HD NVR

User Manual

(R 2.5)

By

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Chapter 1 Notice for All Users

1-1 What's New?

Application Enhancement

- Support Audio-in function for Samsung, Hikvision, and Vivotek cameras
- Support ONVIF standard
- Support Windows 7 for HD NVR
- Support Front Panel
- Support generic RTSP for video streaming, recording, audio, PTZ control
- Support I/O model from Modbus
- Support folder based storage
- Support NVR Initialized Wizard
- Support PTZ patrol function and add PTZ patrol control
- Support PTZ tracking function and add PTZ tracking control
- Add PTZ lock and PTZ streaming lock functions
- Add high speed exporting mode when. AVA/.AVI file is exporting
- Add video exporting log when .AVA/.AVI file is exporting
- Add audio streaming exporting function when .AVA/.AVI file is exporting
- Add priority setup in the user group configuration
- Add web client application for viewing and operating channels in the browser
- Add iPhone app for viewing and operating channels in iPhone

IP Camera Support and Enhancement

- New camera enhancement
  - Support Arecont 1080p mode @ 30fps
  - Support Arecont binning mode
- New Camera integration – Axis, Vivotek, Messoa, Pelco, Brickcom, CNB, Dynacolor, GE, Grundig, Hikvision, iMege, Pixord, Sony

1-2 Reading Notice

The manual is developed for all HD NVR users, including 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**
Chapter 7 **Using HD NVR Client**

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 Manager Setup

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

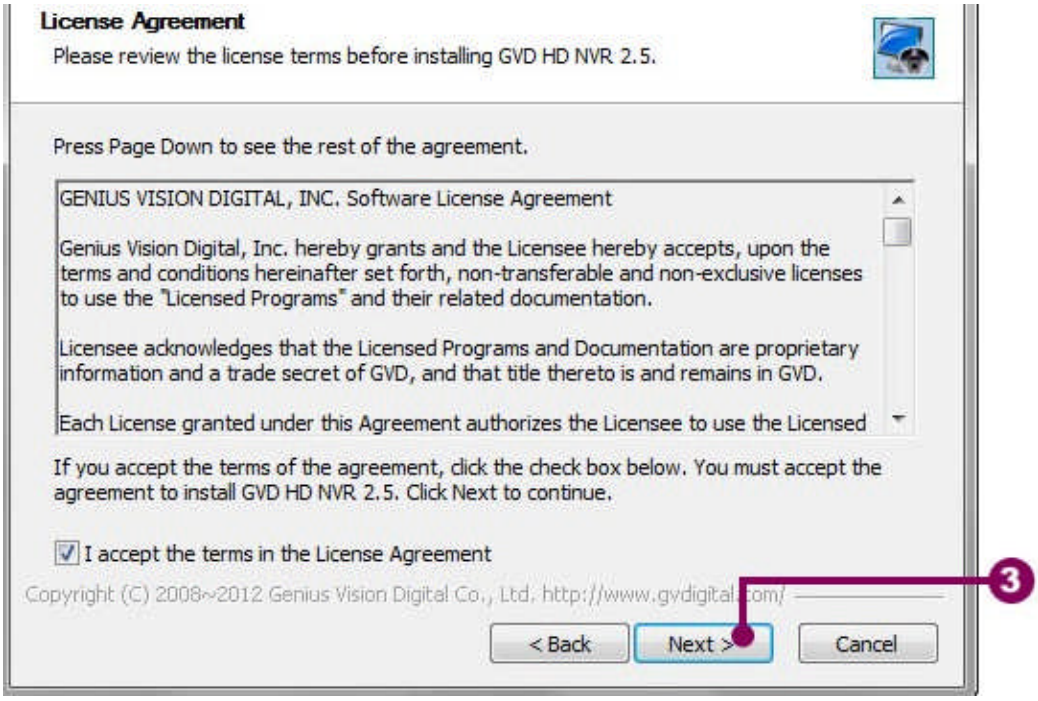
1. Install the HD NVR Manager
2. Activate the license.

2-1-1 Installation Steps

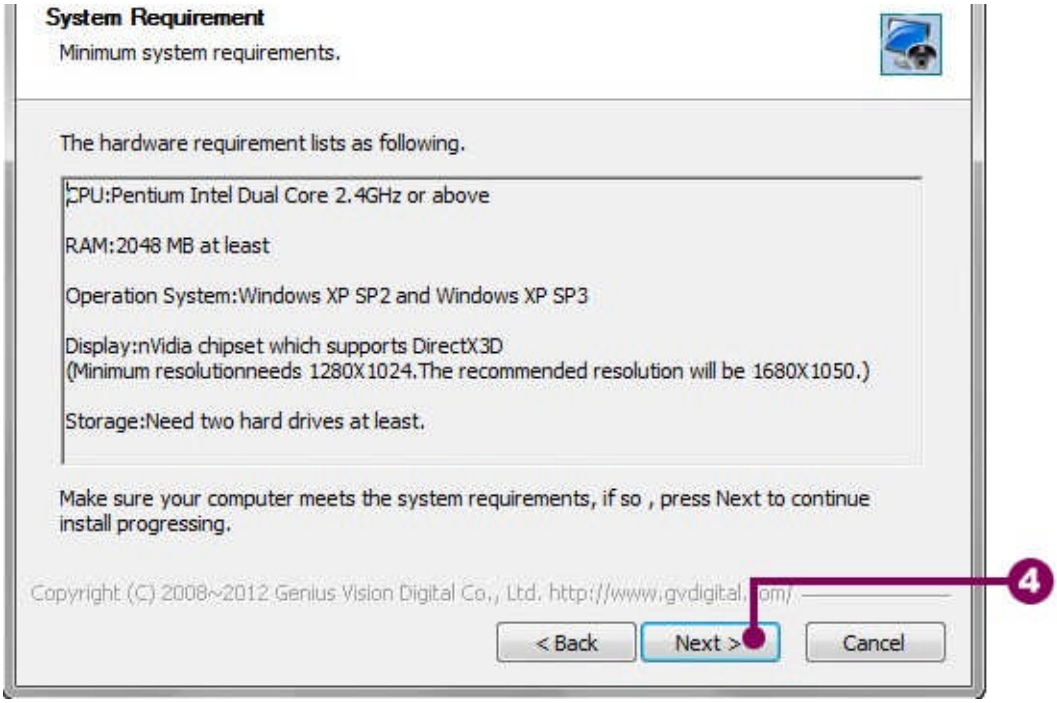
To install the HD NVR Manager, see the following steps:

1. In the installation CD, find the HD NVR Manager's setup program in the setup category. Double click the setup program.

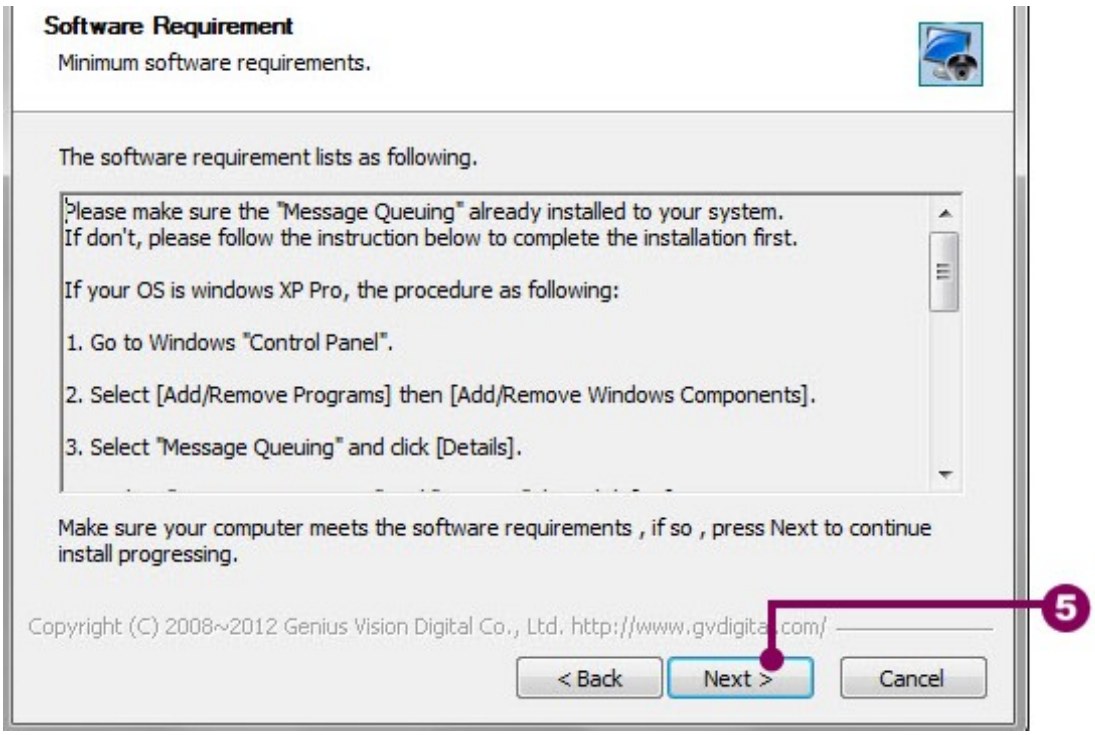
2. The setup wizard starts. Click **Next**.



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

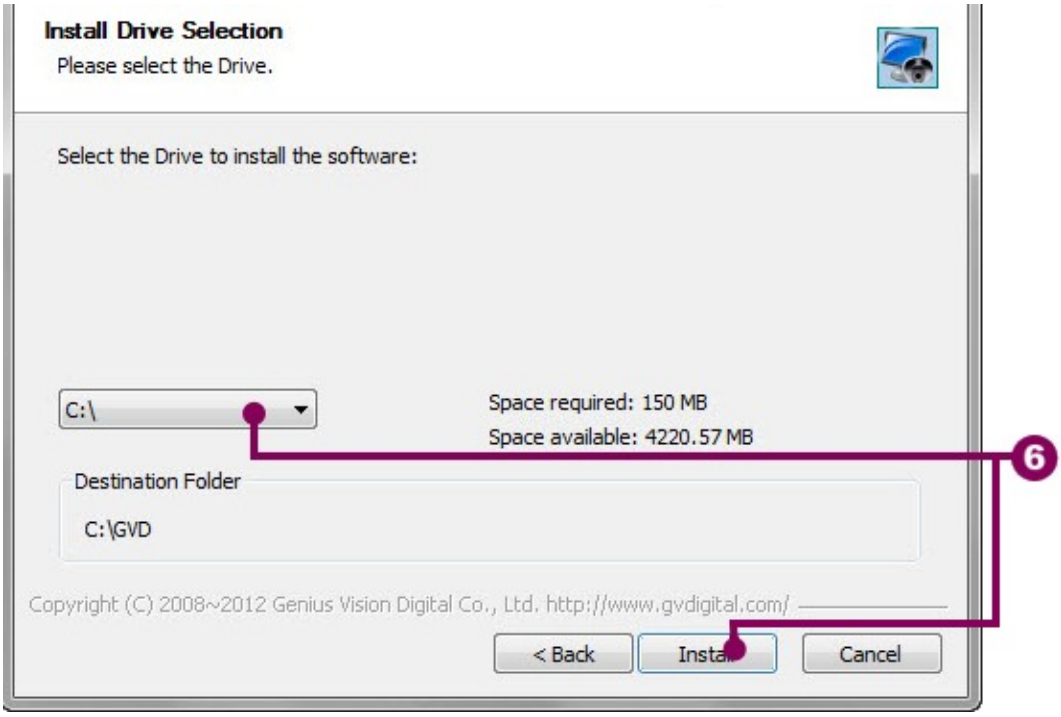


4. The setup program lists the minimum hardware requirement. Click **Next** when all hardware requirements are met.

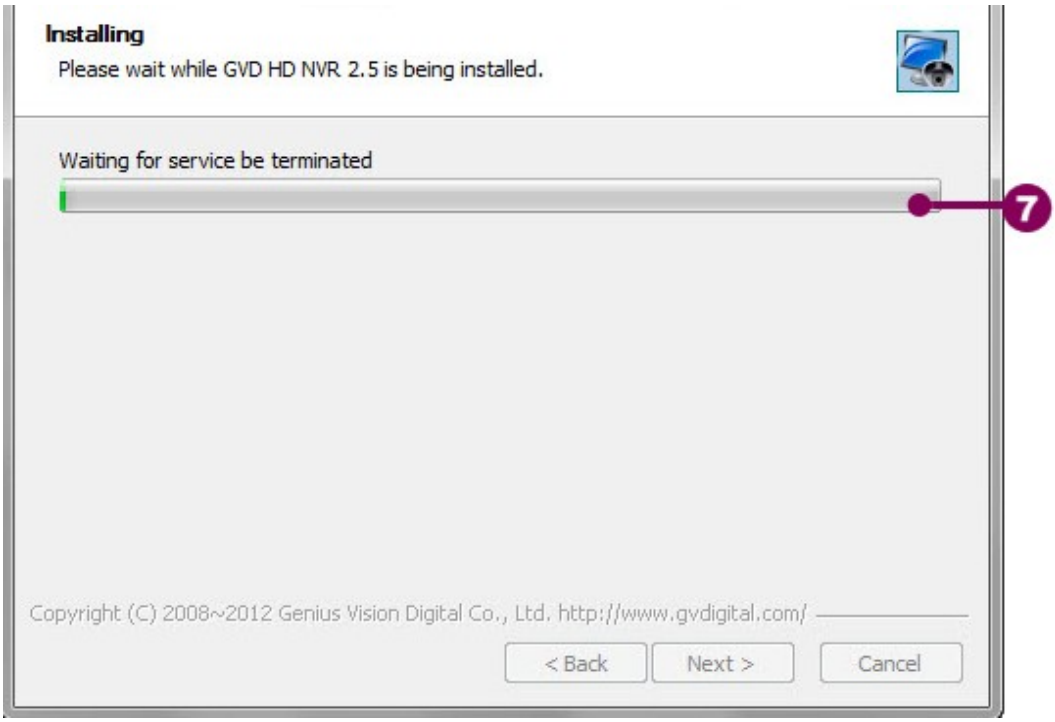


5. To run the system properly, an addition Windows® component, **Message Queuing**, is required. Check the system platform and follow the instruction in the display box to properly install the **Message Queuing**. To install **Message Queuing**, refer to Appendix IV for more information.

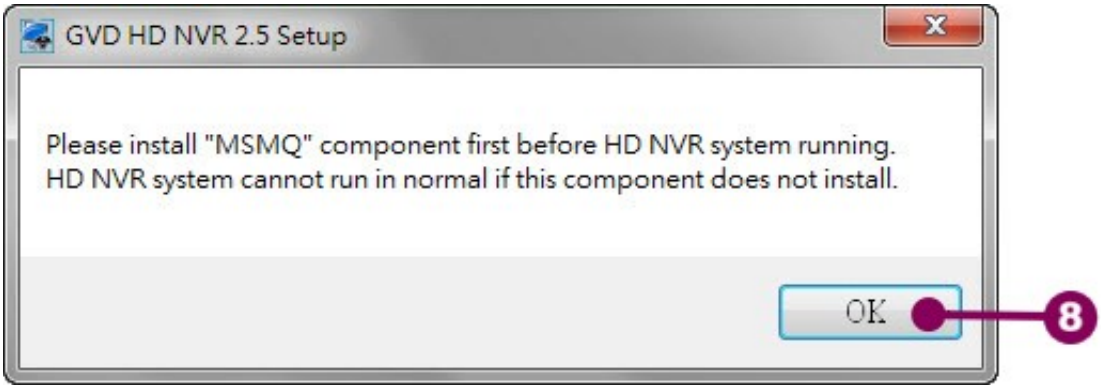
NOTE: The setup program of Message Queuing is in the Windows® Setup disc. Without installing Message Queuing application, the system will not run normally.



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

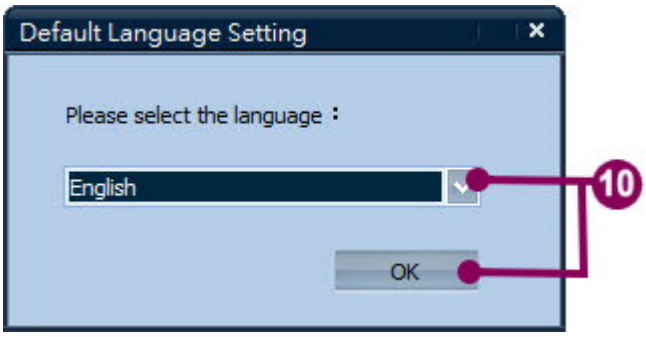


7. The HD NVR requires the installation of DirectX runtime component. The setup program will automatically install the DirectX runtime component if the component has not been display the progress and install the following applications: Windows Installer 3.1, Virtual C++ (VC80), and .Net Framework if the applications have not been installed.

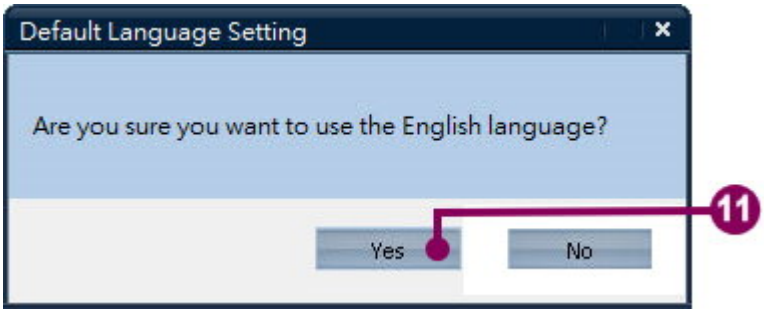


8. The setup program displays a dialog and reminds the user to install MSMQ component properly. Click **OK** to continue.

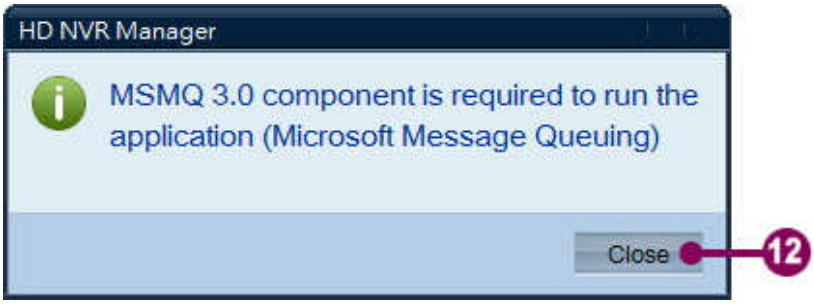
9. Click **Reboot now** and click **Finish** to complete the installation. The system restarts immediately.



10. When the HD NVR is running at the first time, a **Default Language Setting** dialog is displayed. Select the desired language and click **OK**.



11. A confirmation message, '**Are you sure you want to use the XXX language?**', is displayed. Click **Yes** to continue.



12. If the MSMQ components have not been installed, the HD NVR manager displays a warning message. Close the message and install the MSMQ components and run HD NVR again.

2-1-2 License Activation

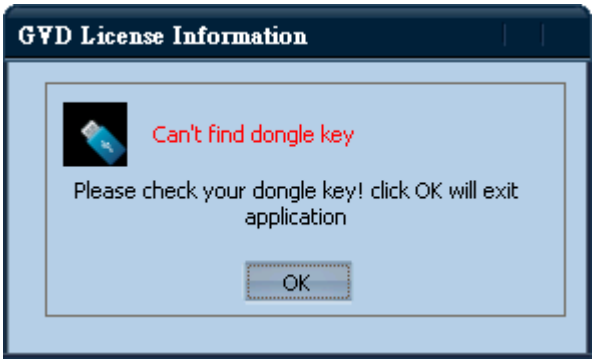
When the HD NVR Manager has been installed, the system automatically detects the authentication. If the authentication is not passed, the user needs to obtain the legal license and activate it.

There are two kinds of license activation:

- Dongle Key
- Software Authentication

2-1-2-1 **Dongle Key**

The dongle key is a hardware lock with a USB 2.0 adapter. After the dongle key is plugged into a USB 2.0 port, the system will automatically pass the authentication. Otherwise, the screen displays the following dialog:



See the following steps to use the dongle key authentication:

1. Plug in the dongle key.
2. Click **OK** to close the dialog.
3. Reboot the system and run the application again.

2-1-2-2 **Software Authentication**

To run the software authentication, see the following steps:

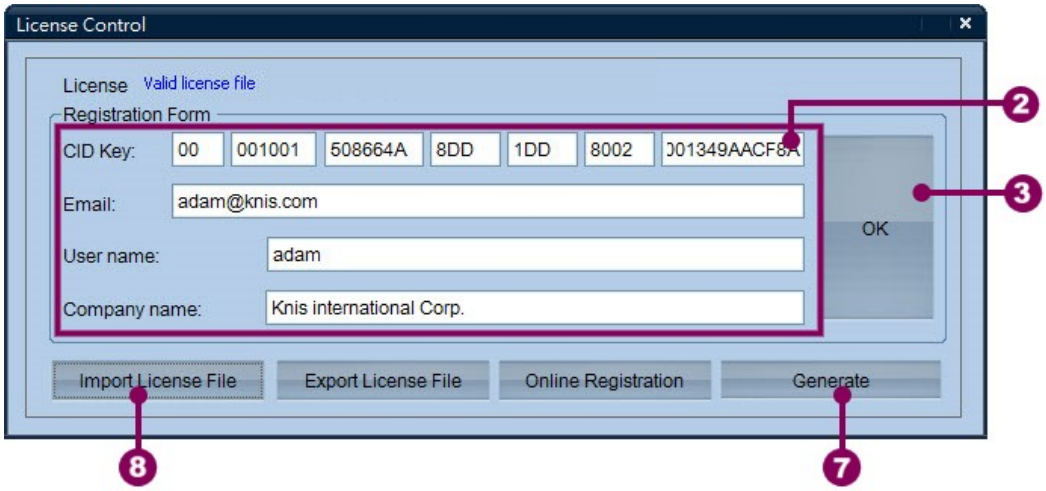
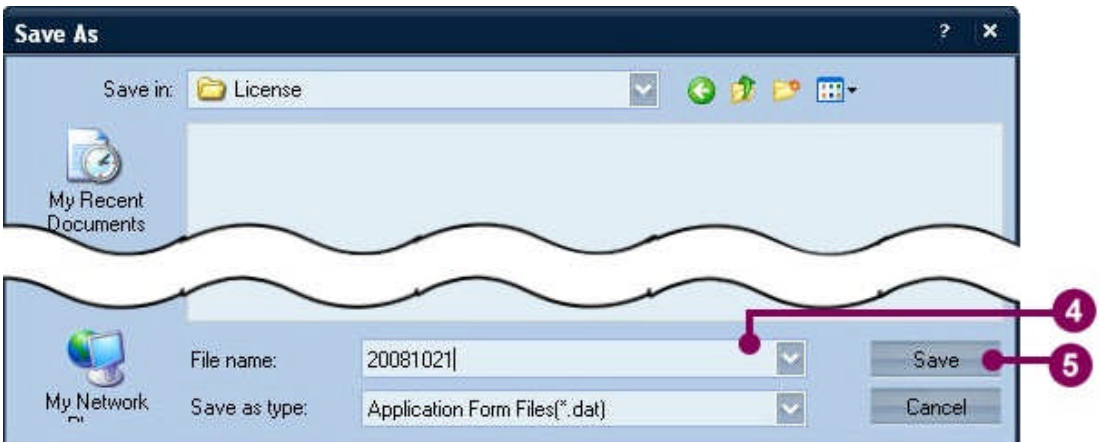


Figure 2-1 Software Authentication

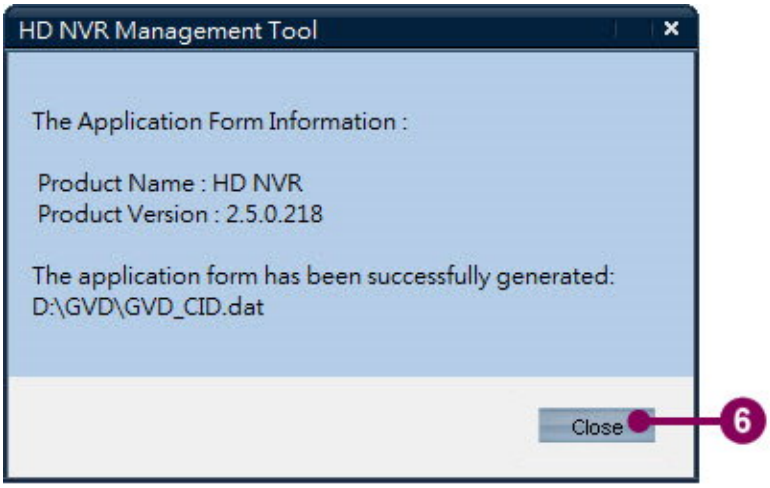
1. Double click the **HD NVR** icon on the desktop, and the **License Control** dialog is displayed.

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

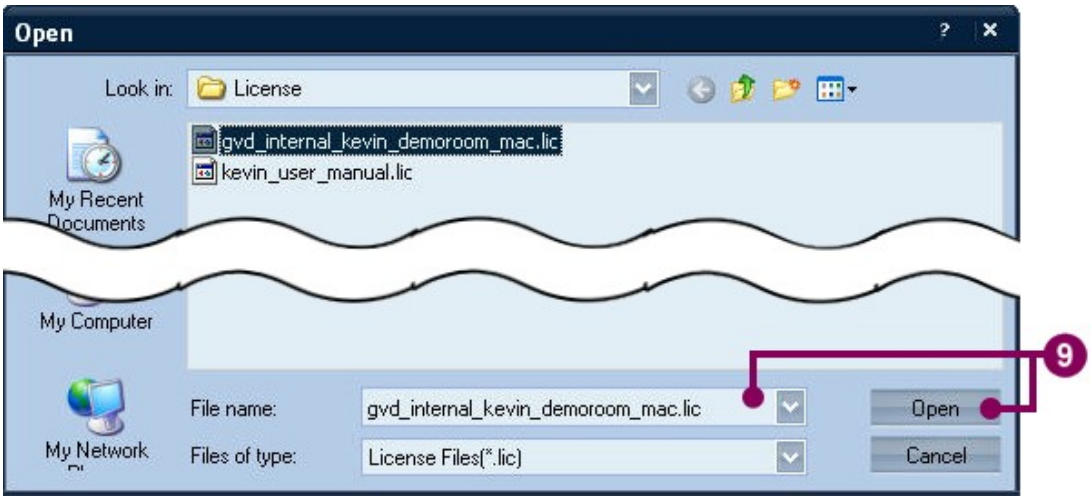
2. Input the CID key printed on the software box and then input the email address, user name, and company name.
3. Click **Generate Application Form**, and a **Save As** dialog is displayed.



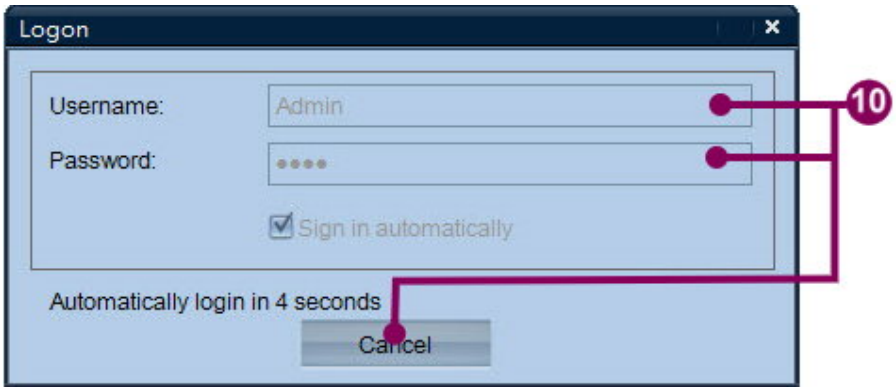
4. Input the file name of the application form. If necessary, change the directory.
5. Click **Save**.



6. The **HD NVR Management Tool** dialog displays the details of the application form. Click **OK**.
7. Click **Online Registration** in the **License Control** dialog. The program automatically opens a browser and connects to the registration website. Follow the instructions on the webpage and upload the saved application form.
8. If the application form has passed the certification, the website master will send a license file to the registered email box. Save the license file in a specific directory. Click **Import License File** in the **License Control** dialog to open the **Open** dialog.



9. Change the directory of the license file input the filename of license. Click **Open** to continue.



10. If the authentication is passed, the logon dialog is displayed. The application logs in automatically by using the default *Admin* account and the default password - *6001*.

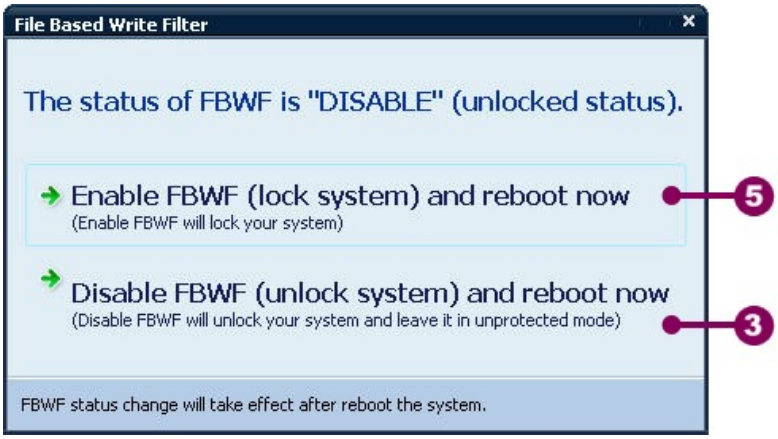
NOTE: Username and password are case sensitive.

2-1-3 DOM-based HD NVR Configuration

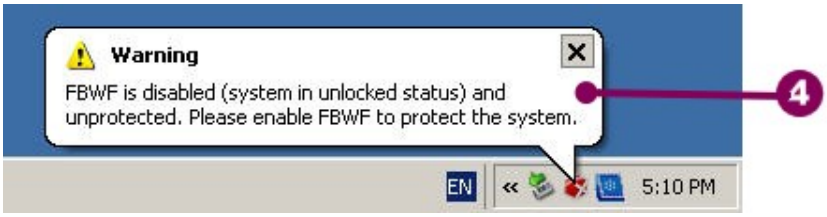
The DOM-based HD NVR is a NVR with DOM (disk on module) installed. Unlike general NVR, both the operation system and the application are installed in the hard drive; the DOM-based HD NVR equips the OS and application within the DOM. DOM-based HD NVR can well protect OS and application from unauthorized modification.

Before start using the DOM-based HD NVR, user needs to unlock the protection (named FBWF). When FBWF is enabled, any system modification is saved in the memory and will be canceled if the system is rebooted. To unlock FBWF, see the following steps:

1. Quit the HD NVR Manager application if it is running.
2. Find FBWF icon at the bottom-right corner of the desktop. Double click FBWF icon to display the FBWF dialog.



3. Click **Disable FBWF (unlock system) and reboot now**. The OS will be restarted.



4. When FBWF is disabled, a warning message is displayed periodically. Refer to section 2-2 **Setup Procedures for the First Run** and make the necessary changes.
5. Double click FBWF icon again. When FBWF dialog is displayed, click **Enable FBWF (lock system) and reboot now**. When the system is rebooted, run the system again.

2-2 Setup Procedures for the First Run

Before running the application for the first time, user needs to change the following settings of the Windows system, including:

- Host Name
- Network
- Date and Time Zone
- Screen Resolution
- Region and Language

See the following sections for details.

2-2-1 Change Hostname

Duplicated hostname in the network may generate errors. It is necessary to give a unique hostname for the HD NVR. To change the hostname, see the following steps:

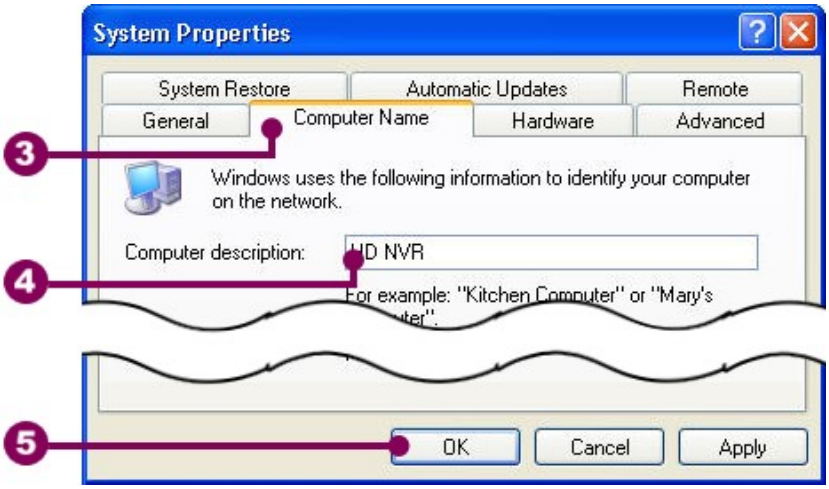


Figure 2-2 Change Host Name

1. Right click **My Computer** on the Windows Desktop.
2. When the pop-up menu is displayed, click **Properties**.
3. When the **System Properties** dialog is displayed, click the **Computer Name** tab.
4. The default hostname is **HD NVR**. Change the hostname in the **Computer description** text field.
5. Click **OK** to complete.

2-2-2 Set Up Network

HD NVR must have a unique IP address within the network. To change the IP address of the HD NVR, see the following steps:

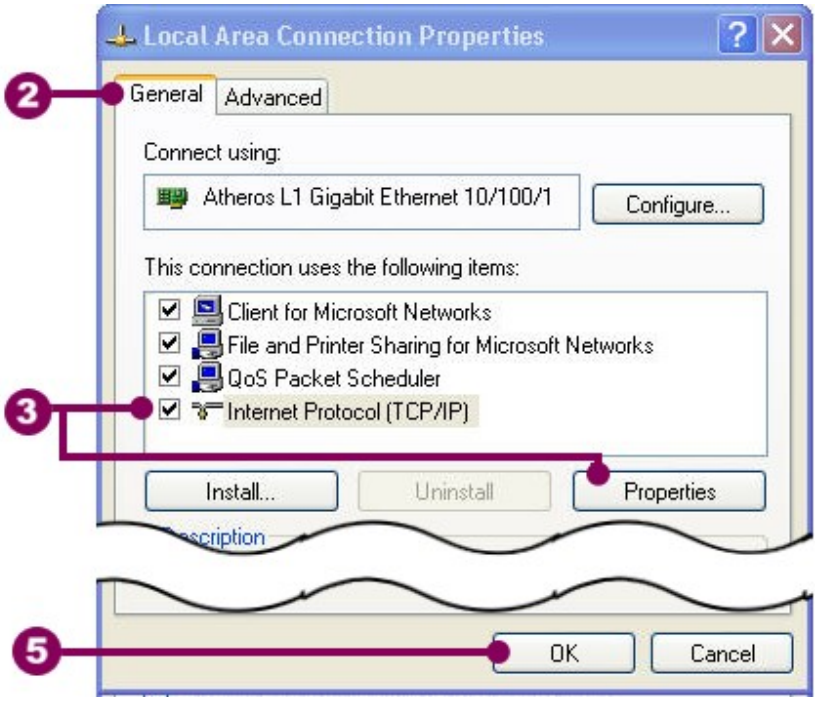
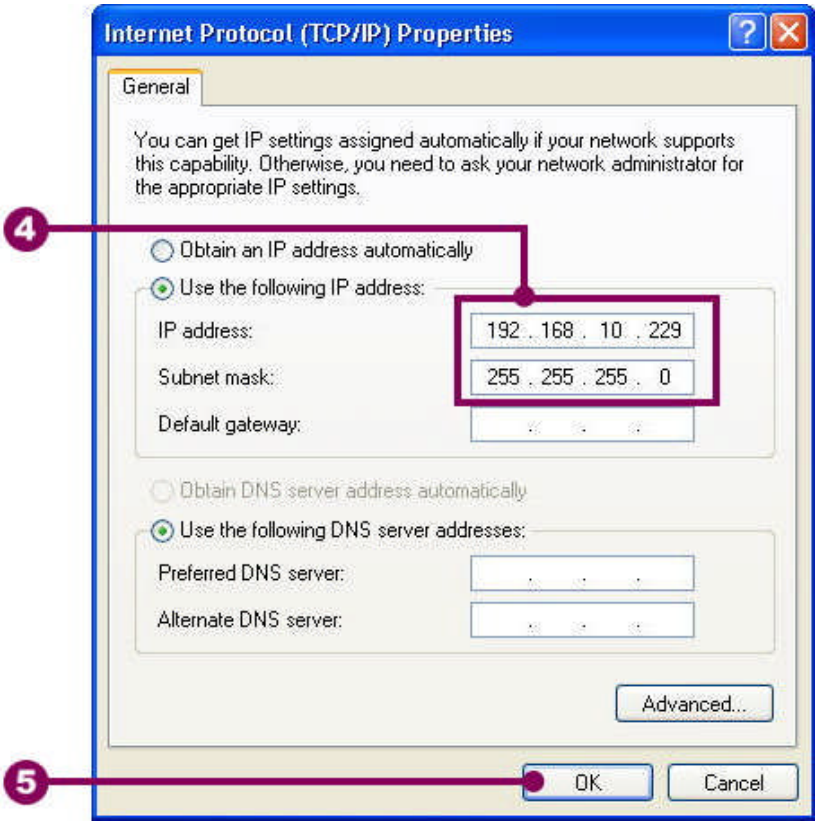


Figure 2-3 Set Network

1. Click **Start** -> **Control Panel**.
2. Double click **Local Area Connection**. When the **Local Area Connection Properties** dialog is displayed, click the **General** tab.
3. Click **Internet Protocol (TCP/IP)** in the list and click **Properties** to continue.



4. Set the IP address and Subnet mask of the NVR.
5. Click **OK** to complete.

NOTE: Consult your MIS or IT technicians if any question.

2-2-3 Change Date & Time and Time Zone

Correct date, time and time zone are very critical for NVR system. See the following description to set the correct date, time, and time zone.

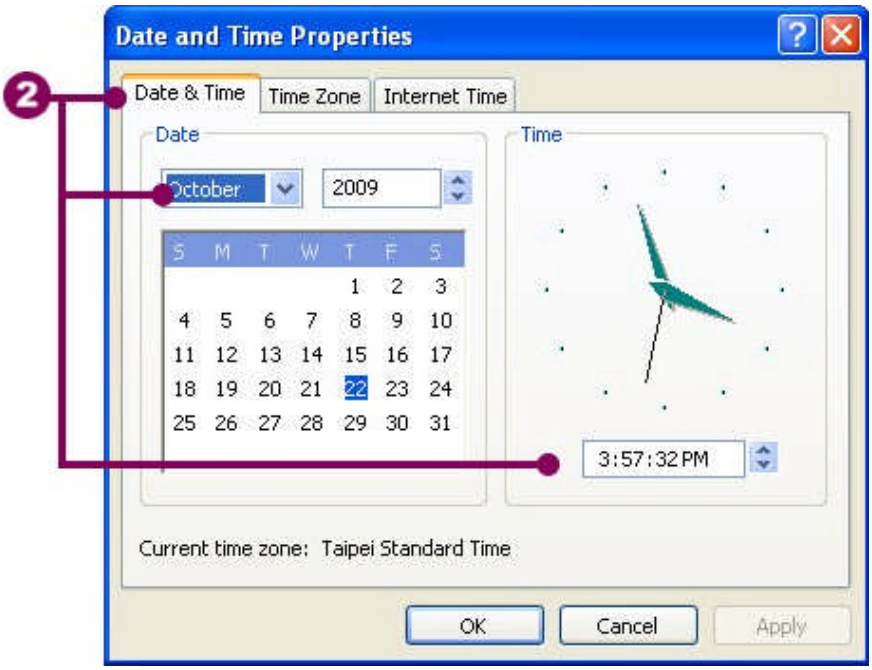
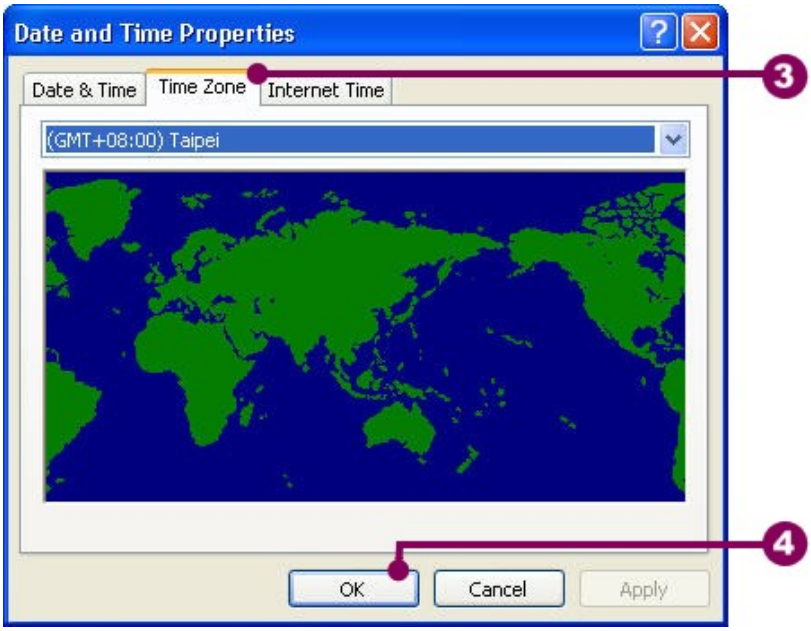


Figure 2-4 Change Date & Time and Time Zone

1. Click **Start** -> **Control Panel**.
2. Double click **Date and Time**. When the **Date and Time Properties** dialog is displayed, click the **Date & Time** tab and set the correct date and time.



3. Click the **Time Zone** tab and set the correct time zone.
4. Click **OK** to complete.

2-2-4 Change Screen Resolution

A higher screen resolution generates a better screen view. The embedded HD NVR Manager supports multiple monitor resolutions. To set the screen resolution, see the following steps:

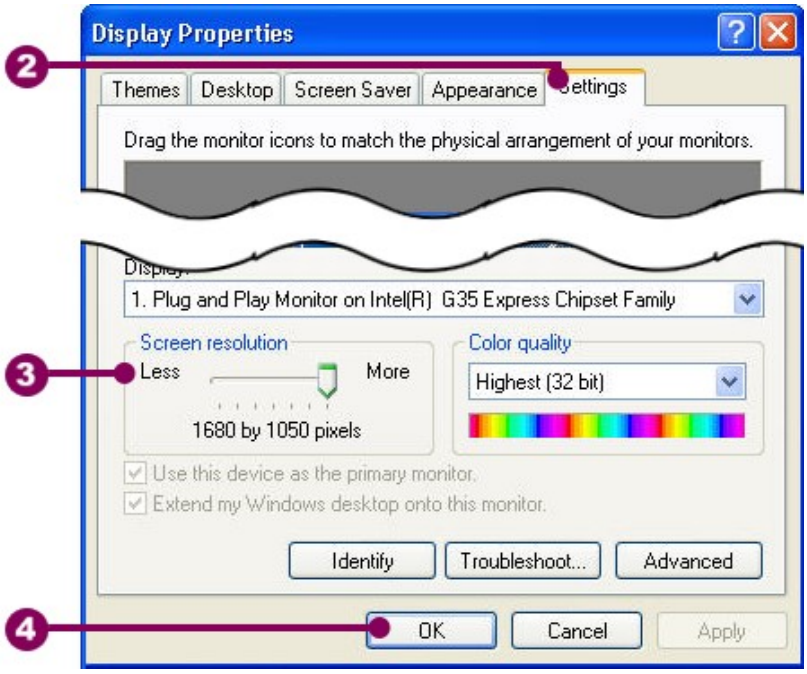


Figure 2-5 Change Screen Resolution

1. Click **Start**-> **Control Panel**.
2. Double click **Display**. When the **Display Properties** dialog is displayed, click the **Settings** tab.
3. Set the desired screen resolution in the Screen resolution area.
4. Click **OK** to complete.

2-2-5 Change Region and Language

Non-English users need to change the region and language setting for local requirements. To change the **Region and Language** settings, see the following steps:

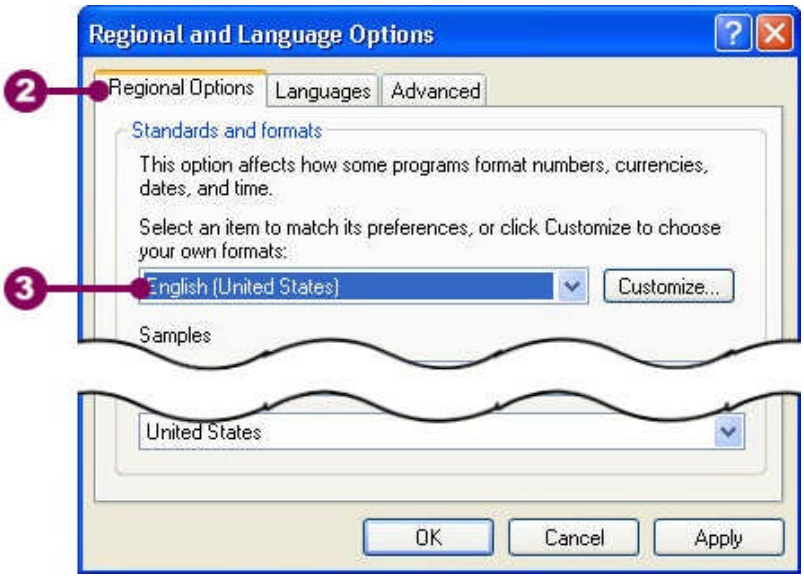
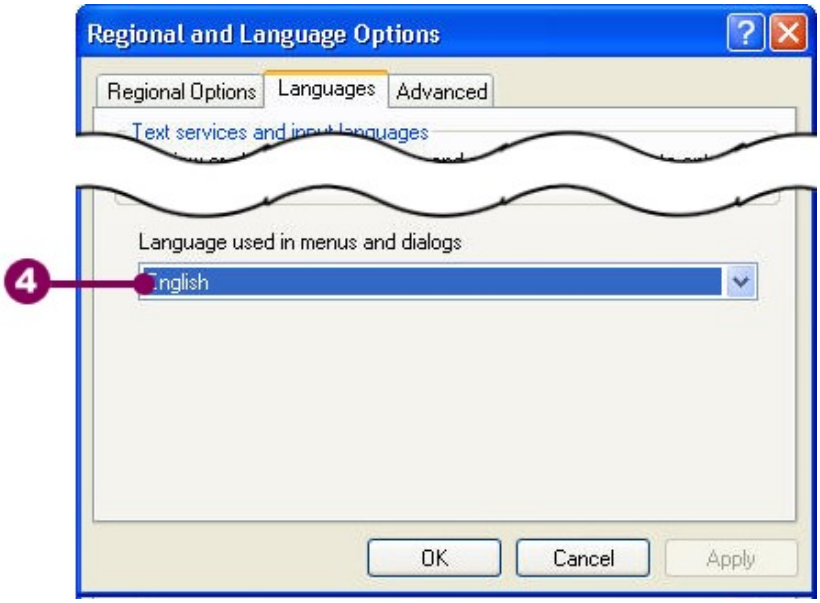
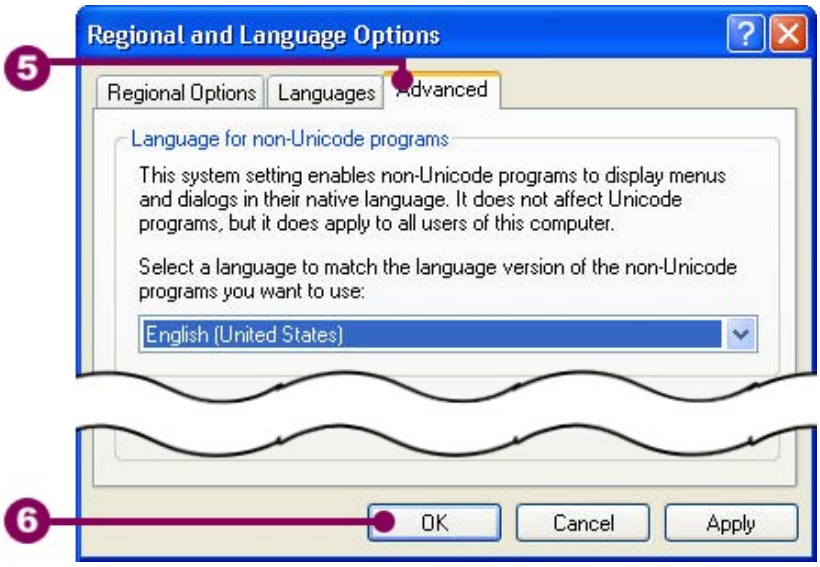


Figure 2-6 Change Region and Language

1. Click **Start** -> **Control Panel**.
2. Double click **Region and Language**. When the **Regional and Language Options** dialog is displayed, click the **Regional Options** tab.
3. Select the desired option from the Standards and formats area.



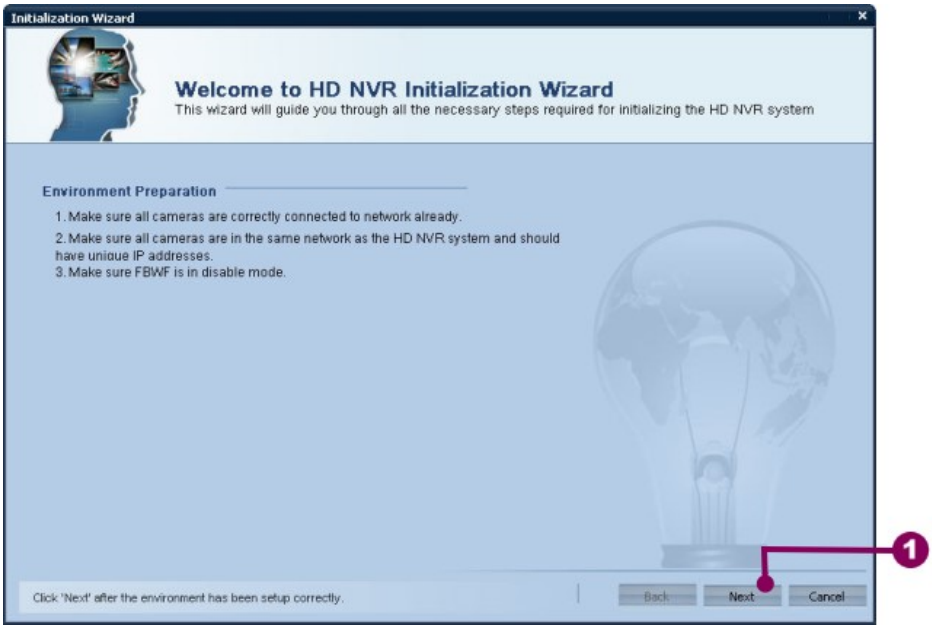
4. Click the **Languages** tab. Select the language for menus and dialogs used in the local area.



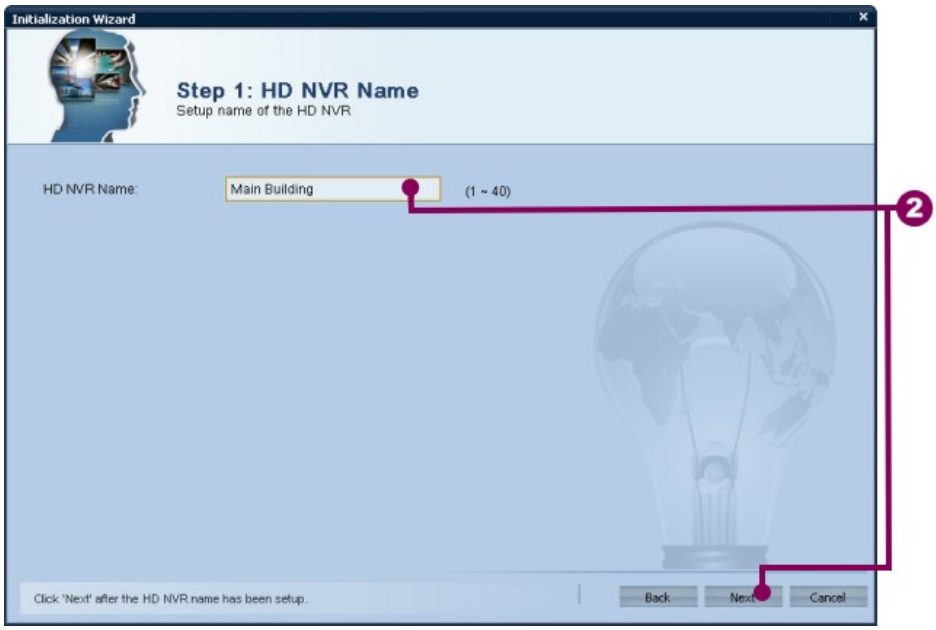
5. Click the **Advanced** tab. Select the language used for non-Unicode programs.
6. Click **OK** to complete.

2-3 Initial Wizard

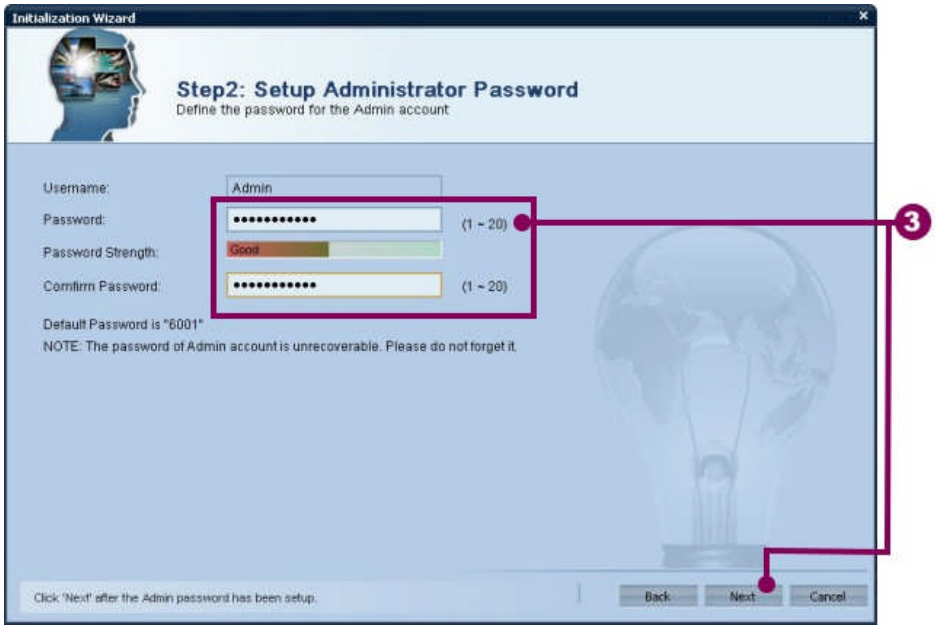
The DOM based NVR has installed the initialization wizard, that simplified the setup procedures for the first run user. The initialization wizard offers the step-by-step operation to replace the diversified and complicated setup procedures.
The initialization wizard runs automatically after the HD NVR manager has been installed and restarted. See the following steps about using the initialization wizard.



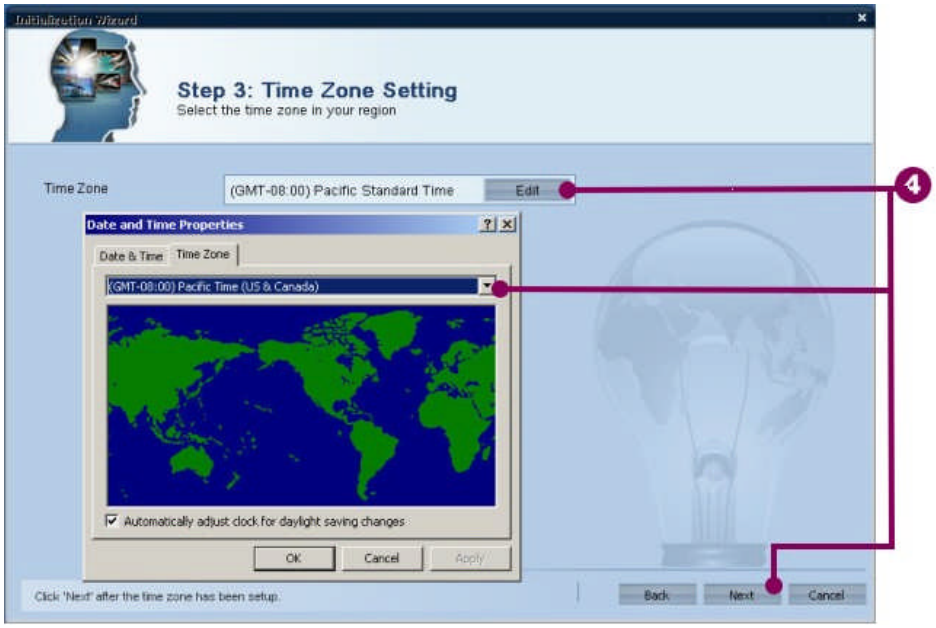
1. When the welcome page of the initialization wizard is displayed, click **Next** to start.



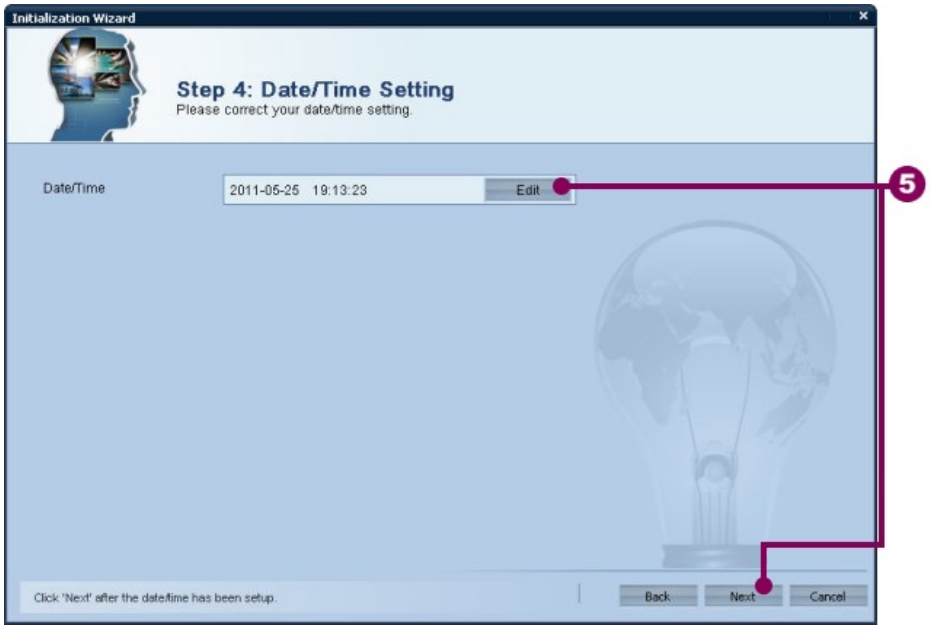
2. Enter the name of the HD NVR and click **Next**.



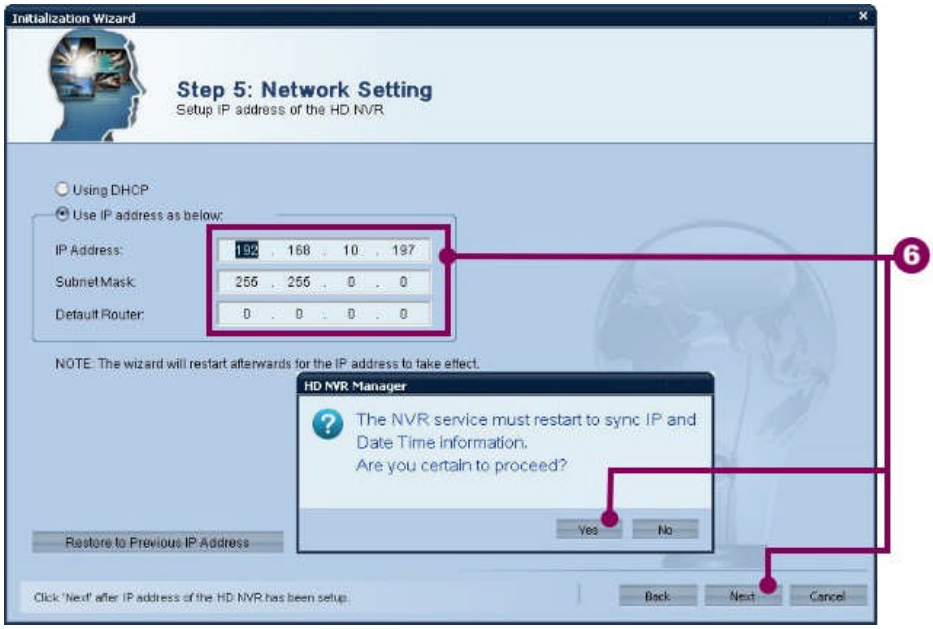
3. Change the password of the *Admin* account. Click **Next** to continue.



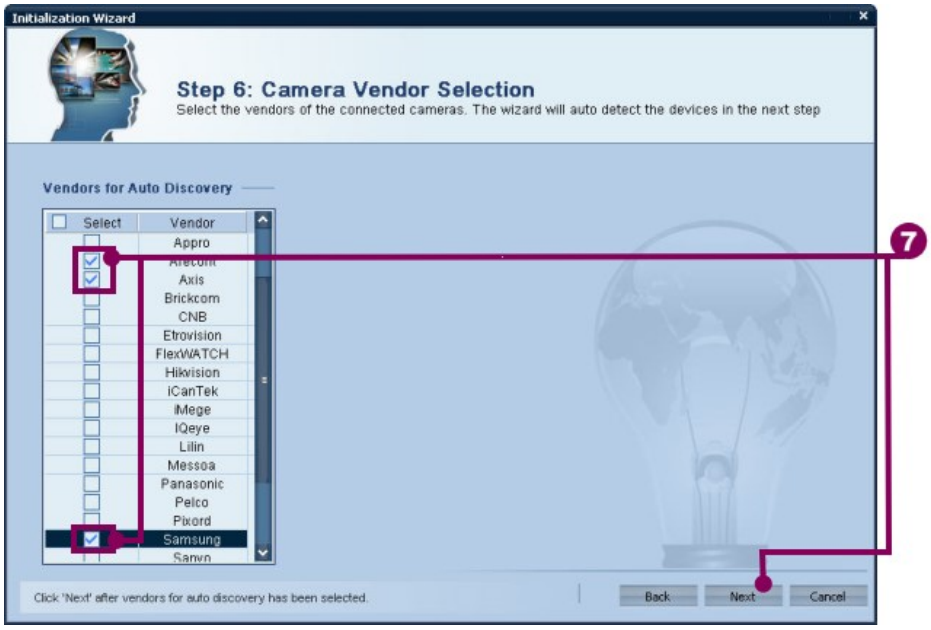
4. Click **Edit** to change the time zone if necessary. Click **Next** to continue.



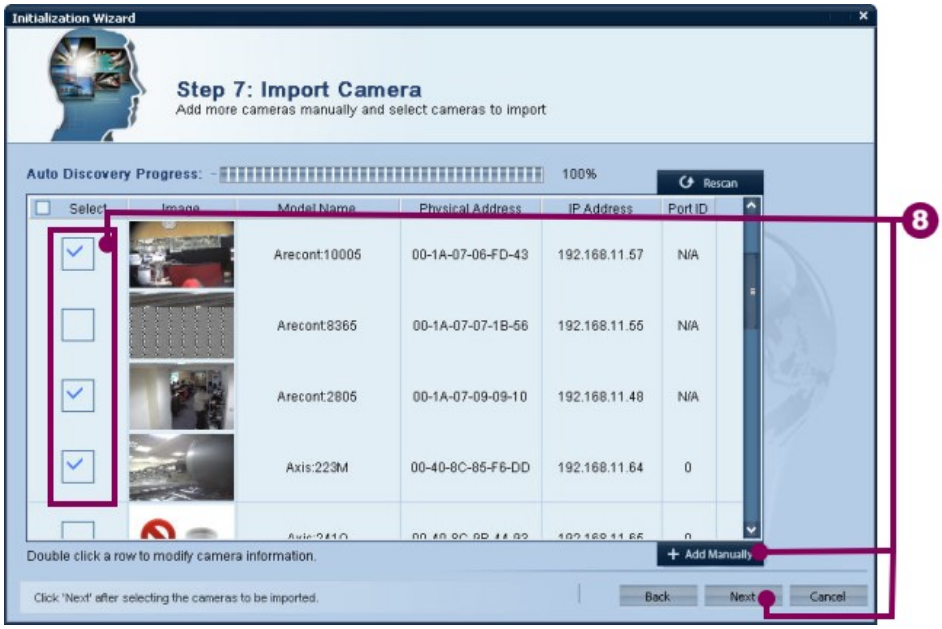
5. Click **Edit** to change the Date/time if necessary. Click **Next**.



6. Set the network of the HD NVR. When the new IP address of the HD NVR is set, a conformation message is displayed – '**The NVR service must restart to sync IP and Date Time information. Are you certain to proceed?**' Click **Yes** to synchronized the settings. A notification window is displayed on the top of the task bar. Click **Next** to continue.

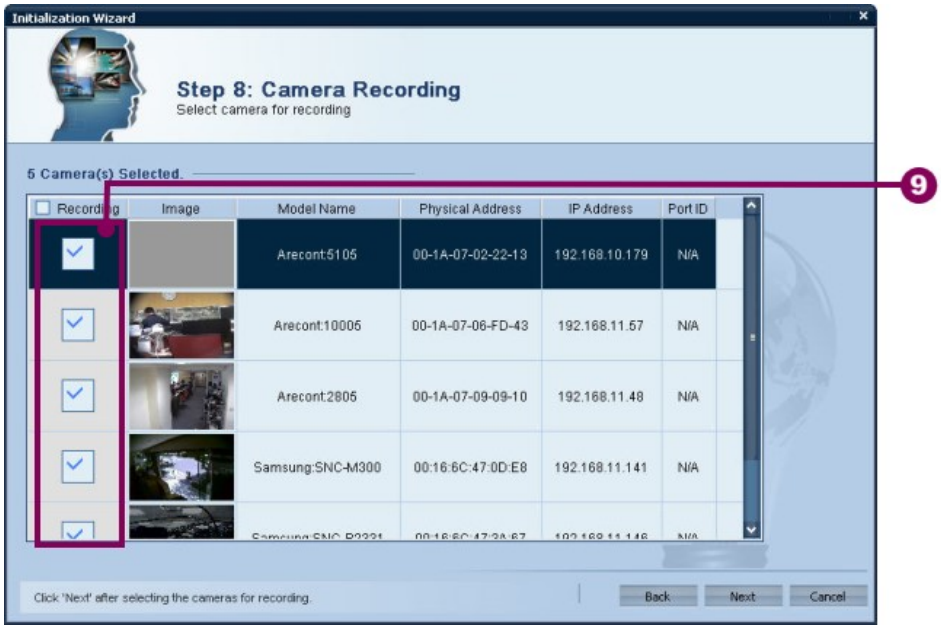


7. Select the vendor names of the connecting cameras and click **Next**.

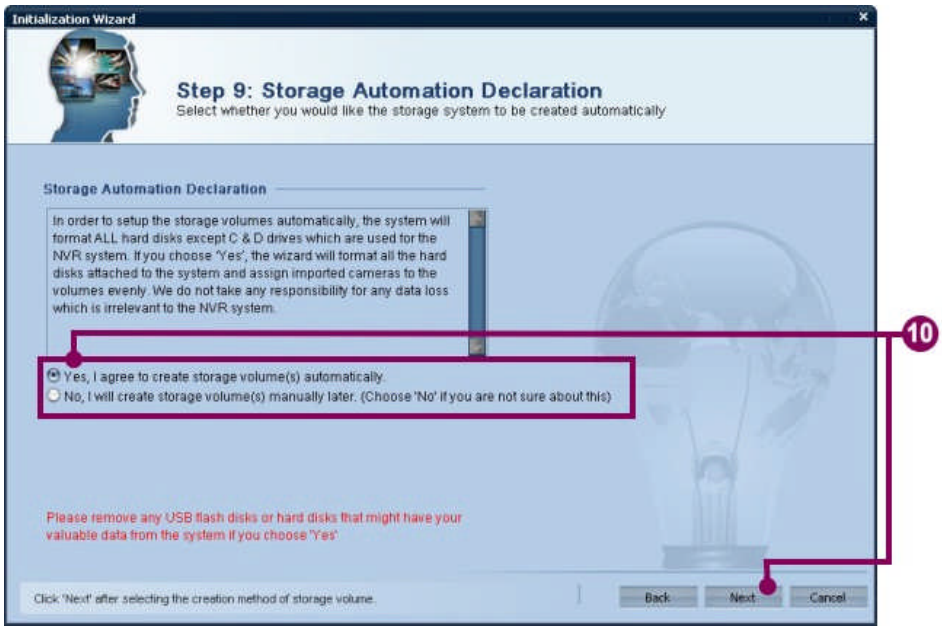


8. The initialization wizard lists all available cameras of the selected vendors at step 6. Check the desired cameras and add them to the HD NVR. If some cameras are not in the list, click **+ Add Manually** button to add the cameras manually. Click **Next** to the next step.

