

D-ViewCam

User Manual

Version 3.0

Business Class Networking

Table of Contents

Product Overview	5	I/O Device	33
System Requirements	5	PTZ Config.....	34
Introduction	6	Hotline	36
Features	6	Address Book	37
Installing Your IP Camera.....	7	Monitor Display	38
Software Installation	8	User Account Setting.....	39
Add Camera(s)	13	Save/Load Configuration	41
D-ViewCam Interface Overview	16	Network Service	42
Main Console.....	17	Live Streaming Server	42
Exit/Minimize.....	18	Remote Playback Server.....	46
Split Screen Options	18	About Main Console	50
Monitor	19	Schedule	51
Configuration	24	Day Mode	52
General.....	25	Load Preset Modes	53
Startup	25	Insert a New Schedule Manually	54
Storage	26	Copy Schedule	55
Status Display	27	Week Mode	55
Miscellaneous	27	Adjust the Schedule Settings.....	56
Audio Preview	28	Encoding Option	57
Camera	29	Record Mode	58
Add Camera.....	29	Encoded Options	58
IP Camera / Video Server Setting Panel	30	Playback	60
Camera Parameter	31	Post Processing Tool.....	65
OSD (On-Screen Display) Settings	32	General Setting.....	65
		Filter Setting.....	65

Save Video	66	Log Viewer	90
Save Image (Snapshot)	67	Unusual Event	91
Print	68	System Log.....	92
Print the current image of the video you have selected.	68	Export	93
Backup.....	68	Backup.....	94
Log Viewer.....	69	Backup Recorded File(s)	95
Unusual Event	69	Delete Recorded File(s).....	97
Guard.....	74	Remote Live Viewer.....	98
Event	75	Setting	99
Assign a Camera Event	75	General Settings	99
Camera Event Settings	76	Server Settings	100
General Motion	77	Group Setting.....	101
Digital Input Event.....	78	OSD Setting.....	102
Action.....	79	Monitor Display Setting.....	103
Assign an Action Type	79	Notification Settings	104
Play Sound	80	Server/Group/Camera	105
Send E-mail	81	Login/Logout Server	106
DI/DO	82	Connect/Disconnect Camera.....	106
E-Map.....	83	PTZ Control	108
Edit Mode	84	Zoom.....	108
Add/Edit/Delete Map.....	85	Focus	108
Add/Rotate/Delete Device Indicator.....	86	Patrol	108
Operate Mode.....	88	Preset/Go.....	108
Device and Map Tree list	88	On Screen Menu	109
Layout Adjustment.....	89	Enable Move.....	109
Adjust layout Window	89	Enable Digital PTZ.....	109
		Snapshot.....	109

Start Monitor	110
E-Map	110
I/O Control	110
Playback	111
Add Remote Playback Site	111
Access Remote Playback Site	111
Web View.....	112
Server IP.....	113
Remote Live Viewer.....	113
Remote Playback.....	113
Utilities.....	114
DB Tools	114
Repair Database	115
Export Configurations	120
Frequently Asked Questions.....	121
D-Link D-ViewCam Features	121
D-Link D-ViewCam Operation	124
Open Source Software Notification	130
Minimum Hardware Requirement - How to calculate S value	159

System Requirements

To ensure your D-ViewCam system can maintain high video monitoring and recording performance, certain minimum system configurations are required. A higher performance system is required especially when the number of IP cameras exceeds nine.

Total FPS at CIF	1200~600	600~480	480~240	240~120	120~
CPU	Intel Core 2 Quad Q6600	Intel Core 2 Duo E6400	Intel Core 2 Duo E5200	Intel Core 2 Duo E5200	Intel Core 2 Duo E5200
RAM	2GB	1GB	1GB	512MB	512MB
Motherboard	Intel G31 or above; ASUS, Gigabyte, or MSI vendor with Intel chipset recommended				
Display	ATi Radeon 9200, nVIDIA GeForce FX-5200, Intel 945G/965G or above (ATi recommended)				
Hard Drive	80GB or above				
Ethernet	100-baseT or above, Gigabit LAN recommended				
OS	Microsoft Windows® XP Pro (SP2 or higher) / 2003 / Vista®				

* Recording video over a long period of time will consume large amounts of disk space. Make sure that you have enough disk space available if you want to use the recording function. You can still complete the installation even if you have less than the suggested free disk space.

Note: If a mega pixel camera is used with the D-ViewCam application, the minimum system requirement should be raised to CPU: Intel P-4 3.4GhZ or above with 1GB of memory due to the resources required to process and store large amounts of image data.

Introduction

Thank you for purchasing a D-Link IP camera, which provides state-of-the-art camera technology combined with IP network capabilities. You can build a home or small business surveillance system by using D-Link IP cameras and the latest features offered by the D-ViewCam application software.

Features

- D-ViewCam can automatically locate and add IP cameras in the local network.
- Storage management for recording files.
- Single and multiple video stream monitoring (up to 32 video channels).
- Two-way audio communication.
- Intelligent filter and search capabilities for scheduling recording and/or event recording.

Installing Your IP Camera

Before installing D-ViewCam, please make sure you have installed your D-Link IP camera(s) that will be managed by D-ViewCam.

- Step 1** - Follow the installation procedures that came with your IP camera(s) to complete the camera installation process.
- Step 2** - Verify that you are able to view the video images from the IP camera(s) by accessing the camera's web-based configuration utility. It is recommended that all IP cameras be installed in the same subnet as your management PC running the D-ViewCam software.
- Step 3** - Please refer to page 14 to add IP camera(s) to the D-ViewCam system.

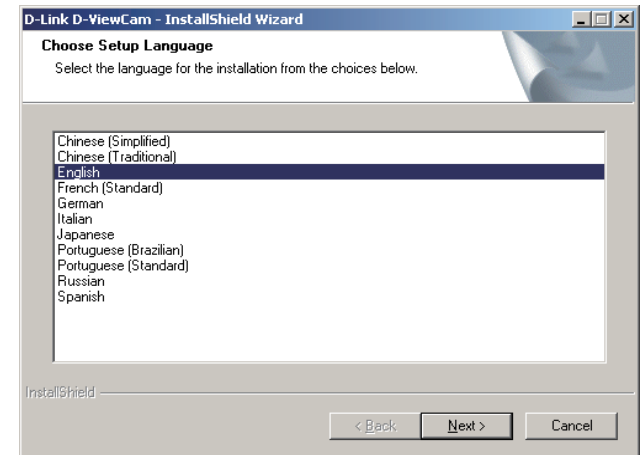
Note: *D-ViewCam is optimized for a small-scale LAN environment. To protect the system and cameras from attacks from the Internet, install the D-ViewCam software on a computer that is protected behind a firewall or an IP sharing device.*

Software Installation

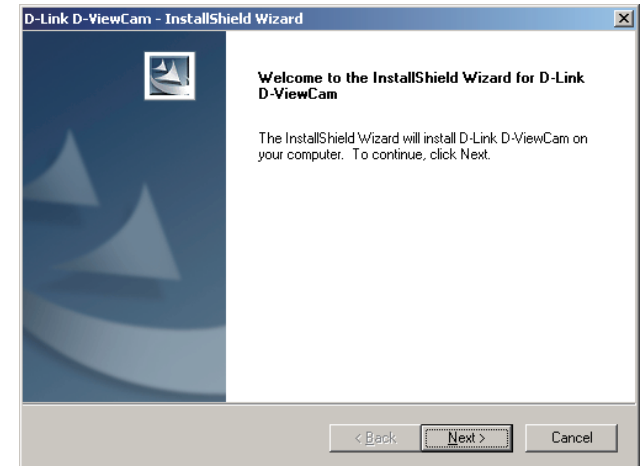
Turn on the computer and insert the D-ViewCam CD into the CD-ROM drive. Below step-by-step instructions will be shown if you are using Windows® XP. However, similar instructions and screens will also be provided for other Windows operating systems. When the autorun screen starts, click **Install D-ViewCam**.

