NVR4200 Series
Network Video Recorder
User Guide

Typographic Conventions

This document uses the following typographic conventions to help you locate and identify information:

Italic text Identifies new terms, emphasis, book titles and text to enter on the keyboard

Bold text Identifies button names and other items that you can click or touch in the graphical user interface or press on a computer keyboard

Note: Extra information about a topic that is good to know but not essential to the process.

Tip: A useful hint for proper use of the product or software.

IMPORTANT: Significant information that warrants more than ordinary consideration but not essential to system security.

CAUTION: Draws your attention to actions that could compromise the security of your system or result in the loss of data.

NVR4200-P-UG-02 (09/15)

Table of Contents

Preface

FCC Compliance Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following 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.

Important Safeguards and Warnings

Electrical Safety

All installation and operation here should conform to your local electrical safety codes. The product must be grounded to reduce the risk of electric shock. ADT assumes no liability or responsibility for all the fires or electrical shock caused by improper handling or installation.

Transportation security

Heavy stress, violent vibration or water splash are not allowed during transportation, storage and installation.

Installation

- Keep upright
- Handle with care
- Do not apply power to the NVR before completing the installation
- Do not place objects on top of the NVR

Qualified Service Personnel

All examination and repair work should be performed only by qualified service personnel. ADT is not liable for any problems caused by unauthorized modifications or attempted repair.

Environment

The NVR should be installed in a cool, dry place away from direct sunlight.

Accessories

- Be sure to use only the accessories recommended by manufacturer.
- Before installation, open the package and check that all the components are included.
- Contact us if something is damaged in the package.

Lithium Battery

- When replacing the battery, make sure you are using the same type.
- Improper battery use may result in fire, explosion or personal injury.

Welcome

Thank you for purchasing the ADT® NVR4200 Series network video recorder. The ADT NVR4200 Series is available in the following models:

SCN#	Item
NVR4204-P-ADT-1	4 Channel 1U 4 PoE Network Video Recorder with 1 TB HDD
NVR4204-P-ADT-2	4 Channel 1U 4 PoE Network Video Recorder with 2 TB HDD
NVR4204-P-ADT-4	4 Channel 1U 4 PoE Network Video Recorder with 4 TB HDD
NVR4208-8P-ADT-1	8 Channel 1U 8 PoE Network Video Recorder with 1 TB HDD
NVR4208-8P-ADT-2	8 Channel 1U 8 PoE Network Video Recorder with 2 TB HDD
NVR4208-8P-ADT-4	8 Channel 1U 8 PoE Network Video Recorder with 4 TB HDD

This user guide is designed to be a reference tool for the installation and operation of your NVR. Here you can find information about NVR features and functions, as well as a detailed menu tree. Before installation and operation, please read the following safeguards and warnings carefully.

Features

Overview

The ADT® NVR4200 Series network video recorder is a digital monitoring product designed for security applications. It adopts embedded Linux OS to maintain reliable operation and the H.264 compression algorithm to provide high quality, low bit streams. The frame-by-frame playback function is ideal for detailed analysis.

The NVR4200 Series features:

- **Real-time Surveillance**
    - VGA port and HDMI port
    - Monitor real time surveillance
    - Supports popular PTZ decoder control protocols, preset, tour and pattern

- **Playback**
    - Each channel records independently and at the same time can support search, forward play, network monitor, record search and download functions
    - Supports various playback modes: slow play, fast play, backward play and frame-by-frame playback
    - Supports time-of-day text overlay so that you can view event time and camera name
    - Supports customized zoom function

- **User Management**
    - Each group has different management rights that can be edited freely
    - Every user belongs to an exclusive group

- **Storage**
  - Backup recorded video data (configured in Alarm setup and Schedule setup)
  - Record video locally or via the Web and store the file on the client end

- **Alarm**
  - Responds to external alarms simultaneously (within 200ms), based on your relay setup
  - Can send alerts via email
  - Supports central alarm server setup, so that alarm information can remotely notify the user automatically

- **Network Monitor**
  - Compresses video data by IPC or NVS and sends through the network to the client where the data is decompressed and displayed
  - Transmit video data by TCP, MULTICAST, etc.
  - Certain alarm data can be transmitted by SNMP
  - Supports Web access in WAN/LAN

- **Window Split**
  - Adopts the video compression and digital process to display several windows on one monitor
  - Supports 1/4/8/9 window display during real time preview

- **Record**
  - Supports normal/motion detect/alarm record function
  - Save the recorded files in the HDD, USB device, client PC, or network storage server
  - Search or playback the saved files at the local end or via the Web/USB device

- **Backup**
  - Supports local backup operation via the USB 2.0 port (such as a flash drive, portable HDD)
  - Supports backup via the Web

- **Network Management**
  - Supervise NVR configuration and control power via Ethernet
  - Supports management via the Web

- **Peripheral Equipment Management**
  - Supports peripheral equipment management such as protocol setup and port connection
  - Supports transparent data transmission such as RS232, RS422, and RS485

- **Auxiliary**
  - Support switch between NTSC and PAL.
  - Support real-time system resources information and running statistics display.
  - Support log file.
  - Local GUI output. Shortcut menu operation via mouse.

- o IR control function (For some series product only.). Shortcut menu operation via remote control.
- o Support IPC or NVS remote video preview and control

1 NVR Overview

This chapter provides information about front panel and rear panel.

1.1 Front Panel

The front panel is shown in Figure 1-1.

Figure 1-1

Refer to the following table for detailed information.

Group No.	Symbol	Function
1	⏻	**Power.** Press and hold for three seconds to power up or shut down the NVR.
2	∧ / 1	**Up arrow:** Press to move the selection in the currently-active control up or to increase the numeric value. **1:** In text mode, press to enter the value 1.
	< / 2	**Left arrow:** Press to move the selection in the currently-active control left. During playback, click to control the playback bar. **2:** In text mode, press to enter the value 2.
	> / 3	**Right arrow:** Press to move the selection in the currently-active control right. During playback, click to control the playback bar. **3:** In text mode, press to enter the value 3.
	∨ / 4	**Down arrow:** Press to move the selection in the currently-active control down or to decrease the numeric value. **4:** In text mode, press to enter the value 4.
	Enter	**Enter.** Use to confirm the current operation, return to the default button or select a menu item.
3	Esc	**Escape.** Return to the previous menu or cancel the current operation. During playback mode, press to restore real-time monitor mode.
	Fn (Function)	**In one-window monitor mode:** displays the PTZ control and image color functions. **In motion detection setup:** use with the direction keys to complete setup. **In text mode:** toggles between numeric and alpha characters (lower/upper case). Also serves as the Backspace function to delete the previous character (to the left of the cursor) when pressed for 1.5 seconds. **In HDD management screen:** switches between HDD recordings and other information (Menu prompt).

Group No.	Symbol	Function
	Shift	**Shift.** Press to toggle between character types: number 0-9, upper case letter or lower case letter.
	Rec	**Record.** Press to manually start/stop recording. Use the direction keys or number keys to select the recording channel.
4	◄ / 0	**In playback mode:** Press to playback the previous video. **In text mode:** Press to select the number 0.
	►| / 9	**In playback mode:** Press to playback the next video. **In text mode:** Press to select the number 9.
	►► / 8	**In playback mode:** Press to toggle between normal playback and various slow play speeds. **In text mode:** Press to select the number 8.
	►► / 7	**In playback mode:** Press to toggle between normal playback and various fast play speeds. **In text mode:** Press to select the number 7.
	||◄ / 6	**In playback mode:** Press to toggle between reverse playback and pause playback modes. **In text mode:** Press to select the number 6.
	►|| / 5	**In playback mode:** Press to toggle between normal playback and pause playback modes. **In text mode:** Press to select the number 5.
5	**1-8**	**Record Active indicators.** Individual LEDs illuminate to indicate that a channel is recording.
	HDD	**HDD indicator.** Lights to alert you of a hard disk error or that the disk capacity is below the specified threshold value.
	NET	**Network indicator.** Lights to alert you of a loss of the network connection.
	IR	**IR receiver.** Receives the signal from the remote control.
6	⟜	**USB Port.** Connects a USB storage device or USB mouse.

1.2 Rear Panel

The 4-channel model NVR rear panel is shown in Figure 1-2.
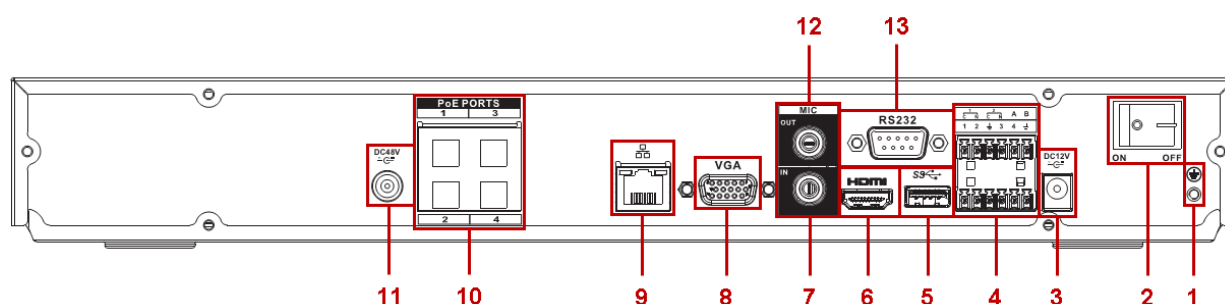
Figure 1-2

Refer to the following table for detailed information.

Item	Function
1	Grounding mount
2	Power on/off switch
3	12VDC, 5A Power Input port
4	Alarm input port. See separate table below. When your alarm input device is using external power, make sure the device and the NVR have the same ground.
5	USB2.0 port
6	HDMI port
7	Audio Input port for bidirectional talk, which receives the analog audio signal output from a microphone.
8	VGA analog video signal
9	Network port; 10M/100M/1000Mbps self-adaptive Ethernet
10	PoE ports. Built-in Switch supports Power over Ethernet. One PoE port supports 15W max: 4 PoE port product supports 48V / 50W
11	48VDC, 1.04A Power Input port
12	Audio Out port for analog audio signal output: Bidirectional talk output, Audio output on 1-window video monitor, Audio output on 1-window video playback.
13	RS-232 port for general COM debug to configure IP address or transfer transparent COM data

Note: When connecting the Ethernet port, use the crossover cable to connect the PC and use the straight cable to connect to the switcher or router.

The 8-channel model NVR rear panel is shown in Figure 1-3.
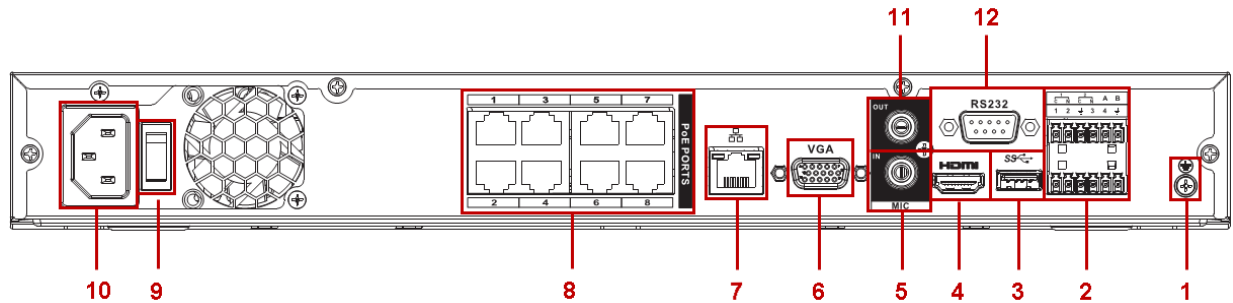
Figure 1-3

Refer to the following table for detailed information.

Item	Function
1	Grounding mount
2	Alarm input / output ports. See discussion below.
3	USB2.0 port
4	HDMI port
5	Audio Input port for bidirectional talk, which receives the analog audio signal output from a microphone.
6	VGA analog video signal
7	Network port; 10M/100M/1000Mbps self-adaptive Ethernet
8	PoE ports. Built-in Switch supports Power over Ethernet. One PoE port supports 15W max: 8 PoE port product supports 48V / 120W
9	Power on/off switch
10	100−240 VAC Power Input socket
11	Audio Out port for analog audio signal output: Bidirectional talk output, Audio output on 1-window video monitor, Audio output on 1-window video playback.
12	RS-232 port for general COM debug to configure IP address or transfer transparent COM data

Note: When connecting the Ethernet port, use the crossover cable to connect the PC and use the straight cable to connect to the switcher or router.

1.3 Alarm Connections

1.3.1 Alarm Port

Please refer to the following figure for detailed information about the alarm port.
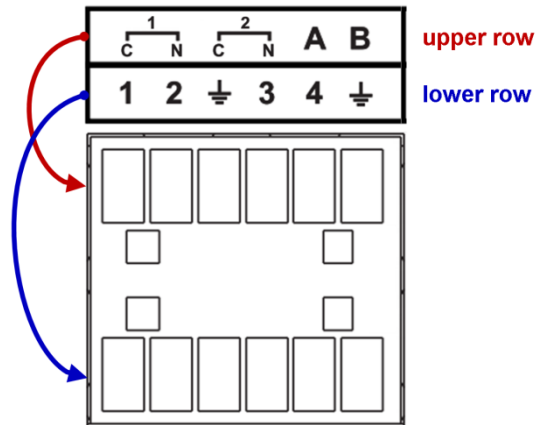
Figure 1-4

Row	ID	Description
Upper	N1/C1 N2/C2	Alarm Output groups 1−2 N is a normally open alarm output port and C is the alarm output common.
	A/B	485 communication port: controls the PTZ decoder
Lower	1−4	Alarm Inputs NO (normally open)
	⏚	Ground

Note: When your alarm input device is using external power, make sure the device and the NVR have the same ground. Also, make sure that there is power to the external alarm device.

1.3.2 Alarm Input Port

To connect an alarm:
1. Connect the positive end (+) of the alarm input device to the alarm input port (1-4) of the NVR.
2. Connect the negative end (−) of the alarm input device to the ground end (⏚) of the NVR.

In the example that follows, alarms 1 and 3 are configured.
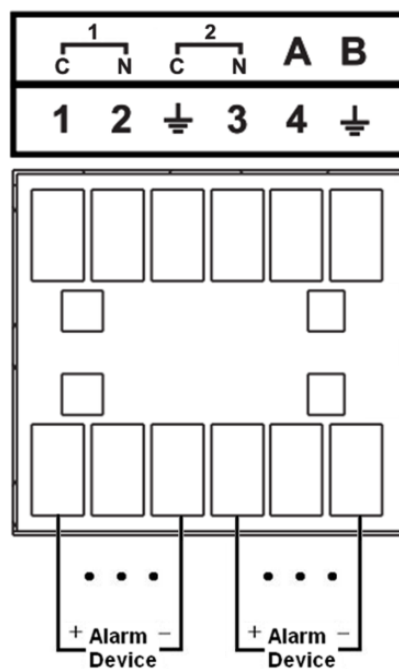
Figure 1-5

Note

- The alarm inputs are Normally Open (NO).
- When connecting the ground port of the alarm device to the NVR, you can use either of the GND ports (⏚).
- When there is peripheral power supplied for the alarm device, please make sure it is grounded with the NVR.

1.3.3 Alarm Input and Output Port

- There is peripheral power supplied for the external alarm device.
- To avoid an overload resulting in NVR damage, please refer to the following relay specifications for detailed information.
- A/B cable of the RS485 is for the A/B cable connection of the speed PTZ.

Relay Specifications

Model:	JRC-27F	
Contact Material	Silver	
Rating (resistance load)	Rated switch capacity	30VDC 2A, 125VAC 1A
	Maximum switch power	125VA 160W
	Maximum switch voltage	250VAC, 220VDC
	Maximum switch currency	1A
Insulation	Between touches with same polarity	1000VAC 1minute
	Between touches with different polarity	1000VAC 1minute
	Between touch and winding	1000VAC 1minute
Surge voltage	Between touches with same polarity	1500V (10 x 160us)
Open time	3ms max	
Close time	3ms max	
Longevity	Mechanical	50 x 106 times (3Hz)
	Electrical	200 x 103 times (0.5Hz)
Temperature	-40°C to +70°C	

1.4 Network Connections
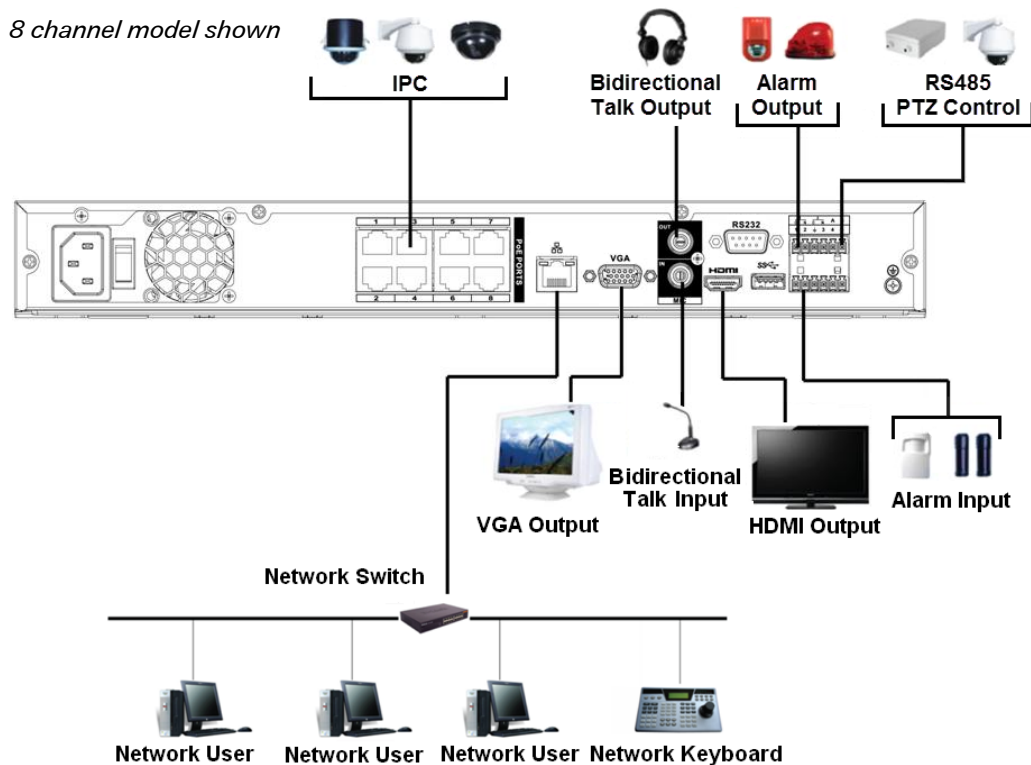
Figure 1-6

1.5 Bidirectional Talk

1.5.1 NVR to PC

Device Connection

- Connect the microphone or pickup to the first audio input port on the device's rear panel.
- Connect the earphone or the speaker to the audio output port on the PC.
- Login to the Web Service and click the Start Talk button to enable Bidirectional Talk (as described on page 128).

Listening

Speak into the microphone connected to the NVR and the audio is received at the earphone or speaker connected to the PC.
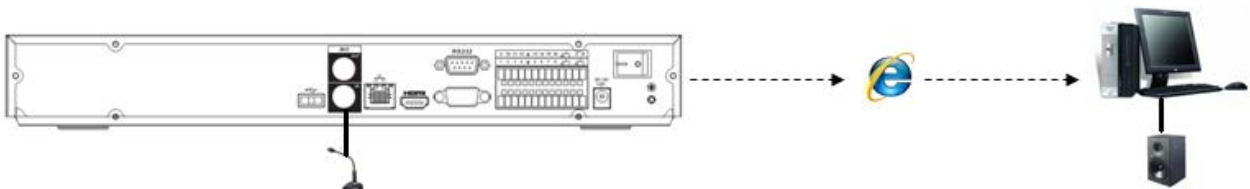
Figure 1-7

1.5.2 PC to the NVR

Device Connection

- Connect the microphone or the pickup to the audio output port on the PC.
- Connect the earphone or the speaker to the first audio input port on the device's rear panel.
- Login to the Web Service and click the Start Talk button to enable Bidirectional Talk (as described on page 128).

Listening

Speak into the microphone or pickup connected to the remote PC and the audio is received at the earphone or speaker connected to the DVR.

Figure 1-8

1.6 Remote Control

The following describes the remote control.

Figure 1-9

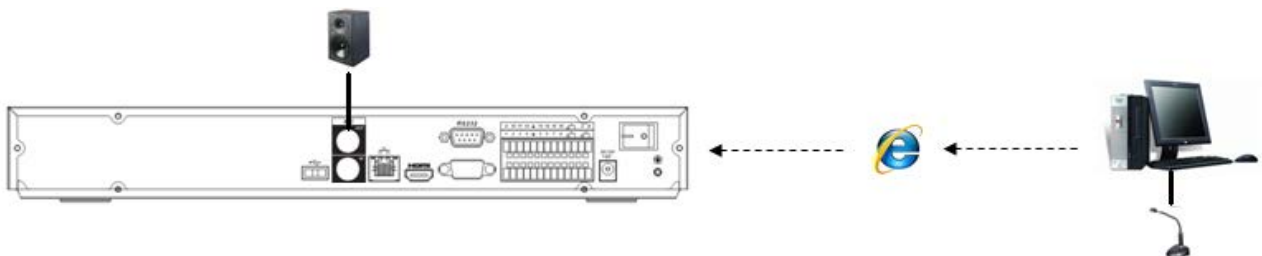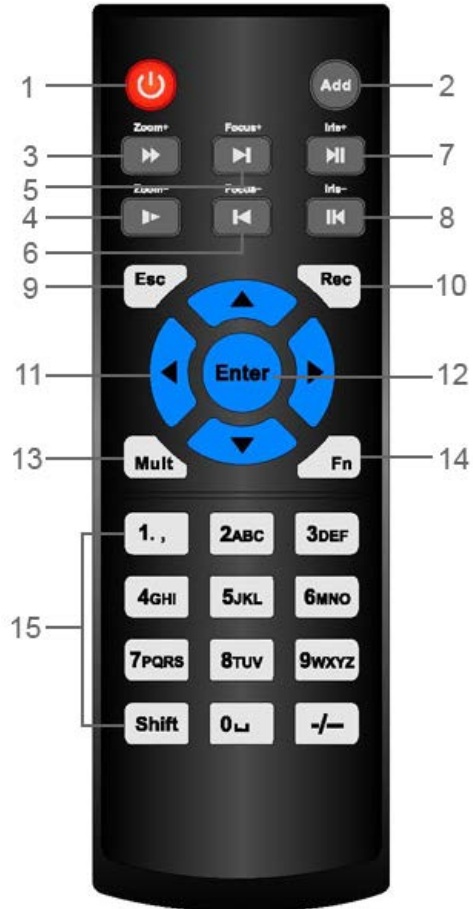| No.	Symbol	Function
1	⏻	**Power button.** Press to power up or shut down the NVR.
2	**Add**	**Address.** Use to input the device number of the unit that you want to control with the remote.
3	▶▶	**Fast Play.** Press to toggle between normal playback and various fast play speeds.
4	▶▶	**Slow Play.** Press to toggle between normal playback and various slow play speeds.
5	▶❙	**Play Next.** In playback mode, press to playback the next video. In menu setup, press to move downward on the dropdown list.
6	❙◀	**Play Previous.** In playback mode, press to playback the previous video.
7	▶❙❙	**Play / Pause.** Press to toggle between normal playback and pause playback modes.
8	❙❙◀	**Reverse / Pause.** Press to toggle between reverse playback and pause playback modes.
9	**Esc**	**Escape.** Return to the previous menu or cancel the current operation. During playback mode, press to restore real-time monitor mode.
10	**Rec**	**Record.** Press to manually start/stop recording. Use the direction keys or number keys to select the recording channel.
11	▲ ◀ ▶ ▼	**Direction Keys.** Press to move the selection in the currently-active control left, right, up or own. During playback, click to control the playback bar.
12	**Enter**	**Enter.** Use to confirm the current operation, return to the default button or select a menu item.
13	**Mult**	**Multiple Windows.** Press to toggle between one-window and multiple-window display modes.
14	**Fn**	**In one-window monitor mode:** displays the PTZ control and image color functions. **In motion detection setup:** use with the direction keys to complete setup. **In text mode:** toggles between numeric and alpha characters (lower/upper case). Also serves as the Backspace function to delete the previous character (to the left of the cursor) when pressed for 1.5 seconds. **In HDD management screen:** switches between HDD recordings and other information (Menu prompt).
15	**0-9 A-Z Shift -/- -**	**Alpha Numeric Characters.** Press to input a number 0-9, upper case letter or lower case letter, using the Shift key to toggle between character types. To enter a number greater than 9, first press the **-/- -** key, and then input the desired number.

2 Getting Started

This section describes how to startup and login to the system, as well as how to set up and perform the most commonly used local operations. For information on the full local menu set, refer to section **3 Local Menu** Operations on page 29. For information operations via the internet, refer to section **4 Web Service** on page 123.

2.1 Login, Start up and Logout

1. Press the **Power** button [⏻] on the front panel.
    After the system has booted up, the Startup Wizard appears on the display monitor to have you set up some basic system parameters. If you do not want the Startup Wizard to appear the next time you start up the system, clear the **Startup** box.

Figure 2-1

2. Click the **Next** button. The System Login dialog appears.

Figure 2-2

The initial login credentials are: **User Name**: admin. **Password**: admin.

Note: The user will be forced to change the credentials after the first login.

3. Use a USB mouse, remote control, or the NVR front panel buttons to complete the login.

Using the USB Mouse:

1. Use the USB mouse to select the User Name from the Drop-down menu.
2. Click in the **Password** field. The virtual keyboard appears.

Figure 2-3

3. Toggle the **ABC/ abc** button or **Shift** key to select between upper or lower case letters.

Note: Because the numeric pad appears on both upper case and lower case virtual keyboards, you do not need to change keyboards to make numeric entries.

4. Select the desired alpha/numeric character. It turns green and enters the **Password** field.
5. Repeat until all characters are entered.
6. Click **Enter** on the virtual keyboard. The keyboard disappears.
7. Click **OK** on the System Login dialog to enter.

Using the Remote Control:

1. Press **Enter**. The SYSTEM LOGIN dialog appears. Press Esc to remove the dialog.
2. The User Name field is highlighted in light blue. Use the ▲ and ▼ arrow keys to select the desired user name.
3. Use ▶ arrow key to shift to the Password field. It is highlighted in light blue.
4. Press the **Shift** key to toggle between upper case letters, lower case letters or numeric input.
5. Use the keypad on the remote to enter the desired characters.
6. Press the **Enter** key on the remote. The keyboard disappears.

Using the Front Panel:

1. Press **Enter**. The SYSTEM LOGIN dialog appears. Press Esc to remove the dialog.
2. The User Name field I highlighted in light blue. Use the ▲ and ▼ arrow keys to select the desired user name.
3. Use ▶ arrow key to shift to the Password field. It is highlighted in light blue.
4. Press the Shift key to toggle between upper case letters, lower case letters or numeric input.
5. Use the numeric values on the various keys to enter the desired characters.
6. Press the **Enter** key. The keyboard disappears.

Note: For security reasons, modify your password after your first login.
- Three (3) sequential login failures will result in a system alarm
- Five (5) sequential failures will result in account lockout

2.1.1 Virtual Keyboard

The system displays three input modes: upper case and lower case alpha characters and numeric. Switch between modes by clicking the button to the right of the field. It toggles from **abc** to **ABC** to **123**.

Select **abc** to display lower case letters and numbers. ⊔ functions as a space and ← functions as a backspace. You can also click the **Shift** key to toggle to this keyboard.

Select **ABC** to display upper case letters and numbers. ⊔ functions as a space and ← functions as a backspace. You can also click the **Shift** key to toggle to this keyboard.

Select **123** to display numeric characters only. ⊔ functions as a space and ← functions as a backspace. This keypad appears *only* when the entry must be numeric.

Note: Because the numeric pad appears on both upper case and lower case virtual keyboards, you do not need to change keyboards to make numeric entries at login.

2.1.2 Right-click Menu
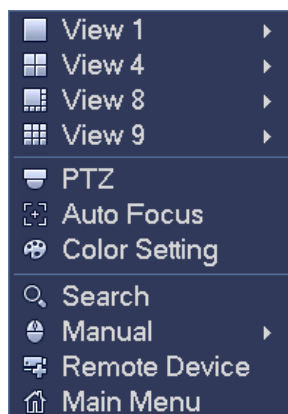
The Right-click menu provides easy access to commonly used menu operations. Right mouse-click to open this menu:

- Multiple View mode
- PTZ control
- Auto Focus
- Color Setting
- Search and Playback
- Manual recording functions
- Remote Device
- Main Menu

2.2 Startup Sequence

After login, the Startup Wizard gives you the option of setting up some basic system parameters. You can enter this information now or at a later time, as follows:

- **General**, as described on page 88
- **Network**, as described on page 43
- **Remote Device**, as described on page 31
- **Schedule**, as described on page 82

1. For each option, click **Next Step** to move to the next dialog or **Pre Step** to return to the previous.

2. After completing the final dialog, click **Finished**. A popup message says Startup Finished. Click **OK** to accept.
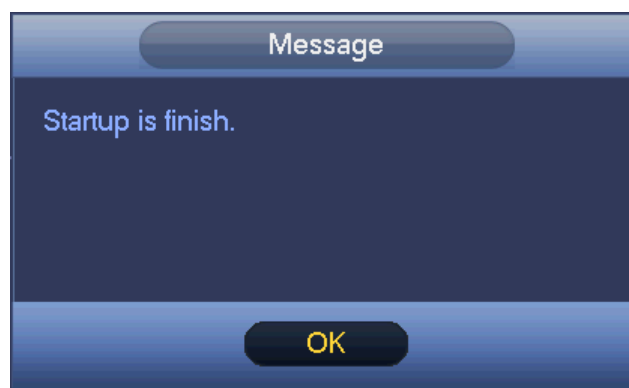
Figure 2-4

3. If you click **Cancel** to exit the startup sequence, a popup message asks if you are sure. Click **OK**.

4. If you do not want the Startup Wizard to appear the next time you start up the system, clear the **Startup** box.

2.2.1 Logout / Shutdown

There are three ways for you to log out or shut down.

To log out using the menu option:

1. In the Main Menu, click the **Shutdown** button. The SHUTDOWN dialog appears.
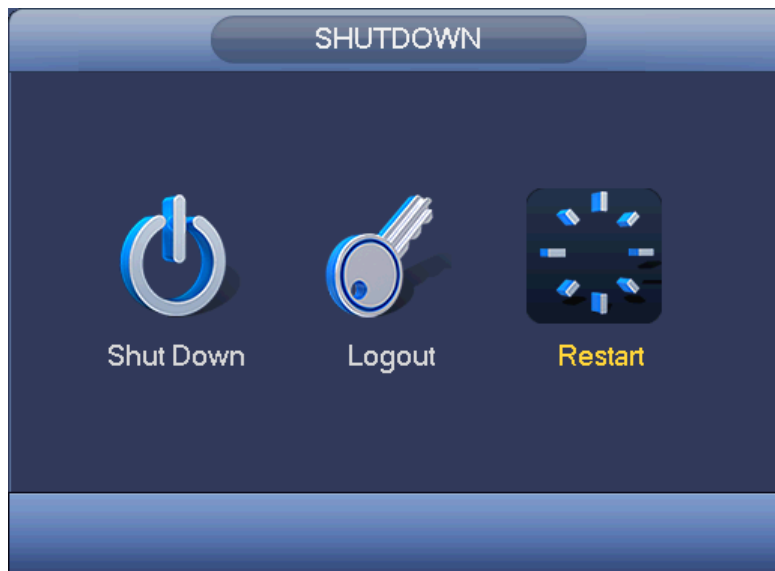
Figure 2-5

2. Use the drop-down list to select the desired option:
   - **Shutdown.** System shuts down and turns off power.
   - **Logout.** The Log out menu appears. Enter the username and password to complete the operation.
   - **Restart.** Click to reboot the device.

To log out using the Power button:

Press the **Power** button [⏻] on the front panel or remote control for at least 3 seconds. This method requires that you enter the username and password to complete the operation.

To log out using the Power switch:

Toggle the Power switch on the rear panel to turn off the NVR. This method does not require that you enter the username and password to complete the operation.

2.3 Preview (Live Viewing)

After you log in, the system is in preview or live viewing mode. The system date, time and channel name appear. Change the system date and time in the General Settings Menu (*Main Menu > Setting > General*). To modify the channel name, go to the Display settings (*Main Menu > Setting > Display*).

Note: You can return to live viewing from any other mode by right-clicking the mouse or by pressing the Esc key on the front panel or on the remote control.

Right –click the mouse and use the menu that appears to select the configuration you want to display. View 1 for single channel or View X for multi-channel display. While in multi-channel mode, double click on a channel to view it in single channel mode.

Note: To return to the previous menu, right-click the mouse or press the **Esc** key on the front panel or on the remote control.

The following icons appear on the monitor screen.

1	Recording mode	3	Video loss
2	Motion detection	4	Camera lock

TIP: During multiple-channel mode, you can change position of cameras on the screen. For example, left-click on the camera on channel 1, drag it to the channel 8 position and release the mouse button. Channel 1 and Channel 8 switch positions.

Live Mode Control Bar

Hover the cursor over the top center of the video in any channel. The live mode control bar appears. The control bar automatically hides after 6 seconds of inactivity.

No.	Name	Function
1	Real-time playback	Plays back the previous 5-60 minutes of recording for the current channel. Click the **X** at the bottom of the window to stop the playback and return to real time. Navigate to *Main Menu>General* to set real-time playback time.
2	Digital zoom	Zooms in on the current channel. To zoom: left mouse-click and drag to select a zone, and then release to zoom in on the selected zone. After you have zoomed in the zone, you can left mouse-click and drag to browse.
3	Manual record	Backs up the video of the current channel to the USB device. Click again to stop recording. The system cannot backup the video of multiple-channels at the same time.
4	Snapshot	Click to create 1 to 5 snapshot images. The snapshot file is saved on the USB device or HDD. You can go to the Search screen to view.
5	Bidirectional Talk	Click to initiate audio between the NVR and the remote PC. Refer to section 1.5 on page 8.
6	Remote device	Click to open the remote device connection interface. Refer to section **3.2.1** on page 31 for detailed information.

Instant Playback

The playback control supports the Play, Pause, and Exit and Drag functions.

- During the playback process, you cannot see the channel name and recording status of the current channel. The channel name and recording status reappear after you click the **X** to exit playback mode.
- During the playback, you cannot switch the displayed channel or change current window-display mode.

Note: The tour function has higher priority than the instant playback. You cannot control the playback until the tour function has ended.

2.4 Navigation Bar

The navigation bar is shown below.

Note: If you do not see the navigation bar, go to *Main Menu* > *Setting* > *System* > *General* to enable it.

No.	Icon	Function	Description
1		Main Menu	Opens the Main Menu
2		Window Split	Selects between 1/4/8/9 windows
3	/	Tour	Tour Enable/Tour in Progress; see section 3.6.2.2 on page 93
4		PTZ Control	Opens the PTZ Control screen; see section 3.6.4 on page 96
5		Color Control	Opens the Color Control screen; see section 2.4.2 below
6		Search	Opens the Search interface; see section 2.5 on page 10
7		Alarm Status	Opens the Event Info interface; see section 3.7.4 on page 116
8		Channel Info	Opens the Channel Info interface; see section 2.4.1 below
9		Remote Device	Opens the Remote Camera screen; see section 3.2.1 on page 31
10		Network	Opens the Network screen; see section 3.3 on page 43
11		HDD Manager	Opens the HDD Manager screen; see section 3.5.2 on page 85
12		USB Manager	See section 2.6 on page 18

2.4.1 Channel Info

Click the ⬚ button to open a screen for viewing information about the corresponding channel.

Figure 2-6

2.4.2 Video Color

Click the 🎨 button or right mouse click and select **Color Setting** from the Right-click menu to control the color settings. Here you can set hue, brightness, contrast, saturation, gain, white level and color mode.
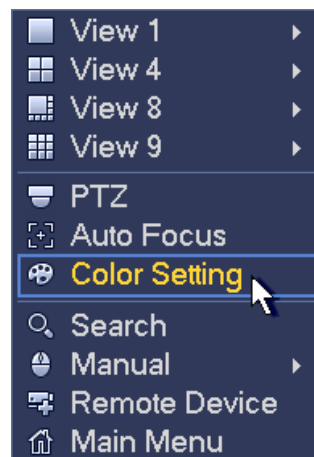
Figure 2-7

Figure 2-8

Please refer to the following sheet for detailed information.

Period. There are two periods in one day. You can set different sharpness, brightness, and contrast setup for each period.

Effective Time. Check the box to enable this function and then set the period time.

Sharpness. Move the slider to adjust the edge of the video. The value ranges from 0 to 100. The larger the value, the clearer the edge and vice versa. The default value is 50 and the recommended value ranges from 40 to 60.

Brightness. Use the slider to adjust monitor window brightness. The value ranges from 0 to 100. The default value is 50. The larger the number, the brighter the video. You can use this function when the video is too dark or too bright as a whole. Note that the video may become hazy if the value is too high. The recommended value ranges from 40 to 60.

Contrast. Use the slider to adjust the monitor window contrast. The value ranges from 0 to 100. The default value is 50. The larger the number, the higher the contrast. Use this feature when video brightness is OK but contrast is not. Please note the video may become hazy if the value is too low. If this value is set too high, dark sections may lack brightness while bright sections may be over-exposed. The recommended value ranges from 40 to 60.

Saturation. Use the slider to adjust monitor window saturation. The value ranges from 0 to 100. The default value is 50. The greater the number, the greater the color intensity. This value has no effect on the general brightness of the video as a whole. For the gray part of the video, distortion may occur if the white balance is not accurate. The recommended value ranges from 40 to 60.

Gain. Move the slider to set the gain value. Generally speaking, the smaller the value, the lower the noise—although the contrast may be too low in dark environments. A higher setting can enhance the video brightness, though this may increase video noise.

Color Mode. Move the slider to set several modes such as standard, color, bright and gentle. Then when you select a color mode, the sharpness, brightness and contrast automatically switch to the corresponding setups.

2.5 Search and Playback

Click **Search** in the Main Menu, or else right mouse-click and select **Search** from the Right-click menu. The Search screen appears.
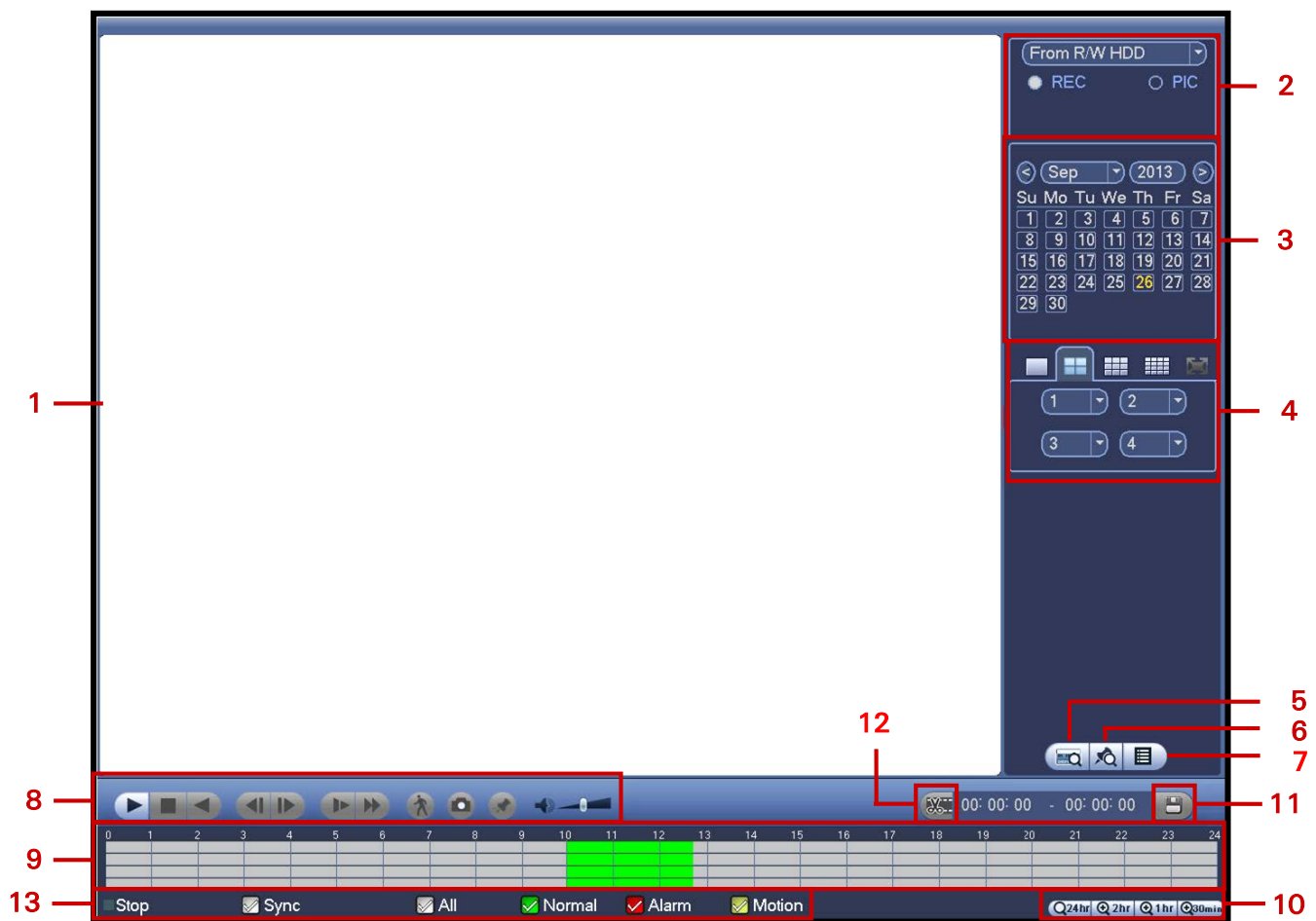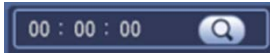

Figure 2-9

There are three file types:

R: Regular recording file   **M:** Motion Detection recording file   **A:** External alarm recording file

Refer to the following table for detailed information.

No.	Name	Function
1	Display window	The recorded file or snapshot picture is displayed here. The NVR supports 1, 4, 8 and 9 window playback.
2	Search type	Select the desired file: a. Highlight the ○ for the file type: REC for recording or PIC for picture. b. Use the drop-down menu to select the source. You can select to play from the Read-Write HDD or from the peripheral device, if connected. c. Click the **Browse** button to view the record files in the root directory of the peripheral device, and then select the file you want to play.
3	Calendar	In any play mode, click the date you want to see files for. The corresponding record file trace appears in the time bar. If a date is highlighted in blue date, a picture or file exists for this date.
4	Playback mode and channel selection	Playback mode: 1/4/9, depending on your model: • 1-window playback mode: select one channel between either 1-4 or 1-8 • 4-window playback mode: select 4 channels • 9-window playback mode The time bar changes after you modify the playback mode or the channel option.
5	Credit Card number search	Click to view card number/field setup bar and implement advanced search.
6	Mark file list button	Click to bring up a list of marked files. You can view all mark information of the current channel by time.
7	File List	**File List** • Click to view the picture/record file list for the current day. • File type: **R**—regular record; **M**—Motion detect record. • The file list displays the first channel of the recording file. • The system can display a maximum of 128 files at one time. • Use ◄ and ► or the mouse to view the file. Select one item, and then double mouse-click or click **Enter** to playback. • Click in the time field and manually enter a time frame. Click the **Search** button to initiate an accurate search. ![00 : 00 : 00] **Lock File** • Click the file you want to lock and click to lock. The file you lock cannot be overwritten. • Search locked file: Click to view the locked file list. **Note** • The system can lock a maximum of 16 files. • The size of the locked file must be less than 1/4 of the HDD total space. • The first 16G of each partition cannot be locked. • The system can only lock one file at one time. • The system cannot lock extra stream. • The file that is currently being written or overwritten cannot be locked.

No.	Name	Function
8	Playback Control Panel	**►/ II** **Normal Play/Pause** There are three ways for you to begin playback: • Click ►/ II • Double-click the desired segment of the time bar • Double-click the item in the file list • In slow play mode, click to switch between Play/Pause.
		■ **Stop**
		◄ **Reverse Play** In normal play mode, left-click this button and the file begins reverse play. Click again to pause the current playback. • In reverse play mode, Click ►/ II to restore normal play.
		◄I **Previous Play** • In playback mode, click to play the previous section. • Click continuously while watching the files from the same channel. • While paused in normal play mode, click for frame-by-frame playback • In frame by frame playback mode, click ►/ II to restore normal playback.
		I► **Next Play** • In playback mode, click to play the next section. • Click continuously when you are watching the files from the same channel. • While paused in normal play mode, click for frame by frame playback • In frame by frame playback mode, click ►/ II to restore normal playback.
		►► **Slow Play** In playback mode, click this button to incrementally slow down the playback speed,
		►► **Fast Play** In playback mode, click this button to incrementally speed up the playback speed,
		Note: The actual play speed depends on the software version.
		Click to initiate motion detection **Smart Search**. See section **2.5.2** on page 14.
		Controls the volume of the playback.
		Click in full-screen mode to create one **Snapshot** picture. • Connect the peripheral device. • Click the **Snapshot** button in full-screen mode. • Select or create path to save the file. • Click the **Start** button. The snapshot picture is saved to the specified path.
		When in playback mode, click this button to **Mark** the record. This feature is not available in all models. See section 2.5.4 on page 16.

No.	Name	Function
9	Time Bar	Displays the record type and time period in the current search criteria. • In 4-window playback mode, there are corresponding four time bars. In other playback modes, there is only one time bar. • Use the mouse to click one point of the color zone in the time bar, and the system begins playback. • Green shading indicates a regular record file; yellow shading indicates a motion detection record file.
10	Time Bar Unit	Use this feature to set the range of the time bar for playback. The options are: 24H, 12H, 1H and 30M. The smaller the unit, the larger the zoom. The time bar begins at 0 hour when setting the configuration, and then zooms in on the current period during playback.
11	Backup	1. Select the file(s) you want to backup from the file list. 2. Click the **Backup** button. The backup menu appears. 3. Browse to or create a new destination folder. 4. Click the **Start** button to begin the backup operation. The record file(s) are saved to the specified folder. The system can display a maximum of 32 files from one channel. Only backup operation can be run at one time.
12	Clip	Use this button to edit the file currently playing. You can clip for one channel or multiple-channels. 1. Click the **Clip** button. 2. Adjust the slide bars in the time bar for the corresponding channel to set the file end time, or else manually input the time. 3. Click the **Clip** button again to edit the second period. 4. Click the **Backup** button to save the current contents in a new file. *Note: The system supports a maximum of 1024 backup files at the same time. You cannot operate clip operation if any file has been checked in the file list.*
13	Recording Type	In any play mode, the time bar will change once you modify the search type. ❑ Synch. Check the checkbox to enable synchronized playback, whereby changing the search time period for one channel switches the playback for the other channels being displayed to the same point in time.

2.5.1 Other Functions

Channel Synchronization

By checking the **Synch** checkbox, playback on all displayed channels are synchronized to the same time period. If unchecked, playback times for each channel are independent of each other.

Digital Zoom

When the system is in full-screen playback mode, left mouse-click on the screen. Drag your mouse to select a section, and then left-click to zoom in. Right mouse-click to exit.