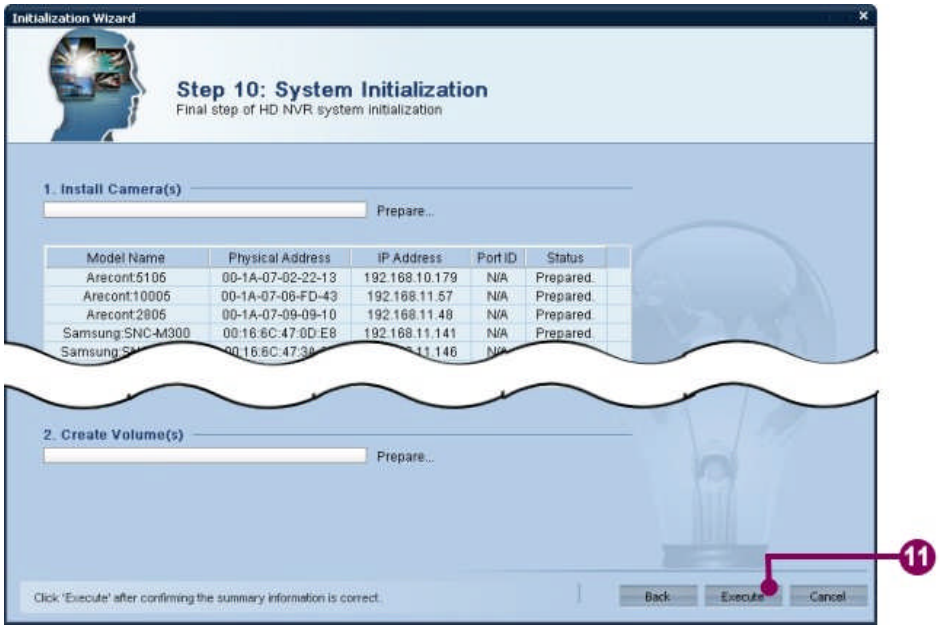
NOTE: When the vendor list has been changed, click **Rescan** at the top-right corner to update the available camera list.



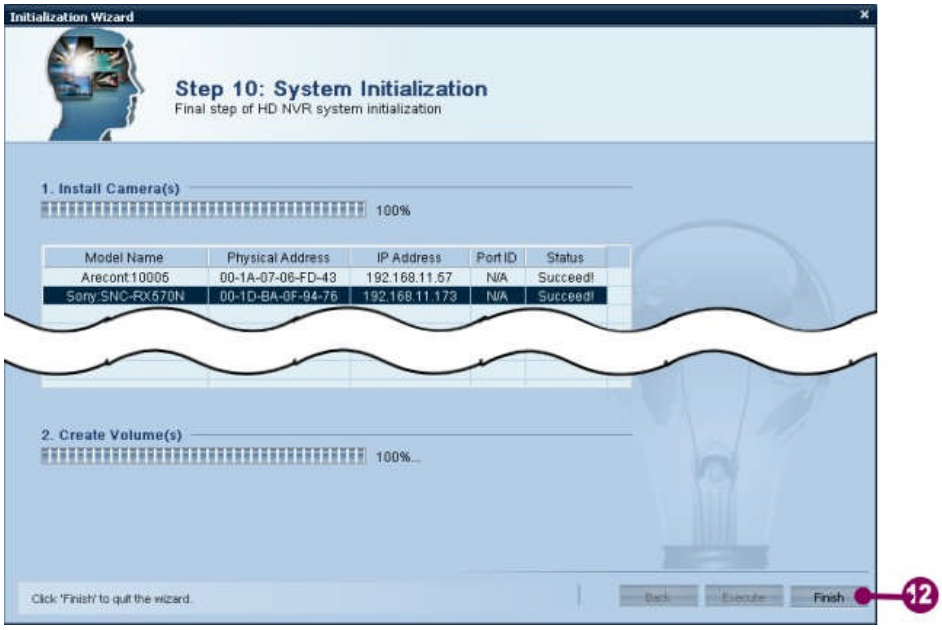
9. From the camera list, check the cameras to record the streaming. Click **Next** to continue.



10. The initialization wizard offers an option to help the user create volumes automatically. Select the option of '**Yes, I agree to create storage volume(s) automatically.**' and the initialization wizard will add volume(s) automatically for the user. To add the volume(s) manually, select the option of '**No, I will create storage volume(s) manually later.**' Click **Next** to go to the final step.



11. The initialization wizard displays the added camera list. If the volume adding option is selected, a progress bar of adding volume(s) will be displayed below the camera list. Click **Execute** to continue.



12. The initialization wizard starts to add cameras to the HD NVR. If the automatic volume adding option is selected, the initialization wizard will create new volume(s) and assign the recording repositories to the camera. When the progress bar has come to 100%, the setup procedure is finished. Click **Finish** to reboot the system.

Chapter 3 SCM Program

3-1 SCM Brief

Storage Configuration Manager (abbreviated SCM) is a tool to arrange and manage the repository in the HD NVR. The setup program of HD NVR Manager will install SCM at the same time. SCM helps users to effectively manage all storage devices for video recording.

All repositories in the SCM are reallocated to the basic storage unit – *Volume*. Every volume may manage one or more hard drives. SCM allows the system administrator to set all hard drives in a single volume.

SCM program is composed of four parts:

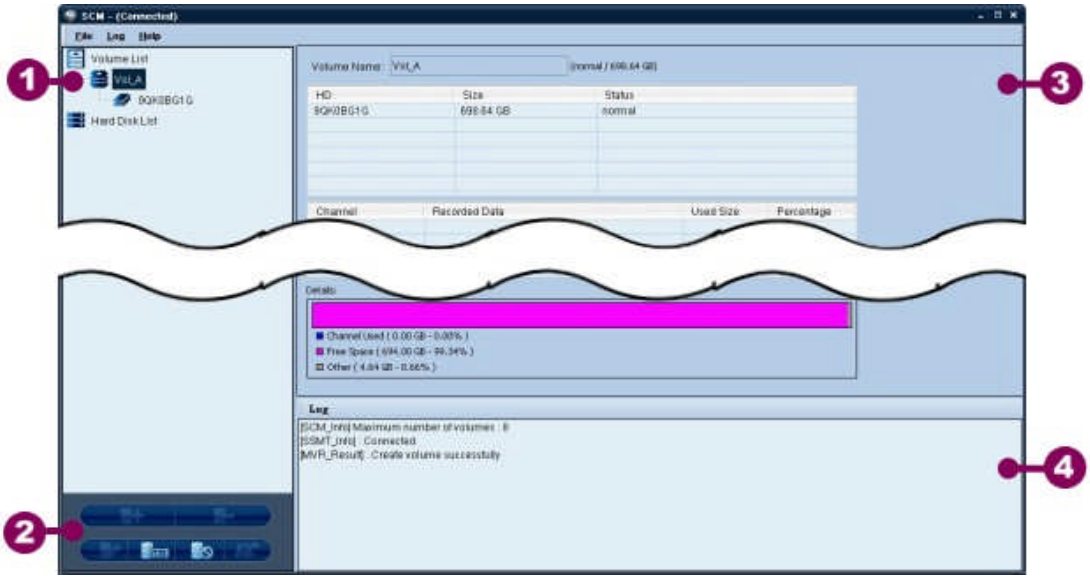


Figure 3-1 SCM Program

1. Device Panel
2. Action Buttons
3. Configuration Panel
4. Log Panel

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

	Volume	Hard Driver
Normal		
Disable		
Warning		
Damaged		

NOTE: The **Warning** icon is displayed when the system has detected 5% loss of recording data in the HDD. The **Damaged** icon is displayed when the system has detected 15% loss of recording data in the HDD. To prevent the recording data from destroying, change the hard drive immediately when the **Warning** icon is displayed.

3-2 Run SCM Program

To run SCM program, see the following steps:

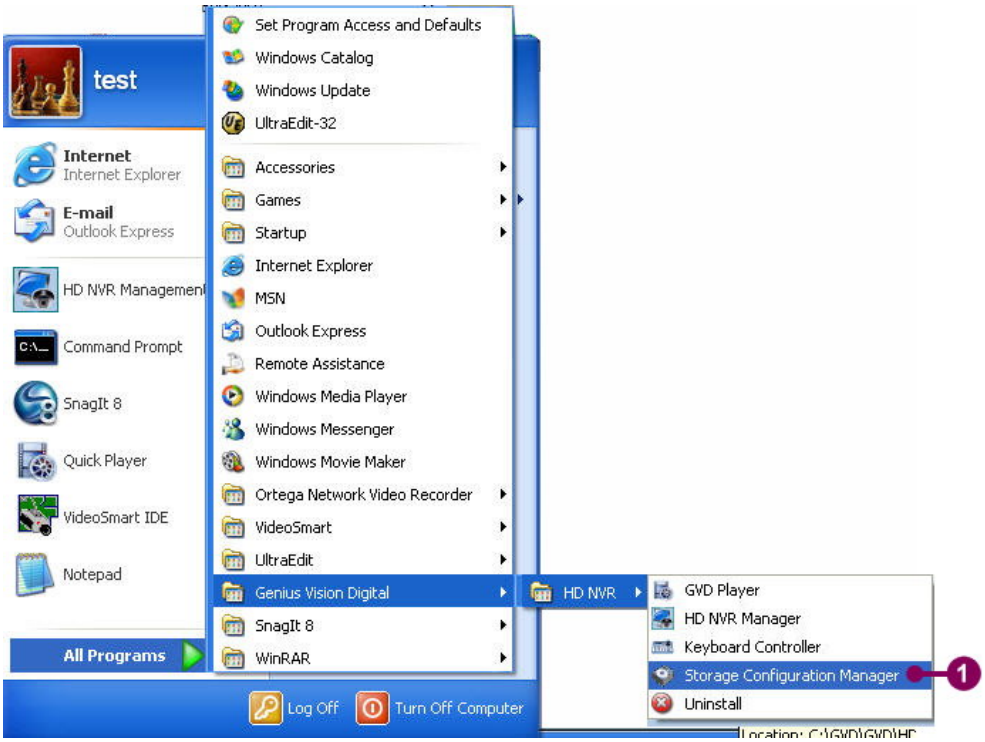
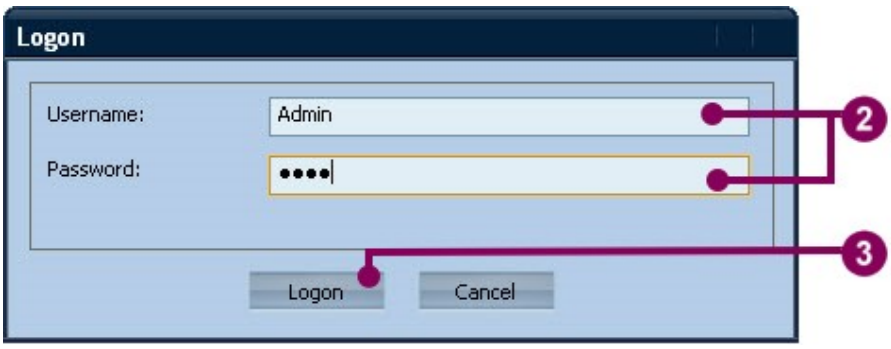


Figure 3-2 Run SCM Program

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



2. When the logon dialog is displayed, input *Admin* in the username column and input password in the password column. (The default password is *6001*.)
3. Click **Logon**.

3-3 Create a Volume

There are two ways to create a volume, by HDD or by folder. See the following sections for detailed steps.

3-3-1 Add a Volume by HDD

To create a volume, see the following steps:

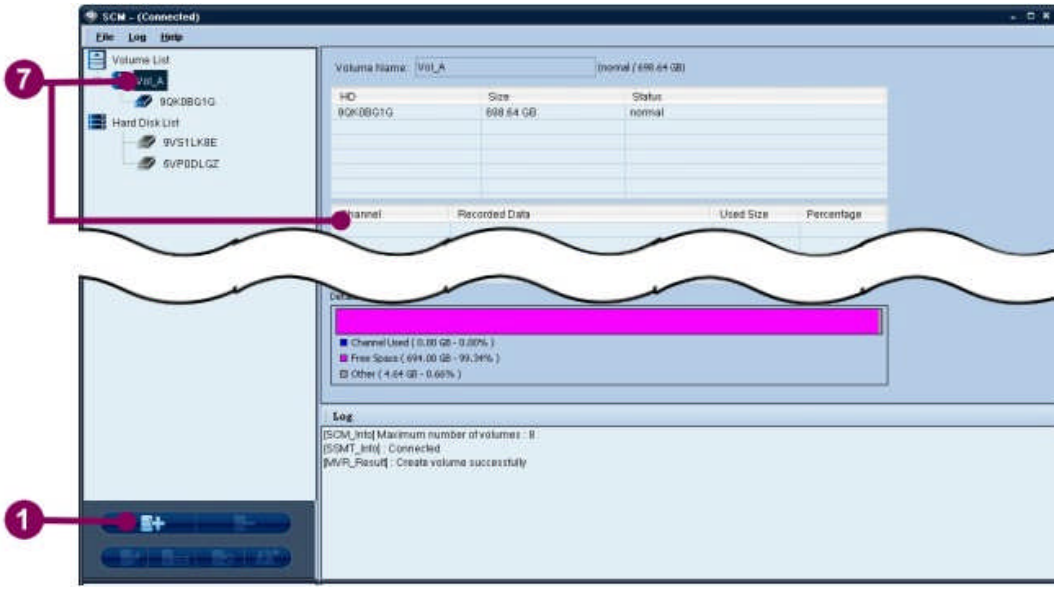
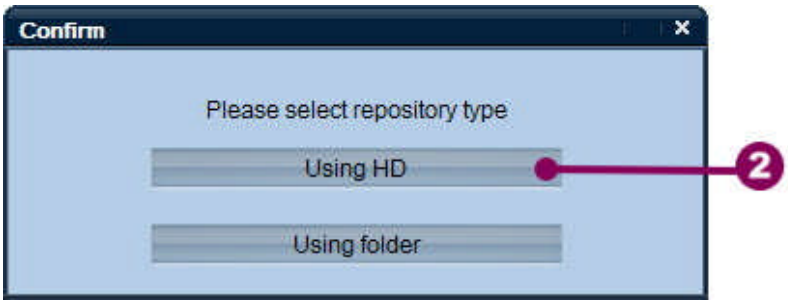
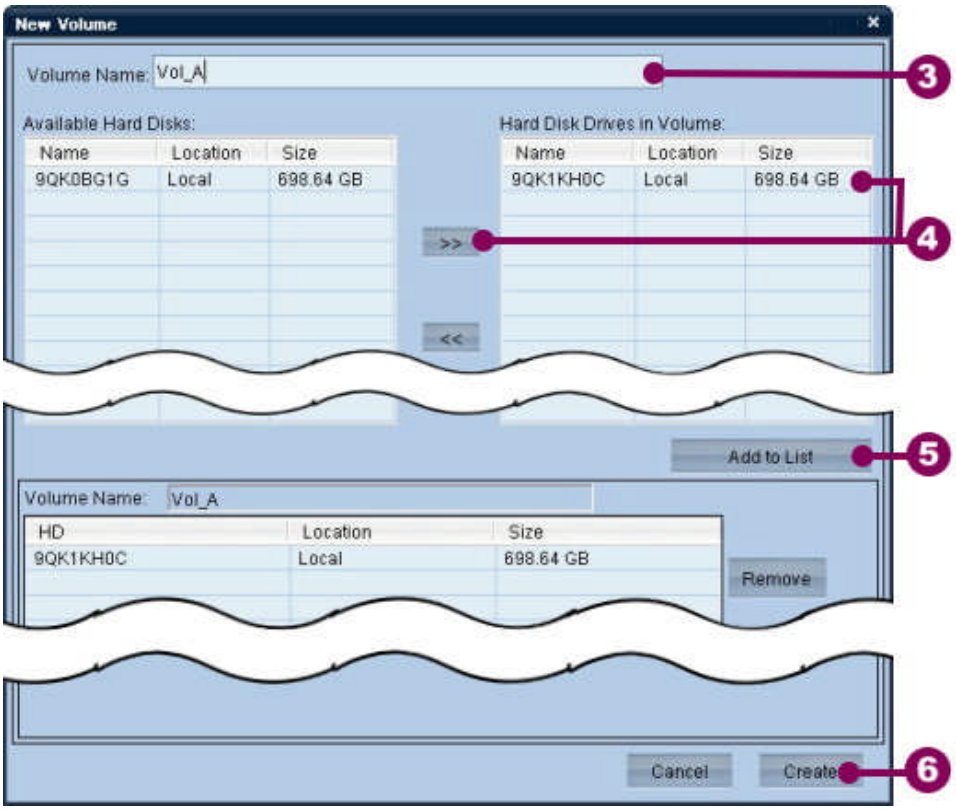


Figure 3-3 Create a Volume by HDD

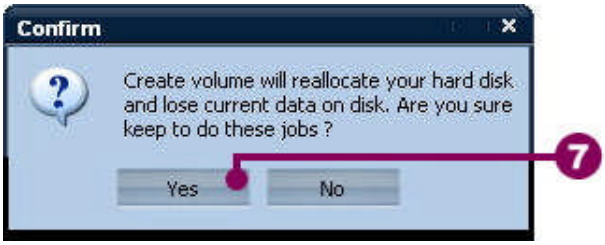
1. In SCM program, click the button.



2. When the **Confirm** dialog is displayed, click **Using HD**.



3. Input the new volume name in the **Volume Name** column.
4. Click the preferred hard disk from the available hard disk list and click >> (add) button to add the selected hard disk to the **Hard Disk in Volume** list.
5. Click **Add to List** to add the selected hard disk to the list below.
6. Click **Create** to continue. (Or click **Cancel** to exit.)



7. A confirmation message – '**Create volume will reallocate your hard disk and lose current data on disk. Are you sure to do these jobs?**' is displayed. Click **Yes** to continue.
8. SCM program begins to create a new volume and display a progress bar. When the volume is created, the device panel lists the new volume and the subsidiary hard disk(s). The configuration panel displays the formatted hard disk information.

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

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

3-3-2 Add a Volume by Folder

To create a volume, see the following steps:

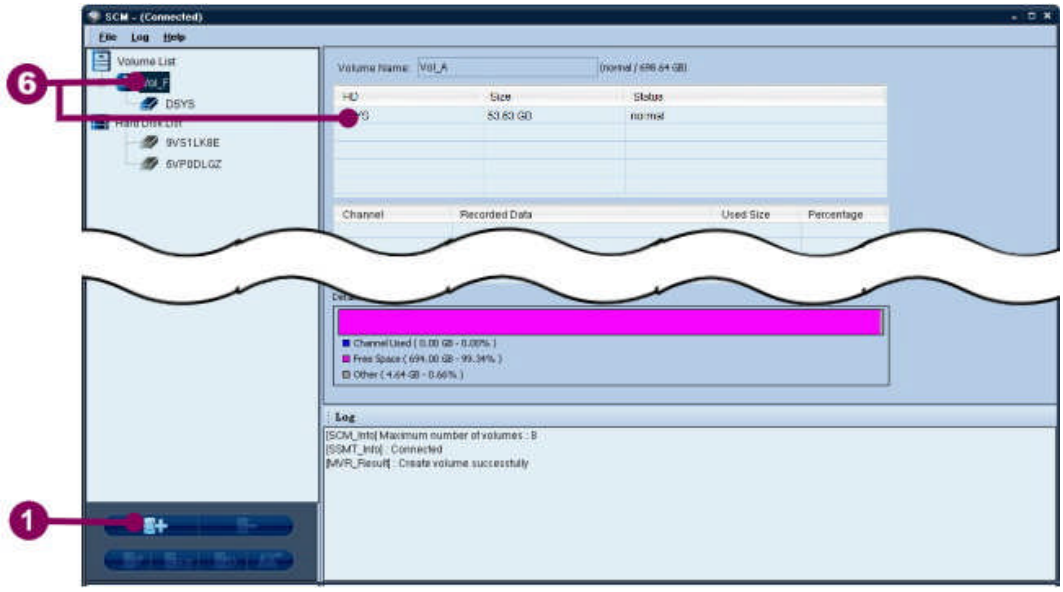
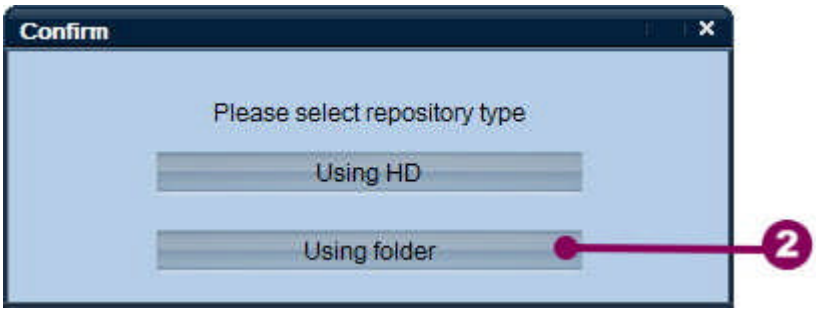
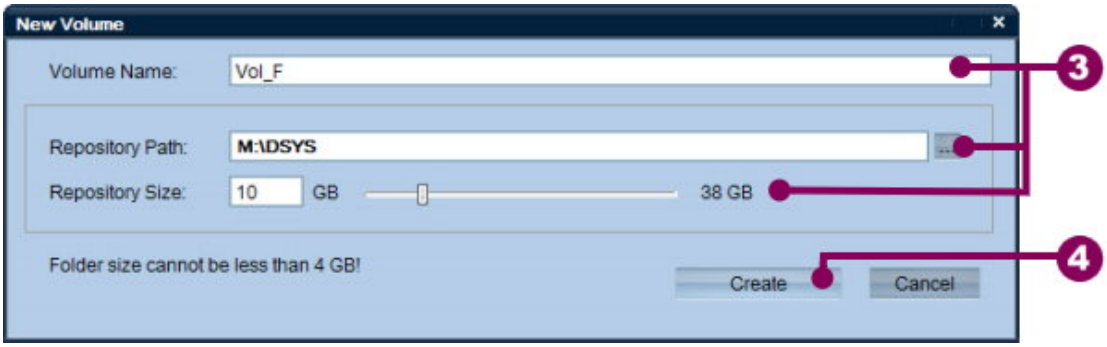


Figure 3-4 Create a Volume by Folder

1. In SCM program, click the button.



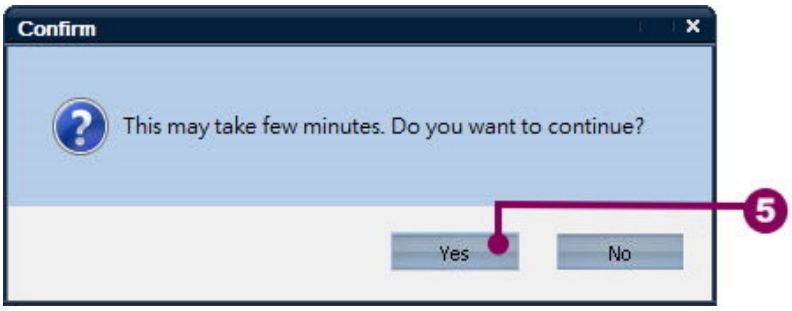
2. When the **Confirm** dialog is displayed, click **Using folder**.



3. When the **New Volume** dialog is displayed, set the values of **Volume Name, Repository Path,** and **Repository size.** Click **…** in the **Repository Path** column to open a browser dialog and select the desired directory.

TIP: To create a new volume by the folder, the available space of the directory requires at least 4 gigabytes.

4. Click **Create** to continue.



5. The SCM program displays a **Confirm** dialog. Click **Yes** to continue.
6. The SCM program starts to create a new volume. When the process is complete, the new volume is listed in the **Volume List**.

3-4 Rename Volume Name

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

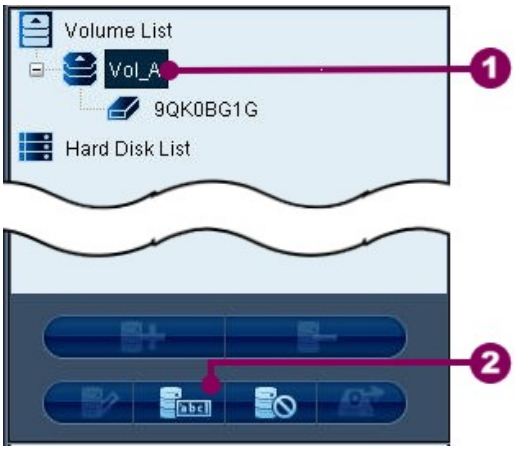
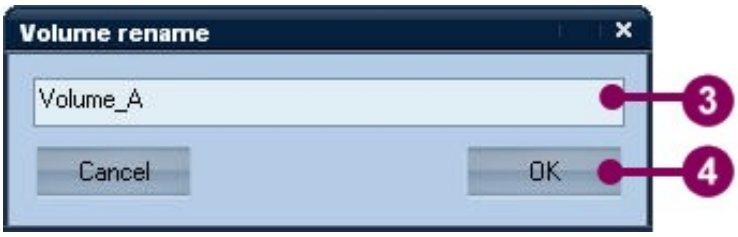


Figure 3-5 Rename Volume Name

1. In SCM program, click the preferred volume in the device panel.
2. Click . A **Volume rename** dialog is displayed.



3. Input 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:

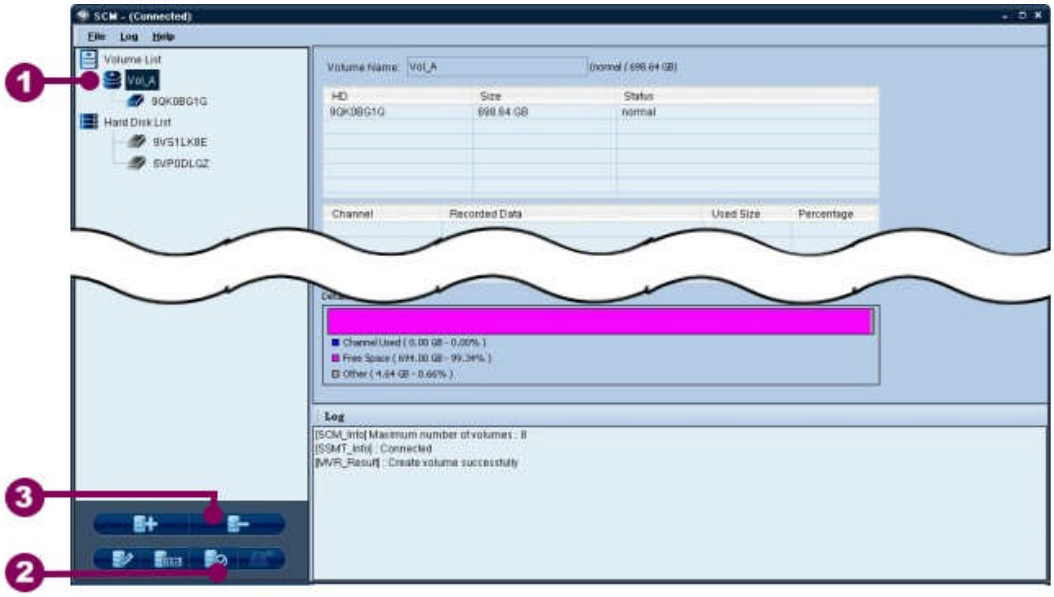
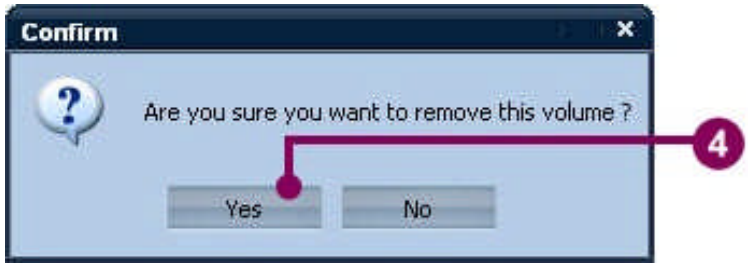


Figure 3-6 Delete a Volume

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



4. A confirmation message – '**Are you sure you want to remove this volume?**' is displayed. 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:

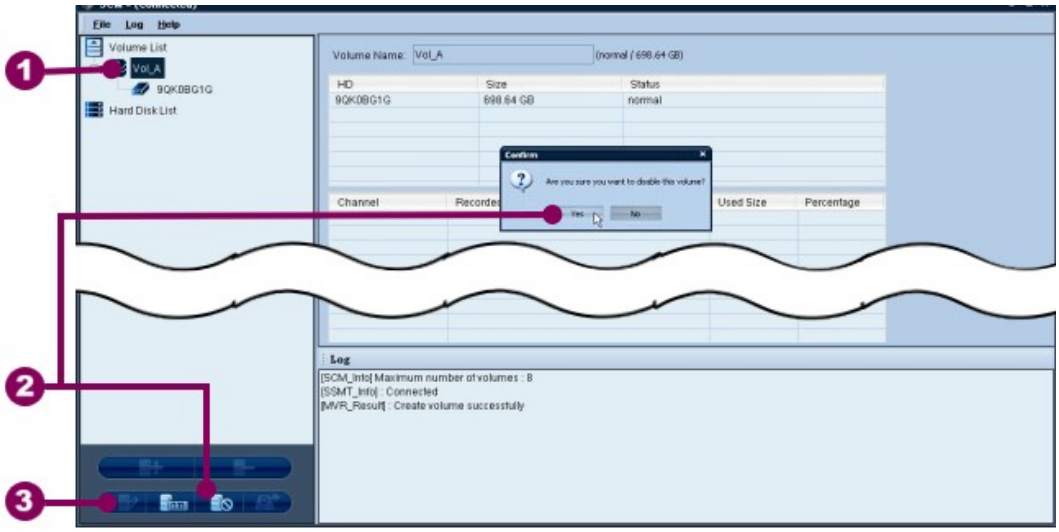
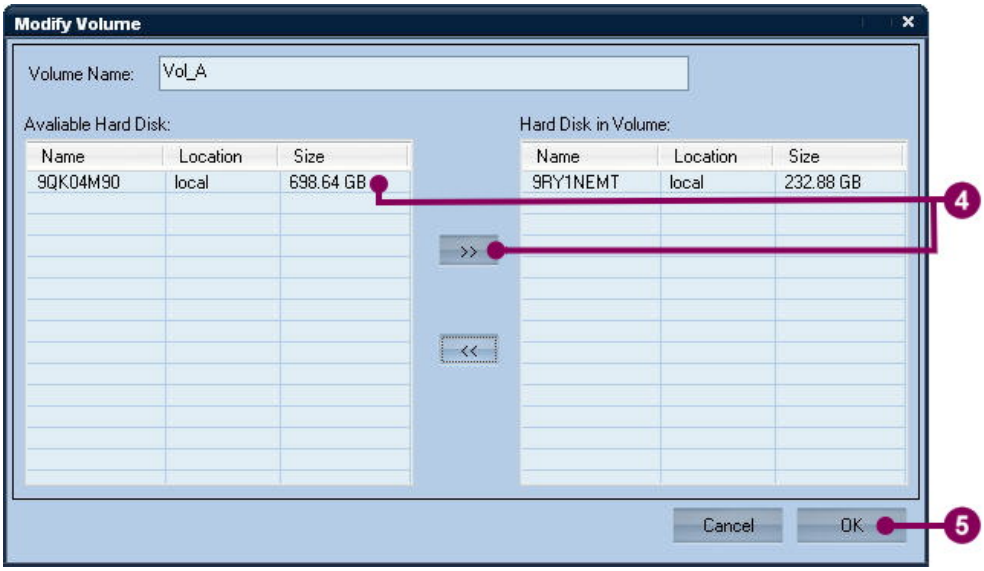


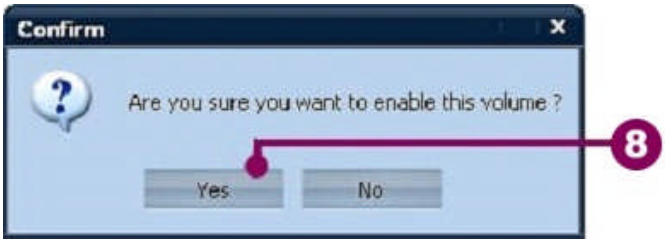
Figure 3-7 Add a Hard Disk to an Existing Volume

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



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. A confirmation message – '**This action will lose current data on disk that will attach, do you want to continue?**' is displayed. Click **Yes** to continue.
6. Click **OK** to continue. (Or click **Cancel** to exit.).

7. Click to restart the volume.



8. A confirmation message - '**Are you sure you want to enable this volume?**' is displayed. 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:

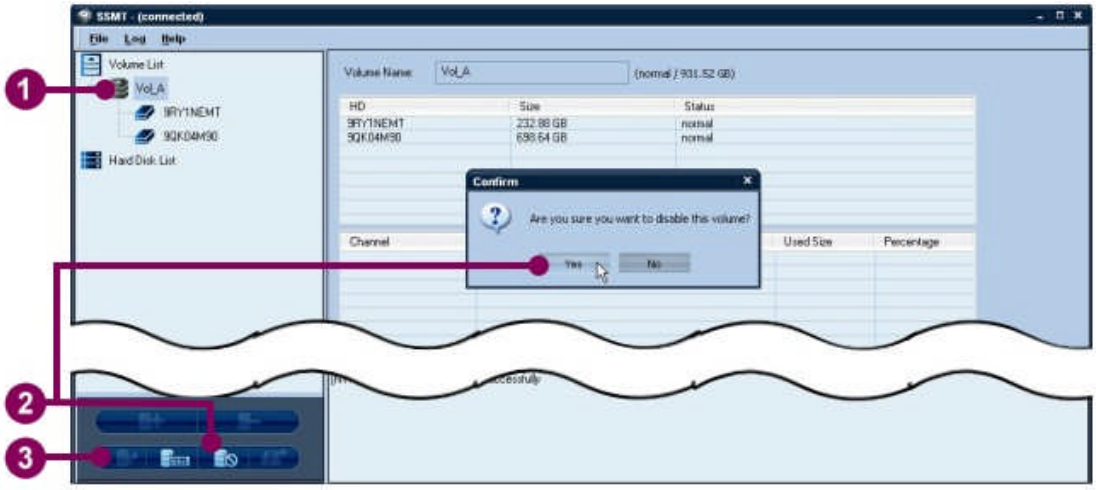
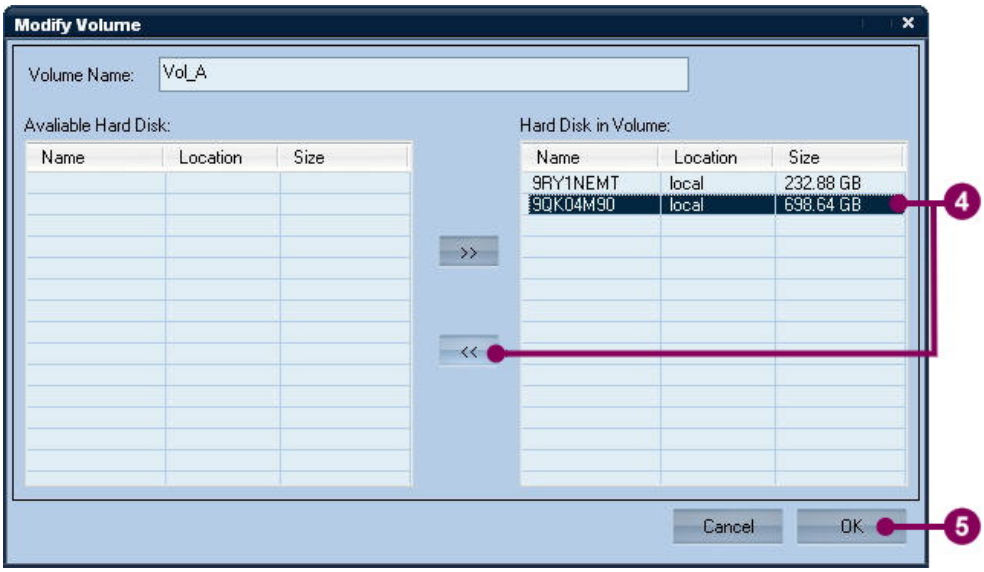


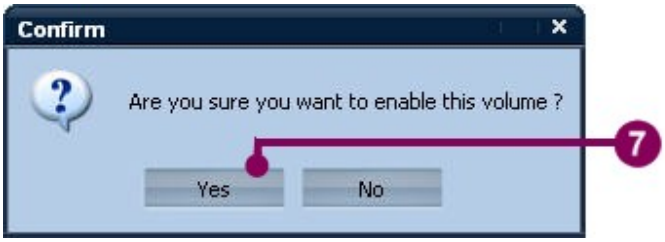
Figure 3-8 Remove a hard disk from an existing volume

1. In SCM program, click the desired volume in the device panel.
2. Click , and a confirmation message – '**Are you sure you want to disable this volume?**' is displayed. Click **Yes** to continue.
3. Click , and a **Modify Volume** dialog is displayed.



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 to restart the volume.



7. A confirmation message – '**Are you sure you want to enable this volume?**' is displayed. Click **Yes** to finish.

3-6-3 Detach a Hard Disk

SCM allows 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:

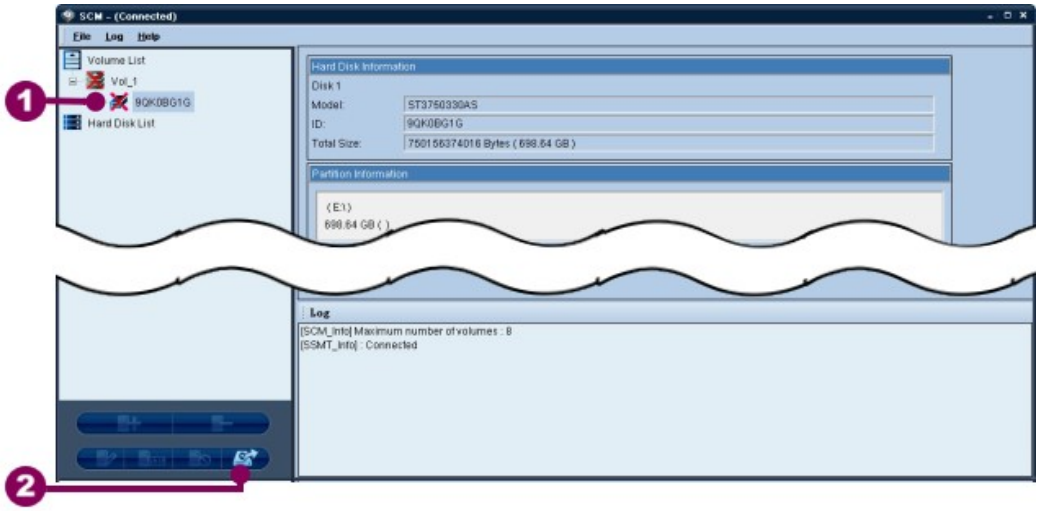
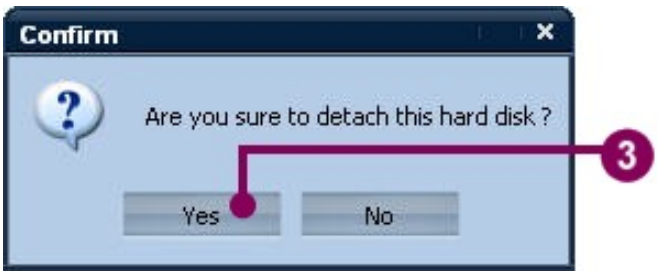


Figure 3-9 Detach a Hard Disk

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



3. A confirmation message – '**Are you sure to detach this hard disk**' is displayed. Click **Yes** to continue.
4. The selected hard disk has been detached.

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

3-7 Rescan a Volume

The damaged volume may result from the physical hard drive error or the data error. The volume rescan function offers the user an easy way to quickly fix the data error. To rescan the volume, see the following steps:

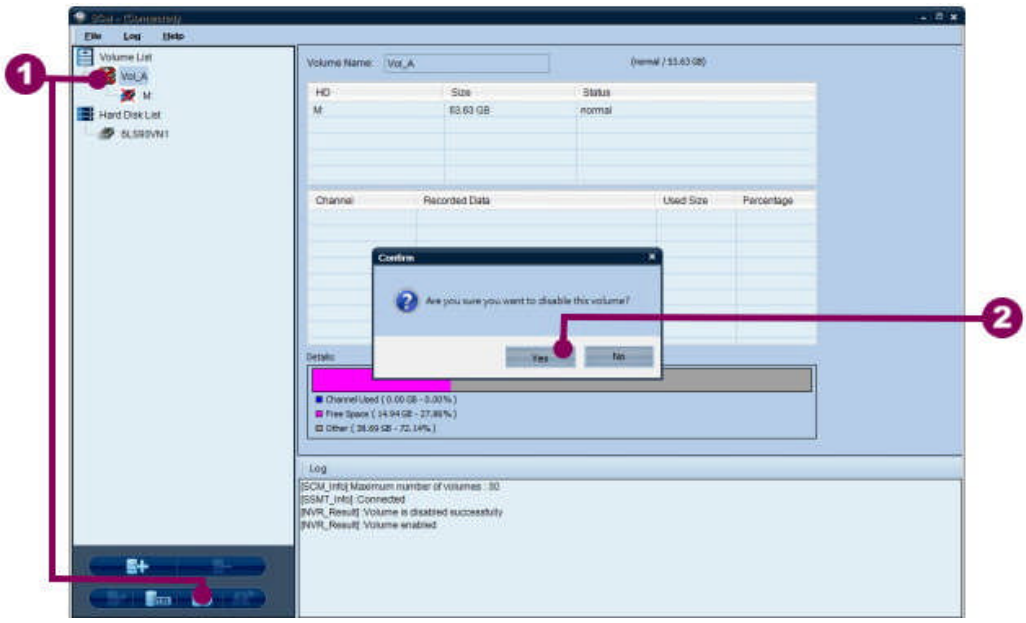
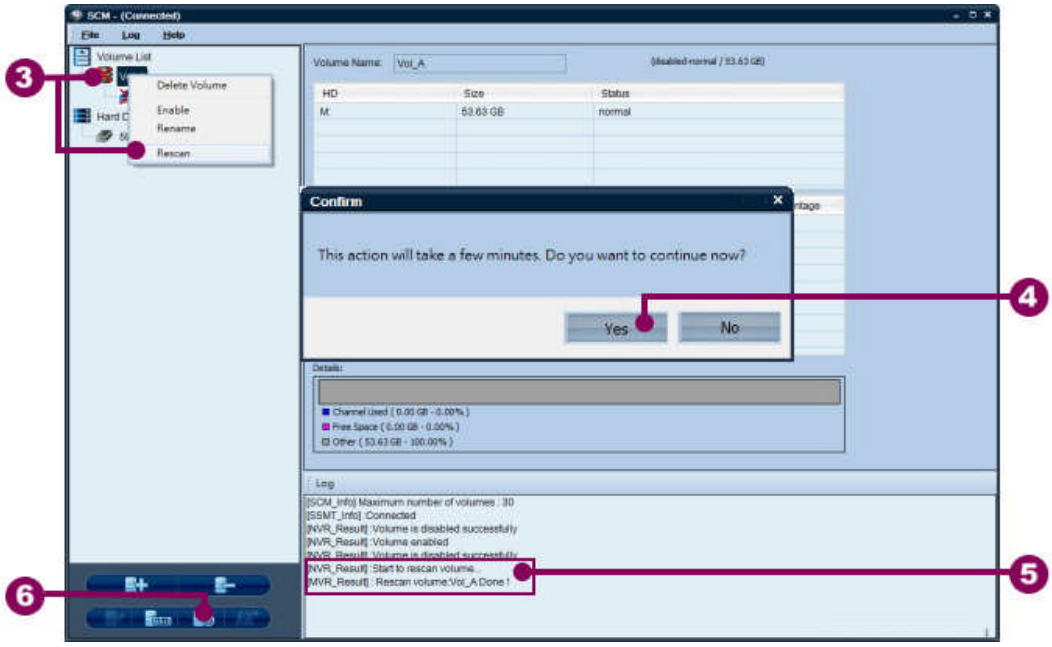


Figure 3-10 Rescan a Volume

1. Click the desired volume and disable it.
2. When the message is displayed, click **Yes** to continue.



3. Right click the volume, and a pop-up menu is displayed. Click **Rescan** in the menu.

4. A message, '**The action will take a few minutes. Do you want to continue now?**', is displayed. Click **Yes** to continue.
5. The program tries to fix the data error in the volume. When the process is complete, the damaged volume that results from data error will turn to normal. If the volume is still damaged, a physical error could be generated.
6. When the volume is fixed, enable the volume to finish.

3-8 Save Log

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

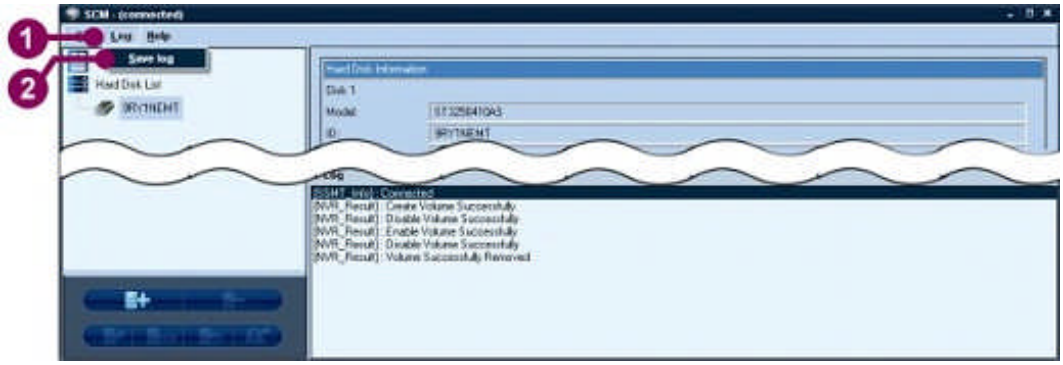
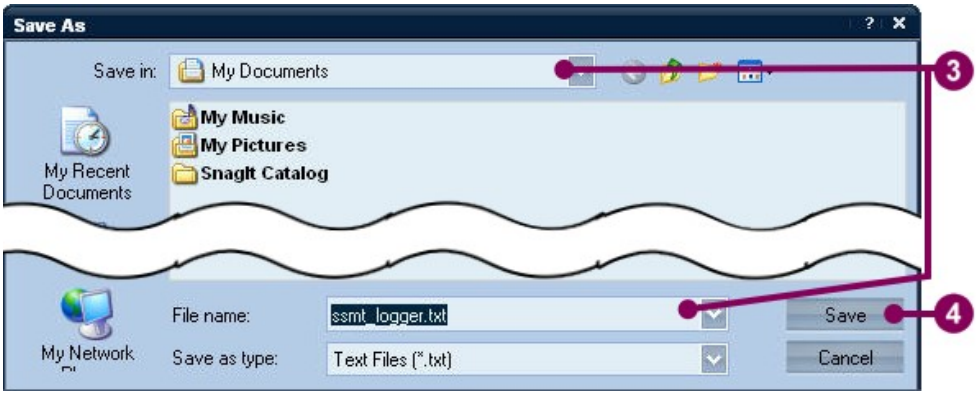


Figure 3-11 Save Log

1. Click **Log** from the menu bar.
2. Click **Save log** and a **Save As** dialog is displayed.



3. Change to desired directory and input file name.
4. Click **Save** to complete.

3-9 Exit SCM Program

To exit SCM Program, see the following steps:

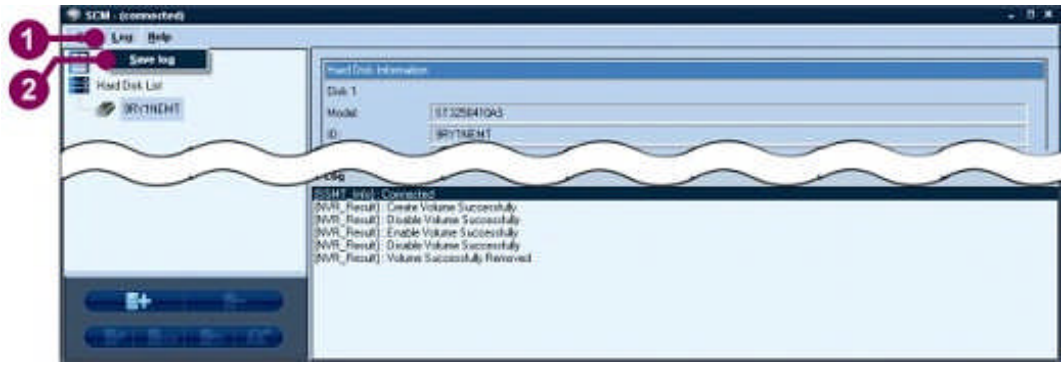
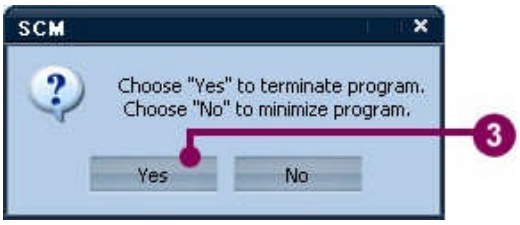


Figure 3-12 Exit SCM Program

1. Click **File** from menu bar.
2. Click **Exit**.



3. A message, '**Choose "Yes" to terminate program. Choose "No" to minimize program**', is displayed. Click **Yes** to finish.

Chapter 4 System Operation

4-1 General Introduction

4-1-1 Basic Operation Modes

The system provides four operation modes:

- Display mode
- Alarm mode
- Event mode
- Configuration mode

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

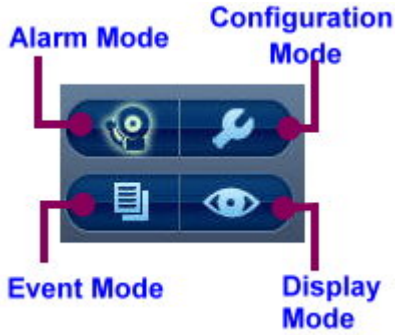


Figure 4-1 Four Basic Operation Modes

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.

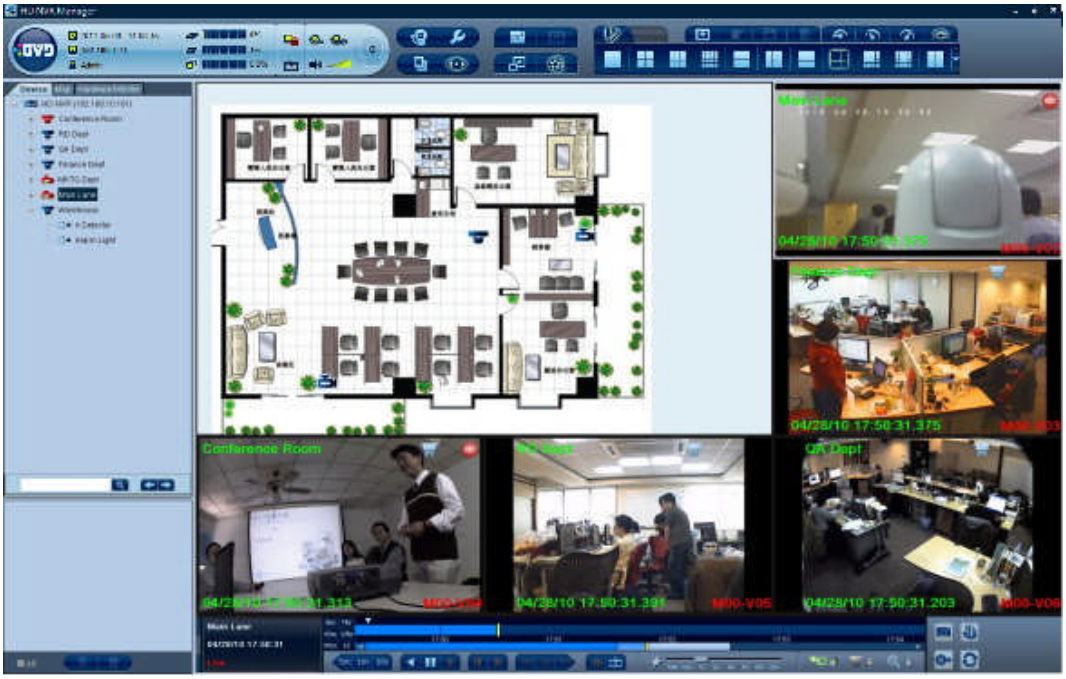


Figure 4-2 Display Mode

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.

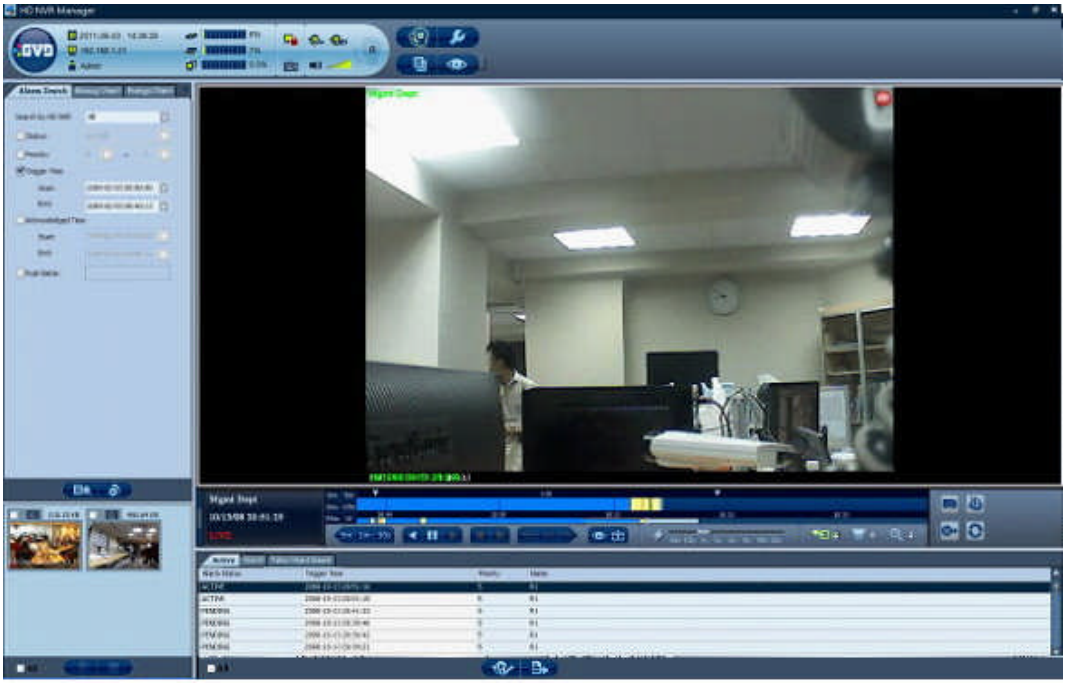


Figure 4-3 Alarm Mode

Event mode allows the user to review three 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.

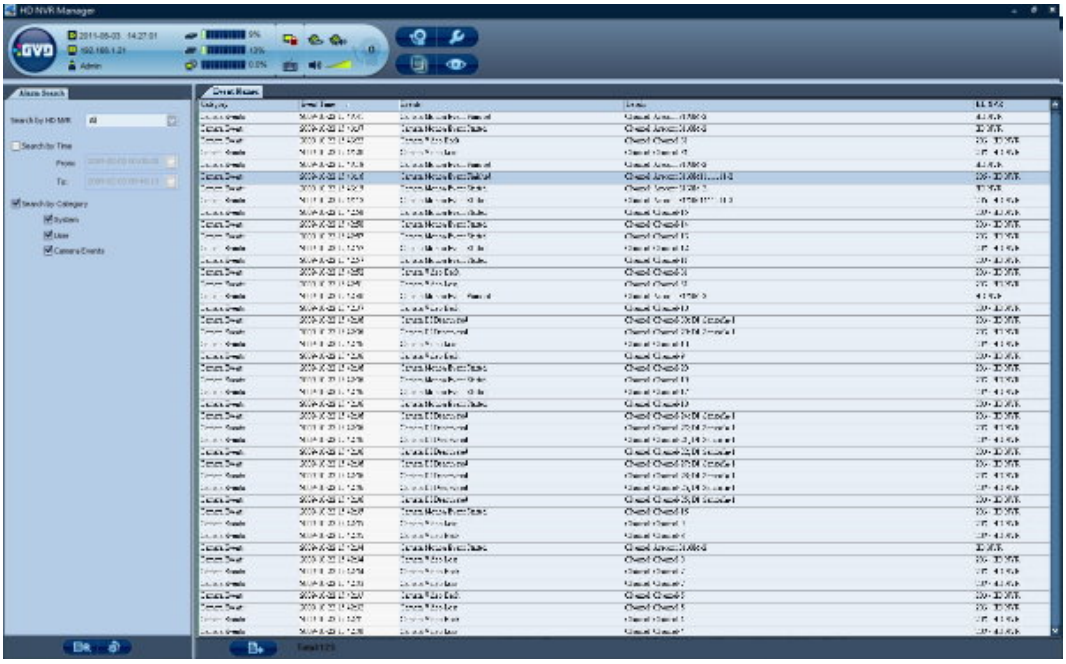


Figure 4-4 Event Mode

Configuration mode allows the user to conduct three main settings: the device setting, the storage setting, and the system setting. The device setting displays 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:

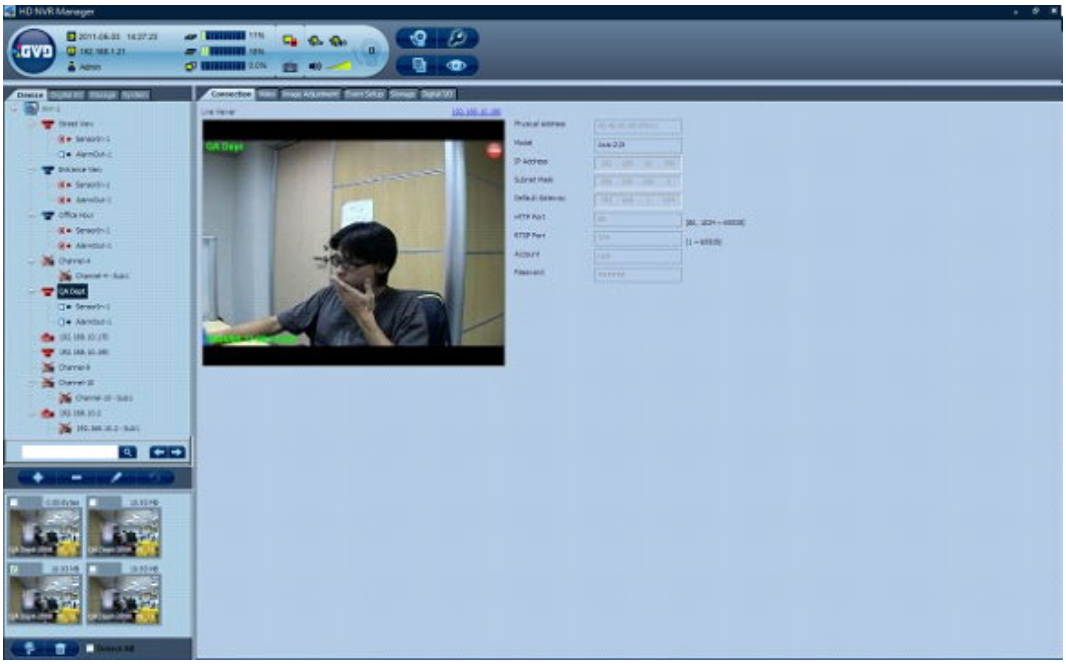


Figure 4-5 Configuration Mode

4-1-2 Brief of Display Mode

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:

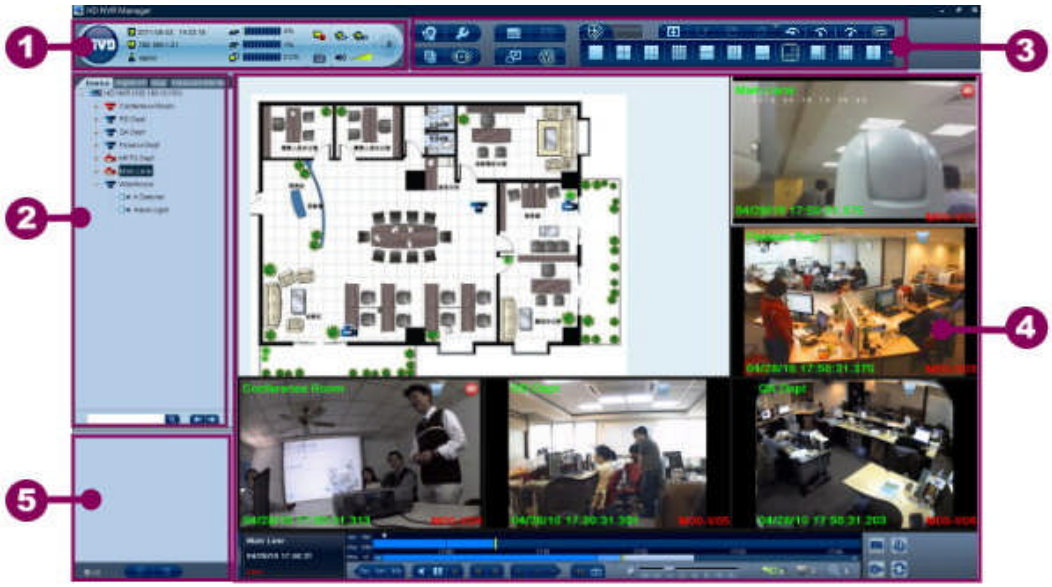


Figure 4-6 Demonstration of Display Mode

4-2 System Tab

The system tab includes three parts: system information panel, device control panel, and alarm information panel. See the following figure:

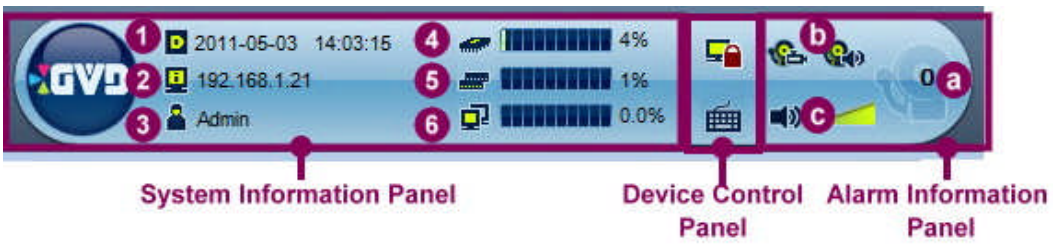


Figure 4-7 System Tab

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 device control panel includes two buttons: **lock screen** button and **Virtual keyboard** button. Click the **lock screen** button and any keys cannot work. A password dialog is displayed. The lock screen status will not be released until the correct password is inputted. Click the **Virtual keyboard** and a virtual keyboard is displayed on the screen for replacing the physical keyboard.

The alarm information panel includes three parts: (a) numbers of active alarms, (b) the alarm alert button and the alarm pop-up button, and (c) the volume control. 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. Refer to section 4-5-19 **Enable/Disable the Camera Audio** about the description of the volume control.

4-3 Device Tree & Map

In display mode, the tree panel is below the system tab. The panel has three tabs: Device, Map, and Hardware Monitor.

4-3-1 Device Tree

The device tree displays the NVR and all channels that have been added to the system including 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 displayed in the tree. By observing the channel icon in the tree, user may easily distinguish the status of all connecting devices. User may also view the image by dragging a camera icon and dropping it to the viewer as well as changing the value of the DO points.

When the sub channel function is enabled, the sub channel is displayed as a sub node of the belonged 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.

TIP: If the channels in the device tree were too many to be found, the user may use the **Channel Search** function at the bottom of the device tree. Input the full or partial name of the specific channel and click **Search**, and the channel name that meet the searching string will be selected.

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 DI/DO Points

In the device tree panel, user can directly view the DI point and change status of DO points. To change status of DO point, see the following steps:

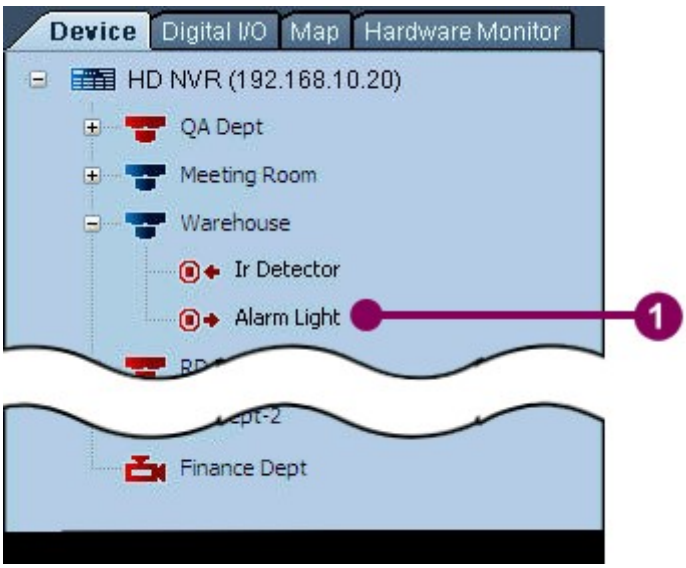
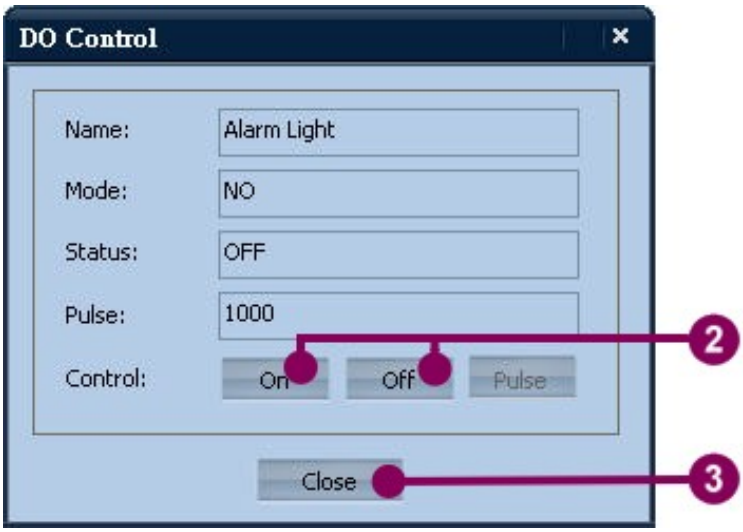


Figure 4-8 Control DI/DO Points

1. Simply double click the selected DO point in the camera tree, and a DO control dialog is displayed.



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

4-3-2 Digital I/O Control

The **digital I/O** tab displays all additional I/O modules and configured DIs or DOs. Sometimes, additional I/O modules will be connected to the HD NVR, and the HD NVR can receive digital signals from sensors the digital I/O module has connected to or send the control signals to the output devices, such as sirens, cameras, etc.
To view the details of I/O module, see the following steps:

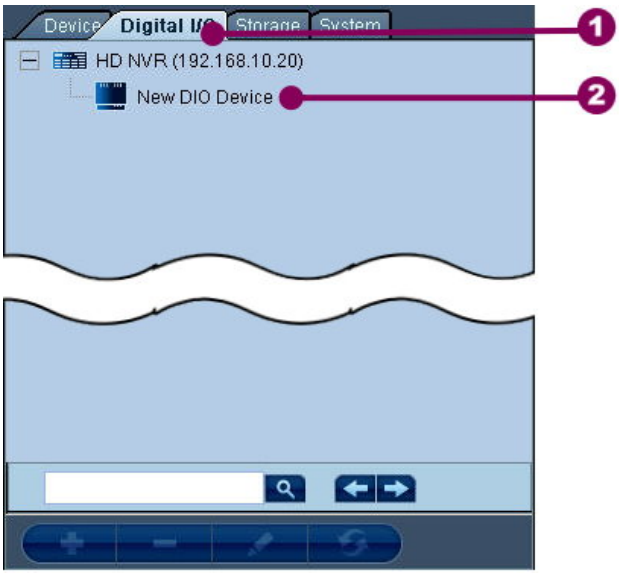


Figure 4-9 Digital I/O Control

1. Click the device tree and click **Digital I/O** tab.
2. Click the desired I/O module to view the status of the connected I/O points.

4-3-3 Map

The map tab displays the map tree, and all added maps are nodes in the map tree. Like the camera tree, the map node can be dragged from the map tree and drop it on any viewer.

All maps must be in HTML-based format. User can add the connecting channels and the associated DI/DO points in a map. From the map, other 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 on a viewer to play the image. In addition, the user can control the DO points on the map directly, as well as the device tree.

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

When NVR has connected with many cameras and DI/DO points, creation of several maps help the user to find the preferred device quickly. Also, the combination of the map and the tour function will effectively prevent the user from missing all critical images.

