960H DVR

User Manual

- Intelligent Video Surveillance
- GUI Display with USB Mouse Control

Please read instructions thoroughly before operation and retain it for future reference.

For the actual display & operation, please refer to your DVR in hand.

700_708h_m769_769-b_769h_798ha_759ha_-b_679ha-b_706h_796ha_757ha_-b_677d_677ha_-b_792d_-b_792ha_-b_675d_-b_675ha_-b_Manual_V1.8

IMPORTANT SAFEGUARD

	CAUTION	
	RISK OF ELECTRIC SHOCK	

CAUTION:

To reduce the risk of electric shock, do not expose this apparatus to rain or moisture. Only operate this apparatus from the type of power source indicated on the label. The company shall not be liable for any damages arising out of any improper use, even if we have been advised of the possibility of such damages.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

This exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

All lead-free products offered by the company comply with the requirements of the European law on the Restriction of Hazardous Substances (RoHS) directive, which means our manufacture processes and products are strictly “lead-free” and without the hazardous substances cited in the directive.

The crossed-out wheeled bin mark symbolizes that within the European Union the product must be collected separately at the product end-of-life. This applies to your product and any peripherals marked with this symbol. Do not dispose of these products as unsorted municipal waste. Contact your local dealer for procedures for recycling this equipment.

This apparatus is manufactured to comply with the radio interference requirements.

Federal Communications Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

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Disclaimer

The information in this manual was current when released. We reserve the right to revise or remove any content in this manual at any time. We do not warrant or assume any legal liability or responsibility for the accuracy, completeness, or usefulness of this manual. For the actual display & operation, please refer to your DVR in hand. The content of this manual is subject to change without notice.

Grounding

This is a Safety Class 1 Product (provided with a protective earthing ground incorporated in the power cord). The mains plug shall only be inserted in a socket outlet provided with a protective earth contact. Any interruption of the protective conductor inside or outside of the instrument is likely to make the instrument dangerous. Intentional interruption is prohibited.

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Do not expose this product to dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on the product.

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This product contains codes which are developed by Third-Party-Companies and which are subject to the GNU General Public License (“GPL”) or the GNU Lesser Public License (“LGPL”).

The GPL Code used in this product is released without warranty and is subject to the copyright of the corresponding author.

Further source codes which are subject to the GPL-licenses are available upon request.

We are pleased to provide our modifications to the Linux Kernel, as well as a few new commands, and some tools to get you into the code. The codes are provided on the FTP site, and please download them from the following site or you can refer to your distributor:

http://download.dvrtw.com.tw/GPL/DVR/H-Series/linux.tar.gz

TABLE OF CONTENTS

1. HARDWARE OVERVIEW

Note: The functions on the front panel and rear panel may vary, depending on the model you have.

1.1 Package Content

➢ **Standard Package**

☐ DVR
☐ Adapter & power cord
☐ IR remote controller
☐ HDD screws
☐ Manual for IR remote controller

➢ **Optional Accessories**

☐ IR Receiver extension cable
☐ USB Mouse
☐ CD manual
☐ HDD brackets

1.2 Front Panel

1) LED Indicators


DVR is powered on.

The hard disk is reading or recording.


An alarm is triggered.


Timer recording is on.

Under playback status.

2) CH1 ~ 16 / 1 ~ 8 / 1 ~ 4

Press the channel number buttons to select the channel to display.

3) 

Press to show the 4 channel display mode.

4) SEQ

Press to display each channel in full screen one by one starting from CH1. When the last channel is displayed, it will repeat from CH1 again. To exit this mode, press “SEQ” again.

5) SLOW

In the playback mode, press to show slow playback.

6) ZOOM

Press to enlarge the picture of selected channel in the FRAME or FIELD recording mode.

7) PLAY

Press to playback the latest recorded data.

8) LIST (Event List Search)

Press to quickly search the recorded files by event types, or select FULL to show all the event logs.
To quickly search the time you want, select “QUICK SEARCH”. For details, please refer to “5.4.1 QUICK SEARCH” in the user manual.

9) MENU

Press “MENU” to enter the main menu.

10) ENTER

Press “ENTER” to confirm the setting.

11) ⏸ (▲) / ■ (▼) / ⏪ (◄) / ⏩ (►)

Press ▲ / ▼ / ◄ / ► to move up / down / left / right.

In the playback mode:

Press " ⏸ " to pause playback.

Press " ■ " to stop playback.

Press "⏩" to fast forward.

Press "⏪" to fast rewind.

12) AUDIO (SLOW + ZOOM)

Press "SLOW" + "ZOOM" to select live or playback audio from audio channel 1~4.

Live audio from audio channel 1~4 (indicated in white).

Playback audio from audio channel 1~4 (indicated in yellow).

Audio channel unselected

13) P.T.Z. (⊞ + SEQ)

Press "⊞" + "SEQ" at the same time to enter / exit the PTZ control mode.

14) USB port

There are two USB ports on the front panel, one for connecting your USB mouse for mouse control, and the other one for connecting your USB flash drive for video backup.

Note: It's not allowed to have two USB mice or two USB flash drives connected on the front panel.

Note: For the compatible USB flash drive list, please refer to "APPENDIX 6 COMPATIBLE USB FLASH DRIVE LIST" at page 91.

15) ⏏ *(For selected models only)*

Press "⏏" to eject the disk tray of the DVD writer.

1.3 Rear Panel

1) 75Ω / HI-IMPEDANCE *(For selected models only)*

When using VIDEO LOOP, switch to HI-IMPEDANCE. If not, switch to 75Ω.

2) VIDEO IN: Connect to the video connector of a camera.

VIDEO LOOP *(For selected models only)*: Video output connector.

Note: The DVR will automatically detect the video system of the camera, please make sure that the cameras are properly connected to the DVR and power-supplied before the DVR is turned on.

3) AUDIO IN (1~4)

Connect to the audio connector of a camera if the camera supports audio recording.

Note: To make a video backup with audio, make sure the camera which supports the audio function is connected to the video-in channel and audio-in channel. For example, the audio data from audio CH1 will be recorded with the video data from video CH1.

For 16CH models, the audio CH1 ~ CH4 are corresponding to video CH1 ~ CH4 respectively.

4) AUDIO OUT (1~2)

Connect to a speaker with 1 mono audio output.

5) CALL *(For selected models only)*

Connect to a monitor specific for sequence display.

6) HDMI

Connect to the HDMI port of the monitor which supports HDMI video output.

Note: Dual video outputs via both VGA and HDMI ports are supported.

7) VGA

Connect to the VGA port of the monitor which supports VGA video output.

Note: Dual video outputs via both VGA and HDMI ports are supported.

8) IR

Connect the IR receiver extension line for remote control.

9) eSATA *(For selected models only)*

This port is used to connect a storage device supporting eSATA interface; for instance, an external hard disk or a disk array.

Note: Please purchase a disk array supporting Linux system to ensure your DVR to work properly.

Note: If the disk array is not connected or detected well, check the mode of your disk array, or do a reset default on your disk array and try again.

10) Push Video Alarm In *(For selected models only)*

Connect up to four external alarm devices for active event notifications to your smart phone (Push Video). The four alarm inputs, 1 ~ 4, are corresponding to the four video inputs, CH1 ~ 4.

11) EXTERNAL I/O

This port is used to connect external devices (such as speed dome cameras or external alarm, etc).

12) LAN

Connect to Internet by LAN cable.

13) DC 19V IN

Connect to the supplied adapter.

14) Power Switch *(For selected models only)*

Switch to "—❺" to turn on the power, and "O" to turn off the power.

2. CONNECTION AND SETUP

Before the DVR is powered on, make sure you have installed a hard disk, connected at least one camera and a HDMI monitor. For details, please refer to the following sections.

Note: The DVR is designed to automatically detect the video system of the connected cameras (NTSC or PAL). To make sure the system detection is correct, please check if the cameras are connected to the DVR and power-supplied before the DVR is powered on.

2.1 SATA Hard Disk Installation

A SATA hard disk must be installed before the DVR is powered on.

Note: It's not recommended to use a green hard disk in this device. Please check our hard disk compatible list at page 92.

Note: It's recommended to clear all data in the hard disk when the DVR is powered on and the date & time are set correctly to ensure the recorded data are not mixed with other data previously saved in the same hard disk. For details, please refer to "2.6 Clear Hard Disk" at page 10.

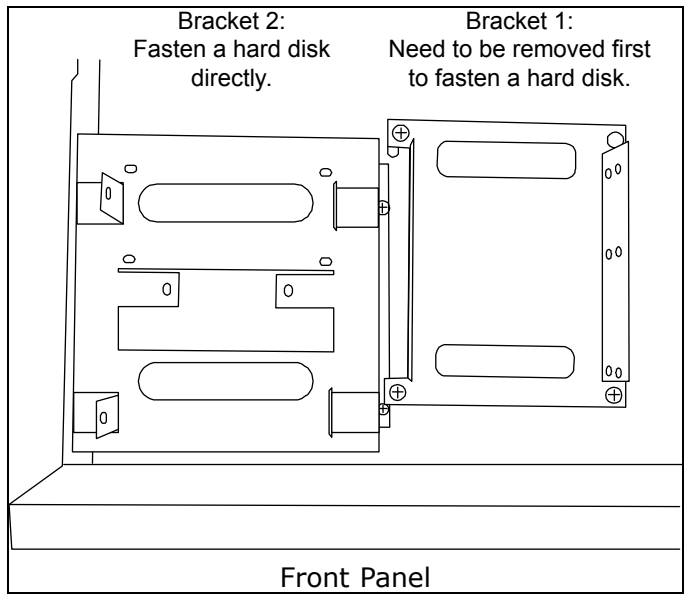
➢ **Type 1**

Step1: Loose the screws on the upper cover and open the upper cover of the DVR.

Note: The DVR cover is made of metal. Please be careful with its edge when you remove the cover.

Step2: There are two hard disk brackets for this DVR as indicated in the right picture.

Note: The bottom space in "Bracket 2" may be empty for users to install a DVD writer by themselves. To know how to do, please refer to "APPENDIX 10 DVD WRITER INSTALLATION" at page 96.



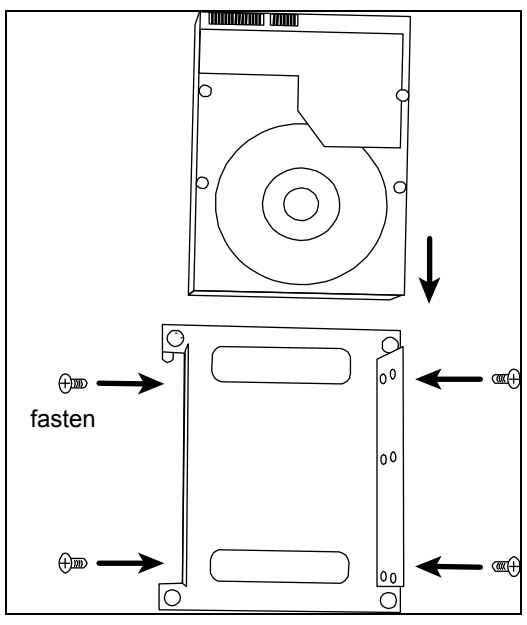
2-1 To install on the first bracket

Remove the bracket, and align the screw holes of the bracket with the hard disk's screw holes. Make sure the PCB side of the hard disk is facing up.

Then, fasten the hard disk to the bracket.

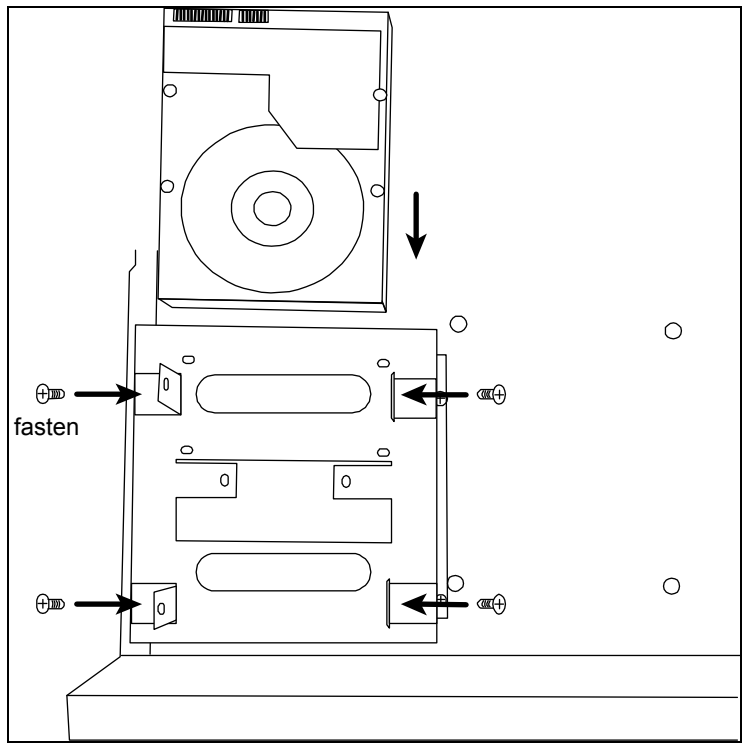
Note: If the second hard disk is to be installed, go to 2-2; If no, go to Step3 directly.

Note: For certain 8CH models, only one hard disk is allowed when a DVD writer is installed.



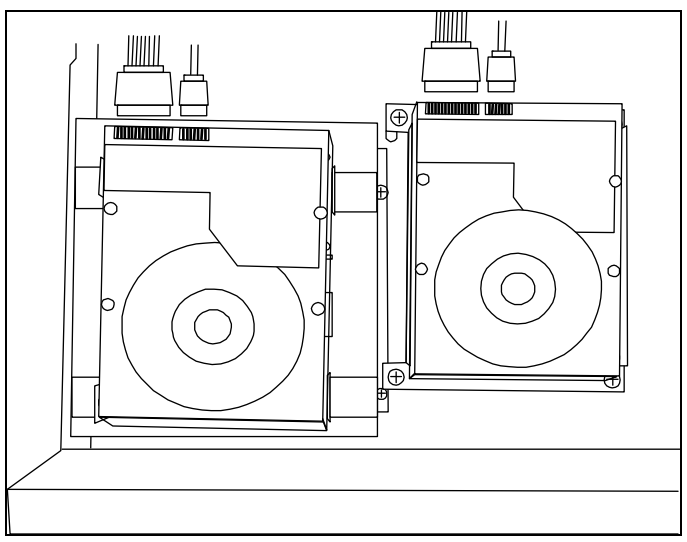
2-2 To install on the second bracket

Align the screw holes of the bracket with the hard disk's screw holes. Make sure the PCB side of the hard disk is facing up. Then, fasten the hard disk to the bracket.



Step3: Replace the first bracket back to the DVR.

Step4: Connect the power and data bus cables to the hard disk.



Step5: Close the upper cover of the DVR, and fasten all the screws you loosened in Step1.

- **Type 2**

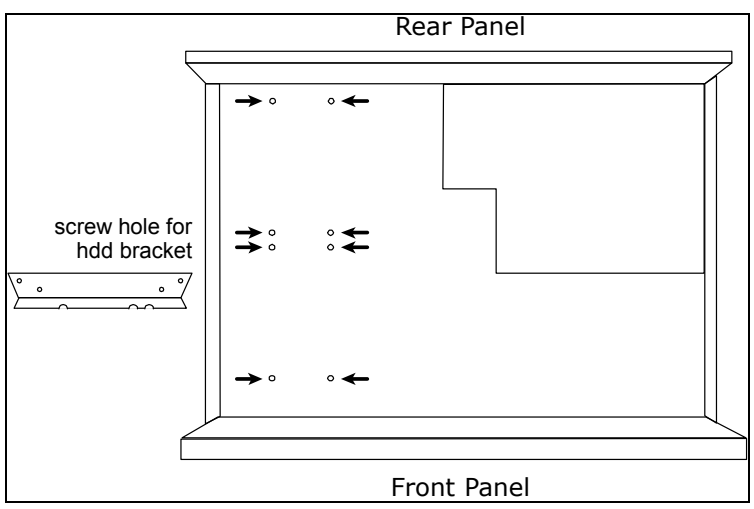
Note: Below takes a 16CH DVR model as an example. This hard disk installation type may also appy to a 8CH or 4CH DVR model.

Step1: Loose the screws on the upper cover and open the upper cover of the DVR.

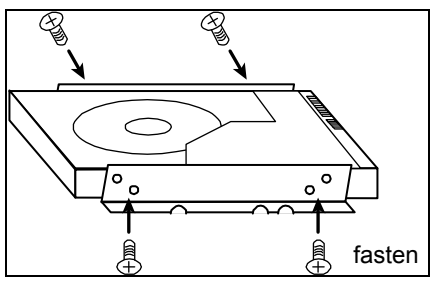
Note: The DVR cover is made of metal. Please be careful with its edge when you remove the cover.

Step2: Find the HDD brackets supplied in the sales package, and also the screw holes in the DVR as indicated below.

Note: One hard disk should use two brackets.

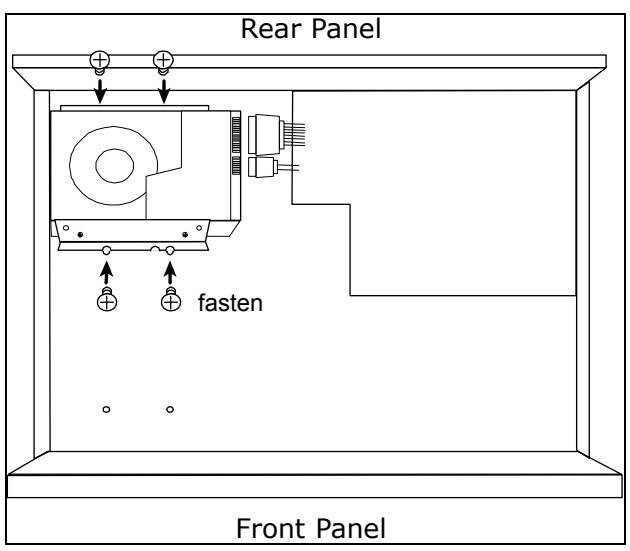


Step3: Attach and fasten the brackets to your hard disk. Make sure the PCB side of the hard disk is facing up.



Step4: Fasten the hard disk with the brackets to your DVR, as indicated below.

Step5: Connect the power and data bus cables to the hard disk.



Step6: Install another hard disk if needed.

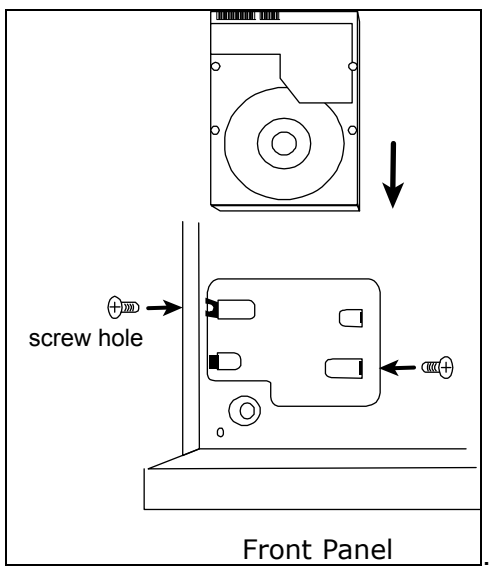
Step7: Close the upper cover of the DVR, and fasten all the screws you loosened in Step1.

- **Type 3**

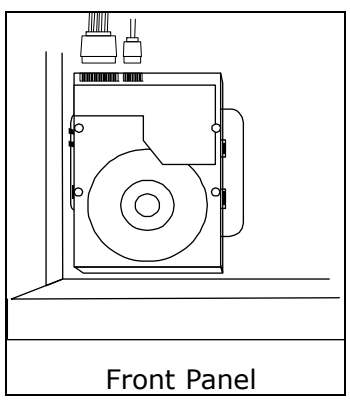
Step1: Loose the screws on the upper cover and open the upper cover of the DVR.

Note: The DVR cover is made of metal. Please be careful with its edge when you remove the cover.

Step2: Place the hard disk to the bracket, and fasten it with the supplied screws. Make sure the PCB side of the hard disk is facing up.



Step3: Connect the power and data bus cables to the hard disk.



2.2 Camera Connection

Install the camera on the wall or ceiling based on your installation environment and camera type. For installation details, please refer to the user manual of your camera.

2.2.1 Normal / DCCS Camera

1) Connecting to DVR video input

   Connect the camera video output to the DVR video input port with a coaxial cable or RCA line with a BNC connector.

Note: For connecting a DCCS-type camera, make sure your DVR model supports DCCS, the camera is connected to the 1st video channel (CH1), and the distance between the camera and DVR needs to be within 200 meters by using a 3C2V coaxial cable (112 braids) for DCCS control to take effects. For more details, please refer to "2.8 Examining DCCS Signal Transmission" at page 11.

2) Connecting to DVR audio input (Optional)

   Connect the camera audio output to the DVR audio input port with a coaxial cable or RCA cable with BNC connectors.

3) Connecting to power

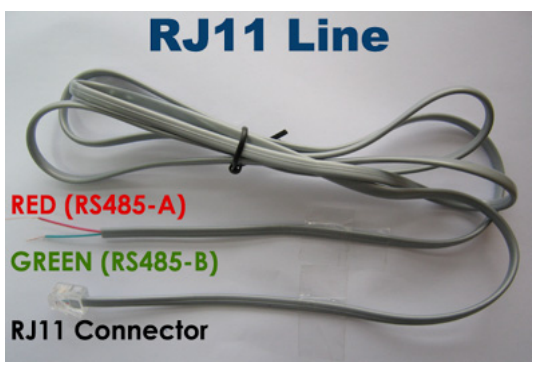
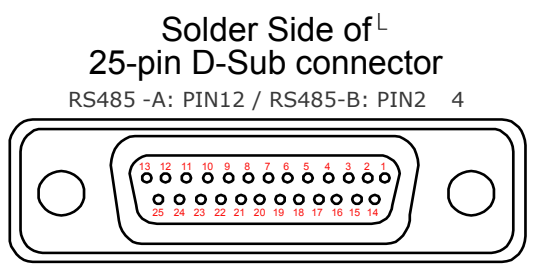
   Connect the camera with indicated power supply and make sure it's power-supplied.

2.2.2 PTZ Camera

The following description is taking our brand's PTZ camera as an example.

Note: The RS485 wiring is not needed when your DVR and PTZ camera both support DCCS, and the video channel your PTZ camera connects is CH1. If yes, please go to **STEP 5** directly for PTZ camera setting.

For detailed PIN / port connection, please refer to "APPENDIX 2 PIN CONFIGURATION" at page 84. For detailed PTZ camera control and operation, please refer to its own user manual.

RJ11 cable	25 PIN D-Sub Connector
RS485-A: **Red wire**	RS485-A: **PIN 12**
RS485-B: **Green wire**	RS485-B: **PIN 24**
	
The RJ11 cable is not supplied in the sales package.	*The D-Sub connector is not supplied with the DVR package.*

STEP 1: Get a RJ11 cable with the proper length to your connection.

Different RJ11 connector may have different wire layout, so the connection might be different. If you cannot control the DVR after connection, please reverse the RJ11 cable connection with the DVR.

STEP 2: Remove one end of the insulating coating of the RJ11 cable.

Remove one end of the insulating coating of the RJ11 cable to find the RS485-A and the RS485-B wires, and remove the insulating coating to reveal the naked wires for further connection.

STEP 3: Twist the RS485-A and RS485-B wires of the RJ11 cable and the speed dome camera together.

Twist the RS485-A (red) and RS485-B (green) wires of the RJ11 cable to the RS485-A (brown) and RS485-B (orange) wires of the speed dome camera. To protect the naked wires, use the insulation tape to cover on the twisted wires.

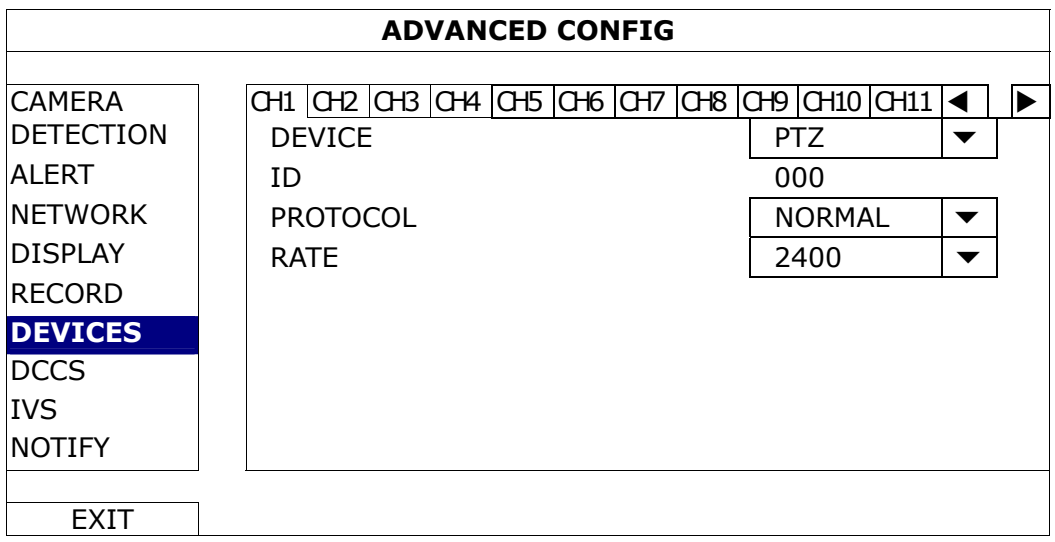
STEP 4: Connect the other end of the RJ11 cable to DVR.

Solder the RS485-A (red) and RS485-B (green) wires of the RJ11 cable to the corresponding pins on the solder side of the 9 or 25 PIN D-Sub connector (as shown above).

STEP 5: Set the camera at the DVR side.

Right click to show the main menu in the live view, and go to "  " (ADVANCED CONFIG) → "DEVICES" to set the camera.

a) Select the device to "PTZ".
b) Set the ID to the value the same as the one set in the camera. The default ID of the camera is 000.
c) Select the protocol to "NORMAL".
d) Set the baud rate to the value the same as the one set in the camera. The default baud rate of the camera is 2400.



2.3 External Device Connection

This device supports external device connection with RS485 and alarm I/O ports, allowing users to connect control devices such as a PTZ camera or keyboard controller, or connect alarm devices such as a magnetic contact or buzzer.

Check the user manual of your external device to know which pin(s) should be used, and connect it to the corresponding pins on the DVR rear panel.

Note: For more details about alarm I/O pin configurations, please refer to "APPENDIX 2 PIN CONFIGURATION" at page 84.

Certain alarm-in pins also support sending instant event notifications to your mobile devices, such as iPhone, iPad and Android mobile devices, for an alarm event (Push Video). For details, please refer to "APPENDIX 3 PUSH VIDEO CONFIGURATION" at page 85.

2.4 DVR Power On

This device should be operated only with the type of power source indicated on the manufacturer's label. Connect the indicated AC power cord to the power adapter, and plug into an electrical outlet. Then turn the power switch on the rear panel to "—". The power LED will be on.

Note: Before the DVR is powered on, make sure (1) the cameras are connected and power-supplied for the detection of the camera video system to be correct, and (2) a HDMI monitor is connected to the DVR for correct video output detection.

Note: To ensure that your DVR works constantly and properly, it's recommended to use an UPS, Uninterruptible Power Supply (Optional), for continuously operation.

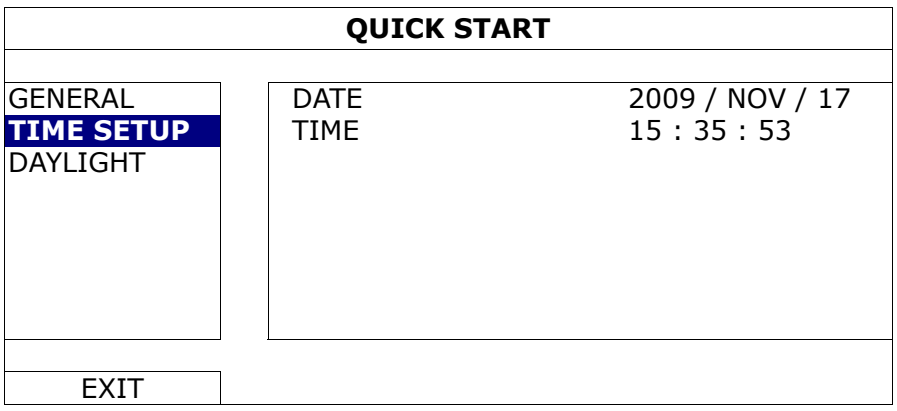
2.5 Date and Time Setting

Before operating your DVR, please set the date and time on your DVR **FIRST**.

Note: Please DO NOT change the date or time of your DVR after the recording function is activated. Otherwise, the recorded data will be disordered and you will not be able to find the recorded file to backup by time search. If users change the date or time accidentally when the recording function is activated, it's recommended to clear all HDD data, and start recording again.

Note: For the first time to use the DVR, please power it on for at least 48 hours continuously after the date & time is set correctly. It helps to prevent DVR time from resetting after the disconnecting of DVR power. If the DVR time resets after the disconnecting of DVR power, for example, caused by a power outage, the battery might run out and please replace the battery as described in "APPENDIX 9 DVR BATTERY REPLACEMENT" at page 95.

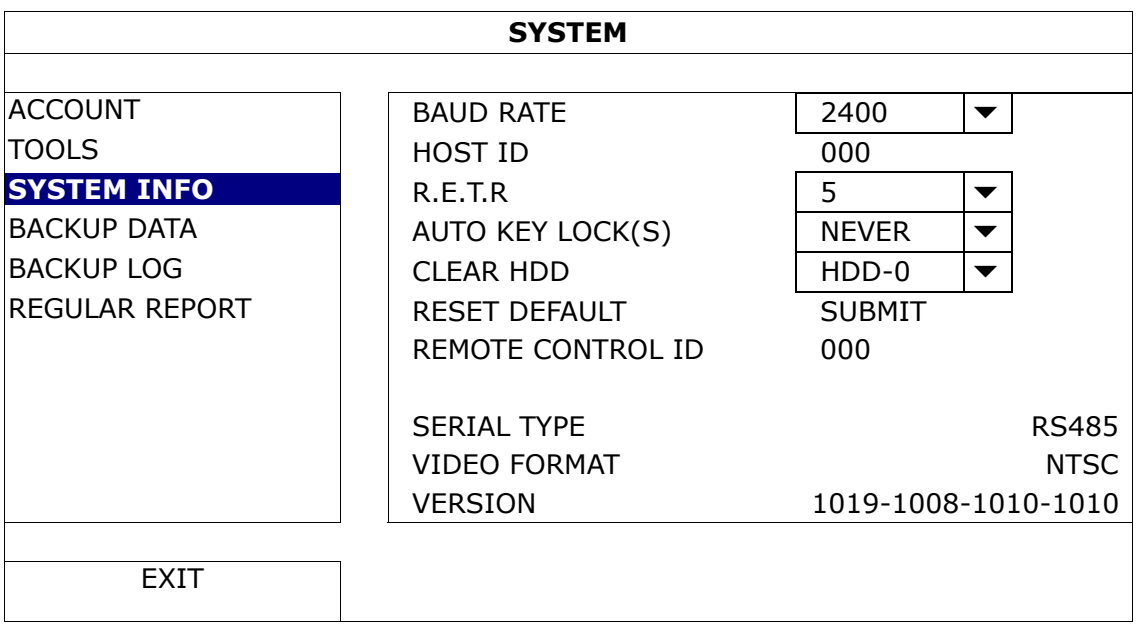
Right-click to enter the DVR password with the password keypad. The default administrator password is admin. The status will be changed from (key lock) to (unlock). Then, right-click to show the main menu, and select (QUICK START) → "TIME SETUP" to set the date & time.



2.6 Clear Hard Disk

It's recommended to clear all data in the hard disk for the first time to user this DVR to ensure the recorded data are not mixed with other data previously saved in the same hard disk.