Manually Switch Channel during Playback

During the file playback process, you can switch to other channels via the dropdown list or by rolling the mouse. This function is not valid if there is no recording file or Smart Search is in progress.

Note: Some NVR versions do not support all functions (playback speed, channel, time, progress, etc.).

2.5.2 Smart Search

While the NVR is in playback mode, you can select the smart search feature enables you to search for and playback motion detect files.

To use the Smart Search feature:

1. During multiple-channel playback mode, double-click a channel, and then click the 🏃 button located in the Playback control panel (item #8 in Figure 2-9 on page 10).
   A grid appears on the screen.

   Note: The system supports 396(22*18 PAL) and 330(22*15 NTSC) zones.

2. Left-click and drag to select smart search zones, that is, the areas on the image where you want to search for motion activity. See Figure 2-10. There is no motion detection zone by default—you must select one.
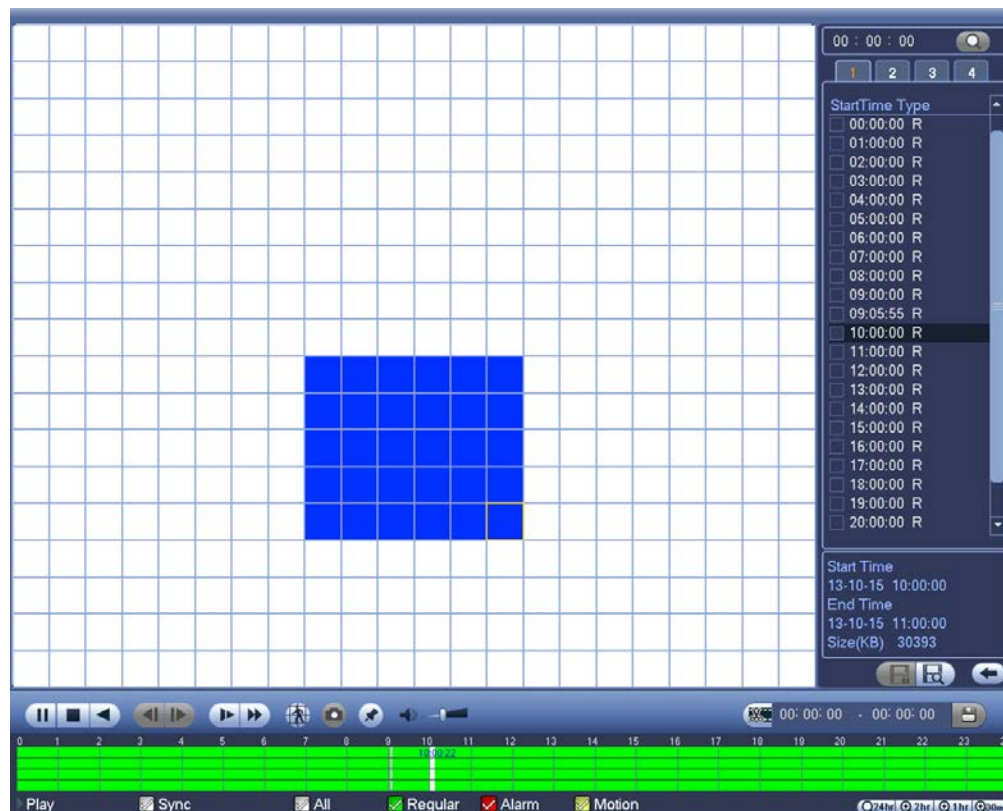
Figure 2-10

3. Click the 🏃 button to initiate Smart Search playback. The NVR will fast forward to the first instance of motion detected in the selected area, and playback the video in normal speed. When the motion ceases, the playback fast forwards to the next instance of motion detection and repeats the process.

4. If you select another file in the file list to play, the system plays that file.

5. Click 🏃 again to stop Smart Search playback.

During the motion detect play process, you cannot implement operations such as change time bar, begin backward playback or frame by frame playback.

IMPORTANT:
- The system does not support motion detect zone setup during the full-screen mode.
- During multiple-channel playback, the system stops playback of the rest of the channels if you implement one-channel smart search.

2.5.3 Playback by Time

You can also search for recordings by time.

To search for recordings by time:
1. Select the recordings for one day.
2. Click the list. The file list interface appears.
3. Input the time for which you would like to search records in the top right corner.
4. Click the **Search** button. All records collected from the entered time up to the current time appear.
5. Double click a filename to playback. The system begins play beginning from the specified time.
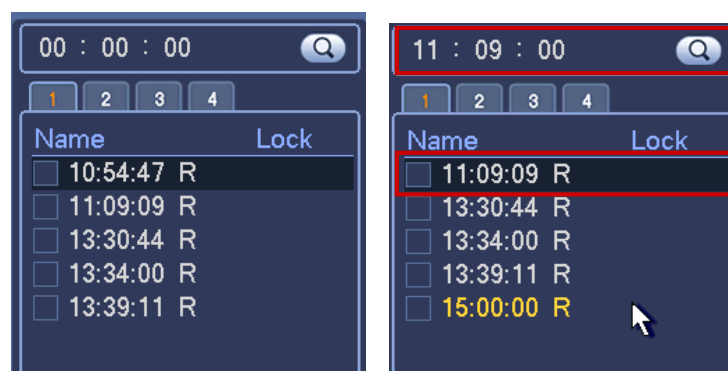
Figure 2-11

To playback recordings using the time bar:
1. Select the recordings for one day.
2. In the time bar double-click on the time of day you want to view. The vertical lines represent the hour of the day; the horizontal lines separate the channels, with channel 1 at the top.

   If the **Synch** box is checked, playback for all channels will be for the same time period. If Synch is not checked, you can choose separate playback periods for each channel by clicking on different time periods and channels.

Figure 2-12

Note:
- The system does not support time playback for pictures.
- The system supports synchronization playback and non-synchronous playback. Check the Synch checkbox to enable synchronized playback.

2.5.4 Mark Playback

Note: Not all models support this function. This function is available only if you can see the mark playback icon 🔍 on the Search screen (see item 6 in Figure 2-9 on page 10.)

When you are playback mode, you can mark a recording when there is important information you would like to note. After the playback, you can use the time or the marked key word(s) to search for the corresponding recording and then play it back.

To add a Mark:
1. Click the **Mark** button 📌 during playback. The Add Mark dialog appears. The **Mark Time** field is already filled in.
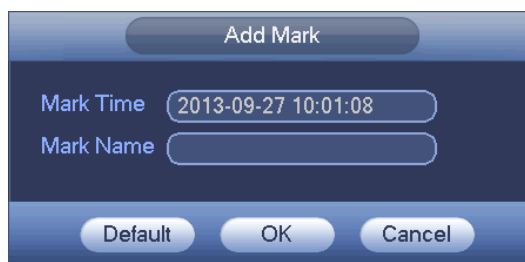
Figure 2-13

2. Click in the **Mark Name** field and type in a description for the file.
3. Click **OK**.

To playback a Mark:
1. In Search mode, select 1-window playback mode in the lower right side of the screen.
2. Select the search date from the calendar.
3. Click the mark file list button 🔍 shown in item 5 of Figure 2-9 on page 10. The Mark File List interface appears on the right side of the Search screen.
4. If desired, enter a value in seconds in the Play time before the mark field. Playback will actually begin the number of seconds you have entered before the marked time.
5. Double click one of the marked files to begin playback from the marked time.

2.5.4.1 Marks Manager

The Marks Manager manages all the marked recordings for the current channel. The manager displays all marked recordings for the current channel by time.

- Click the Marks Manager button ![icon] on The Mark File List interface. The Mark Manager screen opens, as shown in Figure 2-14.

Figure 2-14

To modify a Mark Name:
1. Double click the marked item.
2. Change the Mark Name in the resulting dialog box.

To delete a record:
1. Click inside the box to the left of the marked item you wish to remove.
2. Click the **Delete** button.

Note:
- When the Mark Management screen is initiated, the current playback is paused. The system resumes playback after you exit the Mark Management screen.
- If the marked file you want to playback has been removed, the system begins playback from the first file in the list.

2.6 Backup

2.6.1 File Backup

The NVR supports USB device backup. USB backup devices include USB burners, flash drives, SD cards and portable hard disk drives (HDD).

To setup USB Backup:

1. Select **Backup** on the Main Menu. The Backup screen appears, showing all the backup device information.
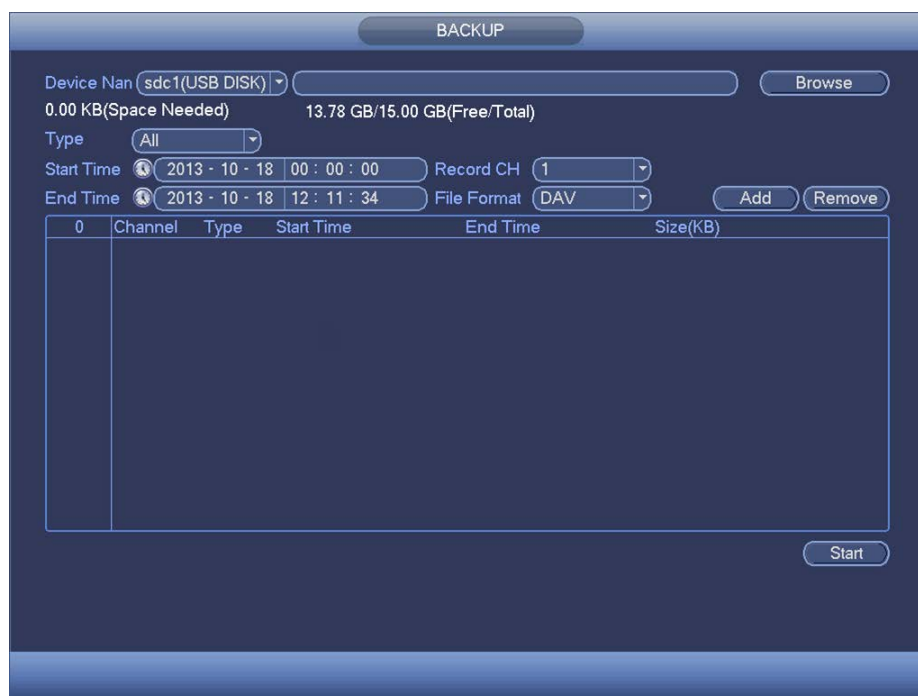
Figure 2-15

2. Select the device you want to backup.
3. Set the channel, file start time and end time.
4. Click the **Add** button. The system begins a search, and then lists all matching files. The system automatically calculates the capacity needed and remaining.

Figure 2-16

The system can only backup files with a √ before the channel name. You can use the **Fn** or **Esc** buttons on the front panel to delete the √ (following the file serial number).

5. Click the **Start** button to begin the backup. At the same time, the button name changes to Stop. You can view the remaining time in the progress bar at the left bottom.

The file name format is: *<Channel number>* + *<Record type>* + *<Time>*. In the file name, the YDM format is Y+M+D+H+M+S. The file extension name is **.dav**.

TIP: During the backup process, you can click **Esc** to exit the current screen to perform other operations. The system will not terminate backup process.

2.6.2 USB Device Auto Pop-up

After you insert the USB device, the system automatically detects it and pops up the following dialog box. It allows you to conveniently backup file, log, configuration or update system.

Figure 2-17

2.7 Snapshot

The NVR enables you to take a snapshot photo either at a scheduled interval (Timing /Scheduled) or when activated by a pre-determined event (Trigger/Activation), such as a motion detection event.

Set up the Snapshot as described in this section and then follow instructions for the desired snapshot type, either **Schedule Snapshot** described on page 21 or **Activation Snapshot** on page 22. View the images in the Playback screen. See section 2.5 on page 10.

To set up a snapshot:

1. Open the Snapshot screen from the Main Menu (*Setting > Remote > Encode > Snapshot*).

Figure 2-18

2. Make the appropriate settings, as described below:
   - **Manual Snap:** This sets the quantity of images that are created each time you manually activate a snapshot.
   - **Channel:** From the dropdown, select the channel to which the following settings pertain.
   - **Mode:** There are two modes: Timing (Schedule) and Trigger (Activation). If using Timing mode, also set the Snapshot Frequency. If setting an Activation Snapshot, also go to the Detect interface (*Main Menu > Setting > Detect*) to enable the snapshot and set the channel(s).
   - **Image Size:** Set the snapshot picture size.
   - **Image Quality:** Set the snapshot quality. The value ranges from 1 to 6.
   - **Snapshot Frequency:** Set the timing (schedule) snapshot interval. The value ranges from 1-7 picture(s) per second.
3. Click **Save**.

2.7.1 Schedule Snapshot

To set up a Scheduled (Timing) snapshot:

1. In the *Encode > Snapshot* screen described the previous section:

    a. From the **Mode** dropdown menu select **Timing**.

    b. Set the Snapshot **Frequency**.

    c. Make other settings as described in the previous section.

    d. Click **Save**.

2. Open the Record screen using one of the following methods:

    - In the main menu, select *Setting > Storage > Record* , or

    - From the Live Preview screen, right click and select **Record** from the Right-click menu

Figure 2-19

3. Enable the channels that you want to take the snapshot.

4. Click **Save**.

5. Open the Schedule Snapshot screen (*Main Menu > Setting > Storage > Schedule >Snapshot)*.

Figure 2-20

6. Set the Snapshot Period, as described in section 3.5.1.1 on page 82.
7. View the images in the Playback screen. See section 2.5 on page 10.

2.7.2 Activation Snapshot

The Activation (or Trigger) function triggers a snapshot when the corresponding detection event occurs.

To set up an Activation / Trigger snapshot:
1. Open the Snapshot screen from the Main Menu (*Setting* > *Remote* > *Encode* > *Snapshot*).

Figure 2-21

2. Select **Trigger** from the Mode dropdown menu.
3. Make other settings as required in this screen.
4. When finished, click **Save**.
    Note: An Activation Snapshot has higher priority than a Schedule Snapshot. If both types are enabled at the same time, the system will initiate the activation snapshot when alarm occurs and initiate the schedule snapshot when there is no active alarm.

5. Open the Event screen from the Main Menu (*Setting > Event*).
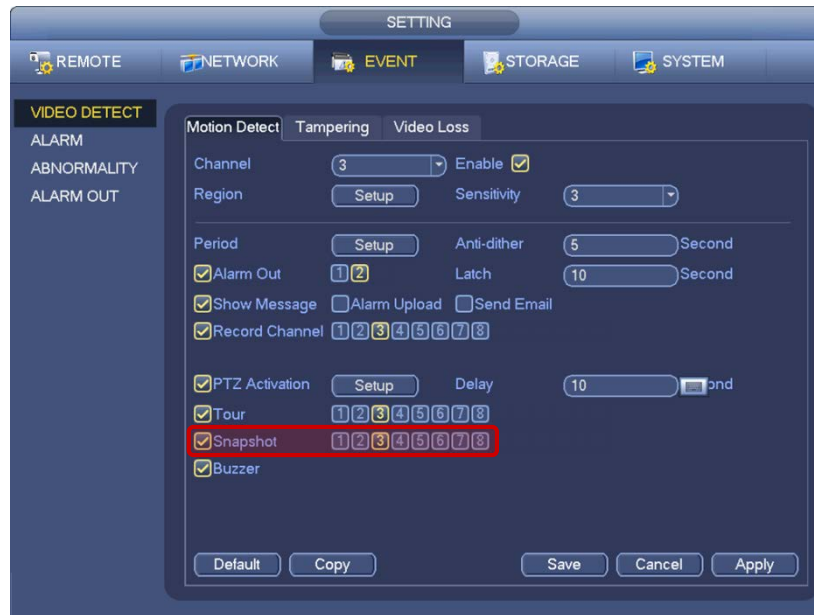
Figure 2-22

6. Select the type of event that you want to trigger your snapshot:
   - Video Detect (Motion Detect, Tampering or Video Loss), as described on page 60
   - Alarm Detect (IPC External, IPC Offline, Local or Network) , as described on page 74
7. In the particular Event screen that you have selected, select the Snapshot checkbox to enable the feature (see Figure 2-22 above as an example).
8. Select the channel(s) that you want to enable to take snapshots.
9. Click **Save**.
10. View the images in the Playback screen. See section 2.5 on page 10.

2.7.3 Manual Record/Snapshot

This operation enables you to manually initiate recording and snapshot images.

To set up a Manual Record snapshot:

1. Open the **Record** screen using one of these methods:
   - From the Main Menu select *Setting > Storage > Record*
   - Click the **Rec** button on the front panel

Figure 2-23

2. In the **Manual** row, select the channels for which you want to enable manual recording.

3. In the **Snapshot** field, select the channels for which you want to enable manual snapshots.

4. Open the Snapshot screen from the Main Menu under *Setting* > *Remote* > *Encode* > *Snapshot*.

Figure 2-24

5. For **Manual Snap**, click the dropdown menu to select the quantity of snapshots (1-5) that will be taken per Snapshot click.

6. On the control bar in Live Preview mode (see page 6), click the ⬛ button to take the snapshot picture(s).

7. View the images in the Playback screen. See section 2.5 on page 10.

2.7.4   Holiday Record/Snapshot

This operation enables you to set up recording of snapshot images on holidays, which have a higher priority than ordinary snapshots.

To set up a Manual Record snapshot:

1. Open the Holiday setup screen from the Main Menu: *Setting* > *System* > *General*.
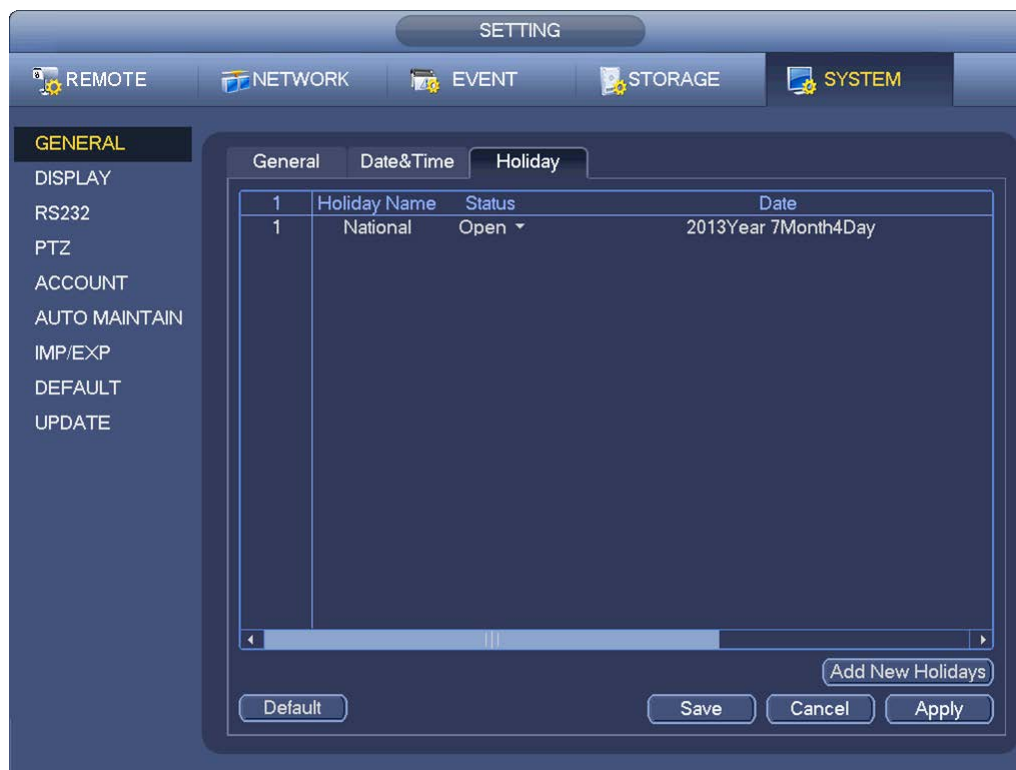
Figure 2-25

2. Click **Add New Holidays.** The Add New Holidays screen opens.

Figure 2-26

3.   Enter a name for the holiday, Start Time, End Time and other particulars.

4.   Click the **Add** button to complete holiday setup.

5.   From the Main Menu, open the Snapshot Schedule screen (*Setting > Storage > Schedule > Snapshot*).

6.   Set the period and record type for the holiday time. Please refer to section 3.6.1.3 on page 91 for detailed setup information.

Figure 2-27

7. Click the **OK** button to set holiday record setup.

8. Set the Holiday Snapshot type:

   - Scheduled (Timing)as described in section 2.7.1 on page 21
   - Activation (Trigger), as described in section 2.7.2 on page 22

3   Local Menu Operations

3.1 Menu Tree

After you have logged in, the system Main Menu appears. You can also open the Main Menu by right-clicking and selecting Main Menu from the menu that appears.

Figure 3-1

The NVR4200 Series local menu tree structure is shown on the next page. For information on operations via the internet, refer to section **4 Web Service** on page 123.

Search, Backup and **Shutdown** were discussed in the previous chapter. The menu items discussed in this chapter are **Setting** and **Info** (starting on page 113).

```
                    ─── SEARCH
                    ─── BACKUP
                    ─── SETTING
                    │            ─── REMOTE
                    │            │           ─── REMOTE (Remote, Status, Firmware, Upgrade)
                    │            │           ─── IMAGE
                    │            │           ─── ENCODE (Encode, Overlay, Snapshot)
                    │            │           ─── CAM NAME
                    │            ─── NETWORK
                    │            │           ─── TCP/IP
                    │            │           ─── CONNECTION
                    │            │           ─── WIFI
                    │            │           ─── 3G
                    │            │           ─── PPPOE
                    │            │           ─── DDNS
                    │            │           ─── IP FILTER
                    │            │           ─── EMAIL
                    │            │           ─── FTP
                    │            │           ─── SNMP
                    │            │           ─── MULTICAST
                    │            │           ─── ALARM CENTER
                    │            │           ─── REGISTER
                    │            │           ─── SWITCH
                    │            ─── EVENT
                    │            │           ─── VIDEO DETECT (Motion Detect, Tampering, Video Loss)
                    │            │           ─── ALARM (IPC Ext, IPC Offline, Local, Net)
                    │            │           ─── ABNORMALITY (HDD, Network)
                    │            │           ─── ALARM OUT
                    │            ─── STORAGE
MENU ───────────────│            │           ─── SCHEDULE (Record, Snapshot)
                    │            │           ─── HDD MANAGER
                    │            │           ─── RECORD
                    │            ─── SYSTEM
                    │                        ─── GENERAL (General, Date & Time, Holiday)
                    │                        ─── DISPLAY (Display, Tour)
                    │                        ─── RS232
                    │                        ─── PTZ
                    │                        ─── ACCOUNT (Modify User, Modify Group)
                    │                        ─── AUTO MAINTAIN
                    │                        ─── IMPORT/EXPORT
                    │                        ─── DEFAULT (All, Camera, Network, Event, Storage, System)
                    │                        ─── UPDATE
                    ─── INFO
                    │            ─── SYSTEM
                    │            │           ─── HDD
                    │            │           ─── RECORD
                    │            │           ─── BPS
                    │            │           ─── VERSION
                    │            ─── EVENT
                    │            ─── NETWORK
                    │            │           ─── ONLINE USERS
                    │            │           ─── LOAD
                    │            │           ─── TEST
                    │            ─── LOG
                    ─── SHUTDOWN
```
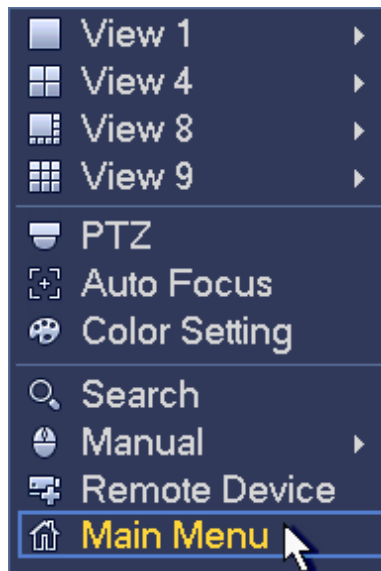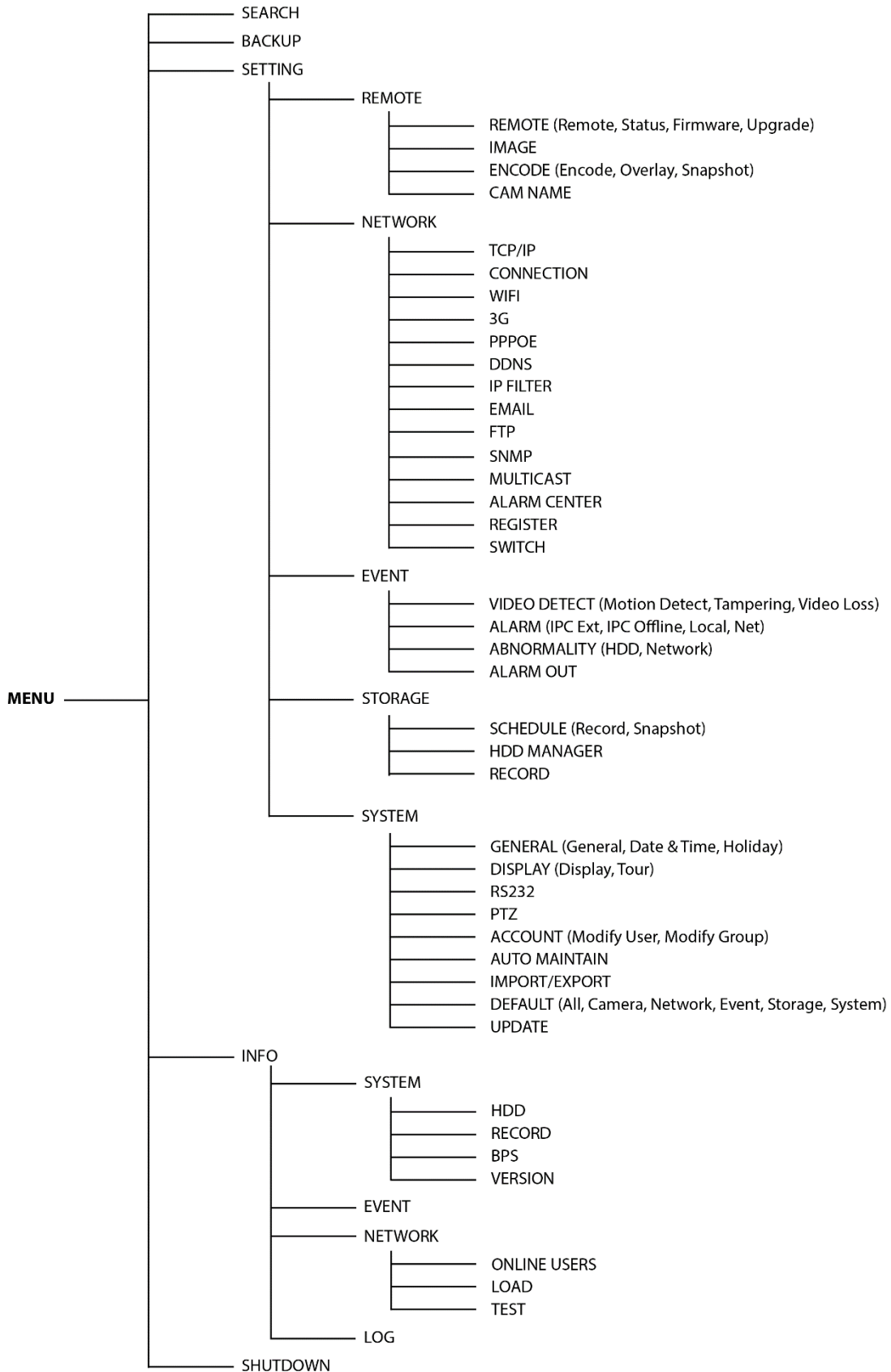
3.2 Remote

In the Main Menu, select *Setting* > *Remote* to edit camera-specific parameters.

3.2.1 Remote Device

To set up a remote device, open the dialog in one of the following ways:

- Select Remote Device in the Main Menu, or
- Right mouse-click and select Remote Device from the resulting menu that appears

- For channels with no IPC connection, click the **+** icon in the center of the live view screen
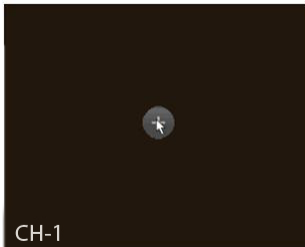
The Remote Device screen opens.

Figure 3-2

3.2.1.1 Remote

IP Search

1. Click the **Device Search** button to search for an IP address. This includes the device IP address, port, device name, manufacturer and type.
2. Click the item name to refresh the display order.
3. Click the IP address and the system displays the IP addresses from small to large.
4. Click the IP address again and the icon appears. The system displays IP addresses from large to small. Click other items to view their information.

Add Device

Click the **Add** button to connect to the selected device and add it to the Added Device list.

> **Note:** The system cannot add a new device if the device you want to add has the same IP and TCP port as another device in the list.

Display Filter button

Click this to display the specified devices from the added device.

Added Device field

- **Edit:** Click the ✏ button or double click a device in the list to change the channel setup.
- **Delete:** Select one device in the Added Device list and then click ❌ to remove it.
- **Status:** 🟢 means that the connection is OK and 🔴 means the connection failed.

Delete button

If you select a device on the Added Device list, and then click the Delete button, the device is disconnected and then its name is removed from the list.

Manual Add button

Click to add the IPC manually. The port number is 37777. The default user name is admin and password is admin.

Figure 3-3

Channel: The dropdown list here displays unconnected channel numbers.

Select the channel number and then set the remote channel connection in the main screen. When you click **OK**, the system connects to the corresponding front end device of the current channel on the interface.

3.2.1.2 Device Status

In this screen you can view the channel status and connection log of the remote device.

Channel Status tab
Here you can view the IPC status of the corresponding channel, which includes motion detection, video loss, camera masking and alarm.

IPC status

█ █ The front end device does not support this function

● The front end device supports this function and is functioning properly.

⚠ There is an alarm event at the front end device

Connection status

● Connection succeeded

● Connection failed

Refresh. Click to get the latest front end channel status.

Figure 3-4

3.2.1.3 Firmware

This tab is for viewing information about the channel, IP address, Manufacturer, Type, System Version, SN, Video Input, Audio Input and External Alarm.

Figure 3-5

3.2.1.4   Upgrade Camera

To update the network camera, navigate to *Setting* > *Remote* > *Remote*> *Upgrade* in the Main Menu.

1. Click the **Select** button and choose the upgrade file.

2. Check the box for the desired channel.
    or
    Select the **Device Type** filter to select several devices at the same time.

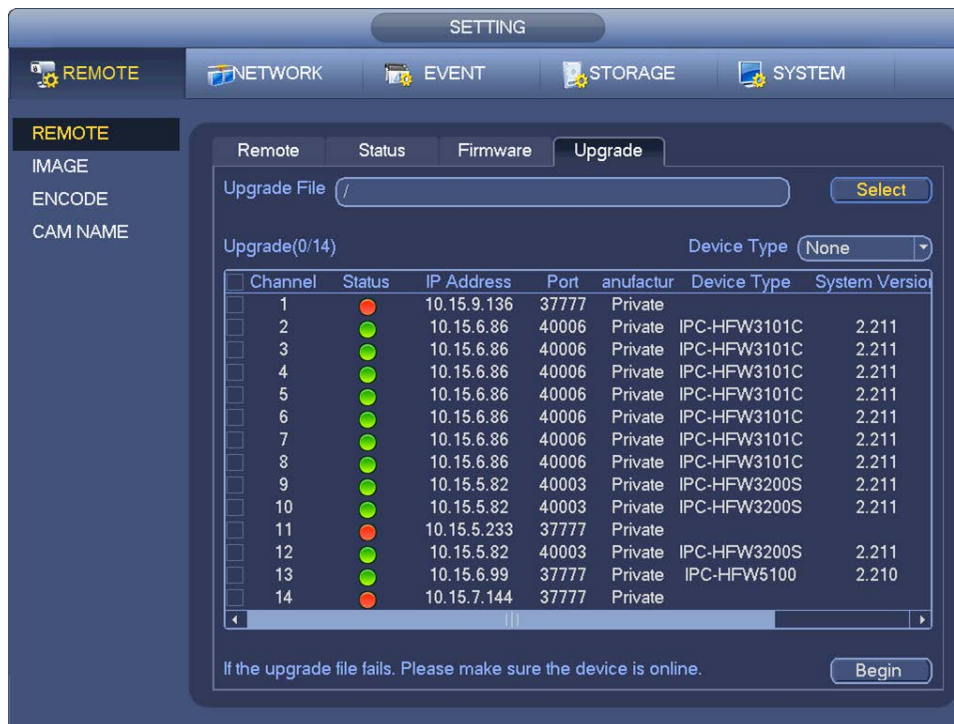3. Click the **Begin** button to initiate the upgrade.

Figure 3-6

3.2.2 Image

Open the Image screen by navigating to *Setting > Remote > Image* in the Main Menu.

Figure 3-7

Channel

Select a channel from the dropdown list.

Mirror

This feature switches the video up and bottom limit. This is disabled by default.

Flip

This feature switches the video left and right limit. This is disabled by default.

Light

Use this function to automatically adjust the exposure according to the ambient lighting.

Scene Mode

This parameter sets the white balance mode and affects the general hue of the video. This function is on by default. You can select different scene modes such as auto, sunny, cloudy, home, office, and night and disable to adjust the video to the best quality.

- **Auto:** The auto white balance is on. System can auto compensate the color temperature to make sure the vide color is proper.
- **Sunny:** Sets the threshold of the white balance for a sunny day.
- **Night:** Sets the threshold of the white balance for nighttime.
- **Customized:** Sets the gain of the red/blue channel. The value ranges from 0 to 100.

Day/Night

This parameter sets the device's mode switch between color and B/W. The default setup is auto.

- **Color:** The device outputs color video.
- **Auto:** The device automatically selects whether to output color or B/W video according to the environment (general video brightness or whether IR light is present).
- **B/W:** The device outputs black and white video.
- **Sensor:** It is to set when there is peripheral connected IR light.

Saturation: Move the slider to adjust the monitor window saturation. The value ranges from 0 to 100. The default value is 50. The larger the number, the strong the color. This value has no effect on the general brightness of the video as a whole. The video color may become too strong if the value is too high. For the gray part of the video, distortion may occur if the white balance is not accurate. Also, video quality may be degraded if the value is too low. The recommended value ranges from 40 to 60.

Brightness Move the slider to adjust monitor window brightness. The value ranges from 0 to 100; the default value is 50. The larger the number, the brighter the video. Please note that the video may become hazy if the value is too high. The recommended value ranges from 40 to 60.

Contrast: Move the slider to adjust monitor window contrast. The value ranges from 0 to 100. The default value is 50. The larger the number is, the higher the contrast is. You can use this function when the whole video bright is OK but the contrast is not proper. Please note the video may become hazy if the value is too low. If this value is too high, the dark section may lack brightness while the bright section may over exposure .The recommended value ranges from 40 to 60.

3.2.3 Encode

Video compression settings are made in the Encode dialog. Options include Encode, Overlay and Snapshot.

Figure 3-8

3.2.3.1 Encode

Video compression settings are made in the Encode dialog. Highlight the box ▣ to select the corresponding function.

Channel
Select the desired channel.

Code Stream Type
Select from the dropdown list. There are three options: Regular, MD (motion detect) and Alarm. You can set the various encode parameters for different recording types.

Compression
The system supports H.264, MPEG4 and MJPEG.

Resolution
The mainstream resolution type is the IPC's encoding configuration. Generally this is D1/720p/1080p. The system supports various resolutions that you can select from the dropdown list.

The Main Stream supports: 2048x1536 (3M), 1920x1080 (1080P), 1280x1024 (SxGA), 1280x960 (1.3M), 1280x720 (720P), 704x576 (D1).

The Sub Stream supports 704x576 (D1), 352x288 (CIF).

Frame Rate (FPS)

This ranges from 1f/s to 25f/s in NTSC mode and 1f/s to 30f/s in PAL mode.

Bit Rate Type

The system supports two types: Constant Bit Rate (CBR) and Variable Bit Rate (VBR). In VBR mode, you can set video quality.

Quality

Only appears when VBR is selected above. There are six levels ranging from 1 to 6. The sixth level has the highest image quality.

Audio / Video

Use this checkbox to enable or disable the video/audio.

3.2.3.2 Overlay

Click the **Overlay** tab to open the Overlay dialog, which determines whether the following items are displayed on the monitor screen.

Figure 3-9

Channel. Select the target channel from the dropdown list.

Time Display. Select whether the time is displayed during playback. Click the **Set** button and then drag the title to the corresponding position in the screen.

Channel Display. Select whether the system displays the channel number during playback. Click the **Set** button and then drag the title to the corresponding position in the screen.

Cover Area (Privacy Mask). This section is for setting the Privacy Mask. In the dialog, use your mouse to set the desired mask size and location. In single channel video mode, the system supports a maximum of 4 zones in one channel.

☑ **Monitor Checkbox.** If this box is checked, the Privacy Mask zone cannot be view by the user when in playback mode.

3.2.3.3 Snapshot

Click the **Snapshot** tab to set snapshot mode, picture size, quality and frequency. Refer to section **2.7 Snapshot** on page 20.

Figure 3-10

Manual Snap. Click the dropdown menu to select the quantity of snapshots (1-5) that will be taken per Snapshot click when taken manually.

**Channel.** Select the target channel from the dropdown list.

Mode: There are two modes: Timing (Schedule) and activation. If you set timing mode, you need to set the snapshot frequency. If you set activation snapshot, you need to go to the Detect interface (*Main Menu > Setting > Detect*) to set snapshot activation operation.

Image Size: Set the snapshot picture size.

Quality: Set the snapshot quality. The value ranges from 1 to 6.

Snapshot Frequency: Set the timing (schedule) snapshot interval. The value ranges from 1-7 picture(s) per second.

Copy. After you complete the setup, you can click **Copy** button to copy the current setup to other channel(s). Check the number to select specific channel(s) or else check the **All** box. The current channel number is grayed out. Click the **OK** to complete the setup.
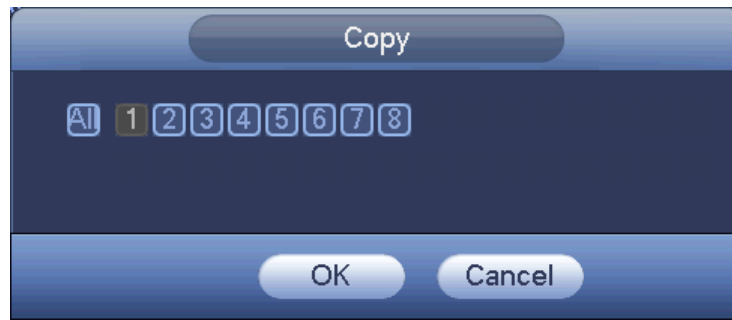
Figure 3-11

3.2.4 Cam Name

Use this screen to modify the Camera Name for each channel. The system supports a maximum of 31 characters. You can only modify the channel name of connected network cameras.

Figure 3-12

3.3 Network

This section is for inputting and viewing the network information.

3.3.1 TCP/IP

The network adapter interface is shown in Figure 3-13. Setup the network information as described below.

Figure 3-13

MTU

Displays the Maximum Transmission Unit (MTU) value of the network adapter. The value ranges from 1280-7200 bytes. The default setup is 1500 bytes.

MTU modification can affect current network service and may result in a reboot of the network adapter. When you change the MTU setup, a pop up dialog box appears for you to confirm the setup. Click the **OK** button to confirm the reboot or click **Cancel** to terminate the modification. Before the modification, verify that the MTU of the NVR is the same as or lower than the MTU of the gateway. In this way, you can reduce packets and enhance network transmission efficiency.

The following MTU values are for reference only.

- **1500:** This is the Ethernet information packet maximum value and the default. It is the typical setup when there is no PPPoE or VPN. It is also the default setup of some routers, switches and network adapters.
- **1492:** Recommended value for PPPoE.
- **1468:** Recommended value for DHCP.

LAN Download

The system can process the downloaded data first if you enable this function. The download speed is 1.5X or 2.0X of the normal speed.

IP Version

There are two options: IPv4 and IPv6.

MAC address

The LAN host has a unique MAC address. This item is read-only.

IP Address

In this section you can use the up/down buttons (▲▼) or input the corresponding numbers to input the IP address. Then you can set the corresponding subnet mask and the default gateway.

Subnet Mask

The input value ranges from 0 to 128 and is used to mark a specified network MAC address. Usually it includes a multiple-level organization.

Default Gateway

In this section you can input the default gateway. The IP address and the Default Gateway must be in the same IP section. That is to say, the specified length of the subnet prefix must have the same string.

Preferred DNS Server

DNS server IP address.

Alternate DNS Server

DNS server alternate address.

DHCP

This section is for auto searching the IP. When you enable the DHCP function, you cannot modify the IP/Subnet mask /Gateway. These values are from the DHCP function. If you have not enabled the DHCP function, then the IP, Subnet Mask and Gateway are displayed as zero. You must disable DHCP function to view current IP information. When PPPoE is operating, you cannot modify the IP, Subnet Mask or Gateway.

IMPORTANT: For the following four ports (TCP, UDP, HTTP and RTSP), the system must be rebooted after you have changed and saved any setup parameter. Make sure that these four port values do not conflict with one another.

3.3.2 Connection

The Connection dialog is shown in Figure 3-14. Enter the desired value for the corresponding network function.

Figure 3-14

Max Connection

The system supports a maximum of 128 users.

TCP Port

Select from a range of 1025–65535. The default value is 37777.

UDP Port

Select from a range of 1025–65535. The default value is 37778.

HTTP Port

Select from a range of 1–65535. The default value is 80.

HTTPS Port

Select from a range of 128–65535. The default value is 443.

RTSP Port

Select from a range of 128–65535. The default value is 554.

3.3.3 WIFI

This feature is not supported by ADT.

3.3.4 3G

This feature is not supported by ADT.

3.3.5 PPPoE

The PPPoE (Point to Point Protocol over Ethernet) dialog is shown in Figure 3-15.

To set up the PPPoE feature:

1. Input the User Name and Password you received from your Internet service provider (ISP).
2. Click the **OK** button.
3. Reboot the system to activate your configuration.

After rebooting, the NVR connects to Internet automatically. The IP in the PPPoE is the NVR dynamic value. You can access this IP to access the unit.

Figure 3-15

3.3.6 DDNS

The DDNS setup dialog appears below in Figure 3-16.

Requirements: You must have a PC with a fixed IP and DDNS software running. In other words, this PC is a DNS (domain name server).

To set up the DDNS feature:

1. In network DDNS, select DDNS type and highlight enable item.
2. Input the PPPoE name you get from your IPS and server IP (PC with DDNS).
3. Click the **OK** button. The system prompts you to reboot to activate the setup.
4. After rebooting, open a browser window and enter:
    http://(DDNS server IP)/(virtual directory name)/Webtest.htm
    (e.g.: *http://10.6.2.85/NVR _DDNS/Webtest.htm*.)
5. Open the DDNS Server Web search page.

Figure 3-16

Note that NNDS type includes: CN99 DDNS, NO-IP DDNS, Quick DDNS and Dyndns DDNS. You can setup all DDNS clients to be valid at the same time.

The Quick DDNS function works with a special DDNS server and special Professional Surveillance Software (PSS).

Quick DDNS and Client End Introduction

1. Background Introduction
The device IP is not fixed if you use ADSL to log into the network. The DDNS function enables you to access the NVR via the registered domain name. Besides the general DDNS, the Quick DDNS works with the device from the manufacturer so that it can add the extension function.

2. Function Introduction

The quick DDNS client has the same function as other DDNS clients. It initiates the bonding of the domain name and the IP address. At this time, the current DDNS server is for our own devices only. You must refresh the bonding relationship of the domain and the IP regularly. There is no user name, password or the ID registration on the server. At the same time, each device has a default domain name (generated by MAC address) for your option. You can also use a customized valid domain name (not registered).

3. Operation

Before you use Quick DDNS, you must enable this service and set the proper server address, port value and domain name.

- Server address: www.quickddns.com
- Port number: 80
- Domain name: There are two modes: Default domain name and customized domain name.

You can use the default domain name registration or a customized domain name (using your self-defined domain name.) After successful registration, you can use the domain name to login instead of the device IP. The user name is optional; you can input your commonly-used email address.

IMPORTANT:
- Do not register frequently. The interval between two registrations must be more than 60 seconds.
- The system may revoke a domain name that is idle for one year. You will receive an email notification before the cancellation occurs.

3.3.7 IP Filter

The IP filter dialog is shown in Figure 3-17. You can add IP in the following list. The list supports a maximum 64 IP addresses.
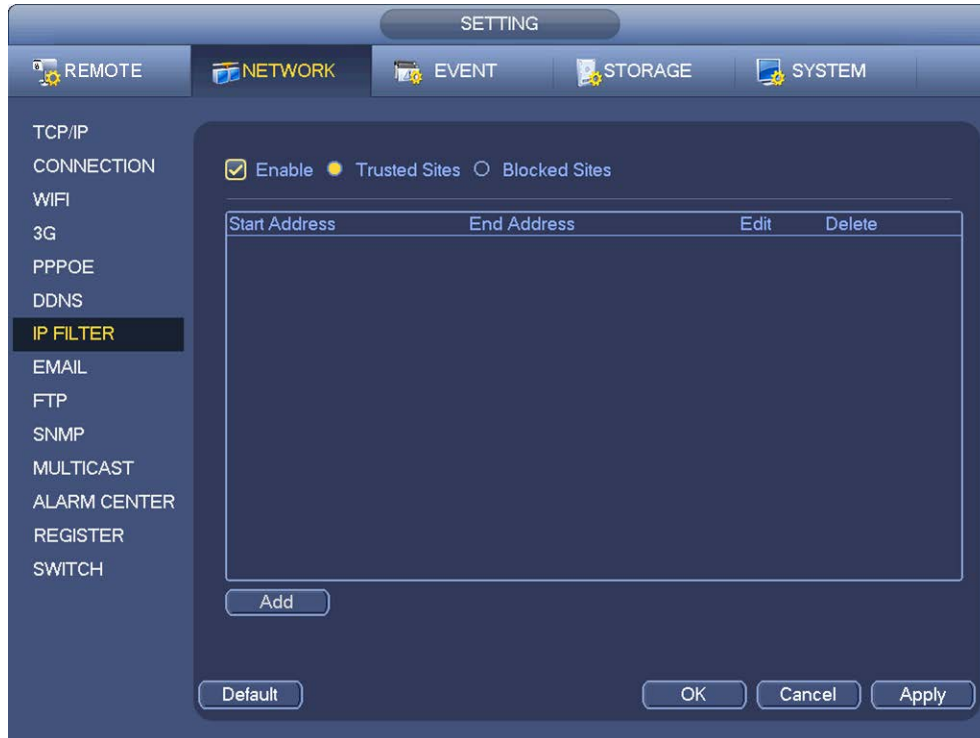
Figure 3-17

After you enabled trusted sites function, only the IP listed below can access current NVR. If you enable blocked sites function, the following listed IP addresses cannot access current NVR.

Enable
Highlight this box to enable the trusted site function and blocked sites function. You cannot see these two modes if the **Enable** button is grayed out.

Type
You can select trusted site and blacklist from the dropdown list. You can view the IP address on the following column.

Start Address/End Address
Select one type from the dropdown list, you can input IP address in the start address and end address. Click **Add IP Address** or **Add IP Section** to add.

- Newly added IP addresses are enabled by default. Remove the √ before the item to remove it from the list.
- The system supports a maximum of 64 items.
- The system automatically removes space if there is any space before or after the newly added IP address.