Figure 4-10 Map in Viewer

4-3-4 Hardware Monitor

The hardware monitor function allows users to monitor the operational data of the HD NVR, like internal temperature of CPU and mother board, voltage of mother board, etc. To see the operational data, see the following steps:

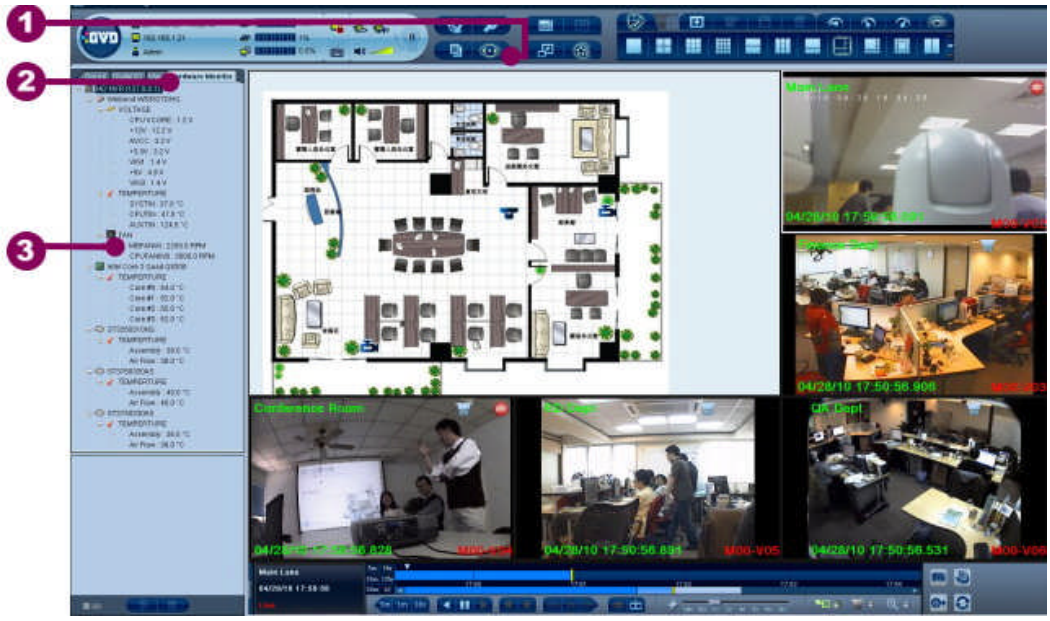


Figure 4-11 Hardware Monitor Function

1. Click the Display Mode button.
2. Click **Hardware Monitor** tab to display the hardware tree.
3. If the desired item is collapsed, click ⊞ to display the item.

TIP: To change the item name in the hardware monitor tree, refer to section 6-1-1-7 **Hardware monitor** for more information.

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 64 blank or playing viewers on the screen. From a pattern, user may view different camera images simultaneously. By switching different patterns, user may view all camera images in a short time.

The pattern panel includes two tabs: Layout Selection and Custom Layout. Layout Selection provides user with layout templates for selection. Currently, the system offers 23 layout templates. Custom Layout displays all customized patterns created by user. When more than two patterns were saved in the tour list, the tour function can be triggered.

4-4-1 Layout Templates

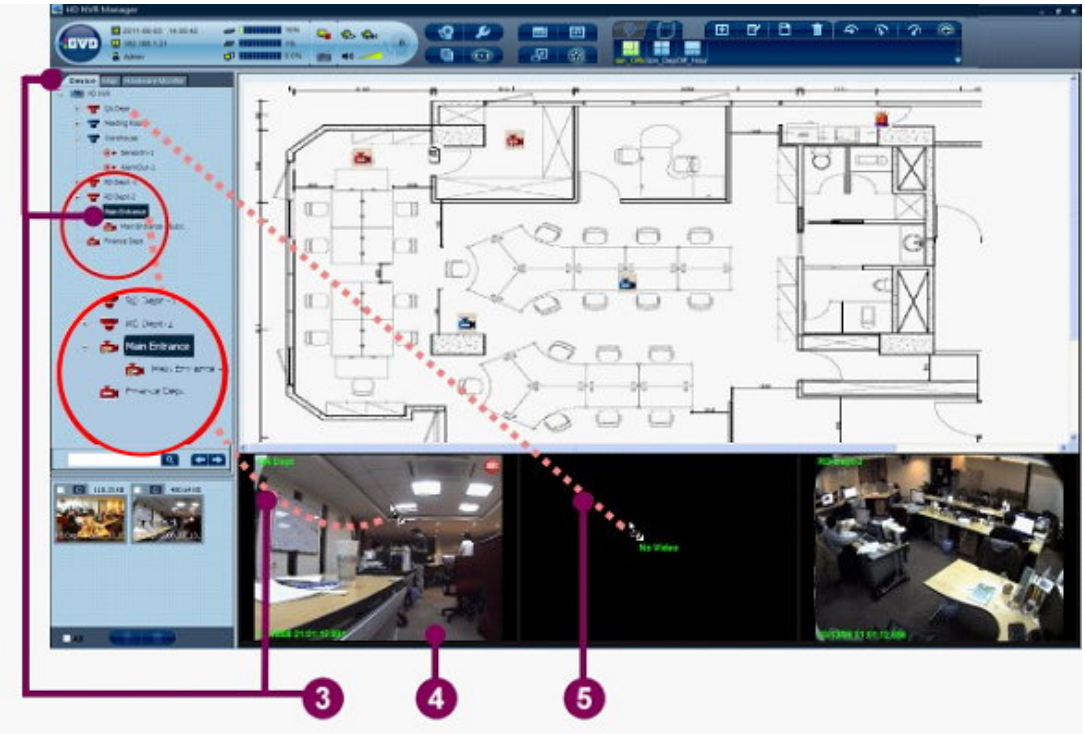
To view the layout template, see the following steps:

Figure 4-12 Layout Templates

1. In the pattern panel, click **Layout Selection** tab.
2. In Layout Selection tab, click the preferred layout. The new layout displays on the video display panel.

TIP: To quickly select the layout, the user may press the [**1**] to [=] hot keys to switch the preferred layout. The 12 hot keys correspond first 12 patterns in the pattern panel. For example, press [**1**], and the 1x1 pattern layout is displayed; press [**2**], and the 2x2 pattern layout is displayed, and so on.

NOTE: To display the hidden layout, click the up and down button on the right-hand side of the pattern tab, and the hidden layouts will be appeared in the pattern panel.



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 images have been displayed in all viewers.

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 [**Esc**] to toggle the original size.

4-4-2 Customize Patterns

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 displays all live images of associated channels directly. There are four function buttons: add to the tour list, edit name, save, and delete.

Figure 4-13 Customize Patterns

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 can press [**1**] to [**9**] to display the preferred pattern. The 9 hot keys correspond to first 9 customized patterns in the pattern panel.

4-4-2-1 Add a Pattern to Tour List

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

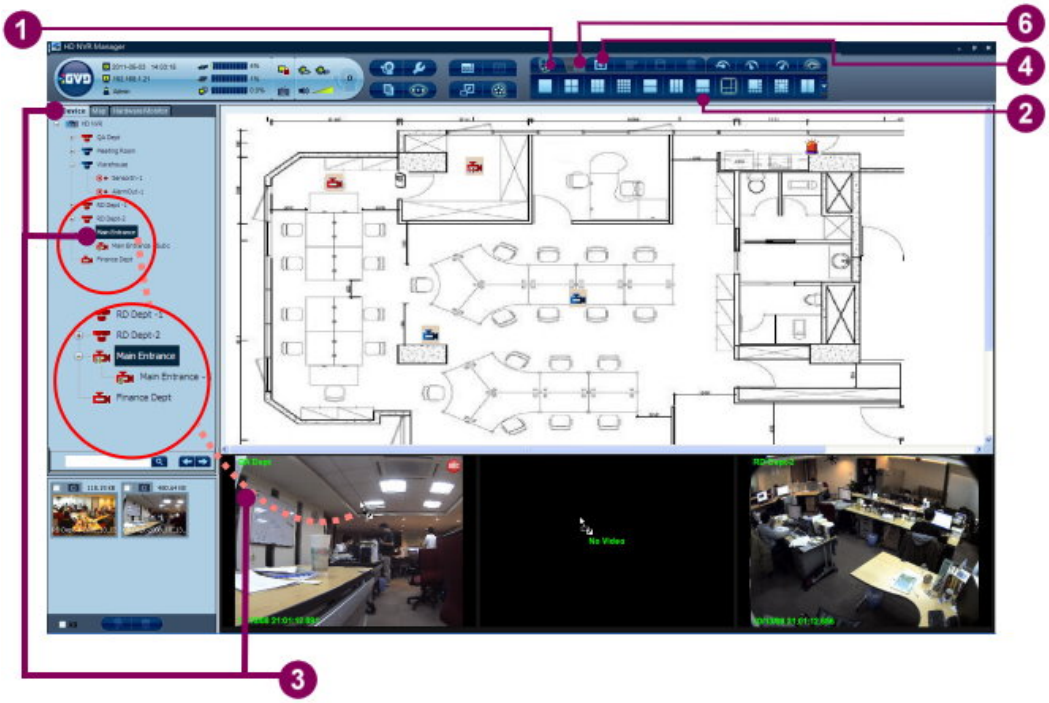


Figure 4-14 Add Pattern to Tour List

1. Click **Layout Selection** tab.
2. Select the preferred layout template from the Layout Selection list.
3. From the tree panel, drag the preferred channel or map icons and drop it on the viewers.
4. Click the **Add Layou**t button.

5. When the **Edit Name** dialog is displayed, type a new pattern name and click **OK**. (Or click **Cancel** to exit.)
6. Click the **Custom Layout** tab, and a new pattern has been displayed in the tour list.

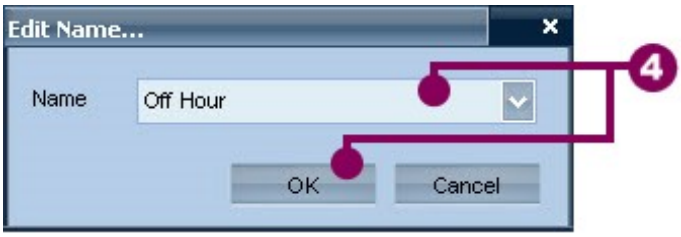
TIP: If the customized patterns in the tour list are more than 12, the user can click the double arrow button at the right hand side, and a vertical pattern list is displayed.

4-4-2-2 Change Pattern Name

To edit the pattern name, see the steps below:

Figure 4-15 Change Pattern Name

1. Click **Custom Layout** tab.
2. Click the preferred pattern.
3. Click the **Edit Name** button.



4. When the **Edit Name** dialog is displayed, input 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 Pattern Change

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

Figure 4-16 Save Pattern Change

1. Click **Custom Layout** tab.
2. Click the preferred pattern in the tour list. Drag the desired channel(s) or map(s) and drop it/them on the pattern if necessary.
3. After the pattern has been changed, click the **Save** button.

4-4-2-4 Delete a Pattern from Tour List

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

Figure 4-17 Delete Pattern from Tour List

1. Click the **Custom Layou**t tab.
2. Click the desired pattern.
3. Click the **Delete** button.
4. The selected pattern has been removed from the tour list.

4-4-2-5 Change Playing Speed of 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.

Turbo Mode ( ): All viewers play in full speed but all viewers, except the active viewer, plays the images in reduced resolution. The active viewer plays in the original resolution.

NOTE: When the CPU usage is over 95% 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 [**P**] to toggle the playing speed of pattern.

4-4-2-6 Change 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 4-18 Change Pattern Order

1. Click the **Custom Layout** tab.
2. Click the selected customized pattern icon.
3. Drag the icon and drop the icon to the preferred position.

4. The tour list displays 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:

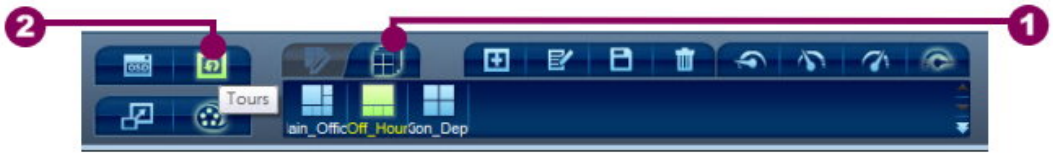


Figure 4-19 Run a Tour

1. Click the **Custom Layout** 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 five indicators. When the user activates the sub channel or the ROI function, the viewer an associated area in a colored rectangle will be displayed in the viewer.

The following figure displays all relative details of the viewer.

Figure 4-20 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:

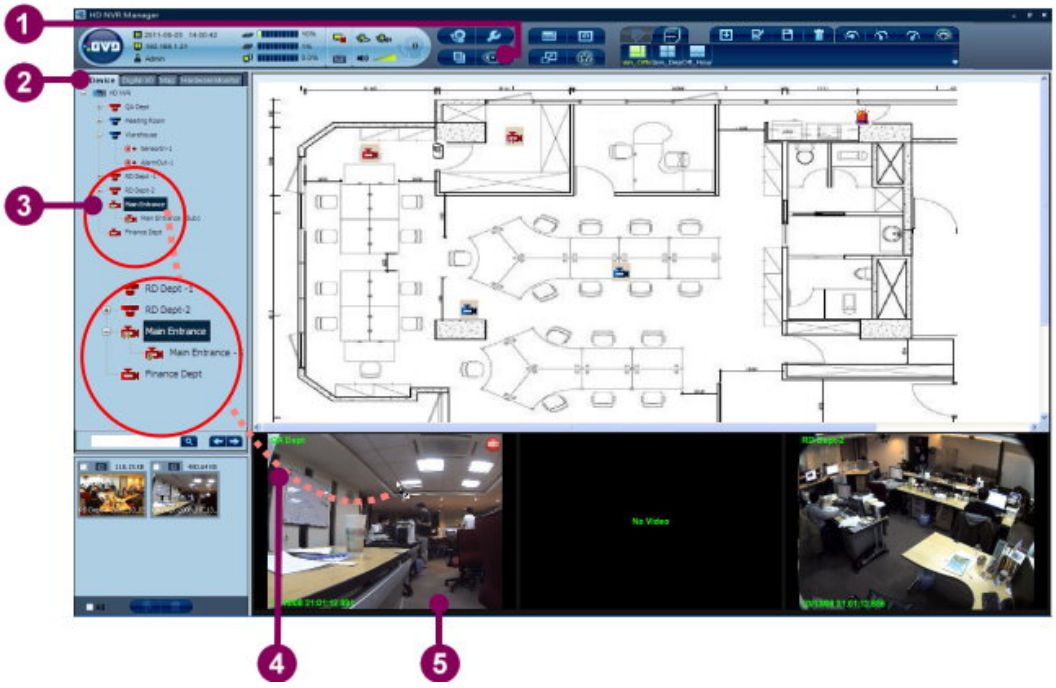


Figure 4-21 Play an Image in the Viewer

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 can drag the active viewer and drop it to other viewer (Viewer 2). The two viewers will swap the position automatically.

TIP: When the video is playing, the user can press [**F9**] to display the video 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 displays 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 displays 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 displays the playing, recording, and alarm status of the playing image.

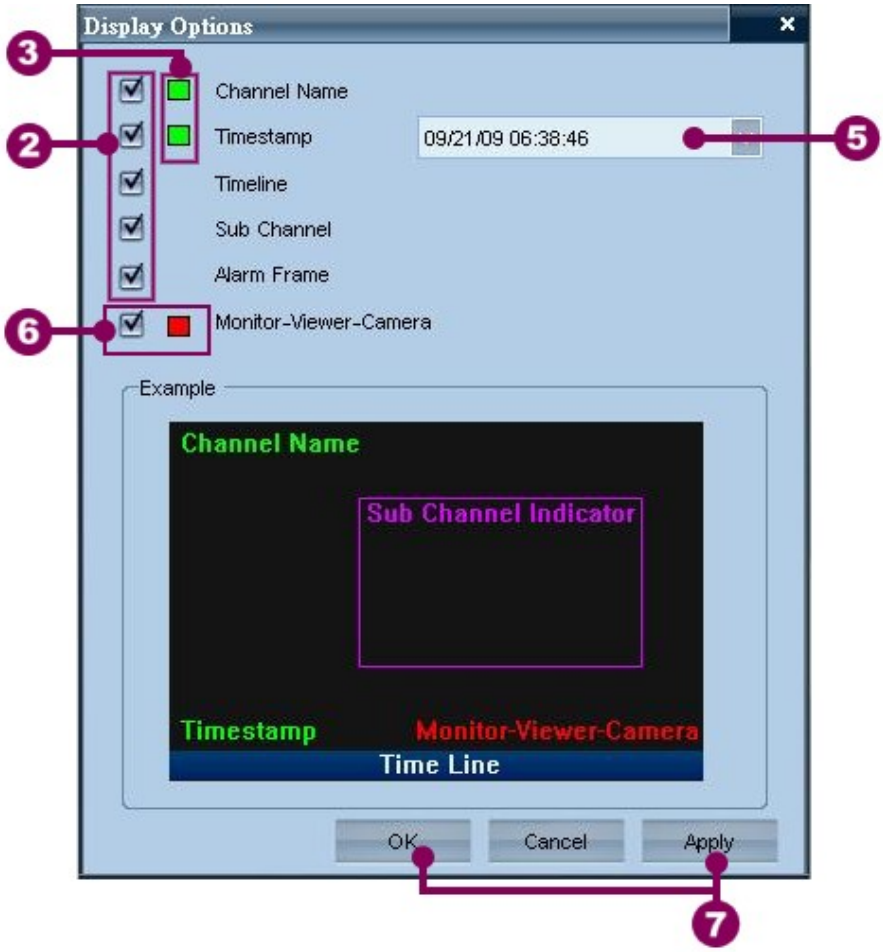
Sub channel: sub channel is displayed only when the function is enabled. In the viewer, a sub channel is a purple rectangle frame. Refer to section 4-5-7 **Play the Image from a Sub Channel** for more information.

Alarm Frame: Alarm frame is a red frame twinkling outside the viewer when the alarm is triggered.

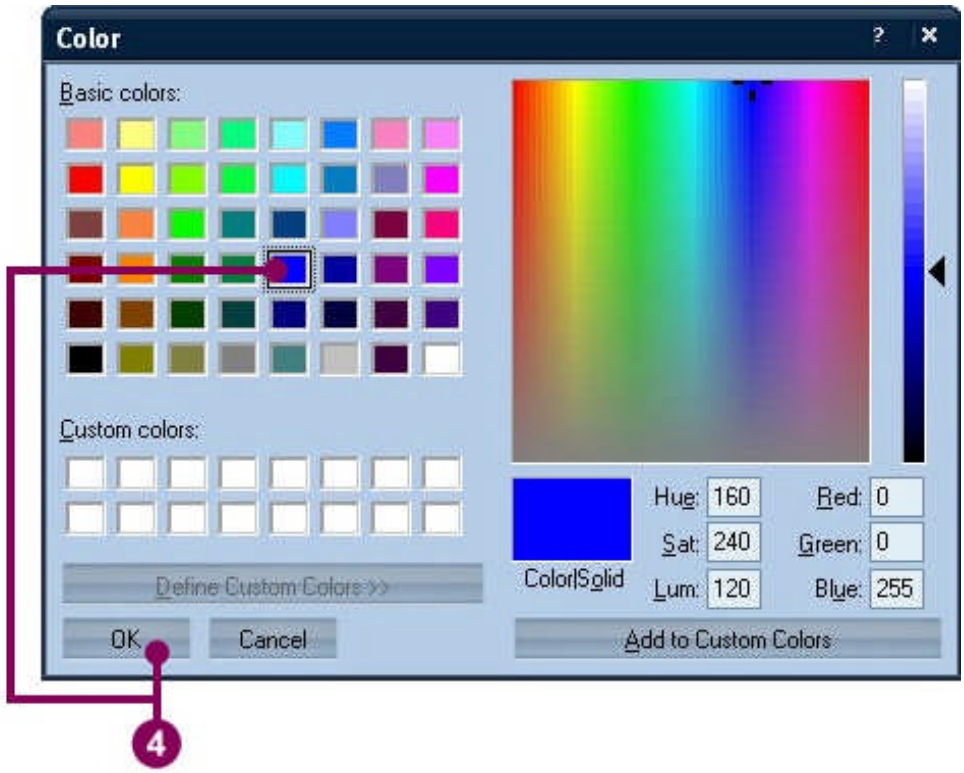
To modify the OSD setting, see the following steps:

Figure 4-22 Change OSD Setting

1. In the display mode, directly click the **OSD setting** button. A display option dialog is displayed.



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



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 displays the new time format of the timestamp.
6. When the K-200 keyboard has been connected, the **Monitor-Viewer-Camera** option is displayed. 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 users to fully stretch the size of the viewer as wide as the 1×1 pattern. When the playing image comes from the mega pixel camera, the function helps user to review more details in the image.

To maximize the viewer, see the following steps:

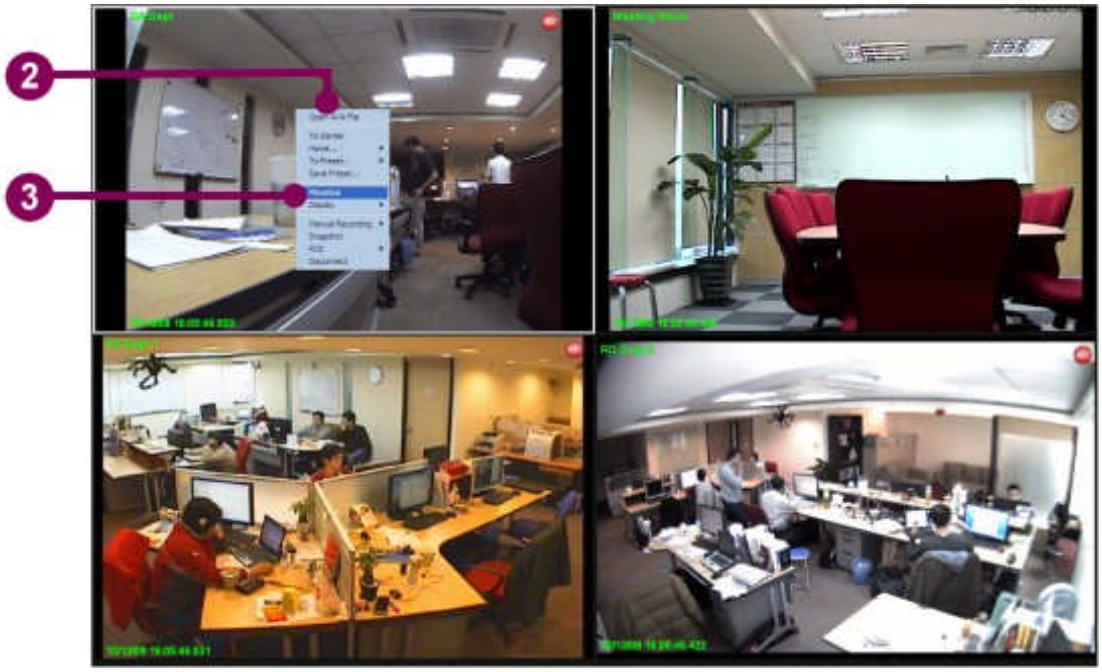


Figure 4-23 Maximize the Viewer

1. If the selected viewer is not active, set the viewer active.
2. Right click the mouse, and a pop-up menu is displayed.
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 original pattern is recalled.

TIP: If necessary, the user can click the **Full Screen** ( ) button to stretch the viewer to the full screen size.

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

4-5-5 Adjust 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:

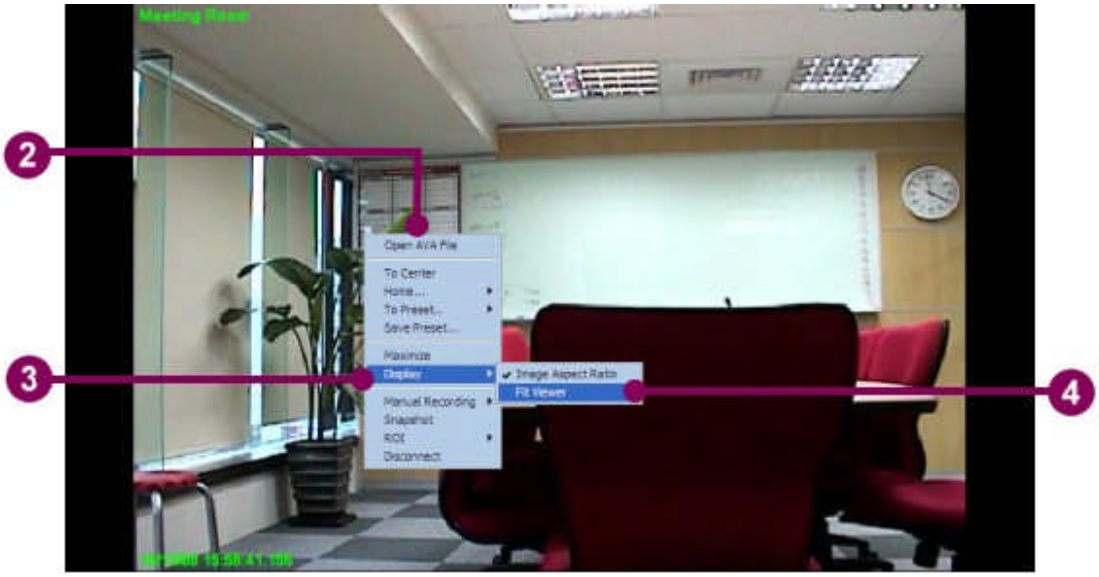


Figure 4-24 Adjust Image Ratio

1. If the selected viewer is not the active viewer, set the viewer active.
2. Right click the mouse, and a pop-up menu is displayed.
3. Move the mouse to the **Display** item, and a sub menu is displayed.
4. The sub menu includes two options: **Image Aspect Ratio** and **Full Viewer**. Click **Image Aspect Ratio**, and the image will be displayed 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 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. Display the channel image from the map.
3. Change the value of the DO point in the map

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

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

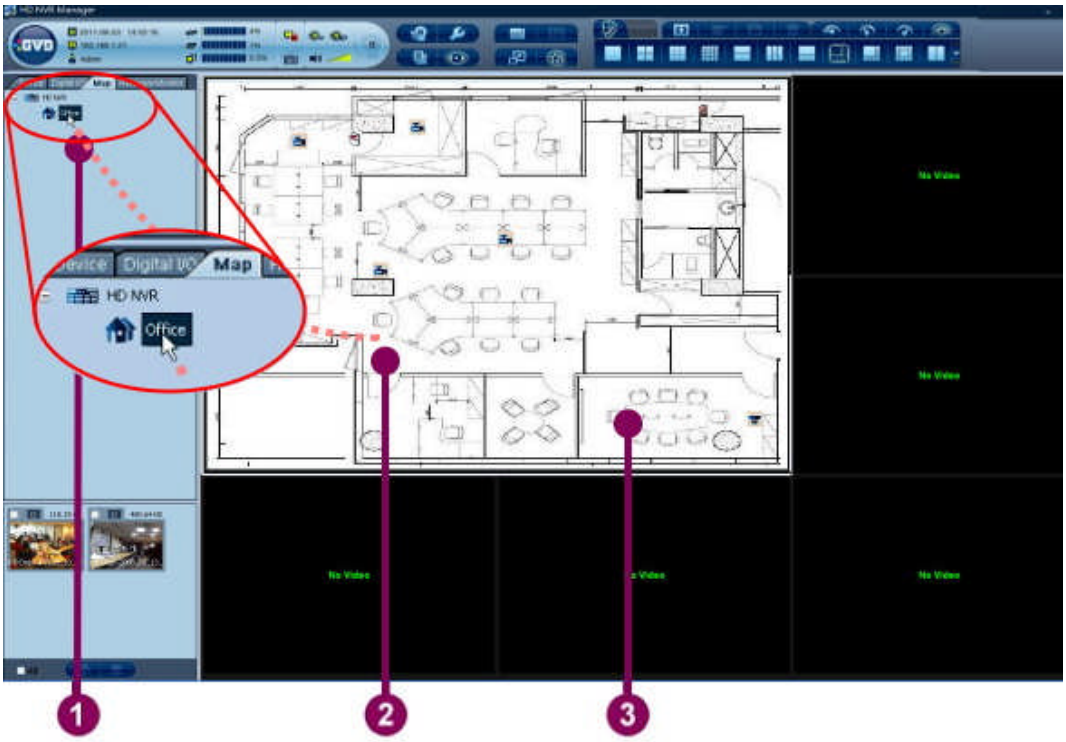


Figure 4-25 Open Map in Viewer

1. In the display mode, click the **Map** tab in the tree panel.
2. In the map tree, drag the preferred map icon and drop it to a viewer.
3. The map is displayed in the viewer.

TIP: A 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 Display Channel Image from Map

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

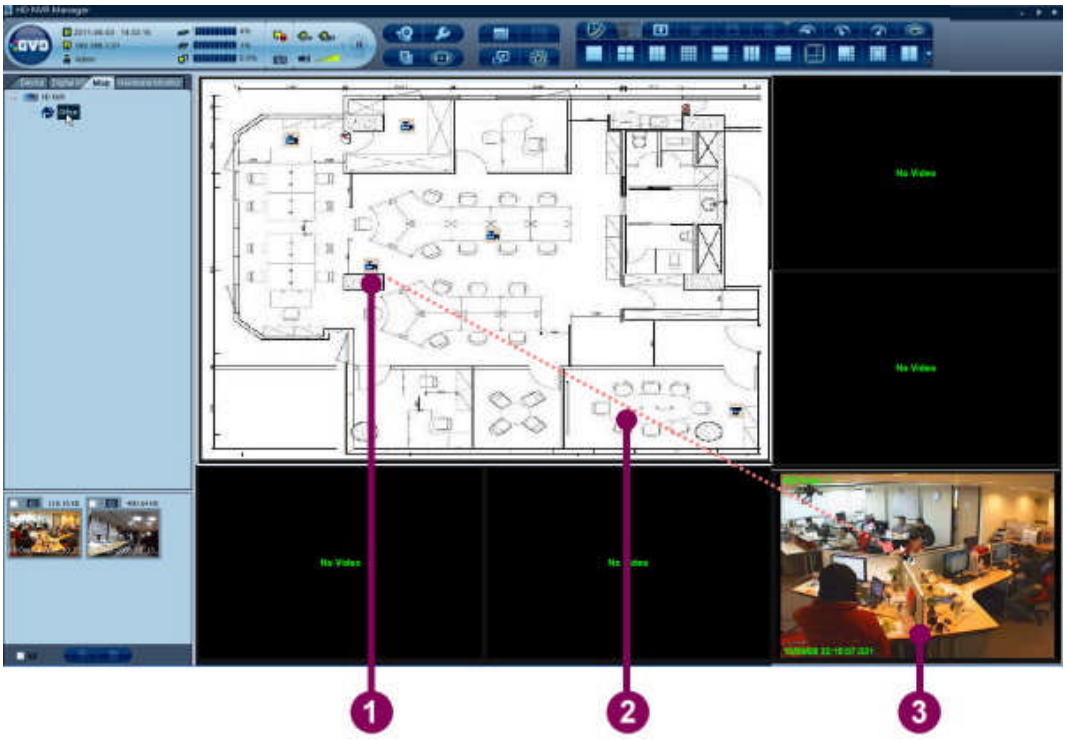


Figure 4-26 Display channel Image from Map

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 Mega Player for viewing.

4-5-6-3 Change Value of DO Point from Map

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

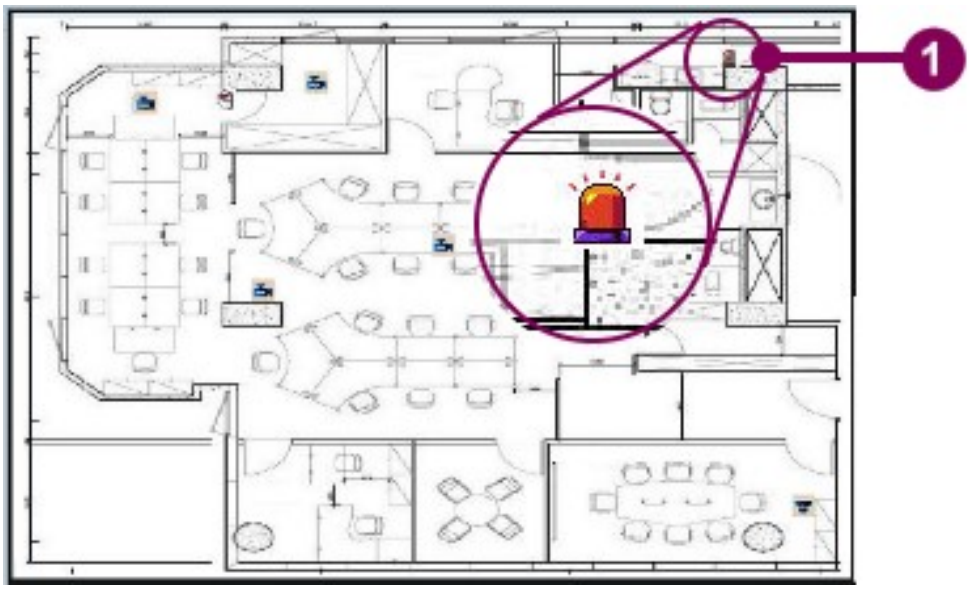
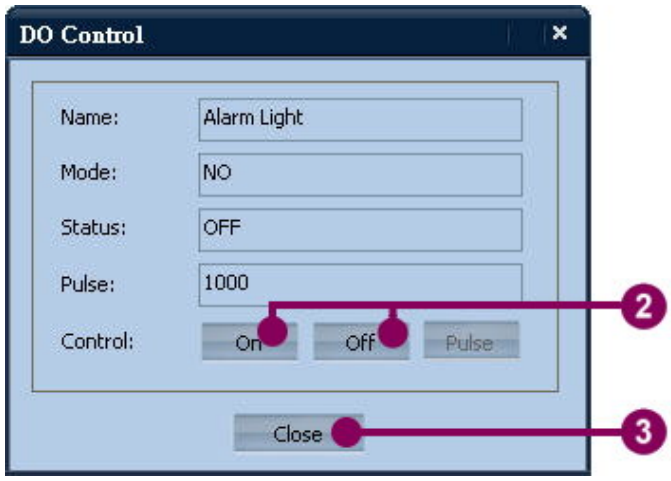


Figure 4-27 Change Value of DO Point from Map

1. Double click the DO icon in the map. A **DO Control** dialog is displayed.



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 Image from Sub Channel

The sub channel is a special function supported by specific cameras, like Arecont 3100 camera. When the sub channel is enabled, 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:

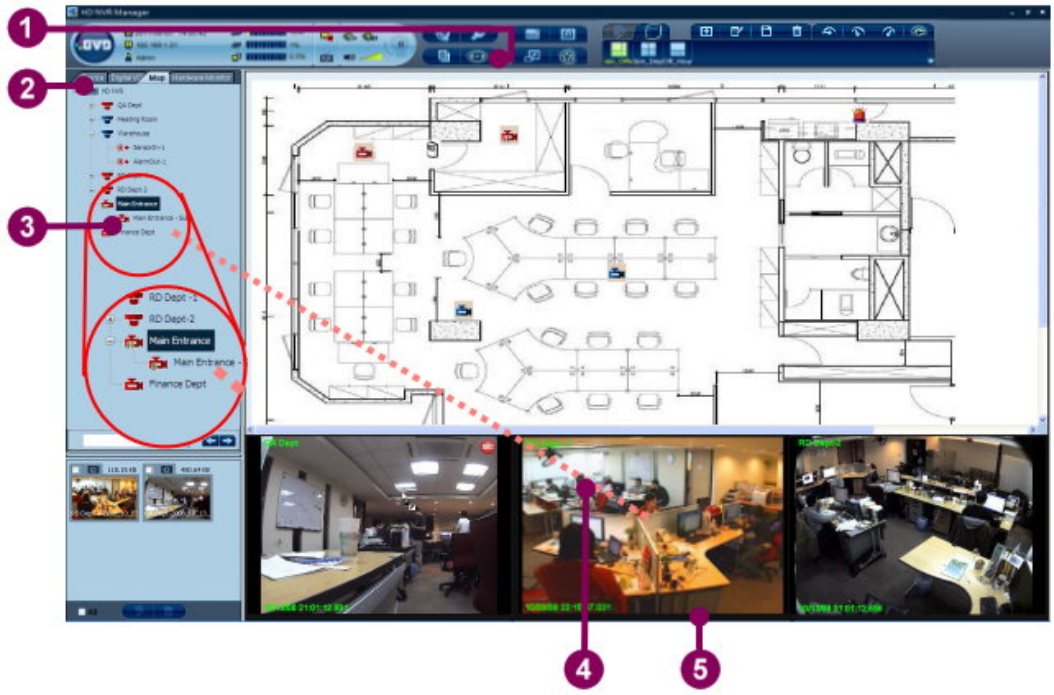


Figure 4-28 Play Image from Sub Channel

1. Click the **Display Mode** button.
2. Click the **Device** tab in the Camera tree panel.
3. Display 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 [**Ctrl**] first. Drag the purple 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 Mega Player for viewing.

4-5-8 Play 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 viewer and run all functions of the PTZ camera.

Pan and Tilt

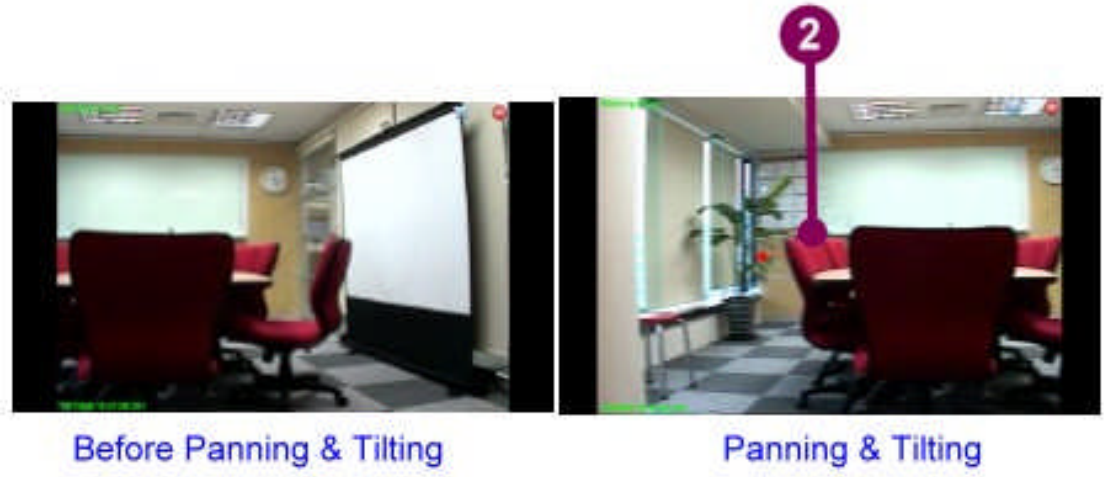
The panning function of the PTZ camera enables the lens of the PTZ camera to move in the horizontal direction, and the maximum movement range can up to 360 degree. The tilting function of the PTZ camera enables the lens of the PTZ camera to move in the vertical direction, and the maximum movement range 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 4-29 Panning and Tilting Function of PTZ Camera

1. Refer to section 4-6 **Time Slider** to display the Time Slider and click the PTZ mode.

> **TIP:** Press [**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 is displayed, 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 displays the moving image as the lens of the PTZ camera moves. When the viewer has displayed 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:

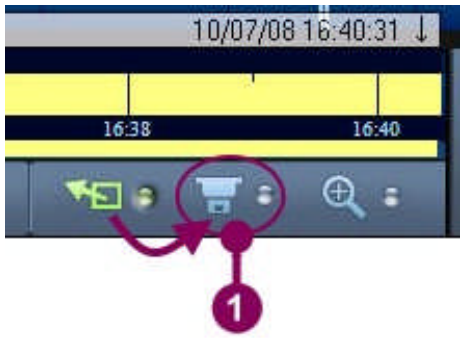


Figure 4-30 Zoom In/Out Function of PTZ Camera

1. Refer to section 4-6 **Time Slider** to display 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.

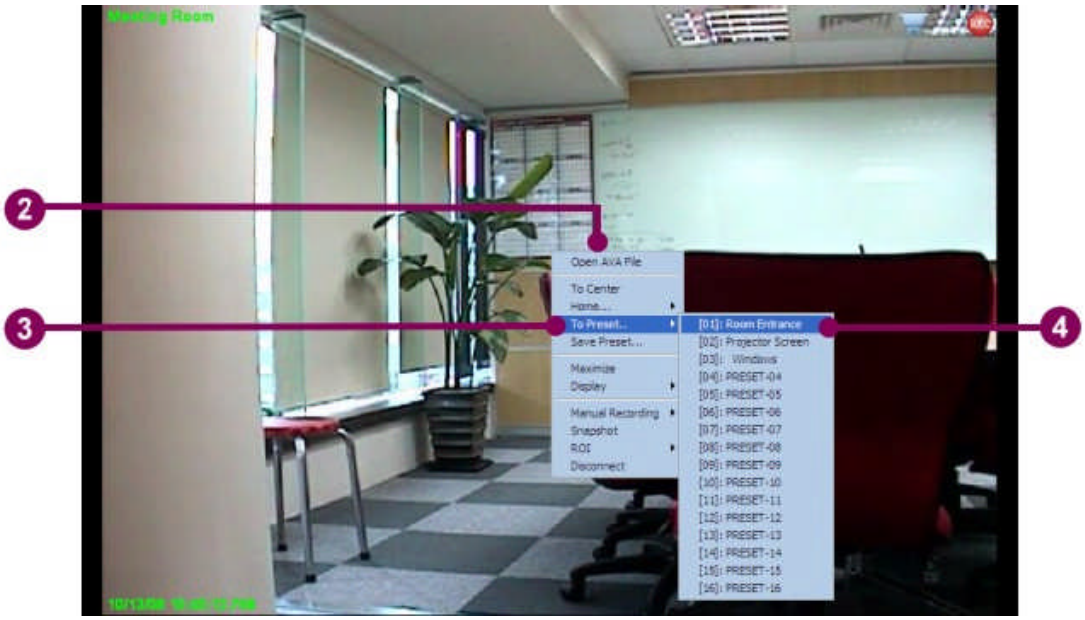
3. Move the mouse to the viewer. Roll down the wheel of the mouse to zoom in the image. (Or roll up the wheel of the mouse to zoom out the image.) Keep rolling down/up until the image has reached the best ratio.
4. To enlarge the image maximally, keep rolling down the wheel of the mouse until the image 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 4-31 Move to Preset

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



2. Right click the mouse in the viewer, and a pop-up menu is displayed.
3. Move the cursor to the **To Preset** item, and a sub menu is displayed.
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 displays the image of the selected preset point.

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

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

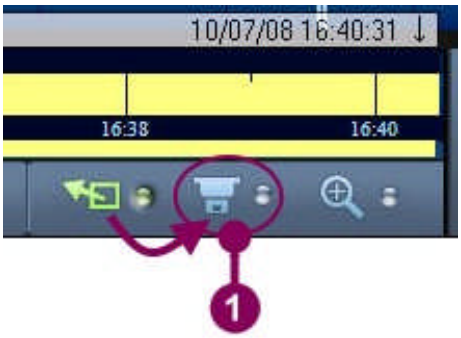
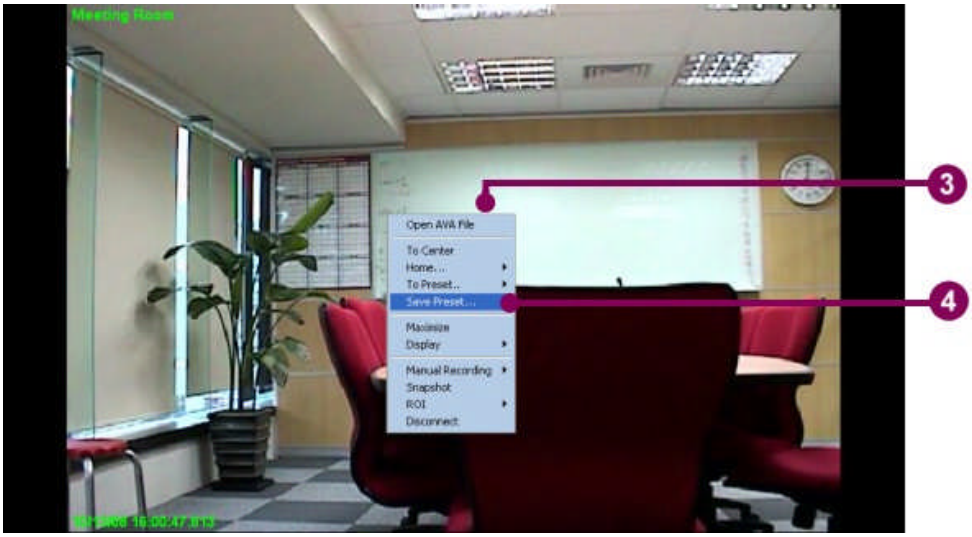
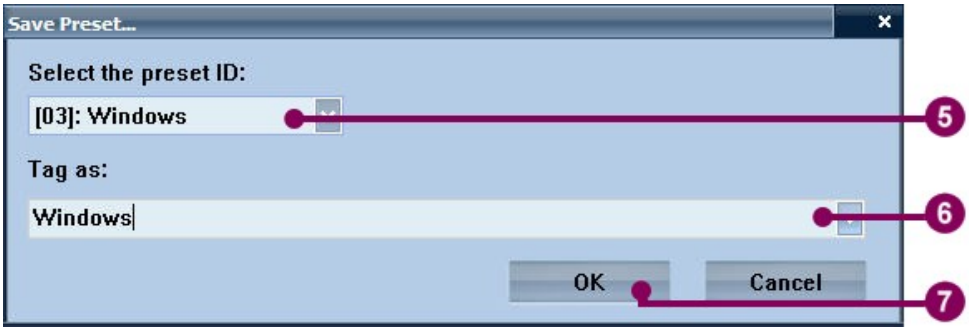


Figure 4-32 Save to Preset

1. Refer to section 4-6 **Time Slider** to display 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 is displayed on the viewer.
3. Right click the mouse, and a pop-up menu is displayed.
4. Click **Save Preset**. A **Save Preset** dialog is displayed.



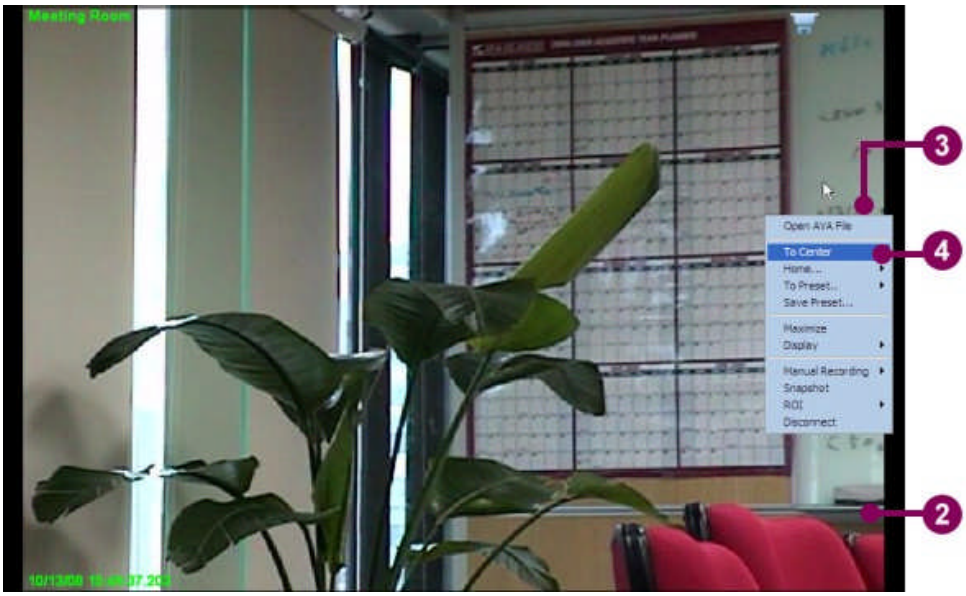
5. Click the combo box of the ID column, and select the Preset ID.
6. Input the text of the preset tag.
7. Click **OK** to close the dialog.

4-5-8-4 Move to Center

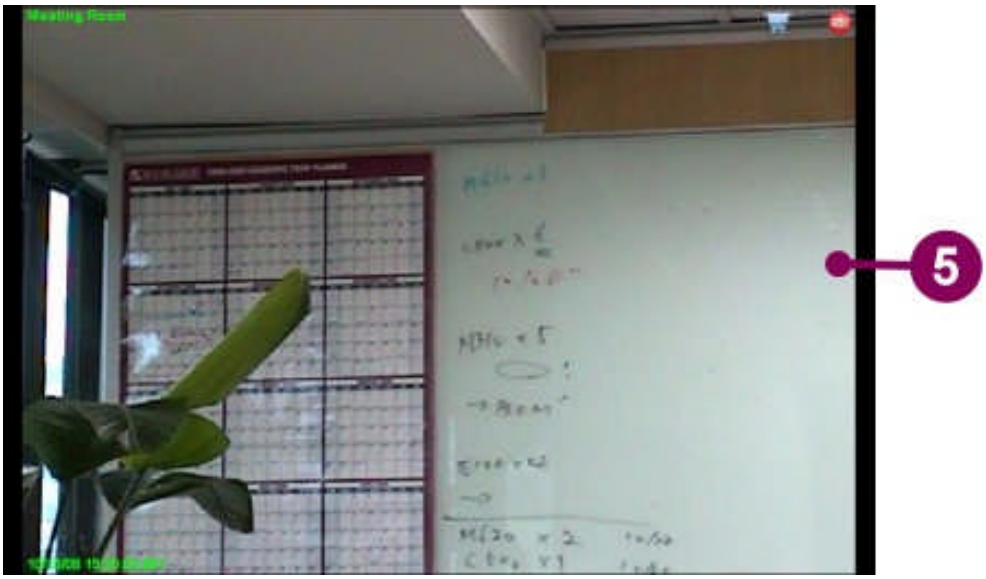
The **Move to Center** function allows the user to tune the movement of the PTZ camera when the specific scene must become the center focus. To run the function, see the following steps:

Figure 4-33 Move to Center

1. Refer to section 4-6 **Time Slider** to display 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 is displayed.
4. Click **To Center**.



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

4-5-8-5 Move to Home

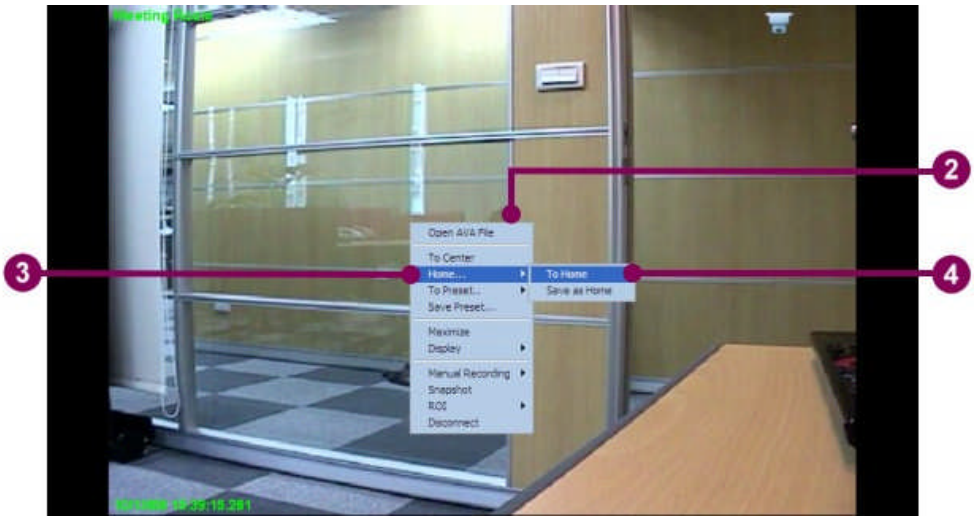
Home point is similar to a preset point. There are two options – **To Home** and **Save as Home**. Please see the following description on how it works.

To Home

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

Figure 4-34 To Home

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



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

Save as Home

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

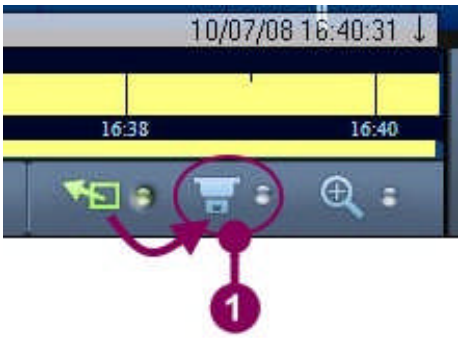
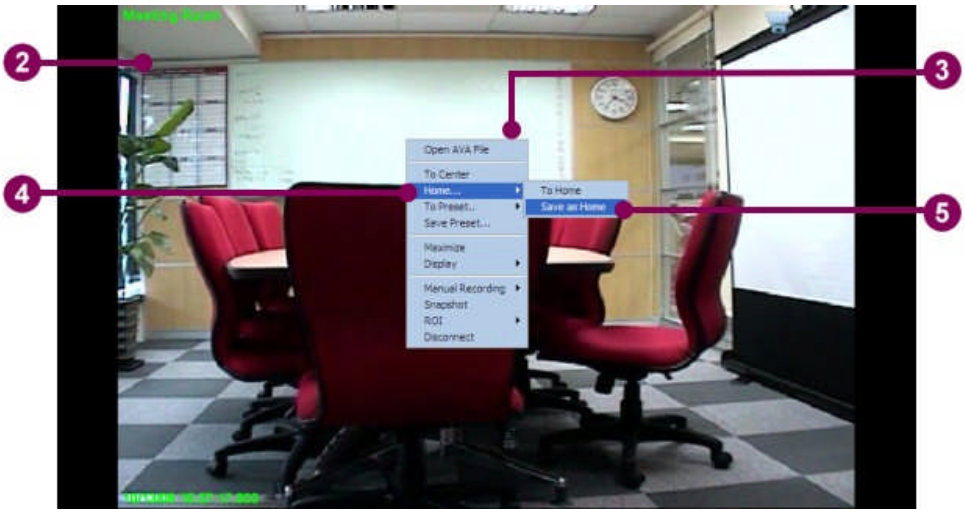


Figure 4-35 Save as Home

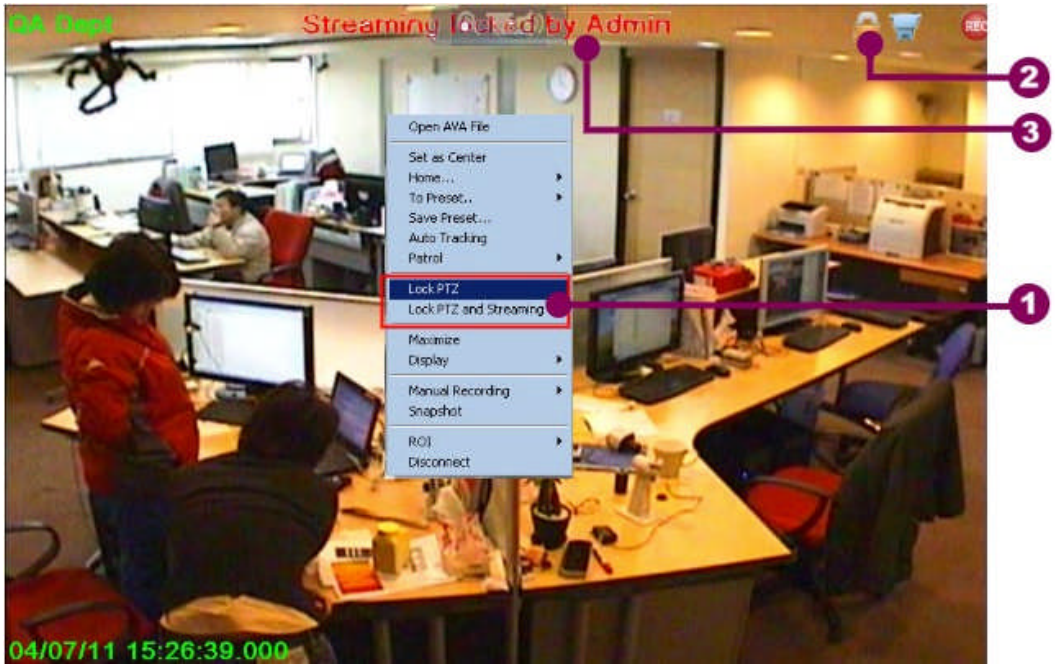
1. Refer to section 4-6 **Time Slider** to display the Time Slider and click the PTZ mode.



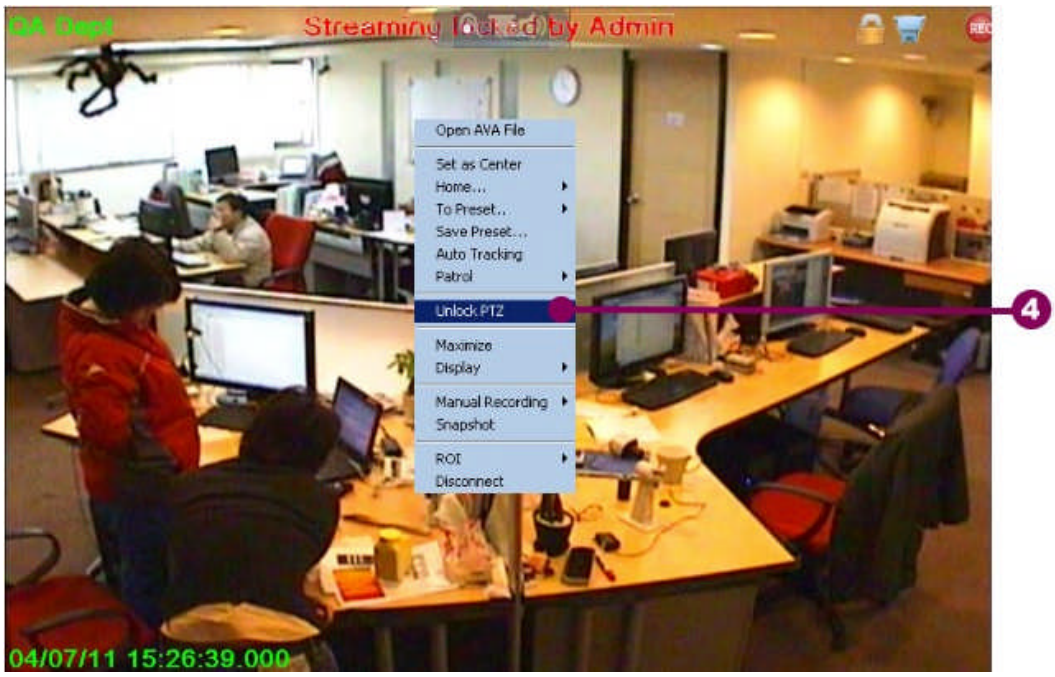
2. Move the lens to the scene of the new Home point.
3. Right click the mouse in the viewer, and a pop-up menu is displayed.
4. Move the cursor to the **Home** item, and a sub menu beside the pop-up menu is displayed.
5. Click **Save as Home**.
6. The new Home point has been set.

4-5-9 PTZ Lock & Streaming Lock

The PTZ lock and PTZ lock and streaming functions allows the user with higher priority to prohibit the user with lower priority from operating the PTZ or view the image from the PTZ camera. When the **PTZ Lock** function is activated, users with lower priority cannot pan, tilt, or zoom in/out the PTZ camera. When the **PTZ Lock & Streaming** function is set, user with lower priority cannot even view the image of PTZ camera. To lock the PTZ operation or PTZ streaming, see the following steps:



1. Right click the mouse in the selected viewer. When the menu is displayed, click **Lock PTZ** or **Lock PTZ and Streaming**.
2. When the **PTZ Lock** function is active, a lock icon is displayed at the top of the viewer. The locked PTZ camera cannot be operated by a user with lower priority.
3. When the **PTZ Lock Streaming** function is active, a lock icon and a warning message, **Streaming locked by XXX**, are displayed on the top of the viewer. The user with lower priority cannot view the image from the PTZ camera at all.

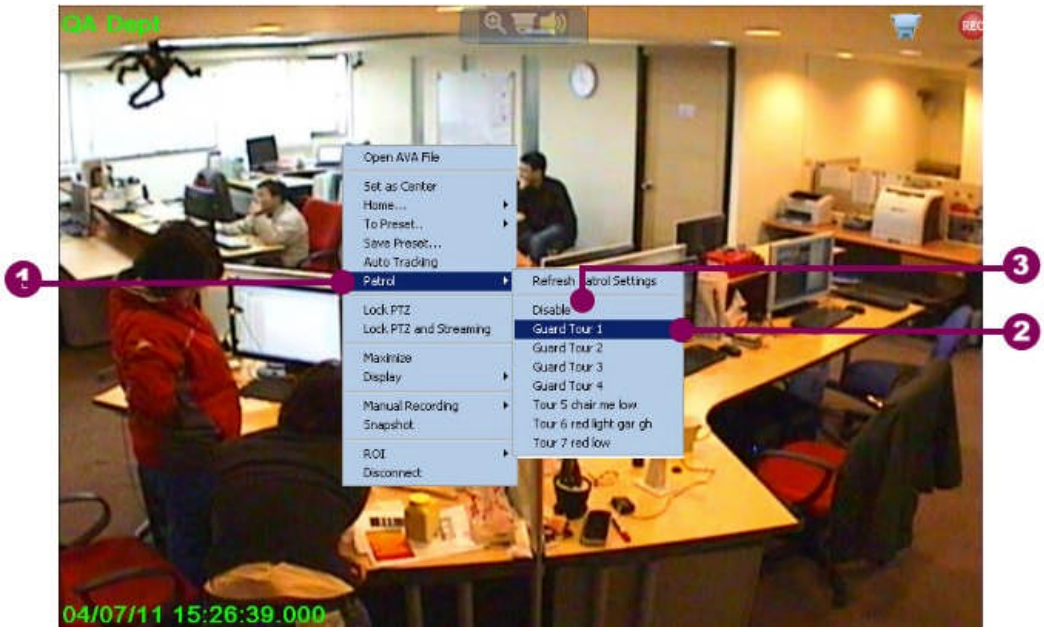


4. The original user or user with higher priority can unlock the **PTZ Lock/PTZ Lock Streaming** function. Right click the mouse in the viewer of the locked PTZ camera. When the pop-up menu is displayed, click **Unlock PTZ**. The lock icon and the warning message will be hidden.

NOTE: See section 6-3-3 for the details about setting the user priority.

4-5-10 PTZ Patrol

The PTZ patrol function is supported only by some PTZ cameras. When the PTZ patrol function starts, the PTZ lens will move between two fixed preset points repeatedly. Before triggering the PTZ patrol function, the administrator needs to make sure that the PTZ patrol function has been properly set. To start the PTZ patrol function, see the following steps:

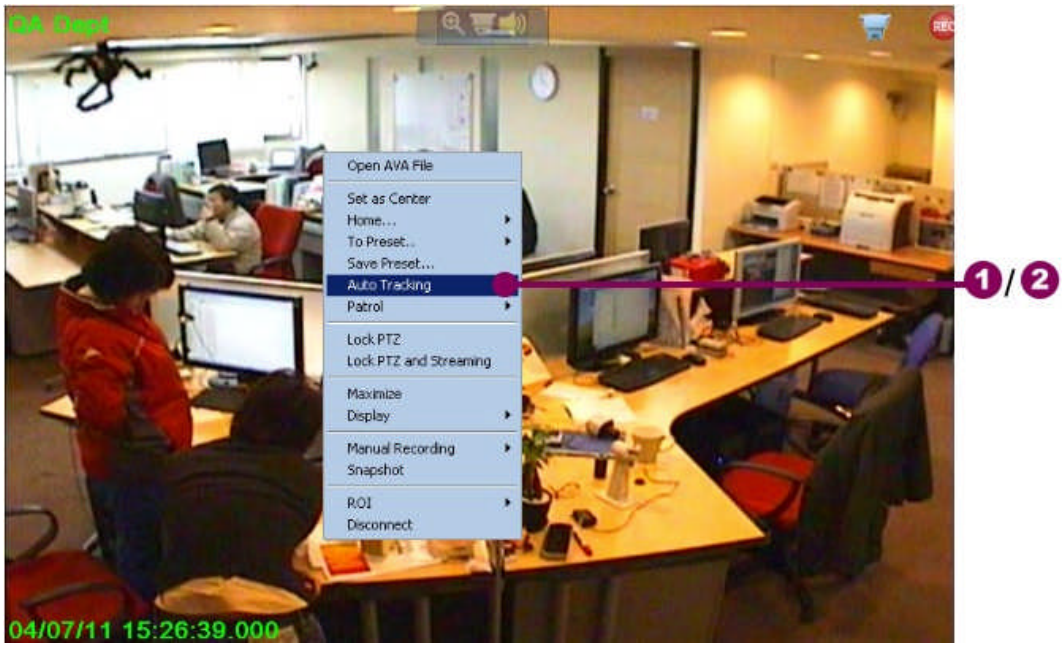


1. Right click the mouse in the selected viewer. When the pop-up window is displayed, click **Patrol** and a subordinate menu is displayed.
2. Move the mouse to the subordinate menu and click the desired patrol item. The PTZ patrol function starts, and the viewer displays the images from the patrolling area.
3. To stop the PTZ patrol function, right click the mouse in the viewer and click **Patrol**. When the subordinate menu is display, mouse the mouse to the subordinate menu and click **Disable**.

NOTE: Click **Refresh Patrol Settings** if the configured patrol items are hidden. Repeat step 1 and 2 and the patrol item list is displayed in the subordinate menu.

4-5-11 PTZ Tracking

As the PTZ patrol function, the PTZ tracking function is supported by specific PTZ cameras, too. The PTZ tracking function will automatically trace the moving object in the monitoring area. Before the PTZ tracking function starts, the system administrator needs to make sure that the PTZ tracking configuration is well set. To start the PTZ tracking function, see the following steps:



1. Right click the mouse in the selected viewer. When the pop-up window is displayed, click **Auto Tracking** and the item is checked. When the **PTZ tracking** function is triggered, the viewer will display the tracking image of moving object in the destination area
2. To cancel the PTZ tracking function, the user can right click the mouse in the selected viewer. When the pop-up window is displayed, uncheck **Auto Tracking**. The **PTZ tracking** function is disabled.

4-5-12 Play 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 is displayed 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 operation mode of ROI is called the ePTZ mode. The ROI function is generally used in a non-mechanic camera, and the function simulates the PTZ function in the viewer.

4-5-12-1 **Create ROI**

To create a ROI, see the following steps:

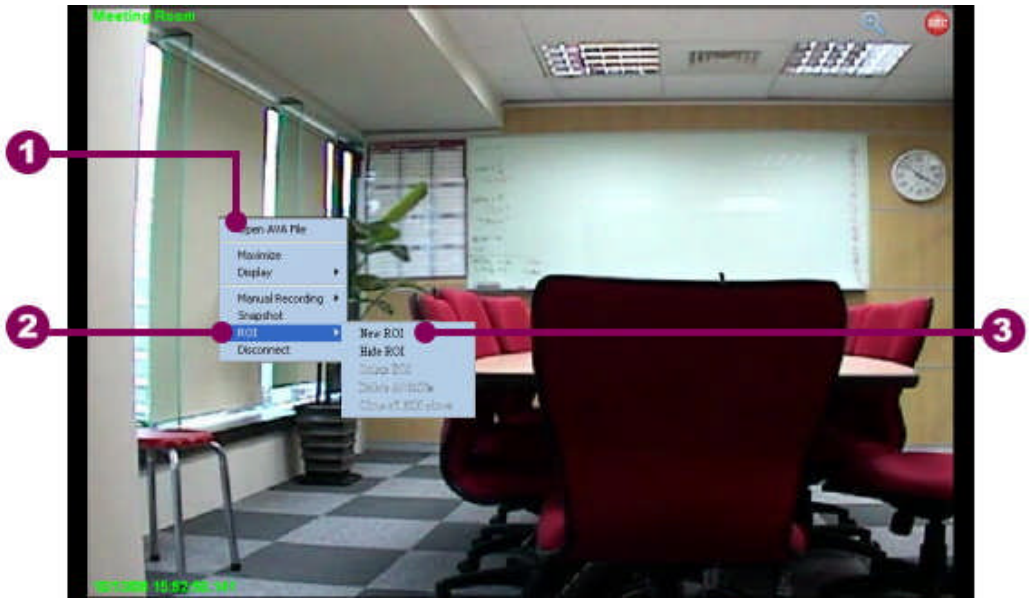
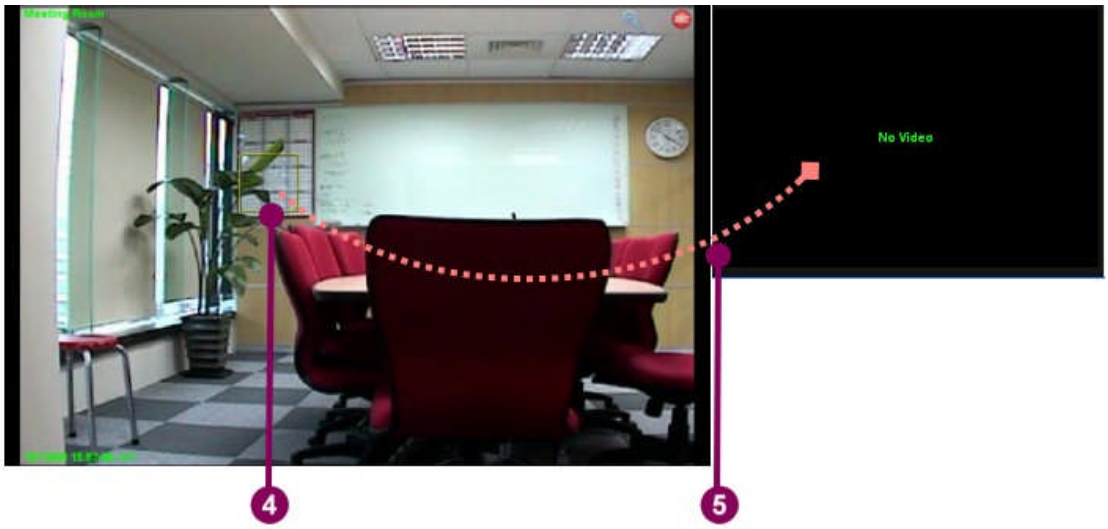


Figure 4-36 Create ROI

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



4. A yellow rectangle frame is displayed on the viewer. Move the mouse to the bottom-right corner of the frame and hold the left key. Drag the corner to resize the frame to desire size. Move the frame to cover the desire 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 by the aspect ratio of viewer.

