FULL D1 DVR

QUICK START

■ GUI Display with USB Mouse Control

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

For further operation and setup instructions, please go online: www.surveillance-download.com/user/c700.swf

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

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.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) this device may not cause harmful interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation.

Trademark Acknowledgements

 and  (EagleEyes) - The trademark application is filed and under process in the U.S. and other countries.

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Android™ is a trademark of Google Inc. Use of this trademark is subject to Google Permissions.

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.

Water & Moisture

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.

MPEG4 Licensing

THIS PRODUCT IS LICENSED UNDER THE MPEG-4 VISUAL PATENT PORTFOLIO LICENSE FOR THE PERSONAL AND NON-COMMERCIAL USE OF A CONSUMER FOR (i) ENCODING VIDEO IN COMPLIANCE WITH THE MPEG-4 VISUAL STANDARD (“MPEG-4 VIDEO”) AND/OR (ii) DECODING MPEG-4 VIDEO THAT WAS ENCODED BY A CONSUMER ENGAGED IN A PERSONAL AND NON-COMMERCIAL ACTIVITY AND/OR WAS OBTAINED FROM A VIDEO PROVIDER LICENSED BY MPEG LA TO PROVIDE MPEG-4 VIDEO. NO LICENSE IS GRANTED OR SHALL BE IMPLIED FOR ANY OTHER USE. ADDITIONAL INFORMATION INCLUDING THAT RELATING TO PROMOTIONAL INTERNAL AND COMMERCIAL USES AND LICENSING MAY BE OBTAINED FROM MPEG LA, LLC. SEE HTTP://WWW.MPEGLA.COM.

GPL Licensing

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. 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.

1.1 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 43.

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 "1.6 Clear Hard Disk" at page 7.

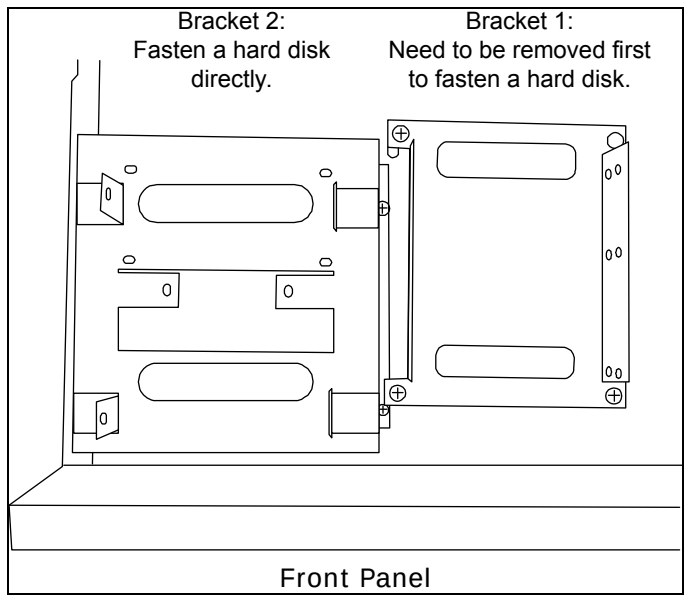
➢ **Type 1**

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 8 DVD WRITER INSTALLATION" at page 45.



2-1 To install on the first bracket

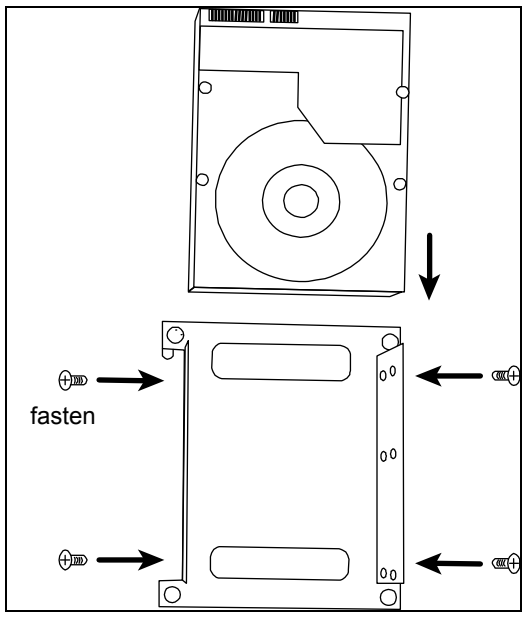
Remove the bracket, and align the screw holes of the bracket with the hard disk's screw holes.

Make sure the PCB side of the hard disk is facing up.

Then, fasten the hard disk to the bracket.

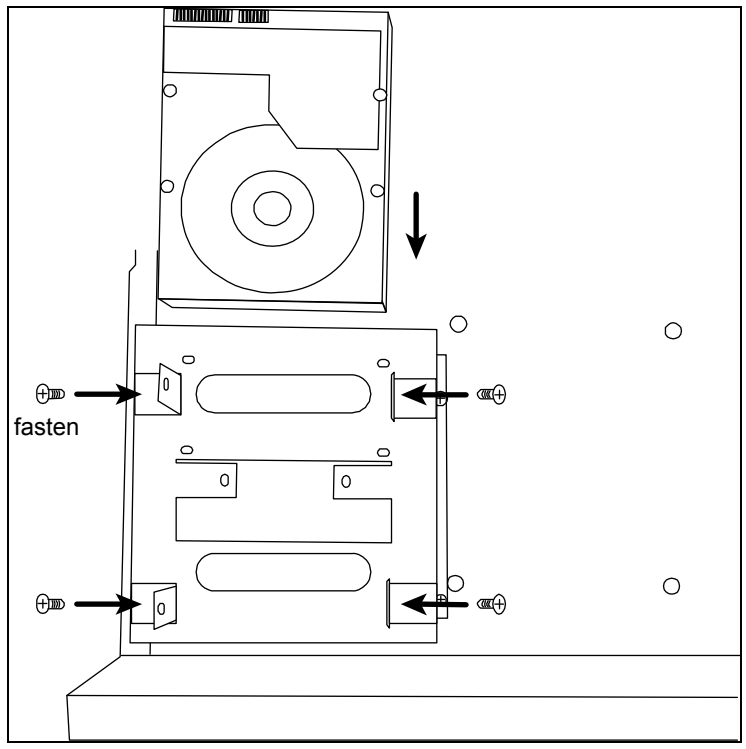
Note: If the second hard disk is to be installed, go to 2-2; If no, go to Step3 directly.

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



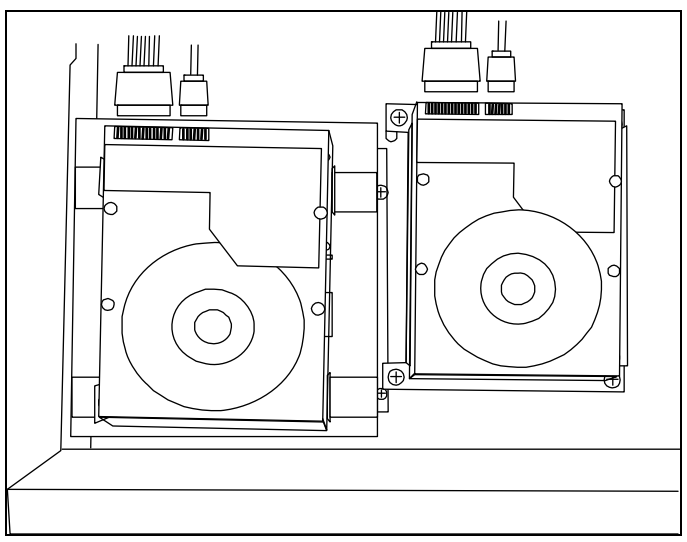
2-2 To install on the second bracket

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**

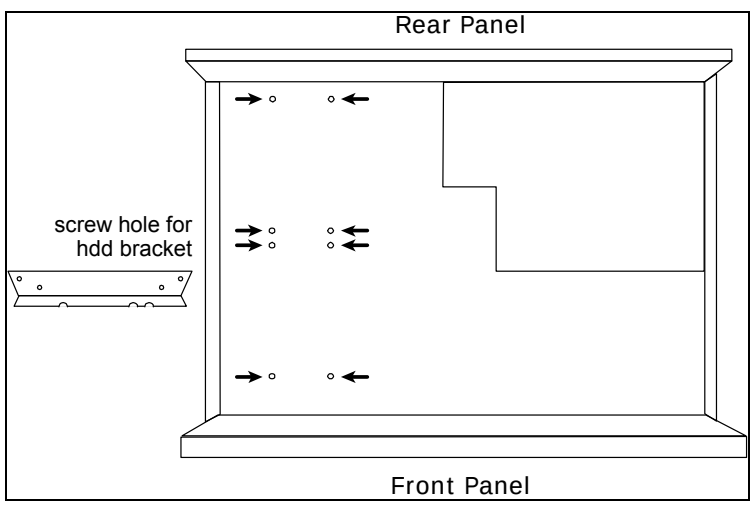
Note: Below takes a 16CH DVR model as an example. This hard disk installation type may also appy to a 8CH or 4CH DVR model.