Note: *If the Installation Wizard does not start automatically, you can manually start the wizard by double-clicking the setup.exe file from the CD.*

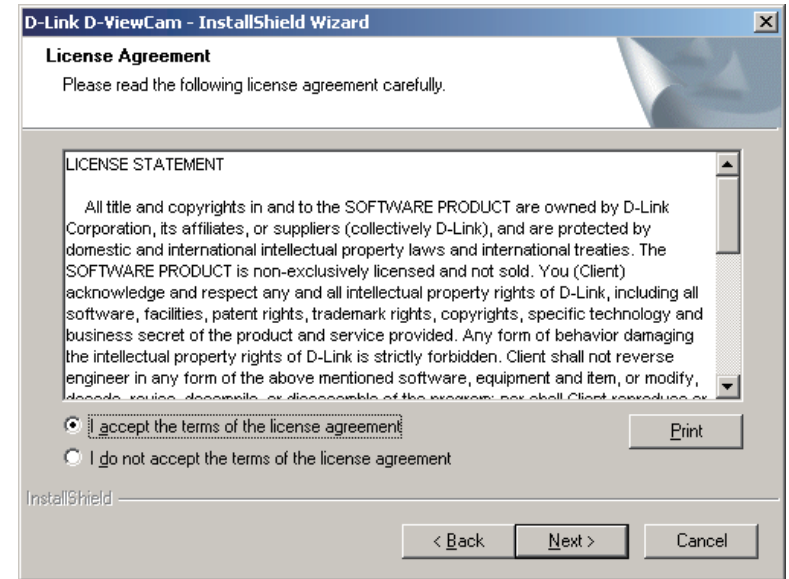
1. Select a language and click **Next** to continue.



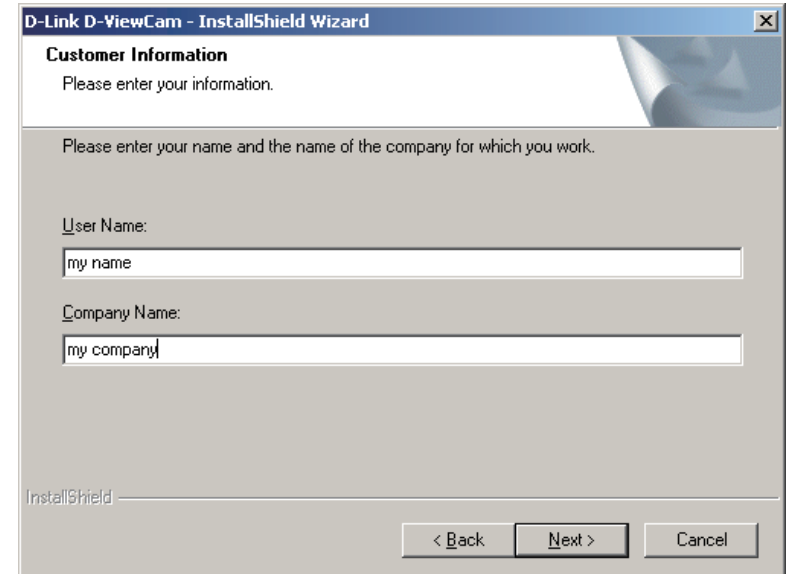
2. Click **Next** to continue.



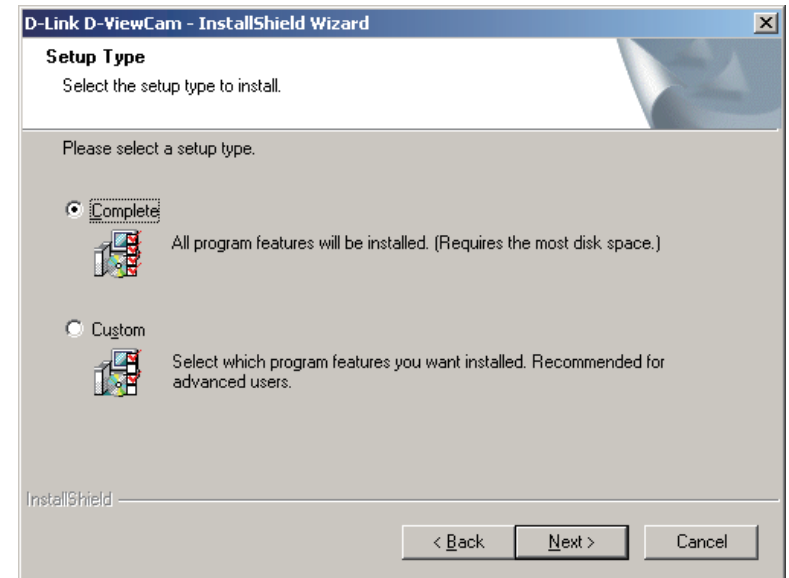
3. Click **I accept the terms of the license agreement** radio button and then click **Next** to continue.



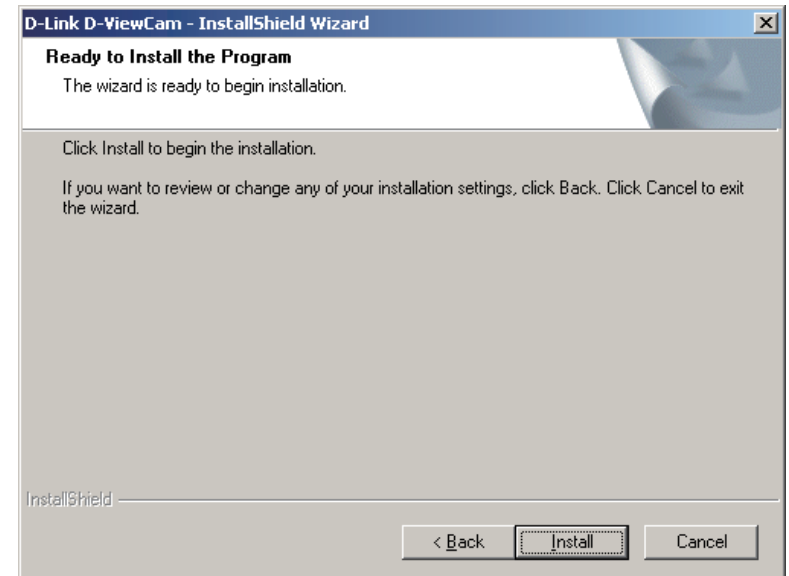
4. Enter your name and company name (optional). Click **Next** to continue.



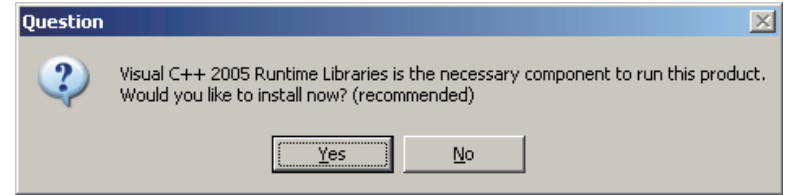
5. Select **Complete** to install the entire D-ViewCam software package or select **Custom** to choose which programs to install. Click **Next** to continue.



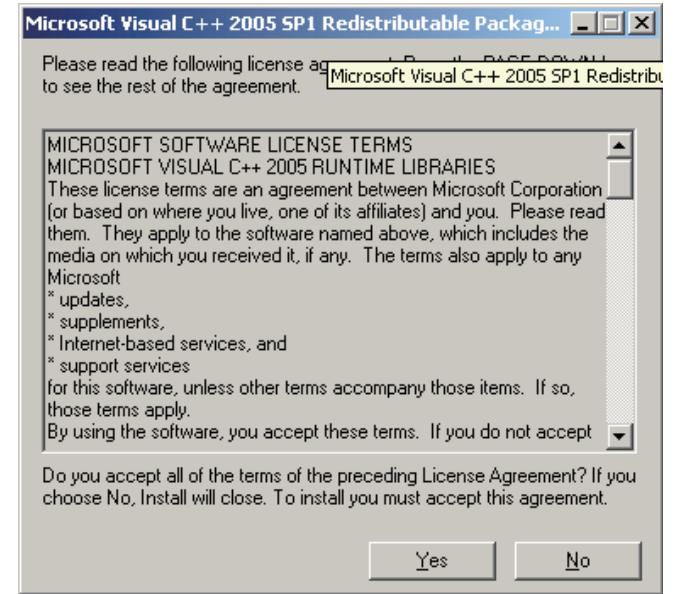
6. Click **Install** to continue. The installation process may take a few minutes.



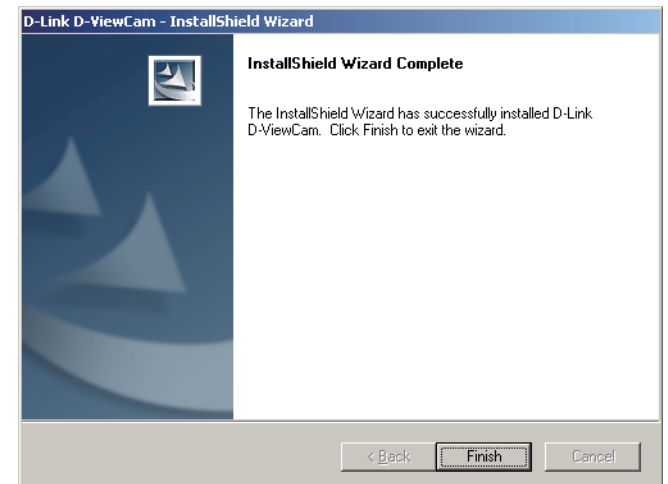
7. You may be prompted to install **Visual C++ Runtime Libraries**. Click **Yes** to install.