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

NOTE: When yellow frame in the original viewer moves, the image of ROI changes as well.

4-5-12-2 **Hide ROI**

To hide a ROI, see the following steps:

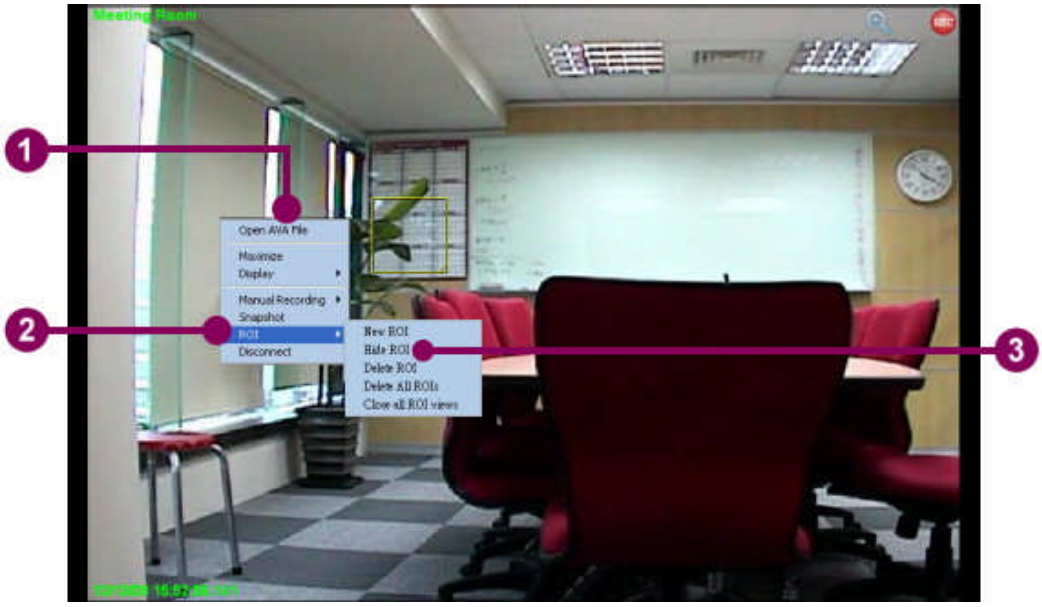


Figure 4-37 Hide ROI

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

4. The ROI is hidden.

4-5-12-3 **Delete ROI**

To delete a ROI, see the following steps:

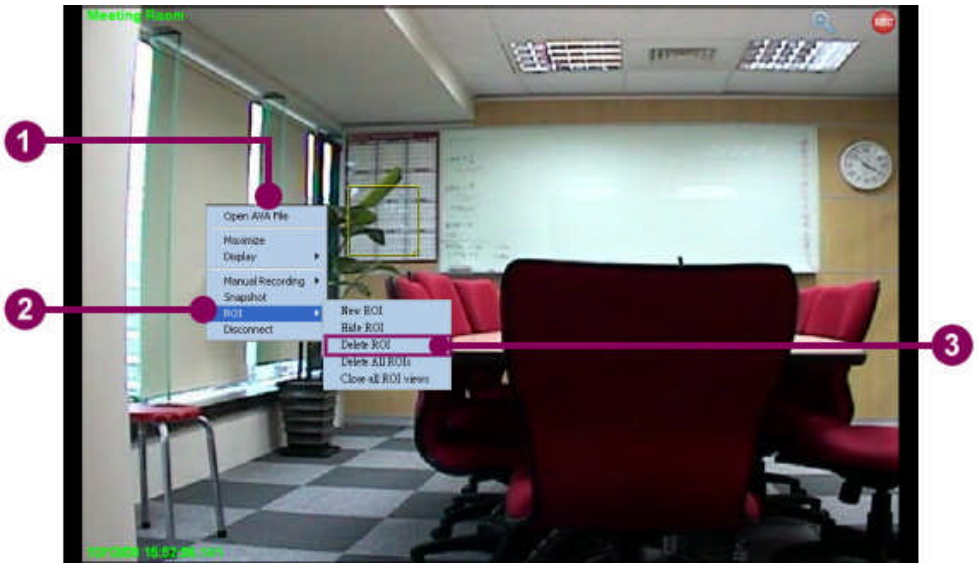


Figure 4-38 Delete ROI

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

4. The ROI has been removed from the viewer.

TIP: Press [**Del**] in the original viewer, and the selected ROI will be deleted directly.

4-5-12-4 **Advanced ROI functions**

The model 8XXX of Arecont camera is a camera with four lenses and can display four images simultaneously in the same viewer. Three specific ROI functions are designed for the camera, and they are **Expand panoramic views, Delete All ROIs,** and **Close all ROI views.** By combining the ePTZ functions, the **Expand panoramic views** function help the users to zoom in the images and view more details. See the following steps for the advanced functions.

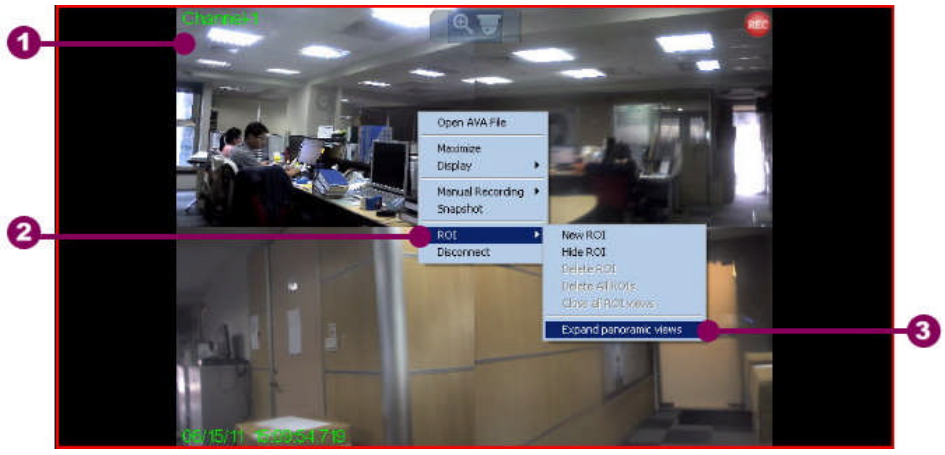
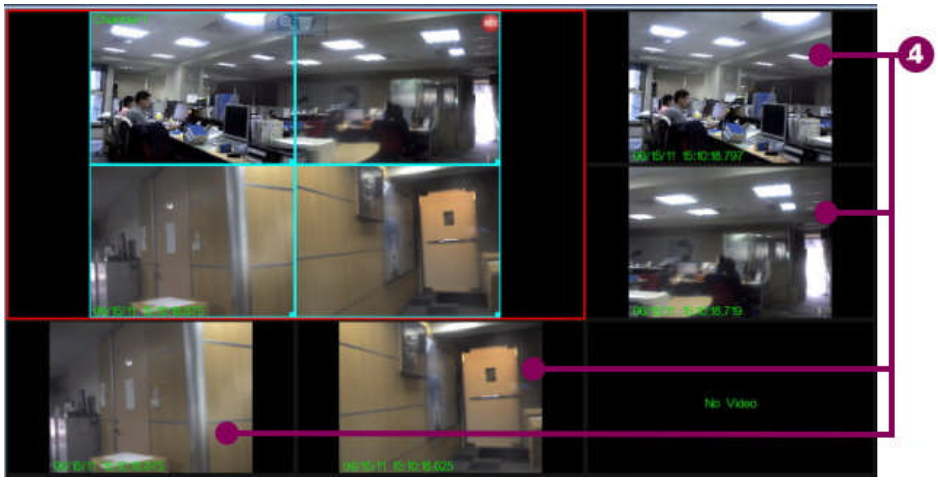
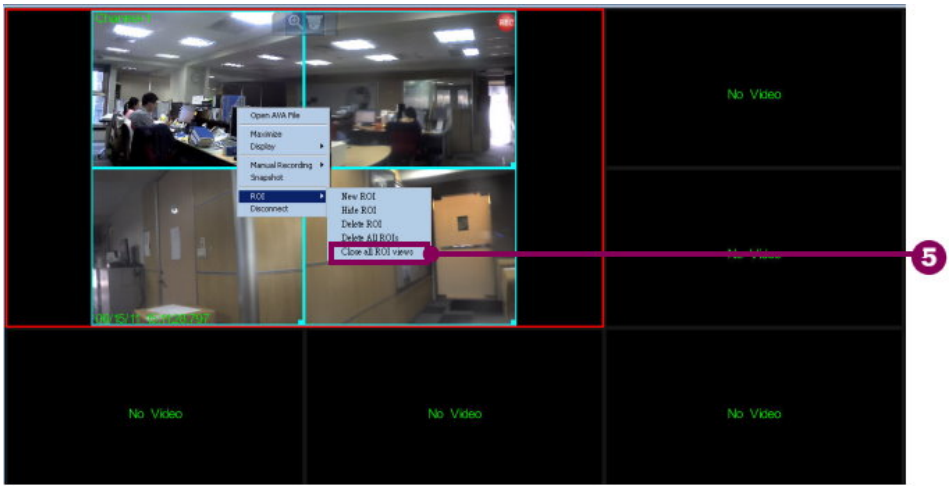


Figure 4-39 Advanced ROI functions

1. Set the viewer of the 8XXX model camera active if the viewer has not been selected.
2. Right click the mouse in the selected viewer, and a pop-up menu is displayed. Click **ROI** and a sub menu is displayed.
3. Click **Expand panoramic views** in the sub menu.



4. A ROI grid with four yellow frames fully covering the images is added in the active viewer, and four ROI viewers are displayed sequentially.



5. The **Close all ROI views** function allows the user to close all relative ROI viewers at the same time but keep the ROI frames in the original viewers. Repeat step 2-3 and click **Close all ROI views** in the sub menu to run the functions.

6. The **Delete All ROIs** function will close all relative ROI viewers and delete the ROI frames in the original viewers. Repeat step 2-3 and click **Delete All ROIs** in the sub menu to delete all ROI viewers and frames.

4-5-13 Digital Zoom Mode

The Digital Zoom mode allows the users to zoom in or out the image of the camera in the viewer. When the image is zoomed in, some part of the image can be magnified for more details. The button of the digital zoom mode is located on the right side of the time slider.

To run in the Digital Zoom mode, see the following steps:

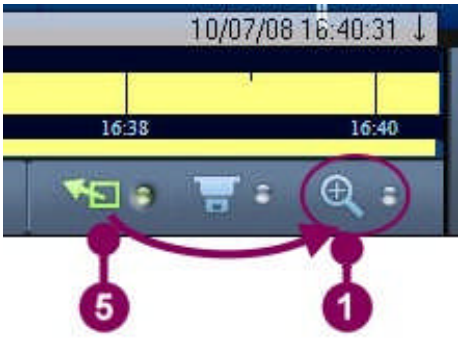


Figure 4-40 Run Digital Zoom Mode

1. Refer to section 4-6 **Time Slider** to display 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 displays the corresponding image until the border of the image is displayed.
5. To close the digital zoom mode, click the normal mode in the Time Slider.

TIP: Press [**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 4-5-12 **Play ROI**.)

4-5-14 Snapshot 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 for user's need.

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

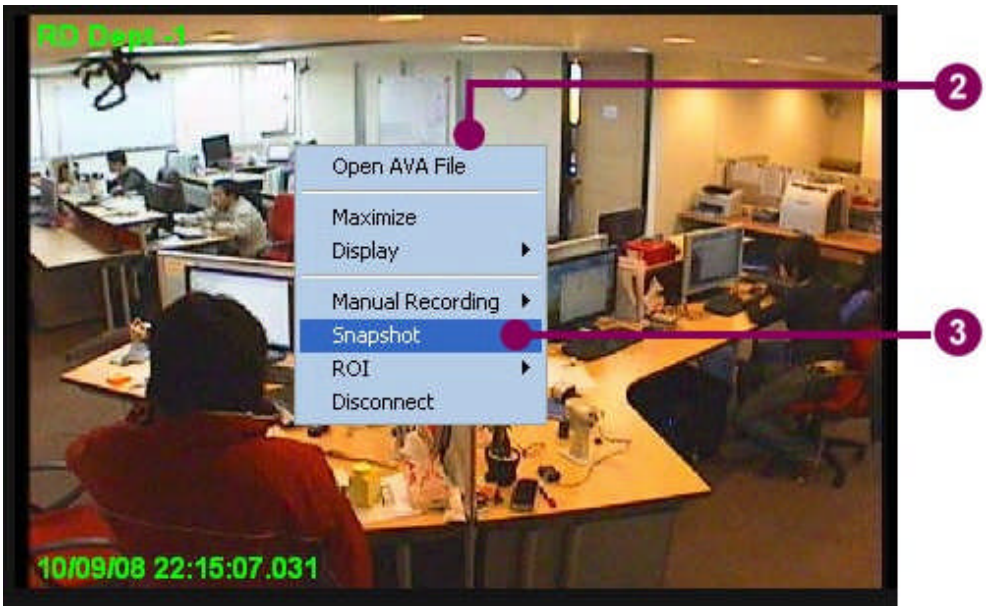


Figure 4-41 Snapshot an Image

1. If the selected viewer is not the active viewer, set the viewer active.
2. Right click the mouse, and a pop-up menu is displayed.
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 [**E**]. In addition, the user may click the snapshot button in the time slider.

4-5-15 Manual Recording

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

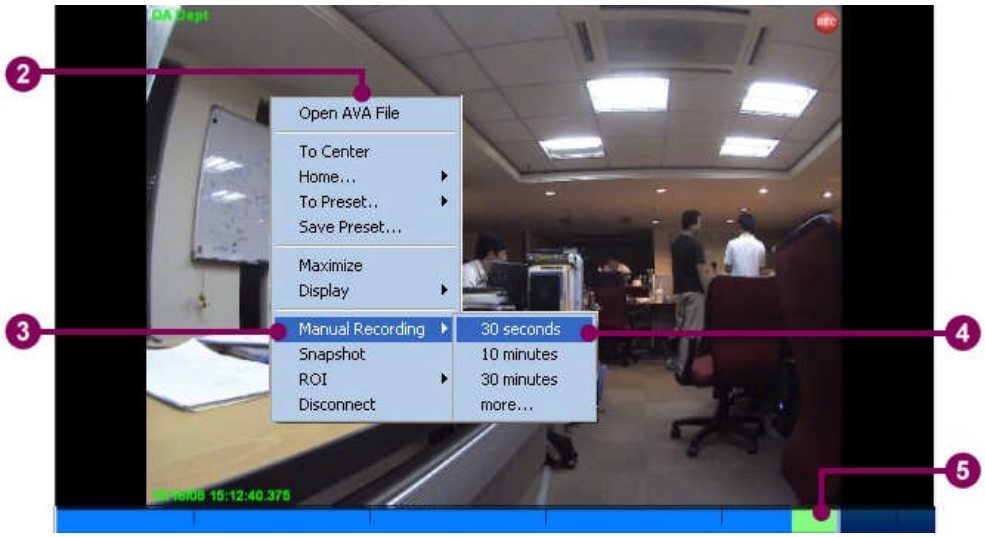


Figure 4-42 Manual Recording

1. If the selected viewer is not the active viewer, set the viewer active.
2. Right click the mouse, and a pop-up menu is displayed.
3. Move the mouse to **Manual Recording** in the pop-up menu, and a sub menu beside the menu is displayed.
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 [**F10**] or [**R**] to instantly run the manual recording function. When the manual recording dialog is displayed, input the duration and click **Start**.

5. If the time line of the viewer or the time slider is displayed, the manual recording bar will be displayed 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**.

4-5-16 Open 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:

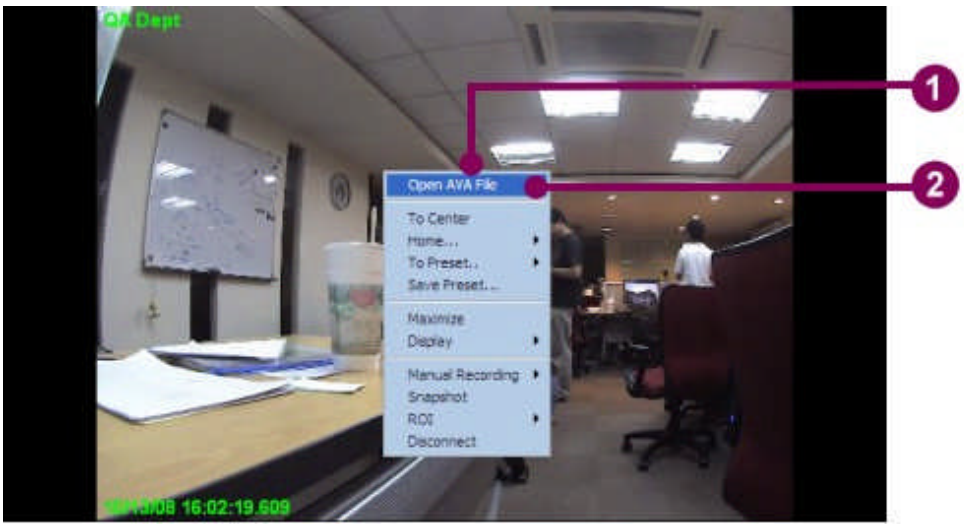
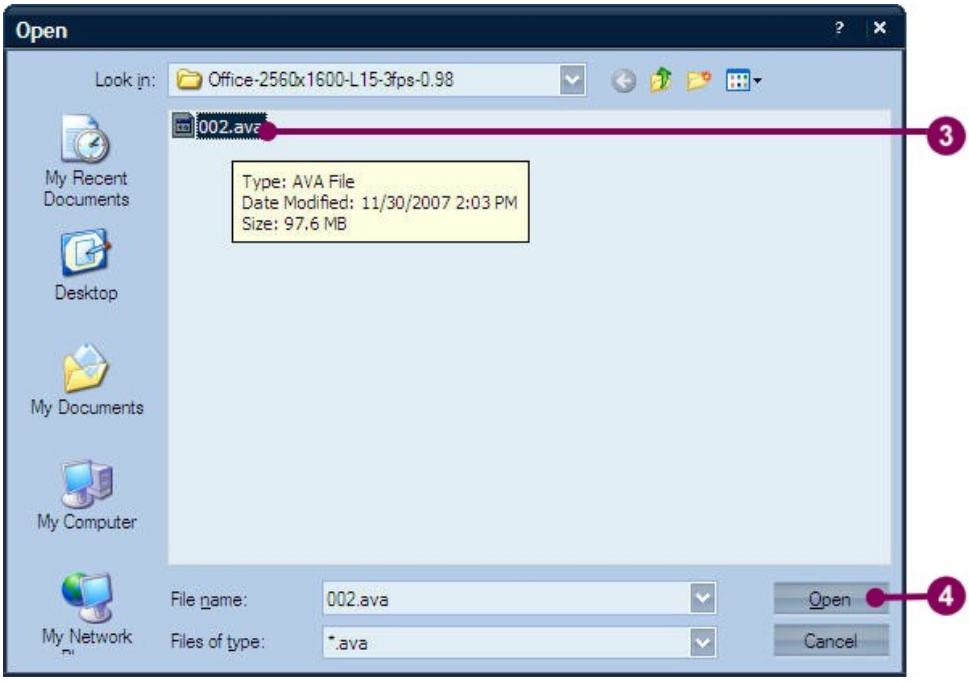


Figure 4-43 Open an .AVA File

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



3. A file open dialog is displayed. Browse the hard disks and find the selected file. Let the selected file name be displayed in the File name column.
4. Click **Open**.
5. The viewer plays the selected .AVA file directly.

4-5-17 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.

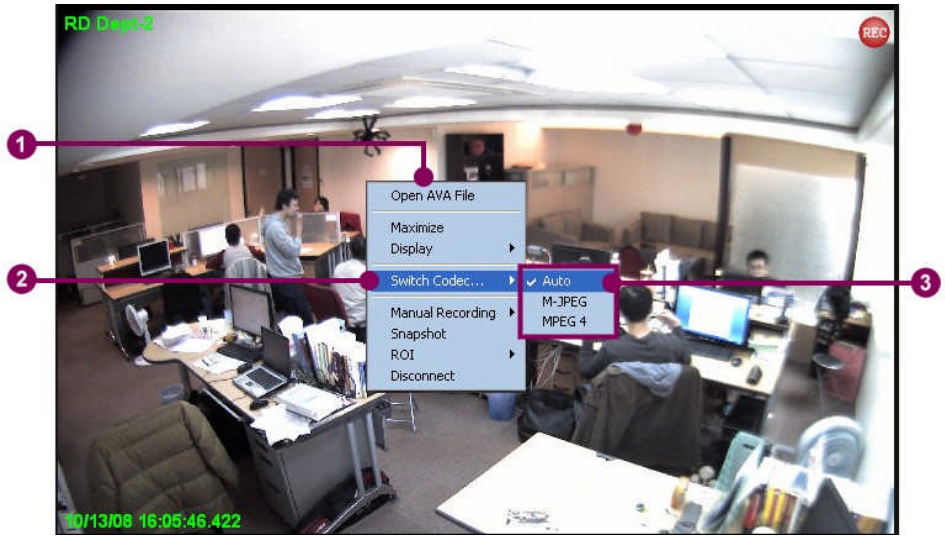


Figure 4-44 Switch Codec on Playing

1. Right click the viewer connected by the dual codec camera, and a pop-up menu is displayed.
2. Move the cursor to **Switch Codec**, and a sub menu is displayed.
3. Depending on the supporting feature of the camera, there are three to four 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 [**F9**] to display the information of the channel image and check the values of codec and Bitrate.

4-5-18 Disconnect Image

To disconnect the image, see the following steps:

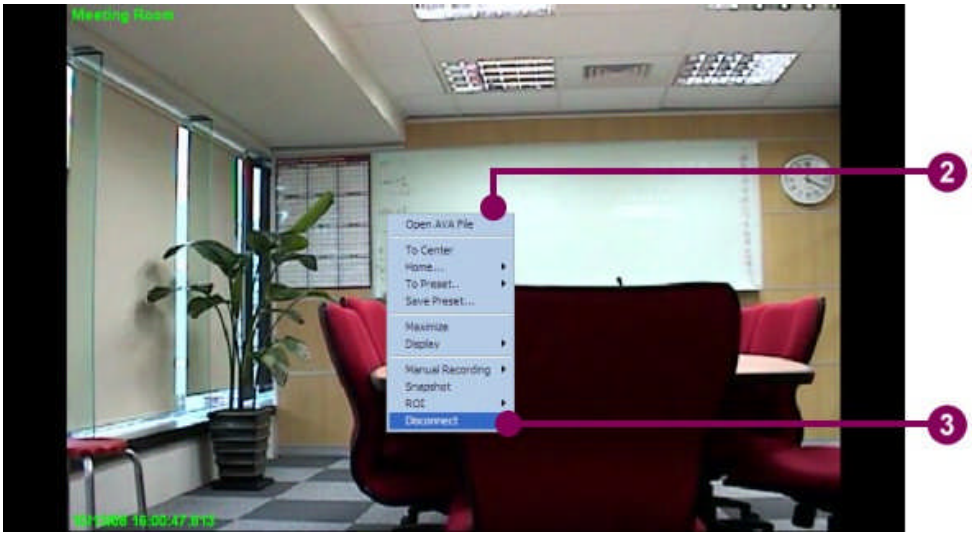


Figure 4-45 Disconnect Image

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

4-5-19 Enable/Disable the Camera Audio

A camera with the microphone can support the camera audio function. Not only the viewer of the camera plays the live image or historical image, but also the viewer plays the instant or recording sound. To enable the camera audio, see the following steps:

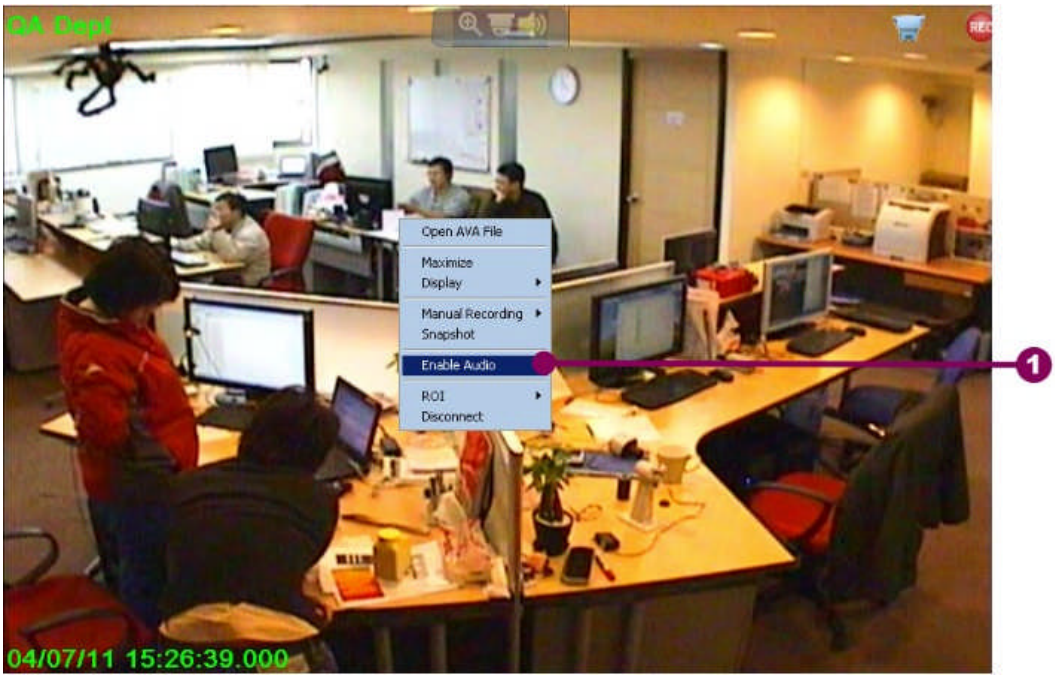
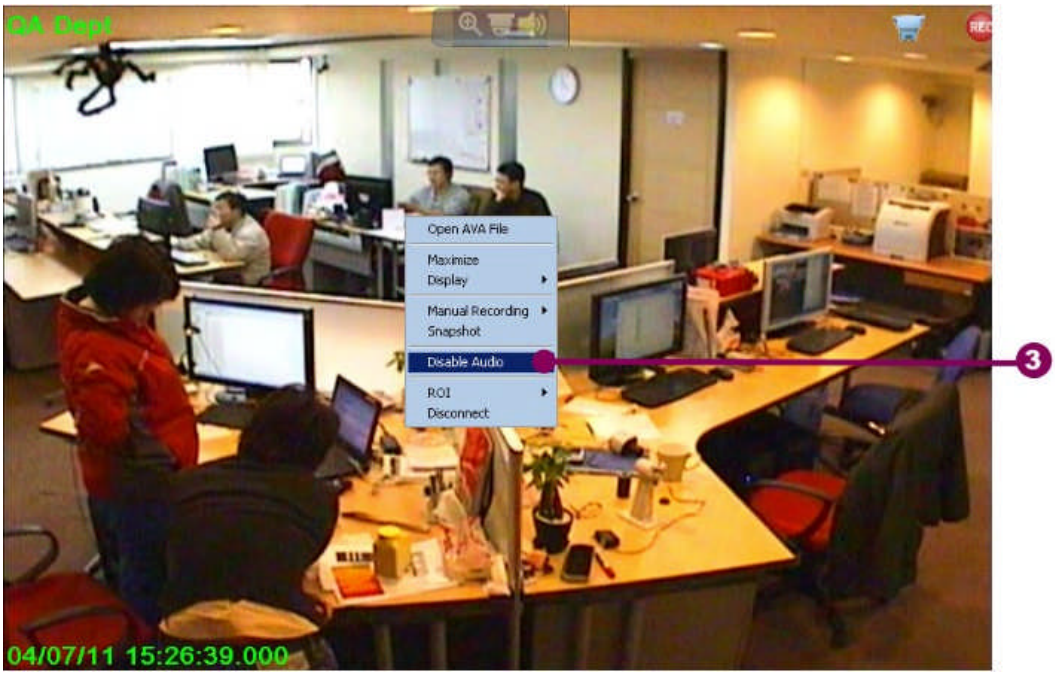


Figure 4-46 Enable/disable the camera audio

1. Right click the mouse in the selected viewer. When the pop-up menu is displayed, click **Enable Audio**. The viewer plays the instant voice from the camera.

TIP: Click the speaker icon on the top of the viewer, the sound can be played or muted instantly**.**

2. To increase the volume, the user can drag the volume indicator to the right. Move the volume indicator to the left to lower the volume.



3. To mute the sound of the camera, right click the mouse in the selected viewer. When the pop-up menu is displayed, click **Disable Audio**. The viewer has muted the sound.

4-6 Time Slider

4-6-1 Time Slider Introduction

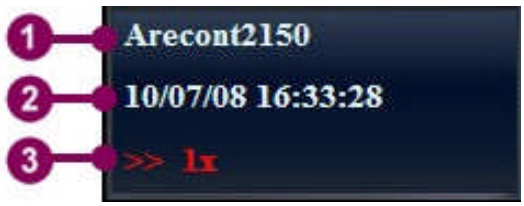
The Time Slider is a control panel to manipulate video playing in the viewer. The Time Slider displays the playing information and the playing position in the time axis when the video is playing. In addition, the Time Slider offers the playback function, and the user may play the historical video forward 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 display 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 4-47 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 displayed 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 value 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

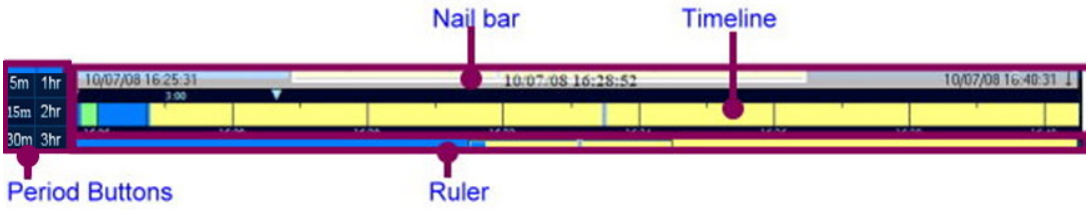
   || : pause the video

   ROI : indicate that the video is a ROI.

TIP: When the viewer has the focus, the user can press [**Space**] to display 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:



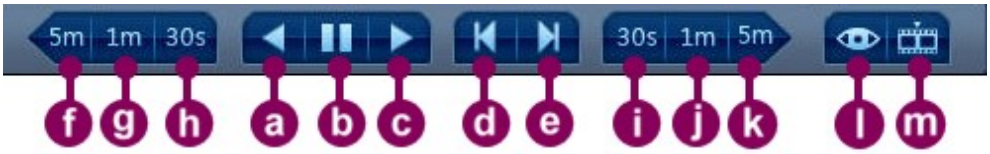
Period Buttons: for quickly changing the total time length of the timeline. There are 6 buttons, including 5m (5 minutes), 15m (15 minutes), 30m (30 minutes), 1hr (1 hour), 2hr (2 hour), and 3hr (3 hour).
Nail Bar & Timeline: The nail bar is at the top of the Time Slider. The nail bar displays the time 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 displays the position of the playing index also.

TIP: Right click the nail bar, and a pop-up menu is displayed. Click **To cursor**, 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 display the pop-up menu. Uncheck **Show Ruler** or **Show Nail Bar**, the ruler or the nail bar will be hidden. Check the two options to display 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:

[**S**] : Reverse the video
[**W**]: Play the video
[**A**]: Move to previous frame
[**D**]: Move to next frame
[**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.

Sync Playback ( ) – synchronize the playback time of several viewers in the playback mode.

Loop ( ) – repeatedly play the video clip between the pins

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

4-6-2 Search Video

To find the playing index of the historical video, there 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 4-48 Search Video by Period Buttons

1. Click the **3hr** button four times.
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

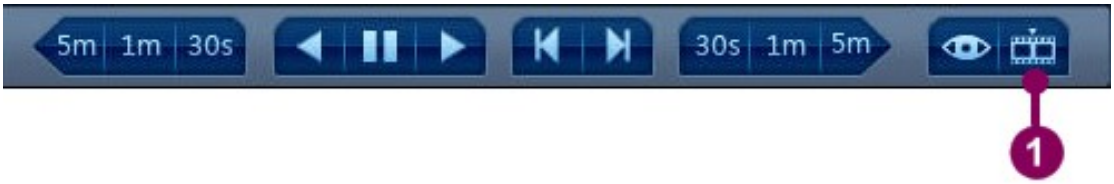
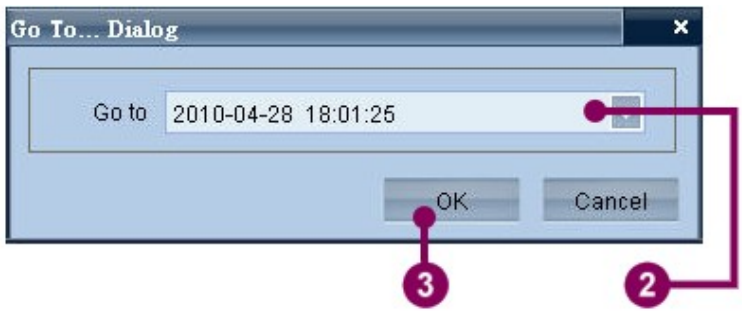


Figure 4-49 Search Video by **Go to** Button

1. Click the **Go to** button.



2. A **Go to** dialog is displayed. 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 position at the timeline.

By the Ruler

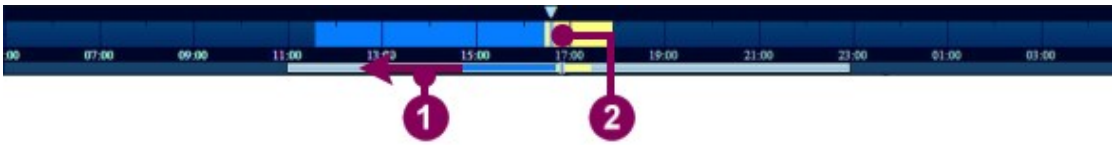


Figure 4-50 Search Video by Ruler

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

By the jump button

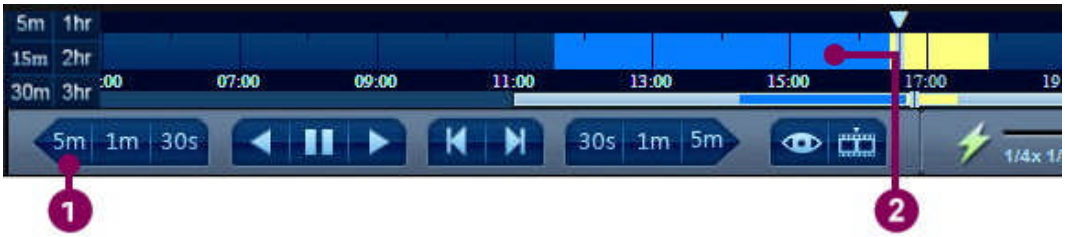


Figure 4-51 Search Video by Jump Button

1. Keep clicking the jump button **5m** at the left hand side until the target coordinate is displayed.
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 displayed on the timeline.

4-6-3 Play Historical Video

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

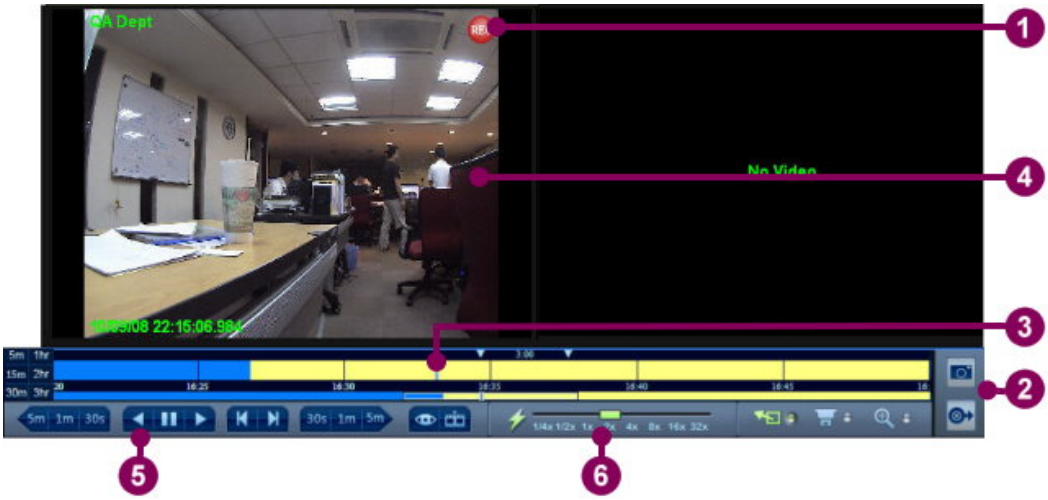


Figure 4-52 Play Historical Video

1. Click the Viewer which sourcing channel is recording or has recorded.
2. If the time slider is hidden, display 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 displays 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 is displayed. Click **To Cursor** to move the timeline to the position of the playing index.

7. The image plays in the new speed.

4-6-4 Export to Spooler

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

Figure 4-53 Export to Spooler

1. Refer to the last section and play a historical video. Use the push-pin to set the exported video clip.
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 file exporting.

4-6-5 Synchronized Playback

The **Synchronized Playback** function allows user to synchronize the time of several playing images. When several cameras are installed in a common location, synchronize the images from all cameras in the location provide the user with different view point of the monitoring location at a certain time point.

To run the **Synchronized Playback** function, see the following steps:

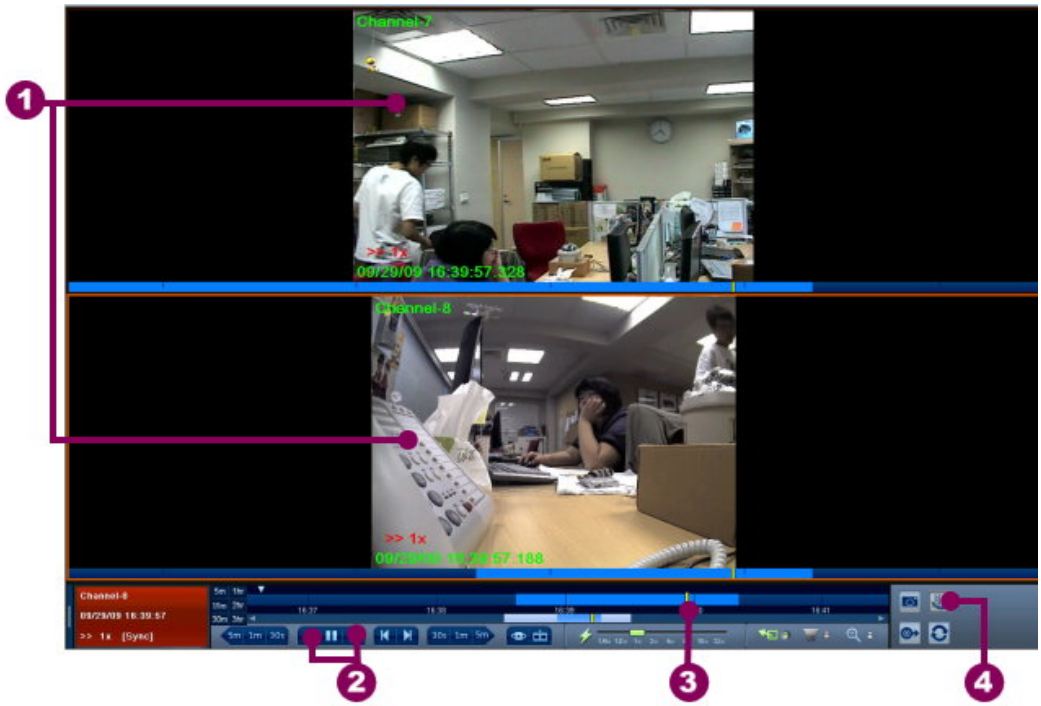


Figure 4-54 Synchronized Playback

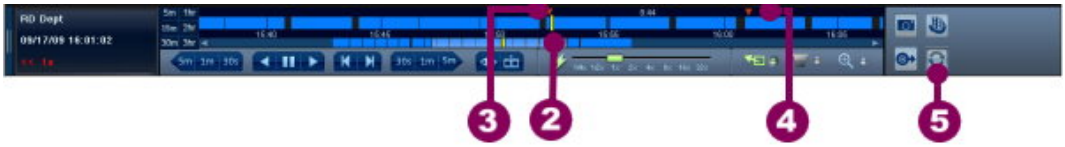
1. Drag the specific channels from the device tree and drop on viewers.
2. Set all selected viewers to play the recording images.
3. Select any viewer and move the playing index to the desired time on the time slider.
4. Click **Synchronized Playback** button to synchronize all the images' playing time.

4-6-6 Video Looping

The **Loop** function allows user to play a video clip repeatedly within an interval. To run the **Loop** function, see the following steps:

Figure 4-55 Video Looping

1. Play the target channel in a viewer.



2. Move the index on the time slider until the starting time of the interval is displayed.
3. Move one pin to the stating time of the interval.
4. Move the other pin to the ending time of the interval.
5. Click **Loop** button to start video looping.

4-6-7 Change Display Color on Timeline

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

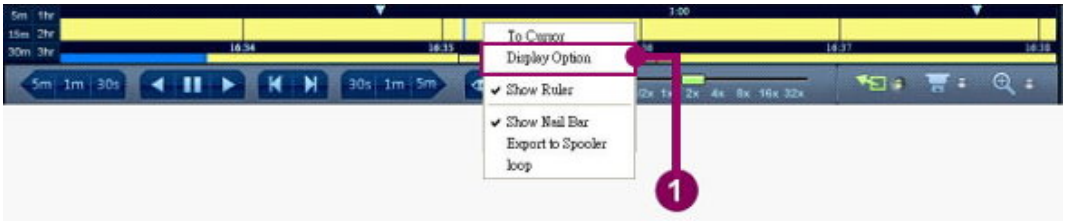
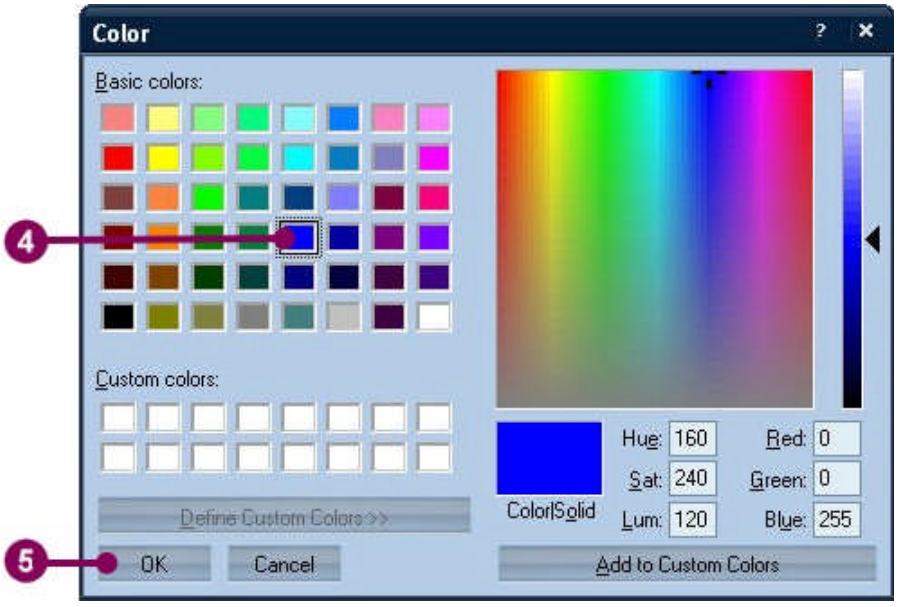


Figure 4-56 Change Display Color on Timeline

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 display 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 is displayed.



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 symbol has been changed.

4-6-8 Run Mega Player

Brief of Mega Player

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

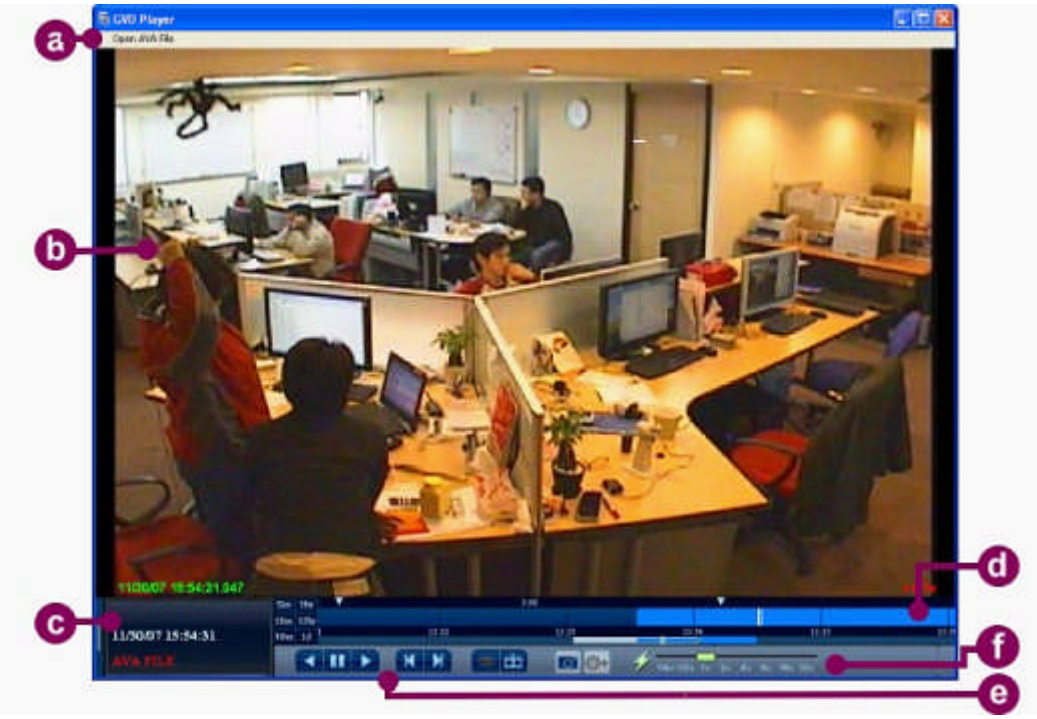


Figure 4-57 Brief of Mega Player

a. Menu
b. Viewer
c. Information panel
d. Timeline
e. Operation buttons
f. Speed slider

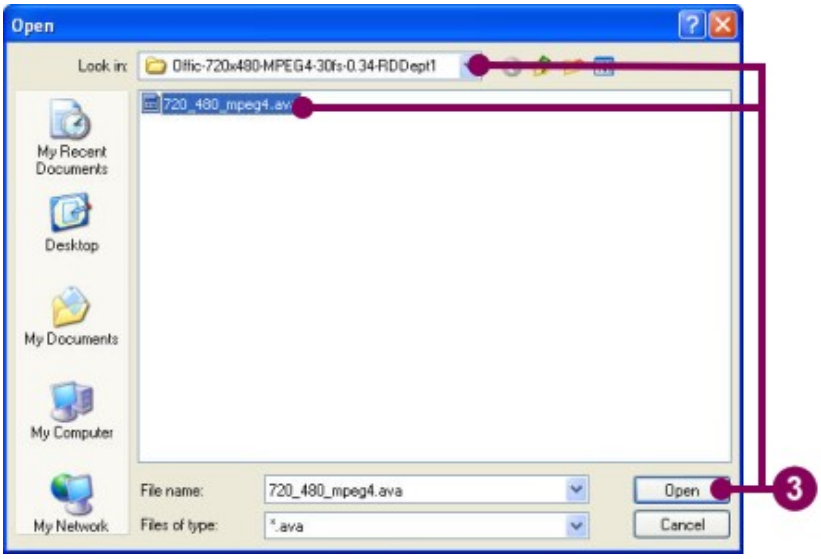
NOTE: Refer to section 4-6-2 **Play a historical video** for more information about operating the buttons.

Play an AVA file in the Mega Player

To play an .ava file in the Mega Player, see the following steps:

Figure 4-58 Play an AVA File in Mega Player

1. In the Windows platform, click **Start**->**All Programs**->**Genius Vision Digital** -> **HD NVR** -> **Mega Player** to run the Mega Player.
2. Click **Open AVA File** when the Mega Player is displayed.



3. A file open dialog displays. Change the file directory and find the correct file. Click **Open** to open the AVA file.
4. The Mega Player program plays the AVA file instantly.

4-7 Spooler

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

4-7-1 View Image

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

Figure 4-59 View Image in Spooler

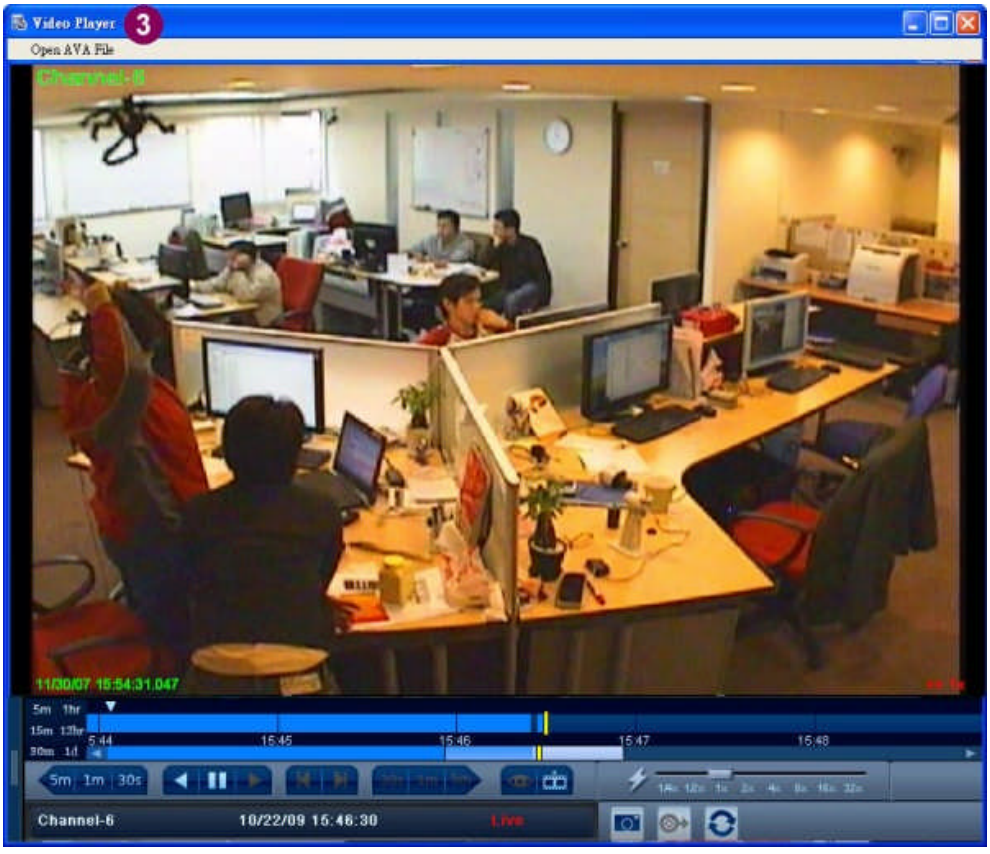
1. Click the selected item with a camera icon listed in the spooler.
2. Double click the preview picture of the selected item.
3. The actual picture is opened.

4-7-2 View Video Clip

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

Figure 4-60 View Video Clip in 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 Mega Player is triggered and plays the selected items.
4. Refer to section 4-6-6 **Run the Mega Player** for operational steps.

4-7-3 Save Image or Video File

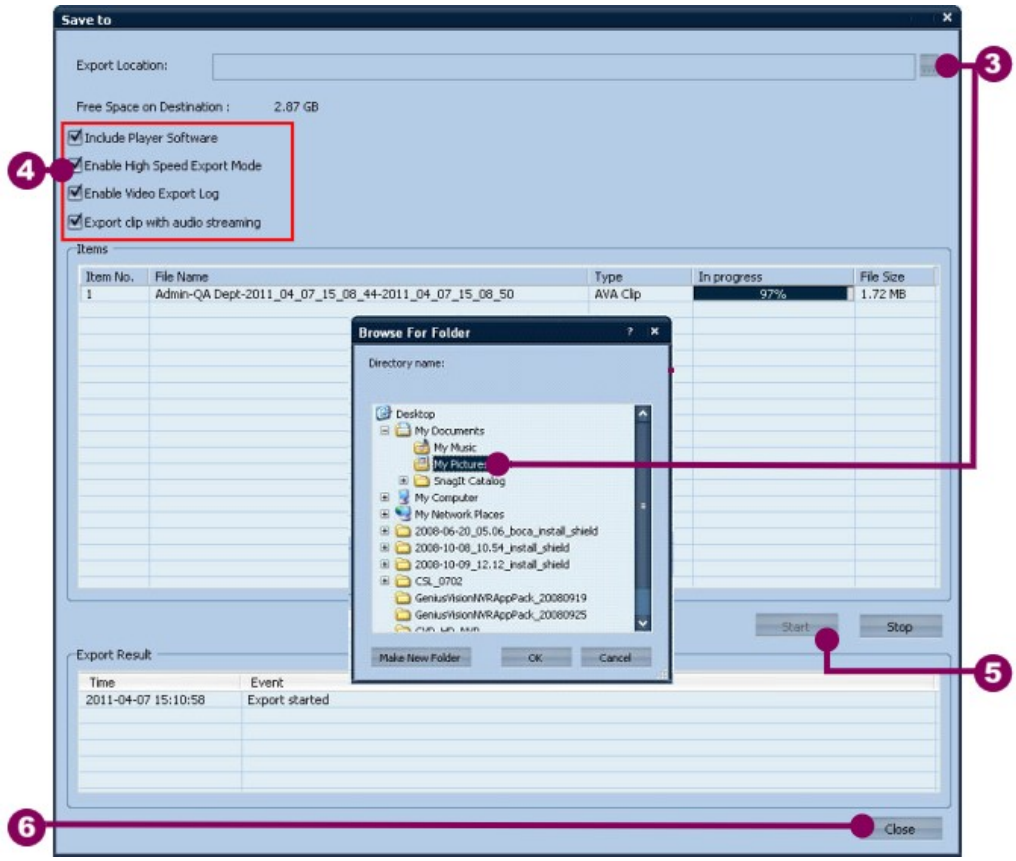
To save the selected item to other storage device like flash disk, see the following steps:

Figure 4-61 Save Image or Video File

1. Check the checkbox of the items to be exported.

> **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 is displayed.



3. Click the **…** button in the **Export Location** column to set the output path.
4. Below the **Export Location,** there are four options:
   - **Include Player Software**: when the AVA file format is selected, check the option to add the Mega Player to the exported file. The exported file can be played in all computers without pre-installing the Mega Player.
   - **Enable High Speed Export Mode**: check the option to speed up the exporting process. The maximum speed of exporting an AVA file may up to 4 times, but the exporting speed of an AVI file may up to one and half time because of the data compression process.
   - **Enable Video Export Log**: check the option to add the video export log to the file.
   - **Export clip with audio streaming**: check the option to add the audio streaming to the file.

> **Tip:** To change the exporting file format, the user can click the **Type** column and select the desired file format from the drop-down list.

5. Click **Start**. The selected items will be downloaded instantly, and the progress is displayed in the **Items** table.
6. Close the dialog when the process is completed..

4-7-4 Delete Files in Spooler

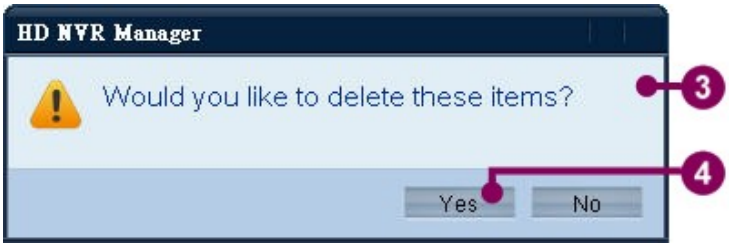
To delete items in spooler, see the following steps.

Figure 4-62 Delete Files in Spooler

1. Check the checkbox of the items to be deleted.

> **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 displayed.
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 displaying the alarm image. The alarm list is under the viewer, which displays all incomplete alarms.

5-1-1 Deal with Alarm

All generated alarms will be added to the alarm list. When the pop-up function is triggered, the alarm will be displayed 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 Pop-up Alarm

Figure 5-1 Turn On/Off 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 Alarm Sound

Figure 5-2 Turn On/Off 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 turned off. To turn on the alarm sound, click the icon again, and the alarm sound will be enabled.

5-1-4 Alarm Search

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

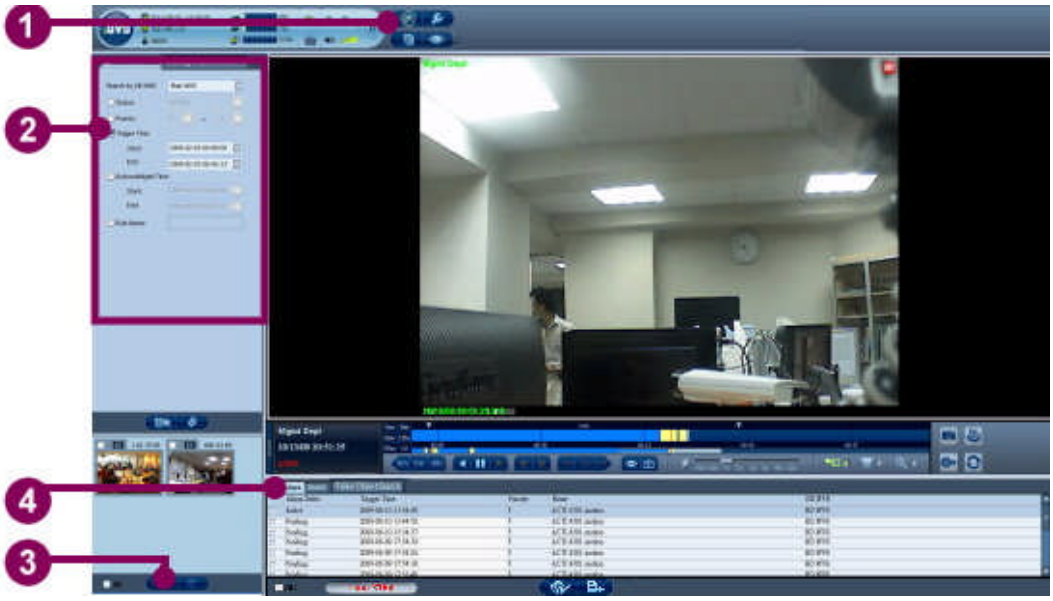


Figure 5-3 Alarm Search

1. Access the **Alarm Mode**.
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 triggered 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 displays in the search tab of the alarm list.

5-1-5 Acknowledge Alarm

5-1-5-1 **Acknowledge an Alarm**

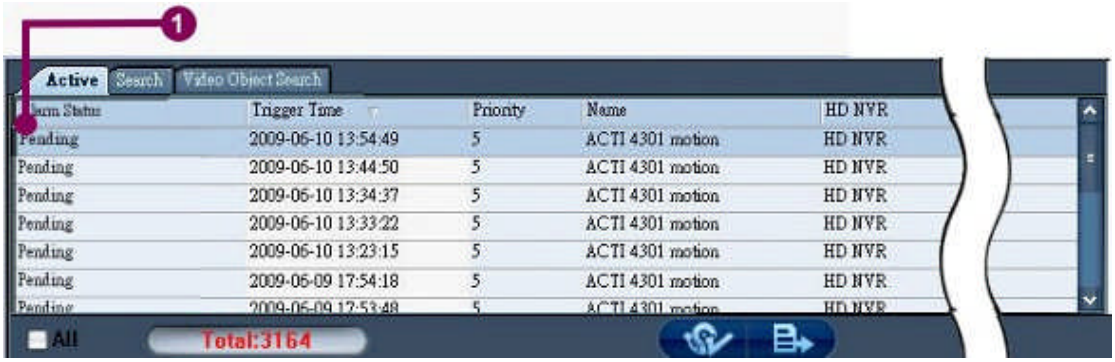
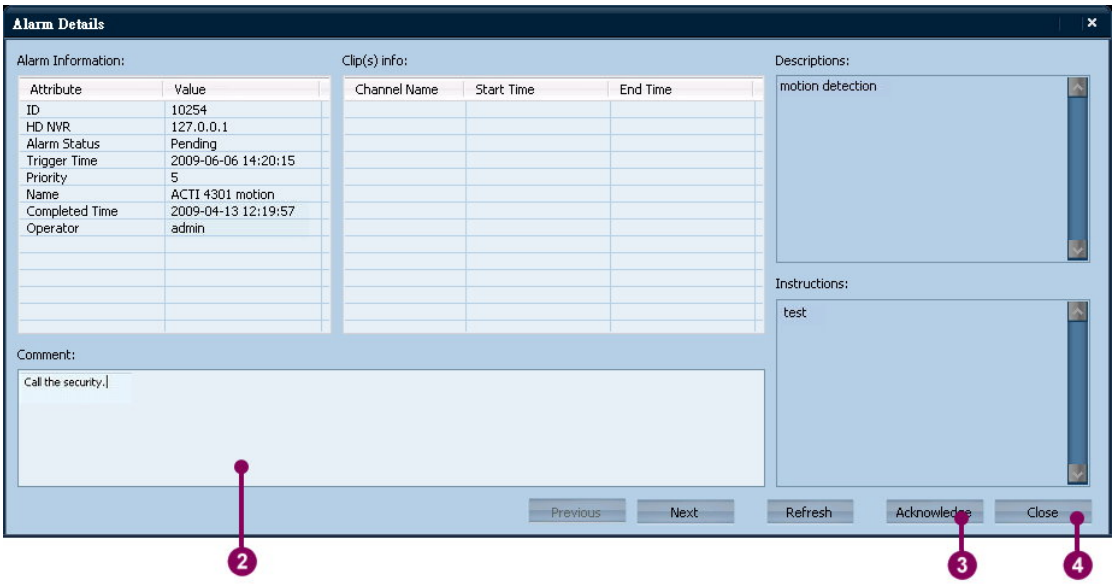


Figure 5-4 Acknowledge an Alarm

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



2. An **Alarm Details** dialog is displayed. Put some comments in the Comment column.

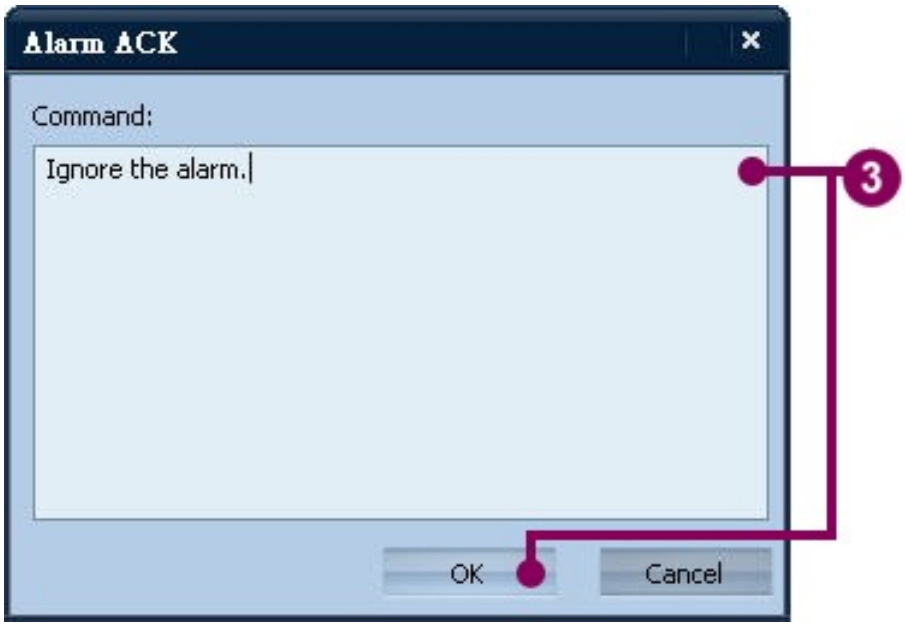
> **NOTE:** If the Comment column is blank, the alarm cannot be acknowledged.

3. Click **Acknowledge** button to acknowledge the alarm and the panel displays the details of next alarm.
4. Click **Close** button to exit.

5-1-5-2 **Run Group Acknowledge Function**

Figure 5-5 Acknowledge Multiple Alarms

1. Select alarms that wish to be acknowledged in the alarm list. Use Ctrl/Shift key or the **All** checkbox to select alarms.
2. Click **Acknowledge** button.



3. An **Alarm ACK** dialog is displayed. Input some comments in the comments column and click **OK**.
4. All selected alarms have been removed from the alarm list.

5-1-6 Export Alarm

To export the search result, see the following steps:

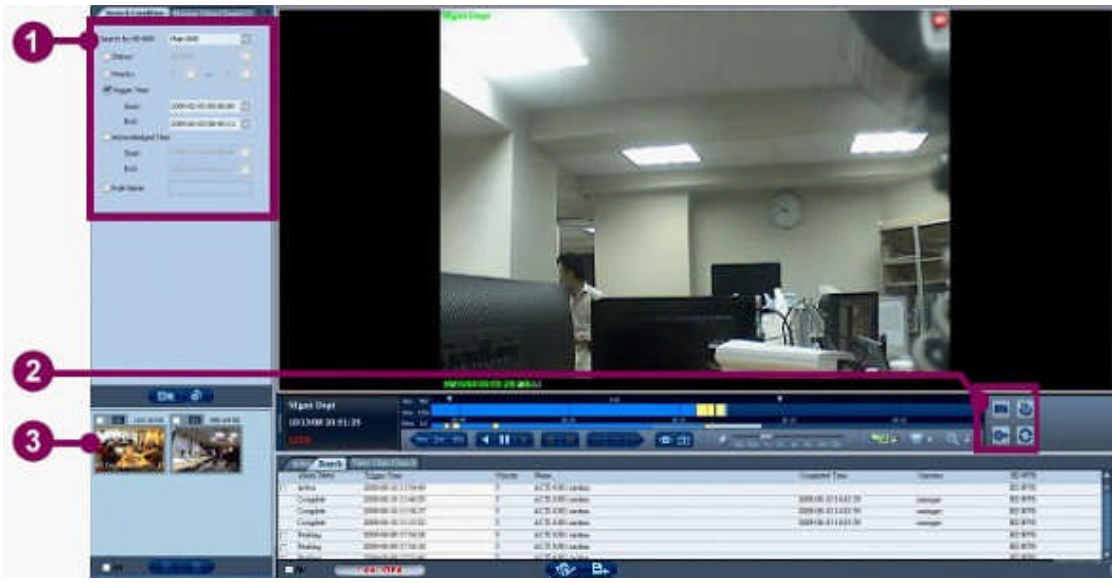


Figure 5-6 Export Alarm

1. After searching the alarms, click the **Search** tab in the Alarm list. Click the desired alarm from the searching list. (See section 5-1-4 **Alarm Search** for detailed steps.)
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 file exporting.