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

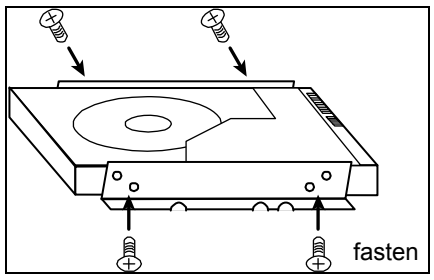
Note: The DVR cover is made of metal. Please be careful with its edge when you remove the cover.

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.

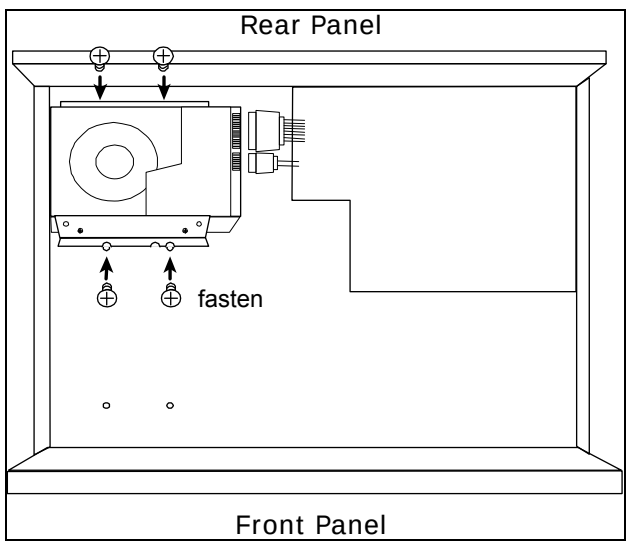


Step3: Attach and fasten the brackets to your hard disk. Make sure the PCB side of the hard disk is facing up.



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.

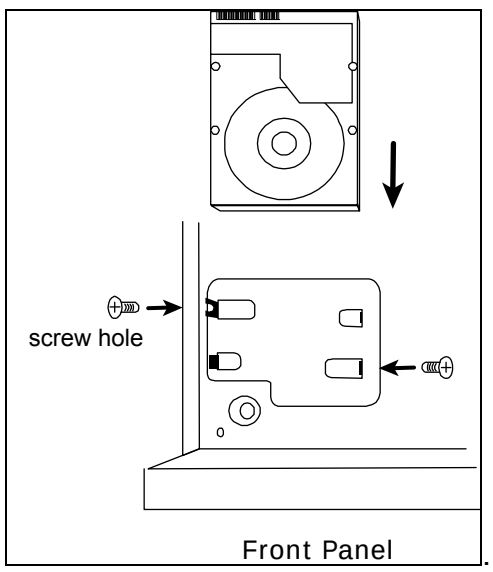
Step7: Close the upper cover of the DVR, and fasten all the screws you loosened in Step1.

- **Type 3**

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

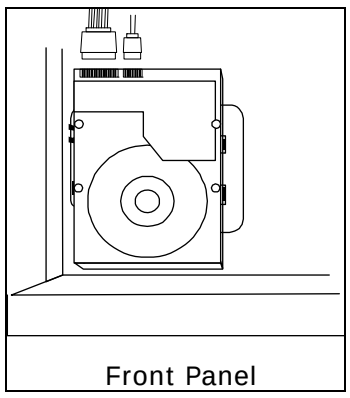
Note: The DVR cover is made of metal. Please be careful with its edge when you remove the cover.

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.



1.2 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.

1.2.1 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: 4CH models don't support DCCS.

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 "1.8 Examining DCCS Signal Transmission" at page 7.

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

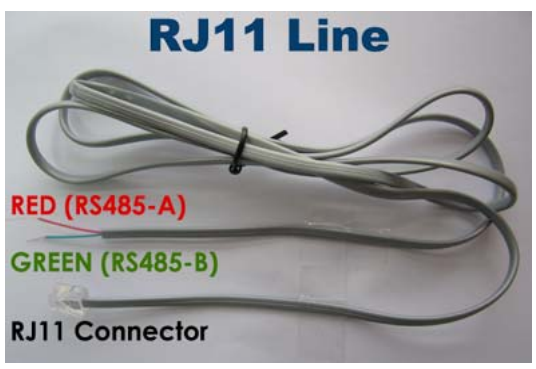
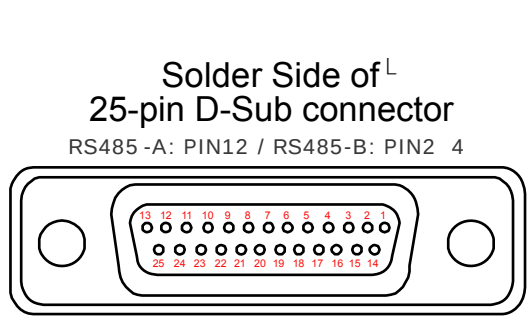
   Connect the camera with indicated power supply and make sure it's power-supplied.

1.2.2 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 1 PIN CONFIGURATION" at page 23. 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.

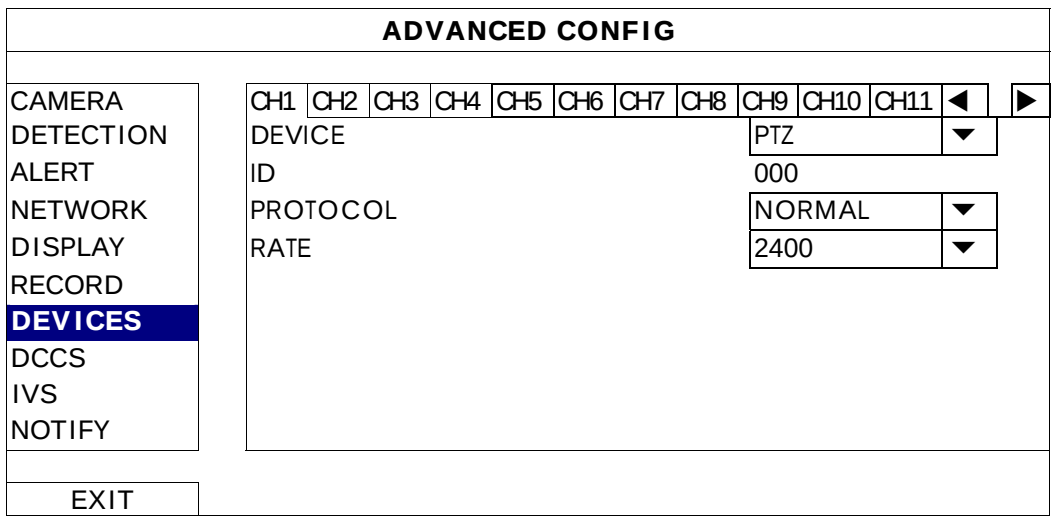
STEP 4: Connect the other end of the RJ11 cable to DVR.

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.



1.3 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 1 PIN CONFIGURATION" at page 23.

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 2 PUSH VIDEO CONFIGURATION" at page 27.

1.4 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.

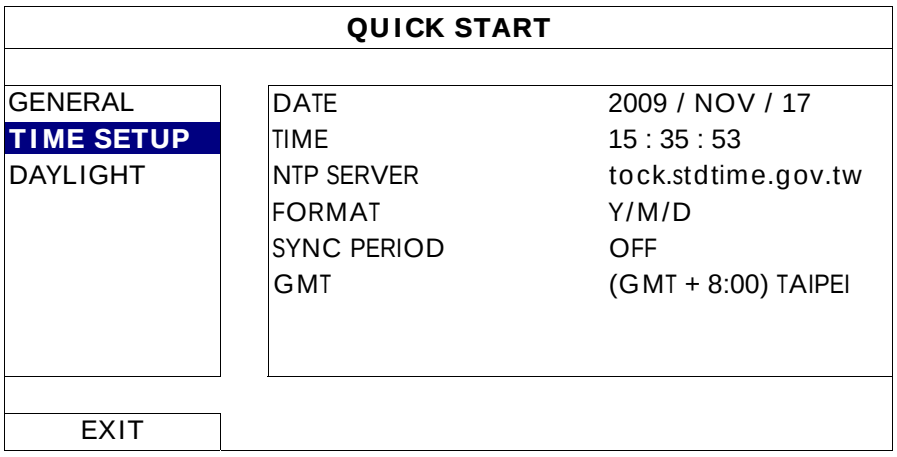
1.5 Date and Time Setting

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 hard disk 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" in the DVR user manual.

