button when used in a list field will select all items on the list. In PTZ Control mode, it will turn on/off PTZ light.
- 9. 3DEF/F2:** (1) Enter numeral “3”; (2) Enter letters “DEF”; (3) The F2 button is used to cycle through tab pages. It will also bring up the Channel & OSD position settings.
- 10. 4GHI/ESC:** (1) Enter numeral “4”; (2) Enter letters “GHI”; (3) Exit and back to the previous menu.
- 11. 5JKL/EDIT:** (1) Enter numeral “5”; (2) Enter letters “JKL”; (3) Delete characters before cursor; (4) Select the checkbox and ON/OFF switch; (5) Start/stop record clipping in playback.
- 12. IR Receiver:** Operation by IR remote control.
- 13. JOG SHUTTLE Control:** The JOG SHUTTLE control can be used to move the active selection in a menu. The inner ring will move the selection up and down; the outer ring will move it left and right. In the Playback mode, the outer ring is used to jump 30s forward/backward in video files. The inner ring can be used to speed up/slow down the video. In Preview mode, it can be used to cycle through different channels.
- 14. USB Interface:** Connects USB mouse or USB flash memory devices.
- 15. DVD writer tray button:** Press to open DVD writer.
- 16. 6MNO/PLAY:** (1) Enter numeral “6”; (2) Enter letters “MNO”; (3) Playback, for direct access to playback interface.

- 17. 7PQRS/REC:** (1) Enter numeral “7”; (2) Enter letters “PQRS”; (3) Manual record, for direct access to manual record interface; manually enable/disable record.
- 18. 8TUV/PTZ:** (1) Enter numeral “8”; (2) Enter letters “TUV”; (3) Access PTZ control interface.
- 19. 9WXYZ/PREV:** (1) Enter numeral “9”; (2) Enter letters “WXYZ”; (3) Multi-camera display in preview.
- 20. 0/A:** (1) Enter numeral “0”; (2) switch between input methods (upper and lowercase alphabet, symbols and numeric input).
- 21. SHIFT:** Switch of compound keys between the numeric/letter input and functional control.

22. Control Buttons:

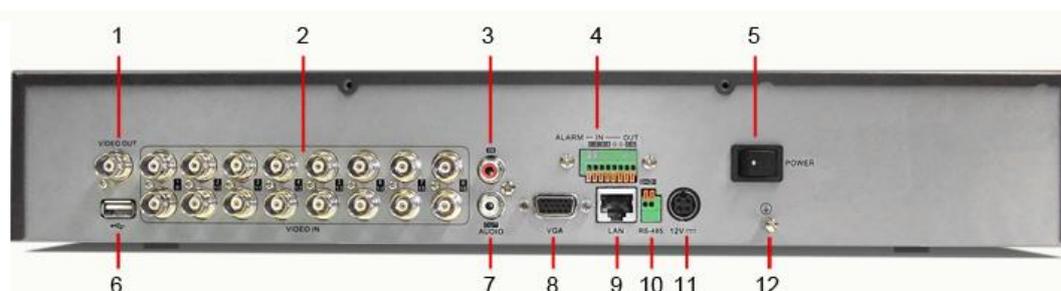
- **Directional buttons:** In menu mode, the direction buttons are used to navigate between different fields and items and select setting parameters. In playback mode, the Up and Down buttons are used to speed up and slow down record play, and the Left and Right buttons are used to select the recording 30s forwards or backwards. In preview mode, these buttons can be used to cycle through channels.
- **Enter:** The Enter button is used to confirm selection in menu mode; or used to select checkbox fields and ON/OFF switch. In playback mode, it can be used to play or pause the video. In single-frame play mode, pressing the Enter button will advance the video by a single frame. And in auto sequence preview mode, the buttons can be used to pause / resume auto sequence.

1.6 ALIEN358 Rear Panel



No.	Item	Description
1	MAIN VIDEO OUT	BNC connector for main video out
2	VIDEO IN	BNC connectors for 8 analogue video input
3	AUDIO IN	RCA connectors for 1 analogue audio input
4	ALARM IN	Connector for 4 alarm inputs
	ALARM OUT	Connector for 1 alarm outputs
5	POWER	Switch for turn on/off the device
6	USB	Connection for USB device
7	AUDIO OUT	RCA connection for 1 analogue audio output
8	VGA	DB15 connector for VGA output. Display local video output and menu
9	LAN	Connector for LAN (Local Area Network)
10	RS-485 Interface	Connector for RS-485 devices. T+, T- pin connects to PTZ
11	12V	12VDC power supply connection
12	GND	Ground(needs to be connected when DVR starts up)

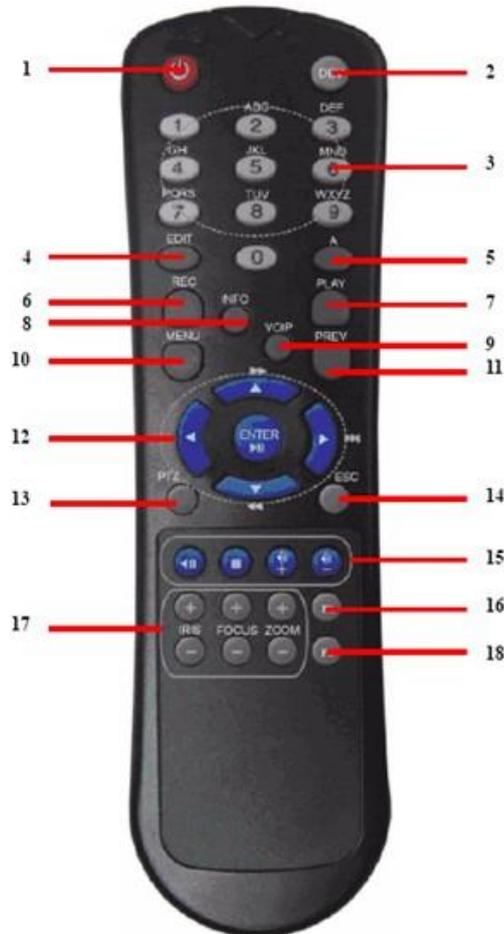
1.7 ALIEN366 Rear Panel



No.	Item	Description
1	MAIN VIDEO OUT	BNC connector for main video out
2	VIDEO IN	BNC connectors for 8 analogue video input
3	AUDIO IN	RCA connectors for 1 analogue audio input
4	ALARM IN	Connector for 4 alarm inputs
	ALARM OUT	Connector for 1 alarm outputs
5	POWER	Switch for turn on/off the device
6	USB	Connection for USB device
7	AUDIO OUT	RCA connection for 1 analogue audio output
8	VGA	DB15 connector for VGA output. Display local video output and menu
9	LAN	Connector for LAN (Local Area Network)
10	RS-485 Interface	Connector for RS-485 devices. T+, T- pin connects to PTZ
11	12V	12VDC power supply connection
12	GND	Ground(needs to be connected when DVR starts up)

1.8 IR Remote Control

Your DVR may also be controlled with the IR remote control, shown below. Batteries (2×AAA) must be installed before operation.



IR Remote Control

The keys on the remote control closely resemble the ones found on the front panel, including:

1. **POWER:** Turn on/off DVR.
2. **DEV:** Enable/Disable Remote Control.
3. **Alphanumeric:** Same as Alphanumeric buttons on front panel.
4. **EDIT:** Same as JKL/EDIT button on front panel.
5. **A:** Same as 0/A button on front panel.
6. **REC:** Same as 7PQRS/REC button on front panel.
7. **PLAY:** Same as 6MNO/PLAY button on front panel.
8. **INFO:** Reserved.
9. **VOIP:** Same as 2ABC/F1 button on front panel.
10. **MENU:** Same as 1/MENU button on front panel.
11. **PREV:** Same as 9WXYZ/PREV button on front panel.
12. **DIRECTION/ENTER Buttons:** Same as DIRECTION/ENTER buttons on front panel.
13. **PTZ:** Same as 8TUV/PTZ button on front panel.
14. **ESC:** Same as ESC button on front panel.

15. **RESERVED:** Reserved.
16. **F1:** Same as 2ABC button on front panel.
17. **PTZ CONTROL Buttons:** Buttons to adjust the iris, focus and zoom of a PTZ camera.
18. **F2 Button:** The F2 button is used to cycle through tab pages. It can also be used to enter the Channel & OSD Position settings.

Aim the remote control at the IR receiver located at the front of the unit to test operation. If there is no response:

1. Using the front control panel or the mouse, go into Menu > Settings > General > More Settings.
2. Check and remember DVR ID Number. The default ID is 255. This ID is valid for all IR remote controls.
3. Press the DEV button on the remote.
4. Enter the DVR ID Number from step 2.
5. Press the ENTER button on the remote control.

If the Status indicator on the front panel turns green, the remote control is operating properly. If the Status indicator does not turn green and there is still no response from the remote, please check the following:

1. Batteries are installed correctly and the polarities of the batteries are not reversed.
2. Batteries are fresh and fully charged.
3. IR receiver is not obstructed on DVR.
4. No fluorescent lamp is used nearby.

1.9 Using a USB Mouse

A regular 3-button (Left/Right/Scroll-wheel) USB mouse can also be used with this DVR. To use a USB mouse:

1. Plug USB mouse into one of the USB ports on the front panel of the DVR.
2. The mouse should automatically be detected.

The buttons on the mouse corresponds to:

1. Left Button:

- **Single-Click:** Select a component of a menu, such as a button or an input field. This is similar to pressing the ENTER button on the remote/front panel controls.
- **Double-Click:** Switch between single screen and multi-screen mode in Preview/ Playback mode.
- **Click and Drag:** Clicking and dragging the Left mouse button can be used to control the pan/tilt of a PTZ camera as well as to vary the position of digital zoom area and camera OSD. It can also be used to setup the alarm areas.

2. Right Button:

- **Single-Click:** Shows pop-up menu.

3. Scroll-Wheel:

- **Scroll Up:** In Preview mode, scrolling up will switch to the previous screen. In Menu mode, it will move the selection to the previous item.
- **Scroll Down:** In Preview mode, scrolling down will switch to the next screen. In Menu mode, it will move the selection to the next item.

1.10 Using the Soft Keyboard

When a mouse is used to perform task on the DVR, clicking on a text input field will bring up the Soft Keypad on-screen, as shown in Figure 13.



Figure 13. Soft Keypad

The buttons on the soft keyboard represents:

-  **Lowercase:** Designates lowercase input is being used.
-  **Uppercase:** Designates uppercase input is being used.
-  **Switch to Lowercase:** Switch to lowercase input.
-  **Switch to Uppercase:** Switch to uppercase input.
-  **Number:** Designates number input is being used
-  **Symbols:** Switch to symbols input.
-  **Backspace:** Delete the character in front of the cursor.
-  **Enter:** Confirm selection.
-  **ESC:** Exit out of Soft Keyboard.

Figure 14. Soft Keyboard Buttons

2. Getting Started

2.1 Starting and Shutting Down Your DVR

Correct startup and shutdown procedures are crucial for extending the life of your DVR.

To start your DVR:

1. Please make sure the input voltage meets the requirements of the DVR.
2. Please make sure the VGA port on the rear panel has been connected to a display device or the VIDEO OUT port to a composite monitor, or else no prompt message will be displayed on screen after device startup and the menu operation is inaccessible as well.
3. If the POWER indicator on the front panel does not light, please apply power to the device to start it.

After the power has been connected, the POWER indicator will light green and the startup window will appear:

To shutdown the DVR:

1. Enter the **Shut Down** menu, shown in Figure 1 by clicking on Menu > ShutDown.



Figure 1. Shutdown Menu

2. Select the **ShutDown** button.
3. Click the **Yes** button.

2.2 Rebooting and Locking Your DVR

While in the Shutdown menu (Figure 1), you may also reboot or lock your DVR. Locking your DVR will return you to the Live Preview mode, which will require a user name and password to exit out of it. The Reboot button will reboot your DVR.

To reboot or lock your DVR:

1. Enter the Shutdown menu by clicking Menu > ShutDown.
2. Select the Lock button to lock the DVR or the Reboot button to reboot the DVR.

2.3 Using the Setup Wizard

Note: Please ensure the DVR has been installed with HDD before access to the Setup Wizard.

By default, the Setup Wizard will start once the DVR has loaded, as shown in Figure 2. The Setup Wizard will guide you through some important settings of your DVR. Select **Next** if the DVR has been installed with HDD, or click **Cancel** to access Live View window if no HDD is installed.

Note: If the checkbox is changed to , then the Setup Wizard dialog box will not appear next time until the factory default settings are resumed; and if you select the checkbox as , the device will automatically access the Setup Wizard dialog box when it starts up next time.



Figure 2. Setup Wizard

To start using the Setup Wizard:

1. Click the **Next** button on the Wizard window. This will take you to the **User Permission** window, shown in Figure 3.

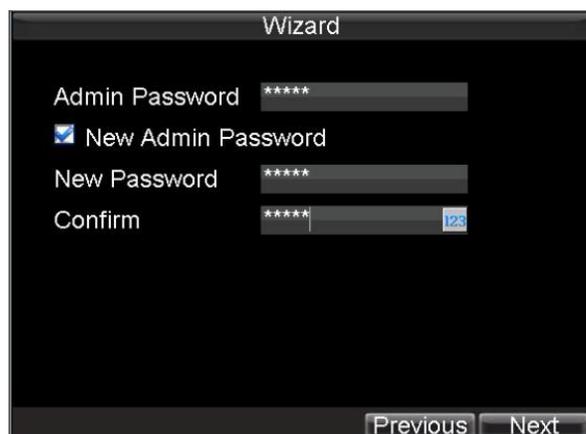


Figure 3. User Permission

2. Navigate to the Admin Password text box.
3. Type the admin password into the Admin Password text box. By default, the password is **12345**.
4. To **change** the admin password, check the New Admin Password checkbox. Type new password and confirm it in the given text boxes.
5. Click **Next** button to enter the HDD Management dialog box, shown in Figure 4.



Figure 4. HDD Management

6. To access HDD management interface, click the **Enter** button.
7. If a new HDD has been recently installed, select the HDD from the list to initialise it. Initialising the HDD will format and remove all data on it.
8. After the HDD has been initialised, click the **OK** button which will take you back to the **Setup Wizard** window.
9. Click **Next** button to enter the **Record Settings** dialogue box, as shown in Figure 5.

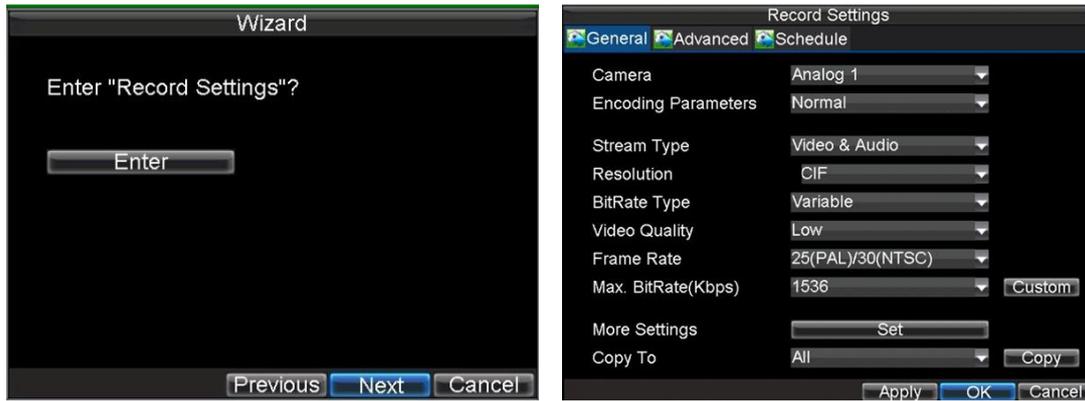


Figure 5. Record Settings

10. To access **Record Settings** interface, click the **Enter** button.
See 13.6 Frame Rate Settings and TCP Connections For EKO+ Series.
11. Select the **Schedule** tab, shown in Figure 6.