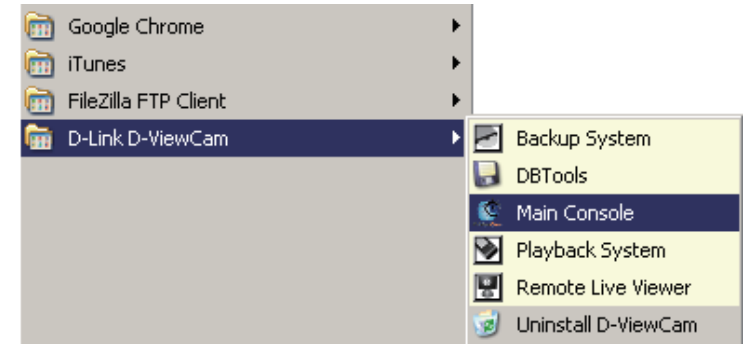
8. Click **Yes** to accept the license agreement.



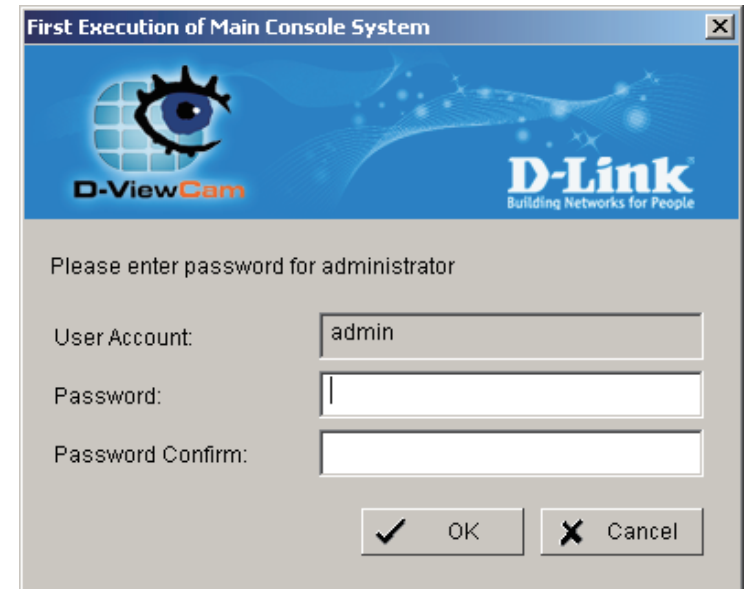
9. Click **Finish** to complete the installation process.




10. To start D-ViewCam, select **Start > All Programs > D-Link D-ViewCam > Main Console**.

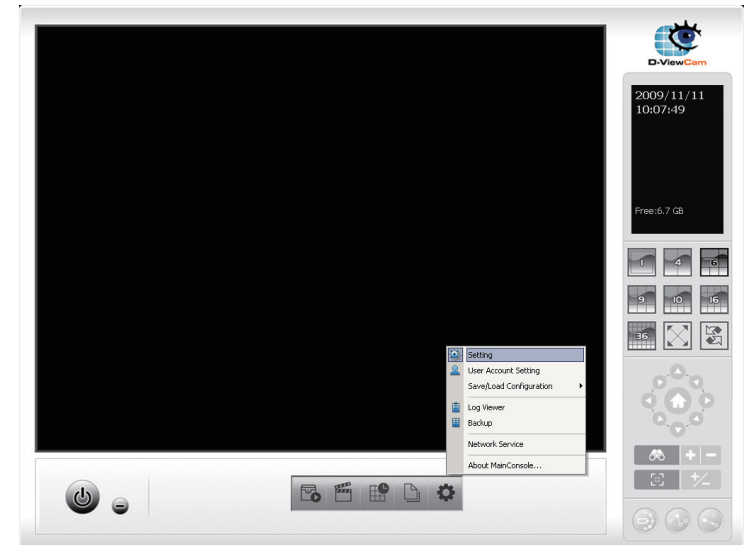


11. The first time you launch the main console, you will need to create the admin password. Enter the password and then enter it again to confirm. Click **OK** to continue.



Add Camera(s)

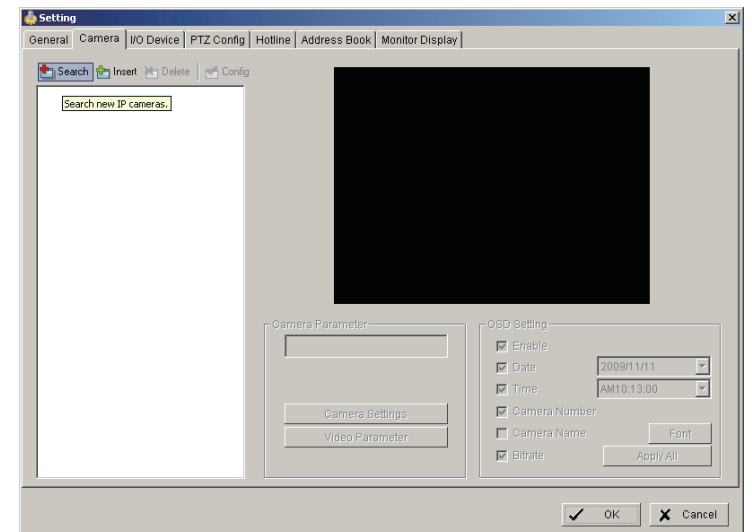
12. Once the console loads, click on the **General Settings**  icon and then click **Setting**.



13. Click on the **Camera** tab.

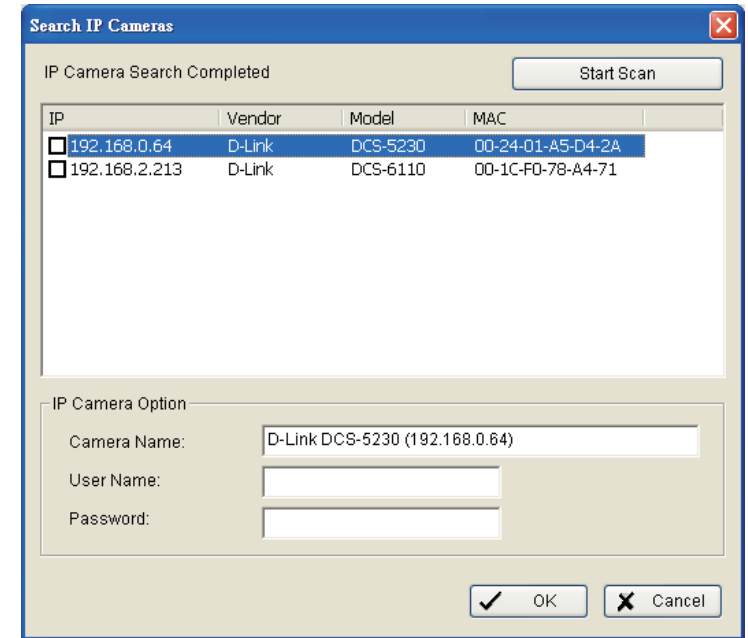
Note: If your IP cameras support UPnP, follow step 14. Otherwise, skip to step 16.

14. Click **Search** to automatically find the IP camera(s) that are on your local area network (LAN).



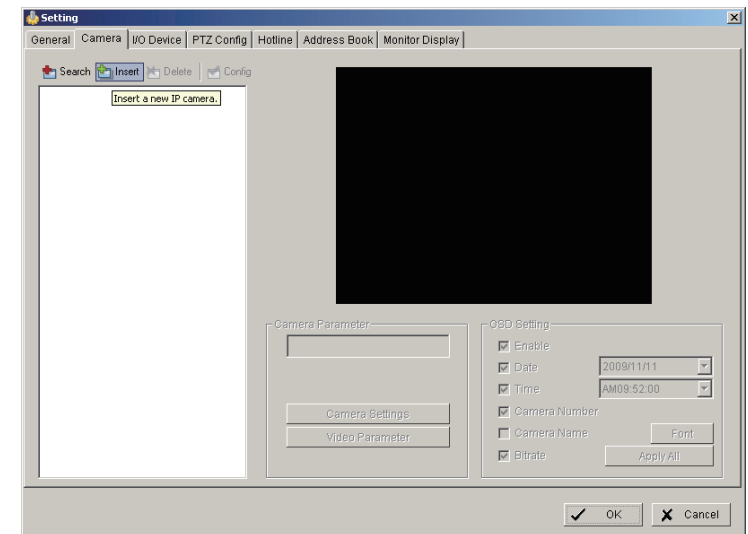
15. Select one of the IP cameras that are available. You may enter a new name for this camera and then enter the username and password assigned to this camera. Click **OK** to add the camera.