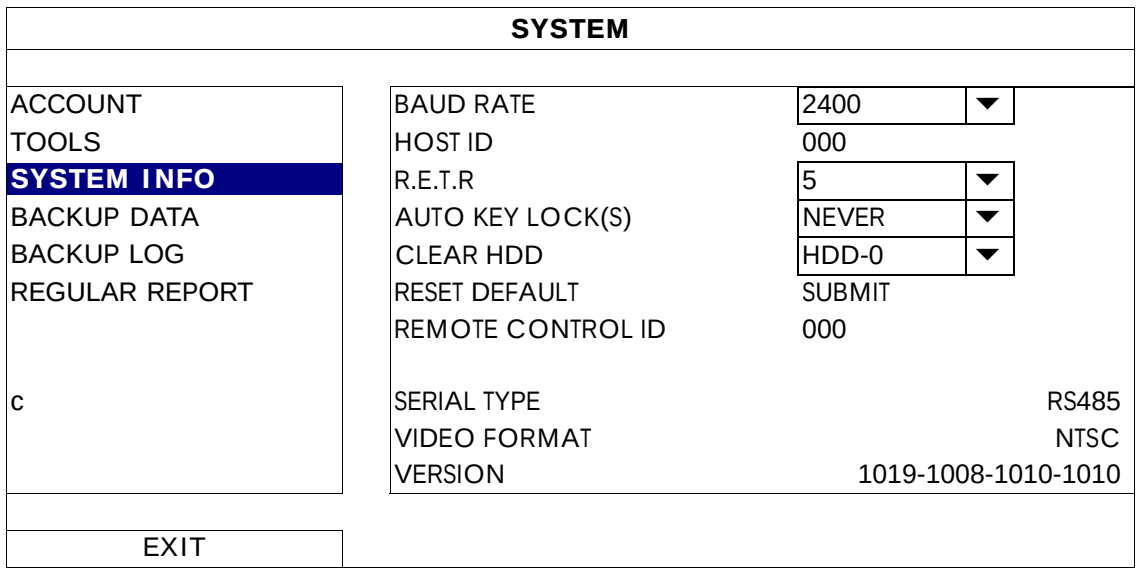
Right-click to enter the DVR password with the password keypad. The default administrator password is admin. The status will be changed from (key lock) to (unlock). Then, right-click to show the main menu, and select (QUICK START) → "TIME SETUP" to set the date & time.



1.6 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.

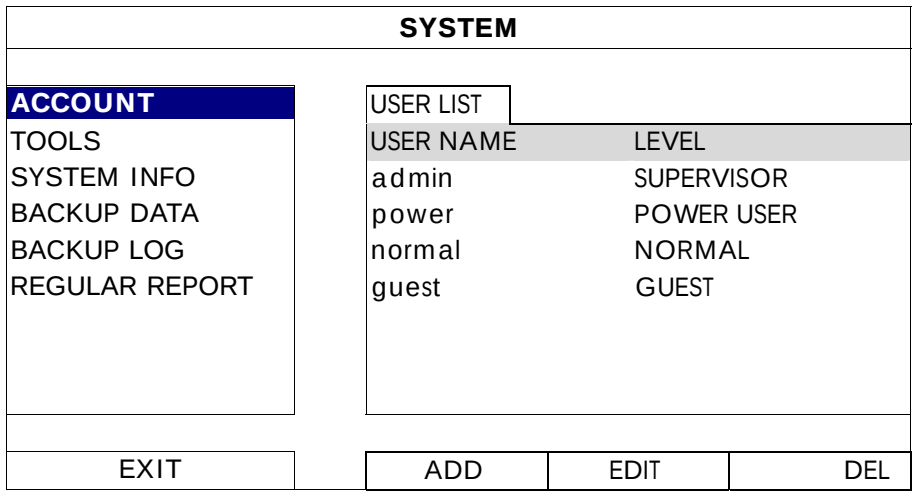
Right-click to show the main menu, and select (SYSTEM) → "SYSTEM INFO" → "CLEAR HDD". The DVR will reboot when hard disk data are cleared.



1.7 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 17.



1.8 Examining DCCS Signal Transmission

Note: 4CH models don't support DCCS function.

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.

2. USER INTERFACE

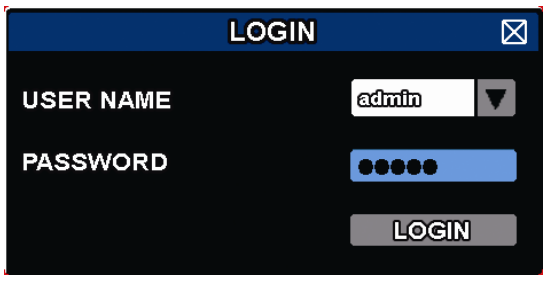
2.1 DVR Access

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 17.

Password Input



2.2 Live Page

2.2.1 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

2.2.2 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		

2.2.3 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".

2.3 Quick Menu Bar

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

Quick Menu: Open

Click to show the channel switch panel and select the channel you want. For details, please refer to "3.2 Quick Menu Bar" in the user manual.

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.

2.3 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*

Main Menu Structure

	QUICK START	GENERAL	CHANNEL TITLE
			EVENT STATUS
			PLAYBACK STATUS DISPLAY
			DATE DISPLAY
			MOUSE SENSITIVITY
			RECORD CONFIG
		TIME SETUP	DATE
			TIME
			NTP SERVER
			FORMAT
			SYNC PERIOD
			GMT
		DAYLIGHT	
	SYSTEM	ACCOUNT	
		TOOLS	LANGUAGE
			UPGRADE
			NETWORK UPGRADE
			BACKUP CONFIG
			RESTORE CONFIG
		SYSTEM INFO	BAUD RATE
			HOST ID
			R.E.T.R.
			AUTO KEY LOCK(S)
			CLEAR HDD
			RESET DEFAULT
			REMOTE CONTROL ID
			DEVICE TITLE
			SERIAL TYPE
			VIDEO FORMAT
			VERSION
		BACKUP DATA	
		BACKUP LOG	
		REGULAR REPORT	
	EVENT INFORMATION	QUICK SEARCH	
		EVENT SEARCH	
		HDD INFO	
		EVENT LOG	
	ADVANCED CONFIG	CAMERA	BRIGHTNESS
			CONTRAST
			SATURATION
			HUE
			COV.
			REC
			TIME STAMP DISPLAY
			CHANNEL TITLE

		DETECTION	LS
			SS
			TS
			MOTION
			ALARM
			AREA
		ALERT	EXT. ALERT
			INT. BUZZER
			KEY BUZZER
			VLOSS BUZZER
			MOTION BUZZER
			ALARM BUZZER
			HDD BUZZER
			ALARM DURATION (SEC)
			HDD NEARLY FULL (GB)
			HDD OVERHEAT ALERT(˚C)
		NETWORK	WAN
			FTP
			E-MAIL
			DDNS
		DISPLAY	FULL SCREEN DURATION
			QUAD SCREEN DURATION*
			CALL SCREEN DURATION*
			DISPLAY COVERT
			HDD DISPLAY MODE
			DISPLAY OUTPUT
			COVERT UNLOCK IN SUPERVISOR MODE
		RECORD	MANUAL RECORD
			EVENT RECORD
			TIMER RECORD
			PRE-ALARM RECORD
			OVERWRITE
			KEEP DATA LIMIT (DAYS)
			RECORD CONFIG
		DEVICES	
		DCCS*	
		IVS*	CAMERA
			IVS MODE
			DISPLAY LINE
			SENSITIVITY
			RESET COUNT
			VIRTUAL FENCE AREA
			SCENE CHANGE
			SCENE CHANGE LEVEL
		NOTIFY	PUSH VIDEO*
			PUSH STATUS*
			MESSAGE MAIL
			VIDEO MAIL
	SCHEDULE SETTING	RECORD	
		DETECTION	
		ALARM	

** For selected models only*

3. HARDWARE OVERVIEW

3.1 Front Panel

1) LED Indicators

⏻	DVR is powered on.
HDD	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 41.