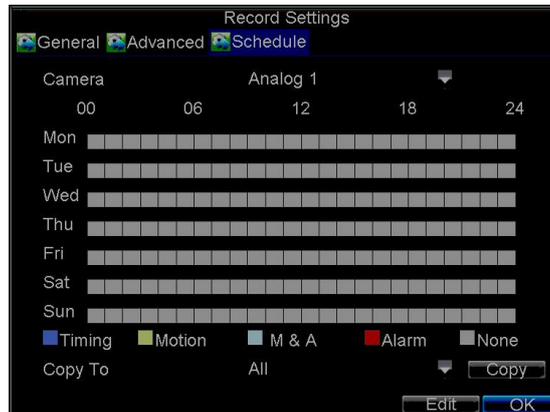


Figure 6. Schedule Settings

12. Click **Edit** button to enter a new recording schedule, shown in Figure 7.
13. Check both the **Enable Schedule** and **All Day** checkbox. This will enable the recording schedule and make it record continuously all day.



Figure 7. Edit Schedule Settings

14. Click the **OK** button. This will take you back to the **Schedule** tab. To copy the schedule to a different channel, select the channel or all under **Copy To** and click the **Copy** button.
15. Click **Next** button to access the **Network Settings** dialog box, shown in Figure 8.

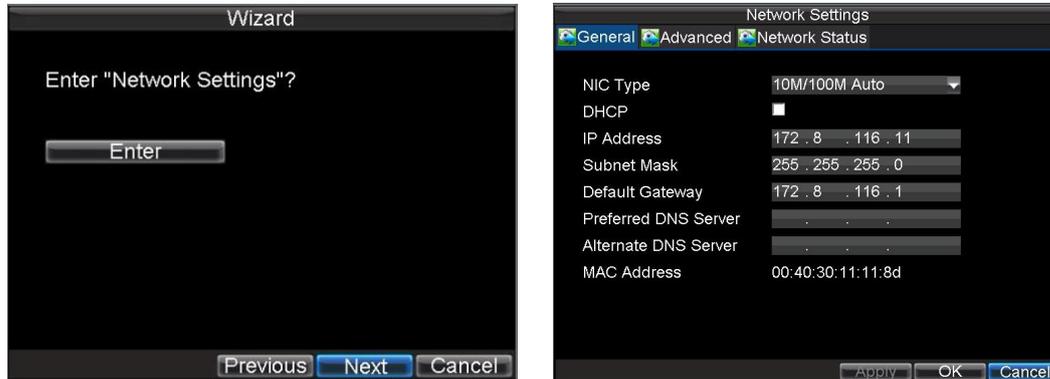


Figure 8. Network Settings

16. To configure network settings, click the **Enter** button.
17. Enter the **IP Address**, **Subnet Mask** and **Default Gateway** settings.
18. Click **OK** button to return to the Setup Wizard.
19. If all the settings have been entered, click **Done** to finish and exit the Setup Wizard.

You've completed the Setup Wizard. The next step in the initial setup process is to setup the system date and time.

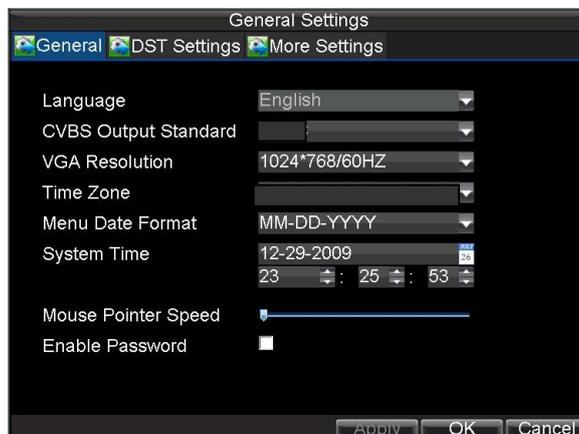
After completion of Setup Wizard, enter the Live View window.

2.4 Setting Date & Time

It is extremely important to setup the system date and time to accurately timestamp recordings and events.

Figure 9. General Settings

1. Open the **Menu** window by clicking the **MENU** button on the remote or front panel. You can also go to the Menu window by right clicking with the mouse and clicking the Menu button.
2. Click the **Settings** icon.
3. Click the **General** icon.
4. Enter date and time in System Time.
5. Click Apply then OK to save.



3. Live Preview

3.1 Live Preview On-screen Display

The Live Preview mode is automatically started after the DVR boots up. It is also at the very top of the menu hierarchy, thus hitting the ESC multiple times (depending on which menu you're on) will bring you to the Live Preview mode.

3.2 Live Preview Icons

Some icons are provided on screen in Live Preview mode to indicate different camera and monitor status. These icons include:



Main Output



Aux Output



Event Alarm: Indicates video loss, video tampering, motion detection or relay alarm.



Record: Indicates the current channel is recording. The recording may have been started manually, from a schedule, and/or triggered from motion or alarm.



Event Alarm & Record

Figure 1. Live Preview Icons

3.3 Live Preview Operation

In Live View mode, you can operate the following functions:

- 1. Display Single Camera:**
 - **By Front Panel/Remote:** Use Alphanumeric buttons.
 - **By Mouse:** Select **Single Camera** in right-click menu.
- 2. Multi-camera Preview:**
 - **By Front Panel/Remote:** Press **PREV** button.
 - **By Mouse:** Select **Multi Camera** in right-click menu.
- 3. Manual Switch:**
 - **By Front Panel/ Remote:** Press the **Left** arrow button to access the previous screen; press the **Right** arrow button to access next screen.

- **By Mouse:** Select **Next Screen** in right-click menu.
4. **Auto Sequence:**
- **By Front Panel/Remote:** Press **Enter** button.
 - **By Mouse:** Select **Start Auto-switch** in right-click menu.
5. **Digital Zoom:**
- **By Mouse:** Select Digital Zoom in right-click menu.

3.4 Mouse Operation in Live Preview

Some functions of the Live Preview can be quickly accessed by clicking the right-button of the mouse (shown in Figure 2). These functions include:

- **Single Camera:** Switch to a full-screen display of the selected camera by drop-down submenu.
- **Multi Camera:** Switch between different multi-camera display modes by drop-down submenu.
- **Next Screen:** When displaying less than the maximum number of cameras in Live Preview, select this option to switch to the next camera display.
- **Playback:** Enter Playback mode of the selected camera.
- **PTZ:** Enter PTZ Control mode of the selected camera.
- **Digital Zoom:** Enter Digital Zoom interface of the selected camera.
- **Menu:** Enter Main menu.
- **Start Auto-switch:** Enable multi-camera sequence in Live Preview mode.

Note: The **dwelt time** of the preview configuration should be set before using **Start Auto-switch** function.



Figure 2. Live Preview Mouse Menu

3.5 Digital Zoom

To use digital Zoom in Live Preview mode:

1. Right-click the mouse in Live Preview mode.
2. Select **Digital Zoom** from drop-down submenu.
3. Left-click and drag the red box to the desired area for zooming. The zoomed image will be magnified by 4 times. An example is shown below.

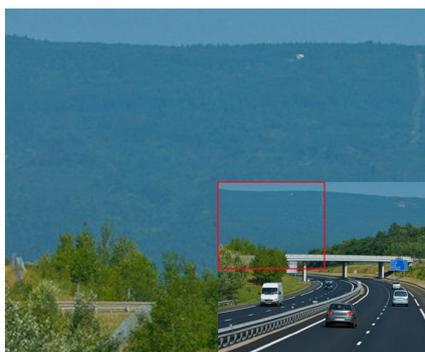


Figure 3. Digital Zoom

3.6 Configure Live Preview Display

Click Menu >Settings >Display to access the Live Preview display settings:

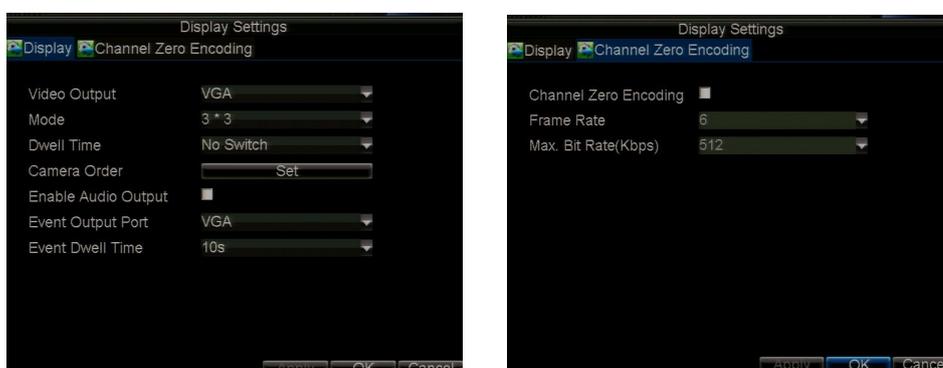


Figure 4. Display Settings

Configure the following settings for Live Preview Display:

- **Video Output:** Set the video output modes, including VGA and Main CVBS.
- **Mode:** Set the live view display mode to be 1×1, 2×2, 3×3, or 4×4.
- **Dwell Time:** Set the dwell time for camera switching when **Start Auto-switch** is selected in Live Preview.
- **Camera Order:** Set the camera order for display in the selected mode (See **Setting Camera Order**).
- **Enable Audio Output:** Enable/disable audio output for the selected video output.
- **Event Output Port:** Set the port for event output to be VGA or Main CVBS Output.
- **Event Dwell Time:** Set the dwell time for event video display.

Note:

1. This DVR will automatically detect whether a VGA monitor is connected or not.
2. When a VGA monitor is connected to the DVR, then the VGA will be used as the main video output, and all menu operations are accessible by mouse, front panel or IR remote. The VIDEO OUT will be used as the video output which only

allows a user to access the live view of the camera according to the configured CVBS video parameters.

3. When there is no VGA display connected to DVR, the VIDEO OUT will be used as the main video output, and menu operations are accessible; the VGA will be used as the spot video output which only allows user to access the live view of the camera according to the configured VGA video parameters.
4. The connection or disconnection of the VGA monitor when running will not affect its functions as detailed above.

DVR Connections	VGA	VID OUT 1 SPOT
VGA main	MULTI - MENU	MULTI -NO MENU
No VGA	-	MULTI - MENU
VGA Spot	MULTI - NO MENU	MULTI - MENU

MULTI = multi-screen display MENU = Menu available

Channel zero encoding

Purpose:

Sometimes you may need to get a remote view of many channels in real time from the web browser or client software using minimal bandwidth requirement without affecting the image quality. Channel-zero encoding is an option whereby a number of channels can be displayed within the confines of a single channel display without the overhead of a large network bandwidth.

Enter the **Display Settings** interface.

Menu> Settings> Display

Select the **Channel-Zero Encoding** tab.

Click the checkbox after **Channel-Zero Encoding**.

Configure the Frame Rate and Max. Bitrate. After you set the Channel-Zero encoding, you can get a view in the remote client or IE browser of all the channels in one screen.

3.7 Set Camera Order

The Camera Order settings allow you to set camera sequence in selectable live view display mode. See the following figure:

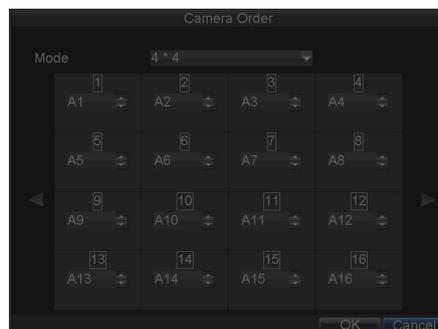


Figure 5. Camera Order Settings

Operate the following steps to set camera order:

1. Enter the Display Settings menu (Menu > Settings > Display) and click **Set** in the Camera Order item.
2. Select the video output port and the display mode (1×1, 2×2, 3×3 and 4×4 modes selectable).
3. Use the direction buttons on front panel to move to the display pane for setting then press the **Enter** button to confirm the selection.
4. Use the direction buttons on front panel to select the camera you want to view in the display pane. The option '×' indicates no camera display.
5. Press **Enter** button to confirm the selection.

4. Record Settings

There are multiple ways to setup your DVR for recording. They include setting up a recording schedule, triggering a recording by motion detection and/or a sensor alarm, and manually starting the recording.

4.1 Before Record Settings

Before configuration, please make sure your DVR has been installed with an HDD and has completed its initialisation, otherwise, access Menu > HDD Management to install the HDD and perform initialisation first.

Note: Please refer to **Initialising HDD** for specific instructions for initialising HDD.

4.2 Initialising Record Settings

1. Click Menu > Settings > Record to access the Record Settings dialogue box, shown in Figure 1.



Figure 1. General Record Settings

2. Select the camera you want to configure.
3. Configure the following settings:
 - **Encoding Parameters:** Set the encoding parameters to be Normal or Event. To setup Ramp Up facility refer to section 13.2
 - **Stream Type:** Set the stream type to be Video or Video & Audio.
 - **Resolution:** Set recording at resolution of 4CIF, 2CIF, CIF or QCIF. For more information see section 13.6
 - **Bit Rate Type:** Set the bit rate type to be Variable or Constant.
 - **Video Quality:** Set the video quality of recording, with 6 levels configurable.
 - **Frame Rate:** Set the frame rate of recording. For more information see sections in Chapter 13.
 - **Max Bit Rate:** Select or customise the maximum bit rate for recording.
4. Click the **Set** button under More Settings to configure more recording settings, as shown in Figure 2.



Figure 2. More Record Settings

- **Pre-Record:** Set the time in seconds to pre-record before the actual recording begins.
 - **Post-Record:** Set the time in seconds to post-record after the actual recording has ended.
 - **Recording Expired Time:** Set the expiration time in days for recorded video. Recorded files after expiration time will be deleted. Set to '0,' to disable this function but note that the actual period for record file storage is determined overall by the available HDD space.
 - **Record Audio:** Enable or disable audio record for the selected camera.
- Click **OK** to finish settings and return to the previous menu.
5. Press the **3DEF/F2** button on DVR front panel to select the **Advanced** tab to access the Advanced Settings submenu, shown in Figure 3.
 6. Enable or disable the Overwrite setting. Enabling the Overwrite setting will cause recorded files to be overwritten once the HDD is full.
 7. Click **Apply** and then **OK** to return to the previous menu.

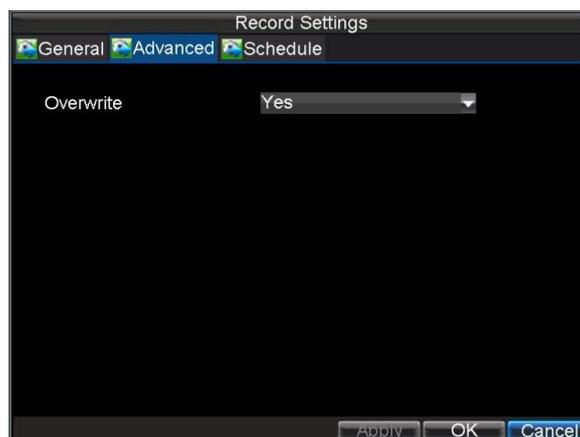


Figure 3. Advanced Record Settings

4.3 Scheduling a Recording

The Schedule allows you to set up flexible recording schedules for daily or weekly recording.

To set up a recording schedule:

1. Click Menu > Settings > Record to enter the Record Settings menu.
2. Select the **Schedule** tab to enter the Schedule dialogue box, shown below.