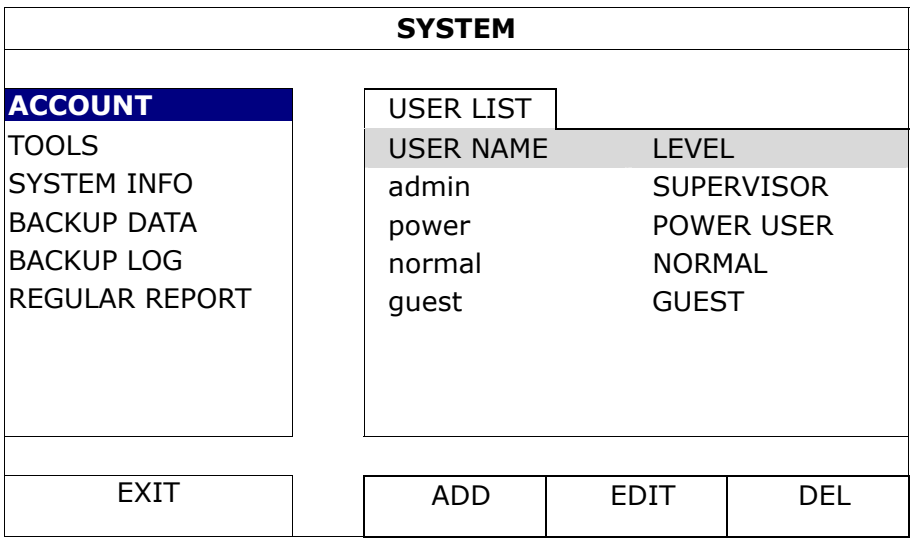
Right-click to show the main menu, and select (SYSTEM) → "SYSTEM INFO" → "CLEAR HDD". The DVR will reboot when hard disk data are cleared.



2.7 Password Setting

Right-click to show the main menu, and select (SYSTEM) → "ACCOUNT" to change the default password of SUPERVISOR.

There are four user levels for different access privileges: SUPERVISOR, POWER USER, NORMAL & GUEST. For details, please refer to "4.2 User Level Creation" at page 15.



2.8 Examining DCCS Signal Transmission

Note: Needed only when the camera connected to CH1 supports DCCS.

Check the channel status bar of CH1, and see if the status icon of DCCS connection is “  ”.

- If yes, the connection is ok.
- If you see “  ”, make sure:
  - The distance between this DVR and the DCCS camera should not exceed 200 meters with a 3C2V coaxial cable (112 braids).

Note: However, different materials used in 3C2V coaxial cables with different connection distance may cause some effects for the availability and fluency of signal transmission.

  - It’s not allowed to use a signal booster or modem to amplify signals and extend the connection distance.

3. USER INTERFACE

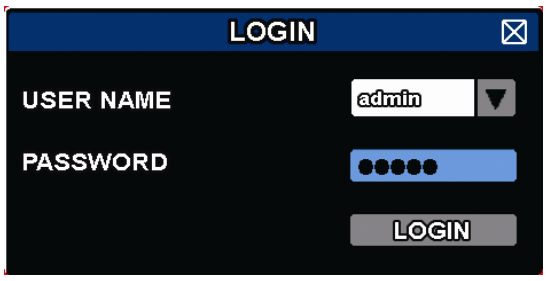
3.1 DVR Access

Connect your USB mouse to one of the USB ports on the DVR front panel, and check if there's a mouse icon ( ) on the screen, indicating the USB mouse is detected properly.

Move your mouse to enter the DVR password with the password keypad. The default user name and password are both "**admin**". The status will be changed from (key lock) to (unlock).

Note: You may configure four different user levels to have different access privileges in "SYSTEM" → "ACCOUNT". For details, please refer to "4.2 User Level Creation" at page 15.

Password Input



3.2 Live Page

3.1.1 DVR Status

Note: Certain icons are for selected models only.

	Key lock		Key unlock
	Overwrite on		Overwrite off
	Internet disconnected		Internet connected
	Local connection		USB mouse connected
	USB flash drive / device connected		No USB device connected
	IVS on		
	Timer record on		Timer record off
	PTZ mode on		PTZ mode off
	Sequence mode on		Sequence mode off

3.1.2 Channel Status

Note: Certain icons are for selected models only.

	Original size		Fit to screen		DCCS connection OK		DCCS connection failed
	Live audio on		Audio off		Audio playback on		Audio playback off
	Recording		Human detection event		Motion event		Alarm event
	Record mode: Frame		Record mode: Field		Record mode: CIF		
	Virtual fence event		One way pass event		Scene Change event		

3.1.3 Record-related Icons

1) Manual Recording

   By defaults, manual recording is on ( ) when the DVR is powered on and a hard disk is installed.

2) Event Recording

   The event icons, / / / / / , show on the channel status bar when their respective events occur and the related record function is on.

3) Timer Recording

   When timer recording is on, you will see " " on the screen.

4) HDD Overwritten

   Be defaults, the HDD overwritten function is set to ON, and " " will be shown on the screen.

Note: To disable this function, right click to display the main menu in the live view, and go to " " (ADVANCED CONFIG.) → "RECORD" → "OVERWRITE".

3.3 Quick Menu Bar

Move to the arrow mark to extend the quick menu bar and show the five functions as follows:

Quick Menu: Open

Click to show the channel switch panel and select the channel you want.

Click to display the playback control panel, and click to play the latest recorded video clip, or click to enter the search list.

Switch to the channel you want first, and click to enter the zoom-in mode. In this mode, click and drag the red frame on the bottom left of the screen to move to the place you want to see. To exit this mode, click ☒.

Click to show the power off panel to either halt or reboot the system.

3.4 Main Menu

Right-click anywhere on the screen to show the main menu as follows, and right-click again to exit.

Main Menu

	QUICK START	Click to set the status display, image settings, and date & time.
	SYSTEM	Click to set the system configurations.
	EVENT INFORMATION	Click to enter the event search menu.
	ADVANCED CONFIG	Click to set CAMERA, DETECTION, ALERT, NETWORK, DISPLAY, RECORD, DEVICES, DCCS*, IVS* & NOTIFY*.
	SCHEDULE SETTING	Click to set record timer, detection timer & alarm timer.

** For selected models only*

4. FREQUENTLY-USED FUNCTIONS

4.1 Key Lock / Unlock

To lock or unlock local operation, click (unlock) or (lock) on the DVR status bar to change the status to (lock) or (unlock).

To unlock local operation, you'll be prompted to enter the user name and password to access.

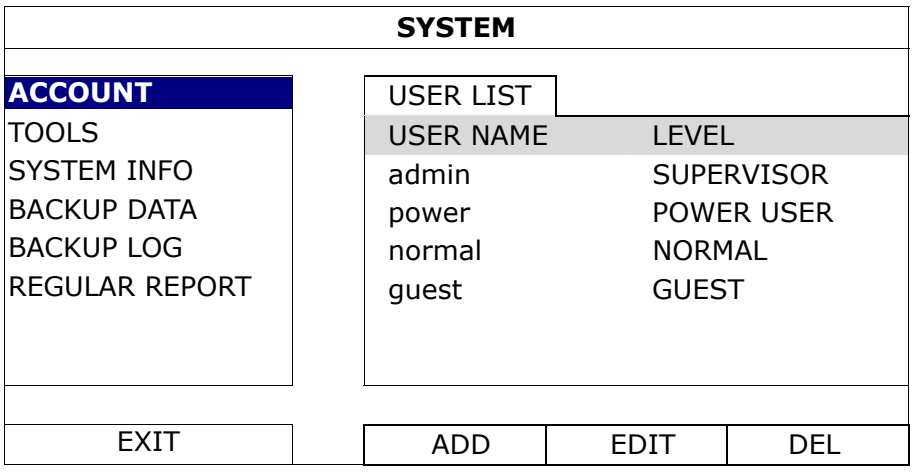
Note: The default user name and password are both "admin", which is the highest user level.

Note: Different user level has different access privilege for certain DVR functions. Please refer to "4.2 User Level Creation" at page 15.

4.2 User Level Creation

Note: This function is available only for "SUPERVISOR".

To create different user account for different access privilege, click (SYSTEM)), and select "ACCOUNT" to enter "USER LIST".



Different user level has different access privilege for certain functions as described below:

	Function	User Level			
		SUPERVISOR	POWER	NORMAL	GUEST
■ DVR status					
/	Key lock / unlock	✓	✓	✓	✓
■ Channel status					
/	Live audio on / off	✓	✓	✓	✓
/	Playback audio on / off	✓	✓	✓	✓
/	Original size / Fit to screen	✓			
	PTZ Control	✓	✓		
■ Quick menu bar					
	Channel Selection	✓	✓	✓	✓
	Playback	✓	✓	✓	
	Digital Zoom	✓	✓	✓	✓
	Power	✓			

	Function	User Level			
		SUPERVISOR	POWER	NORMAL	GUEST
■ Main menu					
	Quick Start	✓			
	System	✓			
	Event Information	✓			
	Advanced Config.	✓			
	Schedule Setting	✓			
■ Playback control					
	Fast Forward	✓	✓	✓	
	Fast Rewind	✓	✓	✓	
/	Play / Pause	✓	✓	✓	
	Stop	✓	✓	✓	
	Slow Playback	✓	✓	✓	
/	Previous / Next Hour	✓	✓	✓	
	Quick Search	✓	✓	✓	

4.3 PTZ Control

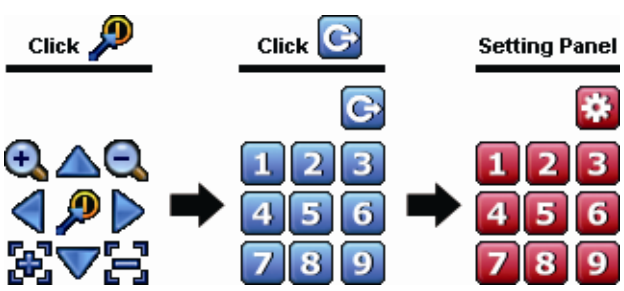
Note: This function is available only for "SUPERVISOR" and "POWER USER". To know more details, please refer to "4.2 User Level Creation" at page 15.

Click on the channel status bar to display the panel as follows:

	/ / /	Up / Down / Left / Right	Click to move your selection up / down / left / right, or change settings.
	/	Digital zoom in / out	Click to zoom in / out the camera image digitally.
	/	Focus near / far	Click to adjust the focus of the image.
		Preset point	Click to display the preset point panel for preset point viewing or setting. For details, please refer to the section below.

How to set a preset point:

Step1:



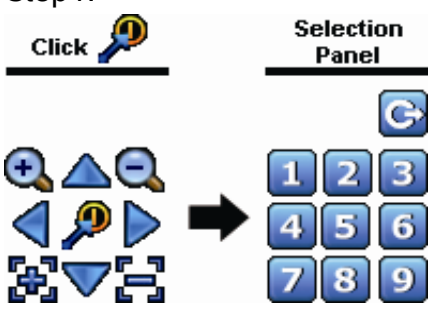
Step2: Click or to the proper ratio you need, and click / / / to move to the point you want to configure as a preset point.

Step3: Click the numbering you want to configure for this point, and wait till you see (command sending) appearing and disappearing on the DVR status bar.

Step4: Repeat from Step1 again to set other points if needed, or click to return to the preset point selection panel.

How to go to a preset point:

Step1:



Step2: Select the numbering within which saves the camera view you want to see, and wait till you see (command sending) appearing and disappearing on the DVR status bar.

4.4 Playback

Note: This function is *NOT* available for "GUEST". please refer to "4.2 User Level Creation" at page 15.

Click "" on the quick menu bar to display the playback control panel, and click to play the latest recorded video clip, or click to enter the search list.

Note: There must be at least 8192 images of recorded data for playback to work properly. If not, the device will stop playback. For example, if the IPS is set to 30, the recording time should be at least 273 seconds (8192 images / 30 IPS) for the playback to work properly.

Note: During playback, the image size of the recording (FRAME , FIELD or CIF) will be shown on the screen.

4.4.1 Playback Control

	Fast Forward	Increase the speed for fast forward. Click once to get 4X speed forward and click twice to get 8X speed, etc., and the maximum speed is 32X.
	Fast Rewind	Increase the speed for fast rewind. Click once to get 4X speed rewind and click twice to get 8X speed, etc., and the maximum speed is 32X.
/	Play / Pause	Click to play the latest recorded video clip immediately, and click again to pause. In the pause mode, click once to get one frame forward, and click to get one frame rewind.
	Stop	Click to stop the video playback.
	Slow Playback	Click once to get 1/4X speed playback, and click twice to get 1/8X speed playback.
/	Previous / Next Hour	Click to jump to the next / previous time interval in an hour, for example, 11:00 ~ 12:00 or 14:00 ~ 15:00, and start playing the earliest event video clip recorded during this whole hour.
A B	Repeat	Click to set point A and point B in a video clip, and the system will play only the specified range in that clip.
	Backup	Click to open the backup menu for video backup.

4.4.2 Event Search

Click  to quickly search the recorded files by event types, or select FULL to show all the event logs.

To quickly search the time you want, select “QUICK SEARCH”.

4.4.3 Audio Playback

In the playback mode, click  or  on the channel status bar to play or mute audio recording.

Note: To make a video backup with audio, or play a recording with audio, make sure the camera which supports the audio function is connected to the video-in channel and audio-in channel. For example, the audio data from audio CH1 will be recorded with the video data from video CH1. For 16CH models, the audio CH1 ~ CH4 are corresponding to video CH1 ~ CH4 respectively.

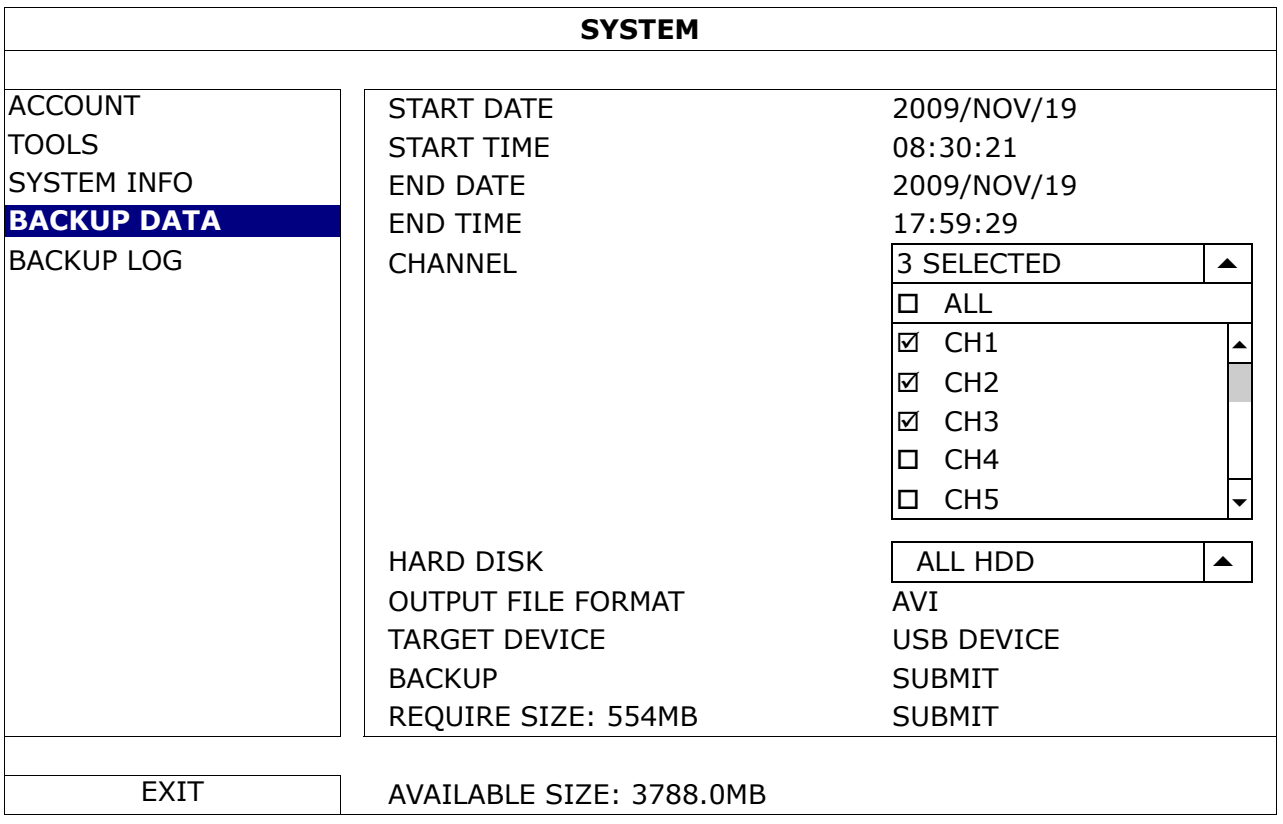
4.5 Video Backup

Note: This function is available for “SUPERVISOR”. For details, please refer to “4.2 User Level Creation” at page 15.

Note: Before using the USB flash drive, please use your PC to format the USB flash drive to FAT32 format first. For the list of compatible USB flash drives, please refer to “APPENDIX 6 COMPATIBLE USB FLASH DRIVE LIST at page 91.

Note: Video backup could be made via the built-in DVD writer (optional), a USB flash drive, or the Internet. It’s **NOT** allowed to connect the hard disk to your PC directly for it may impair the recorded data saved in the hard disk.

To copy recorded data for video backup, click  (SYSTEM), and select “BACKUP DATA (USB)” or “BACKUP DATA (DVD)”.



Step1: Select the time within which includes the video data you want to backup.

Step2: Select the channel(s) within which includes the video data you want to backup.

Step3: In “OUTPUT FILE FORMAT”, select the output video format: DEFAULT / AVI.

- When “DEFAULT” is selected, the copied video is saved to ".dv5”, and you can only open it with our own video player on PC. For details, please check "4.6 Video Playback on PC”.

Note: It's recommended to save the file to the default format for security reasons. Only specific video player supports the default format and not everyone can see the video footage.

- When "AVI" is selected, the copied video will be converted to "avi", and you can open it with any media player which supports the "avi" format on PC.

Step4: In "TRAGET DEVICE", select "USB DEVICE" or "DVD DEVICE" based on the device you want to use for video backup.

Note: "DVD DEVICE" is available for selected models only.

Step5: In "REQUIRE SIZE", select "SUBMIT" to know the file size of the selected data.

Step6: In "BACKUP", select "SUBMIT" to start backup to your USB flash drive, and wait till the backup successful message appears.

4.6 Video Playback on PC (.dv5)

For video backup with the format ".dv5", you can only use our own player to play.

Note: It's **NOT** allowed to remove the hard disk installed in the DVR and connect it directly to your PC to check recorded video clips. It might impair the files saved in the hark disk, causing the loss of those files even when the disk is replaced back to the DVR.

To play ".dv5" video on your PC:

Step1: Insert the USB flash drive or CD / DVD with recorded data into your PC.

Note: The supported PC operating systems are Windows 7, Vista & XP.

Step2: Find the program "PLAYER.EXE" in the USB flash drive, and double-click it to install.

Note: "PLAYER.EXE" can also be downloaded from www.surveillance-download.com/user/c700.swf.

Step3: Run the program, *VideoPlayer*, and browse to where you save the recorded data.

Step4: Select the file you want to start video playback

4.6.1 Convert the file format to AVI

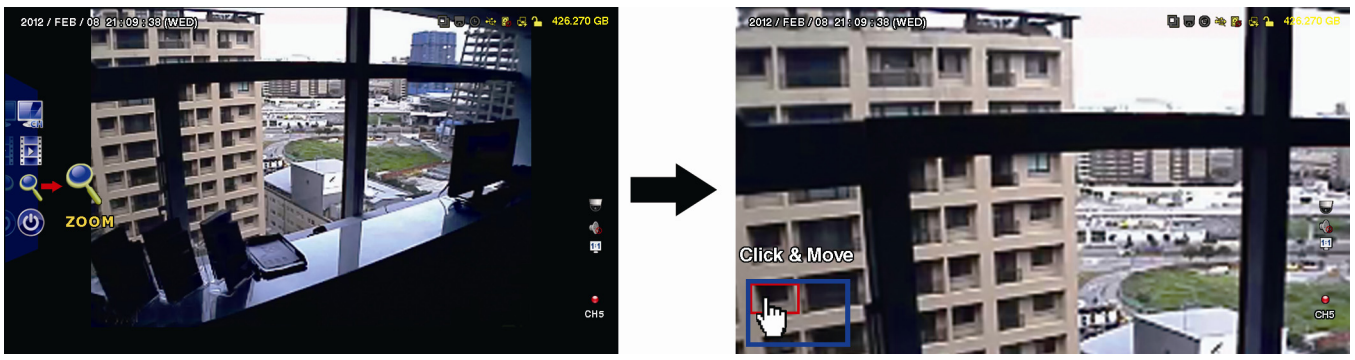
To convert the video file format to AVI, click "AVI" from the playback panel to start file conversion.

Note: The recorded audio (if any) will be removed when the file format is converted to AVI.

Note: If the backup video includes data for multiple channels, click to a specific channel for this function to work properly.

4.7 Digital Zoom

Switch to the channel you want to zoom in, and move to the left side of the screen to show the quick start bar. Click to enter the zoom-in mode. In this mode, click and drag the red frame on the bottom left of the screen to move to the place you want to see.



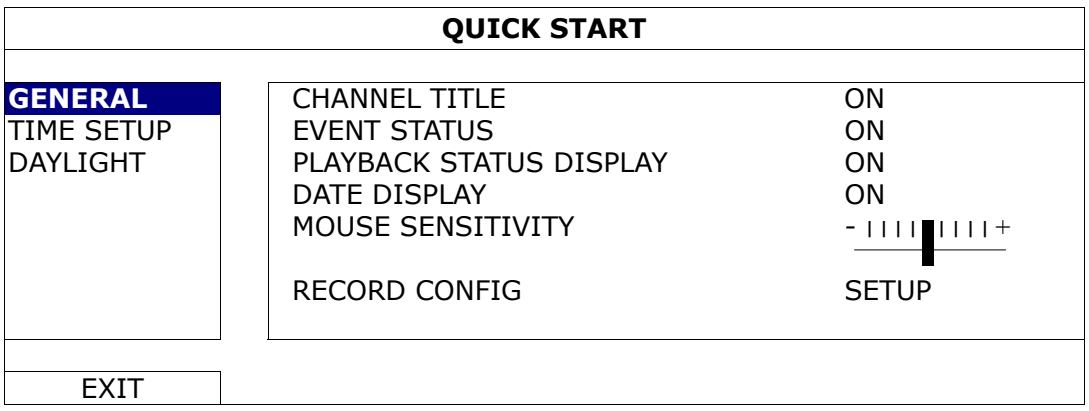
To exit this mode, right-click anywhere on the screen.

Note: You need to exit the zoom mode first to use other DVR functions.

5. MAIN MENU

5.1 QUICK START

5.1.1 GENERAL



1) CHANNEL TITLE

Select to display the channel title or not (ON / OFF).

2) EVENT STATUS

Select to display the event icons or not (ON / OFF).

Note: For details about each event icon, please refer to "3.2 Live Page" at page 12.

3) PLAYBACK STATUS DISPLAY

Select to display the control icons during video playback on each single channel or not (ON / OFF).

4) DATE DISPLAY

Select to display the date or not (ON / OFF).

5) MOUSE SENSITIVITY

Select the mouse sensitivity by 9 levels.

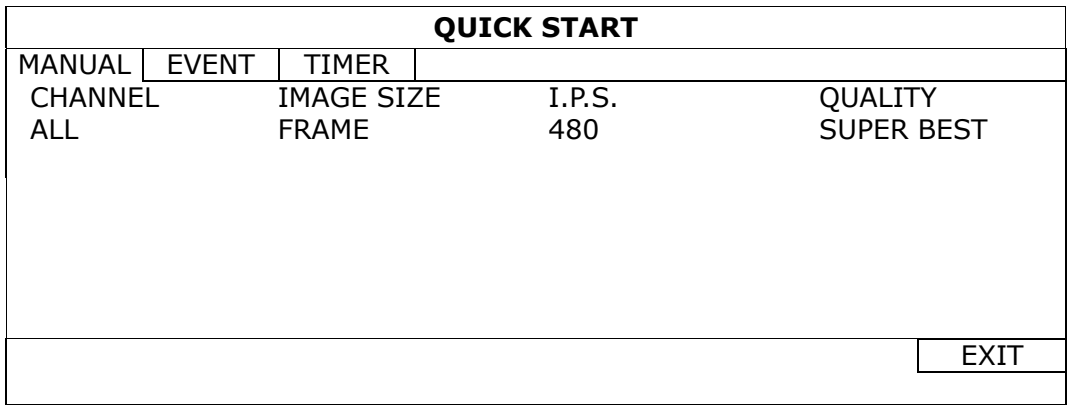
6) RECORD CONFIG

Click "SETUP" to enter the setting page individually for manual record, event record and timer record.

a) Select the record type you want to set.

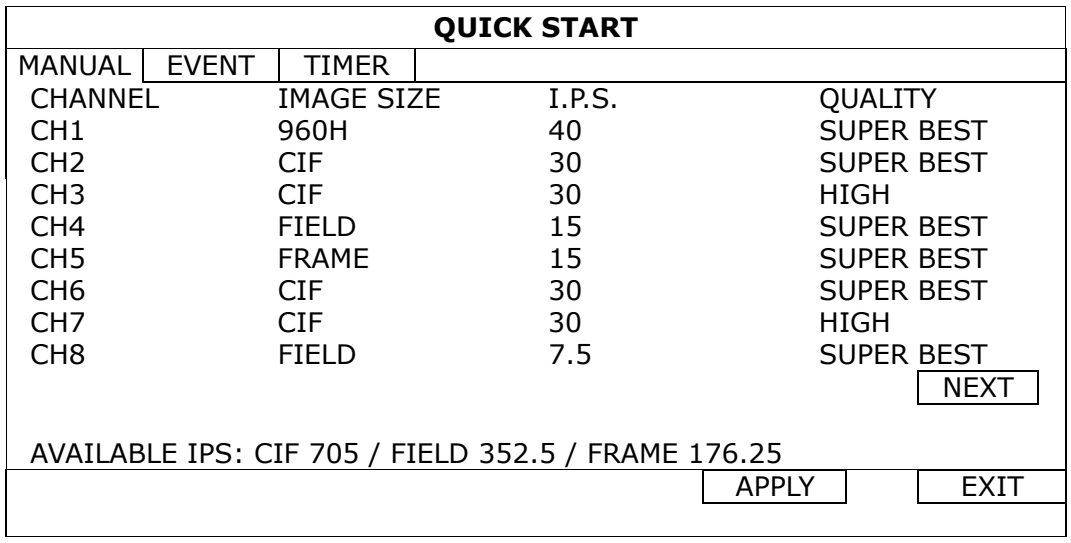
b) In "CHANNEL", select "ALL" to apply the changes here to all channels.

Note: The I.P.S. section is based on NTSC system.



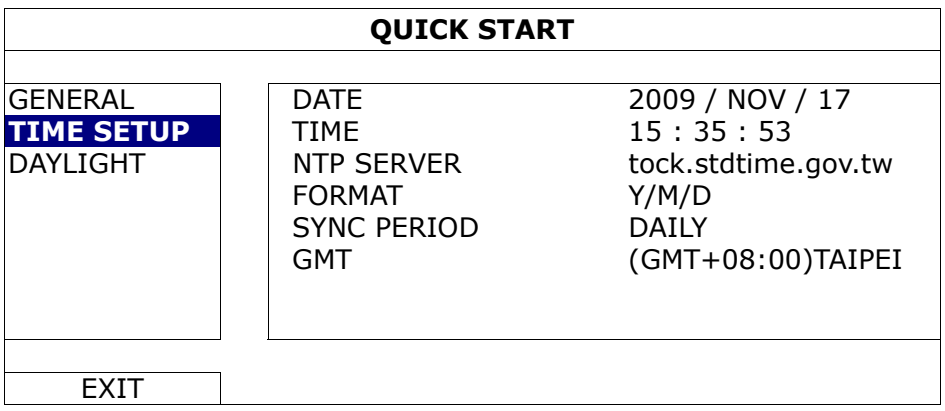
Or, select "BY CHANNEL" to set the image size, image per second & image quality individually for each channel.

Note: The I.P.S. section is based on NTSC system.



Note: The image size of 960H is available for selected models only.

5.1.2 TIME SETUP



7) DATE

Set the current date. The default display format is YEAR – MONTH – DATE (Y-M-D).

8) TIME

Set the current time in HOUR : MIN : SEC.

9) NTP SERVER

Click to change the default NTP server to another server they're familiar with, or keep the default NTP server.

10) FORMAT

Select one date format from the following three options: Y/M/D, M/D/Y or D/M/Y.

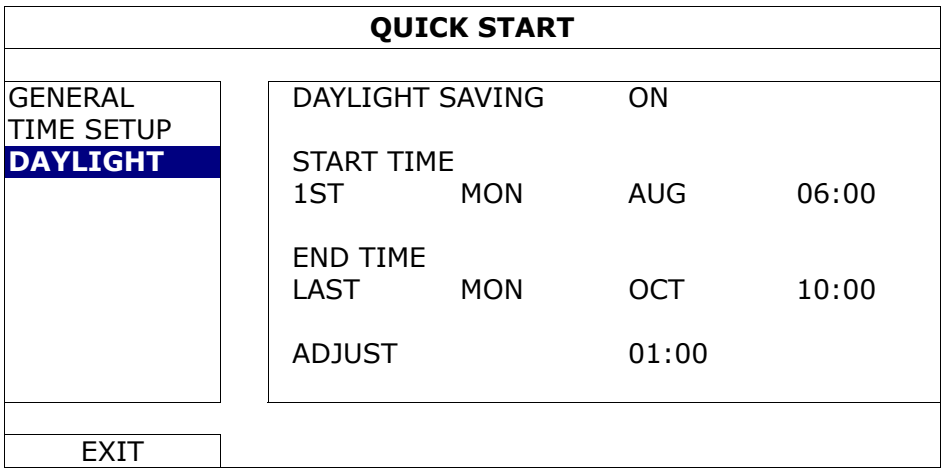
11) SYNC PERIOD

Select to synchronize the time everyday (DAILY), or turn this function off (OFF).

12) GMT

Select your time zone.

5.1.3 DAYLIGHT



Depending on the time zone you're in:

1) DAYLIGHT SAVING

   Select to enable (ON) or disable (OFF) this function.

2) START TIME / END TIME

   Set the start time and end time.

3) ADJUST

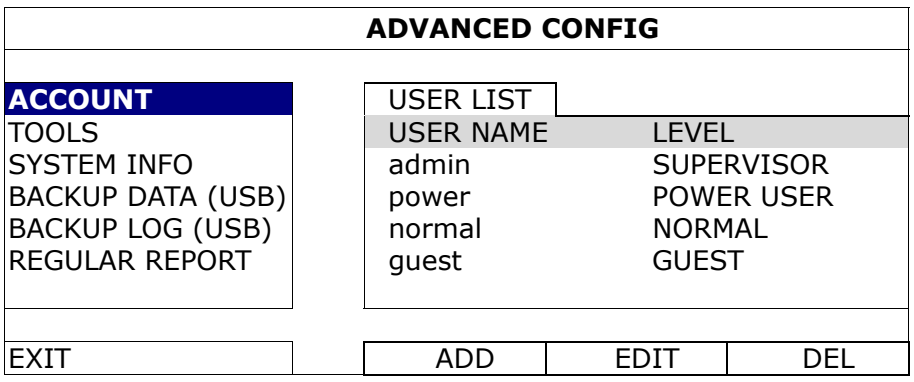
   Set the time in HOUR : MIN.