- The system only checks the start address if you add an IP address. The system checks the start address and end address if you add an IP section. The end address must be larger than the start address.
- The system may check whether the newly added IP address exists. The system does not add if the input IP address does not exist.

Delete
Click to remove the specified item.

Edit
Click to edit the start address and end address. See Figure 3-18. The system checks the IP address validity after the edit operation.
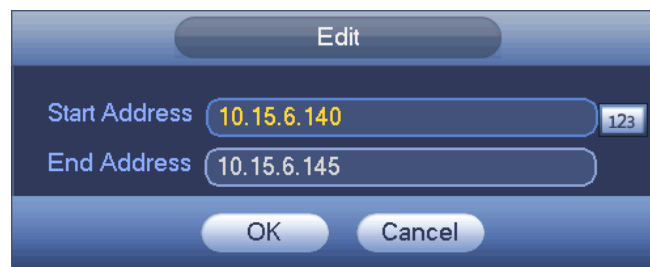
Figure 3-18

Default
Click to restore default setup. In this case, the trusted sites and blocked sites are both removed.

Note:
- If you enabled trusted sites, only the IP in the trusted sites list can access the device.
- If you enabled blocked sites, the IP in the blocked sites cannot access the device.
- The system supports add MAC address.

3.3.8 Email

The email dialog is shown below in Figure 3-19.

Figure 3-19

SMTP Server

Enter your email SMTP server IP.

Port

Enter the corresponding port value.

User Name

Enter the user name to login to the sender's email box.

Password

Enter the corresponding password.

Receiver

Enter the receiver's email address. The system supports a maximum of 3 email boxes and automatically filters out duplicate addresses.

Sender

Enter the sender's email address.

Title

 Enter the email subject line (32 alphanumeric characters max).

SSL Enable

Check to enable SSL encryption.

Event Interval

Enter the delay time in seconds following the alarm event before another email is sent out. The interval ranges from 0 to 3600 seconds, where 0 means there is no delay and the email is sent immediately.

Health Enable

Check the box to enable this function, which enables the system to send out a test email for testing the connection.

Interval

Enter the delay time in seconds following the test alarm before another email is sent out. The interval ranges from 0 to 3600 seconds, where 0 means there is no delay and the email is sent immediately.

Test

Click the **Test** button test the email connection.

Note that the system will not send out the email immediately when the alarm occurs. When the Motion Detection or the Abnormality event activates the email, the system sends out the email according to the interval setting specified here. This function is very useful when there are too many emails activated by Abnormality events, resulting in a heavy load for the email server.

3.3.9   FTP

You must download or buy an FTP service tool (such as Ser-U FTP SERVER) to establish the FTP service.

Install the Ser-U FTP SERVER first. (*Start* > *All Programs* > *Serv-U FTP Server* > *Serv-U Administrator*). Then set the user password and FTP folder. Note that you must grant write rights to the FTP upload user.
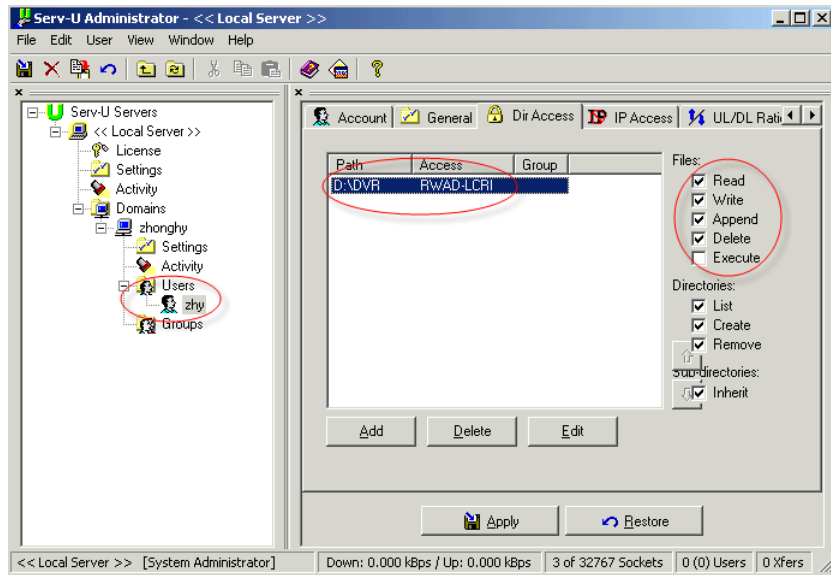
Figure 3-20

You can use a PC or FTP login tool to test that it is setup properly.

For example, you can login user ZHY to FTP://10.10.7.7 and then test it to modify or delete the folder.
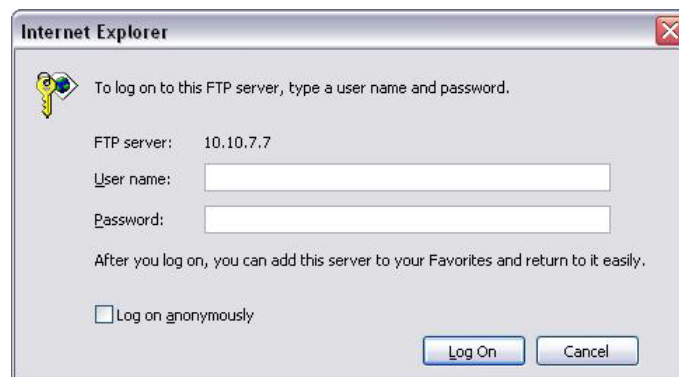
Figure 3-21

The system also supports upload multiple NVRs to one FTP server. You can create multiple folders under this FTP. Select **FTP** and then double-click it. The following dialog appears.

Figure 3-22

To use the FTP feature:

1. Highlight the **Enable** box to activate the FTP function.
2. Input the FTP server address, port and remote directory. When a remote directory is not available, the system automatically creates folders according to the IP, time and channel.
3. Enter the User Name and Password as the account information for you to login the FTP.
4. Set upload file length, picture upload interval, upload file channel, time and type.
   - File length is upload file length. When this value is larger than the actual file length, the system will upload the whole file. When this value here is smaller than the actual file length, the system only uploads the set length and automatically ignores the left section. When the interval value is 0, the system uploads all corresponding files.
   - At the same time, you can set two periods and three recording files for different channels.
5. Click the **Test** button. The corresponding dialog box appears to show that the FTP connection is OK.

3.3.10 SNMP

SNMP is an abbreviation of Simple Network Management Protocol. It provides the basic network management framework of the network management system. SNMP is widely used in many environments, network devices, software and systems.
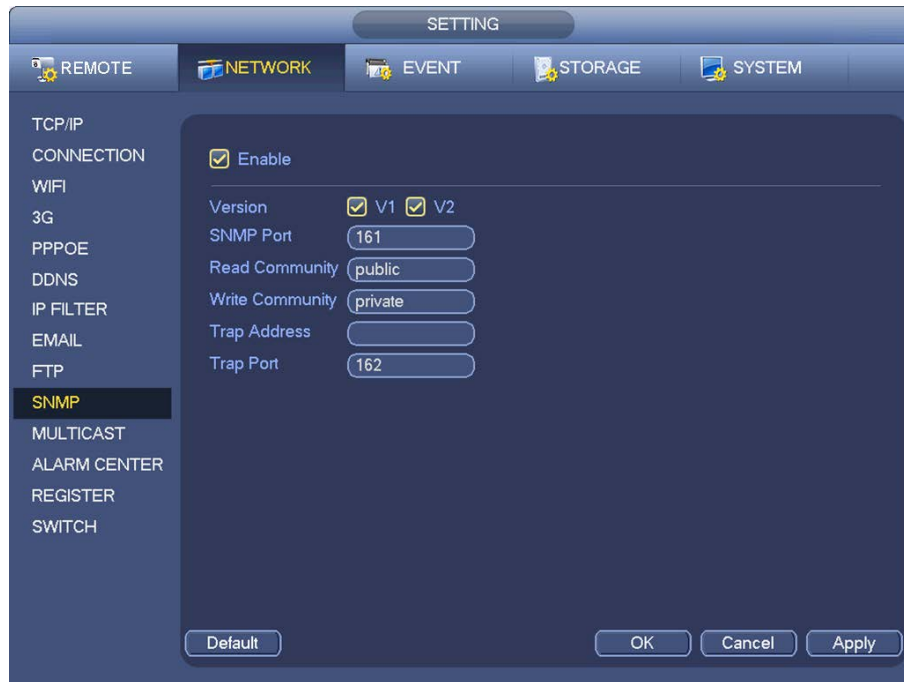
Figure 3-23

Enable the SNMP function. Use the corresponding software tool (MIB Builder and MG-SOFT MIB Browser. You will need two MIB files: BASE-SNMP-MIB, NVR-SNMP-MIB) to connect to the device. You can get the device's corresponding configuration information after a successful connection.

To configure SNMP:
1. In Figure 3-23 above, check the box to enable the SNMP function. Input the IP address of the PC than is running the software in the Trap address. You can use the default setup for the rest of the items.
2. Compile the above mentioned two MIB file via the software MIB Builder.
3. Run MG-SOFT MIB Browser to load the file from the previous step to the software.
4. Input the device IP you want to manage in the MG-SOFT MIB Browser. Set the corresponding version for future reference.
5. Open the tree list on the MG-SOFT MIB Browser to get the device configuration. Here you can see how many video channels, audio channels and application versions the device has.

   Note: A port conflict occurs when the SNMP port and Trap port are the same.

3.3.11 Multicast Setup

Multicast is a transmission mode for data packets. Multicast sends IP datagrams to a group of receivers in a single transmission. When there are multiple hosts to receive the same data packet, multicast is the best option to reduce the bandwidth and the CPU load. The source host can send out just one data packet. This function also depends on the relationship of the group member and the group.
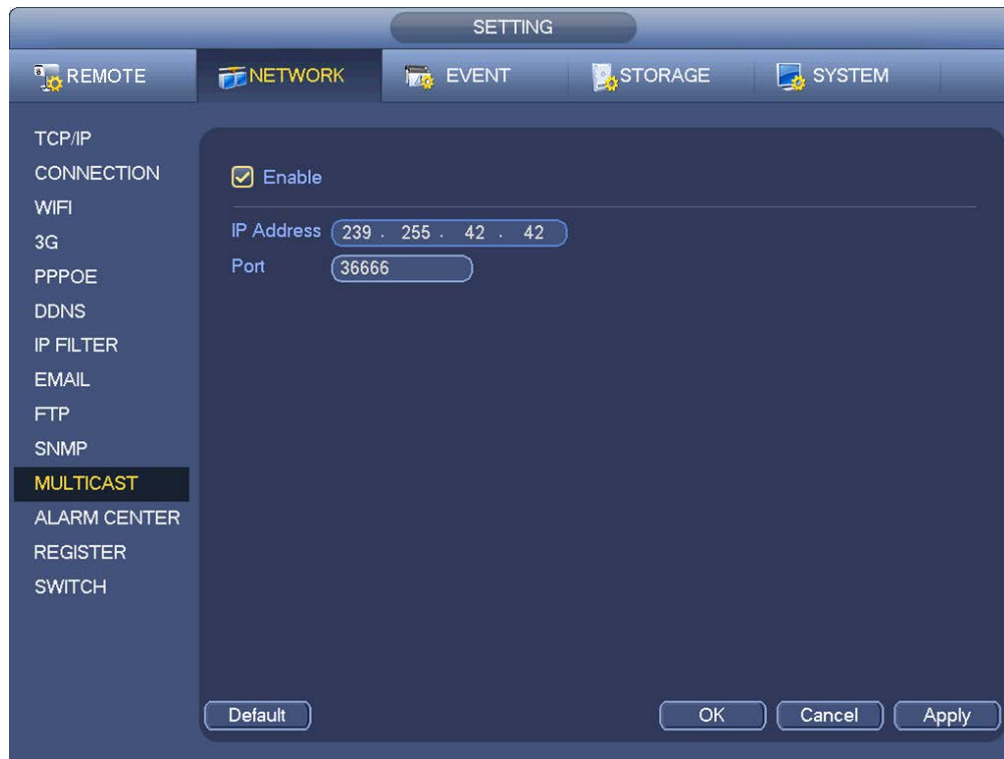
Figure 3-24

Refer to the following list for detailed information.

- IP multicast group address
  - 224.0.0.0-239.255.255.255
  - "D" address space
    – The higher four-bit of the first byte="1110"
- Reserved local multicast group address
  - 224.0.0.0-224.0.0.255
  - TTL=1 When sending out telegraph
  - For example:
    – 224.0.0.1   All systems in the sub-net
    – 224.0.0.2   All routers in the sub-net
    – 224.0.0.4   DVMRP router
    – 224.0.0.5   OSPF router
    – 224.0.0.13 PIMv2 router

- Administrative scoped addressees
  - o 239.0.0.0—239.255.255.255
  - o Private address space
    - – Like the single broadcast address of RFC1918
    - – Cannot be used in Internet transmission
    - – Used for a multicast broadcast in limited space

Except the above mentioned reserved addresses, you can use other addresses.

For example:

- Multicast IP: 235.8.8.36
- Multicast PORT: 3666.

After you have logged in, the Web can automatically get a multicast address and add it to the multicast groups. You can enable real-time monitor function to view the view.

3.3.12 Alarm Center

This feature is not supported by ADT.

3.3.13 Register

This function enables the device to automatically register to the proxy you have specified. In this way you can use the client end to access the NVR via the proxy. In the network service, the device supports a server address of IPv4 protocol.

To use the Register function:
1. Set the proxy server address, port and sub-device name at the device end.
2. Enable the Register function. The device automatically registers to the proxy server.

IMPORTANT: Do not input a network default port such as the TCP port number.

Figure 3-25

3. The proxy server software is developed from the SDK. Open the software and input the global setup. Make sure the auto connection port here is the same as the port you set in the previous step.

4. Now add the device. Do not input default port number such as the TCP port in the mapping port number. The device ID used here must be the same as the ID you input prior.

5. Click the **Add** button to complete the setup.

6. Boot up the proxy server.

   When the network status is **Y**, the registration is successful. You can view the proxy server when the device is online.

IMPORTANT: The server IP address can also be the domain but you must register a domain name before you run the proxy device server.

3.3.14   Switch

The built-in switch function is used to set up the PoE port. Here, you can set the switch IP address, subnet mask and gateway.
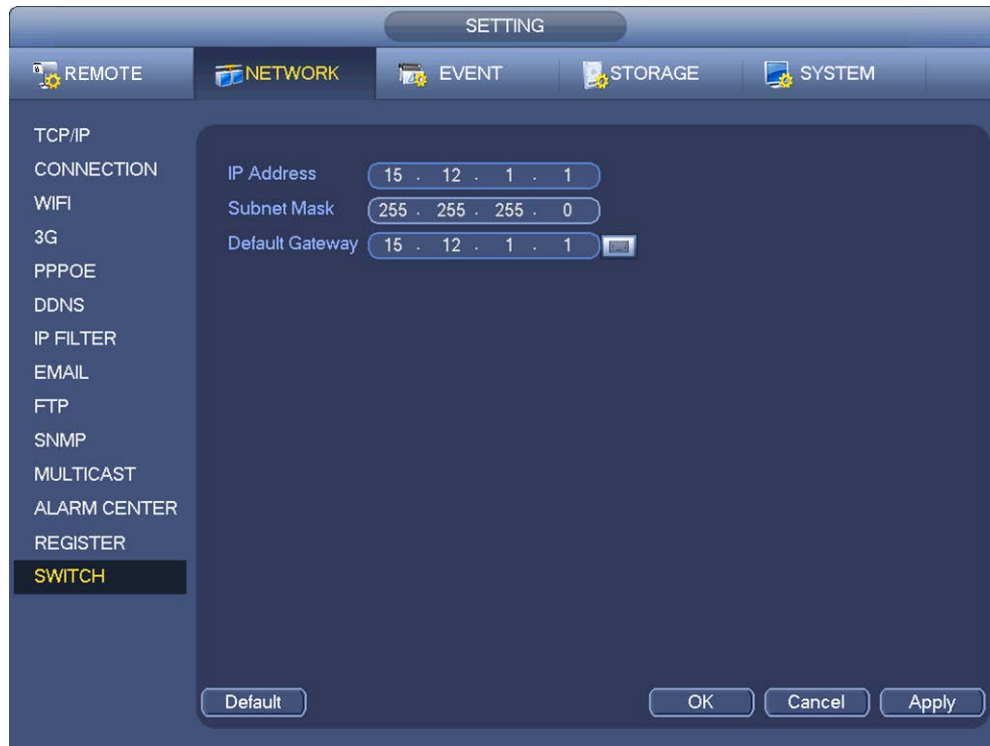
Figure 3-26

3.4 Event

The Event screens are used for setting up the type of actions for which you want to trigger a response, such as triggering an alarm, sending an email or taking a snapshot. There are four types that you can set as an event:

- Video Detect
- Alarm
- Abnormality
- Alarm Out

3.4.1 Video Detect

The Video Detect actions include set up parameters for Motion Detection, Tampering (aka Masking) and Video Loss.

To set up a video event for triggering a response:

1. Select *Main Menu > Setting > Event > Video Detect*.
   The Video Detect menu appears.

Figure 3-27

2. Highlight the box (▣) to select the corresponding function.

3. After completing the setup, click the **Save** button.

The following describes the Video Detect window:

Event type
Select the desired event from the appropriate tab: Motion Detection, Tampering or Video Loss.

Channel
Select a channel from the dropdown list that you want to enable for the event.

Enable
Check the box to enable the event type.

Region
(Motion Detection only) Click the **Setup** button to set Motion Detection zone. There are 396(PAL)/330(NTSC) small zones. The blue zone is the motion detection zone; the white zone is the disarmed zone. The system can only detect motion detect signal from the armed region. See section **0 Motion Detection** on page 63.)

Sensitivity
(Motion Detection and Tampering only) The system supports 6 levels. The sixth level has the highest sensitivity. The default setup is 3.

Period
Click the **Setup** button. The Setup dialog opens, where you can set the time period when detection is enabled. Select **Sunday to Saturday** from the dropdown list. Be sure to check the box to the left of the period to enable it. To set your own business day and non-business days, select work day or non-work day from the drop down list, and then click the **Setup** button. For example, you can set Monday to Friday as working days and Saturday and Sunday as non-working days. Click the **Save** button to return to the previous screen.

Anti-dither
(Motion Detection only) This feature sets a delay period before triggering the next Motion Detection event, to avoid re-triggering on the same event. The delay period begins when the current motion detection event has ended. The system only stores one event during the anti-dither period. The value ranges from 5s to 600s.

Alarm Out
Check the box to enable the external alarm when the event triggers. In the boxes to the immediate right, enable which camera(s) will record when the event occurs.

Latch
Select the time in seconds that the system delays after the external alarm has ended before turning off the alarm and the activated output. This feature sets a postponement period before another external alarm can be activated. Value ranges from 10 to 300 seconds.

Show Message

Enable Show Message to pop up a warning message on the local monitor to alert you that the event has occurred.

Alarm Upload

Enable this feature to upload an alarm signal to the network.

Send Email

Enable this to send out email to alert you when the event occurs.

Record Channel

The system automatically activates the designated channel(s) to record once a Motion Detection event occurs. Make sure you have set MD Record in Schedule screen (*Main Menu* > *Setting* > *Schedule*) and Schedule Record on the Manual Record screen (*Main Menu* > *Storage* > *Manual Record*).

Delay

To avoid rerecording the same event, enter the number of seconds to wait after the event has ended before a new recording can begin. This value ranges from 10s to 300s.

PTZ Activation

Select this feature to set Pan/Tilt/Zoom movement when an event occurs.

- **Select.** Click this button to open the PTZ Activation screen for setting up the camera.

Figure 3-28

Tour

Enable the tour function to present an alternating display (much like a slideshow) of the channel(s) you have set to record when a motion detect event occurs. Refer to section **3.6.2.2 TV Adjust** *Tab* on page 93 for tour interval setup.

Snapshot

Enable this function to take a snapshot image when a motion detect event occurs.

Buzzer

Enable this function to sound an audible tone from the NVR when the event occurs.

Test

Click this test the current motion detect setup. See section **0 Motion Detection** on page 63.

Note:

- In the Detect main screen, the copy/paste function is only valid for the same event type. In other words, you cannot copy a channel setup in Video Loss mode and paste it to a channel in Tampering mode.
- The Default function is only available for the current event type. For example, if you click the **Default** button in the Tampering dialog, only the default Tampering setup is restored to default settings. It does not affect other detection types.

3.4.1.1 Motion Detection

The system can set a Motion Detection event to trigger an alarm and initiate recording. The Motion Detect icon ▧ appears on the live video screen if the current channel has the motion detect alarm enabled. You first must set up the area on the screen that you want to be sensitive to motion detection. You can up the motion detection zone using the mouse. You can also use keys on the front panel of the NVR: FN and arrow keys to set the detection zone, the Enter key to accept the setting, or the Esc key to exit without saving.

To set up Motion Detection:
1. Open the Motion Detect screen by selecting *Main Menu > Setting > Video Detect*. The Video Detect screen opens, as shown in Figure 3-27.
2. In the **Channel** area, select the channel you want to set up from the drop-down list.
3. Check the **Enable** checkbox to enable the Motion Detection feature for this channel.
4. In the **Region** field, select the **Select** button. An interface opens for setting the motion detection zone.
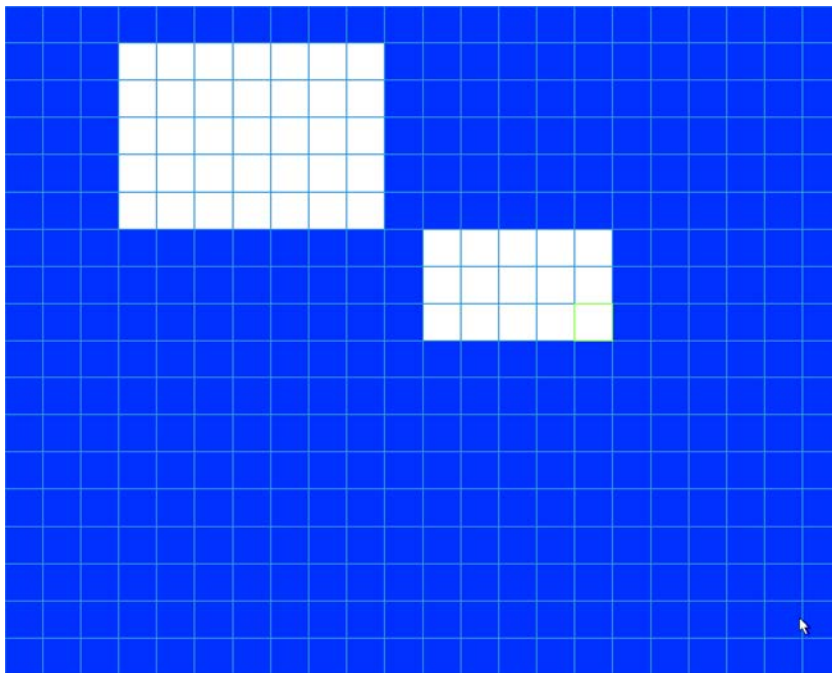
Figure 3-29

    The blue zone is the armed (motion detection) zone; the clear zone is the disarmed zone. The system only detects motion in the blue armed region. The default setup is the entire screen (all blue).

5. Set the motion detection zone, using one of the following methods. The currently selected grid cell is highlighted in green.

a. Left mouse-click and drag it to set the desired region. If the area is already blue (armed), dragging the mouse sets the cells clear (disarmed). If the area is already clear (disarmed), dragging the mouse sets the cells armed (blue).

or

b. Press the **Fn** button on the front panel to switch between the armed mode and disarmed modes. Use the arrow keys to apply that format to the grid cell.

6. After setting the zone, exit and return to the Detect zone setup screen, using one of the following methods:

a. Right mouse-click

or

b. Press the **Enter** button on the front panel

7. Set the **Sensitivity** level 1-6, where 6 is the most sensitive. The default is 3.

8. Select the **Test** button. A screen appears as in Figure 3-30. The system only displays the motion detect status of the blue area. The red flashing area shows motion has been detected in this area.
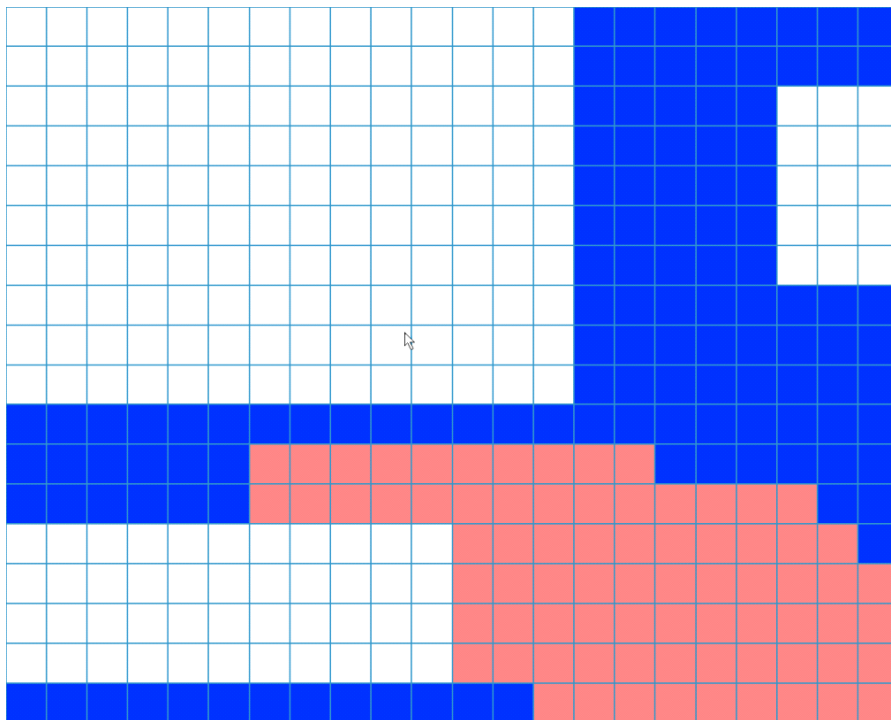
Figure 3-30

9. In the **Period** area, select the **Setup** button. The Setup dialog opens for setting the motion detection period.
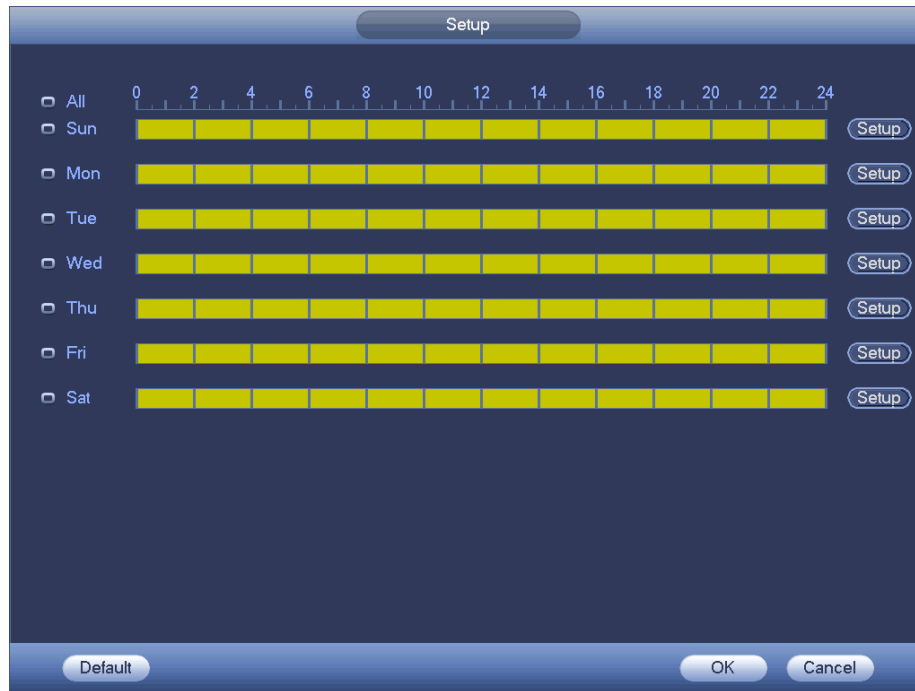
Figure 3-31

10. To make settings for multiple days, select the ⬜ icon to the left of several dates. The icon changes to 🔗, indicating that settings made to one date will follow to the other selected dates.

11. Click the ✎ icon to delete a record type from one period.

12. Click the ⚙ button to set up the time period. The following dialog appears. Six periods appear for you to set for each day.

   a.   Select the box to the left of a time period to enable it.
   b.   Set the start and end times for each motion detect period.
   c.   When finished, select **Save** to return to the Detect screen.

Figure 3-32

13. Select the desired alarm types: Alarm Out, Show Message, Record Channel, PTZ Activation, Tour, Snapshot, Buzzer, Alarm Upload, or Send Email.

14. Select the **Save** button to enact the current setup.

15. The Motion Detect icon 🏃 appears on the live video screen if the current channel has the motion detect alarm enabled.

3.4.1.2   Tampering

The Tampering feature alerts you when someone maliciously masks the lens, or the output video is in monochrome due to a change in ambient light.

To set up a Tampering event:
1. Open the Motion Detect screen by selecting *Main Menu > Setting > Detect*. The Detect screen opens.
2. Select the **Tampering** tab.

Figure 3-33

3. In the **Channel** area, select the channel you want to set up from the drop-down list.

4. Check the **Enable** checkbox to enable the Tampering feature for this channel.

5. In the **Period** area, select the **Setup** button. The Setup dialog opens for setting the motion detection period.
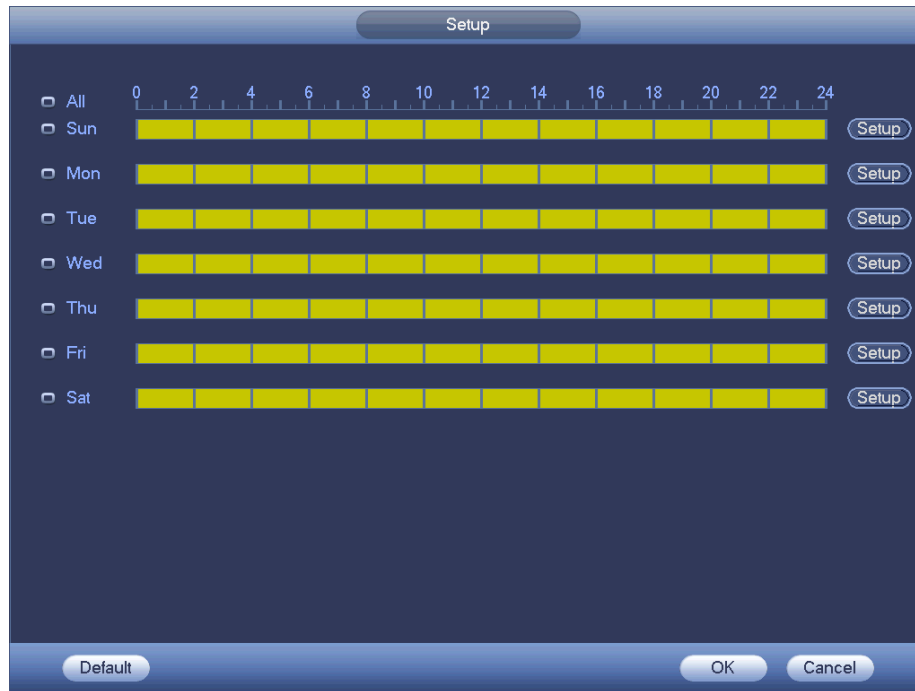
Figure 3-34

6. To make settings for multiple days, select the ⬜ icon to the left of several dates. The icon changes to 🔗, indicating that settings made to one date will follow to the other selected dates.

7. Click the 🖊 icon to delete a record type from one period.

8. Click ⚙ to set up the time period. The following dialog appears. Six periods appear for you to set for each day.

   a. Select the box to the left of a time period to enable it.
   b. Set the start and end times for each motion detect period.
   c. When finished, select **Save** to return to the Detect screen.

Figure 3-35

9. Select the desired alarm types: Alarm Out, Show Message, Record Channel, PTZ Activation, Tour, Snapshot, Buzzer, Alarm Upload, or Send Email.
10. Select the **Save** button to enact the current setup.

Note:

- There is no Detection Region or Anti-dither setup for Tampering.
- Tampering is only enabled during the time period set. It is disabled for Motion Detection and Video Loss.

3.4.1.3 Video Loss

This function informs you when no video signal is detected.

To set up a Video Loss event:

1. Open the Motion Detect screen by selecting *Main Menu > Setting > Video Detect*. The Video Detect screen opens.
2. Select the **Video Loss** tab.
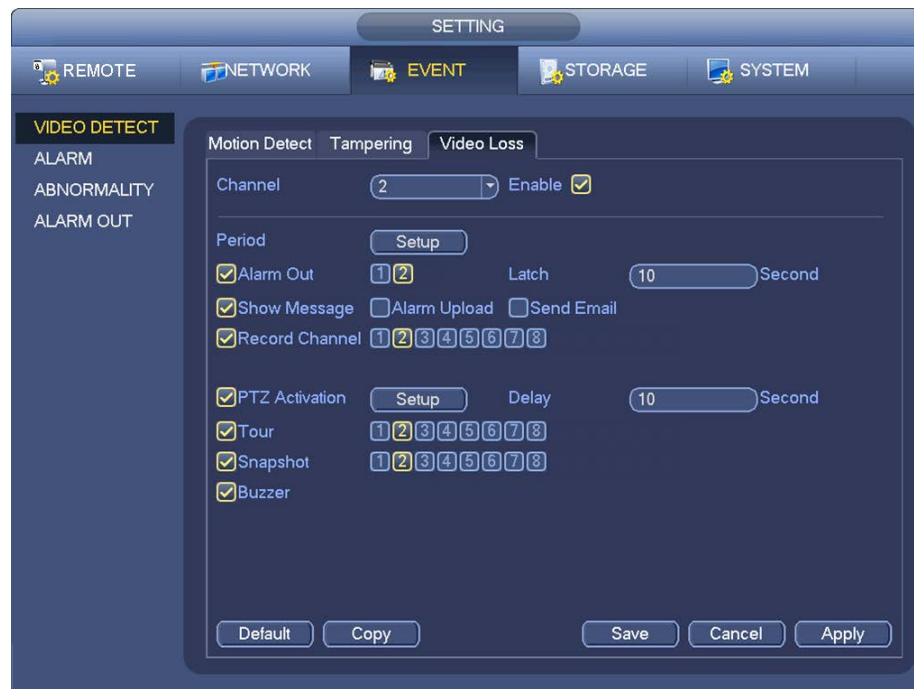
Figure 3-36

3. In the Channel area, select the channel you want to set up from the drop-down list.
4. Check the Enable checkbox to enable the Video Loss feature for this channel.
5. In the Period area, select the Setup button. The Setup dialog opens for setting the motion detection period.
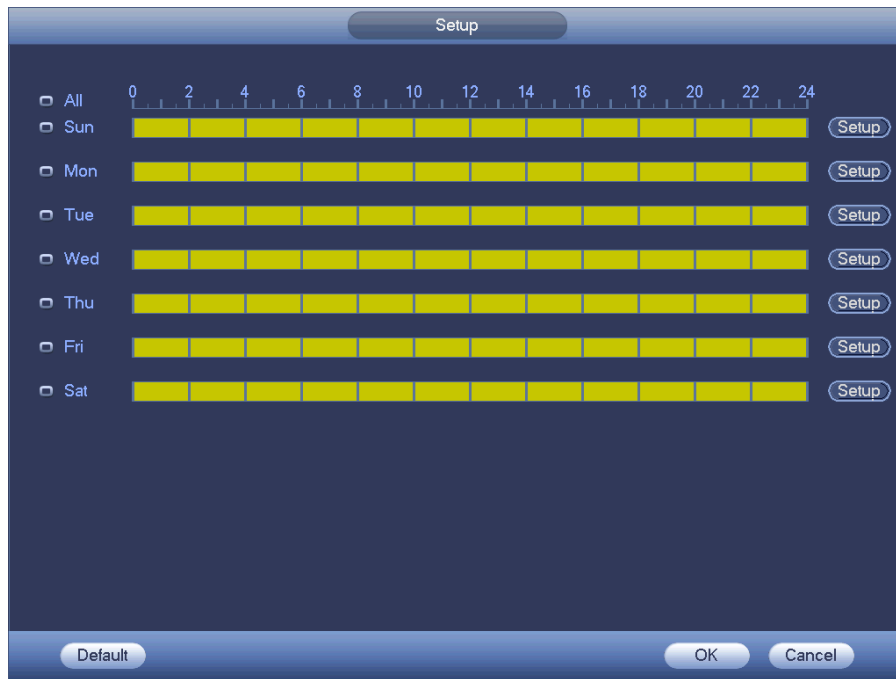
Figure 3-37

6. To make settings for multiple days, select the [icon] icon to the left of several dates. The icon changes to [icon], indicating that settings made to one date will follow to the other selected dates.

7.   Click the [icon] icon to delete a record type from one period.

8. Click [icon] to set up the time period. The following dialog appears. Six periods appear for you to set for each day.

Figure 3-38

    a. Select the box to the left of a time period to enable it.

    b. Set the start and end times for each motion detect period.

    c. When finished, select **Save** to return to the Detect screen.

9. Select the desired alarm types: Alarm Out, Show Message, Record Channel, PTZ Activation, Tour, Snapshot, Buzzer, Alarm Upload, or Send Email.

10. Select the **Save** button to enact the current setup.

The Video Loss icon appears on the live video screen if the current channel has the Video Loss alarm enabled.

Note:

- There is no Detection Region, Sensitivity or Anti-dither setup for Video Loss.
- Video Loss is only enabled during the time period set. It is disabled for Motion Detection and Tampering.

3.4.2 Alarm Setup

1. In the Main Menu, select *Setting* > *Event* > *Alarm*. The alarm setup interface opens.
2. Click the tab representing the desired alarm type:
   - **Local Alarm.** The system detects the alarm signal from the alarm input port.
   - **Network Alarm.** The system detects the alarm signal from the network.
   - **IPC External Alarm.** The system detects the alarm signal from the front-end device and activates the local NVR.
   - **IPC Offline Alarm.** The system generates an alarm when the front-end IPC disconnects from the local NVR. The alarm can activate a recording, PTZ, snapshot, etc. The alarm lasts until the IPC and the NVR resume their connection.
3. Select the 🔲 icon to enable the corresponding function.
4. Click **Save** when complete.

Figure 3-39

Enable

Check the box to activate the Alarm function.

Alarm In

Select the channel number from the dropdown, or else select **All**.

Alarm Alias

Enter the Alarm name.

Type

Select the relay type from the dropdown: **Normally Open** or **Normally Closed**.

Period

Click the **Setup** button. The Setup dialog opens.
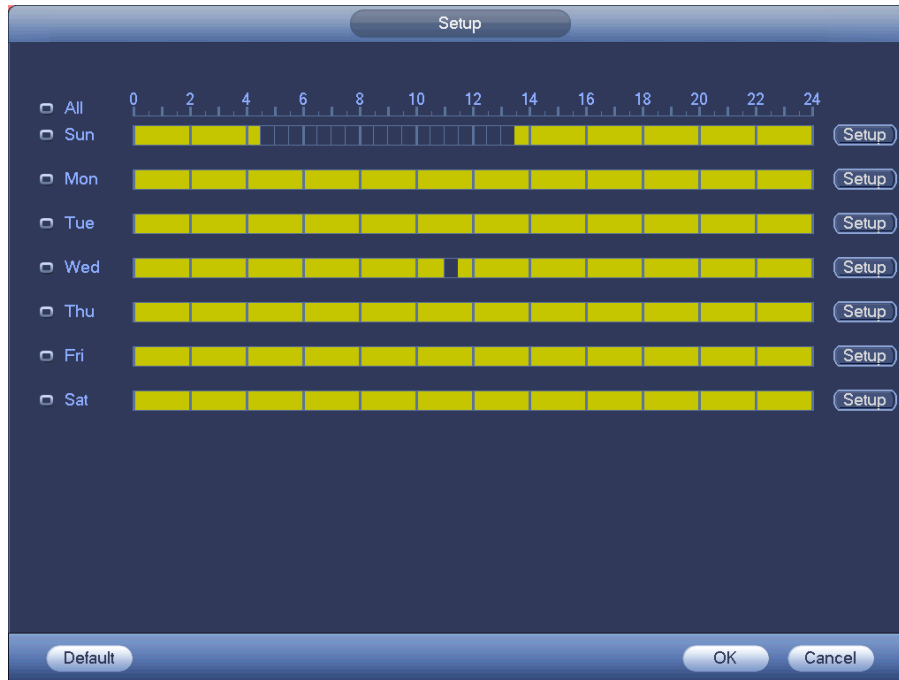
Figure 3-40

Here you can set the time period when detection is enabled. Select **Sunday to Saturday** from the dropdown list. Be sure to check the box to the left of the period to enable it. To set your own business day and non-business days, select work day or non-work day from the drop down list, and then click the **Setup** button. See Figure 3-41. For example, you can set Monday to Friday as working days and Saturday and Sunday as non-working days. Click the **Save** button to return to the previous screen.

Figure 3-41

Anti-dither

This feature sets a delay period before triggering the next alarm, to avoid re-triggering on the same event for screen prompt, alarm upload, and email notifications. The delay period begins when the current event has ended, not including the latch time. The value ranges from 5s to 600s. For example, if you set an anti-dither time of 10 seconds, the activation will last 10seconds when a local alarm is activated. If another local alarm signal is detected before these 10 seconds have elapsed, the buzzer, tour, PTZ activation, snapshot, and record channel will be activated for another 10 second period. However, the screen prompt, alarm upload, and email will not be activated again. After the 10-second anti-dither time has elapsed, a new alarm signal will be generated when another alarm is detected.

Alarm Out

Check the box to enable the external alarm when the event triggers. In the boxes to the immediate right, enable which camera(s) will record when the event occurs.

Latch

Select the time in seconds that the system delays after the external alarm has ended before turning off the alarm and the activated output. This feature sets a postponement period before another external alarm can be activated. Value ranges from 10 to 300 seconds.

Show Message

Enable Show Message to pop up a warning dialog on the local monitor displaying which alarm has occurred.

Alarm Upload

Enable this feature to upload an alarm signal to the network.

Send Email

Enable this to send out email to alert you when the alarm occurs.

Record Channel

Select the proper channel to record when the alarm occurs.
1. On the Record screen (*Main Menu* > *Storage* > *Record*), select Schedule Record.
2. On the Schedule screen (*Main Menu* > *Setting* > *Schedule*), set Alarm recording.
3. On the Encode screen (*Main Menu* > *Setting* > *Encode*), select Alarm as the Type and set the encode parameters.
4. Finally, you can set the alarm input as the local alarm and then select the recording channel. The selected channel begins recording when an alarm occurs.

PTZ Activation

Select this feature to set Pan/Tilt/Zoom movement when an alarm occurs. Click the **Setup** button to open the PTZ Activation screen for setting up the camera.

Figure 3-42

Delay

To avoid rerecording the same event, enter the number of seconds to wait after the event has ended before a new recording can begin. This value ranges from 10s to 300s.

Tour

Enable the tour function to present an alternating display (much like a slideshow) of the channel(s) you have set to record when a motion detect event occurs. The system supports 1/8-window tour. Refer to section **3.6.2.2 TV Adjust Tab** on page 93 for tour interval setup. However, the alarm tour has higher priority than the tour setup you set in the Display screen.

Snapshot

Enable this function to take a snapshot image on the designated channel when an alarm occurs:

1. Go to *Setting>Encode.* Select Snapshot as the activation mode, and then set corresponding parameters.
2. Go to *Setting>Network >FTP.* Set the FTP server information and the picture upload interval. Enable the FTP function and click **Save**.
3. Go to *Setting>Alarm.* Select the corresponding channel, then enable the snapshot function.

   Note: Activation Snapshot has higher priority than Schedule Snapshot.

Buzzer

Enable this function to sound an audible tone from the NVR when the alarm occurs.

Note: A network alarm is an alarm signal using TCP/IP. You can use NET SDK to activate a network alarm. There is no type, anti-dither or alarm upload function.

3.4.3 Abnormality

The Abnormality screen enables you to set how you would like to notified when specified events occur. Select between the HDD or Network tabs.

Figure 3-43

Figure 3-44

Select the desired event from the Event Type field and then indicate the way(s) you would like to be notified that the event has occurred. Click **Save** after making your selections.

Event Type
Use the drop-down menu to select the event that triggers the Abnormality. Select from No Disk, Disk Error, No Disk Space, Network Disconnection, IP Conflict and MAC Conflict.

Enable
Check this box to enable an alert for the item selected in **Event Type**.

Alarm Out
Check the box to enable the external alarm when the event triggers. In the boxes to the immediate right, enable which camera(s) will record when the event occurs.

Latch
Select the time in seconds that the system delays after the external alarm has ended before turning off the alarm and the activated output. This feature sets a postponement period before another external alarm can be activated. Value ranges from 10 to 300 seconds.

Show Message
If this box is checked, a pop up message appears in the local screen to alert you that the event has occurred.

Alarm Upload
This option uploads an alarm signal to the network if your enabled event occurs.

Send Email
If the event occurs, the system sends out an email to the designated account.

Buzzer
If this box is checked, an audible alert tone within the NVR sounds when the designated event occurs.

3.4.4 Alarm Out

If Alarm Out has been enabled to record for either *Setting > Detect* or *Setting > Alarm*, this dialog can be used to set up recording status. For each alarm, click to select whether recording is scheduled, manual or stopped (not recorded). Status for each alarm is indicated at the bottom.

After the setup is complete, click **OK**.

Figure 3-45

3.5 Storage

In the Main Menu, select *Setting > Storage* to edit system-specific parameters.

3.5.1 Schedule

You can set the recording type and time in the **Schedule** screen.

3.5.1.1 Schedule Record

In the Main Menu, click **Setting** and then **Schedule**. The Schedule menu appears. Highlight the box ▣ to select the desired functions. When completed, click **OK**. The system returns to the previous menu.

The following describes the options on the Schedule screen.

Figure 3-46

Channel. Select the channel number that you want to schedule. Select **All** if you want to set for all channels.

Pre-record. The system can pre-record the video before the event occurs into the file. The value ranges from 1 to 30 seconds depending on the bit stream.

Redundancy. The system supports a redundancy backup function, which enables you to back up a recorded file in two disks. Highlight **Redundancy** to activate this function. Before enabling this function, you should set at least one HDD as redundant (*Main Menu > Storage > HDD Manager*).

> **Note:**   This function is not available if there is only one HDD.

ANR. Enable to save video to the SD card of the network camera in case the network connection fails. The value ranges from 0s—43200s. After the network connection has resumed, the system can get the video from the SD card and there is no risk of record loss.