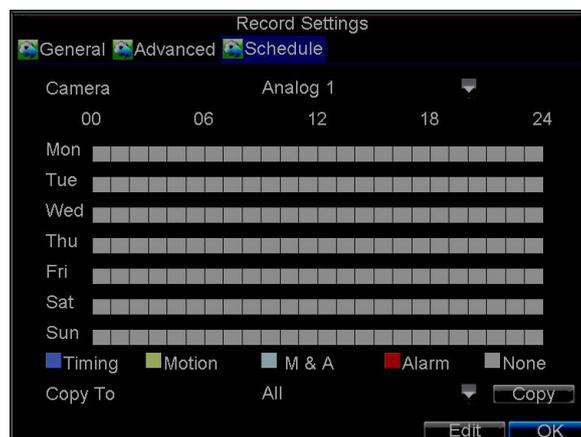


Figure 4. Scheduling a Recording

3. Select Camera you want to configure recording schedule.
4. Click the **Edit** button to enter the **Schedule Settings** dialogue box.
5. Click and check **Enable Schedule** checkbox.
6. Select the day you want to set up the schedule or select **All Week** to record for entire week.
7. Click **All Day** to enable recording for entire day, or select different periods for each day. Up to 8 time periods can be scheduled.
Note: The time periods must be in order and must not overlap.
8. Select recording **Type**. Recording type can be selected to scheduled or triggered by motion detection and/or alarm. For more specific settings about motion detection and alarm recordings, please refer to **Configuring Alarms**.
9. Click the **OK** button to finish configuration.
10. Repeat Steps 3-9 for other cameras or copy settings from one schedule to the others under the **Copy To** option.
11. Click **OK** to finish configuration and save the schedule settings.

Note: The **Event** encoding parameters will take effect when motion detection or alarm triggers and the **Timing** encoding parameters will take effect when there are no events happening.

4.4 Starting a Manual Recording

A manual recording can be enabled at any time by means of the following configuration:

1. Press the **REC** button on the front panel to access the **Manual Record** dialogue box, shown in Figure 5.

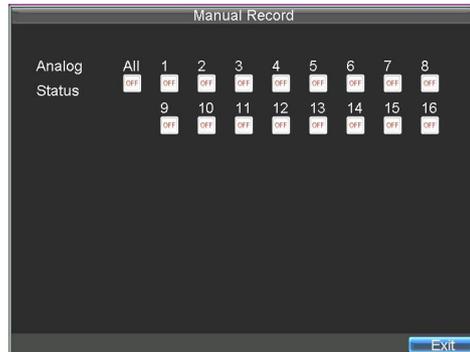


Figure 5. Manual Record Menu

2. Start manual recording by selecting **ON** or **OFF** for each camera.
NOTE: The manual option overrides any schedule operation.

4.5 Protect Recorded Files

Two methods are provided to prevent recorded files from being deleted from the HDD or overwritten during cycle recording: set the recorded files to be **locked** or set the HDD that the files reside on to **read-only**.

4.6 Lock/Unlock Recorded Files

To lock or unlock a recorded file:

1. Click Menu > Video Search to enter the Video Search dialogue box, shown in Figure 6.

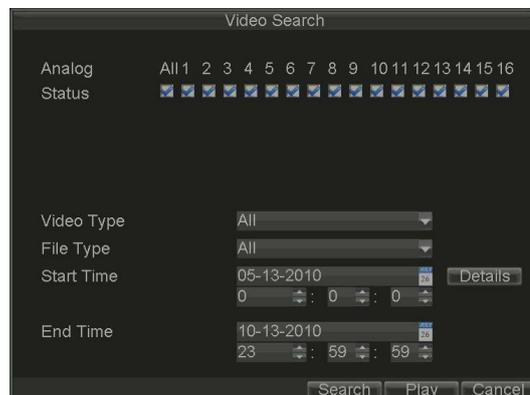


Figure 6. Video Search Menu

2. Search for desired recording by entering search parameters. Search parameters include Camera ID, Video/File Type, and Start/End Time.
3. Click the **Search** button. A list of recorded files (see Figure 7) matching the search parameters will be displayed.
4. Select the file you want to lock/unlock.
5. Click the Lock button to lock file. If the file is already locked, click the Unlock button to unlock file. Locked files will be shown with a closed lock while unlocked files, opened lock.
6. Click **Cancel** to exit the Video Search menu.

CH.	Start Time	Stop Time	File Type
A1	06-24-2010 13:36:18	13:44:19	🔒
A1	06-29-2010 16:33:38	16:35:47	🔒
A1	06-29-2010 16:37:09	16:39:10	🔒
A1	06-29-2010 16:51:17	16:51:37	🔒
A1	06-29-2010 17:52:11	17:52:26	🔒
A1	06-29-2010 17:52:29	17:52:41	🔒
A1	06-29-2010 17:52:56	17:53:08	🔒
A1	06-29-2010 17:53:51	17:54:04	🔒
A1	06-29-2010 17:54:23	17:54:38	🔒
A1	06-29-2010 17:55:11	17:55:24	🔒
A1	06-29-2010 17:57:15	17:57:30	🔒
A1	06-29-2010 17:57:41	17:58:16	🔒
A1	06-29-2010 17:58:51	17:59:05	🔒

Figure 7. Video Search Result List

4.7 Set HDD to Read-Only

To set a HDD to read-only:

1. Click Menu > HDD to access the HDD Management dialogue box, shown in Figure 8.

Label	Capacity	Free Space	Status	Group	Pro
1	465.76GB	392.75GB	Normal	1	R/W

Figure 8. HDD Management Menu

2. Select the **General** tab.
3. Select the HDD to set to read-only.
4. Click the **Property** button to enter the Property Settings dialogue box, shown in Figure 9.



Figure 9. HDD Property Settings Menu

5. Set **HDD Status** to **Read-only** and then click **OK** to finish the setting.

Note:

1. Once set to read-only, the HDD cannot be written to until it is set back to read/write (R/W).
2. If the DVR is installed with one HDD only, when the property is set to read-only, the recording to the device will stop.

5. Video Playback

The Client application allows all users to play back recorded files for a specified period. Multi-camera simultaneous playback on all channels is supported.

5.1 Playback Interface

Multiple toolbar and buttons are provided on the playback interface to control the video playback. Refer to the following figure:



Figure 1. Playback Interface

The Playback Control Panel, as shown in Figure 2, provides various control buttons for video playback.

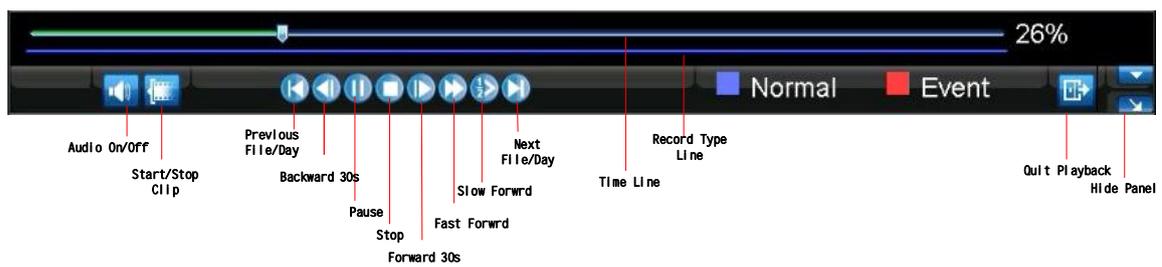


Figure 2. Playback Control Panel

Note: A blue bar ■ refers to the **Normal** recording (scheduled, manual), while the red bar ■ indicates **Event** recording.

5.2 Playback by Search

To play back record files by video search:

1. Enter the Video Search menu by clicking Menu > Video Search.
2. Set the search parameters by selecting cameras to search, video/file type and the start/end time (as shown in Figure 3).

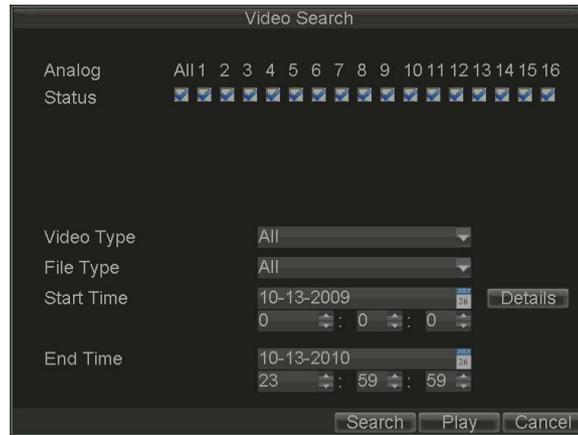


Figure 3. Video Search Menu

3. Click the Play button on the front panel to start playback of all the files found, or click the Search button to access the list of search results. After search results are presented, select the file you want to play back and press the Play button.
4. Record files will automatically be played back in the Playback interface, shown in Figure 4.



Figure 4. Playback Interface

5.3 Playback in Live Preview Mode

The Client application also allows you to play back record files in Live Preview mode.

To play back by channel in Live Preview mode:

Using a Mouse:

1. Right-click the mouse on desired channel and select the **Playback** option.
2. Record video from the selected channel will start playing back in the Playback window. An Attention message will appear if there are no recordings found in the previous 5 minutes.
3. You may also select additional channels for playback from the channel list on the right side of the Playback interface, as shown in Figure 5.



Figure 5. Playback Interface

Using the Front Panel/Remote:

1. Press the PLAY button on front panel to access the Playback mode.
2. Enter the channel you want to view record video from the front panel or remote control (i.e. press 'SHIFT', the STATUS light will turn green, then press '01' for channel 1, press '02' for channel 2).
3. Recordings will start for the selected channel.

Note: the record video for playback is of the previous 5 minutes.

Multi-camera Playback

1. Select the cameras from the camera list you want to have simultaneous playback.
2. Click  to stop the ongoing video playback.
3. Click  to start multi-camera simultaneous playback.

Note: Up to 16 cameras can be played back simultaneously.

1. The camera list operation is accessible by mouse only. Please do not operate by front panel.
2. If the camera numbered the lowest among the multiple cameras selected for simultaneous playback provides no recorded files for the current day selected from the calendar, then the warning message "Playback failed" will be displayed on the screen.

3. The video for simultaneous playback by multiple cameras selected from the camera list refers to the all-day recorded files of the selected day.

5.4 Playback by System Log

To play back video from the System Log:

1. Click Menu > Maintenance > Log Search to enter the Log Search dialogue box, shown in Figure 6.

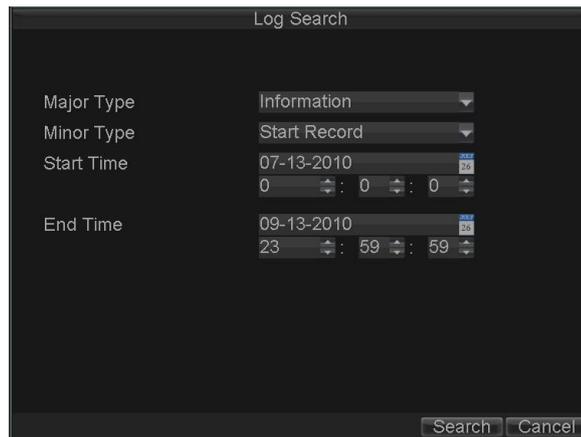


Figure 6. Log Search Menu

2. Set **Major Type** to **Information**; set **Minor Type** to **Start Record** or **End Record**; and then select the **Start Time** and **End Time** as well.
3. Click the **Search** button. A list of search results will be displayed. Select the video log and click **Play** to play back.
4. The selected recording then will begin to play in the Playback interface.

5.5 Playback Frame-by-Frame

To play back frame-by-frame in the Playback interface:

Using a Mouse:

1. Click the Slow Forward button on the Playback Control Panel until the speed changes to Single frame.
2. Click the Pause button to advance the video frame by frame.

Using the Front Panel/Remote Control:

1. Press the **Down** button to select the playback speed to **Single** frame.
2. Press the **Enter** button to advance the video frame by frame.

5.6 Digital Zoom

To use digital zoom in Playback mode:

1. Right click the mouse in Playback mode.
2. Select **Digital Zoom** from drop-down submenu.

3. Left click and drag the red box to the desired area for zooming. The zoomed image will be magnified by 4 times. An example is given in the following figure:



Figure 7. Digital Zoom in Playback Mode

6. Backup

Recorded files can be backed up to various devices, such as USB flash drives, USB HDDs or a DVD writer.

6.1 Exporting Files

To export record files:

1. Click Menu > Video Export to enter the Export Video menu, shown in Figure 1.

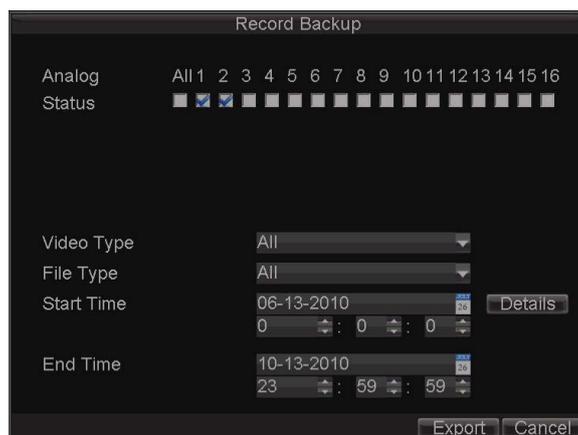


Figure 1. Export Video

2. Select desired parameters to search for files to export.
3. On the toolbar, press the **Export** button to enter the Record Backup menu.
4. Select the files to export, as shown in Figure 2. You may also click the **Play** button to confirm the record file you want to export.



Figure 2. Video Search Results

4. The size of the currently selected file/s is displayed in the lower-left corner of the window. Click the **Next** button to enter the **Export** menu, shown in Figure 3.



Figure 3. Export Menu

5. Select device to which the record file is exported from drop-down list (USB Flash Drive, USB HDD, DVD Writer). If backup device is not recognised:
 - Click the **Refresh** button.
 - Reconnect device.
 - Check for compatibility from vendor.
6. Click **Start** to begin backup process, shown in Figure 4.

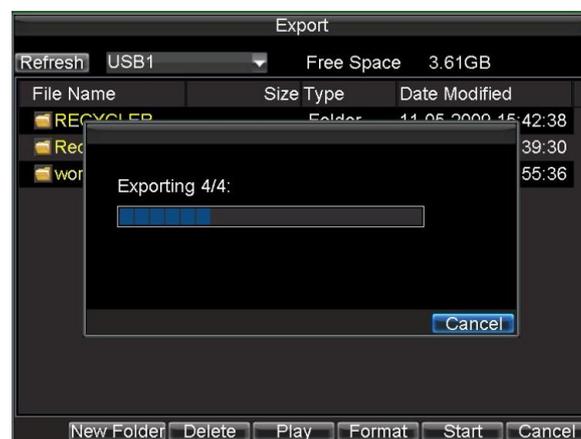


Figure 4. Backup Progress

7. After the backup process has completed (Figure 5), you may select the files from your device and click the **Play** button to verify that it has been exported successfully.



Figure 5. Export Successful Screen

Note: Video Player software will automatically be copied on to the device that the recorded files were exported on.

6.2 Export Video Clips

You may also select video clips to export directly in Playback status. A maximum of 30 clips can be selected for each channel.

To export video clips during Playback:

Using the Mouse:

1. Enter the Playback interface (See **Video Playback**).
2. Click the **Clip Start/Stop** button on the Playback Control Panel, and select the start and end of the video clip during playback.
3. Repeat for additional clips.
4. Click the **Quit Playback** button to exit from the Playback interface. You'll then be prompted to save the clips, as shown in Figure 6.



Figure 6. Video Clips Saving Prompt

5. Click the **Yes** button to enter Backup interface or select **No** to exit Playback interface.
6. At the Backup interface, select the **Start** button to begin the Backup process.

Using the Front Panel / Remote:

1. Enter the **Playback** interface (See **Video Playback**).
2. During playback, press the **EDIT** button to mark start of clip.
3. Press the **EDIT** button again to mark end of clip.
4. Repeat for additional clips.
5. Press the **ESC** button to exit from the Playback interface. You'll then be prompted to save the clips, as shown in Figure 6.
6. Click the **Yes** button to enter Backup interface or select **No** to exit Playback interface.
7. At the Backup interface, select the Start button to begin the Backup process.

6.3 Manage Backup Devices

To manage backup devices, you must first be in the Export menu, shown in Figure 7. The Export menu can be accessed by following the steps shown in the previous section (See *Exporting Files*).

