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Chapter 1 Notice for All Users

The manual is developed for all HD NVR users, including the HD NVR model (M3XX series) and HD NVR Enterprise model (M6XX series). Before starting the manual, learn the following descriptions.

Some icons used in the manual indicate the following functions:

	The bulb surrounding an orange circle is intended to provide the user with a short cut or an operational tip when the user is manipulating the product.
	The push pin surrounding the green rectangle is intended to remind the user what the specific operation notification is.
	The exclamation point surrounding a red equilateral triangle is intended to alert the user to the presence of importance operating and maintenance instructions.

The manual includes six chapters, including
Chapter 1 'Notice for the Manual'
Chapter 2 'Installation'
Chapter 3 'SCM Program'
Chapter 4 'System Operation'
Chapter 5 'Alarm & Event Mode'
Chapter 6 'Configuration Mode'

All users should read the necessary instructions in the manual carefully before running the system at the first time.

NOTE: The minimum hardware requirement lists as following:

- **CPU: Pentium Intel Dual Core 2.4GHz or above**
- **RAM: 2048 MB at least**
- **Operation System: Windows XP SP2 / Windows XP SP3 or above**
- **Display: nVidia chipset which supports DirectX3D (Minimum resolution needs 1280×1024. The recommended resolution will be 1680×1050.**)
- **Storage: Need two hard drives at least. One is for the operation system, and the other (s) is/are for the image storage.**

Chapter 2 Installation

2-1 HD NVR Installation

2-1-1 Overview of the HD NVR

2-1-1-1 HD NVR (M3 series)

The HD NVR (M3 series) is a PC-based Network Video Recorder (NVR) with the installed application – the HD NVR Manager. An HD NVR can connect both IP cameras and video server by the network. All key operational co mponents are located in the front panel and the rear panel of the external case. See the following figure:

Figure 2-1 The front panel of the HD NVR

1. Power Switch
2. LED Indicators and Reset button
3. mini IEEE 1394 port
4. USB 2.0 ports
5. Microphone-in port
6. Earphone out port

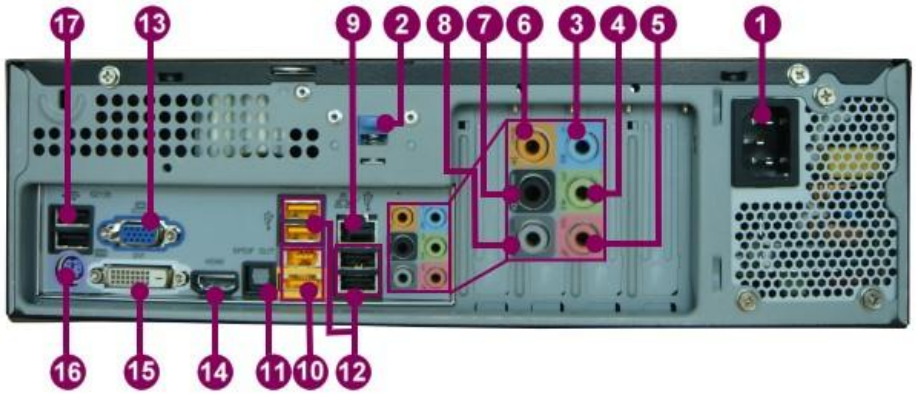


Figure 2-2 The rear panel of the HD NVR

1. AC Power Input – Switching Power Supply – 115/230V, 50/60 Hz
2. Upper Case fitting clip
3. Audio Input
4. Speaker port
5. Microphone Output
6. Center/Bass Port
7. Rear Surround out port
8. Side Surround out port
9. RJ-45 Gigabit LAN port (eth0)
10. IEEE 1394 port & eSATA Connector
11. S/PDIF out port (Fiber cable connector)
12. USB 2.0 ports
13. VGA port
14. HDMI port
15. DVI connector
16. Keyboard (PS/2) connector
17. USB 2.0 Mouse connector

NOTE: The position of components may vary by model modification. Any change in the HD NVR model will not notice in advance.

2-1-1-2 **HD NVR Enterprise (M6 series)**

The HD NVR Enterprise (M6 series) provides multiple selections for business customers, including 1U~4U models. The rack mount design of the HD NVR Enterprise allows the unit installed in a rack. Some high-end models equip the RAID card that allows the user to change the HDD during the operation time.
With the HD NVR Manager inside, the HD NVR Enterprise is able to provide a high quality recording and life-viewing function. Via the network, the HD NVR can connect to both IP cameras and video servers. All key operational components are located in the front panel and the rear panel of the external case. A 3U model is used for the following illustration:

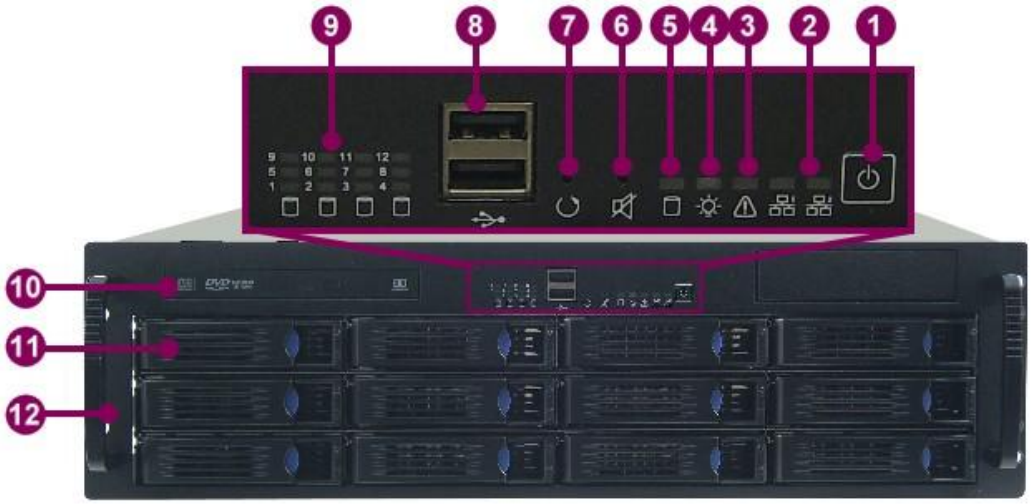


Figure 2-3 The front panel of the HD NVR Enterprise

1. Power Switch
2. LAN1 & LAN2 LED
3. Failure LED
4. Power LED
5. System HDD Activity LED
6. Alarm Mute Button
7. System Reset Button
8. USB 2.0 ports
9. HDD Tray Activity LEDs (LED numbers may vary by models)
10. DVD Drive
11. HDD Trays
12. Handles

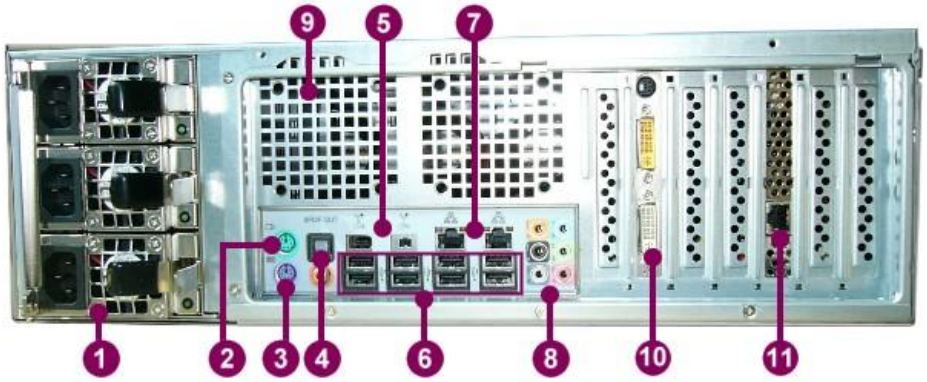


Figure 2-4 The rear panel of the HD NVR Enterprise

1. Power Supply (including the two types - single power supply & redundant power supply, vary by models)
2. Mouse (PS/2) connection port
3. Keyboard (PS/2) connection port
4. S/PDIF out port
5. IEEE 1394 ports
6. USB 2.0 ports
7. RJ-45 Gigabit LAN ports (port numbers may vary by models)
8. Audio Inputs & Outputs
9. Exhaust Fans
10. DVI/VGA Ports (vary by models)
11. RAID Card Network Connection (vary by models)

NOTE: The position of components may vary by models or modification. The modification of models will not notice in advance.

2-1-2 Install the HD NVR

2-1-2-1 **HD NVR (M3 series)**

To install the HD NVR, see the following steps:

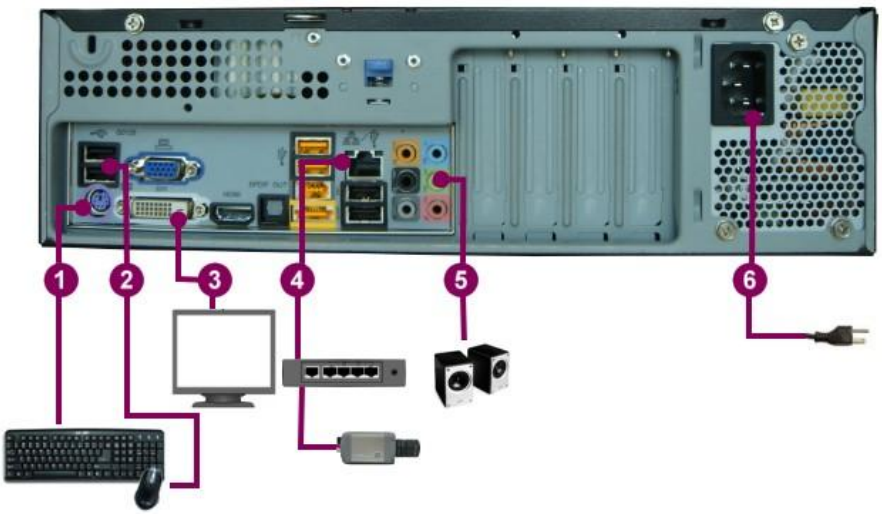


Figure 2-5 Install the HD NVR (M3 Series)

1. Connect the keyboard to the PS/2 keyboard connector.
2. Connect the mouse to the USB 2.0 mouse connector.
3. Connect the VGA monitor to the VGA port.
4. Plug in a CAT-6 UTP cable to the RJ-45 Gigabit LAN port, and connect the other end of the cable to a hub or a switch the IP cameras have connected.
5. Plug in the speaker to the speaker port if necessary.
6. Connect the power cord to the AC power socket at the rear panel of the unit. When the power cord is pluged, the machine boots automatically.

7. Turn on the power switch.

NOTE: The default IP address of the NVR is 192.168.0.10. Contact your network administrator and update the IP address of the NVR.

2-1-2-2 **HD NVR Enterprise (M6 series)**

To install the HD NVR Enterprise, see the following steps (illustrated by the 3U model):

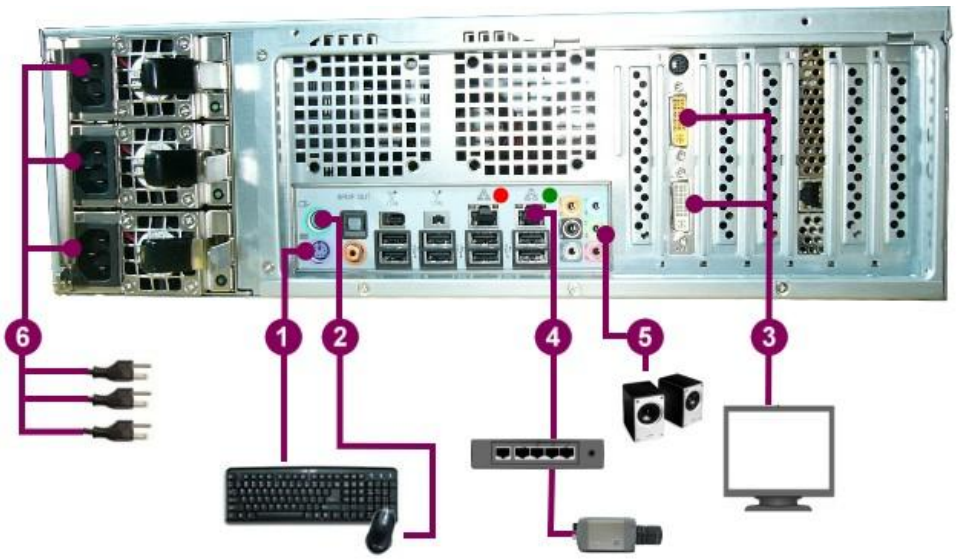


Figure 2-6 Install the HD NVR Enterprise

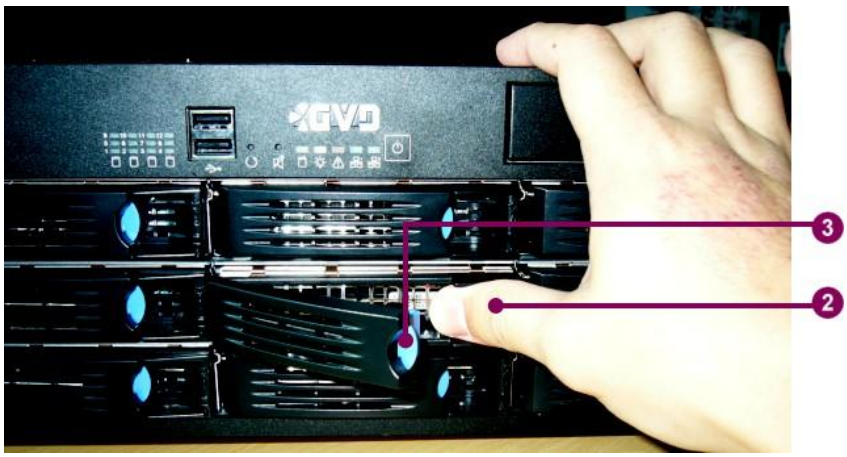
1. Connect the keyboard to the keyboard input.
2. Connect the mouse to the mouse input.
3. Connect the VGA monitor to the DVI/VGA ports. (The number, type, and position of DVI/VGA ports may vary by the models.)
4. Plug in a CAT-6 UTP cable to the RJ-45 Gigabit LAN port with the green label, and connect the other end of the cable to a hub or a switch IP cameras/video servers have connected.
5. Plug in the speaker to the speaker port if necessary.
6. Connect the power cord to the AC power socket at the rear panel of the unit. (The number of power supply may vary by the models.) Once the power cord is pluged, the machine boots automatically.

NOTE: How to remove and add a hard drive?

Remove the hard drive from the HD NVR:

1. **Push the blue tray switch of the desired HDD tray, and the door is opened.**
2. **Pull the tray out completely.**
3. **Loose the fixed screws and remove the hard drive.**

Install the hard drive



1. **Put the new or repaired hard drive in the HDD tray, and lock the fixed screws.**
2. **Insert the HDD tray to the HD NVR Enterprise, and push the tray to the end of the track.**
3. **Close the tray door. When the door is closed, and the user will hear 'Clip!'.**

NOTE: The default IP address of the NVR is 192.168.0.10. Contact your network administrator and update the IP address of the NVR.

2-2 HD NVR Manager Setup

This chapter describes how to install the HD NVR Manager. Before using the application, the user should complete two procedures:

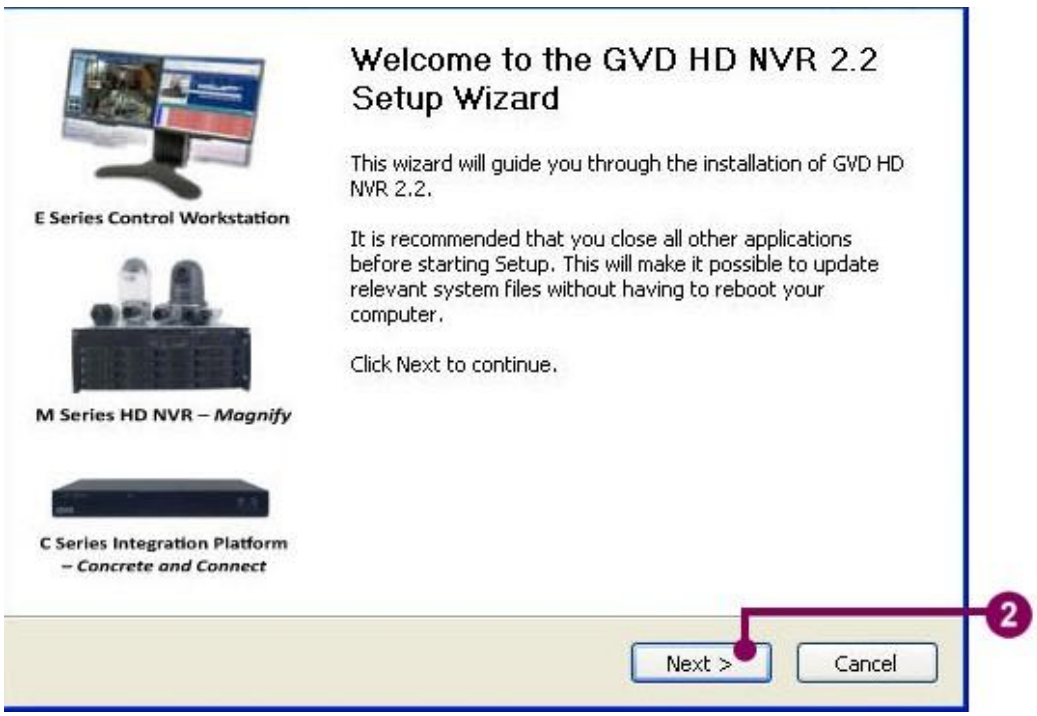
1. Install the HD NVR Manager
2. Activate the license.

2-2-1 Installation Steps

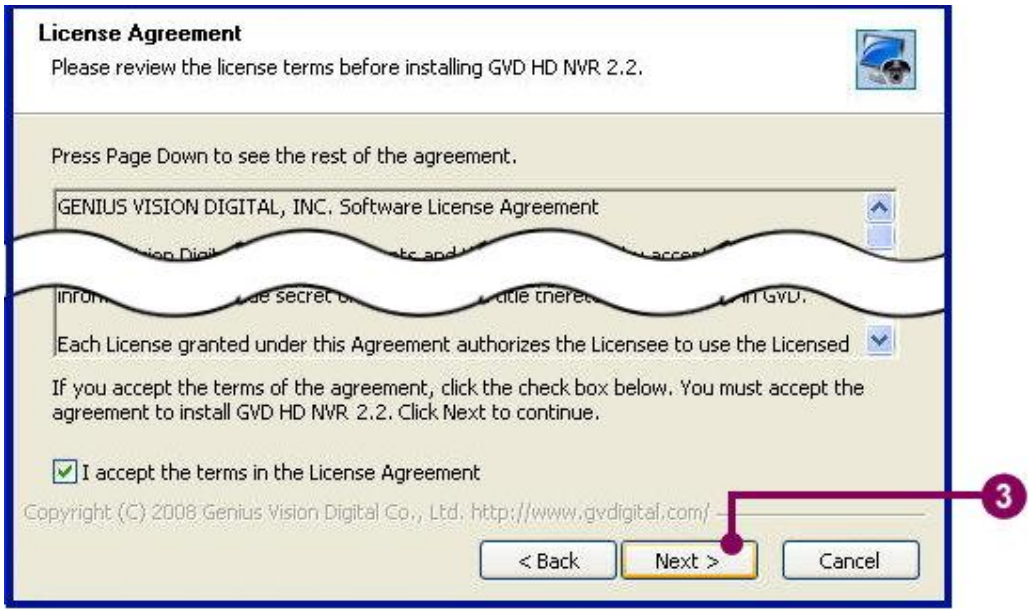
To install the HD NVR Manager, see the following steps:

Figure 2-7 Install the system

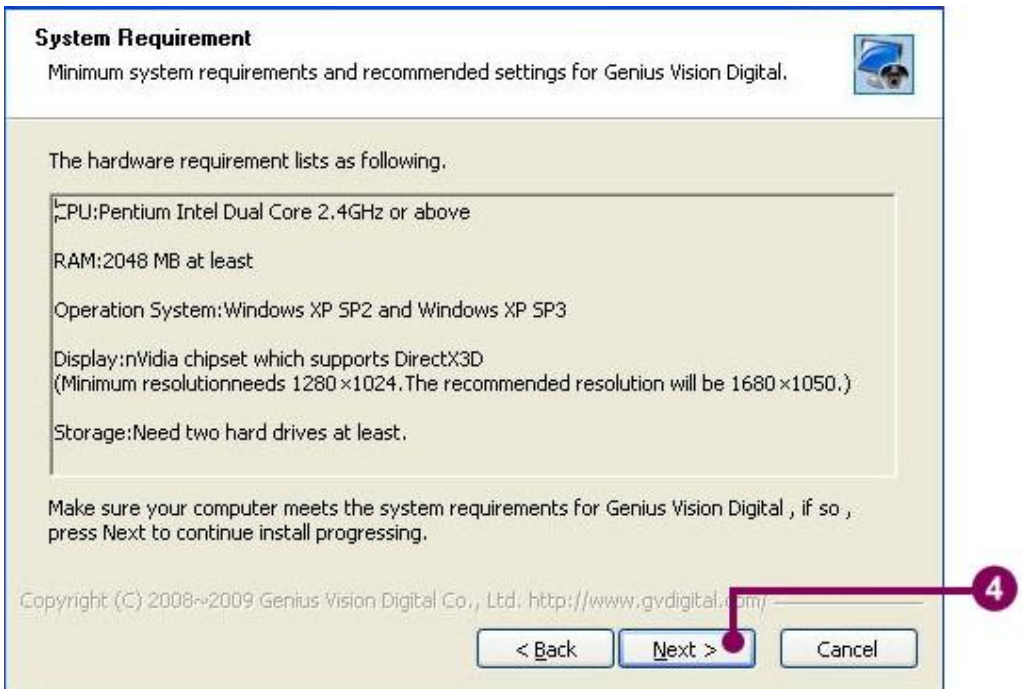
1. In the installation CD, find the setup program of the HD NVR Manager (file name: GVD_HD_NVR.exe). Double click the setup program.



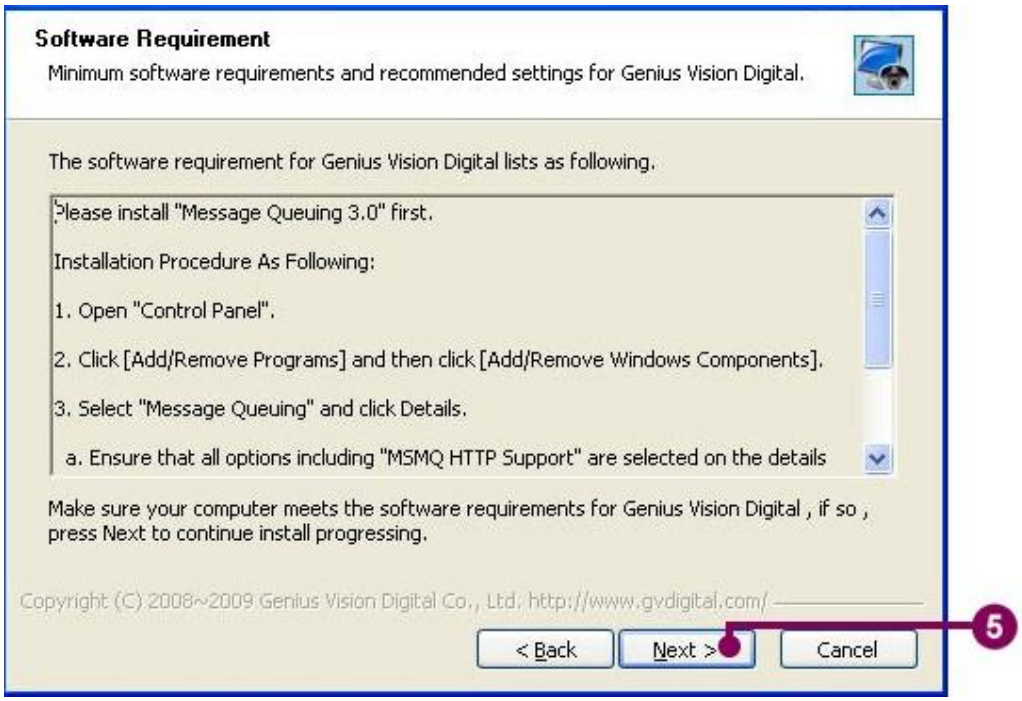
2. The setup wizard starts. Click 'Next'.



3. A license agreement dialog appears. Check 'I accept the terms in the License Agreement' and click 'Next'.

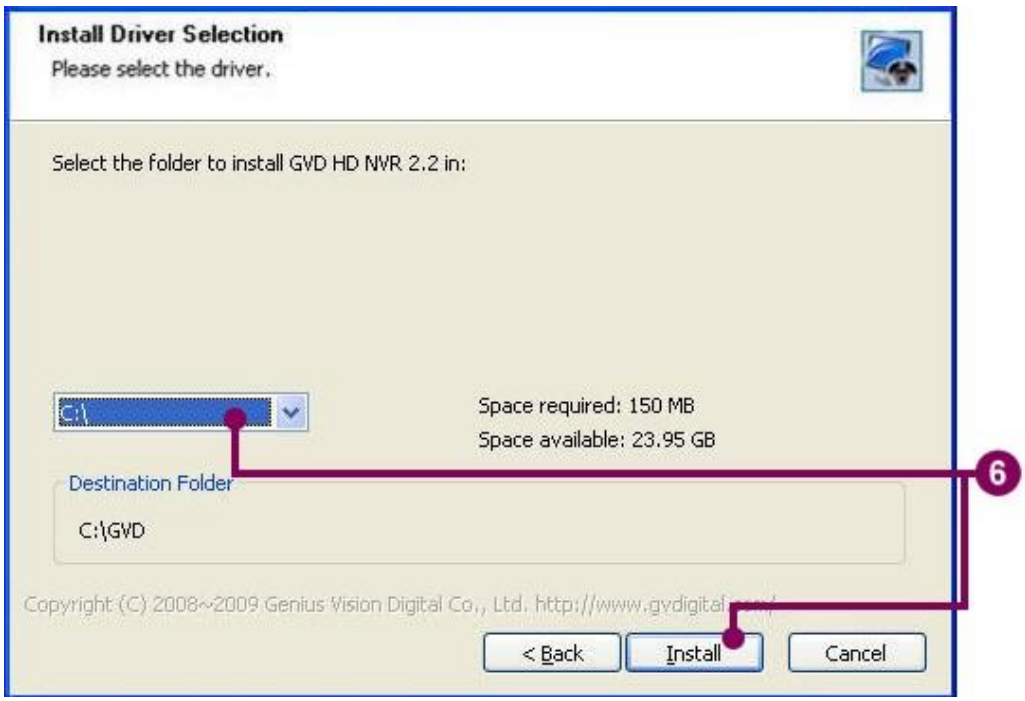


4. The setup program lists the minimum hardware requirement. Click 'Next' when all hardware requirements are met.

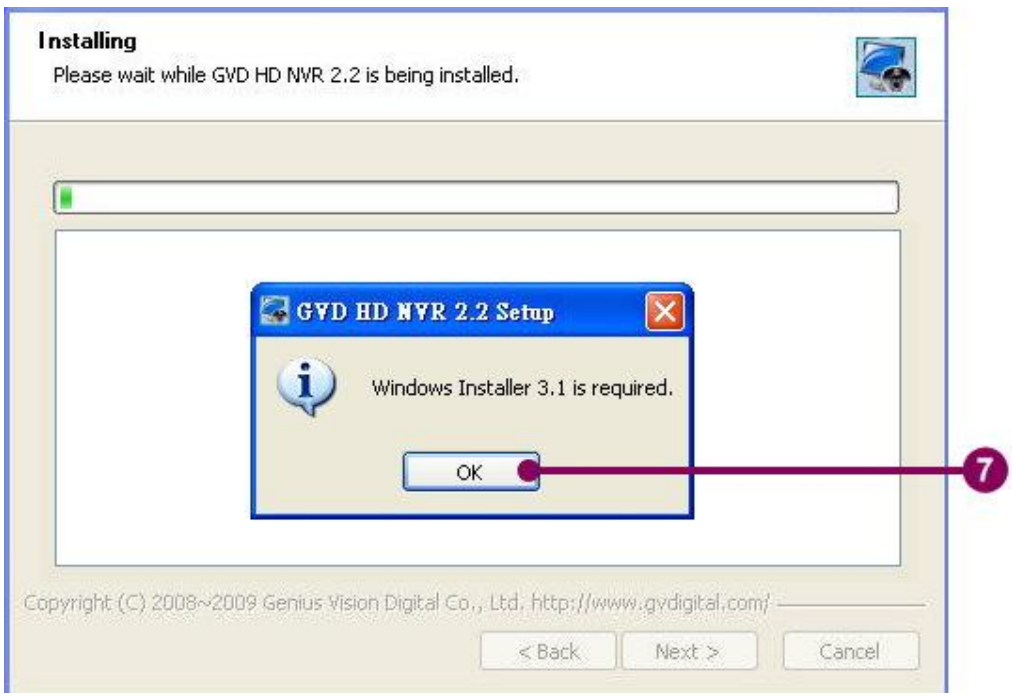


5. To run the system properly, an addition Windows ® component, 'Message Queuing', is required. To install 'Message Queuing', refer to Appendix IV for more information.

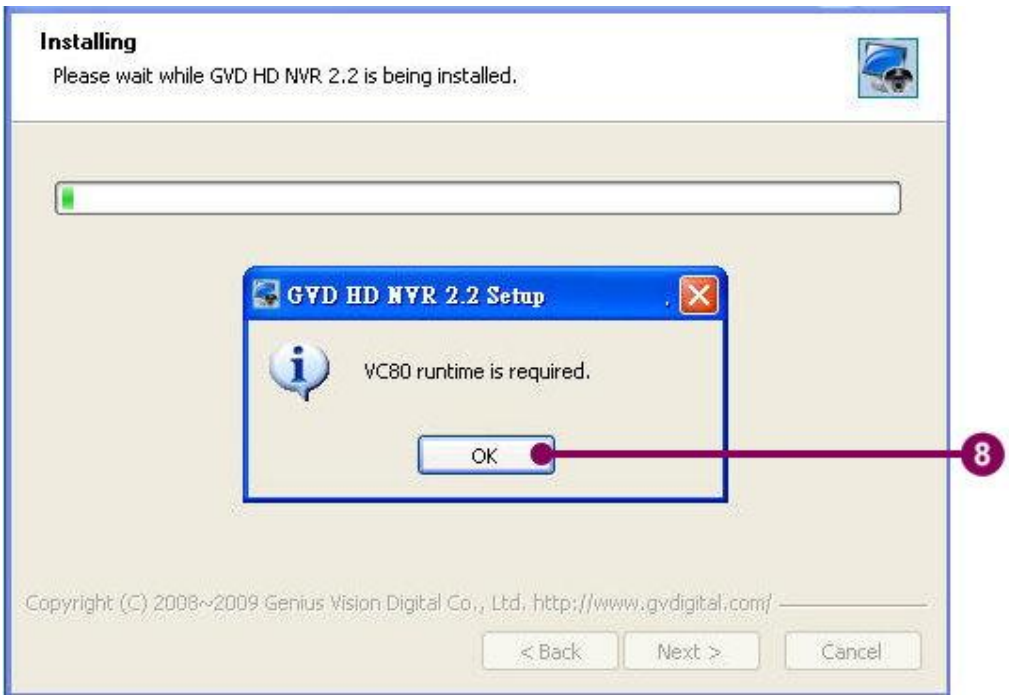
NOTE: 'Message Queuing' setup program is in the Windows® Setup disc. Without installing 'Message Queuing' application, the system will not be run normally.



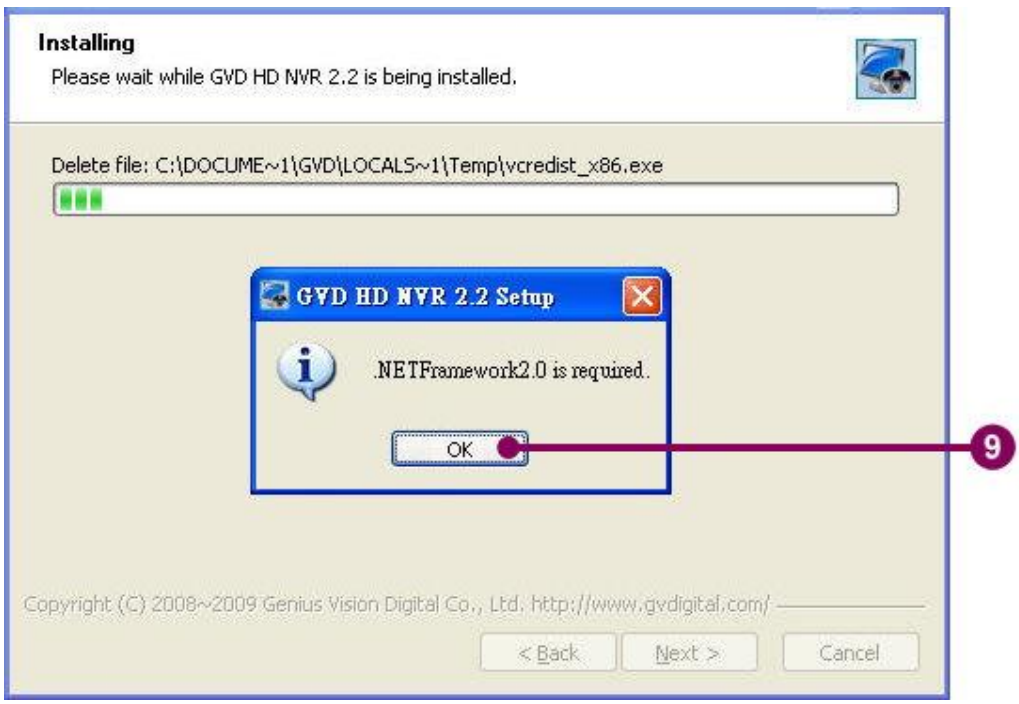
6. Select the installed device and click 'Install'. The setup program automatically creates a 'GVD' directory in the selected driver.



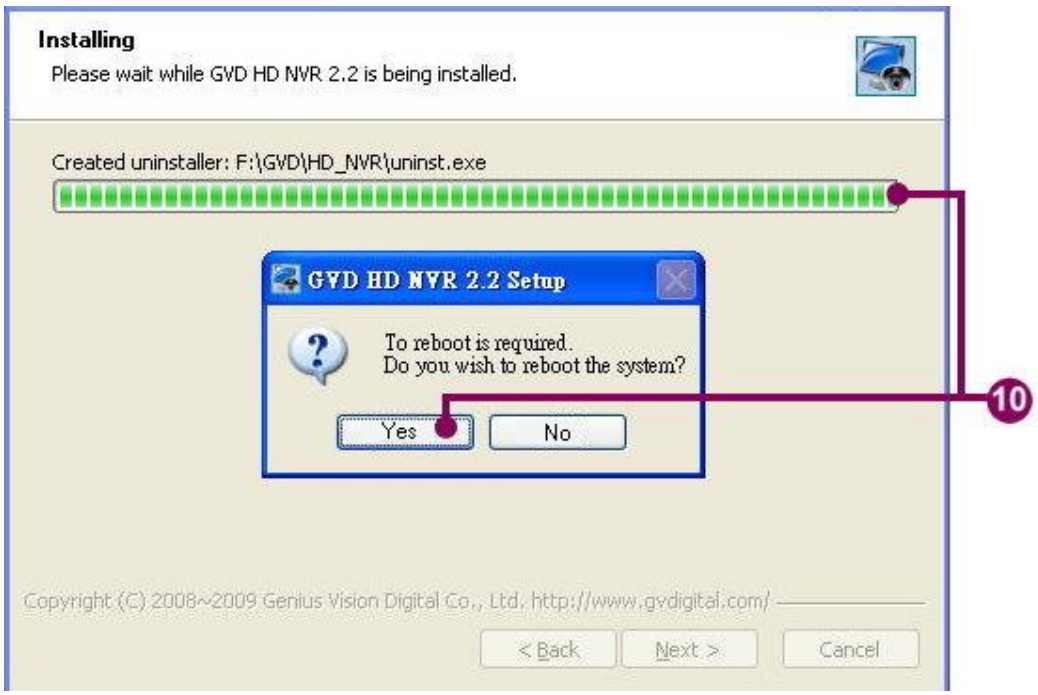
7. The setup program will automatically install Windows Installer 3.1 if the program has not been detected in the operation system.



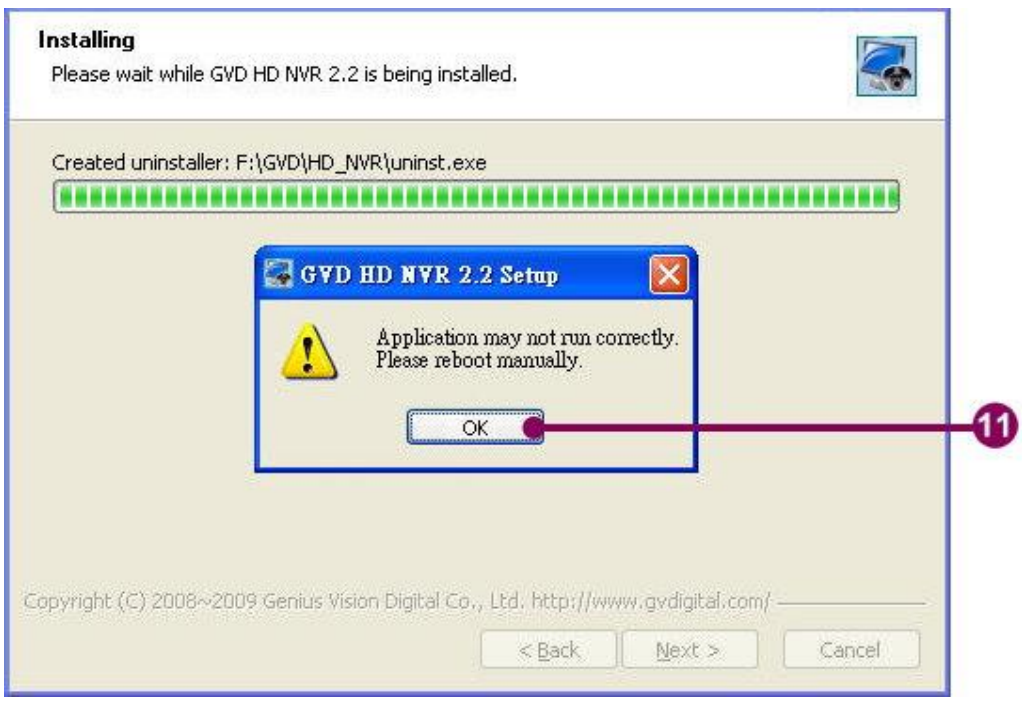
8. The setup program will automatically install VC80 if the program has not been detected in the operation system.



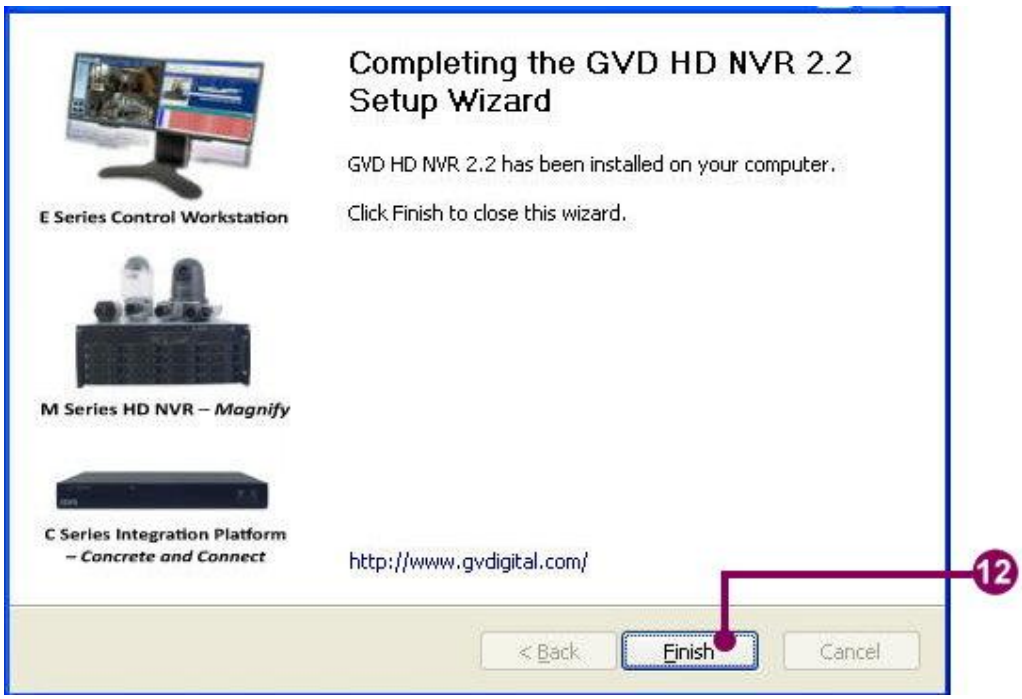
9. The setup program will automatically install .NET Framework 2.0 if the application has not been detected in the operation s ystem.