Note: You may select multiple cameras at the same time as long as they have the same username and password.



16. If your camera(s) do not support UPnP or your camera(s) were not found, you can manually add a camera.

Click **Insert** to manually add an IP camera(s) that are on your local area network (LAN).



17. Enter the following Network information for your camera:

- **Name** - Enter a name for your camera.
- **IP Address** - Enter the IP address of the camera. If you want to use a domain name, then check the DNS box and enter the domain name of the camera.
- **HTTP Port** - 80 is the default port.
- **User Name** - Enter the user name for the camera.
- **Password** - Enter the password for the camera.

Enter the following Device information for your camera:

- **Auto Detect** - Click the Auto Detect button to detect the vendor and model information.
- **Vendor** - Select the brand name/vendor from the drop-down menu.
- **Camera Model** - Select the camera model from the drop-down menu.
- **Video Channel** - Select the video channel you want to assign the camera to.

18. Click **OK** to add your camera.

IP Camera / Video Server Setting

Network

Name: Department

IP Address: 192 . 168 . 0 . 70 DNS

Http Port: 80

User Name: admin

Password: *****

Protocol: TCP UDP HTTP

Device

Vendor: D-Link

Camera Model: DCS-3710

Video Channel: 1 2 3 4
 5 6 7 8

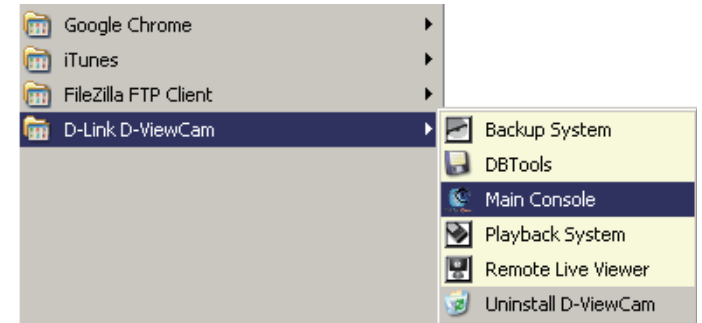
Description

Video Codec:MPEG4 MJPEG
Audio Codec:G711
Camera:1, DI:2, DO:1

D-ViewCam Interface Overview

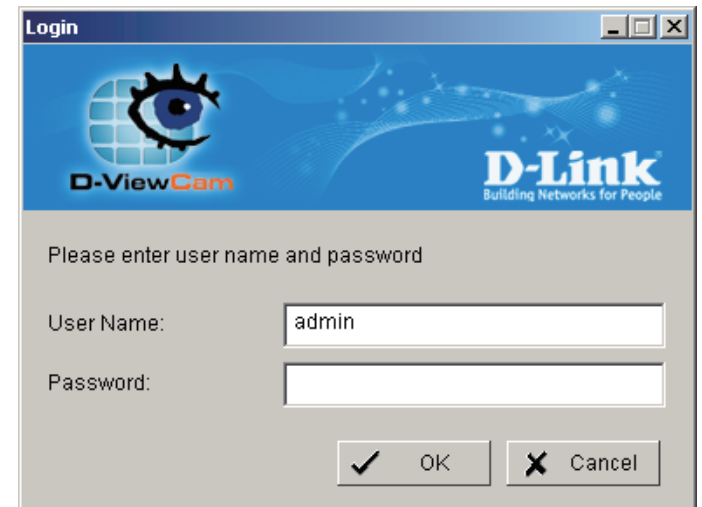
This section will show you how to start and configure D-ViewCam.

To start D-ViewCam, select **Start > All Programs > D-Link D-ViewCam > Main Console**.

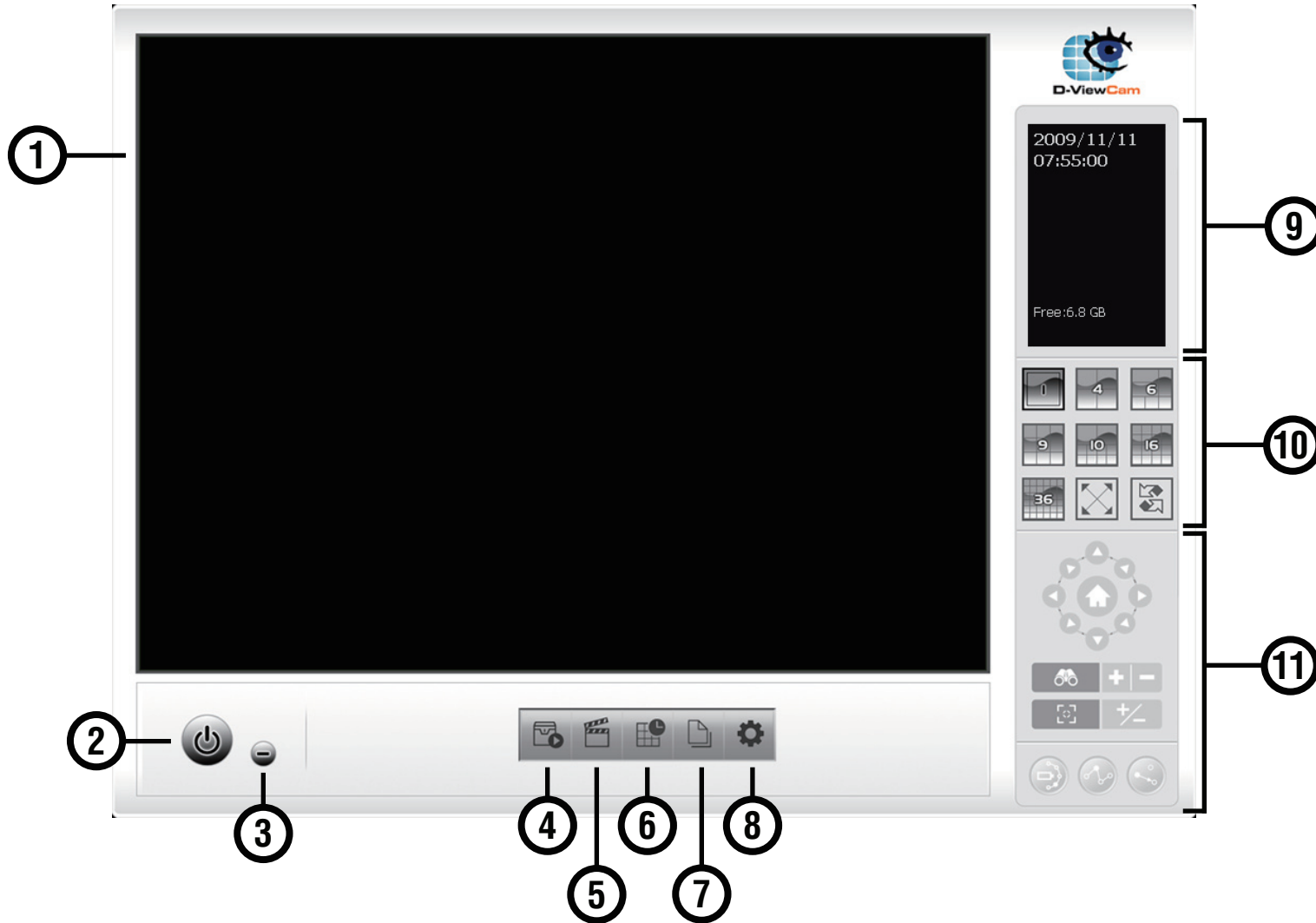


Enter **Admin** as the default username and enter your password. Click **OK** to log into the system.

Note: You can change the admin password by clicking the **lock** icon.



Main Console



1	Main Display Area	4	Start Monitor	7	Configure Smart Guard System	10	Split Screen Options
2	Log out / Exit Program	5	Start Playback	8	General Settings and Utilities	11	PTZ Features
3	Minimize Window	6	Configure Schedule	9	System Time and Date		

Exit/Minimize



Click to log the current user out or to close the D-ViewCam program.



Click to minimize the window.

Split Screen Options

Select a split-screen display layout by clicking on the desired layout icon. The system provides 4, 6, 9, 10, 16, and 36 split screen modes. To switch to single camera display, double-click the camera's image. To return to the previous configuration screen, press the **Esc** key or double-click on the screen again.



Displays 1 screen.



Divides into 9 screens.



Divides into 36 screens.



Divides into 4 screens.



Divides into 10 screens.



Switch to full screen.