5.2 SYSTEM

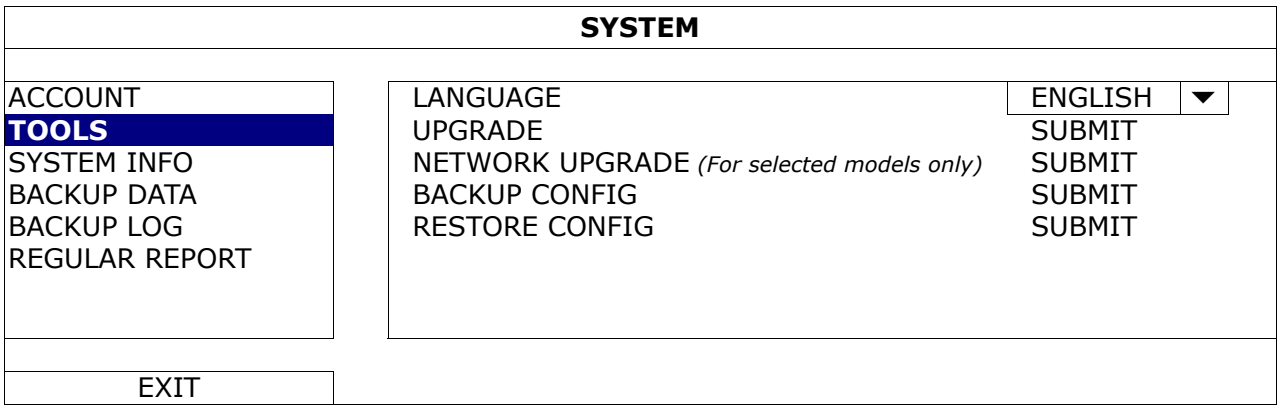
5.2.1 ACCOUNT

This function is used to create a new user account, or modify or delete an existing account for different access privilege.

Note: For details about available local operations of each user level, please refer to "4.2 User Level Creation" at page 15.



5.2.2 TOOLS



1) LANGUAGE

Select the language of the OSD.

2) UPGRADE

Save the upgrade files obtained from your installer or distributor in a compatible USB flash drive, and insert it into the USB port at the front panel. Then, click “SUBMIT” to start upgrading.

Note: Before using the USB flash drive, please use your PC to format the USB flash drive to FAT32 format first. For the list of compatible USB flash drives, please refer to “APPENDIX 6 COMPATIBLE USB FLASH DRIVE LIST” at page 91.

Note: After upgrading firmware, it’s recommended to clear all HDD data for the system to work more stably. Before clearing all HDD data, please remember to make video backup.

3) NETWORK UPGRADE *(For selected models only)*

Click “SUBMIT” for perform system upgrade via Internet.

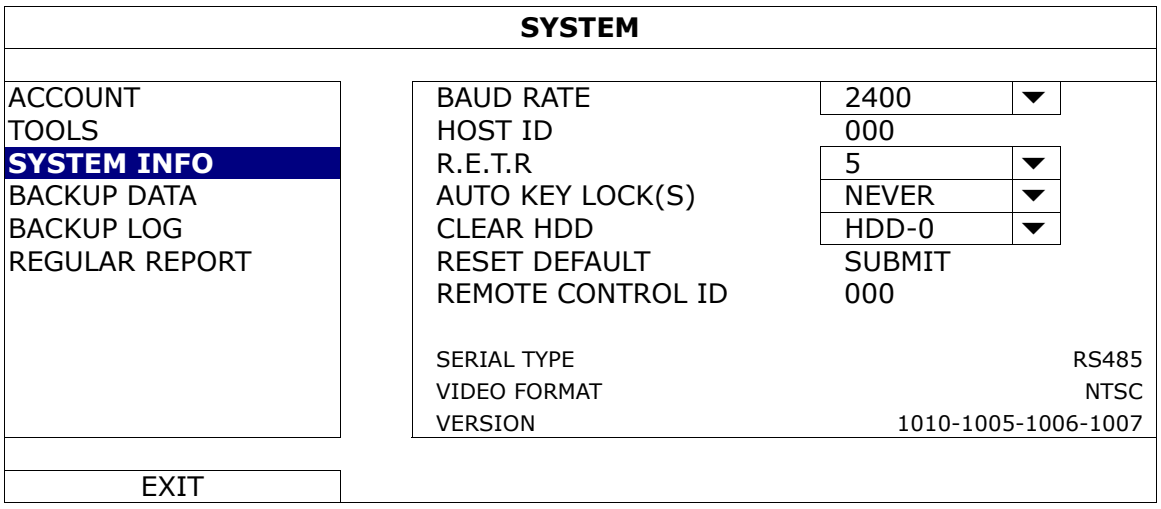
Note: This function requires Internet access. Please make sure your DVR is connected to Internet before using this function.

4) BACKUP CONFIG / RESTORE CONFIG

To keep the current configurations after DVR upgrade, insert a compatible USB flash drive into the USB port, and select “SUBMIT” in “BACKUP CONFIG” to copy the current DVR configurations to a file “System.bin” and save to your USB flash drive.

To restore the DVR configurations, insert the USB flash drive including “System.bin” to the USB port, and select “SUBMIT” in “RESTORE CONFIG”.

5.2.3 SYSTEM INFO



5) BAUD RATE

Set the baud rate of the DVR (2400 / 4800 / 9600 / 19200 / 38400 / 57600 / 115200).

6) HOST ID

Set the ID of the DVR (000 ~ 254).

7) R.E.T.R

Select the timeout in minute after which the R.E.T.R. function will be activated (3 / 5 / 10 / 30).

8) AUTO KEY LOCK(S)

Set the time-out in second after which the key lock function is activated (NEVER / 30 / 60 / 120).

9) CLEAR HDD

Select the HDD you want to clear, and click “YES” to confirm or “NO” to cancel.

It’s recommended to clear all data in the hard disk when:

- It’s the first time to use this DVR to ensure the recorded data are not mixed with other data previously saved in the same hard disk.
- The DVR firmware is upgraded for the system to work more stably. Before clearing all HDD data, please remember to make video backup.
- DVR date and time are changed accidentally when the recording function is activated. Otherwise, the recorded data will be disordered and you will not be able to find the recorded file to backup by time search.

10) RESET DEFAULT

Click “SUBMIT” to reset all settings as default, and select “YES” to confirm or “NO” to cancel. The DVR will reboot after reset.

11) REMOTE CONTROL ID

This function is available when users need to control two or more DVRs with one IR remote controller. The ID set here is used to identify the DVR the remote controller is going to control. Please also read the user manual of the IR remote controller for details.

12) SERIAL TYPE

Here shows the serial type of the DVR (RS-485).

13) VIDEO FORMAT

Here shows the information of the DVR video format (NTSC / PAL).

14) VERSION

Here shows the firmware version information.

5.2.4 BACKUP DATA

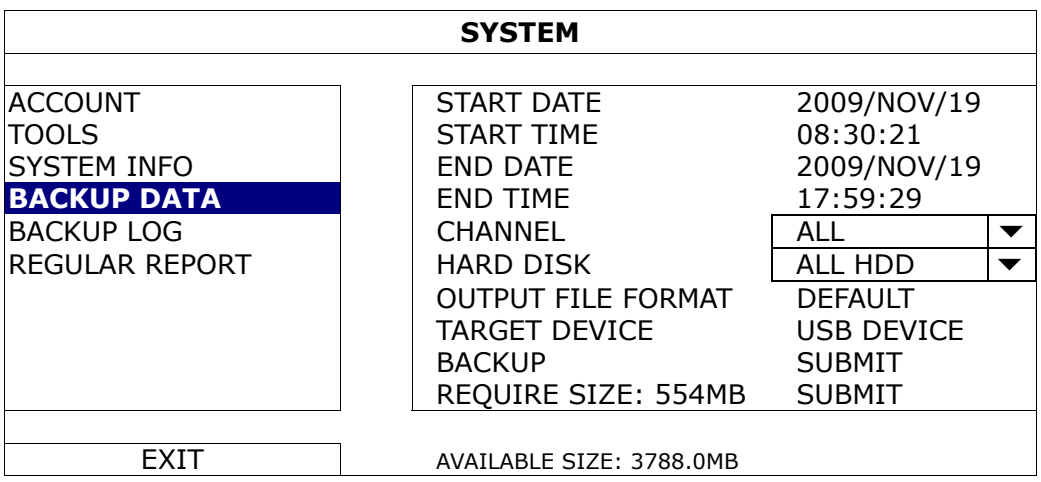
Note: It's **NOT** allowed to remove the hard disk installed in the DVR and connect it directly to your PC to check recorded video clips. It might impair the files saved in the hard disk, causing the loss of those files even when the disk is replaced back to the DVR.

Note: This function is available only when a hard disk is installed.

Insert a compatible USB flash drive to the USB port at the front panel, or press ⏏ to eject the DVD writer and place a DVD-R or CD-R to it.

Note: Copying video footage to CD / DVD is available only for selected models.

Note: Before using the USB flash drive, please use your PC to format the USB flash drive to FAT32 format first. For the list of compatible USB flash drives, please refer to "APPENDIX 6 COMPATIBLE USB FLASH DRIVE LIST" at page 91.



1) START DATE / START TIME

   Select the start date & time.

2) END DATE / TIME

   Select the end date & time.

3) CHANNEL

   Click to select the channel(s).

4) HARD DISK

   Select the hard disk containing the video data you need or "ALL HDD".

5) OUTPUT FILE FORMAT

   Select the file format for backup video: "DEFAULT" or "AVI".

   - When "DEFAULT" is selected, the copied video is saved to ".dv5", and you can only open it with our own video player on PC. For details, please check the next section, "Video Playback on PC".

Note: It's recommended to save the file to the default format for security reasons. Only specific video player supports the default format and not everyone can see the video footage.

   - When "AVI" is selected, the copied video will be converted to "avi", and you can open it with any media player which supports the "avi" format on PC.

6) TARGET DEVICE

   Select the device you want to use for video backup: "USB DEVICE" or "DVD DEVICE".

Note: "DVD DEVICE" is available for selected models only.

7) BACKUP

Click “SUBMIT” to start backup.

8) REQUIRE SIZE

To know the size of the expected backup video before backup, click “SUBMIT” to start calculating.

Video Playback on PC (.dv5)

For video backup with the format “.dv5”, you can only use our own player to play.

Note: It’s **NOT** allowed to remove the hard disk installed in the DVR and connect it directly to your PC to check recorded video clips. It might impair the files saved in the hark disk, causing the loss of those files even when the disk is replaced back to the DVR.

To play “.dv5” video on your PC:

Step1: Insert the USB flash drive or CD / DVD with recorded data into your PC.

Note: The supported PC operating systems are Windows 7, Vista & XP.

Step2: Find the program “PLAYER.EXE” in the USB flash drive, and double-click it to install.

Note: “PLAYER.EXE” can also be downloaded from www.surveillance-download.com/user/c700.swf.

Step3: Run the program, *VideoPlayer*, and browse to where you save the recorded data.

Step4: Select the file you want to start video playback.

Convert the file format to AVI:

To convert the video file format to AVI, click “AVI” from the playback panel to start file conversion.

Note: The recorded audio (if any) will be removed when the file format is converted to AVI.

Note: If the backup video includes data for multiple channels, click to a specific channel for this function to work properly.

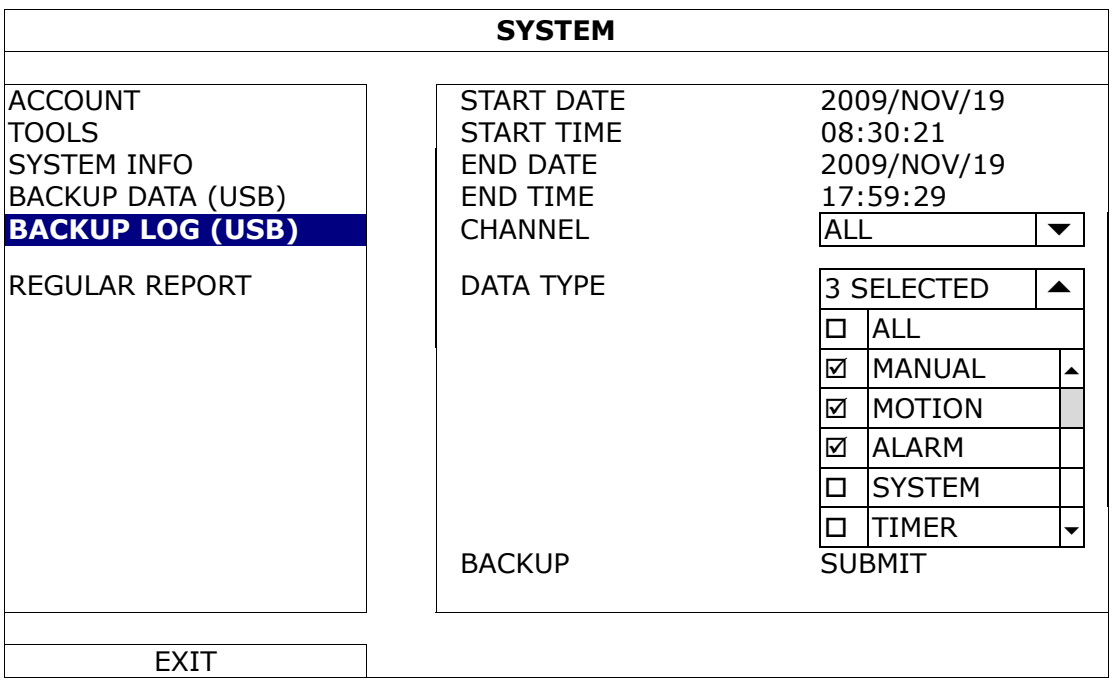
5.2.5 BACKUP LOG

This function is used to backup the event log.

Note: This function is available only when a hard disk is installed.

Insert a compatible USB flash drive to the USB port at the front panel.

Note: Before using the USB flash drive, please use your PC to format the USB flash drive to FAT32 format first. For the list of compatible USB flash drives, please refer to "APPENDIX 6 COMPATIBLE USB FLASH DRIVE LIST" at page 91.



1) START DATE / START TIME

Select the start date & time.

2) END DATE / TIME

Select the end date & time.

3) CHANNEL

Click to select the channel(s).

4) DATA TYPE

Click "SETUP" to select the event type you want: MANUAL / MOTION / ALARM / SYSTEM / TIMER / HUMAN DETECTION / INFLOW / OUTFLOW / VIRTUAL FENCE / ONEWAY / SENCE CHANGE, or select "ALL" to choose all event types.

Note: Some events are available only for selected models.

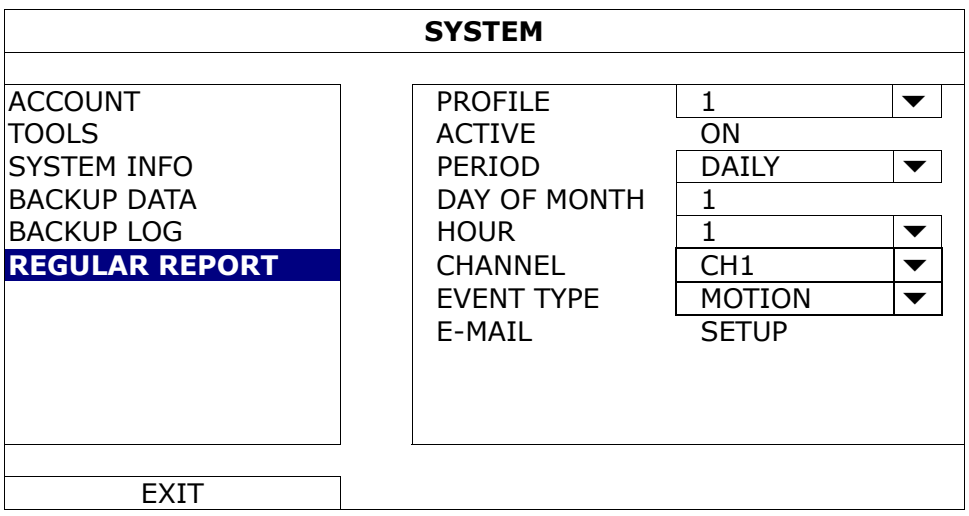
5) BACKUP

Click "SUBMIT" to start backup. You'll see a log file (.csv) in the flash drive. You may open it with any txt editor, such as NotePad.

5.2.6 REGULAR REPORT

This function is used to send event reports to the specified E-mail address. Users could configure up to 5 profiles to receive different reports about specific channels at different time.

Note: This function is available only when a hard disk is installed.



Step1: Select the profile you want to configure, and enable it.

Step2: Select the frequency to send reports in “PERIOD”: DAILY / MONTH / WEEK.

Step3: When MONTH or WEEK is selected, select which date or day from “DAY OF MONTH” or “DAY OF WEEK”.

Step4: Then, select which time you want to receive reports, which channel(s) you want to see, and which event type(s) you want to see (ALARM / MANUAL / MOTION / SYSTEM / TIMER / INFLOW / OUTFLOW / VIRTUAL FENCE / ONEWAY / SCENE CHANGE / HUMAN DETECTION).

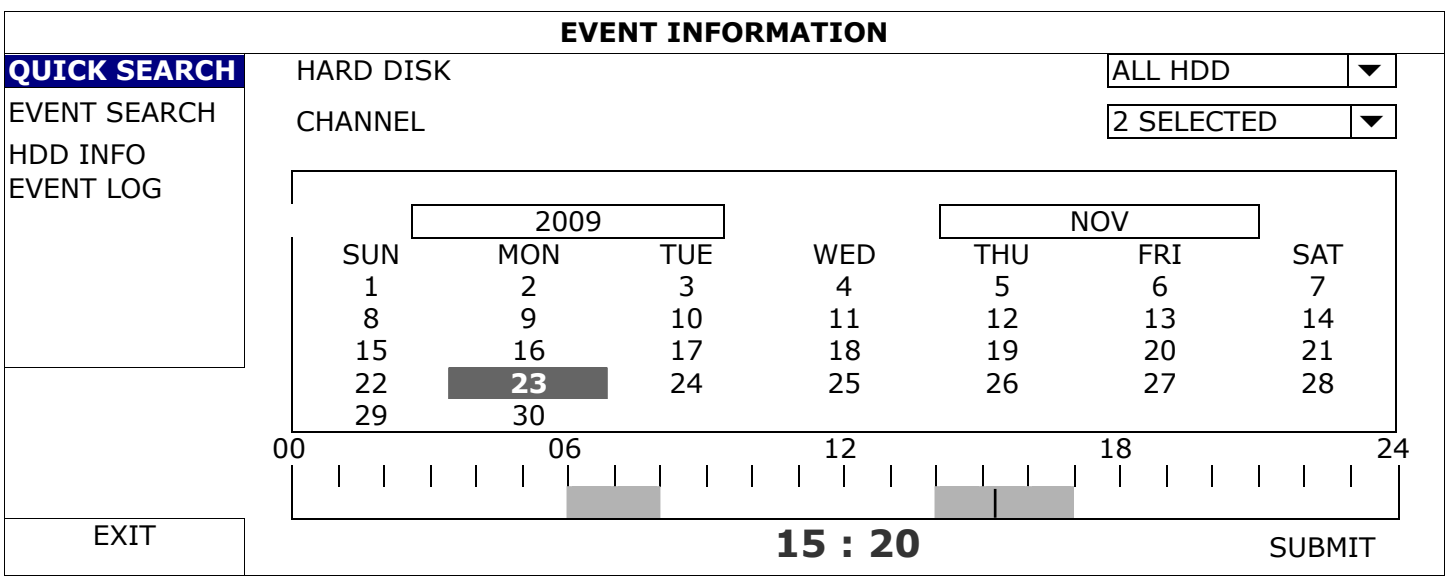
Note: Some event types are available only for selected models.

Step5: Configure the email address to receive reports.

Note: The sender E-mail should be configured in “ADVANCED CONFIG” → “NETWORK” → “E-MAIL” for this function to work properly. For details, please refer to “E-MAIL” at page 36.

5.3 EVENT INFORMATION

5.3.1 QUICK SEARCH



Step1: Select the hard disk and channel including the video data you want to search.

Step2: Select the year and month including the video data you want to search from the calendar, and the date with recorded data will be highlighted.

Note: To select the year and month, move your mouse to the display bar. Then, click and hold to drag up or down.

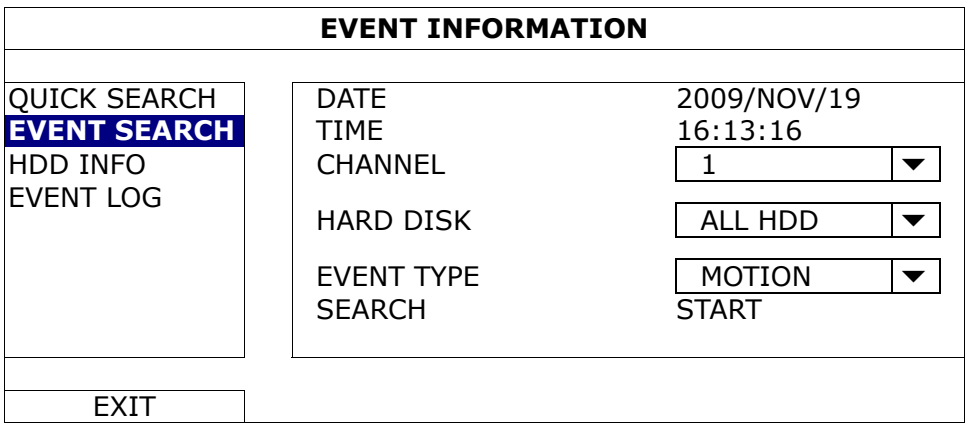
Step3: Select the date you want from the calendar, and the time with recorded data will be highlighted from the time scale bar.

Step4: To immediately play the video clip, click “SUBMIT”.

To choose the start time for video playback, move your mouse cursor to the highlighted time, and click to confirm the time when the time display below is the time you want. The video playback is activated right away when you confirm the time.

Note: For video playback operations, please refer to “4.4 Playback” at page 17.

5.3.2 EVENT SEARCH



1) DATE / TIME

Select the specific time period that you want to search.

2) CHANNEL

Select the video channel you want to search.

3) HARD DISK

Select the hard disk including the video data you want to search, or select “ALL HDD”.

4) EVENT TYPE

Select the event type you want to search, or select “ALL” to choose all events.

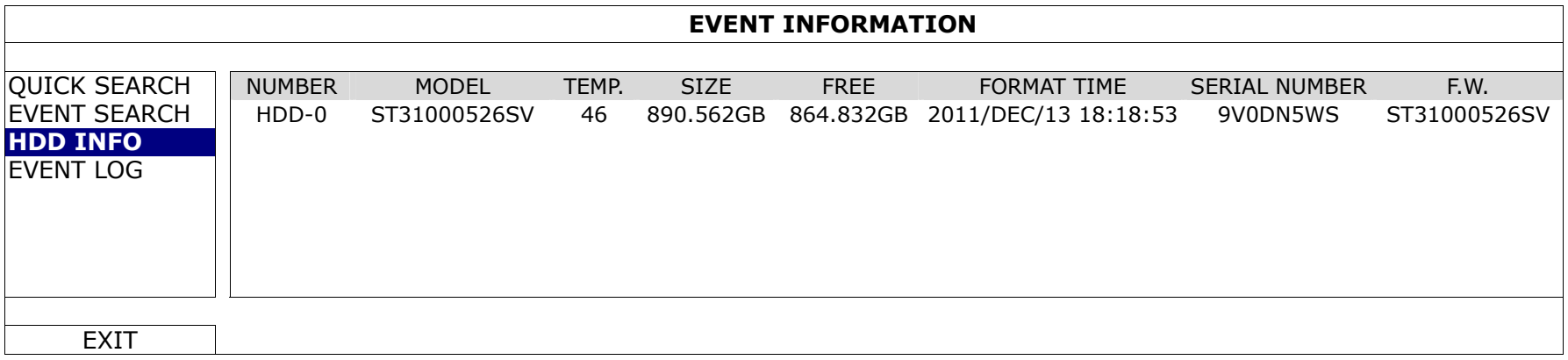
Note: Some events are available only for selected models.

5) SEARCH

Click “START” to start search and play the video data immediately.

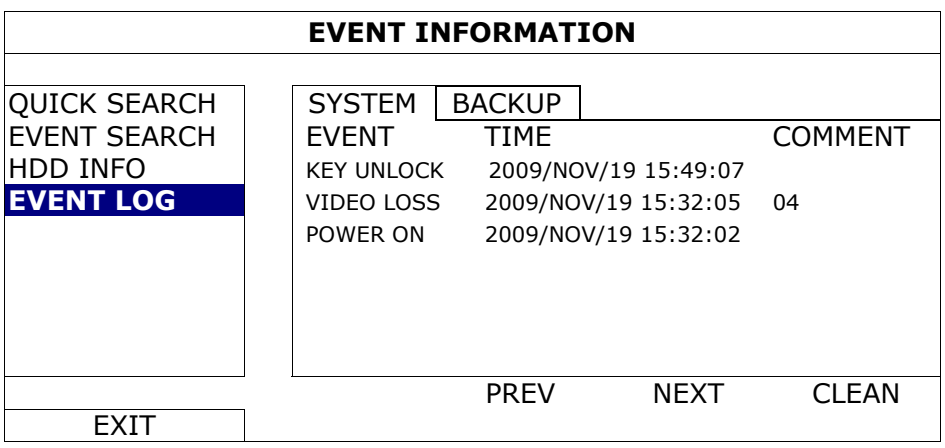
5.3.3 HDD INFO

You can check the remaining capacity of the connected HDD in this device.



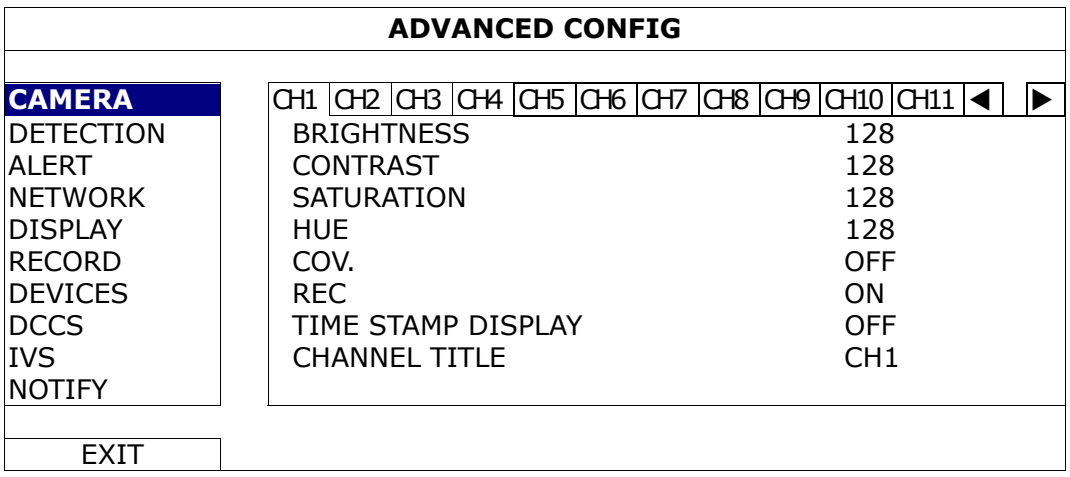
5.3.4 EVENT LOG

You can check all system events (SYSTEM) and backup logs (BACKUP), or clear all log records.



5.4 ADVANCED CONFIG

5.4.1 CAMERA



1) BRIGHTNESS / CONTRAST / SATURATION / HUE

   Click the current value to manually adjust the brightness/contrast/saturation/hue of each channel here. .

2) COV.

   Select if you want to mask the selected channel under recording (ON / OFF). When this function is activated, the wording "COV." will be shown on the channel screen.

Note: To hide the wording "COV." When this function is on, go to "DISPLAY", and set "DISPLAY COVERT" to "OFF". For details, please refer to "5.4.5 DISPLAY" at page 36.

3) REC

Select if you want to enable recording for the selected channel (ON / OFF).

Note: When this function is disabled, no manual, event or timer recording will be activated even if any of these three record functions is set to "ON".

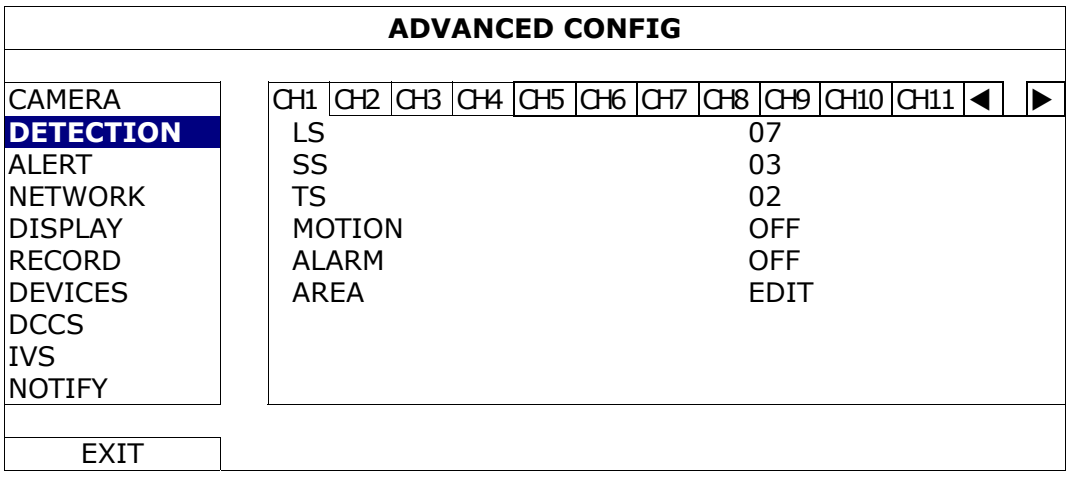
4) TIME STAMP DISPLAY

Enable this function and the recording time will be shown on the video during video playback.

5) CHANNEL TITLE

Click the channel title column to change the channel title (up to 12 characters). The default title is the channel number.

5.4.2 DETECTION



1) LS (Level of Sensitivity)

"LS" is to set the sensitivity of comparing two different images. The smaller the value is, the higher sensitivity for motion detection. The highest sensitivity setting is 00, and the lowest sensitivity setting is 15. The default value is 07.

2) SS (Spatial Sensitivity)

"SS" is to set the sensitivity for detecting the size of one object (the number of the grids) on the screen. The smaller the value is, the higher sensitivity for motion detection.
The highest sensitivity setting is 00, and the lowest sensitivity setting is 15. The default setting is 03.

Note: The default setting of SS is 03, which means once an object is detected more than 3 grids, the system will get triggered. So the value of SS must be less than the number of grids that you set up for the motion detection area.

3) TS (Time of Sensitivity)

"TS" is to set the sensitivity regarding how long one object stays in the detection area and triggers the recording. The smaller the value is, the higher sensitivity for motion detection.
The highest sensitivity setting is 00, and the lowest sensitivity setting is 15. The default setting is 02.

4) MOTION

Select if you want to activate the motion detection function for the selected channel (ON/OFF).

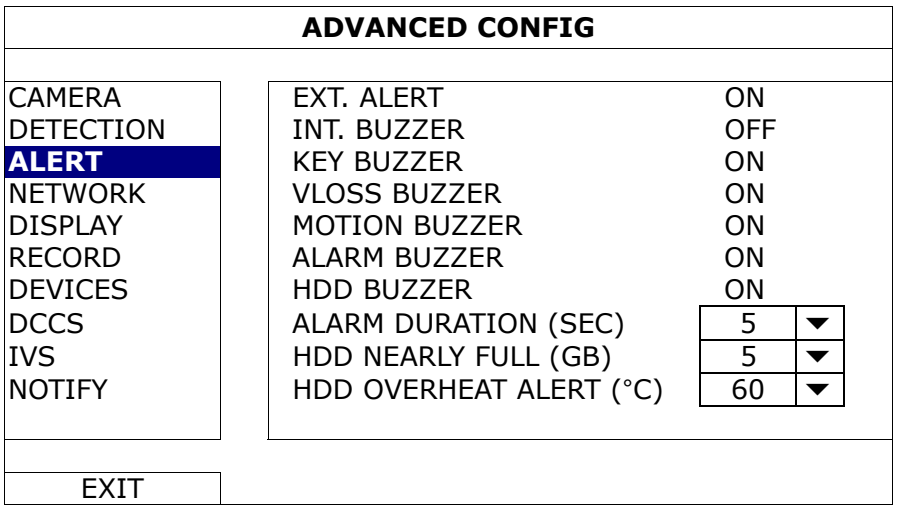
5) ALARM

Select N.C./ N.O depending on your installation need. The default alarm value is OFF.