10. The setup program raises a reboot message. Click 'Yes' to reboot immediately.



11. Click 'No' and the setup program requires the user to reboot manually. Otherwise the system may not run correctly.



12. Click 'Finish' to complete. Restart the Windows®.

2-2-2 License Activation

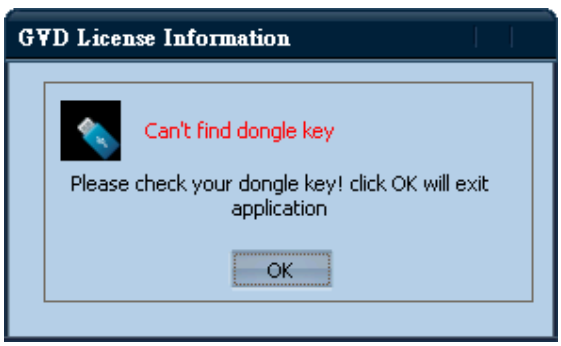
When the HD NVR Manager has been installed, the system automaticall y detects the authentication. If the authentication is not passed, the user needs to obtain the legal license and activate it.

There are two kinds of license activation:

- Dongle Key
- Software Authentication

2-2-2-1 **Dongle key**

The Dongle key is a hardware lock with a USB 2.0 connector. After the Dongle key is plugged into a USB 2.0 port, the system can run normally. Otherwise, the screen shows the following dialog:



To restart the system, you should:

1. Plug in the Dongle key.
2. Click 'OK' to close the dialog.
3. Restart the NVR and run the application again.

2-2-2-2 **Software Authetication**

To run the software authetication, see the following steps:

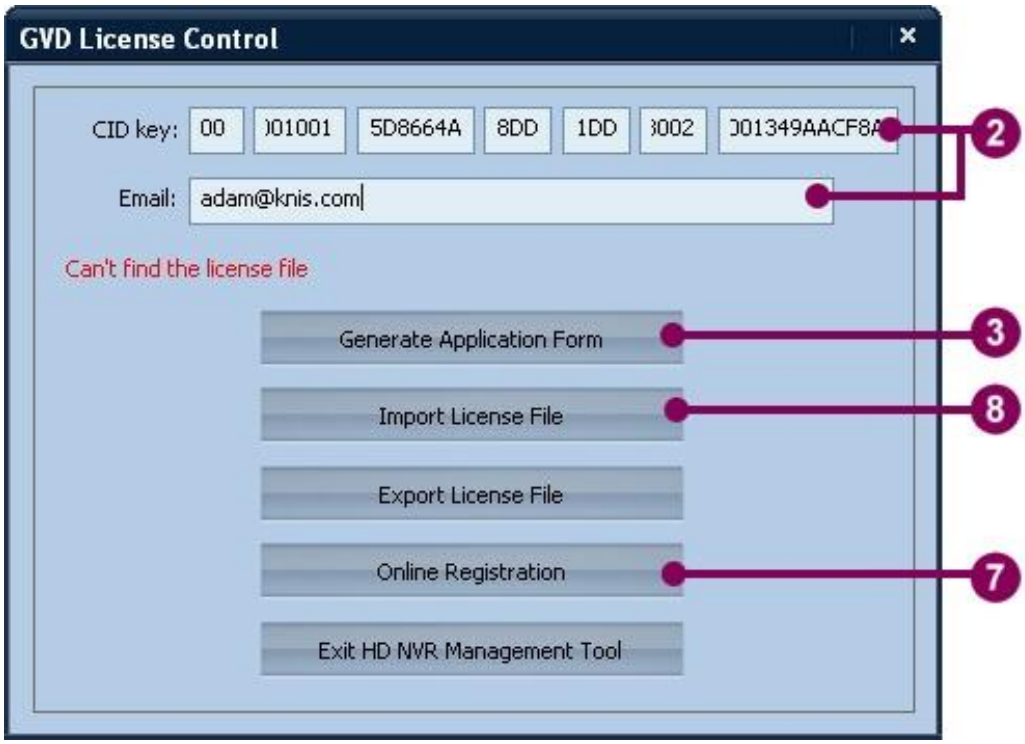
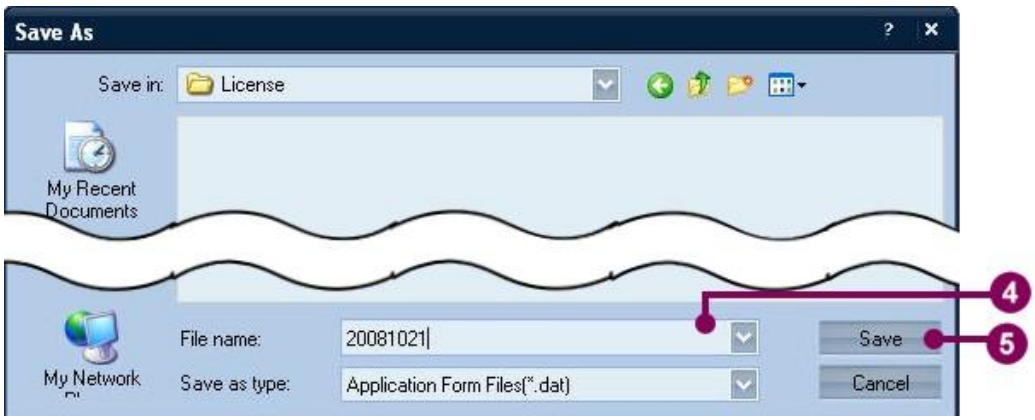


Figure 2-8 Software Authentication

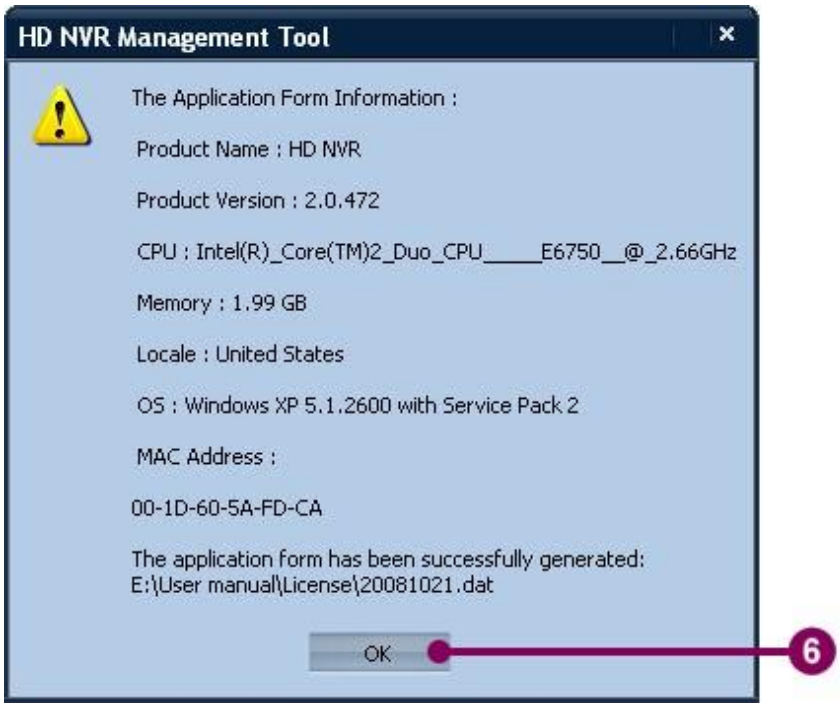
1. Double click the 'HD NVR' icon on the desktop, and the 'GVD License Control' dialog appears.

> **NOTE: Customers who buy the NVR models have passed the software authentication. The manufacturer will complete the license activation process before shipping.**

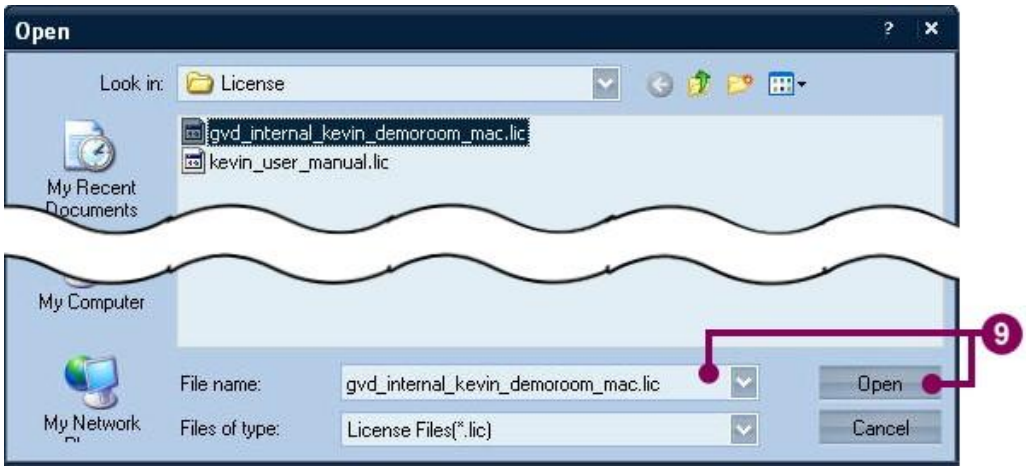
2. Type the CID key listed on the software box and the Email.
3. Click 'Generate Application Form', and a 'Save As' dialog appears.



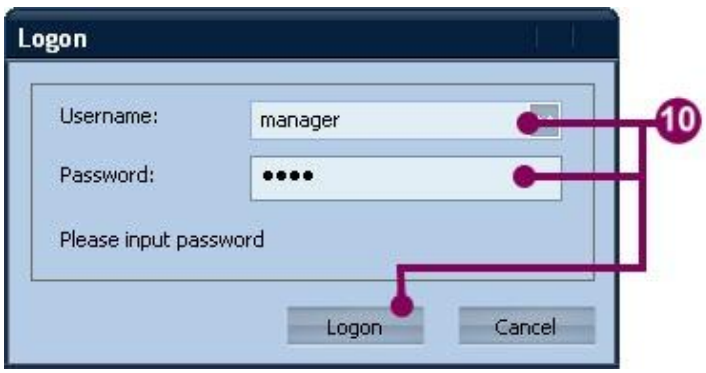
4. Input the file name of the application form. If necessary, change the folder.
5. Click 'Save'.



6. The 'HD NVR Management Tool' dialog shows the details of the application form. Click 'OK'.
7. Click 'Online Registration' in the 'GVD License Control' dialog. The program automatically opens a browser and connects to the registration website. Follo w the instructions on the webpage and upload the saved application form.
8. The manufacture verifies the application form for days. When the authentication has passed, the manufacture sends a license file to the registered mail address. Save the license file in the specific directory. Click 'Import License File' in the 'GVD License Control' dialog, and an 'Open' dialog appears.



9. Change to the license folder and input the file name, and click ‘Open’.



10. The screen shows the logon dialog. Use the ‘manager’ account and input the default password - ‘6001’. Click ‘Logon’ to run the system.

Chapter 3 SCM Program

3-1 SCM Brief

The SCM is for repository planning and management. When HD NVR Manager is installed, SCM program will be installed at the same time. By the SCM, the user can effectively manage all storage devices installed in the NVR for video recording. Before using the HD NVR Manager, the administrator should plan all accessible repositories in advance. The basic storage unit of the HD NVR Manager is called 'volume'. Every volume may manage one or more hard drive, maximally all installed hard drives.

SCM program is composed of four parts:

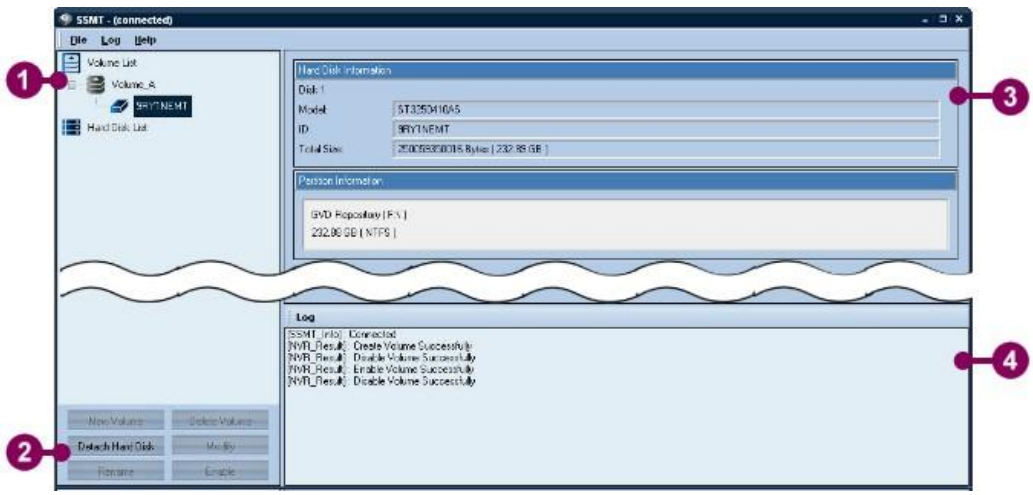


Figure 3-1 SCM Program

1. Device Panel
2. Buttons
3. Setting Panel
4. Log Panel

The SCM uses different icons to show the status of the volumes and hard drivers. See the following table for demonstration:

	Volume	Hard Driver
Normal		
Disable		
Warning		
Damaged		

3-2 Run the SCM Program

To run SCM program, see the following steps:

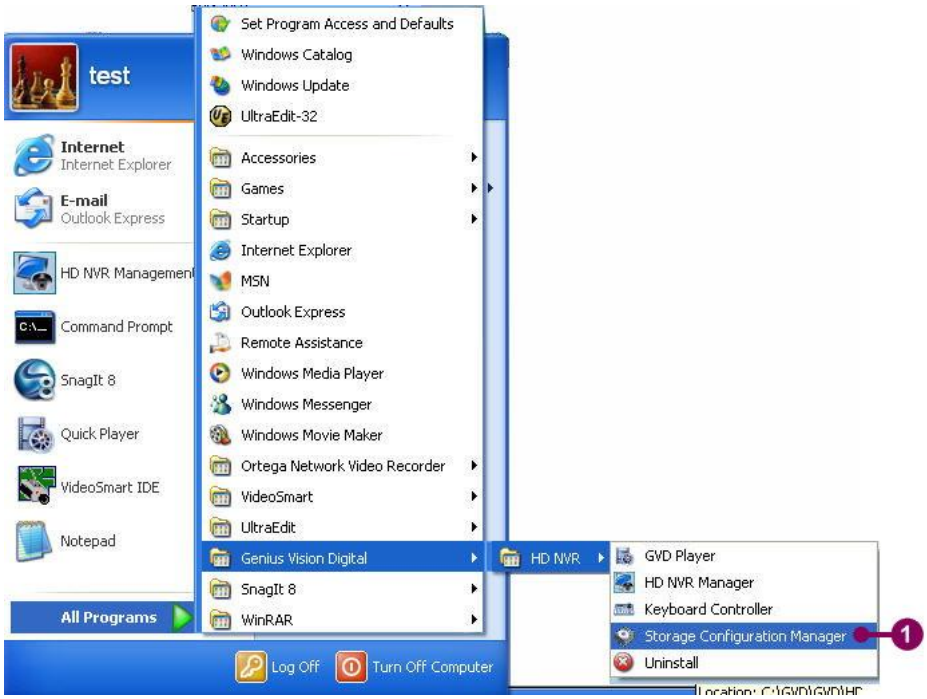
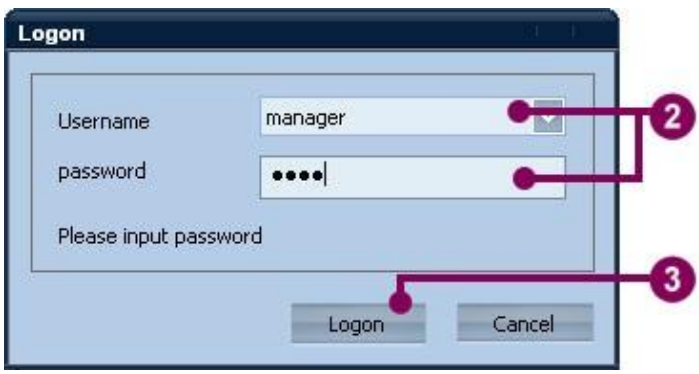


Figure 3-2 Run SCM Program

1. In the windows platform, click ‘Start’->’All Program’->’Genius Vision Digital’->’HD NVR’->’Storage Configuration Manager’.



2. When the logon dialog appears, select ‘manager’ in the username and input the password. (Input the default password ‘6001’ at the first time running.)
3. Click ‘Logon’.

3-3 Create a Volume

To create a volume, see the following steps:

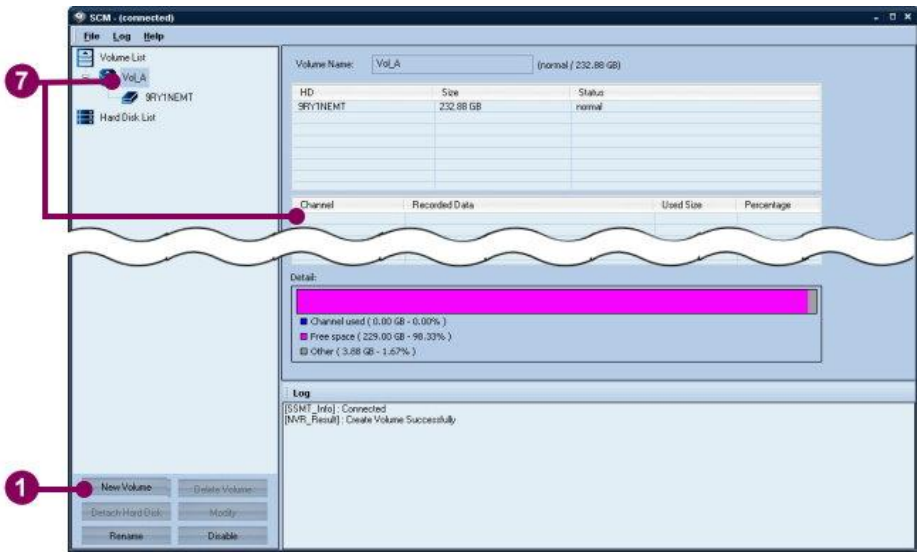
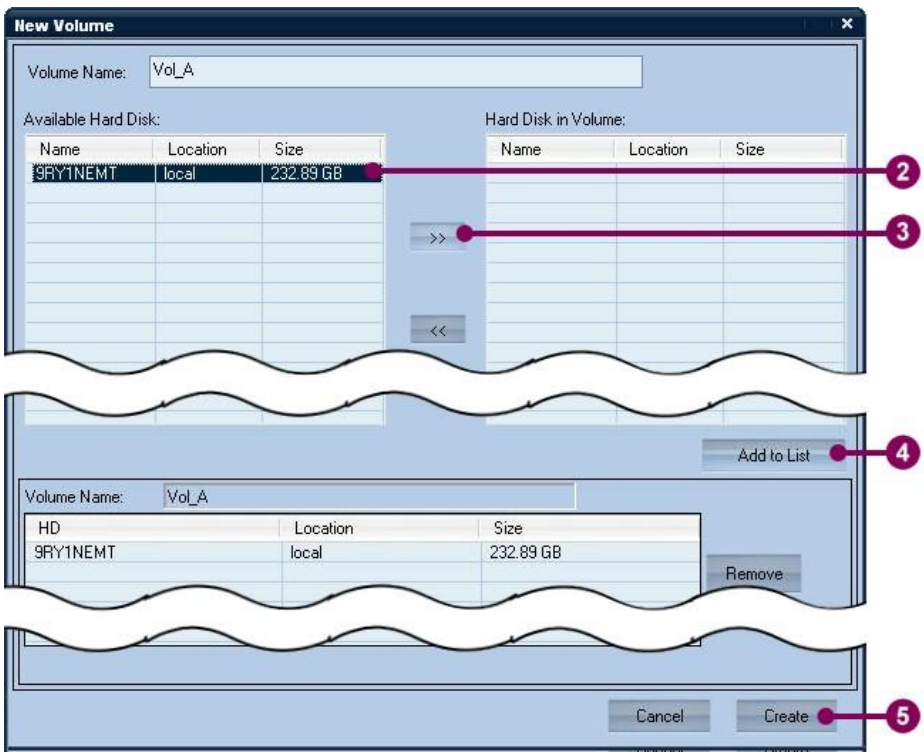


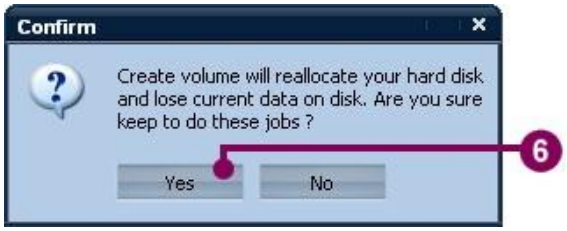
Figure 3-3 Create a volume

1. In SCM program, click ‘New Volume’.



2. Input the new volume name in the ‘Volume Name’ column.

3. Click the preferred hard disk from the available hard disk list. Then click >> (add) button to add the selected hard disk to the list of 'Hard Disk in Volume'.
4. Click 'Add to List' and the selected hard disk will be shown in the list below.
5. Click 'Create' to continue. (Or Click 'Cancel' to exit.)



6. The system shows a confirmation message – 'Create volume will reallocate your hard disk and lose current data on disk. Are you sure to do these jobs? ' Click 'Yes' to continue.
7. The system shows a progress bar. When the process is complete, the device panel has showed the new volume and its subsidiary hard disk(s), and the information of the formatted hard disk has been shown in the configuration panel.

TIP: Click the icon of the subsidiary hard disk in the device panel, and the configuration panel will show the information of the selected hard disk.

Warning: When new volume is created, all repositories in the new volume will be formatted directly. Save the data in the repositories first before formatting.

3-4 Rename the Volume Name

To rename the name of the volume, see the following steps:

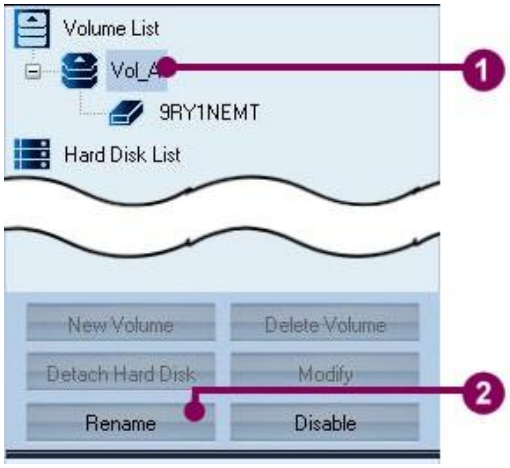


Figure 3-4 Rename the volume name

1. In SCM program, click the preferred volume in the device panel.
2. Click ‘Rename’. A ‘Volume rename’ dialog appears.

3. Type the new volume name in the column, and click ‘OK’.
4. The name of the selected volume has been changed.

3-5 Delete a Volume

To delete a volume, see the following steps:

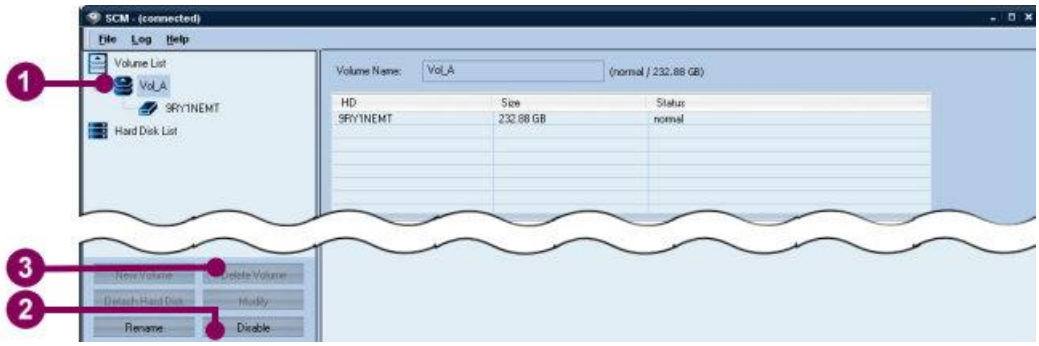
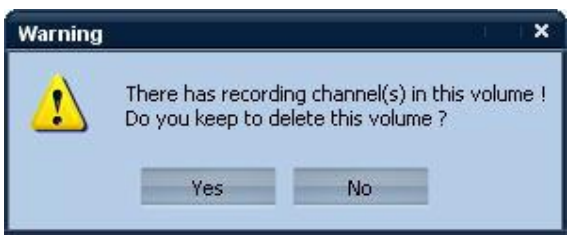


Figure 3-5 Delete a volume

1. In SCM program, click the preferred volume in the device panel.
2. Click 'Disable'. The system shows a confirmation message – 'Are you sure you want to disable this volume?' Click 'Yes' to continue.
3. Click 'Delete Volume'.

4. The system shows a confirmation message – 'Are you sure you want to remove this volume?' Click 'Yes' to continue. (Or click 'Cancel' to exit.)

NOTE: If there is recording data in the deleted volume, the system will raise the following message:



5. The selected volume has been removed from the volume list.

3-6 Modify a Volume

A volume may manage one or more than one hard disks. When a hard disk is damaged, SCM allows the user to remove the damaged hard disk from the volume and add a new hard disk to the volume without destroying other saved image data.

3-6-1 Add a hard disk to an existing volume

To add a hard disk to an existing volume, see the following steps:

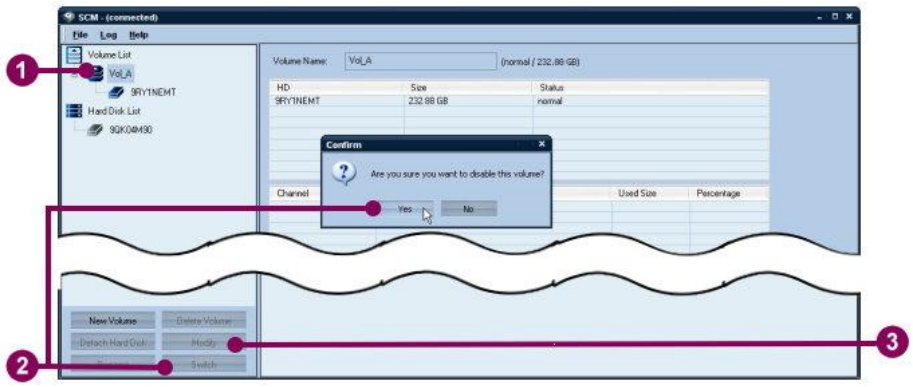
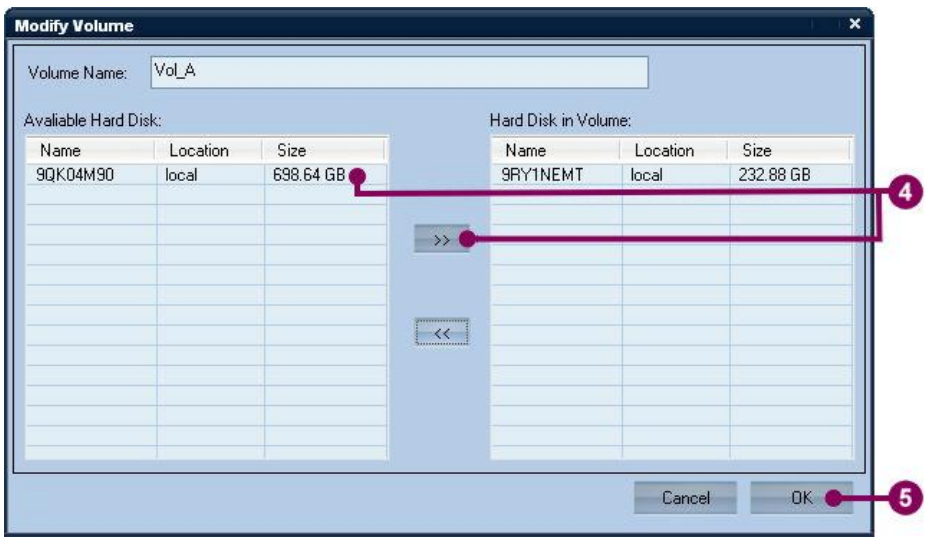


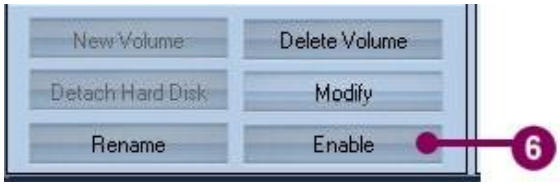
Figure 3-6 Add a hard disk to an existing volume

1. In SCM program, click the preferred volume in the device panel.
2. Click 'Disable'. The system shows a confirmation message – 'Are you sure you want to disable this volume?' Click 'Yes' to continue.
3. Click 'Modify'. A 'Modify Volume' dialog appears.

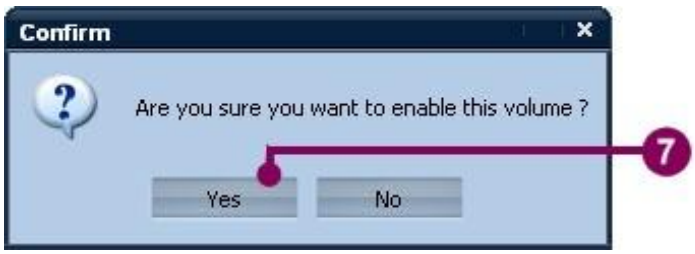


4. Click the selected hard disk in the list of the available hard disk, and click '>>'. The selected hard disk has been added to the list of 'Hard Disk in Volume'.

5. Click ‘OK’ to continue. (Or click ‘Cancel’ to exit.)



6. Click ‘Enable’ to restart the volume.



7. The system raises a confirmation message – ‘Are you sure you want to enable this volume?’ Click ‘Yes’ to complete.

3-6-2 Remove a hard disk from an existing volume

To remove a hard disk from an existing volume, see the following steps:

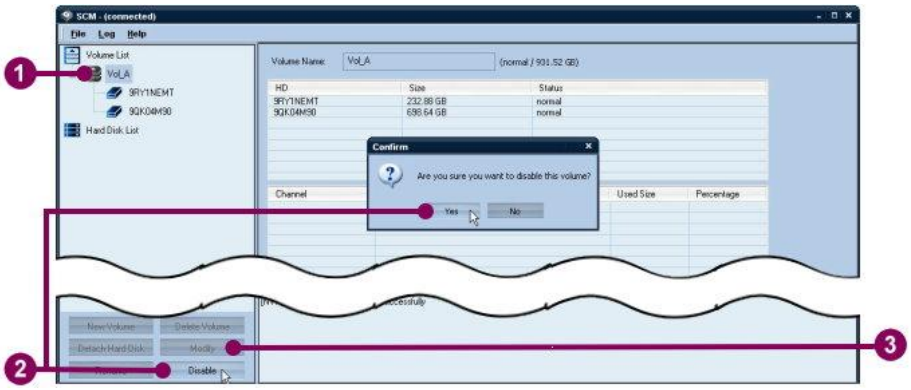
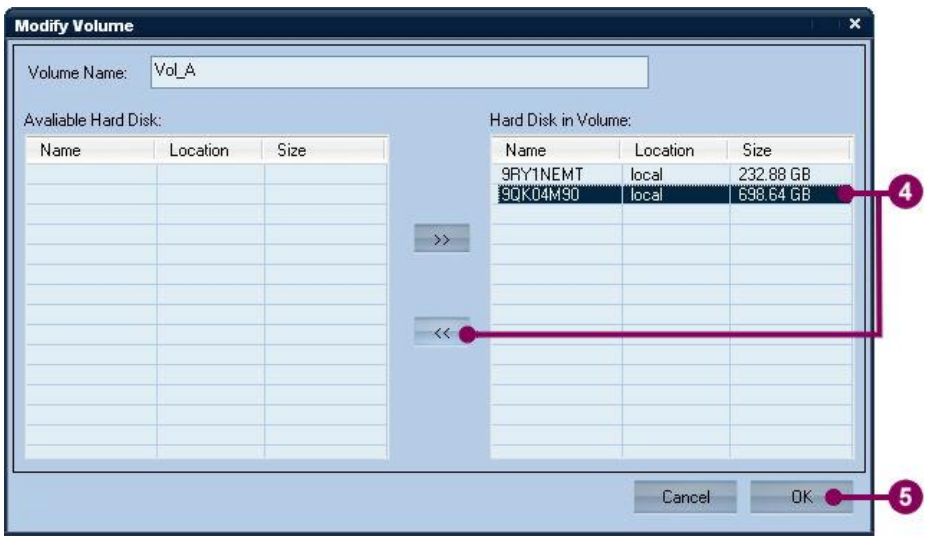


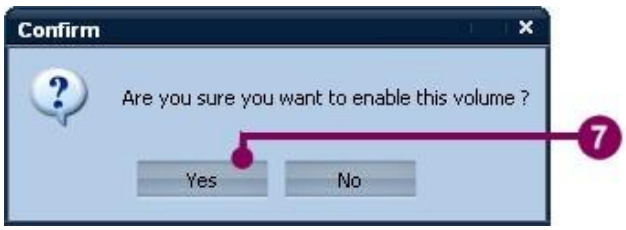
Figure 3-7 Remove a hard disk from an existing volume

1. In SCM program, click the preferred volume in the device panel.
2. Click 'Disable'. The system shows a confirmation message – 'Are you sure you want to disable this volume?' Click 'Yes' to continue.
3. Click 'Modify'. A 'Modify Volume' dialog appears.



4. Click the selected hard disk in the list of the Hard Disk in Volume, and click '<<'. The selected hard disk has been removed from the list of 'Hard Disk in Volume'.
5. Click 'OK' to continue. (Or click 'Cancel' to exit.)

6. Click 'Enable' to restart the volume.



7. The system raises a confirmation message – 'Are you sure you want to enable this volume?' Click 'Yes' to complete.

3-6-3 Detach a hard disk

SSMT allows the user to detach a damaged hard disk directly without disable the volume. The function will keep the recording function from terminating. To detach a hard disk, see the following steps:

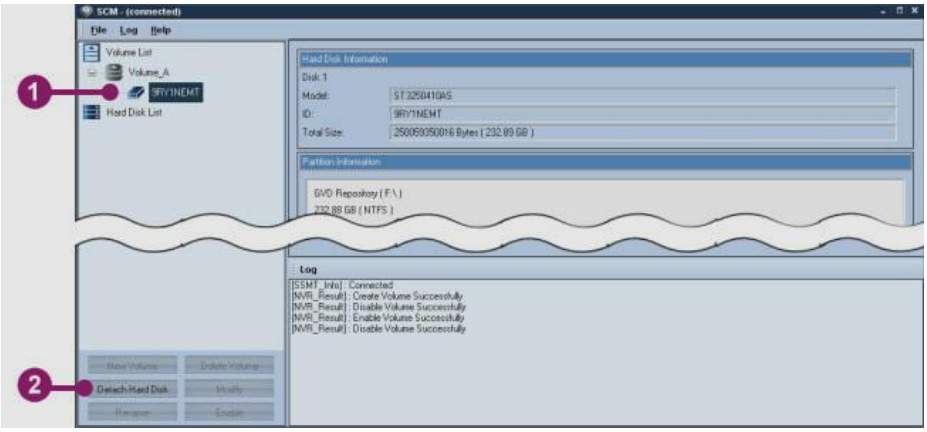
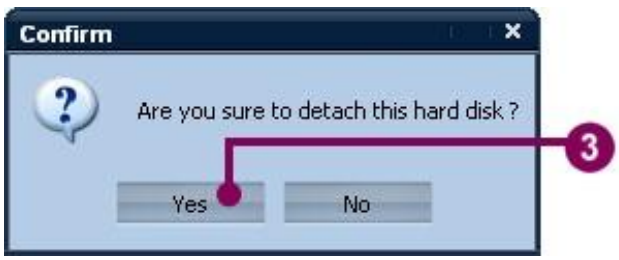


Figure 3-8 Detach a hard disk

1. In SCM program, click the preferred hard disk in the device panel.
2. Click 'Detach Hard Disk'.



3. The system raises a confirmation message – 'Are you sure to detach this hard disk' Click 'Yes' to continue.
4. The selected hard disk has been detached.

NOTE: When the volume has managed only one hard disk, running the 'detach hard disk' function will delete the volume as well.

3-7 Save the log

The log records all events since the program has run. SCM program allows the user to save the log to an external file. To do so, see the following steps:

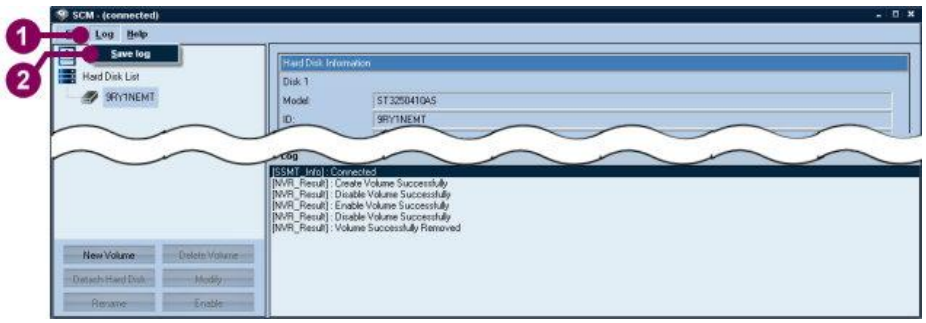
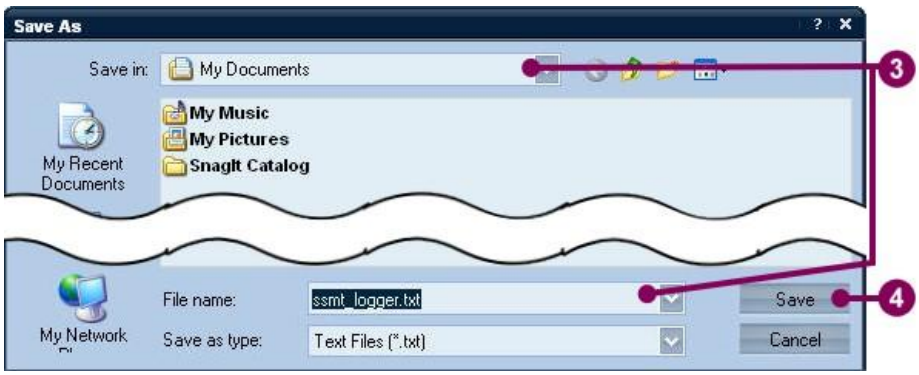


Figure 3-9 Save the log

1. Click 'Log' in the main menu.
2. Click 'Save log'. A 'save as' dialog appears.



3. Change the directory and input the file name.
4. Click 'Save' to complete.

3-8 Exit the SCM Program

To exit SCM Program, see the following steps:

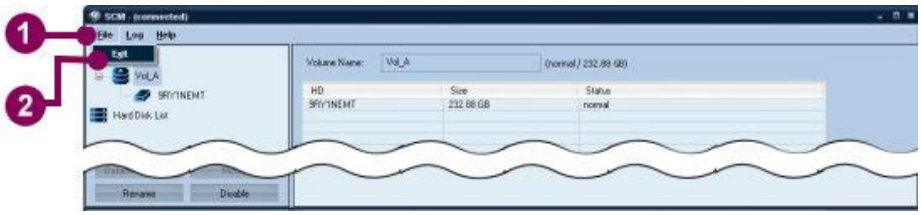
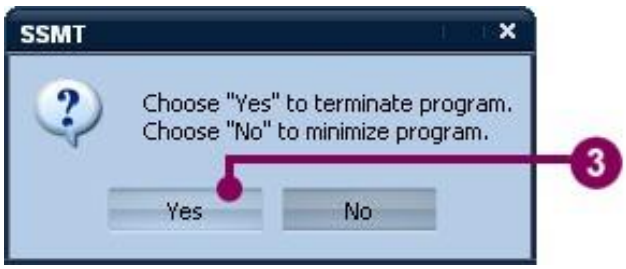


Figure 3-10 Exit SCM Program

1. Click ‘File’ in the main menu.
2. Click ‘Exit’.



3. The system raises a message – ‘Choose “Yes” to terminate program. Choose “No” to minimize program.’ Click ‘Yes’.

Chapter 4 System Operation

4-1 General Introduction

4-1-1 Basic Operation Modes

The system provides four operation modes:

- The display mode
- The alarm mode
- The event mode
- The configuration mode

Click the four buttons at the right hand side of the system tab to change the operation mode.