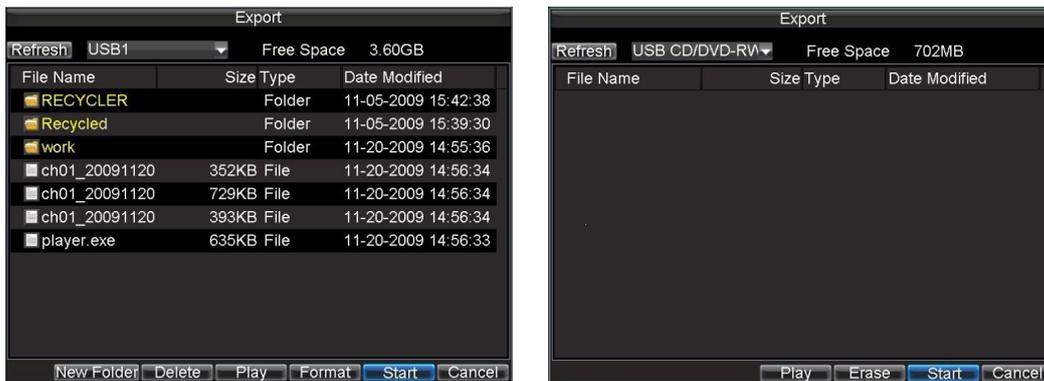


Figure 7. Export Menus

Once in the Export menu, you may:

- **Create New Folder:** Creates a new folder on the export device.
- **Delete:** Delete a file or folder from the export device.
- **Play:** Play the selected video file from the export device.
- **Format:** Format the export device.
- **Erase:** Erase files from a re-writable CD/DVD.

7. Alarm Settings

7.1 Motion Detection Alarm

Operate the following steps to configure Motion Detection Recording:

1. Enter Camera Setting:

Click Menu > Settings > Camera to access the Camera Settings menu, as shown in Figure 1.



Figure 1. Camera Management Interface

2. Select the **Advanced tab to enter the **Advanced Camera Settings** menu, shown in Figure 2.**

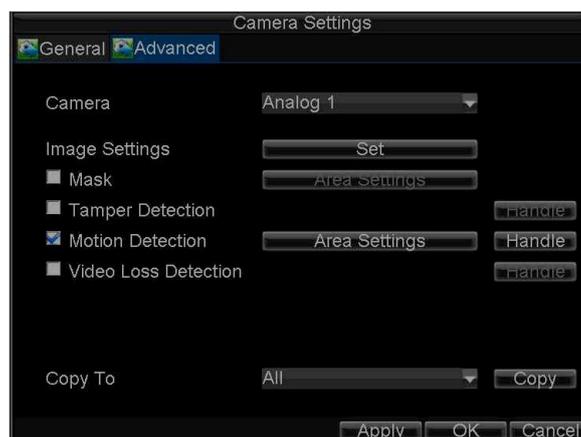


Figure 2. Advanced Camera Settings

3. Select **Motion Detection first and click the **Area Settings** button to enter the Motion Detection Area and Sensitivity settings interface.**

4. As shown in Figure 3, the Motion Detection area allows you to mask areas you want to configure motion detection. The maximum area can be set to be full screen. You can left click mouse, hold and drag it to mask the Motion Detection area. Using **EDIT** button and direction buttons can also help you to select Motion Detection area.

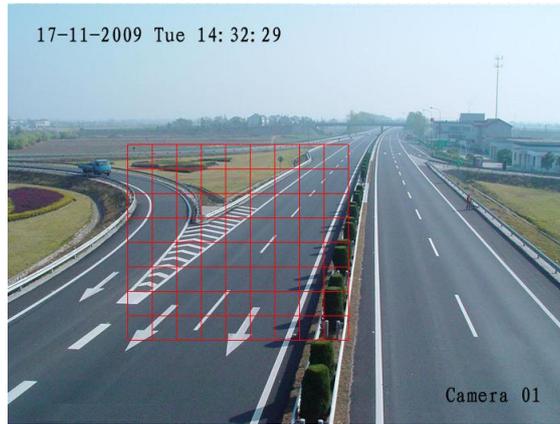


Figure 3. Motion Detection Area

5. Right click mouse or press the **MENU** button on the front panel to set the Motion Detection Sensitivity, shown in Figure 4. Higher sensitivity value corresponds to higher sensitivity level.

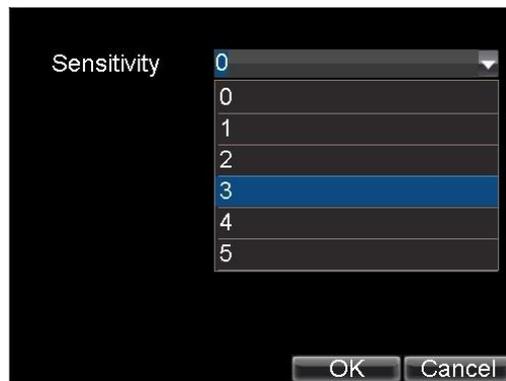


Figure 4. Motion Sensitivity Settings

6. Click **OK** to return to the **motion detection area settings** interface.
7. Right click the mouse to select the **Exit** from the menu to return to the **Advanced Camera Settings** menu.
8. Click the **Handle** button to enter the **Exception Handle** menu, shown in Figure 5.

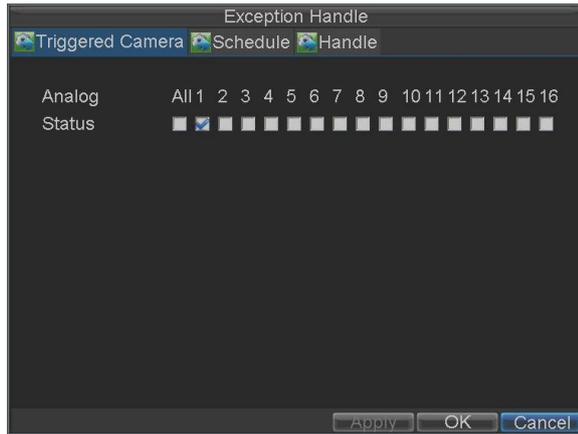


Figure 5. Triggered Camera Settings

5. Select cameras to trigger for recording when motion is detected by checking the checkboxes under the desired cameras.
6. Select the **Schedule** tab. Set the schedule you want motion detection to be enabled. Schedule can be set for all week or any day of the week with up to 8 time periods per day.

Note: After having configured the schedule, the DVR must be restarted for the new settings to take effect.

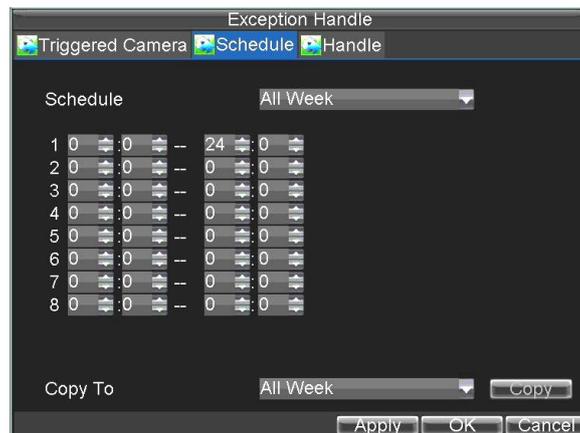


Figure 6. Schedule Settings

7. Select the **Handle** tab to configure exceptions handling. Exception trigger options will be described in the next section (See **Understanding Exception Trigger Options**).

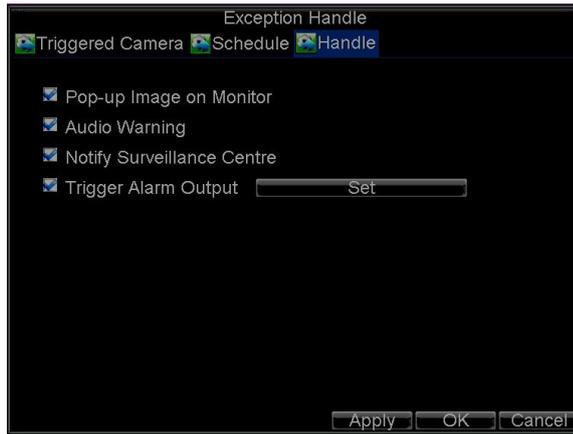


Figure7. Handle Settings

8. Click **OK** to complete motion settings for the selected camera. You may now add a schedule to start recording when motion is detected (See **Scheduling a Recording**).

7.2 Sensor Alarm Settings

Recordings can also be triggered from an external relay alarm device. To set up sensor alarms:

1. Click Menu > Settings > Alarm to enter the Alarm Settings menu, shown in Figure 8.

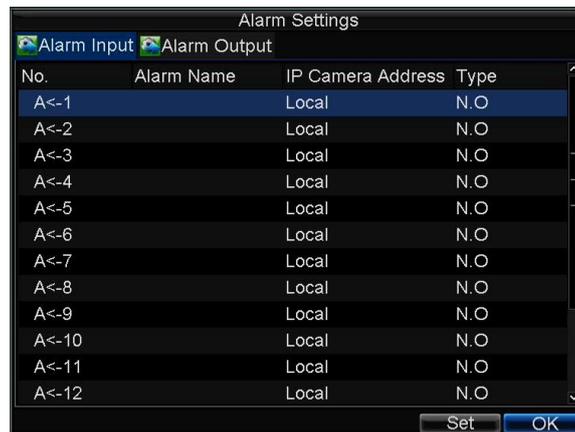


Figure 8. Alarm Management Menu

2. Select the Alarm Input No. and click the **Set** button to enter the Alarm Input Settings menu, shown in Figure 9.

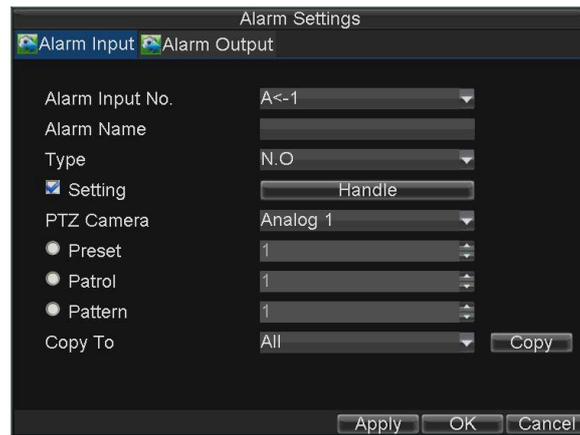


Figure 9. Alarm Management Settings

3. Set the alarm input type to be Normally Opened (N.O) or Normally Closed (N.C).
4. Check the checkbox next to **Setting** and click the **Handle** button to enter the Alarm Input Handle menu.
5. Select the **Triggered Camera** tab.
6. Select cameras to trigger for recording when alarm occurs by checking the checkboxes under the desired cameras, as shown in Figure 10.

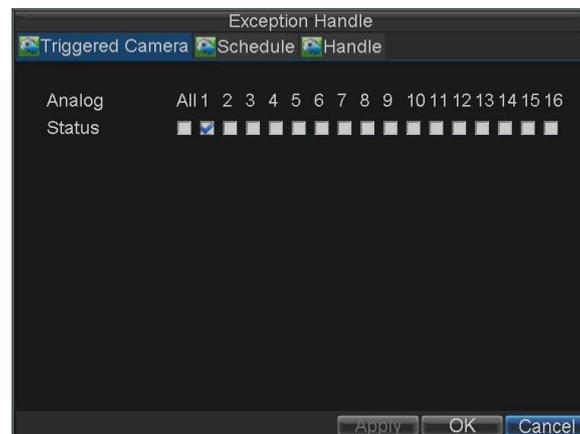


Figure 10. Triggered Cameras Menu

7. User may select the PTZ camera to link with the alarm input and then set the call up of preset, patrol and pattern for alarm linked actions.
8. Click the **OK** button to complete setup.

You may now add a schedule to start recording when an alarm is triggered (See **Scheduling a Recording**).

Alarm outputs may also be configured in the **Alarm Management** menu. To set up Alarm Output:

1. Select the **Alarm Output** tab. This will bring up the Alarm Output interface, shown in Figure 11.

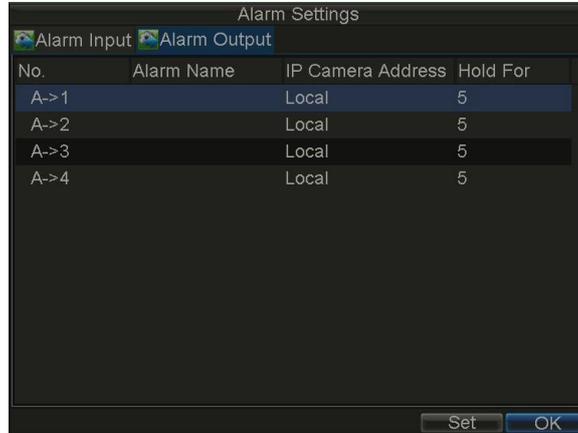


Figure 11. Alarm Output Interface

2. Select the output you would like to configure and click the Set button. This will bring up the settings page for the selected channel (Figure 12).

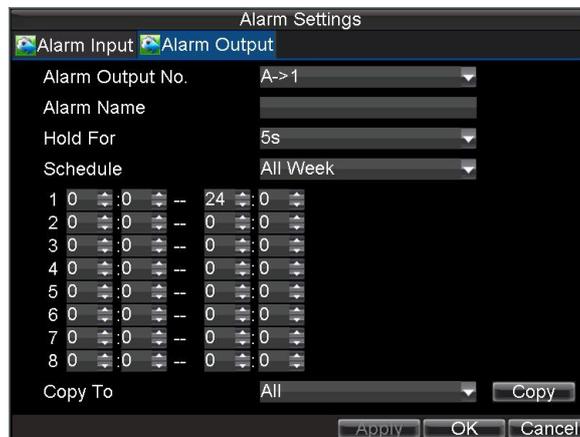


Figure 12. Alarm Output Settings

3. Configure the settings for selected output.
4. Select OK to save and exit.

Note: If the **Hold For** option is selected as **Manually Stop**, the alarm will only stop when you manually stop it (See **Triggering Alarm Outputs Manually**).

7.3 Manual Alarm Triggering

You may also trigger alarm outputs manually through the Manual Alarm menu.

To trigger alarm outputs manually:

1. Click Menu > Manual Alarm to enter the Manual Alarm menu (Fig. 13).

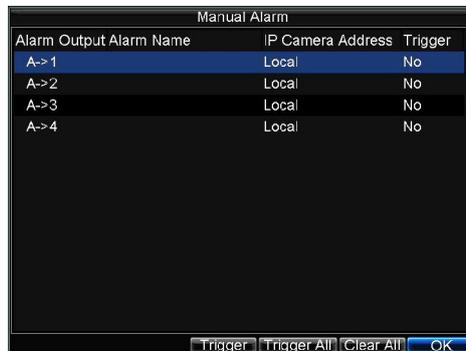


Figure 13. Manual Alarm Menu

2. Configure the following settings in the Manual Alarm menu:
 - **Trigger:** Select an alarm from the list and click **Trigger** to trigger its output.
 - **Trigger All:** Trigger all alarm outputs at once.
 - **Clear All:** Stop all alarm outputs at once.
3. Select **OK** to return to the previous menu.

7.4 Video Loss Detection

Your DVR can be set up to detect video loss and trigger an action. To set up video loss detection:

1. Click Menu > Settings > Camera to enter Camera Settings menu, shown in Figure 14.

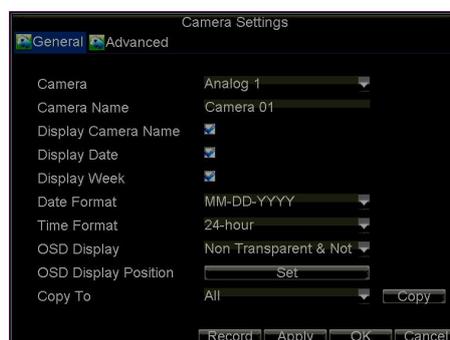


Figure 14. Camera Management Menu

1. Select the **Advanced** tab.
2. Select the camera to be configured with video loss detection.
3. Check the **Video Loss Detection** checkbox to enable this feature, as shown in Figure 15.