6) AREA

Click "EDIT" to set the motion detection area.
There are 16 × 12 grids per camera for all channels. Pink blocks represent the area that is not being detected while the transparent blocks are the area under detection.

5.4.3 ALERT



1) EXT. ALERT

Select to enable or disable the sound when any external alarm is triggered (ON / OFF).

2) INT. BUZZER

Select to enable or disable the sound (ON / OFF) for all internal buzzers: KEY BUZZER, VLOSS BUZZER, MOTION BUZZER, ALARM BUZZER, and HDD BUZZER.

Note: When this item is set to "OFF", item 3) to item 7) will be disabled even though they are set to ON.

3) KEY BUZZER

Select to enable or disable the sound when pressing the buttons on the front panel (ON / OFF).

4) VLOSS BUZZERD

Select to enable or disable the sound when video loss happened (ON / OFF).

5) MOTION BUZZER

Select to enable or disable the sound when any motion alarm is triggered (ON / OFF).

6) ALARM BUZZER

Select to enable or disable the sound when any internal alarm is triggered (ON / OFF).

7) HDD BUZZER

Select to enable or disable the sound (ON / OFF) when the HDD remaining capacity reaches to the value set in "HDD NEARLY FULL (GB)".

8) ALARM DURATION (SEC)

Select the duration time for alarm buzzer in second (5 / 10 / 20 / 40).

9) HDD NEARLY FULL (GB)

If HDD BUZZER is enabled, select the duration time for buzzer notifications when the hard disk available capacity is 5/10/15/20 GB left.

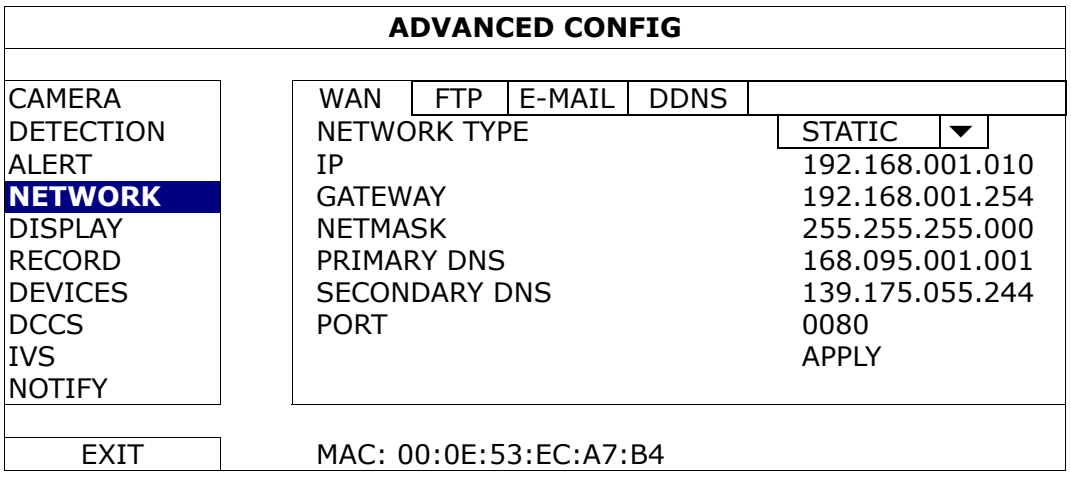
10) HDD OVERHEAT ALERT (°C)

Select the temperature alert for your hard disk to be aware of the possible overheat of your hard disk.

5.4.4 NETWORK

NETWORK

- **STATIC**



1) NETWORK TYPE

Select the network type as STATIC and set all the information needed in the DVR.

2) NETWORK INFORMATION (IP / GATEWAY / NETMASK)

Key in all the network information obtained from your ISP (Internet Service Provider).

3) DNS (PRIMARY DNS / SECONDARY DNS)

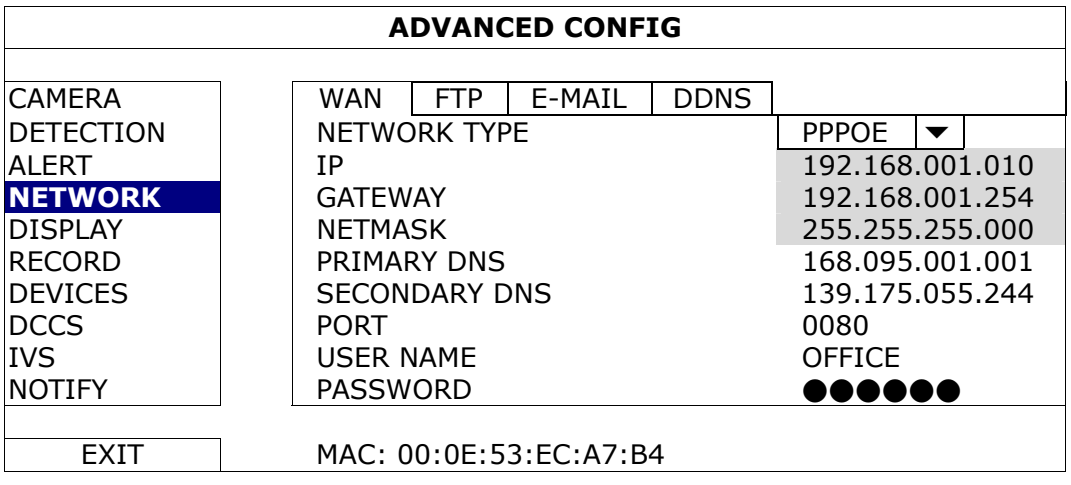
Key in the IP address of the domain name server obtained from your ISP (Internet Service Provider).

4) PORT

The valid number ranges from 1 to 9999. The default value is 80. Typically, the TCP port used by HTTP is 80. However in some cases, it is better to change this port number for added flexibility or security.

- **PPPOE**

Note: When PPPOE configuration is completed, please move to "DDNS" to configure the DDNS service.



1) NETWORK TYPE

Select the network type as PPPOE and set all the information needed in the DVR.

2) DNS (PRIMARY DNS / SECONDARY DNS)

Key in the IP address of the domain name server obtained from your ISP (Internet Service Provider).

3) PORT

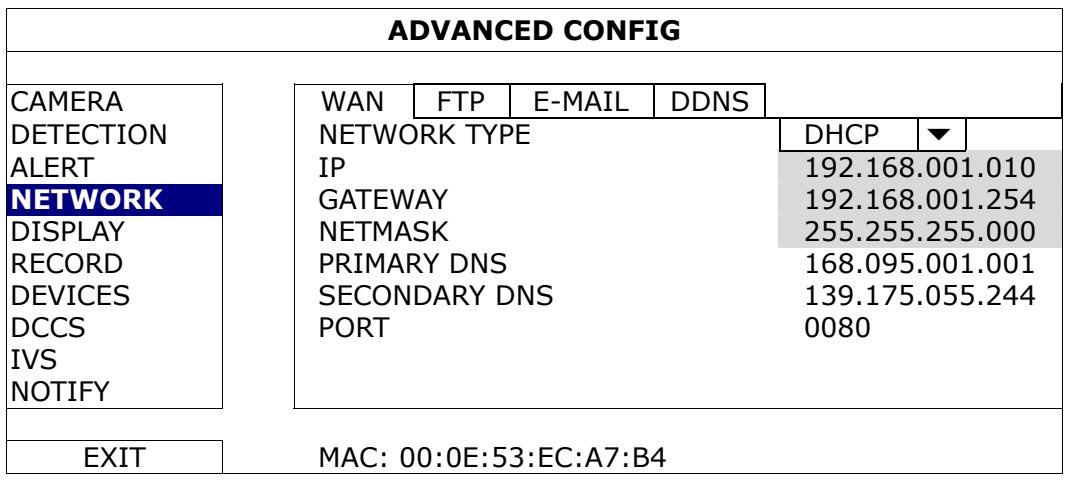
The valid number ranges from 1 to 9999. The default value is 80. Typically, the TCP port used by HTTP is 80. However in some cases, it is better to change this port number for added flexibility or security.

4) USER NAME / PASSWORD

Set “username” and “password” subscribed from your ISP supplier

➢ DHCP

Note: When DHCP configuration is completed, please move to “DDNS” to configure the DDNS service.



1) NETWORK TYPE

Select the network type as DHCP.

2) DNS (PRIMARY DNS / SECONDARY DNS)

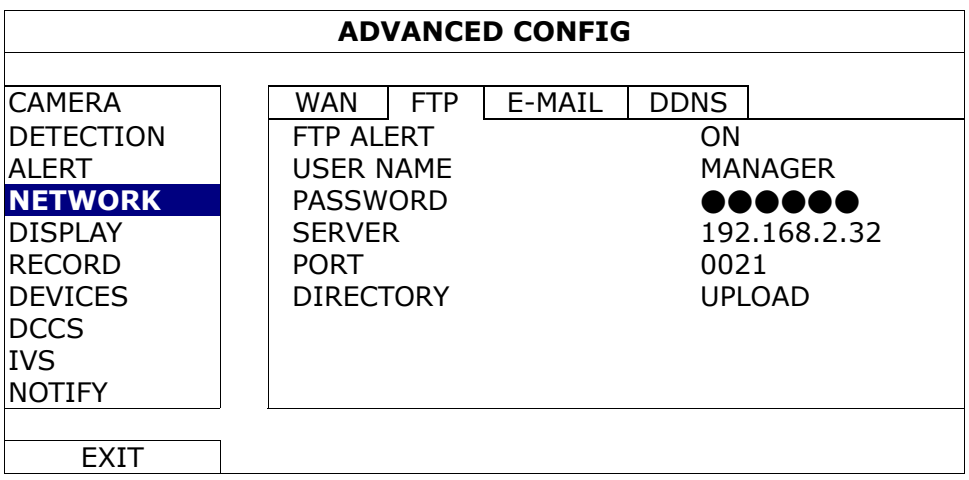
Key in the IP address of the domain name server obtained from your ISP (Internet Service Provider).

3) PORT

The valid number ranges from 1 to 9999. The default value is 80. Typically, the TCP port used by HTTP is 80. However in some cases, it is better to change this port number for added flexibility or security.

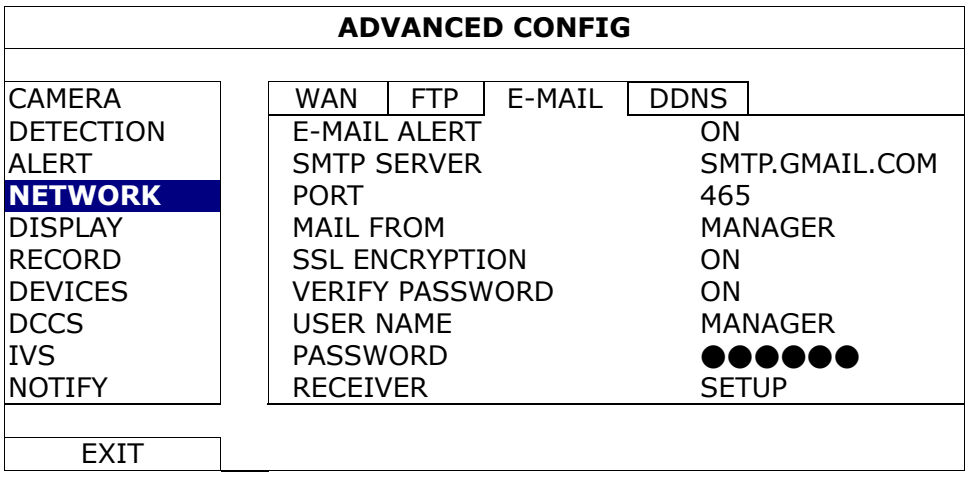
FTP

When this function is enabled and an event occurs, a html file including a link will be sent to the specified FTP site. Click the link to access to this DVR and check the event recording.



E-MAIL

When this function is enabled and an event occurs, a html file including a link will be sent to the specified E-mail address. Click the link to access to this DVR and check the event recording.



1) E-MAIL ALERT

   Select “ON” to enable this function, or “OFF” to disable this function.

2) SMTP SERVER

   Enter the SMTP server address provided from your e-mail system supplier.

3) PORT

   Enter the port number provided from your e-mail system supplier. If this column is left blank, the e-mail server will use port 25 to send e-mails.

4) MAIL FROM

   Enter the sender’s name.

5) SSL ENCRYPTION

   Select “ON” if your e-mail server is using SSL encryption to protect your e-mail content from unauthorized access.

6) VERIFY PASSWORD

   Some mail servers are required to verify the password. Please enter the “user name” and “password”.

7) USER NAME / PASSWORD

   Enter the “user name” and “password” when “VERIFY PASSWORD” is set to “ON”.

8) RECEIVER

   Select “SETUP” to add up to 15 e-mail addresses of the assigned recipients.

DDNS

You need to additionally set DDNS when your network type is PPPOE or DHCP.

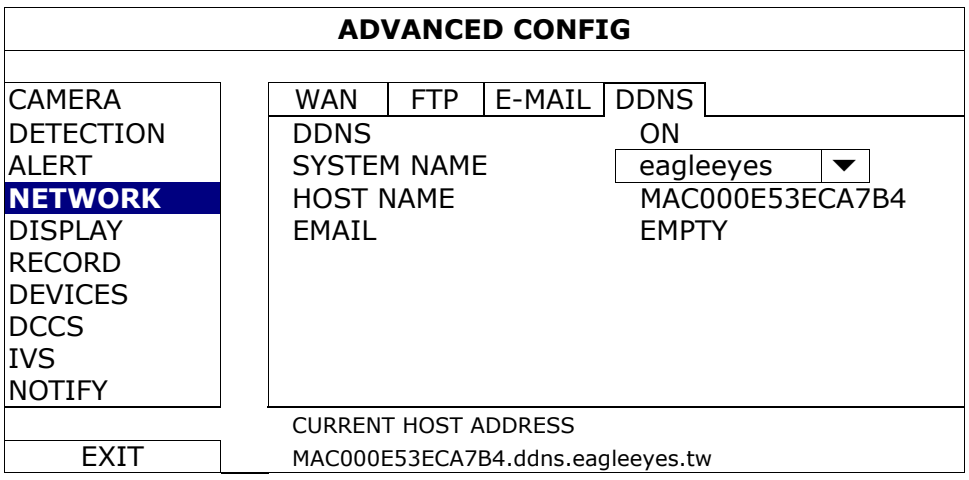
We have our own DDNS server for quick DDNS service configuration. You don’t need to additionally apply a DDNS service.

- To use our own DDNS server, select “eagleeyes” in “SYSTEM NAME”.
- The default host name is the MAC address of the DVR.
  Then, note down the whole address under “CURRENT HOST ADDRESS”, such as *MAC000E53ECA7B4.ddns.eagleeyes.tw*. This is the default IP address used to access your DVR remotely.

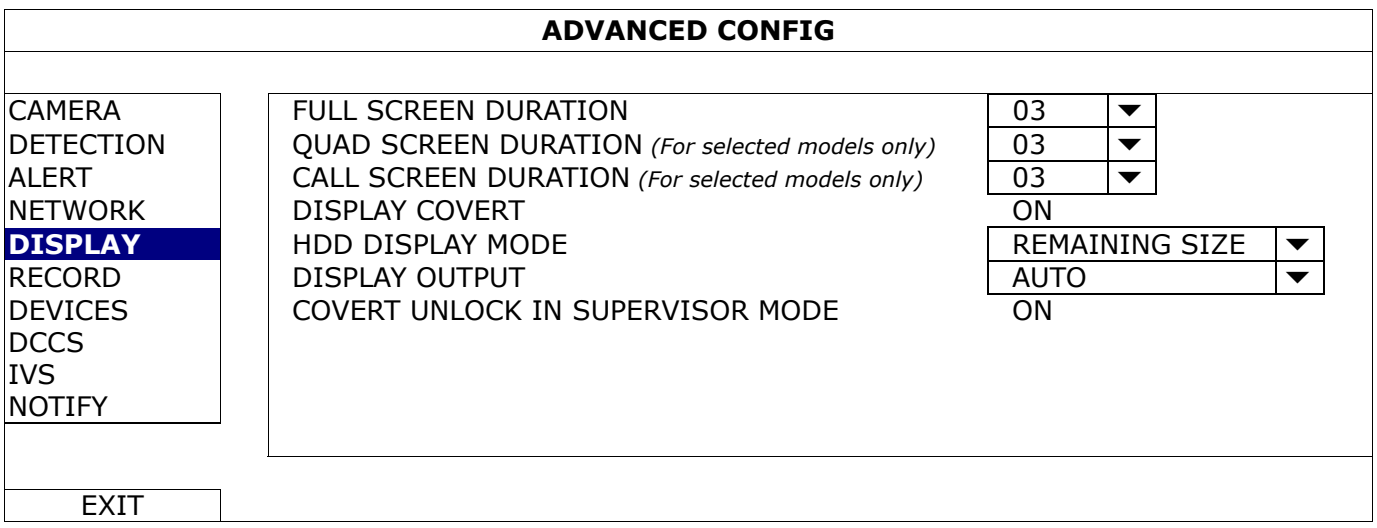
Note: Please at least use the default address to access your DVR remotely once. This is to ensure our DDNS server has your DVR registered. Then, you may change the host name to a more meaningful name to memorize later here.

- (Optional) Enter your email address to receive our DDNS server notification if any.

Note: If you want to additionally apply a DDNS service instead of using ours, please refer to www.surveillance-download.com/user/CMS.pdf and check "Appendix 2" for details.



5.4.5 DISPLAY



1) FULL SCREEN DURATION

   Select the full screen dwell duration time in second (03 / 05 / 10 / 15).

2) QUAD SCREEN DURATION *(For selected models only)*

   Select the quad screen dwell duration time in second (03 / 05 / 10 / 15).

3) CALL SCREEN DURATION *(For selected models only)*

   Select the duration time in second for the CALL monitor function (03 / 05 / 10 / 15).

4) DISPLAY COVERT

   Select "ON" or "OFF" to display or hide the wording "COV." When covert recording is activated in "CAMERA".

5) HDD DISPLAY MODE

   Select "REMAINING SIZE" to show the remaining HDD capacity for recording in GB, "REMAINING TIME" to show the remaining recording time, or "DAYS KEPT" to show how many recording data are saved in day.

6) DISPLAY OUTPUT

   Select the display resolution you want. There are three options as follows:

   - AUTO (default)
   - 1920 x 1080
   - 1024 x 768

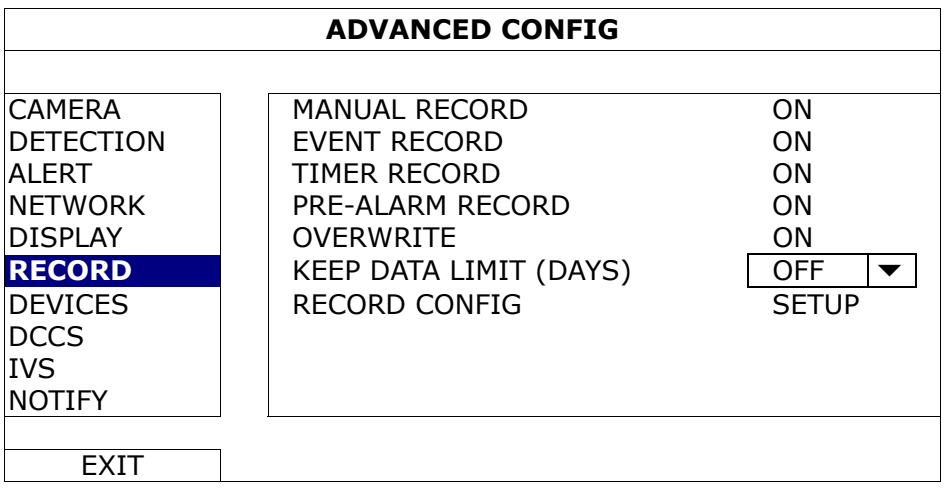
Note: To have the best image quality on your monitor, make sure (1) the selected DVR output resolution is supported by your monitor, and (2) the output settings on both the LCD monitor and DVR are consistent.
If the image is not positioned or scaled properly, please go to your monitor's menu for adjustment. For details, please refer to the user manual of your monitor.

7) COVERT UNLOCK IN SUPERVISOR MODE

Enable this function to allow the supervisor user to see live view even when the channel is set “COV.” to “ON” in “ADVANCED CONFIG” → “CAMERA”.

5.4.6 RECORD

Note: Please DO NOT change the date or time of your DVR after the recording function is activated. Otherwise, the recorded data will be disordered and you will not be able to find the recorded file to backup by time search. If users change the date or time accidentally when the recording function is activated, it’s recommended to clear all HDD data, and start recording again.



1) MANUAL RECORD

Set the manual recording function on / off.

2) EVENT RECORD

Set the event recording function on / off.

3) TIMER RECORD

Set the timer recording function on / off.

4) PRE-ALARM RECORD

Select to enable or disable the pre-alarm function (ON / OFF).
When pre-alarm and event recording functions are both activated, the DVR will record 8MB data before an alarm / motion event is triggered.

5) OVERWRITE

Select “ON” to overwrite previous recorded data in your hard disk when the hard disk is full. When this function is on and the hard disk is full, the DVR will clear 8GB data from the oldest for continuous recording without notice.

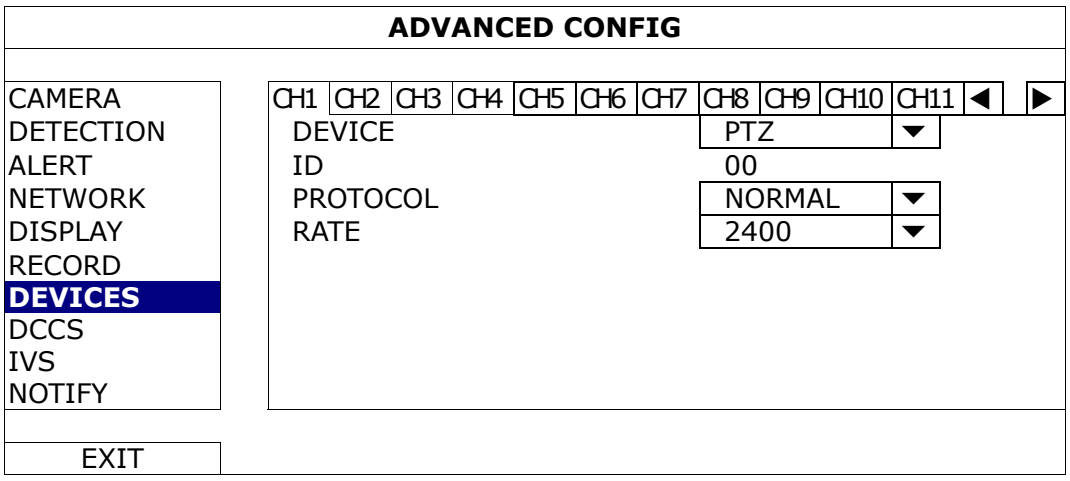
6) KEEP DATA LIMITS (DAYS)

Assign the maximum recording days from 01 to 31 after which all the recorded data will be removed, or select “OFF” to disable this function.

7) RECORD CONFIG

Click “SETUP” to enter the setting page individually for manual record, event record and timer record.
For details, please refer to “5.1.1 GENERAL” at page 21.

5.4.7 DEVICES



1) DEVICE

For the PTZ camera, select “PTZ”.

For a zoom lens control camera:

The DVR will detect it automatically and display its model number here.

To configure the parameters for a zoom lens control camera, please refer to “5.4.8 DCCS” at page 39. Different zoom lens control cameras might have different parameter settings. For details, please refer to their own user manuals.

2) ID

Click the current value to set the ID number (0 ~ 255) for the connected PTZ camera if necessary.

Make sure the ID setting of the camera is the same as the setting here, or the DVR will not be able to control the device.

Note: To know the default ID of the PTZ camera, please refer to its user manual.

3) PROTOCOL

Select NORMAL (our protocol), P-D (PELCO-D) or P-P (PELCO-P) protocol.

4) RATE

Select the baud rate for the connected PTZ camera (2400 / 4800 / 9600 / 19200 / 38400 / 57600 / 115200).

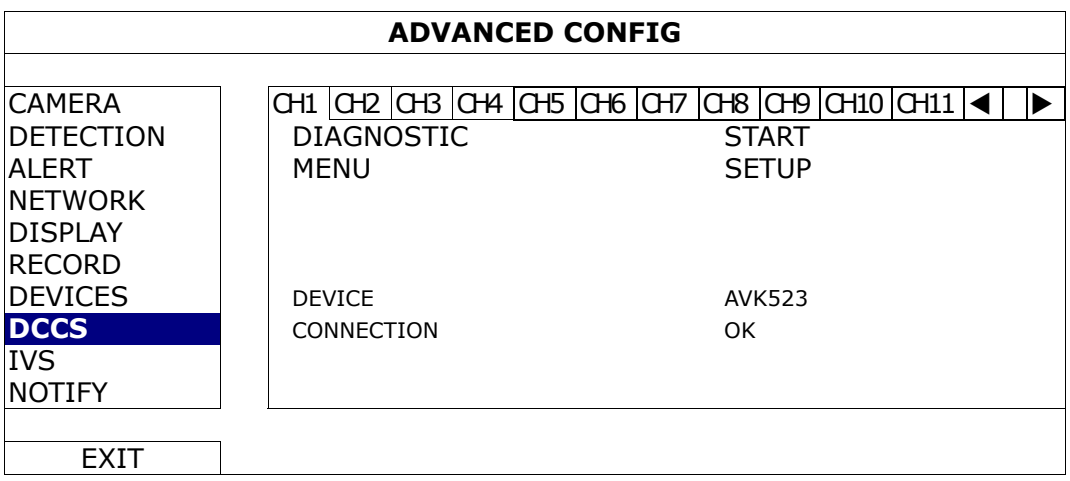
Make sure the baud rate setting of the camera is the same as the setting here, or the DVR will not be able to control the device.

Note: To know the default baud rate of the PTZ camera, please refer to its user manual.

5.4.8 DCCS

Note: This function is for selected models only.

Note: DCCS is supported only for CH1. Make sure you’ve connected a DCCS-enabled camera to the video channel of CH1, and you see “ ” in the channel status bar.



1) DIAGNOSTIC

Click “START” to start examining the DCCS signal transmission between the DVR and the camera. The result will display in “CONNECTION”.

2) MENU

Click “SETUP” to configure the connected zoom lens control camera.
Different zoom lens control cameras might have different parameter settings. For details, please refer to their own user manuals.

Note: While configuring the camera parameters, the DVR will switch to the corresponding channel, and you can simultaneously preview the effects for the settings.

3) DEVICE

Here shows the model number of the camera.

4) CONNECTION

Here shows the examining result for DCCS signal transmission between the DVR and camera. The message is as follows:

MESSAGE SHOWN	MEANING
CHECKING	The DVR is checking the DCCS signal transmission between the DVR and camera.
OK	The signal transmission is fine and the DCCS function works properly.
FAIL	The signal transmission is too weak or not available for the DCCS function to work properly.

5.4.9 IVS

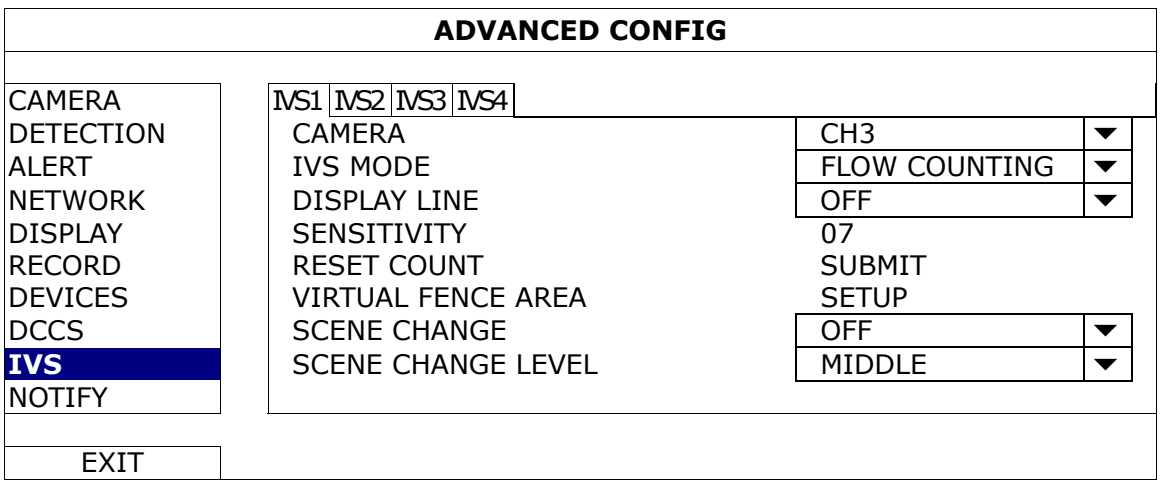
Note: This function is for selected models only.

Note: Before using the IVS function, make sure the event record function is enabled on your DVR.

IVS, Intelligent Video Surveillance, is the advanced application for motion detection, but more precise and smarter. It can be applied to different situations with one of the following three modes: FLOW COUNTING, VIRTUAL FENCE, and ONE WAY.

When anyone crosses the detection line (virtual fence), the recording will be on.

Note: Four camera channels are supported for this function.



1) CAMERA

Select the camera channel that you want to use the IVS function.

2) IVS MODE

Select one of the following three modes depending on your environment:

MODE	DESCRIPTION
FLOW COUNTING	A virtual detection line is set to detect the moving direction of pedestrians for flow counting.
VIRTUAL FENCE	A virtual detection line is set to detect intruders crossing the detection line, and an alarm will be triggered.
ONE WAY	A virtual detection line is set to detect intruders from the specified direction, and an alarm will be triggered.

3) DISPLAY LINE

Select to display the detection line for IVS on the screen or not.

4) SENSITIVITY

Set the sensitivity for IVS from 00 ~ 15. The larger the value, the more sensitive the IVS will be.

5) RESET COUNT

Click “SUBMIT” to reset the flow counting number to 0 when the IVS mode is set to “FLOW COUNTING” and activated.

6) VIRTUAL FENCE AREA

Click “SETUP” to draw the detection line for IVS, and set the detection direction from left to right, or right to left. This area setting is the detection base for IVS MODE.

Note: There are some tips to draw the detection line. For details, please check www.surveillance-download.com/user/IVS_setup.pdf**.**

---

7) SCENE CHANGE

Select “ON” to trigger a motion event when the camera is sensed to be moved and the camera scene is changed. At the same time, the icon “ ” will be also shown on the screen in addition to the motion icon “ ”.

8) SCENE CHANGE LEVEL

Set the detection sensitivity for “SCENE CHANGE” to “HIGH”, “MIDDLE” or “LOW”.

IVS APPLICATION

➢ FLOW COUNTING

Step1: Go to “VIRTUAL FENCE AREA” to draw a detection line with your mouse, and decide the detection direction by selecting “REVERSE”.

Step2: Finish the IVS setting and return to the live view. The IVS icon “ ” will be shown on the status bar. Click it to show the flow counting panel as follows.

When anyone walks across the detection line, the system will determine his movement is in or out, and add one count to the corresponding channel on the flow counting panel.

IN	People coming from the opposite direction to the arrow mark.
OUT	People coming from the same direction as the arrow mark.

➢ VIRTUAL FENCE and ONE WAY

Step1: Go to “VIRTUAL FENCE AREA” to draw a detection line with your mouse, and decide the detection direction by selecting “REVERSE”.