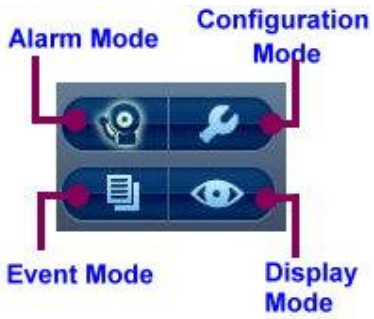


Figure 4-1 Four basic operation modes

The display mode allows the user to monitor the images from the channels, manipulate the channels or associated DI/DO points, and export the necessary files. See the following demonstration.

Figure 4-2 The Display Mode

The alarm mode lists all inactive and pending alarms and allows the user to preview the recorded video clip of the alarm. This mode also provides the user with the alarm searching function that helps the user to find the preferred alarm from numerous alarms. Refer to chapter 5 'Alarm & Event Mode' for detailed information. See the following figure about the alarm mode.

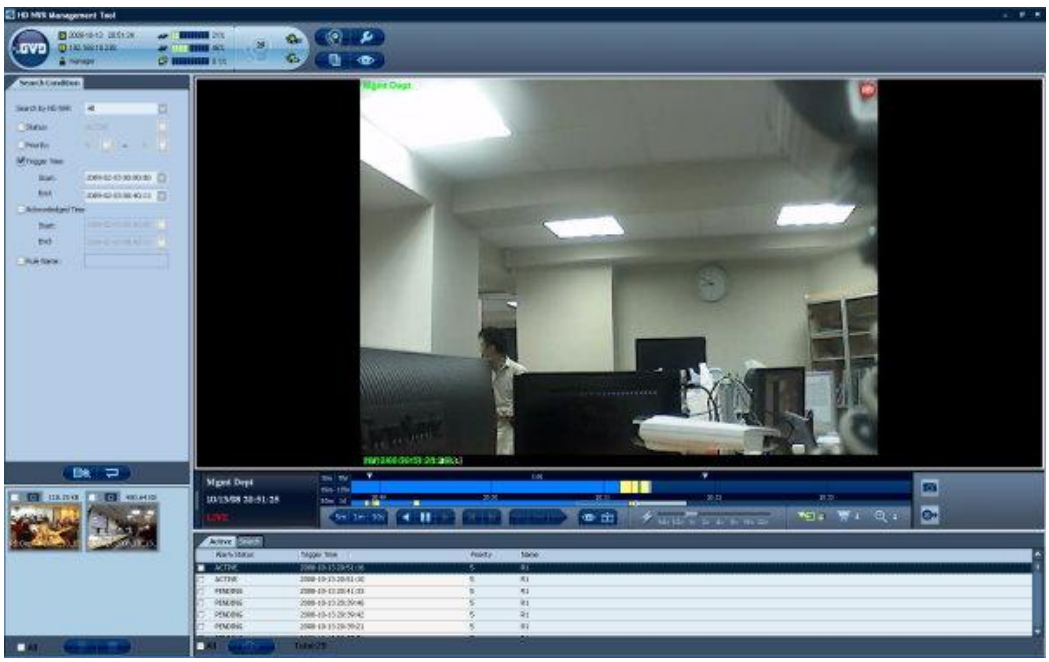


Figure 4-3 The Alarm Mode

The event mode allows the user to review thr ee events: by the system, by the user, and by the camera. The event mode also provides the user with the event searching function that helps the user to find the preferred event from numerous alarms. Refer to chapter 5 'Alarm & Event Mode' for detailed information. See the following figure about the event mode.

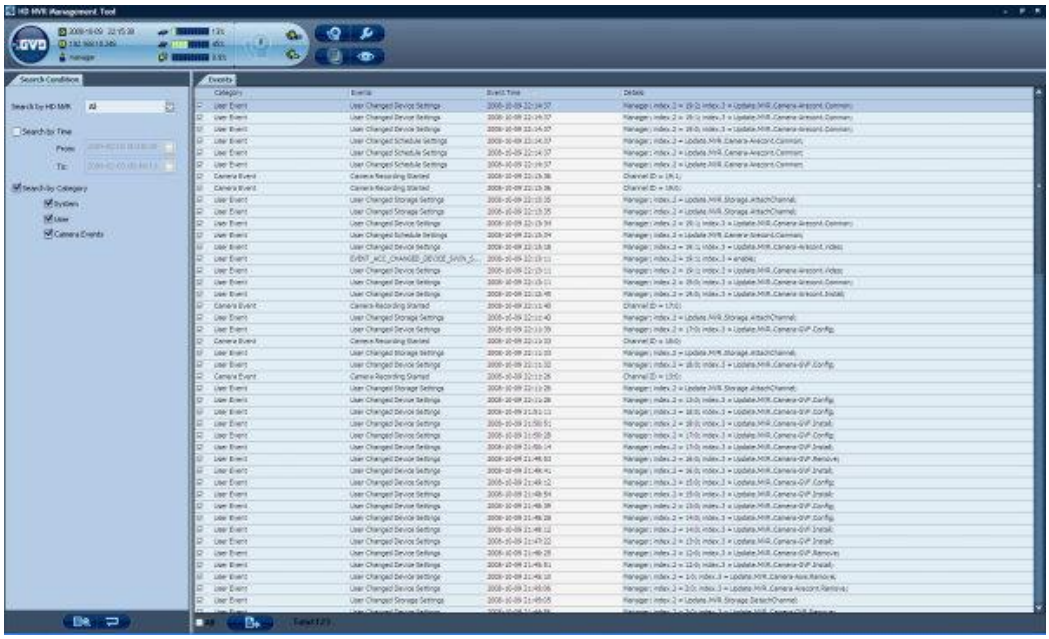


Figure 4-4 The Event Mode

The configuration mode allows the user to conduct three main settings: the device setting, the storage setting, and the system setting. The device setting shows the information of all connecting devices and allows the user to add, modify, and delete the connecting devices. The storage setting allows the user to review the storage information. The system setting includes four parts: the map setting, the user account setting, the alarm rule setting, and the schedule setting. Refer to chapter 6 'Configuration Mode' for detailed information. See the following figure:.

Figure 4-5 The Configuration Mode

4-1-2 Brief of the Display Mode

The display mode is composed of the following parts:

1. Logo & Sys Info
2. Tree Panel
3. Pattern Panel Mode button, function button, tour list
4. Video Display Panel
5. Spooler Panel

See the following figure:

Figure 4-6 The demonstration of the display mode

4-2 System Tab

The system tab includes two parts: system information panel & alarm information panel. See the following figure:

Figure 4-7 The System Tab

The system information panel includes six messages: (1) Current Date & Time, (2) IP address of this machine, (3) login account, (4) the usage percentage of CPU, (5) the usage percentage of memory, and (6) the usage percentage of network.

The alarm in formation panel includes three elements: (a) numbers of active alarms, (b) the alarm alert button, and (c) the alarm pop-up button. Refer to section 5-2 'Turn On/Off the Pop-up Alarm' and section 5-3 'Turn On/Off the Alarm Sound' for more information.

4-3 Camera Tree & Map

In the display mode, the left panel below the system tab is the camera & map tree panel. The panel has two tabs: the camera tree tab and the map tree.

4-3-1 Camera Tree

The camera tree shows the NVR and all channels that have been added to the system as well as the subsidiary DI/DO points. The channel represents the video image that can be played on the viewer, and there are five channel types - the general IP camera, the PTZ camera, high-definition camera, 180 degree IP Dome camera, and 360 degree IP Dome camera. Some specific channels equip with sub channel or digital I/O will be shown in the tree. By observing the channel icon in the tree, the user may easily distinguish from the status of all connecting devices. The user may also view the image by dragging a camera icon and dropping to the viewer as well as changing the value of the DO points.

If the sub channel function has been activated, the camera tree will show the sub channel as a sub node of the channel in the tree. Retrieved partially from the original camera image, the sub channel can be regarded as an independent video image that allows the system to play and record, just like an ordinary camera image.

4-3-1-1 Icon Status

The system provides different channel icons for channel status. See the following table for demonstration.

	Generic D1 Channel	High Definition Channel	Sub Channel	PTZ D1 Channel	180-degree IP Dome	360-degree IP Dome
Connected						
In Recording						
Video Lost						
In Recording & Alarm						
Video Lost & Alarm						

	Digital Input Point	Digital Output Point
Active		
Active & Alarm		
Offline		
Inactive		
Inactive & Alarm		

4-3-1-2 **Control the DI/DO Points**

From the camera tree panel, the user may direct ly view the DI point and change the value of the DO points. To change the value of the DO point, see the following steps:

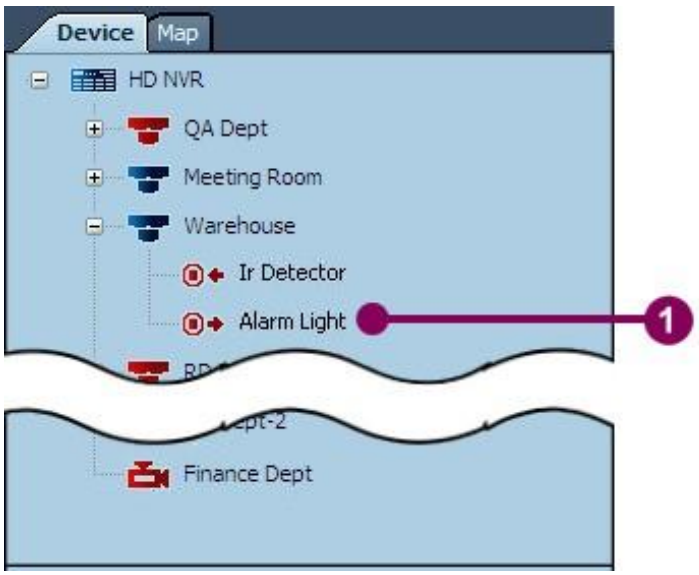
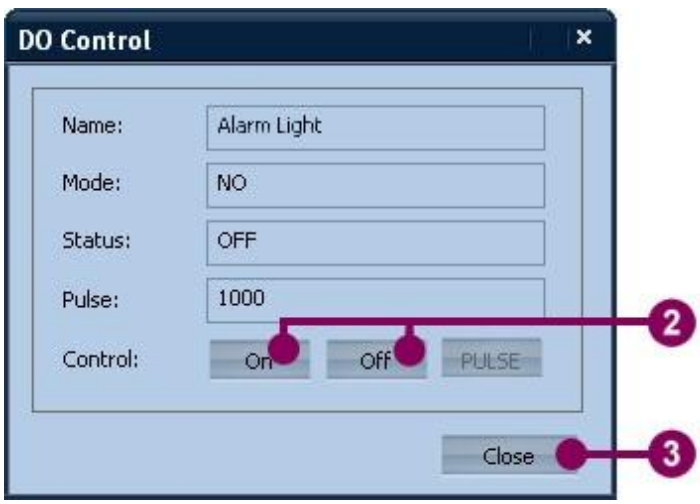


Figure 4-8 Control the DI/DO points

1. Simply double click the selected DO point on the camera tree, and a DO control dialog appears.



2. Click the On/Off button to change the value of the DO point.
3. Click 'Close' to close the dialog.

4-3-2 Map

The map tab shows the map tree, and all added maps are nodes of the map tree. Like the camera tree, the node can be dragged from the map tree and drop it on the viewer. A map is a HTML-based file. The map can embed the connecting channels and associated DI/DO points. From the map, the user can learn the geographic position of the connecting cameras or DI/DO points as well as the type and usage status of the devices. The user can drag the camera icon not only from the camera tree but also from the map, and he/she can drop it in a viewer to view the image. In addition, the system allows the user to control the DO points on the map directly, just like the way on the camera tree.

Inherited from its HTML base, the map supports the hyperlink function. The user can directly click the hyperlink on the map, and the viewer will access to the linked object. For example, a hyperlink to the Google Map has been added to the map. When the user clicks the hyperlink, the viewer shows the associated content.

When the system has communicated with many cameras and DI/DO points, multiple maps will helps the user to find the preferred device quickly. Also, the combination of the map and the tour function will effectively helps the user to monitor all critical images.

Figure 4-9 The map in the viewer

4-4 Patterns & Tour

The layout and pattern panel (abbr. pattern panel) is at the right-hand side of the function panel. A layout is a set of blank viewer distribution. A pattern is a customized layout with 1 to 16 blank or playing viewers on the screen. From a pattern, the user may view different camera images simultaneously. By switching different patterns, the user may view all camera images in a short time.

The pattern panel includes two tabs: select layout and tour list. The select layout provides the user with layout templates for selection. Currently, the system offers 12 layout templates. The tour list shows all customized patterns by the user. When more than two patterns are saved in the tour list, the tour function can be triggered.

4-4-1 Layout Templates

To view the layout template, see the following steps:

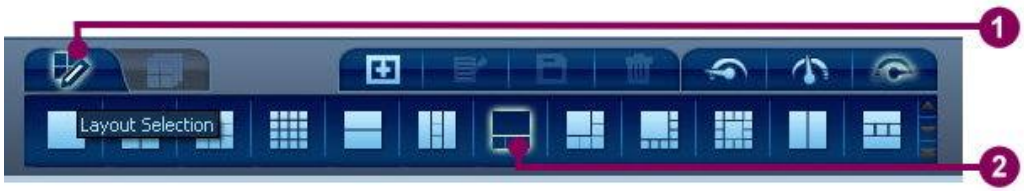
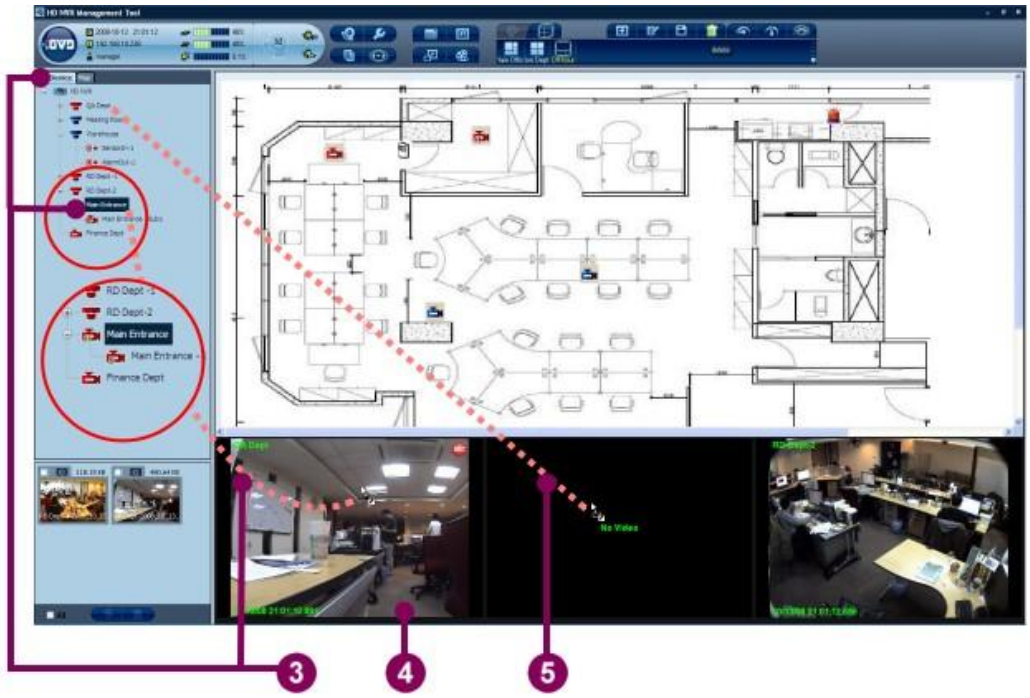


Figure 4-10 View the layout templates

1. In the pattern panel, click 'Select layout' tab.
2. In the select layout tab, click the preferred layout. The new layout shows on the video display panel.

TIP: To quickly select the layout, the user may press the hot keys of '1' to '9' to switch the preferred layout. The 9 hot keys of '1' to '9' associate to the first 9 patterns in the pattern panel. For example, press the hot key '1', and the video display panel will show the 1x1 pattern layout; press the hot key '2', and the 2x2 pattern layout is shown, and so on.



3. Drag an active channel icon from the camera tree (If the camera tree does not appear, click the device tab first.), and drop the icon on the preferred viewer.
4. The system automatically plays the selected camera image on the viewer.
5. Repeat the steps 3 and 4 until all viewers have shown images.

NOTE: Refer to section 4-5 'Viewer' for more details about the viewer.

NOTE: Click the 'Full Screen' ( ) button, the size of the pattern will be stretched to the full screen. Press the 'Esc' key to toggle the original size.

4-4-2 Customize a Pattern

The NVR allows the user to customize the preferred pattern templates. When the user toggles a customized pattern, the pattern recalls all saved settings and shows all live images of associated channels directly. There are four function buttons: add to the tour list, edit name, save, and delete.

Figure 4-11 Customize a pattern

NOTE: When the system restarts, the first customized pattern in the tour list will be played automatically.

TIP: To quickly select the customized pattern, the user may press the hot keys of '1' to '9' to switch the preferred pattern. The 9 hot keys of '1' to '9' associate to the first 9 customized patterns in the pattern panel.

4-4-2-1 **Add a pattern to the tour list**

All patterns will be kept in the tour list. To add a new pattern, see the following steps:

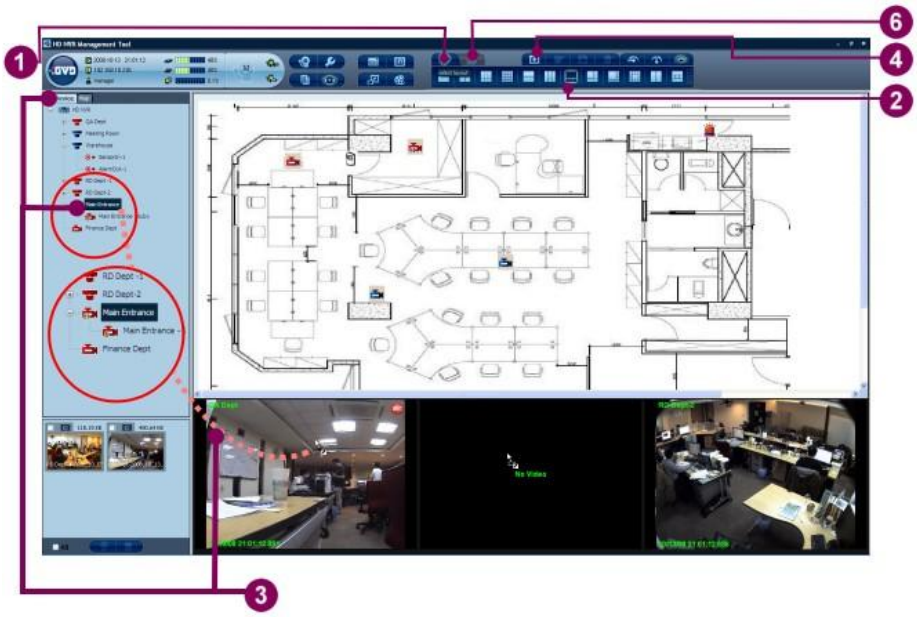


Figure 4-12 Add a pattern to the tour list

1. Click the 'Select layout' tab.
2. Select the preferred layout template from the select layout list.
3. From the tree panel, drag the preferred channel or map icons and drop it on the viewers.
4. Click the 'Add to the tour list' button.

5. When the 'Edit name' dialog appears, type a new pattern name and click 'OK'. (Or click 'Cancel' to exit.)
6. Click the 'Tour list' tab, and a new pattern has been showed in the tour list.

TIP: When the customized patterns in the tour list have more than 12, the user may click the up-down button at the right hand side, and a vertical pattern list will appear.

4-4-2-2 **Change the Pattern Name**

To edit the pattern name, see the steps below:

Figure 4-13 Change the pattern name

1. Click the 'Tour list' tab.
2. Click the preferred pattern.
3. Click the 'Edit name' button.

4. When the 'Edit name' dialog appears, type a new pattern name and click 'OK'. (Or click 'Cancel' to exit.)
5. The pattern name in the tour list has been changed.

4-4-2-3 **Save the pattern change**

When the pattern has been changed, see the following steps to save the modification:

Figure 4-14 Save the pattern change

1. Click the 'Tour list' tab.
2. Click the preferred pattern in the tour list.
3. After the pattern has been changed, click the 'Save' button.

4-4-2-4 **Delete a pattern from the tour list**

To delete a pattern from the tour list, the user may see the following steps:

Figure 4-15 Delete a pattern from the tour list

1. Click the ‘Tour List’ tab.
2. Click the selected pattern.
3. Click the ‘Delete’ button.
4. The deleted pattern has been removed from the tour list.

4-4-2-5 Change the playing speed of the pattern

The bandwidth impacts the playing speed. If the communication between the system and channels consumes too many bandwidths, the viewers will play intermittently and sluggishly. Three speed buttons at the right hand side of the function panel can set the optimal playing speed while the required bandwidth is not enough.

The followings introduce the speed buttons:

High Speed ( ): All viewers, including the active viewer with the white frame, plays in full speed.

Medium Speed ( ): Only the active viewer plays in full speed, and other viewers play in low speed.

Low Speed ( ): All viewers play in low speed.

NOTE: When the CPU operation has over 85% for 5 seconds, the system will automatically lower the playing speed of the pattern (from high speed to medium speed, or from medium speed to low speed). The protection will prevent the system from crash.

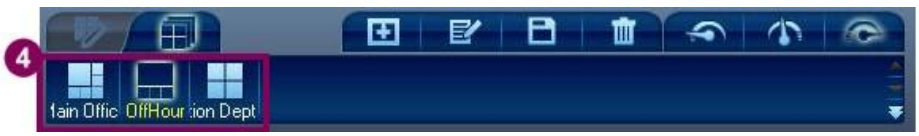
TIP: Press the hot key 'P' to toggle the playing speed of the pattern.

4-4-2-6 **Change the pattern order**

When the tour function is running, all patterns will be played by the order. To change the pattern order, see the following steps:

Figure 4-16 Change the pattern order

1. Click the 'Tour List' tab.
2. Click the selected customized pattern icon.
3. Drag the icon and drop the icon to the preferred position.



4. The tour list shows the updated order.

NOTE: If the patterns are more than 12, the user may click the scroll bar at the right hand side to find the preferred pattern.

4-4-3 Run a Tour

The tour function plays all patterns in the tour list by order and by time. To run a tour, see the following steps:

Figure 4-17 Run a tour

1. Click the ‘Tour List’ tab.
2. Click the ‘Tour’ button.
3. The system runs the tour automatically.

4-5 Viewer

4-5-1 Brief of the Viewer

The viewer is the main operation unit of the HD NVR Manager. Not only the viewer plays the live image from multiply ways, like general camera, PTZ camera, 180 or 360 degree IP Dome camera, sub channel, ROI, channel icon in the map, , but also the viewer offers the functions of historical image playing, image seeking, retrieving, as well as motion detection.

A viewer is composed of the channel image, the on-screen display (OSD), and four indicators. When the user activates the sub channel or the ROI function, the viewer an associated area in a colored rectangle will be showed in the viewer.

The following figure displays all relative details of the viewer.

Figure 4-18 Brief of the Viewer

NOTE: The viewer with the white frame in a pattern is regarded as the active viewer.

The following section will introduce all detailed functions of the viewer.

4-5-2 Play An Image

To play an image in the viewer, follow the steps:

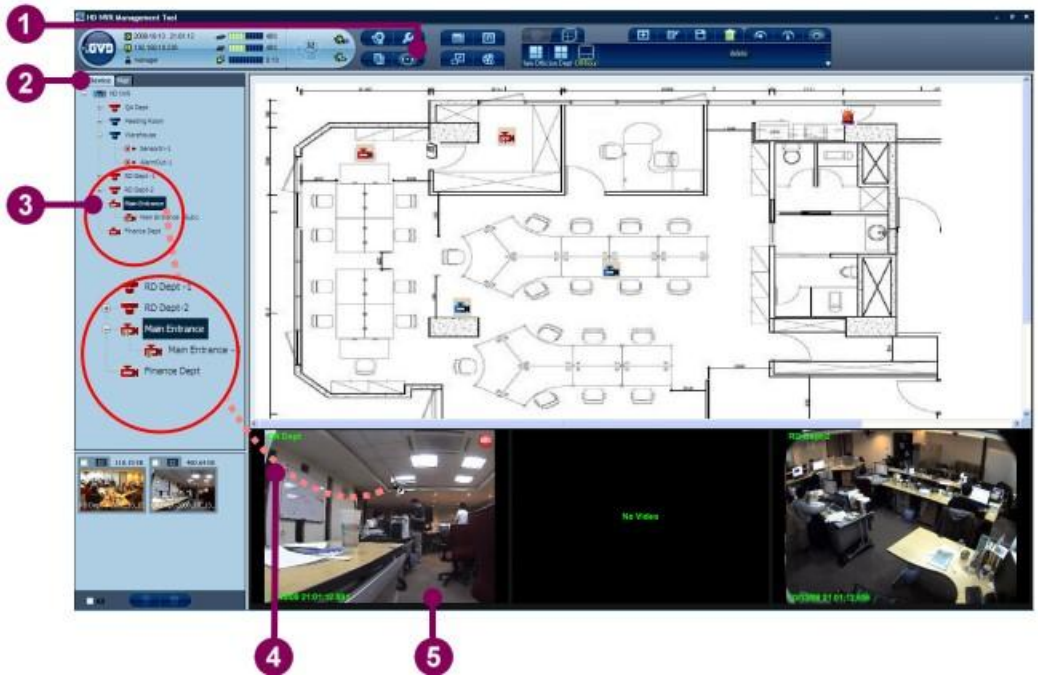


Figure 4-19 Play an image in the Viewer

1. Click the 'Display mode' button.
2. Click the 'Device' tab in the Camera tree panel.
3. Select the preferred channel icon from the camera tree. (Refer to the section 4-3-1-1 'Icon Status' for channel icon description.)
4. Drag the preferred channel icon and drop it in a viewer.
5. The viewer plays the live image immediately.

TIP: When two images are played simultaneously, the user may drag the active viewer and drop it to other viewer (Viewer 2). The two viewers will swap the position automatically.

TIP: When the image is playing, the user may press the hot key 'F9' to show the image information. The information includes:

Source FPS – indicate the source frame per second
Decode FPS – indicate the decode frame per second
Render FPS – indicate the render frame per second
Timestamp – indicate the timestamp of the playing image
Latency – indicate the latency of the playing image
Queue Size – indicate the queue size
Resolution – indicate the resolution of the playing image
Codec – indicate the codec the viewer uses now
Bitrate – indicate the bitrate of the playing image

4-5-3 OSD Setting

The OSD setting can turn on/off the display messages . The OSD setting includes four messages: channel name, Timestamp, Timeline, and Sub Channel. See the following descriptions.

Channel name: the channel name is located in the upper left corner of the viewer. The channel name shows the image source, which name is as same as the channel name in the camera tree. The option allows the user to change the display color.

Time Stamp: the time stamp is located in the lower left corner of the viewer. The Time stamp shows the date and time of the playing image. The option allows the user to change the display color and the time format.

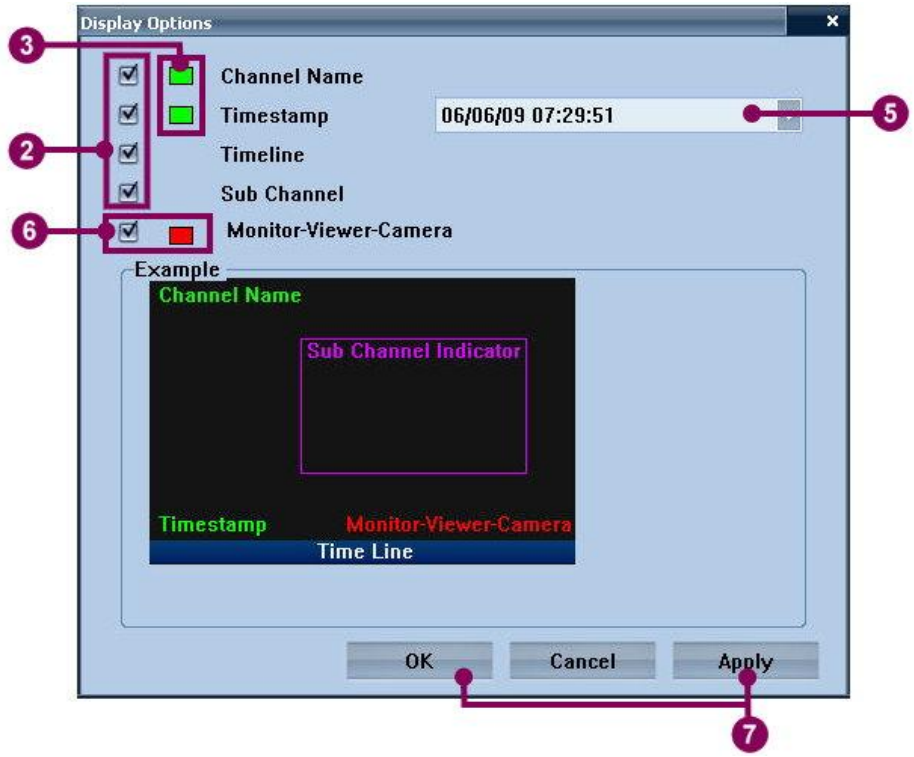
Time Line: the time line is a bar and located at the bottom of the viewer. The time line bar shows the playing, recording, and alarm status of the playin g image.

Sub channel: sub channel is shown only when the function is enabled. In the viewer, a sub channel is a purple rectangle frame. Refer to section 4-5-7 'Play The Image from A Sub Channel' for more information.

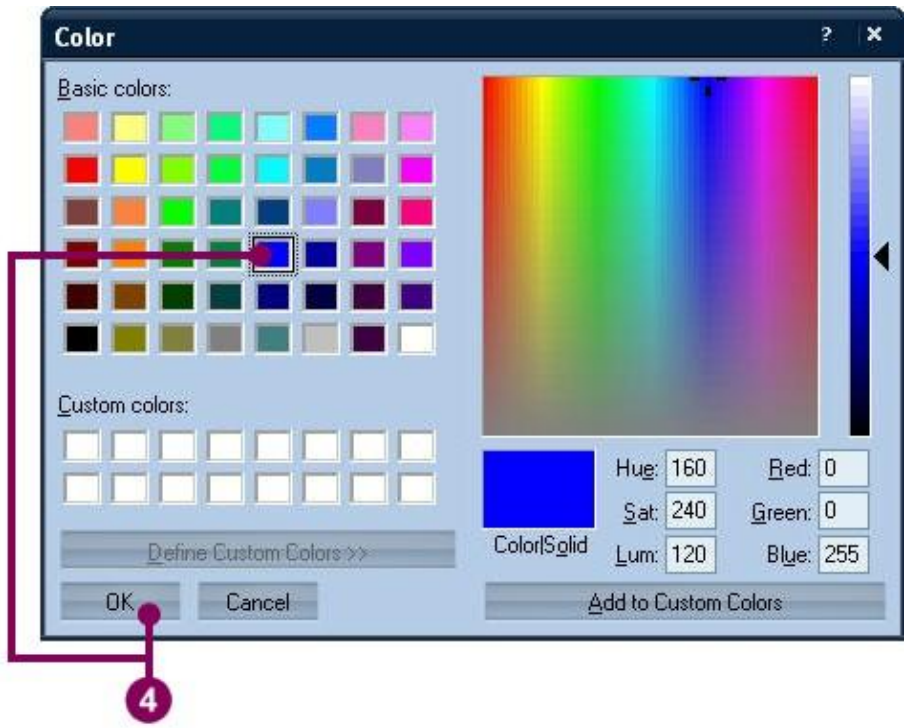
To modify the OSD setting, see the following steps:

Figure 4-20 Change the OSD setting

1. In the display mode, directly click the 'OSD setting' button. A display option dialog appears.



2. Check the preferred checkboxes in the dialog. The example panel at the lower part of the dialog shows the preview.
3. When the color of the channel name or the time stamp i s close to the background, the user can click the color square of the channel name or the time stamp, and a color dialog appears.



4. Click the selected color in the color dialog and click ‘OK’ to change the color.
5. To change the timestamp of the viewer, click the combo box of the time format at the right hand side of the timestamp, and the viewer shows the new time format of the timestamp.
6. When the K-200 keyboard has been connected, an option of ‘Monitor-Viewer-Camera’ appears. If the option is checked, a specific code number of K-200 keyboard will appear at the bottom-right corner of the viewer. Repeat step 3-4 to change the font color of the code.
7. Click ‘Apply’ to confirm the changes. Click ‘OK’ to confirm the changes and close the dialog. (Or click ‘Cancel’ to cancel the changes.)

4-5-4 Maximize the Viewer

This function allows the user to fully stretch the viewer's size as wide as the 1×1 pattern. When the playing image comes from the mega pixel camera, the function helps the user to review more details in the image.

To maximize the viewer, see the following steps:

Figure 4-21 Maximize the Viewer

1. If the selected viewer is not active, set the viewer active.
2. Right click the mouse, and a pop-up menu appears.
3. Click the 'Maximize' item in the pop-up menu.

4. The active viewer maximizes the size immediately.

TIP: Double click the active viewer directly to replace the steps 2 and 3. Double click the stretched viewer, and the system will recall the original pattern.

TIP: If necessary, the user may click the 'Full Screen' ( ) button to show the viewer in the full screen mode.

TIP: When the viewer is playing an image, press [Enter] to toggle the current pattern and the 1x1 pattern. When the 1x1 pattern is shown, only the active viewer is playing.

4-5-5 Adjust the Image Ratio

The system allows the user to change the display ratio in either the original image ratio or the stretched ratio. To adjust the image ratio, see the following steps:

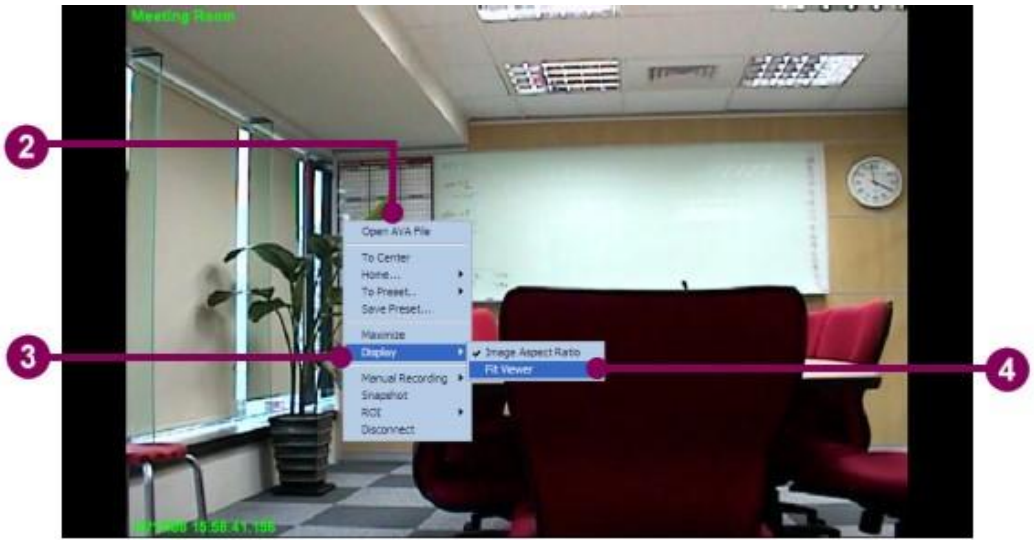


Figure 4-22 Adjust the image ratio

1. If the selected viewer is not the active viewer, set the viewer active.
2. Right click the mouse, and a pop-up menu appears.
3. Move the mouse to the 'Display' item, and a sub menu appears.
4. The sub menu includes two options: 'Image Aspect Ratio' and 'Full Viewer'. Click 'Image Aspect Ratio', and the image will be shown the original image ratio the camera has gotten. Click 'Full Viewer', and the image will be stretched to fit the whole viewable area of the viewer.

NOTE: To set all viewers in either the original image size or the stretched size, refer to section 6-1-1 'NVR' for more details.

4-5-6 Operate A Map File in the Viewer

The viewer can open not only the general channel image but also the HTML-based map file. A map file allows the user to conduct the following three operations:

1. Open a map in the viewer.
2. Show the channel image from the map.
3. Change the value of the DO point in the map

4-5-6-1 Open A Map in the Viewer

To open a map in the viewer, see the following steps:

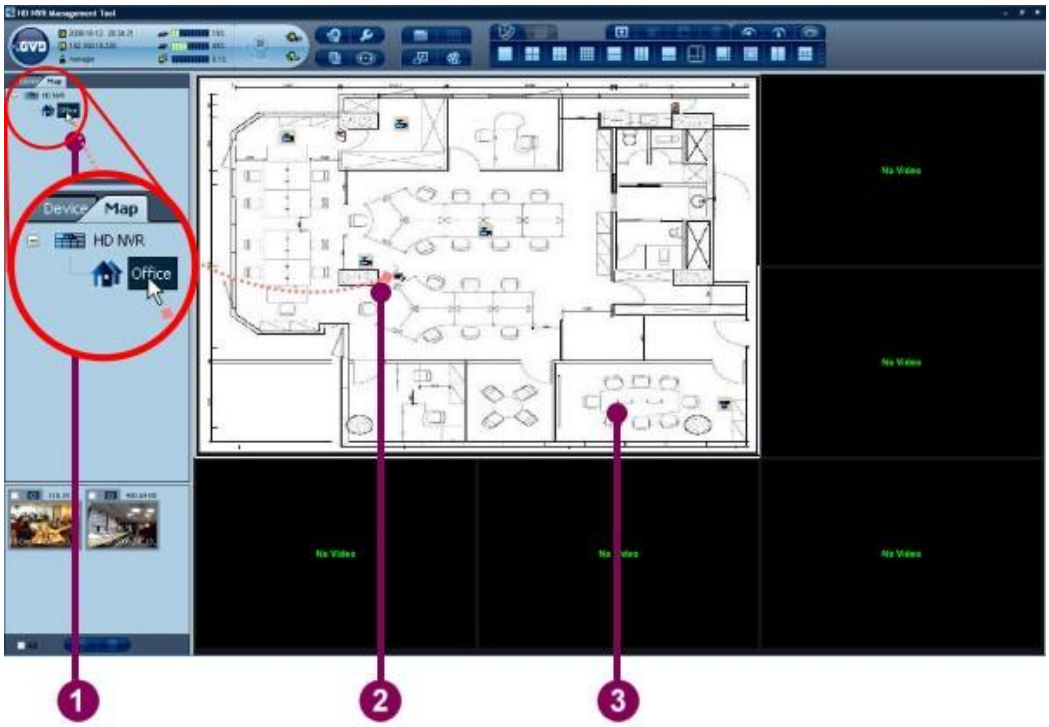


Figure 4-23 Open a map in the viewer

1. In the display mode, click the 'Map' tab in the Camera & map tree panel.
2. In the map tree, drag the preferred map icon and drop it to a viewer.
3. The map shows in the viewer.

TIP: The map is a HTML-based file. Simply click the hyperlink in the map, and the viewer can be run as a browser.

TIP: The system allows the map viewer to swap with other viewer. Refer to section 4-5-2 'Play An Image' for detailed steps about swapping the position of viewers

NOTE: The status icons of the devices in the map are totally as same as the icons in the camera tree. Refer to section 4-3-1-1 'Icon Status' for more information.

4-5-6-2 Show the Channel Image from the Map

To view a camera image from the map directly, follow the steps.

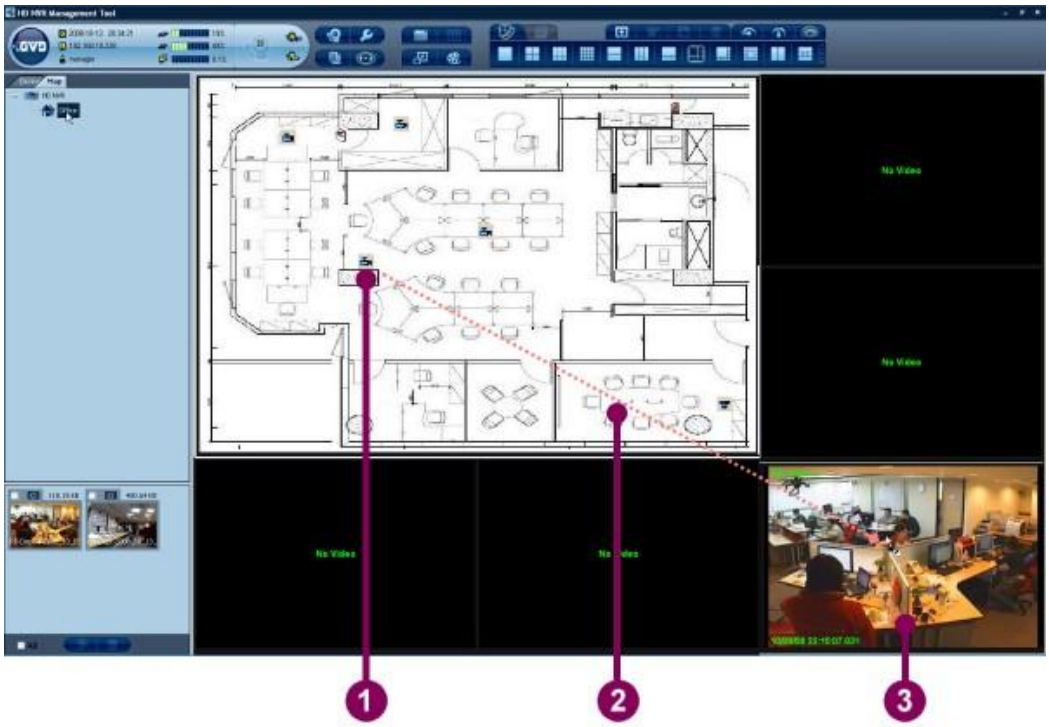


Figure 4-24 Show the channel image from the map

1. Click the selected camera icon in the map.
2. Drag the icon and drop it in other viewer.
3. The viewer plays the channel image instantly.