Figure 15. Camera Settings Menu

5. Click the **Handle** button to enter the Exception Handle menu, shown in Figure 16.
6. Select the **Schedule** tab. Set the schedule you want video loss detection to be enabled. Schedule can be set for all week or any day of the week with up to 8 time periods per day.

Note: After having configured the schedule, the DVR must be restarted for the new settings to take effect.

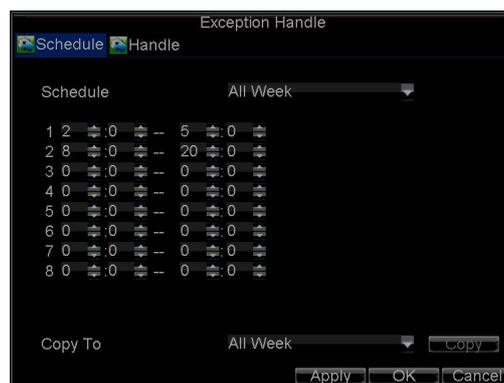


Figure 16. Schedule Settings for Video Loss Detection

7. Select the **Handle** tab to configure exceptions handling. Exception trigger options will be described in the next section (See **Understanding Exception Trigger Options**).



Figure 17. Exception Handle Menu

8. Click **OK** to finish the settings.
9. Repeat above steps to configure settings for other channels.

7.5 Video Tampering Detection

The video tampering can also be detected and set to trigger an action on your DVR.

Note: The video tampering detection area is in full-screen mode by default and cannot be configured.

To set up video tempering detection:

1. Click **Menu > Settings > Camera** to enter the Camera Settings menu, shown in Figure 18.



Figure 18. Camera Management Menu

2. Select the **Advanced** tab.
3. Select the camera to be configured with video tampering detection.
4. Check the **Tamper Detection** checkbox to enable this feature, as shown in Figure 19.

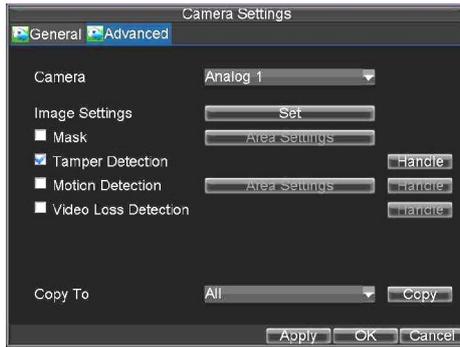


Figure 17. Camera Settings Menu

5. Click the **Handle** button to enter the Exception Handle menu, shown in Figure 19.
6. Select the **Schedule** tab. Set the schedule you want video tampering detection to be enabled. Schedule can be set for all week or any day of the week with up to 8 time periods per day.

Note: After having configured the schedule, the DVR must be restarted for the new settings to take effect.

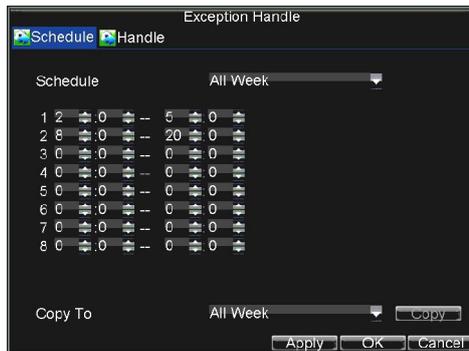


Figure 20. Schedule Settings for Video Tampering Detection

7. Select the **Handle** tab to configure exceptions handling. Exception trigger options will be described in the next section (See **Understanding Exception Trigger Options**).

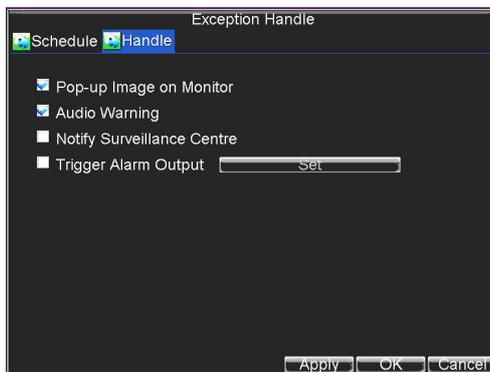


Figure 21. Exception Handle Menu

8. Click **OK** to finish the settings.
9. Repeat above steps to configure settings for other channels.

7.6 Exception Settings

The exception setting allows the DVR to alert you when irregular events occur. These events include:

- **HDD Full:** All installed HDD are full.
- **HDD Error:** Errors occurred during writing of the HDD, no HDD installed or HDD had failed to initialise.
- **Network Disconnected:** Disconnected network cable.
- **IP Conflict:** Conflict in IP address setting.
- **Illegal Login:** Incorrect user ID or password used.
- **Video Output Standard Mismatch:** video output standards do not match with each other.

To set exceptions:

1. Click Menu > Settings> Exception to enter the Exception menu.
2. Select the exception to configure under **Exception Type**.
3. Select triggering options, as shown in Figure22. Trigger options are further explained in the next section (See **Understanding Exception Trigger Options**).



Figure 20. Exception Menu

4. Click **OK** to save settings and exit Exception menu.

7.7 Understanding Exception Trigger Options

When setting up exception handlers for such features as motion detection and relay alarms, you may select triggering options to alert you of these exceptions.

The triggering options that you may select include:

- **Pop-up Image on Monitor:** When an alarm is triggered, the local monitor (VGA or BNC monitor) will display an image in Live Preview mode. This alarm can be configured under the Popup Alarm Image handle method. For alarms that are triggered simultaneously, images will be displayed one at a time every 10 seconds (default dwell time). A different dwell time can be set by going to Menu > Setting > Display > Dwell Time. Once the alarm stops, cycling of the images will also stop and you'll be returned to the Live Preview screen.
- **Audio Warning:** Trigger an audible **beep** when exception is detected.
- **Notify Surveillance Centre:** Sends a signal to remote alarm host when exception is detected (See **Configure Remote Alarm Host**).
- **Trigger Alarm Output:** Trigger an alarm output when exception is detected. Alarm output can be configured by following the steps listed in **Setting up Sensor Alarms**.

8. Network Settings

Network settings must be configured if DVR is used for monitoring over network.

8.1 Configuring Network Settings

To configure general network settings:

1. Click Menu > Settings > Network to enter the Network Settings menu, shown in Figure 1.

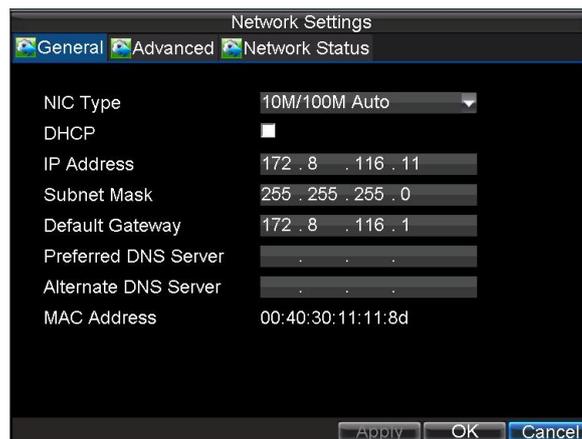


Figure 1. Network Settings Menu

2. Select the **General** tab. Configure the settings on the interface.
3. If you have a DHCP server running and would like your DVR to automatically obtain an IP address and other network settings from that server, check the **DHCP** checkbox. You may check the DHCP status by going to the **Network Status** tab, as shown in Figure 2.

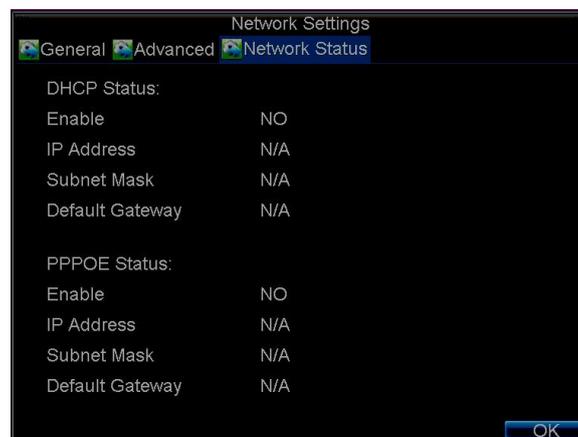


Figure 2. Network Status

4. If you want to configure your own settings, enter the settings for:
 - **IP Address:** IP address you would like to use for your DVR.
 - **Subnet Mask:** Subnet Mask of network.
 - **Default Gateway:** IP address of your Gateway. Typically the IP address of your router.
 - **Preferred/Alternate DNS Server:** The preferred and alternate Domain Name System (DNS) Server to be used with your DVR.
5. Click **OK** to save settings and exit the Network Settings menu.

8.2 NTP Server Settings

A Network Time Protocol (NTP) Server may also be set up on your DVR to maintain accurate current date and time.

To set up an NTP server:

1. Click Menu > Settings > Network to enter the Network Settings menu.
2. Select the **Advanced** tab.
3. Click the **Set** button next to **NTP** to enter the NTP Settings menu, as shown in Figure 8.

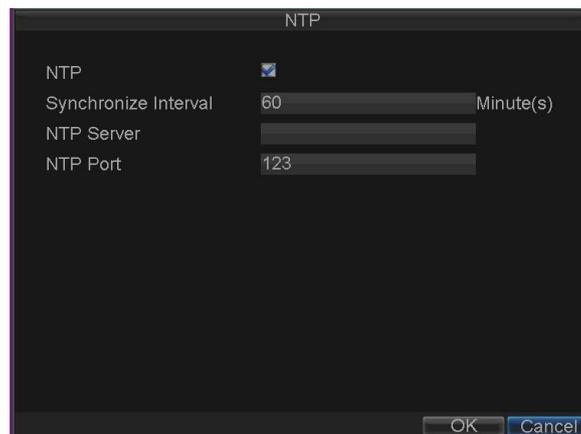


Figure 8. NTP Settings Menu

4. Check the **NTP** checkbox to enable this feature.
5. Configure NTP settings:
 - **Synchronize Interval:** Time in minutes to synchronise with NTP server.
 - **NTP Server:** Address of NTP server.

Note: The address can be set to the IP address or the Domain name. When the Domain name is used, please set the DNS server address.

6. Click **OK** to save settings and exit the NTP Settings menu.

Note: Time synchronisation interval has a range of 0-10080 min, normally 7200 min. If the DVR is used on a public network, you should use an NTP server that has a time synchronisation function, such as the server at the National Time Center (IP Address: 210.72.145.44). If the DVR is setup in a more customised network, NTP software can be used to establish a NTP server used for time synchronisation.

8.3 Remote Alarm Host Settings

With a remote alarm host set, the DVR will send a signal to the host when an alarm is triggered. The remote alarm host must use a bespoke software product and this is not available in CCTVWindow.

1. Enter Network settings menu by clicking Menu > Setting > Network.
2. Select the **Advanced** tab.
3. Click the Set butt next to **Host/Others** to enter the Host/Others menu, as shown in Figure 9.

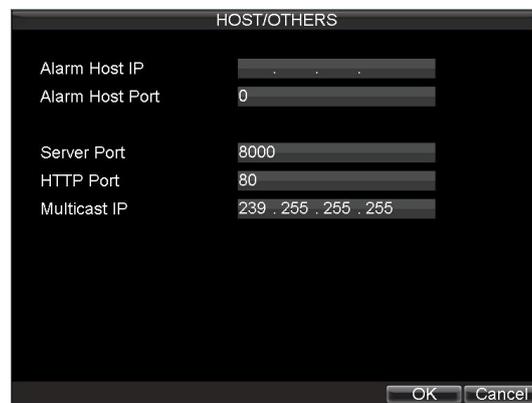


Figure 9. Host/Others Menu

4. Enter **Alarm Host IP** and **Alarm Host Port**. Alarm Host IP is the IP of the remote PC which has the CCTVWindow software installed. The Alarm Host Port must be the same as software's alarm monitor port (default port is 7200).

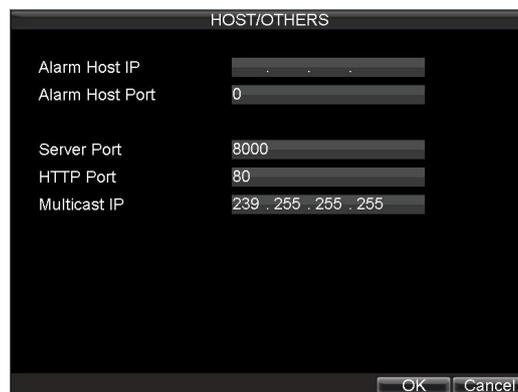


Figure 10. Host/Others Menu

5. Click **OK** to save settings and exit the Host/Others menu.

8.4 Configuring DVR TCP Ports

If you would like to change the DVR ports from the default settings, you can do so in the Network Settings menu. The default server port is 8000 while the default HTTP port is 80.

To change the default ports:

1. Click Menu > Settings > Network to enter the Network Settings menu.
2. Select the **Advanced** tab.
3. Click the **Set** button next to **Host/Others** to enter the Host/Others menu.
4. Enter new **Server Port** and **HTTP Port**, as shown in Figure 11.

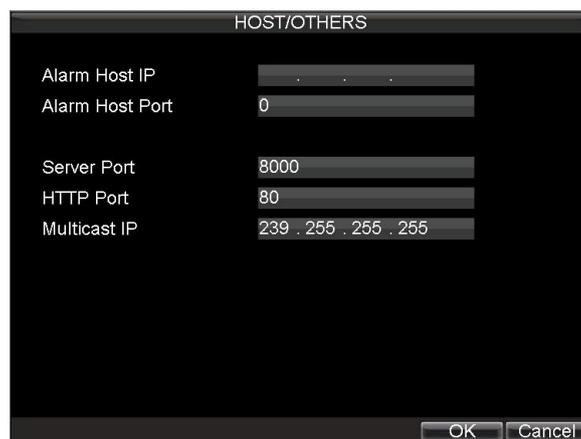


Figure 11. Host/Others Menu

Note: The Server Port has a port range of 2000-65535 and is used for remote client software access. The HTTP port is used for remote Internet browser access.

9. PTZ Control

9.1 Navigate PTZ Menu

PTZ menus can be navigated through with either the mouse or the front panel/remote. For quick access to certain PTZ settings, right clicking with the mouse in a display while in PTZ control mode will enter the PTZ settings menu. This menu is shown in Figure 1.

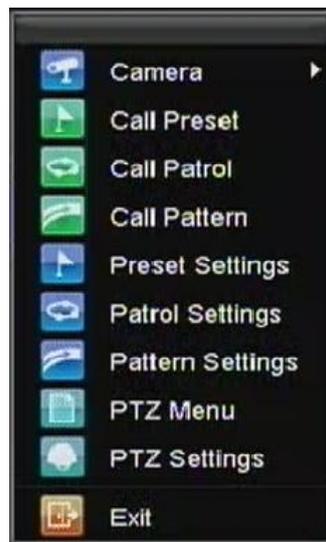


Figure 1. PTZ Settings Menu

The items that can be found on this menu include:

- **Camera:** Select a PTZ camera.
- **Call Preset:** Call a PTZ preset.
- **Call Patrol:** Call a PTZ sequence.
- **Call Pattern:** Call a PTZ pattern.
- **Preset Settings:** Enter PTZ preset configuration menu.
- **Patrol Settings:** Enter PTZ sequence configuration menu.
- **Pattern Settings:** Enter PTZ pattern configuration menu.
- **PTZ Menu:** Enter PTZ control menu.
- **PTZ Settings:** Enter PTZ settings menu.

9.2 Configure PTZ Settings

Settings for a PTZ camera must be configured before it is used. Before proceeding, verify that the PTZ and RS-485 settings in the DVR are identical and connected properly. The T+ is the RS485 positive (usually connected to the orange RS485 data cable on the PTZ camera) and T- is the RS485 negative (usually connected to the yellow RS485 data cable on the PTZ camera).