15) ⏏ *(For selected models only)*

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

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

4. BASIC OPERATION

4.1 Key Lock / Unlock

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

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

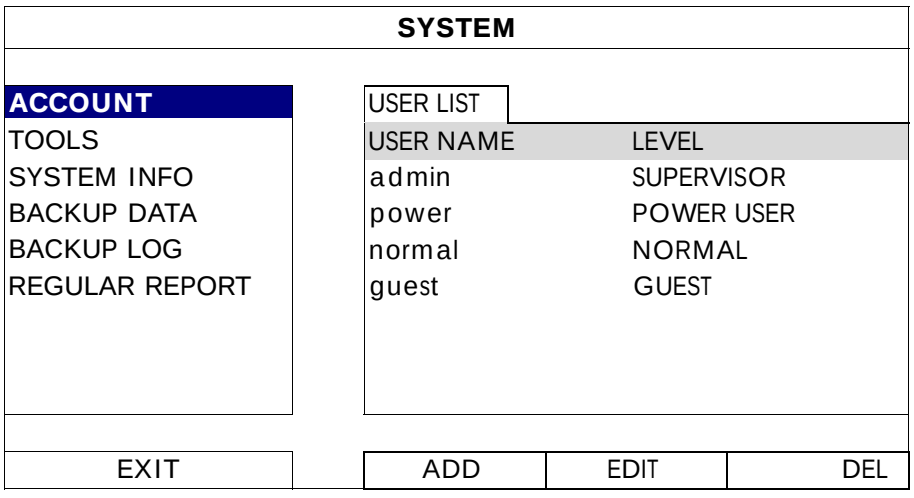
Note: The default user name and password are both "admin", which is the highest user level.

Note: Different user level has different access privilege for certain DVR functions. Please refer to "4.2 User Level Creation" at page 17.

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	✓	✓	✓	✓
1:1 /	Original size / Fit to screen	✓			
	PTZ Control	✓	✓		
■ Quick menu bar					
CH	Channel Selection	✓	✓	✓	✓
	Playback	✓	✓	✓	

	Function	User Level			
		SUPERVISOR	POWER	NORMAL	GUEST
	Digital Zoom	✓	✓	✓	✓
	Power	✓			
■ 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

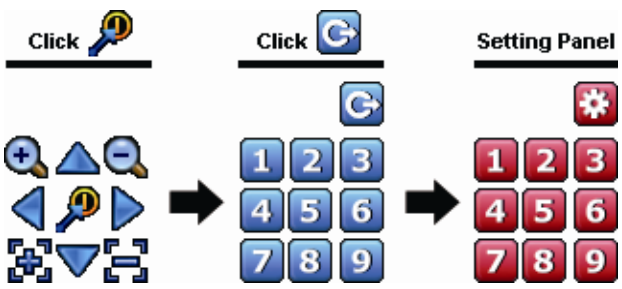
Note: This function is available only for “SUPERVISOR” and “POWER USER”. To know more details, please refer to “4.2 User Level Creation” at page 17.

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:



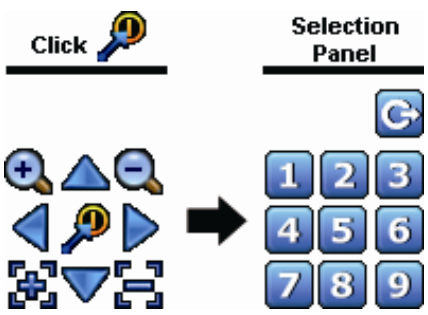
Step2: Click or to the proper ratio you need, and click / / / to move to the point you want to configure as a preset point.

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”. For details, please refer to “4.2 User Level Creation” at page 17.

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”. For details, please refer to “5.4.1 QUICK SEARCH” in the user manual.

4.4.3 Audio Playback

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

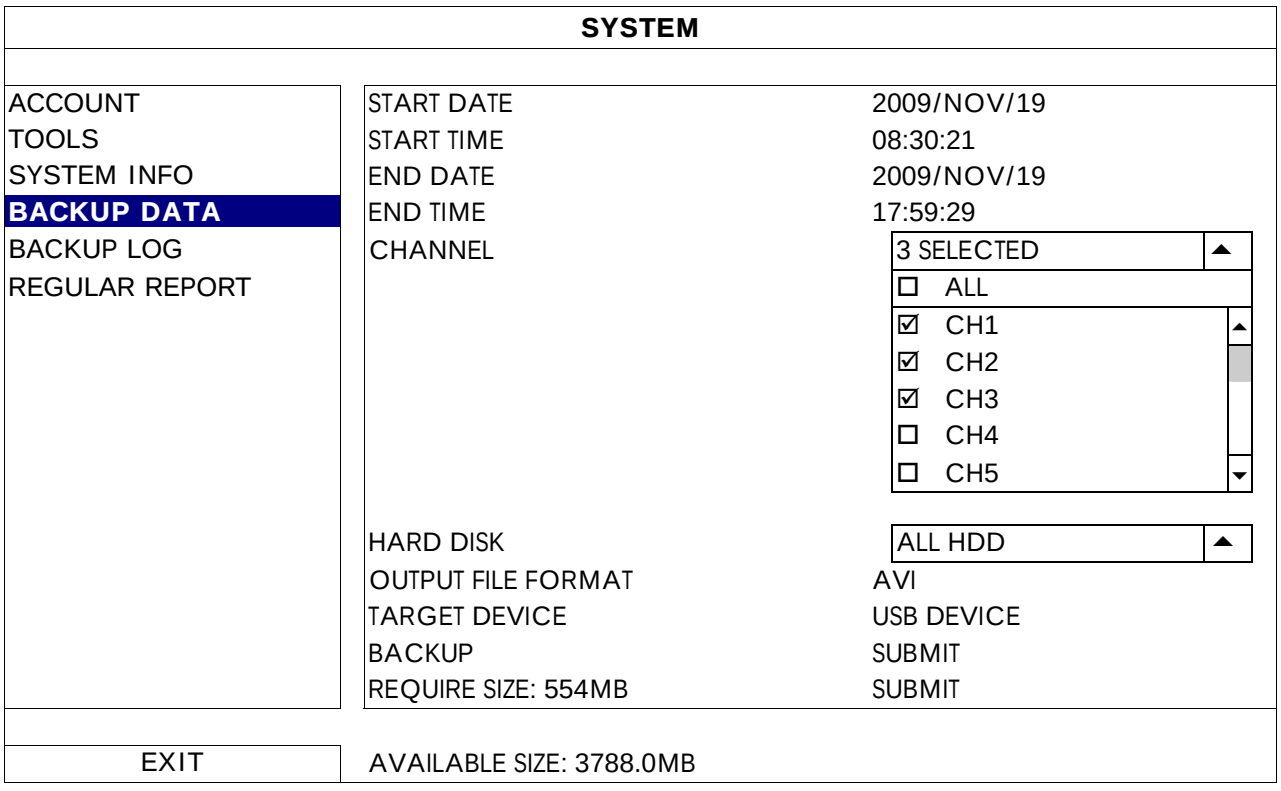
4.5 Video Backup

Note: This function is available for “SUPERVISOR”. For details, please refer to “4.2 User Level Creation” at page 17.

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 41.

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”.



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", 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.

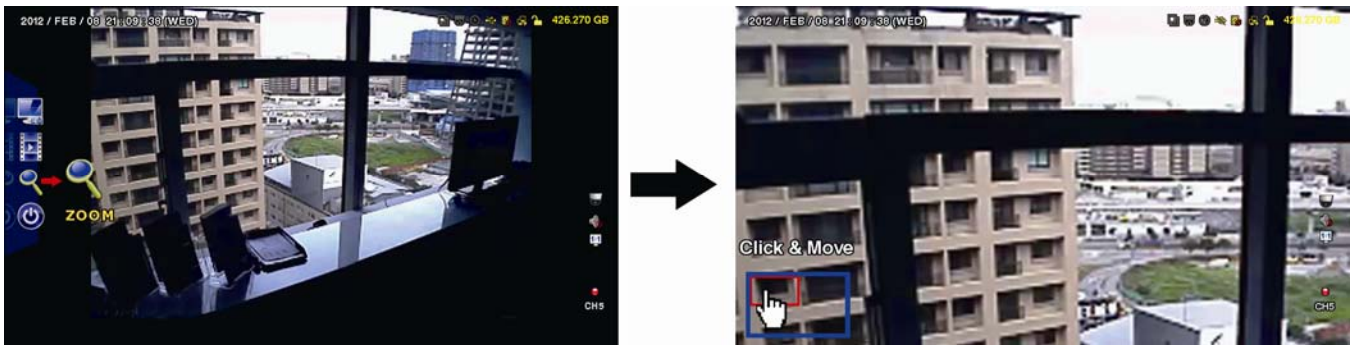
4.6.1 Convert the file format to AVI

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

Note: 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.