TIP: Double click the camera icon in the map to activate the GVD player for viewing.

4-5-6-3 Change the value of the DO point from the Map

The map allows the user to change the value of the DO point directly. To change the value, see the steps below:

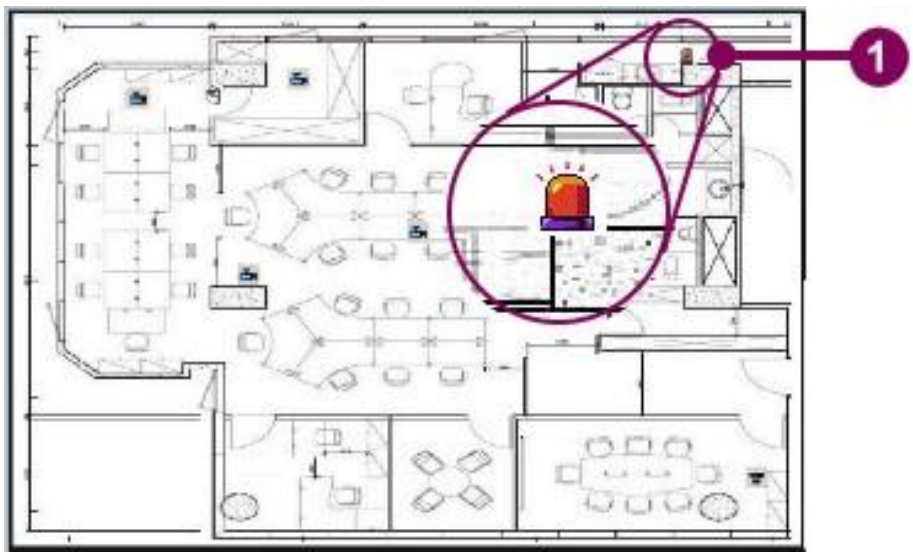
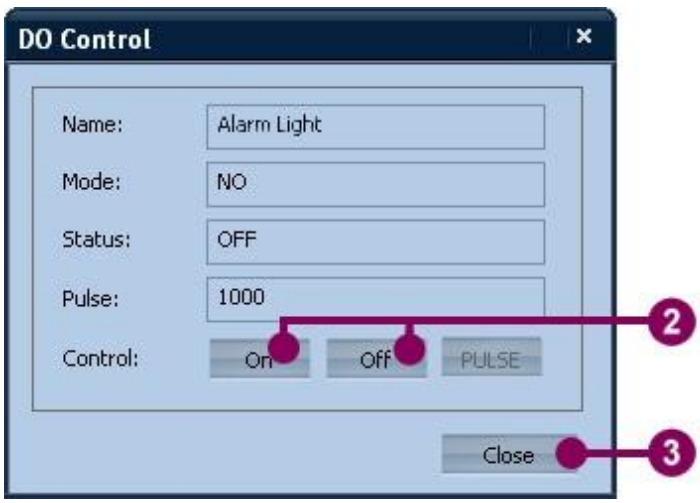


Figure 4-25 Change the value of the DO point from the map

1. Double click the DO icon in the map. A 'DO Control' dialog appears.



2. To change the value of the DO point, click the 'On' or 'Off' button in the Control Column.
3. Click 'Close' to confirm and exit.

4-5-7 Play An Image from the Sub Channel

The sub channel is a special function supported by specific cameras, like Arecont 3100 camera. When the sub channel is activated, the camera transmits not only the complete image streaming but also the streaming that the image comes from the activated sub channel. Therefore, the sub channel is regarded as an independent streaming that can be played and recorded separately.

To play the image of the sub channel, see the following steps:

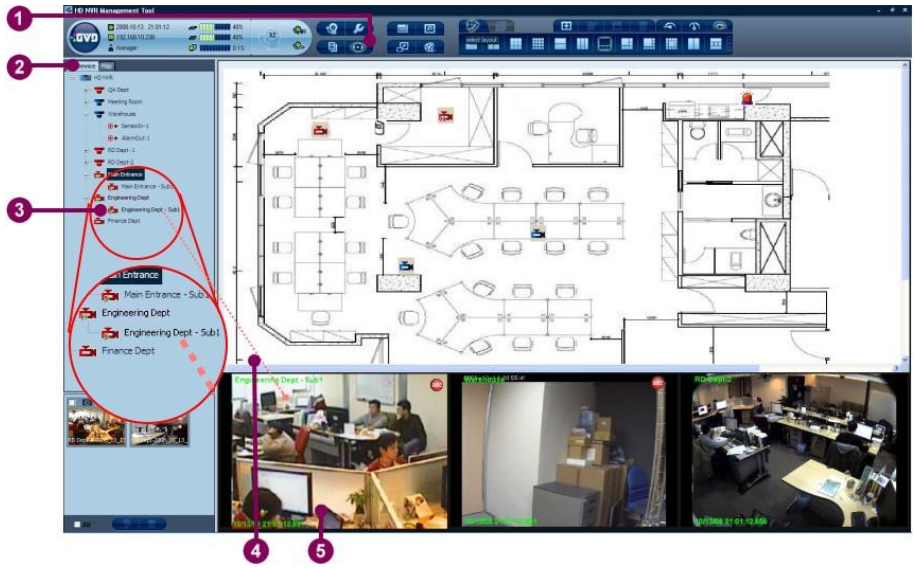


Figure 4-26 Play the image from a sub channel

1. Click the 'Display Mode' button.
2. Click the 'Device' tab in the Camera tree panel.
3. Show the sub channel icon if the icon is hidden. Click the sub channel icon.
4. Drag the icon and drop it in a viewer.
5. The viewer plays the image of the sub channel automatically.

TIP: To quickly play the sub channel image, the user can hold the 'Ctrl' key first. Drag the purple or red sub channel frame in the original viewer and drop it to other viewer. The sub channel image plays immediately.

TIP: Directly double click the camera icon in the map to activate the GVD player for viewing.

4-5-8 Play a PTZ Camera

The PTZ camera is a camera with the rotation base that helps the camera to move in horizontal, vertical, or diagonal direction. The camera can also change the lens focus for a wider or closer image. There are three key features that the PTZ camera has:
Panning – control the camera lens to move in horizontal direction
Tilting – control the camera lens to move in vertical direction.
Zooming – control the lens focus to enlarge or shrink the image.

4-5-8-1 Basic Operation – Pan, Tilt, & Zoom

The user can control all connecting PTZ cameras directly from the vi ewer and run all functions of the PTZ camera.

Pan and Tilt

The panning function of the PTZ camera enables the lens of the PTZ camera to move in the horizontal direction, and the maximum movement range can up to 360 degree. The tilting function of the PTZ camera enables the lens of the PTZ camera to move in the vertical direction, and the maximum movement range can up to 180 degree. The combination of the panning and tilting functions allows the user to monitor almost the entire 3-dimension horizon. To control the PTZ camera from the viewer, see the following steps:

Figure 4-27 The Panning and tilting function of the PTZ camera

1. Refer to section 4-6 'Time Slider' to show the Time Slider and click the PTZ mode.

TIP: Press the hot key 'O' to toggle the PTZ mode and the normal mode.

2. Move the mouse to the center of the viewer. Hold the left key of the mouse and move the mouse to the preferred direction. As the mouse moves, a red arrow line appears, and the image in the viewer moves synchronically. The length of the arrow line is the moving distance of the mouse. When the mouse moves farther, the line becomes longer, and the lens of the PTZ camera moves faster. On the contrary, the lens of the PTZ camera moves slower. When the line lies in the horizon, the PTZ camera is panning; when the line stretches vertically, the PTZ camera is tilting. When the line is leaning, the PTZ camera runs the panning and tilting functions simultaneously.

3. The viewer shows the moving image as the lens of the PTZ cam era moves. When the viewer has shown the preferred image, the user releases the left key of the mouse.

Zoom in/out

The zooming function controls the lens focus of the PTZ camera. When the zoom in function is running, the image is enlarged and closer; when the zoom out function is running, the image is shrunk and farther. The ratio of the enlarged picture or shrunk picture depends on the lens of the PTZ camera. To manipulate the zoom in/out function of the PTZ camera, see the following steps:

Figure 4-28 The zoom in/out function of the PTZ camera

1. Refer to section 4-6 '<u>Time Slider</u>' to show the Time Slider and click the icon of the PTZ mode.
2. If the selected viewer is not the active viewer, set the viewer active.

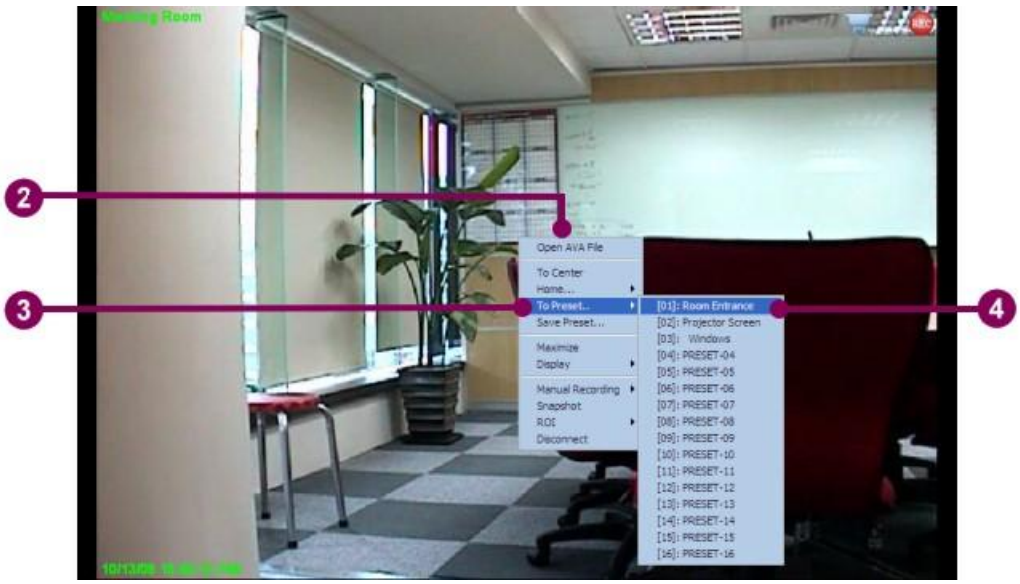
3. Move the mouse to the viewer. Roll down the wheel of the mouse to zoom in the image. (Or roll up the wheel of the mouse to zoom out the image.) Keep rolling down/up until the image has reached the best ratio.
4. To enlarge the image maximally, keep rolling down the wheel of the mouse until the image stops enlarging, and vice versa.

4-5-8-2 **Move to Preset**

This function will control the PTZ camera to move to the selected preset point. To run the function, see the following steps:

Figure 4-29 Move to preset

1. Refer to section 4-6 '<u>Time Slider</u>' to show the Time Slider and click the icon of the PTZ mode.



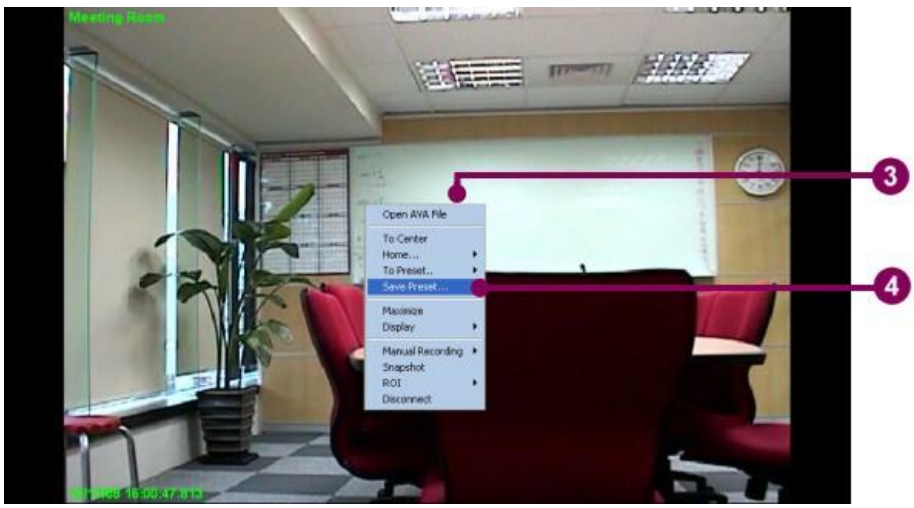
2. Right click the mouse in the viewer, and a pop-up menu appears.
3. Move the cursor to the 'To Preset' item, and a sub menu appears.
4. Click the selected preset in the sub menu.
5. The lens of the PTZ camera moves to the preset position instantly, and the viewer shows the image of the selected preset point.

4-5-8-3 **Save Preset**

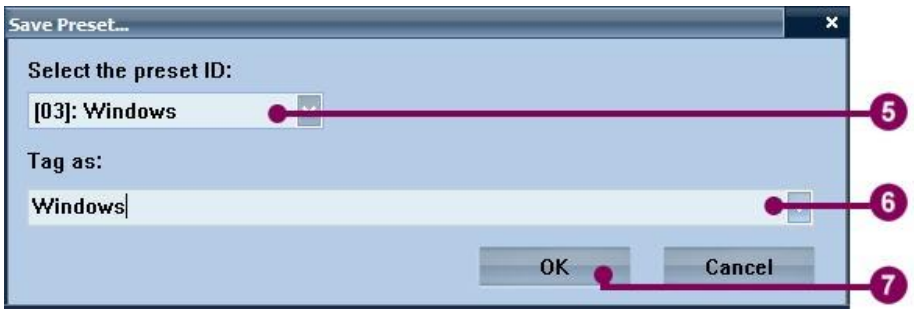
To save the customized preset point, see the following steps:

Figure 4-30 Save to Preset

1. Refer to section 4-6 '<u>Time Slider</u>' to show the Time Slider and click the icon of the PTZ mode.



2. Run the panning, tilting, and zooming functions of the PTZ camera until the preferred image appears on the viewer.
3. Right click the mouse, and a pop-up menu appears.
4. Click 'Save Preset'. A 'Save Preset' dialog appears.



5. Click the combo box of the ID column, and select the Preset ID.
6. Input the text of the preset tag.
7. Click 'OK' to close the dialog.

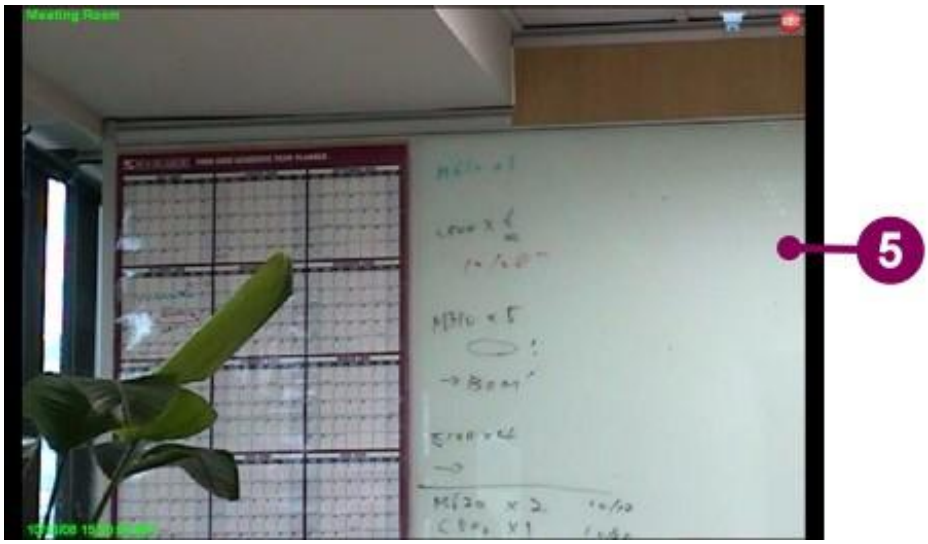
4-5-8-4 **Move to Center**

The ‘Move to Center’ function allows the user to tune the movement of the PTZ camera when the specific scene must become the center focus. To run the function, see the following steps:

Figure 4-31 Move to Center

1. Refer to section 4-6 ‘Time Slider’ to show the Time Slider and click the icon of the PTZ mode.

2. Move the lens of the PTZ camera to the preferred scene.
3. Move the mouse to the new center of the scene. Right click the mouse, and a pop-up menu appears.
4. Click ‘To Center’.



5. The PTZ camera has moved to the new center.

4-5-8-5 **Move To Home**

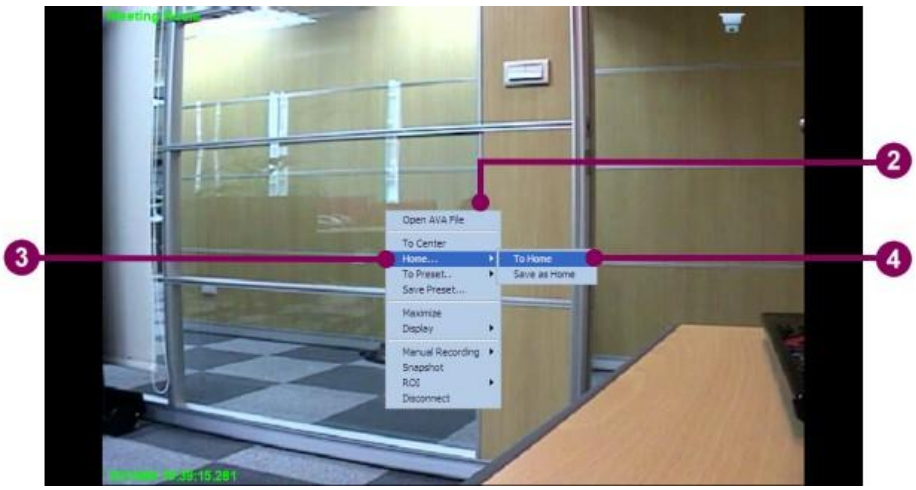
The Home point is similar to a preset point. When the PTZ camera icon has been dropped to the viewer, the viewer plays the image at the Home point. There are two options – 'To Home' and 'Save as Home'.

To Home

To move the lens of the camera to the Home point, see the following steps:

Figure 4-32 Move to the Home point

1. Refer to section 4-6 'Time Slider' to show the Time Slider and click the icon of the PTZ mode.



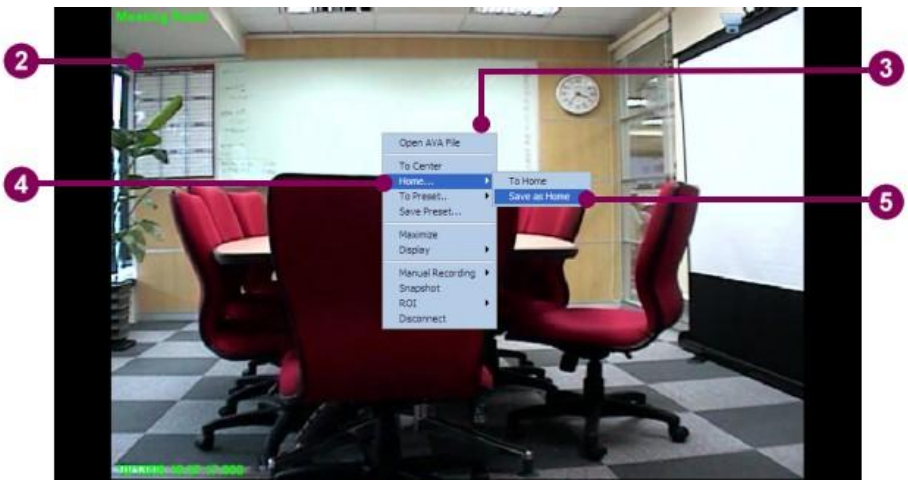
2. Right click the mouse in the viewer, and a pop-up menu appears.
3. Move the cursor to the 'Home' item, and a sub menu beside the pop-up menu appears.
4. Click 'To Home'.
5. The lens of the PTZ camera moves to the Home point, and the viewer shows the associated image.

Save as Home

The system allows the user to customize the Home point. To set a new Home poi nt, see the following steps:

Figure 4-33 Save the Home point

1. Refer to section 4-6 ‘Time Slider’ to show the Time Slider and click the PTZ mode.



2. Move the lens to the scene of the new Home point.
3. Right click the mouse in the viewer, and a pop-up menu appears.
4. Move the cursor to the ‘Home’ item, and a sub menu beside the pop-up menu appears.
5. Click ‘Save as Home’.
6. The new Home point has been set.

4-5-9 Play a ROI

A ROI is the abbreviation of “region of interest”, and the ROI is often used in the image which comes from the mega pixel camera. When the image is playing, the ROI can be played in other viewer separately. The high image resolution of the mega pixel camera makes the ROI image more distinctly even though the image has been partially enlarged. When the ROI is created, a yellow rectangle frame appears on the image area, representing the visible area of the ROI.

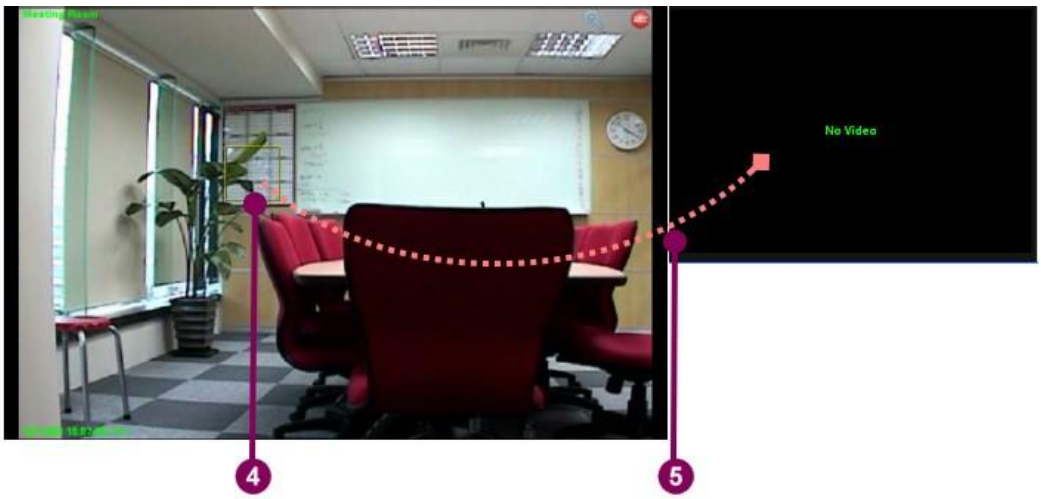
When the ROI image is played on an independent viewer, the movement of the yellow rectangle in the original viewer will generate the change of the ROI image simultaneously. The ROI function allows the viewer to simulate the PTZ function in a non-mechanic camera.

4-5-9-1 **Create a ROI**

To create a ROI, see the following steps:

Figure 4-34 Create a ROI

1. Right click the mouse in the selected viewer, and a pop-up menu appears.
2. Move the mouse to the 'ROI' item, and a sub menu appears.
3. Click 'Create a ROI'.



4. A yellow rectangle frame appears on the viewer. Move the mouse to the bottom-left corner of the frame and hold the left key. Drag the corner until the size of the frame is as big as the selected scene. Move the frame to cover the selected scene.
5. Hold the 'Ctrl' key and drag the yellow frame, and then drop it in other viewer.
6. The target viewer plays the image of the ROI in the viewer 's aspect ratio.

TIP: In the target viewer, hold the [Shift] key first and hold the left key of the mouse to drag a rectangle area, a new ROI will be created directly.

NOTE: When the ROI has moved in the original viewer, the viewer of ROI changes the image as well.

4-5-9-2 **Hide a ROI**

To hide a ROI, see the following steps:

Figure 4-35 Hide a ROI

1. Right click the mouse in the original ROI viewer, and a pop-up menu appears.
2. Move the mouse to the 'ROI' item, and a sub menu appears.
3. Click 'Hide ROI'.

4. The ROI is hidden.

4-5-9-3 **Delete a ROI**

To delete a ROI, see the following steps:

Figure 4-36 Delete a ROI

1. Right click the mouse in the original ROI viewer, and a pop-up menu appears.
2. Move the mouse to the 'ROI' item, and a sub menu appears.
3. Click 'Delete ROI'.

4. The ROI has been removed from the viewer.

TIP: Press the [Del] hot key, and the selected ROI will be deleted directly.

4-5-10 Digital Zoom Mode (ePTZ)

The Digital Zoom mode is called the ePTZ mode. The mode utilizes the high resolution feature of the mega pixel camera to simulate the mechanic functions the PTZ camera has. The mode helps the user to filter the image details more efficiently. When the digital zoom mode is active, the image can be zoomed in and out directly. To run in the Digital Zoom mode, see the following steps:

Figure 4-37 Run the Digital Zoom mode

1. Refer to section 4-6 'Time Slider' to show the Time Slider and click the Digital Zoom Mode.
2. Click the selected viewer and set the viewer active.
3. To zoom in the image, roll down the wheel of the mouse and the image will be enlarged. To zoom out the image, roll up the wheel of the mouse and the image will be shrunk.
4. Hold the left key of the mouse and move the mouse to the preferred direction. As the mouse move, the viewer shows the corresponding image until the border of the image appears.
5. To close the digital zoom mode, click the normal mode in the Time Slider .

TIP: Press the hot key 'Z', and the viewer toggles the normal mode and the digital zoom mode.

TIP: The combination of the digital zoom mode and the ROI function allows the general channel to simulate the pan, tilt, and zooming functions. (Refer to section 4-5-9 'Play a ROI'.)

4-5-11 Snapshot An Image

The function allows the user to capture the desired screen when the video clip or streaming is playing. The captured image can also be saved or printed out fo r user's need.

To snap-shot an image, see the following steps:

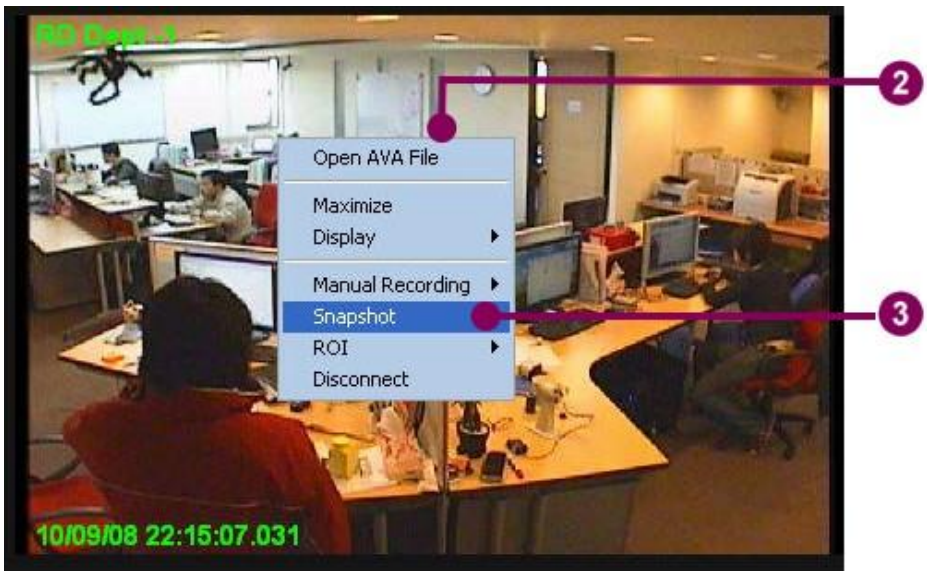


Figure 4-38 Snapshot an image

1. If the selected viewer is not the active viewer, set the viewer active.
2. Right click the mouse, and a pop-up menu appears.
3. Click 'Snapshot' in the pop-up menu.

4. The image has been captured and temporarily saved in the spooler.
5. To print out or save the image, refer to section 4-7 'Spooler' for more information.

TIP: To quickly capture the image, the user can simply press 'F11' or the hot key 'E'. In addition, the user may click the snapshot button in the time slider.

4-5-12 Manual Recording

The function allows the user to record the desired video clip manually. To run the manual recording function, see the following steps:

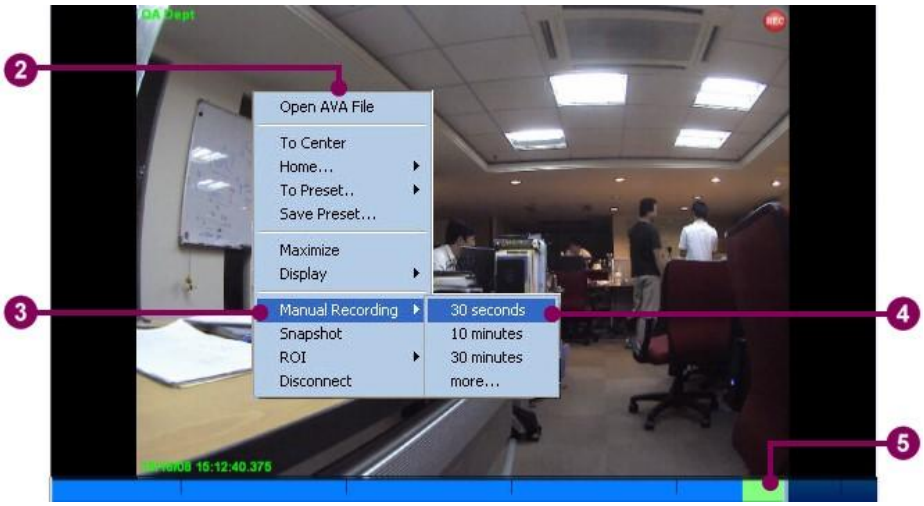


Figure 4-39 Manual Recording

1. If the selected viewer is not the active viewer, set the viewer active.
2. Right click the mouse, and a pop-up menu appears.
3. Move the mouse to the 'Manual Recording' item in the pop-up menu, and a sub menu beside the menu appears.
4. In the sub menu, there are four items: 30 seconds, 10 minutes, 30 minutes, and more. Click the preferred item to run the function.

TIP: Press the 'F10' or the hot key 'R' to instantly run the manual recording function. When the manual recording dialog appears, input the duration and click 'Start'.

5. If the time line of the viewer or the time slider is showed, the manual recording bar will be showed in the time line of the viewer or the time slider.
6. The user can play the recorded video clip directly from the time slider. For detailed operation, see section 4-6-2 'Play a historical video'.

4-5-13 Open An AVA File

The viewer can open and play an external video file, which is the AVA or AVI file formats. To open an ava file, see the following steps:

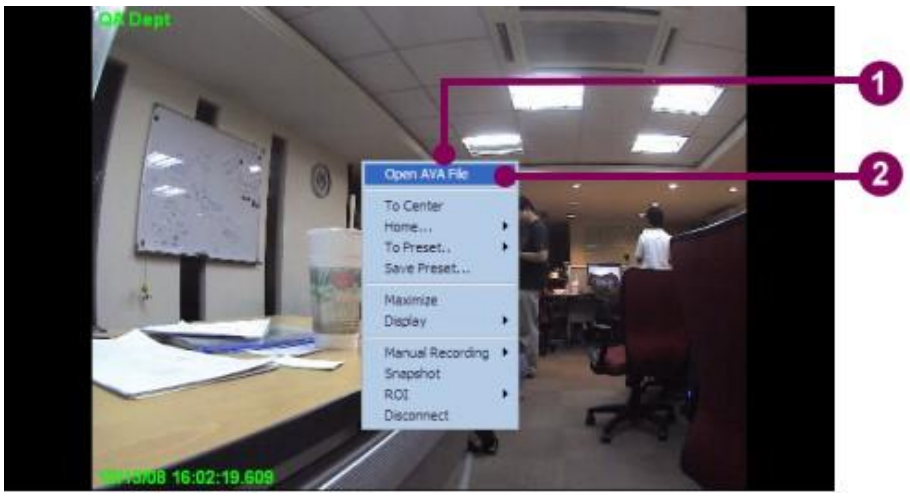
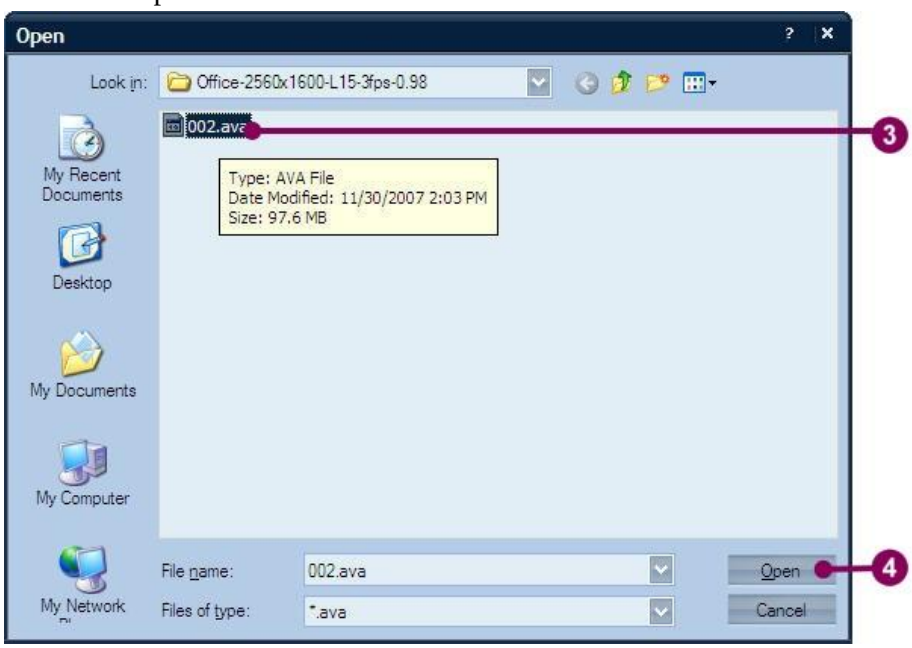


Figure 4-40 Open an AVA file

1. Right click the mouse in the selected viewer, and a pop-up menu appears.
2. Click 'Open AVA File'.



3. A file open dialog appears. Browse the hard disks and find the se lected file. Let the selected file name be shown in the File name column.
4. Click 'Open'.
5. The viewer plays the selected .ava file directly.

4-5-14 Switch Codec

Some specific cameras support the dual codec function, which means those cameras are able to run different compression while playing and recording. To activate the dual codec function, the camera should complete the dual codec setting in the configuration mode in advance (refer to section 6-1-2-2 'Adding a camera/channel to the system'.) The following steps describe the steps to change the codec compression.

Figure 4-41 Switch the codec on playing

1. Right click the viewer connected by the dual codec camera, and a pop-up menu appears.
2. Move the cursor to the 'Switch Codec' item, and a sub menu appears.
3. Depending on the supporting feature of the camera, there are three to f our options in the sub menu: Auto, jpeg, mpeg4, and H.264 – see the following descriptions:
   Auto - the viewer sets the compression based on the video format setting of the camera.
   Jpeg – set 'Motion-jpeg' as the video compression.
   Mpeg4 – set 'mpeg4' as the video compression.
   H.264 – set 'H.264' as the video compression
4. The bandwidth requirement and the image quality change as the codec is changed.

TIP: Sometimes the image is uneasy to tell the difference after switching the codec. Press hot key 'F9' to show the information of the channel image and check the values of codec and Bitrate.

4-5-15 Disconnect the Image

To disconnect the image, see the following steps:

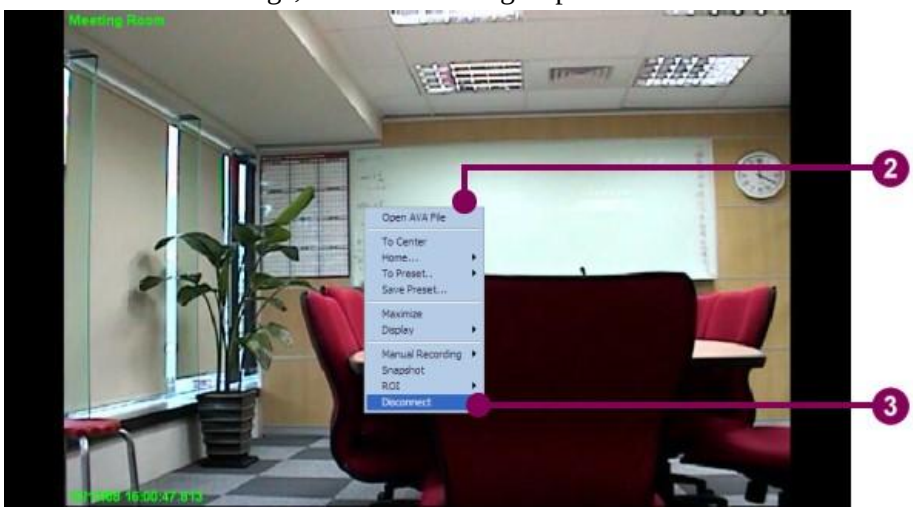


Figure 4-42 Disconnect the image

1. Click the selected viewer and set it active.
2. Right click the mouse, and a pop-up menu appears.
3. Click 'Disconnect' item in the pop-up menu.
4. The image has been disconnected.

4-6 Time Slider

4-6-1 Time Slider Introduction

The Time Slider is a control panel to manipulate video playing in the viewer. The Time Slider shows the playing information and the playing position in the time ax is when the video is playing. In addition, the Time Slider offers the playback function, and the user may play the historical video forward and backward. The speed control function of the Time Slider controls the playing speed of the active viewer. If necessary, the user may export the video graphic or clip to the Spooler, a file buffer before printing.

To show the Time Slider, the user may click the 'Video Control Panel' button. The Time Slider will appear at the bottom of the screen. The Time Slider is composed of the following parts:

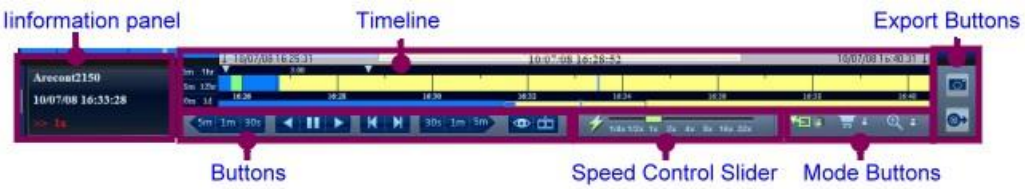


Figure 4-43 The Time Slider

Information Panel

The Information panel is located at the left hand side of the Time Slider. When the viewer is disconnected, the panel is blanked. When the viewer is playing, three messages are shown on the panel, including:

1. Channel name - the image source of the viewer
2. Cursor Timestamp - the video timestamp
3. Actions - The playing status of the viewer, including the following items:

   Live: The viewer is playing a live video.

   << **nx**: the backward playing speed of the video, the valu e of n is among 0.25, 0.5, 1, 2, 4, 8, 16, and 32.

   >> **nx**: the forward playing speed of the video, the value of n is among 0.25, 0.5, 1, 2, 4, 8, 16, and 32.

   >| : jump to the next frame.

   |< : jump to the previous frame

   || : pause the video

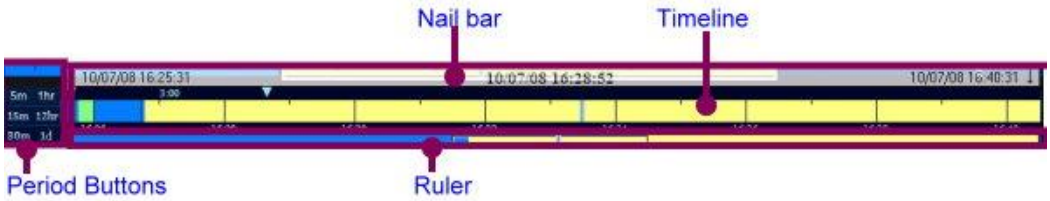
   ROI : indicate that the video is a ROI.

TIP: When the viewer has the focus, the user may press the Space key to show or hide the Time Slider.

Timeline

The timeline is a time axis for video playing. The timeline includes the time coordinates, the alarm mark, the recording segment, and the playing index, and it offers the useful reference information of the video. The timeline is composed of the nail bar, the timeline, and the ruler. At the left-hand side of the timeline, there are also period buttons for changing the length of the ruler.