Record Type. Select the type of recording to be created: Regular, Motion Detection (MD), Alarm and MD with Alarm. For all types except Regular, recordings will only be created if the designated trigger condition exists (motion detection and / or alarm) during the designated day and period.
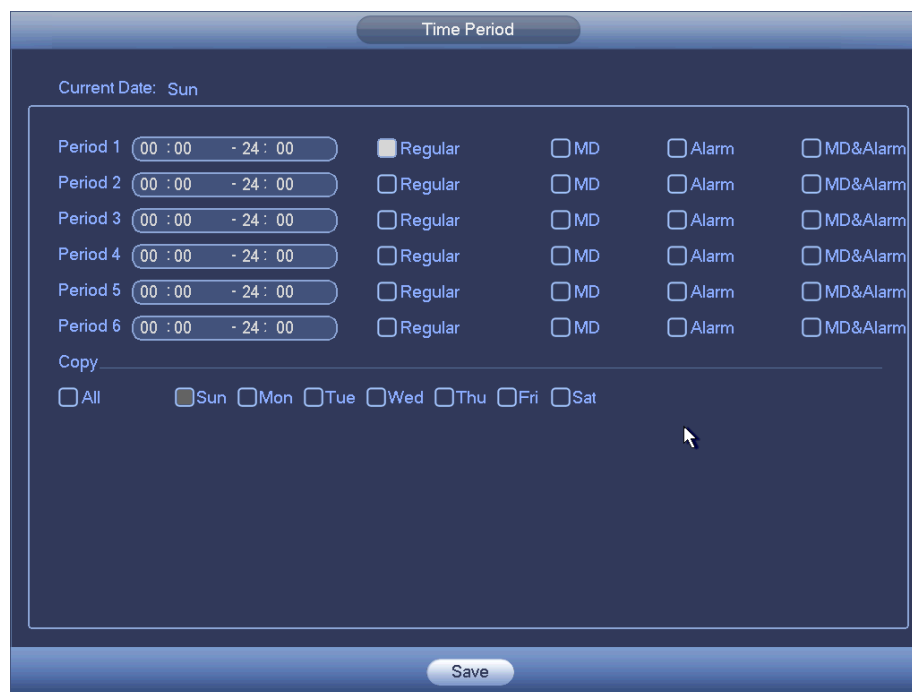
At the bottom of the menu, there are color bars that indicate the type of recording:
- Green indicates regular recording
- Yellow indicates motion detection
- Red indicates an alarm
- Blue indicates motion detection with an alarm

Sync. To make settings for multiple days, select the [icon] icon to the left of several dates. The icon changes to [icon], indicating that settings made to one date will follow to the other selected dates.

[icon] Click this icon to delete a record type from one period.

[icon] Click this icon to set up the time period. The following dialog appears.

Figure 3-47

1. Select the recording time-of-day range(s) for the selected channel and day in the **Period 1 – Period 6** fields.
2. For each **Period 1 – Period 6** field, click the box(es) for the type(s) of files you want to record: Regular, Motion Detection and/or Alarm.
3. Select the Recording Type: Regular, Motion Detection or Alarm.
4. Click **Save**.

To set up a regular (non-Holiday) recording schedule:

1. Select the recording channel from the **Channel** dropdown.
2. Select the recording type: Regular, Motion Detection, or Alarm.
3. Manually select the recording period. Alternatively, you can use the ⚙ icon to set the period.
4. To record an additional 1-30 seconds prior to the scheduled time, enter the value in seconds in the **Pre Record** box.

To set a recording schedule for Holidays:

> **Note:** You must first set up the **Holiday** function in the General menu, as described in the **Holiday Setup** section on page 91.

1. Click the **Holiday** box to enable the days you established as holidays in the General menu.
2. Select the recording channel from the **Channel** dropdown.
3. Select **Holiday** from the **Period** dropdown.
4. Select the recording time-of-day range(s) for the selected channel and day in the **Period 1 – Period 6** fields.
5. For each **Period 1 – Period 6** field, click the box(es) for the type(s) of files you want to record: Regular, Motion Detection and/or Alarm.
6. To record an additional 1-30 seconds prior to the scheduled time, enter the value in seconds in the **Pre Record** box.

> **Note:** Holiday settings have priority over non-holiday schedules. If the selected day is a holiday, then the system records according to the Holiday setting. If it is not a holiday, the system records according to the regular Schedule.

3.5.1.2 Schedule Snapshot

To enable a photo at the scheduled interval, select the **Snapshot** tab. For instructions on how to set up this function, see section **2.7.1 Schedule Snapshot** on page 21.

Quick Setup

The Copy function enables you to copy one channel setup to another.

To use the Copy function:

1. After making your selections or the first channel, click the **Copy** button. The Copy dialog opens, as shown in Figure 3-48.
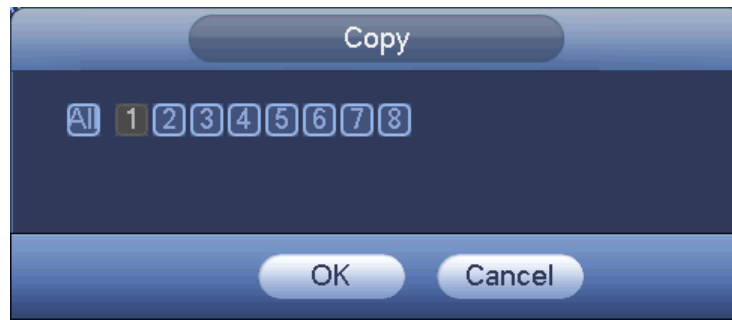
Figure 3-48

2. Select the channels into which you want to paste settings (channels 2 through 8 in the figure).
3. To apply the current channel settings to all channels, click the **All** box. The record settings of all channels become the same and the Copy button becomes hidden.
4. Click the **OK** button to save the current Copy settings. You are returned to the Record screen.
5. Click **OK** in the Record screen.

3.5.2 HDD Manager

The HDD Management section is used to view and edit settings for the hard disk drive. Click the **HDD Manage** icon to open the HDD Manage screen.

Here you can view the current HDD type, status, capacity and record time:
- 0—HDD is working properly
- X—HDD error

1. Select a HDD and select the format from the dropdown list.
2. Click the **Execute** button.
3. Click **OK** button to complete the setup.

Note: The system must restart to activate the setup.
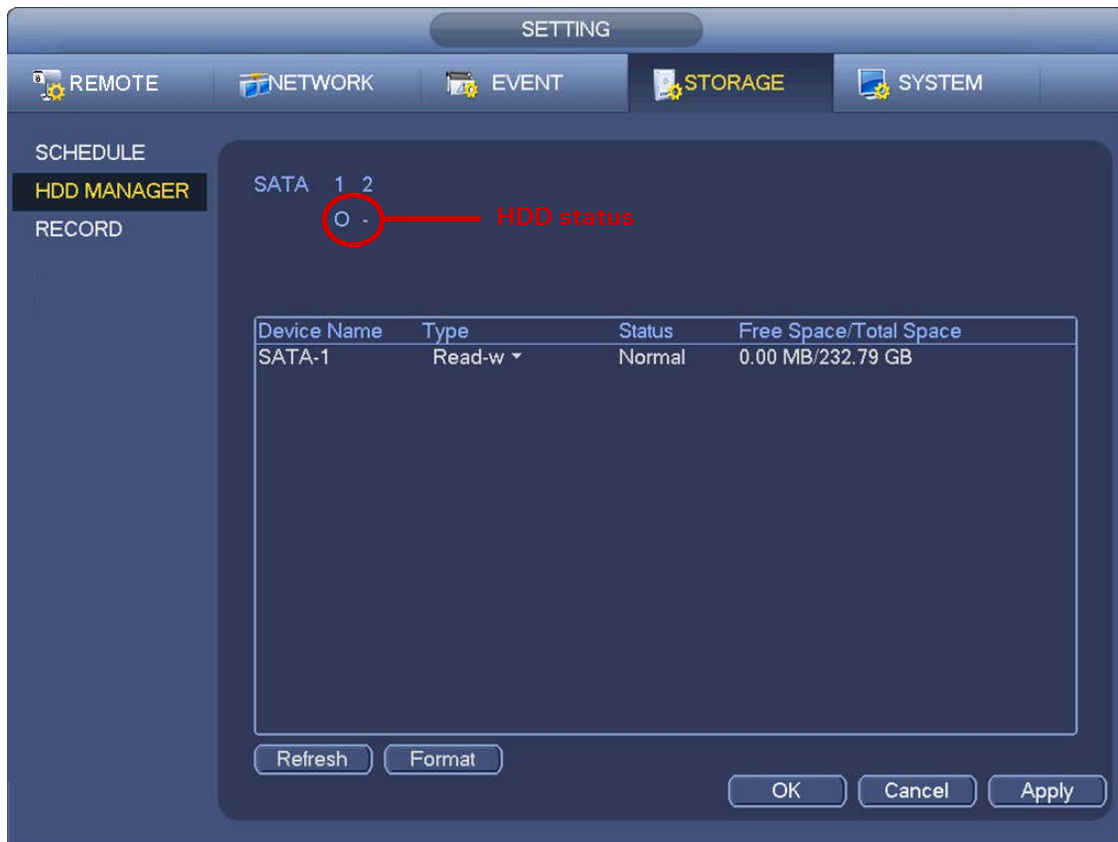
Figure 3-49

Note:

- Each channel's recordings can be stored in the specified HDD Group.
- Each HDD Group corresponds to several hard disks, while each hard disk is only included in only one HDD Group.
- Each channel corresponds with only one HDD Group, while one HDD Group can store recordings from several channels.
- The HDD Group is only available for read-write hard drives and self-defined disks. Other types of hard disks cannot be set as an HDD Group.
- The current software version can only set the HDD group operation for read-write HDDs. HDD groups do not include redundancy or read-only HDDs.

Refer to section **3.7.1 HDD Information** on page 113.

Alarm Set / Release

Click to set / clear the Disk Error alarm in the Abnormality dialog. Refer to

Abnormality on page 79.

3.5.3 Manual Recording

This feature enables you to immediately begin recording. The manual record function overrides the automatic recording settings. There are three ways for you to access the Manual Record screen.

- Right mouse-click and select **Record**
- Navigate to **Setting** > **Storage** > **Record** in the Main Menu
- In live viewing mode, click the **Rec** button on the front panel remote control

Figure 3-50

Select the ○ icon to enable the corresponding channel for the desired mode. Alternatively, click **All** to set all channels to the desired mode.

There are two modes of operation:
- Main stream, in the upper half of the dialog
- Extra stream, in the lower half of the dialog

There are three statuses:
- Schedule
- Manual
- Stop

Schedule. The channel records for the period you have set up (*Main Menu* > *Setting* > *Schedule*)
Manual. The channel records immediately until you select **Stop**. Manual recording has highest priority.
Stop. All channels stop recording.

3.6 System

In the Main Menu, select *Setting > System* to edit system-specific parameters.

3.6.1 General

3.6.1.1 General Tab

General setting includes the following items. See Figure 3-51. After completing all settings, click the **OK** button. The system reverts to the previous menu.

Figure 3-51

Device ID

Input a corresponding device name here.

Device No.

Input a corresponding device number.

Language

The system supports various languages: Chinese (simplified), Chinese (Traditional), English, Italian, Japanese, French and Spanish. All languages listed here are optional.

Video Standard

There are two formats: NTSC and PAL.

HDD Full

In this section you can select the working mode when the hard drive is full. There are two options: stop recording or rewrite. If the current working HDD is overwritten or the current HDD is full while the next HDD is not empty, then the system stops recording, If the current HDD is full and the next HDD is not empty, then the system overwrites the previous files.

Pack Duration

This section is for specifying the duration of the recording. The value ranges from 1 to 120 minutes. Default value is 60 minutes.

Real-time Playback

This sets the playback time you can view in the instant playback feature. (See **Live Viewing** on page 6). The value ranges from 5 to 60 minutes.

Auto Logout

This enables you to set auto logout interval once login user remains inactive for a specified time. The value ranges from 0 to 60 minutes.

IPC Time Sync

Enter an interval to synchronize the NVR time and IPC time.

☑ **Navigation Bar**

Enable this to display the navigation bar on the screen.

☑ **Startup Wizard**

If this box is checked, the system opens with the Startup Wizard when the device boots up the next time. Otherwise, the system opens with the System Login dialog.

Mouse Sensitivity

Set the mouse double-click speed by dragging the slider.

3.6.1.2   Date & Time Tab

This tab is for setting the system time.

Figure 3-52

Date Format

There are three types: YYYYY-MM-DD: MM-DD-YYYYY or DD-MM-YYYY.

Time Format

There are two types: 24-hour mode or 12-hour mode.

Date Separator

There are three denotations to separate date: dot, beeline and solidus.

DST

This section is for setting DST time and date. Set start time and end time by setting corresponding week setup. Then set start time and end time by setting the corresponding date setup.

NTP

You must install an SNTP server (such as Absolute Time Server) in your PC first. In Windows XP OS, you can use command *net start w32time* to boot up the NTP service.

- **Server.** Input your PC address.
- **Port.** The NVR supports TCP transmission only. The port default value is 123.
- **Interval.** Minimum update value is 1, in minutes; maximum value is 65535
- **Manual Update.** Enables you to synchronize the time with the server manually.

3.6.1.3 Holiday Tab

This tab enables you to use holiday settings.
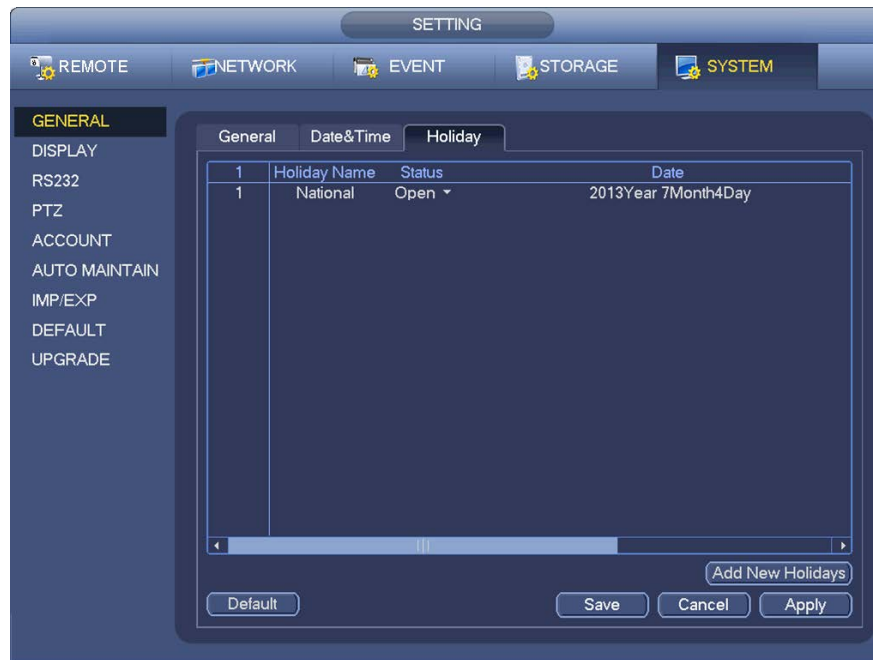
Figure 3-53

Holiday Setup

Click the **Add New Holidays** button to display the dialog for selecting the dates you want to include as holidays. Refer to section **3.5.1 Schedule** on page 82 for instructions on how to set recording schedules for holidays you have set up.

Figure 3-54

3.6.2 Display Setup

The Display Setup screen is split into two tabs: GUI and Tour. The GUI screen is shown in the following figure.

3.6.2.1 Display Tab
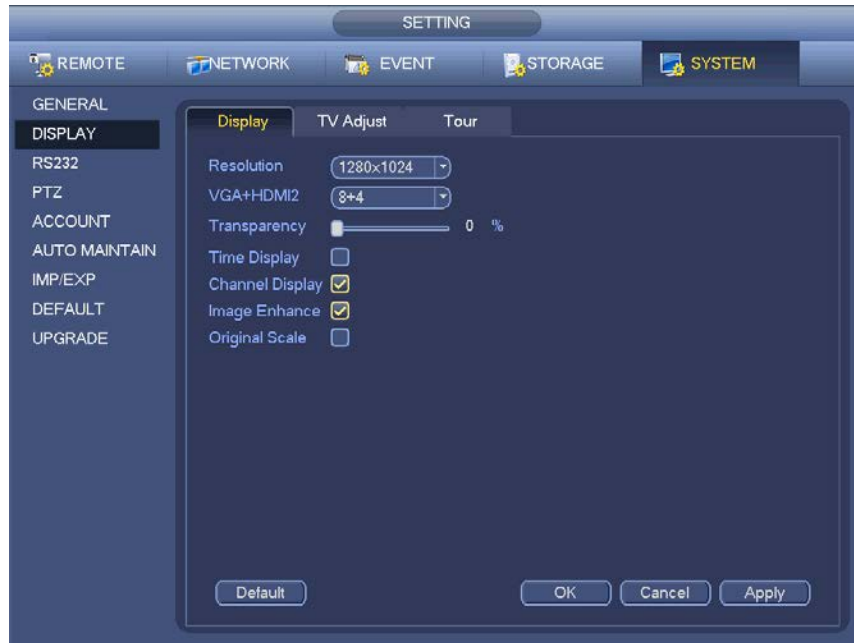
Figure 3-55

Resolution
There are four options: 1280 x 1024 (default), 1280 x 720, 1920 x 1080 and 1024 x 768. You must reboot to activate the new setup.

VGA+HDMI2
This is for dual-screen operation. Make your selection from the dropdown list, and then click Apply. The system needs to restart to activate the new setup. For example, 8+4 means for VGA, the system supports 8-window split max and for HDMI2 the system supports a 4-window split max.

Transparency
Drag the slider to select a value for GUI's transparency over the viewing window, ranging from 128 to 255.

Time Display
Select to display the time during playback.

Channel Display
Select to display the channel name during playback.

Image Enhance
Check the box to optimize the live video image quality.

Original Scale

Check the box to restore the original video scale.

3.6.2.2 TV Adjust Tab

Here you can activate the Tour function, which presents an alternating display (much like a slideshow) of the channel(s) you have set to record when a motion detection or alarm event occurs.

Figure 3-56

The TV Adjust dialog enables you to make adjustments to the monitor screen.

To set or edit TV Adjust:

1. Drag the slide bar to adjust each item to the desired setting.
2. After completing the setup, click the **OK** button. The system reverts to the previous menu.

3.6.2.3 Tour Tab

Here you can activate the Tour function, which presents an alternating display (much like a slideshow) of the channel(s) you have set to record when a motion detection or alarm event occurs.

Figure 3-57

Motion Tour Type. Select from the dropdown the motion tour combination set up in the Window Split screen below.

Alarm Tour Type. Select from the dropdown the alarm tour combination set up in the Window Split screen below.

Enable Tour. Check the box to enable this function.
Interval. The system supports 1/4/8/9-window tour. Input the desired interval value here for the scheduled tour/motion detection tour. The value ranges from 5-120 seconds.
Window Split. Select the window split mode from the dropdown list.
Channel Combination. This area is for viewing channel names under current window split mode. You can add/delete channels here. Double-click an item to edit the channel group. The system supports a maximum of 16 channels.

- **Add.** Under the specified window split mode, click to add a channel group.
- **Delete.** Click to remove the selected channel group.
- **Move up.** Click to move the currently selected channel up.
- **Move down.** Click to move the currently selected channel down.
- **Default.** Click to restore the default setup.

After completing the settings, click the **Save** button. The system returns to the previous menu.

Tip: On the navigation bar, click [icon] / [icon] to enable/disable Tour. Click **Save** to save the current setup.

3.6.3 RS232

This screen is for setting up the RS232 connections. The dialog contains five items:

Figure 3-58

Function

There are various devices for you to select from the dropdown:

- **Console** (the default) is for use with the COM or software to upgrade or debug the program.
- **Keyboard** is for controlling the device via a special keyboard.
- **Adapter** (transparent COM) is for connecting to the PC in order to transfer data directly.
- **Protocol COM** is for the Text Overlay function.
- **Net Keyboard** is for using the network keyboard to control the device.
- **PTZ Matrix** for connecting to the peripheral matrix control.

Baud Rate

Select the proper baud rate from the dropdown. The default is 115200.

Data Bits

Select the proper data bit. The value ranges from 5 to 8. The default is 8.

Stop Bits

Select 1 or 2. The default is 1.

Parity

Select from five choices: None, Odd, Even, Mark or Null. The default is None.

After completing the setup, click the **Save** button. The system returns to the previous menu.

3.6.4 Pan/Tilt/Zoom (PTZ)

This section describes how to set up and control your pan/tilt/zoom (PTZ) camera(s).

Note: All the operations here are based on Pelco D protocol. For other protocols, there might be differences.

3.6.4.1 Cable Connection

Follow the procedures below to go on cable connection:
1. Connect the dome RS485 port to NVR 485 port.
2. Connect the dome video output cable to NVR video input port.
3. Connect the power adapter to the dome.

3.6.4.2 PTZ Setup

Before setup, verify the following connections:

- Pan/Tilt/Zoom (PTZ) and decoder connections are correct
- Decoder address setup is correct
- Decoder A (B) line connects with the NVR A (B) line

1. In the Main Menu, click **Setting** and then **Pan/Tilt Control**. The PTZ dialog opens.
2. Complete the setup as follows:

Figure 3-59

The PTZ Setup screen contains the following items:

Channel. Use the drop-down list to select the desired channel number. Make this channel selection first.

PTZ Type: Use the drop-down list to select Local mode if you are connecting to the Speed dome (PTZ) via RS485 cable. Select Remote mode if you are connecting to a network PTZ camera.

Protocol. Select corresponding PTZ protocol (such as Pelco D)

Address: Input corresponding PTZ address. The default address is 1.

Baud rate: Select corresponding baud rate. The default value is 9600.

Data bits: select corresponding data bits. The default value is 8.

Stop bits: select corresponding stop bits. The default value is 1.

Parity: Select from three options: odd, even or none. The default setup is none.

3. After completing all the settings, click the **Save** button.

   The system reverts to the previous menu.

3.6.4.3   PTZ Menu

In one window display mode, right mouse-click and select **Pan/Tilt/Zoom** from the Right-click menu, or press the **Fn** button on either the front panel or on the remote.
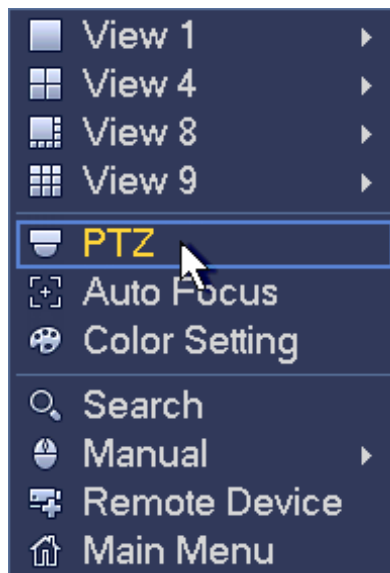
Figure 3-60

Main PTZ Control Panel

The Pan/Tilt/Zoom main control interface appears. Here you can set the following items:

- Speed
- Direction Keys
- SIT - 3D Intelligent Positioning Key
- Zoom, Focus, Iris (to adjust brightness)
- PTZ Trace
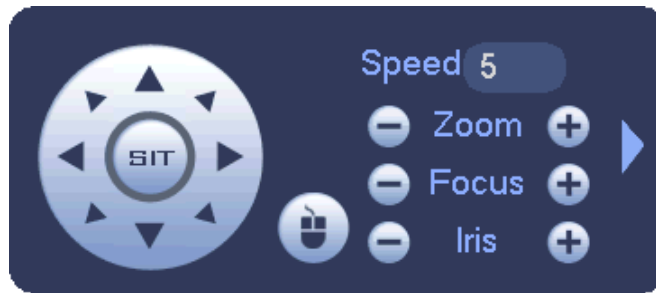
Figure 3-61

3.6.4.4 Speed

Input a speed value using the numeric keypad. Select from 1-8, with 8 the fastest.

3.6.4.5 Direction Keys

Click one of the eight the direction arrows to adjust the Pan/Tilt/Zoom (PTZ) position. The camera moves accordingly. Note that there are only four direction arrows on the NVR front panel.

3.6.4.6 3D Intelligent Positioning Key

The PTZ function supports 3D intelligent positioning, which enables you to use the mouse to position the viewing area and automatically adjust the zoom, focus and iris settings.

To use 3D intelligent positioning:

1. Locate and click the button labeled **SIT** in the center of the eight direction arrows.
   The system reverts to the single screen mode.

2. Drag the mouse in the screen to adjust the section size. PTZ initiates automatically to adjust to the dragged area. The dragged zone supports 4X to 16X speeds. The smaller the zone you drag, the higher the speed.

Figure 3-62

3.6.4.7 *Zoom, Focus, Iris*

Click ⊖ and ⊕ to modify the Zoom, Focus and Iris settings.

Name	Function key	Function	Shortcut key	Function key	Function	Shortcut key
Zoom	⊖	Zoom in	▶▶	⊕	Zoom out	▶▶
Focus	⊖	Focus near	◀	⊕	Focus far	▶
Iris	⊖	Close	◀◀	⊕	Open	▶

Click ▶ to expand the menu for access to Preset, Tour, Pattern and Scan functions.
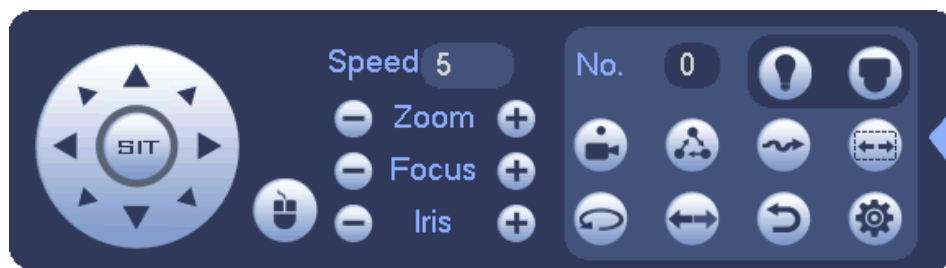
Figure 3-63

Refer to the following table for details. Please note that the dialog may vary with different protocols. The button is grayed out and cannot be selected if the function is not available.

Right mouse click or click the **ESC** button on the front panel to return to the main PTZ control interface.

Icon	Function	Icon	Function
	Preset		Flip
	Tour		Reset
	Pattern		Aux
	Scan		Aux on / off
	Rotate		Go to menu

3.6.4.8 Function Setup

Click the ⚙ button in the Main PTZ screen shown Figure 3-63. The setup dialog appears. Here you can setup Preset, Tour, Pattern and Border.

Figure 3-64

Preset

Presets are programmed locations that the PTZ camera is trained to view. These presets can be strung together to move the camera in a designed movement called a Tour.

To setup the Preset:

1. On the **Preset** tab, use the eight direction arrows to adjust camera to the proper position.

Figure 3-65

2. Click **Set**.
3. Click within the **Preset** field.
4. Use the numeric keypad to input the preset number (1, 2, 3, etc.).
5. Click **Set**.
6. Return to step 1 and continue this pattern to set all desired Presets.

To activate the Preset:

1. In the main PTZ control panel, enter the **Preset No.** you want to playback into the **No.** field, using the numeric keypad.

Figure 3-66

2. Click [icon] to initiate the selected preset. The camera moves to that Preset location. Click [icon] again to stop the movement.

Tour

Presets can be strung together to move the camera in a designed movement called a Tour.

Figure 3-67

To setup the Tour:

1. In the Main PTZ Control panel, select the **Tour** tab.
2. Set the **Patrol** (tour) **No.** (for example, "1" in the above sample image).
3. Input a **Preset** number you want to add to the tour (for example, "3").
4. Click **Add Preset** to add Preset 3 to Tour 1.
5. Return to step 3 to add other presets in the order you want them to occur.

To activate the Tour:

1. In the main PTZ interface, enter the **Tour** number you want to play back into the **No.** field, using the numeric keypad.

Figure 3-68

2. Click to initiate the selected Tour.

   The camera moves to all Preset locations that were set in the selected Tour. Click again to Stop, enabling you to allow the Tour to run in its entirety or stop it at any time.

Pattern Setup

A pattern is much like a tour but does not use presets. Instead, the Pattern is recorded by the camera movement design that you record using the Direction Keys on the Main PTZ Control panel. The camera mimics the movement you recorded during setup.

Figure 3-69

To setup the Pattern:

1. In the Main PTZ Control screen, click the **Pattern** tab.
2. Click in the Pattern field and enter a value for this Pattern number.
3. Now click the **Begin** button to start recording your pattern.

4. Use the arrow keys to move the camera to the desired view pattern, using the Zoom, Focus, and Iris settings as needed. The pattern that the camera follows is recorded.

5. Click the **End** button to terminate recording the pattern.

To activate the Pattern:

1. In the main PTZ interface, enter the **Pattern** number you want to playback into the **No.** field, using the numeric keypad.

Figure 3-70

2. Click ⌇ to initiate the selected Pattern. The camera moves to all the locations that were recorded in the selected Pattern. Click ⌇ again to stop the Pattern.

Border

Border is the right and left limitations that you set for camera movement. Borders determine the pattern limits for Auto Scan.

Figure 3-71

To setup the Borders:

1. In the PTZ Control panel, select the **Border** tab.

2. Use the arrow keys to move the camera to the desired left-most limit.

3. Click the **Left** button. The Left limit is defined.

4. Repeat steps 1-3, this time setting the Right side border.

To activate the Borders:

- Click ⬚ to initiate the Border pattern.

  The camera automatically begins to pan left to the left border you have set, stop, and then pan right until it reaches the right limit.

  This process repeats until you click the ⬚ button again to terminate the scan.

Rotate

To rotate the camera, click the 🔄 button. Click 🔄 again to stop.

Auxiliary (Aux)

The Auxiliary function interfaces special functions in your camera, which are defined by the protocol.

Click the 💡 button to open the Aux interface. The aux number corresponds to the aux on/off button of the decoder. Refer to your camera's user manual for Aux definition.
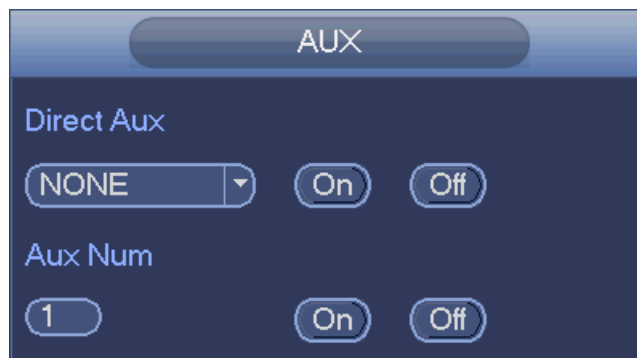
Figure 3-72

3.6.5 Account

The Account screen provides account management access. Here you can:

- Add new user
- Modify a user
- Add a group
- Modify a group
- Modify your password

You can assign different rights to different groups and thereby apply the same rights to all users assigned to that group.

Note:

- The system account uses two-level management: group and user.
- The system supports a maximum of 20 user groups and 64 users.
- There are two levels for group or user management: admin and user.
- Each user should only belong to one group.
- User rights cannot exceed group rights.
- The system allows multiple users use the same account to login.

After the settings have been made, click the **Save** button. The system returns to the previous menu.

Separate tabs enable you to modify the user or group.

Figure 3-73

Figure 3-74

3.6.5.1 Add/Modify Group

A group is a convenient method for assigning a set of rights to multiple users. Usually a user would be assigned to a single group.

To add a new group:

1. Click the **Add Group** button in the **Account** screen. The **Add Group** dialog appears.

Figure 3-75

2. Enter a **Name** for the Group.

   Note:
   - For the user group name, the maximum string length is 6-bytes.
   - The string can include letters, numbers, underscore, minus sign and period.
   - The underscore must be in the middle of the string, not at the front or end of the string.

3. Optionally, enter a descriptive **Memo** for the Group.

4. Place a check in the box of the rights that you would like to assign to this group.
   There are 60 different rights, such as control panel, shut down, real-time monitor, playback, record, PTZ, user account, etc.

5. Click **Save**.

To modify a group:

1. Double click the appropriate group in the **Account** screen. The **Modify Group** dialog appears.
2. Make the desired changes.
3. Click **Save**.

3.6.5.2 Add/Modify User

To add a new user:

1. Click the **Add User** button in the **Account** screen. The **Add User** dialog appears.

Figure 3-76

2. Enter the **User** name

Note:

- The maximum length for the user name string is 6-bytes.
- The string can include letters, numbers, underscore, minus sign and period.
- The underscore must be in the middle of the string, not at the front or end of the string.

3. Enter the user password in the **Password** and **Confirm** fields.
4. If desired, enter an optional **Memo** describing this user.
5. Enter the user MAC address, in 2-digit 0-f format. The system only saves lower case characters even you input the capitalized one (*f* instead of *F*).
   When you add a new user, input the MAC address of the current user. Only the user of the same MAC address can access the device remotely. (MAC address is for the device of the same LAN.) If you leave the MAC address item blank when you add a new user, the user of any MAC address can access the device remotely. You can set or change the MAC address when you add or modify a user. The MAC address function is also valid for PSS login.
6. Select the Group this user belongs to from the dropdown list.
7. Select the corresponding rights for the current user.
8. Click **Save**.

It is recommended that the user rights are set lower than the administrative rights.

To modify a user:

1. Double click the appropriate user in the **Account** screen. The **Modify User** dialog appears.
2. Make the desired changes.
3. Click **Save**.

3.6.6 Auto Maintenance

The Auto Maintenance screen enables automatic system reboot and deletion of old files at prescribed times.

To set or edit automatic maintenance:

1. Select *Setting* > *System* > *Auto Maintain* from the Main Menu.
2. To Auto-Reboot the system, select from dropdown list the day and time you would like the reboot to occur.
3. To Auto-Delete Old Files, select from dropdown list the type of files to be deleted and the number of days-old that these files must be before being deleted.
4. After completing the setup, click the **OK** button. The system reverts to the previous menu.
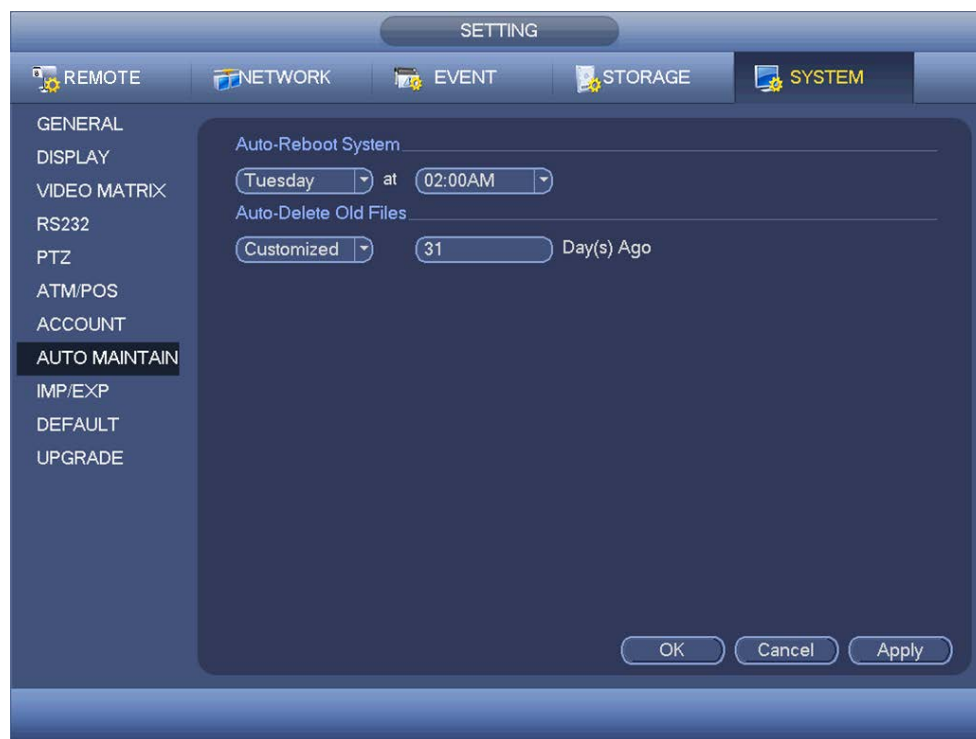
Figure 3-77

3.6.7 Import/Export

This function enables you to import/export the system configuration. You can use this function when there are several devices that require the same setup.

From the Main menu, select *Setting* > *System* > *Imp/Exp*.

Figure 3-78

Export
1. Connect the peripheral device.
2. Click the **Export** button. A corresponding **Config_Time** folder appears.
3. Double-click the **Config_Time** folder. Backup files are visible.

Import
Here you can import the configuration files from the peripheral device to current device. You must select a folder first. A dialog box asks you to select a folder if you are selecting a file. A dialog box pops up if there is no configuration file under current folder. After a successful import, the system needs to reboot to activate new setup.

Format
Click the **Format** button. A dialog box appears for you to confirm the current operation. The format process begins after you click the **OK** button.

Note:

- The system cannot open screen again if the backup operation is in progress.
- The system refreshes the device each time you use this function and sets the current directory as the root directory of the peripheral device.
- If you go to the configuration backup screen first and then insert the peripheral device, you must click the **Refresh** button to see the newly added device.

3.6.8   Default

Click the **Default** button. The Default dialog box opens. Check the box for the corresponding item that you want to restore to the default factory setup.

Figure 3-79

After completing the setup, click the **OK** button. The system reverts to the previous menu.

3.6.9 Upgrade

From the Main Menu select *Setting > System >Upgrade*.

1. Insert the USB device that contains the upgrade file.
2. Click the **Upgrade** button and then select the .bin file.
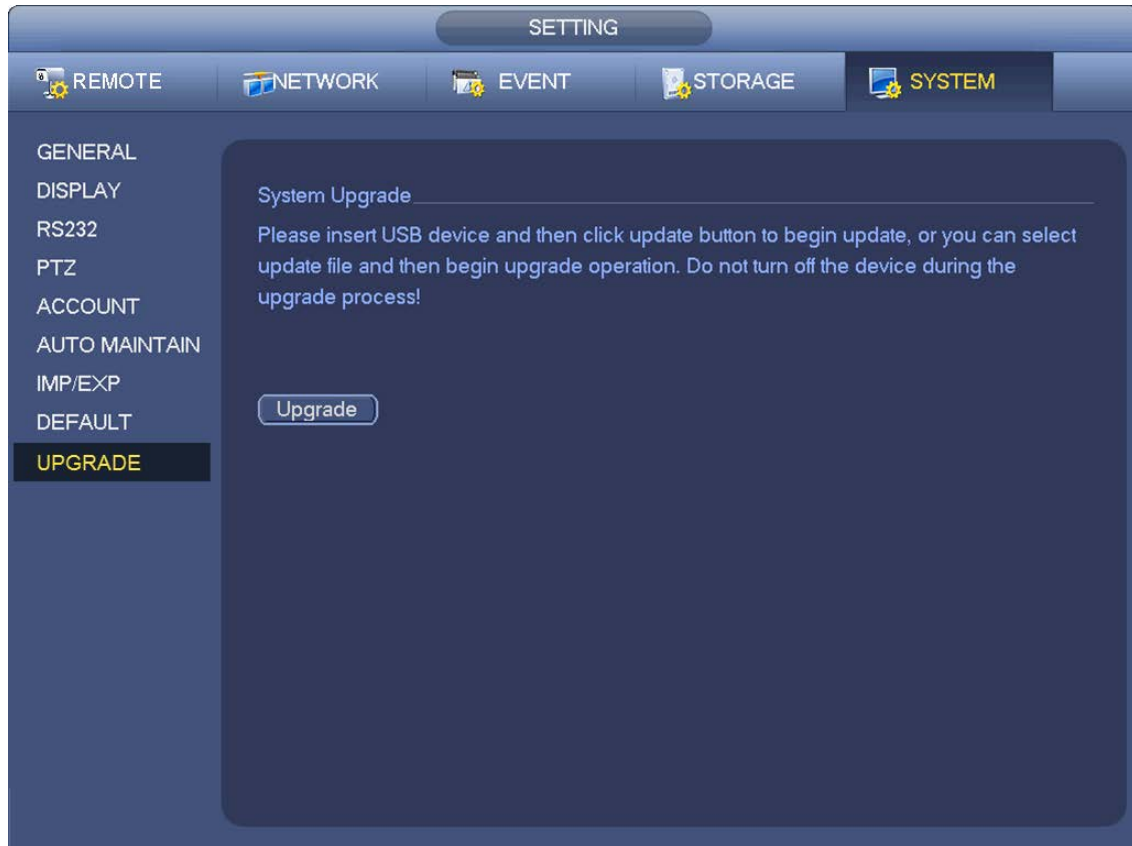
Figure 3-80

3.7 Information (Info)

Click the **Info** icon on the Main Menu to view system information. There are three items: System (HDD, Record, BPS data stream statistics and Version), Event and Network Information.

3.7.1 HDD Information (Info)

HDD Info lists the hard disk type, total space, free space, video start time and status. See Figure 3-81.

Figure 3-81

When an HDD conflict occurs, you can check whether the system time and HDD time are the same. If they are not identical, go to *Setting* > *System* > *General* (see section **3.6.1 General** on page 88) to adjust the system time or go to section **3.5.2 HDD Manage** (page 85) to format the HDD, and then reboot the NVR. After the system has booted up, if there is any conflict, the system goes to the HDD Information dialog directly, although the system does not require that you deal with the conflict.

TIP: Click the **Fn** button on the front panel or left mouse-click to view HDD record time and HDD type and time.

Double-click an item in the list to display the HDD Smart information screen for that HDD.

Figure 3-82

3.7.2 BPS

The BPS screen enables you to view current video data stream (KB/s) and occupied hard disk storage (MB/h) information. Click the **BPS** icon on the Info screen.

Figure 3-83

3.7.3 Version

Version enables you to view hardware features, software version, built date and release SN information.

To initiate an update, insert the USB device that has the update file to the device, and then click the **Start** button to begin.

Figure 3-84

3.7.4 Remote Device Information

From the Main Menu select *Info* > *Event* to view the channel status of the remote device, connection log and so forth.

Figure 3-85

3.7.5 Online Users

This screen enables you to manage the Online Users. You can disconnect one user or block one user if you have proper system rights. The maximum disconnection setup time is 65535 seconds.

The system refreshes every five seconds to detect whether a user has been added or deleted.

You can click the [icon] button to disconnect or block a user, if you have proper system rights.
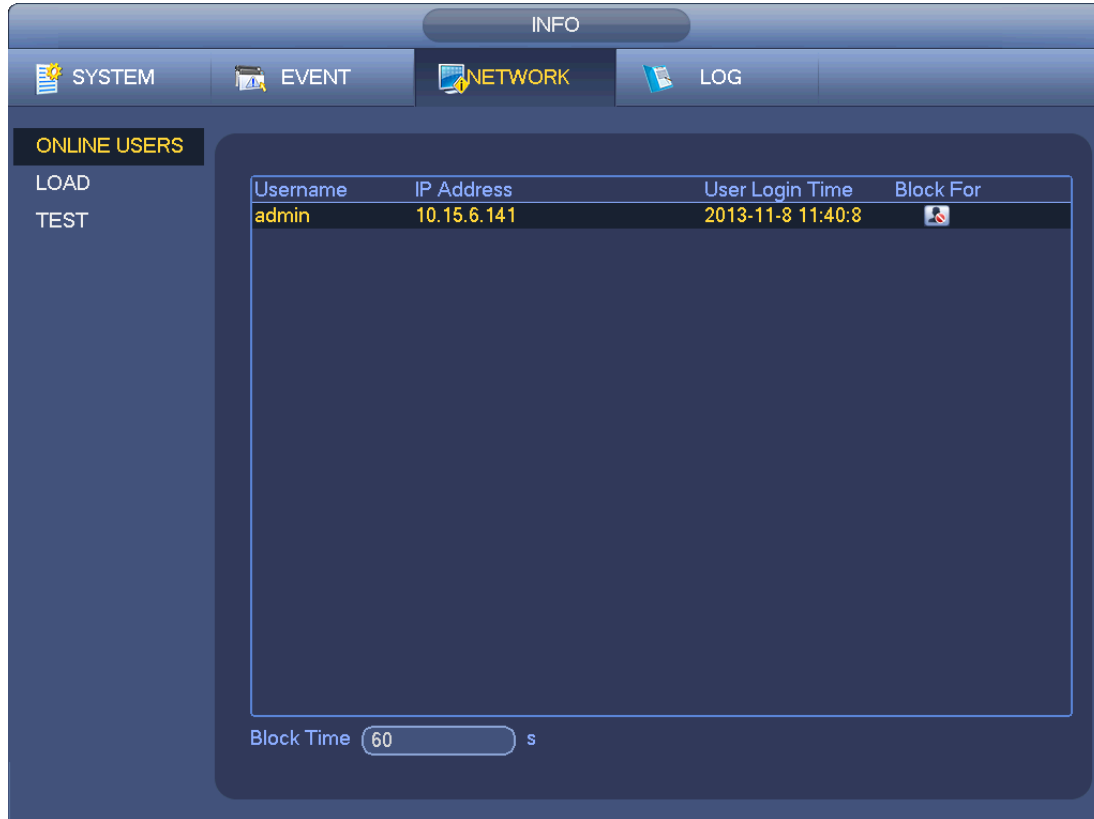
Figure 3-86

3.7.6 Network Load

From the Main Menu select *Info* > *Network* > *Load* to view statistics of the device network adapter.

Here you can view information of all connected network adapters. The connection status is shown as offline if the connection is disconnected. Click a network adapter to view the flow statistics, such as send rate and receive rate in the top panel.
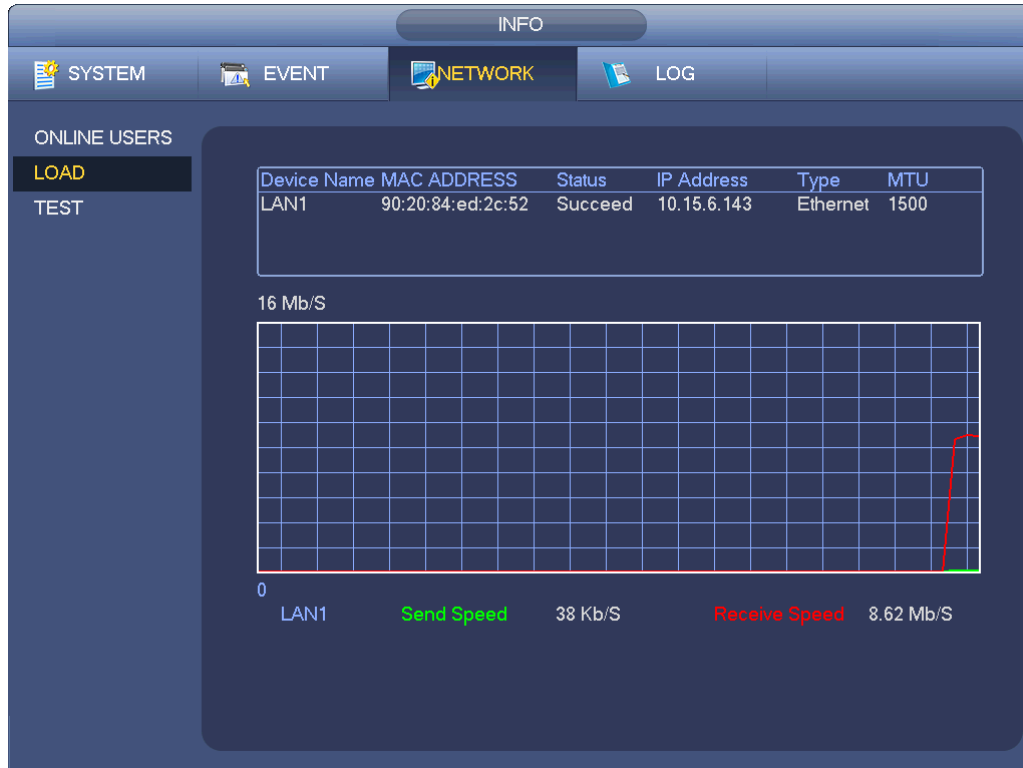
Figure 3-87

3.7.7 Network Test

In this interface, you can see network test and network load information. The Network Test tab is displayed in Figure 3-88.