To configure PTZ settings in DVR:

1. Click Menu > Settings > PTZ to enter the PTZ Settings menu, shown in Figure 2.

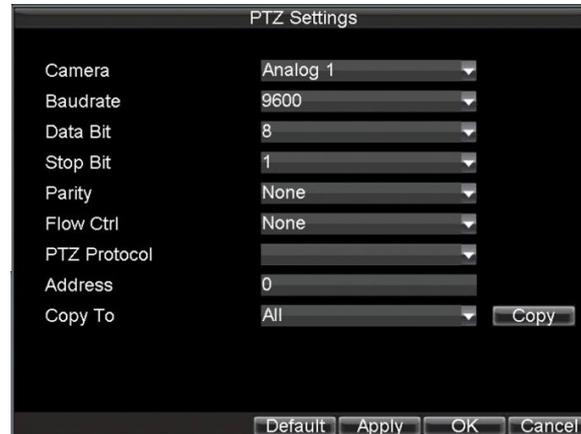


Figure 2. PTZ Settings Menu

2. Select channel where PTZ camera is installed next to **Camera** label.
 3. Configure the settings of baud rate, data bit*, stop bit*, parity*, flow control*, PTZ protocol and address.
- * The settings asterisked normally are the defaults for most PTZ cameras.
4. Click **OK** to save settings and exit the PTZ Settings menu.

Note: All setting parameters (baud rate, data bit, stop bit, parity, flow control, PTZ protocol and address) must be consistent with the PTZ camera connected.

9.3 Setting PTZ Presets, Patrols & Patterns

The DVR allows you to program presets, patrols and patterns for a range of PTZ cameras. The PTZ control panel provides a series of PTZ controls, shown in Fig. 3.



Figure 3. PTZ Control Interface

The controls on the PTZ panel include:

1. **Directional Pad/Auto-scan Buttons:** Controls the movements and directions of the PTZ. The center button is also used to start auto-scan of PTZ.
2. **Zoom:** Used to zoom in and out with the PTZ.
3. **Focus:** Used to adjust the focus of the PTZ.
4. **Iris:** Used to open up or close the iris of the PTZ.
5. **Speed:** Adjusts the movement speed of the PTZ.
6. **Light:** Turns PTZ light (if applicable) on and off.
7. **Wiper:** Turns PTZ wiper (if applicable) on and off.
8. **Zoom In:** Instantly zooms PTZ in.
9. **Center:** Centers PTZ.

9.4 Customising Presets

Presets can be set to move your PTZ camera to a desired **preset** location.

To set up and call custom PTZ presets:

1. Enter the PTZ Control interface, shown in Figure 3, by selecting PTZ from the mouse menu or clicking the **PTZ** button on the front panel.
2. Select the **Preset** button to enter the Preset Management menu.
3. In the Preset Management menu, shown in Figure 4, you may:
 - **Configure Preset:** Use the PTZ control panel to adjust the position of the preset. Select a Preset number and click the **Set** button to save preset location.
 - **Clear Preset:** Select a Preset number and click the **Clear** button to delete the preset. You may also select the **Clear All** button to delete all presets.
 - **Call Preset:** Select a Preset and click the **Call** button.

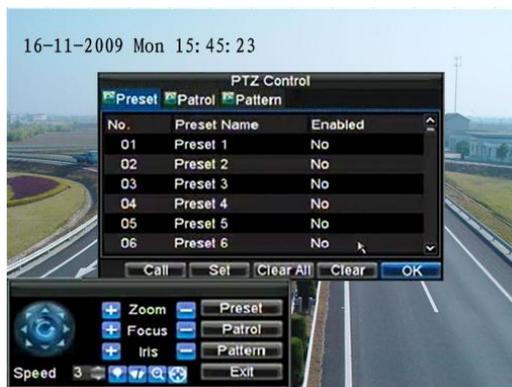


Figure 4. Preset Management Menu

Note: Only valid presets can be called and deleted.
Presets are also used to trigger tours. Please refer to PTZ camera manual.

9.5 Customising Patrols

Patrols can be programmed to move the PTZ to different key points and make it stay there for a defined duration before moving on to the next point. The key points are defined by presets which can be set by following the steps above in **Customise Presets**.

To set up and call PTZ patrols:

1. Enter the **PTZ Control** interface, shown in Figure 3, by selecting PTZ from the mouse menu or clicking the **PTZ** button on the front panel.
2. Select the **Patrol** button to enter the Patrol Management menu, shown in Figure 5.



Figure 5. Patrol Management Menu

3. In the **Patrol Management** menu, you may:
Configure a Patrol:
 1. Select a **Patrol Number** to set.
 2. Select valid presets (See **Customise Presets**) and click the Set button to enter the Patrol configuration menu. A sequence should have at least 2 valid presets.
 3. Set the **Key Point No.**, **Duration**, and **Speed** (Figure 6). The **Key Point No.** determines the order at which the PTZ will follow while cycling through the patrol. The **Duration** refers to the time span to stay at the corresponding key point. The **Speed** defines the rate at which the PTZ will move to the current preset.



Figure 6. Patrol Configuration Menu

4. Click **OK** to return to **Patrol Management** menu and repeat steps 2-3 to configure other key points.
5. After all key points have been configured, click the defined key point No. and then click **Add** button to complete the settings.
6. Click **OK** button to save settings and exit the current menu.

Clear Patrol:

1. Select a valid Patrol Number.
2. Click the **Clear** button to delete patrol.

Call Patrol:

1. Select a valid Patrol Number.
2. Click the **Start** button to call the patrol, and select the **Stop** button to stop the patrol, as shown in Figure 7.



Figure 7. Patrol Management Menu

9.6 Customise Patterns

Patterns can be setup by recording the movement of the PTZ.

To set up and call PTZ patterns:

1. Enter the PTZ Control interface, shown in Figure 3, by selecting PTZ from the mouse menu or clicking the **PTZ** button on the front panel.
2. Select the **Pattern** button to enter the **Pattern Management** menu, shown in Figure 8.



Figure 8. Pattern Management Menu

3. Select a **Pattern Number**.
4. To record a new pattern, select the **Run Record** button to start recording of the movements of the PTZ. Use the PTZ control panel to move the PTZ. The PTZ movements will be recorded until the **Stop Record** button is clicked.
5. To run a pattern, click the **Run Pattern** button on a valid pattern. The PTZ will move according to the path that was defined until **Stop Pattern** is clicked.
6. Click **OK** to exit the current menu.

10. Camera Management

10.1 OSD Settings

On Screen Display (OSD) settings can be configured in the Camera Management menu. The OSD is shown in each display during Live Preview mode and includes the time and date as well as the camera name.

To configure OSD settings:

1. Click Menu > Settings > Camera to enter the Camera Settings menu, shown in Figure 1.
2. Select channel to set up OSD settings under **Channel No.**, and click the **Set** button.
3. Configure desired OSD settings, as shown in Figure 1.

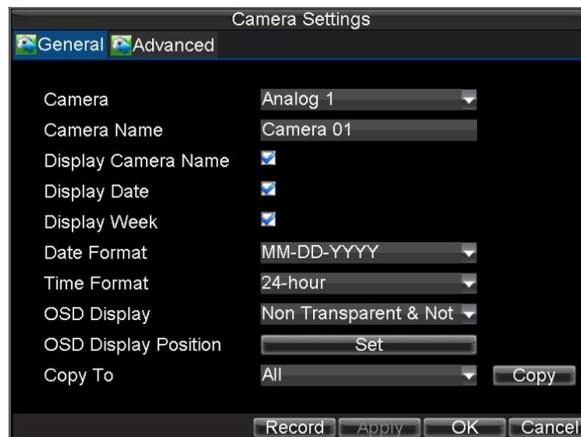


Figure 1. OSD Settings Menu

4. Click the **Set** button to edit the OSD display position, including the camera name position and the date/time display position.

10.2 Display Settings

Display settings such as the brightness, contrast, saturation and hue can also be adjusted in the Camera Management menu.

To adjust display settings:

1. Click Menu > Settings > Camera to enter the Camera Settings menu, shown in Figure 1.
2. Click the **Advanced** tab to enter the Advanced Camera Settings menu, as shown in Figure 1. Select channel for image settings in **Camera**.
3. Click the **Set** button next to the Image Settings label.
4. Adjust the display settings, as shown in Figure 3. Brightness, contrast, saturation and hue can be adjusted in the menu. The adjustments of display settings will affect the live images and the recorded images.



Figure 3. Display Settings

10.3 Privacy Mask Settings

You may setup privacy mask to mask off sensitive or private areas in the field of view of a camera.

To setup privacy mask:

1. Click Menu > Settings > Camera to enter the Camera Settings menu.
2. Click the **Advanced** tab to enter the Advanced Camera Settings menu, as shown in Figure 1. Select channel for privacy mask settings in **Camera**.



Figure 1. Advanced Camera Settings Menu

3. Check the **Mask** checkbox to enable feature.
4. Click the **Area Settings** button to enter Area Settings menu.
5. Set mask area, as shown in Figure2. Up to 4 areas can be set.



Figure2. Setting Mask Area

6. Select **Exit** to save settings and exit the Mask Area Settings interface.

11. HDD Management

11.1 Initialising HDDs

A newly installed hard disk drive (HDD) must be first initialised before it can be used with your DVR. Initialising the HDD will erase all data on it.

To **initialise** a HDD:

1. Click Menu > HDD to enter the HDD Management menu, shown in Figure 1.



Figure 1. HDD Management Menu

2. Select HDD to be initialised.
3. Click the **Init** button.
4. Select **OK** button to start initialisation. After the HDD has been initialised, the status of the HDD will change from **Abnormal** to **Normal**.

11.2 Set HDD Groups

Your DVR can separate multiple HDDs into groups. Videos from specified channels can be set to be recorded onto a particular HDD group.

To set up an HDD group:

1. Click Menu > HDD to enter the HDD Management menu.
2. Select HDDs to be added to group.
3. Select **Group** button to enter Group Settings menu.
4. Set the **HDD Group Number**, as shown in Figure 2.



Figure 2. HDD Group Settings Menu

5. Select **OK** to save settings and exit the Group Settings menu.

Note: By default all HDDs belong to group 1.

11.3 Set HDD Status

You may change the behavior of your HDD by changing its status. The status of a HDD can be set to read-only or read/write (R/W).

11.4 Setting HDD to Read-Only

A HDD can be set to read-only to avoid important recorded files from being overwritten when the HDD becomes full.

To set a HDD to read-only:

1. Click Menu > HDD to enter the HDD Management menu.
2. Select HDD to be protected.
3. Select the **Property** button to enter the Property Settings menu, as shown in Figure 3.

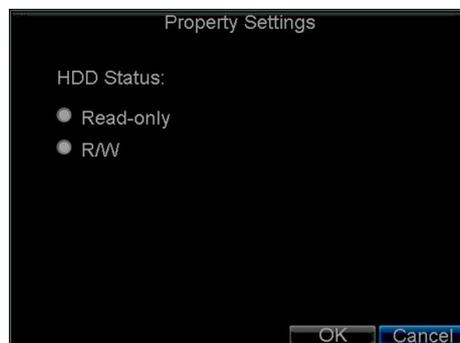


Figure 3. HDD Property Settings Menu

4. Set HDD Status to Read-Only.
5. Select **OK** to save settings and exit the current menu.

Note:

1. Once set to read-only, the HDD cannot be written to until it is set back to read/write (R/W).
2. If the DVR is installed with one HDD only, if property is set to read-only, the recording of the device will stop.

11.5 Checking HDD Status

You may check the status of the installed HDDs on your DVR at anytime.

To check the status of a HDD:

1. Click Menu > HDD to enter the HDD Management menu.
2. The status of your HDD is listed under the **Status** column. If the status is listed as **Normal** or **Hibernate**, the HDD is in working order. If it is listed as **Abnormal** and has already been initialised, the HDD needs to be replaced. If the HDD is **Uninitialised**, you will need to initialise it before it can be use in your DVR. Please refer to Initialising HDDs for further instructions.

You may also view the SMART information of installed HDDs. SMART which is an abbreviation for Self-Monitoring, Analysis and Reporting Technology, is a monitoring system for hard disk drives to detect and report on various indicators of reliability in the hopes of anticipating failures.

To view SMART information of a HDD:

3. Click Menu > Maintenance > Log Search to enter the Log Search menu, shown in Figure 4.

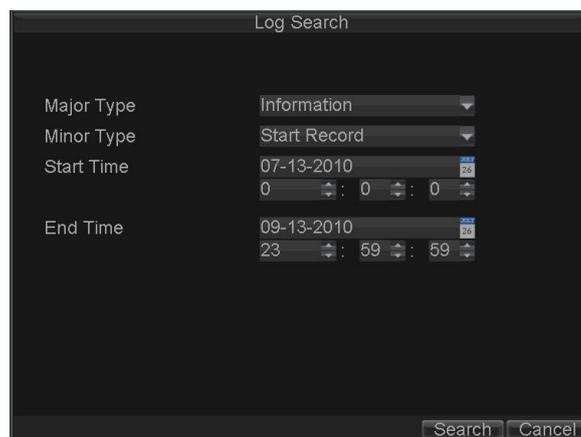


Figure 4. Log Search Menu

4. Set **Major Type** to **Information**.
5. Set **Minor Type** to **HDD SMART**.
6. Enter **Start Time** and **End Time**.
7. Click the **Search** button to begin log search. A list of results, similar to that of Figure 5, will be returned.

Major Type	Start Time	Minor Type	Parameter
Informatic08-03-2010	08:51:33	HDD S.M.A.R.T	N/A
Informatic08-03-2010	09:51:38	HDD S.M.A.R.T	N/A
Informatic08-03-2010	10:51:42	HDD S.M.A.R.T	N/A
Informatic08-03-2010	11:51:47	HDD S.M.A.R.T	N/A
Informatic08-03-2010	12:51:46	HDD S.M.A.R.T	N/A
Informatic08-03-2010	13:51:50	HDD S.M.A.R.T	N/A

Buttons: Details, Play, Export, Cancel

Figure 5. Log Search Results

1. Select log item to view and click the **Details** button. A detail list of SMART information, as shown in Figure 6, will be displayed.

Log Search

Start Time: 08-03-2010 08:51:33
 Type: HDD S.M.A.R.T
 Serial No.: 6VM3KZYY
 Firmware: CV11
 Model: ST3500410SV
 HDD No.: 1

Description:

ID	Attribute name	Flags	Threshold	Value	↕
0x1	Raw Read Error Rate	f	6	110	↕
0x4	Start/Stop Count	32	20	99	↕
0x5	Reallocated Sector Count	36	36	100	↕

Buttons: Previous, Next, OK

Figure 6. HDD SMART Information

User can also click Menu > HDD to enter the HDD management menu, as shown in Figure 1 and then select the **Advance** option to enter the SMART menu, as shown in Figure 7. User can enable the SMART function and view the SMART information as well.

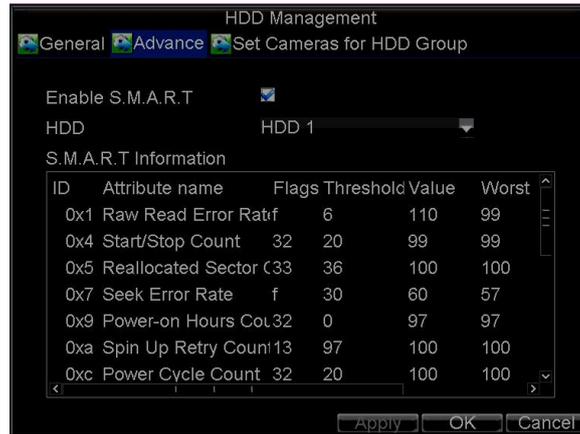


Figure 7. HDD SMART Menu

11.6 Configure HDD Alarms

HDD alarms can be set to trigger when an HDD is uninitialised or in an abnormal state.

To set HDD alarms:

1. Click Menu > Settings > Exception to enter Exception menu, shown in Figure 8.



Figure 8. Exception Menu

2. Select HDD Error under **Exception Type**.
3. Select trigger action. Trigger actions are further explained in **Understanding Exception Trigger Options**.

12. DVR Management

12.1 Configuring General Settings

General settings such as the system language can be configured in the General Settings menu of your DVR.