The followings describe the important parts of the timeline:



Period Buttons: for quickly changing the total time length of the timeline. There are 6 buttons, including 5m (5 minutes), 15m (15 minutes), 30m (30 minutes), 1hr (1 hour), 12hr (12 hours), and 1d (1 day).

Nail Bar & Timeline: The nail bar is at the top of the Time Slider. The nail bar shows the time interval of the playing image. There are two push pins in the nail bar, and the push pin can be used for tailoring the length of the exported image. The timeline is under the nail bar. The timeline displays the types and the length of recorded video clips. The timeline shows the position of the playing index also.

TIP: Right click the nail bar, and a pop-up menu appears. Click the 'To cursor' item, and the timeline will move to the exact position of the playing index.

Ruler: The ruler is a length of time, mainly associating to the length of the period button. The video index in the ruler indicates the position and length of the timeline in the whole ruler area.

TIP: Right click the time slider to show the pop-up menu. Uncheck the 'Show Ruler' or the 'Show Nail Bar' option, the ruler or the nail bar will be hidden. Check the two options to show the ruler or the nail bar.

Buttons: The buttons are under the ruler. There are two groups of buttons, including the operation buttons for video playing and the jump buttons for rapidly moving the playing index. The followings describe the functions of buttons:

Operation buttons:

a. Reverse the video
b. Pause the video
c. Play the video
d. Move to the previous frame
e. Move to the next frame

Jump buttons:

f. move the playing index to 5 minutes ago
g. move the playing index to 1 minute ago
h. move the playing index to 30 seconds ago
i. move the playing index to next 5 minutes
j. move the playing index to next 1 minute
k. move the playing index to next 30 seconds
l. play the live video
m. move the playing index to the specific time

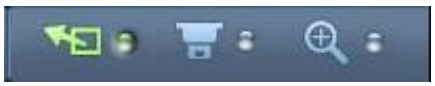
TIP: The following hot keys provide the fast way to play an image:

Hot key 'S' : Reverse the video
Hot key 'W': Play the video
Hot key 'A': Move to previous frame
Hot key 'D': Move to next frame
Hot key 'Q' or 'F12': Play the live video

Speed Control Slider

The speed control slider allows the user to change the playing speed when playing a historical video.

Mode buttons: for changing three operation modes – Normal mode, PTZ mode, and Digital Zoom mode in the viewer.



Export buttons: these two buttons allow the user to export the preferred graphic and video to the spooler. See the following description:

Snapshot ( ) – exports a picture from the viewer to the spooler

Export to Spooler ( ) – exports a video clip to the spooler.

NOTE: After playing a historical video, the user may move the playing index forward or backward.

4-6-2 Search the video

To find the playing index of the historical video, t here are four kind of searching ways:

- By the ‘Go to’ button
- By the period button
- By the Ruler
- By the jump button

For example, if the playing index of the historical video is before 11 hours and 57 minutes, the user may follow the steps below:

By the period button

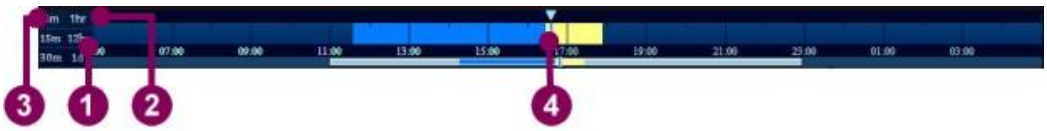


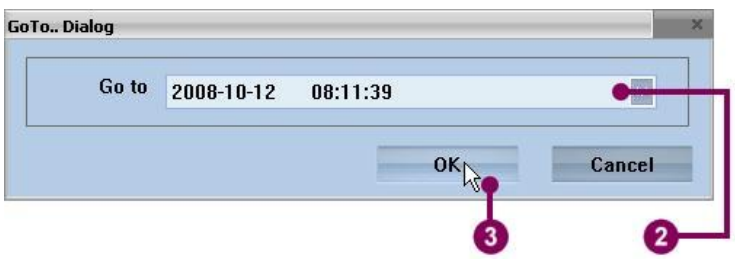
Figure 4-44 Search the video by the period button

1. Click the ‘12h’ button.
2. Move the playing index to the beginning of the timeline.
3. Click the ‘5m button’.
4. Move the playing index to the right and stop the coordinate at 57 minutes.
5. The viewer plays the historical video instantly.

By the ‘Go to’ button

Figure 4-45 Search the video by the ‘Go to’ button

1. Click the ‘Go to button’.



2. A ‘Go to’ dialog appears. Input the exact date and time of the new playing index in the ‘Go to’ column. (Or click to select a desired date.)
3. Click ‘OK’.
4. The playing index moves to the new positi on at the timeline.

By the Ruler

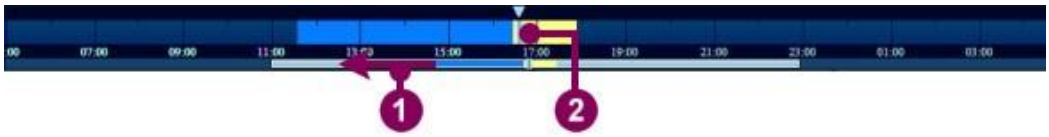


Figure 4-46 Search the video by the Ruler

1. Keep moving the video index to the left until the target coordinate appears.
2. Above the target coordinate, click the timeline.
3. The viewer plays the historical video immediately.

By the jump button

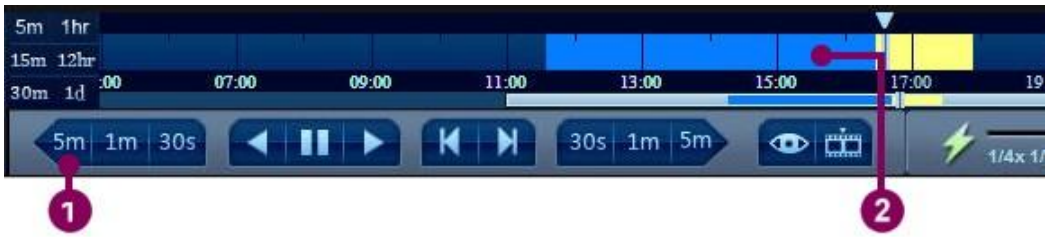


Figure 4-47 Search the video by the jump button

1. Keep clicking the jump button ‘5m’ at the left hand side until the target coordinate appears.
2. Above the target coordinate, click the timeline.
3. The viewer plays the historical video immediately.

TIP: When the mouse has roller over the timeline, the date and time message of the index position will be shown on the timeline.

4-6-3 Play a Historical Video

When the channel has recorded the video, the viewer is able to play a historical video. To play a historical video, see the following steps:

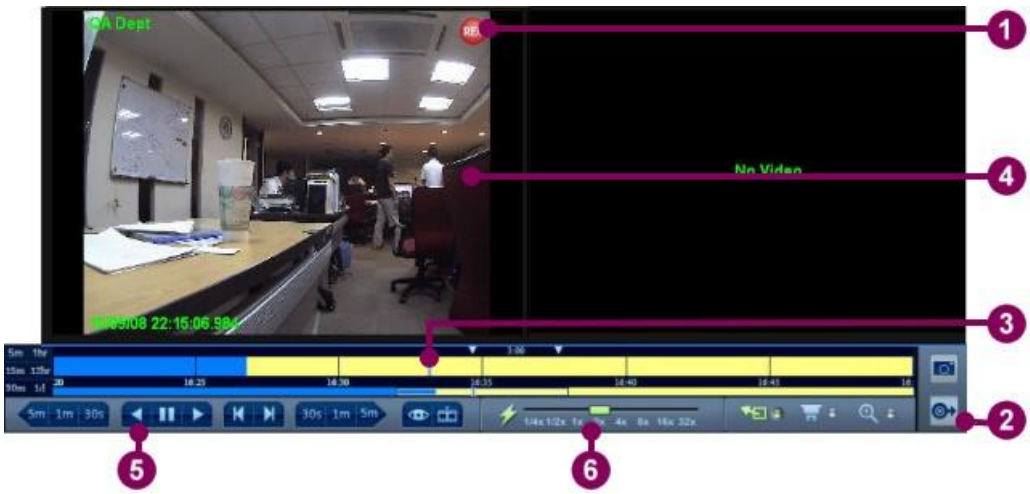


Figure 4-48 Play a historical video

1. Click the Viewer which sourcing channel is recording or has recorded.
2. If the time slider is hidden, show the time slider.
3. Refer to the last section and find the target playing index in the timeline.
4. Double click the time index, and the viewer starts playing the historical video.
5. To playback the video, simply click the reverse play button.
6. To change the playing speed, move the speed slider to the preferred speed. The action text in the information panel shows the information of playing speed.

TIP: Sometimes the playing index will disappear when moving the cursor in the ruler. The user can right click the timeline, and a pop-up menu appears. Click 'To Cursor' item to move the timeline to the position of the playing index.

7. The image plays in the new speed.

4-6-4 Export to the Spooler

To export a historical video clip to the spooler, see the following steps:

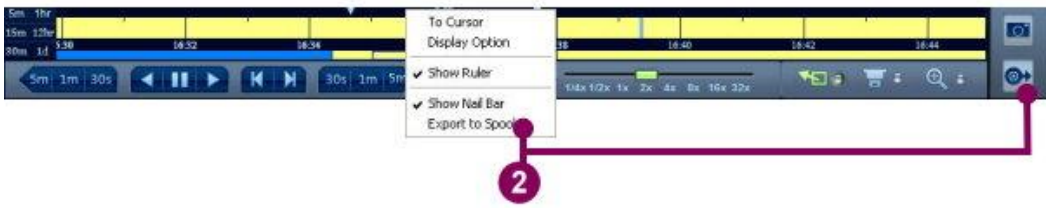


Figure 4-49 Export to the spooler

1. Refer to the last section and play a historical video.
2. Click the 'Export to spooler' button. (Or right click the mouse in the nail bar, and select 'Export to Spooler' from the pop-up menu.)

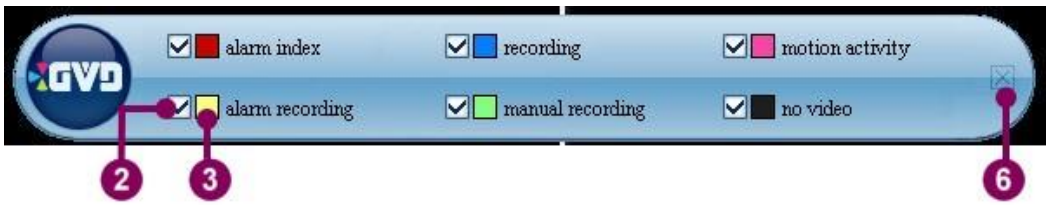
3. A video clip file has been exported to the spooler.
4. Refer to section 4-7 'Spooler' for following steps.

4-6-5 Change the Symbol Color on the Timeline

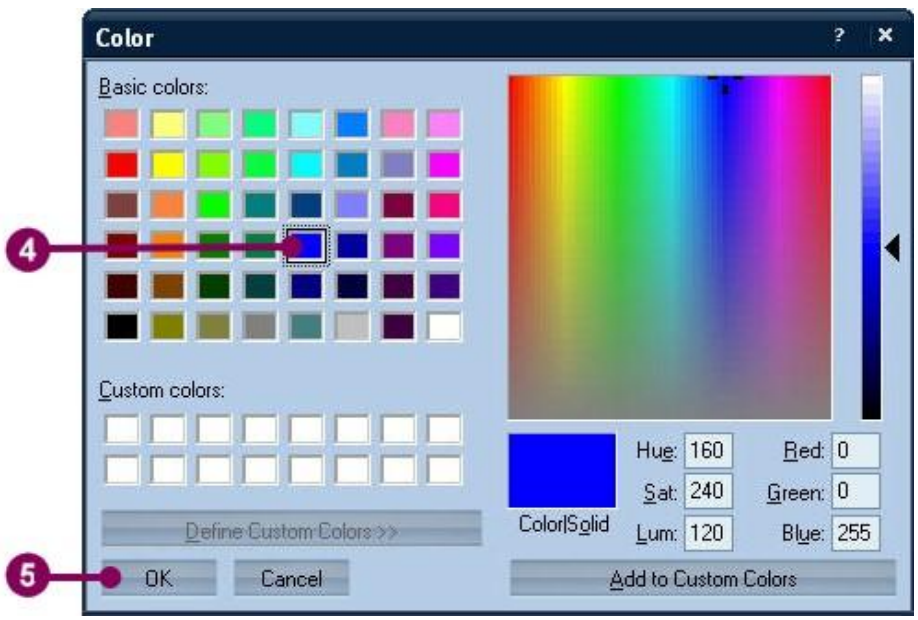
When the symbol colors in the timeline are very similar, the user can follow the steps below to change the symbol color.

Figure 4-50 Change the symbol color on the timeline

1. Right click the upper timeline. Click 'Display Option' from the pop-up menu to open the color panel of the timeline.



2. The color panel provides 6 options: alarm index, recording, motion activity, alarm recording, manual recording, and no video. To show or hide the desired options in the timeline, check or uncheck the checkboxes of the options.
3. Click the color square of the selected option. A color dialog appears.



4. Select a new color.
5. Click 'OK'. The color of the selected item in the color panel has been changed.

6. Close the color panel, and the color of the modified sy mbol has been changed.

4-6-6 Run the GVD Player

Brief of the GVD Player

The GVD player helps the user to play the ava file. The GVD player looks like the combination of an independent viewer and a time slider. The following figure shows the composed elements of the GVD player:

Figure 4-51 Brief of the GVD Player

a. The menu
b. The viewer
c. The information panel
d. The timeline
e. The operation buttons
f. The speed slider

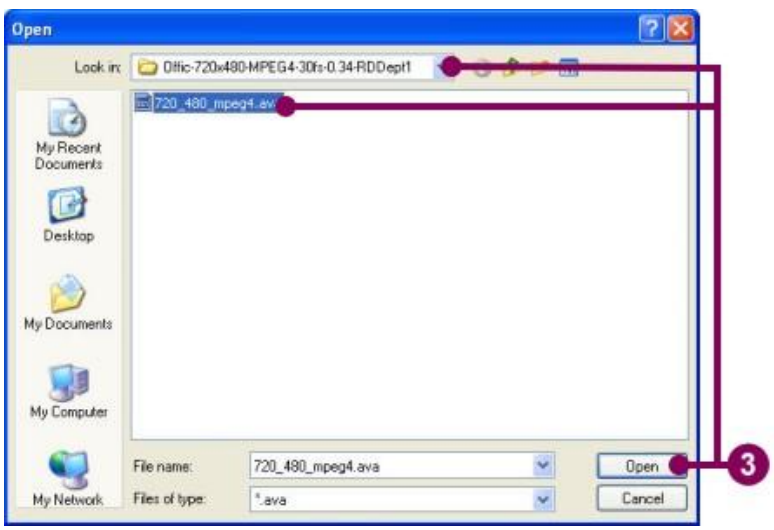
NOTE: Refer to section 4-6-2 'Play a historical video' for more information about operating the buttons.

Play an AVA file in the GVD Player

To play an ava file in the GVD player, see the following steps:

Figure 4-52 Play an ava file in the GVD player

1. In the Windows platform, click 'Start'->'All Programs'->Genius Vision Digital' -> 'HD NVR' -> 'GVD Player' to run the GVD player.
2. Click the 'Open AVA file' menu item when the GVD player appears.



3. A file open dialog shows. Change the file directory and find the correct file. Click 'Open' to open the ava file.
4. The GVD player program runs the ava file instantly.

4-7 Spooler

The spooler is located at the lower-left corner of the screen. When a video clip has been exported to the spooler, the spooler allows the user to preview captured pictures and video clips before they are exported to other storage media.

4-7-1 View the Image

To view the exported picture in the spooler, see the following steps:

Figure 4-53 View the image in the spooler

1. Click the selected item with a camera icon listed in the spooler.
2. Double click the preview picture of the selected item.
3. The actual picture is opened.

4-7-2 View the Video Clip

To view the exported video clip in the spooler, see the following steps:

Figure 4-54 View the video clip in the spooler

1. Click the selected item with a film icon in the spooler.
2. Double click the preview picture of the selected item.

3. The GVD player is triggered and play the selected items.
4. Refer to section 4-6-6 'Run the GVD Player' for operational steps.

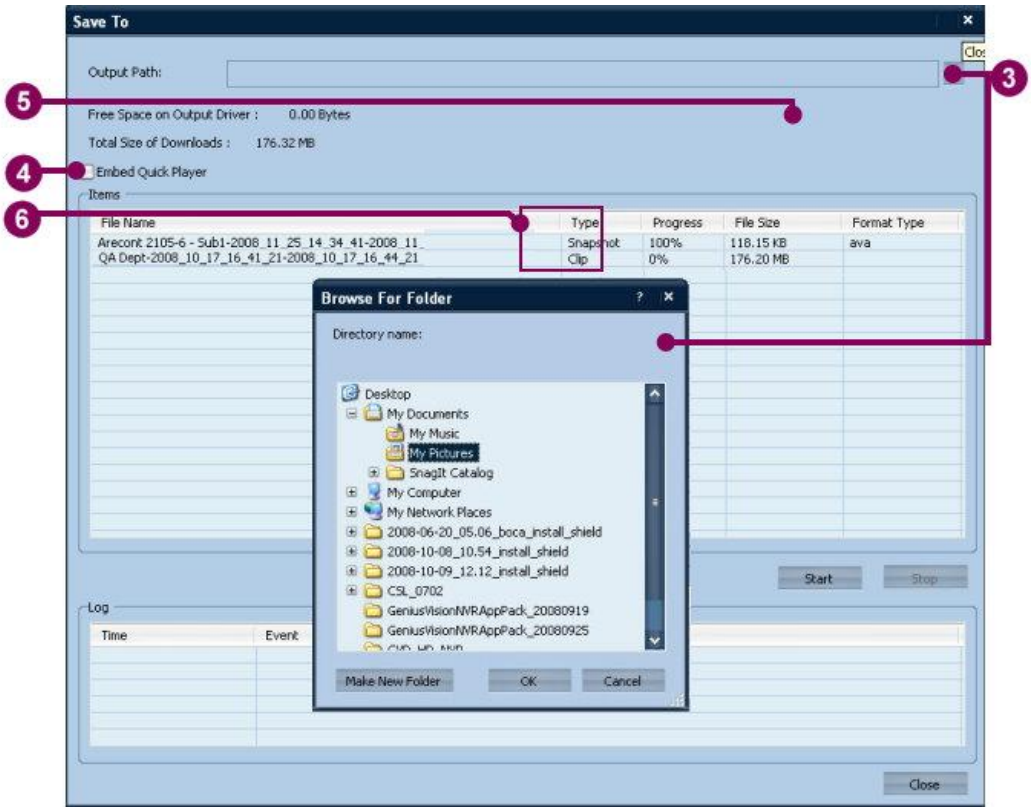
4-7-3 Save the Image or the Video File

To save the selected item to other storage device like flash disk, see the following steps:

1. Check the checkbox of the selected items.

> **TIP: Check the 'Select All' checkbox, all items in the spooler will be selected.**

2. Click the 'Export' icon at the bottom of the spooler. A 'Save to' dialog appears.



3. Click the '…' button to set the output path.
4. When any ava file is selected, the user can check the checkbox of the 'Embed Quick Player'. The option will include the GVD player after file exporting.
5. Click 'Start'. The 'Items' table shows the relative information of the downloading file.
6. When the download process is completed, close the dialog.

4-7-4 Delete the Files in the Spooler

To delete the items in the spooler, see the following steps.

Figure 4-55 Delete the files in the spooler

1. Check the checkboxes of the selected items.

> **TIP: Check the 'Select All' checkbox, all items in the spooler will be selected.**

2. Click the 'Delete' button at the bottom of the spooler.

3. A warning message, 'Would you like to delete these items? ', is raised.
4. Click 'OK' to confirm.
5. The selected items have been removed from the spooler.

Chapter 5 Alarm & Event Mode

5-1 Alarm Mode

The alarm mode lets the users review and takes actions for all alarms the system has generated. The alarm mode includes three parts. The searching condition panel is located at the upper-left corner of the screen. The panel provides the user with the alarm searching function. The spooler is located at the lower -left corner. A viewer with the Time Slider is beside the searching condition panel. The viewer is for showing the alarm image. The alarm list is under the viewer, which displays all incomplete alarms.

5-1-1 Deal with The Alarm

All generated alarms will be added to the alarm list. When the pop-up function is triggered, the alarm will be shown in the configured pattern layout and keep blinking for several seconds on the screen. For detailed information about the alarm pop-up configuration, see section 6-3-3 'Alarm Rule'.

In the alarm mode, the life cycle of alarm is divided into three stages: active, pending, and complete. When an alarm is newly generated by the system, it is in the '**active**' stage and will be listed in the alarm list. An active alarm has not been neither reviewed nor taken any actions.

When the alarm has been reviewed by the user but no action (for example, put some comments) has been taken, or the cause of the alarm has been automatically removed (for example, a video loss alarm has been automatically re-connected), it is in the '**pending**' stage. The pending alarm can be previewed by the users at any time. Double click the pending alarm in the alarm list, and an acknowledge dialog will appear.

The acknowledge dialog allows the user to take some actions, such as input some comments in the dialog. When the action is taken, the user can click the 'Ack' button in the acknowledge dialog. The alarm is in the '**complete**' stage. The alarm will be removed from the alarm list.

TIP: To search all completed alarms, run the 'Search Alarm' function.

5-1-2 Turn On/Off the Pop-up Alarm

Figure 5-1 Turn on/off the pop-up alarm

The pop-up alarm icon located in the system tab is a toggle button to turn on/off the pop-up alarm. To turn off the pop-up alarm, simply click the icon, and the pop-up alarm will be disabled. To turn on the pop-up alarm, click the icon again, and the pop-up alarm will be enabled.

5-1-3 Turn On/Off the Alarm Sound

Figure 5-2 Turn on/off the alarm sound

The alarm sound icon is located in the system tab and is a toggle button to turn on /off the alarm sound. To turn off the alarm sound, simply click the icon, and the alarm sound will be turn off. To turn on the alarm sound, click the icon again, and the alarm sound will be enabled.

5-1-4 Seek an Alarm

The alarm mode allows the user to seek the specific alarm by various searching condition. To seek an alarm, see the following steps:

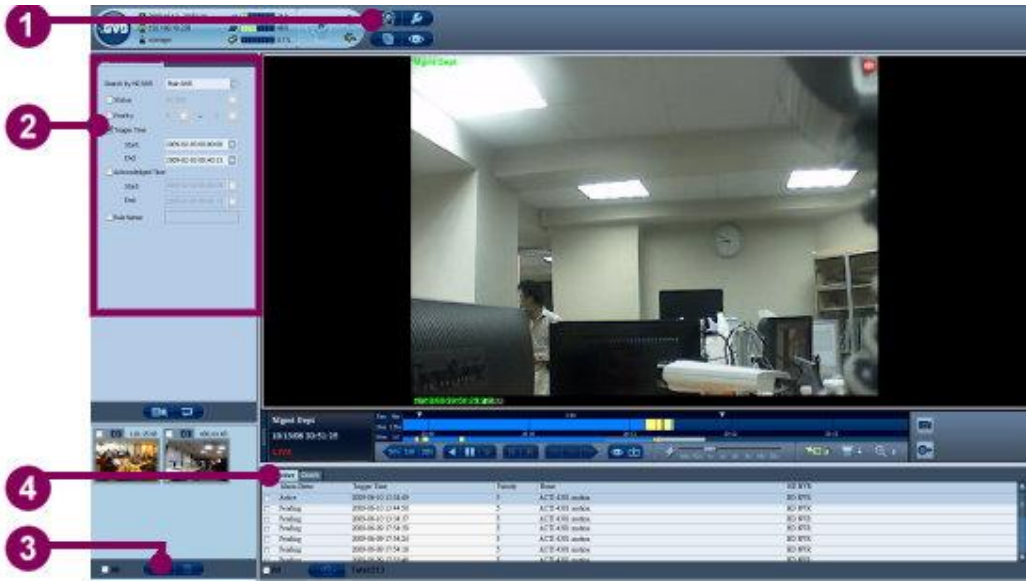


Figure 5-3 Seek an alarm

1. Click the 'Alarm Mode' button.
2. Click the drop-down box of the 'Search by HD NVR' field and select the HD NVR name. The Alarm mode offers 5 searching conditions. Check the checkboxes of the selected options and set the values of the searching conditions. The options include:

   Status: Search by the alarm status.

   Priority: Search by the alarm priority.

   Trigger Time: Search by the generated date & time.

   Completed Time: Search by the completed date & time.

   Rule name: Search by the name of the alarm rule.

NOTE: The searching conditions are multi-selected.

NOTE: The 'Name' option indicates the name of the alarm rule. The value is case insensitive, and the value can be part of the rule name.

3. Click the 'Search' button. (Or click the 'Reset' button to restart a new search.)
4. The search result shows in the search tab of the alarm list.

5-1-5 Acknowledge the Alarm

5-1-5-1 **Acknowledge an alarm**

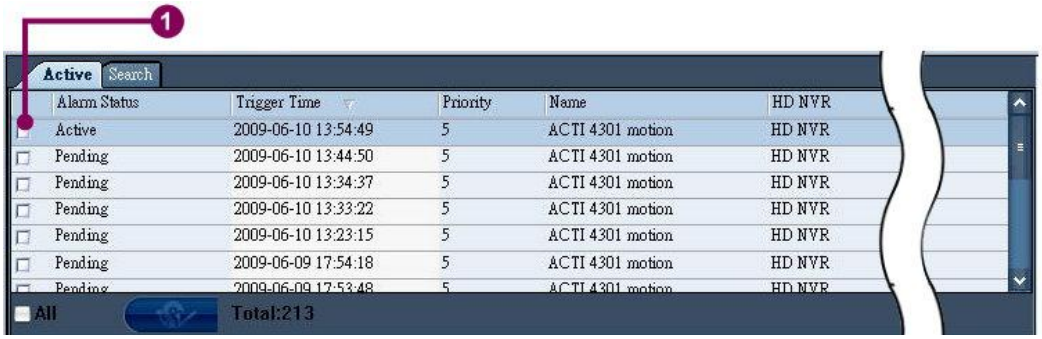
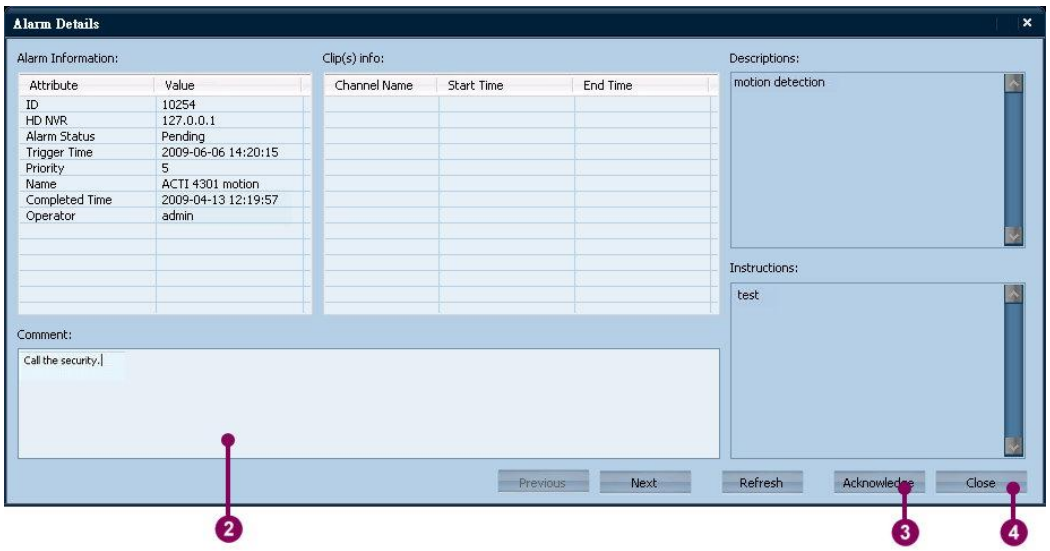


Figure 5-4 Acknowledge an alarm

1. Double click the active or pending alarm in the alarm list.



2. An ‘Alarm Details’ dialog appears. Put some comments in the Comment column.

> **NOTE: If the Comment column is blank, the alarm cannot be completed.**

3. Click ‘Complete’. The dialog shows the details of next alarm.
4. Click ‘Close’. The alarm has been removed from the alarm list.

5-1-5-2 **Run the group acknowledge function**

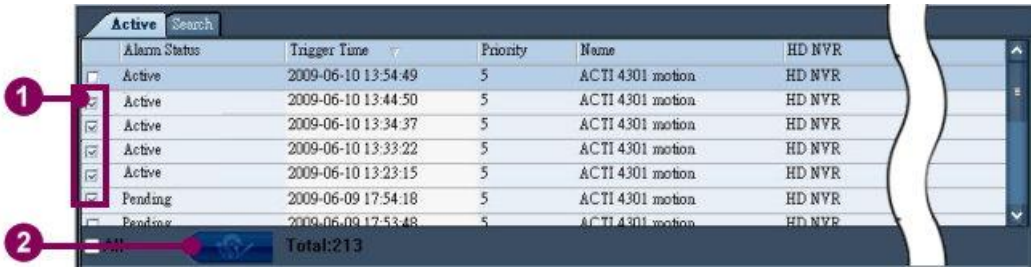
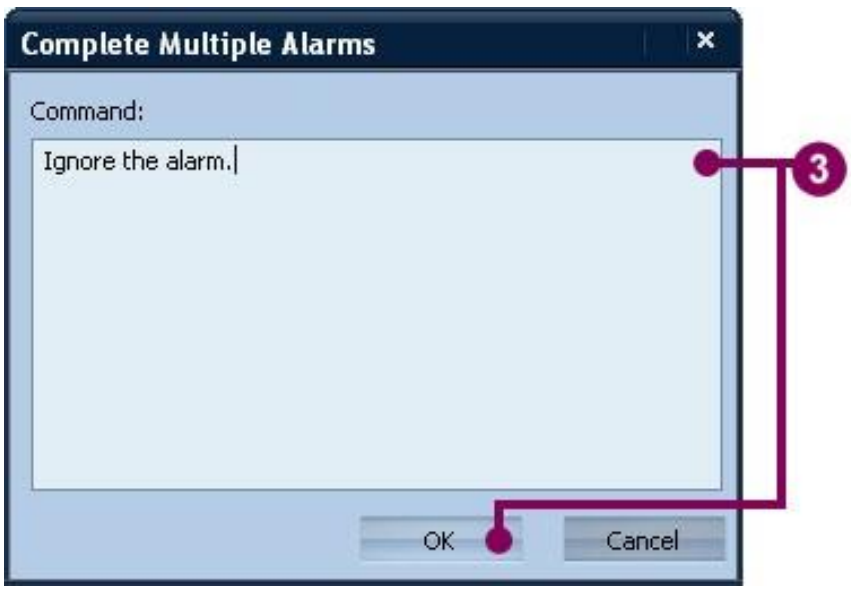


Figure 5-5 Acknowledge several alarms together

1. Check the checkboxes of the selected alarms in the alarm list. To select all alarms, check the 'All' checkbox.
2. Click 'Complete'.



3. A 'Complete Multiple Alarms' dialog appears. Put some comments in the comment column and click 'OK'.
4. All selected alarms have been removed from the alarm list.

5-1-6 Export an Alarm

To export the search result, see the following steps:

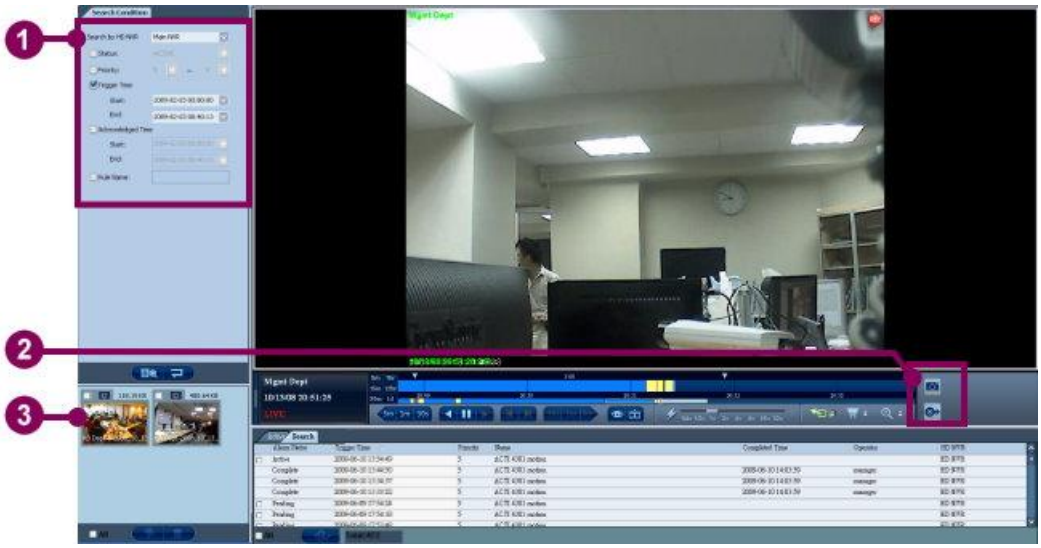


Figure 5-6 Export the alarm

1. After searching the alarms, click the 'Search' tab in the Alarm list. Click the desired alarm from the searching list.
2. Click the 'Export' button at the right hand side of the Time slider. The picture or video clip will be exported to the spooler.

TIP: In the Alarm Detail dialog, drag the alarm video in the name column and drop it to the spooler. The video will be exported to the Spooler.

3. Refer to section 4-7 'Spooler' for the following steps.

5-2 Event Mode

The event mode allows the user to view the recorded event information. All events are listed in the 'Events' table. The table includes five columns:

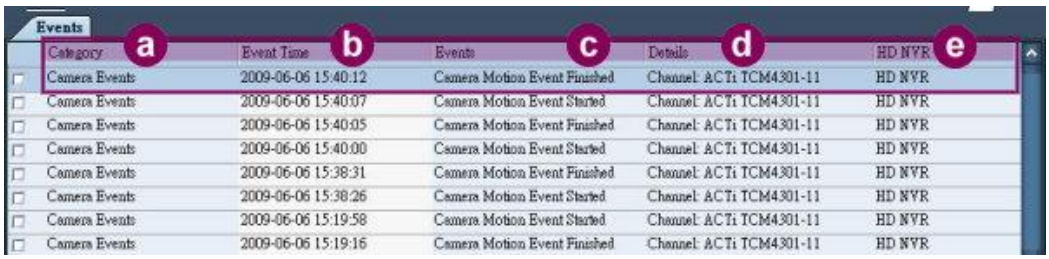


Figure 5-7 Details of the 'Events' table

a. Category: indicate the event category (including System, User, & Camera Events)
b. Event Time: indicate the occurrence time of the event
c. Events: indicate the event details
d. Details: indicate the channel ID of the event
e. HD NVR: indicate the event source

5-2-1 Search An Event

No event will be shown in the event list until the event searching function has been run. The event mode provides two searching conditions: Search by Time and Search by Category.

5-2-1-1 **Search by Time**

The event mode allows the user to search the events by the triggered time. See the following steps:

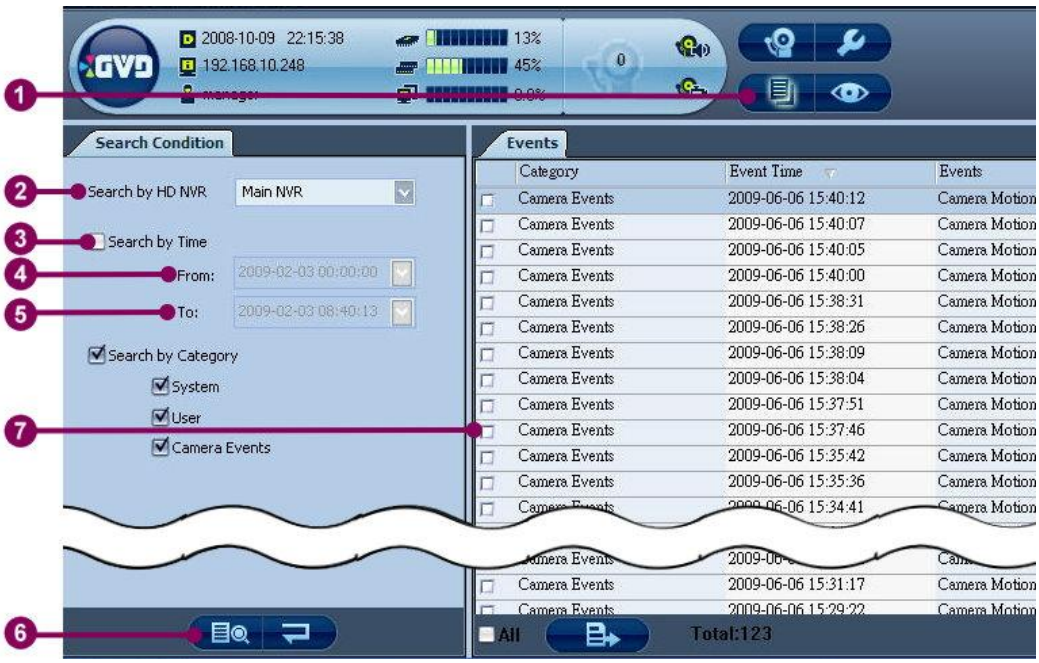


Figure 5-8 Event Search By Time

1. Click the Event Mode icon.
2. Click the drop-down box and select the HD NVR name in the ‘Search by HD NVR’ field.
3. Check the checkbox of the ‘Search by Time’ option.
4. In the ‘From:’ column, select the starting date and time.
5. In the ‘To:’ column, select the ending date and time.
6. Click the ‘Search’ button.
7. The ‘Events’ table shows the searching result.

TIP: To reset the event search, click the ‘Reset’ button.

5-2-1-2 **Search by Category**

The event mode allows the user to search the events by category. See the followi ng steps:

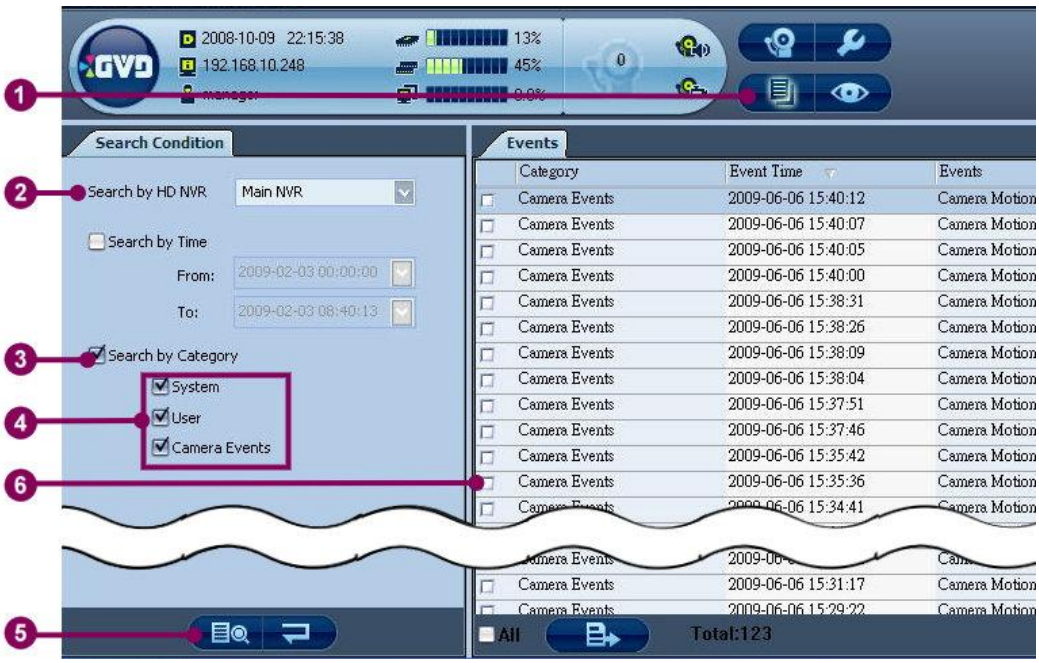


Figure 5-9 Event Search By Category

1. Click the Event Mode icon
2. Click the drop-sown box and elect the HD NVR name in the ‘Search by HD NVR’ field.
3. Check the checkbox of the ‘Search by Category’ option.
4. Check the checkboxes of the desired options.
5. Click the ‘Search’ button.
6. The ‘Events’ table shows the searching result.

TIP: To reset the event search, click the ‘Reset’ button.