5-1-7 Missing Object Search

The **Missing Object Search** function utilizes the digital image search method to find the missing object from playback video. To run the **Missing Object Search** function, see the following steps:

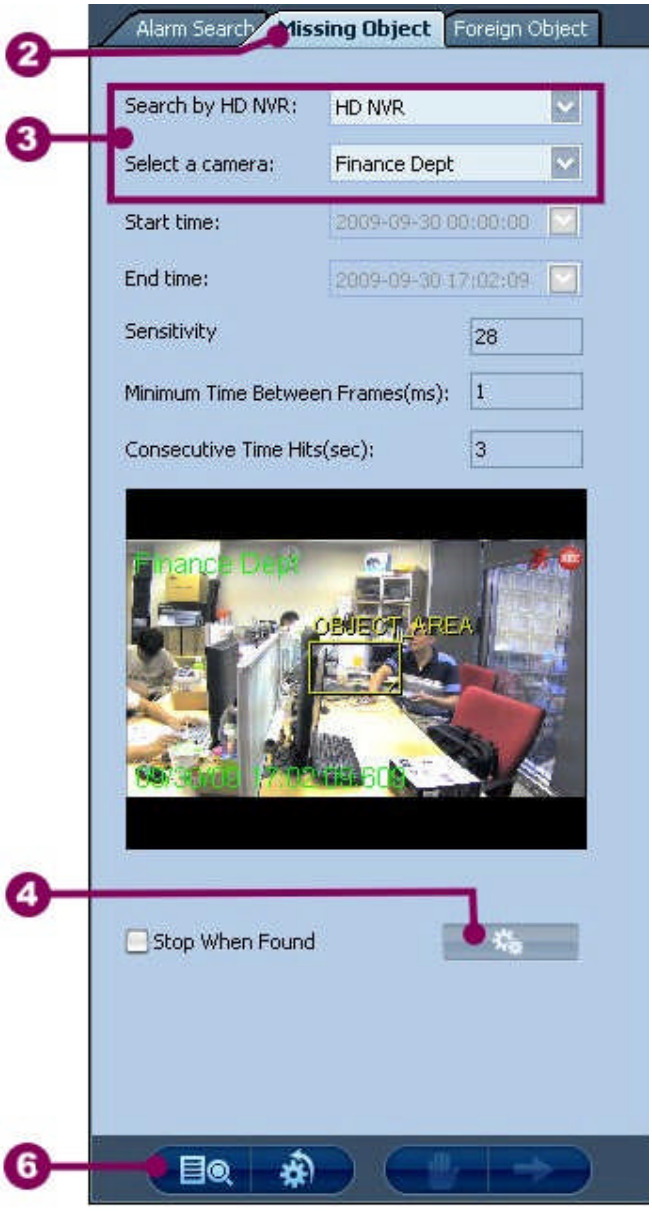
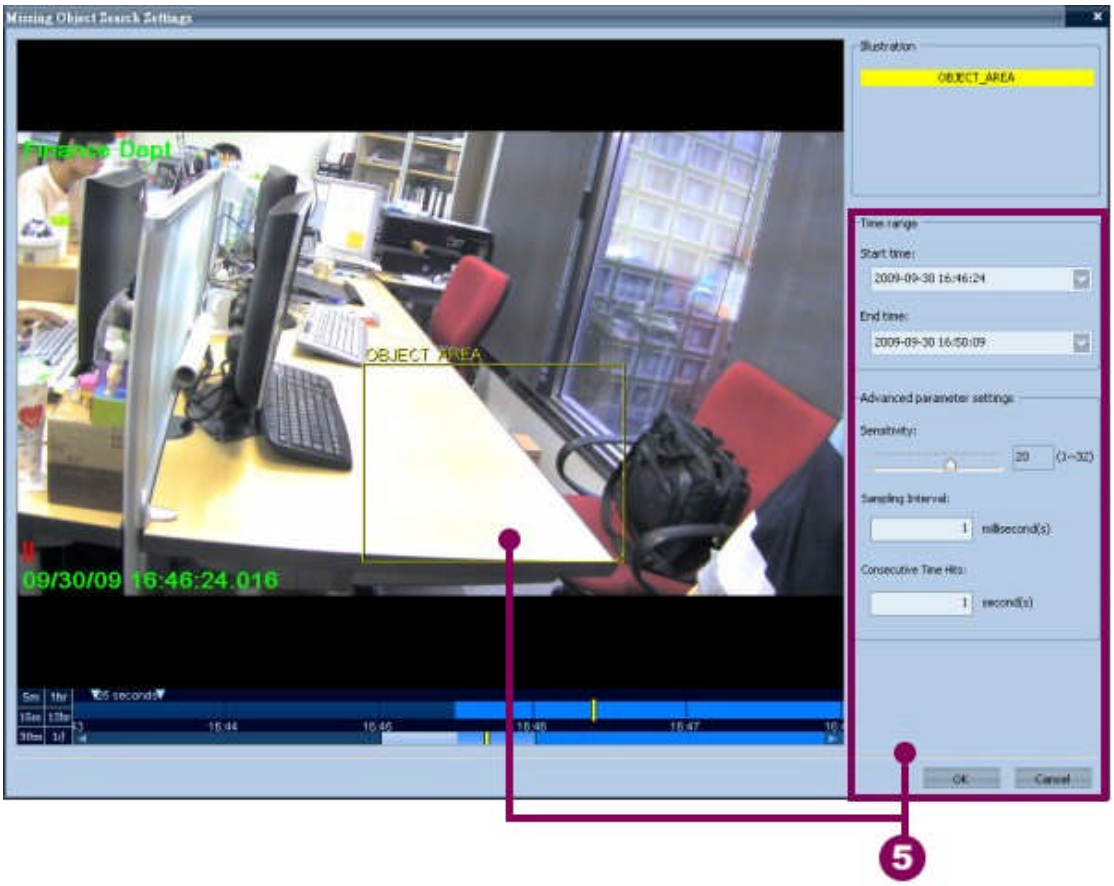


Figure 5-7 Missing Object Search

1. Access the **Alarm Mode**.
2. In the searching condition panel, click the **Missing Object** tab.
3. Before starting the search, user should select HD NVR and the camera first.
4. Click the **Setup** button, and the **Missing Object Search Settings** panel is displayed.

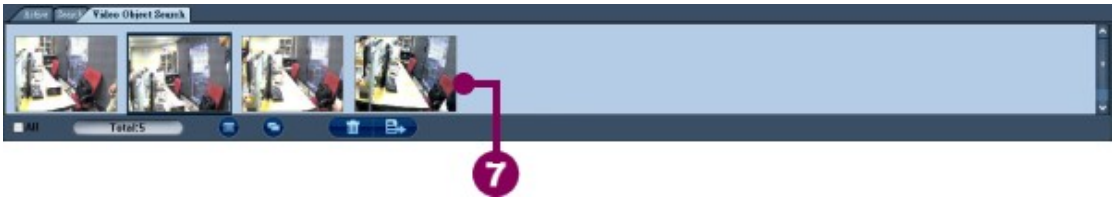


5. In the panel, set the object area (yellow frame) first. The search engine will search the object only in the object area. Next, set the start time and the end time. To improve the search results, user can set the advanced parameter settings. There are three options:

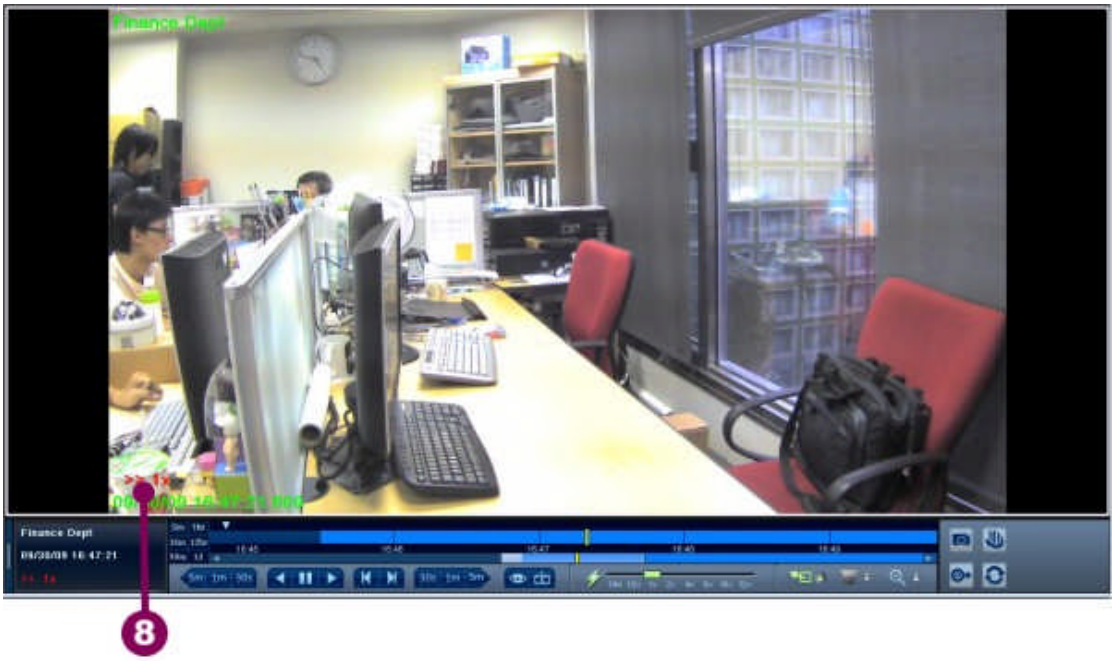
- **Sensitivity**: set the sensitivity of the search. The higher sensitivity value will make the search more sensitive.
- **Sampling Interval**: set the minimum searching time between frames during the search.
- **Consecutive Time Hits**: set the minimum missing time of the object in the image. The valid record will be returned only when the object missing time is longer than the value set.

NOTE: The object area (the yellow frame) needs to be smaller than the size of the detected object.

6. Click **Search** button.



7. When the search is complete, the searching results are displayed in the **Video Object Search** tab.



8. Select the item in the list to view the searching result.

TIP: Click the ( ) icon to display the thumbnails of the searching results.

5-1-8 Foreign Object Search

The **Foreign Object Search** function utilizes the digital image search method to find the foreign object from playback video. To run the **Foreign Object Search** function, see the following steps:

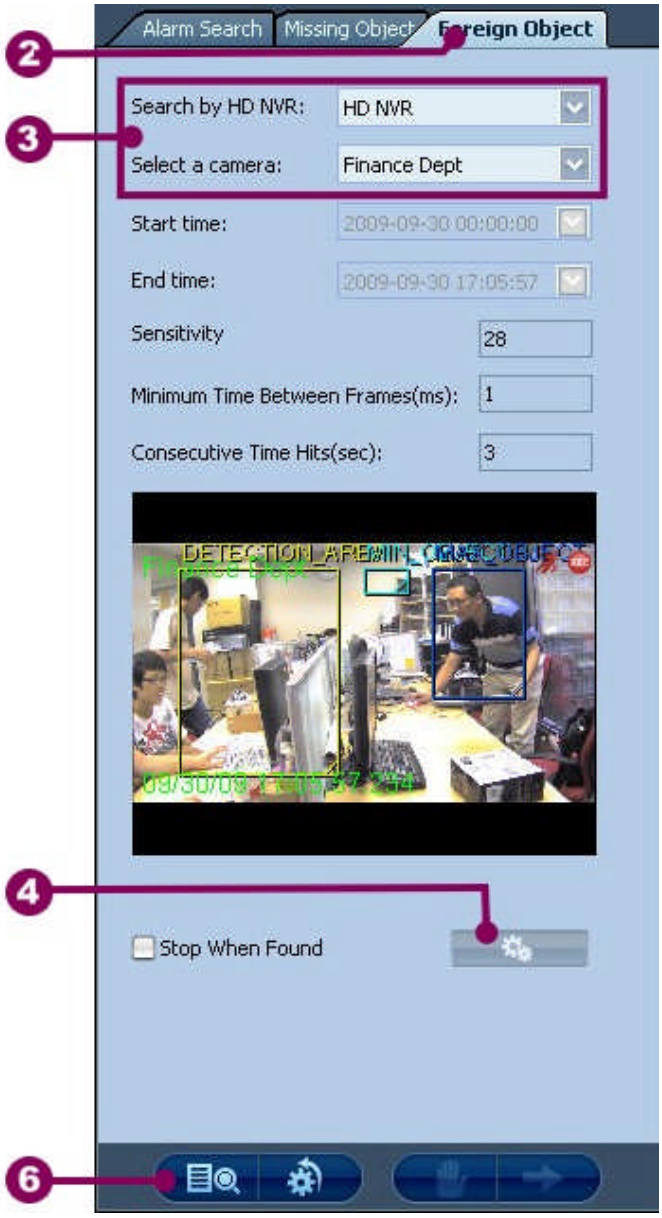
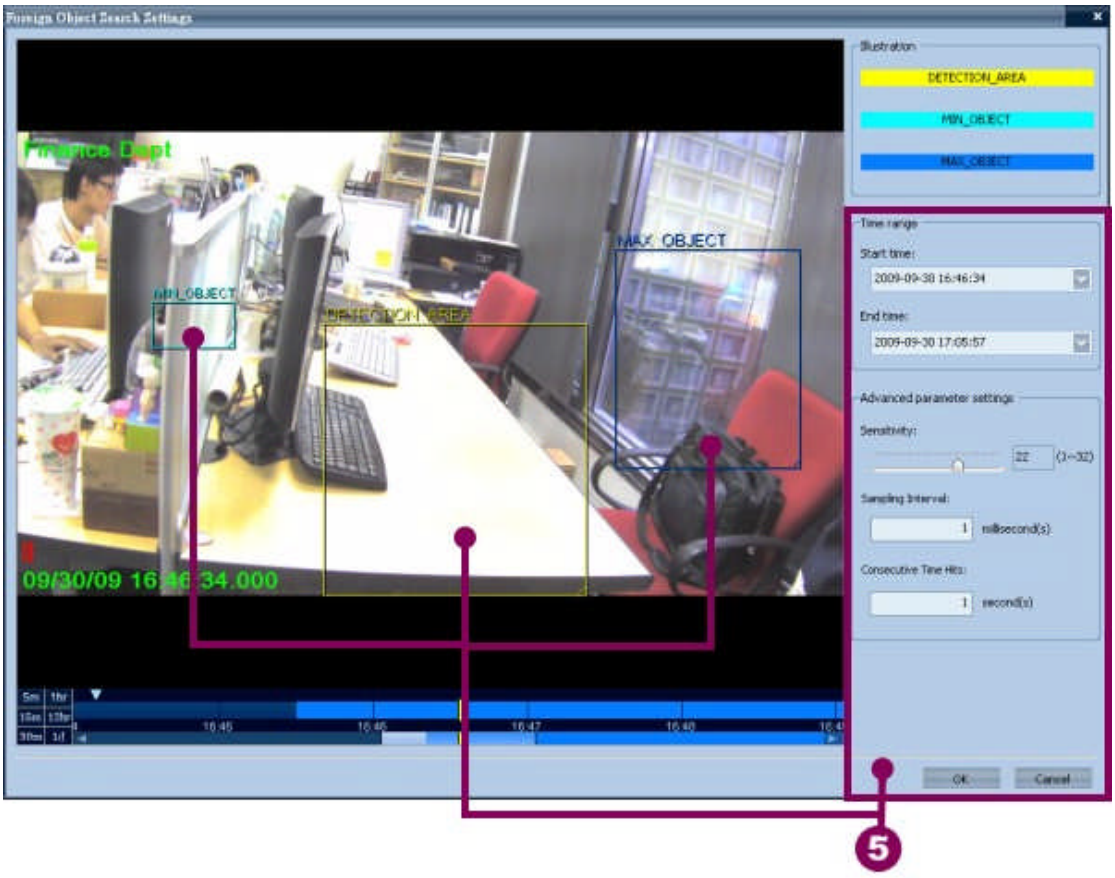


Figure 5-8 Foreign Object Search

1. Click the **Alarm Mode** button.
2. In the searching condition panel, click the **Foreign Object** tab.
3. Before starting the search, the user should select the HD NVR and the camera first.
4. Click the **Setup** button, and the **Foreign Object Search Settings** dialog is

displayed.

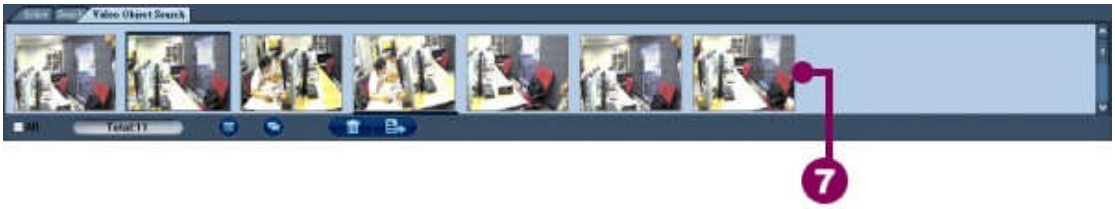


5. In the panel, set the detection area (yellow frame) first. If the user wants to limit the size of the searching object, set the Max Object (the blue frame) and the Min Object (the light-blue frame). The foreign object will only be detected in the detection area, and the object size frames are only used to set the size of the searching object. Next, set the start time and the end time. To better improve the search results, the user can set the advanced parameter settings. There are three options

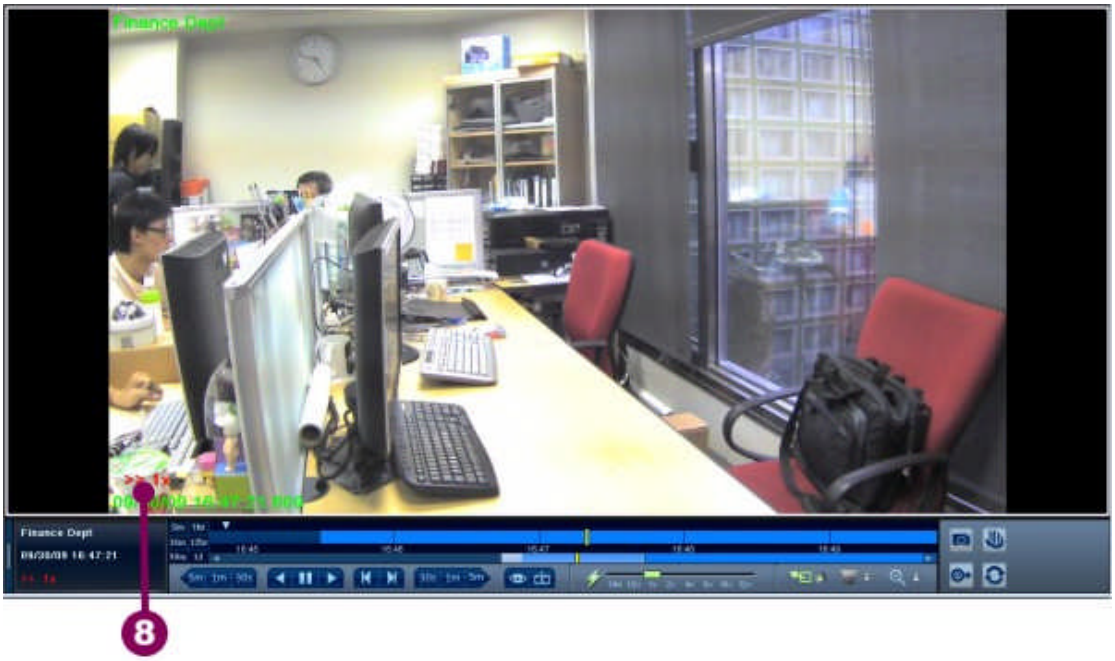
- **Sensitivity**: set the sensitivity of the search. The higher sensitivity value will make the search more sensitive.
- **Sampling Interval**: set the minimum searching time between frames during the searching
- **Consecutive Time Hits**: set the minimum existing time of the object in the image. The valid record will be returned only when the object existing time is longer than the value set.

NOTE: The detection area (the yellow frame) needs to be smaller than the size of the detected object.

6. Click **Search** button.



7. When the search is complete, the searching results are displayed in the **Video Object Search** tab.



8. Double click the item in the list to view the searching result.

TIP: Click the ( ) icon to display the thumbnails of the searching results.

5-2 Event Mode

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

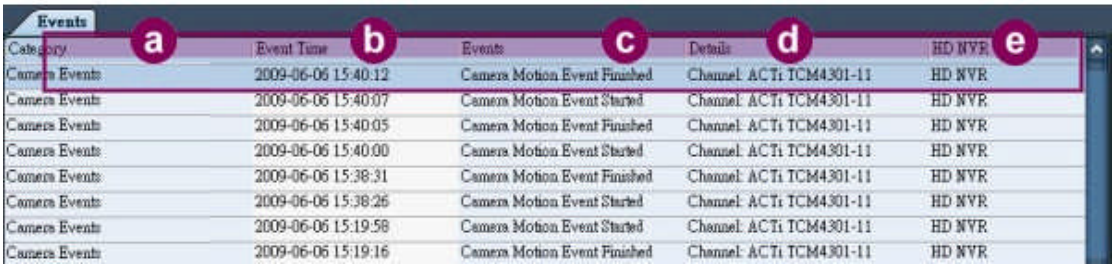


Figure 5-9 Details of the **Events** Table

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 information of the event
e. HD NVR: indicate the event source

5-2-1 Search Event

No event will be displayed 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:

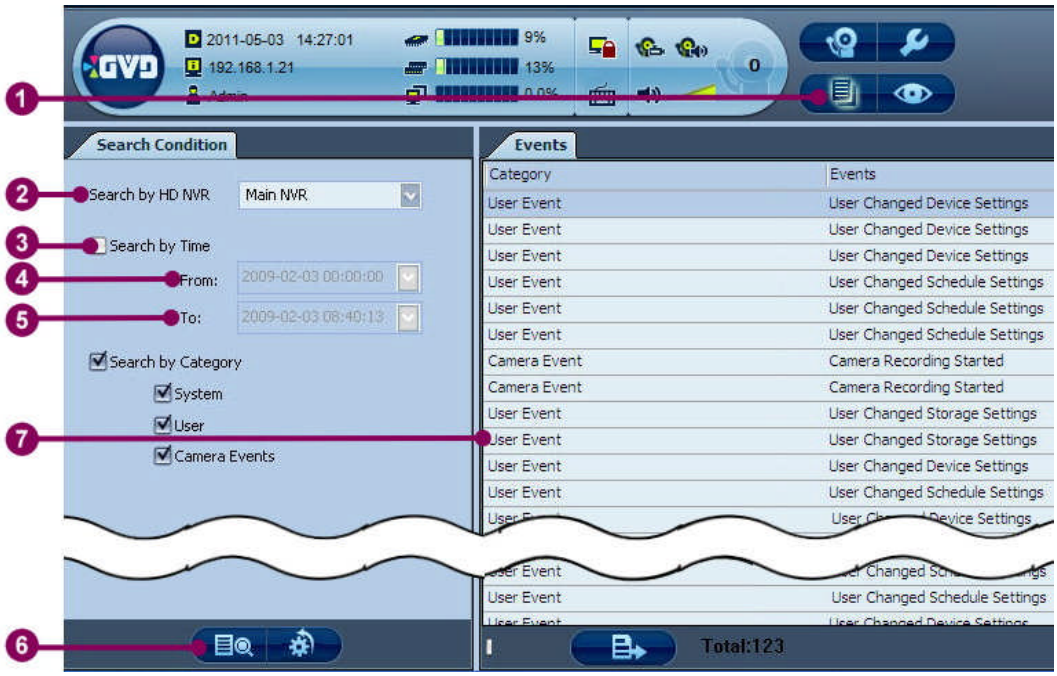


Figure 5-10 Event Search by Time

1. Click the Event Mode icon.
2. Click the drop-down box and select HD NVR name in the **Search by HD NVR** field.
3. Check the **Search by Time** checkbox.
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 displays 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 following steps:

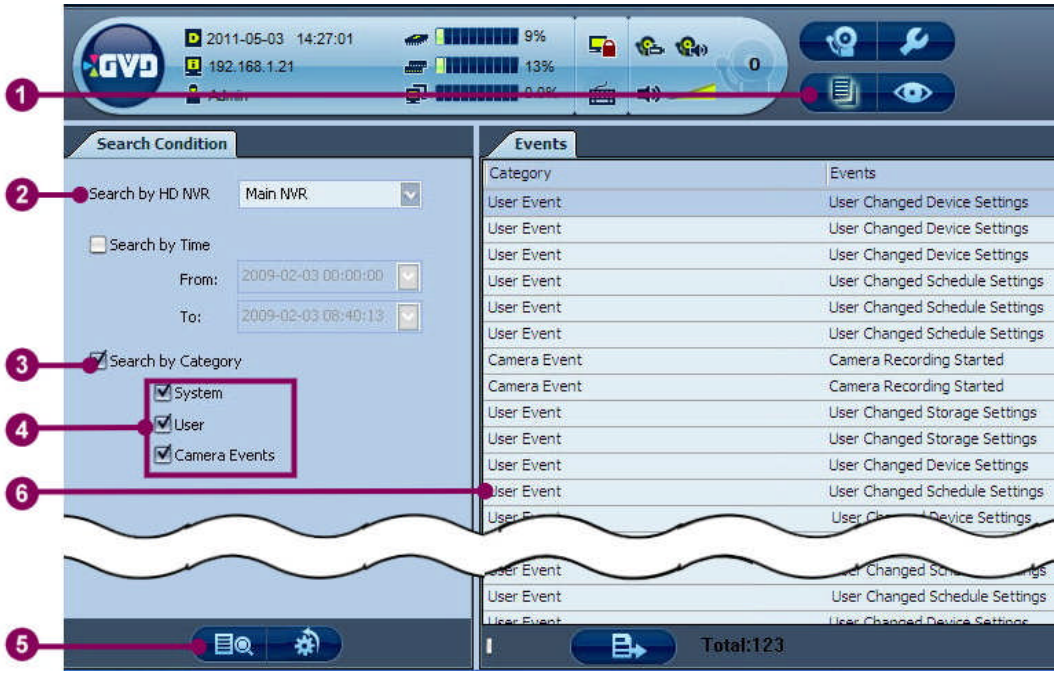


Figure 5-11 Event Search by Category

1. Click the Event Mode icon
2. Click the drop-sown box and select 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 displays the searching result.

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

5-2-2 Export Events

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

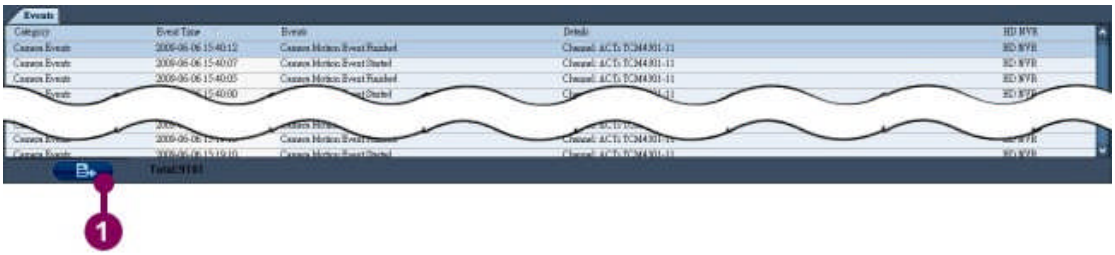
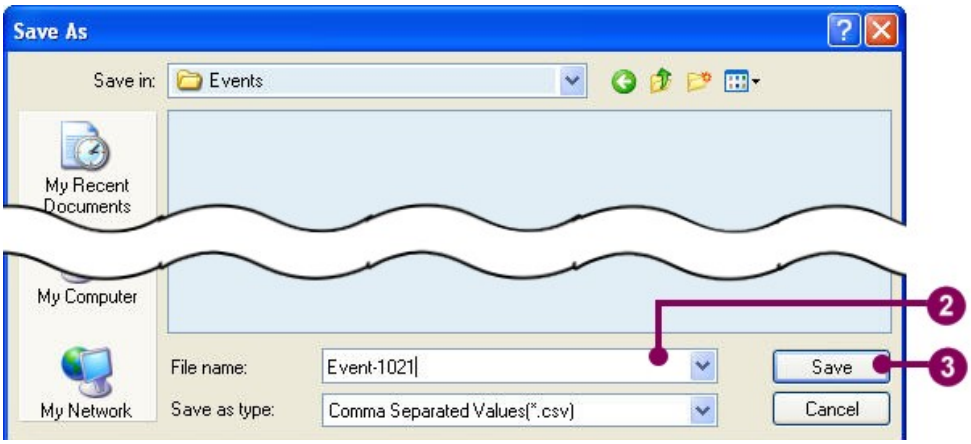
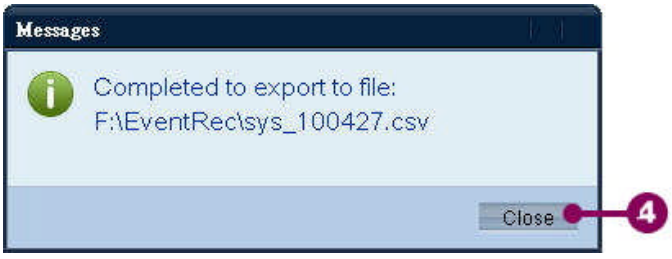


Figure 5-12 Export Events

1. Click the **Export** button at the bottom of the **Events** table. A **Save As** dialog is displayed.



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



4. A message – '**Completed to export to file:{file's absolute path}**' is displayed. The searching result has been saved in the .csv file format.

Chapter 6 Configuration Mode

Configuration mode helps user to conduct several settings of NVR and connecting devices. It is composed of the following parts:

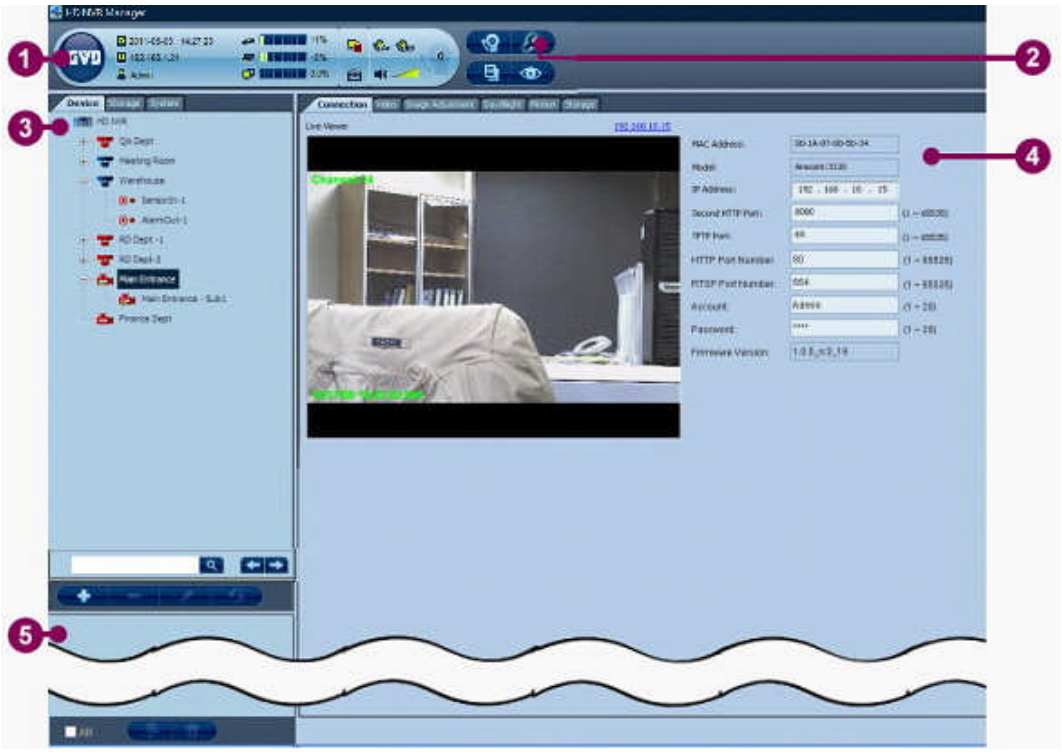


Figure 6-1 Configuration Mode

1. Information Panel (See chapter 4)
2. Mode Buttons (See chapter 4)
3. Tree 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, displays the detailed values of various settings.

6-1 Device Setting

6-1-1 NVR

NVR setting allows the authorized user to view the relative configuration and modify the values of specific items. NVR Setting is composed of the following nine tabs:

1. Basic Setting
2. Customized Setting
3. System Security
4. Device Tree
5. Device List
6. Mail Setting
7. Hardware Monitor
8. Multiple Monitor
9. License Control

TIP: To change the setting values in the device tab, click (**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 panel displays the connecting information and other settings of the NVR. The followings describe the configured items and the values of the NVR.

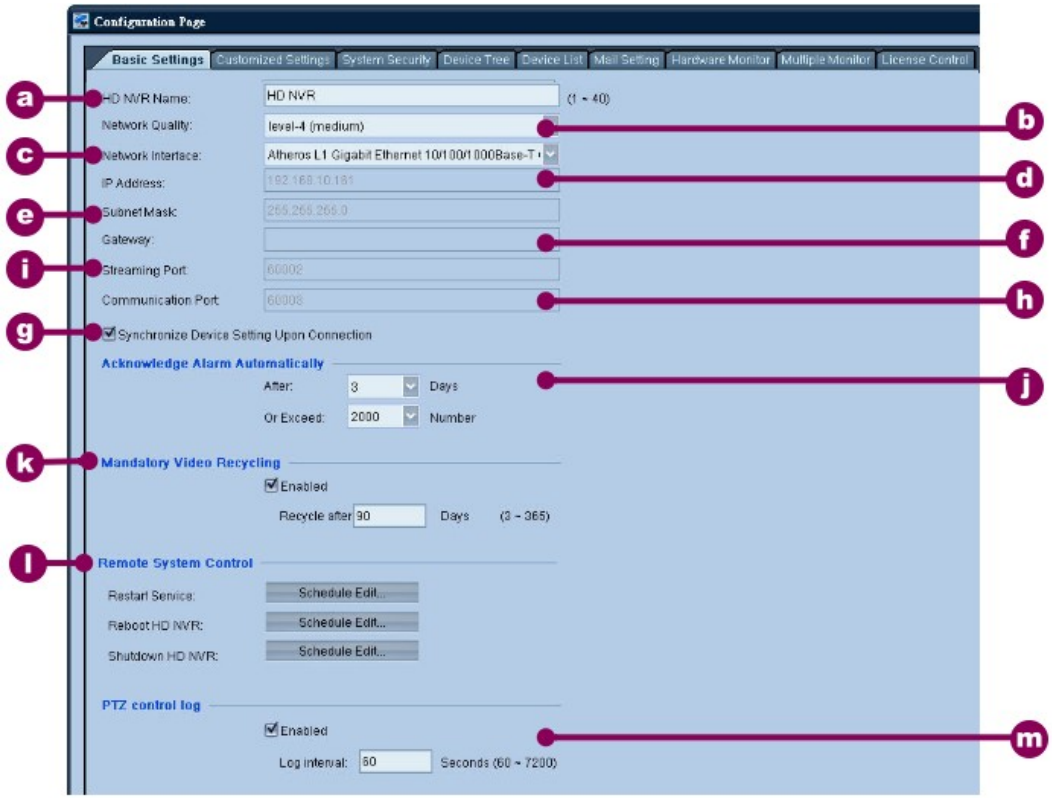


Figure 6-2 Basic Setting of NVR

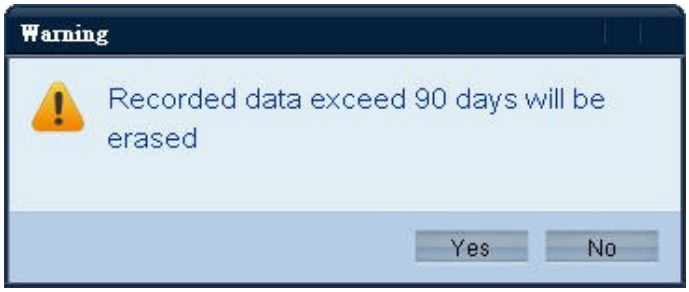
a. HD NVR Name – indicate the name of the NVR
b. Network Quality – indicate the connection quality of the network (In level 7, the system will check the connection status every 2500ms. If the network packet has lost for more than 2000 ms, and the system raises the video loss alarm. In level 1, the system 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.

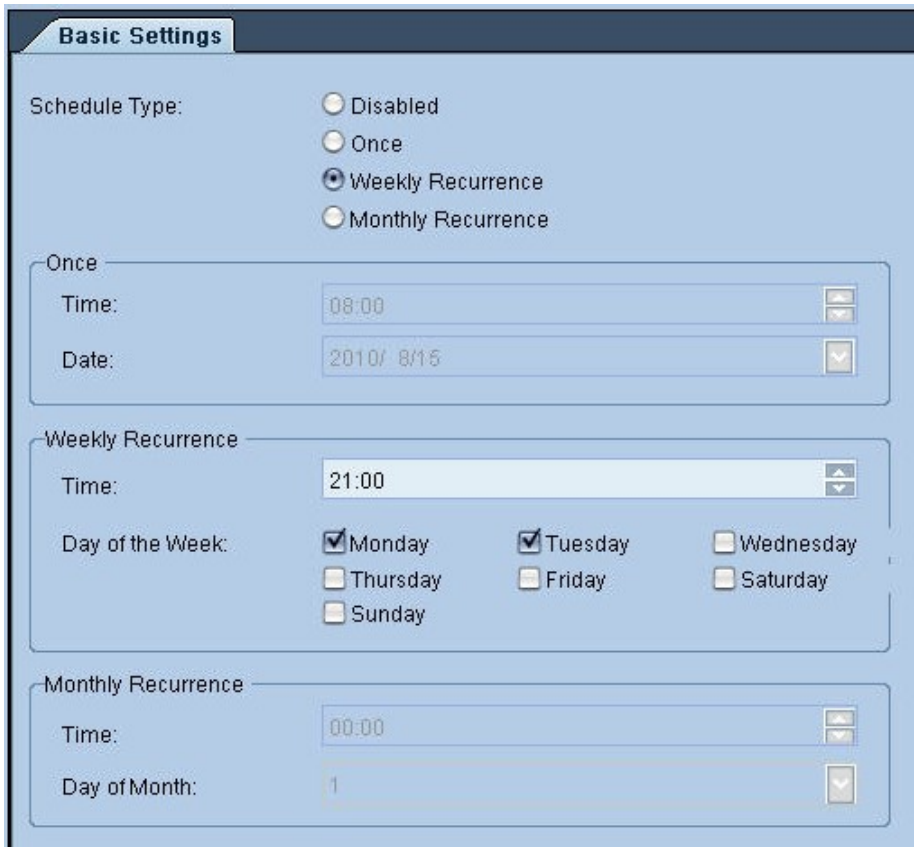
i. Synchronize Device Setting – Decide whether the NVR setting is synchronized with the saved setting in the remote devices. When the checkboxes is checked, the NVR will send the reserved setting to the remote devices and overwrite the original setting values.

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

k. Mandatory Video Recycling – indicate the recycle duration of the recording data. When the option is activated, the recorded video clip exceeding the recycle period will be deleted automatically.



l. Remote System Control – include three options: restart service, reboot HD NVR, and shutdown HD NVR. The option allows the user to appoint a schedule and run the system control automatically. To appoint a schedule, the user can click the buttons at the right hand side. When the configuration page is displayed, set the schedule of the system control.



m. PTZ Control Log – used to record the operational log of the PTZ camera. When the option is enabled, user can set the recording interval.

6-1-1-2 **Customized Setting**

The customized setting panel includes six parts:

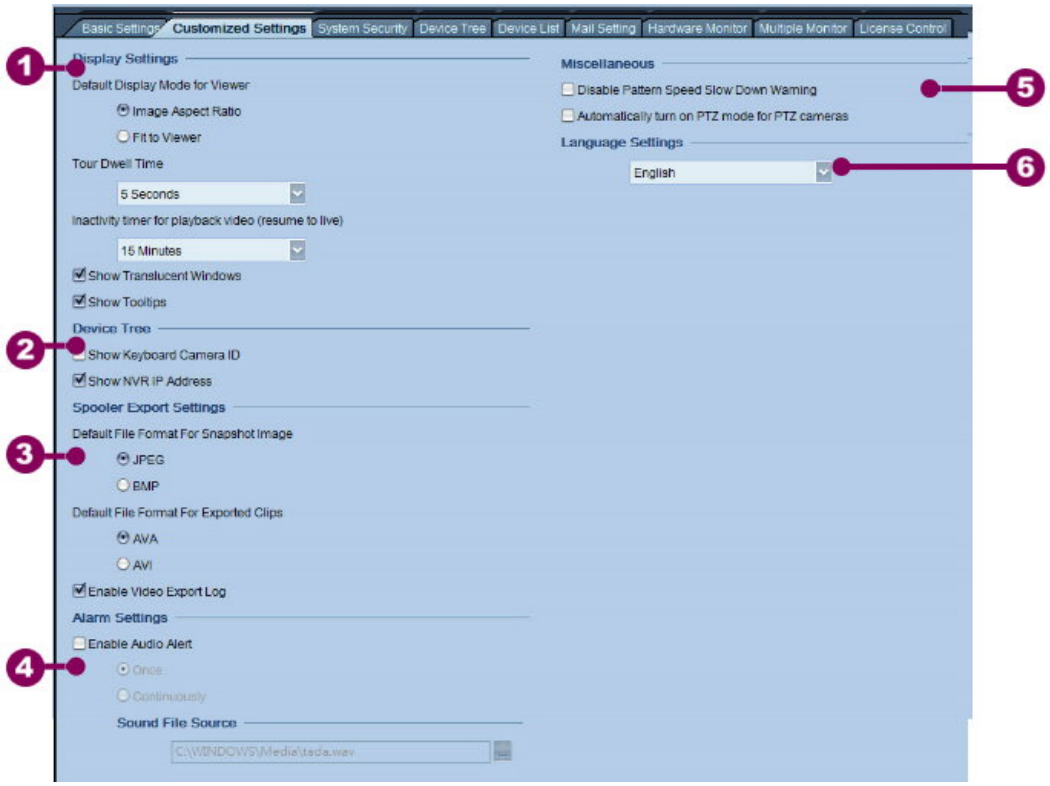


Figure 6-3 Customized Setting of NVR

1. Display Setting
2. Device Tree
3. Spooler Export Setting
4. Alarm Setting
5. Miscellaneous
6. Language Setting

Display Setting

The display settings include four 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 display in the tour (minimal 5 sec, maximal 300 sec)
- When **Show Translucent Windows** is checked, a fancy transparent effect will be used within the system (eg. time slider). The option will consume more system resources. Uncheck the option if the system resource is limited.
- When the option **Show Tooltip** is checked, a tool tip will be displayed when mouse move is over component in the system.

Device Tree

When **Show Keyboard Camera ID** is checked, the camera ID listed in the keyboard controller program of K-200 PTZ keyboard will be added after the camera name in the device tree. If unchecked, the code name is hidden.

When **Show NVR IP Address** is checked, the IP address of the HD NVR will be added after the HD NVR name. The IP address will not be displayed if the option is unchecked.

Spooler Export 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

Check **Enable Video Export Log** to download the event log simultaneously when the video clip is exporting.

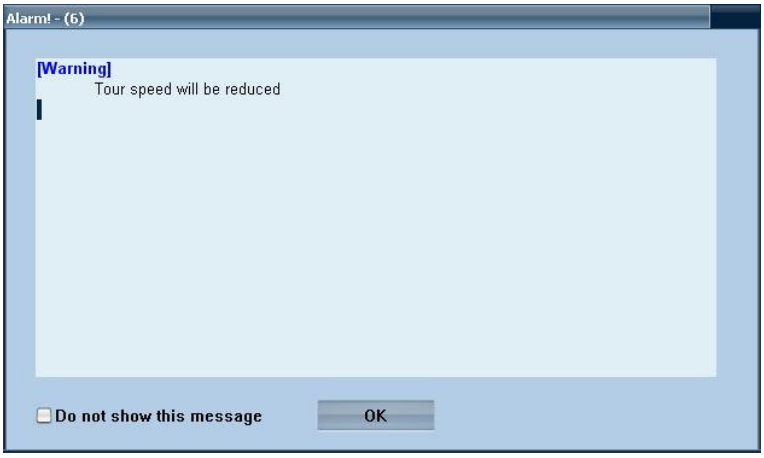
Alarm Setting

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.

Miscellaneous

When **Disable Pattern Speed Slow Down Warning** is unchecked, a warning dialog is displayed when the system resource consumes too much. Therefore, the playing speed of channels will be changed to a level which consumes less system resource.



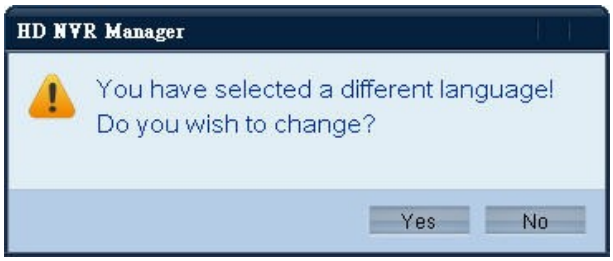
When **Default Turn on PTZ Mode** is checked, the viewer will switch to the PTZ mode instantly when a PTZ camera is dragged and dropped to viewer.

Figure 6-4 Turn on PTZ Mode by Default

Language Setting

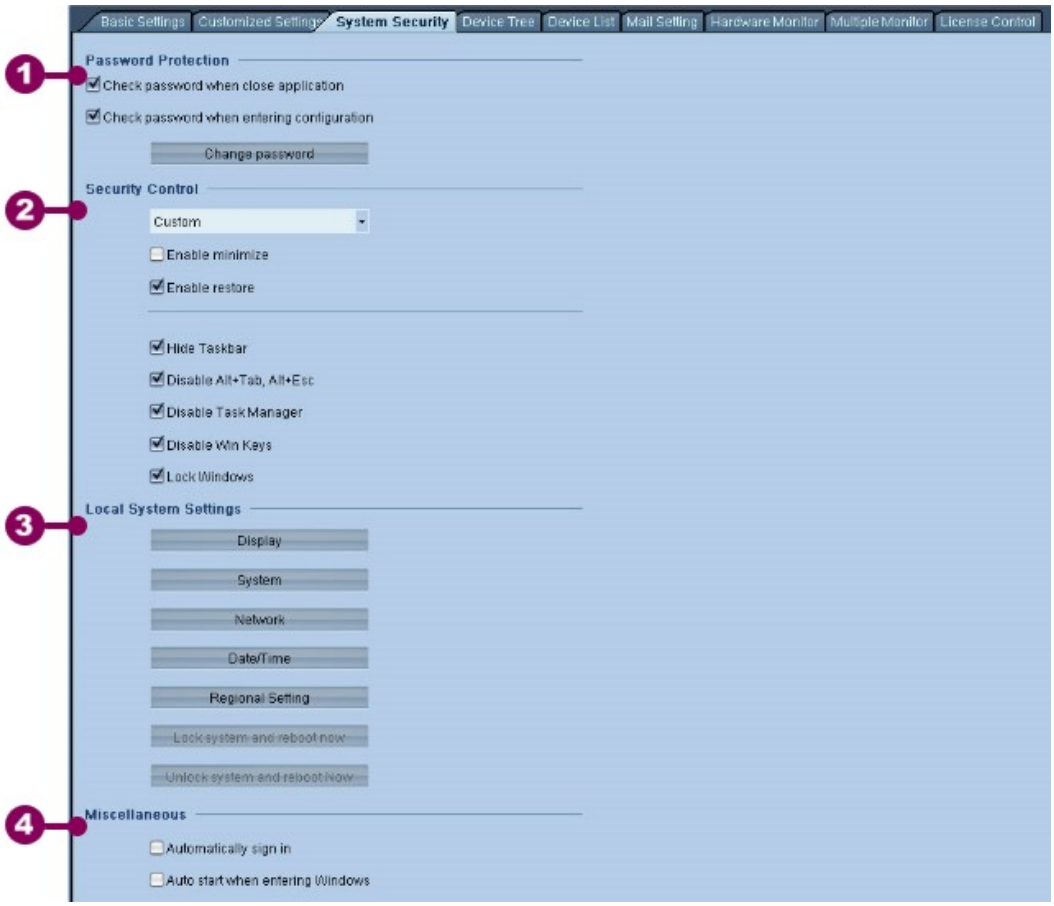
The language setting allows user to change the default language interface. See the product specification for supported languages.

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



6-1-1-3 System Security

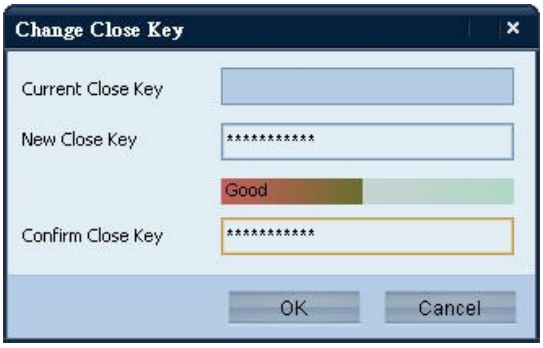
The **System Security** tab is displayed only when the system administrator is logged in. The tab includes four sessions: apply password protection, accessibility control, local system settings, and miscellaneous.



Password Protection

When **Check password when close application** is checked, NVR will display a confirmation message when closing down. User needs to input the configured password to exit NVR. Uncheck the option, NVR will be closed directly.

When **Check password when entering configuration mode** is checked, user needs to input the configured password to enter configuration mode. To set the password, click the **Change password** to set a new one.



Security Control

The security control option allows user to hide or display **minimize** or **restore** icons of the application. It also allows the system administrator to enable or disable the composite keys and the tool application of the Windows OS. It locks Windows to prevent general users from destroying the system unconsciously.

Local System Settings

The **Local System Settings** option helps user to access the relative Windows settings without starting from the control panel. The option includes five settings: Display, System, Network, Date/Time, and Regional Setting. For more details, see section 2-2 **Setup Procedures for the First Run**.

NOTE: The **Lock system and reboot now** and **Unlock system and reboot now** buttons are enabled only in the DOM-Based NVR. When users click **Lock system and reboot now**, the FBWF function will be activated. When users click the **Unlock system and reboot now**, the FBWF function will be disabled. See section 2-1-3 **DOM-based HD NVR Configuration** for more details.

Miscellaneous

When **Automatically sign in** is checked, the system will automatically sign in by the last login account when NVR starts. If the option is unchecked, NVR will require user to input account and password manually.

When **Auto start when entering Windows** is checked, NVR will be started automatically when Windows starts. Uncheck the option to start NVR manually. Check both of the options will make NVR to login automatically when Windows starts.

6-1-1-4 **Device Tree**

Figure 6-5 Device Hierarchy Modification

Device Tree panel allows user to change the channel order in the device tree. Below the panel of the **Device Tree** tab, there are two buttons to change the channel order. When the target channel is selected, click ( ) to move the selected channel up, or click ( ) to move the selected channel down.

6-1-1-5 **Device List**

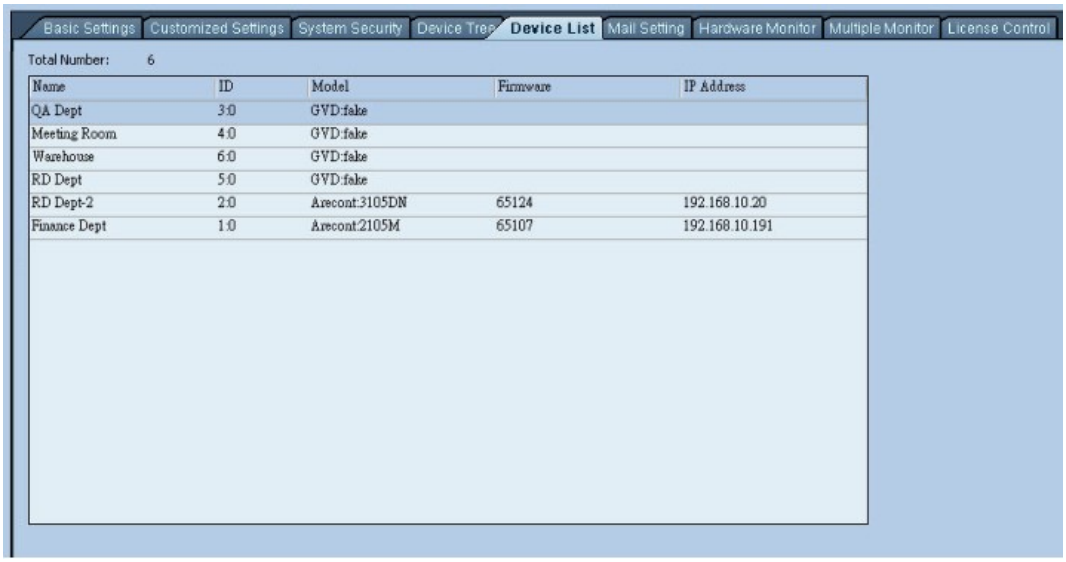


Figure 6-6 Channel Summary

Device List panel displays the information of all connecting cameras. The summary table includes camera name, channel ID, camera model, firmware version, and IP address.

6-1-1-6 **Mail Setting**

The **Mail Setting** tab is for the email SMTP setting and configuration of alarm notification. The tab includes two parts: **SMTP Setting** and **Alarm Mail Default Setting**. See the following description.

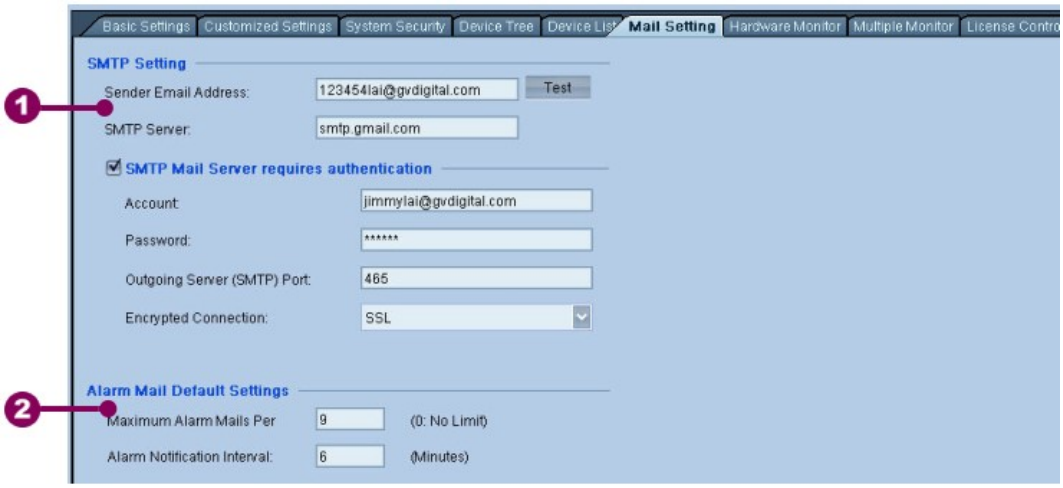


Figure 6-7 Mail Setting

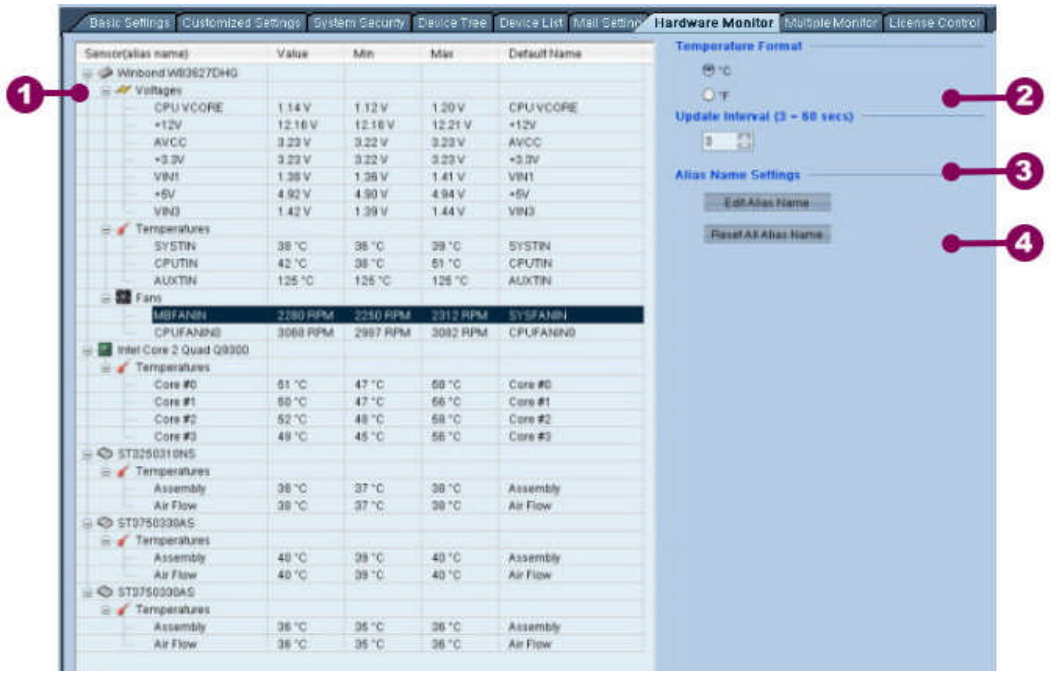
1. SMTP Setting – is the configuration of email sending server. The columns include: sender's email address, address of the mail server, and the requested authentication of the SMTP mail server.

> **NOTE:** When the **SMTP Mail Server requires authentication** option is checked, set the required encrypted type and the required SMTP port. If the value is not correct, the mail may not be sent successfully.

2. Alarm Mail Default Settings – is for setting up the number and frequency of alarm mail sending. The setting includes two options:
   - Maximum Alarm Mails Per Day – the maximum alarm emails the system will send
   - Alarm Notification Interval – the sending interval of alarm mail

6-1-1-7 **Hardware Monitor**

The **Hardware Monitor** tab is composed of two parts – the hardware table and three options.



1. Hardware Status – indicates the current temperature of the key components in the HD NVR. If the item is collapsed, click (+) to expand it.
2. Temperature Format – indicates the temperature scale.
3. Update Interval – indicates the update interval of the hardware monitoring
4. Alias Name Settings – allows the user to change name of a single sensor or reset all sensor names back to default.

6-1-1-8 **Multiple Monitor**

Every HD NVR can support up to 2 monitors. The **Multiple Monitor** tab in the configuration mode displays the display setting of each monitor. Every monitor includes two options:

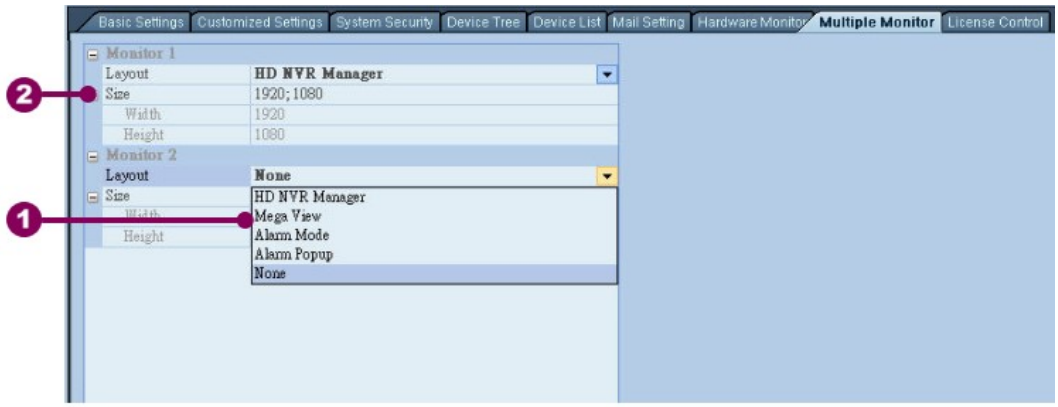


Figure 6-8 Multiple Monitor Setting

1. Layout – HD NVR provides the following layouts
   - HD NVR Manager – displays HD NVR manager interface and allows user to operate in the 4 modes.
   - Mage View – display extra monitoring view which allows user to run the customized pattern and tour.
   - Alarm Mode – displays the alarm mode, allow user to check and acknowledge alarms.
   - Alarm Popup – popup a designed pattern when alarm is triggered.
   - NONE – nothing will be displayed.
2. Size – indicate the resolution setting of the monitor

6-1-1-9 License Control

The license control panel displays the license information of the NVR, including:

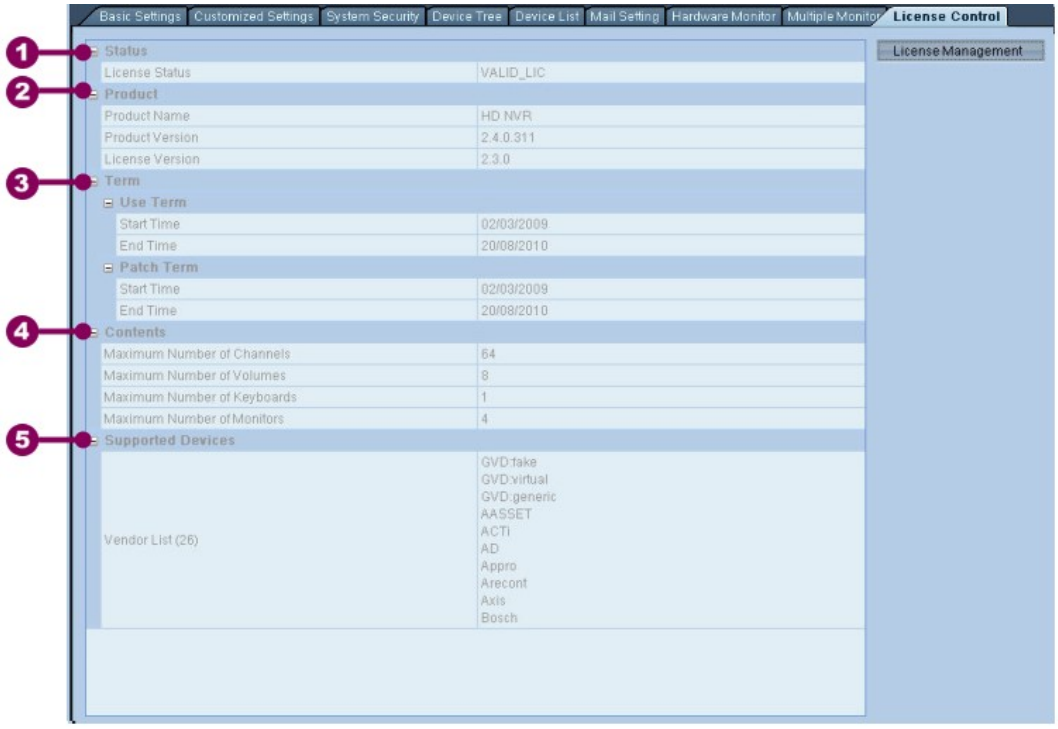


Figure 6-9 License Control Setting of NVR

1. Status - indicates the license status.
2. Product – indicates the product name and the system version.
3. Term – includes two items: Use Term and Patch Term. **Use Term** indicates the starting and ending date of the license; **Patch Term** indicates the effective term to apply new patch.
4. Contents – indicates the maximum number of channels, volumes, keyboards, and monitors allowed to connect.
5. Support Devices – indicates camera brands supported

TIP: For non Dongle key user, click the **License Management** button to run the software authentication procedure.

For more information about registering the system, refer to section 2-1-2 **License Activation**.

6-1-2 Camera/Channel

6-1-2-1 Brief of Camera/Channel Setting

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

The channel settings vary depending on the camera models. For example, when an Arecont camera is selected, the information includes the following 8 tabs:

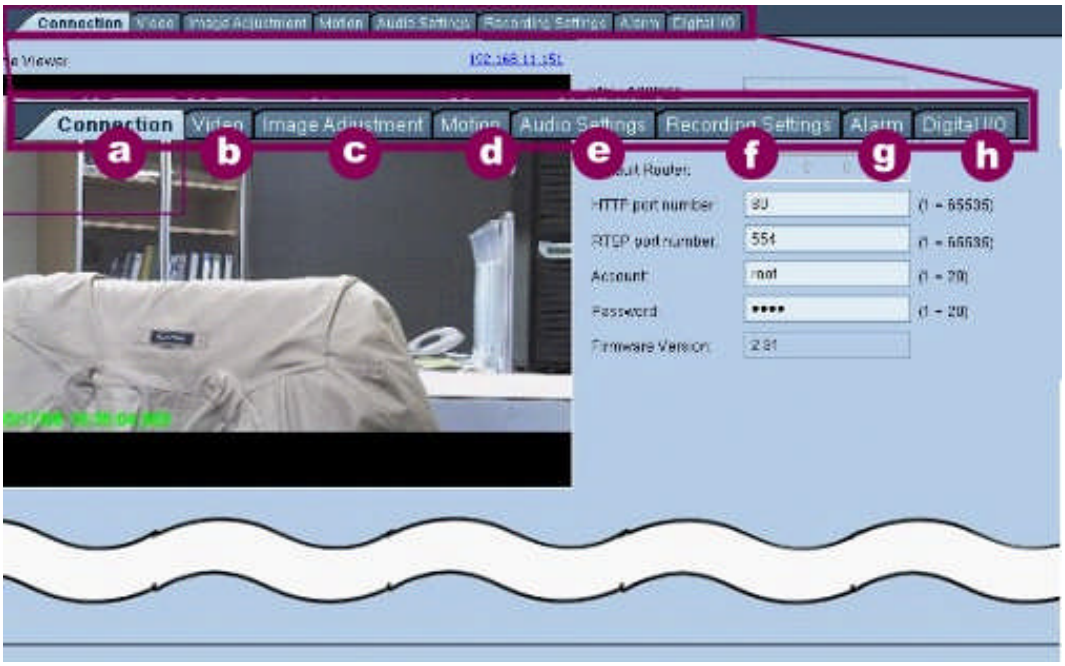


Figure 6-10 Channel Information in Setting Panel

a. Connection – the tab displays the connecting information of the channel.
b. Video – the tab displays the video settings of the channel and sub channel.
c. Image Adjustment – the tab displays the settings of the image attributes.
d. Motion – the tab displays the motion alarm area.
e. Audio Settings – the tab displays the audio settings of the channel.
f. Recording Settings – the tab displays the recording information of the channel.
g. Alarm – the tab offers a simple way for setting the video loss and motion event alarms without creating alarm rule. In addition, when either of the events occurs, the recording function can be toggled by the alarm.
h. Digital I/O – the tab displays the digital I/O settings of the channel

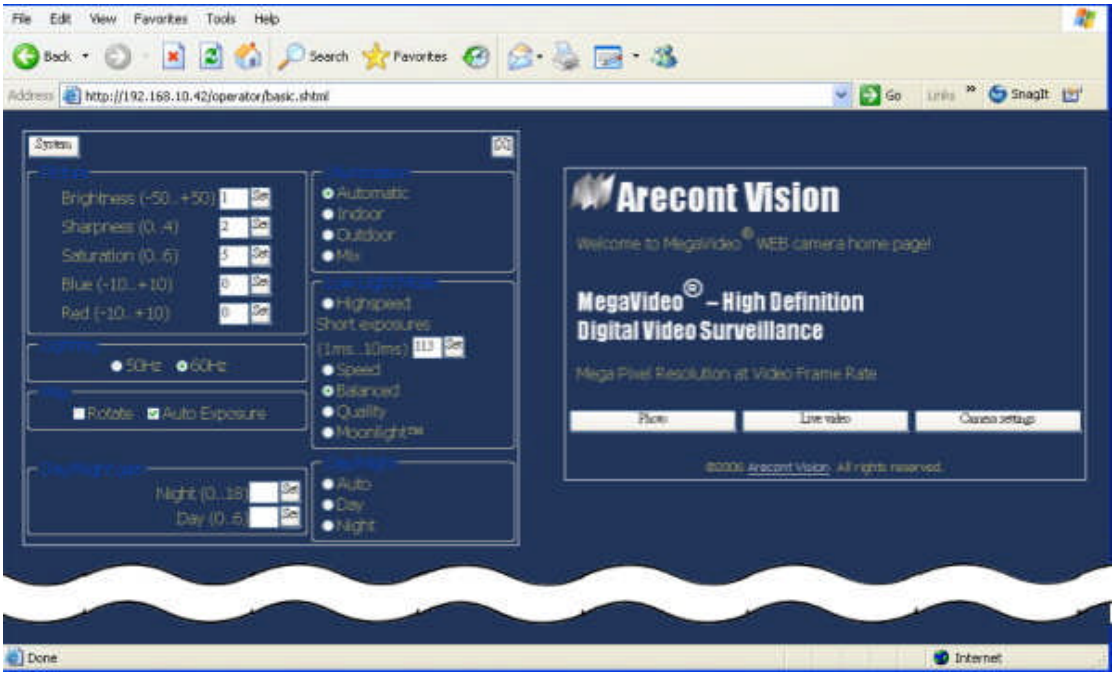


Figure 6-11 Camera Setting Provided by the Manufacturer

Some tabs will display the live image of the channel. The IP address above the live image is the IP address of the camera, click on it will open the camera's setting page.

6-1-2-2 Add Camera/Channel to the System

NVR offers two ways to add channel: Manual or Automatic.

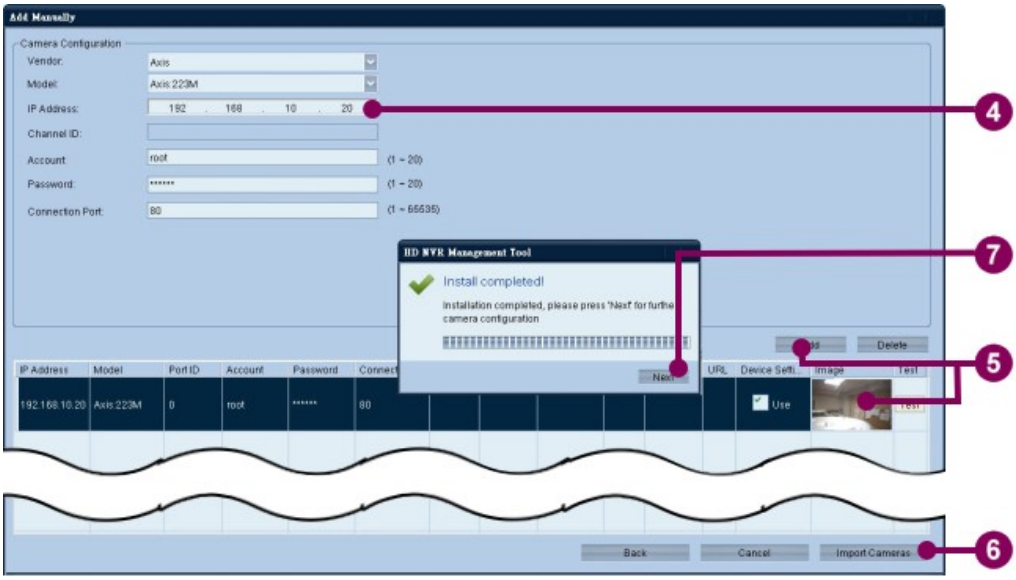
Add Channel Manually

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

Figure 6-12 Add a Channel Manually

1. In the configuration mode, click the **Device** tab.
2. Click the **Add** button below the device tree, and an **Add Camera Device** dialog is displayed.