Divides into 6 screens.

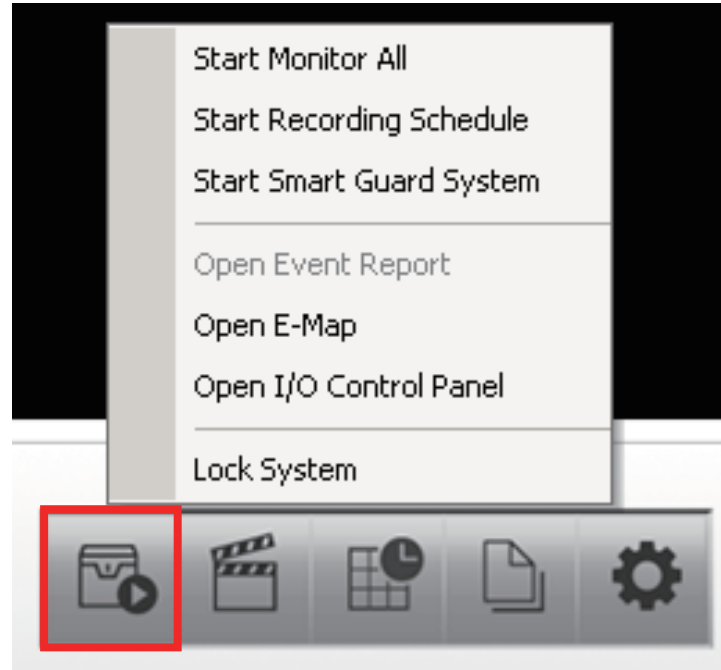


Divides into 16 screens.



Rotate all screens.

Monitor



Option	Function
Start/Stop Monitor All	Click to start or stop all monitoring functions.
Start/Stop Recording Schedule	Click to start or stop the recording schedule.
Start/Stop Smart Guard System	Click to start or stop the smart guard system.
Open Event Report	Click to open the event report which will log any events.
Open E-Map	Click to open E-Map which monitors all devices with map indicators.
Open I/O Control Panel	Click to open the I/O control panel which monitors the DI/DO and manual triggering the DO devices.
Lock System	Click to lock the system.



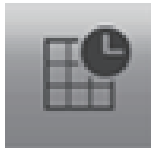
Monitor:

Click on the **Start Monitor** icon and select from the menu to start/stop recording schedule system or the guard system features. You can also open monitor tools such as event report, E-Map, I/O control panel, and system lock.



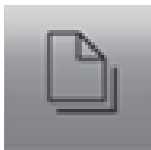
Playback:

Click on the icon to open the Playback Console. You can watch recorded video, search recorded video, adjust the image of the stored data, save video/pictures, print images, check log information and event records, and set up recording function configuration. See PlayBack on page 61 for details.



Schedule:

Organize the recording time schedule and configure recorder settings. See Schedule on page 52 for details.



Guard:

Add/edit type(s) of events that you want to detect and setup action(s) responding to events. See Guard on page 75 for details.



General Setting an Utilities:

Select to modify general settings, user account settings, save/ load configuration settings, access log viewer and backup files, and configure network services. See Config on page 25 for details.

Information Window

Displays the date, time, free disk space, IP Camera bitrate, customized text and network utilization.

PTZ Camera Control

Control the movement of PTZ (pan/tilt/zoom) cameras. With cameras that support PTZ control, you can move, zoom, patrol, adjust the focus, and set preset points of the cameras.

Preset/Go

Adjust the camera view until you are satisfied. Click on the **Set** icon and set up the view as the preset point 01. Adjust the camera view again and set up the preset point 02. Repeat the process until all preset points are set. You can assign a custom name to each preset. Click on the **Go** icon and view the result of your setting.

Note: To adjust the speed settings of PTZ camera, go to General Setting and **Utilities > Setting > PTZ Config**.

Zoom

Click on the + sign to zoom in or click the – sign to zoom out.

Focus

You can select to have the camera focused near or far. To focus near means objects that are closer will be clearer than the objects that are further away. On contrast, to focus far means objects that are further will be clearer than the objects that are closer. Click on the **Focus** icon and select auto focus if you want the system to decide the focus point for you.

Patrol

Go to **Patrol > Set Patrol** to obtain the Patrol Setup dialog. From the left window, select the camera(s) that you would like to have in the patrol group. Align the cameras in order in the right window and adjust the time. Rename the group name if you want. After completing the setup, check the Active option, and then click **OK**.

You can setup up to four groups of auto patrol. To start or stop, click on the **Patrol** icon in the Main Console, and select **Start Patrol** or **Stop Patrol**.

On Screen Menu

Right-click on the camera screen and get the “On Screen” menu, from which you can quickly adjust the settings of your camera.

Enable Move

With cameras that support PT function, click **Enable Move** to adjust the current camera’s view by clicking on the display screen. To cancel this function, right-click on the screen and select **Disable Move**.

Enable Talk

With cameras that support two-way audio, select **Enable Talk** to utilize the function.

Connect/ Disconnect

Right-click on the display screen and select Connect/Disconnect to modify the connecting status of the camera.

Show Camera

Select the camera from the Show Camera menu to display video on selected screen. The list of cameras will be displayed in the right column of the monitor display panel.

Delete Camera

Click on **Delete Camera** to remove a camera from the display screen.

Enable Digital PTZ

To enable the PTZ functions of the camera, select the **Enable Digital PTZ** option. Use the mouse wheel or click on the + and – signs to zoom in and zoom out on the camera. The square flashing on the video grid indicates the correspondent view of the camera.

Fix Aspect Ratio

Enable **Fix Aspect Ratio** to view the original ratio video or disable this option to stretch 3:4 to fit window.

Snapshot

Select the snapshot function to capture a screen shot of the current video. You have the option to copy the image to clipboard or to save it. You may select the OSD option to export the image with date/time and camera number/name text. If the digital PTZ function is enabled, you can decide either Full size or Selected region as your snapshot region.

Manual Record

Select to start recording video.

Toggle Fullscreen

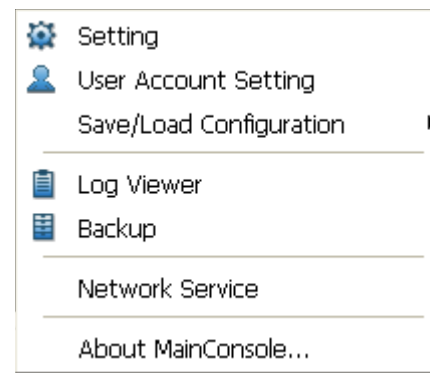
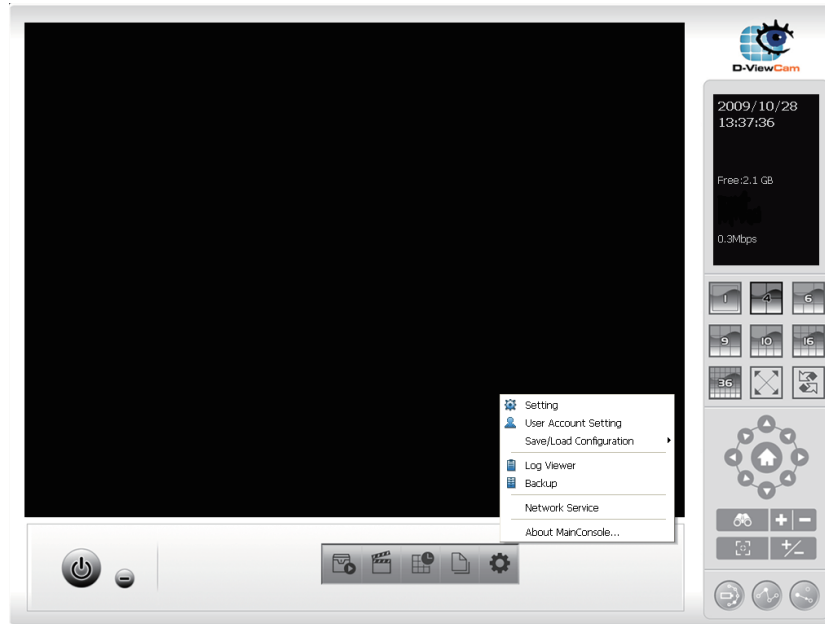
Select it to view live video(s) in fullscreen. Press **ESC** to go back to original window.

Live Display

Live display is flexible to change channels and screen divisions. Each screen division will have the same display list, but have the different sequence. Such like, when using Show/ Delete Camera function to edit camera list, the operator will apply to all different screen divisions.

Configuration

Click on the **General Setting and Utilities**  icon. Click **Setting** to configure your settings.