5-2-2 Export the Events

When the events table has shown the searching result, the event mode allows the user to export the result table. To export the events, see the following steps:

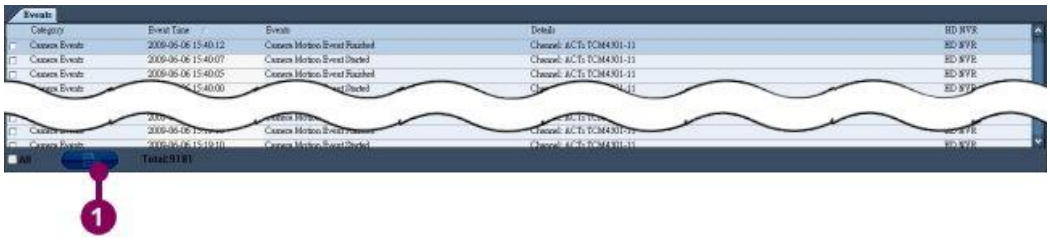
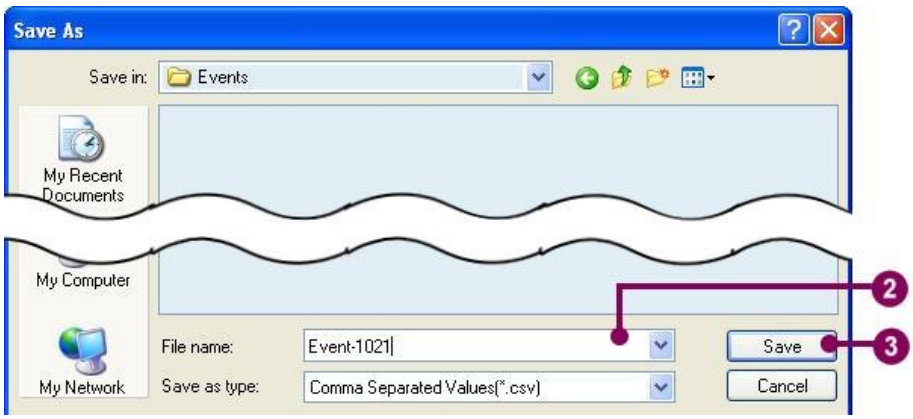


Figure 5-10 Export the events

1. Click the 'Export' button at the bottom of the 'Events' table. A 'Save As' dialog appears.



2. Input the new file name in the 'File name' column. If necessary, change the directory.
3. Click 'Save'.

4. The system raises a message – 'Completed to export to file:{file's absolute path}.' The searching result has been saved in the .csv file format.

Chapter 6 Configuration Mode

The configuration mode helps the user to conduct several settings of the NVR and connecting devices. The configura tion mode is composed of the following parts:

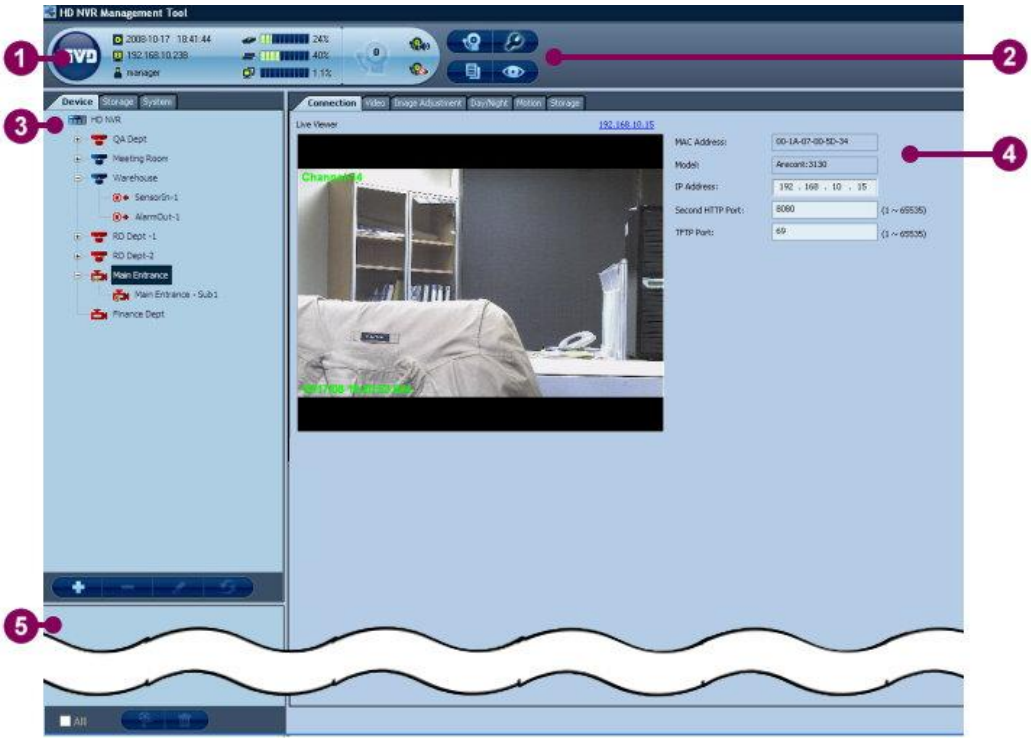


Figure 6-1 The details of the configuration mode

1. Information Panel (see chapter 4)
2. Mode buttons (See chapter 4)
3. Category panel
4. Setting panel
5. Spooler (See section 4-7 'Spooler')

When entering the configuration mode, there are three tabs in the category panel below the information panel. The three tabs include: device setting, storage setting, and the system setting. The setting panel, located at the right hand side of the category panel, shows the detailed values of various settings.

6-1 Device Setting

6-1-1 NVR

The NVR setting allows the authorized user to vi ew the relative configuration and modify the values of specific items. The NVR Setting is composed of three tabs:

1. The basic setting
2. The customized setting
3. The License Control

TIP: To change the setting values in the device tab, click the ' **' (Modify) button first, and a configuration page is opened. Click 'OK' after the modification has been done.**

Double click the NVR icon, and the configuration page will be opened.

6-1-1-1 **Basic Setting**

The basic setting shows the connecting information and other setti ngs of the NVR. The followings describe the configured items and the values of the NVR.

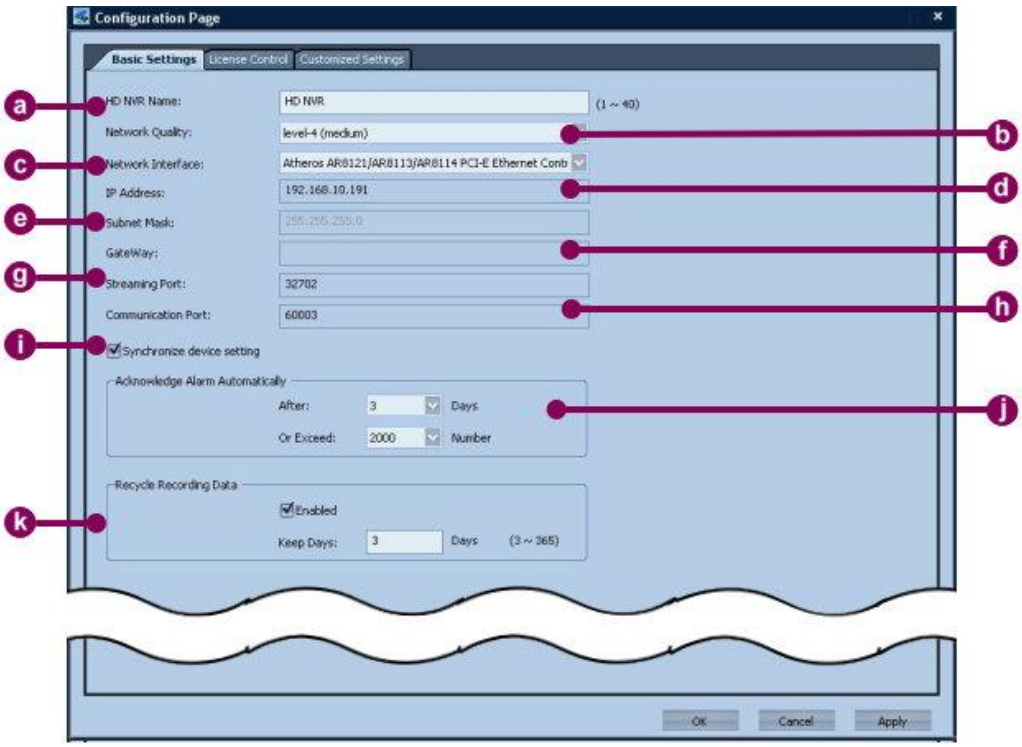


Figure 6-2 Basic Setting of the NVR

a. HD NVR Name – indicate the name of the NVR
b. Network Quality – indicate the connection quality of the network (In level 7, the system will check the connection status every 2500ms. If the network packet has lost for more than 2000 ms, and the system raises the video loss alarm. In level 1, the system will check the connection status every 10000 ms. For more information, refer to Appendix 2 ‘Network Quality’.)
c. Network Interface – indicate the network card installed in the NVR
d. IP address – indicate the IP address of the NVR
e. Subnet Mask – indicate the network mask of the NVR
f. Gateway – indicate the gateway of the NVR
g. Streaming port – indicate the streaming port of the NVR
h. Communication port – indicate the communication port of the NVR

NOTE: Please contact your network administration to get the port number of the streaming port and the communication port. When two network cards are installed on the NVR, the system directly reads the content of the card with the most local network connections in the 'Local Connection' configuration.

i. Synchronize Devise Setting – Decide whether the NVR setting is synchronized with the saved setting in the remote devices. When the checkboxes is checked, the NVR will send the reserved setting to the remote devices and overwrite the original setting values.

j. Automatic Alarm Acknowledge – indicate the conditions that the alarm will be acknowledged automatically. Either of the two conditions checked will trigger the option.

k. Recycle Recording Data – indicate the recycle duration of the recording data. When the option is activated, the recorded video matching the requirement will be deleted automatically.

6-1-1-2 **License Control**

The license control shows the license information of the NVR, including:

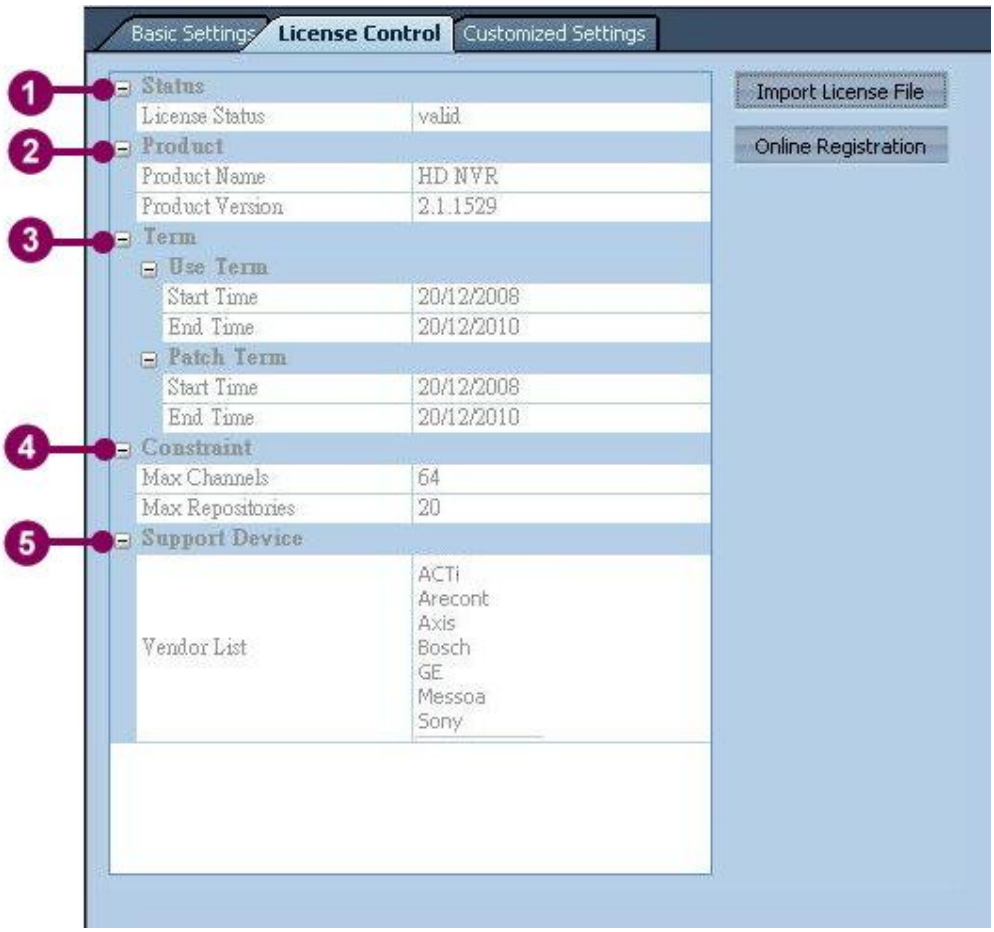


Figure 6-3 License Control setting of the NVR

1. Status - indicates the license status.
2. Product – indicates the product name and the system version.
3. License term – includes the starting and ending date and time of the Use Term and the Patch Term
4. Constraint – indicates the maximum number of the connecting channels and the repositories
5. Support Devices – indicates the supporting camera brands

TIP: Click the 'Import License File' button to import the new license file. Click the 'Online Registration' button to register the system via the internet.

For more information about registering the system, refer to section 2-2-2 'License Activation'.

6-1-1-3 **Customized Setting**

The customized setting includes three parts:

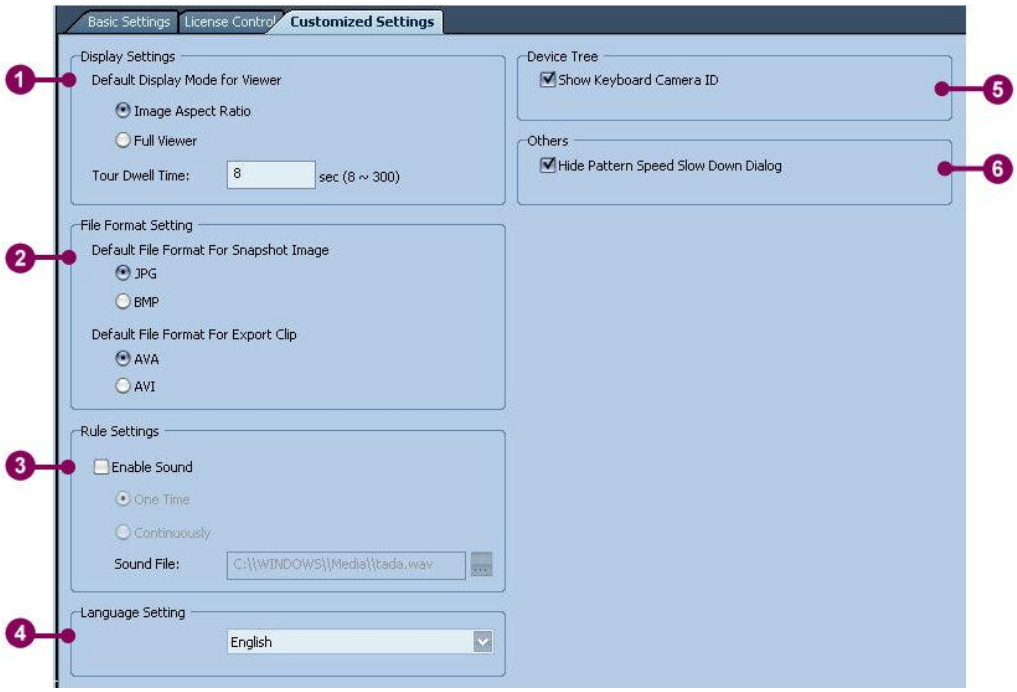


Figure 6-4 Customized Setting of the NVR

1. Display setting
2. File Format setting
3. Alarm Rule setting
4. Language setting
5. Device Tree
6. Others

Display setting

The display settings include two options:

- Default display mode for viewer – indicate whether the image in the viewer should be kept in the original ratio or stretched.
- Tour Dwell Time – indicate how long the customized pattern will show in the tour (minimal 8 sec, maximal 300 sec)

File Format setting

The file format setting includes two parts:

Select one of the following options as the default file format of snapshot image

- JPG
- BMP

Select one of the following options as the default file format of export clip

- AVA
- AVI

Alarm setting

The alarm setting includes the following option:

- Enable Sound – indicate whether the alarm alert will be played when an alarm is generated. There are two options: **once** and **continuously**. To change the alarm alert, click the sound file option and select a new sound file.

The Language setting

The Language setting allows the user to change the default language interface. See the product specification for supported langu ages.

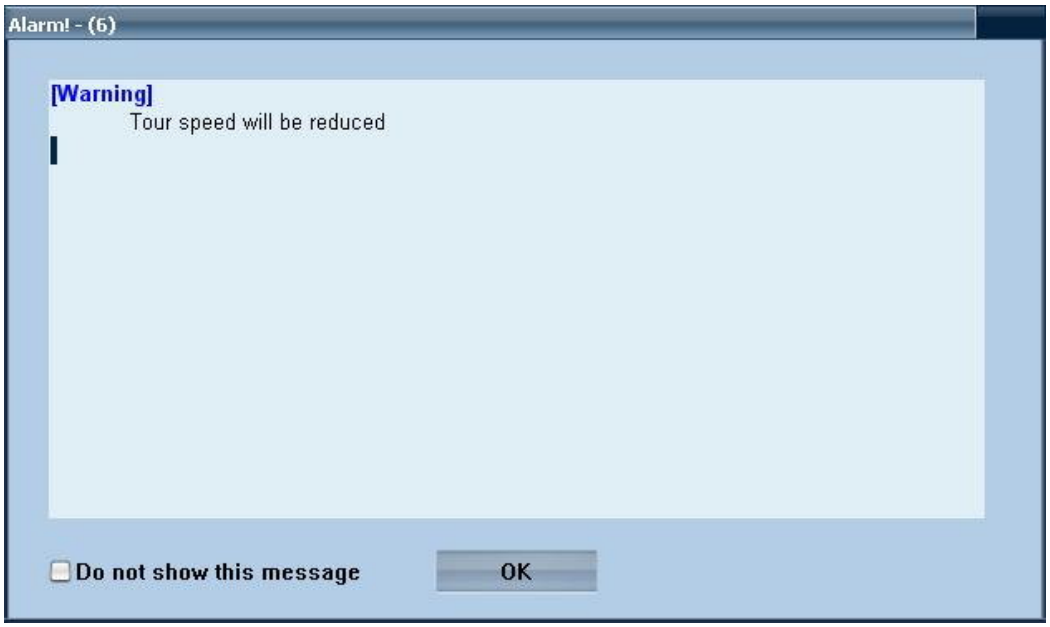
NOTE: After changing the language setting, the HD NVR Manager must be restarted to activate the language setting.

Device Tree

When the 'Device Tree' option is checked, the node name in the camera tree adds the code name recorded in the keyboard controller program of the K-200 PTZ keyboard. If unchecked, the code name is hidden

Others

When the option is unchecked, the system raises a warning dialog automatically when the system resource consumes too much. Meanwhile, the playing speed of the image will be forced to lower down from the system crash.



6-1-2 Camera/Channel

6-1-2-1 **Brief of the Camera/Channel setting**

In the configuration mode, click the 'Device' tab to show the camera tree. In the camera tree, the tree nodes include the connecting channels, sub channels, and DI/DO points. When the user clicks a channel in the camera tree, the setting panel will show the detailed information.

The channel settings vary depending on the camera models. For example, when an Arecont's camera is selected, the information includes the following 6 tabs:

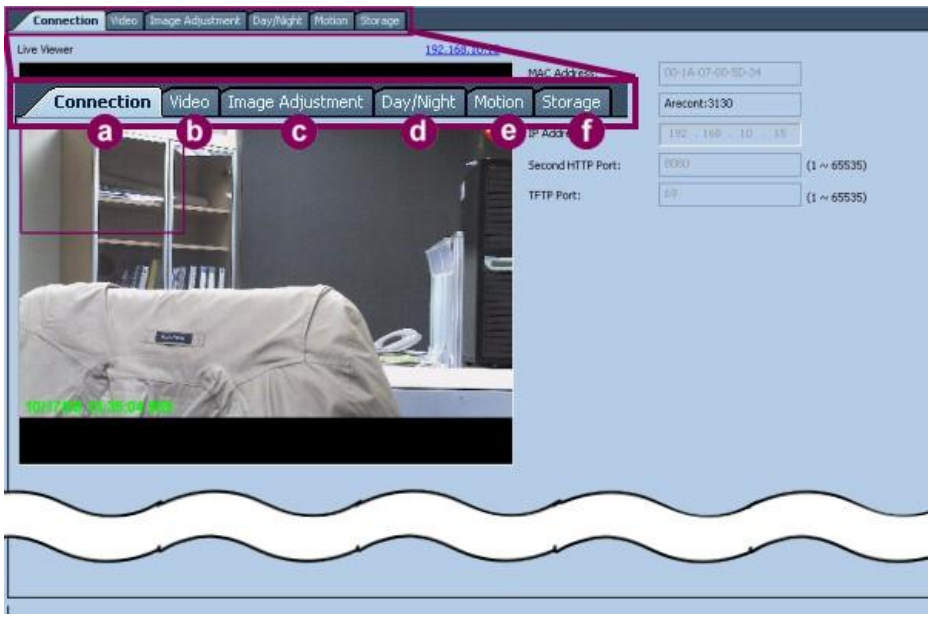


Figure 6-5 The channel information in the setting panel

a. Connection – indicate the connecting information of the channel.
b. Video – indicate the video information of the channel and sub channel.
c. Image Adjustment – indicate the information of the image quality.
d. Day/Night – indicate the lens setting during the daytime and nighttime (only for Arecont's models).
e. Motion – indicate the motion alarm area.
f. Storage – indicate the storage volume of the connecting channel.

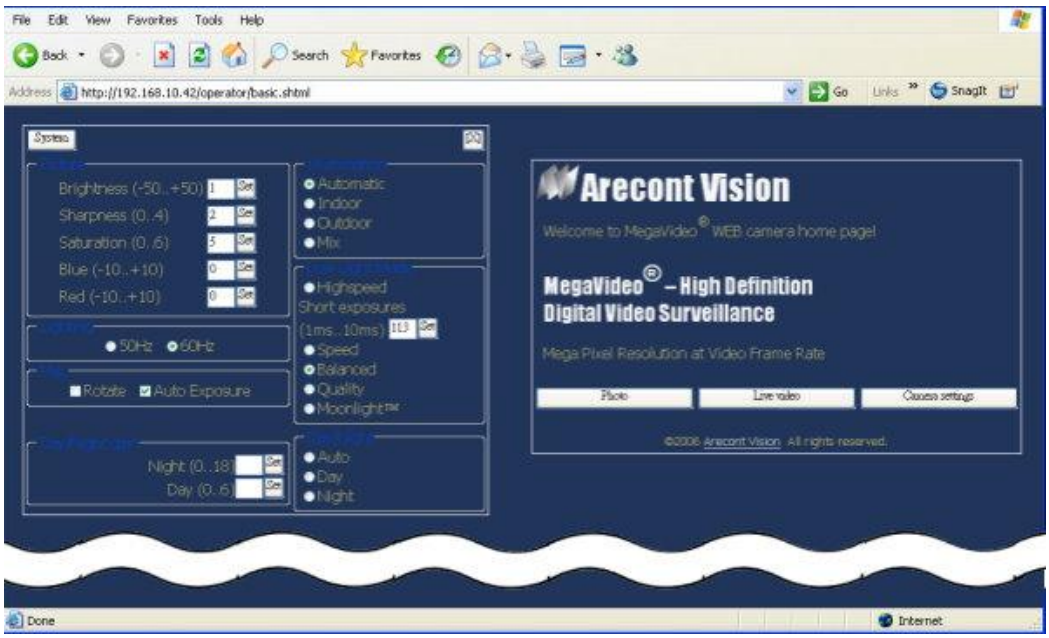


Figure 6-6 The camera setting provided by the manufacturer

Some tabs will show the live image of the channel. An IP address is above the live image. Click the IP address, and a browser will be opened to shows complete camera settings.

6-1-2-2 Add a camera/channel to the system

To add a channel to the NVR, the system offers two ways: manual or automatic.

Add a Channel Manually

To add a channel manually, see the following steps: (Illustrated by the Arecont 3130 model)

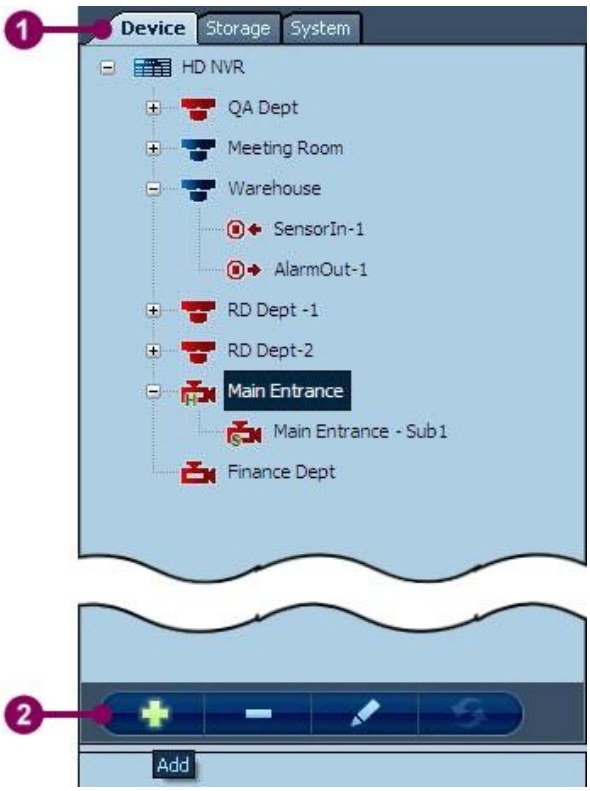
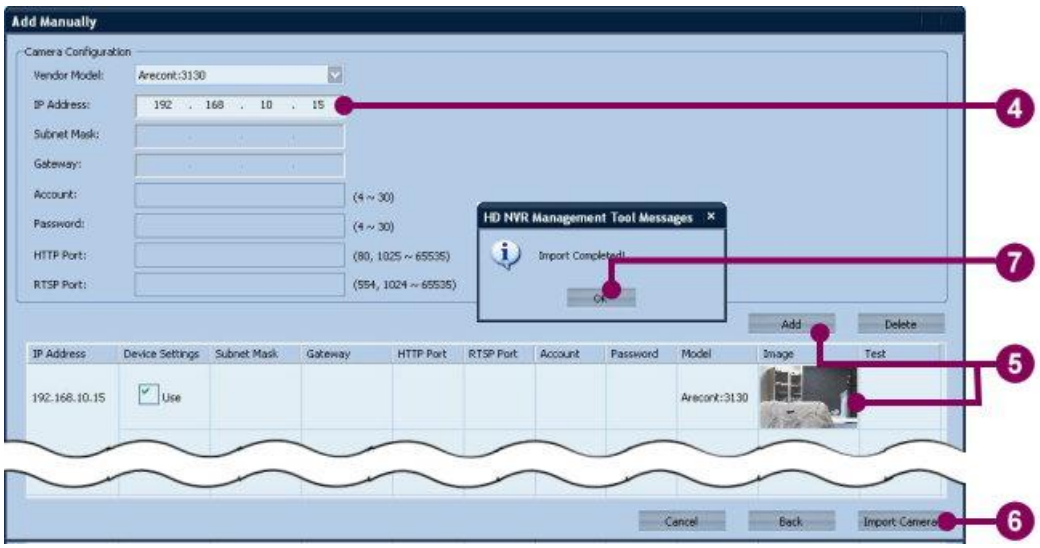


Figure 6-7 Add a channel manually

1. In the configuration mode, click the 'Device' tab.
2. Click the 'Add' button in the category panel, and an 'Add Camera Device' dialog appears.

3. Click ‘Add Manually’ and then click ‘Next’. An ‘Add Manually’ dialog appears.

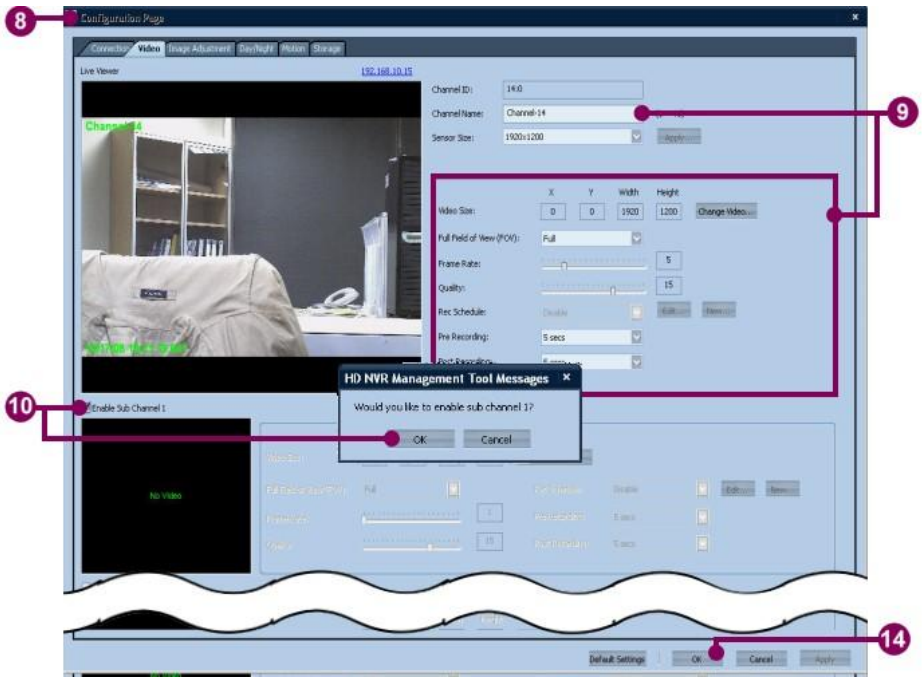


4. Get the IP address of the camera first before the channel is set. Select the camera brand in the vender model column. Then input the IP address of the camera.
5. Click ‘Add’. The system tries to connect the IP camera remotely. If the connection is successful, and the camera information (including an image preview) will be shown in the list below.
6. Click ‘Import Camera’ to add the channel. (Click ‘Back’ to return the ‘Add Camera Device’ dialog, or click ‘Cancel’ to exit.)

NOTE: When the target camera disconnects to the network or the network loading is too heavy, the system will raise a dialog whether the user will apply the camera default value of the system instead of the setting value of the camera.

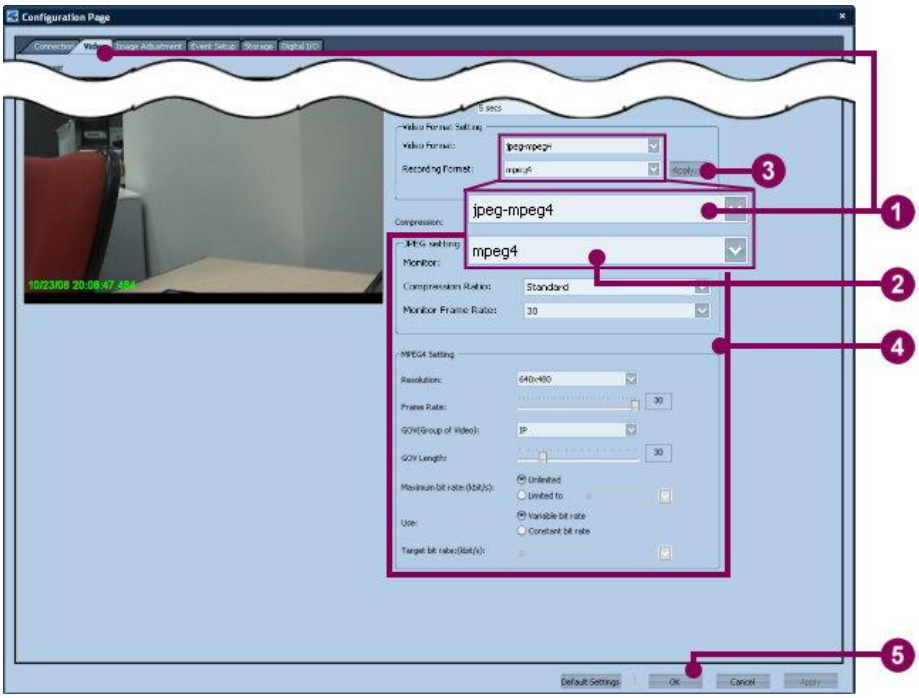
7. When the camera is connected, an ‘Imported completed!’ message is raised. Click ‘OK’ to close the message.

NOTE: When the 'Device Setting' is checked, the system will retrieve the partial setting values of the connecting devices, such as video format, resolution, motion detection, and so on. If the column is unchecked, the system applies the default values.

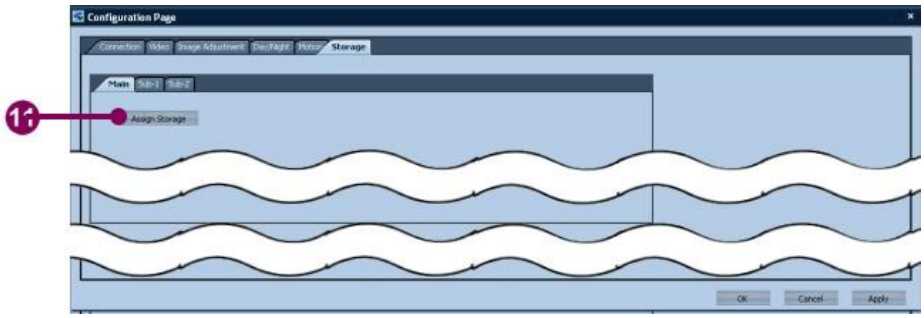


8. The new channel has been added to the camera tree. A 'Configuration page' is opened for the following camera settings.
9. Click the 'Video' tab and change the channel name. If necessary, change other video settings.
10. If the camera supports 'Sub Channel' function, check the 'Enable Sub Channel' option, and a message, 'Would you like to enable sub channel?' will be raised. Click 'OK' to add a sub channel. If necessary, change the video settings of the sub channel.

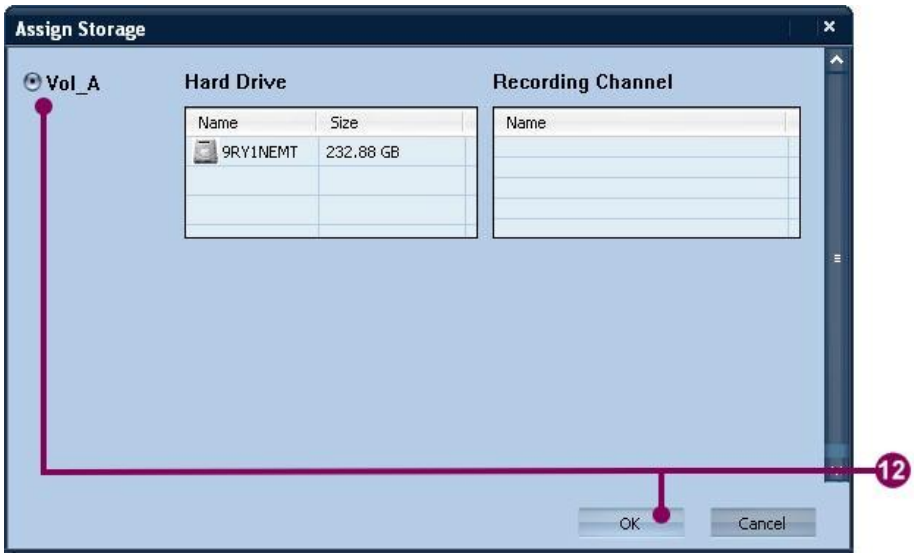
TIP: If the camera supports 'Dual Codec', see the following steps to open the 'Dual Codec' function. (Suppose the camera supports the motion jpeg and mpeg4 compressions.)



1. **In the 'Video' tab, click the 'Video Format' combo box. Select 'jpeg-mpeg4' from the drop-down list.**
2. **Click the 'Recording Format' combo box. Select 'Jpeg' or 'MPEG4' from the drop-down list. If the recording format of the channel is 'MPEG4' and the codec mode of the viewer is 'auto', the system will automatically apply 'Jpeg' as the default codec. For more information, refer to section 4-5-14 'Switch Codec'.**
3. **Click 'Apply' to confirm the change.**
4. **Change the JPEG setting and the MPEG4 setting. For more information, refer to the camera manual.**
5. **Click 'OK' to close.**

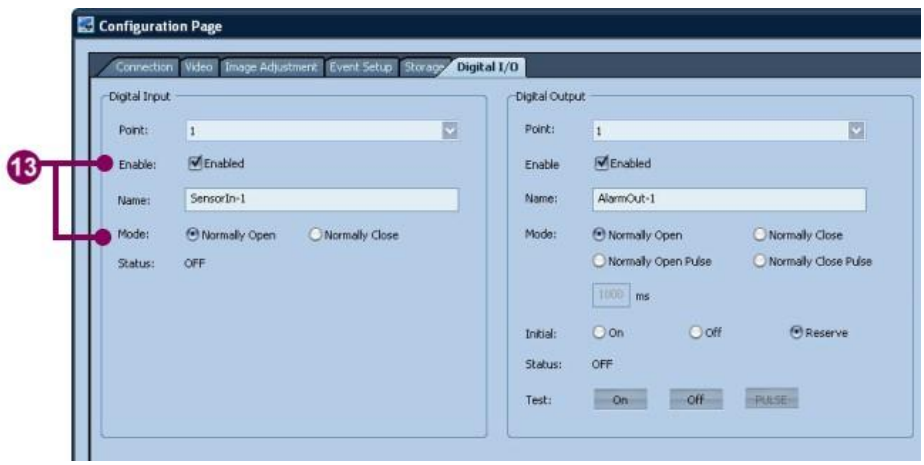


11. To start recording, click the 'Storage' tab and click the 'Assign Storage' button.



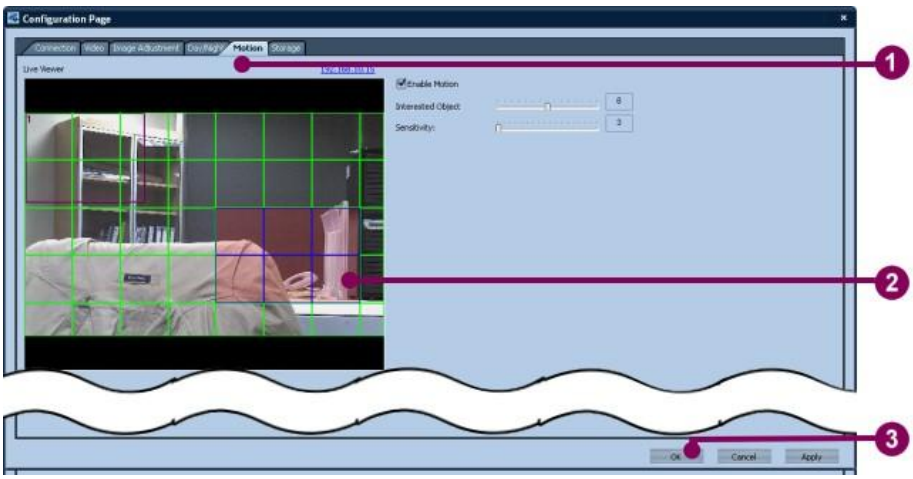
NOTE: If the volume has not been created, the 'Assign Storage' button is unable to work. Close the configuration page and create a new volume first.

12. An 'Assign Storage' dialog appears. Click the preferred volume and click 'OK.



13. If the camera supports the DI/DO points, the configuration page will show the 'Digital I/O' tab. Click 'Digital I/O' tab and check the checkboxes of 'Enable' options to add the DI/DO points. The user can also change the 'Mode' option to control the DI/DO points if necessary.
14. Click 'OK' to complete.