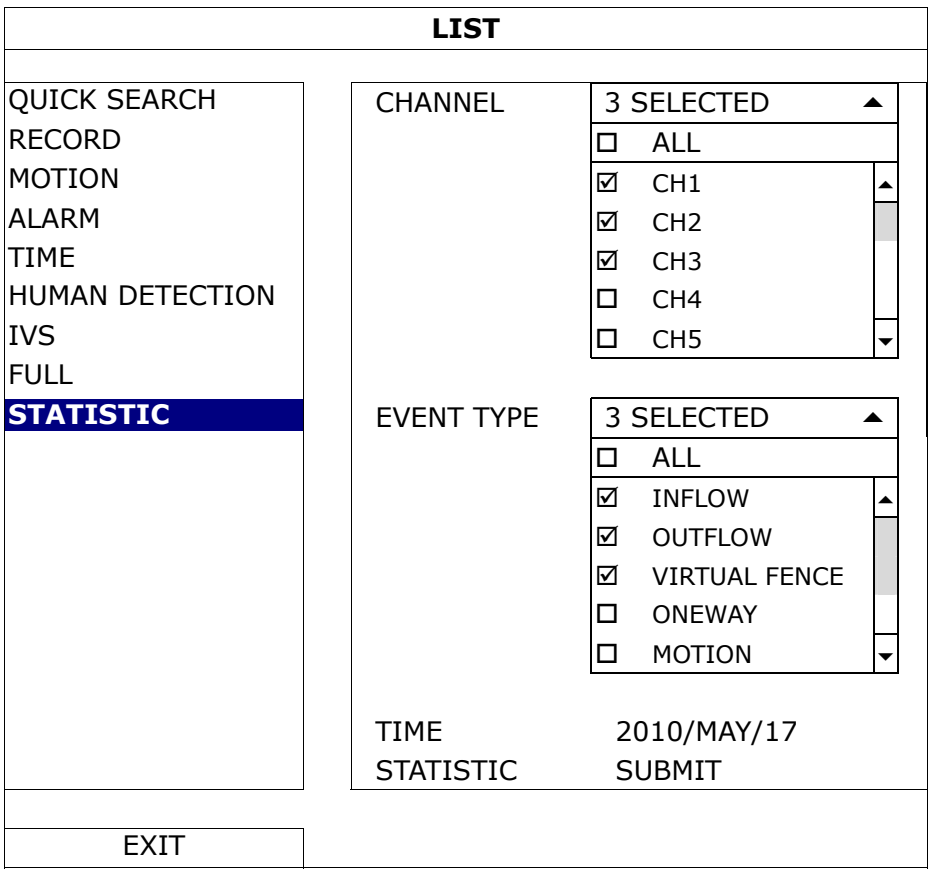
Step2: Finish the IVS setting and return to the live view.

When anyone walks across the detection line, the system will determine his movement is in or out, and:

VIRTUAL FENCE	An event happens for anyone walking across the detection line, and “” will be shown on the screen.
ONE WAY	An event happens for anyone walking from the opposite direction to the arrow mark, and “” will be shown on the screen.

IVS STATISTICS

Press “LIST” on the DVR front panel, or click “” → “” to enter the event search menu. Then, select “STATISTIC”



Set all the criteria you want to search, and click “SUBMIT” in “STATISTIC” to show the event statistics by DAY in LIST (default) or CHART.

- To check the statistics in the bar chart, click “CHART”.
- To switch to the MONTH or HOUR view, click “DAY” at the bottom.

List View

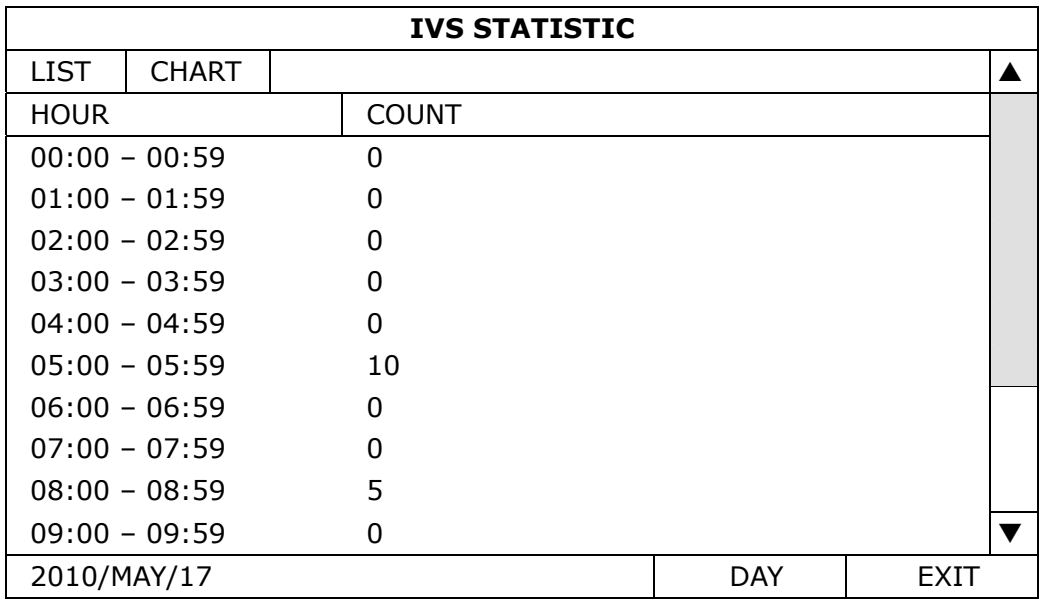
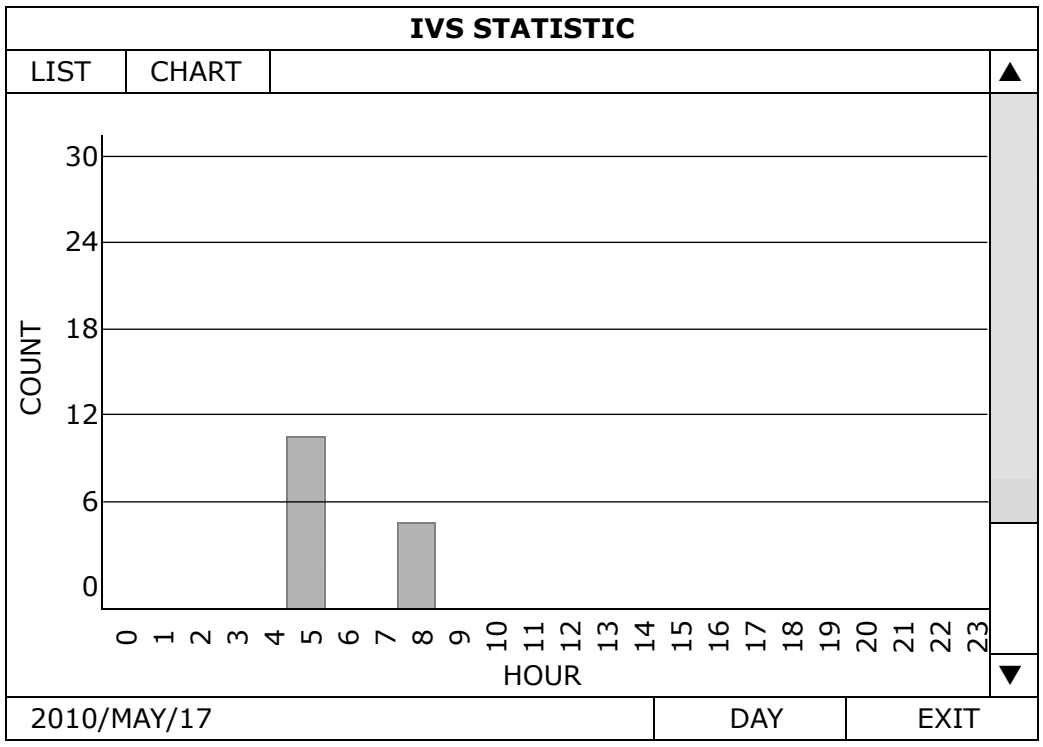


Chart View



5.4.10 NOTIFY

You can configure this DVR to send notifications for certain events to mobile devices with our mobile app, EagleEyes, installed, or to the specified E-mail address(es).

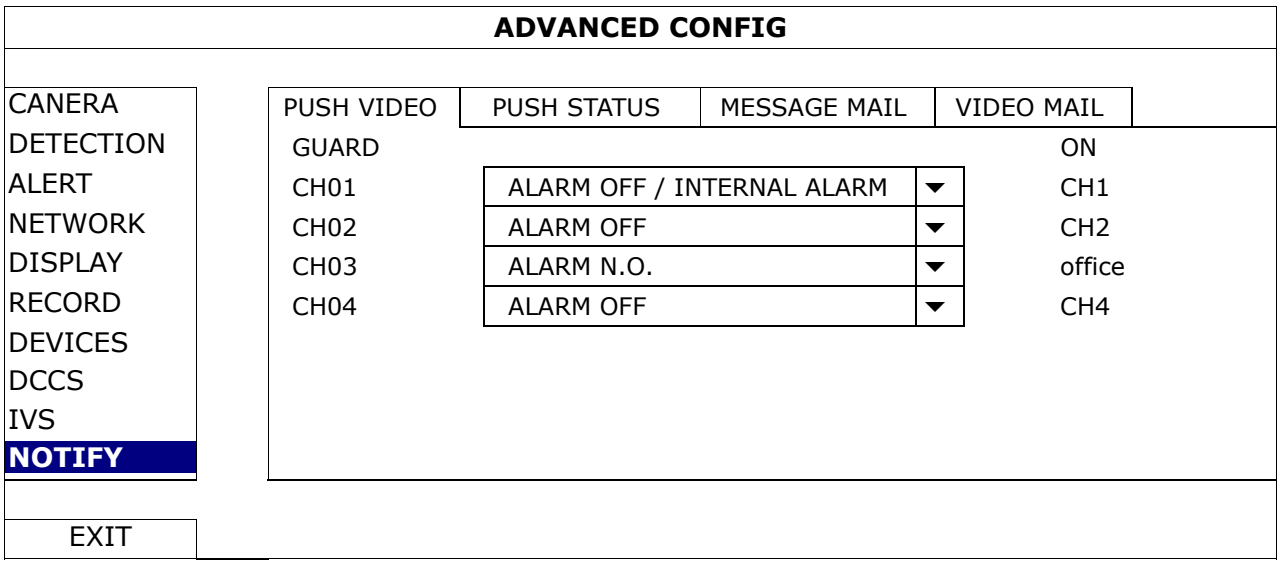
PUSH VIDEO

Note: This function is for selected models only, and the supported channels depend on the model you have.

Before using this function, make sure:

- An external alarm is connected to PUSH VIDEO Alarm in terminal on the rear panel.
- You have a iPhone, iPad, or Android mobile phone or tablet.
- You have subscribed the mobile network service from your mobile service provider.
- The mobile app, EagleEyes, is installed in your mobile device. For details, please refer to “APPENDIX 4 MOBILE SURVEILLANCE VIA EAGLEEYES” at page 88.
- You have configured EagleEyes to access this DVR, and Push Video is enabled. For details, please refer to “APPENDIX 5 SET PUSH VIDEO” at page 89.

You’ll get an active event notification with video telling you the occurrence of alarm event(s).



1) GUARD

Select to enable or disable Push Video function (ON / OFF).

Select to activate the Push Video function (ON / OFF). Or it could also be activated later from your iPhone, iPad or Android mobile device.

Note: For details about DVR operations from your mobile device, please visit http://www.eagleeyescctv.com.

2) ALARM TYPE

Select the external alarm type to “ALARM NO.” or “ALARM N.C.”
For CH01, there’s one more option of “INTERNAL ALARM”. This option should be selected only when the camera connected to CH1 is a human detection camera.

3) CH1 ~ 4

Enter the text you want to see when your iPhone, iPad or Android mobile device receives Push Video. The default text is the channel number.

PUSH STATUS

Note: This function is for selected models only.

Before using this function, make sure:

- You have iPhone, iPad, or Android mobile phone or tablet.
- You have subscribed the mobile network service from your mobile service provider.
- The mobile app, EagleEyes, is installed in your mobile device. For details, please refer to “APPENDIX 4 MOBILE SURVEILLANCE VIA EAGLEEYES” at page 88.
- You have configured EagleEyes to access this DVR, and Push Video is enabled. For details, please refer to “APPENDIX 5 SET PUSH VIDEO” at page 89.

You’ll get a text message telling you the occurrence of selected system event(s).

ADVANCED CONFIG

	PUSH VIDEO	PUSH STATUS	MESSAGE MAIL	VIDEO MAIL	
CANERA	ACTION		ON		
DETECTION	EVENT		☐ ALL		
ALERT			☑ VIDEO LOSS		
NETWORK			☐ HDD FULL		
DISPLAY			☐ POWER ON		
RECORD			☑ HDD (CLEAR / NO HDD / OVER TEMPERATURE)		
DEVICES			☐ NET LOGIN		
DCCS			☑ KEY UNLOCK		
IVS			☐ UPS		
NOTIFY			☐ SYSTEM ABNORMAL		
EXIT					

Step1: Switch “ACTION” to “ON”.

Step2: Select the system event(s) you want to get notified via your mobile device.

Step3: Enable “PUSH STATUS” in EagleEyes on your mobile device, and try to trigger an alarm event to see if you’ll get Push Status.

MESSAGE MAIL

Note: For E-mail notifications, make sure you have configured an E-mail account in "NETWORK" → "E-MAIL" to send the notifications.

Enable this function in "ACTION", select the event type(s) you want to send notifications in "EVENT", and add the E-mail address(es) to which you want to send notifications in "RECEIVER".

You'll get an E-mail telling you the occurrence of your selected event(s).

ADVANCED CONFIG

CANERA
DETECTION
ALERT
NETWORK
DISPLAY
RECORD
DEVICES
DCCS
IVS
NOTIFY

EXIT

PUSH VIDEO | PUSH STATUS | MESSAGE MAIL | VIDEO MAIL

ACTION — ON

EVENT
- ☐ ALL
- ☑ VIDEO LOSS
- ☐ HDD FULL
- ☐ POWER ON
- ☑ HDD (CLEAR / NO HDD / OVER TEMPERATURE)
- ☐ NET LOGIN
- ☑ KEY UNLOCK
- ☐ NETWORK
- ☐ UPS
- ☐ SYSTEM ABNORMAL

RECEIVER — SETUP

VIDEO MAIL

Note: For E-mail notifications, make sure you have configured an E-mail account in "NETWORK" → "E-MAIL" to send the notifications.

Enable this function in "E-MAIL ALERT", and add the E-mail address(es) to which you want to send notifications in "RECEIVER".

You'll get an E-mail telling you the occurrence of motion events attached with a html file.

ADVANCED CONFIG

CANERA
DETECTION
ALERT
NETWORK
DISPLAY
RECORD
DEVICES
DCCS
IVS
NOTIFY

EXIT

PUSH VIDEO | PUSH STATUS | MESSAGE MAIL | VIDEO MAIL

E-MAIL ALERT — ON

RECEIVER — SETUP

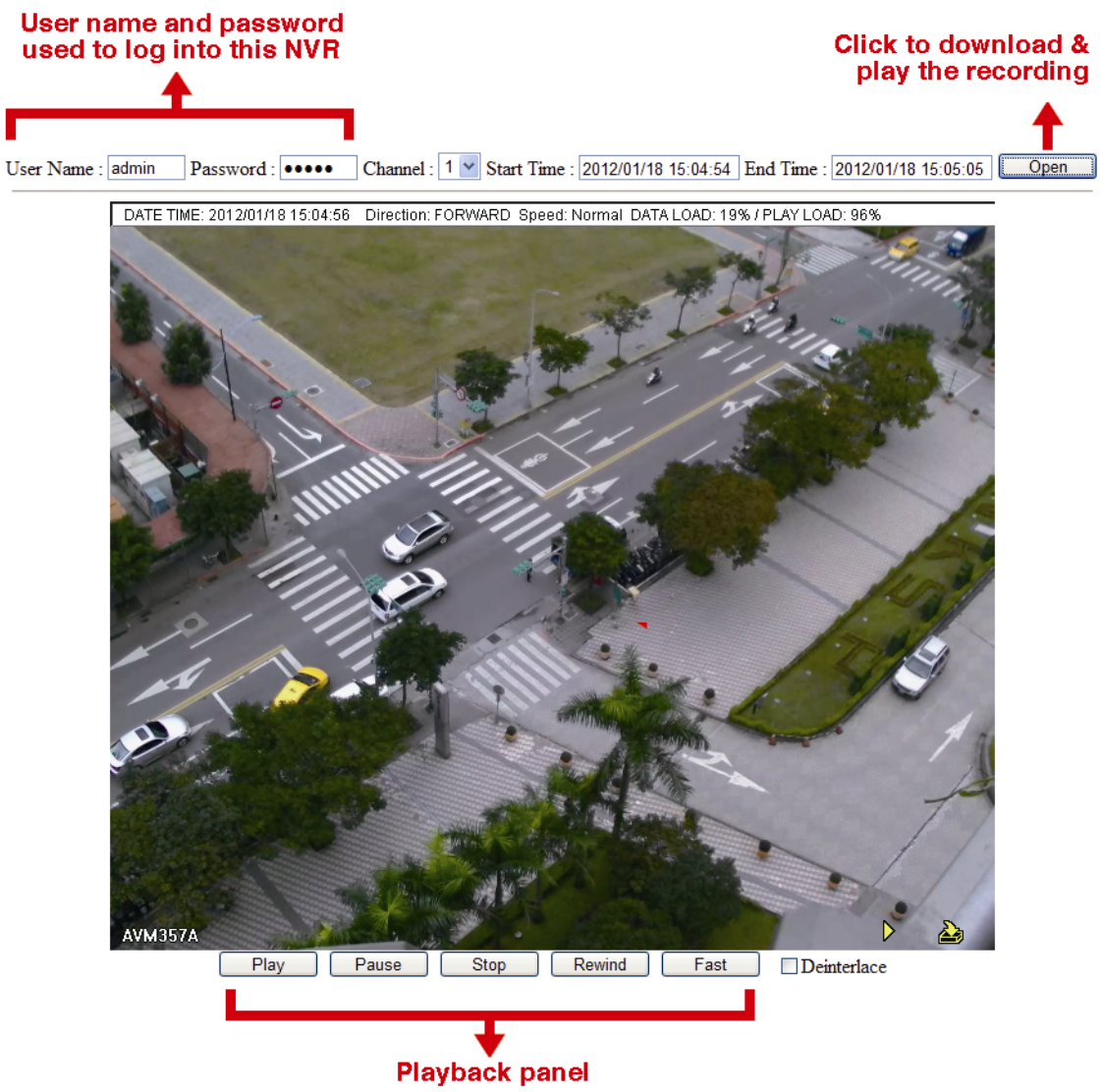
How to check video recording

Step1: Open the html file attached.

Note: Please accept to install ActiveX control on your computer.

Step2: Enter the user name and password to log into this DVR, and select the channel you want.

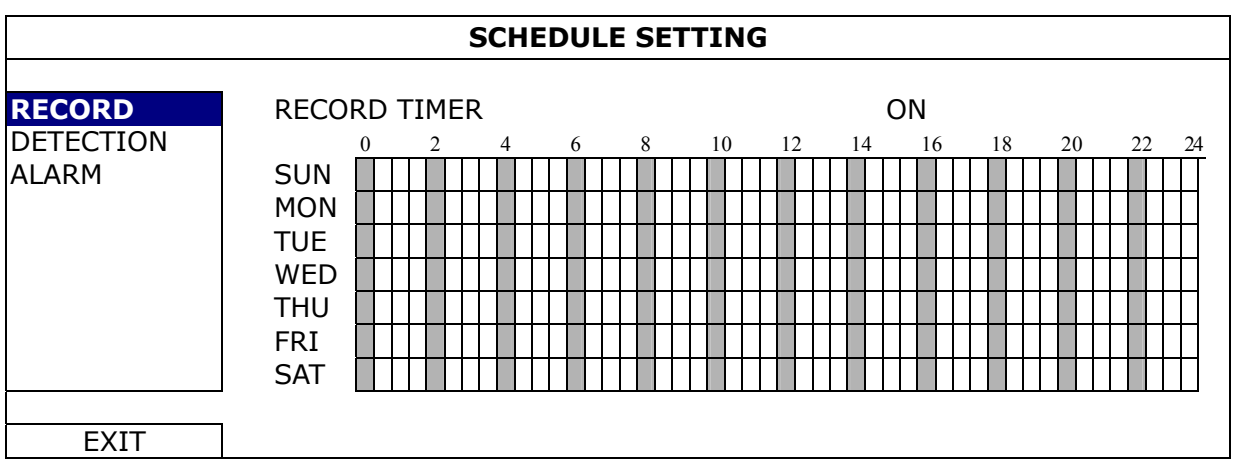
Step3: Click “Open” to download the motion recording to your computer and start playing.



5.5 SCHEDULE SETTING

5.5.1 RECORD

Select “ON” to enable record timer, and select the day and time for this function.

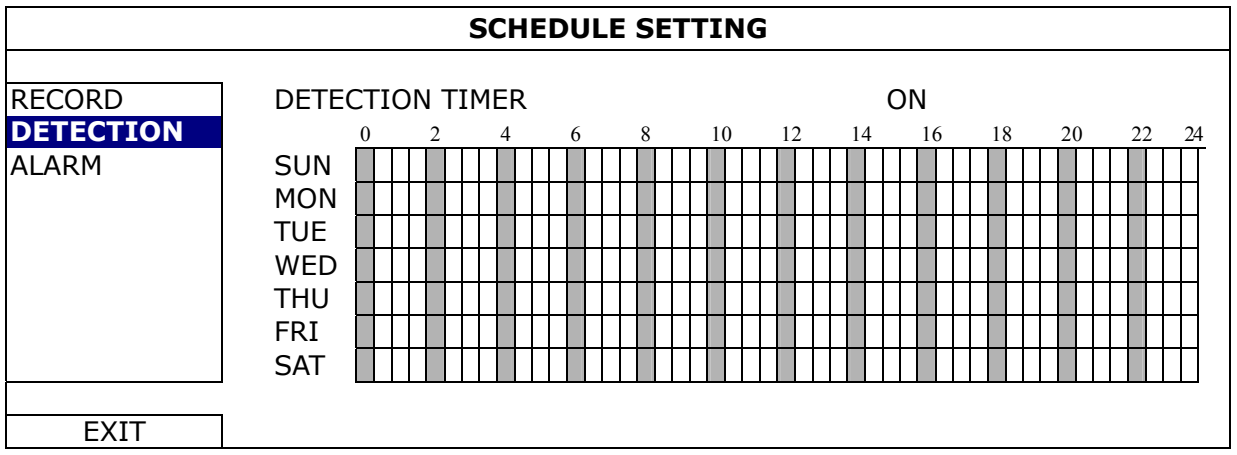


X axis 0 ~ 24 hours. Each time bar is 30 minutes.

Y axis Monday ~ Sunday.

5.5.2 DETECTION

Select “ON” to enable detection timer, and select the day and time for this function.

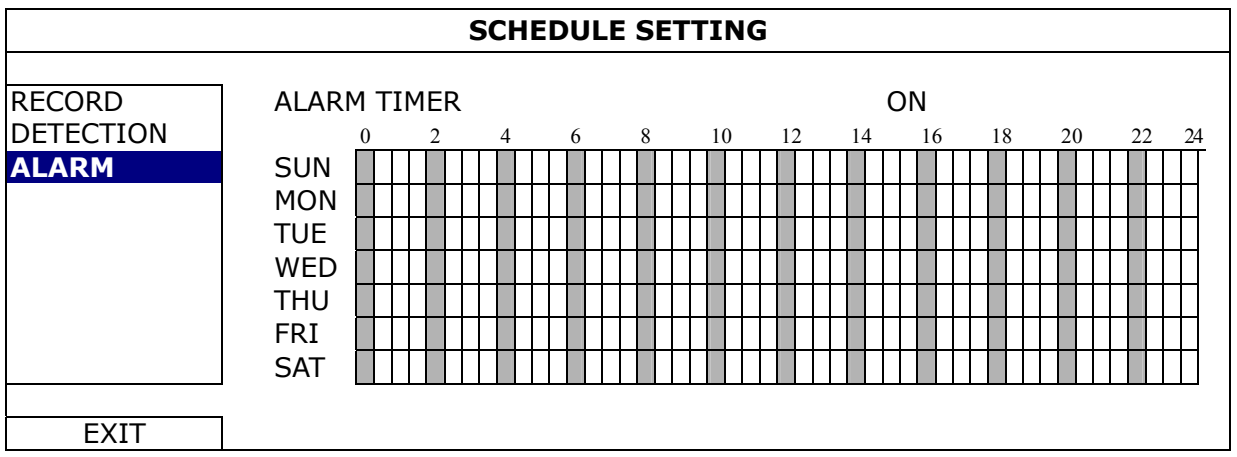


X axis 0 ~ 24 hours. Each time bar is 30 minutes.

Y axis Monday ~ Sunday.

5.5.3 ALARM

Select “ON” to enable alarm timer, and select the day and time for this function.



X axis 0 ~ 24 hours. Each time bar is 30 minutes.

Y axis Monday ~ Sunday.

6. REMOTE OPERATION

You can also control the DVR remotely via the supplied licensed software “Video Viewer”, web browser, and your smart phones.

Note: For more details about mobile surveillance via your smart phones, please visit our official website www.eagleeyescctv.com, or download the instructions of EagleEyes installation and configuration from www.surveillance-download.com/user/eagleeyes_quick.pdf.

6.1 Supplied Licensed Software

The sections below describe frequently-used functions of the Video Viewer. For details about this software and network settings, please download its extended user manual from the following link:
http://www.surveillance-download.com/user/CMS.pdf

6.1.1 Installation & Network Connection

1) Install the software

Step1: Place the supplied CD into your CD-ROM or DVD-ROM drive. The program will be automatically run.
Step2: Click “Video Viewer” to install the program, or click "Download the latest manuals and programs” to download the latest version of Video Viewer from the Internet.
Step3: Follow the on-screen instructions to finish the installation. When the installation is completed, a shortcut icon “” will be placed on your PC desktop.

2) Network Connection

➢ Local Connection (via LAN)

LAN is used when it’s the first time to remotely access the DVR and you need to configure the network setting of your DVR based on your network type in advance.

a) Connect the DVR to your PC via a RJ45 network cable. The default DVR values are as follows:

Item	Default Value
IP address	192.168.1.10
User name	admin
Password	admin
Port	80

b) Set the PC’s IP address as “192.168.1.XXX” (1~255, except 10) in order to make the PC and DVR under the same domain.

c) Double-click “” on your PC desktop to enter the control panel. By defaults, the “Address Book” panel will be displayed on the right side of the control panel.

d) Click “” → “” to key in the default IP address, user name, password, and port number of the DVR you intend to connect.

OR

Click “” → “” to search the available IP address(es) of other DVR(s) under the same domain as your PC’s IP address. The found address(es) will be listed, and can be added into the address book by clicking “”.

e) Double-click the IP address you just added into the address book to log in.

➢ Remote Connection (via Internet)

When the network configuration of your DVR is completed, you can access your DVR remotely via Internet.

a) Double-click "  " on your PC desktop to enter the control panel. By defaults, the "Address Book" panel will be displayed on the right side of the control panel.

b) Click "  " → "  " to key in the IP address, user name, password, and port number of the DVR you intend to connect.

OR

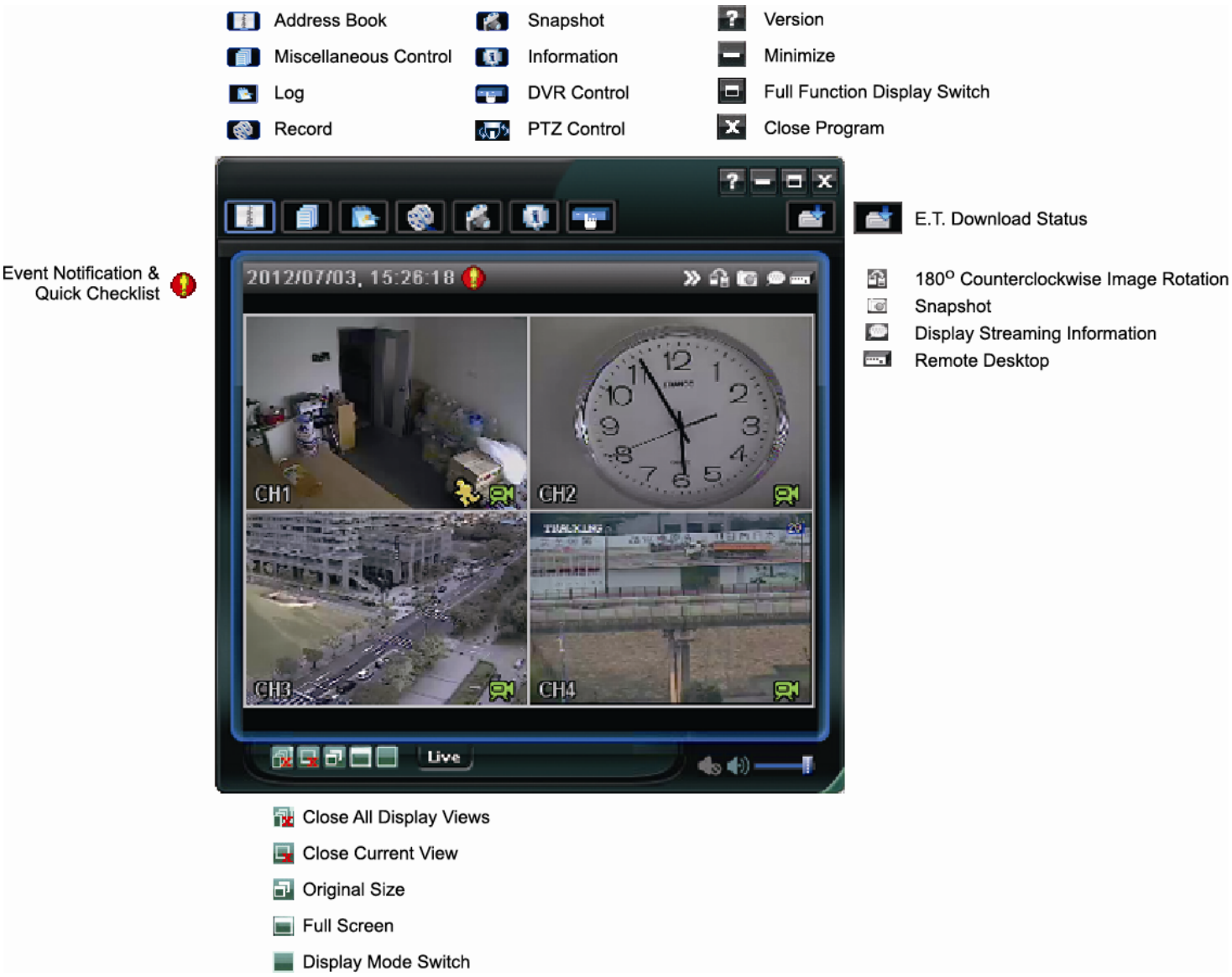
Click "  " → "  " to search the available IP address(es) of other DVR(s) under the same domain as your PC's IP address. The found address(es) will be listed, and can be added into the address book by clicking "  ".

c) Double-click the IP address you just added into the address book to log in.

6.1.2 Control Panel Overview

Two control panels are available and can be switched depending on your use habit.