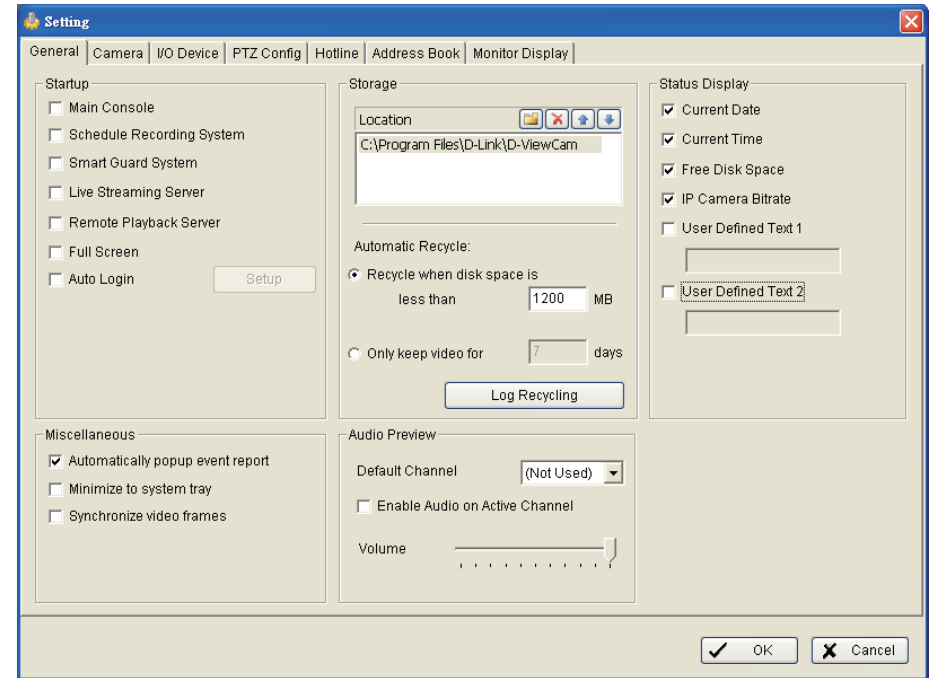
General

Startup

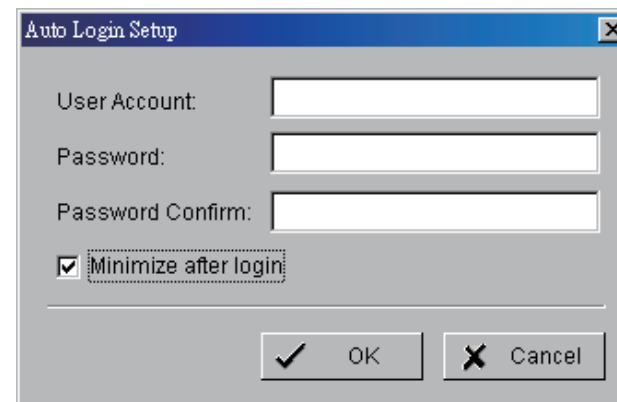
Main Console: Check to open the Main Console system when windows startup.

Check the following 3 main functions and 2 network services to auto-activate functions when the Main Console system is starting, including **Schedule Recording System**, **Smart Guard System**, **Live Streaming Server**, and **Remote Playback Server**.

Full Screen: Check to launch video at full screen when launched.







Setup Auto login: Enable “Auto login” and click the **Setup** button to open the Auto Login Setup panel. Enter the User Account and Password to login automatically when the system starts. Enable **Minimize after login** to minimize the MainConsole window after login.

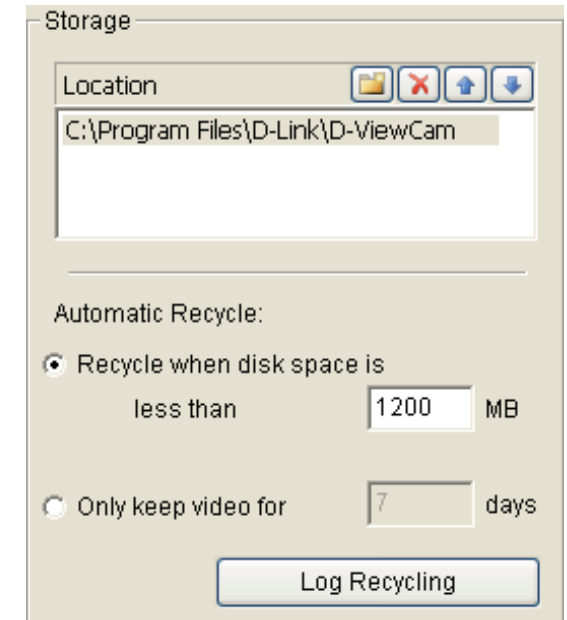


Storage

Location:

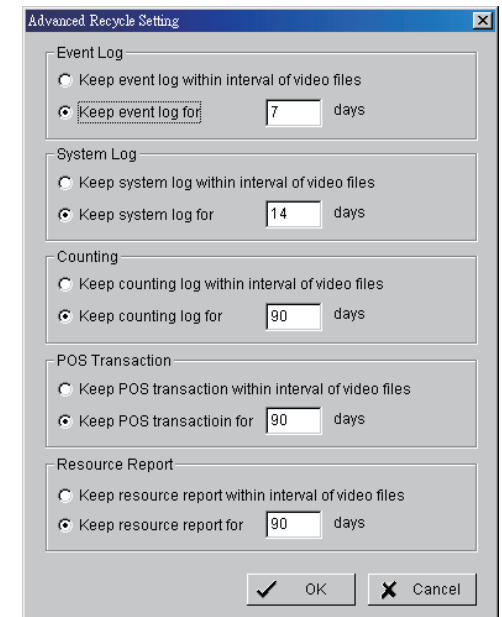
Assign the default folder for the system to store data files. It is recommend not to save in the system drive (I.E. C:\) to avoid PC efficiency drop when free storage is low.

	New	Click to add a new location. Click the ... button to browse to a folder. Click OK to save the location.
	Delete	Highlight a location and then click the Delete button to remove it.
	Move Item Up	Highlight a location and click the Move Item Up button to move the location higher in the list.
	Move Item Down	Highlight a location and click the Move Item Down button to move the location lower in the list.



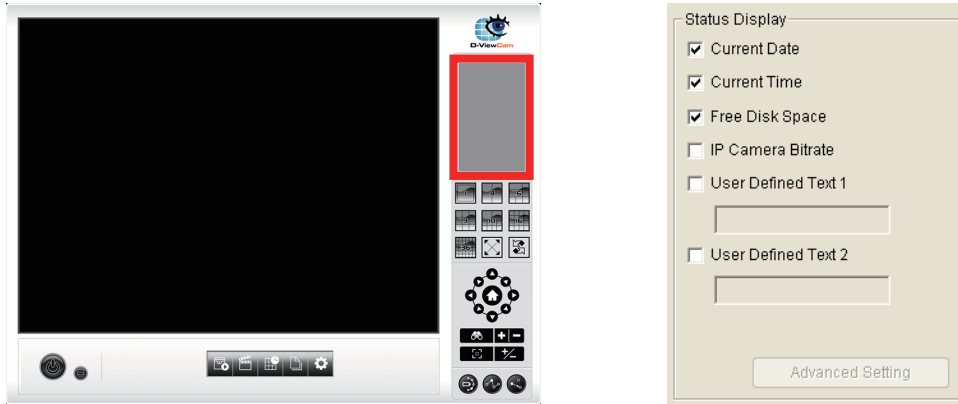
Automatic Recycle: The system will automatically delete out-of-date data to save storage space.

- **Recycle when disk space is less than:** Select and enter the available space (in MBs). When the default folder available space falls below the entered about, the system will begin to store data to the next folder in the location list. If all the status of locations exceeds the storage rule, the system will start recycling in an hour progress.
- **Only keep video for:** Delete the video records that are older than the number of days set. If the default storage spaces exhausted (disc space is less than 1200MB), the system will start to recycle by hourly period.
- **Log Recycling:** Click to set the days that you want to keep specific event logs or keep all event logs within interval of video files.
 1. **Event Log:** Delete the event log data that is older than the number of days set.
 2. **System Log:** Delete the system log data that is older than the number of days set.



Status Display

Select the information that you wish to display in the information window on the Main Console such as Current Date, Current Time, Free Disk Space, IP Camera Bitrate, and User Defined Text.



Miscellaneous

Automatically Popup Event Report: Make sure to stop Smart Guard System before you modify this setting, otherwise the modification will not take place. The Event Report dialog box will automatically popup when events have been detected.

Minimize to system tray: Enable this option to display an icon in the task bar when clicking the minimize button.