TIP: How to set the motion alarm area (illustrated by Arecont 's 3130 model)



1. **In the configuration page, click the 'Motion' tab.**
2. **There is a green grid on the live image. Every cell in the grid represents a detection area. Click the left key of the mouse to select the area. Click the right key to deselect the area.**
3. **Click 'OK' to close the configuration page.**

Add a Channel Automatically

To add a channel automatically, see the following steps:

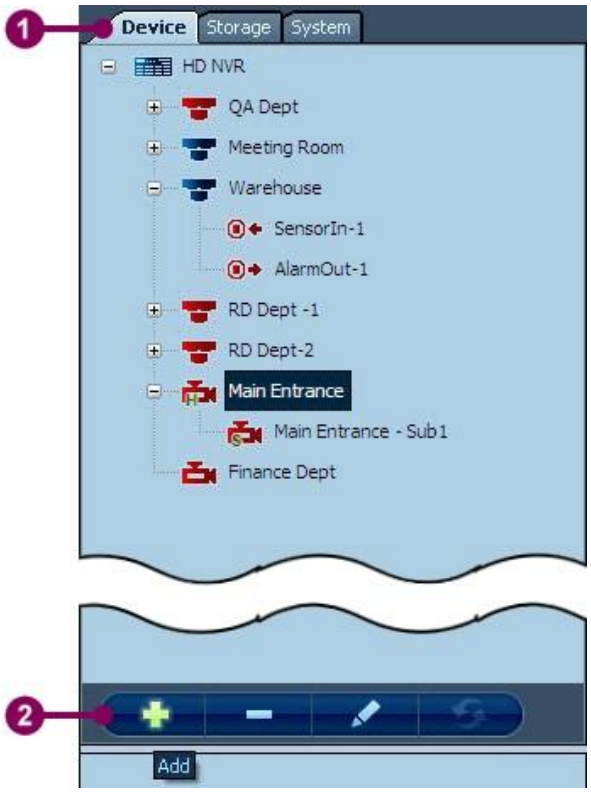
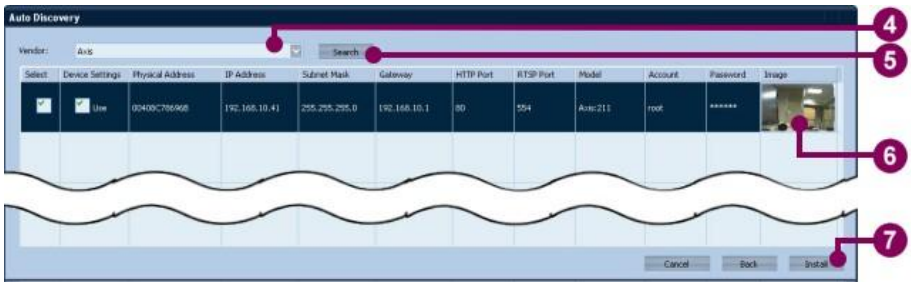


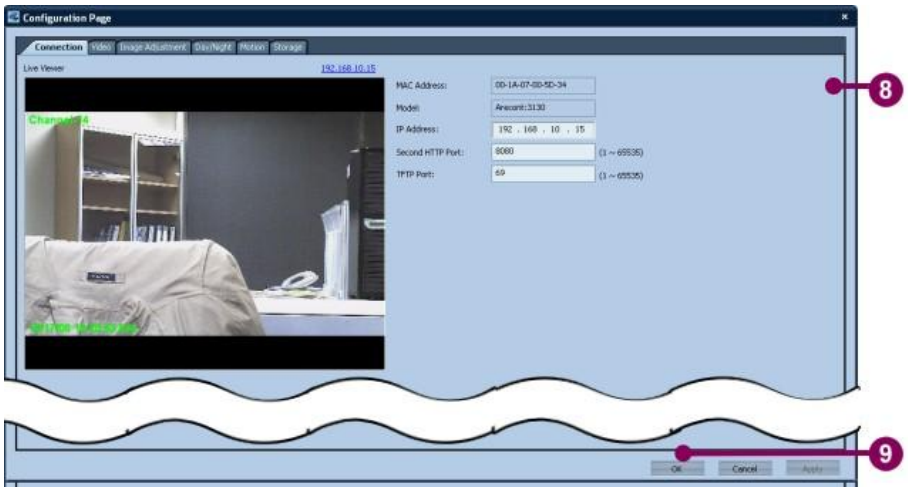
Figure 6-8 Add a channel automatically

1. In the configuration mode, click the 'Device' tab.
2. In the category panel, click the 'Add' button to show the 'Add Camera Device' dialog.

3. Click 'Auto Discovery' and then click 'Next'. An 'Auto Discovery' dialog appears.



4. Click the 'Vendor' combo box and select the preferred vendor name from the drop-down list. Click 'Search' to continue.
5. Click 'Search'. The system tries to connect the IP camera remotely.
6. The system automatically searches all vendor 's connecting IP cameras in the network. The searching result will be listed in the channel table.
7. Check the checkboxes of the selected cameras and click 'Install'.



8. The new channel has been added to the camera tree. A 'Configuration page' shows for changing the setting values of the camera.
9. Refer to the steps 9-13 in section 6-1-2-2 '<u>Add a camera/channel to the system</u>' for the following steps. Click 'OK' to close the page.

TIP: Right click the channel node to show the pop-up menu. There are three items: add camera, modify camera, and delete camera. See the following figure:

6-1-2-3 **Modify the camera/channel settings**

To modify the camera/channel, follows the steps below:

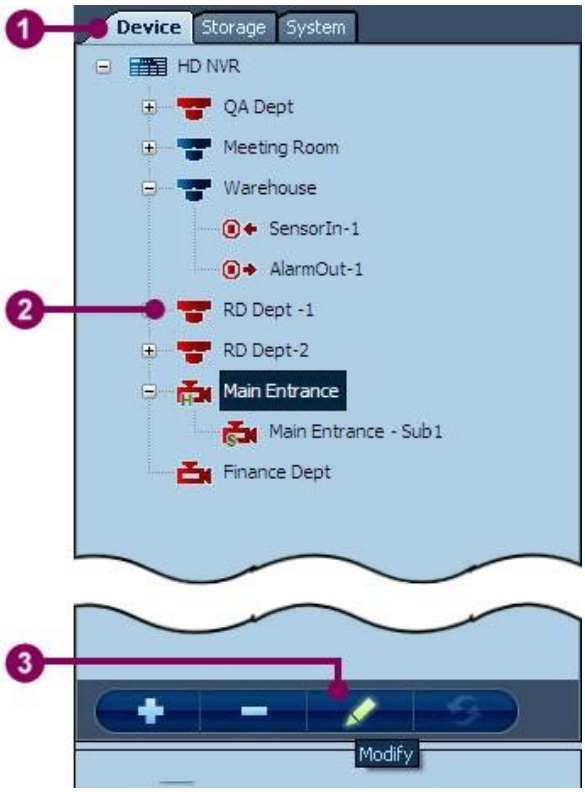
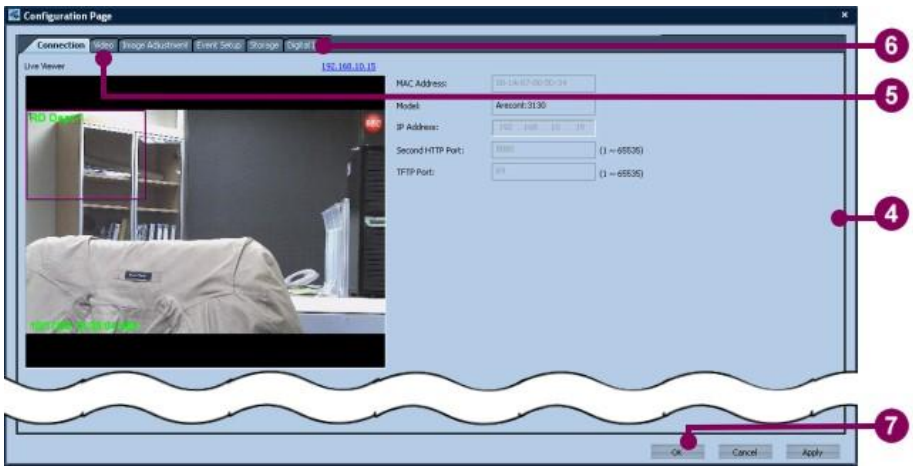


Figure 6-9 Modify the channel settings

1. In the configuration mode, click the 'Device' tab.
2. Click the preferred channel from the camera tree.
3. Click the 'Modify' button to show the configuration page.

TIP: To replace step 2 and 3, the user may double click the preferred channel directly.



4. Click the preferred function tab and change the setting values. Refer to section 6-1-2-2 '<u>Add a camera/channel to the system</u>' for the all channel settings.
5. If necessary, click the 'Video' page to change the setting value of the sub channel.
6. If the camera has DI/DO points, click the 'Digital I/O' page to change the configuration value of the DI/DO points.
7. Click 'OK' to complete.

6-1-2-4 **Delete a camera/channel from the system**

To delete a camera/channel from the system, see the following steps:

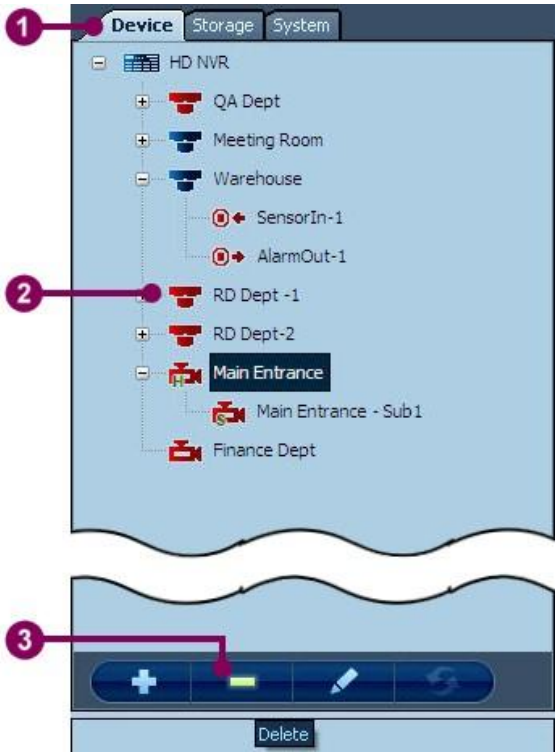


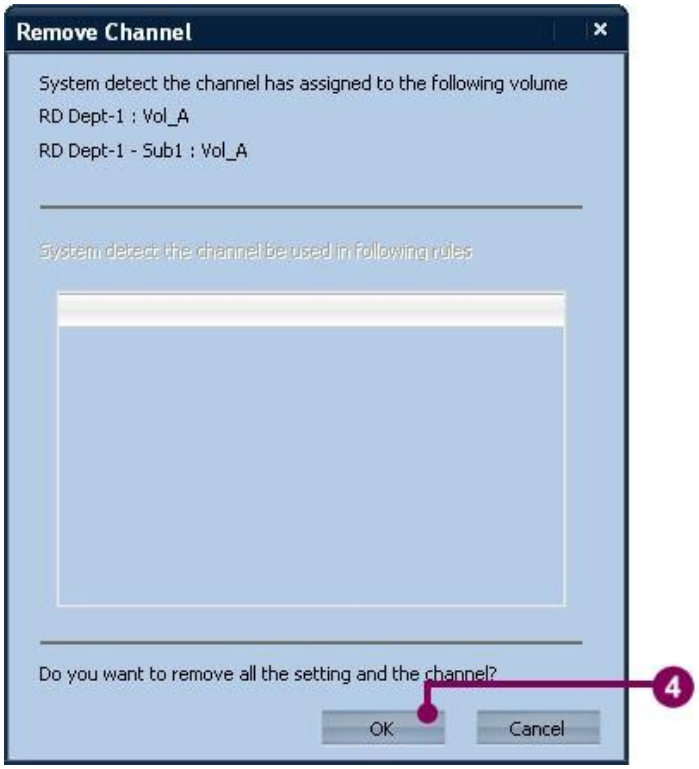
Figure 6-10 Delete a camera/channel from the system

1. In the configuration mode, click the 'Device' tab.
2. Click the preferred main channel from the camera tree. Do not click the sub channel or DI/DO point.

NOTE: To delete a sub channel, refer to section 6-1-3-3 'Modify the camera/channel settings' and open the configuration page. Uncheck the 'Enable Sub Channel' checkbox in the 'Video' tab and click 'OK', and the sub channel will be removed from the camera tree.

NOTE: To delete the DI/DO point, refer to section 6-1-3-3 'Modify the camera/channel settings' and open the configuration page. Uncheck the 'Enable' checkbox in the 'Digital I/O' tab and click 'OK', and the DI/Do points will be removed from the camera tree.

3. Click the 'Delete' button.



4. If a volume has been assigned to the image recording, or the channel is used in an alarm rule, the system raises a message. Click 'OK' to continue. (Or click 'Cancel' to exit.)
5. The selected channel has been removed from the camera tree.

NOTE: When the channel has been deleted, the associating alarm rule will also be deleted.

6-2 Storage Setting

The storage setting shows all configured volume information of the NVR. Click the volume icon in the category panel, and the detailed information of the volume will be shown in the setting panel.

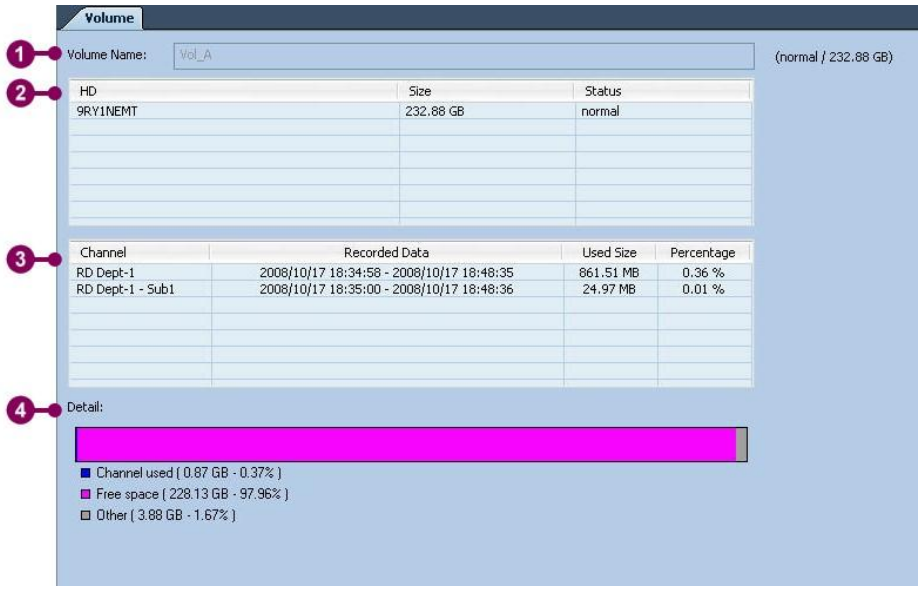


Figure 6-11 The Storage Setting

The setting panel shows the following information:

1. Volume name – indicate the name of the volume
2. HD – shows the repository information of the volume
3. Channels – shows all channel information the volume is operating.
4. Detail – indicate the capacity status of the volume

NOTE: To change the volume name or add/remove the hard disk, run the SCM program.

6-3 System Setting

The system setting includes four items:

- Map
- User Account
- Alarm Rule
- Schedule

6-3-1 Map

In the configuration mode, the system offers the following functions:

- Add a map to the system
- Modify a map
- Delete a map from the system
- Change the map position in the hierarchy

6-3-1-1 **Add a map to the system**

To add a map to the system, see the following steps:

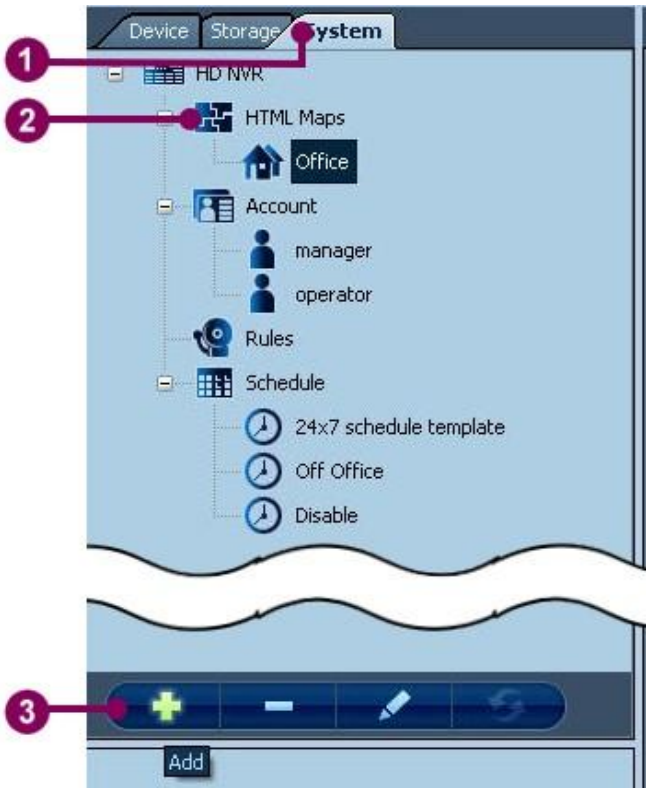


Figure 6-12 Add a map to the system

1. In the configuration mode, click the 'System tab.
2. Click 'HTML Maps' in the category panel.
3. Click 'Add' button to show the 'Add Map' dialog.

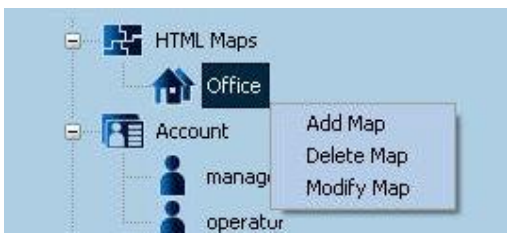
4. Input a new name in the 'Map Name' column.
5. Input the URL or file path of the new map. Click the '…' button to show the 'Open' dialog. The dialog helps the user to find the correct map file. Click 'Open' to close the dialog.
6. Click 'OK'.

7. The new map has shown in the setting panel.

TIP: In the map configuration, only the XML-based and HTML-based files are supported.

NOTE: Refer to '<u>Appendix III – How to add camera or DI/DO to a HTML map</u>' for adding a camera or DI/DO icon to the HTML map.

TIP: Right click the map node to show a pop-up menu. The menu has three items: add map, modify map, and delete map. See the following figure:



6-3-1-2 **Modify an existing map**

To modify a map file, see the following steps:

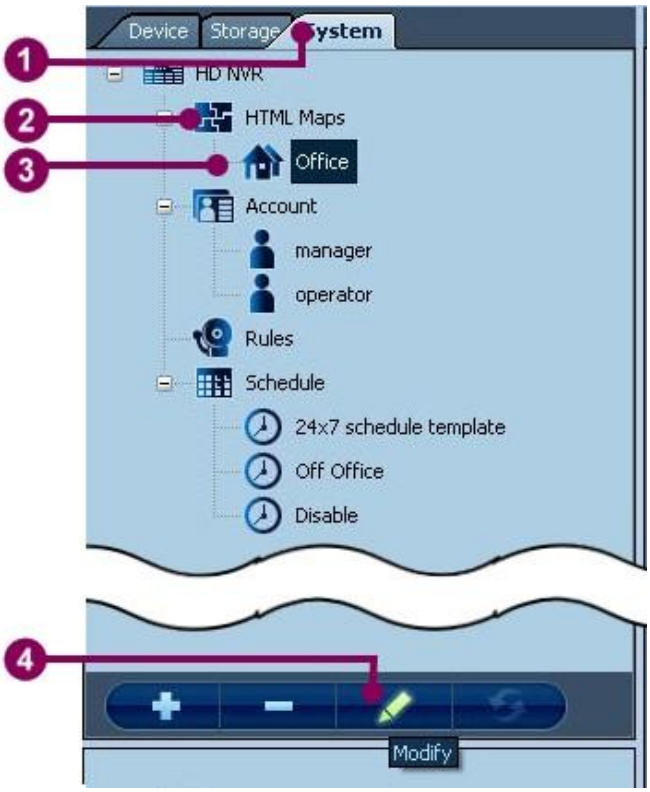
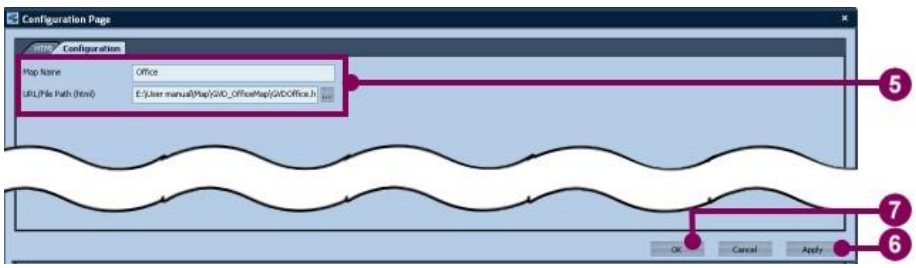


Figure 6-13 Modify an existing map

1. In the configuration mode, click the 'System tab.
2. Click 'HTML Maps' in the category panel.
3. Click the selected map.
4. Click 'Modify' button to show the configuration page.



5. The configuration page has two tabs: the 'HTML' tab shows the content of the map file, and the 'Configuration' tab allows the user to change the map name and the file path. Make the desired changes in the 'Configuration' tab.
6. Click 'Apply' to confirm the modification.
7. Click 'OK' to close the configuration page.

6-3-1-3 **Change the map position in the hierarchy**

The hierarchical structure of the map tree allows the user to categorize the maps by the map property. To change the hierarchical structure of the map, see the following steps:

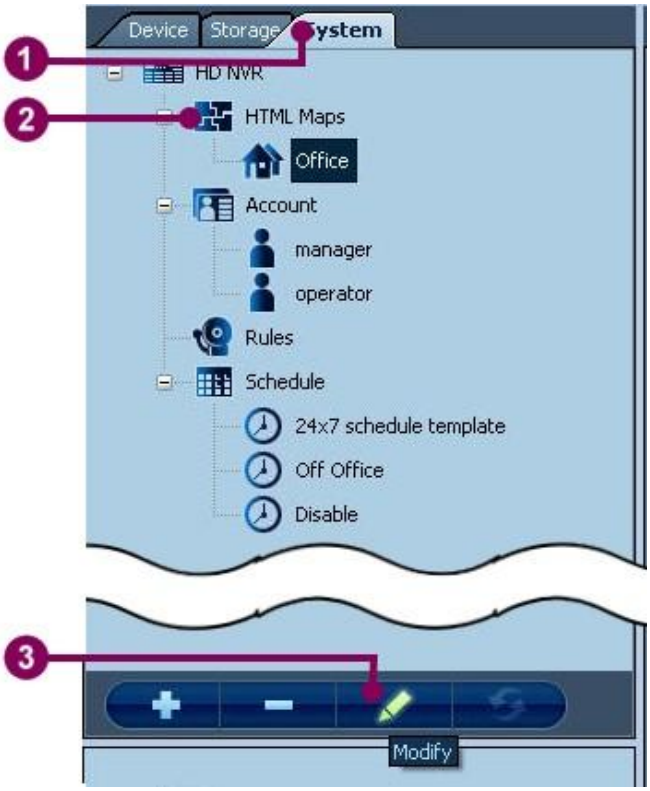
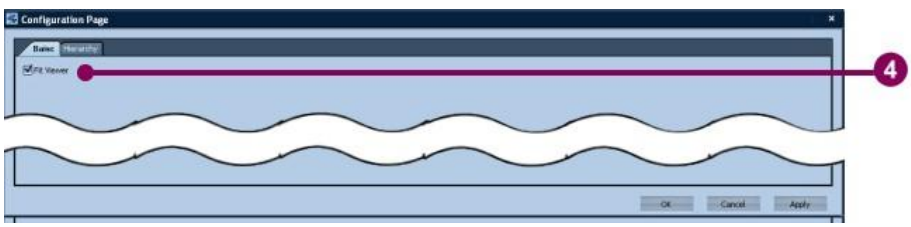
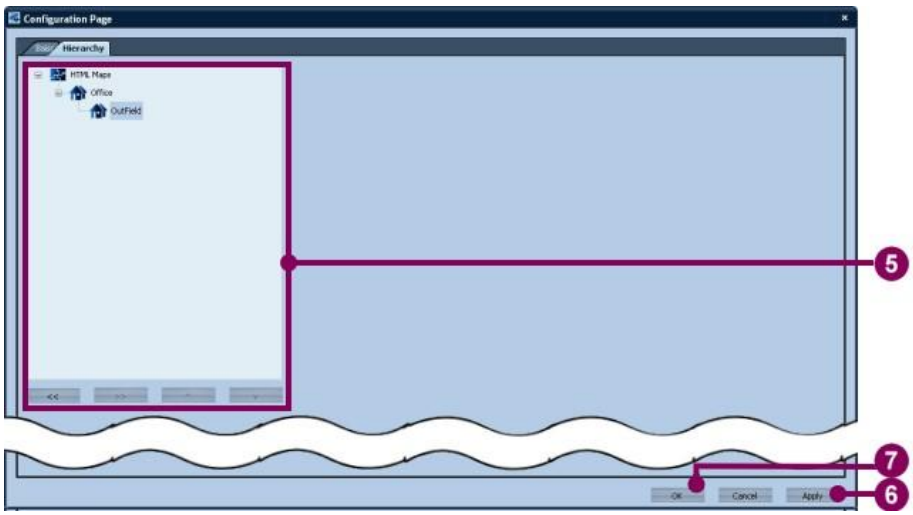


Figure 6-14 Change the map position in the hierarchy

1. In the configuration mode, click the 'System tab.
2. Click 'HTML Maps' in the category panel.
3. Click 'Modify' to show a configuration page.



4. The configuration page has two tabs: the 'Basic' tab is for 'Fit Viewer' option, and the 'hierarchy' tab allows the user to adjust the position of the map.



5. To change the selected map position, click the selected map in the map hierarchy. Click the buttons at the bottom to adjust new position. The functions of the buttons are as follows:
   <<: Upgrade the map level
   >>: Downgrade the map level
   ^: Move the map up.
   v: Move the map down.
6. When all changes have been made, click 'Apply' to confirm.
7. Click 'OK' to close the configuration page.

6-3-1-4 **Delete a map from the system**

To delete a map from the system, see the followi ng steps:

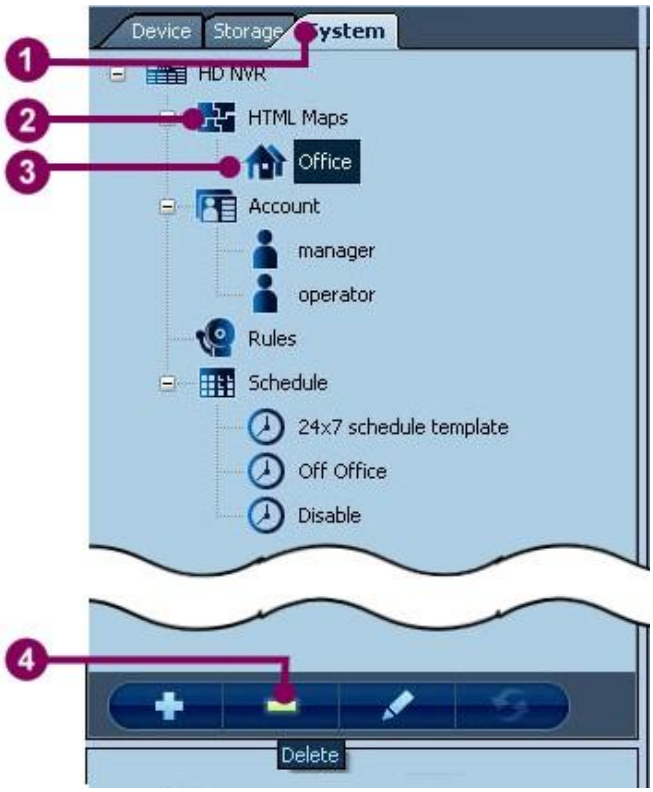


Figure 6-15 Delete a map from the system

1. In the configuration mode, click the ‘System tab.
2. Click ‘HTML Maps’ in the category panel.
3. Click the selected map.
4. Click ‘Delete’ button.
5. The selected map has been removed from the map tree.

6-3-2 User Account

The system offers two user accounts – manager and operator. In terms of privilege, the operator is prohibited to access the configuration mode, and the ma nager can access all modes.

6-3-2-1 View the setting of the user account

In the configuration mode, click the user account and the setting panel shows the following information:

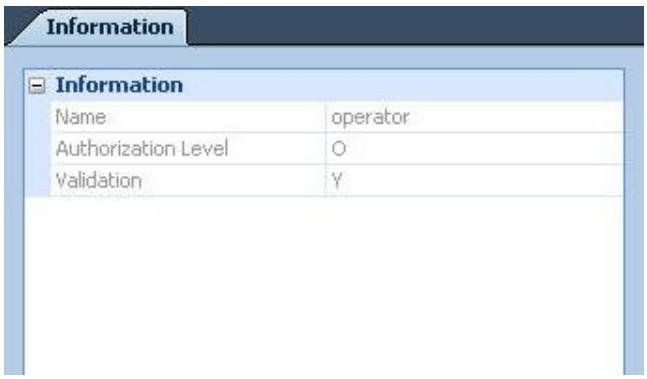


Figure 6-16 View the setting of the user account

- Name – indicate the name of the user account
- Authorization level – indicate the authorization level of the user account . Level O means operator, which can access the display mode, alarm mode , and event mode only. Level M means manager, which can access all modes.
- Validation – indicate the validation of the user account

6-3-2-2 **Change the Password of the User Account**

Only the manager account can change the password. To change the password, see the following steps:

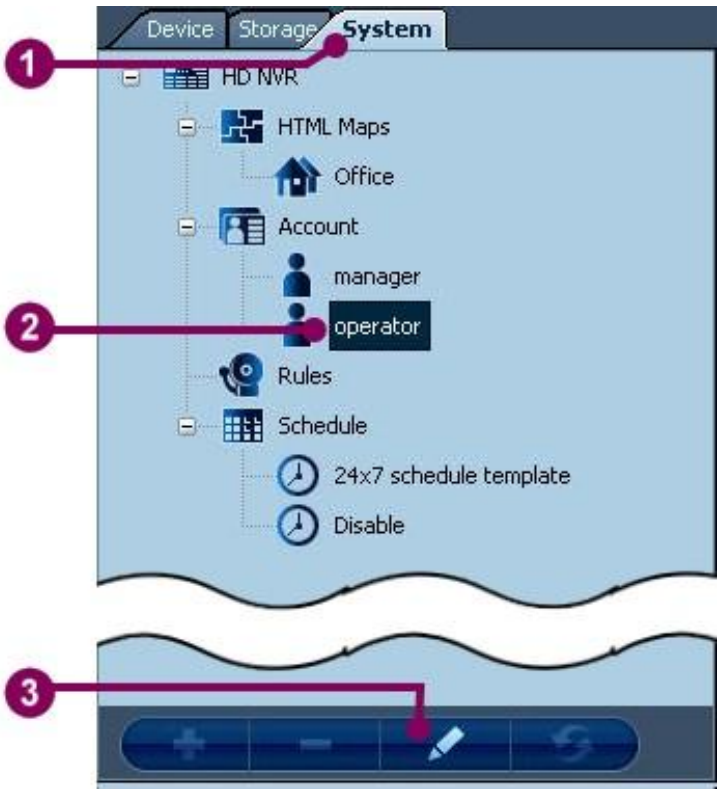
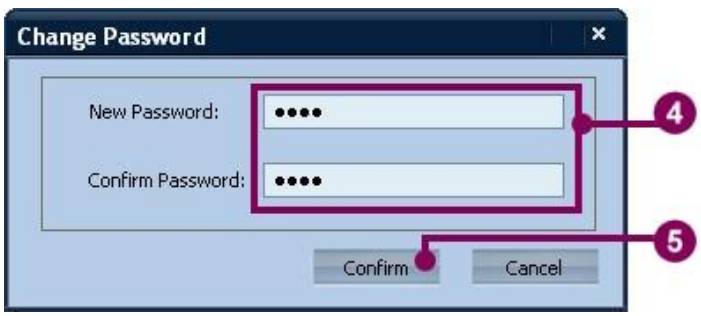


Figure 6-17 Change the password of the user account

1. Click the 'System' tab in the category panel.
2. Click the manager icon in the category panel.
3. Click the 'Modify' button to show the 'Change Password' dialog.



4. Input the new password in the 'New Password' column and the 'Confirm Password' column.
5. Click 'Confirm' to exit the dialog. The new password has been set.

TIP: Right click the user account node to show a pop-up menu. Click 'Change Password' to change the password of the user account directly. See the following figure:

6-3-3 Alarm rule

6-3-3-1 **Brief of the alarm rule**

Click the name of the alarm rule in the category panel, and the summary of the alarm rule will be shown in the setting panel. The content of an alarm rule includes:

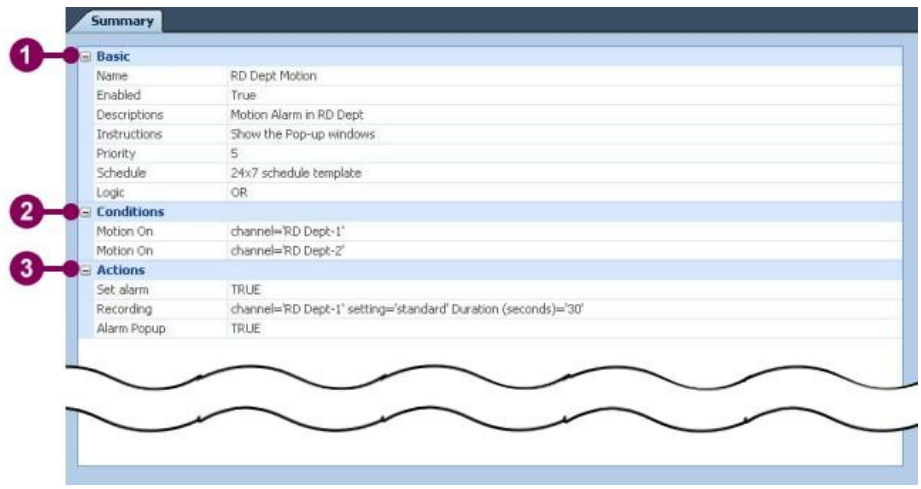


Figure 6-18 Brief of the alarm rule

1. Basic setting – indicate the basic information of the alarm rule, including the name, description, priority, and schedule, etc.
2. Conditions – indicate the alarm type and the connecting channels.
3. Actions – indicate the following actions of the a larm.

6-3-3-2 **Add an alarm rule to the system**

To add a new alarm rule, see the following steps:

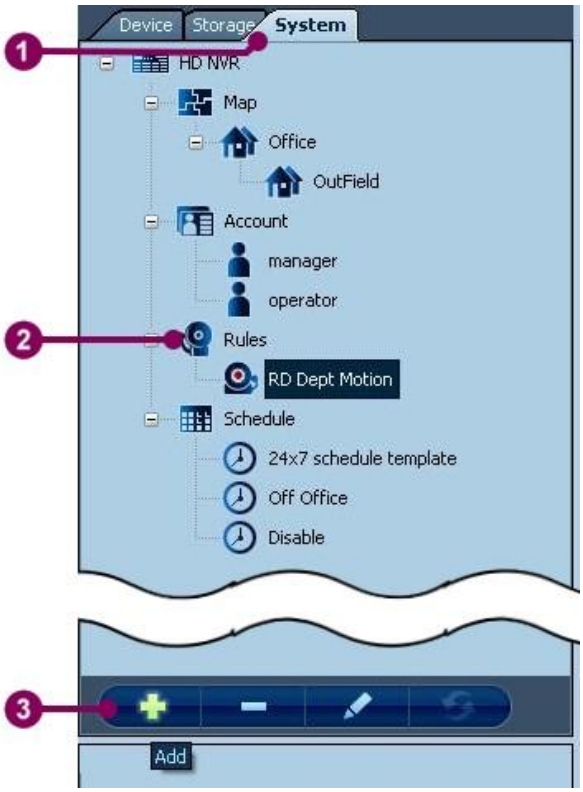
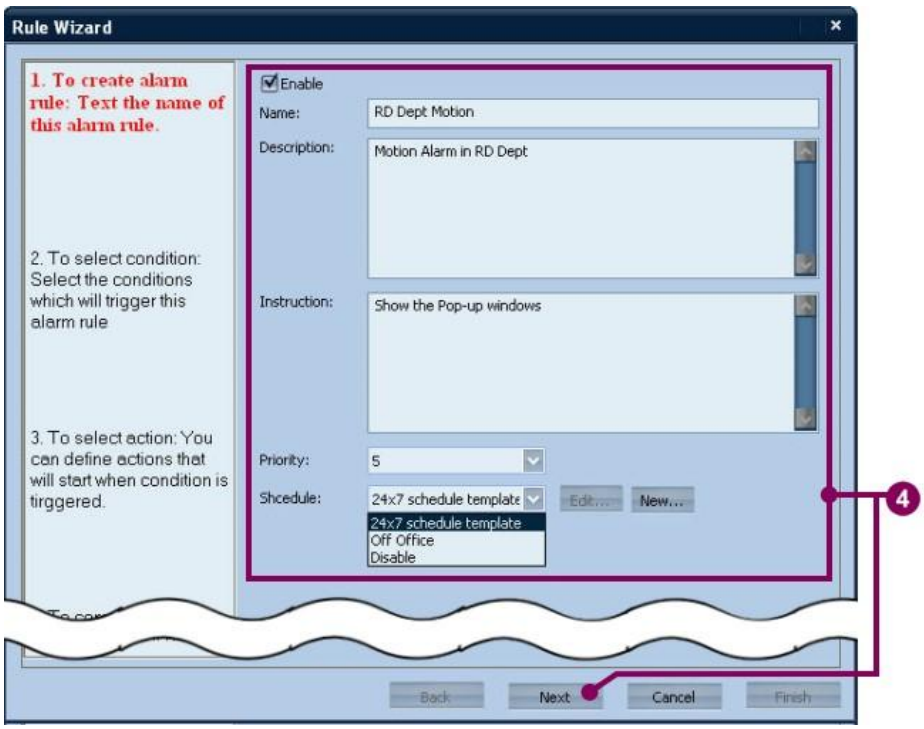


Figure 6-19 Add an alarm rule to the system

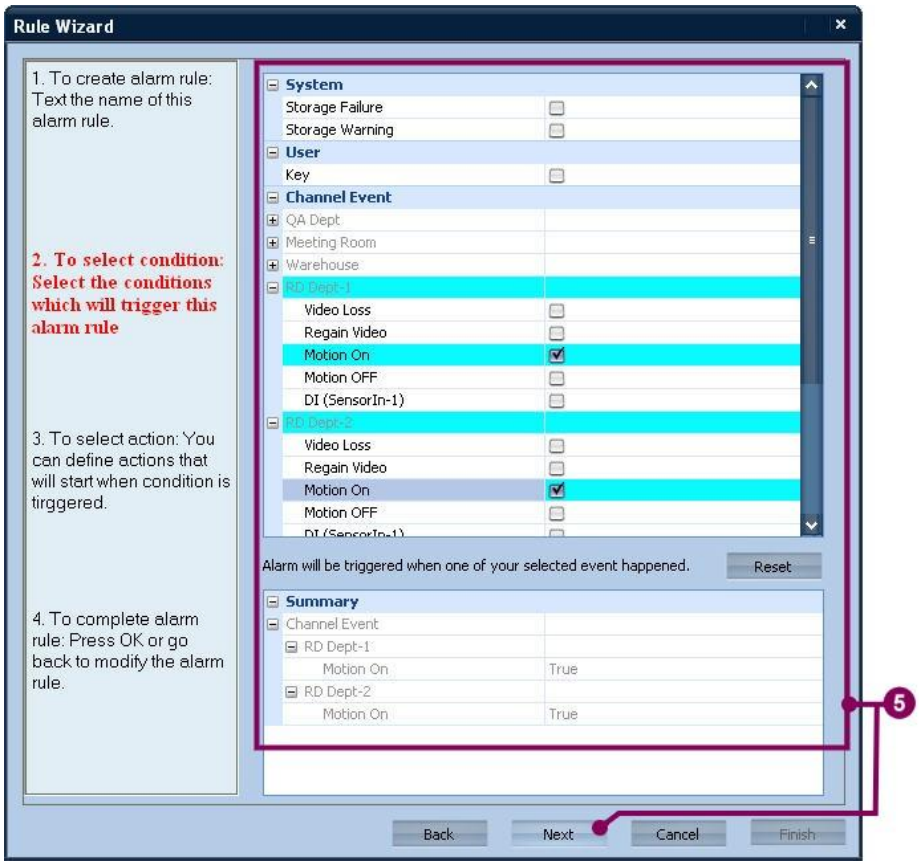
1. In the configuration mode, click the 'System' tab.
2. Click 'Rule' in the category panel.
3. Click 'Add', and an alarm rule wizard appears.