To configure general settings:

1. Click Menu > Settings > General to enter the General Settings menu, shown in Figure 1.

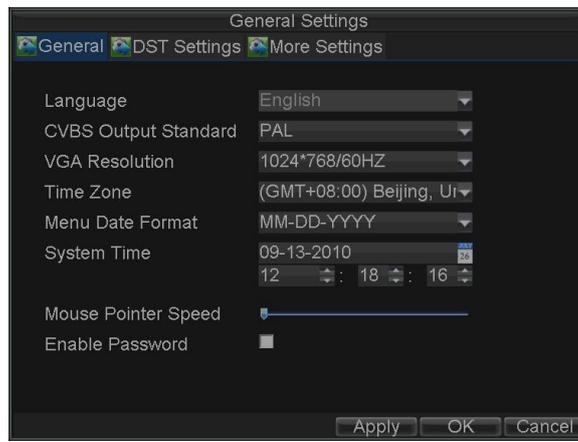


Figure 1. General Settings Menu

2. Select the **General** tab.
3. Configure general settings, including:
 - **Language:** Default language used in DVR menus.
 - **CVBS Output Standard:** Video output standard: NTSC and PAL.
 - **VGA Resolution:** VGA output resolution.
 - **Time Zone:** Time zone to use for DVR.
 - **Menu Date Format:** Format for date.
 - **System Time:** System time and date.
 - **Mouse Pointer Speed:** Speed of mouse pointer.
 - **Enable Password:** Enable/disable system password.

Note: If the video standard is different between the input and the output, you may notice flickering in Live Preview mode. After having modified the video standard, please reboot the device to validate the settings.

12.2 Configuring Advanced Settings

To configure more advanced settings:

1. Click Menu > Settings > General to enter the General Settings menu, shown in Figure 1.
2. Click the **More Settings** tab to enter the More Settings menu, shown in Figure 2.

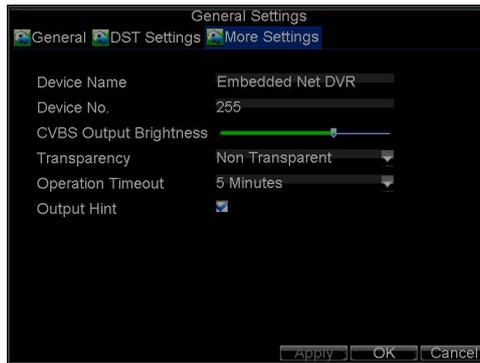


Figure 2. More Settings Menu

3. Configure the following settings:
 - Device Name:** Name of the DVR used.
 - Device No.:** Device number of DVR.
 - CVBS Output Brightness:** Video output brightness.
 - Transparency:** Menu transparency.
 - Operation Timeout:** Set timeout time for menu inactivity. For example, if timeout time was set to 5 minutes, after 5 minutes of inactivity in the General Settings menu, you'll be returned to the Live Preview.
 - Output Hint:** Enable/disable video output hint for main or aux video output.

12.3 RS-232 Port Settings

Not available on this DVR

12.4 Managing User Accounts

By default settings, your DVR is configured with the user name of admin and the password of **12345**. The **Administrator** has the authority to add, delete or configure the user parameters.

12.4.1 Add a New User

To add a new user:

Click Menu > Settings > User to enter the User Settings menu, shown in Figure 4.

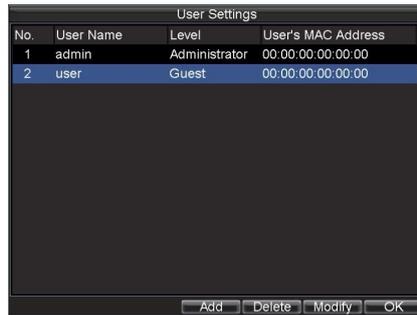


Figure 4. User Settings Menu

1. Select the **Add** button to enter the **Add User** menu, shown in Figure 5.
Note: Up to 31 users can be added.

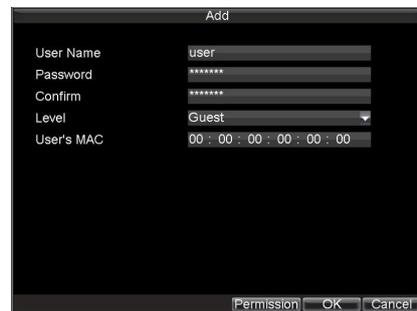


Figure 5. Add User Menu

Enter information for new user, including User Name, Password, Level and User's MAC.

2. The **Level** is the user level and is separated into two tiers.
Operator: By default, the Operator user level has the authority to configure two-way audio in network settings and all parameters in channel settings.
Guest: By default, the Guest user cannot configure network settings, but can configure the local playback as well as the remote playing in channel settings.
3. If **User's MAC** is configured and enabled, the user may only access the DVR from that particular MAC address.
4. Select the **Permission** button to enter the Permission Settings menu, shown in Figure 6.



Figure 6. Permission Settings Menu

5. Configure permission for local settings under **Local Permission** tab. The local settings include:

Local Log Search: Search and view logs of DVR.

Local Configuration: Configure and restore parameters to factory defaults. Introduce settings to or export settings from DVR.

Local Advanced Operation: HDD management (including the initialisation and changing the properties of a disk). Ability to update system firmware as well as to stop the relay output

Local Shutdown/Reboot: Shutdown or reboot the DVR.

6. Click on **Network Permission** tab to configure network permission settings, as shown in Figure 7. The network settings include:



Figure 7. Network Permission Settings Menu

Remote Log Search: Remotely view logs that are saved on the DVR.

Remote Configuration: Remotely configure parameters, restore parameters to factory defaults and import settings to as well as export settings from DVR.

Remote Serial Port Control: Configure settings for RS232 and RS485 ports.

Remote Video Output Control: Configure settings for video output.

Two-way Audio: Ability to use two-way radio between the remote client and the DVR.

Remote Alarm Control: Remote alert or control the relay output of the DVR. Alarm and exception settings must be configured properly to upload to host.

Remote Advanced Operation: Remotely manage hard disk drives

(initialising and setting properties for HDDs). Ability to remote update system firmware and stop of the relay output

Remote Shutdown/Reboot: Remotely shutdown or reboot the DVR.

7. Click on the **Channel Permission** tab to configure channel permission, as shown in Figure 8. The channel settings include:



Figure 8. Camera Permission Settings Menu

Remote Live View: Select and view live video over the network.

Local Manual Record: Locally start and stop manual recording on any of the channels.

Remote Record Starting: Remotely start and stop manual recording on any of the channels.

Local Playback: Locally play recorded files that are on the DVR.

Remote Playback: Remotely play and download recorded files that are on the DVR.

Local PTZ Control: Locally control PTZ cameras.

Remote PTZ Control: Remotely control PTZ cameras.

Local Video Export: Locally backup recorded files from any of the channels.

8. Click the **OK** button to save and exit menu.

12.4.2 Deleting a User

To delete a user from the DVR:

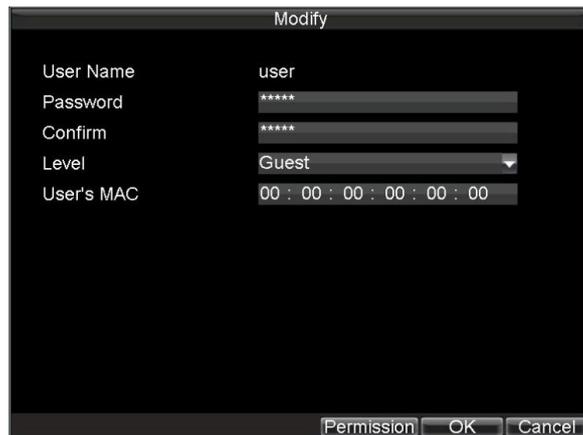
1. Click Menu > Settings > User to enter the User Settings menu.
2. Select user to delete.
3. Click the **Delete** button to delete user.
4. Click the **OK** button to exit menu.

Note: No deletion is allowed for the **Administrator**.

12.4.3 Modifying a User

To modify a user:

1. Click Menu > Settings > User to enter the User Settings menu.
2. Select user to modify.
3. Click the **Modify** button to enter the Modify menu, shown in Figure 9.



The screenshot shows a 'Modify' dialog box with the following fields and values:

Field	Value
User Name	user
Password	*****
Confirm	*****
Level	Guest
User's MAC	00 : 00 : 00 : 00 : 00 : 00

At the bottom of the dialog, there are three buttons: 'Permission', 'OK', and 'Cancel'.

Figure 9. Modify User Menu

4. Edit user information.
5. To modify user permissions, click on the privileges button. Permissions settings are defined in the **Adding a New User** section described above.
6. Click the **OK** button to exit menu.

12.5 Importing & Exporting Configuration

Configuration information from your DVR can be exported to a USB device and imported into another DVR. This will allow you to efficiently setup the same configuration on numerous DVRs.

To import or export DVR configuration:

1. Click Menu > Maintenance > Configuration to enter the Import/Export Configuration menu, shown in Figure 10.

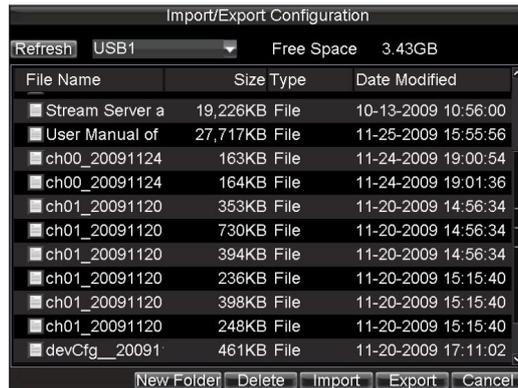


Figure 10. Import/Export Configuration Menu

2. Click **Export** to export a configuration file to USB device. USB device must be connected at this point to the DVR.
3. To import a configuration file, select the file from the USB device and click the Import button. After the import process is completed, the system will automatically reboot the DVR.
4. Click **Cancel** to exit the current menu.

12.6 Updating System Firmware

The firmware on your DVR can be updated by using two methods. These methods include updating via an USB device or over the network via a FTP server.

Note that updating using FTP is only recommended for engineers/workshop users only.

To update via an USB device:

1. Connect USB device to DVR. The firmware file must be located in the root directory of your USB device.
2. Click Menu > Maintenance > Upgrade to enter the Firmware Update menu, shown in Figure 11.



Figure 11. Firmware Update Menu

3. Select the **Local Upgrade** tab.
4. Select the firmware on the USB device.
5. Select Upgrade to begin the update process.
6. After the system firmware has been updated, reboot the DVR.

To update via a FTP server:

Only for engineer/workshop users only as needs third party TFTP software

Note: Do not attempt to change your DVR's firmware unless instructed to do by your supplier. Upgrade failure may render your DVR useless and necessitate it's return to the manufacturer/distributor for repair.

12.7 Restore Default Settings

To restore default factory settings to your DVR:

1. Click Menu > Maintenance > Default to enter the Default Settings menu, shown in Figure 13.



Figure 13. Default Settings Menu

2. Select OK to restore factory defaults.

Note: Network information such as IP address, subnet mask and gateway will not be restored.

12.8 View System Information

To view system information:

1. Click Menu > Maintenance > Information to enter the Information menu, shown in Figure 14.

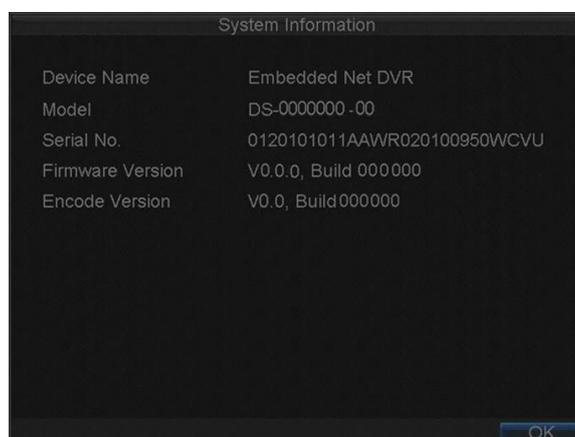


Figure 14. System Information

2. Select **OK** to exit to the previous screen.

12.9 View System Log

Many events of your DVR are logged into the system log.

To access the system logs and search for these events:

1. Click **Menu > Maintenance > Log Search** to enter the Log Search menu, shown in Figure 15.

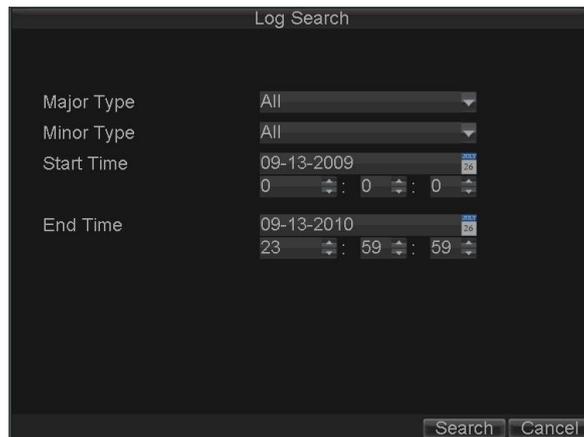


Figure 15. Log Search Menu

2. Set search parameters.
3. Click the **Search** button to start search. If logs matching the search conditions are found, it will be displayed in a list of search results as shown in Figure 16.

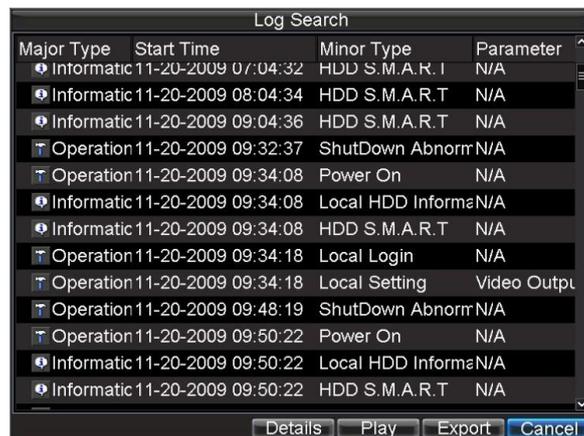


Figure 16. Log Search Results

4. To view more detailed information about a particular log entry, select the log and click the **Details** button.
5. If applicable, you may also view the associated video to the selected log entry by clicking the **Play** button.
6. Log files can also be exported onto a USB device. To export a log file, connect a USB device to the DVR, select the log file to export and

- click the **Export** button to enter the Log Search Export menu, shown below in Figure 17. Click the **Export** button to export log onto USB device. The exported file will be named according to the time it was exported (e.g., 20100911143958logBack.txt).



Figure 17. Log Search Export Menu

- Click **Cancel** to exit the current menu.

13. Appendix

13.1 Glossary

Dual Stream: Dual stream is a technology used to record high resolution video locally while transmitting a lower resolution stream over the network. The two streams are generated by the DVR, with the main stream having a maximum resolution of 4CIF and the sub-stream having a maximum resolution of CIF at 6fps.

DVR: Acronym for Digital Video Recorder. A DVR is device that is able to accept video signals from analogue cameras, compress the signal and store it on its hard drives.

HDD: Acronym for Hard Disk Drive. A storage medium which stores digitally encoded data on platters with magnetic surfaces.

DHCP: Dynamic Host Configuration Protocol (DHCP) is a network application protocol used by devices (DHCP clients) to obtain configuration information for operation in an Internet Protocol network.

HTTP: Acronym for Hypertext Transfer Protocol. A protocol to transfer hypertext request and information between servers and browsers over a network

DDNS: Dynamic DNS is a method, protocol, or network service that provides the capability for a networked device, such as a router or computer system using the Internet Protocol Suite, to notify a domain name server to change, in real time (ad-hoc) the active DNS configuration of its configured hostnames, addresses or other information stored in DNS.

Hybrid DVR: A hybrid DVR is a combination of a DVR and NVR.

NTP: Acronym for Network Time Protocol. A protocol designed to synchronise the clocks of computers over a network.