Note: Enter the username and password of MainConsole again when clicking the minimized MainConsole icon in notification area of windows task bar to start monitoring.

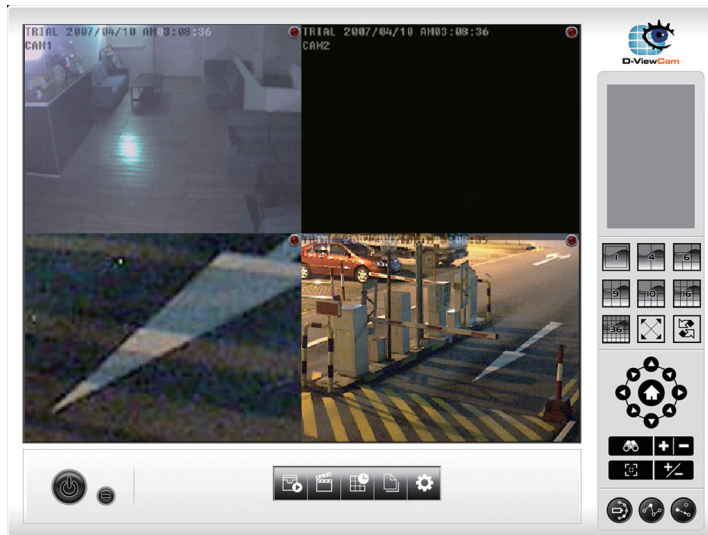
Synchronize video frames: Select to prevent tearing that may occur in the video display. However, this will increase the CPU processing load.

Audio Preview

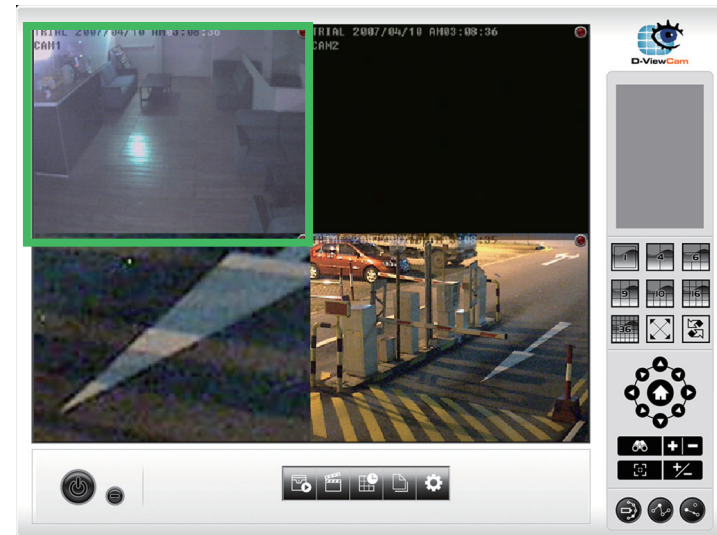
Default Channel: Select the audio channel that you wish to hear from.

Enable Audio on Active Channel: Select the **Enable Audio on Active Channel** option to hear the audio from the selected video channel on each video grid of the Main Console. The default channel plays if the video channel isn't selected.

Volume: Adjust the volume with the “volume bar.”



System plays the audio of “default channel”



System plays the audio of left-top “selected channel”

Camera

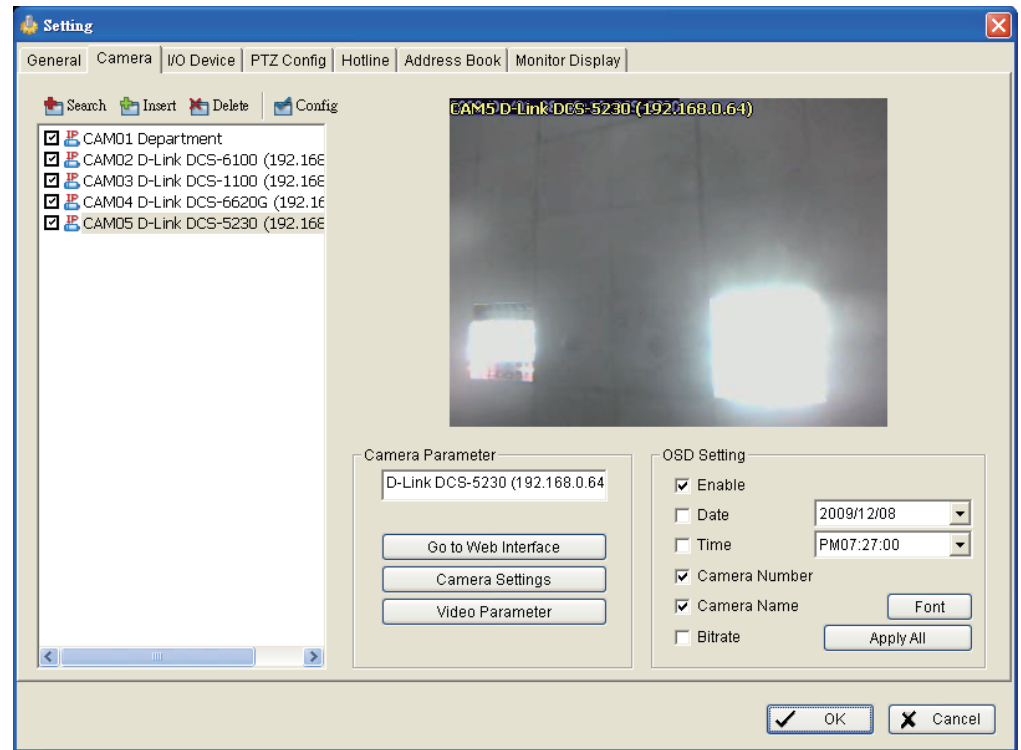
Add Camera

Four function buttons will be included in the Setting/Camera panel.

Search: Click on the **Search** icon to obtain the Search IP Camera panel. The system will start scanning automatically once the panel is opened. You may manually stop scanning by clicking on the **Stop Scan** button.

Fill in the user name and password for each IP camera found and click **OK** to add it to the camera list.

Note: Drag the mouse to multi-select the cameras and then insert the username and password. The username and password will be applied to all the selected cameras automatically.



Insert: Click to open the IP Camera/Video Server Setting panel and add IP cameras to the list.

Delete: Click to remove the selected IP camera(s) from the system. Click **OK** to finalize the modification.

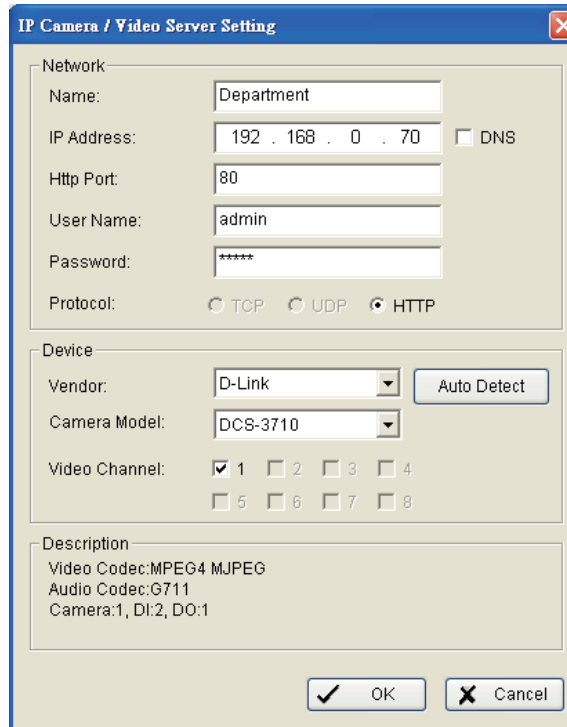
Config: Click to obtain the IP Camera/Video Server Setting panel. You can modify the IP camera settings with the Setting panel.

IP Camera / Video Server Setting Panel

Network: Fill up the Network field (including Name, IP Address, Http Port, User Name, Password and Protocol) referring to the instruction provided by the camera manufacturer. Check “Use DNS” to use domain name instead of IP address.

Device: Choose the IP camera manufacturer from the drop-down menu. Click on **Auto Detect** and the model name will show in the box.

Description: Displays information about the device.



The screenshot shows a dialog box titled "IP Camera / Video Server Setting" with a close button (X) in the top right corner. The dialog is divided into three sections: Network, Device, and Description.