3. Click **Add Manually**. An **Add Manually** dialog is displayed.



4. Select camera's vendor and model then input the IP address of the camera. Input the required account name and password to access the camera.
5. Click **Add**. The system tries to connect the IP camera remotely. If the connection is successful, the camera information (including an image preview) will be displayed in the list below.

NOTE: When the camera connection is unsuccessful, the image column will display the following icons:

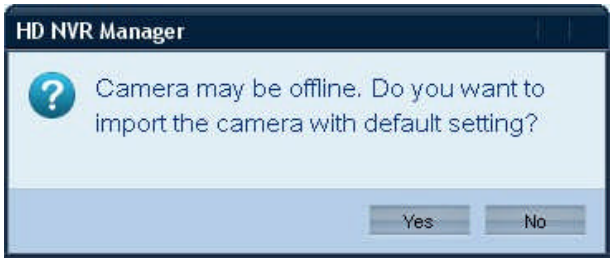
: Can't connect to camera, caused by incorrect IP address or HTTP port.

: Camera is connectable, but account or password is incorrect.

: Camera is connectable, but wrong camera model was selected.

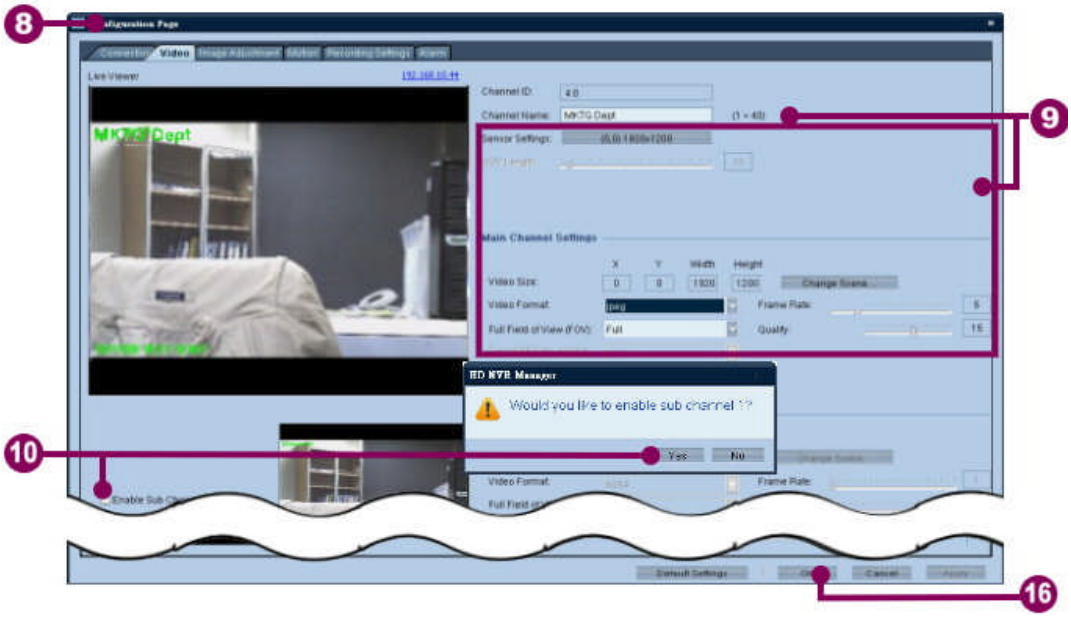
6. Click **Import Camera** to add the channel. (Click **Back** to return the **Add Camera Device** dialog, or click **Cancel** to exit.)

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.

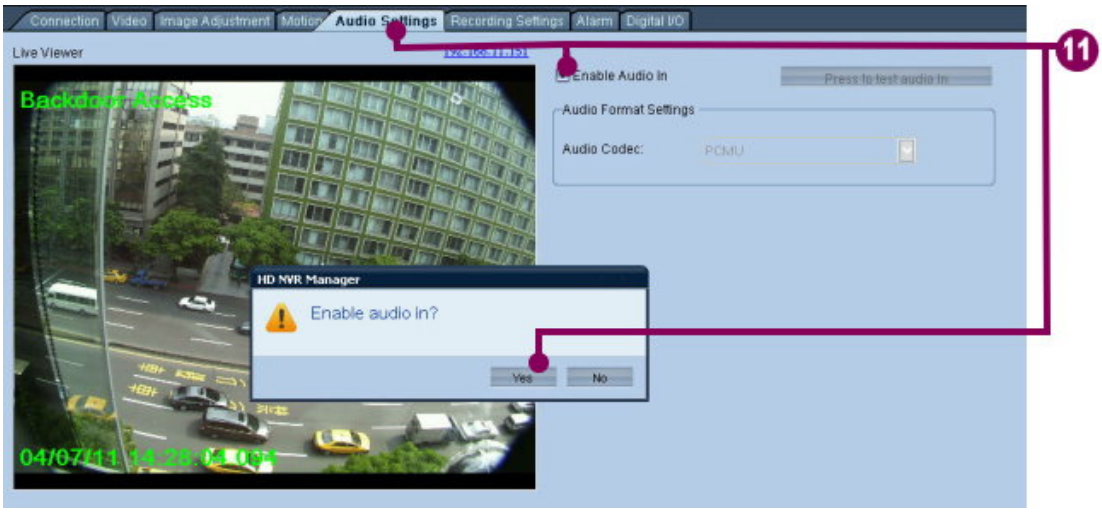


7. When the camera is connected, an '**Imported completed!**' message is raised. Click **OK** to close the message.

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.



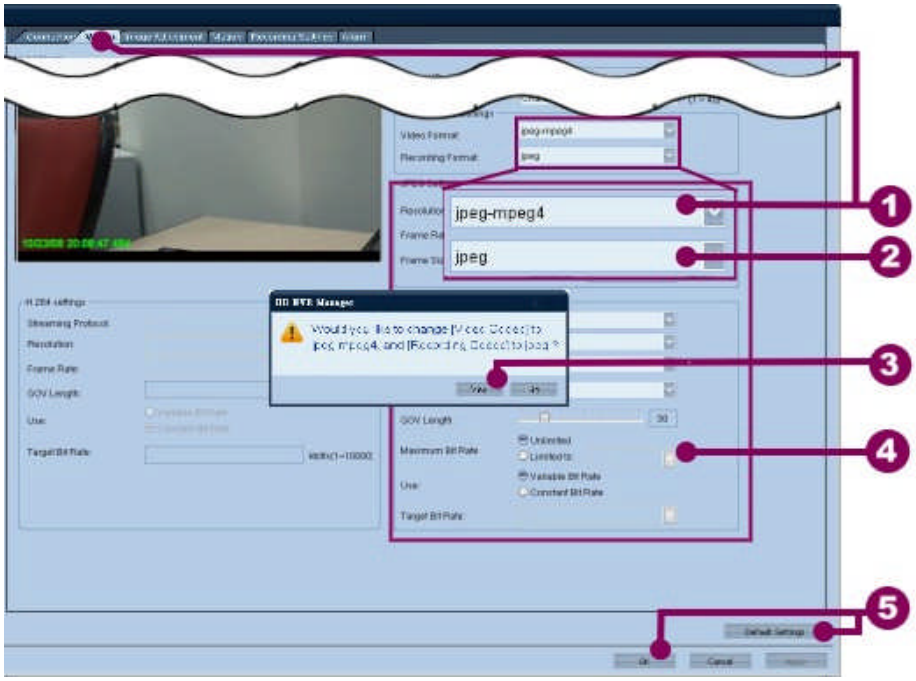
8. The new channel has been added to the camera tree. The **Configuration page** is opened for the following camera settings.
9. Click the **Video** tab and change the channel name. If necessary, change other video settings.
10. If the camera supports the **Sub Channel** function, check **Enable Sub Channel**, 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.



11. If the camera supports the audio function, an **Audio Settings** tab is added to the configuration dialog. Click the **Audio Settings** tab and check the **Enable Audio In** checkbox. When the message, '**Enable Audio in?**', is displayed, click **Yes** to continue.

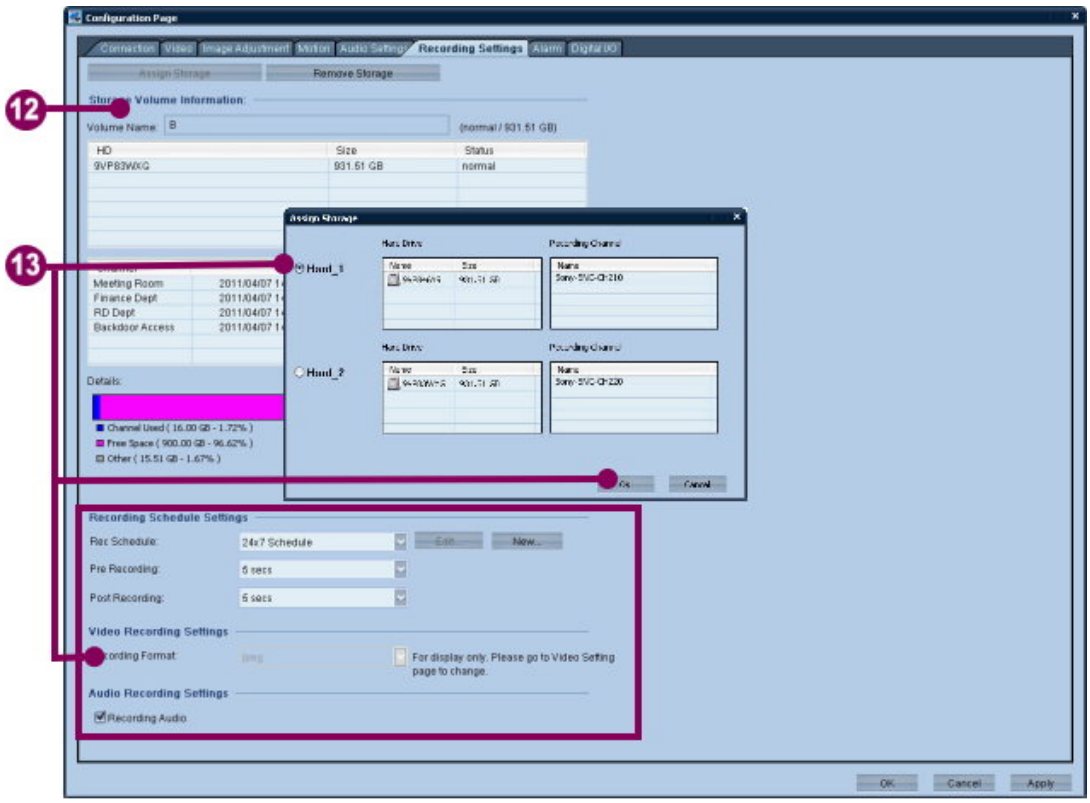
NOTE: To record the audio streaming, check the **Recording Audio** checkbox in the **Recording Settings** tab.

TIP: If the camera supports the dual codec function, see the following steps to activate 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 4-5-17 **Switch Codec**.
3. A confirmation message is displayed. Click **Yes** to continue.
4. Change the JPEG setting and the MPEG4 setting. For more information, refer to the camera manual.
5. Click **OK** to close. Click **Default Settings** to apply to the default settings of the camera.

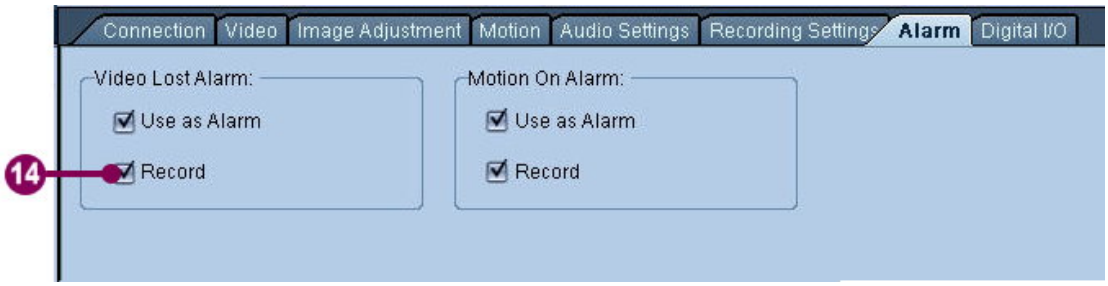
12. To start recording, click the **Recording Settings** tab and click **Assign Storage**.



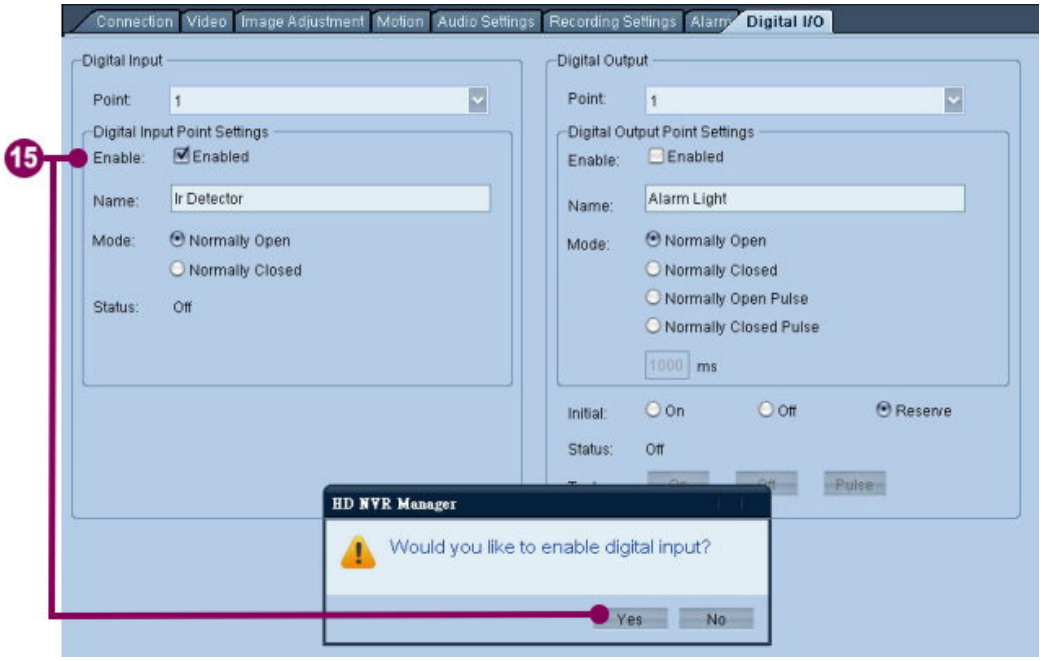
13. An **Assign Storage** dialog is displayed. Click the desired volume and click **OK**. The information of assigned storage and volume is displayed at the tab. If necessary, change the values of recording schedule, recording format, and audio recording setting.

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.

NOTE: When the sub-channel function is activated, the user needs to assign the storage for the desired sub-channel separately.

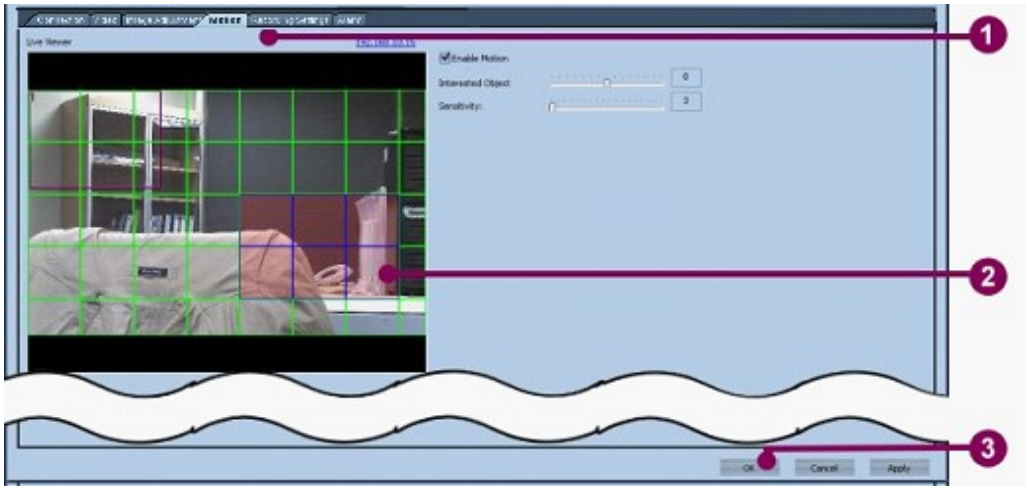


14. When the video loss or motion detection event is triggered, the system will automatically generate an alarm if the option of **Use as Alarm** in the **Alarm** tab is checked. Check **Record** to start recording when the alarm is triggered.



15. If the camera supports the DI/DO points, the configuration page will display the **Digital I/O** tab. Click **Digital I/O** tab and check **Enable** checkboxes to add the DI/DO points. Click **Yes** when the confirmation message is displayed. The user can also change the **Mode** option to control the DI/DO points if necessary.
16. 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 Channel Automatically

To add a channel automatically, see the following steps:

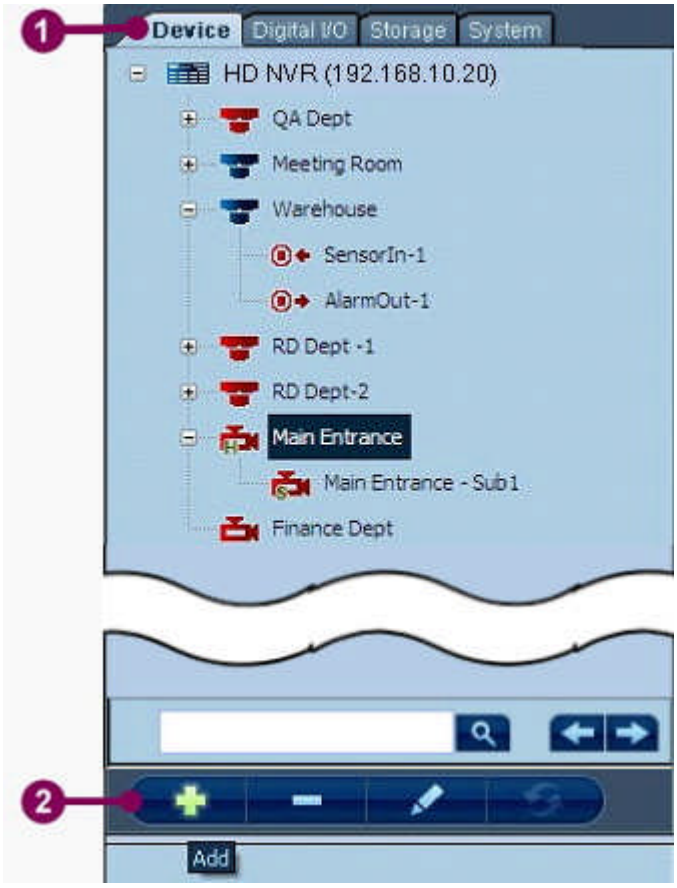
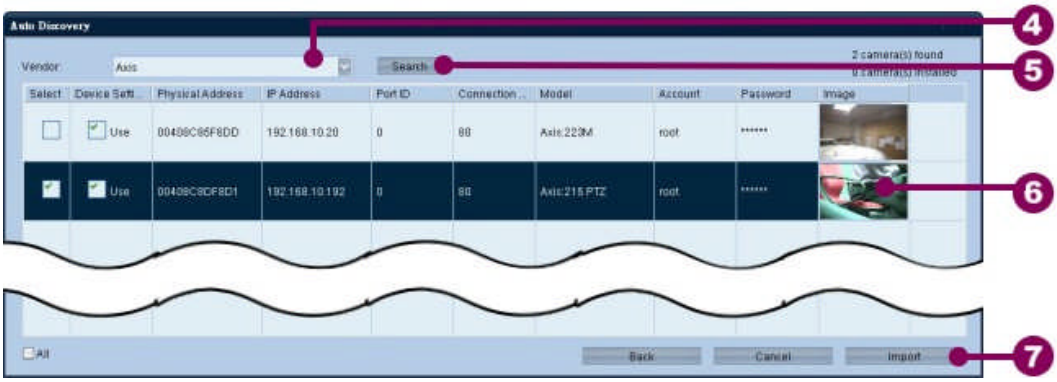


Figure 6-13 Add a Channel Automatically

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

3. Click **Auto Discovery**. The **Auto Discovery** dialog is displayed.



4. Click the **Vendor** combo box and select the preferred vendor name from the drop-down list. Click **Search** to continue. Only the cameras in the same domain name will be added to the list.
5. Click **Search**. The system tries to connect the IP camera remotely.
6. The system automatically searches all connecting IP cameras in the network. The searching result will be listed in the channel table.

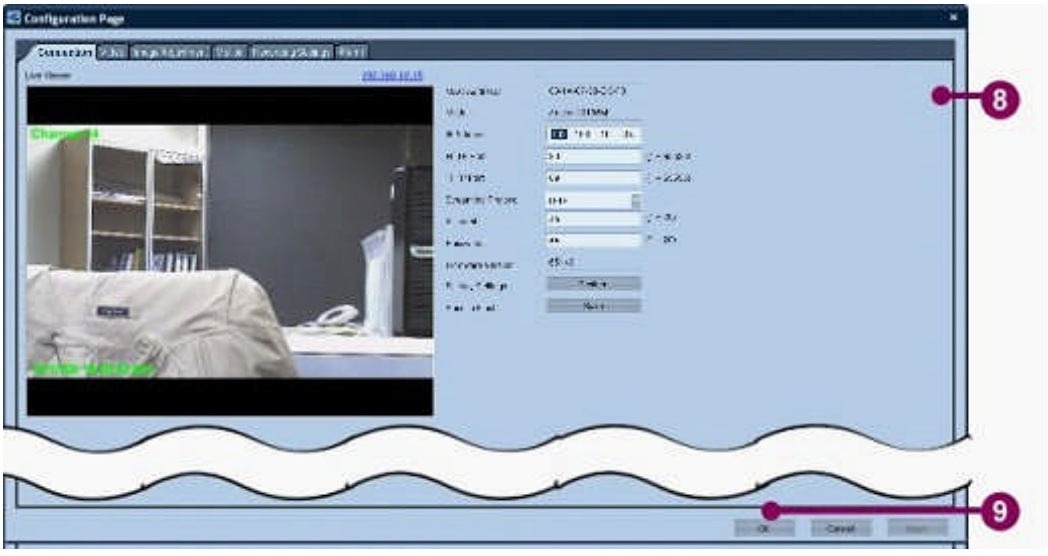
NOTE: When the camera connection is unsuccessful, the image column will display the following icons:

: Can't connect to camera, caused by incorrect IP address or HTTP port.

: Camera is connectable, but account or password is incorrect.

: Camera is connectable, but wrong camera model was selected.

7. Check the checkboxes of the selected cameras and click **Import**.



8. The new channel has been added to the camera tree. The **Configuration page** is displayed for changing the value settings of the camera.

9. Refer to the steps 9-15 in section 6-1-2-2 **Add a camera/channel to the system** for the following steps. Click **OK** to close the page.

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

6-1-2-3 **Modify Camera/Channel Settings**

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

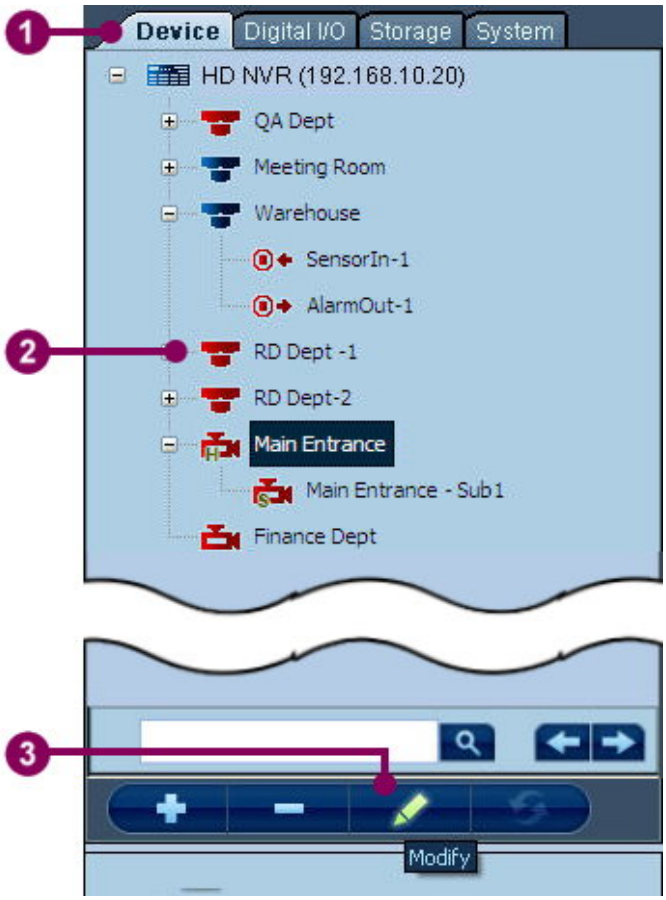
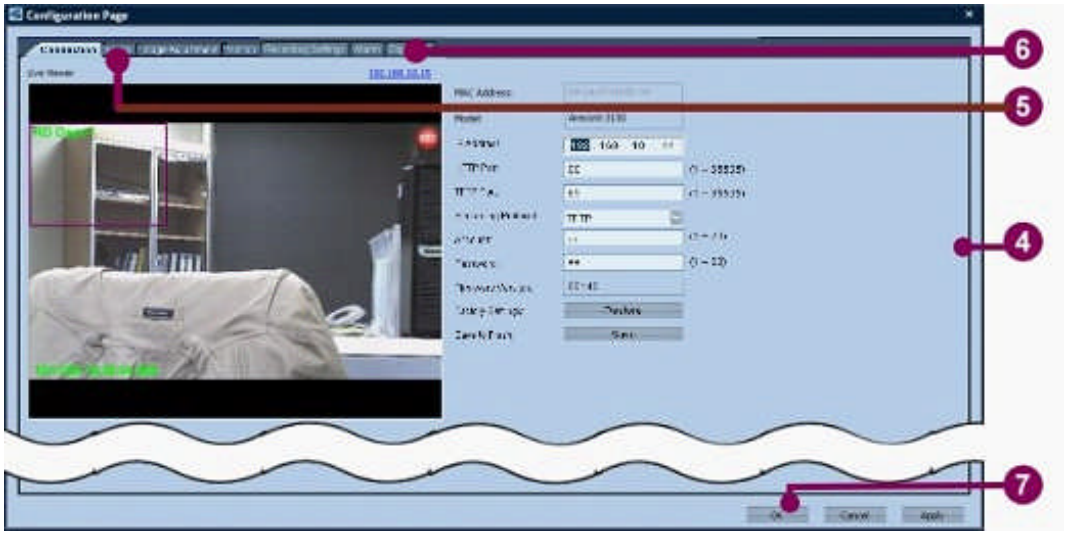


Figure 6-14 Modify the Channel Settings

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

TIP: To simplify step 2 and 3, 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 **Add a camera/channel to the system** 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 Camera/Channel from the System**

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

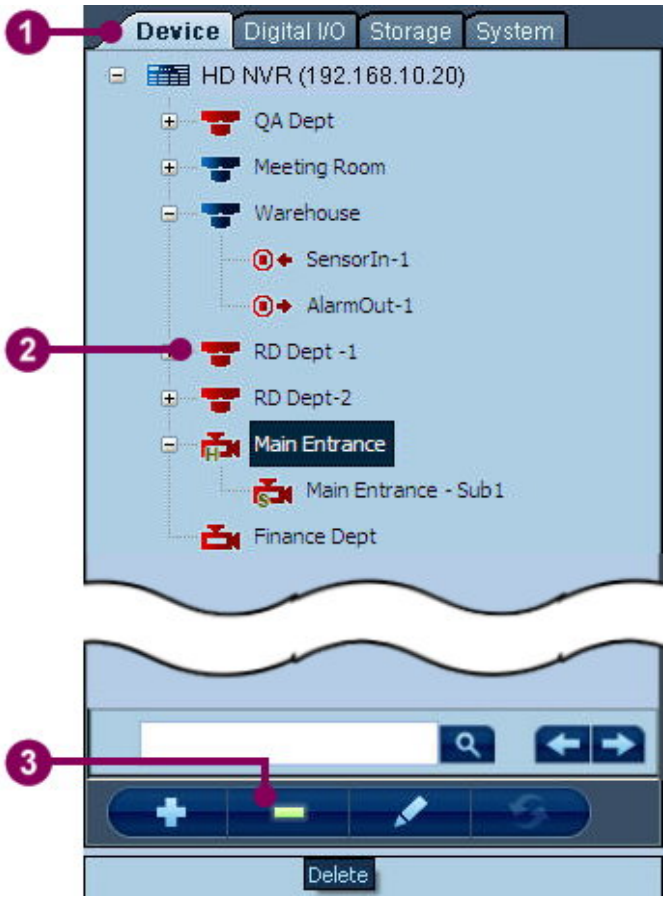


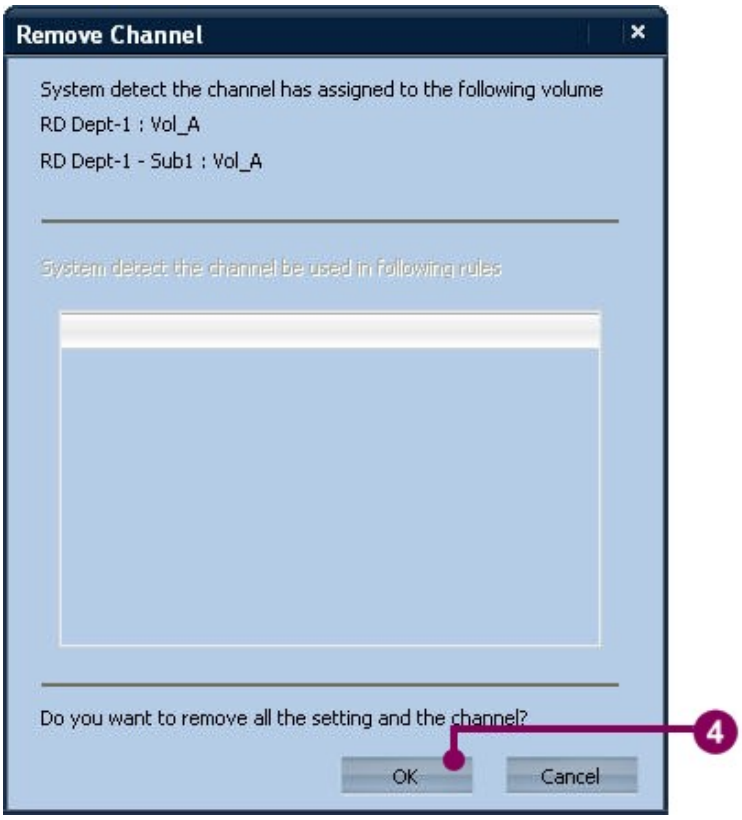
Figure 6-15 Delete Camera/Channel from the System

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 any channel for recording, or the channel is used in an alarm rule, the system raises a message as displayed above. 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.

6-1-2-5 **Search Specific Camera/Channel**

When cameras in device tree are too many to find in a short time, the camera search function can solve the problem. To quickly find the specific camera in the device tree, the user should follow the steps below:

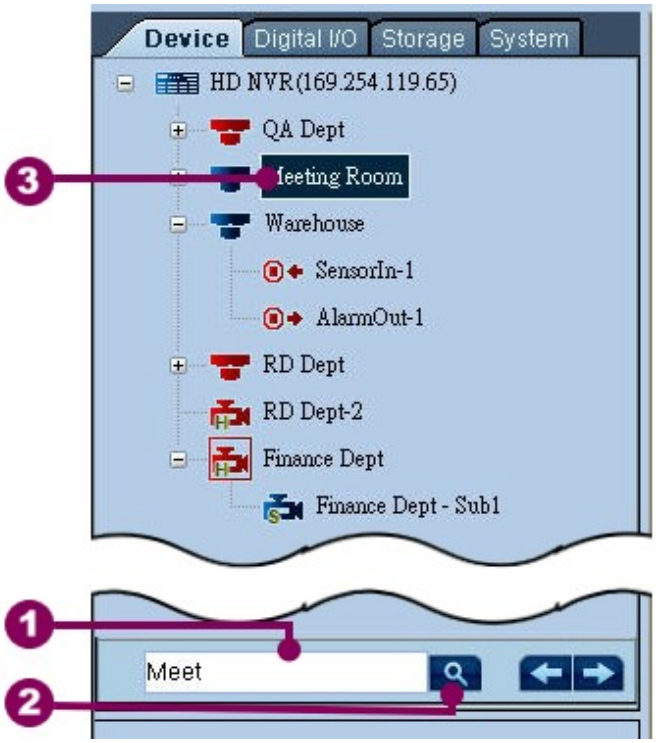


Figure 6-16 Search Specific Camera/Channel

1. Input full or partial name of the desired camera at the textbox located at the bottom of the device tree.
2. Click ( ).
3. When the camera is found, the camera will be highlighted.
4. Use to find previous or next match.

6-2 Digital I/O Setting

The HD NVR connects additional digital I/O modules (DIO modules) for specific input or output. When the additional DIO modules are connected, the Digital I/O tab in the device tree panel displays all connected digital I/O modules. Click the DIO module icon in the DIO tree, and the details of the selected DIO module and subordinate DIOs are displayed at the right panel. The following sections demonstrate how to add, modify, and delete a DIO module.

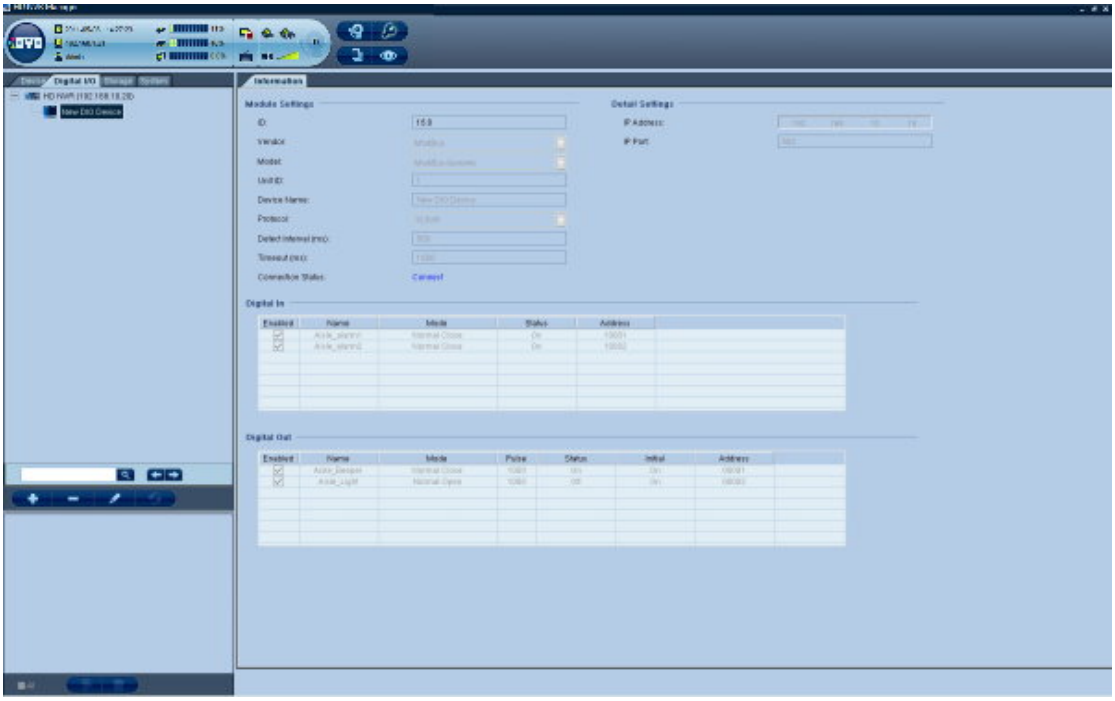


Figure 6-17 Digital I/O Setting

6-2-1 Add a DIO Module

The HD NVR supports the DIO module of TCP/IP or RS-485 protocol. The following demonstrates how to add a TCP/IP DIO module. See the following steps:

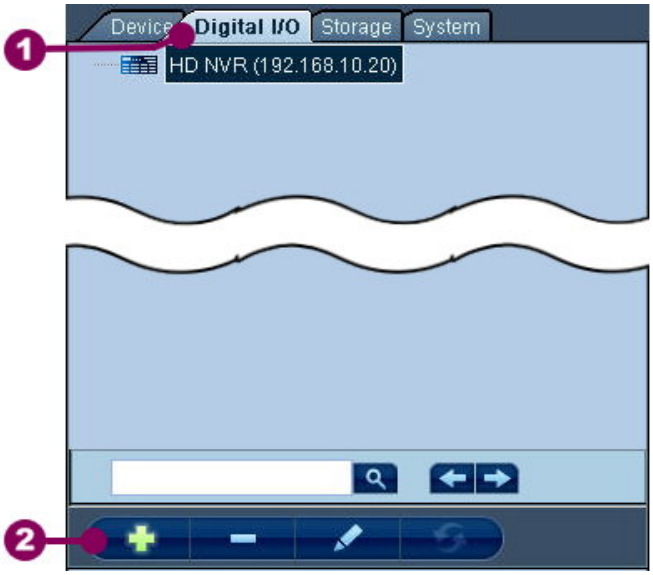
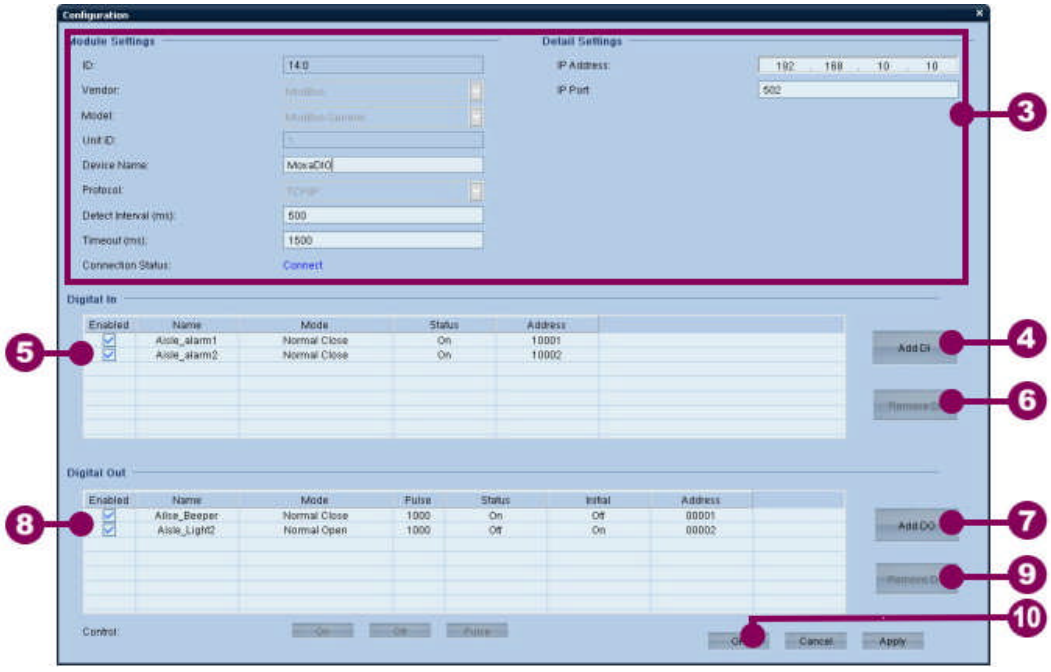


Figure 6-18 Add a DIO Module

1. In the configuration mode, click the **Digital I/O** tab.
2. Click the **Add** button at the bottom of the DIO module tree. A **Manually Add** dialog is displayed.



3. Change the values of module settings if the value is incorrect. Input the IP Address and IP port to complete the settings of the DIO module.

NOTE: To add a RS-485 DIO module, change the protocol to RS-485. Make sure that all values in the detail settings are correct. Wrong COM port settings may cause the connection error.

4. To add a digital input point, click **Add DI**. The new input point has been added to the DI table.
5. To activate the added DI point, check the **Enabled** checkbox. If necessary, change the name and mode of the DI point.
6. To remove the added DI point, click the selected DI point first and click **Remove DI**. The selected DI point is removed from the DI table.
7. To add a digital output point, click **Add DO**. The new output point has been added to the DO table.
8. To activate the added DO point, check the **Enabled** checkbox. When the DO status is changed, the mode in the DO table will be changed simultaneously.
9. To remove the DO point, click the selected DO point first and click **Remove DO**. The selected DO point is removed from the DO table.
10. Repeat step 3-9 until all desired DI/DO points have been added. Click **OK** to exit the dialog.

6-2-2 Modify a DIO Module

To modify a DIO module, see the following steps:

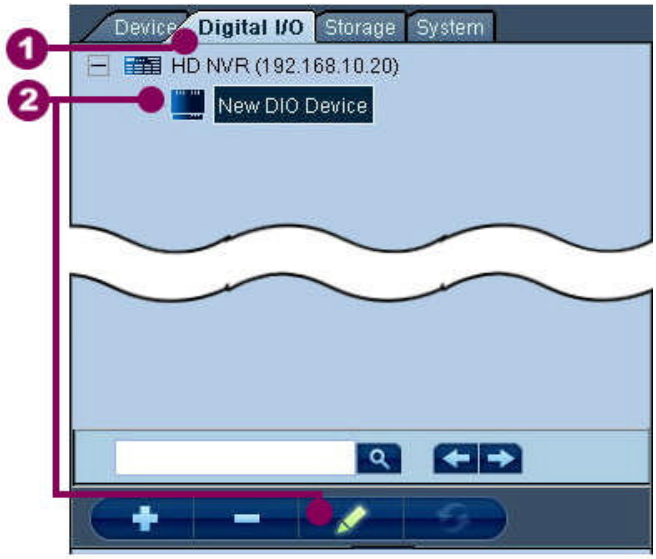
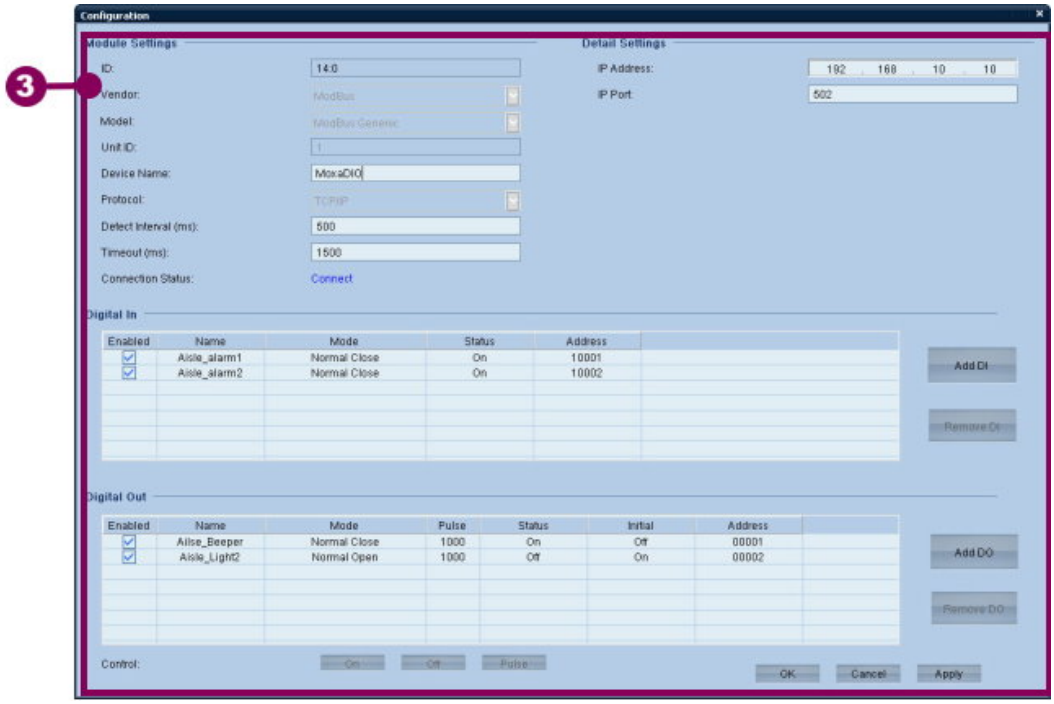


Figure 6-19 Modify a DIO Module

1. In the configuration mode, click the **Digital I/O** tab.
2. Click the selected DIO module to highlight the icon. Click the **Modify** button at the bottom of the DIO module tree.



3. Refer to section 6-2-1 **Add a DIO Module** and change the setting values of the DIO module.

6-2-3 Delete a DIO Module

To delete a DIO module, see the following steps:

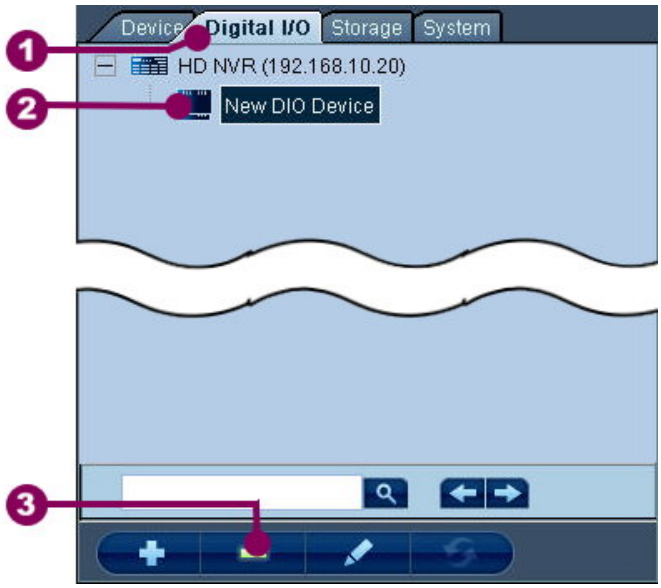


Figure 6-20 Delete a DIO Module

1. In the configuration mode, click the **Digital I/O** tab.
2. Click the selected DIO module to highlight the icon. Click the **Delete** button at the bottom of the DIO module tree.
3. The selected DIO module is removed from the DIO module tree.

6-3 Storage Setting

The storage setting panel displays all configured volume information of NVR. Click the volume icon in the device panel at the left, and the detailed information of the volume will be displayed in the configuration panel.

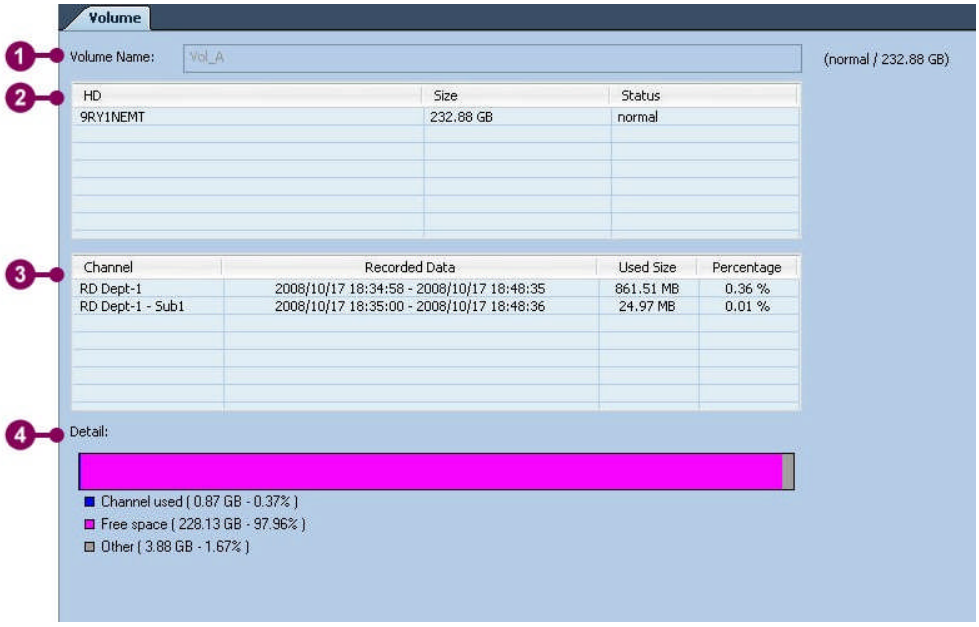


Figure 6-21 Storage Setting

The configuration panel displays the following information:

1. Volume Name – indicate the name of the volume
2. HD – displays the Serial Number of the HDD
3. Channels – displays all channel information that has been assigned to the volume.
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. (See section 3-4 **Rename Volume Name** and section 3-6 **Modify a Volume** for details.)

6-4 System Setting

The system setting includes five items:

- Map
- User Account
- Group Account
- Rules
- Schedule

6-4-1 Map

In the configuration mode, NVR offers the following functions:

- Add a map to the system
- Modify a map
- Delete a map from the system
- Change map's hierarchy

6-4-1-1 Add Map to the System

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

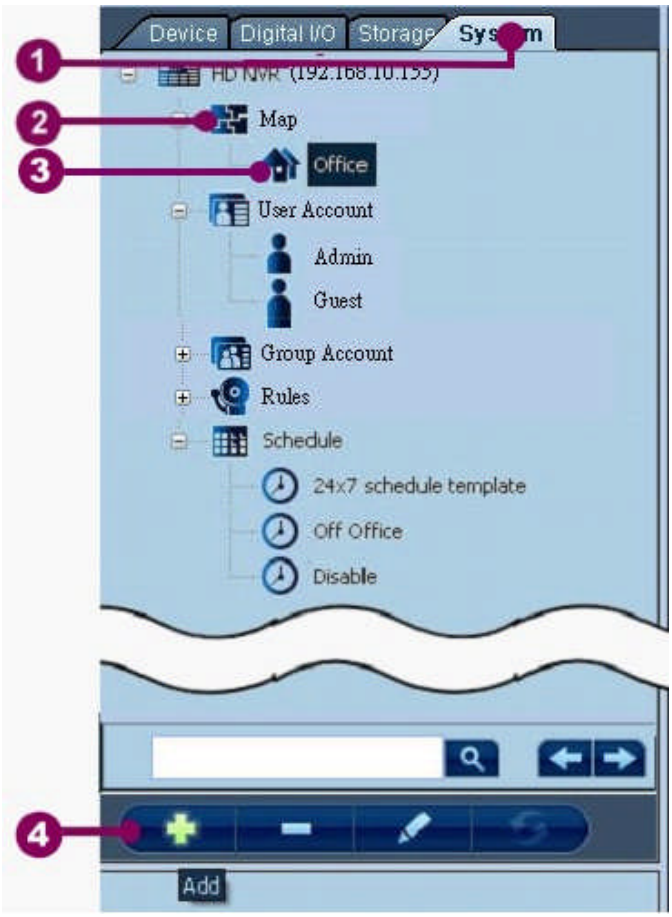
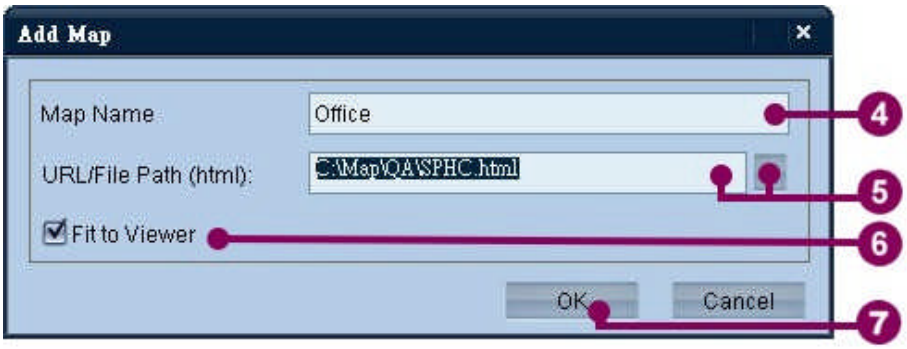


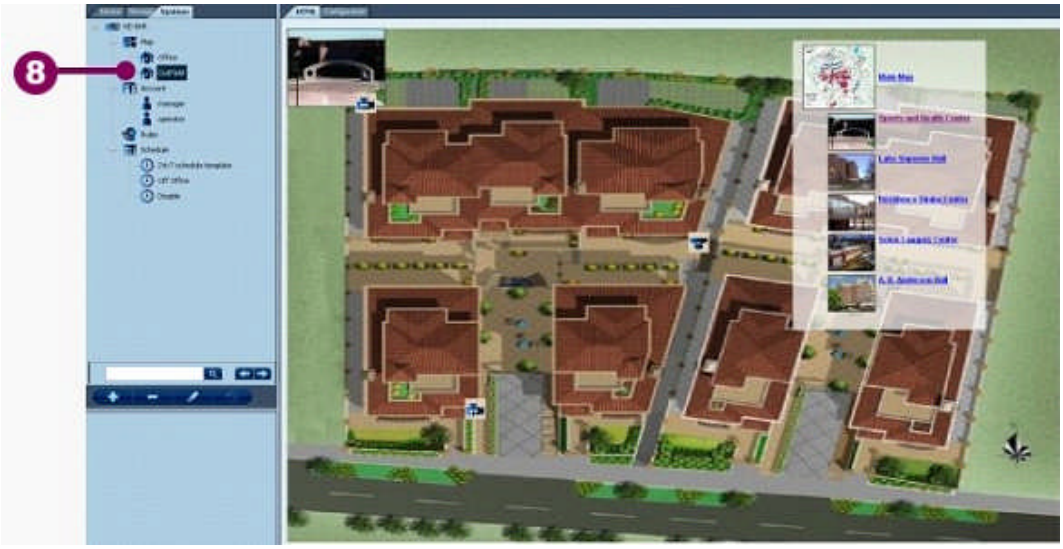
Figure 6-22 Add a Map to the System

1. In the configuration mode, click the **System** tab.
2. Click **Map** in the tree panel.
3. Click **Add** button to display 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 display the **Open** dialog. The dialog helps user to find the correct map file. Click **Open** to close the dialog.
6. When the **Fit to Viewer** option is checked, the map will fit the viewer size automatically.
7. Click **OK**.



8. The new map has displayed in the setting panel.

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

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

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

6-4-1-2 **Modify Existing Map**

To modify a map file, see the following steps:

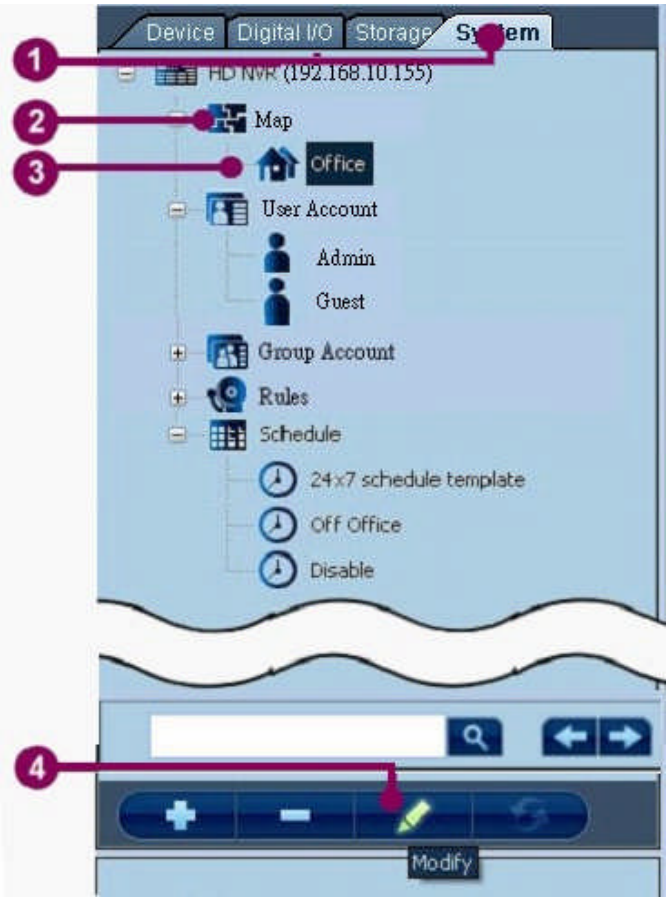
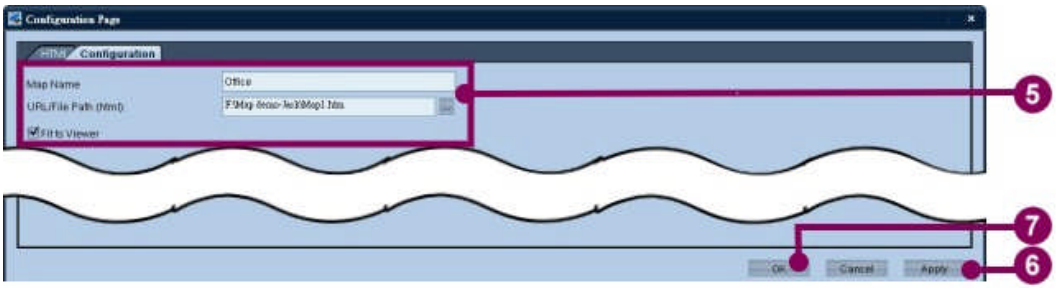


Figure 6-23 Modify an Existing Map

1. In the configuration mode, click the **System** tab.
2. Click **Map** in the tree panel.
3. Click the selected map.
4. Click **Modify** button to display the configuration page.



5. The configuration page has two tabs: the **HTML** tab displays the content of the map file, and the **Configuration** tab allows user to change maps name and 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.

6-4-1-3 **Change Map Hierarchy**

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

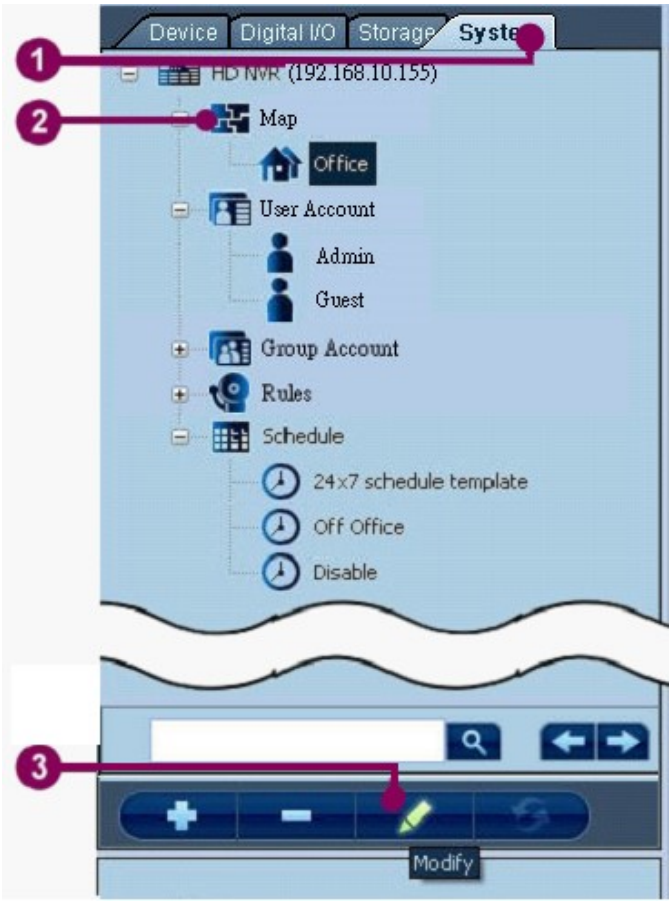
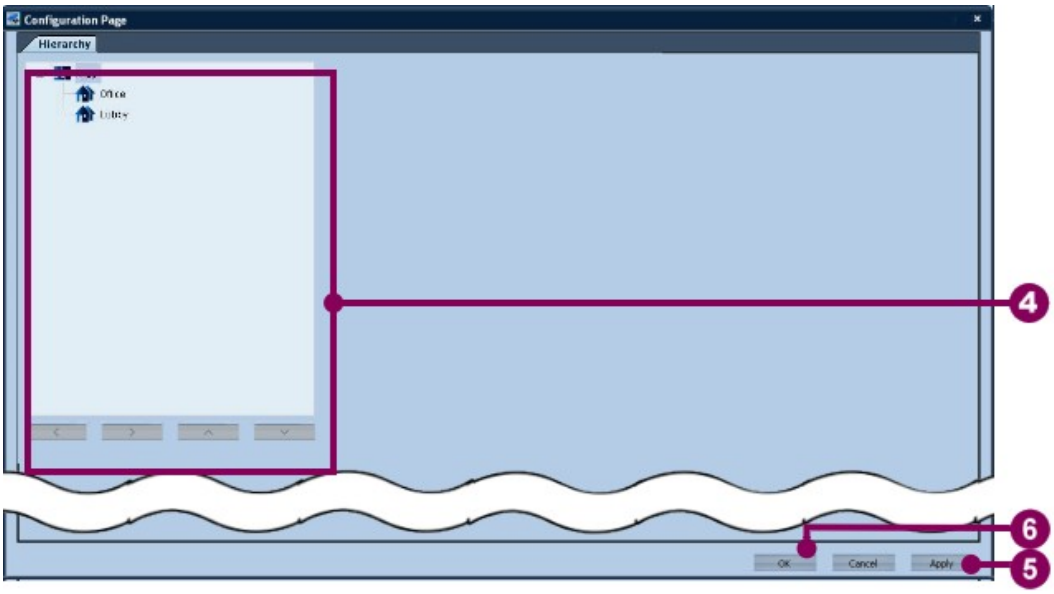


Figure 6-24 Change Map Hierarchy

1. In the configuration mode, click the **System** tab.
2. Click **Map** in the tree panel.
3. Click **Modify** to display the configuration page.
4. The configuration page has only one tab: **Hierarchy**. The tab allows 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 the map to a new position. The functions of the buttons are as follows:
   : Upgrade the map level
   : Downgrade the map level
   : Move the map up.
   : Move the map down.
6. When all changes have been made, click **Apply** to confirm.
7. Click **OK** to close the configuration page.

6-4-1-4 **Delete Map from the System**

To delete a map from the system, see the following steps:

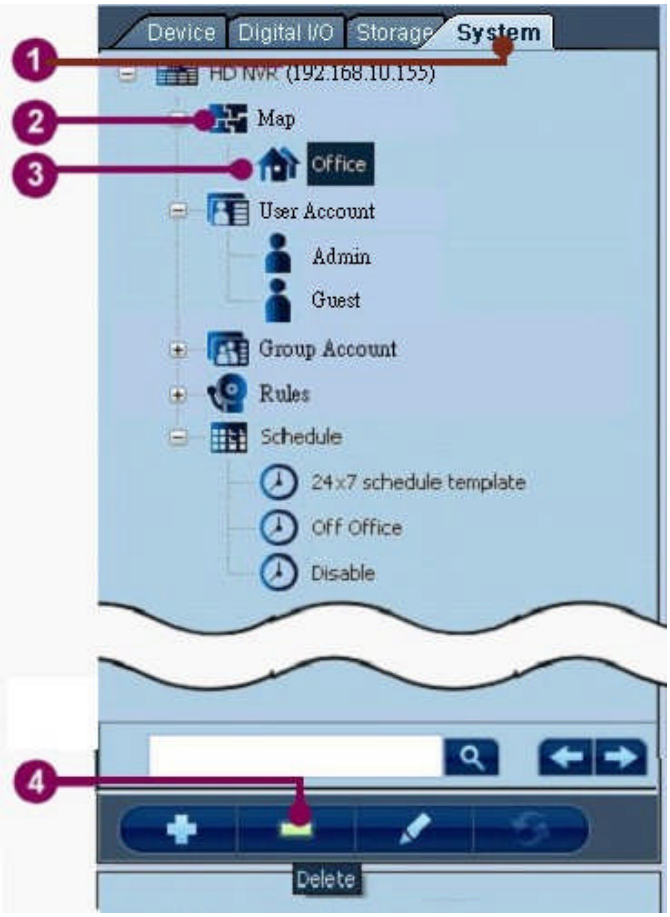


Figure 6-25 Delete a Map from the System

1. In the configuration mode, click the **System** tab.
2. Expand **Map** node in the tree panel.
3. Click the selected map.
4. Click **Delete** button.

5. A confirmation message is displayed. Click **Yes** to continue.
6. The selected map has been removed from the map tree.

6-4-2 User Account

The system allows user to add, modify, and delete user accounts. Combined with the group account setting, the system administrator can fully manage the privilege of all user accounts.

6-4-2-1 View Setting of User Account

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

Figure 6-26 View Setting of User Account

- Name – indicate the login name of the user account
- Full Name – indicate the full name of the user.
- Department – indicate the department of the user
- Title – indicate the title of the user
- E-mail – indicate the email address of the user
- Phone Number – indicate the phone information of the user
- Logon Schedule – indicate the logon schedule of the user
- Group – indicate the belonging group of the user
- Enable – indicate the active status of the user account

6-4-2-2 **Add User Account**

To add a user account, see the following steps:

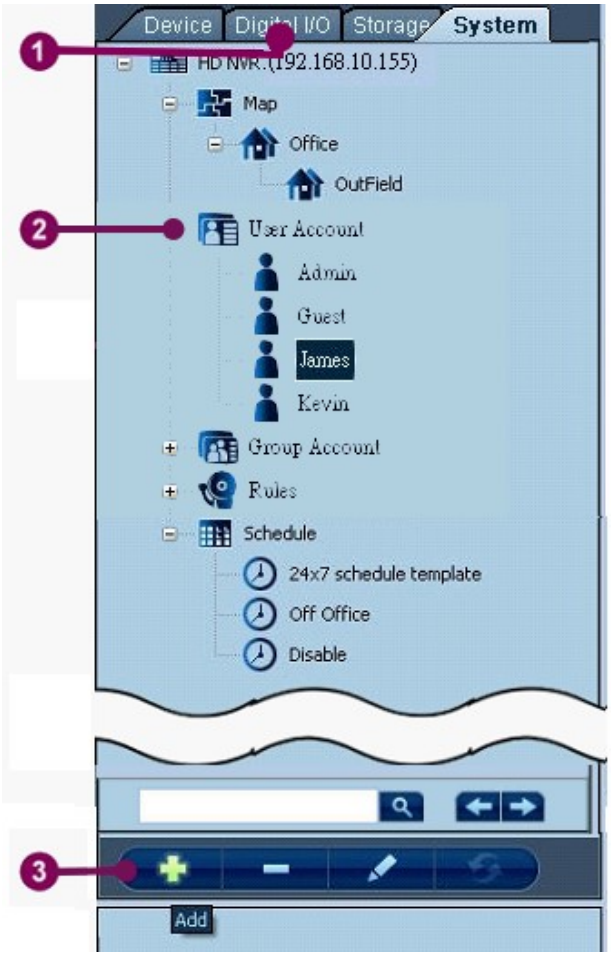
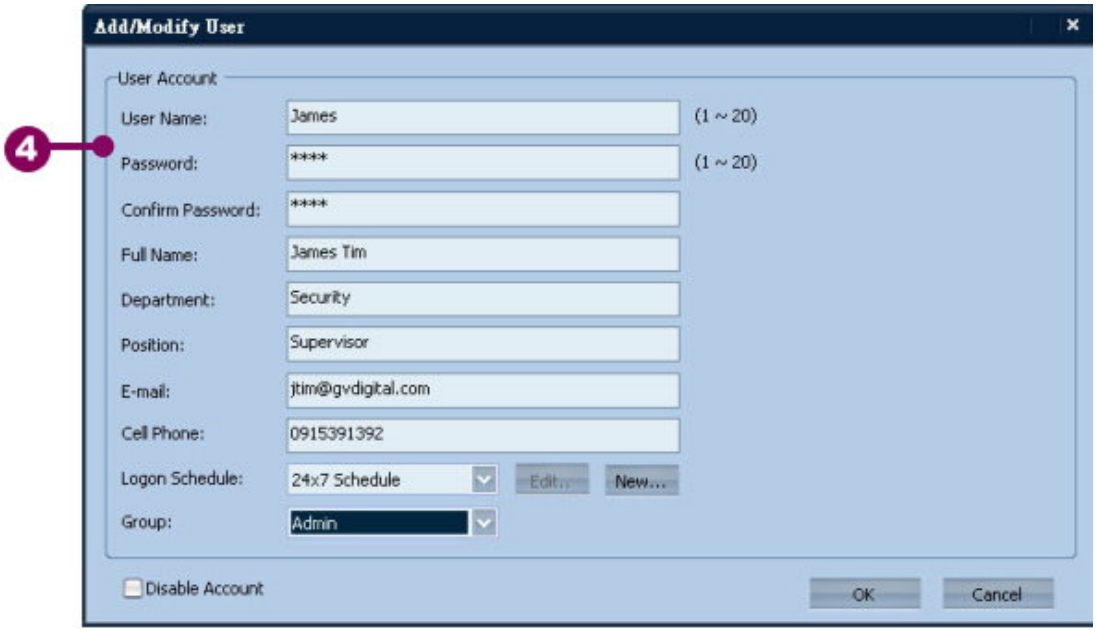


Figure 6-27 Add a User Account

1. In the configuration mode, click the **System** tab.
2. Click **User Account** node.
3. Click the **Add** button, and the **Add/Modify User** dialog is displayed.