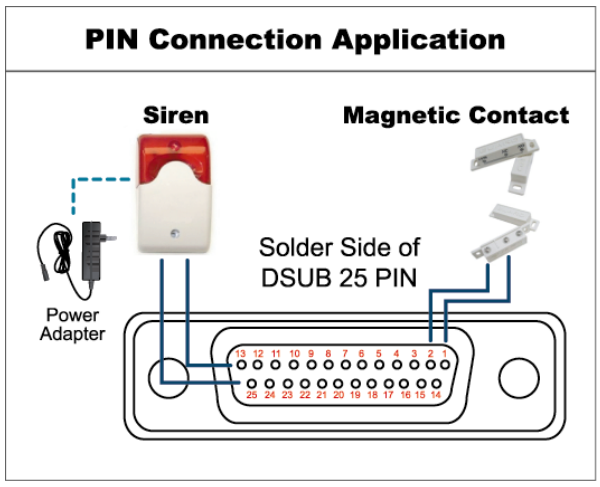


To exit this mode, right-click anywhere on the screen.

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

APPENDIX 1 PIN CONFIGURATION

- **16CH**



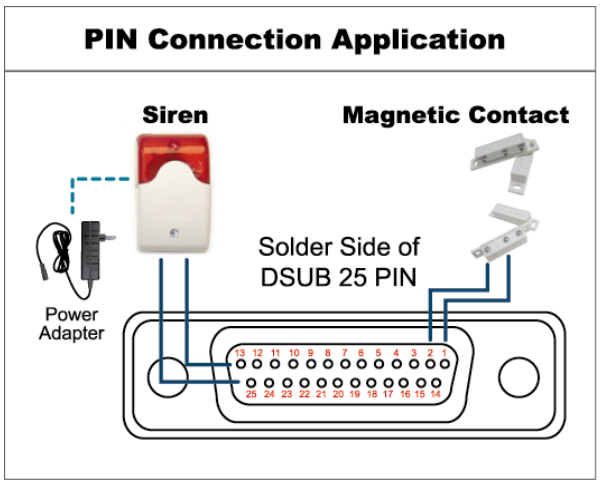
** The D-Sub connector shown above is optional.*

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>

- **8CH**



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

Siren:

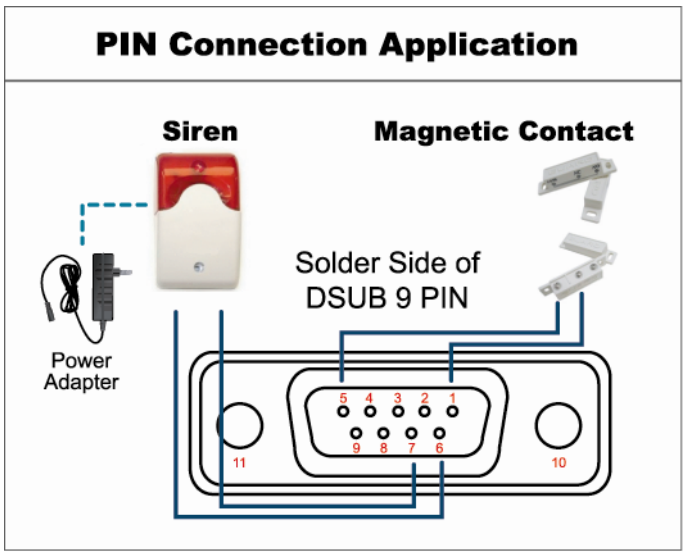
When the DVR is triggered by alarm or motion, the COM connects with NO and the siren with strobe starts wailing and flashing.

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>2~5</td><td>ALARM INPUT</td><td>Connect ALARM INPUT (PIN 2 – 5) 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>
</table>
*</td></tr>
<tr><td>6 ~ 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>15~18</td><td>ALARM INPUT</td><td>Connect ALARM INPUT (PIN 15 – 18) 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>
</table>
*</td></tr>
<tr><td>19~23</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>

- **4CH**



** 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>1~4</td><td>ALARM INPUT</td><td>Connect ALARM INPUT (PIN1 – 4) and GND (PIN5) 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 1</td><td>1</td><td>CH1</td></tr>
<tr><td>PIN 2</td><td>2</td><td>CH2</td></tr>
<tr><td>PIN 3</td><td>3</td><td>CH3</td></tr>
<tr><td>PIN 4</td><td>4</td><td>CH4</td></tr>
</table>
*</td></tr>
<tr><td>5</td><td>GND</td><td>GROUND</td></tr>
<tr><td>6</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>
<tr><td>7</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>8</td><td>RS485-A</td><td></td></tr>
<tr><td>9</td><td>RS485-B</td><td></td></tr>
<tr><td>10~11</td><td>GND</td><td>GROUND</td></tr>
</table>

APPENDIX 2 PUSH VIDEO CONFIGURATION

Note: Push Video is available only for selected models. Please check the product specifications or check with your installer for more details.

A2.1 PIN Connection

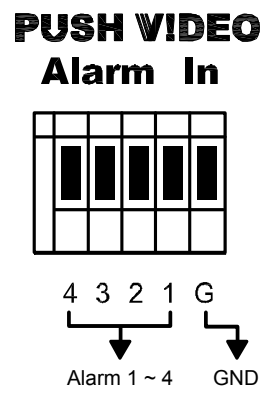
This DVR supports sending instant event notifications to your mobile devices, such as iPhone, iPad and Android mobile devices, for an alarm event (Push Video). However, only certain alarm-in pins support this function.

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

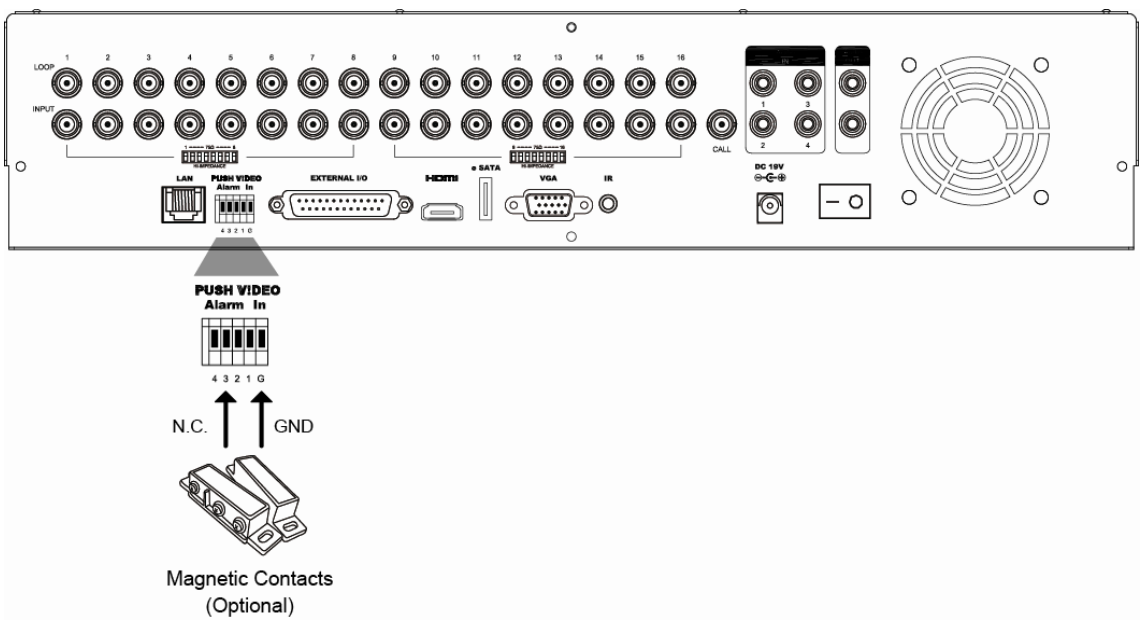
Check the table below to know which pin for alarm devices supports Push Video and its corresponding video channel.

	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.

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).