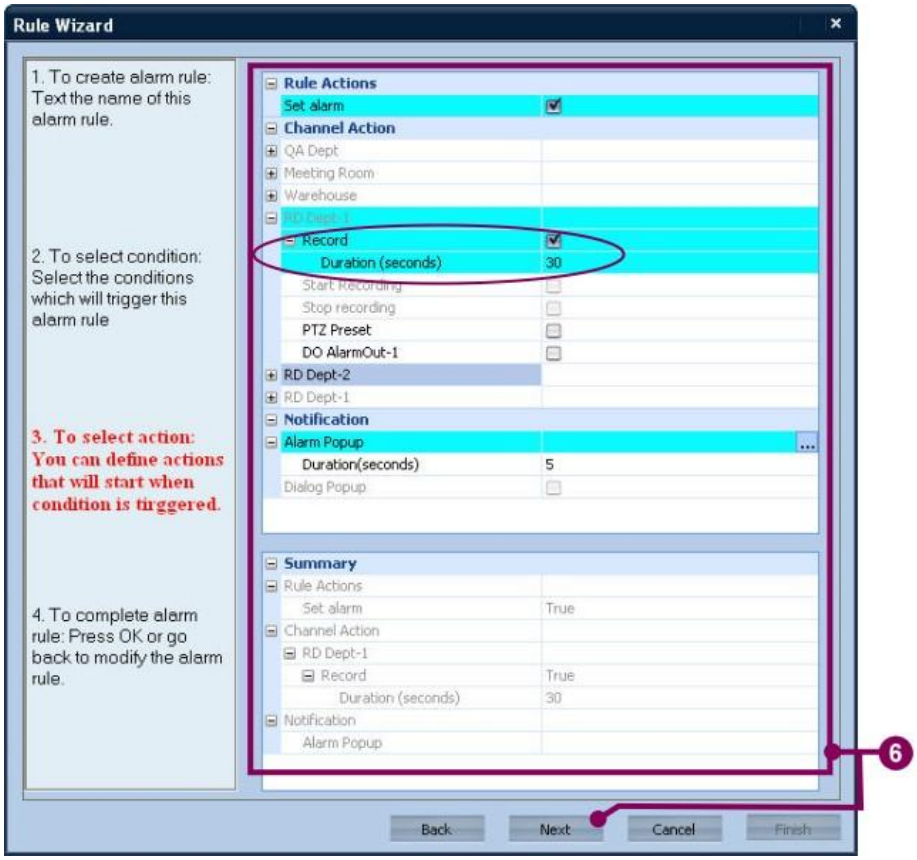
4. The alarm rule wizard is a dialog that helps the user to complete an alarm rule in 4 steps. The first step is to define the basic settings of the alarm rule. The basic settings include the name, the description, the instruction, the priority, and the schedule. The name and the priority of the alarm rule are used in the alarm searching conditions. Click 'Next' when all settings in the step have been completed.

TIP: If a new schedule has to be added, click 'New' to open the configuration page. Refer to section 6-3-4-2 '<u>Add a new schedule to the system</u>' for detailed steps.

If a customized schedule needs to be modify, click 'Modify' to open the configuration page. Refer to section 6-3-4-3 '<u>Modify a schedule</u>' for detailed steps.

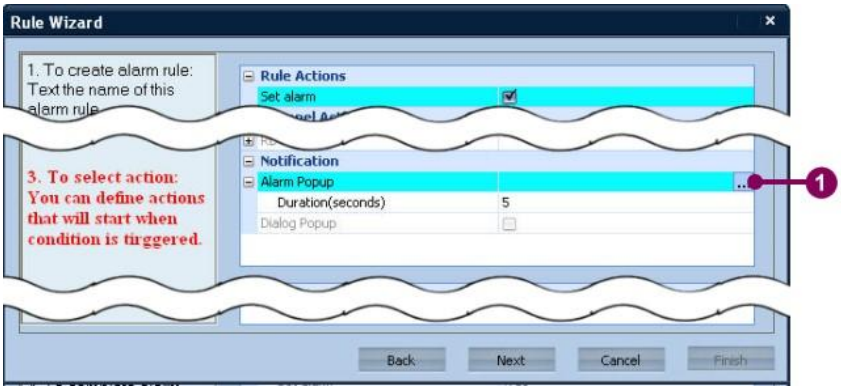


5. The second step is to select the alarm triggering condition. There are three categories – system, user, and channel event. Check the checkboxes of all preferred conditions, and the summary table below lists all selected conditions. Click 'Next' to continue.

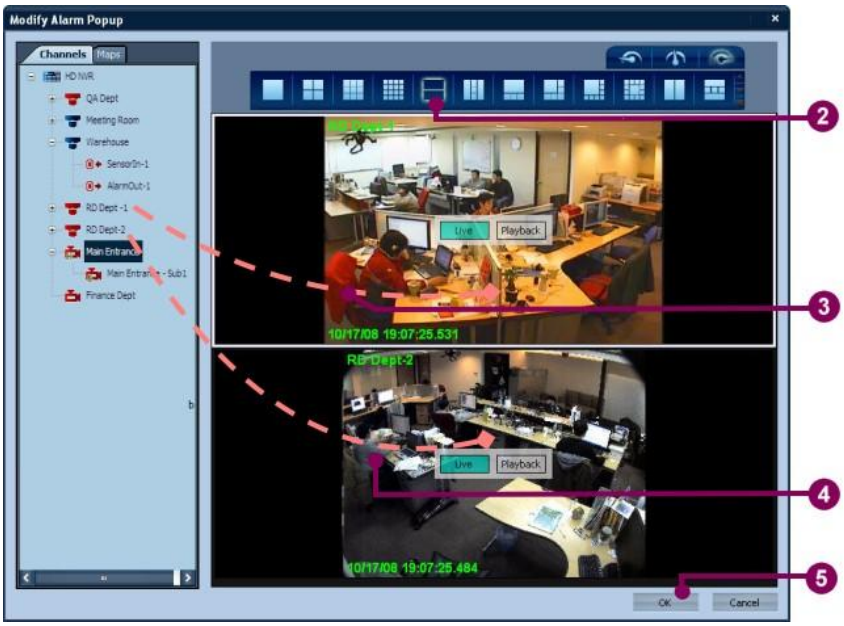


6. The third step is to select the actions of the alarm rule. The action will be taken when the alarm rule is triggered. There are three action categories – rule action, channel action, and notification. To enable the alarm rule, check the 'Set alarm' option. The channel action decides which channel will be active when the alarm rule is triggered. To set the channel action, click the preferred channel and check the preferred actions. Some actions allow the user to set the va lue of duration, such as the 'Record' option. The notification includes the alarm popup option and the dialog popup option. When all actions have been set, click 'Next' to continue.

TIP: How to set the pattern layout in the alarm rule ?

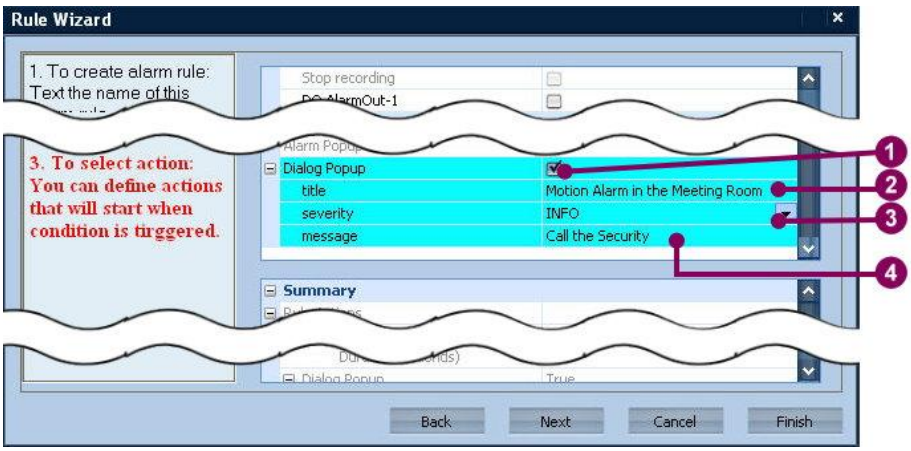


1. **At the third step, click the '…' button to show the 'Modify Alarm Popup' dialog.**

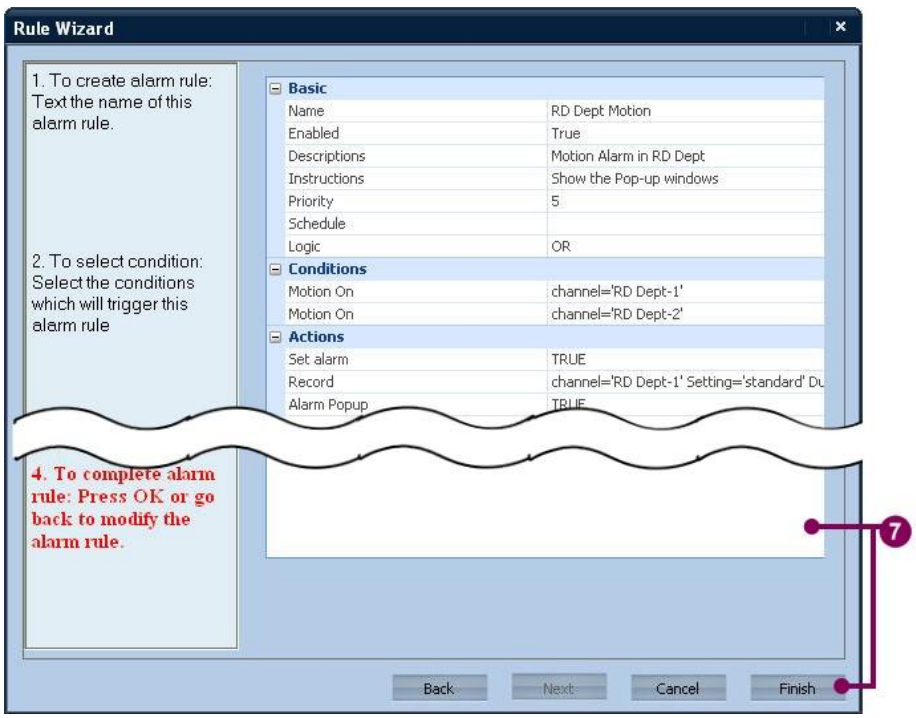


2. **Click the desired pattern layout from the pattern layout list. Click the desired speed button to decide the playing speed of the alarm image.**
3. **Drag the preferred channel and drop it in a viewer. Click the 'Map' tab to set the preferred map in the specific viewer. Click the 'Live' button in the viewer to show the live image. Click the 'Playback' button in the viewer to show the recorded alarm image.**
4. **Repeat step 3 until the all viewers have been set.**
5. **Click 'OK' to exit the dialog.**

TIP: How to set the dialog popup in the alarm rule?



1. **At the third step, check the 'Dialog Popup' option.**
2. **Input the text of the dialog title.**
3. **Set the severity of the dialog.**
4. **Input the message of the dialog.**



7. The Alarm Rule Wizard summaries all detailed settings in the alarm rule. Click 'Finish' to complete.

TIP: Right click the alarm rule node to show the pop-up menu. From the pop-up menu, the user can directly add a new rule, modify an existing rule and delete a rule. See the following figure:

6-3-3-3 **Modify an alarm rule**

To modify an alarm rule, follows the steps:

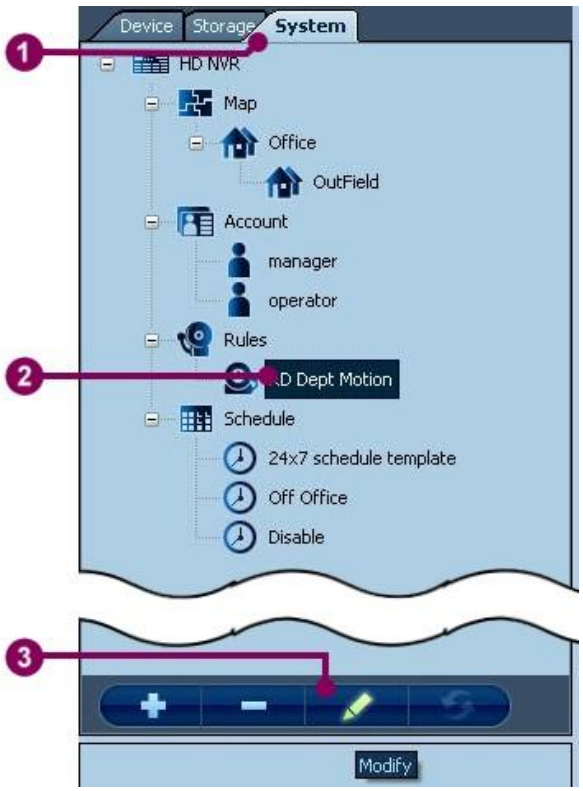
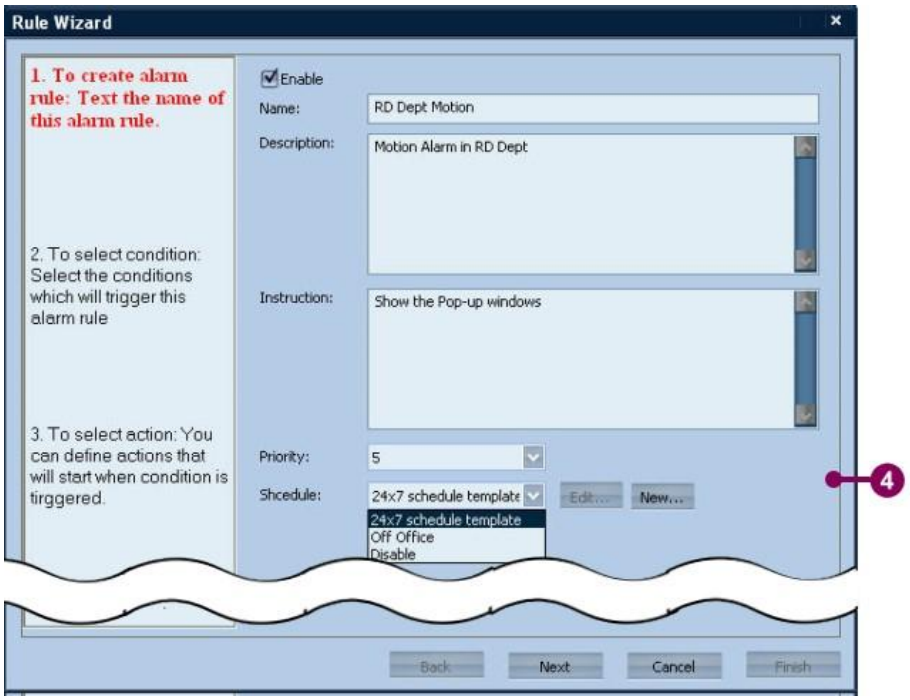


Figure 6-20 Modify an alarm rule

1. In the configuration mode, click the 'System' tab.
2. From the alarm rule list, click the preferred alarm rule.
3. Click 'Modify' to show the alarm rule wizard.



4. Follow the steps 4-7 in section 6-3-3-2 '<u>Add an alarm rule to the system</u>' to modify the rule.

6-3-3-4 **Delete an alarm rule from the system**

To delete an alarm rule from the system, see the following steps:

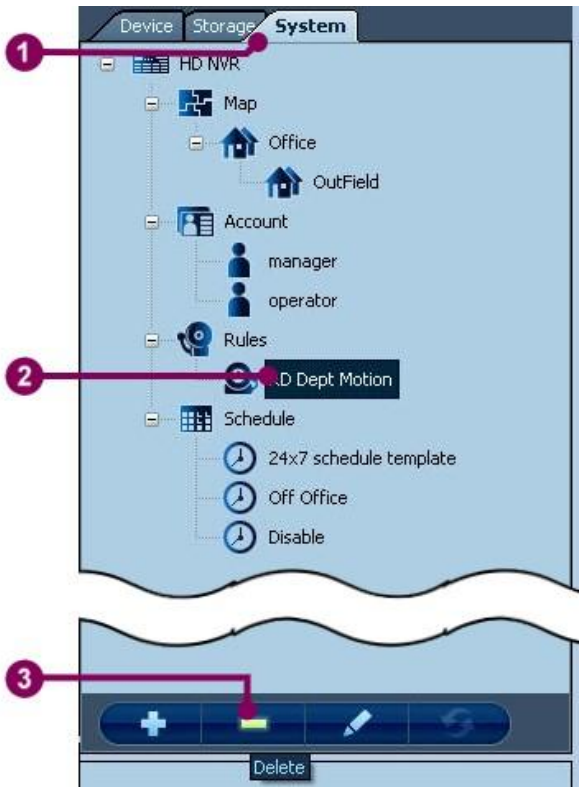


Figure 6-21 Delete an alarm rule from the system

1. In the configuration mode, click the 'System' tab.
2. From the alarm rule list, click the preferred alarm rule.
3. Click 'Delete'.

4. A message – 'Delete {Alarm Rule name}?' will be raised. Click 'OK' to complete.

6-3-4 Schedule

6-3-4-1 **Brief of the Schedule Configuration**

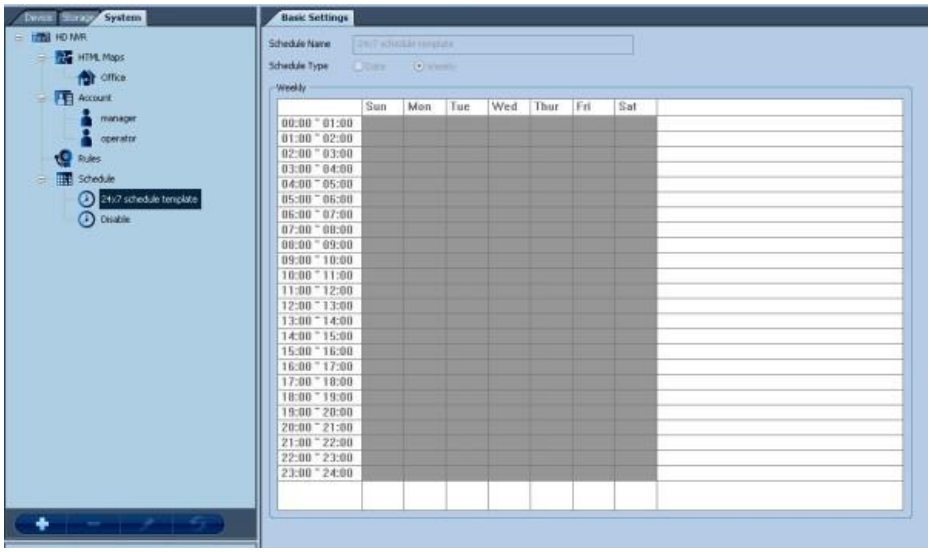


Figure 6-22 Brief of the Schedule Configuration

The schedule setting will help the user to setup the schedules of actions, such as recording or alarm triggering.

The schedule configuration includes originally two schedule templates – ‘24×7’ and ‘Disable’. The schedule templates cannot be deleted or modified .

6-3-4-2 **Add a new schedule to the system**

To add a new schedule to the system, see the following steps:

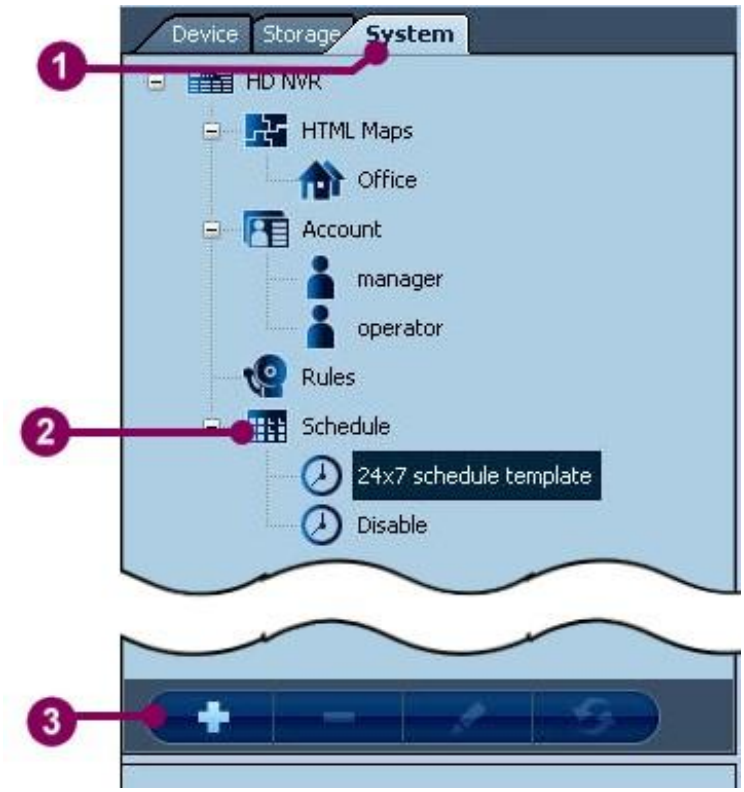
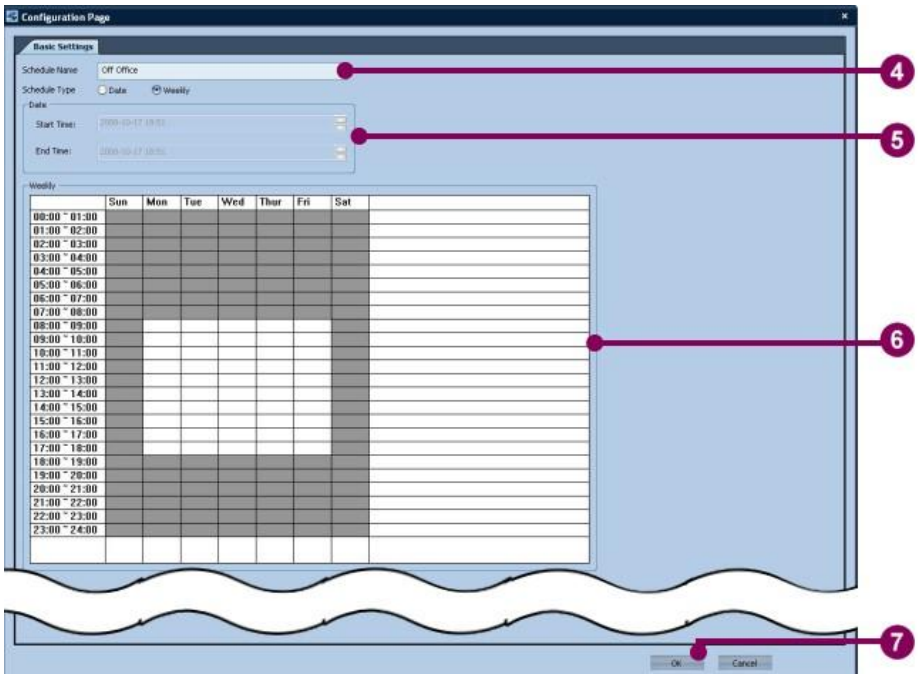


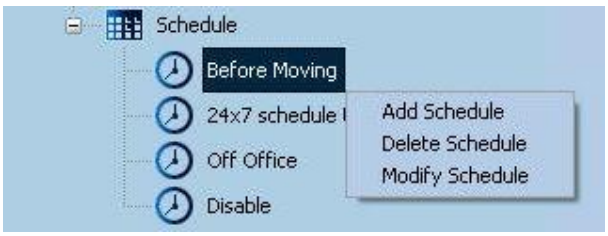
Figure 6-23 Add a new schedule to the system

1. In the configuration mode, click the ‘System’ tab.
2. Click ‘Schedule’.
3. Click ‘Add’ to show the configuration page.



4. Input the schedule name. The schedule name cannot be kept blank, and the total name length must be less than 40 characters.
5. Decide the schedule type. There are two exclusive options: Date or Weekly. If the 'Date' option is selected, set the start time and the end time.
6. If the 'Weekly' option is selected, click the cells in the time table. The selected cell will become grey.
7. Click 'OK' to continue.
8. The new schedule has been added to the schedule list.

TIP: Right click the schedule node to show the pop-up menu. The pop-up menu includes three items: add schedule, modify schedule (excluding the schedule templates), and delete schedule (excluding the schedule templates.) See the following figure:



6-3-4-3 **Modify a schedule**

To modify a customized schedule, see the following steps:

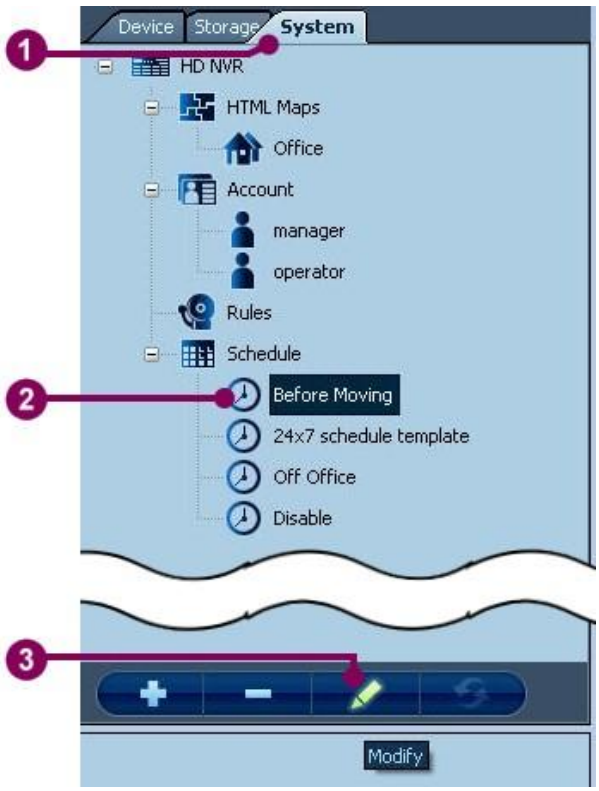
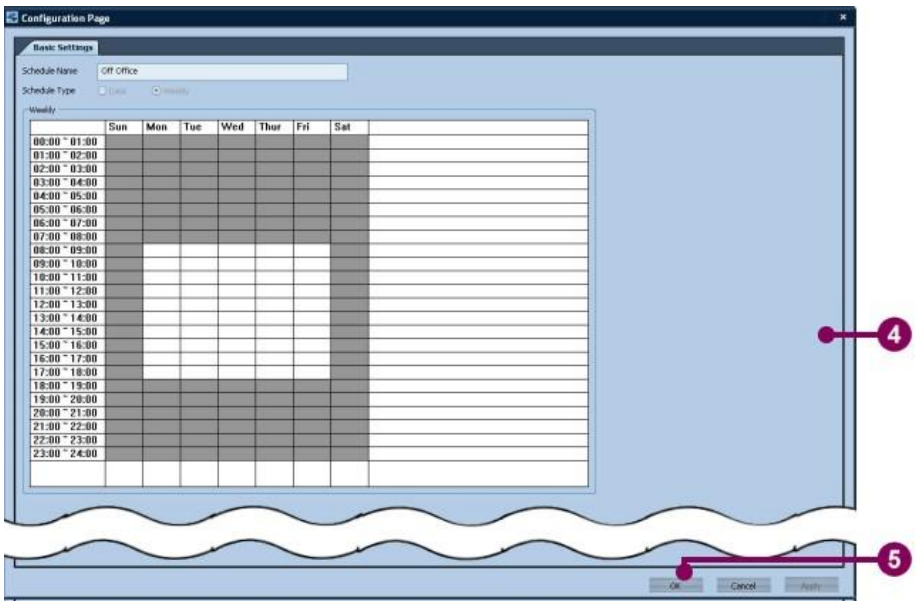


Figure 6-24 Modify a schedule

1. In the configuration mode, click the 'System' tab.
2. Click the preferred schedule in the schedule list.
3. Click 'Modify' to show the configuration page.



4. Select the desired option and change the setting values.
5. Click ‘OK’ to close the configuration page.

6-3-4-4 **Delete a customized schedule from the system**

To delete a customized schedule, see the following steps:

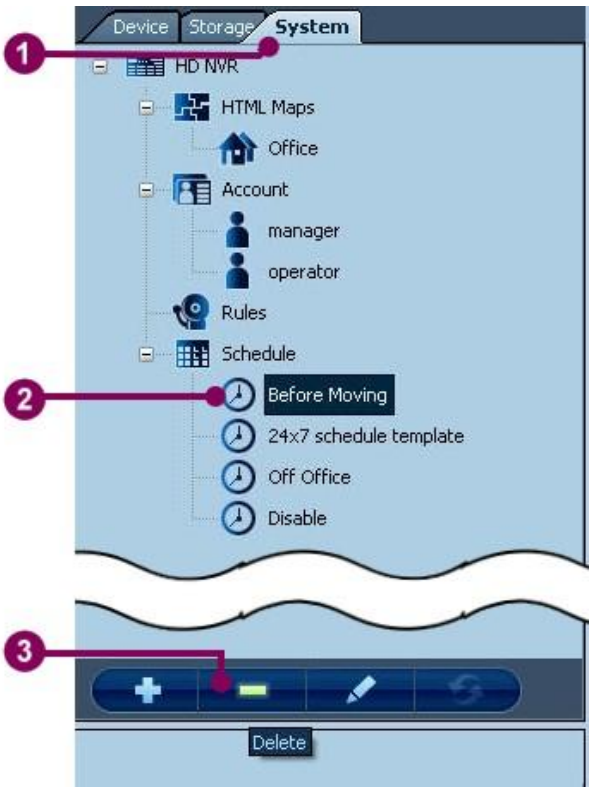


Figure 6-25 Delete a customized schedule from the system

1. In the configuration mode, click the 'System' tab.
2. Click the preferred schedule in the schedule list.
3. Click 'Delete'.

4. The system raises a message – 'Delete {Schedule Name}?' Click 'OK' to continue.
5. The selected schedule has been removed from the schedule list.

Appendix I. Hot Key Table

Hot Key Table

Hot Key	Function 1	Function 2	Combination with 'alt' (for all viewer)
F10; R	Manual recording	N/A	Yes
F11; E	Snapshot	N/A	Yes
F12;Q	Play live video	N/A	Yes
A	Move to previous frame	N/A	Yes
S	Reverse the video	N/A	Yes
W	Play the video	N/A	Yes
D	Move to next frame	N/A	Yes
P	Change Pattern Speed	N/A	N/A
shift	Create ROI	N/A	N/A
control	Drag-n-drop ROI	N/A	N/A
O	PTZ	N/A	N/A
Z	Digital Zoom	N/A	N/A
ESC	Close full-screen	Close alarm-popup	N/A
1; 2; 3; 4; 5; 6; 7; 8; 9; 0; -; =	Select Tour list item	Select Pattern	N/A
space	Show/Hide Time Slider	N/A	N/A
←; ↑; →; ↓	Select viewer	N/A	N/A
enter	1×1 display	N/A	N/A
F9	Stream information	N/A	N/A
F6; F7; F8	User event key	N/A	N/A

NOTE: After playing a historical video, the user may move the playing index forward or backward.

Appendix Ⅱ. Network Quality

Network quality

level	Check the connection status interval	Max packet lost interval
level-1 (worst)	7000 ms	6000 ms
level-2	5000 ms	4000 ms
level-3	5000 ms	4000 ms
level-4 (medium)	3500 ms	3000 ms
level-5	3500 ms	3000 ms
level-6	2500 ms	2000 ms
level-7 (best)	2500 ms	2000 ms

Appendix III. How To Add Camera or DI/DO to A HTML Map

When a HTML map has been created, there is a easy way to add the camera o r DI/DO icons to the HTML map. See the following steps:

1. Run the webpage editor software like Dreamweaver or Frontpage.
2. Open the HTML map file.
3. Show the source code of the map file.
4. Beyond the <Body> tag, input the following HTML code:

Add an IP camera:

```
<img
  type = "channel"
  nvr-ip="192.168.1.21"
  channel-id="2:0"
  src="icon\PTZ.png"
  src-n = "icon\PTZ_normal.png"
  src-r = "icon\PTZ_recording.png"
  src-vl = "icon\PTZ_VL.png"
  src-a = "icon\PTZ_Alarm.png"
  src-ar = "icon\PTZ_Alarm.png"
  style="position: absolute; top:685px; left: 1128px; width: 32px; height: 32px;" />
```

Icon type
NVR IP Address
Channel ID
Icon status image
Icon size & position

Add an DI point:

```
<img
  type = "channel-di"
  nvr-ip="192.168.1.121"
  channel-id="3:0"
  point="1"
  src="icon\MotionDetector-ON.png"
  src-di-disabled="icon\MotionDetector-Disable.png"
  src-di-active-alarm="icon\MotionDetector-ON_alarm.png"
  src-di-inactive-alarm="icon\MotionDetector-Off_alarm.png"
  src-di-active="icon\MotionDetector-ON.png"
  src-di-inactive="icon\MotionDetector-OFF.png"
  style="position: absolute; top: 101px; left: 291px; width: 32px; height: 32px;" />
```

Icon type
NVR IP Address
Channel ID
Digital input IP
Icon status image
Icon size & position

Add an DO point:

```
<img
  type = "channel-do"
  nvr-ip="192.168.1.41"
  channel-id="3:0"
  point="1"
  src="icon\Alarm-OFF.png"
  src-do-disabled = "icon\Alarm-Disable.png"
  src-do-active = "icon\Alarm-ON.png"
  src-do-active-alarm = "icon\Alarm-ON_alarm.png"
  src-do-inactive-alarm = "icon\Alarm-OFF_alarm.png"
  src-do-inactive = "icon\Alarm-OFF.png"
  style="position: absolute; top: 42px; left: 1021px; width: 32px; height: 32px;" />
```

Icon type

NVR IP Address

Channel ID

Digital input ID

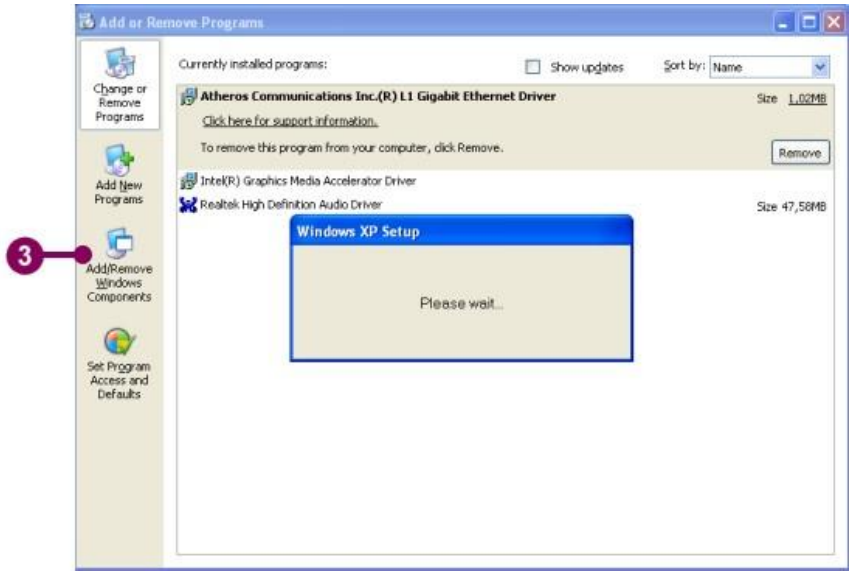
Icon status image

Icon size & position

5. When all cameras and DI/DO points have been added, save the HTML file.

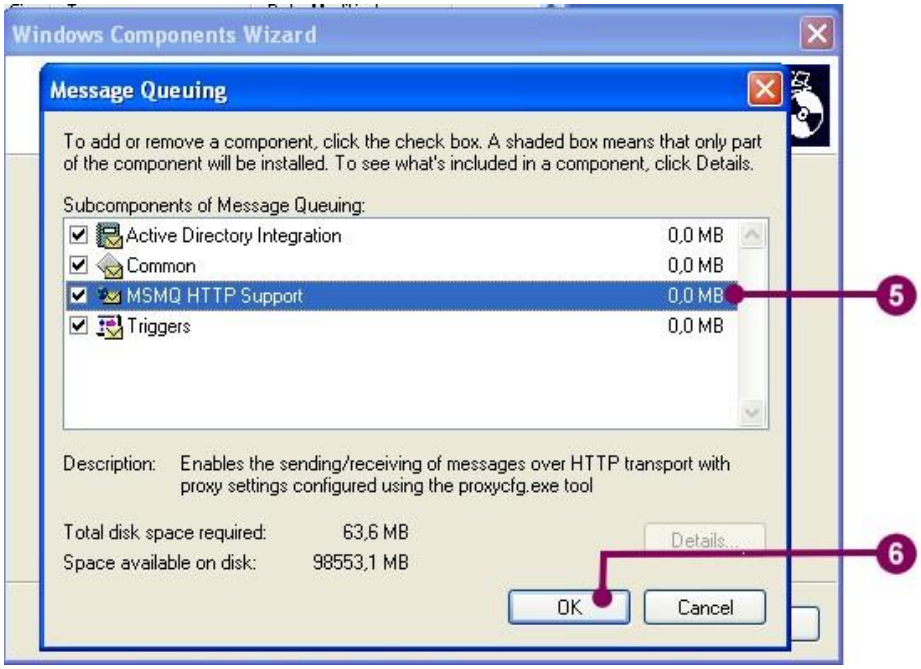
Appendix IV Install ‘Message Queuing’

To install ‘Message Queuing’, see the following steps:



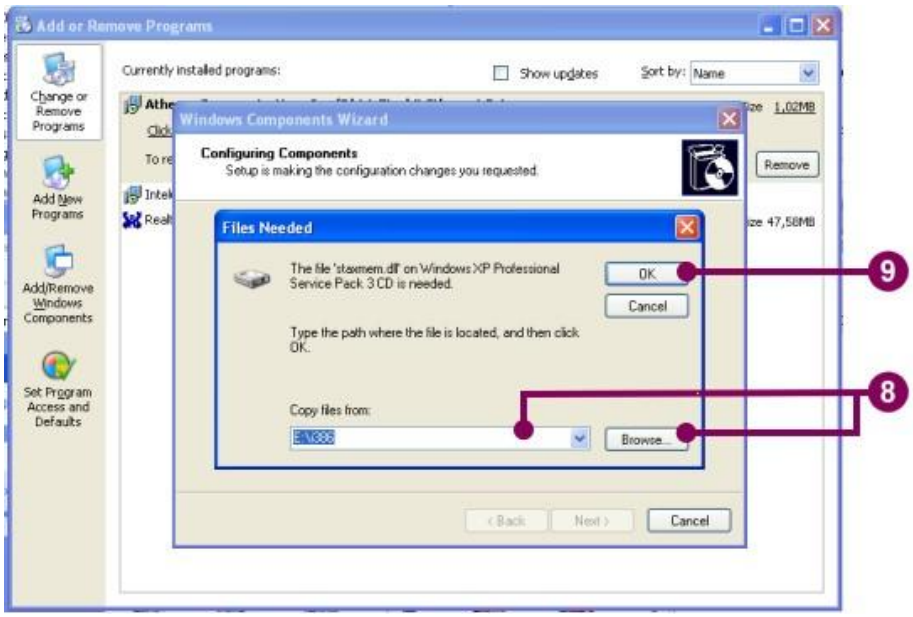
1. In the Windows® desktop, click ‘Start’ -> ‘Control Panel’ -> ‘Add or Remove programs’.
2. An ‘Add or Remove Programs’ dialog shows. Before continuing, load the Windows® Setup disc.
3. Click ‘Add/Remove Windows Components’.

4. When the ‘Windows Components Wizard’ dialog shows, check the checkbox of ‘Message Queuing’. Click ‘Details’ button, and a ‘Message Queuing’ dialog appear.

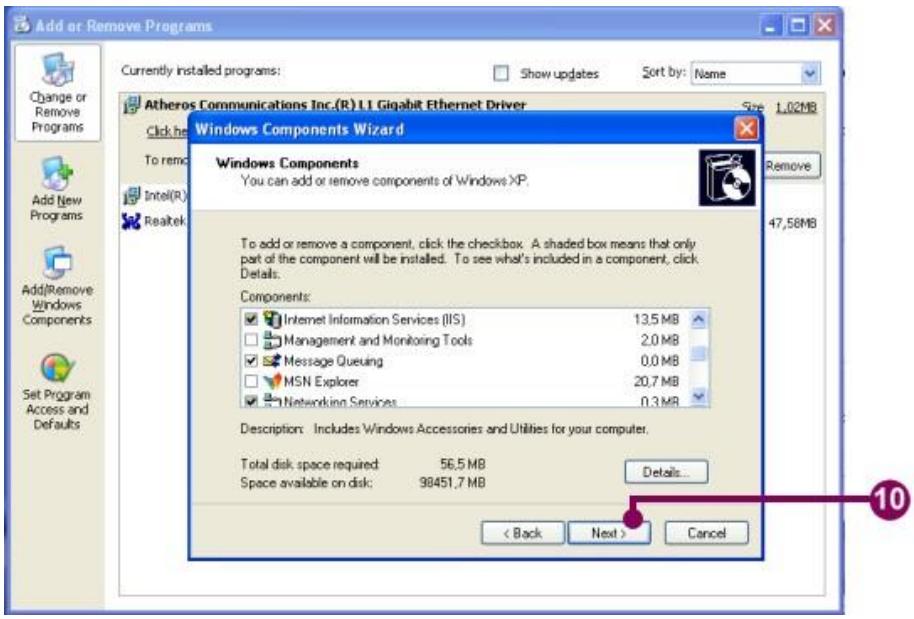


5. In the subcomponents list, check the ‘MSMQ HTTP Support’ item.
6. Click ‘OK’ to continue.

7. In the Windows Component Wizard, Click ‘Next’ to continue.



8. In the ‘Files Needed’ dialog, input the source directory. (Make sure the source directory is correct.) If the source directory is uncertain, click ‘Browse’ to select the setup directory.
9. Click ‘OK’ to continue.



10. When the installation is complete, click ‘Finish’ in the Windows Components Wizard to close the dialog.