<u>Simplified Version (Default)</u>



Full Function Version

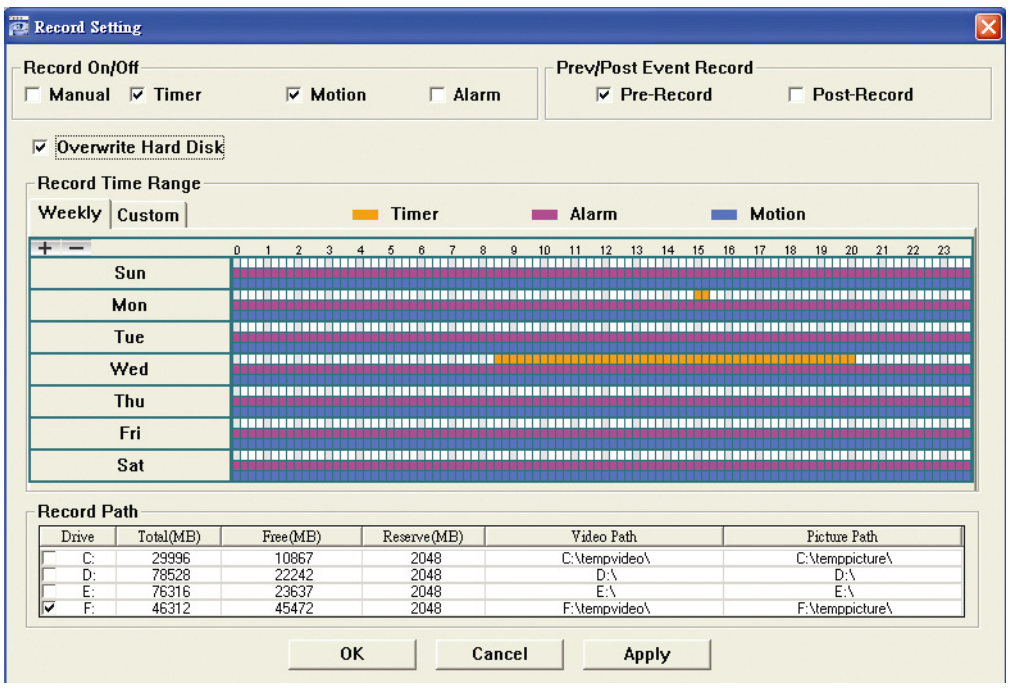
Main Button Overview

Button		Function	Description		
Simplified	Full Function				
		Address Book	Click to show the predefined IP address(es). You can add, remove or search the IP address to log in the DVR remotely.		
		Miscellaneous Control		Remote Config	Click to go into the detailed DVR setting.
				Record Setting	Click to go to the detailed record setting.
				Custom Setting	Click to choose the language of this program. The language change will take effect when this program is closed and executed again.
		Log	Click to view all event and recording logs, search the desired log(s) by date, or playback the recording of the selected log.		
		Record / Record Stop	Click to start / stop the manual recording.		
		Snapshot	Click to take a snapshot of the current view. The snapshot will be saved in the path you specified in “Record Setting”.		
		Information	Click to show the current network connection details.		
		DVR Control	Click to go to the DVR control panel to operate the DVR remotely.		

6.1.3. General Operation

Record

To record remotely at the same time for any event or alarm at the DVR side, click “  ” or “  ” → “  ” to go to the “Record Setting” page.



In the “Record Setting” page, you can set the following items:

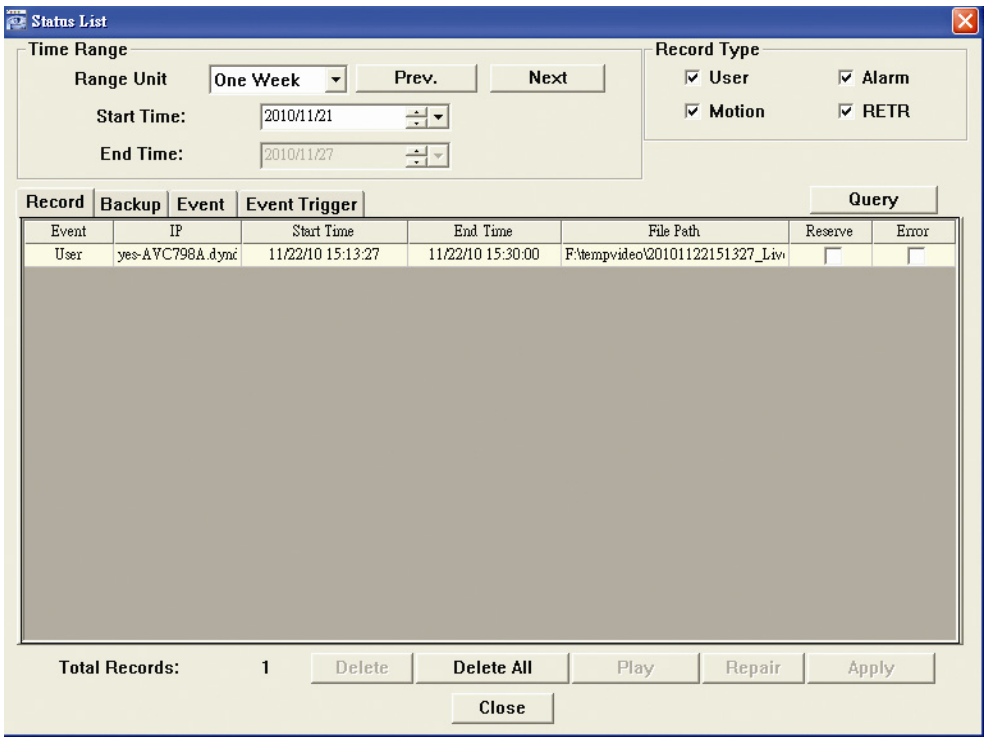
- Record type
- Hard disk overwriting
- Pre- / post-alarm record time
- Record time setting
- Record path

If “Manual” is checked, click “  ” or “  ” on the main control panel to start the manual recording immediately, and the recordings will be saved in the specified location.

If “Motion” and / or “Alarm” are checked, the recording function will also be enabled at the remote side when any event is triggered at the DVR side, and the recordings will be saved in the specified location.

Playback

To play a recording, click “  ” or “  ”, and select the “Record” tab or “Backup” tab. A list of all the recordings will be shown by defaults, and you can also sort out the logs you want to speed up the search time.

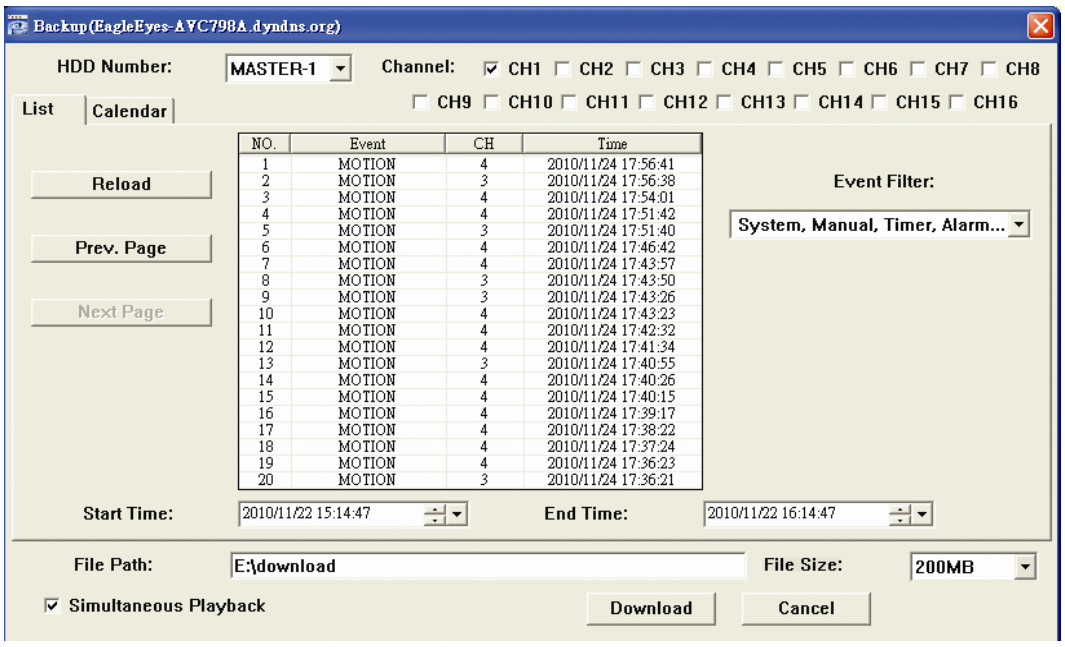


To immediately play a recording, select a log from the list, and click “Play”, or double-click the selected log.

Network Backup

Click “  ” → “  ”, or click “  ” to go into the “Backup” page as follows, and you can select a specific time range or event to make a video backup remotely.

The file(s) you backup will be from the currently selected IP address.



Function	Description
HDD Number / Channel	Specify the hard disk (HDD Number) and channel number (Channel) within which have the video data you need.
Download by Time	Specify the time range within which has the video data you want in the “Start Time” and “End Time” columns.
Download by Event	Select an event log from the event list. This list shows all logs in the specified DVR from the latest to the earliest. • To quickly find the events you need, check or uncheck the event type “System” / “Manual” / “Alarm” / “Motion”, and select the log you want. • To view the earlier or later logs that are not shown in the current page, click “Prev. Page” or “Next Page”. • To refresh the event list, click “Reload”.
File Path	Assign the location where the backup files are saved.

Function	Description
Simultaneous Playback	To view the backup images simultaneously when the download process is in progress, select the checkbox “Simultaneous Playback”. You will see the backup images while the images are being downloaded to the PC or notebook. To simply backup images without previewing, deselect the checkbox “Simultaneous Playback”. You will only see a message box indicating the total time needed, the current status and the saving location.
Download / Cancel	Click “Download” to start or “Cancel” to discard the video backup.

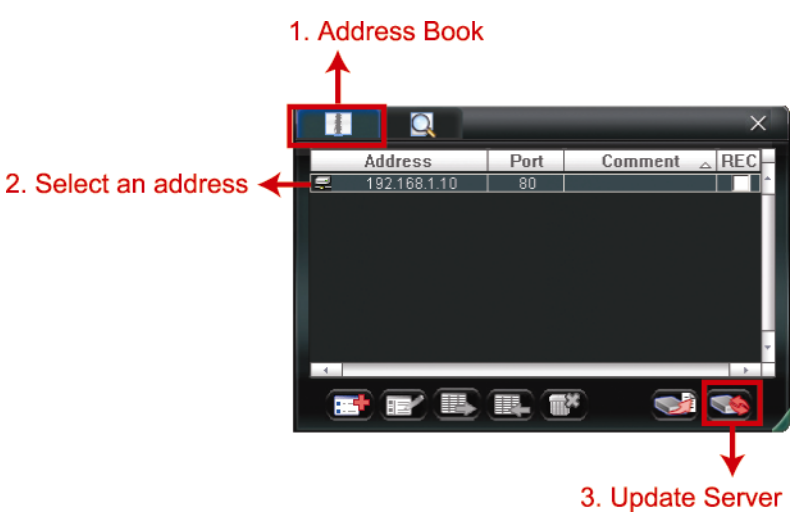
Firmware Upgrade

This function is used to grade your DVR for function scalability.

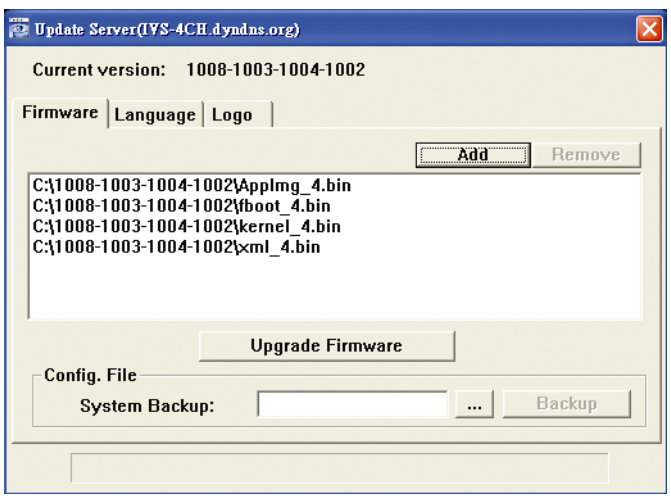
Note: Before using this function, make sure you have the correct upgrade files provided by your installer or distributor.

Step1: Click “  ”, and select the IP address of your device in the address book.

Step2: Click “  ” to show the upgrade page, “Update Server”.



Step3: Click “Add” to browse to the upgrade files.



Step4: Click “Upgrade Firmware” to start firmware upgrade.

Note: It takes a few minutes to finish the upgrade process. Do not disconnect the power during firmware upgrade, or the upgrade may be failed. The device will reboot after the upgrade.

Step5: Select the IP address of the device and click “  ” again to check if the firmware is upgraded.

6.1.4. E-Map

Video Viewer is also a Central Management System (CMS) software, which allows network device control & management for up to 16 devices simultaneously.

Note: Before using this function, make sure Video Viewer is connected to all the devices (up to 16) you want to monitor.

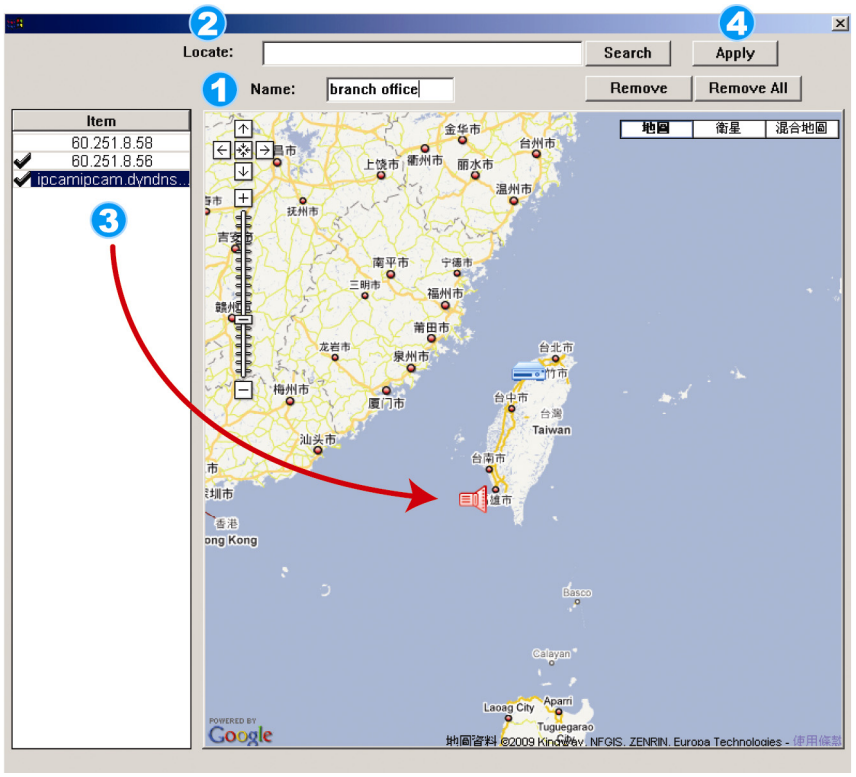
E-Map is **ONLY** available when the control panel is switch to the full function version.

How to Add an E-Map Group

STEP1: In the simplified version, click "  " to switch the control panel to the full function version, and click "  " to enter the E-Map page as follows.

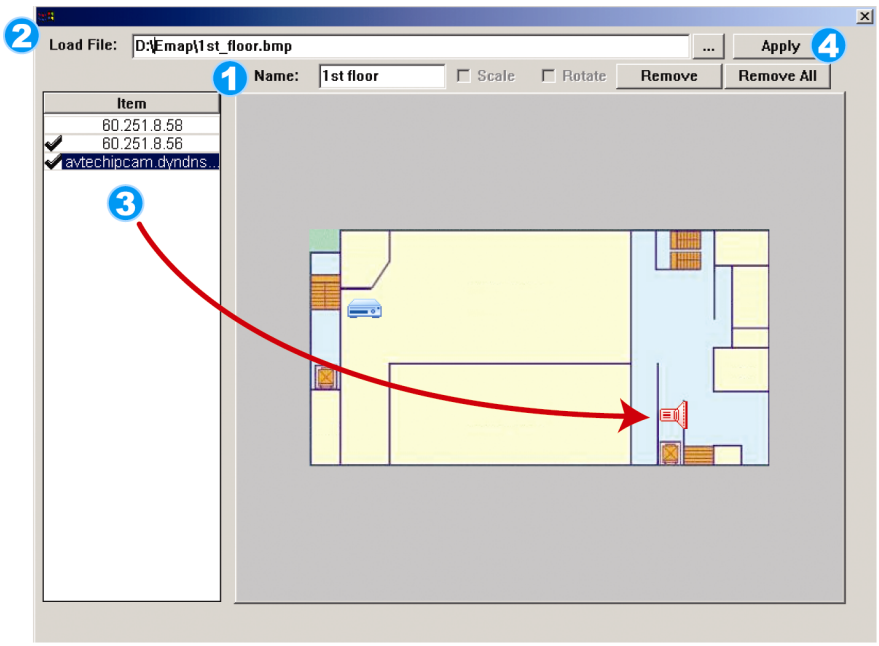
Note: To know where the buttons are, please refer to "Simplified Version (Default) at page 50, and "Full Function Version" at page 51.

STEP2: Right-click to show the shortcut menu on the top-left panel, and select the E-Map group you want to add. There are three E-Map groups you can add: Google E-MAP, Single E-MAP, and Building E-MAP.



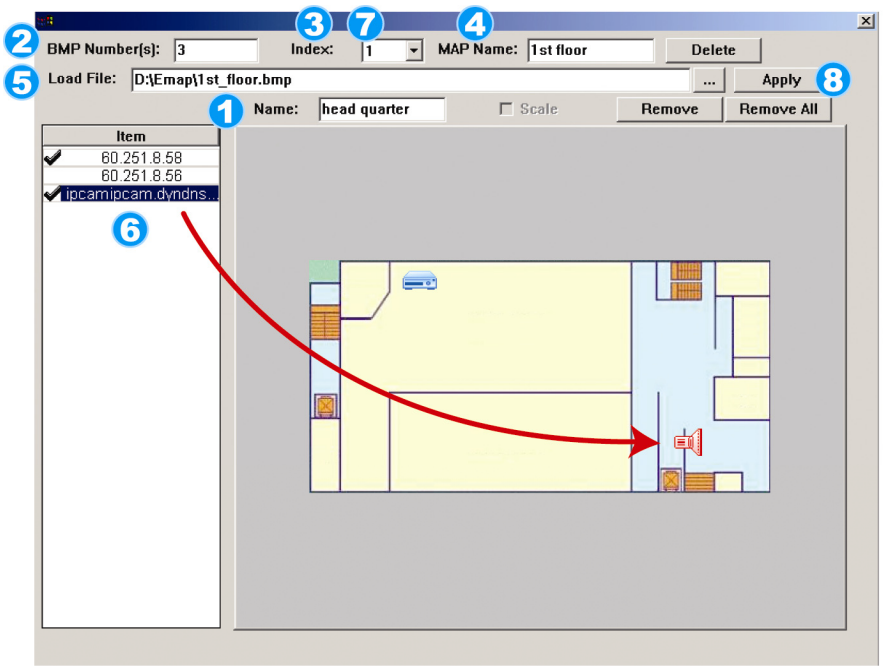
How to add a Google E-Map group:

1. Enter the name of this Google E-Map group.
2. Enter a specific address or landmark, and click "Search".
   OR
   Move to the map and drag to the location you want.
3. Click and drag the IP address to where it's located in the current level.
4. Click "Apply" to save and finish.



How to add a single E-Map group:

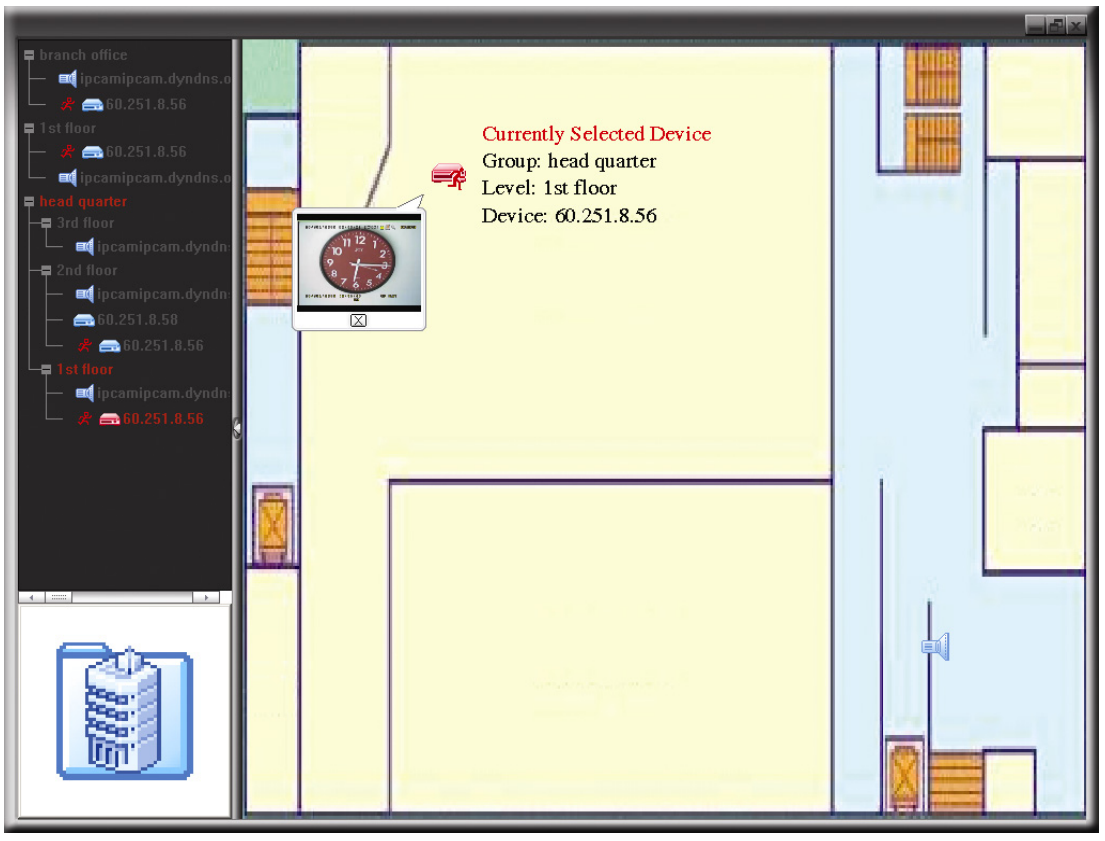
1. Enter the name of this single E-Map group.
2. Click "..." to browse the map file in BMP or JPEG.
3. Click and drag the IP address to where it's located in the current level.
4. Click "Apply" to save and finish.



How to add a building E-Map group:

1. Enter the name of this building E-Map group.
2. Enter the total levels of this building.
3. Select the level of the building from the drop-down list.
4. Enter the name of the level.
5. Click "..." to browse the map file in BMP or JPEG.
6. Click and drag the IP address to where it's located in the current level.
7. Go back to STEP 3 to select other level of the building, and repeat from STEP 3 to 6 until the setup for all levels are finished.
8. Click "Apply" to save and finish.

STEP3: When the E-Map group is created, you will see the tree on the top-left panel, showing all the devices you've added to this group.



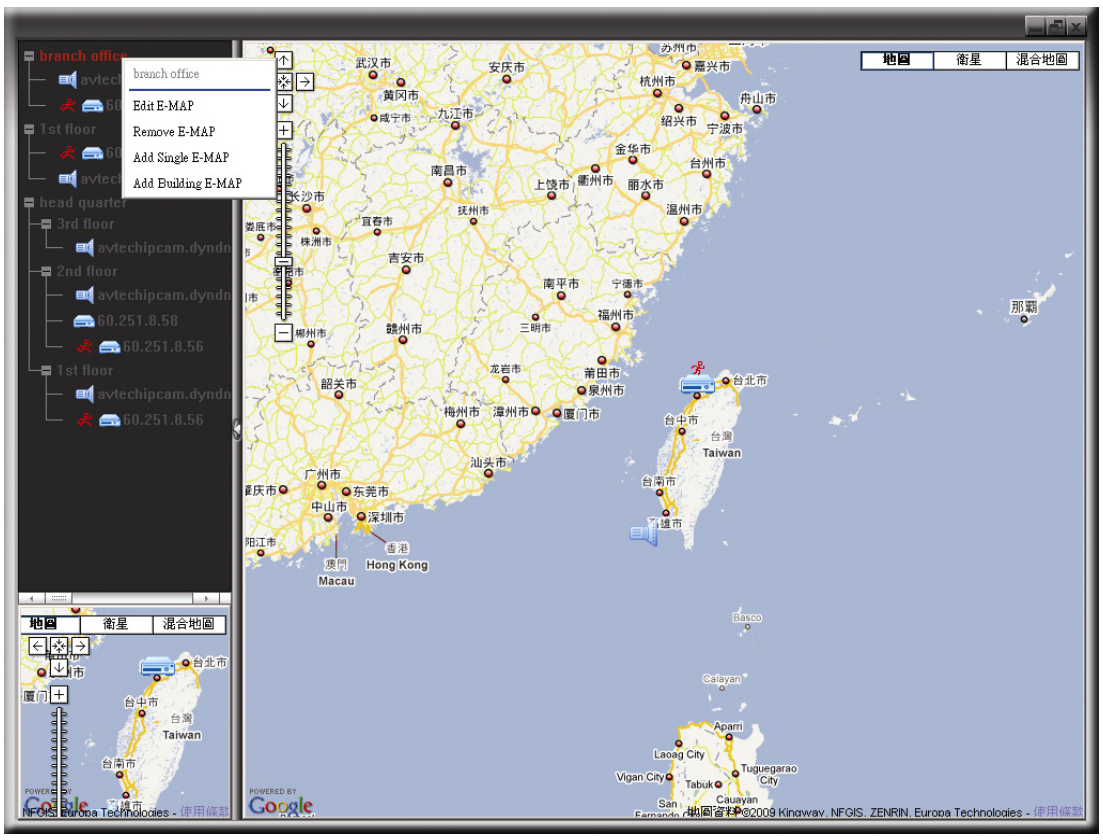
Icon	Description
	The connected device is camera. When it's selected, it will become red.
	The connected device is DVR. When it's selected, it will become red.
	For any motion or alarm event, it will appear on the screen to catch your attention. To know what's happening quickly, double-click the device icon on the E-Map to show the live view.

How to Edit / Remove an Existing E-Map Group

- For Google E-Map Group

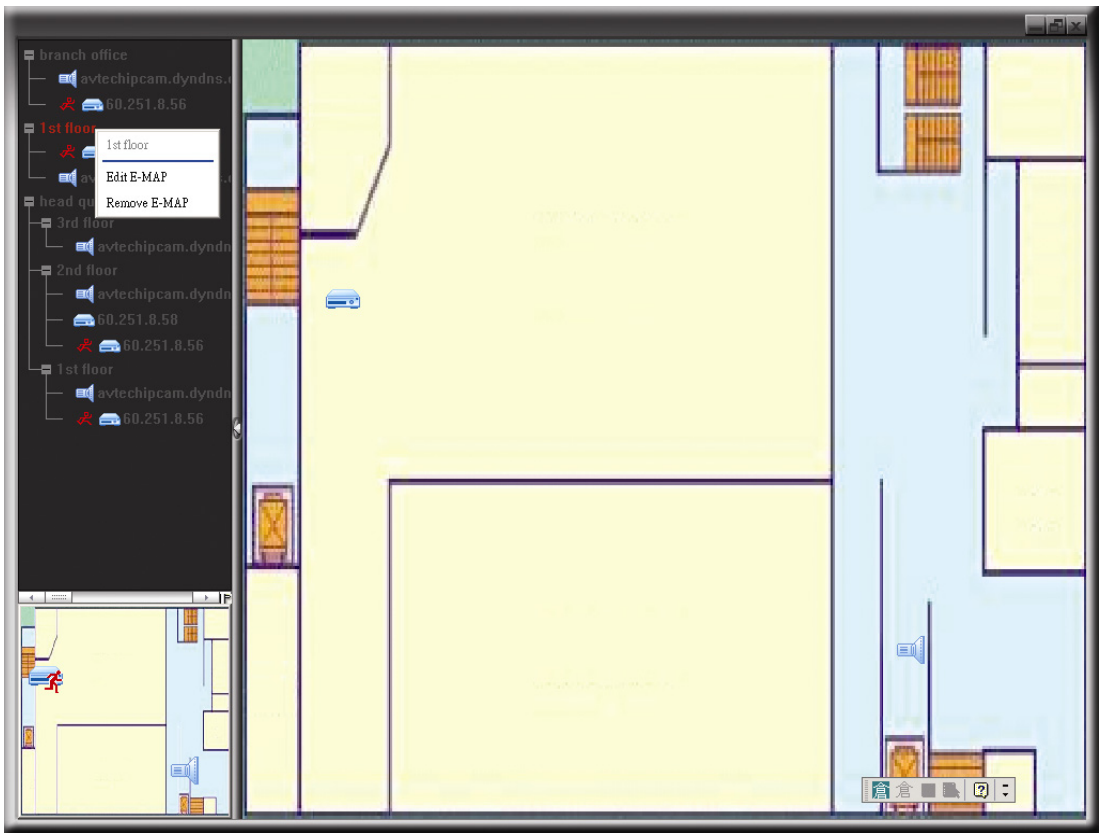
  Right-click on the group name to show the shortcut menu list, and select "Edit E-MAP" or "Remove E-MAP" as needed.

  You can also add a single E-Map group (Add Single E-MAP) or Building E-Map group (Add Building E-MAP) into the existing Google E-Map group.



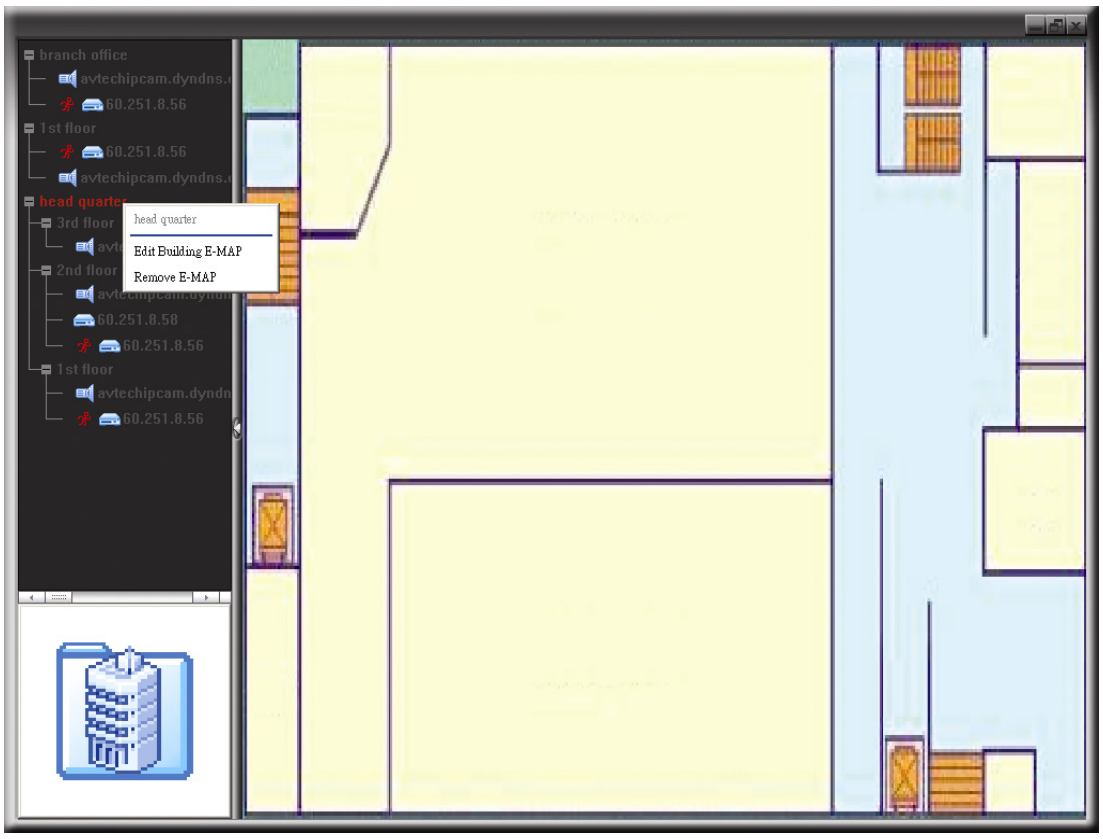
➢ For Single E-Map Group

Right-click on the group name to show the shortcut menu list, and select “Edit E-MAP” or “Remove E-MAP” as needed.



➢ For Building E-Map Group

Right-click on the group name to show the shortcut menu list, and select “Edit Building E-MAP” or “Remove E-MAP” as needed.



To edit or remove a certain level of the building E-Map group, right click on the level name, and select “Edit E-MAP” or “Remove E-MAP” as needed.

6.2 Web Browser

You can view the images or operate your DVR with a web browser, for example, Microsoft Internet Explorer.