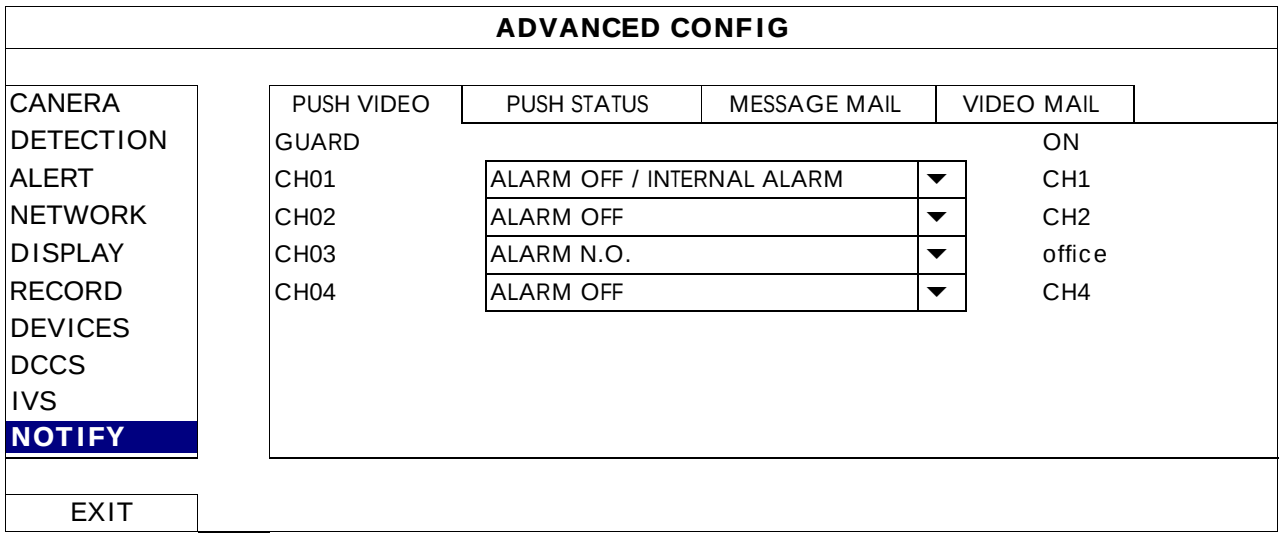
A2.2 Configuration

Before configuring Push Video, make sure:

1. The DVR system is set up as described in “1. CONNECTION AND SETUP” at page 1.
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 3 MOBILE SURVEILLANCE VIA EAGLEEYES” at page 31.

Step1: Right click to show the main menu.

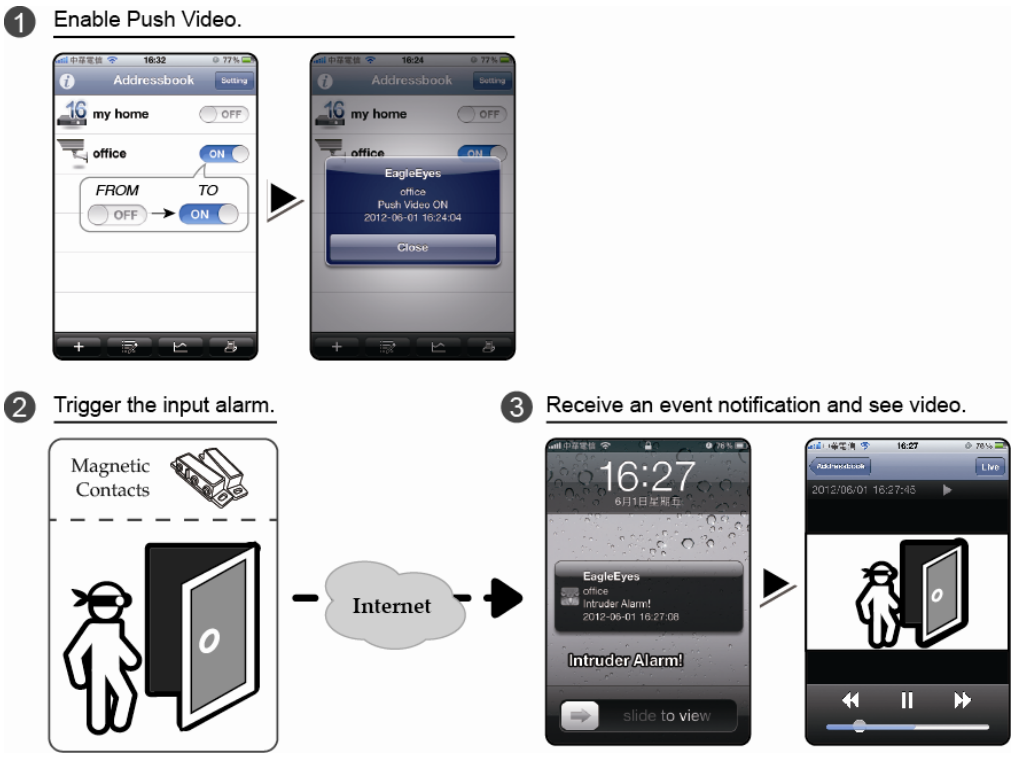
Go to (ADVANCED CONFIG.) → "NOTIFY” to enable “GUARD” to “ON”, and configure your alarm sensor type (N.C. or N.O.).



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.



APPENDIX 3 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 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.

A3.1 Prerequisites

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

- ✓ Your mobile platform is iPhone, iPad & 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.

A3.2 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" / "Play Store" from your iOS / Android mobile devices.

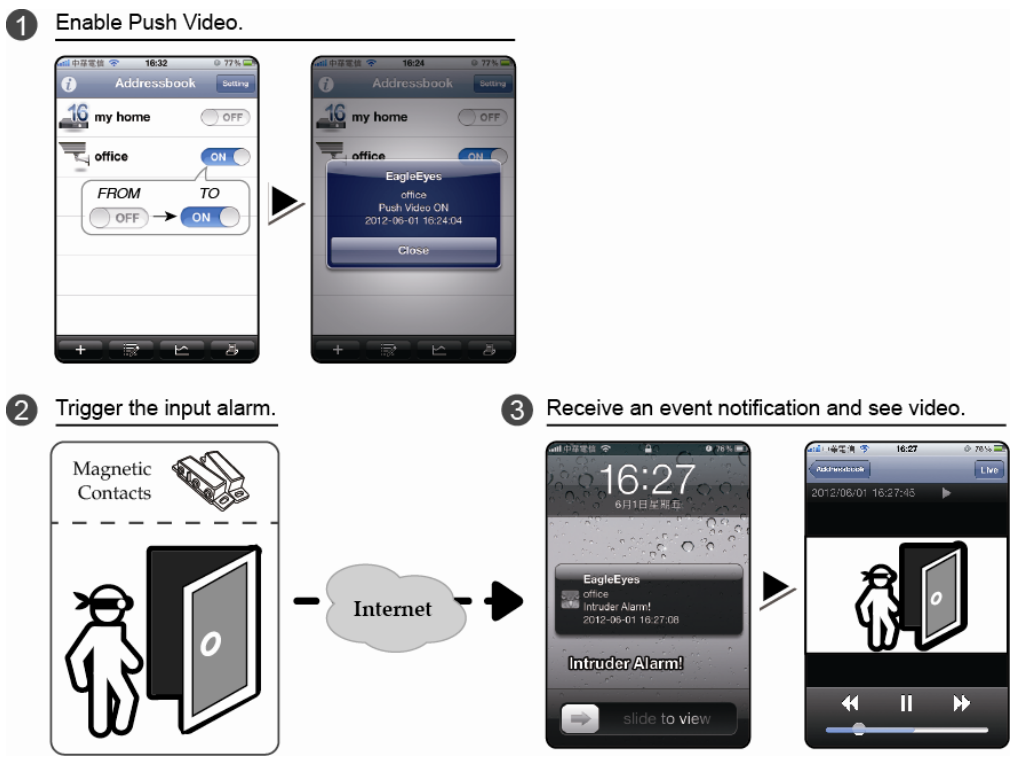
When the download is completed, *EagleEyes* will be installed automatically to the location where all applications are saved in your phone by default, or where you specify.

APPENDIX 4. SET PUSH VIDEO

Note: Push Video is available only for selected models. Please check the product specifications or check with your installer for more details.

This DVR series supports instant event notifications to your iPhone / iPad / Android mobile device with our self-developed program, “EagleEyes”, installed. When a man is detected by a human detection camera or an external alarm device, the DVR will immediately receive alarm signals and send to your iPhone / iPad / Android mobile device.