Destination IP
Input a valid IPV4 address and domain name.

Test
Click to test the connection with the destination IP address. The test results display the average delay and packet loss rate. You can view the network status as OK, bad, no connection, etc.

Network Sniffer Backup
1. Insert a USB2.0 device and click **Refresh**. View the device in the following column.
2. Use the dropdown list to select the peripheral device.
3. Click the **Browse** button to select the snapshot path. The steps here are the same as for the backup operation. You can view all connected network adapter names including Ethernet and PPPoE. (3G is not supported by ADT).
4. Click the ▶ button on the right panel to begin the Sniffer.
5. Click the gray **Stop** button to stop. Note that the system cannot Sniffer multiple network adapters at the same time.
6. After Sniffer begins, you can exit to implement corresponding network operations such as login WEB or monitor.
7. Return to the Sniffer dialog and click ■ to stop the Sniffer. The system saves the packets to the specified path. The file is named using the format "Network adapter name + time". You can use software such as Wireshark to open the packets on the PC to solve complicated problems.
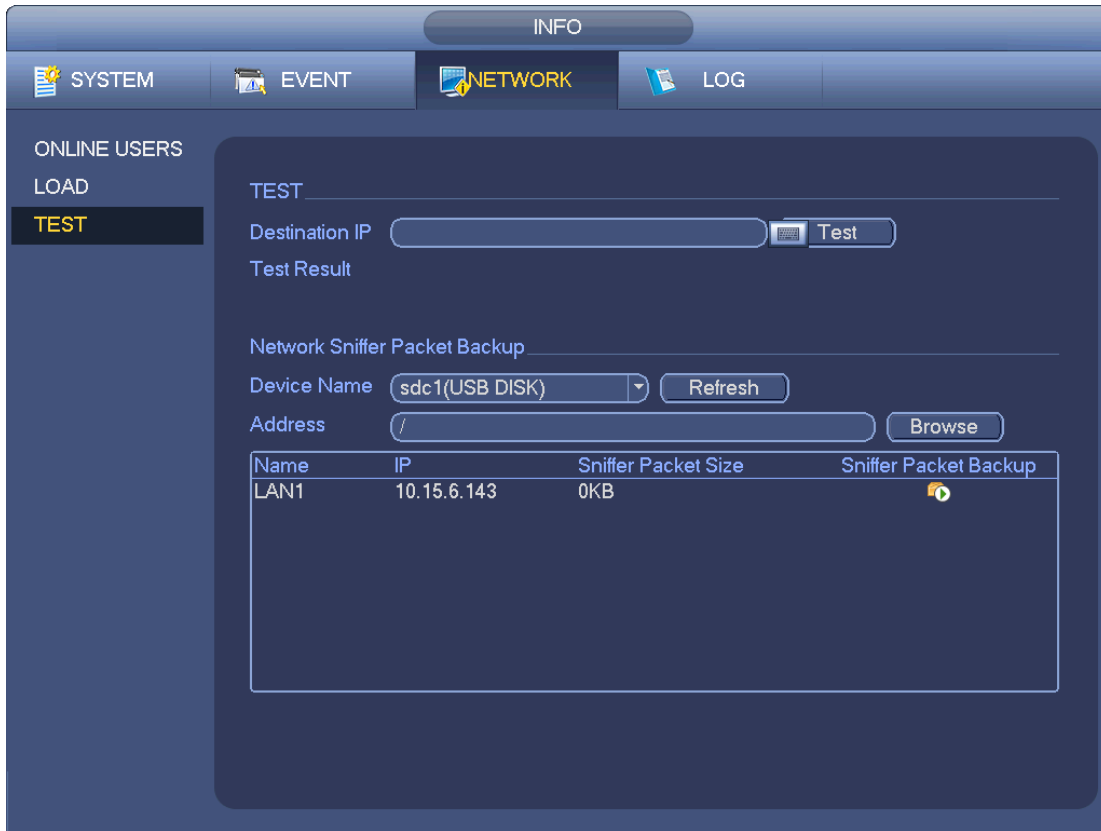
Figure 3-88

3.7.8 Log

The Log screen enables you to view system log files. Log types include system operation, system configuration, data management, alarm event, record operation, log clear and file operation.

1. In the main menu, select **Log** from the **Info** screen to open.

2. Select the Log Type and then set the Start Time and End Time.

3. Click the **Search** button to view log time and event information.

   The log files are displayed in a list. The system displays a maximum of 100 logs in one page and can save a maximum of 1024 log files. Use the page up/down button in the dialog or on the front panel to view more.

4. Click ⊞ to view detailed log information.

5. Select the log items you want to save, and then click the **Backup** button.

6. Click **Start** to backup.

   After the backup, a folder named Log_time appears in the backup path. Double click the folder to view the log file.

Figure 3-89

3.8 Shutdown

There are three ways for you to log out or shut down.

To log out using the menu option:

1. In the Main Menu, click the **Shutdown** button. The SHUTDOWN dialog appears.

Figure 3-90

2. Use the drop-down list to select the desired option:
   - **Shutdown.** System shuts down and turns off power.
   - **Logout.** The Log out menu appears. Enter the username and password to complete the operation.
   - **Restart.** Click to reboot the device.

To log out using the Power button:

Press the **Power** button ⏻ on the front panel or remote control for at least 3 seconds. This method requires that you enter the username and password to complete the operation.

To log out using the Power switch:

Toggle the Power button on the rear panel to turn off the NVR. This method does not require that you enter the username and password to complete the operation.

4 Web Service

The Web service contains the same functions as are available in local operation.

> **Note:** There might be a slight difference in the screen depending on the model. The following examples are for the 8-channel product.

4.1 Network Connection

Before Web operation, check the following items:

1. Verify that you have a valid network connection.
2. Verify that the NVR and PC network setup is correct. Refer to network setup (*Setup > Network*).
3. Ping the NVR IP address (***.***.***.***) to verify that the connection is good. The return TTL value is usually less than 255.
4. Open a browser window and input the NVR IP address. The system automatically downloads the latest Web control and overwrites the previous one if necessary.
5. To uninstall the Web control, run *uninstall Webrec3.0.bat*. Alternatively, you can go to *C:\Program Files\Webrec* to remove a single folder. Before you un-install, be sure close all Web pages to avoid errors.

> **Note:** The NVR supports most Web browsers, such as Internet Explorer, Safari, Firefox and Chrome. The device only supports 1-channel monitor on the Apple PC.

4.2 About PoE Address Setup, Operation and Allocation

1. Insert PoE

After you insert the PoE, the device may try to set a corresponding IP address of the Switch network adapter. First, the system tries to set via ARP ping, and then uses DHC if it finds the DHCP is enabled. After successfully setting the IP address, the system may use Switch to send out a broadcast. The system thinks the connection is OK when there is any response. Next the system tries to login the newly found IPC. Check the interface to see whether the corresponding digital channel is active now. A small PoE icon appears at the top left corner with the PoE channel and PoE port information from the connection list of the remote device interface (section 3.2.1). For the IP search list, you must click the IP search to display or refresh.

2. Remove PoE

After you have removed the PoE, the corresponding digital channel becomes idle (disabled). On the remote device interface, it is removed from the connected list. For the IP search list, you must click the IP search to refresh.

3. After you insert PoE, the system follows the following principles to map the channel

    a) If it is your first time to insert the PoE, the system maps it to the first idle channel. After the mapping, the channel memorizes the MAC address of the IPC (\<Channel\>—\<IPC mac\> map). If the current channel does not connect to other device, the system can memorize the current

MAC address. Otherwise it can refresh to the newly added device and memorize the <PoE port>—<Channel>.

b) If it is your second time to insert the PoE, the system can check the saved MAC address according to the <Channel>—<IPC mac> map to make sure that the current IPC has connected. If the system finds the previous information and the channel is idle, the system can map it to the previously used channel. Otherwise system goes to the next step.

c) Thirdly, according to the <PoE port>—<Channel> map, the system knows the previous mapping channel of the current PoE port. The system can select current channel if it is free. Otherwise, it goes to the next step.

d) Fourthly, system goes to find the first idle channel it can get.

Generally speaking, once you insert the PoE, the system follows the previously listed steps to find the channel available.

4. **When you insert PoE, all channels are now in use**

The system can pop up a dialog box for you to select a channel to overwrite. The title of the pop-up interface is the name of the current operation PoE port. In this interface, All PoE channels become gray and cannot be selected.

4.3 Login

To log in:

1. Open the browser and input the NVR IP address. For example, if your NVR IP is 192.168.1.108, then input http://192.168.1.108.

Input your IP address here
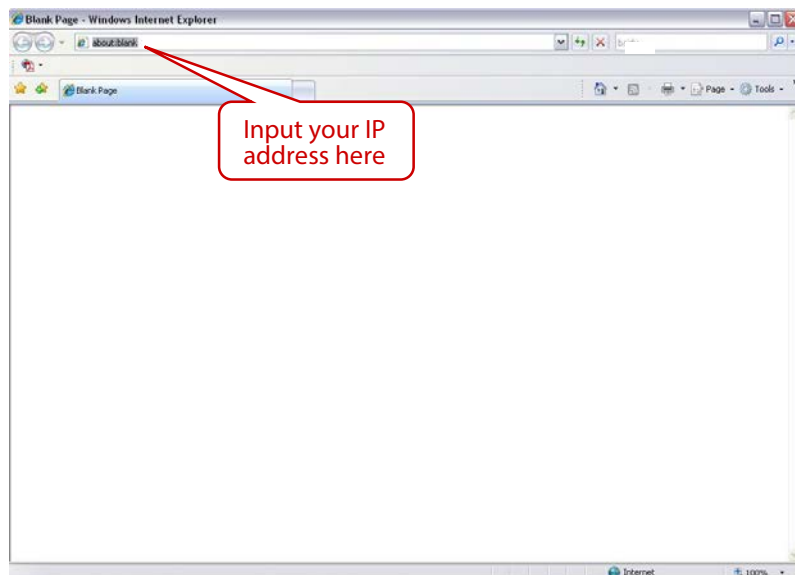
Figure 4-1

A pop up window appears asking you whether to install the *Webrec.cab* control.

2. Click **Yes** to install *Webrec.cab.*

3. If you can't download the ActiveX file, modify your browser settings as follows (Figure 4-2).

   a. Select **Internet Options** from the **Tools** menu. The Internet Options dialog appears.

   b. Click the **Security** tab and click **Custom level**. The Security Settings dialog appears.

   c. Scroll down the list and Enable the following options:

- Download signed ActiveX controls
- Download unsigned ActiveX controls
- Initialize and script ActiveX controls
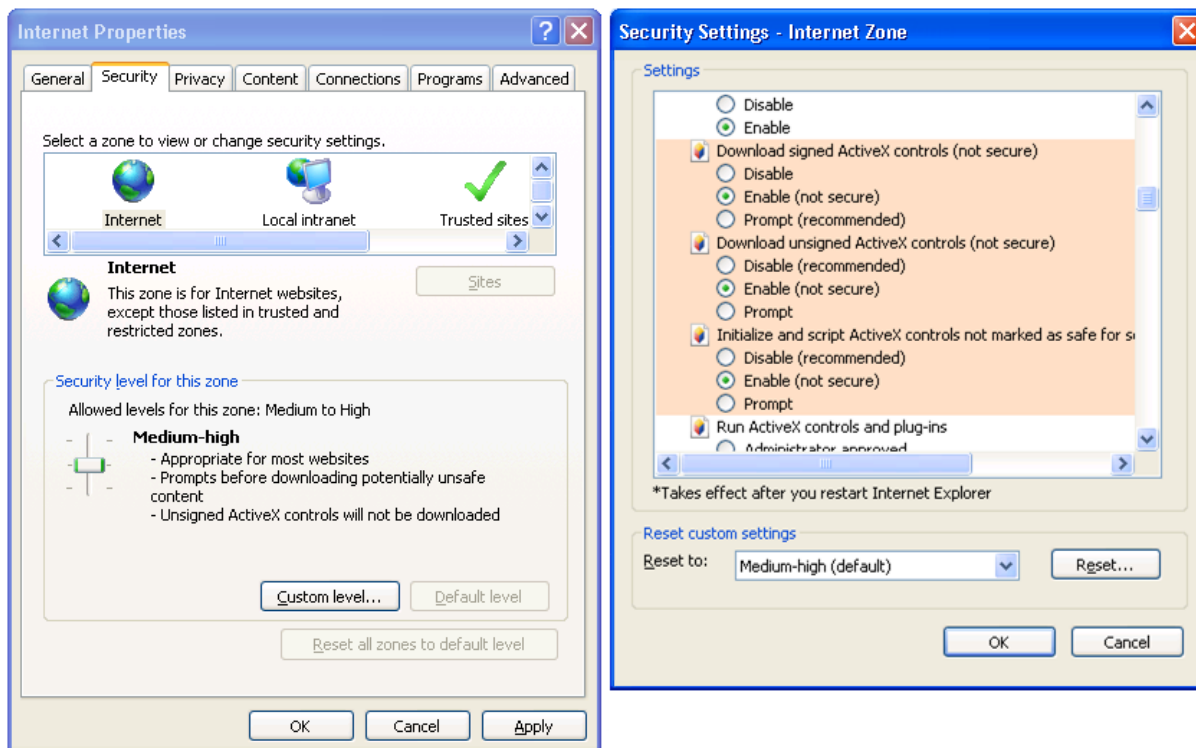
Figure 4-2

4. Click **OK** in both dialogs.

5. After installation, the Web Service page appears.
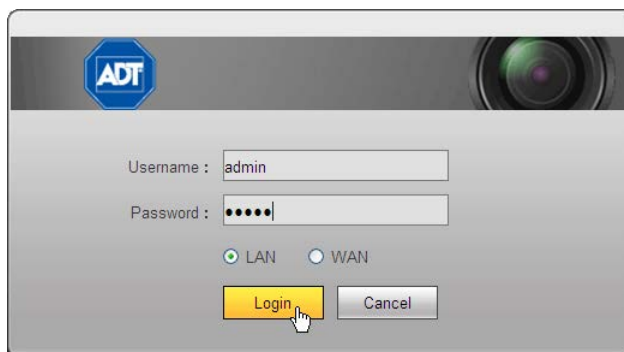
Figure 4-3

6. Input your **Username** and **Password**.

7. The default factory name is **admin** and password is **admin**.

8. Select the login mode: **LAN** or **WAN**.

   Note: For security reasons, modify your password after you first login.

The Main Web service window opens in the **Preview** Tab for live viewing, which is discussed in the ensuing suction. The other function tabs on the Web service include:

- **Preview**, described in the next section 4.4
- **Playback**, described on page 135
- **Alarm**, described on page 139
- **Setup**, described on page 140
- **Info**, described on page 216
- **Logout**, described on page 218

4.4 Preview Tab

The Preview tab displays the real-time (live) output of the video channels in the system. See section **4.4.3 Real-time Monitor** on page 130 for screen details.

The window is laid out slightly differently, depending on whether you selected LAN or WAN Mode at log in. The WAN screen is essentially the same as for LAN, with the following exceptions:

In the LAN mode:
1. The Web Service opens with four channel windows by default. No video is displayed.
2. The Open/Close and CAM buttons in the left pane are used to open the video stream.

In the WAN mode:
1. The Web Service opens the Main Stream of the first channel only.
2. The Open/Close button in the left pane is removed.
3. You select different channel and different monitor modes at the bottom of the screen:

IMPORTANT:
- For multiple-channel monitor mode, the system displays in Sub Stream by default. You cannot modify this manually. All channels are trying to synchronize. The synchronization effect depends on your network environment.
- For bandwidth considerations, the system cannot support preview (live viewing) and playback at the same time. The system automatically closes the monitor or playback screen when you are conducting a search, in order to enhance search speed.

To skip to the discussion of LAN Mode and move on to WAN Mode, go to page 129.

4.4.1 LAN Mode

After lo gging into the LAN mode, the main window appears.
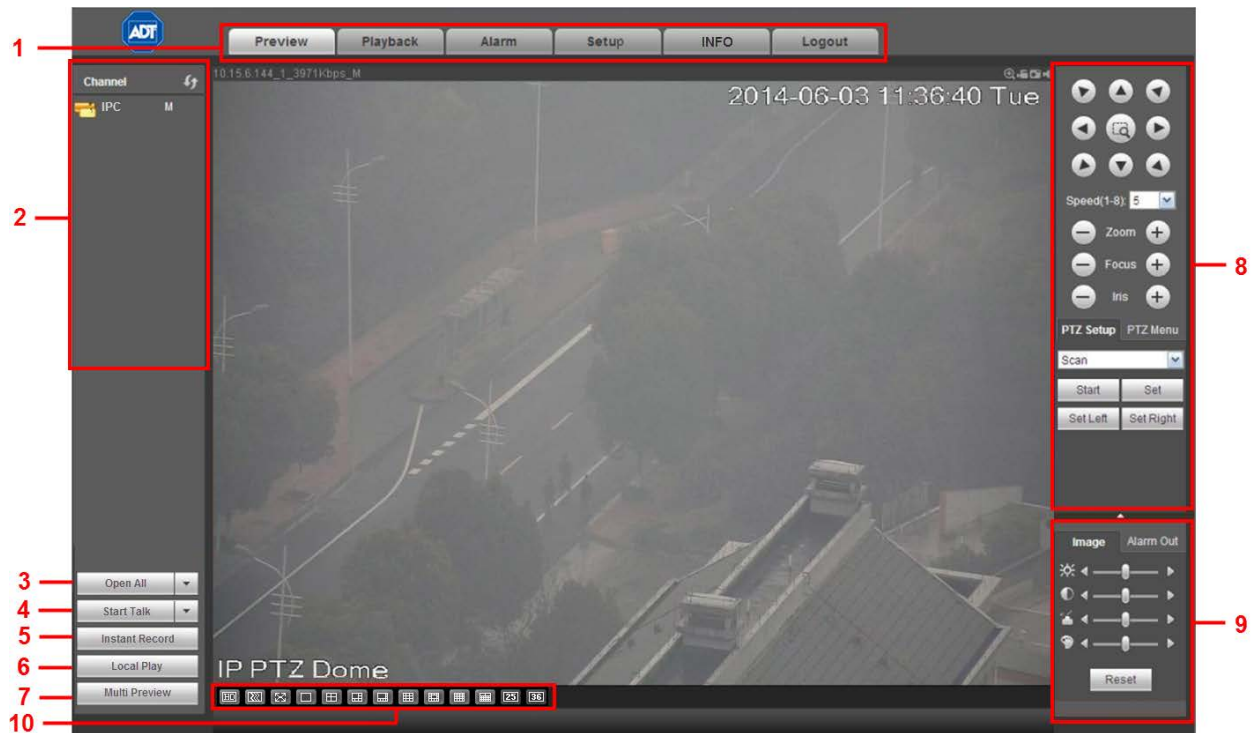
Figure 4-4

Section 1

Click the tab of the function you want to switch to: Preview, Playback, Alarm, Setup, Info or Logout.

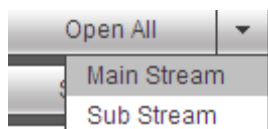### Section 2

This section displays the available individual camera channels that you can select. To initiate a specific camera, click the icon for that camera. For sample, click on IPC 1 and select either Main Stream for full HD or Sub Stream for lower bandwidth display. The icon for each selected camera shows the **S** designation for Sub Stream or **M** for HD Main Stream.
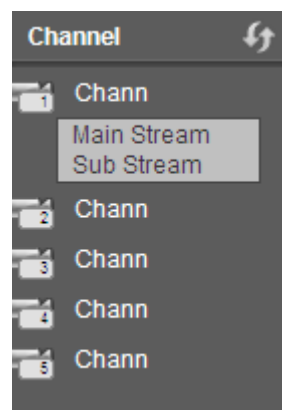
Section 3

Alternatively, you can use the **Open All/Close All** button to enable/disable all-channels at once. When you click the button, it becomes yellow.

Section 4

Start Talk button. Click 【▼】 to select Bidirectional Talk mode. There are four options: DEFAULT, G711a, G711u and PCM. After you enable the bidirectional talk, the **Start Talk** button becomes yellow and is renamed **End Talk** button.

Note: The audio input port from the NVR to the client end uses the first channel audio input port. During the Bidirectional Talk process, the system will not encode the audio data from channel 1.
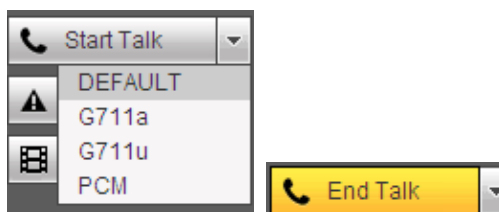
Section 5

Instant Record button. When you click this button, it becomes yellow and the system begins manual record mode. Click it again to restore the system to the previous record mode.
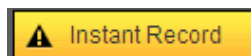
Section 6

Local Play button. The Web Service can playback recorded files that you have saved locally on your PC. Click the **Local Play** button and a popup screen appears for you to select local play files. Saved files have the extension name of **.dav**.). Navigate for the desired files and click **Open**.

Section 7

Multi Preview button. Click to display all available channels within the selected window. See section 4.4.7 on page 134.

Section 8

Pan/Tilt/Zoom (PTZ) operation panel. Refer to **Pan/Tilt/Zoom (PTZ) Panel** on page 131.

Section 9

Image. Refer to **Image Set** on page 133 for detailed information.
Alarm Out. Refer to **Alarm Out** on page 134 for detailed information.

Section 10

Video Display Parameters. From the left to the right are buttons that control screen display parameters, as described below.
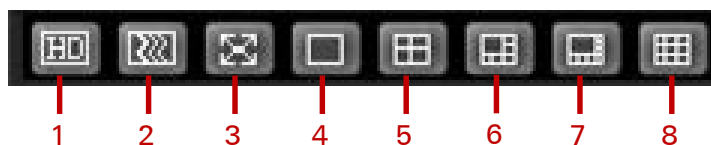
1–Video quality   2–Video fluency   3–Full screen mode

4–1-window screen   5–4-window screen   6–6-window screen

7–8-window screen   8–9-window screen

4.4.2 WAN Mode
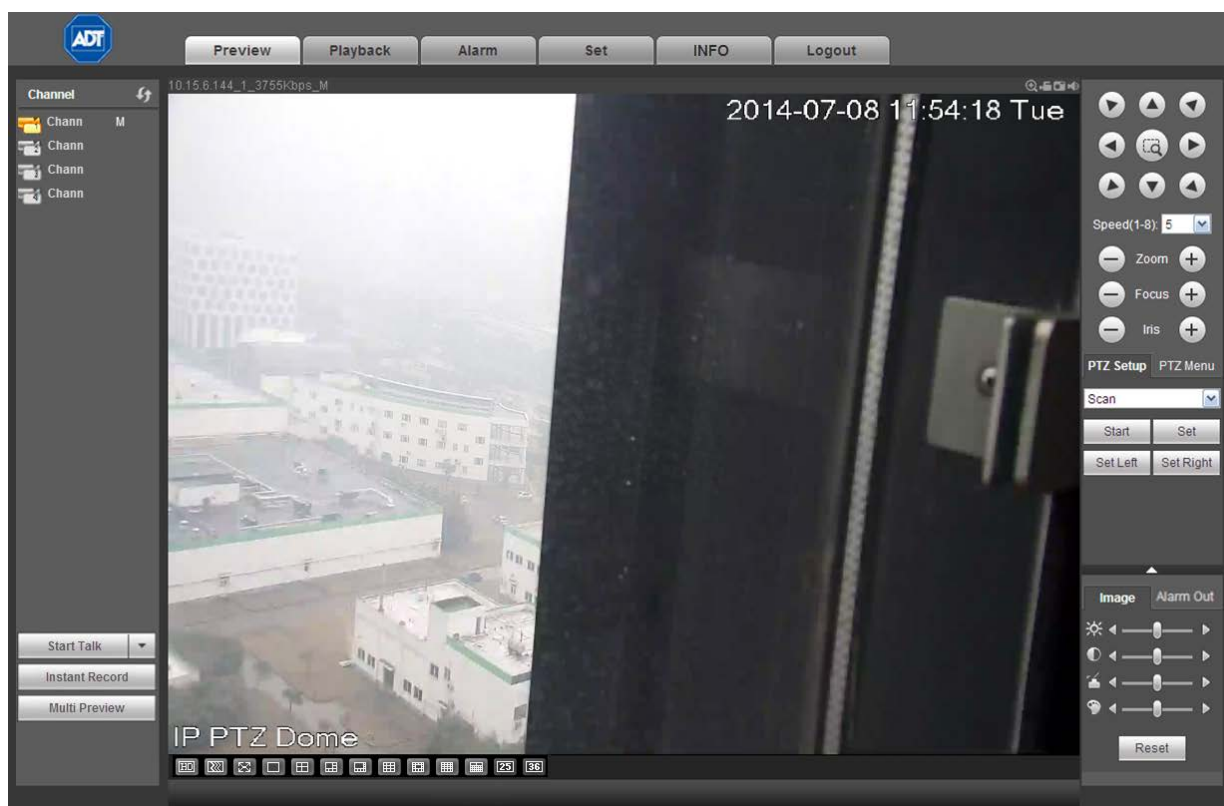
After logging into the WAN mode, the main window appears.

Figure 4-5

Differences in WAN mode from LAN mode:

1. The Web Service opens the Main Stream of the first channel only.
2. The Open/Close button in the left pane is removed.
3. You select different channel and different monitor modes at the bottom of the screen:

IMPORTANT: The window display mode and the channel number are by default. For example, for 8 channels, the max window split mode is 8.

4. For multiple-channel monitoring, the system adopts extra stream by default. When you double-click one of the channels, the system switches to single channel mode and uses main stream to monitor. Note that there are two icons at the left top corner of the channel number: **M** stands for main stream; **S** stands for sub stream (extra stream).

5. When you login via WAN mode, the system does not support alarm activation to open the video function in the Alarm setup interface.

IMPORTANT

- In multiple-channel monitor mode, the system adopts extra stream for monitoring by default. You cannot modify this manually because all channels are trying to synchronize, which depends on your network environment.

- For bandwidth consideration, the system cannot support monitor and playback at the same time. To enhance search speed, the system automatically closes the monitor or playback interface during a search.

4.4.3 Real-time Monitor

On the left side of the window, left click the channel name you want to view and the corresponding video appears in the current window.

On the top left corner, you can view the device IP, the channel number and the network monitor bit rate. The letter at the end indicates either M for main stream or S for sub stream.

On the top right corner, there are six function buttons, which are described below.
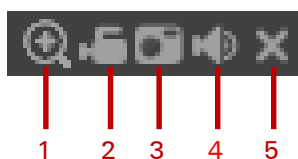
1−**Digital zoom.** Click this button and then left-drag the mouse in the zone to zoom in. Right-click to restore the screen to its original status.

2−**Local record.** When you click **Local Record**, the system begins recording immediately. The button becomes highlighted when selected. View the recorded file in the system folder named **RecordDownload**.

3–**Snapshot picture.** Click to take a still image of what is currently appearing on the screen. By default, all snapshot images are stored in the system client folder named **PictureDownload** .

4–**Audio.** Turn audio on or off.

5–**Close video.** Turn off the video.

4.4.4 Pan/Tilt/Zoom (PTZ) Panel

Before initiating the Pan/Tilt/Zoom (PTZ) operation, make sure that you have properly set the PTZ protocol. Refer to the section titled **PTZ** on page 213.

There are eight direction keys. In the middle of the eight direction keys, there is a 3D intelligent positioning key. When you click the 3D intelligent positioning key, the system reverts to the single screen mode. Drag the mouse in the screen to adjust section size. PTZ initiates automatically.
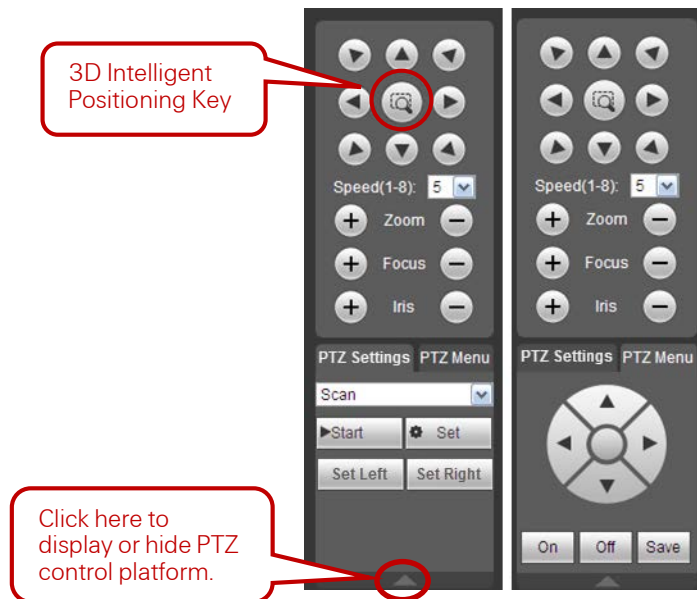
Setup PTZ using selections from the drop down menu.

Scan
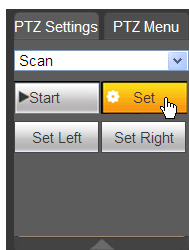
1. Select **Scan** from the dropdown list. The Scan buttons appear.
2. Click the **Set** button. The Set Left and Set Right buttons to set the scan left and right limits:
   a. Use the direction buttons to move the camera to the desired location and then click the left limit button.
   b. Move the camera again and then click the right limit button to set the right limit.

Preset
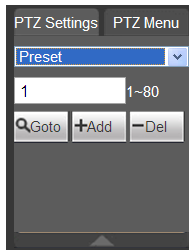
1. Select **Preset** from the dropdown list.
2. Turn the camera to the corresponding position and enter the pre-set value from 1-80.
3. Click the **Add** button to add the preset.

Tour
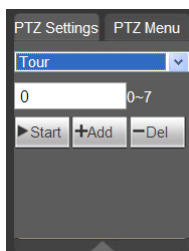
1. Select **Tour** from the dropdown list.
2. Enter the preset value, from 1-7.
3. Click the **Add** button. One preset is added to the tour.
4. Repeat the above procedures to add more presets in the tour.
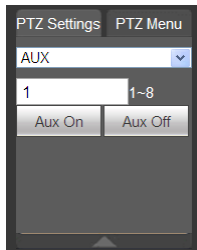5. Alternatively, click **Del** to remove one preset from the tour.

Pattern
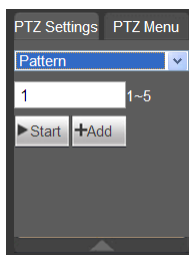
1. Select **Pattern** from the dropdown list.
2. Enter the pattern value, from 1-5.
3. Start to begin PTZ movement, such as zoom, focus, iris, direction, etc.
4. Click the **Add** button to set one pattern.

Aux

1. Input the corresponding aux value, 1-8.
2. You can select one option.
3. Click the **Aux On** or **Aux Off** buttons.

Light / Wiper
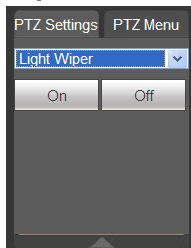
1. Turn on or turn off the light/wiper.

Reset
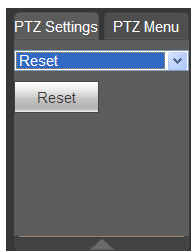
1. Click the **Reset** button to return PTZ settings to the factory defaults.

4.4.5 Image Settings

1. Select one monitor channel video and then locate the **Image** area on the right side of the screen.
2. Use the slides to adjust the brightness, contrast, hue and saturation. The border of the currently selected channel border becomes green.
3. Alternatively, click the **Reset** button to restore system default settings.
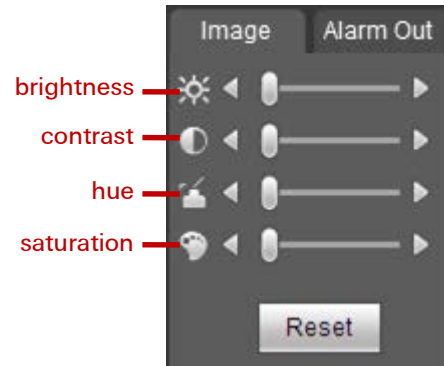
4.4.6 Alarm Out

Here you can enable or disable the alarm signal of the corresponding port.

4.4.7 Multi Preview

Select a window, and then click the Multi Preview button. All available channels are displayed within the selected window.

4.5 Playback (Search)

This section describes how to search for a recorded file and then view it.

1. Click the **Playback Tab** button. The screen shown in Figure 4-6 appears.
2. Set the record type, record date, window display mode and channel name.
3. Click the date on the right pane to select the date.
   The amber highlighted date is the current system date and the blue highlighted date on the calendar indicates that there are recorded files for that date.
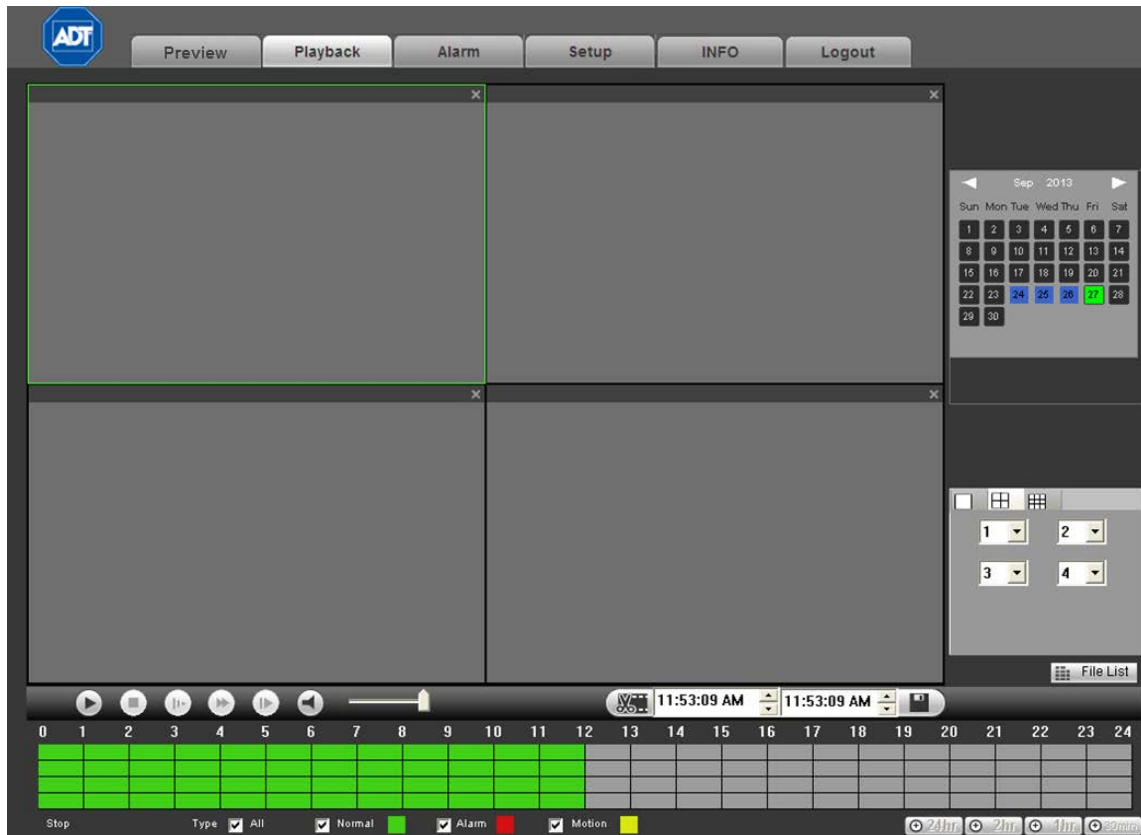
Figure 4-6

4. Click the **File List** button. The corresponding files in the list appear, as shown in Figure 4-7.

5. Select the file you want to play and then click the Play button ▶.

   The system begins playback. You can select to playback in full screen. Note that for one channel, the system cannot playback and download at the same time. The recording is automatically saved at the Download folder of the installation directory.
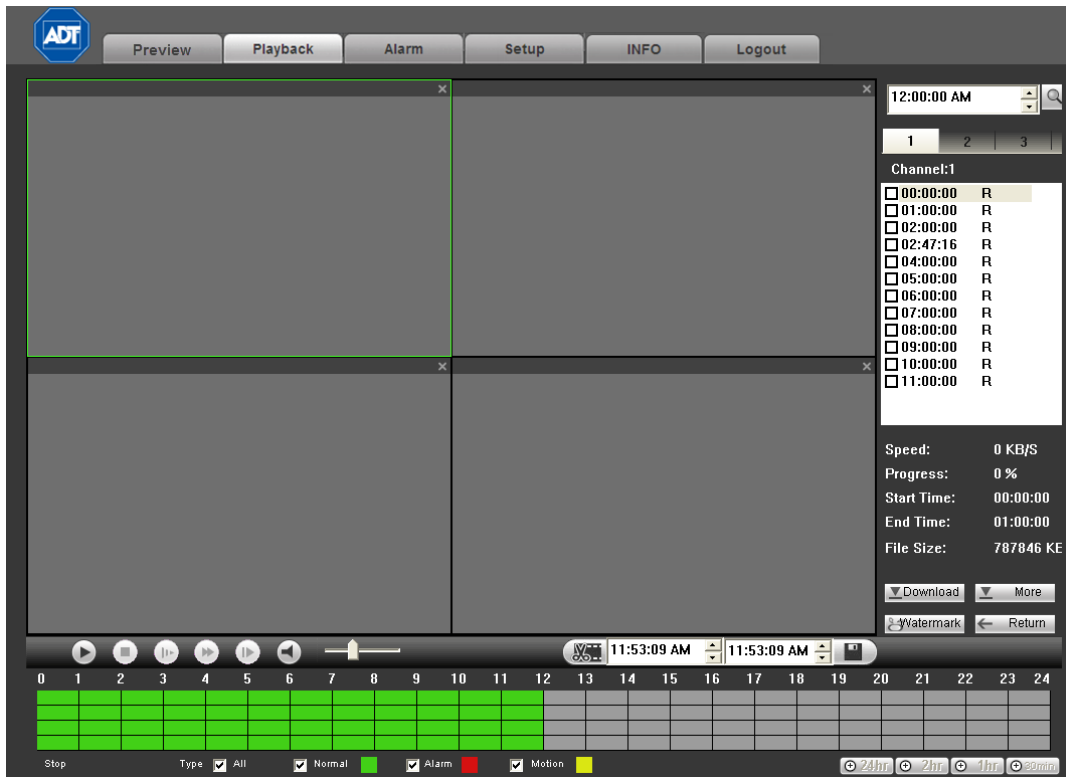
Figure 4-7

6. Use the Playback Control Bar to implement various operations such as Play, Pause, Stop, Slow Play, and Fast Play. During playback you can view the playback channel and device IP.

7. Select the file(s) you want to download and then click **Download** button. A dialog appears, as shown below. The Download button becomes the Stop button and a process bar appears. Go to the default file saved path to view the files.
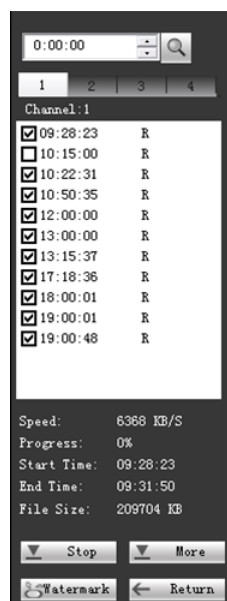
Load More

This interface is for searching records or pictures. You can select record channel, record type and recording time to download.

Figure 4-8

Watermark

The Watermark Screen is shown in Figure 4-9. Select a file and then click **Verify** to see whether the file has been tampered with.
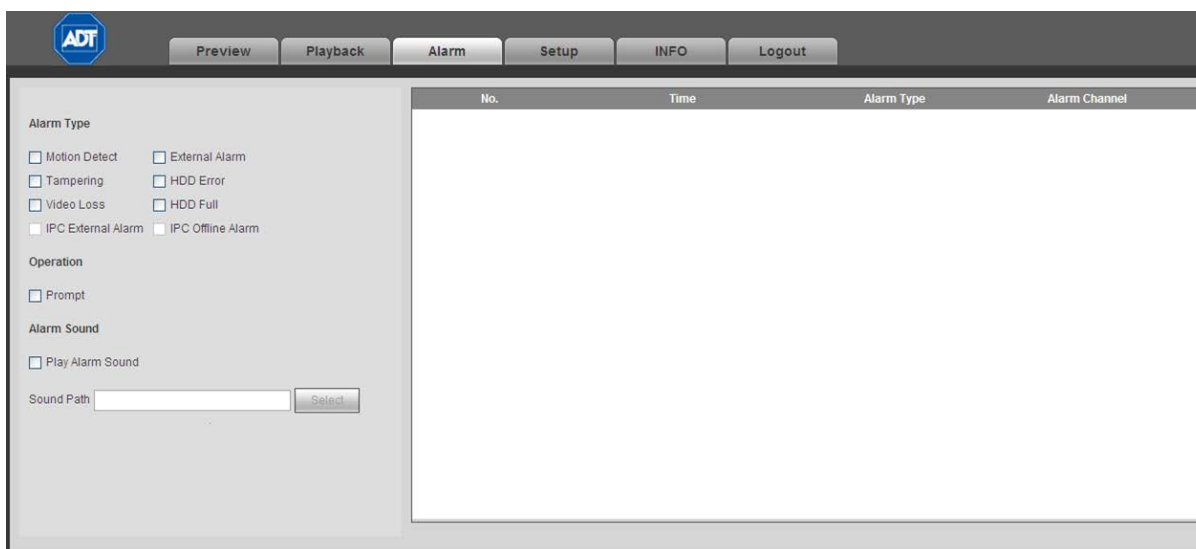

Figure 4-9

4.7 Setup

This tab provides a location for setting parameters.

4.7.1 Remote Camera

4.7.1.1 Remote Device

Click Add Device to add a remote device. The following screen appears.

Figure 4-11

Device Search button

1. Click this button to search for an IP address. This includes the device IP address, port, device name, manufacturer and type.
2. Click the item name to refresh the display order.
3. Click the IP address and the system displays the IP addresses from small to large.
4. Click the IP address again and the icon appears. The system displays IP addresses from large to small. Click other items to view their information.

Add button

Click to connect to the selected device and add it to the Added Device list in the lower half of the screen.

    Note: The system cannot add a new device if the device you want to add has the same IP and TCP port as another device in the list.

Display Filter

Click the dropdown to filter the specified devices displayed in the added device.

Added Device field
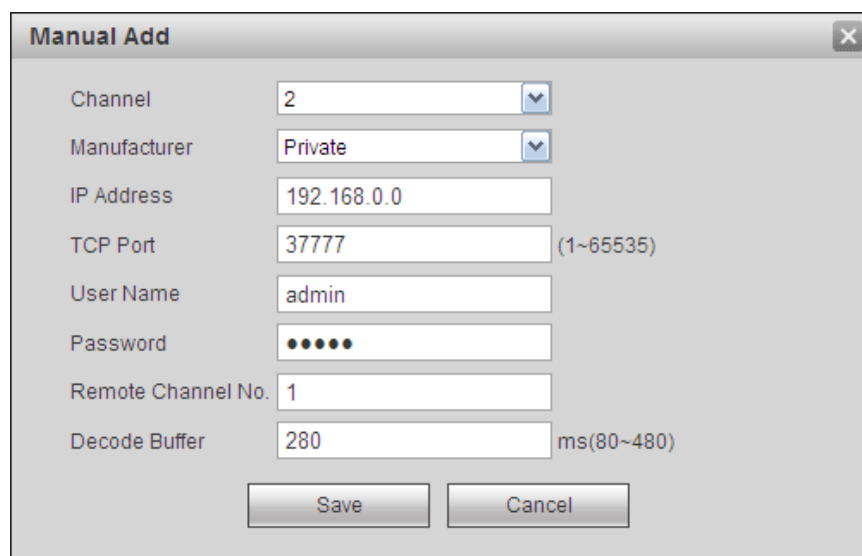
- **Modify:** Click the ✏ button or double click a device in the list to change the channel setup.
- **Delete:** Select one device in the Added Device list and then click ❌ to remove.
- **Status:** 🖥 means the connection is OK and 🖥 means the connection failed.

Delete button

If you select a device on the Added Device list, and then click the Delete button, the device is disconnected and then its name is removed from the list.

Manual Add button

Click to add the network camera manually. The port number is 37777. The default user name is admin and password is admin.

Figure 4-12

Channel: The dropdown list here displays unconnected channel number. Set the remote channel connection in the main dialog.

Note:

- This NVR supports the IPC from many popular manufacturers such as Sony, Hitachi, Axis, Samsung, Dynacolor, Arecont, Onvif and Dahua.
- The system default IP address is 192.168.0.0. If you do not input an IP address, the system will not add the current IP address.
- You cannot add more than one device at a time using the Manual Add feature.

4.7.1.2 Image Conditions

The Conditions area enables you to set property information. The settings become valid immediately after you save them.
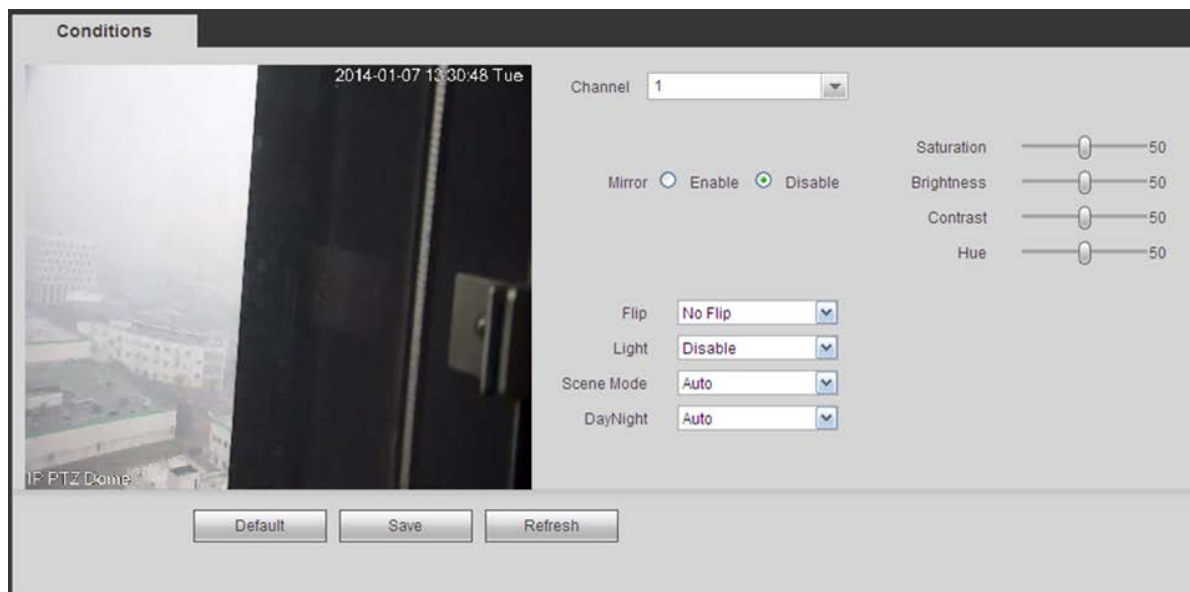
Figure 4-13

Refer to the following for detailed information.

Channel
Select a channel number from the drop-down list.

Mirror
Enable or disable the function that switches the video left and right limits.