NTSC: Acronym for National Television System Committee. NTSC is an analogue television standard used in such countries as the United States and Japan. Each frame of an NTSC signal contains 525 scan lines at 60Hz.

NVR: Acronym for Network Video Recorder. An NVR can be a PC-based or embedded system used for centralised management and storage for IP cameras, IP Domes and other DVRs.

PAL: Acronym for Phase Alternating Line. PAL is also another video standard used in broadcast televisions systems in large parts of the world. PAL signal contains 625 scan lines at 50Hz.

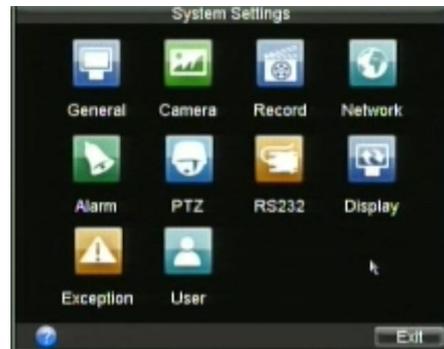
PTZ: Acronym for Pan, Tilt, Zoom. PTZ cameras are motor driven systems that allow the camera to pan left and right, tilt up and down and zoom in and out.

USB: Acronym for Universal Serial Bus. USB is a plug-and-play serial bus standard to interface devices to a host computer.

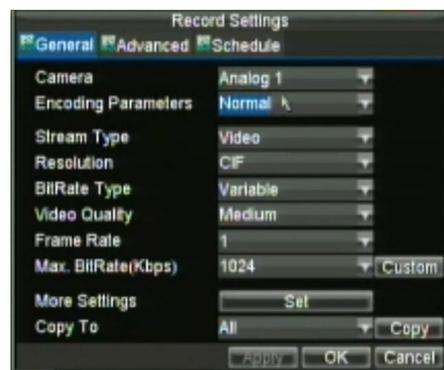
13.2 1fps background recording switching to 25fps in CIF

This DVR has a special feature that allows the unit to be set for recording at a low frame rate but when motion is detected to revert to 25fps recording.

1. Enter System Settings.



2. Select camera number required
3. Ensure Encoding Parameters set to Normal.



4. Reduce frame rate to low rate.

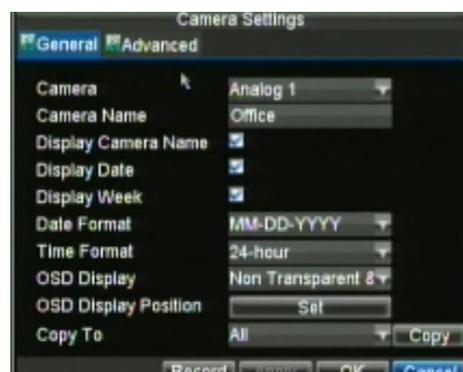
5. Select OK and re-enter Record Settings.

6. Click the Encoding Parameter again for same channel but click on down arrow and select Event.

7. Select higher Frame Rate (example 25 fps)

8. Select OK

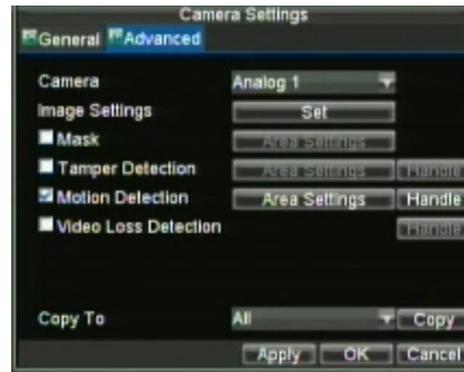
9. Select Camera Settings.



10. Select Advanced tab

11. Tick Motion Detection Box

12. Click on Area Settings



13. Drag detection box to cover detection area.

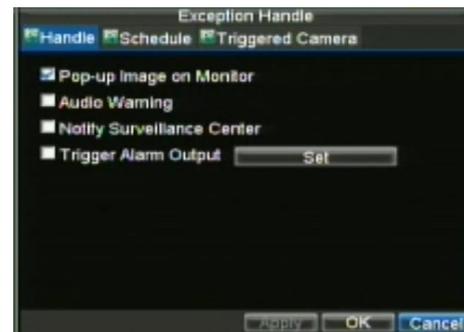


14. If you enter the Handle option you can tick the Pop-up image on Monitor to display a single screen display of the triggered camera.

15. Click on OK and confirm in each menu to save.

16. Repeat for other camera channels.

17. To check that settings are correct, the red record light must be on permanently and when motion occurs the yellow icon for event will display.



13.3 Record Timings for ALIEN366

CIF mode

Frame Rate	HDD 320Gb	HDD 640Gb	HDD 750Gb	HDD 1.0Tb	HDD 1.5Tb	HDD 2.0Tb
25	3dys 7hr	6dy 14hr	7dy 17hr	10dy 7hr	15dy 11hr	20dy 14hr
12	6dys 14hr	13dy 4hr	15dy 11hr	20dy 14hr	30dy 22hr	41dy 5hr
6	13dy 4hr	26dy 9hr	30dy 22hr	41dy 5hr	61dy 20hr	82dy 10hr
4	17dy 14hr	35dy 4hr	41dy 5hr	54dy 23hr	82dy 10hr	109dy 22hr
2	35dy 4hr	70dy 8hr	82dy 10hr	109dy 22hr	164dy 21hr	219dy 20hr
1	52dy 18hr	105dy 12hr	123dy 16hr	164dy 21hr	247dy 8hr	329dy 18hr

2CIF mode (Maximum 25FPS)

Frame Rate	HDD 320Gb	HDD 640Gb	HDD 750Gb	HDD 1.0Tb	HDD 1.5Tb	HDD 2.0Tb
25	1dy 15hr	3dy 7hr	3dy 20hr	5dy 3hr	7dy 17hr	10dy 7hr
12	3dys 7hr	6dy 14hr	7dy 17hr	10dy 7hr	15dy 11hr	20dy 14hr
6	6dy 14hr	13dy 4hr	15dy 11hr	20dy 14hr	30dy 22hr	41dy 5hr
4	8dy 19hr	17dy 14hr	20dy 14hr	27dy 11hr	41dy 5hr	54dy 23hr
2	17dy 14hr	35dy 4hr	41dy 5hr	54dy 23hr	82dy 10hr	109dy 22hr
1	35dy 4hr	70dy 8hr	82dy 10hr	109dy 22hr	164dy 21hr	219dy 20hr

4CIF mode (Maximum 25FPS)

Frame Rate	HDD 320Gb	HDD 640Gb	HDD 750Gb	HDD 1.0Tb	HDD 1.5Tb	HDD 2.0Tb
25	20hrs	1dy 15hr	1dy 22hr	2dy 14hr	3dy 20hr	5dy 3hr
12	1dy 15hr	3dy 7hr	3dy 20hr	5dy 3hr	7dy 17hr	10dy 7hr
6	3dy 7hr	6dy 14hr	7dy 17hr	10dy 7hr	15dy 11hr	20dy 14hr
4	4dy 9hr	8dy 19hr	10dy 7hr	13dy 17hr	20dy 14hr	27dy 11hr
2	8dy 19hr	17dy 14hr	20dy 14hr	27dy 11hr	41dy 5hr	54dy 23hr
1	17dy 14hr	35dy 4hr	41dy 5hr	54dy 23hr	82dy 10hr	109dy 22hr

13.4 Record Timings for ALIEN358

CIF mode

Frame Rate	HDD 320Gb	HDD 640Gb	HDD 750Gb	HDD 1.0Tb	HDD 1.5Tb	HDD 2.0Tb
25	6dy 14hr	13dy 4hr	15dy 11hr	20dy 14hr	30dy 22hr	41dy 5hr
12	13dy 4hr	26dy 9hr	30dy 22hr	41dy 5hr	61dy 20hr	82dy 10hr
6	26dy 9hr	52dy 18hr	61dy 20hr	82hr 10hr	123dy 16hr	164dy 21hr
4	35dy 4hr	70dy 8hr	82dy 10hr	109dy 22hr	164dy 21hr	219dy 20hr
2	70dy 8hr	140dy 17hr	164dy 21hr	219dy 20hr	329dy 18hr	439dy 17hr
1	105dy 12hr	211dy 1hr	247dy 8hr	329dy 18hr	494dy 16hr	659dy 13hr

2CIF mode (Maximum 25FPS)

Frame Rate	HDD 320Gb	HDD 640Gb	HDD 750Gb	HDD 1.0Tb	HDD 1.5Tb	HDD 2.0Tb
25	3dy 7hr	6dy 14hr	7dy 17hr	10dy 7hr	15dy 11hr	20dy 14hr
12	6dy 14hr	13dy 4hr	15dy 11hr	20dy 14hr	30dy 22hr	41dy 5hr
6	13dy 4hr	26dy 9hr	30dy 22hr	41dy 5hr	61dy 20hr	82dy 10hr
4	17dy 14hr	35dy 4hr	41dy 5hr	54dy 23hr	82dy 10hr	109dy 22hr
2	35dy 4hr	70dy 8hr	82dy 10hr	109dy 22hr	164dy 21hr	219dy 20hr
1	70dy 8hr	140dy 17hr	164dy 21hr	219dy 20hr	329dy 18hr	439dy 17hr

4CIF mode (Maximum 25FPS)

Frame Rate	HDD 320Gb	HDD 640Gb	HDD 750Gb	HDD 1.0Tb	HDD 1.5Tb	HDD 2.0Tb
25	1dy 15hr	3dy 7hr	3dy 20hr	5dy 3hr	7dy 17hr	10dy 7hr
12	3dy 7hr	6dy 14hr	7dy 17hr	10dy 7hr	15dy 11hr	20dy 14hr
6	6dy 14hr	13dy 4hr	15dy 11hr	20dy 14hr	30dy 22hr	41dy 5hr
4	8dy 19hr	17dy 14hr	20dy 14hr	27dy 11hr	41dy 5hr	54dy 23hr
2	17dy 14hr	35dy 4hr	41dy 5hr	54dy 23hr	82dy 10hr	109dy 22hr
1	35dy 4hr	70dy 8hr	82dy 10hr	109dy 22hr	164dy 21hr	219dy 20hr

13.5 Frame Rate Settings and TCP Connections for EKO+ Series

HIGHEST SETTINGS	ALIEN358	ALIEN366
MAINSTREAM CIF	25FPS	25FPS
MAINSTREAM 2CIF	25FPS	25FPS
MAINSTREAM 4CIF	25FPS	25FPS
SUBSTREAM CIF	6FPS	6FPS
SUBSTREAM QCIF	25FPS	25FPS
SUBSTREAM MAX FRAMES	25FPS	25FPS
TOTAL TCP CONNECTIONS	24	24
TOTAL TCP CONNECTIONS PER CHANNEL	3	3

TOTAL TCP CONNECTIONS : This is the total TCP connections per DVR

TOTAL TCP CONNECTIONS PER CHANNEL : This is the total TCP connections to a single DVR channel

14. Frequently Asked Questions

- **Why does my DVR make a beeping sound after booting?**

There are a few reasons for the warning beep your DVR makes after booting.

1. There is no HDD present in the DVR.
2. The HDD has not been initialised.
3. The HDD is defective.

If you wish to use your DVR without any HDDs, you may disable this warning beep in the Exception Settings menu (See **Setting Exception**).

- **Why does the DVR seem unresponsive when operating with the IR remote control?**

If your DVR seems unresponsive when using the IR remote and you have read through the section **Using the IR Remote Control**, please check:

1. Check that the batteries are installed correctly in the remote, making sure that the polarities of the batteries are not reversed.
2. Make sure the batteries are fresh and are not out of power.
3. Make sure the remote has not been tampered with.
4. Check around and make sure there are no fluorescent lamps in use.

- **Why does the PTZ seem unresponsive?**

If the PTZ seem unresponsive, please check:

1. Check that the RS-485 cable is correctly polarity connected.
2. Check that the dome protocol is correct.
3. Check that the dome baud rate is correct.
4. Check that the dome ID is correct.
5. Check to make sure that the main board RS-485 interface is not faulty.

- **Why is there no video recorded after setting the motion detection?**

If there is no recorded video after setting the motion detection, please check:

1. Check that the recording schedule is setup correctly by following the steps listed in **Scheduling a Recording**.
2. Check that the motion detection area is configured correctly (See **Setting Up Motion Detection**).
3. Make sure that channels are being triggered for motion detection (See **Setting Up Motion Detection**).

- **Why doesn't the DVR detect my USB export device for exporting recorded files?**

There's a chance that the DVR and your USB device is not compatible. Ensure that the USB device is formatted to FAT32 in a PC before use.

15. Specifications

Model		ALIEN358
Video/Audio input	Video compression	H.264
	Analogue Video input	8-ch, BNC connector (1.0Vp-p, 75Ω); PAL/NTSC adaptive
	Audio compression	G.711
	Audio input	4-ch, RCA connector (2Vp-p, 1kΩ)
	VGA output	1-ch, resolution: 1280 x 1024 / 1024×768
	CVBS output	1-ch, BNC connector (1.0Vp-p, 75Ω); Resolution: PAL: 704×576, NTSC:704×480
	Audio output	1-ch, RCA connector (Linear, 1 kΩ)
	Recording resolution	4CIF/2CIF/CIF/QCIF
	Frame rate	4CIF/2CIF: 25fps CIF/QCIF: 25fps(P)/30fps(N)
	Video bit rate	32Kbps~2048Kbps (Max. 3072kbps user defined)
	Stream type	Video/ Video & Audio
	Audio bit rate	64kbps
	Dual stream	Support
	Playback	8-ch
Voice talk input	1-ch RCA(2.0Vp-p, 1kΩ)	
Hard disk	Type	1 x SATA interface (Max 3Tb)
DVD Writer	Type	1 x SATA interface (If not needed can be used for HDD)
External interface	Network interface	1 x RJ45 10M/100M adaptive Ethernet interface
	Serial interface	1 RS-485 interface, 1 RS-232 interface
	USB interface	2 x USB2.0
	Alarm in	4
	Alarm out	1
General	Power supply	12VDC
	Consumption	15W without hard drive and DVD-RW
	Working temperature	-10C ~ +55C
	Working humidity	10%~90%
	Chassis	19-inch rack-mounted 1.5U chassis
	Size(mm)	70mm(H) ×440mm(W) ×405mm(D) with BNCs
Weight	8Kg (without hard drive and DVD-R/W)	

Model		ALIEN366
Video/Audio input	Video compression	H.264
	Analogue Video input	16-ch, BNC connector (1.0Vp-p, 75Ω); PAL/NTSC adaptive
	Audio compression	G.711
	Audio input	4-ch, RCA connector (2Vp-p, 1kΩ)
	VGA output	1-ch, resolution: 1280 x 1024 / 1024×768
	CVBS output	1-ch, BNC connector (1.0Vp-p, 75Ω); Resolution: PAL: 704×576, NTSC:704×480
	Audio output	1-ch, RCA connector (Linear, 1 kΩ)
Video/Audio output	Recording resolution	4CIF/2CIF/CIF/QCIF
	Frame rate	4CIF/2CIF: 25fps CIF/QCIF: 25fps(P)/30fps(N)
	Video bit rate	32Kbps~2048Kbps (Max. 3072kbps user defined)
	Stream type	Video/ Video & Audio
	Audio bit rate	64kbps
	Dual stream	Support
	Playback	16-ch
Hard disk	Type	1 x SATA interface (Max 3Tb)
DVR Writer	Type	1 x SATA writer interface (If not needed can be used for HDD)
External interface	Network interface	1 x RJ45 10M/100M adaptive Ethernet interface
	Serial interface	1 RS-485 interface
	USB interface	2 x USB2.0
	Alarm in	4
	Alarm out	1
Others	Power supply	12VDC
	Consumption	20W without hard drive and DVD-RW
	Working temperature	-10C ~ +55C
	Working humidity	10%~90%
	Chassis	19-inch rack-mounted 1.5U chassis
	Size(mm)	70mm(H) ×440mm(W) ×405mm(D) with BNCs
	Weight	8.5Kg (without hard drive and DVD-R/W)