Note: iPhone, iPad and Android are the trademarks or registered trademarks of their respective holders.



A4.1 Prerequisite

Before setting this function, make sure you have checked the following:

- ✓ You have an iPhone® / iPad® / Android™ mobile device with our self-developed program, “EagleEyes”, installed. For details, please refer to the previous chapter.
- ✓ A human detection camera is connected to CH1 (for models which support DCCS), or an external alarm device is connected to “PUSH VIDEO Alarm In” on the rear panel. Make sure a camera is also connected to record for alarm occurrences. To know which video channel corresponds to which alarm pin, please refer to “APPENDIX 2 PUSH VIDEO CONFIGURATION” at page 27.
- ✓ The event record function of your DVR is not disabled.
- ✓ The motion detection function of your DVR is not disabled.
- ✓ Your DVR is connected to Internet. For details, please refer to http://www.surveillance-download.com/user/CMS.pdf.

A4.2 Enable Push Video

A5.2.1 From iOS® Mobile Device (iPhone® / iPad®)

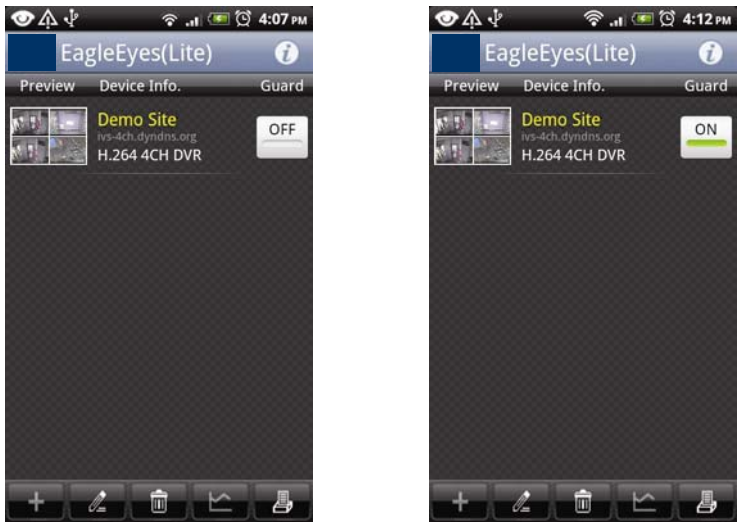
Step1: In the iPhone® / iPad® main menu, select “Settings” → “Notifications”. Select “EagleEyes”, and make sure "Notification Center” is set to “ON”.

Step2: Open “EagleEyes”, and switch the Push Video button to “ON”. You’ll receive the message indicating that Push Video is on.

Step3: Return to the main menu of your iPhone® / iPad®. You’ll receive event notifications when there’s an alarm event. Select “Launch” (or “View” base on your iOS® version) to immediately play the recorded clip.

A5.2.2 From Android™ Mobile Device

In the address book, switch “Guard” from “OFF” to “ON”.



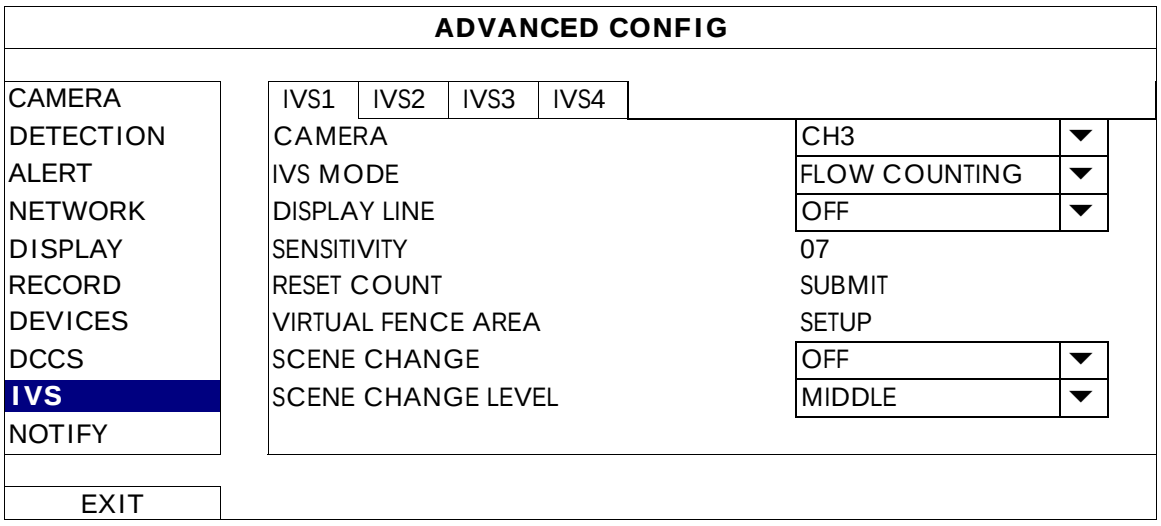
APPENDIX 5. SET FLOW COUNTING / VIRTUAL FENCE / ONE WAY

Note: The IVS functions, flow counting, virtual fence, and one-way pass, are available only for selected models. Please check the product specifications or check with your installer for more details.

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.

Right click to show the main menu, and select "  " (ADVANCED CONFIG) → "IVS".



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. 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”.

A5.1 IVS APPLICATION

A5.1.1 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.

A5.1.2 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”.

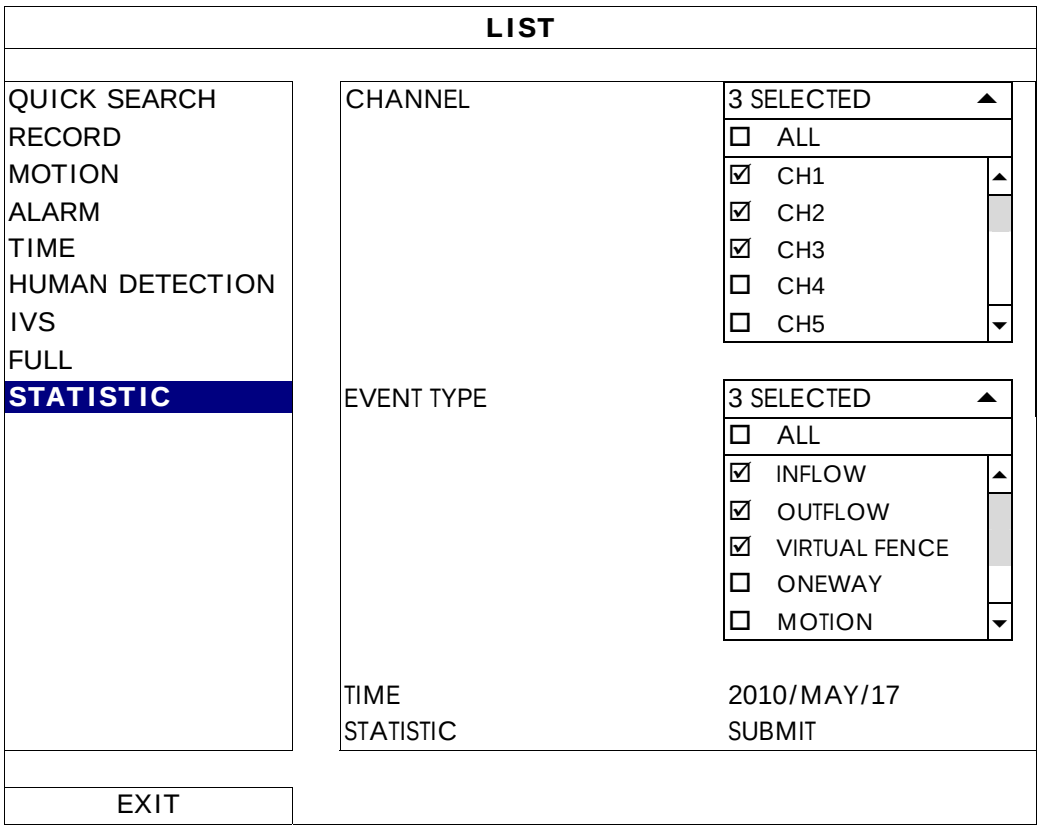
Step2: Finish the IVS setting and return to the live view.
When anyone walks across the detection line, the system will determine his movement is in or out, and:

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.

A5.2 IVS STATISTICS

In the live view, move to left to display the quick menu bar, and 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 YEAR view, click "DAY" at the bottom.