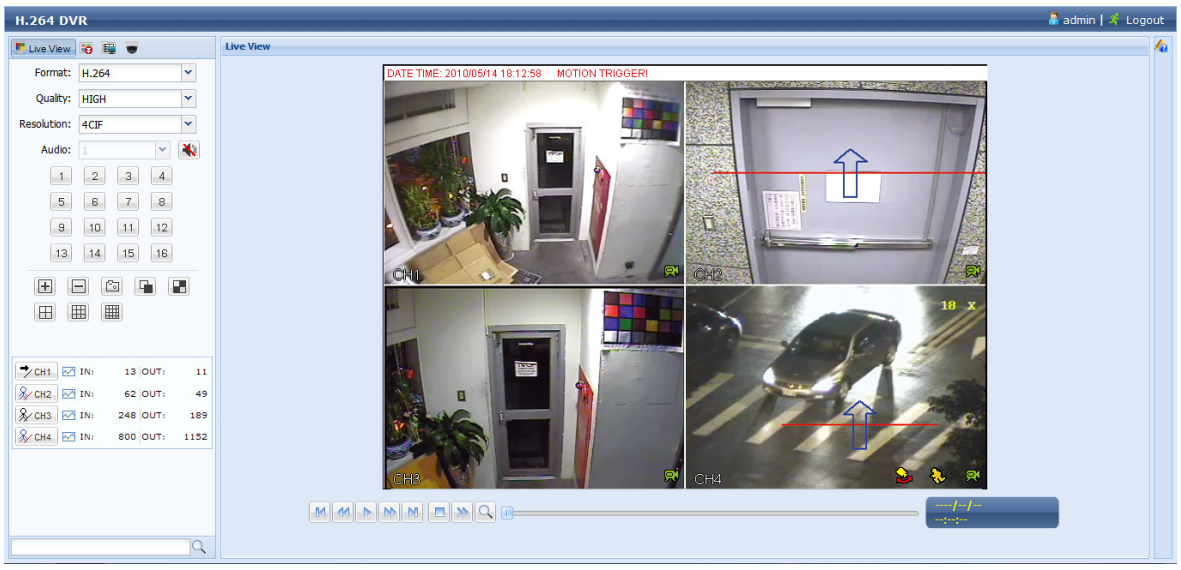
Note: The supported PC operation systems are Windows 7, Vista & XP.

Note: To use Mozilla Firefox or Google Chrome for remote access, please go to Apple's official website (http://www.apple.com) to download and install QuickTime first.

Note: The illustration below is just for your reference and may be different from what you actually see. Some functions and buttons are for selected models or certain user levels only.

Step 1: Key in the IP address used by your DVR in the URL address box, such as 60.121.46.236, and press Enter. You will be prompted to enter the user name and password to access the DVR.
If the port number your DVR used is NOT 80, you need to key in the port number additionally. The format is ***ipaddress*:*portnum***. For example, for IP address 60.121.46.236 and port No. 888, please key in "http://60.121.46.236:888" into the URL address box, and press "Enter".

Step 2: Enter the user name and password, the same as the ones used at AP login, and click "OK". You will see a similar screen as the following when the login information is correct.

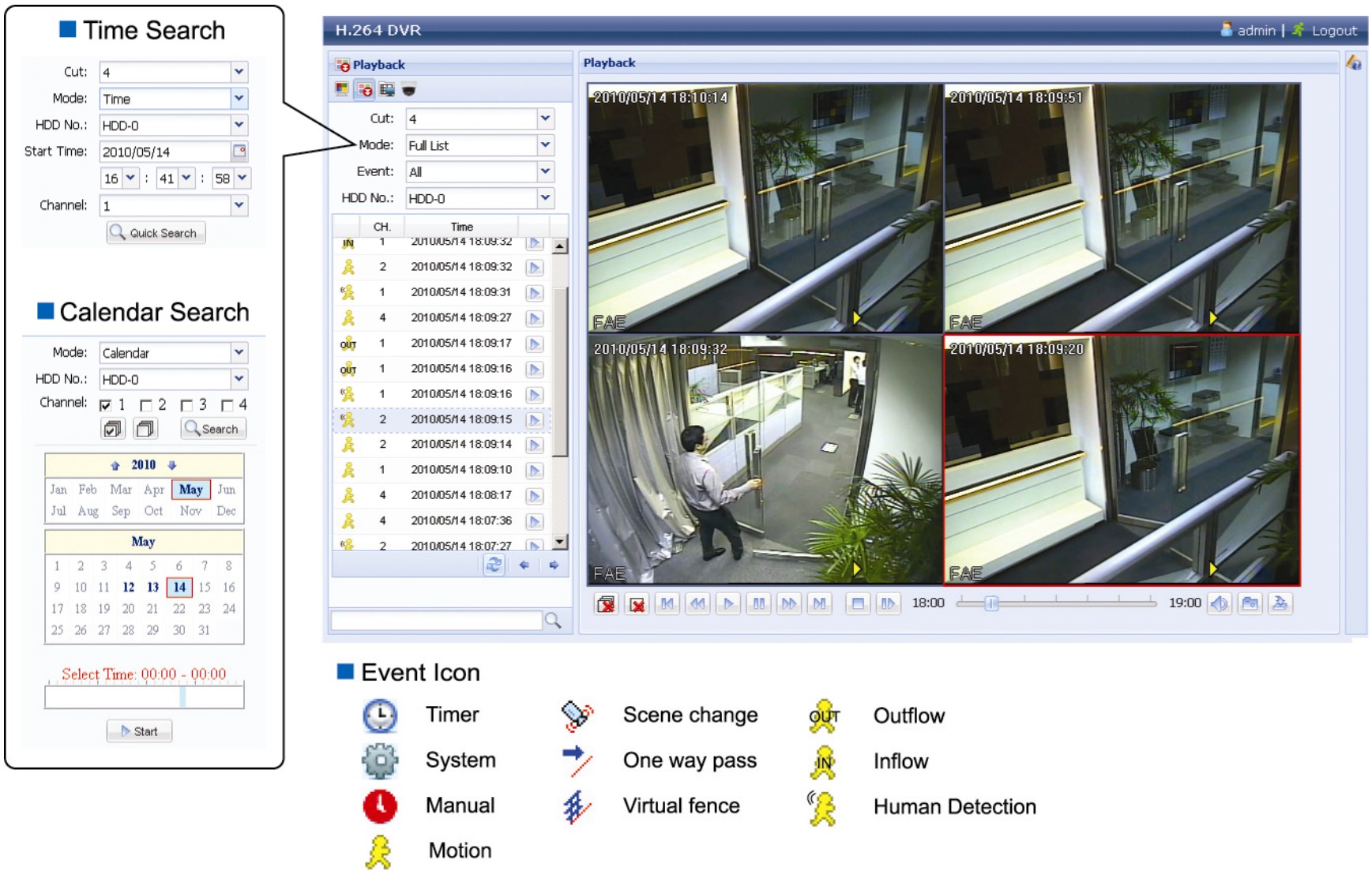


Icon	Description
	Click to go to the live view of the DVR.
	Click to enter the playback panel where you can search or select the event you want to play and download to your PC simultaneously. For details, please refer to "6.2.1 Event Playback & Download" at page 61.
	Click to go to the detailed DVR setting.
	Click to enter the PTZ mode.
Video / Audio Control	
Format	**H.264 / QuickTime** QuickTime is Apple Inc.'s multimedia software. You need to have QuickTime installed in you operation system first. When "QuickTime" is selected, you will be promoted to enter the user name and password to access the server of the DVR.
Quality	**BEST / HIGH / NORMAL / BASIC** Select the image quality.
Resolution	**4 CIF / CIF** Select the image resolution (4CIF: 704*480 / CIF: 352*240)
Audio	Select the audio channel you want for listening to the live audio. Note: Your camera must support audio recording, and connect to the video channel which supports audio recording and the audio input of the DVR. For details, please refer to "1.3 Rear Panel" at page 2.  means mute. To disable the mute status, click this icon again and select the audio channel you want.

Icon	Description
Channel Control	
Channel Selection (1~16)	Click one of the number to switch to the channel you want to see in full screen.
	Click to go to the previous / next channel, or change setting.
	Click to take a snapshot of the current view, and save it to the specified path in your PC set in "  " → "General".
	 Click to display four channels at a time. :  Click to display each channel one by one, starting from CH1. When the last channel is displayed, it will start from CH1 again. : To exit from this display mode, press any other channel display button.
	Click to show 4-cut / 9-cut / 16-cut display.
Playback Control	
	Increase the speed for fast rewind. Click once to get 4X speed rewind and click twice to get 8X speed, etc., and the maximum speed is 32X.
	Increase the speed for fast forward. Click once to get 4X speed forward and click twice to get 8X speed, etc., and the maximum speed is 32X.
	Click to play the current video clip.
	Click to pause the video playback.
	Click to stop the video playback.
	Click to play the video clip slowly, once to get 4X slower, twice get 8X slower.
IVS Panel*	
	This button is enabled only when the IVS mode is "Flow Counting". Click to show the detection line.
	Click to enter the IVS statistics page. For details, please refer to "6.2.2 IVS Statistics" at page 63.

** For selected models only*

6.2.1 Event Playback & Download



Note: Certain icons are for selected models only.

/	Close all / Close	Click to close the current playback video clip (in the red frame), or to close all playback video clips.
/	Previous / Next Hour	Click to jump to the next / previous time interval in an hour, for example, 11:00 ~ 12:00 or 14:00 ~ 15:00, and start playing the earliest event video clip recorded during this whole hour.
	Fast Forward	Increase the speed for fast forward. Click once to get 4X speed rewind and click twice to get 8X speed, etc., and the maximum speed is 32X.
	Fast Rewind	Increase the speed for fast rewind. Click once to get 4X speed forward and click twice to get 8X speed, etc., and the maximum speed is 32X.
	Play	Click to play the current video clip.
	Pause	Click to pause the video playback.
	Stop	Click to stop the video playback.
	Step	In the pause mode, click to get one frame forward.
	Audio	Click to mute the playback if necessary, and click again to restore. **Note:** Audio is available when your camera supports audio recording, and connects to the video channel which supports audio recording and the audio input of the DVR. For details, please refer to "1.3 Rear Panel" at page 2.
	Snapshot	Click to take a snapshot of the current view, and save it to the specified path in your PC set in " " → "General".
	Download	Click to download the current video clip to the specified path in your PC.

6.2.2 IVS Statistics

Note: This function is for selected models only.

APPENDIX 1 SPECIFICATIONS

➢ 16CH Models

		Model 1	Model 2	Model 3	Model 4
▼ Video					
Video System		NTSC / PAL (auto detection)			
Video Compression Format		H.264			
Video Input		16 channels (Composite video signal 1 Vp-p 75Ω BNC)			
Video Loop Output		16 channels (Composite video signal 1 Vp-p 75Ω BNC)		NO	
Video Output	BNC	YES (Call monitor for sequence display)		NO	
	VGA	YES (Full HD display)			
	HDMI	YES (Full HD display)			
Dual Video Output		YES			
▼ Record & Backup					
Maximum Recording Rate	960H	--	960 x 480 pixels with 360 IPS <NTSC> / 960 x 576 pixels with 360 IPS <PAL>	--	
	Frame	704×480 pixels with 480 IPS <NTSC> / 704×576 pixels with 400 IPS <PAL>			
	Field	704x240 pixels with 480 IPS <NTSC> / 704×288 pixels with 400 IPS <PAL>			
	CIF	352×240 pixels with 480 IPS <NTSC> / 352×288 pixels with 400 IPS <PAL>			
Image Resolution		Frame / Field / CIF	960H / Frame / Field / CIF	Frame / Field / CIF	
Recording Mode		Manual / Timer / Motion / Alarm / Remote			
Pre-alarm Recording		YES			
Quick Search		Time / Motion / Alarm search mode			
Backup Device		USB 2.0 flash drive / Network	DVD Writer (Optional) / USB 2.0 flash drive / Network	USB 2.0 flash drive / Network	
▼ Audio					
Audio Input		4 audio inputs			
Audio Output		2 audio outputs (Mono)			
▼ General					
Hard Disk Storage		Accommodates 2 SATA HDDs (1 HDD capacity up to 3TB)			
SATA Interface		YES			
eSATA Interface		YES (For external disk array connection)			
Image Quality Setting		SUPER BEST / BEST / HIGH / NORMAL			
USB Mouse Control		YES			
Motion Detection Area		16 × 12 grids per channel			
Motion Detection Sensitivity		3 adjustable parameters for accurate detection			
Event Notification		Push Video / FTP / E-Mail			
Picture Zoom		2X digital zoom			
PTZ Control		YES			
Alarm I/O		16 inputs (4 inputs for Push Video), 1 output			
IR Remote Control		YES (IR receiver built-in)			
Key Lock (Password Protection)		YES			
User Level		4 user levels for different access privilege			
Video Loss Detection		YES			
Camera Title		Supports up to 12 letters			

	Model 1	Model 2	Model 3	Model 4
▼ General				
Video Adjustable	Hue / Saturation / Contrast / Brightness			
Date Display Format	YY/MM/DD, DD/MM/YY & MM/DD/YY			
▼ General				
Daylight Saving	YES			
Power Source (±10%)	DC19V / 3.42A			
Power Consumption (±10%)**	--	19W	--	--
Operating Temperature	10℃ ~ 40℃ (50℉~104℉)			
Dimensions (mm)***	432(W) × 90(H) × 326(D)			
▼ Network				
Ethernet	10/100 Base-T. Supports remote control and live view via Ethernet			
Network Protocol	TCP/IP, PPPOE, DHCP and DDNS			
▼ Remote Surveillance from PC				
Compatible Operating System	Windows & MAC			
Compatible Program	Web Browser: Internet Explorer, Mozilla Firefox, Google Chrome, Safari & Opera			
	Video Viewer: For both Windows and MAC operating systems			
	QuickTime: For both Windows and MAC operating systems			
Max. online users	10			
Web Transmitting Compression Format	H.264			
Network Live Audio	YES			
Remote Independent Operation	YES			
Remote Event Download & Playback	YES			
R.E.T.R. (Remote Event Trigger Recording)	YES			
▼ Mobile Surveillance				
App	EagleEyes			
Compatible Devices	iPad, iPhone, BlackBerry, Symbian, Windows Mobile & Android mobile devices			
Push Video (With EagleEyes for iPhone, iPad and Android versions)	YES		NO	YES
▼ Others				
DCCS Support	YES (1 channel)		NO	
IVA Support	YES (4 channels)		NO	
Free DDNS service	YES			
Multiplex Operation	Live display / record / playback / backup / network operations			
System Recovery	System auto recovery after power failure			
Optional Peripherals	Keyboard Controller			

* The specifications are subject to change without notice.
** 1 HDD capacity up to 3TB
*** Without HDD & bracket
**** Dimensional Tolerance: ±5mm

➢ 16CH Models

		Model 5	Model 6	Model 7	Model 8
▼ Video					
Video System		NTSC / PAL (auto detection)			
Video Compression Format		H.264			
Video Input		16 channels (Composite video signal 1 Vp-p 75Ω BNC)			
Video Loop Output		NO	16 channels (Composite video signal 1 Vp-p 75Ω BNC)	NO	
Video Output	BNC	NO	YES (Call monitor for sequence display)	NO	
	VGA	YES (Full HD display)			
	HDMI	YES (Full HD display)			
Dual Video Output		YES			
▼ Record & Backup					
Maximum Recording Rate	960H	960 x 480 pixels with 360 IPS <NTSC> / 960 x 576 pixels with 300 IPS <PAL>			
	Frame	704×480 pixels with 480 IPS <NTSC> / 704×576 pixels with 400 IPS <PAL>			
	Field	704x240 pixels with 480 IPS <NTSC> / 704×288 pixels with 400 IPS <PAL>			
	CIF	352×240 pixels with 480 IPS <NTSC> / 352×288 pixels with 400 IPS <PAL>			
Image Resolution		960H / Frame / Field / CIF			
Recording Mode		Manual / Timer / Motion / Alarm / Remote			
Pre-alarm Recording		YES			
Quick Search		Time / Motion / Alarm search mode			
Backup Device		USB 2.0 flash drive / Network	DVD Writer (Optional) / USB 2.0 flash drive / Network	USB 2.0 flash drive / Network	
▼ Audio					
Audio Input		4 audio inputs			4 audio inputs
Audio Output		2 audio outputs (Mono)			1 audio output (Mono)
▼ General					
Hard Disk Storage**		Accommodates 2 SATA HDDs			
SATA Interface		YES			
eSATA Interface		YES (For external disk array connection)			
Image Quality Setting		SUPER BEST / BEST / HIGH / NORMAL			
USB Mouse Control		YES			
Motion Detection Area		16 × 12 grids per channel			
Motion Detection Sensitivity		3 adjustable parameters for accurate detection			
Event Notification		Push Video / FTP / E-Mail			
Picture Zoom		2X digital zoom			
PTZ Control		YES			
Alarm I/O		16 inputs (4 inputs for Push Video), 1 output			
IR Remote Control		YES (IR receiver built-in)			
Key Lock (Password Protection)		YES			
User Level		4 user levels for different access privilege			
Video Loss Detection		YES			
Camera Title		Supports up to 12 letters			

	Model 5	Model 6	Model 7	Model 8
▼ General				
Daylight Saving	YES			
Power Source (±10%)	DC19V / 3.42A			
Power Consumption (±10%)***	17W	18W	17W	
Operating Temperature	10℃ ~ 40℃ (50℉~104℉)			
Dimensions (mm)****	432(W) × 90(H) × 326(D)			430(W) x 65(H) x 338(D)
▼ Network				
Ethernet	10/100 Base-T. Supports remote control and live view via Ethernet			
Network Protocol	TCP/IP, PPPOE, DHCP and DDNS			
▼ Remote Surveillance from PC				
Compatible Operating System	Windows & MAC			
Compatible Program	Web Browser: Internet Explorer, Mozilla Firefox, Google Chrome, Safari & Opera			
	Video Viewer: For both Windows and MAC operating systems			
	QuickTime: For both Windows and MAC operating systems			
Max. online users	10			
Web Transmitting Compression Format	H.264			
Network Live Audio	YES			
Remote Independent Operation	YES			
Remote Event Download & Playback	YES			
R.E.T.R. (Remote Event Trigger Recording)	YES			
▼ Mobile Surveillance				
App	EagleEyes			
Compatible Devices	iPad, iPhone, BlackBerry, Symbian, Windows Mobile & Android mobile devices			
Push Video (With EagleEyes for iPhone, iPad and Android versions)	YES			
▼ Others				
DCCS Support	NO			
IVA Support	NO			
Free DDNS service	YES			
Multiplex Operation	Live display / record / playback / backup / network operations			
System Recovery	System auto recovery after power failure			
Optional Peripherals	Keyboard Controller			

* The specifications are subject to change without notice.
** 1 HDD capacity up to 3TB
*** Without HDD & bracket
**** Dimensional Tolerance: ±5mm

➢ 8CH Models

		Model 9	Model 10	Model 11
▼ Video				
Video System		NTSC / PAL (auto detection)		
Video Compression Format		H.264		
Video Input		8 channels (Composite video signal 1 Vp-p 75Ω BNC)		
Video Loop Output		16 channels (Composite video signal 1 Vp-p 75Ω BNC)		NO
Video Output	BNC	YES (Call monitor for sequence display)		NO
	VGA	YES (Full HD display)		
	HDMI	YES (Full HD display)		
Dual Video Output		YES		
▼ Record & Backup				
Maximum Recording Rate	960H	960 x 480 pixels with 360 IPS <NTSC> / 960 x 576 pixels with 300 IPS <PAL>		
	Frame	704×480 pixels with 480 IPS <NTSC> / 704×576 pixels with 400 IPS <PAL>		
	Field	704x240 pixels with 480 IPS <NTSC> / 704×288 pixels with 400 IPS <PAL>		
	CIF	352×240 pixels with 480 IPS <NTSC> / 352×288 pixels with 400 IPS <PAL>		
Image Resolution		960H / Frame / Field / CIF		
Recording Mode		Manual / Timer / Motion / Alarm / Remote		
Pre-alarm Recording		YES		
Quick Search		Time / Motion / Alarm search mode		
Backup Device		DVD Writer (Optional) / USB 2.0 flash drive / Network		USB 2.0 flash drive / Network
▼ Audio				
Audio Input		4 audio inputs		4 audio inputs
Audio Output		2 audio outputs (Mono)		1 audio output (Mono)
▼ General				
Hard Disk Storage**		2 SATA HDDs or 1 HDD + 1 DVD		2 SATA HDDs
SATA Interface		YES		
eSATA Interface		YES (For external disk array connection)		
Image Quality Setting		SUPER BEST / BEST / HIGH / NORMAL		
USB Mouse Control		YES		
Motion Detection Area		16 × 12 grids per channel		
Motion Detection Sensitivity		3 adjustable parameters for accurate detection		
Event Notification		Push Video / FTP / E-Mail		
Picture Zoom		2X digital zoom		
PTZ Control		YES		
Alarm I/O		8 inputs (2 inputs for Push Video), 1 output		
IR Remote Control		YES (IR receiver built-in)		
Key Lock (Password Protection)		YES		
User Level		4 user levels for different access privilege		
Video Loss Detection		YES		
Camera Title		Supports up to 12 letters		
▼ General				
Daylight Saving		YES		
Power Source (±10%)		DC19V / 3.42A		DC19 V /2.1A
Power Consumption (±10%)***		13W	12.5W	11W
Operating Temperature		10℃ ~ 40℃ (50℉~104℉)		
Dimensions (mm)****		432(W) × 90(H) × 326(D)		

	Model 9	Model 10	Model 11
▼ Network			
Ethernet	10/100 Base-T. Supports remote control and live view via Ethernet		
Network Protocol	TCP/IP, PPPOE, DHCP and DDNS		
▼ Remote Surveillance from PC			
Compatible Operating System	Windows & MAC		
Compatible Program	Web Browser: Internet Explorer, Mozilla Firefox, Google Chrome, Safari & Opera		
	Video Viewer: For both Windows and MAC operating systems		
	QuickTime: For both Windows and MAC operating systems		
Max. online users	10		
Web Transmitting Compression Format	H.264		
Network Live Audio	YES		
Remote Independent Operation	YES		
Remote Event Download & Playback	YES		
R.E.T.R. (Remote Event Trigger Recording)	YES		
▼ Mobile Surveillance			
App	EagleEyes		
Compatible Devices	iPad, iPhone, BlackBerry, Symbian, Windows Mobile & Android mobile devices		
Push Video (With EagleEyes for iPhone, iPad and Android versions)	YES		
▼ Others			
DCCS Support	YES (1 channel)	NO	
IVA Support	YES (4 channels)	NO	
Free DDNS service	YES		
Multiplex Operation	Live display / record / playback / backup / network operations		
System Recovery	System auto recovery after power failure		
Optional Peripherals	Keyboard Controller		

* The specifications are subject to change without notice.
** 1 HDD capacity up to 3TB
*** Without HDD & bracket
**** Dimensional Tolerance: ±5mm

➢ 8CH Models

		Model 12	Model 13
▼ Video			
Video System		NTSC / PAL (auto detection)	
Video Compression Format		H.264	
Video Input		8 channels (Composite video signal 1 Vp-p 75Ω BNC)	
Video Loop Output		NO	
Video Output	BNC	NO	YES (Call monitor for sequence display)
	VGA	YES (Full HD display)	
	HDMI	YES (Full HD display)	
Dual Video Output		YES	
▼ Record & Backup			
Maximum Recording Rate	960H	960 x 480 pixels with 180 IPS <NTSC> / 960 x 576 pixels with 150 IPS <PAL>	
	Frame	704×480 pixels with 240 IPS <NTSC> / 704×576 pixels with 200 IPS <PAL>	
	Field	704x240 pixels with 240 IPS <NTSC> / 704×288 pixels with 200 IPS <PAL>	
	CIF	352×240 pixels with 240 IPS <NTSC> / 352×288 pixels with 200 IPS <PAL>	
Image Resolution		960H / Frame / Field / CIF	
Recording Mode		Manual / Timer / Motion / Alarm / Remote	
Pre-alarm Recording		YES	
Quick Search		Time / Motion / Alarm search mode	
Backup Device		USB 2.0 flash drive / Network	
▼ Audio			
Audio Input		4 audio inputs	
Audio Output		1 audio output (Mono)	
▼ General			
Hard Disk Storage**		2 SATA HDDs	1 SATA HDD
SATA Interface		YES	
eSATA Interface		YES (For external disk array connection)	
Image Quality Setting		SUPER BEST / BEST / HIGH / NORMAL	
USB Mouse Control		YES	
Motion Detection Area		16 × 12 grids per channel	
Motion Detection Sensitivity		3 adjustable parameters for accurate detection	
Event Notification		Push Video / FTP / E-Mail	
Picture Zoom		2X digital zoom	
PTZ Control		YES	
Alarm I/O		8 inputs (2 inputs for Push Video), 1 output	
IR Remote Control		YES (IR receiver built-in)	
Key Lock (Password Protection)		YES	
User Level		4 user levels for different access privilege	
Video Loss Detection		YES	
Camera Title		Supports up to 12 letters	
▼ General			
Daylight Saving		YES	
Power Source (±10%)		DC19 V /2.1A	
Power Consumption (±10%)***		11W	10.5W
Operating Temperature		10℃ ~ 40℃ (50℉~104℉)	
Dimensions (mm)****		430(W) x 65(H) x 338(D)	343(W) x 59(H) x 223(D)

	Model 12	Model 13
▼ Network		
Ethernet	10/100 Base-T. Supports remote control and live view via Ethernet	
Network Protocol	TCP/IP, PPPOE, DHCP and DDNS	
▼ Remote Surveillance from PC		
Compatible Operating System	Windows & MAC	
Compatible Program	Web Browser: Internet Explorer, Mozilla Firefox, Google Chrome, Safari & Opera	
	Video Viewer: For both Windows and MAC operating systems	
	QuickTime: For both Windows and MAC operating systems	
Max. online users	10	
Web Transmitting Compression Format	H.264	
Network Live Audio	YES	
Remote Independent Operation	YES	
Remote Event Download & Playback	YES	
R.E.T.R. (Remote Event Trigger Recording)	YES	
▼ Mobile Surveillance		
App	EagleEyes	
Compatible Devices	iPad, iPhone, BlackBerry, Symbian, Windows Mobile & Android mobile devices	
Push Video (With EagleEyes for iPhone, iPad and Android versions)	YES	
▼ Others		
DCCS Support	NO	
IVA Support	NO	
Free DDNS service	YES	
Multiplex Operation	Live display / record / playback / backup / network operations	
System Recovery	System auto recovery after power failure	
Optional Peripherals	Keyboard Controller	

* The specifications are subject to change without notice.
** 1 HDD capacity up to 3TB
*** Without HDD & bracket
**** Dimensional Tolerance: ±5mm

➢ 4CH Models

		Model 13	Model 14	Model 15
▼ Video				
Video System		NTSC / PAL (auto detection)		
Video Compression Format		H.264		
Video Input		4 channels (Composite video signal 1 Vp-p 75Ω BNC)		
Video Output	BNC	YES (Call monitor for sequence display)	NO	
	VGA	YES (Full HD display)		
	HDMI	YES (Full HD display)		
Dual Video Output		YES		
▼ Record & Backup				
Maximum Recording Rate	960H	960 x 480 pixels with 90 IPS <NTSC> / 960 x 576 pixels with 75 IPS <PAL>		
	Frame	704×480 pixels with 120 IPS <NTSC> / 704×576 pixels with 100 IPS <PAL>		
	Field	704x240 pixels with 120 IPS <NTSC> / 704×288 pixels with 100 IPS <PAL>		
	CIF	352×240 pixels with 120 IPS <NTSC> / 352×288 pixels with 100 IPS <PAL>		
Image Resolution		960H / Frame / Field / CIF		
Recording Mode		Manual / Timer / Motion / Alarm / Remote		
Pre-alarm Recording		YES		
Quick Search		Time / Motion / Alarm search mode		
Backup Device		USB 2.0 flash drive / Network		
▼ Audio				
Audio Input		4 audio inputs		
Audio Output		1 audio output (Mono)		
▼ General				
Hard Disk Storage**		1 SATA HDD		
SATA Interface		YES		
eSATA Interface		YES (For external disk array connection)		NO
Image Quality Setting		SUPER BEST / BEST / HIGH / NORMAL		
USB Mouse Control		YES		
Motion Detection Area		16 × 12 grids per channel		
Motion Detection Sensitivity		3 adjustable parameters for accurate detection		
Event Notification		Push Video / FTP / E-Mail		FTP / E-Mail
Picture Zoom		2X digital zoom		
PTZ Control		YES		
Alarm I/O		4 inputs (1 input for Push Video), 1 output		4 inputs, 1 output
IR Remote Control		YES (IR receiver built-in)		
Key Lock (Password Protection)		YES		
User Level		4 user levels for different access privilege		
Video Loss Detection		YES		
Camera Title		Supports up to 12 letters		
▼ General				
Daylight Saving		YES		
Power Source (±10%)		DC19V / 2.1A		DC12V / 3A
Power Consumption (±10%)***		6W	5W	5W
Operating Temperature		10℃ ~ 40℃ (50℉~104℉)		
Dimensions (mm)****		375(W) × 61(H) × 281(D)		

	Model 13	Model 14	Model 15
▼ Network			
Ethernet	10/100 Base-T. Supports remote control and live view via Ethernet		
Network Protocol	TCP/IP, PPPOE, DHCP and DDNS		
▼ Remote Surveillance from PC			
Compatible Operating System	Windows & MAC		
Compatible Program	Web Browser: Internet Explorer, Mozilla Firefox, Google Chrome, Safari & Opera		
	Video Viewer: For both Windows and MAC operating systems		
	QuickTime: For both Windows and MAC operating systems		
Max. online users	10		
Web Transmitting Compression Format	H.264		
Network Live Audio	YES		
Remote Independent Operation	YES		
Remote Event Download & Playback	YES		
R.E.T.R. (Remote Event Trigger Recording)	YES		
▼ Mobile Surveillance			
App	EagleEyes		
Compatible Devices	iPad, iPhone, BlackBerry, Symbian, Windows Mobile & Android mobile devices		
Push Video (With EagleEyes for iPhone, iPad and Android versions)	YES		NO
▼ Others			
DCCS Support	YES (1 channel)	NO	
IVA Support	YES (4 channels)	NO	
Free DDNS service	YES		
Multiplex Operation	Live display / record / playback / backup / network operations		
System Recovery	System auto recovery after power failure		
Optional Peripherals	Keyboard Controller		

* The specifications are subject to change without notice.
** 1 HDD capacity up to 3TB
*** Without HDD & bracket
**** Dimensional Tolerance: ±5mm

➢ 4CH Models

		Model 16	Model 17
▼ Video			
Video System		NTSC / PAL (auto detection)	
Video Compression Format		H.264	
Video Input		4 channels (Composite video signal 1 Vp-p 75Ω BNC)	
Video Output	BNC	NO	
	VGA	YES (Full HD display)	
	HDMI	YES (Full HD display)	
Dual Video Output		YES	
▼ Record & Backup			
Maximum Recording Rate	960H	960 x 480 pixels with 90 IPS <NTSC> / 960 x 576 pixels with 75 IPS <PAL>	
	Frame	704×480 pixels with 120 IPS <NTSC> / 704×576 pixels with 100 IPS <PAL>	
	Field	704x240 pixels with 120 IPS <NTSC> / 704×288 pixels with 100 IPS <PAL>	
	CIF	352×240 pixels with 120 IPS <NTSC> / 352×288 pixels with 100 IPS <PAL>	
Image Resolution		960H / Frame / Field / CIF	
Recording Mode		Manual / Timer / Motion / Alarm / Remote	
Pre-alarm Recording		YES	
Quick Search		Time / Motion / Alarm search mode	
Backup Device		USB 2.0 flash drive / Network	
▼ Audio			
Audio Input		4 audio inputs	
Audio Output		1 audio output (Mono)	
▼ General			
Hard Disk Storage**		1 SATA HDD	
SATA Interface		YES	
eSATA Interface		YES (For external disk array connection)	NO
Image Quality Setting		SUPER BEST / BEST / HIGH / NORMAL	
USB Mouse Control		YES	
Motion Detection Area		16 × 12 grids per channel	
Motion Detection Sensitivity		3 adjustable parameters for accurate detection	
Event Notification		Push Video / FTP / E-Mail	FTP / E-Mail
Picture Zoom		2X digital zoom	
PTZ Control		YES	
Alarm I/O		4 inputs (1 input for Push Video), 1 output	4 inputs, 1 output
IR Remote Control		YES (IR receiver built-in)	
Key Lock (Password Protection)		YES	
User Level		4 user levels for different access privilege	
Video Loss Detection		YES	
Camera Title		Supports up to 12 letters	
▼ General			
Daylight Saving		YES	
Power Source (±10%)		DC19V / 2.1A	DC12V / 3A
Power Consumption (±10%)***		5W	5W
Operating Temperature		10℃ ~ 40℃ (50℉~104℉)	
Dimensions (mm)****		343(W) x 59(H) x 223(D)	