4. Input the values of all columns and click **OK**.
5. The new user account has been added to the user account list.

NOTE: The wrong email format or the phone column with alphabet characters may generate the **Failed to create account** error.

6-4-2-3 **Edit User Account**

To modify an existing user account, see the following steps:

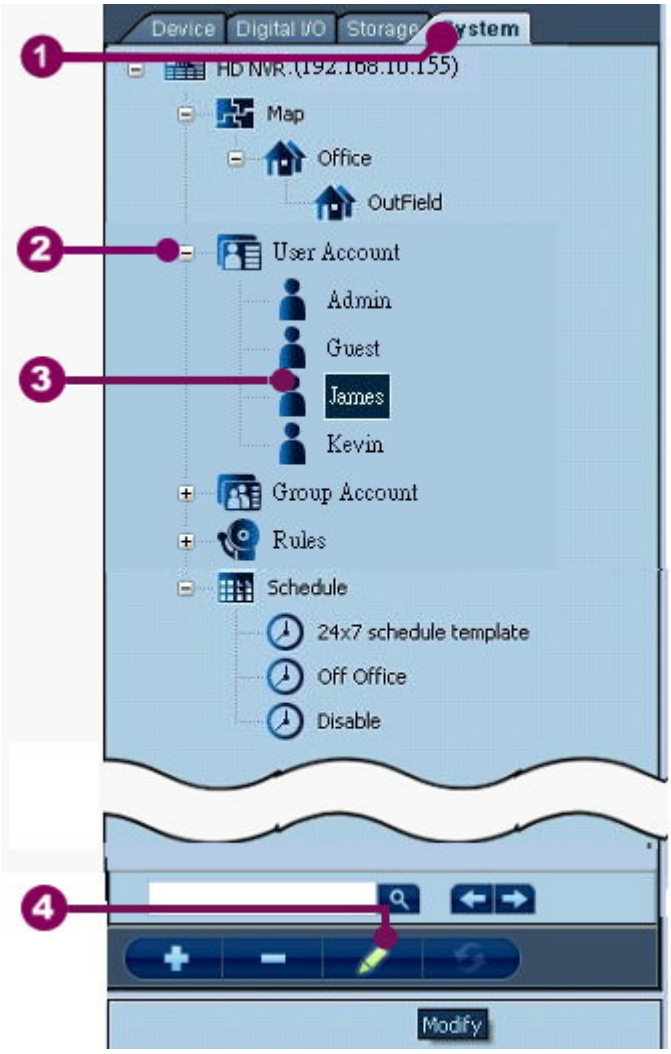
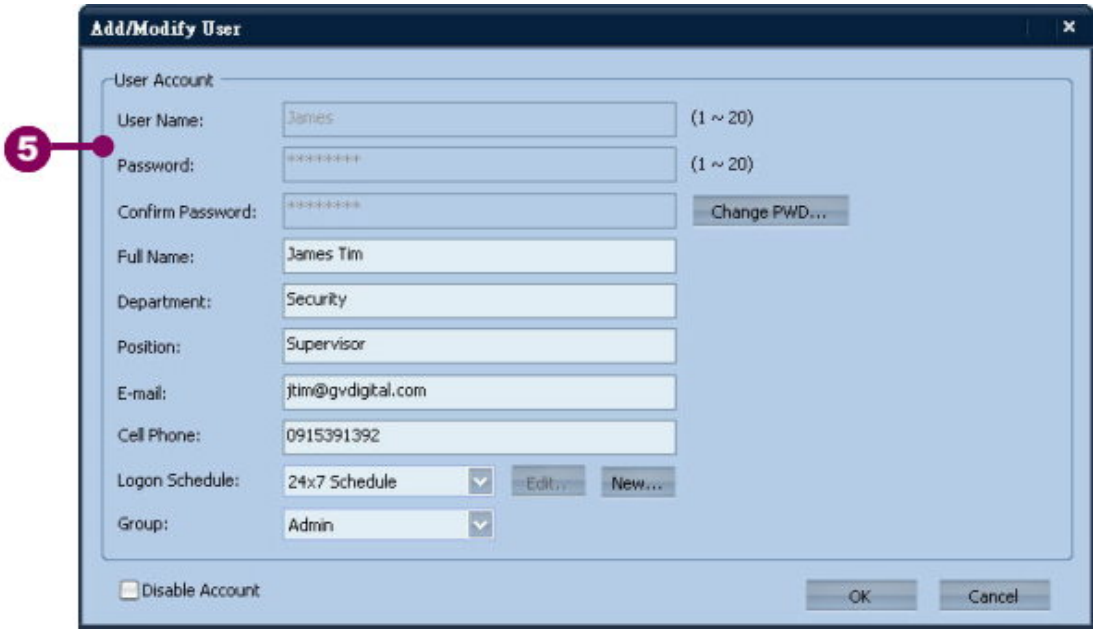


Figure 6-28 Edit an Existing User Account

1. In the configuration mode, click the **System** tab.
2. Expand **User Account** node if it is collapsed.
3. Select the user account to be modified.
4. Click the **Modify** button, and the **Add/Modify User** dialog displays.



5. Change the values of desired columns and click **OK**. Check the **Disable Account** checkbox to disable the selected user account. Click **Change PWD** to change the password of the user account.
6. Click **OK** to confirm the modification.

6-4-2-4 **Delete User Account**

To delete an existing user account, see the following steps:

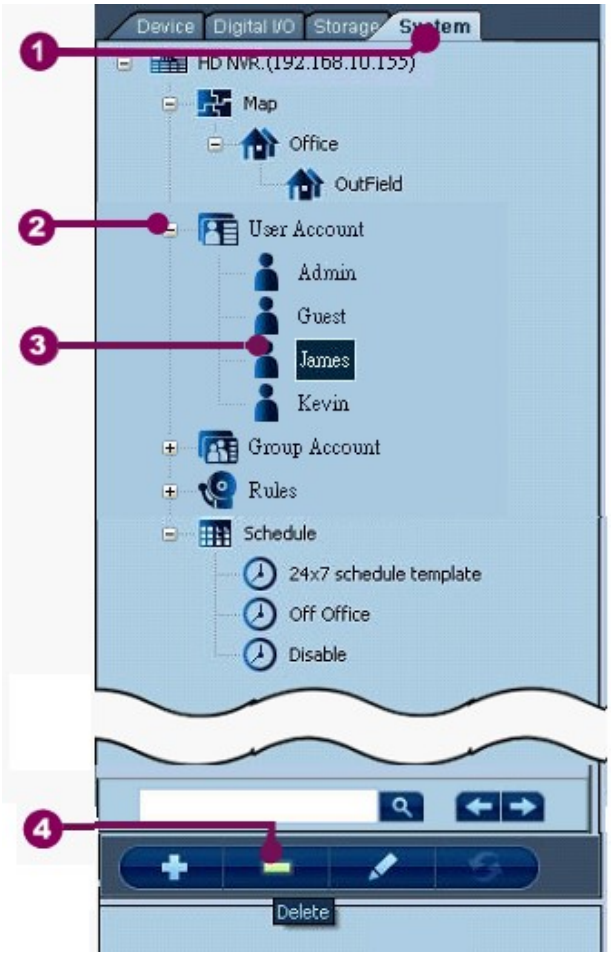


Figure 6-29 Delete User Account

1. In the configuration mode, click the **System** tab.
2. Expand **User Account** node.
3. Select the user account to be deleted.
4. Click **Delete**, and a confirmation dialog will popup. Click **OK** to delete the user account.

6-4-3 Group Account

The **Group Account** setting is for managing the privilege of all user accounts. Group account can set the rights of camera, alarm, configuration…etc. User account assigned to the group will inherit the privilege of the group.

6-4-3-1 **Add Group Account**

To add a group account, see the following steps:

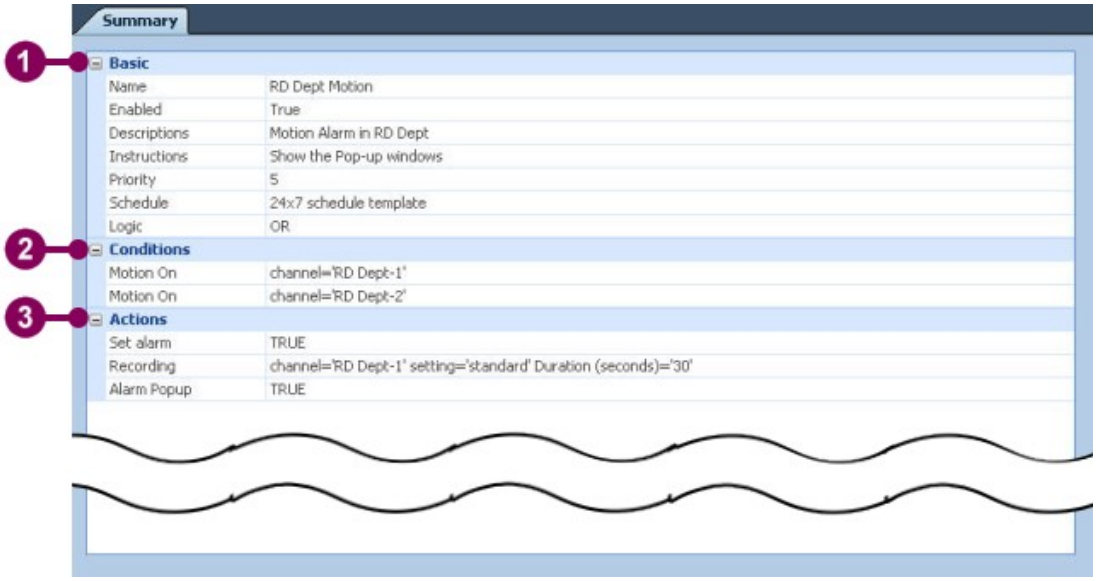
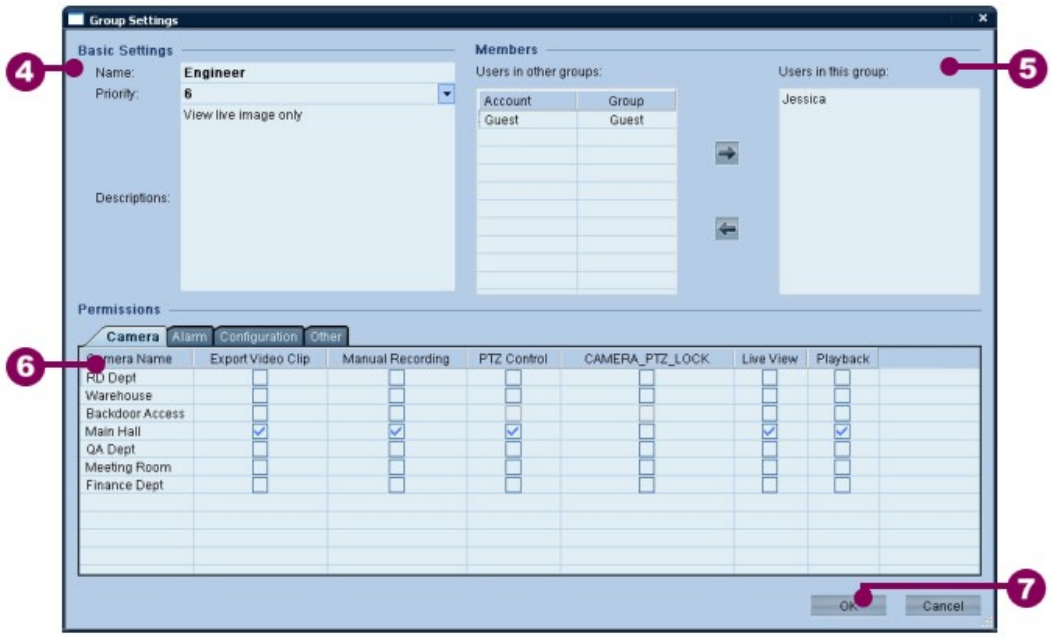


Figure 6-30 Add a Group Account

1. In the configuration mode, click the **System** tab.
2. Click **Group Account** node if collapsed.
3. Click **Add**, and the **Group Setting** dialog is displayed.



4. Input the group name in the **Group Name** column. Set the priority of the group and input group description in the **Group Description** column. Members in the group with higher priority can restrict the device operations of members in the group with lower priority.

5. Select desire user and click >> to assign the user account to the group.

6. Complete the necessary permission settings of the group account in the tabs of **Camera**, **Alarm**, **Configuration**, and **Other**. The **Camera** tab sets the permission of exporting video clip, manually recording, controlling PTZ cameras, locking PTZ cameras, viewing the live images, and playing the historical videos. The **Alarm** tab sets the permission of alarm acknowledgement and search. The **Configuration** tab sets the permission of modifying the settings of alarm rule, camera, NVR, schedule, and storage. The **Other** tab sets the permission of event search and other system development tasks.

> **NOTE:** To activate the PTZ lock or PTZ lock streaming functions, the system administrator needs to check the **PTZ control** and **Camera_PTZ_Lock** options in the **Camera** tab in advance.

7. Click **OK** to close the dialog. The new group name is displayed in the group account list.

6-4-3-2 **Edit Group Account**

To edit an existing group account, see the following steps:

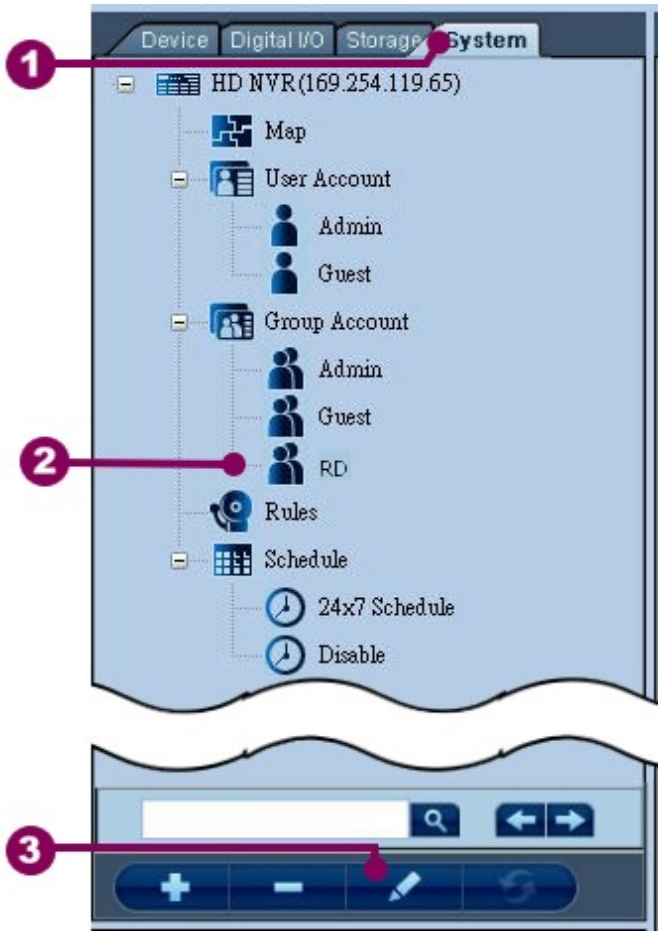
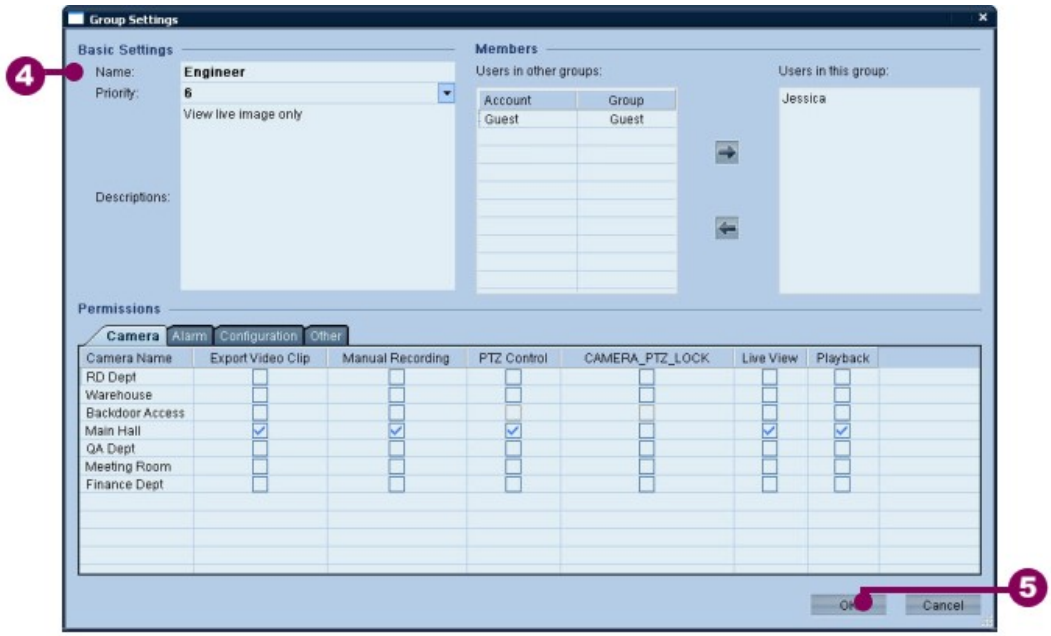


Figure 6-31 Edit an Existing Group Account

1. In the configuration mode, click the **System** tab.
2. Expand **Group Account** node.
3. Click **Modify**, and the **Group Setting** dialog is displayed.



4. Change the desired values in the **Group Setting** dialog.
5. Click **OK** to confirm the modification.

6-4-3-3 **Delete Group Account**

To delete an existing group account, see the following steps:

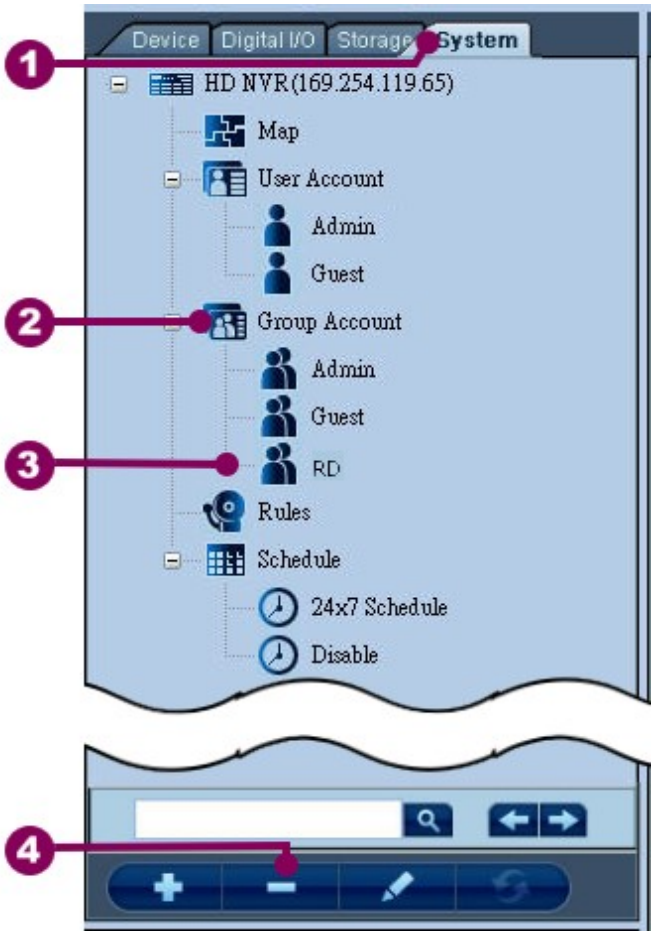


Figure 6-32 Delete a Group Account

1. In the configuration mode, click the **System** tab.
2. Expand **Group Account** node if collapsed.
3. Select the group account to be deleted.
4. Click **Delete**, and a confirmation dialog will pop up. Click **OK** to delete the group account.

6-4-4 Alarm Rule

6-4-4-1 Brief of Alarm Rule

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

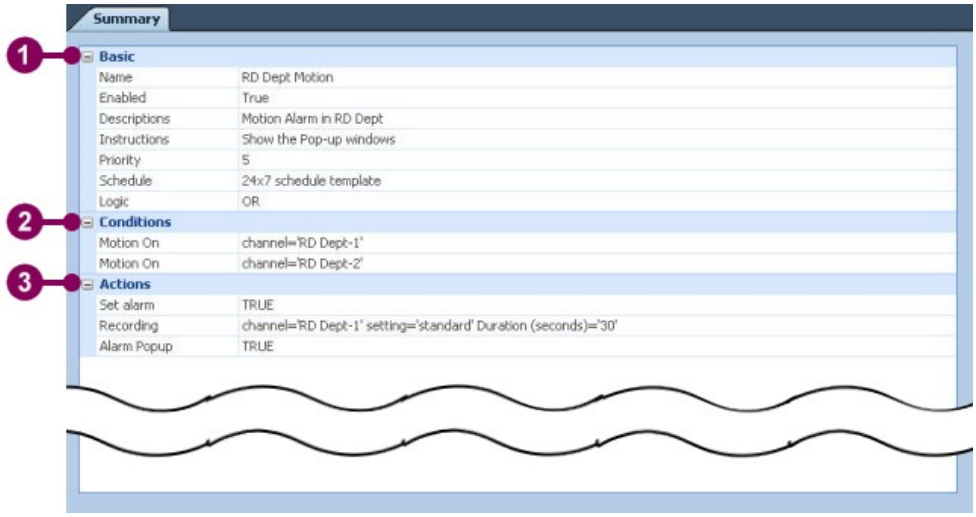


Figure 6-33 Brief of Alarm Rule

1. Basic – indicate the basic information of the alarm rule, including the name, description, priority, and schedule, etc.
2. Conditions – indicate the trigger sources.
3. Actions – indicate the actions to be taken when the alarm triggered.

6-4-4-2 Add Alarm Rule to the System

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

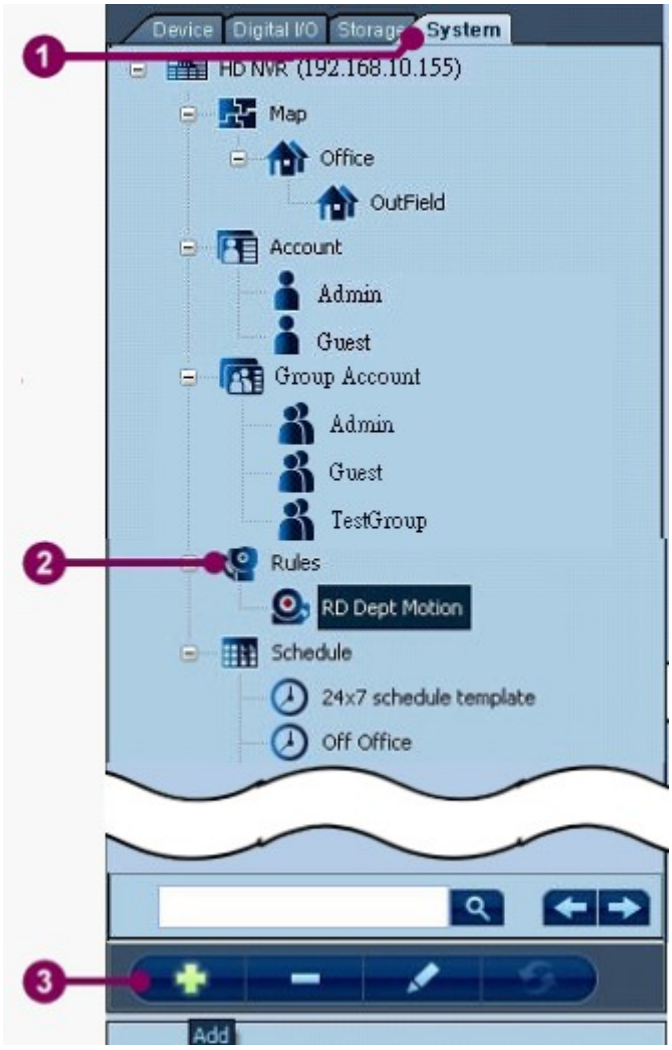
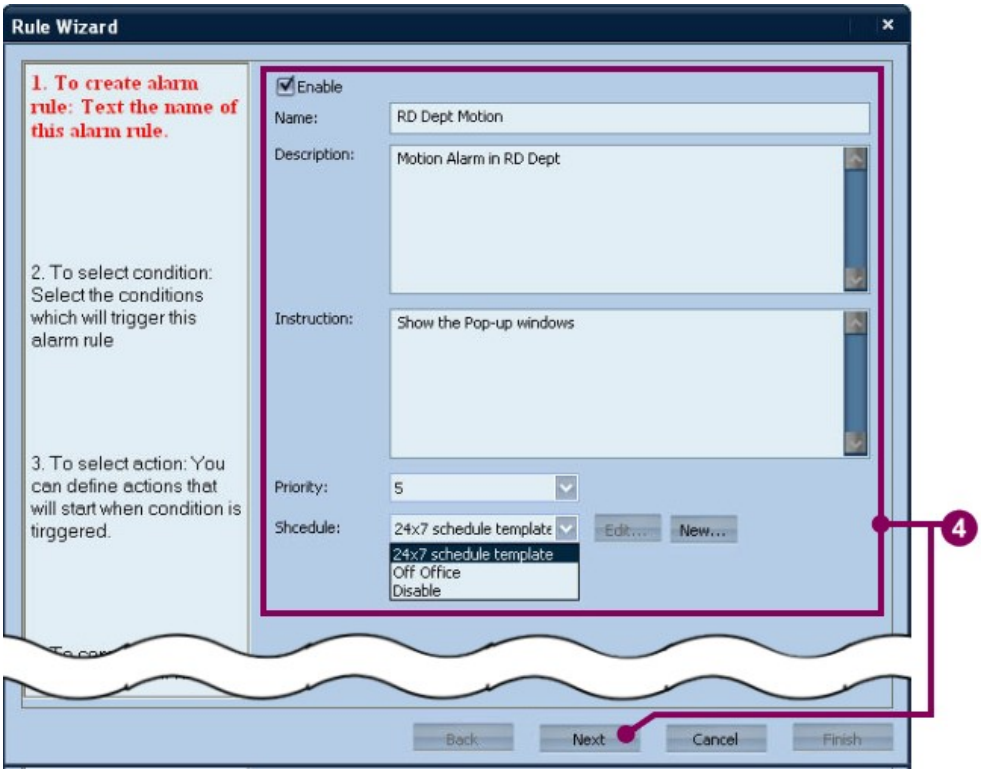


Figure 6-34 Add Alarm Rule to the System

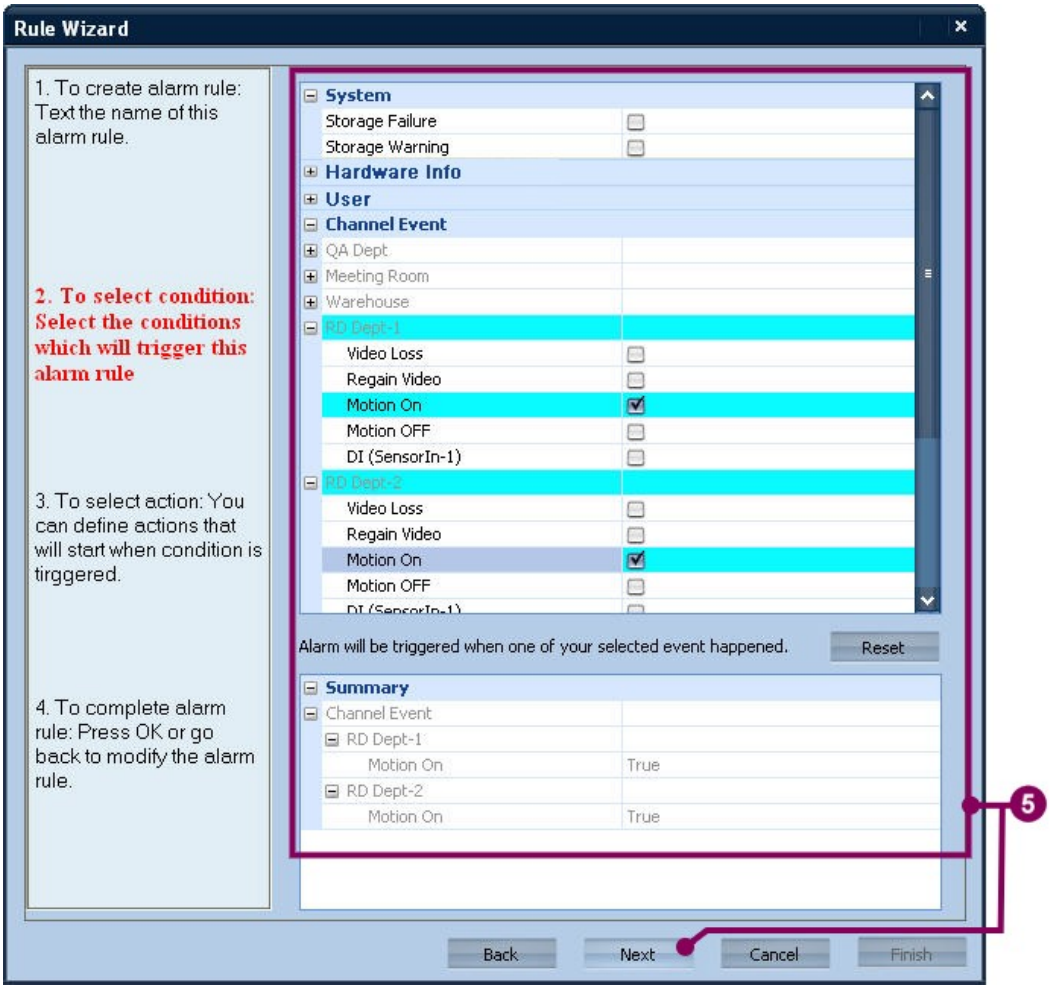
1. In the configuration mode, click the **System** tab.
2. Click **Rules** node.
3. Click **Add**, and the **Rule Wizard** is displayed.



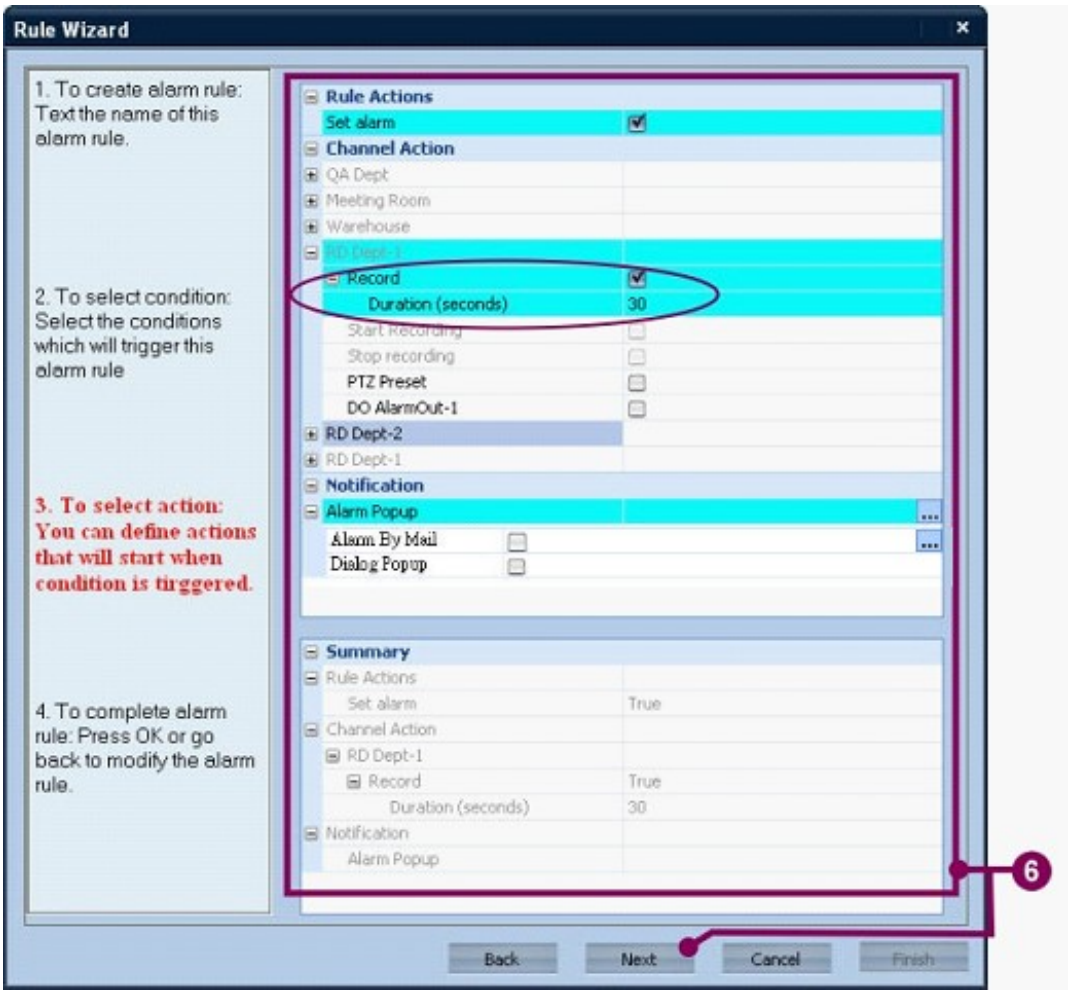
4. The alarm rule wizard is a dialog that helps the user to complete an alarm rule in 4 steps. The first step is to define the basic settings of the alarm rule. The basic settings include the name, the description, the instruction, the priority, and the schedule. The name and the priority of the alarm 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 schedule configuration page. Refer to section 6-3-4-2 **Add a new schedule to the system** for detailed steps.

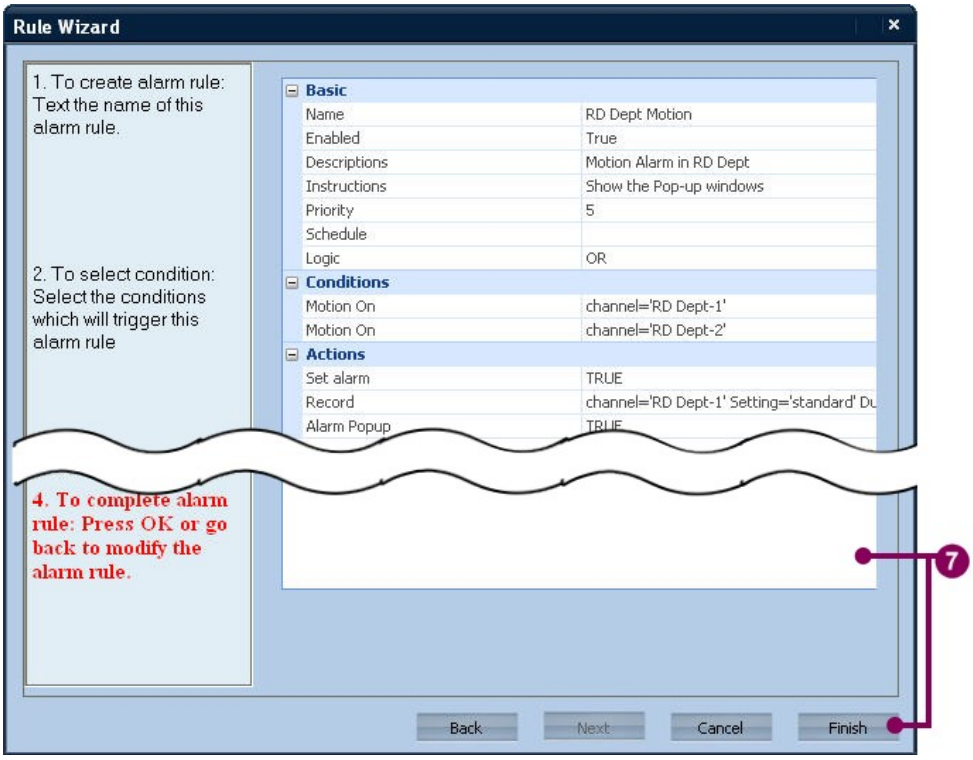
If a customized schedule needs to be modified, click **Modify** to open the schedule configuration page. Refer to section 6-3-4-3 **Modify a schedule** for detailed steps.



5. The second step is to select the alarm triggering condition. There are four categories – System, Hardware Info, User, and Channel Event. Check the checkboxes of all preferred conditions, and the summary table below lists all selected conditions. Click **Next** to continue.

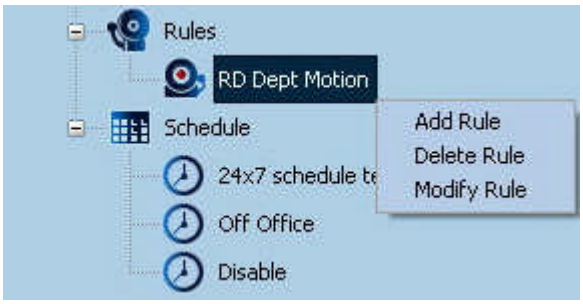


6. The third step is to select the actions of the alarm rule. The action will be taken when the alarm rule is triggered. There are three action categories – rule action, channel action, and notification. To enable the alarm rule, check the **Set alarm** option. The channel action decides which channel will take action when the alarm rule is triggered. To set the channel action, select the preferred channel and check the preferred actions. Some actions allow the user to set the value 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.



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

TIP: Right click the alarm rule node to display 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:



6-4-4-3 **Advanced Settings of Alarm Rules**

The following table displays supported trigger conditions and actions of alarms. The section demonstrates how to configure the actions when the trigger conditions are satisfied. The following demonstrations skip step 1 and 4 of the alarm rule setup process because the two steps are same in all demonstrations.

Trigger Condition\Action	Recording			DO		Go to PTZ Preset Point	Run-time Notification			Index as Alarm
	Start Rec	Stop Rec	Specify a Period	Active	Inactive		Video	Text Message	Email	
System Events										
Storage Warning Event				v	v		v	v	v	v
Storage Failure Event				v	v		v	v	v	
System Temperature				v	v		v	v	v	v
System Fan Speed				v	v		v	v	v	v
Device Events										
Video Lost Event	v	v	v	v	v	v	v	v	v	v
Video Gain Event	v	v	v	v	v	v	v	v	v	v
Motion Detected On Event	v	v	v	v	v	v	v	v	v	v
Motion Detected Off Event	v	v	v	v	v	v	v	v	v	v
DI Active Event	v	v	v	v	v	v	v	v	v	v
DI Inactive Event	v	v	v	v	v	v	v	v	v	v
Panic Key										
F6	v	v	v	v	v	v	v	v	v	v
F7	v	v	v	v	v	v	v	v	v	v
F8	v	v	v	v	v	v	v	v	v	v
Digital I/O										
DI Active Event	v	v	v	v	v	v	v	v	v	v
DI Inactive Event	v	v	v	v	v	v	v	v	v	v

The advanced settings of alarm rule include the following four subjects:

- Pattern layout configuration
- Pop-up dialog configuration
- Email notification configuration
- Hardware detective alarm configuration

Pattern layout configuration

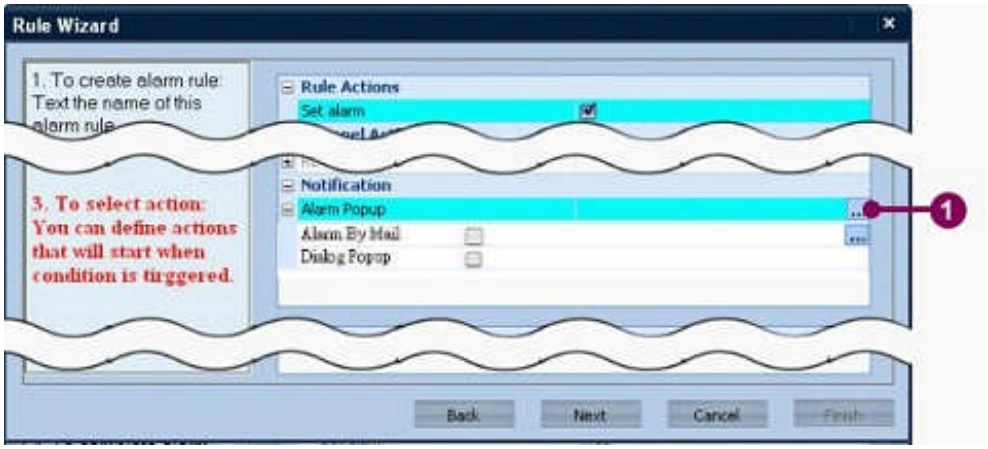
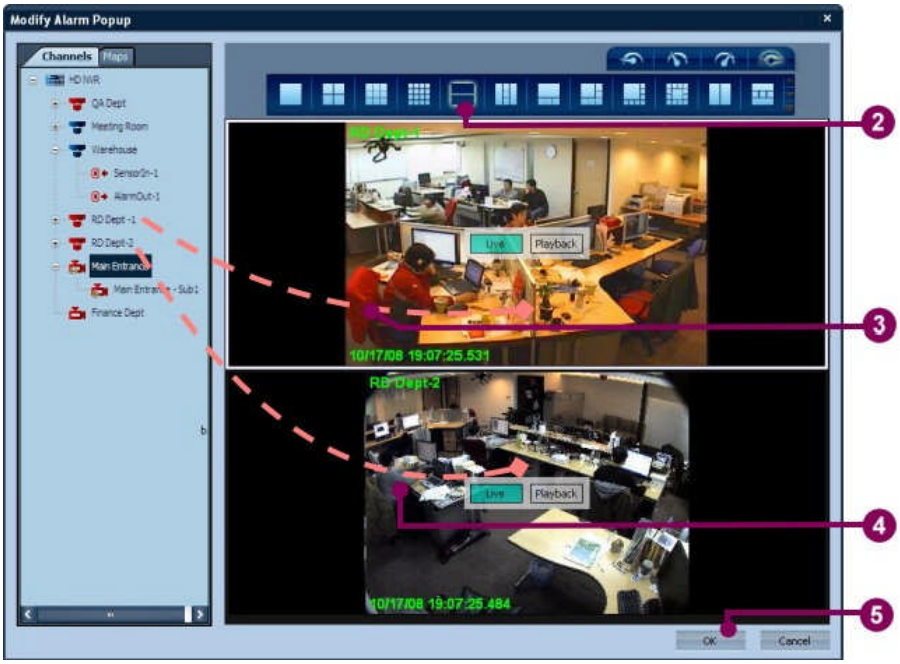


Figure 6-35 Pattern layout configuration in alarm rule

1. At step 3 of the setup process, check **Alarm Popup** checkbox and click **…** beside it to display 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 display

the live image. Click **Playback** in the viewer to display the recorded alarm image.

4. Repeat step 3 until the all viewers have been set.
5. Click **OK** to exit the dialog.

Popup dialog configuration

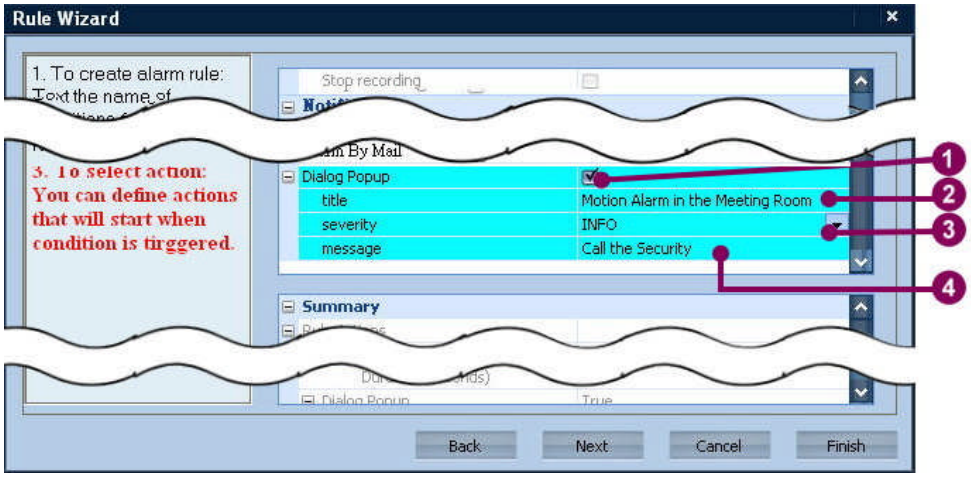


Figure 6-36 Popup dialog configuration in alarm rule

1. At step 3 of the setup process, 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.

Email notification configuration

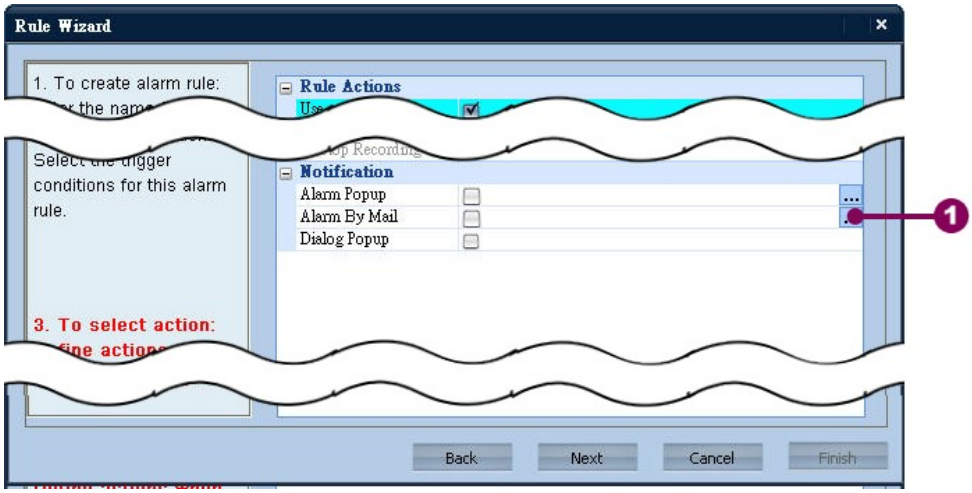
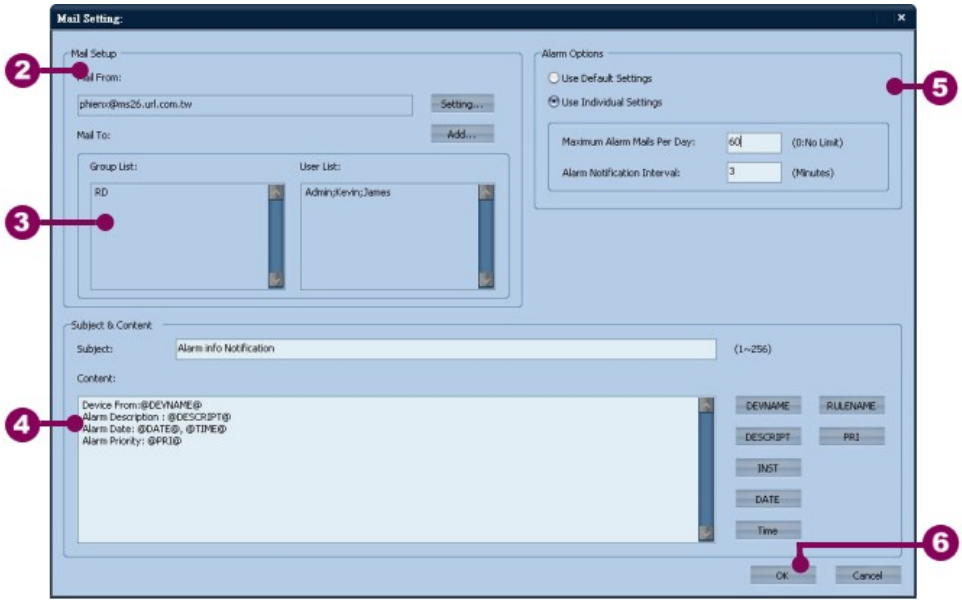


Figure 6-37 Email notification configuration in alarm rule

1. At step 3 of the setup process, check the **Alarm By Mail** checkbox and click **…** beside it. A **Mail Setting** dialog is displayed.



2. In the **Mail Setting** dialog, click the **Setting** button to set the value of the **Mail From** column if blanked.
3. Click **Add** to bring up the **Add Mailing List** panel. Double click on the desired user or group account to add them to the **Mail To** list.
4. Input the mail subject in the subject column. Type the notification message in the content textbox. Click the macro buttons at the right-hand side of the content textbox to add the alarm details to the mail.
5. If the sending setting is different from the system setting, click **Use Individual Settings** and modify the sending setting.
6. Click **OK** to complete.

Hardware detective configuration

A hardware detection alarm is triggered when the hardware temperature is over the configured value. The procedure of setting the hardware detection alarm is similar with the procedure of general alarms. To add a new hardware detected alarm, see the following steps:

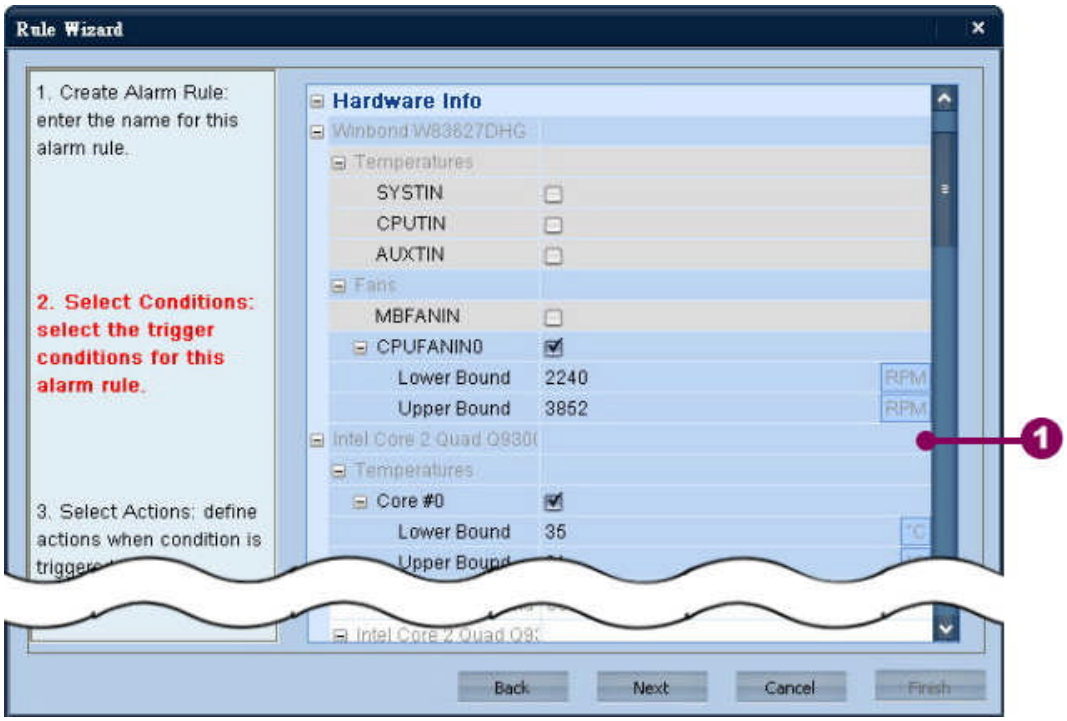
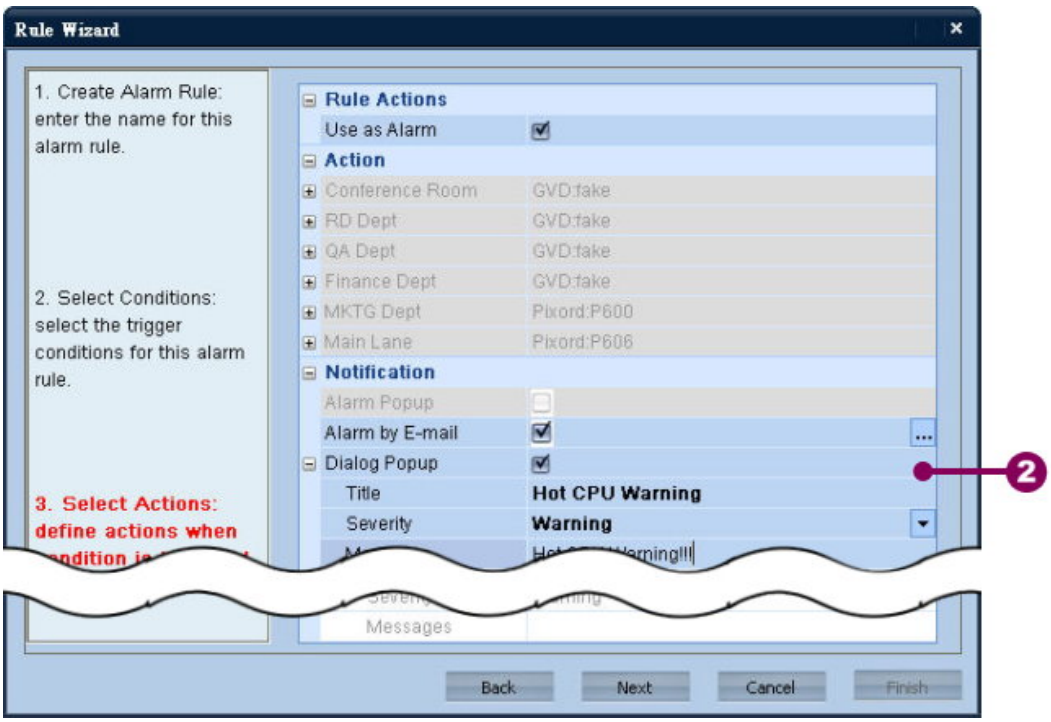


Figure 6-38 Hardware detective configuration in alarm rule

1. At step 2 of the setup process, find **Hardware Info** from the trigger condition list. If the option is collapsed, click + to expand it. Select the desired items from the list. Some items require setting the range to trigger the alarm. Input the range values and click **Next**.



2. Decide the rule action when the alarm is triggered. Refer to the last section and see the detailed description. When all actions are set, click **Next** to continue.

6-4-4-4 **Modify Alarm Rule**

To modify an alarm rule, follows the steps below:

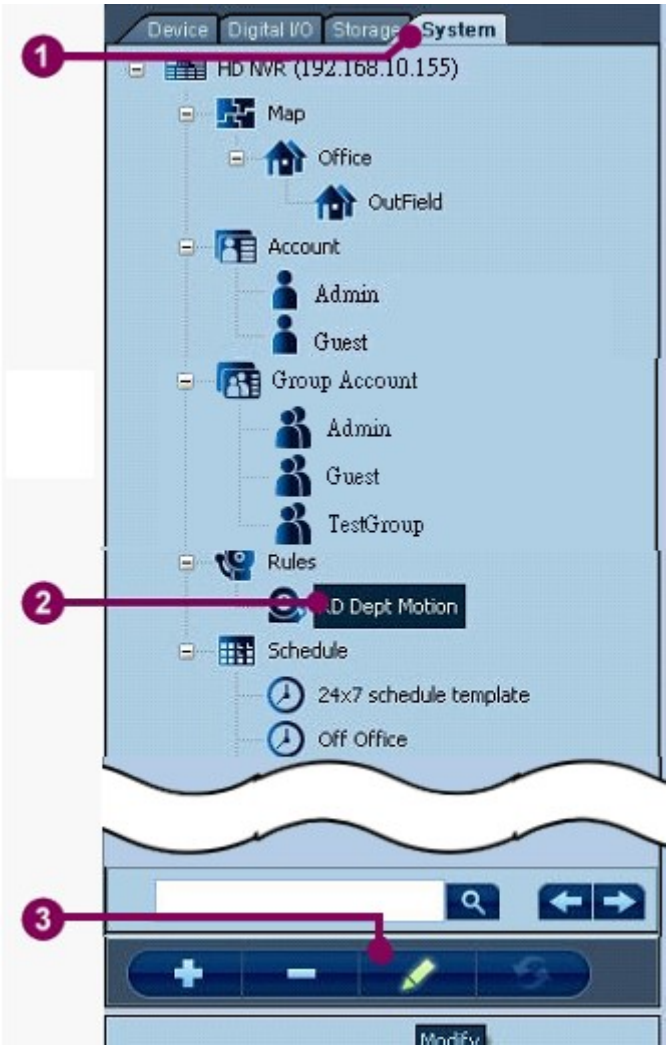
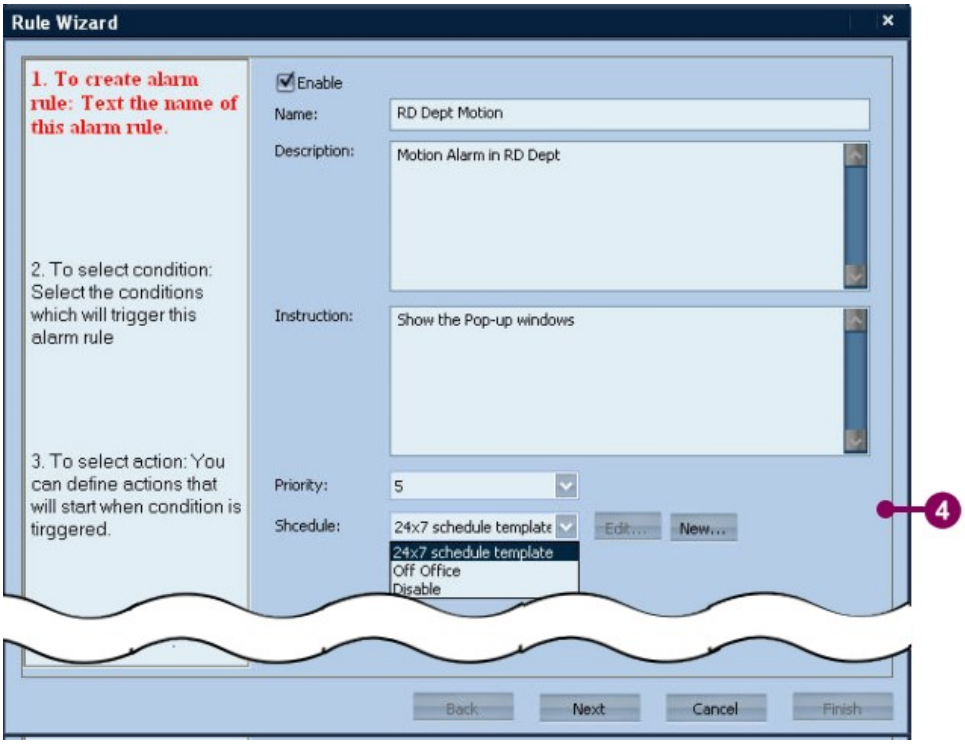


Figure 6-39 Modify an Alarm Rule

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



4. Follow the steps 4-7 in section 6-3-3-2 **Add an alarm rule to the system** to modify the rule.

6-4-4-5 **Delete Alarm Rule from the System**

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

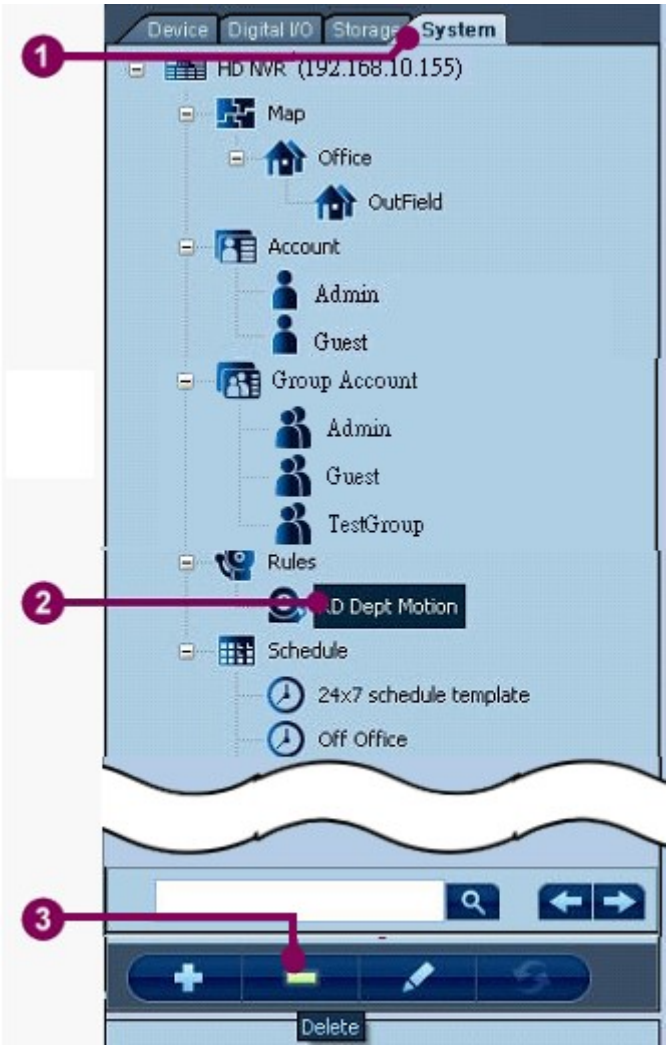


Figure 6-40 Delete Alarm Rule from the System

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}?**' is displayed. Click **OK** to complete.

6-4-5 Schedule

6-4-5-1 **Brief of Schedule Configuration**

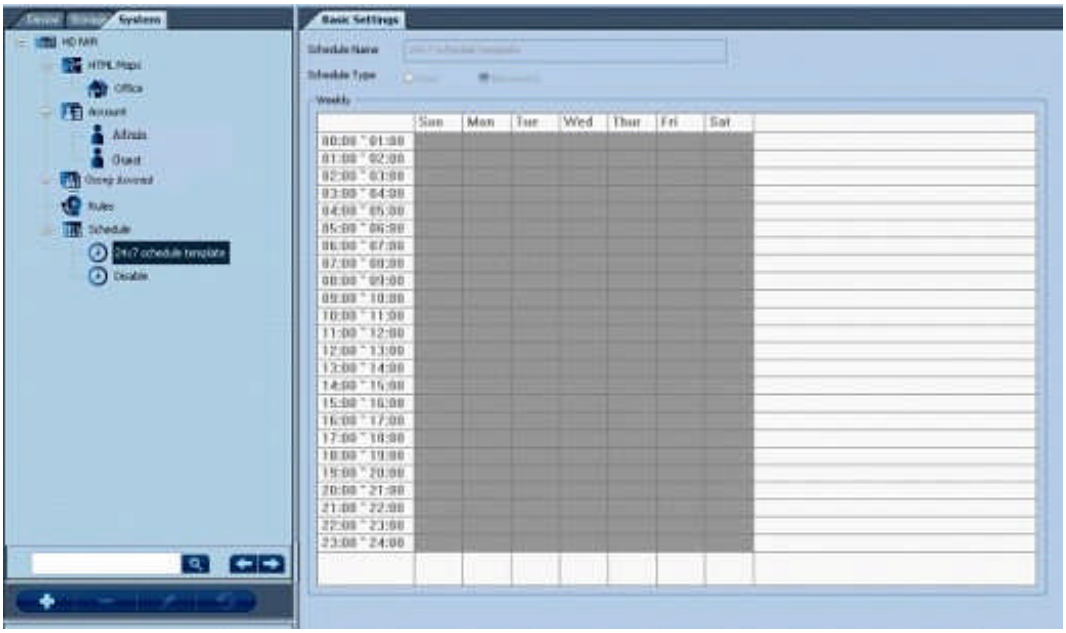


Figure 6-41 Brief of Schedule Configuration

The schedule setting will help 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.