Flip
Enable or disable the function that switches the video upper and lower limits.

Scene Mode
This parameter sets the white balance mode, which affects the general hue of the video. This function is ON by default. Select the appropriate scene mode to adjust video to the best quality.

- **Auto:** The auto white balance is on. The system can automatically compensate the color temperature.
- **Sunny:** The threshold of the white balance is in the sunny mode.
- **Night:** The threshold of the white balance is in the night mode.
- **Customized:** Set the gain of the red/blue channel. The value ranges from 0 to 100.

Day/Night Mode

This parameter sets the device threshold for switching between color and black and white mode. The default setting is **Auto**.

- **Color:** The device outputs color video.
- **Auto:** The device automatically outputs color or B/W video according to the device feature—the general brightness of the video or whether there is IR light.
- **B/W:** The device outputs black and white video.
- **Sensor:** Select when there is peripheral connected IR light.

Saturation

This setting is for adjusting monitor window saturation. The value ranges from 0 to 100. The default value is 50. The greater the number, the more intense the color. This value has no effect on the general brightness of the video as a whole. The video color may become too intense if the value is set too high. For the gray part of the video, distortion may occur if the white balance is not accurate. Note that video quality may appear poor if the value is set too low. The recommended value ranges from 40 to 60.

Brightness

This setting adjusts monitor window brightness. The default value is 50. The greater the number is, the brighter the video. When you input the value here, the bright section and the dark section of the video will be adjusted accordingly. You can use this function when the whole video is too dark or too bright. Note that the video may become hazy if the value is too high. The value ranges from 0 to 100. The recommended value ranges from 40 to 60.

Contrast

This setting adjusts the monitor window contrast. The value ranges from 0 to 100. The default value is 50. The greater the number, the greater the contrast. Use this function when the overall video brightness is OK but the contrast is poor. Note that that the video may become hazy if the value is set too low. If this value is too high, darker sections may lack brightness while the brighter section may appear over exposed. The recommended value ranges from 40 to 60.

Hue

This setting adjusts monitor video brightness and darkness level. The default value is 50. The greater the value is, the greater the contrast between the bright and dark sections.

4.7.1.3 Encode

Encode

Video compression settings are made in the Encode screen.

Figure 4-14

Refer to the following for detailed information. After making your selections, click **Save.**

Channel

Select a single channel number or **All** from the dropdown list.

Video Enable

Check the box to enable Sub Stream (lower bandwidth) video. This item is enabled by default.

Code Stream Type

This includes main stream and motion stream. Select different encode frame rates from different recorded events. The system supports Active Control Frame function (ACF), which enables you to record in different frame rates. For example, you can use a high frame rate to record important events, record scheduled events at a lower frame rate and set different frame rates for motion detection recording.

Compression

Main Stream video supports H.264. The Sub Stream supports H.264, MJPG.

Resolution

The system supports various resolutions. Make your selection from the dropdown list.

Frame Rate

Select a value in frames per second. (PAL: 1–25 f/s; NTSC: 1–30 f/s).

Bit Rate Type

Select CBR for Constant Bit Rate or VBR for Variable Bit Rate.

Bit Rate

Main Stream Video: Set the bit rate to change the video quality. The larger the bit rate, the better the quality. Refer to the Reference Bit Rate below.

Sub Stream Video: In CBR mode, the bit rate here is the maximum value. In dynamic video, the system needs to lower the frame rate or video quality to ensure this value.

Reference Bit Rate.

This lists the recommended bit rate range according to the resolution and frame rate you have set.

Buttons

❑   **Copy.** Click this button to copy the current channel's setup to other channels.

❑   **Save.** Click to save the changes you have made.

❑   **Refresh.** Click to refresh the Web connection.

Snapshot

You can use the Snapshot screen for setting parameters for taking still images.

Figure 4-15

Refer to the following for detailed information. After making your selections, click **Save**.

Channel

Select a single channel number or **All** from the dropdown list.

Mode

Select **Timing** (schedule) or **Event** (activation).Timing snapshot is valid during the specified period you set. Activation snapshot is only valid for a motion detection alarm.

Image Size

This is the same as the resolution of the Main Stream. Select from D1, HD1, 2CIF, CIF or QCIF.

Quality

Set the image quality. Select from 1–6, with 6 being the highest.

Snapshot Frequency

This sets snapshot frequency, ranging from 1s to 7s.

Buttons

❑ **Save.** Click to save the changes you have made.

❑ **Refresh.** Click to refresh the Web connection.

Video Overlay

The Overlay screen provides options to be displayed over the video screen.
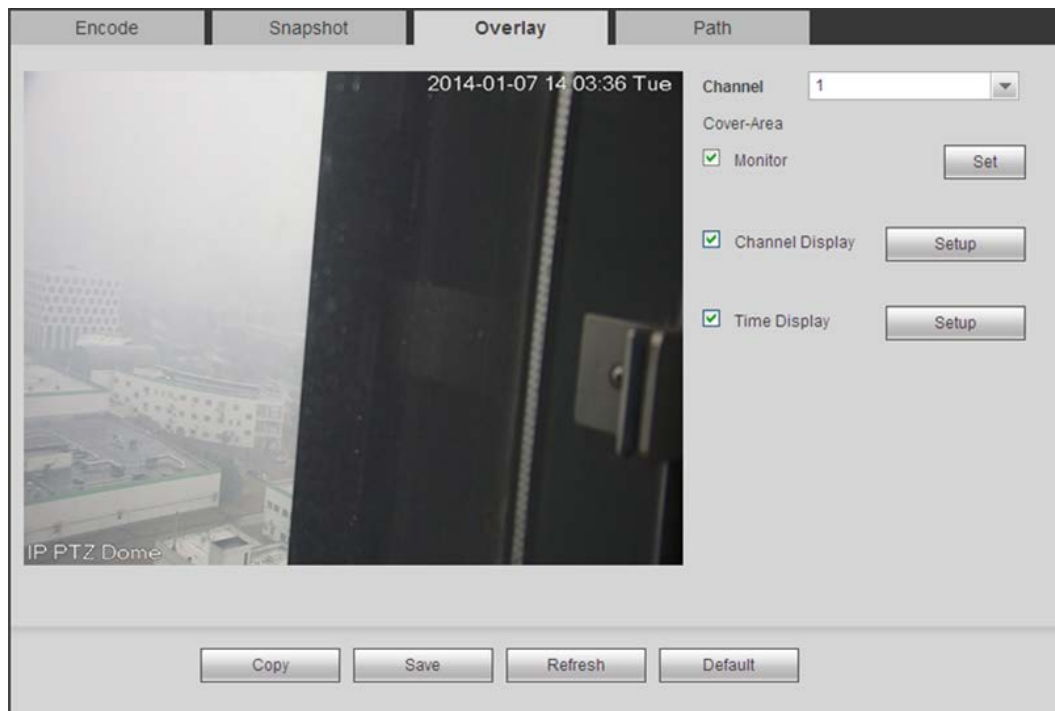
Figure 4-16

Refer to the following for detailed information. After making your selections, click **Save**.

Channel

Select a single channel number from the dropdown list.

Cover-Area (Privacy Mask)

This setting enables a privacy mask for the specified video in the Monitor (playback) video. The system supports a maximum of 4 privacy mask zones

Channel Display

Enable this function to overlay the channel name in the video window. Click the **Set** button. A field appears for you to enter the desired name. Use the mouse to drag the Channel Name to the desired position.

Time Display

Enable this function to overlay the time stamp in the video window. Click the **Set** button. Use the mouse to drag the Time icon to the desired position.
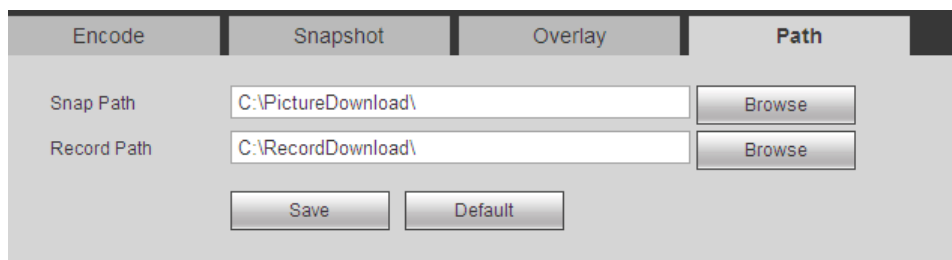
Buttons

- ❑ **Copy.** Click this button to copy the current channel's setup to other channels.
- ❑ **Save.** Click to save the changes you have made.
- ❑ **Refresh.** Click to refresh the Web connection.
- ❑ **Default.** Click to return settings on this page to their default values.

Path

Use the Path screen to set the location if where snapshot images and video recording files are stored.

1. Click the **Browse** button to set the saved path for the snapshot image ([image] on the live Preview screen) and the recording storage path ([image] on the live Preview screen). The default path is *C:\PictureDownload* and *C:\RecordDownload*.

2. Click the **Save** button to save the current setup.
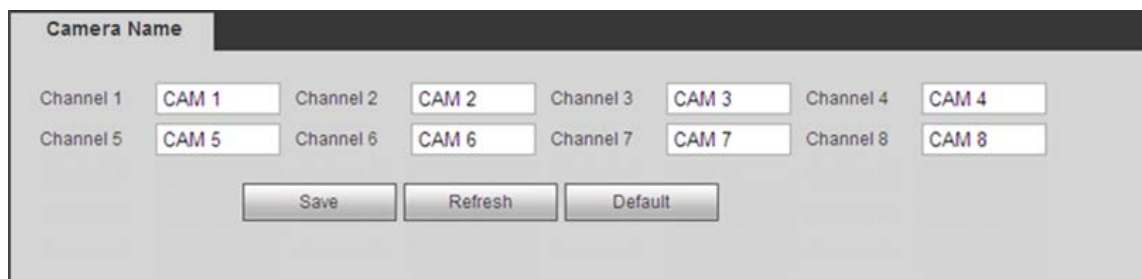
Figure 4-17

4.7.1.4 Camera Name

Use this screen to set a name for the camera on each channel. Click the **Save** button to store your settings.

Figure 4-18

4.7.1.5 IPC Upgrade

Use this interface to upgrade the network camera.

1. Click the **Browse** button to select upgrade file. Alternatively, you can use the filter to select several network cameras at the same time.

2. Click **Upgrade** to initiate.

Figure 4-19

4.7.2 Network

4.7.2.1 TCP/IP

The TCP/IP screen is for setting up network parameters.

Figure 4-20

Refer to the following for detailed information.

Mode
Select between two modes: **Static** or **DHCP**.

MAC Address
Displays the host MAC address.

MTU
Displays the Maximum Transmission Unit (MTU) value of the network adapter. The value ranges from 1280-7200 bytes. The default setup is 1500 bytes.

MTU modification can affect current network service and may result in a reboot of the network adapter. When you change the MTU setup, a pop up dialog box appears for you to confirm the setup. Click the **OK** button to confirm the reboot or click **Cancel** to terminate the modification. Before the modification, check the MTU of the gateway. The MTU of the NVR must be the same as or lower than the MTU of the gateway. In this way, you can reduce packets and enhance network transmission efficiency.

The following MTU values are for reference only.

- **1500:** This is the Ethernet information packet maximum value and the default. It is the typical setup when there is no PPPoE or VPN. It is also the default setup of some routers, switches and network adapters.
- **1492**: Recommended value for PPPoE.
- **1468**: Recommended value for DHCP.

IP Version

Select the IP version: Only IPV4 is valid at his time.

IP Address

Use the keyboard to input the IP address and then set the corresponding Subnet Mask and the Default Gateway.

Preferred DNS

Displays the DNS IP address.

Alternate DNS

Displays the alternate DNS IP address.

LAN Download

If enabled. The system can process the downloaded data, resulting in increased download speeds of 1.5X to 2.0X.

Note:

- When you select the DHCP mode to auto search, the IP Address, Subnet Mask and Gateway fields are removed.
- If you select **Static** mode, you manually set the IP Address, Subnet Mask and Gateway.
- If you select **DHCP** mode, you can view the IP Address, Subnet Mask and Gateway from the DHCP.
- If you switch from the **DHCP** mode to the **Static** mode, you must reset the IP parameters.
- IP Address, Subnet Mask, Gateway and DHCP are read-only when the PPPoE dial is OK.

4.7.2.2 Connection

The connection screen is shown below in Figure 4-21.

Figure 4-21

Refer to the following for detailed information.

Max connection. This setting is the maximum allowed Web connections for one device. The value ranges from 1 to 120. The default setup is 120.

TCP Port. The default value is 37777. You can input the actual port number.

UDP Port. The default value is 37778. You can input the actual port number.

HTTP Port. The default value is 80. You can input the actual port number.

HTTPS Port. The default value is 443. You can input the actual port number.

RTSP Port. The default value is 554.

4.7.2.3 WIFI

This feature is not supported by ADT.

4.7.2.4 3G

This feature is not supported by ADT.
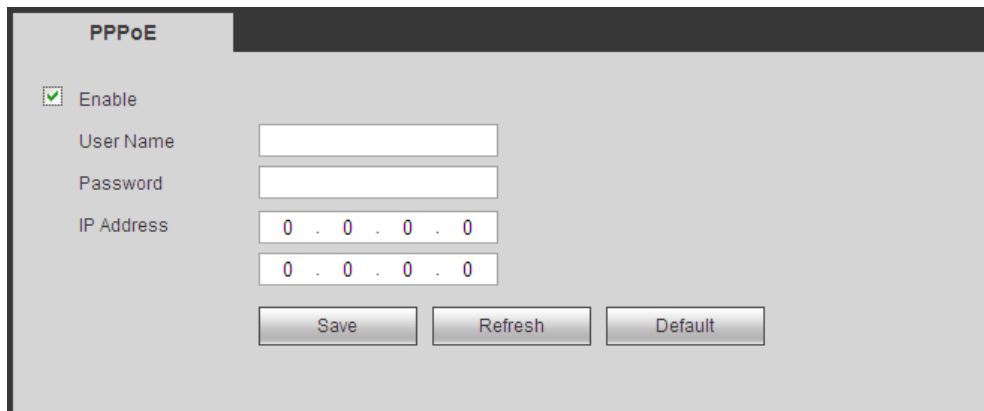
4.7.2.5 PPPoE

To set up PPPoE:

1. Check the **Enable** box to enable the PPPoE feature.
2. Input the PPPoE User Name and Password you get from the Internet Service Provider.
3. Click **Save**.
4. Reboot the device.

The NVR connects to the internet via PPPoE after reboot. You can get the IP address from the WAN in the IP address column.

> **Note:** You must use the previous IP address in the LAN to login the device. Go to the IP address item to see the current device information. You can access the client end via this new address.

Figure 4-22

4.7.2.6 DDNS

The DDNS page is used to connect various servers so that you can access the NVR via the server.

Requirements: You must have a PC with a fixed IP and DDNS software running. In other words, this PC is a DNS (domain name server).

To set up DDNS:

1. Go to the corresponding service Website to apply for a domain name.
2. Access the system via the domain. It works even if your IP address has changed.
3. Select **DDNS** from the dropdown list.

Figure 4-23

Refer to the following for detailed information.

Enable. Check the box to enable this function.

Server Type. Select the DDNS protocol from the dropdown list and then enable DDNS function

Server IP. DDNS server IP address

Server Port. DDNS server port.

Domain Name. Your self-defined domain name.

User. The user name you input to log in the server.

Password. The password you input to log in the server.

Update period. The device sends out a live signal to the server regularly. This parameter sets the interval value between the device and DDNS server.

Quick DDNS and Client End Introduction

1. Background Introduction
The device IP is not fixed if you use ADSL to log into the network. The DDNS function enables you to access the NVR via the registered domain name. Besides the general DDNS, the quick DDNS works with the device from the manufacturer to add the extension function.

2. Function Introduction

The quick DDNS client has the same function as other DDNS client end. It initiates the bonding of the domain name and the IP address. Right now, current DDNS server is for our own devices only. You must refresh the bonding relationship of the domain and the IP regularly. There is no user name, password or the ID registration on the server. At the same time, each device has a default domain name (Generated by MAC address) for your option. You can also use customized valid domain name (has not registered).

3. Operation

Before you use Quick DDNS, you must enable this service and set proper server address, port value and domain name.

- Server address: www.quickddns.com
- Port number: 80
- Domain name: There are two modes: Default domain name and customized domain name.

Except default domain name registration, you can also use customized domain name (You can input your self-defined domain name.) After successful registration, you can use domain name to login installed of the device IP.

User Name. This item is optional. You can input your commonly used email address.

IMPORTANT:

- Do not register frequently. The interval between two registrations must be more than 60 seconds.
- The system may take back the domain name that is idle for one year. You can get a notification email before the cancel operation if your email address setup is OK.

4.7.2.7 IP Filter

After you have enabled the trusted sites function, only the IPs listed below can access current NVR. If you enable the blocked sites function, the following listed IP addresses cannot access the current NVR.

Figure 4-24

4.7.2.8 Email

The Email screen is used to set up email alerts, if you have set them up for sending out an alert in the event of a triggered alarm.

Figure 4-25

Refer to the following for detailed information.

Enable

Check this box to enable email function.

SMTP Server

Input the server address and then enable this function.

Port

Default value is 25.

Anonymous

Enable for servers that support the anonymity function, which allows you to automatically login anonymously. If enabled, you do not need to input the user name, password or the sender information.

User Name

The user name of the sender email account.

Password

The password of sender email account.

Sender

Sender email address.

Authentication (Encryption mode)

Select SSL, TLS or NONE.

Subject

Input email subject here.

Attachment

Check the box to send out the email of the snapshot picture.

Receiver

Enter the destination (receiver's) email address (maximum of three addresses. This supports SSL and TLS email boxes.

Interval

The send interval ranges from 0 to 3600 seconds. 0 means there is no interval.

The system will not send out the email immediately when the alarm occurs. When the Motion Detection or the Abnormality event activates the email, the system sends out the email according to the interval you have specified here. This function is very useful when there are too many emails activated by the Abnormality events, which may result in heavy load for the email server.

Health Mail Enable

Check the box to enable this function.

Update Period (Interval)

This function enables the system to send out a test email for checking the connection. Check the box to enable this function and then set the corresponding interval. The system can send out the email regularly as you set here.

Email Test

The system will automatically send out an email once to verify that the connection is OK. Save the email setup information before performing the email test.

4.7.2.9   SNMP

The SNMP screen enables the communication between the network management work station software and the proxy of the managed device.

Figure 4-26

Refer to the following for detailed information.

SNMP Port

The listening port of the proxy program of the device. It is a UDP port not a TCP port. The value ranges from 1 to 65535. The default value is 161.

Read Community

This is a string. It is a command between the manage process and the proxy process. It defines the authentication, access control and the management relationship between one proxy and one group of the managers. Make sure that the device and the proxy are the same.

The read community will read all the objects the SNMP supported in the specified name. The default setup is public.

Write Community

This is a string. It is a command between the manage process and the proxy process. It defined the authentication, access control and the management relationship between one proxy and one group of the managers. Make sure that the device and the proxy are the same.

The read community will read/write/access all the objects the SNMP supported in the specified name. The default setup is **write**.

Trap Address

The destination address of the Trap information from the proxy program of the device.

Trap Port

The destination port of the Trap information from the proxy program of the device. It is for the gateway device and the client end PC in the LAN to exchange the information. It is a non-protocol connection port. It has no effect on the network applications. It is a UDP port not TCP port. The value ranges from 1 to 165535. The default value is 162.

SNMP Version

If you check V1, the system only processes the information of V1.
If you check V2, the system only processes the information of V2.
SNMP V3requires account security verification for the server to connect to the device. If you select V3, the user name and password fields appear and the V1 and V2 are not selectable.

4.7.2.10 Multicast

Multicast is a transmission mode for data packets. Multicast sends IP datagrams to a group of receivers in a single transmission. When there are multiple hosts to receive the same data packet, multicast is the best option to reduce the bandwidth and the CPU load. The source host can send out just one data packet. This function also depends on the relationship of the group member and the group.

Figure 4-27

4.7.2.11 Auto Register

The Auto Register page is shown below.

Figure 4-28

This function enables the device to automatically register to the proxy you have specified. In this way you can use the client end to access the NVR via the proxy. In the network service, the device supports a server address of IPv4 protocol.

To use the Auto Register function:

1. Set the proxy server address, port and sub-device name at the device end.

2. Enable the Auto Register function. The device automatically registers to the proxy server.

IMPORTANT: Do not input a network default port such as the TCP port number.

The proxy server software is developed from the SDK. Open the software and input the global setup. Make sure the auto connection port here is the same as the port you set in the previous step.

3. Now add the device. Do not input default port number such as the TCP port in the mapping port number. The device ID used here must be the same as the ID you input in Figure 3-19.

4. Click the **Add** button to complete the setup.

5. Boot up the proxy server.

When you the network status is **Y**, the registration is OK. You can view the proxy server when the device is online.

IMPORTANT: The server IP address can also be the domain but you must register a domain name before you run the proxy device server.

4.7.2.12 Alarm Center

This feature is not supported by ADT.

4.7.2.13 HTTPS

This page can be used to create a server certificate or download a root certificate.
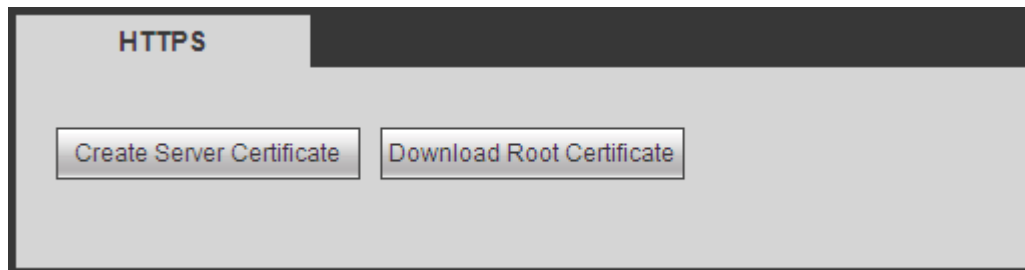
Figure 4-29

A secure server certificate is a digital certificate issued to a Web server by a trusted Certificate Authority (CA). A server certificate verifies the organization's identity to the client so that the client can securely browse the organization's Website confident that the Website belongs to that organization (not an imposter), and transactions between the server and client are encrypted.

A root certificate is either an unsigned public key certificate or a self-signed certificate that identifies the Root Certificate Authority.

On this screen you can set to ensure that the PC can successfully login via HTTPS to guarantee communication data security. This reliable and stable technology can secure user information security and device safety.

Note:
- If you change the device IP, you must implement the server certificate again.
- If it is your first time using HTTPS on the current PC, you must download the root certificate.

Create Server Certificate

If this is your first time using the HTTPS function, please use the following steps to create a server certificate.

1. Click the **Create Server Certificate** button.
2. Enter the country, state name and other requested information.
3. Click the **Create** button.

Note: Make sure that the IP or domain information is the same as your device IP or domain name.
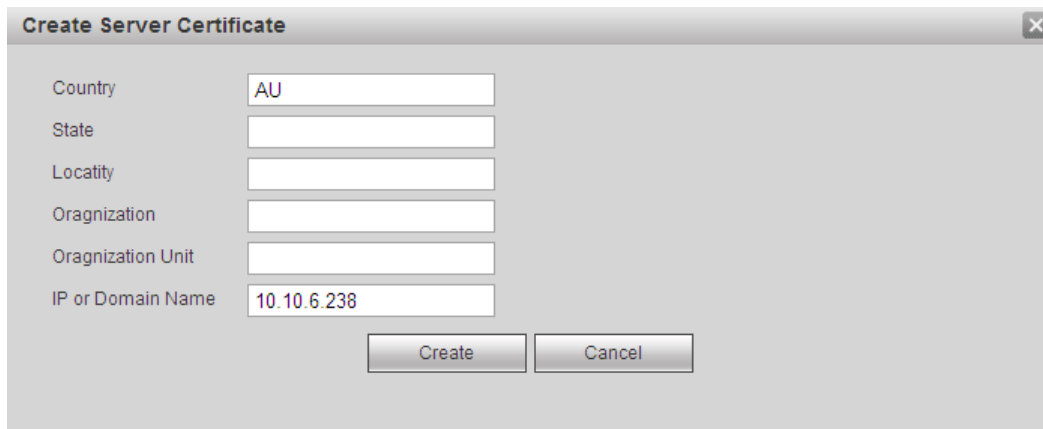
Figure 4-30

The message appears that the server certificate was successfully created.
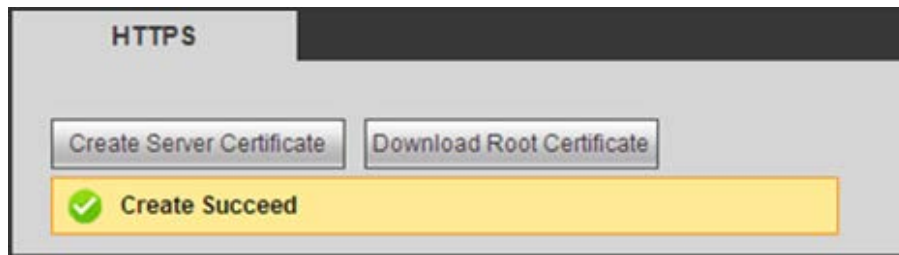
Figure 4-31

Download Root Certificate

1. Use the following steps to create a Root Certificate.
2. Click the **Download Root Certificate** button

   The following dialog box appears.

Figure 4-32

3. Click the **Open** button. The following screen appears.

Figure 4-33

4. Click the **Install Certificate** button to open the Certificate Import Wizard.

Figure 4-34

5. Click the **Next** button to continue. Now select a location for the certificate.
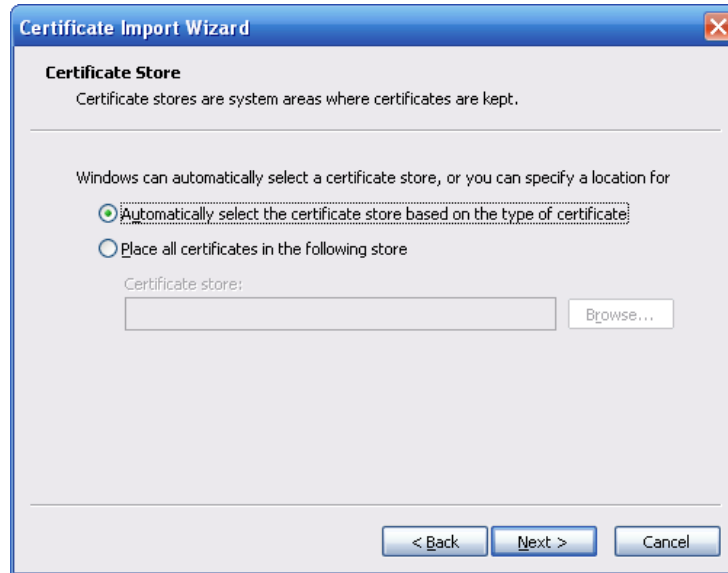
Figure 4-35

6. Click the **Next** button. A message appears that the certificate import process is complete.

Figure 4-36

7. Click the **Finish** button. The following security warning dialog appears.

Figure 4-37

8. Click **Yes** button. A message appears confirming that the certificate download is complete.

Figure 4-38

View and Set the HTTPS Port

1. Navigate to *Set > Network >Connection*. In the Connection screen, you can see that the HTTPS default value is 443.
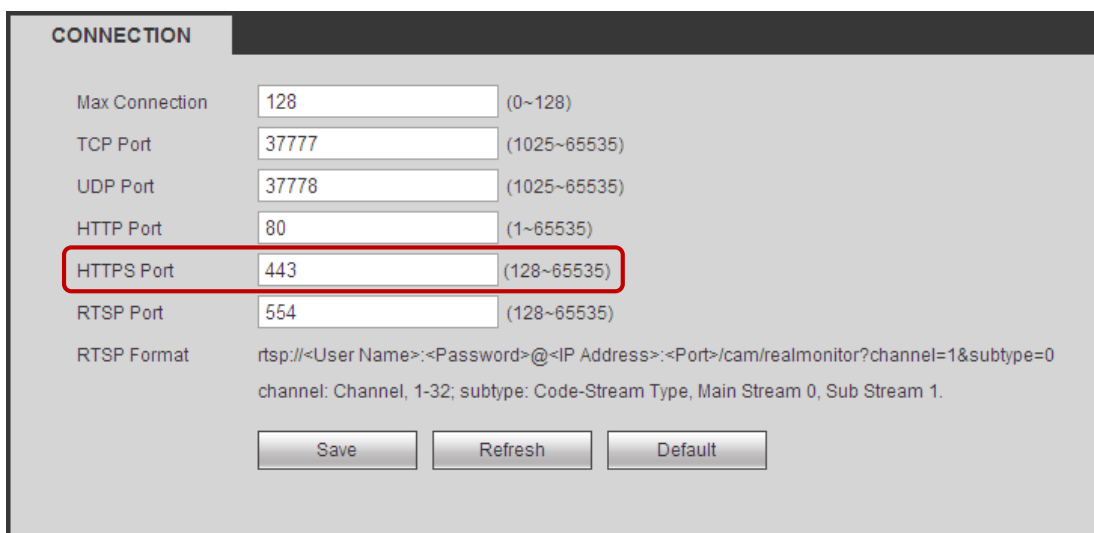
Figure 4-39

Login

Open a browser window and enter https://xx.xx.xx.xx:port, where xx.xx.xx.xx: is your device IP or domain name and Port is your HTTPS port. If you are using the default HTTPS value 443, you do not need to add the port information. Enter https://xx.xx.xx.xx to access.

If your setup is correct, the login interface appears.

4.7.3 Event

4.7.3.1 Video Detect

The Video Detect section is used for setting up the type of events for which you want to trigger a response, such as triggering an alarm, sending an email or taking a snapshot. There are three detection types that you can set as an event:

- Motion Detect
- Video Loss
- Tampering

Motion Detect

Use the Motion Detect screen for setting up a Motion Detection event to trigger an alarm and initiate recording.

Figure 4-40

The following describes the Detect window:

☑ **Enable**

Check the box to enable the motion detection function. Then select a channel to be enabled from the dropdown list.

Period

This feature activates the Motion Detection function in the specified time periods.

To set the Motion Detect period:

1. Click the **Setup** button.
2. In the resulting setup dialog (see Figure 4-41), select a day of the week from the drop-down menu.
3. For the selected day, check the box for one of the six 24-hour time periods and set the corresponding recording range.
4. Repeat for other time periods if desired.
5. Click **Save**. The system reverts to the Motion Detect page.
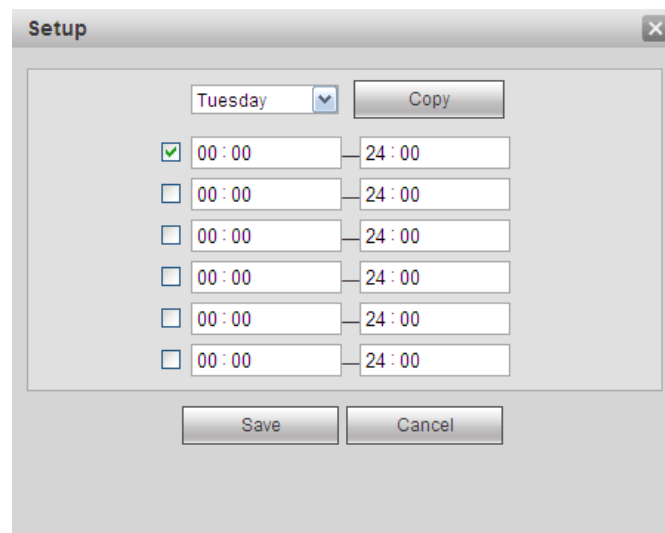
Figure 4-41

Note:

- Set the Motion Detect record period.
- Navigate to *Storage* > *Schedule* to set the current channel as a scheduled recording.

Anti-dither

This feature sets a delay period before triggering the next Motion Detection event, to avoid re-triggering on the same event. The delay period begins when the current motion detection event has ended. The system only stores one event during the anti-dither period. The value ranges from 5s to 600s.

Sensitivity

There are six levels. The sixth level has the highest sensitivity.

Region

Click the **Setup** button to set Motion Detection zone. There are 396(PAL)/330(NTSC) small zones. The red zone is the motion detection zone; the clear zone is the disarmed zone. The system can only detect motion detect signal from the armed region.

To set the Motion Detection Region:

1. Click the **Setup** button. A single screen display appears with a grid and semi-transparent overlay.
   The red zone is the armed (motion detection) zone; the clear zone is the disarmed zone. The system only detects motion in the red armed region. The default setup is the entire screen (all red).
2. Drag the mouse to set the motion detection zone. The selected area no longer shows the overlay.
3. Click **Save**.
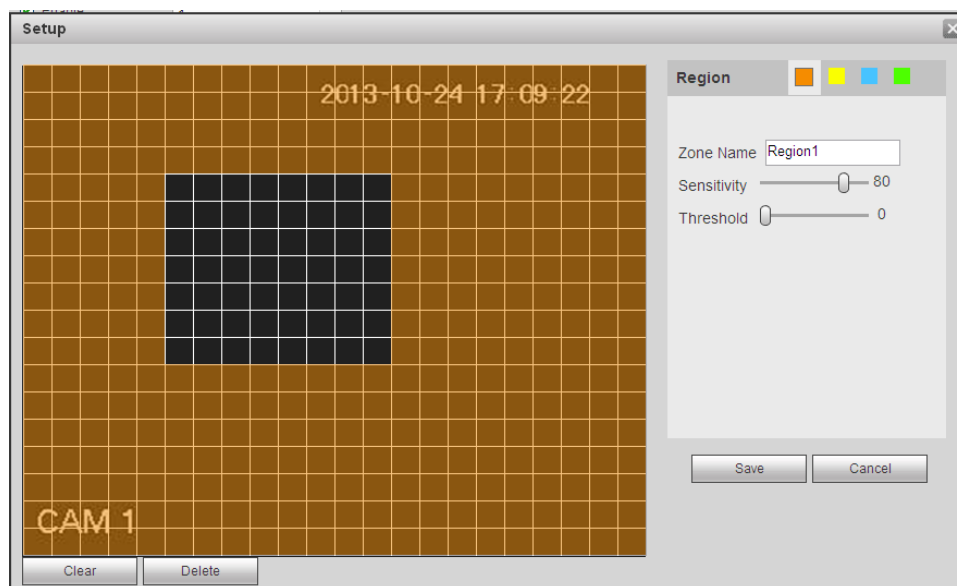
Figure 4-42

☑ **Record Channel**

Check the box to enable, and the click the buttons for the channels that you want recorded when the event is triggered. The selected channels are highlighted.

Delay

To avoid rerecording the same event, enter the number of seconds to wait after the event has ended before a new recording can begin. This value ranges from 10s to 300s.

Alarm Out

Check the box to enable the external alarm when the event triggers. In the boxes to the immediate right, enable which camera(s) will record when the event occurs.

Latch

Select the time in seconds that the system delays after the external alarm has ended before turning off the alarm and the activated output. This feature sets a postponement period before another external alarm can be activated. Value ranges from 10 to 300 seconds.

☑ **PTZ Activation**

This enables you to set Pan/Tilt/Zoom movement when an alarm occurs.

To set PTZ Activation:

1. Check the box to enable the function.
2. Click the **Setup** button. The PTZ Activation dialog appears.
3. Make the desired selections for each channel.
4. Click **Save**.

Figure 4-43

☑ **Tour**

When an alarm occurs, this feature presents an alternating display (much like a slideshow) of the channel(s) you set to record.

Check the box to enable, and the click the buttons for the channels that you want included in the tour. The selected channels are highlighted.
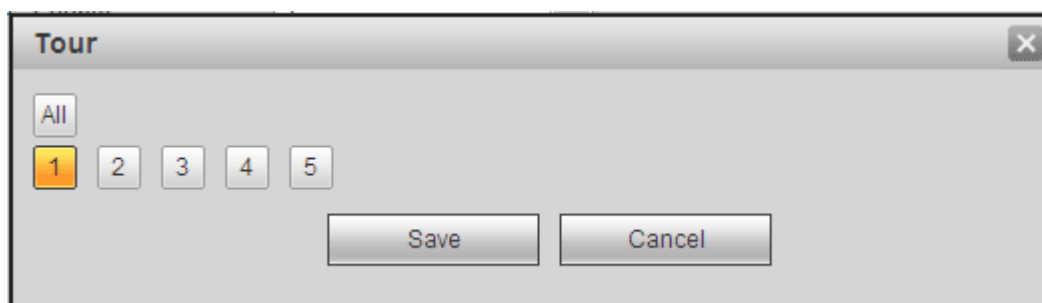
Figure 4-44

☑ **Snapshot**

When an alarm occurs, this feature takes a still image of the channel(s) you set to record.

Check the box to enable, and the click the buttons for the channels that you want included in the snapshot. The selected channels are highlighted.
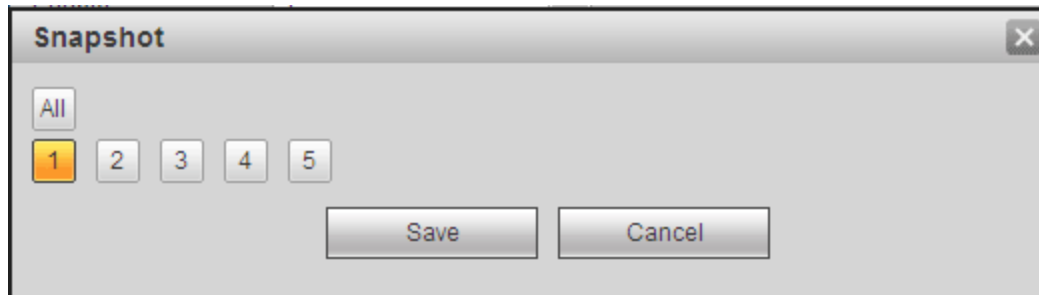
Figure 4-45

Checkboxes

☑ **Show Message.** If enabled, a pop up alarm message appears in the local host screen.

☑ **Send Email.** If enabled, an email alert is sent to you when an alarm occurs.

☑ **Alarm Upload.** If enabled, the alarm signal is uploaded to the network.

☑ **Buzzer.** If enabled, a buzzer sounds when an alarm occurs.

☑ **Message.** If a 3G network is connected, a message is sent when a motion detection event occurs. *Note: This feature is not supported by ADT.*

Video Loss

Use the Video Loss screen for triggering up alarms when no video signal is detected.

> **Note:** Video Loss does not support anti-dither, sensitivity, or region setup.

Figure 4-46

The following describes the Video Loss window:

☑ Enable

Check the box to enable the Video Loss function. Then select a channel to be enabled from the dropdown list.

Period

This feature activates the Video Loss function in the specified time periods.

To set the Video Loss period:

1. Click the **Setup** button.
2. In the resulting setup dialog, select a day of the week from the drop-down menu.
3. For the selected day, check the box for one of the six 24-hour time periods and set the corresponding recording range.
4. Repeat for other time periods if desired.
5. Click **Save**. The system reverts to the Video Loss page.
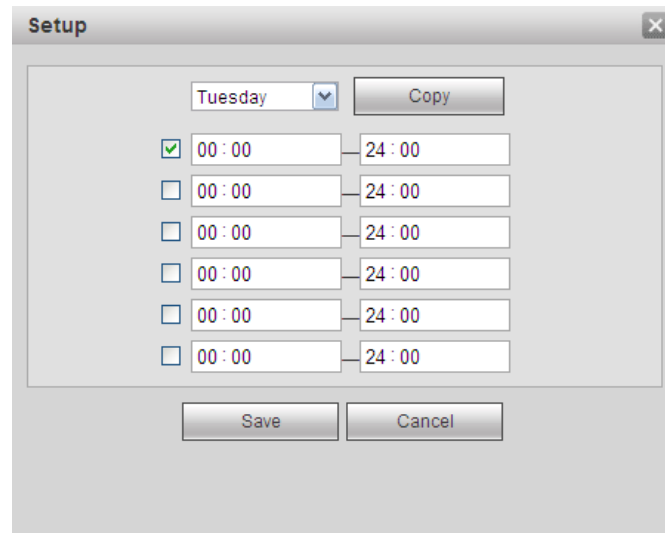
Figure 4-47

☑ **Record Channel**

Check the box to enable, and the click the buttons for the channels that you want recorded when the event is triggered. The selected channels are highlighted.

Delay

To avoid rerecording the same event, enter the number of seconds to wait after the event has ended before a new recording can begin. This value ranges from 10s to 300s.

Alarm Out

Check the box to enable the external alarm when the event triggers. In the boxes to the immediate right, enable which camera(s) will record when the event occurs.

Latch

Select the time in seconds that the system delays after the external alarm has ended before turning off the alarm and the activated output. This feature sets a postponement period before another external alarm can be activated. Value ranges from 10 to 300 seconds.

☑ **PTZ Activation**

This enables you to set Pan/Tilt/Zoom movement when an alarm occurs.

To set PTZ activation:
1. Check the box to enable the function.
2. Click the **Setup** button. The PTZ Activation dialog appears.
3. Make the desired selections for each channel.
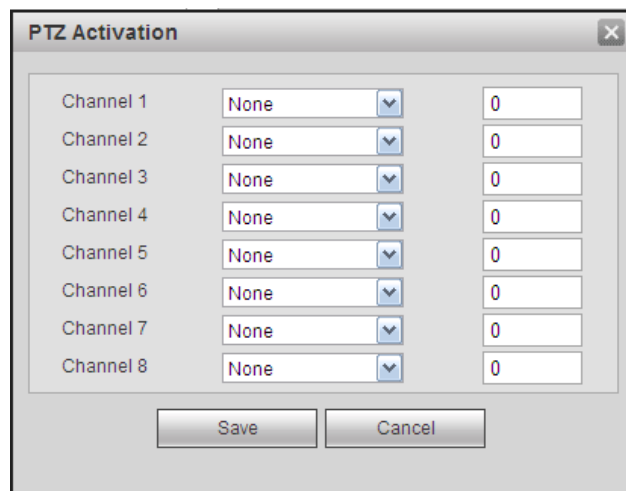4. Click **Save**.

Figure 4-48

☑ **Tour**

When an alarm occurs, this feature presents an alternating display (much like a slideshow) of the channel(s) you set to record.

Check the box to enable, and the click the buttons for the channels that you want included in the tour. The selected channels are highlighted.

☑ **Snapshot**

When an alarm occurs, this feature takes a still image of the channel(s) you set to record.

Check the box to enable, and the click the buttons for the channels that you want included in the snapshot. The selected channels are highlighted.

Checkboxes

   ☑ **Show Message.** If enabled, a pop up alarm message appears in the local host screen.

   ☑ **Send Email.** If enabled, an email alert is sent to you when an alarm occurs.

   ☑ **Alarm Upload.** If enabled, the alarm signal is uploaded to the network.

   ☑ **Buzzer.** If enabled, a buzzer sounds when an alarm occurs.

   ☑ **Message.** If a 3G network is connected, a message is sent when a motion detection event occurs. *Note: This feature is not supported by ADT.*

Tampering

The Tampering feature alerts you when the detected motion signal exceeds the sensitivity threshold set here.

> **Note:** Tampering does not support anti-dither, sensitivity, or region setup.

Figure 4-49

☑ **Enable**

Check the box to enable the Tampering function. Then select a channel from the dropdown list.

Period

This feature activates the Tampering function for the specified periods.

To set the Tampering period:
1. Click the **Setup** button.
2. In the resulting setup dialog, select a day of the week from the drop-down menu.
3. For the selected day, check the box for one of the six 24-hour time periods and set the corresponding recording range.
4. Repeat for other time periods if desired.
5. Click **Save**. The system reverts to the Tampering page.
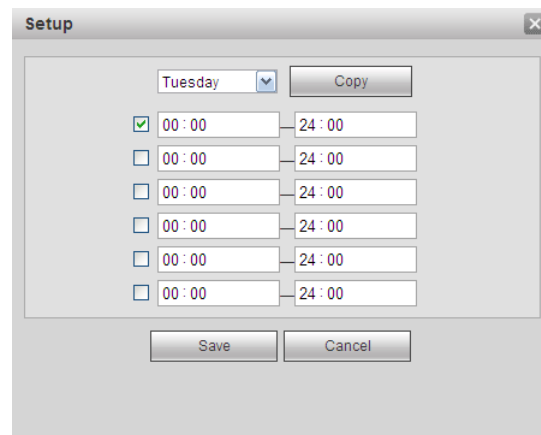
Figure 4-50

Sensitivity

There are six levels. The sixth level has the highest sensitivity.

☑ **Record Channel**

The system automatically activates to record selected channels once a motion detection alarm occurs. Check the box to enable, and the click the buttons for the channels that you want recorded. The selected channels are highlighted.

Delay

To avoid rerecording the same event, enter the number of seconds to wait after the event has ended before a new recording can begin. This value ranges from 10s to 300s.

Alarm Out

Check the box to enable the external alarm when the event triggers. In the boxes to the immediate right, enable which camera(s) will record when the event occurs.

Latch

Select the time in seconds that the system delays after the external alarm has ended before turning off the alarm and the activated output. This feature sets a postponement period before another external alarm can be activated. Value ranges from 10 to 300 seconds.

☑ **PTZ Activation**

This enables you to set PTZ movement when an alarm occurs.

To set PTZ activation:
1. Check the box to enable the function.
2. Click the **Setup** button. The PTZ Activation dialog appears.
3. Make the desired selections for each channel.
4. Click **Save**.
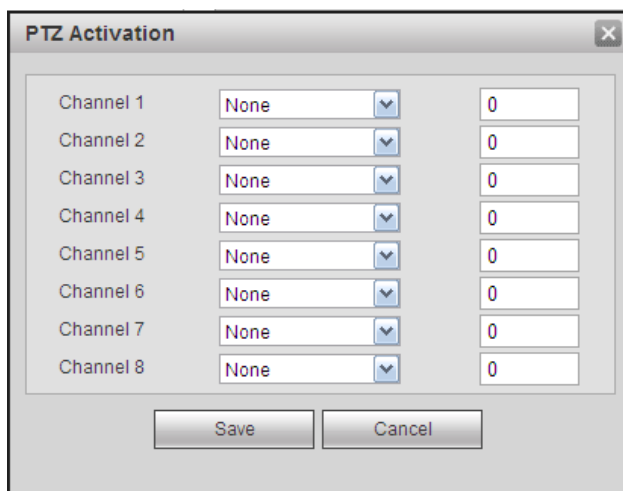
Figure 4-51

☑ **Tour**

When an alarm occurs, this feature presents an alternating display (much like a slideshow) of the channel(s) you set to record.

Check the box to enable, and the click the buttons for the channels that you want included in the tour. The selected channels are highlighted.

☑ **Snapshot**

When an alarm occurs, this feature takes a still image of the channel(s) you set to record.

Check the box to enable, and the click the buttons for the channels that you want included in the snapshot. The selected channels are highlighted.

Checkboxes

☑ **Show Message.** If enabled, a pop up alarm message appears in the local host screen.
☑ **Send Email.** If enabled, an email alert is sent to you when an alarm occurs.
☑ **Alarm Upload.** If enabled, the alarm signal is uploaded to the network.
☑ **Buzzer.** If enabled, a buzzer sounds when an alarm occurs.
☑ **Message.** If a 3G network is connected, a message is sent when a tampering event occurs.
   Note: This feature is not supported by ADT.

4.7.3.2 Alarm

This area provides you with the opportunity to set up and activate various alarms. Select from these setup tabs: Local Alarm, Net Alarm, IPC External Alarm and IPC Offline Alarm.