	Model 16	Model 17
▼ Network		
Ethernet	10/100 Base-T. Supports remote control and live view via Ethernet	
Network Protocol	TCP/IP, PPPOE, DHCP and DDNS	
▼ Remote Surveillance from PC		
Compatible Operating System	Windows & MAC	
Compatible Program	Web Browser: Internet Explorer, Mozilla Firefox, Google Chrome, Safari & Opera	
	Video Viewer: For both Windows and MAC operating systems	
	QuickTime: For both Windows and MAC operating systems	
Max. online users	10	
Web Transmitting Compression Format	H.264	
Network Live Audio	YES	
Remote Independent Operation	YES	
Remote Event Download & Playback	YES	
R.E.T.R. (Remote Event Trigger Recording)	YES	
▼ Mobile Surveillance		
App	EagleEyes	
Compatible Devices	iPad, iPhone, BlackBerry, Symbian, Windows Mobile & Android mobile devices	
Push Video (With EagleEyes for iPhone, iPad and Android versions)	YES	NO
▼ Others		
DCCS Support	NO	
IVA Support	NO	
Free DDNS service	YES	
Multiplex Operation	Live display / record / playback / backup / network operations	
System Recovery	System auto recovery after power failure	
Optional Peripherals	Keyboard Controller	

* The specifications are subject to change without notice.
** 1 HDD capacity up to 3TB
*** Without HDD & bracket
**** Dimensional Tolerance: ±5mm

➢ 16CH Models with BNC connector for main monitor output

		Model 1	Model 2
▼ Video			
Video System		NTSC / PAL (auto detection)	
Video Compression Format		H.264	
Video Input		16 channels (Composite video signal 1 Vp-p 75Ω BNC)	
Video Loop Output		NO	
Video Output	BNC	YES (Main monitor for stable display)	
	VGA	YES	
	HDMI	YES	
Dual Video Output		YES	
▼ Record & Backup			
Maximum Recording Rate	960H	960 x 480 pixels with 360 IPS <NTSC> / 960 x 576 pixels with 300 IPS <PAL>	
	Frame	704×480 pixels with 480 IPS <NTSC> / 704×576 pixels with 400 IPS <PAL>	
	Field	704x240 pixels with 480 IPS <NTSC> / 704×288 pixels with 400 IPS <PAL>	
	CIF	352×240 pixels with 480 IPS <NTSC> / 352×288 pixels with 400 IPS <PAL>	
Image Resolution		960H / Frame / Field / CIF	
Recording Mode		Manual / Timer / Motion / Alarm / Remote	
Pre-alarm Recording		YES	
Quick Search		Time / Motion / Alarm search mode	
Backup Device		USB 2.0 flash drive / Network	
▼ Audio			
Audio Input		4 audio inputs	4 audio inputs
Audio Output		2 audio outputs (Mono)	1 audio output (Mono)
▼ General			
Hard Disk Storage**		Up to 2 SATA HDDs	
SATA Interface		YES	
eSATA Interface		YES (For external disk array connection)	
Image Quality Setting		SUPER BEST / BEST / HIGH / NORMAL	
USB Mouse Control		YES	
Motion Detection Area		16 × 12 grids per channel	
Motion Detection Sensitivity		3 adjustable parameters for accurate detection	
Event Notification		Push Video / FTP / E-Mail	
Picture Zoom		2X digital zoom	
PTZ Control		YES	
Alarm I/O		16 inputs (4 inputs for Push Video), 1 output	
IR Remote Control		YES (IR receiver built-in)	
Key Lock (Password Protection)		YES	
User Level		4 user levels for different access privilege	
Video Loss Detection		YES	
Camera Title		Supports up to 12 letters	
Video Adjustable		Hue / Saturation / Contrast / Brightness	
Date Display Format		YY/MM/DD, DD/MM/YY & MM/DD/YY	
Daylight Saving		YES	
Power Source (±10%)		DC19V / 3.42A	
Power Consumption (±10%)***		17W	
Operating Temperature		10℃ ~ 40℃ (50℉~104℉)	
Dimensions (mm)***		432(W) × 90(H) × 326(D)	430(W) × 65(H) × 338(D)

	Model 1	Model 2
▼ Network		
Ethernet	1000 Base-T. Supports remote control and live view via Ethernet	
Network Protocol	TCP/IP, PPPOE, DHCP and DDNS	
▼ Remote Surveillance from PC		
Compatible Operating System	Windows & MAC	
Compatible Program	Web Browser:	Internet Explorer, Mozilla Firefox, Google Chrome, Safari
	Video Viewer:	For both Windows and MAC operating systems
	QuickTime:	For both Windows and MAC operating systems
Max. online users	10	
Web Transmitting Compression Format	H.264	
Network Live Audio	YES	
Remote Independent Operation	YES	
Remote Event Download & Playback	YES	
R.E.T.R. (Remote Event Trigger Recording)	YES	
▼ Mobile Surveillance		
App	EagleEyes	
Compatible Devices	iOS & Android mobile devices	
Push Video (With EagleEyes for iPhone, iPad and Android versions)	YES	
▼ Others		
DCCS Support	NO	
IVA Support	NO	
Free DDNS service	YES	
Multiplex Operation	Live display / record / playback / backup / network operations	
System Recovery	System auto recovery after power failure	
Optional Peripherals	Keyboard Controller	

* The specifications are subject to change without notice.
** 1 HDD capacity up to 4TB
*** Without HDD & bracket
*** Dimensional Tolerance: ±5mm

➢ 8CH Models with BNC connector for main monitor output

		Model 3	Model 4
▼ Video			
Video System		NTSC / PAL (auto detection)	
Video Compression Format		H.264	
Video Input		8 channels (Composite video signal 1 Vp-p 75Ω BNC)	
Video Loop Output		NO	
Video Output	BNC	YES (Main monitor for stable display)	
	VGA	YES	
	HDMI	YES	
Dual Video Output		YES	
▼ Record & Backup			
Maximum Recording Rate	960H	960 x 480 pixels with 180 IPS <NTSC> / 960 x 576 pixels with 150 IPS <PAL>	960 x 480 pixels with 360 IPS <NTSC> / 960 x 576 pixels with 300 IPS <PAL>
	Frame	704×480 pixels with 240 IPS <NTSC> / 704×576 pixels with 200 IPS <PAL>	704×480 pixels with 480 IPS <NTSC> / 704×576 pixels with 400 IPS <PAL>
	Field	704x240 pixels with 240 IPS <NTSC> / 704×288 pixels with 200 IPS <PAL>	704x240 pixels with 480 IPS <NTSC> / 704×288 pixels with 400 IPS <PAL>
	CIF	352×240 pixels with 240 IPS <NTSC> / 352×288 pixels with 200 IPS <PAL>	352×240 pixels with 480 IPS <NTSC> / 352×288 pixels with 400 IPS <PAL>
Image Resolution		960H / Frame / Field / CIF	
Recording Mode		Manual / Timer / Motion / Alarm / Remote	
Pre-alarm Recording		YES	
Quick Search		Time / Motion / Alarm search mode	
Backup Device		USB 2.0 flash drive / Network	
▼ Audio			
Audio Input		4 audio inputs	
Audio Output		1 audio output (Mono)	
▼ General			
Hard Disk Storage**		2 SATA HDDs	
SATA Interface		YES	
eSATA Interface		YES (For external disk array connection)	
Image Quality Setting		SUPER BEST / BEST / HIGH / NORMAL	
USB Mouse Control		YES	
Motion Detection Area		16 × 12 grids per channel	
Motion Detection Sensitivity		3 adjustable parameters for accurate detection	
Event Notification		Push Video / FTP / E-Mail	
Picture Zoom		2X digital zoom	
PTZ Control		YES	
Alarm I/O		8 inputs (2 inputs for Push Video), 1 output	
IR Remote Control		YES (IR receiver built-in)	
Key Lock (Password Protection)		YES	
User Level		4 user levels for different access privilege	
Video Loss Detection		YES	
Camera Title		Supports up to 12 letters	
▼ General			
Daylight Saving		YES	
Power Source (±10%)		DC19 V /2.1A	
Power Consumption (±10%)***		11W	
Operating Temperature		10℃ ~ 40℃ (50℉~104℉)	
Dimensions (mm)****		430(W) × 65(H) × 338(D)	432(W) × 90(H) × 326(D)

	Model 3	Model 4
▼ Network		
Ethernet	10/100 Base-T. Supports remote control and live view via Ethernet	
Network Protocol	TCP/IP, PPPOE, DHCP and DDNS	
▼ Remote Surveillance from PC		
Compatible Operating System	Windows & MAC	
Compatible Program	Web Browser: Internet Explorer, Mozilla Firefox, Google Chrome, Safari	
	Video Viewer: For both Windows and MAC operating systems	
	QuickTime: For both Windows and MAC operating systems	
Max. online users	10	
Web Transmitting Compression Format	H.264	
Network Live Audio	YES	
Remote Independent Operation	YES	
Remote Event Download & Playback	YES	
R.E.T.R. (Remote Event Trigger Recording)	YES	
▼ Mobile Surveillance		
App	EagleEyes	
Compatible Devices	iPad, iPhone, BlackBerry, Symbian, Windows Mobile & Android mobile devices	
Push Video (With EagleEyes for iPhone, iPad and Android versions)	YES	
▼ Others		
DCCS Support	NO	
IVA Support	NO	
Free DDNS service	YES	
Multiplex Operation	Live display / record / playback / backup / network operations	
System Recovery	System auto recovery after power failure	
Optional Peripherals	Keyboard Controller	

* The specifications are subject to change without notice.
** 1 HDD capacity up to 4TB
*** Without HDD & bracket
**** Dimensional Tolerance: ±5mm

➢ 4CH Models with BNC connector for main monitor output

		Model 5	Model 6
▼ Video			
Video System		NTSC / PAL (auto detection)	
Video Compression Format		H.264	
Video Input		4 channels (Composite video signal 1 Vp-p 75Ω BNC)	
Video Output	BNC	YES (Main monitor for stable display)	
	VGA	YES (Full HD display)	
	HDMI	YES (Full HD display)	
Dual Video Output		YES	
▼ Record & Backup			
Maximum Recording Rate	960H	960 x 480 pixels with 90 IPS <NTSC> / 960 x 576 pixels with 75 IPS <PAL>	
	Frame	704×480 pixels with 120 IPS <NTSC> / 704×576 pixels with 100 IPS <PAL>	
	Field	704x240 pixels with 120 IPS <NTSC> / 704×288 pixels with 100 IPS <PAL>	
	CIF	352×240 pixels with 120 IPS <NTSC> / 352×288 pixels with 100 IPS <PAL>	
Image Resolution		960H / Frame / Field / CIF	
Recording Mode		Manual / Timer / Motion / Alarm / Remote	
Pre-alarm Recording		YES	
Quick Search		Time / Motion / Alarm search mode	
Backup Device		USB 2.0 flash drive / Network	
▼ Audio			
Audio Input		4 audio inputs	
Audio Output		1 audio output (Mono)	
▼ General			
Hard Disk Storage**		1 SATA HDD	
SATA Interface		YES	
eSATA Interface		YES (For external disk array connection)	NO
Image Quality Setting		SUPER BEST / BEST / HIGH / NORMAL	
USB Mouse Control		YES	
Motion Detection Area		16 × 12 grids per channel	
Motion Detection Sensitivity		3 adjustable parameters for accurate detection	
Event Notification		Push Video / FTP / E-Mail	FTP / E-Mail
Picture Zoom		2X digital zoom	
PTZ Control		YES	
Alarm I/O		4 inputs (1 input for Push Video), 1 output	4 inputs, 1 output
IR Remote Control		YES (IR receiver built-in)	
Key Lock (Password Protection)		YES	
User Level		4 user levels for different access privilege	
Video Loss Detection		YES	
Camera Title		Supports up to 12 letters	
▼ General			
Daylight Saving		YES	
Power Source (±10%)		DC19V / 2.1A	DC12V / 3A
Power Consumption (±10%)***		5W	
Operating Temperature		10℃ ~ 40℃ (50℉~104℉)	
Dimensions (mm)****		375(W) × 61(H) × 281(D)	

	Model 5	Model 6
▼ Network		
Ethernet	10/100 Base-T. Supports remote control and live view via Ethernet	
Network Protocol	TCP/IP, PPPOE, DHCP and DDNS	
▼ Remote Surveillance from PC		
Compatible Operating System	Windows & MAC	
Compatible Program	Web Browser: Internet Explorer, Mozilla Firefox, Google Chrome, Safari	
	Video Viewer: For both Windows and MAC operating systems	
	QuickTime: For both Windows and MAC operating systems	
Max. online users	10	
Web Transmitting Compression Format	H.264	
Network Live Audio	YES	
Remote Independent Operation	YES	
Remote Event Download & Playback	YES	
R.E.T.R. (Remote Event Trigger Recording)	YES	
▼ Mobile Surveillance		
App	EagleEyes	
Compatible Devices	iPad, iPhone, BlackBerry, Symbian, Windows Mobile & Android mobile devices	
Push Video (With EagleEyes for iPhone, iPad and Android versions)	YES	NO
▼ Others		
DCCS Support	NO	
IVA Support	NO	
Free DDNS service	YES	
Multiplex Operation	Live display / record / playback / backup / network operations	
System Recovery	System auto recovery after power failure	
Optional Peripherals	Keyboard Controller	

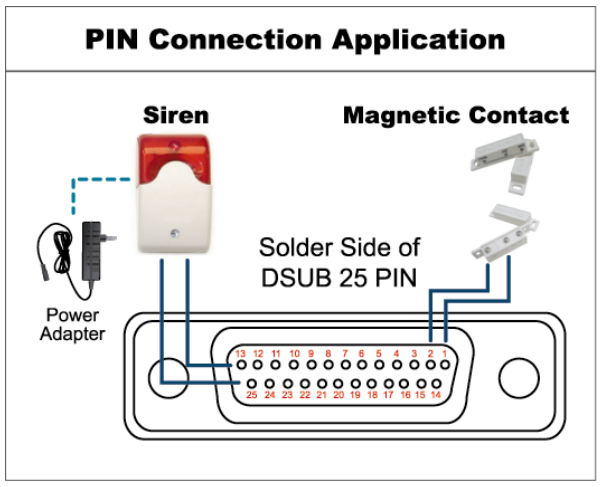
* The specifications are subject to change without notice.
** 1 HDD capacity up to 4TB
*** Without HDD & bracket
**** Dimensional Tolerance: ±5mm

		Model 7	Model 8
▼ Video			
Video System		NTSC / PAL (auto detection)	
Video Compression Format		H.264	
Video Input		4 channels (Composite video signal 1 Vp-p 75Ω BNC)	
Video Output	BNC	YES (Main monitor for stable display)	
	VGA	YES (Full HD display)	
	HDMI	YES (Full HD display)	
Dual Video Output		YES	
▼ Record & Backup			
Maximum Recording Rate	960H	960 x 480 pixels with 90 IPS <NTSC> / 960 x 576 pixels with 75 IPS <PAL>	
	Frame	704×480 pixels with 120 IPS <NTSC> / 704×576 pixels with 100 IPS <PAL>	
	Field	704x240 pixels with 120 IPS <NTSC> / 704×288 pixels with 100 IPS <PAL>	
	CIF	352×240 pixels with 120 IPS <NTSC> / 352×288 pixels with 100 IPS <PAL>	
Image Resolution		960H / Frame / Field / CIF	
Recording Mode		Manual / Timer / Motion / Alarm / Remote	
Pre-alarm Recording		YES	
Quick Search		Time / Motion / Alarm search mode	
Backup Device		USB 2.0 flash drive / Network	
▼ Audio			
Audio Input		4 audio inputs	
Audio Output		1 audio output (Mono)	
▼ General			
Hard Disk Storage**		1 SATA HDD	
SATA Interface		YES	
eSATA Interface		YES (For external disk array connection)	NO
Image Quality Setting		SUPER BEST / BEST / HIGH / NORMAL	
USB Mouse Control		YES	
Motion Detection Area		16 × 12 grids per channel	
Motion Detection Sensitivity		3 adjustable parameters for accurate detection	
Event Notification		Push Video / FTP / E-Mail	FTP / E-Mail
Picture Zoom		2X digital zoom	
PTZ Control		YES	
Alarm I/O		4 inputs (1 input for Push Video), 1 output	4 inputs, 1 output
IR Remote Control		YES (IR receiver built-in)	
Key Lock (Password Protection)		YES	
User Level		4 user levels for different access privilege	
Video Loss Detection		YES	
Camera Title		Supports up to 12 letters	
▼ General			
Daylight Saving		YES	
Power Source (±10%)		DC19V / 2.1A	DC12V / 3A
Power Consumption (±10%)***		5W	5W
Operating Temperature		10℃ ~ 40℃ (50℉~104℉)	
Dimensions (mm)****		343(W) x 59(H) x 223(D)	

	Model 7	Model 8
▼ Network		
Ethernet	10/100 Base-T. Supports remote control and live view via Ethernet	
Network Protocol	TCP/IP, PPPOE, DHCP and DDNS	
▼ Remote Surveillance from PC		
Compatible Operating System	Windows & MAC	
Compatible Program	Web Browser: Internet Explorer, Mozilla Firefox, Google Chrome, Safari & Opera	
	Video Viewer: For both Windows and MAC operating systems	
	QuickTime: For both Windows and MAC operating systems	
Max. online users	10	
Web Transmitting Compression Format	H.264	
Network Live Audio	YES	
Remote Independent Operation	YES	
Remote Event Download & Playback	YES	
R.E.T.R. (Remote Event Trigger Recording)	YES	
▼ Mobile Surveillance		
App	EagleEyes	
Compatible Devices	iPad, iPhone, BlackBerry, Symbian, Windows Mobile & Android mobile devices	
Push Video (With EagleEyes for iPhone, iPad and Android versions)	YES	NO
▼ Others		
DCCS Support	NO	
IVA Support	NO	
Free DDNS service	YES	
Multiplex Operation	Live display / record / playback / backup / network operations	
System Recovery	System auto recovery after power failure	
Optional Peripherals	Keyboard Controller	

* The specifications are subject to change without notice.
** 1 HDD capacity up to 4TB
*** Without HDD & bracket
**** Dimensional Tolerance: ±5mm

APPENDIX 2 PIN CONFIGURATION



** The D-Sub connector shown above is optional.*

Siren:

When the DVR is triggered by alarm or motion, the COM connects with NO and the siren with strobe starts wailing and flashing.

Magnetic Contact:

When the magnetic contact is opened, the alarm will be triggered and the recording is on.

<table>
<tr><th>PIN</th><th>FUNCTION</th><th>DESCRIPTION</th></tr>
<tr><td>1</td><td>GND</td><td>GROUND</td></tr>
<tr><td>2~9</td><td>ALARM INPUT</td><td>Connect ALARM INPUT (PIN 2 -- 9) and GND (PIN 1) connector with wires. Once an alarm is triggered, the DVR will start recording and the buzzer will be on.
<table>
<tr><th>PIN</th><th>Alarm</th><th>Corresponding video channel</th></tr>
<tr><td>PIN 2</td><td>1</td><td>CH1</td></tr>
<tr><td>PIN 3</td><td>3</td><td>CH3</td></tr>
<tr><td>PIN 4</td><td>5</td><td>CH5</td></tr>
<tr><td>PIN 5</td><td>7</td><td>CH7</td></tr>
<tr><td>PIN 6</td><td>9</td><td>CH9</td></tr>
<tr><td>PIN 7</td><td>11</td><td>CH11</td></tr>
<tr><td>PIN 8</td><td>13</td><td>CH13</td></tr>
<tr><td>PIN 9</td><td>15</td><td>CH15</td></tr>
</table></td></tr>
<tr><td>10~11</td><td>PIN OFF</td><td>NA</td></tr>
<tr><td>12</td><td>RS485-A</td><td></td></tr>
<tr><td>13</td><td>EXTERNAL ALARM NO</td><td>Under the normal operation, COM disconnects with NO. But when any alarm is triggered, COM connects with NO.
Attention: The voltage restriction is under DC24V 1A.</td></tr>
<tr><td>14</td><td>PIN OFF</td><td>NA</td></tr>
<tr><td>15~22</td><td>ALARM INPUT</td><td>Connect ALARM INPUT (PIN 15 – 22) and GND (PIN 1) connector with wires. Once an alarm is triggered, the DVR will start recording and the buzzer will be on.
<table>
<tr><th>PIN</th><th>Alarm</th><th>Corresponding video channel</th></tr>
<tr><td>PIN 15</td><td>2</td><td>CH2</td></tr>
<tr><td>PIN 16</td><td>4</td><td>CH4</td></tr>
<tr><td>PIN 17</td><td>6</td><td>CH6</td></tr>
<tr><td>PIN 18</td><td>8</td><td>CH8</td></tr>
<tr><td>PIN 19</td><td>10</td><td>CH10</td></tr>
<tr><td>PIN 20</td><td>12</td><td>CH12</td></tr>
<tr><td>PIN 21</td><td>14</td><td>CH14</td></tr>
<tr><td>PIN 22</td><td>16</td><td>CH16</td></tr>
</table></td></tr>
<tr><td>23~23</td><td>PIN OFF</td><td>NA</td></tr>
<tr><td>24</td><td>RS485-B</td><td></td></tr>
<tr><td>25</td><td>EXTERNAL ALARM COM</td><td>Under the normal operation, COM disconnects with NO. But when any alarm is triggered, COM connects with NO.
Attention: The voltage restriction is under DC24V 1A.</td></tr>
</table>

APPENDIX 3 PUSH VIDEO CONFIGURATION

Note: Available only when your DVR supports Push Video.

A3.1 PIN Connection

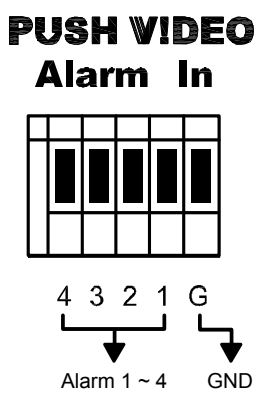
This DVR supports sending instant event notifications to your mobile devices, such as iPhone, iPad and Android mobile devices, for an alarm event (Push Video). However, only certain alarm-in pins support this function.

There are two methods to connect alarm sensors for Push Video to take efforts: via PUSH VIDEO alarm-in terminal and via external I/O port.

PUSH VIDEO alarm-in terminal

A PUSH VIDEO alarm-in terminal is provided on the DVR rear panel, similar as the picture below, to help you quickly find and connect to the pins which support Push Video.

Note: Below takes 16CH models as an example. For 8CH and 4CH models, the alarm-in terminal should be 2 (for 8CH models) and 1 (for 4CH models).



Alarm	Corresponding video channel
Alarm 1	CH1
Alarm 2	CH2
Alarm 3	CH3
Alarm 4	CH4

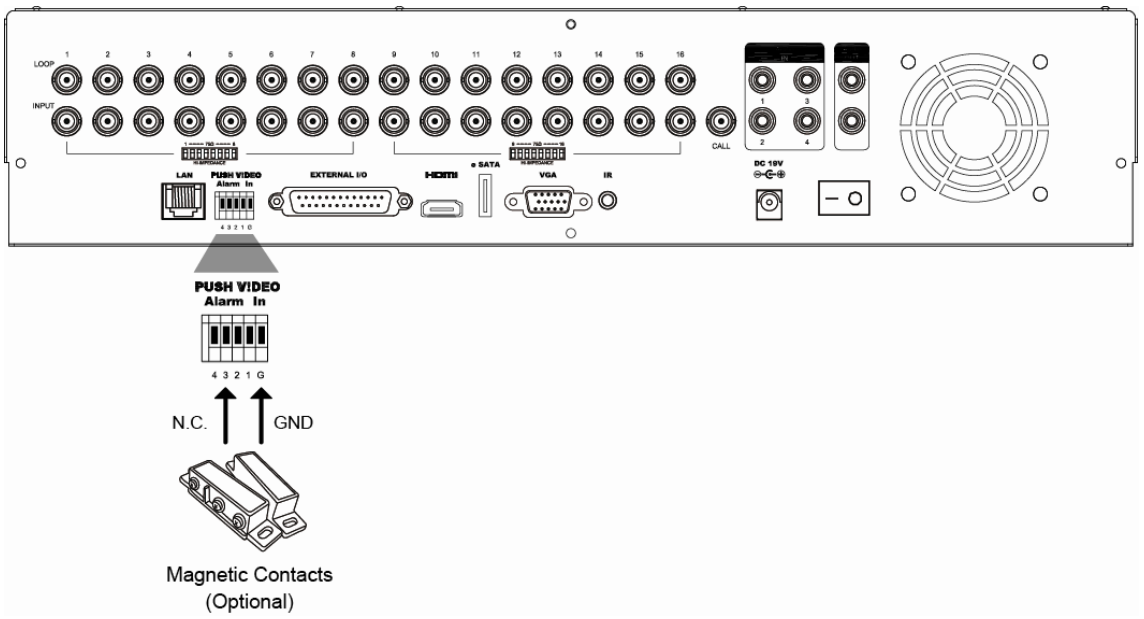
External I/O port

Check the table below to know which pin for alarm devices supports Push Video and its corresponding video channel.

	PIN	Corresponding video channel
16CH Model	PIN2	CH1
	PIN15	CH2
	PIN3	CH3
	PIN16	CH4
8CH Model	PIN2	CH1
	PIN15	CH2
4CH Model	PIN1	CH1

Alarm sensor connection

Connect the alarm sensor, such as magnetic contacts, to the PUSH VIDEO alarm-in terminal or I/O pin which supports Push Video on the DVR rear panel.



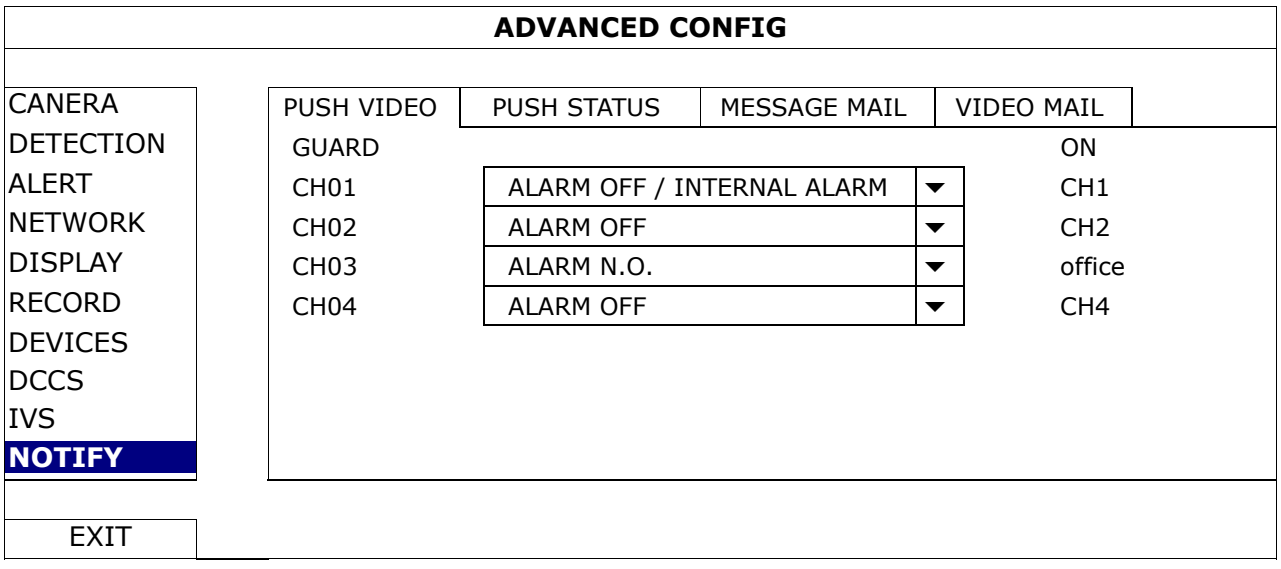
A3.2 Configuration

Before configuring Push Video, make sure:

1. The DVR system is set up as described in “2. CONNECTION AND SETUP” at page 4.
2. The DVR is connected to Internet.
3. You’ve installed the app, EagleEyes, on your iPhone, iPad or Android mobile devices.
   For details, please refer to “APPENDIX 4 MOBILE SURVEILLANCE VIA EAGLEEYES” at page 88.

Step1: Right click to show the main menu.

Go to (ADVANCED CONFIG.) → "NOTIFY” to enable “GUARD” to “ON”, and configure your alarm sensor type (N.C. or N.O.).



Step2: Open EagleEyes, and add this DVR to the EagleEyes address book.

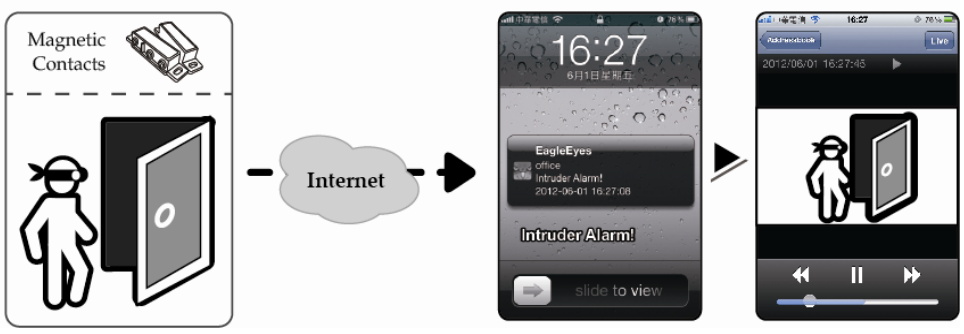
Note: For more details about EagleEyes operation, please visit www.eagleeyescctv.com.

Step3: Enable Push Video as described below, and try to trigger your sensor to see if you can receive Push Video successfully.

1 Enable Push Video.

2 Trigger the input alarm.

3 Receive an event notification and see video.



APPENDIX 4 MOBILE SURVEILLANCE VIA EAGLEEYES

EagleEyes is a mobile phone program used with our surveillance system for remote surveillance. It has several advantages:

- It's free (Except *EagleEyes Plus* for iPhone, *EagleEyes Plus+* for Android, and *EagleEyesHD Plus* for iPad).
- It's compatible with several popular mobile platforms, such as iPhone, iPad, BlackBerry and Android.

It's easy to download, install and configure. For more details about configuring and operating this program, please visit our official website www.eagleeyescctv.com.

A4.1 Prerequisites

Before installing EagleEyes to your mobile phone for remote surveillance, make sure you have checked the following:

- ✓ Your mobile platform is iPhone, iPad, BlackBerry and Android.
- ✓ Mobile Internet services are subscribed and available to use for your mobile phone.

Note: You might be charged for Internet access via wireless or 3G networks. For the Internet access rate details, please check with your local network operator or service provider.

- ✓ You have noted down the IP address, port number, user name and password used to access your network camera from Internet.

A4.2 Where to download

Connect to www.eagleeyescctv.com from your mobile device, and sign in.

Note: Please **DO NOT** try to download EagleEyes from your computer.

Select the mobile platform you're using to enter its individual download page.

Note: You can also find *EagleEyes* on "App Store℠" / "Google Play™" from your iOS® / Android™ mobile devices.

When the download is completed, EagleEyes will be installed automatically to the location where all applications are saved in your phone by default, or where you specify.