6-4-5-2 Add New Schedule to the System

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

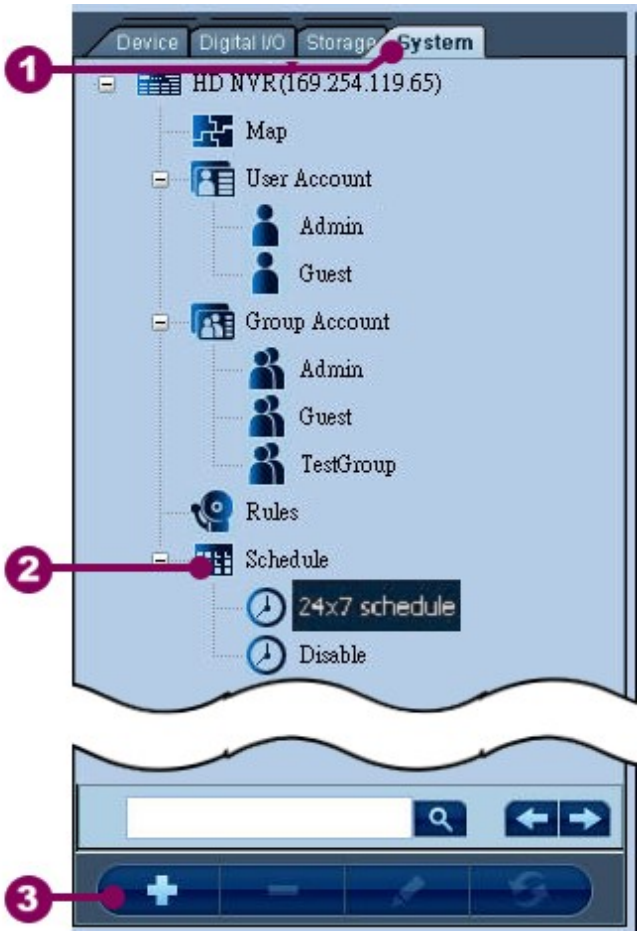
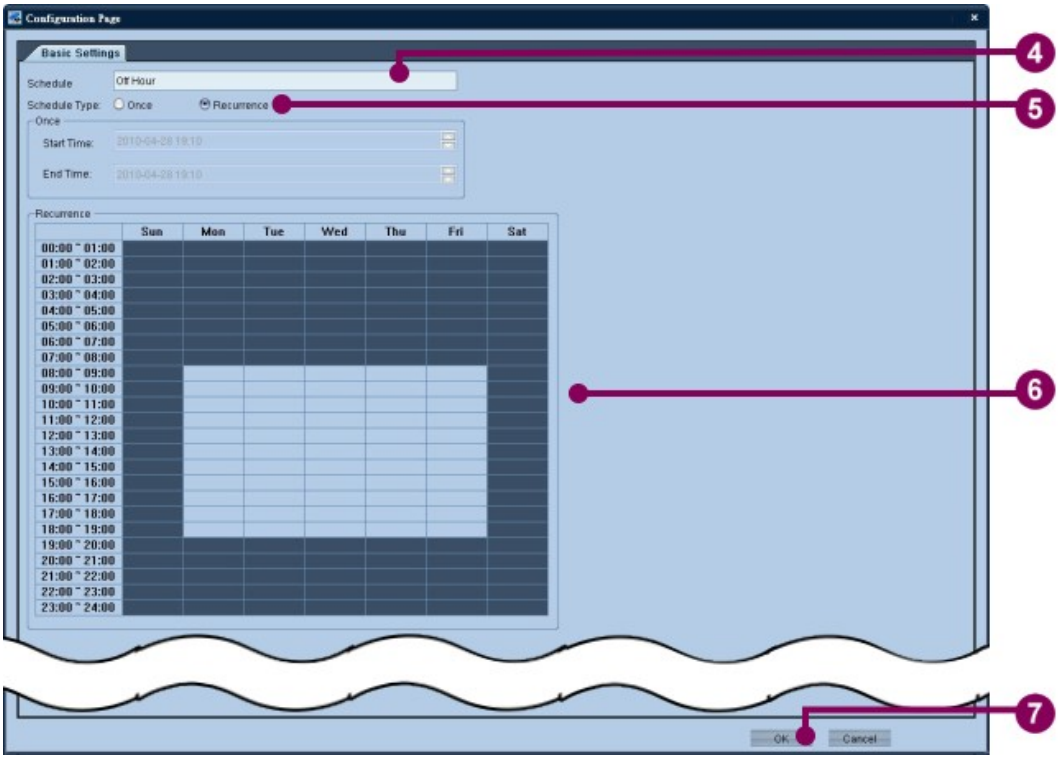


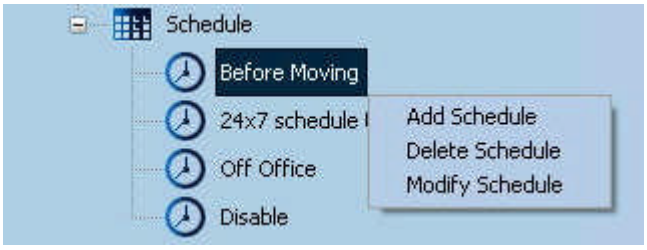
Figure 6-42 Add a new schedule to the system

1. In the configuration mode, click the **System** tab.
2. Click **Schedule**.
3. Click **Add** to display 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: Once or Recurrence. If the **Once** option is selected, set the start time and the end time.
6. If the **Recurrence** option is selected, click the cells in the timetable. 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 display 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:



6-4-5-3 **Modify Schedule**

To modify a customized schedule, see the following steps:

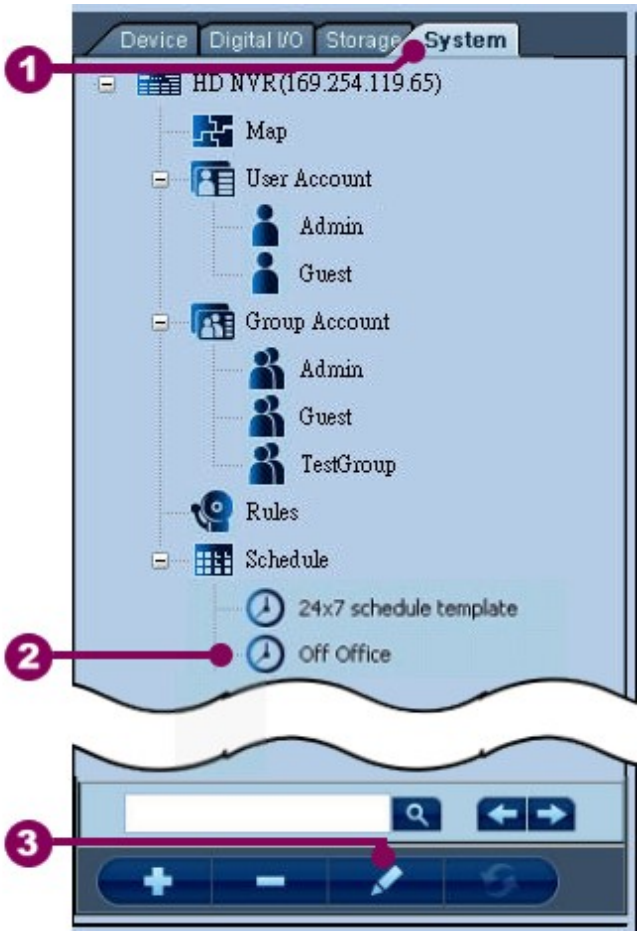
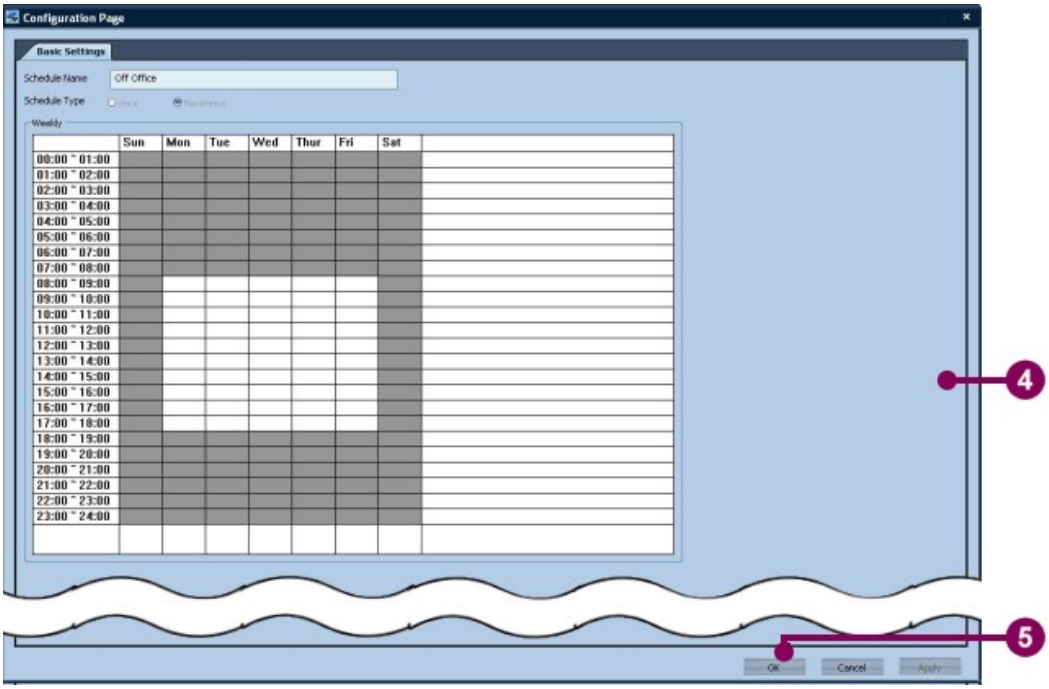


Figure 6-43 Modify a Schedule

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



4. Change desired setting values.
5. Click **OK** to close the configuration page.

6-4-5-4 Delete Customized Schedule from the System

To delete a customized schedule, see the following steps:

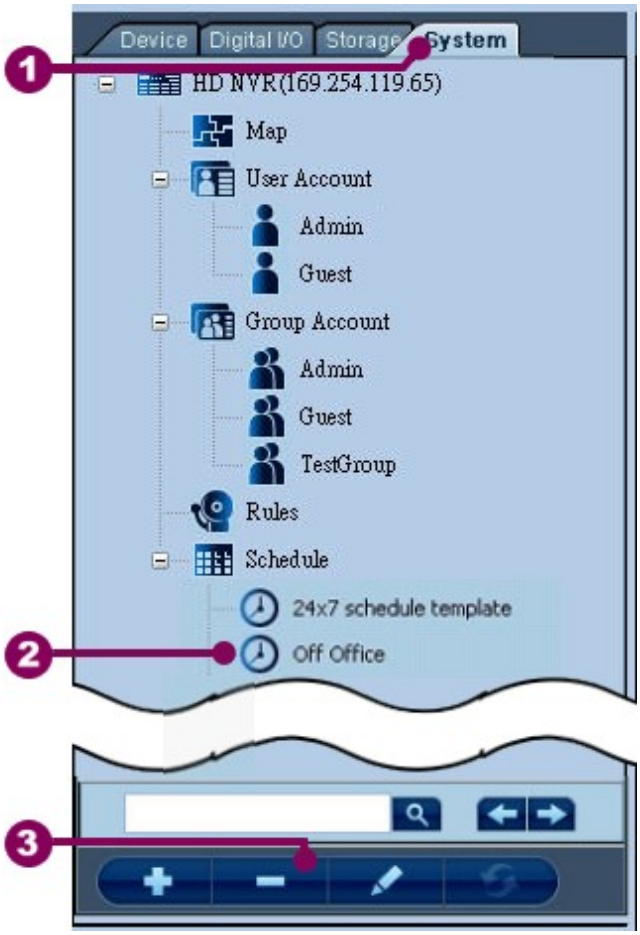


Figure 6-44 Delete Customized Schedule from the System

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

4. A message – '**Delete {Schedule Name}?**' is displayed. Click **Yes** to continue.
5. The selected schedule has been removed from the schedule list.

Chapter 7 Other Client Applications

7-1 Using HD NVR Client

7-1-1 Installation

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

1. In the installation CD, find the HD NVR Client setup program in the setup directory. Double click the setup program.

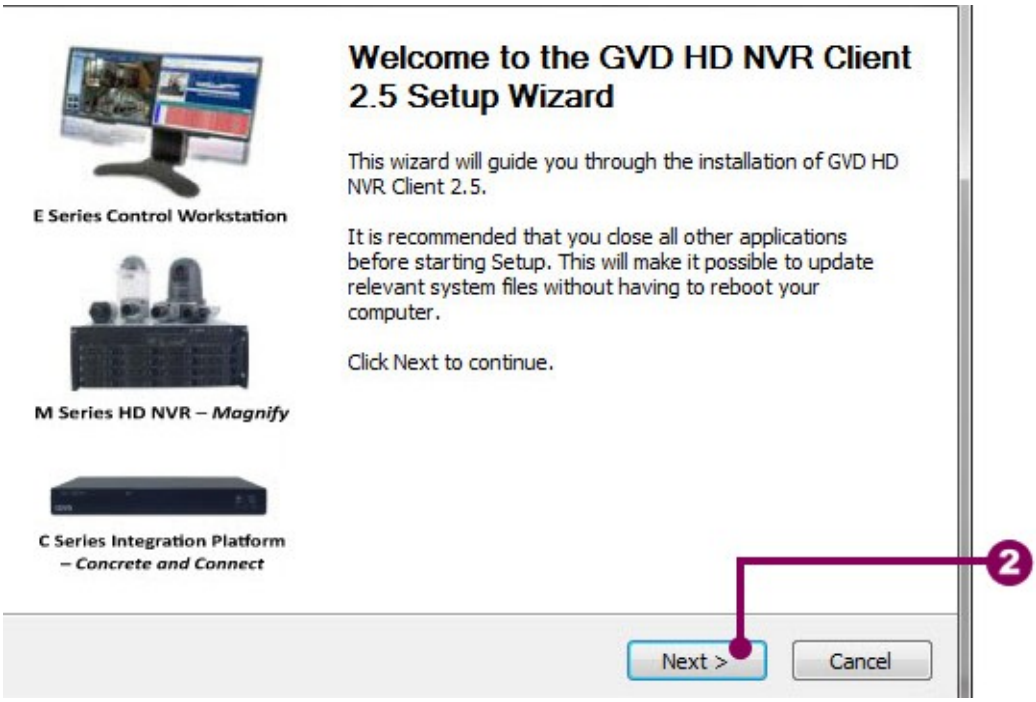
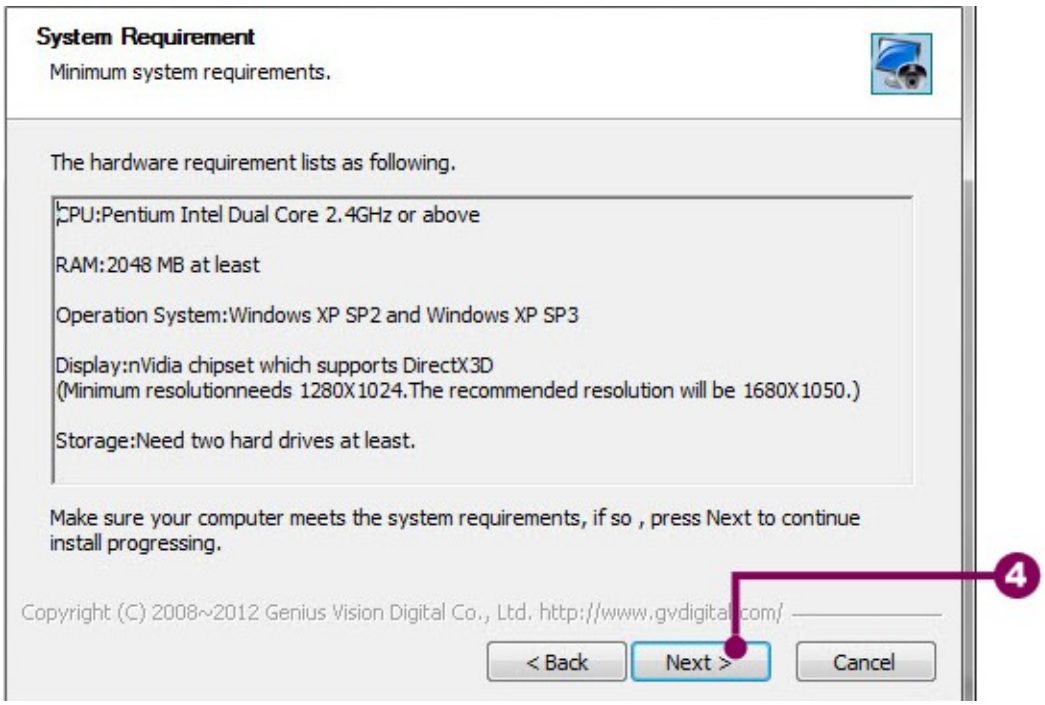


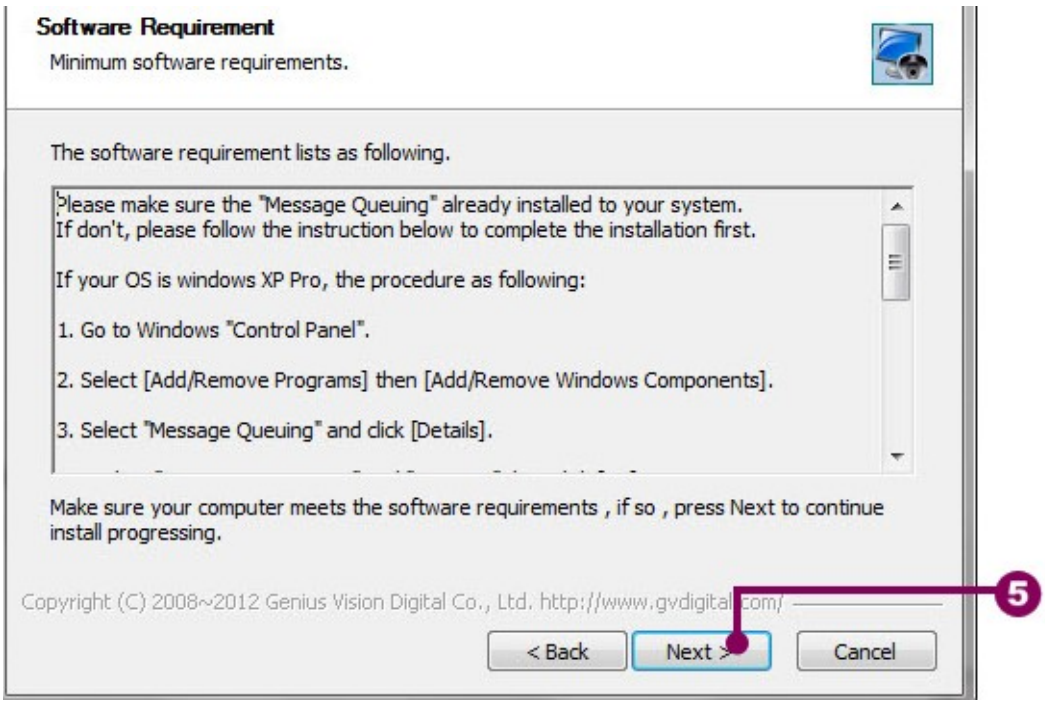
Figure 7-1 Install HD NVR Client

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

3. A license agreement dialog is displayed. Check the **I accept the terms in the License Agreement** checkbox and click **Next**.

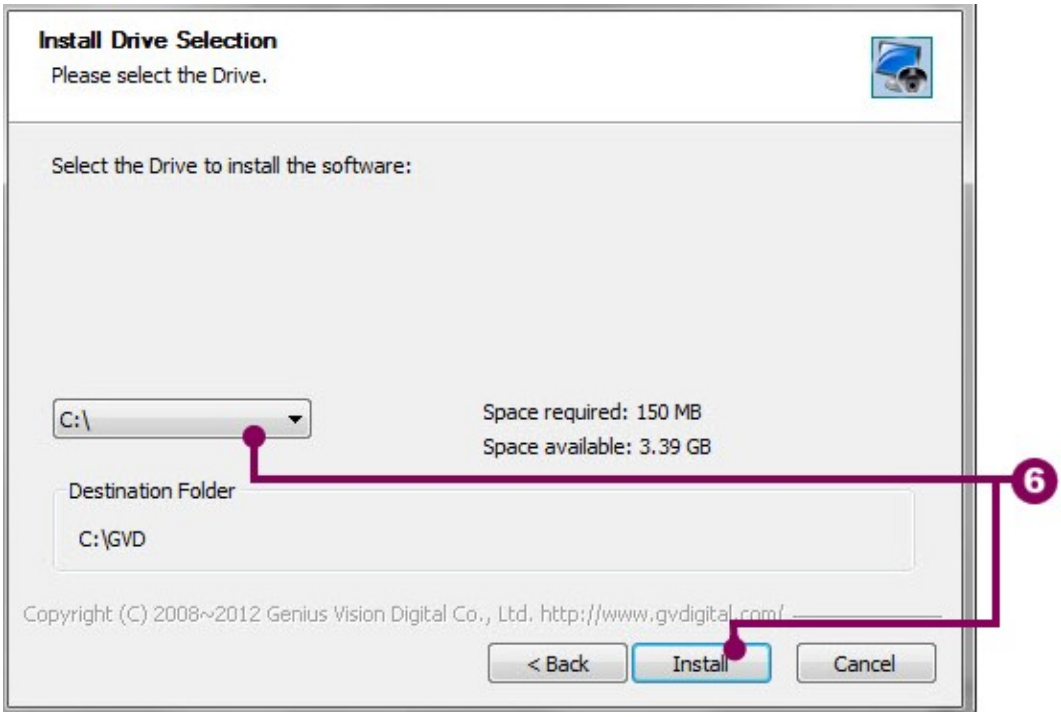


4. The setup program lists the minimum hardware requirement. Make sure the machine meets all hardware requirements and click **Next** to continue.

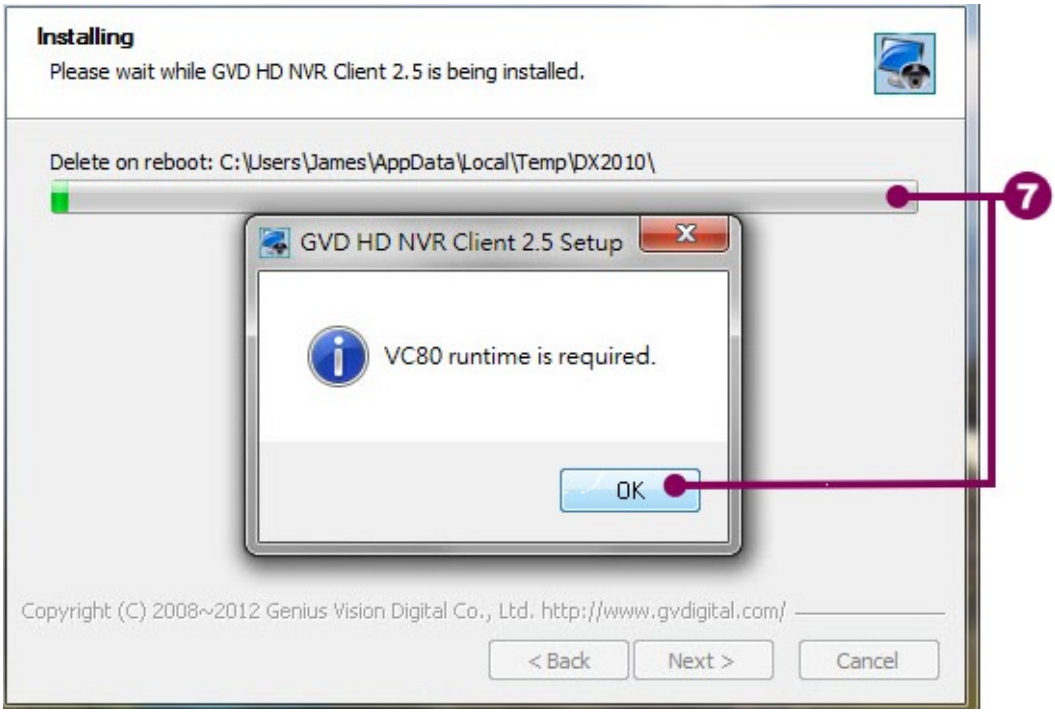


5. To run the system properly, an addition Windows® component, **Message Queuing**, is required. To install **Message Queuing**, refer to Appendix IV for more information.

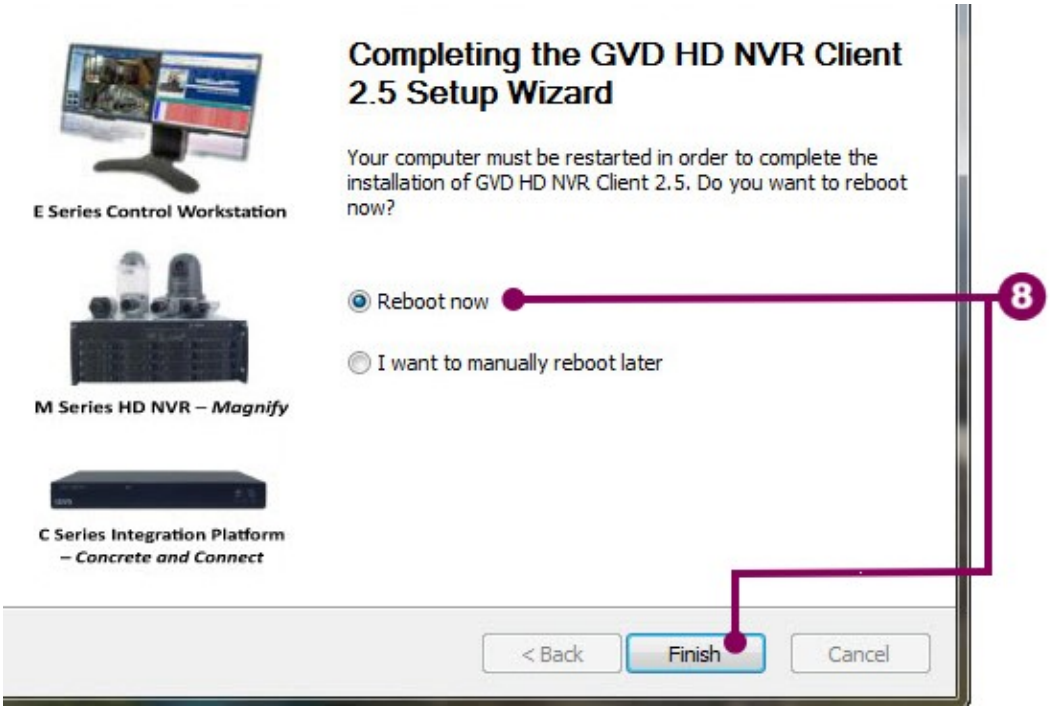
NOTE: Message Queuing setup program is in the Windows® Setup disc. Without installing **Message Queuing** application, the system may not run normally.



6. Select the installed driver and click **Install**. The setup program will automatically create a **GVD** directory in the selected driver.



7. The setup program will automatically display the progress and install the Virtual C++ (VC80) application if the program has not been installed.



8. Click **Reboot now** and click **Finish** to close the setup program. The system will restart automatically.

7-1-2 Operation Instruction

Figure 7-2 Brief of HD NVR Client

HD NVR Client is a simple version of HD NVR manager that can be installed and run on the regular PC. HD NVR Client allows users to view the live image of IP cameras, run the playback function, export image and clip files, check and deal with the alarms, etc.

Unlike the HD NVR manager, HD NVR Client has only two modes. One is the display mode for viewing and operating images from channels. The other is the alarm mode for viewing and dealing with alarms. See Chapter 4 for the Display Mode and Chapter 5 for the Alarm Mode.

7-2 Using Web Client

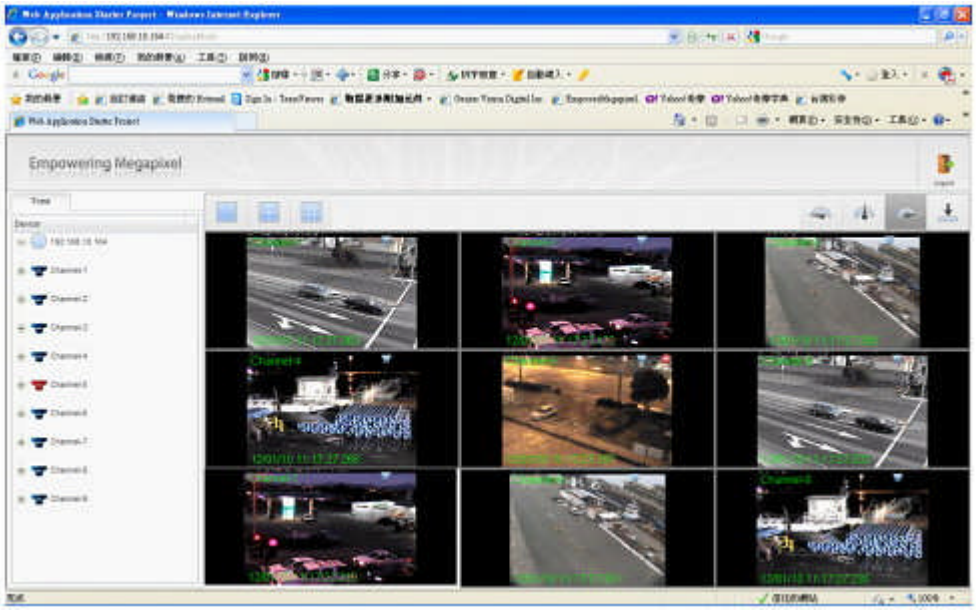


Figure 7-3 Web Client application

The web client is a web-based viewer with the following features:

- Provide 1 x 1, 2 x 2 and 3 x 3 patterns for live viewing and playback. Up to 9 camera channels are supported.
- Support PTZ camera control, including zoom in/out, up/down, right/left control, preset points selection, and PTZ/streaming Lock function. All controls can be operated in the viewer.
- Support normal speed playback only.
- Device Tree can display camera channel status as same as the HD NVR Manager application.

Note: Don't run the web client on the M series NVR machine. No extra HDD space is available for **Web Viewer**.

7-2-1 Installation

See the following steps to install the web client.

Figure 7-4 Install Web Client

1. Run an IE browser and input the IP address of the NVR in the address box.
2. Click the **Download Viewer SDK** icon to download the setup program. When the program has been downloaded, choose **Save** or **Run** the setup program directly.
3. When the setup program is running, click **Install** → agrees the license agreement → select installation path → click **Next** until the setup process is complete.
4. Input the IP address of the NVR once again to refresh the browser.
5. When login screen is displayed, input the original account name and password of the NVR. Click **Sign In** to access the web client.

7-2-2 Operation Instructions

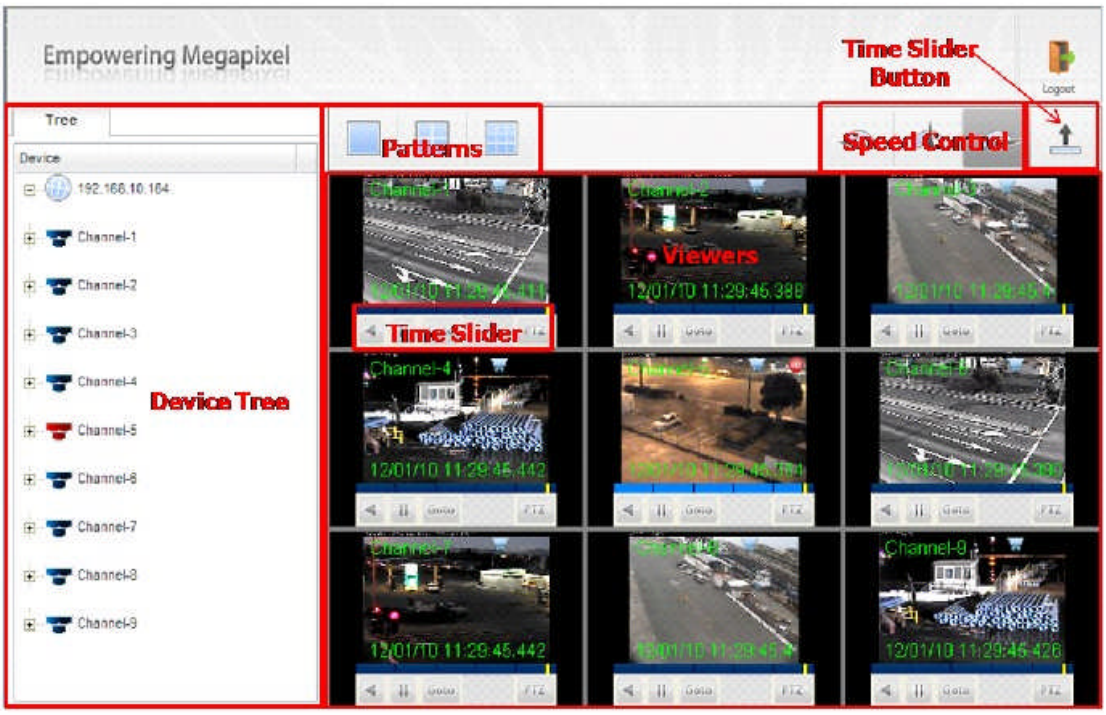


Figure 7-5 Web Client Introduction

The web client is composed of five parts: device tree, viewers, patterns, speed control, and time slider button. The followings sections describe general operations.

7-2-2-1 Play a Live Image

The following steps display how to play a live image of a channel in a viewer.

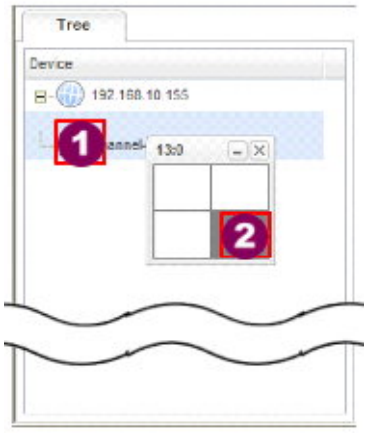


Figure 7-6 Play a Live image in Web Client

1. Click the icon of desired camera in the device tree and a grid is displayed.

2. Click the desired cell in the grid, and the corresponding viewer plays the image of the camera instantly.

7-2-2-2 Change patterns and speed control

When the web client is running, the pattern plays images of configured cameras automatically. Click the desired pattern from the three pattern buttons to change the pattern layout.
When the viewer is playing a live image, the default playing speed is middle. Click high or low speed control to increase or decrease the playing speed.

7-2-2-3 Playback

The time slider is a control bar behind the viewer for playing back videos, holding the video, and switching to the live view mode. See the following steps about playback operations.

Figure 7-7 Playback the video in Web Client

1. Click to access the playback mode. The time sliders are displayed behind all viewers.
2. Click to reward the video and the button changes to . Click to play the video forward.
3. Click **Go To** and set the date/time of the video, the viewer jumps to the specific date and time of the video and plays immediately.
4. Click to hold the video.

5. Click **Live** to switch to the live mode. The viewer plays the live image instantly.

7-2-2-4 PTZ Control

See the following steps to control the PTZ camera from **web client**.

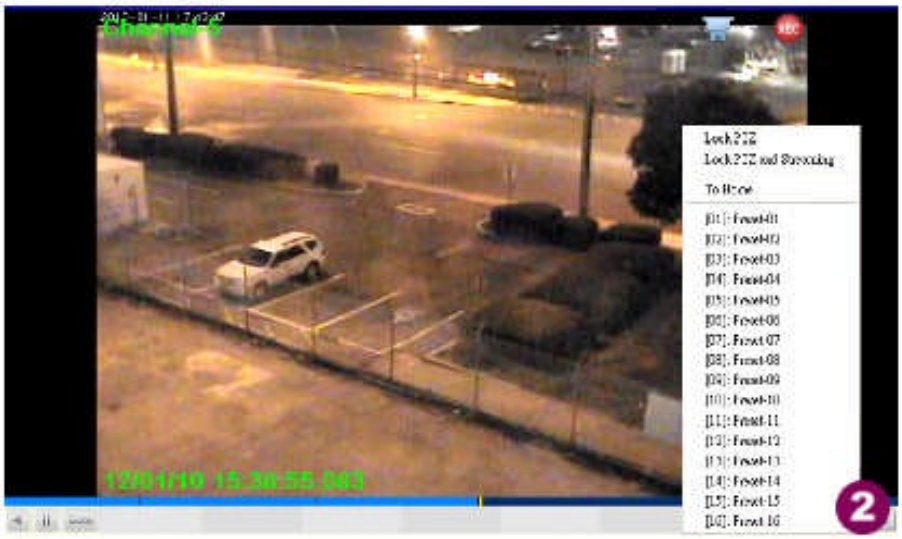


Figure 7-8 Control the PTZ in Web Client

1. When the time slider is displayed, the viewer automatically switches to the PTZ mode.
2. Click **PTZ** and a pop-up menu is displayed. Click **Lock PTZ**/**Lock PTZ and Streaming** to enable the PTZ or PTZ streaming lock function. Click **Unlock PTZ** to disable the PTZ lock function. Click **To Home** and the lens of the PTZ camera moves to the home point. Click the desired preset item and the lens of the PTZ camera moves to the configured preset point.

7-3 Using iPhone Client

7-3-1 Installation

The iPhone Client, named GVD NVR Viewer, is an application for viewing the image of camera on iPhone. Before using the GVD NVR Viewer, the user should download the setup program first. There are two sources for application download. One is from iTune, and the other is from App store of iPhone.

7-3-1-1 **Download from iTune**

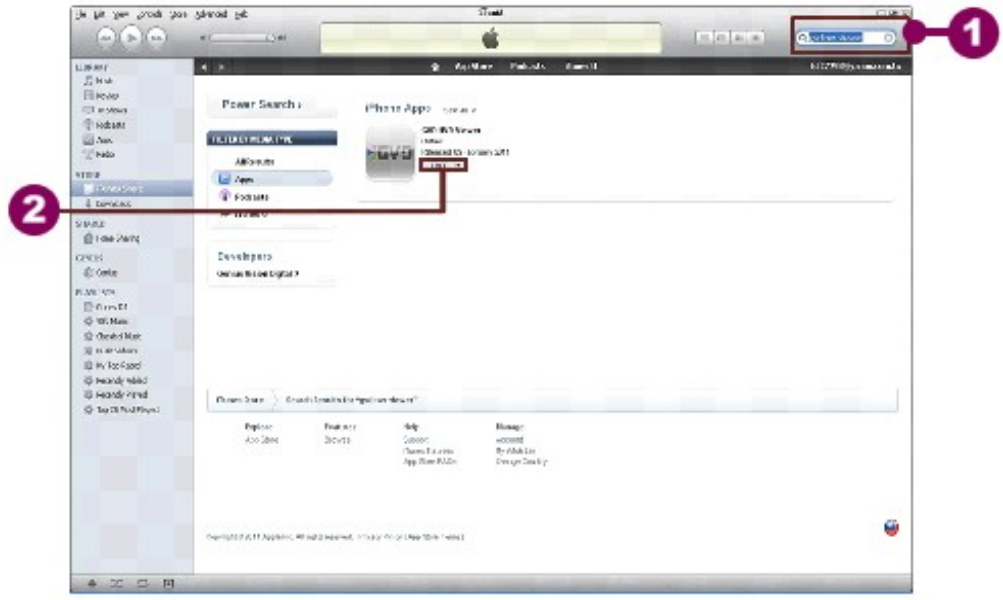


Figure 7-9 Download from iTune

1. Search the **GVD NVR Viewer** App.
2. Click **Free** to start downloading.
3. After the App has been downloaded, synchronize the App to iPhone.

7-3-1-2 **Download from App Store of iPhone**

Figure 7-10 Download from App Store of iPhone

1. Search the **GVD NVR Viewer** App in the iPhone.
2. Click the App name and start downloading. Wait until the app has been downloaded.

7-3-1-3 **Initial Configuration of GVD NVR Viewer**

The GVD NVR viewer needs to complete the initial configuration after the application has been downloaded. To run the initial configuration, see the following steps:

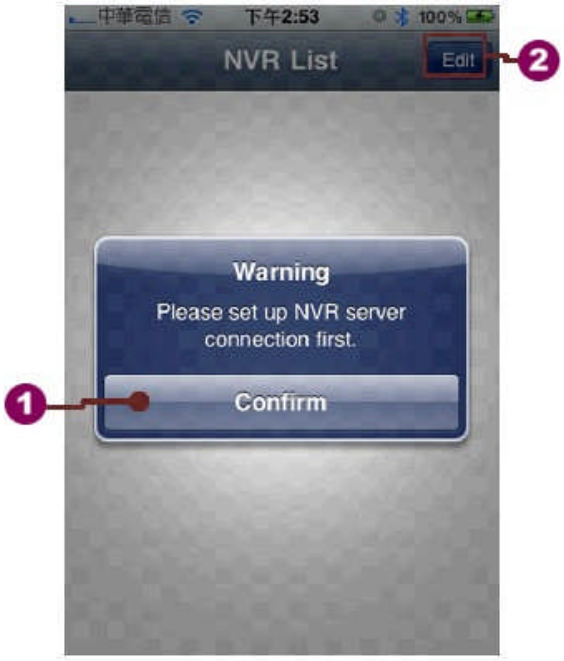
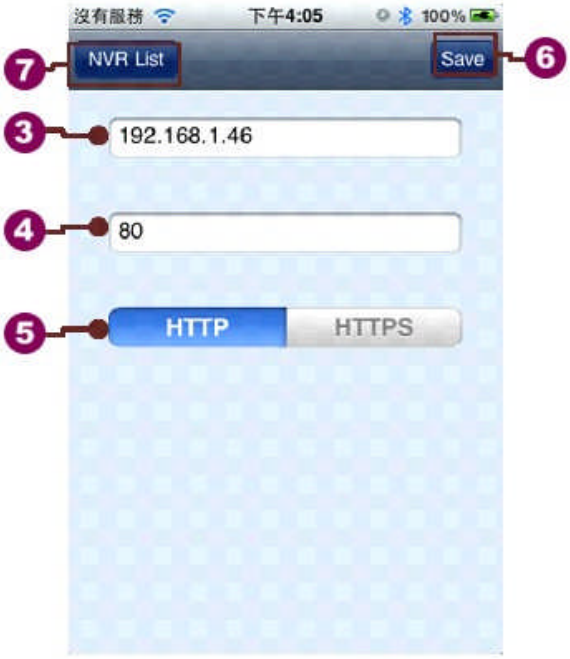


Figure 7-11 Initial Configuration of GVD NVR Viewer

1. Click **Confirm** to exit the warning message.
2. Click **Edit** to access the setup page.



3. Input the IP address of NVR.
4. Input *80* in the TCP port column (Only port *80* is available for R2.4.4 version).
5. Click **HTTP**.
6. Click **Save** to save all settings.
7. Click **NVR List** to log in the NVR.

7-3-1-4 **Log in the NVR**

The section describes how to log in the NVR when the app has been installed. See the following steps:

Figure 7-12 Log in GVD NVR Viewer

1. Click **HD_NVR**.

2. When the logon page is displayed, input the default username, *Admin*, in the **Username** column.
3. Input the default password, *6001*, in the **Password** column.

4. Click **Sign in** to access the NVR.

7-3-1-5 Add Channels to the application

The GVD NVR viewer can support 8 channels maximally. To add a channel to the application, see the following steps:

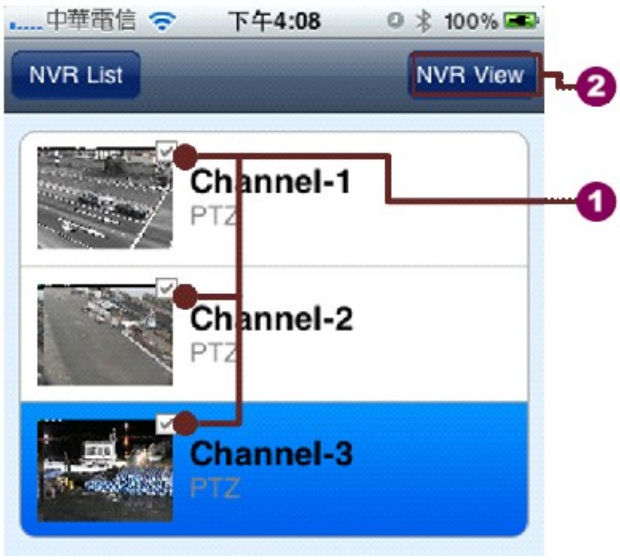


Figure 7-13 Add Channels to NVR Viewer

1. Check the checkbox of the desired channels.
2. Click **NVR View** to access the NVR View mode.

7-3-2 Operation Instruction

The GVD NVR viewer includes three general operations: live image playing, playback operation, and PTZ controlling. See the following sections for the details.

7-3-2-1 **Live image playing**

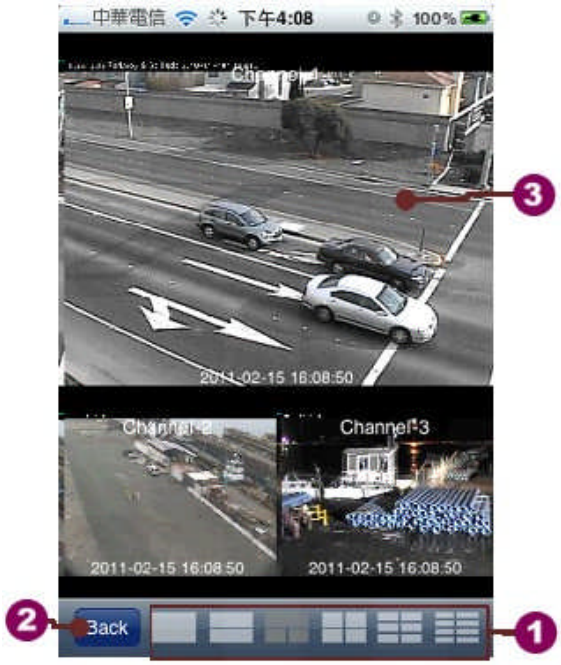


Figure 7-14 Play the live image in NVR Viewer

1. Click the desired layout from the pattern list at the bottom-right corner of the screen.
2. Click **Back** to return the Device mode.
3. Click any of viewers in the pattern layout, the selected viewer will be played in the full screen. On the bottom of the page, there are two buttons for playback and PTZ operation.

4. Click the viewer again to return to the NVR View mode.
5. Click **Plackback** to access the Playback mode.
6. Click **PTZ** to activate the PTZ control.

7-3-2-2 **Playback operation**

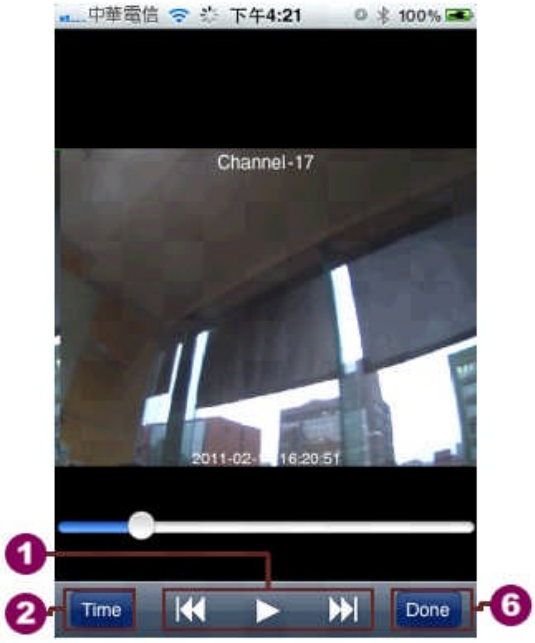
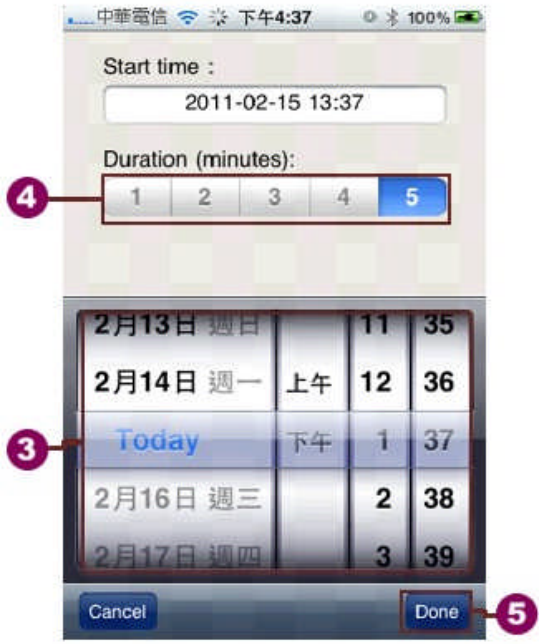


Figure 7-15 Playback operation in NVR Viewer

1. The Playback mode offers three operations: playing forward, playing

backward, and holding the video.

2. Click **Time** to access the Seek Time mode.



3. Set the start date and time.
4. Set the playing duration by clicking one of the five digit button.
5. Click **Done** to finish the playback setting and exit the Seek Time mode.
6. Click **Done** to return the full screen mode.

7-3-2-3 **PTZ controlling**

See the following steps about how to operate a PTZ camera by the GVD NVR viewer.

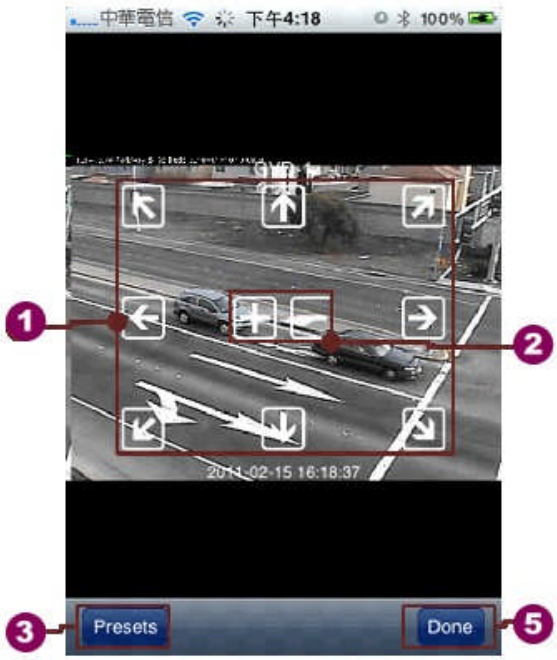
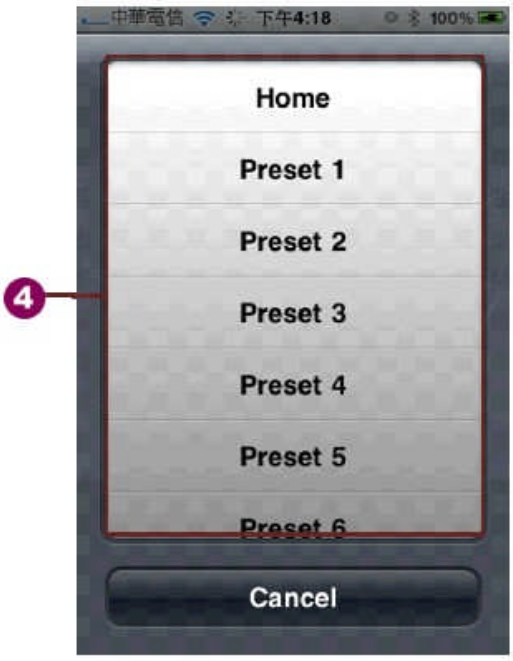


Figure 7-16 PTZ controlling in NVR Viewer

1. When the GVD NVR viewer is in the PTZ mode, eight arrows, which represent the moving directions of the PTZ lens, are on the viewer. Click the arrow and the lens of the PTZ camera move to the same direction.
2. Click + or – to zoom in/out the image.
3. Click **Presets** to display the preset list.



4. Click the desired preset and the lens of the PTZ camera moves to the preset point. The viewer displays the image of the preset point.
5. Click **Done** to get back the full screen mode.

Appendix I. HD NVR Hardware Installation

Front view of the HD NVR

HD NVR (M100 Series)

HD NVR (M100 model) comes with 6 channel licenses in standalone type with HD NVR Manager embedded. M100 model can assist users to execute surveillance programs easily without running additional PC. The front panel of the HD NVR equips key operational components, which including:

1. Power Switch
2. Reset Button
3. LED Indicators
4. USB 2.0 Ports

See the following illustration.

HD NVR (M200 Series)

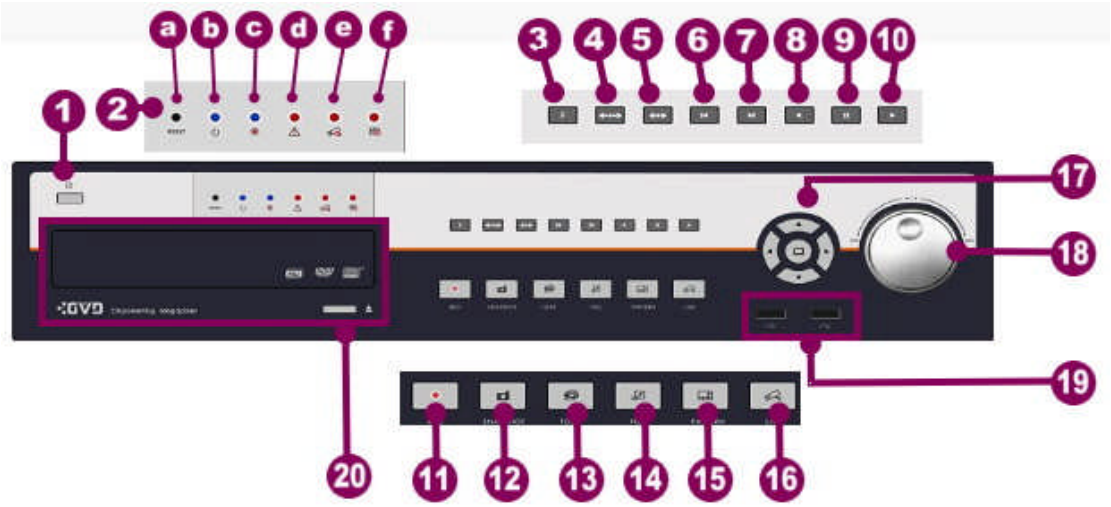
HD NVR (M200 model) comes with 9-18 channel licenses in standalone type with HD NVR Manager embedded. M200 model can assist users to execute surveillance programs easily without running additional PC. The front panel of the HD NVR equips key operational components, which including:

1. Power Switch
2. Reset Button
3. LED Indicators
4. HDD Trays

See the following illustration.

HD NVR (M150, M155, and M350 models)

The M150, M155, and M350 models are PC-based Network Video Recorder (NVR) with the function button in the front panel and equipped with the installed application –HD NVR Manager. The three models can connect both IP cameras and video server by the network. All key operational components are located in the front panel and the rear panel of the external case. See the following figure: (some descriptions added behind the advanced buttons)



The Front Panel of HD NVR (illustrated by Model M350)

1. Power Switch
2. LED indicators, including:
   a. Reset button – reset the system
   b. Power
   c. Recording – turning on when recording is running
   d. Alarm – turning on when active alarm(s) is/are generated
   e. Video Loss – turning on when the video loss is generated
   f. HD Fail – turning on when any exception status is generated in a hard drive
3. Switch Monitor (only on Model M350)
4. Long Duration Playback – move the playing index to 5 minutes ago
5. Short Duration Playback – move the playing index to 30 seconds ago
6. Step by Step Backward Playback
7. Step by Step Forward Playback
8. Backward Play
9. Pause
10. Forward Play
11. Manual Recording

12. Snapshot (Only on Model M350)
13. Toggle Tour – runs the tour
14. Toggle Full Screen – switch to the full screen mode
15. Switch Pattern – jump to next pattern template
16. Switch to Live – display the live image instantly
17. Video Operation Buttons – switch to next viewer by order and display the 1x1 template by pressing the central button
18. Rewind Dial (Only on Model M350)– See the following descriptions about the difference of the outer part and inner part:
    a. Outer: Turning right to play forward with speed change and turning left to play backward with speed change
    b. Turning right to play forward frame by frame and turning left to play backward frame by frame
19. USB 3.0 Ports
20. DVD Drive

NOTE: The rewind dial in Model M350 allows the user to change the playing speed by turning the knob. Turn the knob right to increase the playing speed (32 times maximally). Turn the knob left to decrease the playing speed.

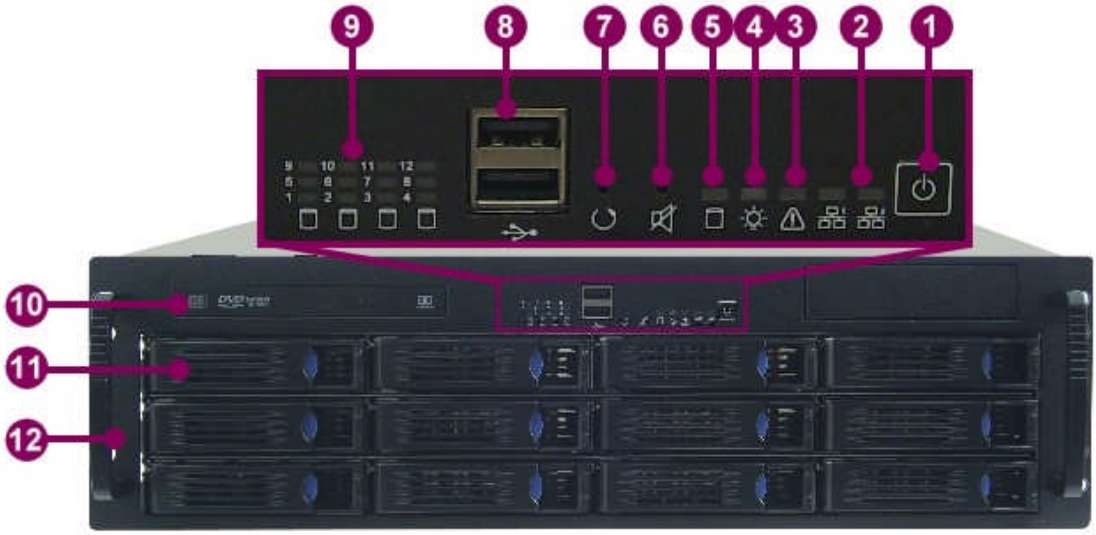
The rewind dial is also a bi-direction control. In the playback mode, the user can turn the knob right for playing forward or turn the knob left for playing backward. Turn the knob to the end to play the historical image at the maximal speed.

NOTE: Model 150, 155, and 350 are NVRs with the option of keyboard and mouse free. By the viewer operation buttons in the front panel, the user can operate the viewer directly.

HD NVR Enterprise (M6 series)

HD NVR Enterprise (M6 series) provides multiple selections for business customers, including 1U~4U models. The rack mount design of HD NVR Enterprise allows the unit installed in a rack. Some high-end models equipped the RAID card will offer the hot-swap function..

With HD NVR Manager inside, 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:



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

Install HD NVR

To install HD NVR, see the following steps:

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 plugged, the machine boots automatically.
7. Turn on the power switch. (Some M6 series models have more than one power cords, and the cords must be connected.)

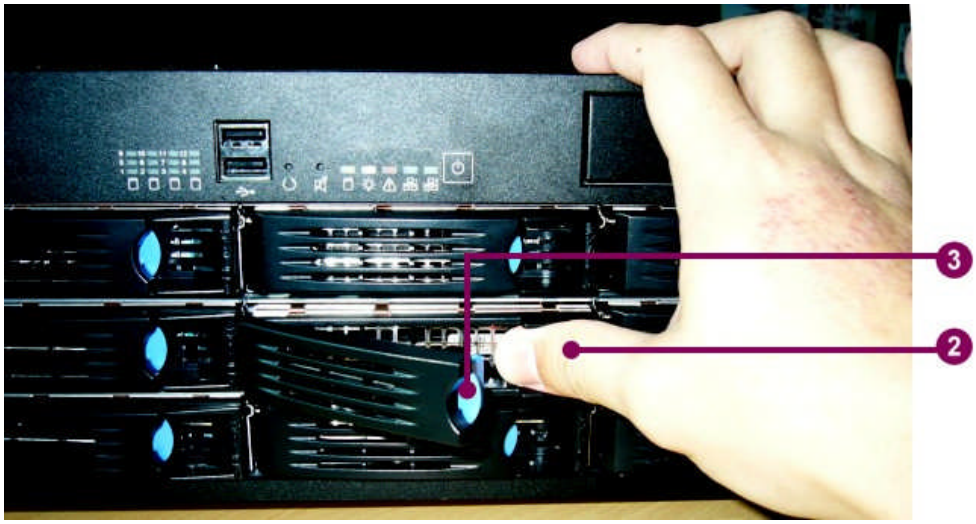
NOTE: The default IP address of the NVR is 192.168.0.10. Contact your network administrator and update the IP address of the NVR.

NOTE: How to remove and add a hard drive?

Remove the hard drive from HD NVR:

1. Push the blue tray switch of the desired HDD tray, and the handle 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 HD NVR Enterprise, and **push the tray to the end of the track.**

3. Close the tray handle. When the handle is closed properly, user should hear a ‘Clip!’ sound.

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.

Appendix II. 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 Ⅲ. Network Quality

Network quality

Level	Connection Status Check 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 IV. How to Add Camera or DI/DO to a HTML Map

When a HTML map has been created, there is an easy way to add the camera or 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. Display 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

Appendix

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

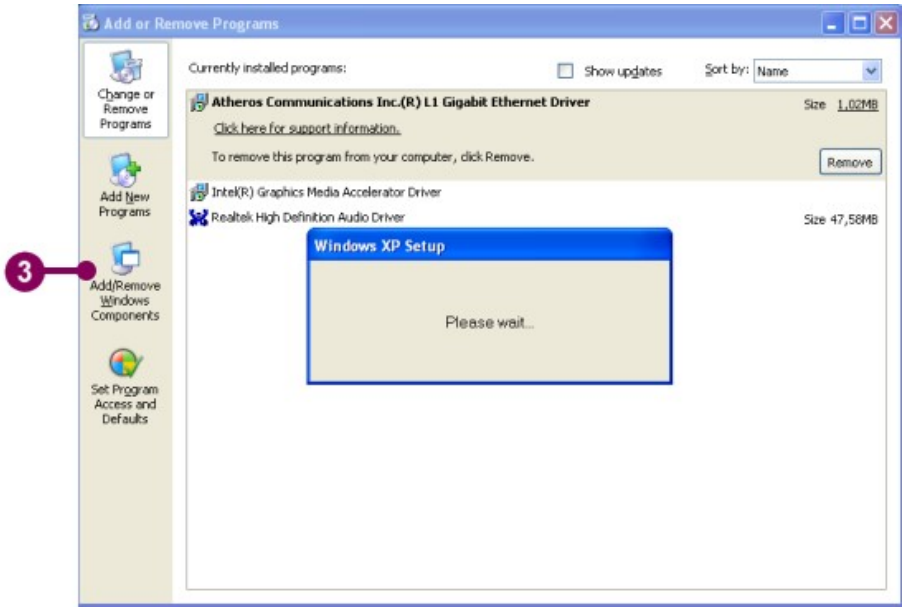
Icon status image

Icon size & position

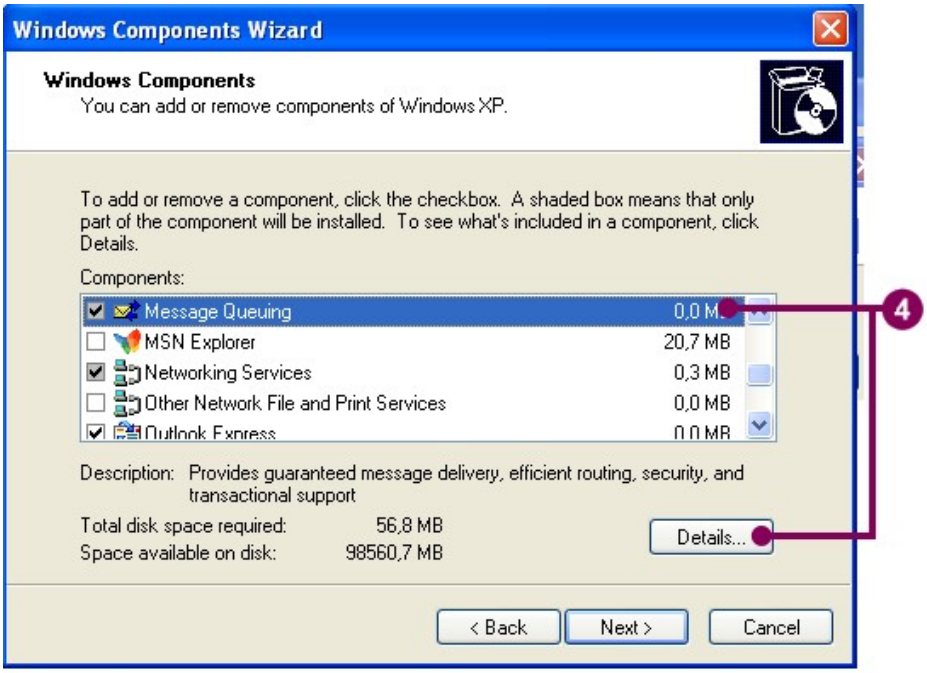
5. When all cameras and DI/DO points have been added, save the HTML file.

Appendix V Install Message Queuing

To install **Message Queuing**, see the following steps:

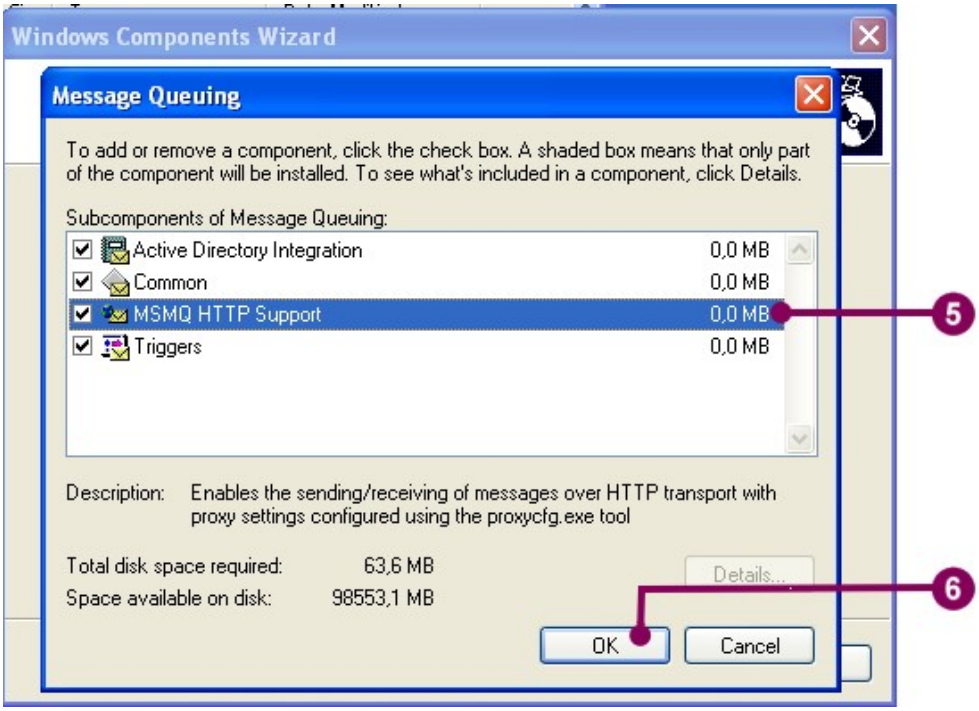


1. In the Windows® desktop, click **Start** -> **Control Panel** -> **Add or Remove programs**.
2. An **Add or Remove Programs** dialog displays. Before continuing, load the Windows® Setup disc.
3. Click **Add/Remove Windows Components**.

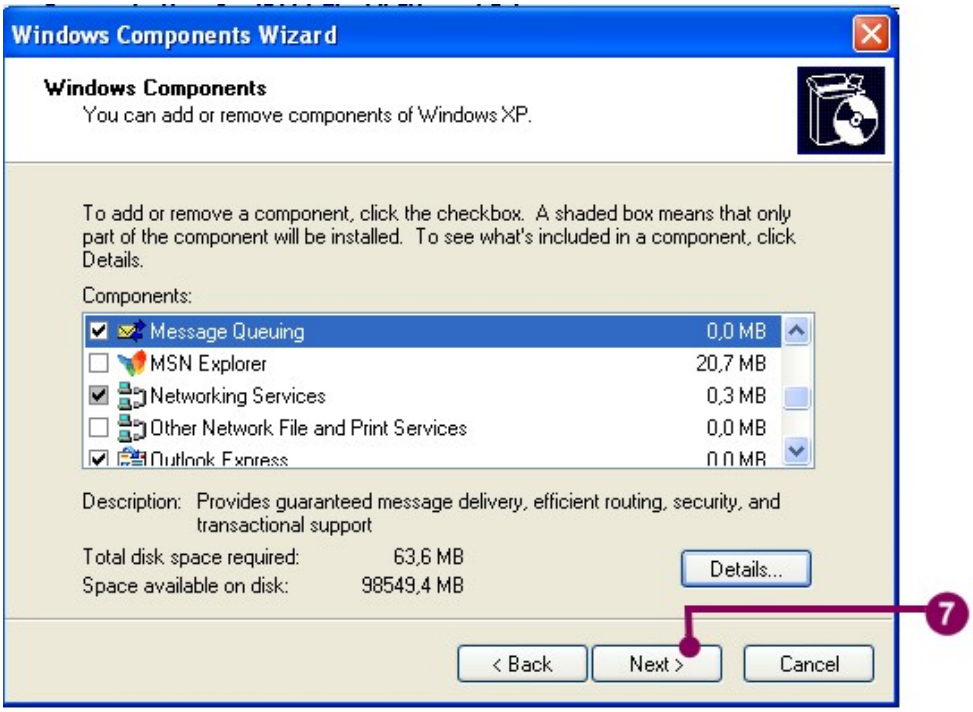


4. When the **Windows Components Wizard** dialog displays, check the checkbox of **Message Queuing**. Click **Details** button and a **Message Queuing** dialog is displayed.

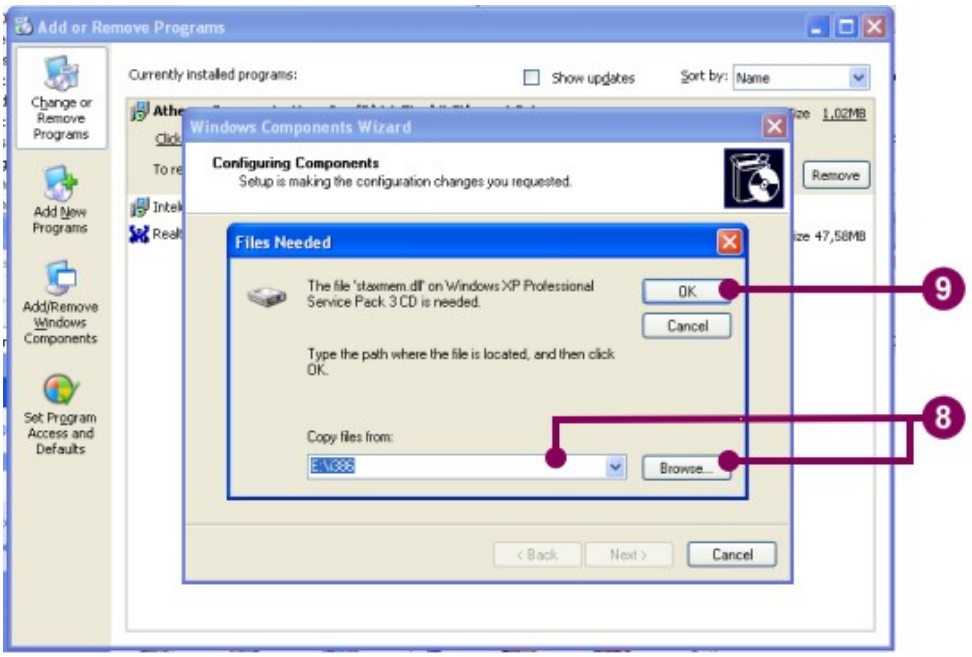
Appendix



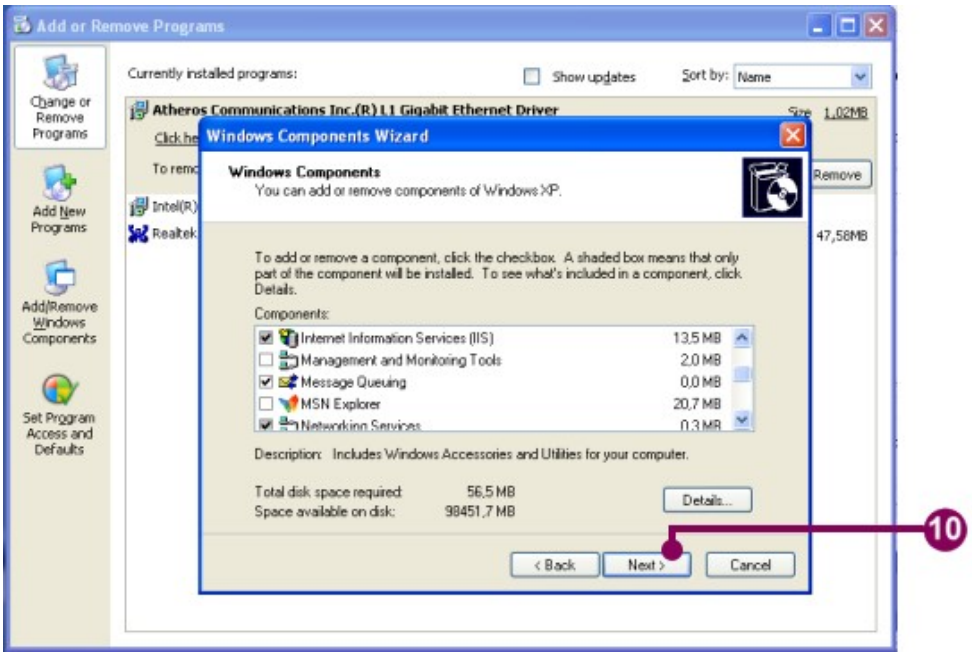
5. In the subcomponents list, check **MSMQ HTTP Support**.
6. Click **OK** to continue.



7. In the Windows Component Wizard, Click **Nex**t 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.

NOTE: You need to install Internet Information Services (IIS) first before installing MSMQ.