List View

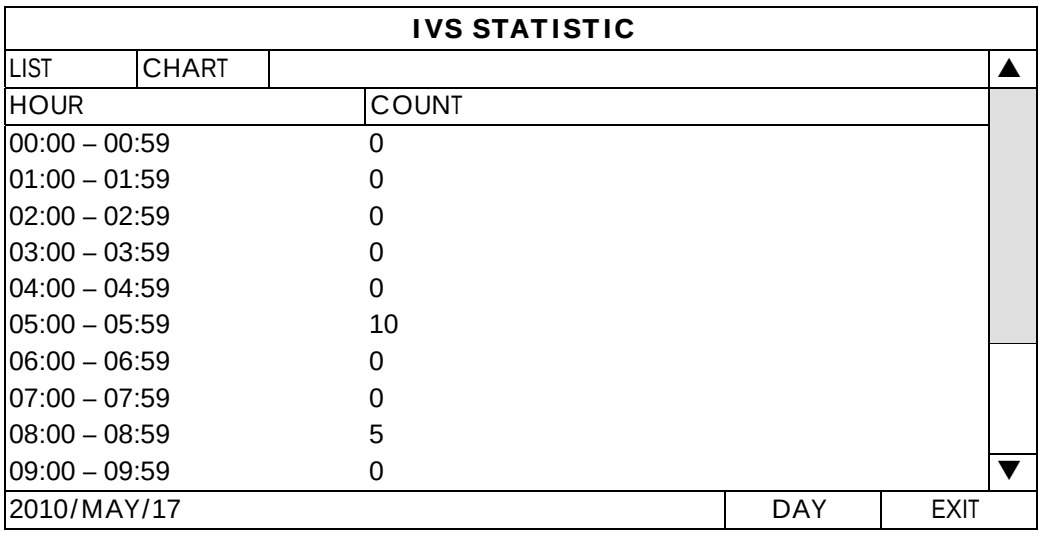
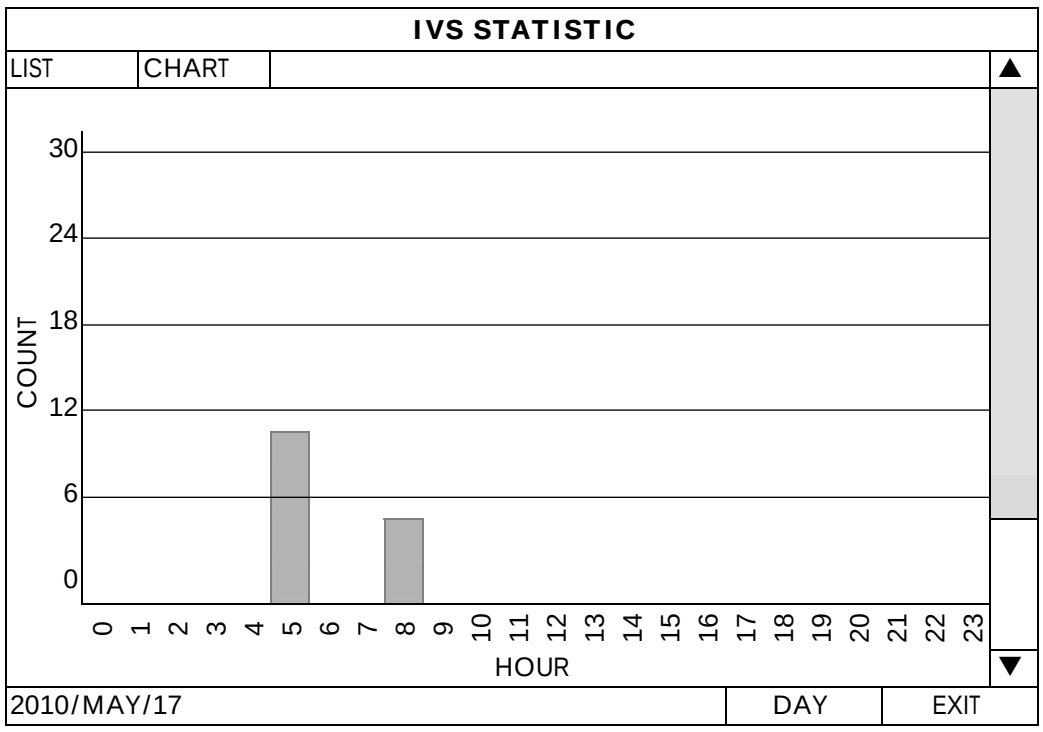


Chart View


IVS STATISTIC
LIST
CHART
30
24
18
12
6
0
COUNT
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23
HOUR
2010/MAY/17
DAY
EXIT

APPENDIX 6 COMPATIBLE USB FLASH DRIVE LIST

Please upgrade the firmware of the DVR to the latest version to ensure the accuracy of the following table. If the USB flash drive is not supported by the DVR, you will see  on the screen.

Note: Please use your PC to format the USB flash drive as “FAT32”.

Note: You can backup up to 2GB video data for one-time USB backup. To backup more data, please set the time & channel(s) you want, and start USB backup again.

MANUFACTURER	MODEL	CAPACITY
Transcend	JFV35	4GB
	JFV30	8GB
Kingston	DataTraveler	1GB
PQI	U172P	4GB
Apacer	AH320	2GB
	AH320A	8GB
	AH220	1GB
	AH320	4GB
A-data	RB-18	1GB
Sandisk	Cruzer Micro	2GB
	Cruzer Micro	4GB
	Cruzer4-pk	2GB
Netac	U208	1GB
MSI	F200	4GB
SONY	Micro Vault Tiny 2GB	2GB
	Micro Vault Tiny 4GB	4GB
	Micro Vault Tiny	1GB

APPENDIX 7 COMPATIBLE HARD DISK LIST

Please upgrade the firmware of the device to the latest version to ensure the accuracy of the following table.

Note: It's not recommended to use a green hard disk with this device to make sure it works properly.

Size	MANUFACTURER	MODEL	CAPACITY
3.5"	Seagate	ST250DN000	250GB
		ST3320613AS	320GB
		ST33500320AS	500GB
		ST3500410SV	500GB
		ST3750330AS	750GB
		ST31000525SV	1TB
		ST31000340AS	1TB
		ST2000VX000	2TB
		ST2000DM001	2TB
	WD	WD2500AAKX	250GB
		WD3200AAKS	320GB
		WD5000AZRX	500GB
		WD5000AACS	500GB
		WD6400AAKS	640GB
		WD7500AAKS	750GB
		WD10EADS	1TB
		WD10EALX	1TB
		WD10EURX	1TB
		WD15EADS	1.5TB
		WD20EADS	2TB
		WD20EURS	2TB
		WD2002FAEX	2TB
		WD20EARS	2TB
		WD20EFRX	2TB
		WD30EURX	3TB
		WD30EFRX	3TB
		WD30EZRS	3TB
	Maxtor	STM3500320AS	500GB
		STM3750330AS	750GB
	HITACHI	HDT725032VLA360	320GB
		HDS7211050DLE630	500GB
		HDS721010KLA330	1TB
		HDS723020BLA642	2TB
		HDS723030ALA340	3TB
	TOSHIBA	DT01ACA050	500G
		DT01ABA050V	500G
		DT01ABA100V	1T
2.5"	Seagate	ST9750420AS	750GB
	WD	WD500BUCT	500GB
		WD10JUCT	1TB
	HITACHI	HTS727550A9E364	500GB

APPENDIX 8 DVD WRITER INSTALLATION

Certain models allow users to install a DVD writer by themselves.

The supported DVD writer models are as follows. Please use only the suggested DVD writer models to ensure the compatibility.

Type	Brand	Model
SATA	Liteon	iHAS120
		iHAS124-40
		iHAS124-17
		DH-24AYS
		DH-24ABS
		DH-24ACSH
	SONY	AD-7240S

Note: Before installing the DVD writer, make sure your DVR is powered off and your DVR supports this feature.

Step1: Remove the DVR cover, and find the DVD writer bracket to remove it.

Step2: Put the DVD writer in the bracket, and fix it to the bracket with two screws (optional) on each side.

Step3: Find the sata and power cables on the DVR main board.

- Power cable: Use only the cable plugged into the ***black*** jack as shown below.

- Sata cable:
  For 16CH, use only the cable plugged into the jack of ***SATA5*** on the main board.
  For 8CH, use only the cable plugged into the jack of ***CON9*** on the main board.

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

Step4: Connect the sata and power cables to your DVD writer.

Step5: Replace the bracket to the DVR base and fix it.