Local Alarm

The system detects the alarm signal from the local alarm input port.

Figure 4-52

Enable
Check the box to activate the Alarm function.

Alarm
Select the channel number from the dropdown, or else select **All**.

Period
Click the **Setup** button. The Setup dialog opens. Here you can set the time period when detection is enabled.
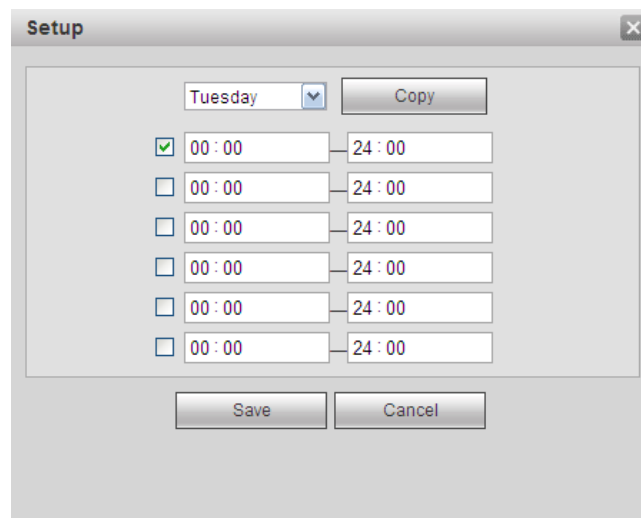
Figure 4-53

Select **Sunday to Saturday** from the dropdown list. Be sure to check the box to the left of the period to enable it. To set your own business day and non-business days, select work day or non-work day from the drop down list, and then click the **Setup** button. For example, you can set Monday to Friday as working days and Saturday and Sunday as non-working days. Click the **Save** button when finished.

Anti-dither

This feature sets a delay period before triggering the next alarm, to avoid re-triggering on the same event for screen prompt, alarm upload, and email notifications. The delay period begins when the current event has ended, not including the latch time. The value ranges from 5s to 600s. For example, if you set an anti-dither time of 10 seconds, the activation will last 10seconds when a local alarm is activated. If another local alarm signal is detected before these 10 seconds have elapsed, the buzzer, tour, PTZ activation, snapshot, and record channel will be activated for another 10 second period. However, the screen prompt, alarm upload, and email will not be activated again. After the 10-second anti-dither time has elapsed, a new alarm signal will be generated when another alarm is detected.

Type

Select the relay type from the dropdown: **Normally Open** or **Normally Closed**.

Record Channel

Select the proper channel to record when the alarm occurs. Make sure to also set alarm record in the schedule screen and select Schedule Record on the Manual Record screen.

Delay

To avoid rerecording the same event, enter the number of seconds to wait after the event has ended before a new recording can begin. This value ranges from 10s to 300s.

Alarm Out

Check the box to enable the external alarm when the event triggers. In the boxes to the immediate right, enable which camera(s) will record when the event occurs.

Latch

Select the time in seconds that the system delays after the external alarm has ended before turning off the alarm and the activated output. This feature sets a postponement period before another external alarm can be activated. Value ranges from 10 to 300 seconds.

PTZ Activation

Select this feature to set Pan/Tilt/Zoom movement when an alarm occurs. Click the **Setup** button to open the PTZ Activation screen for setting up the camera.

Figure 4-54

Tour

Enable the tour function to present an alternating display (much like a slideshow) of the channel(s) you have set to record when a motion detect event occurs. The system supports 1/8-window tour. Refer to **Tour Tab** on page 206 for tour interval setup. However, the alarm tour has higher priority than the tour setup you set in the Display screen.

☑ **Snapshot**

When an alarm occurs, this feature takes a still image of the channel(s) you set to record.

Check the box to enable, and the click the buttons for the channels that you want included in the snapshot. The selected channels are highlighted.

Checkboxes

- ☑ **Show Message.** If enabled, a pop up alarm message appears in the local host screen.
- ☑ **Send Email.** If enabled, an email alert is sent to you when an alarm occurs.
- ☑ **Alarm Upload.** If enabled, the alarm signal is uploaded to the network.
- ☑ **Buzzer.** If enabled, a buzzer sounds when an alarm occurs.
- ☑ **Message.** If a 3G network is connected, a message is sent when an alarm occurs.
  Note: This feature is not supported by ADT.

Network Alarm

The system detects the alarm signal from the network.

Figure 4-55

Enable
Check the box to activate the Alarm function.

Alarm
Select the channel number from the dropdown, or else select **All**.

Period
Click the **Setup** button. The Setup dialog opens. Here you can set the time period when detection is enabled.

Figure 4-56

Select **Sunday to Saturday** from the dropdown list. Be sure to check the box to the left of the period to enable it. To set your own business day and non-business days, select work day or non-work day from the drop down list, and then click the **Setup** button. For example, you can set Monday to Friday as working days and Saturday and Sunday as non-working days. Click the **Save** button when finished.

Record Channel
Select the proper channel to record when the alarm occurs. Make sure to also set alarm record in the schedule screen and select Schedule Record on the Manual Record screen.

Delay
To avoid rerecording the same event, enter the number of seconds to wait after the event has ended before a new recording can begin. This value ranges from 10s to 300s.
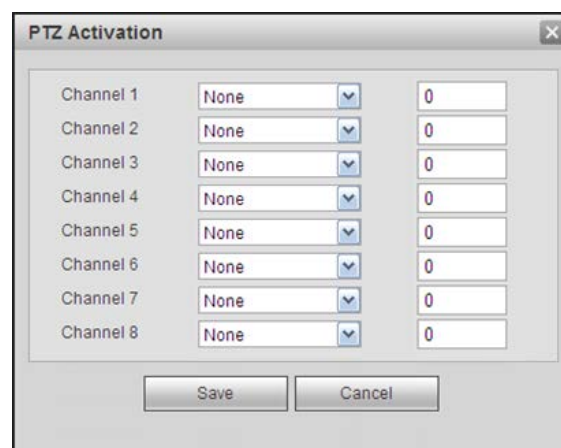
Alarm Out
Check the box to enable the external alarm when the event triggers. In the boxes to the immediate right, enable which camera(s) will record when the event occurs.

Latch
Select the time in seconds that the system delays after the external alarm has ended before turning off the alarm and the activated output. This feature sets a postponement period before another external alarm can be activated. Value ranges from 10 to 300 seconds.

PTZ Activation
Select this feature to set Pan/Tilt/Zoom movement when an alarm occurs. Click the **Setup** button to open the PTZ Activation screen for setting up the camera.

Figure 4-57

Tour

Enable the tour function to present an alternating display (much like a slideshow) of the channel(s) you have set to record when a motion detect event occurs. The system supports 1/8-window tour. Refer to **Tour Tab** on page 206 for tour interval setup. However, the alarm tour has higher priority than the tour setup you set in the Display screen.

☑ **Snapshot**

When an alarm occurs, this feature takes a still image of the channel(s) you set to record.

Check the box to enable, and the click the buttons for the channels that you want included in the snapshot. The selected channels are highlighted.

Checkboxes

☑ **Send Email.** If enabled, an email alert is sent to you when an alarm occurs.
☑ **Buzzer.** If enabled, a buzzer sounds when an alarm occurs.
☑ **Message.** If a 3G network is connected, a message is sent when an alarm occurs.
Note: This feature is not supported by ADT.

Note: A network alarm is an alarm signal using TCP/IP. You can use NET SDK to activate a network alarm. There is no type, anti-dither or alarm upload function.

IPC External Alarm

The system detects the alarm signal from the front-end device and activates the local NVR.
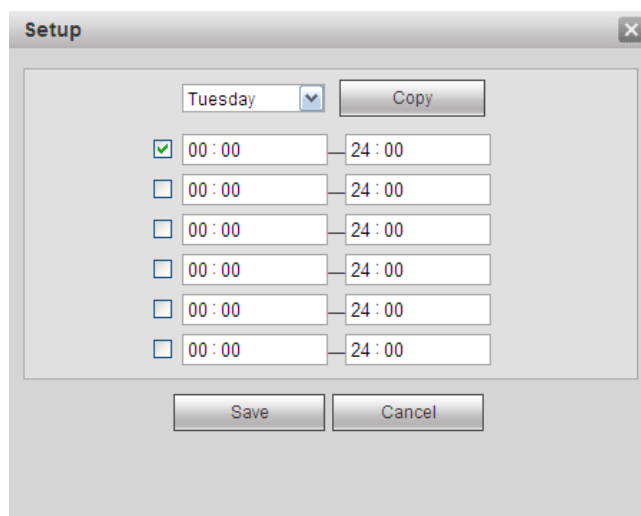

Figure 4-58

Enable
Check the box to activate the Alarm function.

Alarm
Select the channel number from the dropdown, or else select **All**.

Period
Click the **Setup** button. The Setup dialog opens. Here you can set the time period when detection is enabled.
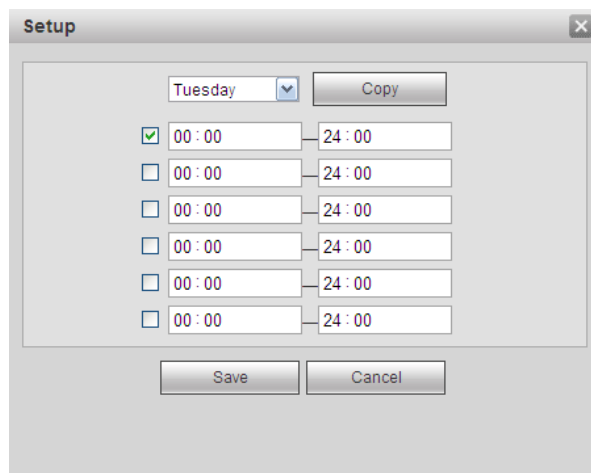
Figure 4-59

Select **Sunday to Saturday** from the dropdown list. Be sure to check the box to the left of the period to enable it. To set your own business day and non-business days, select work day or non-work day from the drop down list, and then click the **Setup** button. For example, you can set Monday to Friday as working days and Saturday and Sunday as non-working days. Click the **Save** button when finished.

Anti-dither

This feature sets a delay period before triggering the next alarm, to avoid re-triggering on the same event for screen prompt, alarm upload, and email notifications. The delay period begins when the current event has ended, not including the latch time. The value ranges from 5s to 600s. For example, if you set an anti-dither time of 10 seconds, the activation will last 10seconds when a local alarm is activated. If another local alarm signal is detected before these 10 seconds have elapsed, the buzzer, tour, PTZ activation, snapshot, and record channel will be activated for another 10 second period. However, the screen prompt, alarm upload, and email will not be activated again. After the 10-second anti-dither time has elapsed, a new alarm signal will be generated when another alarm is detected.

Type

Select the relay type from the dropdown: **Normally Open** or **Normally Closed**.

Record Channel

Select the proper channel to record when the alarm occurs. Make sure to also set alarm record in the schedule screen and select Schedule Record on the Manual Record screen.

Delay

To avoid rerecording the same event, enter the number of seconds to wait after the event has ended before a new recording can begin. This value ranges from 10s to 300s.

Alarm Out

Check the box to enable the external alarm when the event triggers. In the boxes to the immediate right, enable which camera(s) will record when the event occurs.
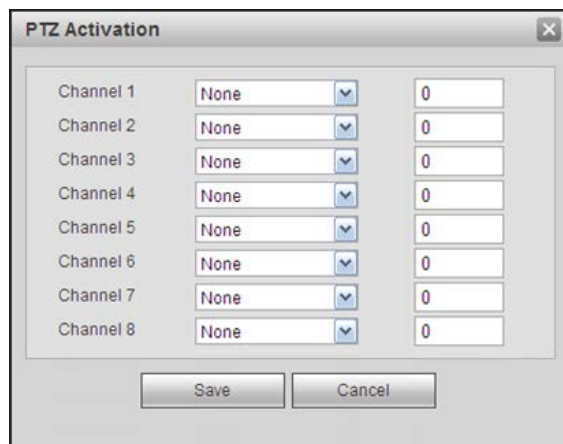
Latch

Select the time in seconds that the system delays after the external alarm has ended before turning off the alarm and the activated output. This feature sets a postponement period before another external alarm can be activated. Value ranges from 10 to 300 seconds.

PTZ Activation

Select this feature to set Pan/Tilt/Zoom movement when an alarm occurs. Click the **Setup** button to open the PTZ Activation screen for setting up the camera.

Figure 4-60

Tour

Enable the tour function to present an alternating display (much like a slideshow) of the channel(s) you have set to record when a motion detect event occurs. The system supports 1/8-window tour. Refer to **Tour Tab** on page 206 for tour interval setup. However, the alarm tour has higher priority than the tour setup you set in the Display screen.

☑ **Snapshot**

When an alarm occurs, this feature takes a still image of the channel(s) you set to record.

Check the box to enable, and the click the buttons for the channels that you want included in the snapshot. The selected channels are highlighted.

Checkboxes

 ☑ **Show Message.** If enabled, a pop up alarm message appears in the local host screen.
 ☑ **Send Email.** If enabled, an email alert is sent to you when an alarm occurs.
 ☑ **Alarm Upload.** If enabled, the alarm signal is uploaded to the network.
 ☑ **Buzzer.** If enabled, a buzzer sounds when an alarm occurs.
 ☑ **Message.** If a 3G network is connected, a message is sent when an alarm occurs.
  Note: This feature is not supported by ADT.

IPC Offline Alarm

The system generates an alarm when the network camera is offline and, if desired, activates a recording, PTZ, snapshot, etc. The alarm lasts until the IPC and the NVR resume their connection.

Figure 4-61

Enable
Check the box to activate the Alarm function.

Record Channel
Select the proper channel to record when the alarm occurs. Make sure to also set alarm record in the schedule screen and select Schedule Record on the Manual Record screen.

Delay
To avoid rerecording the same event, enter the number of seconds to wait after the event has ended before a new recording can begin. This value ranges from 10s to 300s.
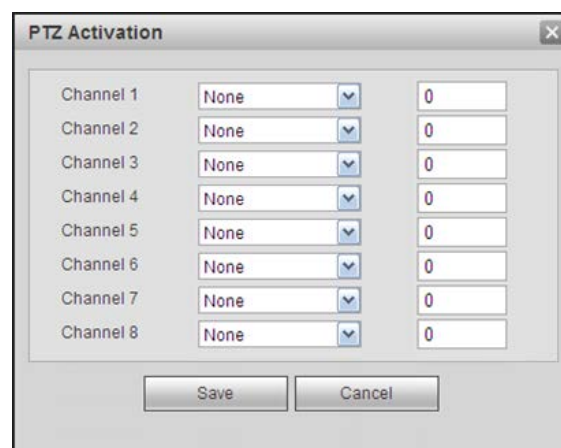
Alarm Out
Check the box to enable the external alarm when the event triggers. In the boxes to the immediate right, enable which camera(s) will record when the event occurs.

Latch
Select the time in seconds that the system delays after the external alarm has ended before turning off the alarm and the activated output. This feature sets a postponement period before another external alarm can be activated. Value ranges from 10 to 300 seconds.

PTZ Activation
Select this feature to set Pan/Tilt/Zoom movement when an alarm occurs. Click the **Setup** button to open the PTZ Activation screen for setting up the camera.

Figure 4-62

Tour

Enable the tour function to present an alternating display (much like a slideshow) of the channel(s) you have set to record when a motion detect event occurs. The system supports 1/8-window tour. Refer to **Tour Tab** on page 206 for tour interval setup. However, the alarm tour has higher priority than the tour setup you set in the Display screen.

☑ **Snapshot**

When an alarm occurs, this feature takes a still image of the channel(s) you set to record. Check the box to enable, and then click the buttons for the channels that you want included in the snapshot. The selected channels are highlighted.

Checkboxes

- ☑ **Show Message.** If enabled, a pop up alarm message appears in the local host screen.
- ☑ **Send Email.** If enabled, an email alert is sent to you when an alarm occurs.
- ☑ **Buzzer.** If enabled, a buzzer sounds when an alarm occurs.
- ☑ **Message.** If a 3G network is connected, a message is sent when an alarm occurs.
  Note: This feature is not supported by ADT.

4.7.3.3 Abnormality

This area provides you with the opportunity to set notifications for six possible anomalous status conditions: No Disk, Disk Error, No Disk Space, Network Disconnection, IP Conflict and MAC Conflict.

No Disk

To enable notification(s) when no disk drive is detected:

1. Check the **Enable** box.
2. Check the box associated with the desired notifications:

   ☑ **Show Message.** If enabled, a pop up alarm message appears in the local host screen.

   ☑ **Send Email.** If enabled, an email alert is sent to you when an alarm occurs.

   ☑ **Alarm Upload.** If enabled, the alarm signal is uploaded to the network.

   ☑ **Buzzer.** If enabled, a buzzer sounds when an alarm occurs.

   ☑ **Message.** If a 3G network is connected, a message is sent when the anomalous occurs. *Note: This feature is not supported by ADT.*

3. Click **Save**.

Figure 4-63

Disk Error

To enable notification(s) when a disk error is detected:

1. Check the **Enable** box.
2. Check the box associated with the desired notifications:

   ☑ **Show Message.** If enabled, a pop up alarm message appears in the local host screen.

   ☑ **Send Email.** If enabled, an email alert is sent to you when an alarm occurs.

   ☑ **Alarm Upload.** If enabled, the alarm signal is uploaded to the network.

   ☑ **Buzzer.** If enabled, a buzzer sounds when an alarm occurs.

   ☑ **Message.** If a 3G network is connected, a message is sent when the anomalous event occurs. *Note: This feature is not supported by ADT.*

3. Click **Save**.

Figure 4-64

No Disk Space

To enable notification(s) when no disk space is detected:

1. Check the **Enable** box.
2. Enter the percentage of available disk space to be remaining for the alarm to be triggered.
3. Check the box associated with the desired notifications:
   - ☑ **Show Message.** If enabled, a pop up alarm message appears in the local host screen.
   - ☑ **Send Email.** If enabled, an email alert is sent to you when an alarm occurs.
   - ☑ **Alarm Upload.** If enabled, the alarm signal is uploaded to the network.
   - ☑ **Buzzer.** If enabled, a buzzer sounds when an alarm occurs.
   - ☑ **Message.** If a 3G network is connected, a message is sent when the anomalous event occurs. *Note: This feature is not supported by ADT.*
4. Click **Save**.

No HDD	HDD Error	**No Space**	Disconnect	IP Conflict	MAC Conflict

☑ Enable   Less Than 20   %
☑ Alarm Out   [1] [2]
   Latch   10   Second (1-300)
☑ Show Message   ☑ Send Email ☑ Alarm Upload ☐ Buzzer ☐ Message

   Save   Refresh

Figure 4-65

Network Disconnection

To enable notification(s) when the system becomes disconnected from the network:

1. Check the **Enable** box.
2. Check the box associated with the desired notifications:
   - ☑ **Show Message.** If enabled, a pop up alarm message appears in the local host screen.
   - ☑ **Send Email.** If enabled, an email alert is sent to you when an alarm occurs.
   - ☑ **Buzzer.** If enabled, a buzzer sounds when an alarm occurs.
   - ☑ **Message.** If a 3G network is connected, a message is sent when the anomalous event occurs. *Note: This feature is not supported by ADT.*

3. If desired, set up channels to record if this event occurs:
   - **Record Channel.** The system automatically activates to record selected channels once the error occurs. Check the box to enable, and the click the buttons for the channels that you want recorded. The selected channels are highlighted.
   - **Delay.** To avoid rerecording the same event, enter the number of seconds to wait after the event has ended before a new recording can begin. This value ranges from 10s to 300s.

4. Click **Save**.

Figure 4-66

IP Conflict

To enable notification(s) when an IP conflict is detected:

1. Check the **Enable** box.
2. Check the box associated with the desired notifications:
   - ☑ **Show Message.** If enabled, a pop up alarm message appears in the local host screen.
   - ☑ **Send Email.** If enabled, an email alert is sent to you when an alarm occurs.
   - ☑ **Buzzer.** If enabled, a buzzer sounds when an alarm occurs.
   - ☑ **Message.** If a 3G network is connected, a message is sent when the anomalous event occurs. *Note: This feature is not supported by ADT.*
3. Click **Save**.

Figure 4-67

MAC Conflict

To enable notification(s) when a MAC conflict is detected:

1. Check the **Enable** box.
2. Check the box associated with the desired notifications:
   - ☑ **Show Message.** If enabled, a pop up alarm message appears in the local host screen.
   - ☑ **Send Email.** If enabled, an email alert is sent to you when an alarm occurs.
   - ☑ **Buzzer.** If enabled, a buzzer sounds when an alarm occurs.
   - ☑ **Message.** If a 3G network is connected, a message is sent when the anomalous event occurs. *Note: This feature is not supported by ADT.*
3. Click **Save**.

Figure 4-68

4.7.4 Storage

4.7.4.1 Schedule

In the Schedule screen you can add or remove scheduled recordings. Select the appropriate tab for whether you want to record video or take a snapshot picture.

Schedule Record

There are four recording modes: Regular (auto), Motion Detect, Alarm and Motion Detect with Alarm. Make sure you have enabled the corresponding record mode in the *Setup* > *Storage* > *Conditions*.

You can view the current time period setup from the color bar.

- Green represents general recordings and snapshots
- Yellow represents motion detect recordings and snapshots
- Red represents alarm recordings and snapshots
- Blue represents motion detect with alarm recordings and snapshots
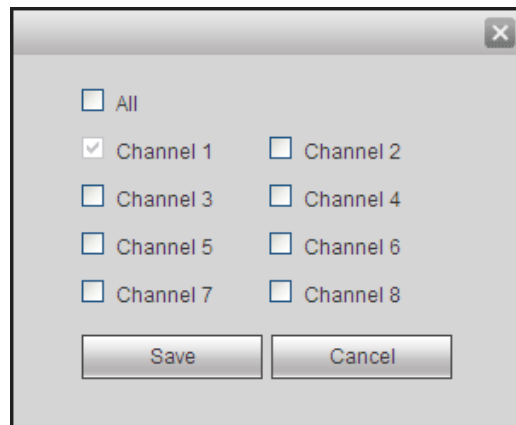

Figure 4-69

Options

❑ **Channel.** Select the desired channel number. Select **All** if you want to set for all channels.

❑ **Pre-record.** The system can pre-record the video before the event occurs into the file. The value ranges from 1 to 30 seconds depending on the bit stream.

❑ **Redundancy.** The system supports a redundancy backup function, which enables you to back up a recorded file in two disks. Highlight **Redundancy** to activate this function.

❑ **ANR.** Enable to save video to the SD card of the network camera in case the network connection fails. The value ranges from 0s—43200s. After the network connection has resumed, the system can get the video from the SD card and there is no risk of record loss.

Buttons

Copy. Use this button to copy the current channel's setup to other channels.

To copy one channel's setup features to others:

1. After making all your selections in the Schedule page, click the **Copy** button. The channel selection dialog appears. The current channel name is grayed out.
2. Select the channel(s) to which you want to paste the same setup as for the current channel.
3. Click the **OK** button.

Figure 4-70

Save. Click to save the changes you have made.

Refresh. Click to refresh the Web connection.

Default. Click to return settings on this page to their default values.

To use the Schedule feature:

1. Select the channel number you want to set up in the **Channel** dropdown menu.
2. Make selections from options above.
3. Click the **Setup** button for the desired day. In the resulting setup dialog are six 24-hour time periods.

Figure 4-71

4. Set the corresponding recording range for each time period.
5. Repeat for other time periods if desired.
6. Check the box for the desired type of recordings: Regular, Motion Detect, Alarm or Motion Detect with Alarm.
7. If you would like for these same settings to be used for other days of the week, check the box(es) corresponding to those day(s).
8. Click **Save**. The system reverts to the Schedule page.
9. Click **Save**.

Schedule Snapshot

The Snapshot page operates the same as for the schedule record feature.

4.7.4.2 HDD Manager

Local Storage

The Local Storage screen displays information for each HDD. You can also make changes in the HDD Operation dropdown menu: Set as read and write, read-only, redundancy (if there are more than one HDD) or else format the hard drive.
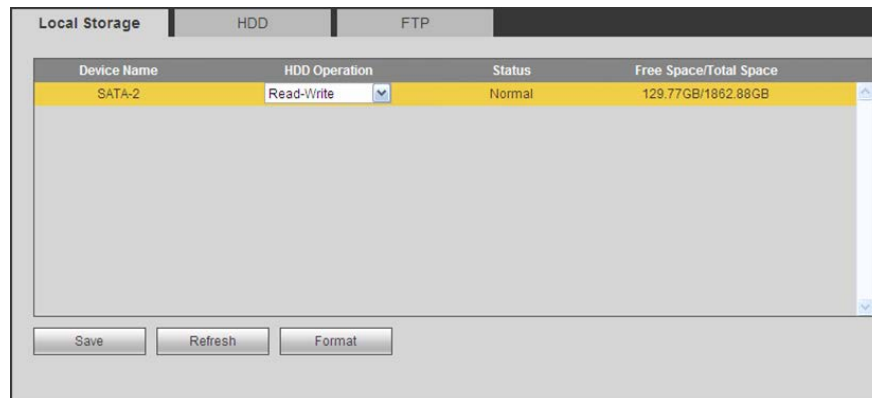

Figure 4-72

HDD Setting

Use the HDD Setting page to assign a hard drive to an HDD Group. See Figure 4-73.

To set the HDD to a Group:
1. In the row of the hard drive in question, use the drop-down to select the corresponding HDD Group number.
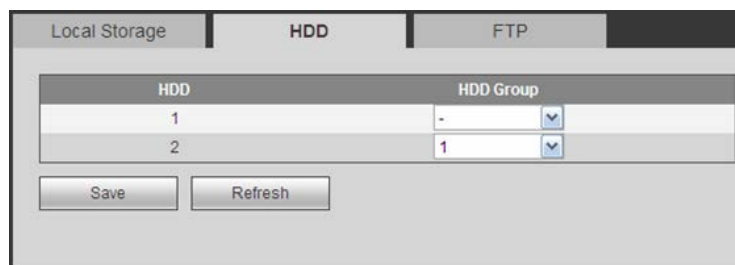2. Click **Save**.

Figure 4-73

FTP

The FTP tab is used to save a recording or picture to HDD when the network is offline or malfunctioning. When the remote directory is not available, the system automatically creates folders according to the IP, time and channel set here.

Figure 4-74

To use the FTP feature:

1. Check the **Enable** box to activate the FTP function.
2. Input the FTP account information:
   - FTP **Server IP** number
   - **Port** number
   - **User Name** and **Password** you use to log into the FTP.
   - Optionally check the **Anonymous** box for servers that support the anonymity function, which allows you to automatically login anonymously. If enabled, you do not need to input the user name, password or the sender information.
3. Enter the **Remote Directory**.
4. Enter the upload **File Length**.
   File length is upload file length. When this value is larger than the actual file length, the system uploads the whole file. When this value is smaller than the actual file length, the system only uploads the set length and automatically ignores the left section. When interval value is 0, system uploads all corresponding files.
5. Set the **Image Upload Interval.**
6. Use the drop-down menu to select the upload file **Channel**.
7. Use the drop-down menu to select the day.

8. Set the **Time Period** and type of event: **Alarm**, **MD** (motion detection) or **Regular**.
9. Click **Save**.

4.7.4.3 Record Control

This feature enables you to manually override the automatic record settings.

Figure 4-75

There are two modes of operation: Main Stream and Extra Stream; and three status settings for each mode: Schedule, Manual and Stop.

Schedule
Channel records as you have set in recording setup (*Main Menu > Setting > Schedule*)

Manual
Manual recording has highest priority, overriding the automatic recording setup.

Stop
Stop recording, overriding the automatic record setup.

To use the Record page:
1. Locate the channel you wish to control in the Record Mode row. The settings below the channel number correspond to that channel.
2.   Click the radio button for the desired recording mode for each channel. Settings in the **All** column are applied to all channels.
3. Click **Save**.

4.7.4.4 Storage

Main Stream

The main stream interface is used to set the corresponding HDD group as main stream.

Figure 4-76

Sub Stream

The sub stream interface is used to set the corresponding HDD group as sub stream.

Figure 4-77

Snapshot Storage

The Snapshot interface is used set the corresponding HDD group to save snapshot pictures.

Figure 4-78

4.7.5 Setting

4.7.5.1 General

The general screen includes **General**, **Date & Time** and **Holiday Setup** tabs.

General

Available options contained in the **General** tab are as follows. After making your selections, click the **Save** button.

Figure 4-79

Device ID
Enter a device name, such as NVR1, etc.

Device No
Enter the channel number.

Language
Select the desired language from the dropdown list.

> **Note:** The device must reboot in order for a change in the language setting to be activated.

Video Standard
Select the desired video standard from the drop-down list, such as PAL, NTSC, etc.

HDD Full
Select from the drop-down the desired working mode when the hard disk is full:

- **Stop Recording.** If the current HDD becomes full and there is no secondary HDD or else it too has insufficient space, the system stops recording.
- **Overwrite.** If the current HDD becomes full and there is no secondary HDD or else it too has insufficient space, the system overwrites the previous files.

Pack Duration
Specify the recording duration. The value ranges from 1 to 120 minutes; the default value is 60 minutes.

Date and Time

Available options contained in the **Date & Time** tab are as follows. After making your selections, click the **Save** button.

Figure 4-80

Date Format

Use the drop-down list to select a date format

- YYY MM DD
- MM DD YYYY
- DD MM YYYY

Time Format

Select from the drop-down list from one of two options:

- 24-HOUR
- 12-HOUR.

System Time

This field displays the current system time. Click the **Sync PC** button to set your PC's current time as the system time.

☑ DST

Check the box to enable Daylight Savings Time (DST).

DST Type

Set the DST beginning time and ending times, in either a date or week format.

Select the radio button that represents how you want the date displayed:
- o **Date.** Uses the format selected in the **Date Format** field.
- o **Day of Week.** Uses the format: Month Week Day Time, as follows.

☑ **NTP**

Check the box to enable the Network Time Protocol (NTP) function.

Time Zone

Use the drop-down list to select your time zone adjustment from GMT.

Server

Enter the address of the NTP server. Click the **Manual Update** button to force a time-sync with the NTP server.

Port

Set the NTP time server port.

Update Period

Set the frequency in minutes at which the device syncs with the time server. You can force a sync using the **Manual Update** button. The range is 0-65535 minutes, with a default of 60.

Holiday Setup

Use this tab to set holiday dates.

Figure 4-81

1. Check the **Holiday Enable** box.
2. In the calendar, select the date(s) and year you want to set as a holiday for the current channel.
3. Click **Save**.

4.7.5.2 Account

The Account page enables you to add new users or modify the accounts of existing ones. You can assign add or delete accounts, change rights or change passwords or assign users to groups.
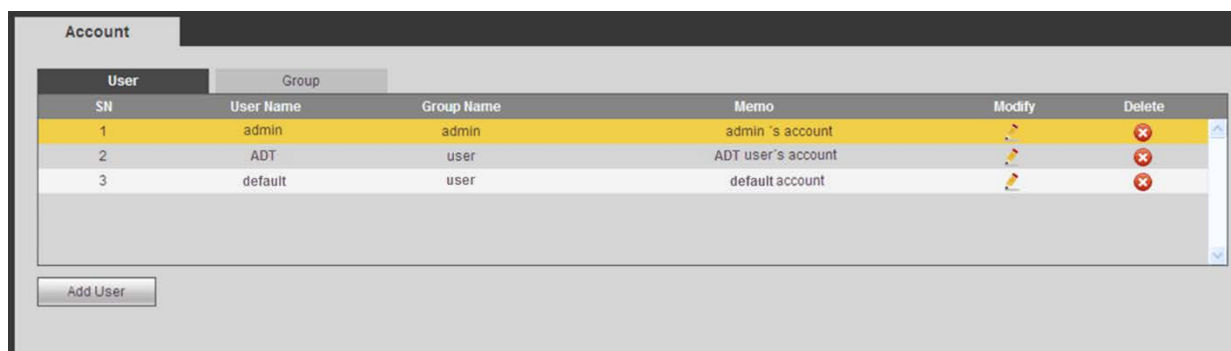
Rules:

- User Names and Group Names can be no longer than 6 characters, including: alpha-numeric and the underline character.
- Passwords must be 1 – 6 numeric characters only.
- The factory default setup supports a maximum of 20 User accounts and 8 Group accounts, with two levels: user and admin. You can assign a user to a corresponding group and then set the rights for the respective users within the group.
- The User name and the Group name must be unique.
- One user can only be included in one group.

User Name

Click the User tab to add/remove users or to modify a user account. There are four default users: *admin*, *888888*, *666666* and a "hidden user" named *default*. User *66666* only has monitor rights; all others have administrator rights.

The "hidden user" *default* is for system use only and cannot be deleted. When there is no login user, *default* automatically logs in. Monitor rights are set for this user so that you can view channels without logging in.

Figure 4-82

To add a user:

1. Click the **Add User** button. The Add User dialog appears.
2. Enter the User Name, which can be a maximum of 6 characters, including alpha-numeric characters and the underline.
3. Enter and confirm the user Password, which must be 1 – 6 numeric characters only.
4. Use the drop-down list to select a Group for this user.
5. In the Authority field, check the boxes for the rights you want assigned for this user.
6. Enter the MAC and an optional Memo for the User.
7. Click **Save**.

Note:

- The user rights must not exceed the group rights.
- As a general rule, the general user should have lower rights than the administrator.

Figure 4-83

To delete a user:
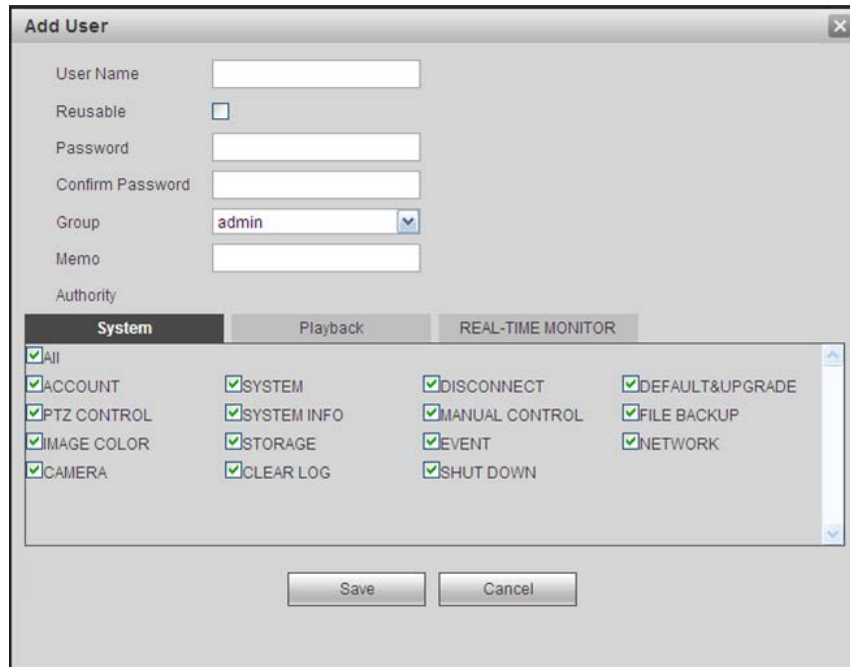
1. Click the **Delete** button ❌. The Delete User dialog opens.
2. Click **Save** to confirm.

Figure 4-84
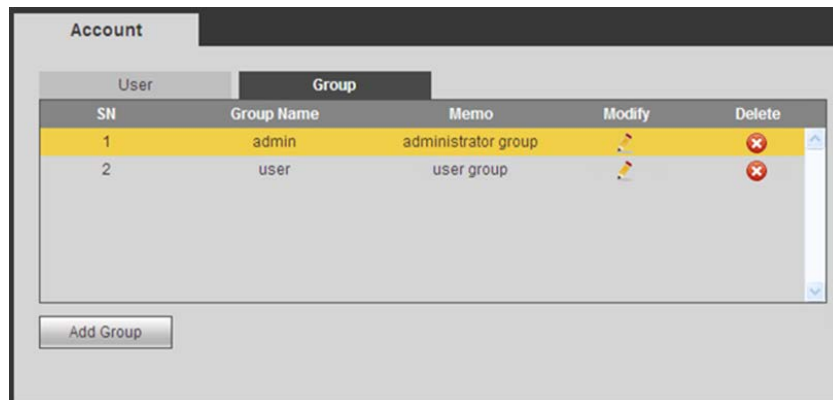
The *default* user cannot be deleted.

To modify a user:

1. Click the **Modify** button 🖉. The Modify User dialog opens.
2. Make changes to the user's account as necessary.
3. To modify the password:
4. Check the **Modify Password** box. Additional fields appear.
5. Enter the Old Password, Enter the New Password, and then Confirm the new Password.
6. Click **Save**.

Figure 4-85

Group

Click the Group tab to add/remove groups or to modify a group account.

Figure 4-86

To add a group:

1. Click the **Add Group** button. The Add Group dialog opens.
2. Enter the Group Name, which can be a maximum of 6 characters, including alpha-numeric characters and the underline.
3. Add an optional memo.
4. Check the boxes to select the corresponding rights you want to assign to the group.
5. Click **Save**.
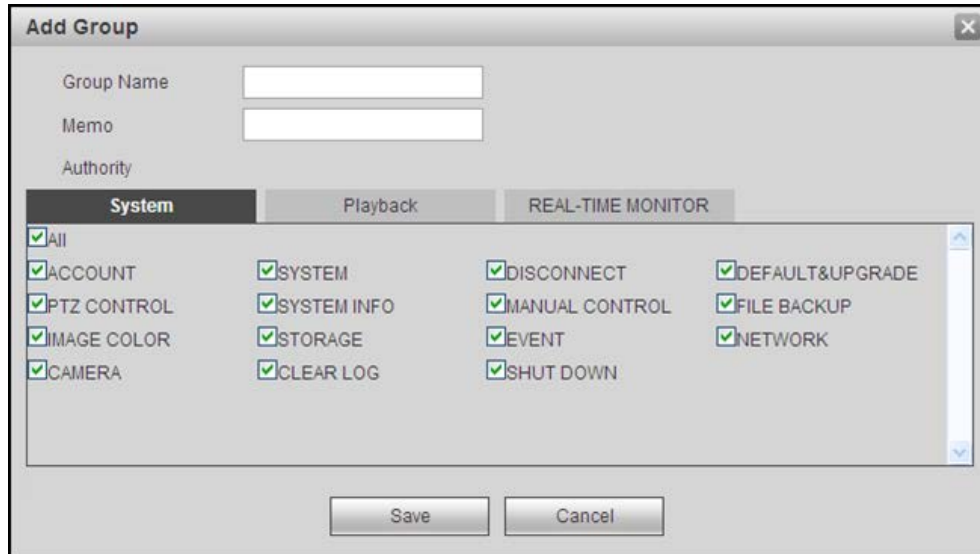
Figure 4-87

To delete a group:

1. Click the **Delete** button ❌. The Delete Group dialog opens.
2. Click **Save** to confirm.

To modify a group:

1. Click the **Modify** button ✎. The Modify Group dialog opens.
2. Make changes to the account as necessary.
3. Click **Save**.

Figure 4-88

4.7.5.3 Display

The Display screen includes tabs for setting the GUI and Tour.

Display Tab

The GUI tab contains settings that affect the appearance of the graphical user interface. Click the **Save** button when you have completed setting your parameters.
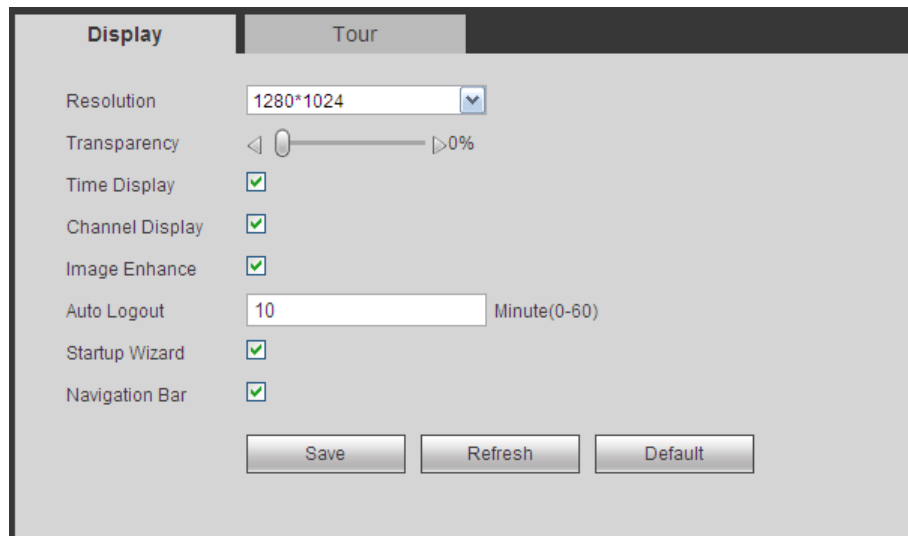
Figure 4-89

Resolution
Use the drop-down list to make your selection:
- 1280x1024 (default)
- 1280x720
- 1024x768
- 800x600

Note: The system must reboot to activate the current setup.

Transparency
Move the slider to adjust transparency. The value ranges from 128 to 255.

☑ **Time Display**
Check the box to enable the system time to be displayed on the video monitor.

☑ **Channel Display**
Check the box to enable the channel number to be displayed on the video monitor.

☑ **Image Enhance**
Check the box to optimize the live video image quality.

Auto Logout
Enter a time in minutes after which the system will automatically logout.

☑ **Startup Wizard**

Check the box to enable the wizard to appear at system startup.

☑ **Navigation Bar**

Check the box to enable the navigation bar to be displayed on the video monitor.

Tour Tab

The Tour feature presents an alternating display (much like a slideshow) of the channel(s) you have set to record. The Tour tab enables you to set the tour interval, split mode, tour type. Make your selections and then click **Save**.
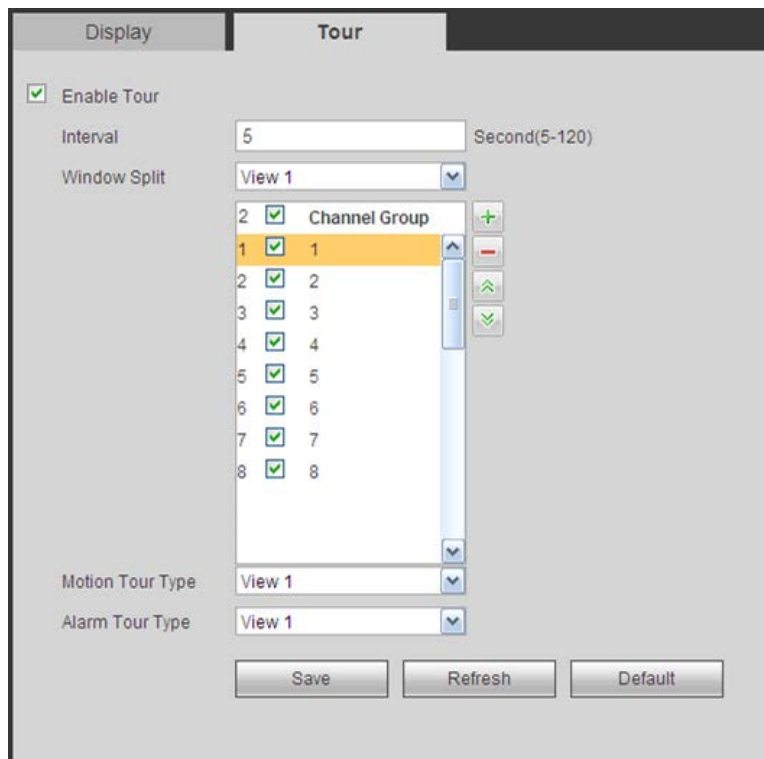
Figure 4-90

☑ **Enable Tour**

Check the box to enable the tour feature.

Interval

Enter the time in seconds that a channel should be displayed before advancing to the next channel. The value ranges from 5 to 120s. The default setup is 5s.

Windows Split

This section enables you to set how channels are displayed in the tour. The system can support 1/4/8 or 9 windows, depending on the number of channels connected to your device. In the following figure, a one-window display will be used. Channels 1 through 8 will be displayed in order.

You can use the **+** and **–** buttons to add or delete channels; and use the up and down arrow buttons to move a channel to a different location in the sequence.

- View 1 displays 1 window
- View 4 displays 4 windows
- View 8 displays 8 windows
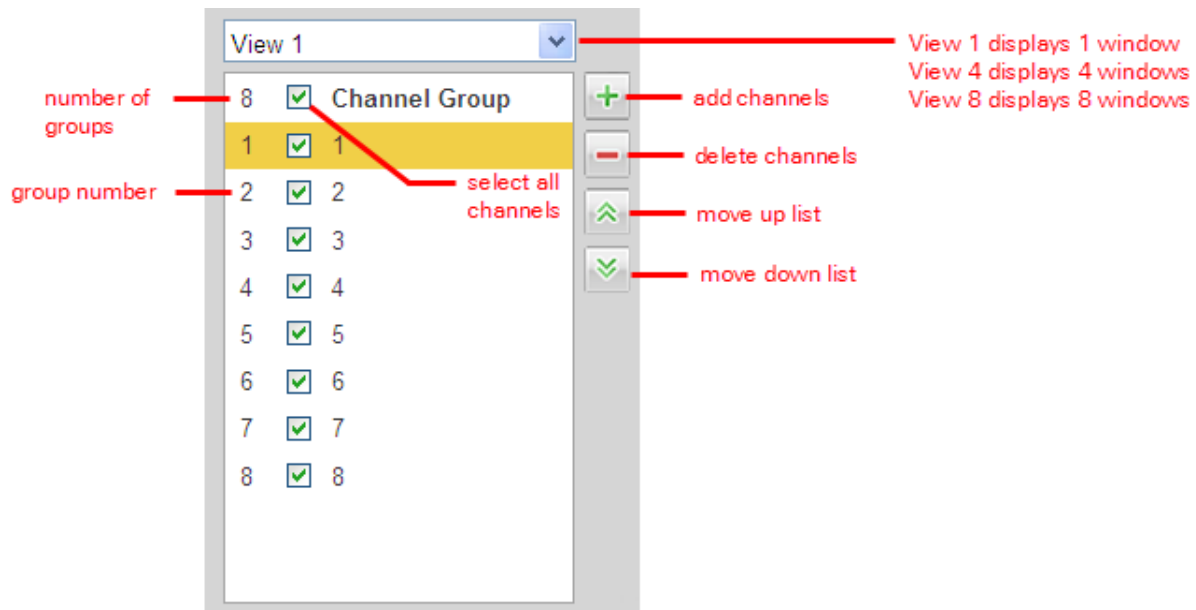
Example using Split

The following example details how to set up add channel groups to a 4- window split and then change the order in which the channels will be displayed.

1. Use the Window Split drop-down list to select View 4. This configuration contains two groups:

- Group 1 will simultaneously display channels 1 through 4 for the set interval and then
- Group 2 will simultaneously display channels 5 through 8
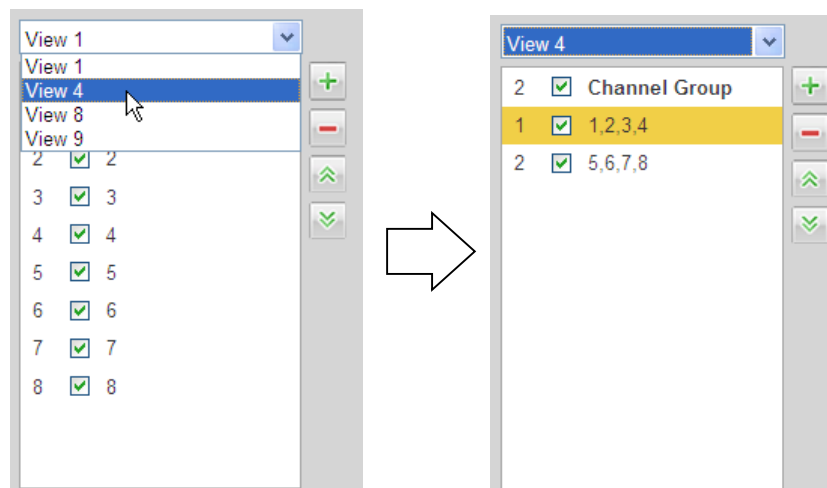
2. Click the **+** button to add a new channel group. The Add Channel Group dialog opens.

3. Click numbers 1, 3, 5, and 7 to select only odd channels for this new group.
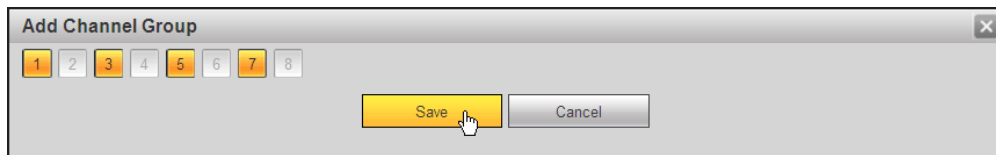
4. Click **Save**. Group number 3 is added, which includes only odd channels.
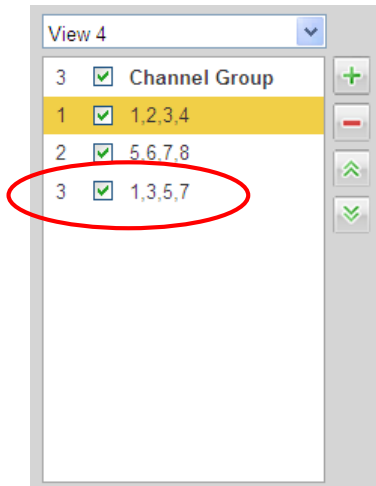
5. Click the **+** button again but this time click numbers 2, 4, 6, and 8 to select only even channels for the new group number 4, and click **Save**.

6. To relocate group 4 to be displayed before group 3 in the tour, select group 4 and then click the up arrow button. Group 4 is now number 3.
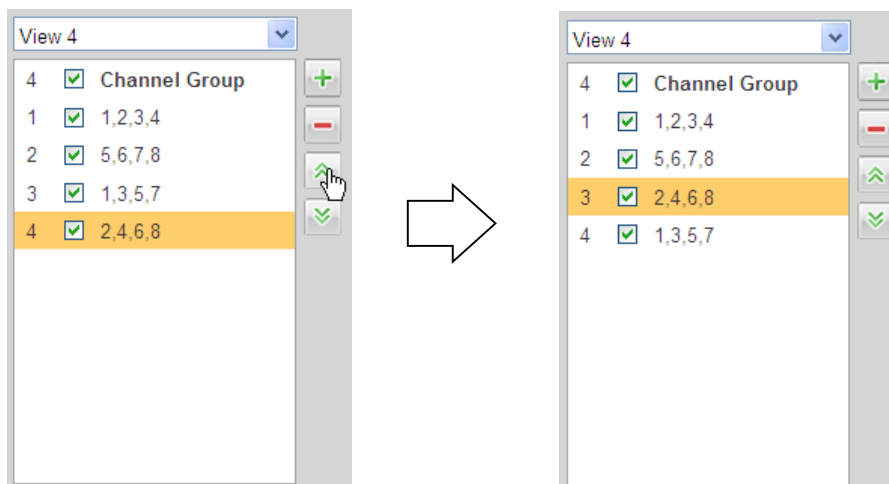
7. To remove groups 1 and 2 from the tour without deleting them, click the respective boxes to clear the checkmarks.
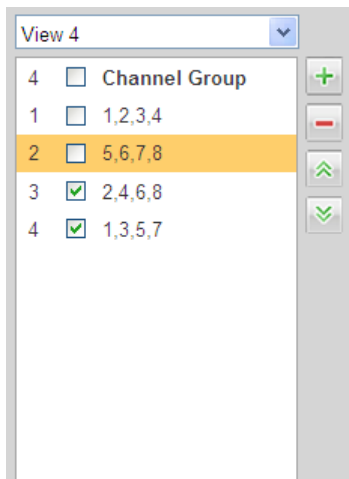
8. To completely remove groups 1 and 2, select them and then click the – button. What were labeled as groups 3 and 4 are now groups 1 and 2, respectively.
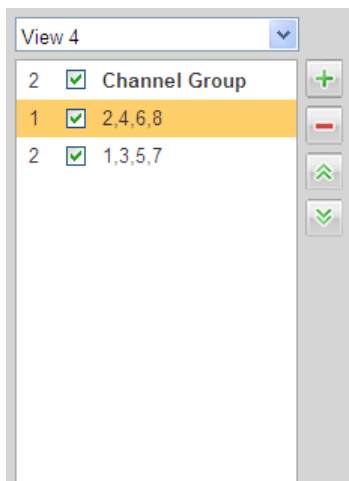
Motion Tour /Alarm Tour Type

Set the type of tour split to show for the Motion Detect Tour/Alarm Tour:

- View 1 displays the 1 window mode.
- View 8 displays the 8 window mode

4.7.5.4 Alarm Out

This function enables you to set the alarm output mode: auto/manual/stop.

Figure 4-91

4.7.5.5 Default

The Default page enables you to reset default settings to all sections of the Web service from one location. Here you can select the Channel, Network, Event, Storage, or System sections individually; or else you can check the **All** box to select all items. Check the boxes for the sections you wish to reset and then click the **Default** button.

Figure 4-92

4.7.5.6 Import & Export

The Import & Export page provides a method for using parameters set for either the Web Service or local PC-based system and transferring them to the other location.

Figure 4-93

Browse. Click this button to locate and select the file to be imported or exported.

Import. This feature displays an Open dialog that you can use to navigate to and select local PC setup files to import to the Web Service.

Export. This feature opens a Save As dialog that you can use to export the corresponding Web Service settings to your local PC.

To perform one of these functions, click the corresponding button and then use the resulting dialog to navigate to the desired location.

4.7.5.7 Auto Maintenance

The Auto Maintain page enables you to setup automatic system reboots and deletion of old files at pre-set intervals.

To setup Auto Reboot:
1. Use the drop-down menu to select the day of the week for the reboot.
2. Input the time of day for the reboot.
3. Click **Save**.
4. For instant results, click **Manual Reboot**.

To setup Auto Delete:
1. Use the drop-down menu to select the frequency of the auto delete.
2. Click **Save**.
3. If you want to use the auto delete old files function, you must set the file period.

Figure 4-94

4.7.5.8 Upgrade

The Upgrade page enables you to install the latest firmware files.

To upgrade you NVR:

1. Click the **Browse** button.
2. In the ensuing dialog, navigate to and select the upgrade file. The filename will have a **.bin** extension.
3. Click the **Update** button. During the upgrade process, do not unplug the power cable or network cable, or shutdown the device.

   During the upgrade process, do not unplug the power cable, network cable, or shutdown the device.
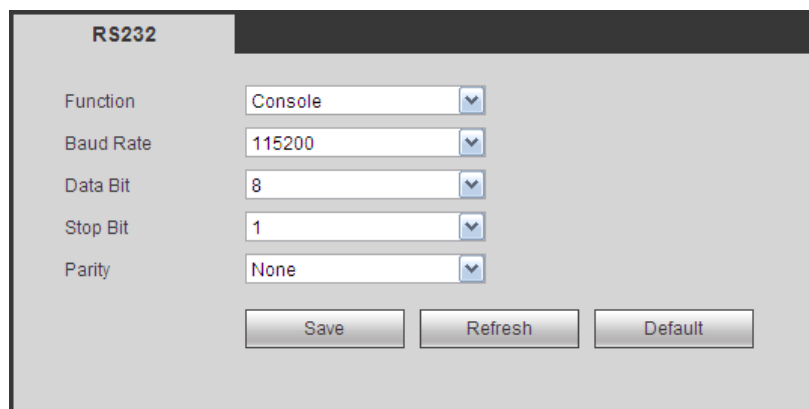
Figure 4-95

Note: Improper upgrade program may result in device malfunction. Please make sure the operation is operated under the supervision of the professional engineer.

4.7.5.9 RS232

This dialog is for setting up your RS232 connections.

Figure 4-96

The dialog contains five items:

Function

There are various devices for you to select from the dropdown:

- **Console** (the default) is for use with the COM or software to upgrade or debug the program.
- **Keyboard** is for controlling the device via a special keyboard.
- **Adapter** (transparent COM) is for connecting to the PC to transfer data directly.
- **Protocol COM** is for the Text Overlay function.
- **Net Keyboard** is for using the network keyboard to control the device.
- **PTZ Matrix** for connecting to the peripheral matrix control.

Baud Rate

Select the proper baud rate from the dropdown. The default is 115200.

Data Bits

Select the proper data bit. The value ranges from 5 to 8. The default is 8.

Stop Bits

Select 1 or 2. The default is 1.

Parity

Select from five choices: None, Odd, Even, Mark or Null. The default is None.

After completing the setup, click the **Save** button. The system returns to the previous menu.

4.7.5.10 PTZ

The Pan/Tilt/Zoom (PTZ) interface is shown in Figure 4-97.

Before setup, check that the following connections are correct:
- PTZ and decoder connection
- Decoder address setup
- Decoder A (B) line connects with NVR A (B) line

Click the **Save** button after you complete the setup.

The PTZ interface is shown in the following images. Figure 4-97 is the Local interface; Figure 4-98 is the Remote interface.

Figure 4-97

Figure 4-98

Refer to the following table for detailed information.

Channel
Select channel to which the PTZ camera is connected.

PTZ Type

There are two options: Local or Remote. Select the Remote type if you are connecting to the network PTZ.

Protocol

Select the corresponding dome protocol such as PELCO D.

Address

Set the corresponding PTZ camera address. The default value is 1.

Note that your setup here must comply with your PTZ camera address.

Baud Rate

Select the dome baud rate. Default setup is 9600.

Data Bit

Default setup is 8. Set this according to the PTZ camera dial switch setup.

Stop bit

Default setup is 1. Set this according to the PTZ camera dial switch setup.

Parity

Default setup is none. Set this according to the dial switch setup on the PTZ camera.

4.8 Information (Info)

4.8.1.1 Version

The version screen displays system hardware features, software version, release date, etc. The listed information is for reference only.

Version

Record Channel:	8
Alarm In:	4
Alarm Out:	2
SN:	YPA3LQ065D00026
Web:	3.1.0.2
System Version:	2.616.0000.0
Build Date:	2014-01-06

Figure 4-99

4.8.1.2 Log

This screen displays the system log. See Figure 4-100. Refer to the following for parameter information.

Type
Log types include: System Operation, Configuration Operation, Data Operation, Event Operation, Record Operation, User Management and Log Clear.

Start Time
Set the start time of the requested log.

End time
Set the end time of the requested log.

Search
Select the log type from the drop down list and then click the **Search** button to view the list.
Click the **Stop** button to terminate current search operation.

Detailed Information
You can select one item to view detailed information.

Clear
You can click this button to delete all displayed log files. Note that the system does not support clear by type.

Backup
Click this button to backup log files to the local PC.

Figure 4-100

4.8.1.3 Online User

The Online User page is shown below in Figure 4-101.
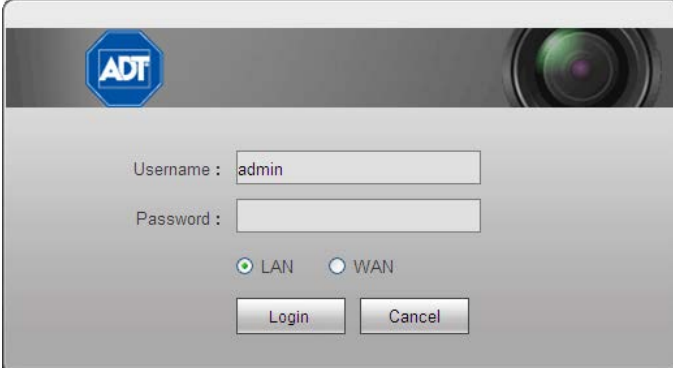
Figure 4-101

4.9 Logout

Click the **Logout** button to log out of the Web Service. The system reverts to the **Login** dialog. You must input your username and password to log in again.

Figure 4-102

4.10 Un-install Web Service

You can use Web un-install tool "uninstall Web.bat" to un-install Web control.

> **Note:** Be sure to close all Web pages before you un-install.

Appendix A Troubleshooting, Daily Maintenance and Glossary

Troubleshooting

1. **NVR does not boot up properly**

   Possible reasons:

   - Input power is not correct
   - Power connection is not securely attached
   - Power switch button is damaged
   - Program upgrade version is wrong
   - HDD malfunction
   - Seagate DB35.1, DB35.2, SV35 or Maxtor 17-g has a compatibility problem —
     Upgrade to the latest version to solve this problem.
   - Front Panel error
   - Main board is damaged

2. **NVR often automatically shuts down or stops running**

   Possible reasons:

   - Input voltage is not stable or it is too low
   - HDD malfunction
   - Video signal is not stable
   - Working environment is too harsh; too much dust
   - Hardware malfunction

3. **System cannot detect hard disk**

   Possible reasons:

   - HDD is damaged
   - HDD ribbon is damaged
   - HDD cable connection is loose
   - Main board SATA port is damaged

4. **There is no video output whether it is the one-channel, multiple-channel or all-channel
   output**

   Possible reasons:

   - Program is not compatible—upgrade to the latest version.
   - Brightness is set to 0. Restore factory default setup.
   - There is no video input signal or it is too weak
   - Check the Privacy Mask setup or your screen saver
   - NVR hardware malfunction

5. **Cannot search local recordings**

    Possible reasons:

    - HDD ribbon is damaged
    - HDD is damaged
    - Upgraded program is not compatible
    - The recorded file has been overwritten
    - The Record function has been disabled

6. **Video is distorted when searching local recordings**

    Possible reasons:

    - Video quality setup is too low
    - Program read error, bit data is too small. If there is a mosaic pattern in the full screen—
      Restart the NVR to solve this problem
    - HDD data ribbon error
    - HDD malfunction
    - NVR hardware malfunction

7. **Time display is not correct**

    Possible reasons:

    - Setup is not correct
    - Battery contact is not correct or voltage is too low
    - Crystal is damaged

8. **NVR cannot control Pan/Tilt/Zoom (PTZ)**

    Possible reasons:

    - Front panel PTZ error
    - PTZ decoder setup, connection or installation is not correct.
    - Cable connection is not correct.
    - Distance from NVR to PTZ is too long
    - PTZ setup is not correct.
    - PTZ decoder and NVR protocol is not compatible.
    - PTZ decoder and NVR address is not compatible

9. **There is a mosaic pattern on the screen—no video when viewing live video or playback file**

    Possible reasons:

    - Poor network quality
    - Client end resources are limited
    - There is a multicast group setup on the NVR. This mode can result in a mosaic screen.
      Usually this mode is not recommended.
    - There is a Privacy Mask or channel protection setup
    - Current user does not have proper rights to monitor
    - NVR local video output quality is of poor quality

10. **Cannot login to client end or Web**

Possible reasons:

- The ActiveX control has been disabled
- Display card driver needs to be upgraded to dx8.1 or higher
- Network connection error
- Network setup error
- Password or User Name is invalid
- Client end is not compatible with the NVR program

11. **Network connection is not stable**

Possible reasons:

- Network is not stable
- IP address conflict
- MAC address conflict
- PC or NVR network card is damaged

12. **Burner error /USB back error**

Possible reasons:

- Burner and NVR are on the same data cable
- System uses too many CPU resources. Stop recording first, and then begin the backup.
- Data amount exceeds the backup device capacity. It may result in burner error.
- Backup device is not compatible
- Backup device is damaged

13. **Keyboard cannot control NVR**

Possible reasons:

- NVR serial port setup is not correct
- Address is not correct
- When there are several switchers, power supply is not sufficient
- Transmission distance is too far

14. **Alarm signal cannot be disarmed**

Possible reasons:

- Alarm setup is not correct
- Alarm output has been opened manually
- Input device error or connection is not correct
- Some program versions may have this problem. Please upgrade your system.

15. **Alarm function does not work**

Possible reasons:

- Alarm setup is not correct
- Alarm cable connection is not correct
- Alarm input signal is not correct
- There are two loops connected to one alarm device

16. **Recording storage insufficient**

   Possible reasons:

   - Camera quality is too low
   - Lens is dirty
   - Camera is installed facing a light source
   - Camera aperture setup is not correct
   - HDD capacity is insufficient
   - HDD is damaged

17. **Cannot playback the downloaded file**

   Possible reasons:

   - There is no media player
   - Requires graphic acceleration software upgrade to DXB8.1 or higher
   - There is no DivX503Bundle.exe control when you play the file transformed to AVI via the media player
   - There is no DivX503Bundle.exe or ffdshow-2004 1012 .exe in Windows XP OS

18. **There is no video; the screen is in black**

   Possible reasons:

   - IPC IP address is incorrect
   - IPC port number is incorrect
   - IPC account (user name/password) incorrect

19. **The displayed video is incomplete**

   Possible reasons:

   - Cheek the current resolution setup. For example, if the current setup is 1920 x 1080, the monitor resolution must also be set 1920 x 1080.

20. **There is no HDMI output**

   Possible reasons:

   - Disk player is not in HDMI mode
   - HDMI cable connection is improper

21. **The video is not fluent when I view in multiple channel mode from the client end**
   Possible reasons:

   - The network bandwidth is insufficient. The multiple-channel monitor operation needs at least 100M or higher.
   - Your PC resources are insufficient.

22. **Real-time video color is distorted**

    Possible reasons:

    - When using BNC output, the NTSC and PAL setup is not correct. The real-time video displays in monochrome
    - NVR and monitor resistance is not compatible
    - Video transmission is too long or is excessively degraded
    - NVR color or brightness setup is not correct

23. **Motion detection function does not work**

    Possible reasons:

    - Period setup is not correct
    - Motion detection zone setup is not correct
    - Sensitivity is too low
    - For some versions, there is a hardware limitation

24. **Remote control does not work**

    Possible reasons:

    - Remote control address is not correct
    - Distance is too far or control angle is too small
    - Remote control battery power is low
    - Remote control is damaged or NVR front panel is damaged

25. **Cannot connect to the IP Camera**

    Possible reasons:

    - The IPC has not booted up
    - IPC network connection is not online
    - The IPC's IP is in the blacklist
    - The device has to too many connected cameras
    - The IPC port value and time zone are not the same as for the NVR
    - Current network environment is not stable

26. **After I set the NVR resolution to 1080P the monitor does not display**

    Possible solution—Restore NVR resolution to the default setup:

    - Shut down the device and then reboot. When you reboot, press the **Fn** button at the same time and then release after 5 seconds.

27. **My admin account has been changed and I cannot log in**

    Possible solution:

    - Use telnet and then input the following command：
        cd /mnt/mtd/Config/
        rm -rf group
        rm -rf password
    - Reboot the device to restore the default password

28. **After I login to the Web , I cannot find the remote interface to add the IPC**

    Possible solution:

    - Clear the Web controls and load again

29. **I can access the internet via the router but I cannot access the internet after I reboot the NVR**

    Possible solution:

    - Use the *PING* command to check whether you can connect to the gateway. Use telnet to access and then use the command *"ifconfig −a"* to check the device IP address. If you see that the subnet mask and the gateway has changed after the reboot, upgrade the applications and set again.

Daily Maintenance

- Check and maintain the device regularly.
- Regularly use a brush to clean the board, socket connector and chassis.
- Properly ground the device to protect against video disturbances.
- Keep the device away from static or induced voltage.
- Unplug the power cable before you remove the video signal cable or RS485 cable.
- To avoid HDD malfunction, always shut down the device properly using the Shutdown function in the menu or by pressing the power button on the front panel for at least three seconds.
- Locate the device away from the direct sunlight or other heating sources.
- Ensure that the device is properly ventilated.

Glossary

DHCP. Dynamic Host Configuration Protocol is one of the TCP/IP network protocols principally used to assign temporary IP addresses to computers on a network.

DDNS. Dynamic Domain Name Server is a service that maps Internet domain names to IP addresses. This service is useful to anyone who wants to operate a server (Web server, mail server, FTP server, etc.) connected to the Internet with a dynamic IP or to someone who wants to connect to an office computer or server from a remote location with software.

Dual-stream. The dual-stream technology adopts high-rate bit stream for local HD storage such as QCIF/CIF/2CIF/DCIF/4CIF encode and one low-rate bit stream for network transmission such as QCIF/CIF encode. It can balance the local storage and remote network transmission. The dual-stream can meet the difference band width requirements of the local transmission and the remote transmission. In this way, the local transmission using high-bit stream can achieve HD storage and the network transmission adopting low bit stream suitable for the fluency requirements of the 3G network such as WCDMA, EVDO, TD-SCDMA.

GPS. Global Positioning System is a satellite system, protected by the US military, safely orbiting thousands of kilometers above the earth.

On-off value. This is the non-consecutive signal sampling and output. It includes remote sampling and remote output. It has two statuses: 1/0.

PPPoE. Point to Point Protocol over Ethernet is a specification for connecting multiple computer users on an Ethernet local area network to a remote site. Now the popular mode is ADSL and it adopts PPPoE protocol.

Appendix B Specifications

System	
Main Processor	Dual-Core embedded processor
Operating System	Embedded Linux
Video	
Camera Inputs	4 / 8 Channels
Audio	
Two-way Talk	1 channel input, 1 channel output, RCA
Compression	G.711a
Alarms	
Input	4 input channels
Output	2 output channels
Monitor Output	
Interface	1 HDMI, 1 VGA
Resolution	1920x1080, 1280x1024, 1280x720, 1024x768
Display Grids	4 channel model: 1/4; 8 channel model: 1/4/8/9
On Screen Display	Camera Title, Time/Date, Video Loss, Camera Lock, Motion Detection, Recording
Recording	
Video Compression	H.264 / MJPEG
Resolution	1080p (1920x1080); 720p (1280x720); D1 (704x576/704x480)
Record Rate	200 Mbps
Bit Rate	48 ~ 8192 Kbps
Record Mode	Manual, Schedule (Regular [Continuous], MD, Alarm), Stop
Record Interval	1~120 min (default: 60 min), Pre-record: 1~ 30 sec, Post-record: 10 ~ 300 sec
Video Detection and Alarm	
Trigger Events	Recording, PTZ (Tour, Preset), Alarm, Video Push, Email, FTP, Buzzer, Screen Tips
Video Detection	Motion Detection, MD Zones: 396 (22 x18), Video Loss, Camera Blank
Alarm Inputs	4 channels
Relay Outputs	2 channels
Playback and Backup	
Sync. Playback	4 channel model: 1/4; 8 channel model: 1/4/9
Search Mode	Time/Date, Alarm, MD and Exact Search (accurate to second), Smart Search
Playback Functions	Play, Pause, Stop, Rewind, Fast Play, Slow Play, Next File, Previous File, Next Camera, Previous Camera, Full Screen, Repeat, Shuffle, Backup Selection, Digital Zoom
Backup Mode	USB Device/Network/ Internal SATA burner

Network	
Ethernet	RJ-45 port (10/100/1000Mbps)
PoE Ports	4 ports (IEEE802.3at) and 8 ports (IEEE802.3at)
Network Functions	HTTP, TCP/IP, IPv4/IPv6, RTSP, UDP, SMTP, NTP, DHCP, DNS, IP Filter, PPPOE, DDNS, FTP, Alarm Server, IP Search (supports ADT IP cameras, DVR, NVS, etc.)
Max User Access	128 users
Smart Phone	iPhone, iPad, Android
Storage	
Internal HDD	2 SATA ports, up to 8TB
Auxiliary Interfaces	
USB	2 ports (1 Rear USB3.0, 1 Front USB2.0)
RS232	1 port, for PC communications and Keyboard
RS485	1 port, for PTZ control
General	
Power Supply	4 channel model: NVR:12VDC, 4A / PoE: 48VDC, 1.04A 8 channel model: NVR: 100 ~ 240VAC, 50/60 Hz
Power Consumption	NVR: 20W (without HDD) / PoE: 25.5 W max for single port
Environment	14°F ~ 131°F (−10°C ~ +55°C); 10% ~ 90% RH
Dimensions (WxHxD)	1U: 14.76 x11.22 x1.97 in (375 x 285 x 50 mm)
Weight	4 channel model: 4.41 lb (2.0 kg) without HDD; 8 channel model: 5.5 lb (2.5kg) without HDD

Appendix C Compatible Network Cameras

Please note all the models in the following list are for reference only.

Manufacturer	Model	Version	Video Encode	Protocol
AXIS	P1346	5.40.9.2	H264	ONVIF, Private
	P3344/P3344-E	5.40.9.2	H264	ONVIF, Private
	P5512	—	H264	ONVIF, Private
	Q1604	5.40.3.2	H264	ONVIF, Private
	Q1604-E	5.40.9	H264	ONVIF, Private
	Q6034E	—	H264	ONVIF, Private
	Q6035	5.40.9	H264	ONVIF, Private
	Q1755	—	H264	ONVIF, Private
	M7001	—	H264	Private
	M3204	5.40.9.2	H264	Private
	P3367	HEAD LFP4_0 130220	H264	ONVIF
	P5532-P	HEAD LFP4_0 130220	H264	ONVIF
ACTi	ACM-3511	A1D-220-V3.12.15-AC	MPEG4	Private
	ACM-8221	A1D-220-V3.13.16-AC	MPEG4	Private
Arecont	AV1115	65246	H264	Private
	AV10005DN	65197	H264	Private
	AV2115DN	65246	H264	Private
	AV2515DN	65199	H264	Private
	AV2815	65197	H264	Private
	AV5115DN	65246	H264	Private
	AV8185DN	65197	H264	Private
Bosch	NBN-921-P	—	H264	ONVIF
	NBC-455-12P	—	H264	ONVIF
	VG5-825	9500453	H264	ONVIF
	NBN-832	66500500	H264	ONVIF
	VEZ-211-IWTEIVA	—	H264	ONVIF
	NBC-255-P	15500152	H264	ONVIF
	VIP-X1XF	—	H264	ONVIF
Brikcom	B0100	—	H264	ONVIF
	D100	—	H264	ONVIF
	GE-100-CB	—	H264	ONVIF
	FB-100A	v1.0.3.9	H264	ONVIF
	FD-100A	v1.0.3.3	H264	ONVIF
Cannon	VB-M400	—	H264	Private
CNB	MPix2.0DIR	XNETM1120111229	H264	ONVIF
	VIPBL1.3MIRVF	XNETM2100111229	H264	ONVIF
	IGC-2050F	XNETM2100111229	H264	ONVIF

Manufacturer	Model	Version	Video Encode	Protocol
CP PLUS	CP-NC9-K	6.E.2.7776	H264	Private, ONVIF
	CP-NC9W-K	6.E.2.7776	H264	Private
	CP-ND10-R	cp20111129ANS	H264	ONVIF
	CP-ND20-R	cp20111129ANS	H264	ONVIF
	CP-NS12W-CR	cp20110808NS	H264	ONVIF
	VS201	cp20111129NS	H264	ONVIF
	CP-NB20-R	cp20110808BNS	H264	ONVIF
	CP-NT20VL3-R	cp20110808BNS	H264	ONVIF
	CP-NS36W-AR	cp20110808NS	H264	ONVIF
	CP-ND20VL2-R	cp20110808BNS	H264	ONVIF
	CP-RNP-1820	cp20120821NSA	H264	Private
	CP-RNC-TP20FL3C	cp20120821NSA	H264	Private
	CP-RNP-12D	cp20120828ANS	H264	Private
	CP-RNC-DV10	cp20120821NSA	H264	Private
	CP-RNC-DP20FL2C	cp20120821NSA	H264	Private
Dynacolor	ICS-13	d20120214NS	H264	Private, ONVIF
	ICS-20W	vt20111123NSA	H264	Private, ONVIF
	NA222	—	H264	ONVIF
	MPC-IPVD-0313	k20111208ANS	H264	Private, ONVIF
	MPC-IPVD-0313AF	k20111208BNS	H264	Private, ONVIF
Honeywell	HIDC-1100PT	h.2.2.1824	H264	ONVIF
	HIDC-1100P	h.2.2.1824	H264	ONVIF
	HIDC-0100P	h.2.2.1824	H264	ONVIF
	HIDC-1300V	2.0.0.21	H264	ONVIF
	HICC-1300W	2.0.1.7	H264	ONVIF
	HICC-2300	2.0.0.21	H264	ONVIF
	HDZ20HDX	H20130114NSA	H264	ONVIF
LG	LW342-FP	—	H264	Private
	LNB5100	—	H264	ONVIF
Imatek	KNC-B5000	—	H264	Private
	KNC-B5162	—	H264	Private
	KNC-B2161	—	H264	Private
Panasonic	NP240/CH	—	MPEG4	Private
	WV-NP502	—	MPEG4	Private
	WV-SP102H	1.41	H264	Private, ONVIF
	WV-SP105H	—	H264	Private, ONVIF
	WV-SP302H	1.41	H264, MPEG4	Private, ONVIF
	WV-SP306H	1.4	H264, MPEG4	Private, ONVIF
	WV-SP508H	—	H264, MPEG4	Private, ONVIF
	WV-SP509H	—	H264, MPEG4	Private, ONVIF
	WV-SF332H	1.41	H264, MPEG4	Private, ONVIF

Manufacturer	Model	Version	Video Encode	Protocol
	WV-SW316H	1.41	H264, MPEG4	Private, ONVIF
	WV-SW355H	1.41	H264, MPEG4	Private, ONVIF
	WV-SW352H	—	H264, MPEG4	Private, ONVIF
	WV-SW152E	1.03	H264, MPEG4	Private, ONVIF
	WV-SW558H	—	H264, MPEG4	Private, ONVIF
	WV-SW559H	—	H264, MPEG4	Private, ONVIF
	WV-SP105H	1.03	H264, MPEG4	Private, ONVIF
	WV-SW155E	1.03	H264, MPEG4	Private, ONVIF
	WV-SF336H	1.44	H264, MPEG4	Private, ONVIF
	WV-SF332H	1.41	H264, MPEG4	Private, ONVIF
	WV-SF132E	1.03	H264, MPEG4	Private, ONVIF
	WV-SF135E	1.03	H264, MPEG4	Private, ONVIF
	WV-SF346H	1.41	H264, MPEG4	Private, ONVIF
	WV-SF342H	1.41	H264, MPEG4	Private, ONVIF
	WV-SC385H	1.08	H264, MPEG4	Private, ONVIF
	WV-SC386H	1.08	H264, MPEG4	Private, ONVIF
	WV-SP539	1.66	H264, MPEG4	ONVIF
	DG-SC385	1.66	H264, MPEG4	ONVIF
PELCO	IXSOLW	1.8.1-20110912-1.9082-A1.6617	H264	Private
	IDE20DN	1.7.41.9111-O3.6725	H264	Private
	D5118	1.7.8.9310-A1.5288	H264	Private
	IM10C10	1.6.13.9261-O2.4657	H264	Private
	DD4N-X	01.02.0015	MPEG4	Private
	DD423-X	01.02.0006	MPEG4	Private
	D5220	1.8.3-FC2-20120614 -1.9320-A1.8035	H264	Private
Samsung	SNB-3000P	2.41	H264, MPEG4	Private, ONVIF
	SNP-3120	1.22_110120_1	H264, MPEG4	Private, ONVIF
	SNP-3370	1.21_110318	MPEG,	Private
	SNB-5000	2.10_111227	H264, MPEG4	Private, ONVIF
	SND-5080	—	H264, MPEG4	Private
	SNZ-5200	1.02_110512	H264, MPEG4	Private, ONVIF
	SNP-5200	1.04_110825	H264, MPEG4	Private, ONVIF
	SNB-7000	1.10_110819	H264	Private, ONVIF
	SNB-6004	V1.0.0	H264	ONVIF
Sony	SNC-DH110	1.50.00	H264	Private, ONVIF
	SNC-CH120	1.50.00	H264	Private, ONVIF
	SNC-CH135	1.73.01	H264	Private, ONVIF
	SNC-CH140	1.50.00	H264	Private, ONVIF
	SNC-CH210	1.73.00	H264	Private, ONVIF
	SNC-DH210	1.73.00	H264	Private, ONVIF

Manufacturer	Model	Version	Video Encode	Protocol
	SNC-DH240	1.50.00	H264	Private, ONVIF
	SNC-DH240-T	1.73.01	H264	Private, ONVIF
	SNC-CH260	1.74.01	H264	Private, ONVIF
	SNC-CH280	1.73.01	H264	Private, ONVIF
	SNC-RH-124	1.73.00	H264	Private, ONVIF
	SNC-RS46P	1.73.00	H264	Private, ONVIF
	SNC-ER550	1.74.01	H264	Private, ONVIF
	SNC-ER580	1.74.01	H264	Private, ONVIF
	SNC-ER580	1.78.00	H264	ONVIF
	SNC-VM631	1.4.0	H264	ONVIF
	WV-SP306	1.61.00	H264, MPEG4	SDK
	WV-SP306	1.61.00	H264	ONVIF
	SNC-VB600	1.5.0	H264	Private
	SNC-VM600	1.5.0	H264	Private
	SNC-VB630	1.5.0	H264	Private
	SNC-VM630	1.5.0	H264	Private
SANYO	VCC-HDN4000PC	—	H264	ONVIF

Appendix D Compatible Backup Devices

Compatible USB Drives

Manufacturer	Model	Capacity
Aigo	L8315	16GB
Kingax	Super Stick	128M
Kingax	Super Stick	256M
Kingax	Super Stick	512M
Kingax	Super Stick	1G
Kingax	Super Stick	2G
Kingston	DataTraveler II	1G
Kingston	DataTraveler II	2G
Kingston	DataTraveler	1G
Kingston	DataTraveler	2G
Kingston	Data Traveler	1G
Kingston	Data Traveler	16GB
Kingston	Data Traveler	32GB
Kingston	Data Traveler Locker+	32GB
Lexar	Lexar	256MB
Maxell	USB Flash Stick	128M
Maxell	USB Flash Stick	256M
Maxell	USB Flash Stick	512M
Maxell	USB Flash Stick	1G
Maxell	USB Flash Stick	2G
Netac	U210	128M
Netac	U210	256M
Netac	U210	512M
Netac	U210	1G
Netac	U210	2G
Netac	U208	4G
Netac	U228	8GB
Sandisk	Cruzer Micro	512M
Sandisk	Cruzer Micro	1G
Sandisk	Cruzer Micro	2G
Sandisk	Cruzer Freedom	256M
Sandisk	Cruzer Freedom	512M
Sandisk	Cruzer Freedom	1G
Sandisk	Cruzer Freedom	2G
SanDisk	Cruzer Micro	2G
SanDisk	Cruzer Micro	8G
SanDisk	Ti Cool	2G
SanDisk	Hongjiao	4G
Sandisk	250	16GB
Teclast	Ti Cool	128M
Teclast	Ti Cool	256M
Teclast	Ti Cool	512M
Teclast	Ti Cool	1G

Compatible SD Cards

Brand	Standard	Capacity	Card Type
Kingston	SDHC4	4GB	SD
Kingston	SD	2GB	SD
Kingston	SD	1GB	SD
Sandisk	SDHC2	8GB	Micro-SD
Sandisk	SD	1GB	Micro-SD
Transcend	SDHC6	16GB	SD

Compatible Portable HDDs

Brand	Model	Capacity
Aigo	H8169	500GB
Iomega	Iomega RPHD-CG" RNAJ50U287	250GB
Netac	Netac	80G
Newsmy	Liangjian	320GB
Seagate	FreeAgent Go(ST905003F)	500GB
WD Elements	WCAVY1205901	1.5TB
WD Elements	WDBAAR5000ABK-00	500GB
WD Elements	WDBAAU0015HBK-00	1.5TB
YDStar	YDstar HDD box	40G

Compatible SATA DVD Burners

Manufacturer	Model
LG	GH22NS30
Pioneer	NVR-217CH
Pioneer	NVR-215CHG
Samsung	TS-H653 Ver.A
Samsung	TS-H653 Ver.F
Samsung	SH-224BB/CHXH
SONY	DRU-V200S
SONY	DRU-845S
SONY	AW-G170S

Compatible USB DVD Burners

Note: Upgrade the NVR firmware to the latest version to ensure the accuracy of the table below.

Manufacturer	Model
Benq	TW200D
Samsung	SE-S084

Appendix E Compatible SATA HDDs

Manufacturer	Series	Model	Capacity	Port Mode
Hitachi	HitachiCinemaStar™ 5K500	HCP725050GLA380	500G	SATA
Hitachi	HitachiCinemaStar™ 7K1000.B	HCT721050SLA360	500G	SATA
Hitachi	HitachiCinemaStar™ 7K1000.B	HCT721075SLA360	750G	SATA
Hitachi	HitachiCinemaStar™ 7K1000.B	HCT721010SLA360	1T	SATA
Maxtor	DiamondMax 20	STM3320820AS	320G	SATA
Maxtor	DiamondMax 20	STM3250820AS	250G	SATA
Samsung	Samsung—HA	HA500LJ/CE	500G	SATA
Samsung	Samsung—HA	HA751LJ	750G	SATA
Samsung	Samsung—HA	HA101UJ/CE	1T	SATA
Samsung	Samsung—HD	HD502HI/CEC	500G	SATA
Samsung	Samsung—HD	HD103SI/CEC	1T	SATA
Samsung	Samsung—HD	HD154UI/CE	1.5T	SATA
Seagate	Seagate SV35.1	ST3250824SV	250G	SATA
Seagate	Seagate SV35.1	ST3500641SV	500G	SATA
Seagate	Seagate SV35.2	ST3250820SV	250G	SATA
Seagate	Seagate SV35.2	ST3320620SV	320G	SATA
Seagate	Seagate SV35.2	ST3500630SV	500G	SATA
Seagate	Seagate SV35.2	ST3750640SV	750G	SATA
Seagate	Seagate SV35.3	ST3250310SV	250G	SATA
Seagate	Seagate SV35.3	ST3500320SV	500G	SATA
Seagate	Seagate SV35.3	ST3750330SV	750G	SATA
Seagate	Seagate SV35.3	ST31000340SV	1T	SATA
Seagate	Seagate SV35.4	ST3320410SV	320G	SATA
Seagate	Seagate SV35.4	ST3250311SV	250G	SATA
Seagate	Seagate SV35.5	ST3500410SV	500G	SATA
Seagate	Seagate SV35.5	ST3500411SV	500G	SATA
Seagate	Seagate SV35.5	ST31000525SV	1T	SATA
Seagate	Seagate SV35.5	ST31000526SV	1T	SATA
Seagate	Seagate SV35.5	ST1000VX000	1T	SATA
Seagate	Seagate SV35.5	ST2000VX003	2T	SATA
Seagate	Seagate SV35.5	ST2000VX002	2T	SATA
Seagate	Seagate SV35.5	ST2000VX000	2T	SATA

Manufacturer	Series	Model	Capacity	Port Mode
Seagate	Seagate SV35.5	ST3000VX000	3T	SATA
Seagate	Seagate Pipeline HD	ST3320410CS	320G	SATA
Seagate	Seagate Pipeline HD	ST3320310CS	320G	SATA
Seagate	Seagate Pipeline HD	ST3500422CS	500G	SATA
Seagate	Seagate Pipeline HD	ST3500321CS	500G	SATA
Seagate	Seagate Pipeline HD2	ST3250412CS	250G	SATA
Seagate	Seagate Pipeline HD2	ST3320311CS	250G	SATA
Seagate	Seagate Pipeline HD2	ST3500414CS	500G	SATA
Seagate	Seagate Pipeline HD2	ST3500312CS	500G	SATA
Seagate	Seagate Pipeline HD2	ST31000424CS	1T	SATA
Seagate	Seagate Pipeline HD2	ST31000322CS	1T	SATA
Seagate	Seagate Pipeline HD2	ST1000VM002	1T	SATA
Seagate	Seagate Pipeline HD2	ST1500VM002	1T	SATA
Seagate	Seagate Pipeline HD2	ST2000VM002	2T	SATA
Seagate	Seagate Pipeline HD2	ST2000VM003	2T	SATA
Seagate	Seagate Constellation ES	ST3500514NS	500G	SATA
Seagate	Seagate Constellation ES	ST31000524NS	1T	SATA
Seagate	Seagate Constellation ES	ST32000644NS	2T	SATA
Seagate	Seagate Constellation ES	ST2000NM0011	2T	SATA
Seagate	Seagate Constellation ES	ST1000NM0011	1T	SATA
Seagate	Seagate Constellation ES	ST500NM0011	500G	SATA
Seagate	Seagate Constellation ES	ST2000NM0031	2T	SATA
Seagate	Seagate Constellation ES	ST1000NM0031	1T	SATA
Seagate	Seagate Constellation ES	ST500NM0031	500G	SATA
Seagate	Seagate Constellation ES	ST2000NM0051	2T	SATA
Seagate	Seagate Constellation ES	ST1000NM0051	1T	SATA
Seagate	Seagate Constellation ES	ST500NM0051	500G	SATA
Seagate	Seagate Constellation ES.2	ST33000650NS	3T	SATA
Seagate	Seagate Constellation ES.2	ST32000645NS	2T	SATA

Manufacturer	Series	Model	Capacity	Port Mode
Seagate	Seagate Constellation ES.2	ST33000651NS	3T	SATA
Seagate	Seagate Constellation ES.2	ST32000646NS	2T	SATA
Seagate	Seagate Constellation ES.2	ST33000652NS	3T	SATA
Seagate	Seagate Constellation ES.2	ST32000647NS	2T	SATA
Western Digital	Cariar SE	WD3200JD	320G	SATA
Western Digital	Cariar SE	WD3000JD	300G	SATA
Western Digital	Cariar SE	WD2500JS	250G	SATA
Western Digital	Cariar SE16	WD7500KS	750G	SATA
Western Digital	Cariar SE16	WD5000KS	500G	SATA
Western Digital	Cariar SE16	WD4000KD	400G	SATA
Western Digital	Cariar SE16	WD3200KS	320G	SATA
Western Digital	Cariar SE16	WD2500KS	250G	SATA
Western Digital	WD Caviar SE16	WD2500YS-01SHB0	250G	SATA
Western Digital	WD Caviar RE16	WD3200YS-01PGB0	320G	SATA
Western Digital	WD Caviar RE2	WD5000YS-01MPB0	500G	SATA
Western Digital	WD AV—AVJS	WD2500AVJS-63WDA0	500G	SATA
Western Digital	WD AV—AVJS	WD3200AVJS-63WDA0	320G	SATA
Western Digital	WD AV—AVJS	WD5000AVJS-63YJA0	500G	SATA
Western Digital	WDAV-GP—AVCS	WD5000AVCS-63H1B1	500G	SATA
Western Digital	WDAV-GP—AVCS	WD7500AVCS-63ZLB0	750G	SATA
Western Digital	WDAV-GP—AVCS	WD3200AVCS	320G	SATA
Western Digital	WDAV-GP—AVCS	WD2500AVCS	250G	SATA
Western Digital	WDAV-GP—EVCS	WD10EVCS-63ZLB0	1T	SATA
Western Digital	WDAV-GP—EVCS	WD20EVCS-63ZLB0	2T	SATA
Western Digital	WDAV-GP—AVVS	WD3200AVVS-63L2B0	320G	SATA
Western Digital	WDAV-GP—AVVS	WD5000AVVS-63ZWB0	500G	SATA
Western Digital	WDAV-GP—AVVS	WD7500AVVS-63E1B1	750G	SATA
Western Digital	WDAV-GP—AVVS	WD7500AVVS-63E1B1	750G	SATA
Western Digital	WDAV-GP—EVVS	WD10EVVS-63E1B1	1T	SATA
Western Digital	WDAV-GP—EVDS	WD10EVDS-63N5B1	1T	SATA
Western Digital	WDAV-GP—EVDS	WD15EVDS-63V9B0	1.5T	SATA
Western Digital	WDAV-GP—EVDS	WD20EVDS-63T3B0	2T	SATA
Western Digital	WDAV-GP—AVDS	WD5000AVDS-63U7B0	500G	SATA
Western Digital	WD AV-GP	WD30EURS	3T	SATA
Western Digital	WD AV-GP	WD25EURS	2.5T	SATA

Manufacturer	Series	Model	Capacity	Port Mode
Western Digital	WD AV-GP	WD20EURS	2T	SATA
Western Digital	WD AV-GP	WD15EURS	1.5T	SATA
Western Digital	WD AV-GP	WD10EURS	1T	SATA
Western Digital	WD AV-GP	WD10EURX	1T	SATA
Western Digital	WD AV-GP	WD7500AURS	750G	SATA
Western Digital	WD AV-GP	WD7500AVDS	500G	SATA
Western Digital	WD AV-GP	WD500AVDS	500G	SATA
Western Digital	WD AV-GP	WD10EUCX	1T	SATA

Compatible 2.5-inch HDDs

Manufacturer	Series	Model	Capacity
Seagate	ST1000LM024	1T	SATA
Seagate	ST500LM012	500G	SATA
Seagate	ST9320325AS	320G	SATA
Westem Digital	WD10JPVX	1T	SATA
Westem Digital	WD5000LPVX	500G	SATA
Westem Digital	WD3200LPVX	320G	SATA

Appendix F Compatible CD/DVD Devices

Manufacturer	Model	Port Type	Type
BenQ	5232WI	USB	DVD-RW
Panasonic	SW-9588-C	SATA	DVD-RW
Samsung	TS-H653A	SATA	DVD-RW
Sony	AW-G170S	SATA	DVD-RW
Sony	DRX-S50U	USB	DVD-RW
Sony	DRX-S70U	USB	DVD-RW
Sony	DRX-S50U	USB	DVD-RW

Appendix G Compatible Displays

Refer to the following table for compatible displays.

Brand	Model	Dimension (in inches)
BENQ (LCD)	ET-0007-TA	19-inch (wide screen)
BENQ (LCD)	Q7T4	17-inch
BENQ (LCD)	Q7T3	17-inch
BENQ (LCD)	G900HD	18.5-inch
BENQ (LCD)	G2220HD	22-inch
DELL (LCD)	E178FPc	17-inch
HFNOVO (CRT)	LXB-FD17069HB	17-inch
HFNOVO (CRT)	LXB-HF769A	17-inch
HFNOVO (CRT)	LX-GJ556D	17-inch
LENOVO (LCD)	LXB-L17C	17-inch
LG (LCD)	W1942SP	19-inch
LG (LCD)	W2243S	22-inch
LG (LCD)	W2343T	23-inch
PHILIPS (LCD)	230E	23-inch
PHILIPS (LCD)	220CW9	23-inch
PHILIPS (LCD)	220BW9	24-inch
PHILIPS (LCD)	220EW9	25-inch
Samsung (LCD)	2494HS	24-inch
Samsung (LCD)	P2350	23-inch
Samsung (LCD)	P2250	22-inch
Samsung (LCD)	P2370G	23-inch
Samsung (LCD)	2043	20-inch
Samsung (LCD)	2243EW	22-inch
Samsung (LCD)	SMT-1922P	19-inch
Samsung (LCD)	T190	19-inch
Samsung (LCD)	T240	24-inch
SANGSUNG (LCD)	225BW	22-inch (wide screen)

Index