Network Section:

- Name: Department
- IP Address: 192 . 168 . 0 . 70 DNS
- Http Port: 80
- User Name: admin
- Password: *****
- Protocol: TCP UDP HTTP

Device Section:

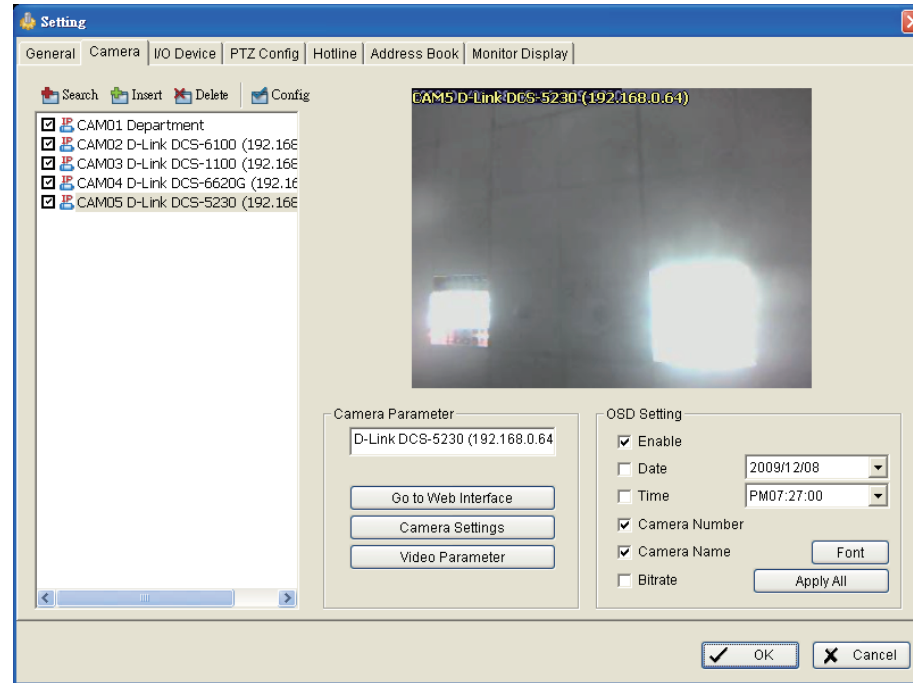
- Vendor: D-Link (dropdown menu)
- Camera Model: DCS-3710 (dropdown menu)
- Video Channel: 1 2 3 4
 5 6 7 8

Description Section:

- Video Codec: MPEG4 MJPEG
- Audio Codec: G711
- Camera: 1, DI: 2, DO: 1

At the bottom of the dialog, there are two buttons: and .

Camera Parameter



Camera List: Displays all the cameras that are connected to the system. Click the name of the camera to edit the settings.

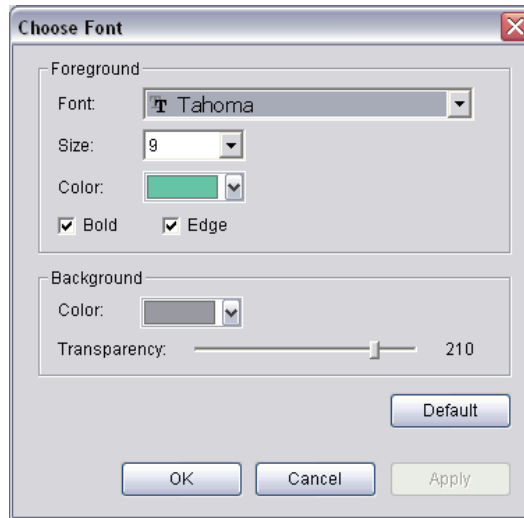
Camera Name: Name the camera for your convenience.

Go to Web Interface: Go to the web-based interface of your camera to configure the settings (optional).

Camera Settings: Edit the camera's parameters offered by camera vendor.

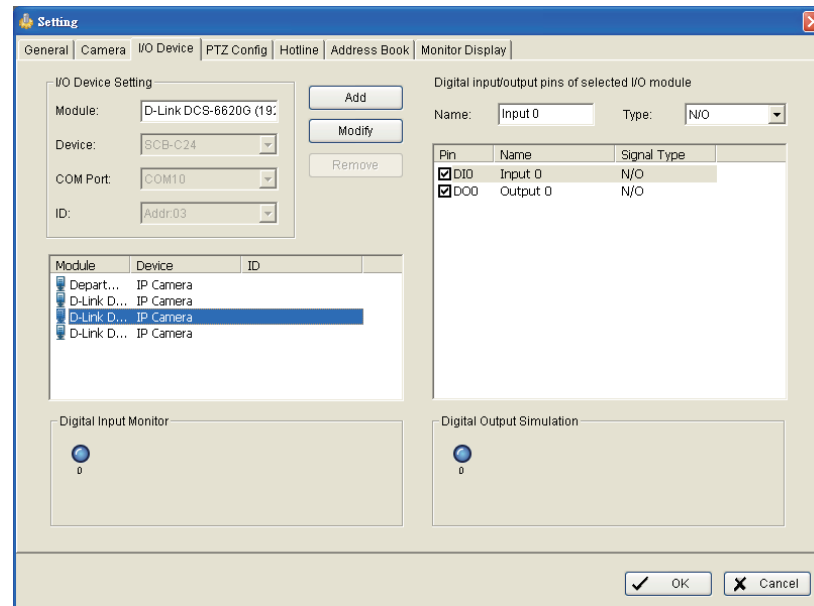
Video Parameter: Adjusts the video's brightness, contrast, saturation, and color hue values.

OSD (On-Screen Display) Settings



Select the information that you wish to see on the on-screen display. Click the **Font** button to select the font style.

I/O Device



I/O Device Setting:

- **Module:** Name of the module and ID of the digital input/output device(s) that is connected to your system.
- **Device:** This column displays the device(s) already installed to the system.
- **ID:** Select the I/O port.

Input Monitor: The device(s) is turned on if the dot is in red. By triggering the digital input device, the related icon will light up. This is used to check if the device is correctly connected or not.

Output Monitor: The device(s) is turned on if the dot is in red. By clicking on the icon, you may trigger the digital device connecting to the system. This can be used to test if the output device is correctly connected.

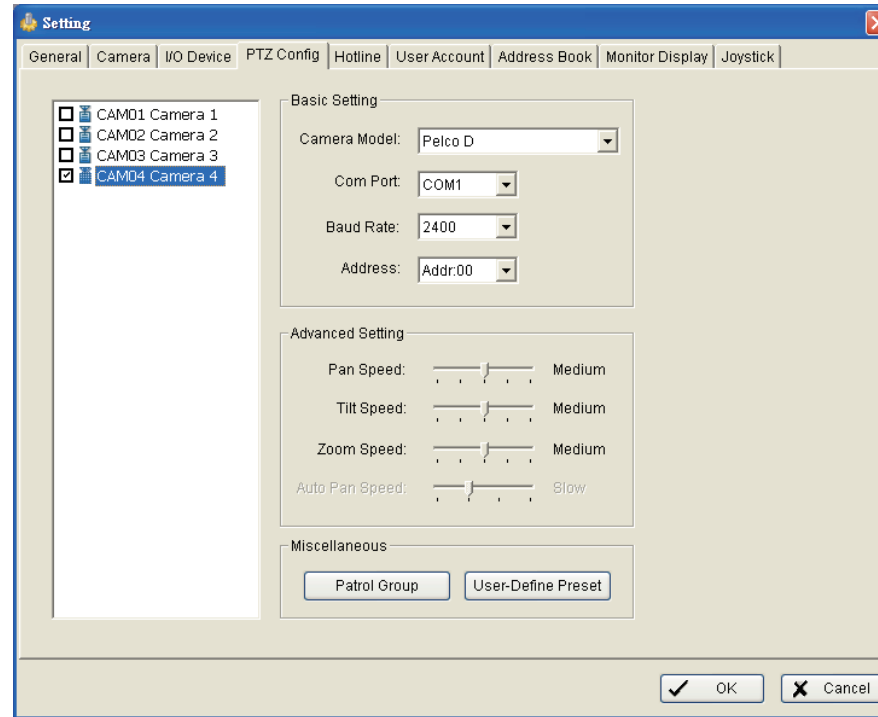
Device Setting

Name: Insert the name of the device (input and output).

Type: Select the device type from the drop-down menu.

1. N/O: Normal Open.
2. N/C: Normal Close.

PTZ Config



Check the box on the camera list to activate the PTZ control function of a PTZ camera.

Basic Setting: Select the camera model, com port, baud rate, and address of your PTZ camera.

Note: If your camera model is an IP camera, the PTZ function will work directly without the com port, baud rate, and address settings.

Advanced Setting: You may setup the pan speed, tilt speed, and zoom speed. Adjust the settings by dragging the bars.

Miscellaneous:

Patrol Group: You can setup a Patrol Group.

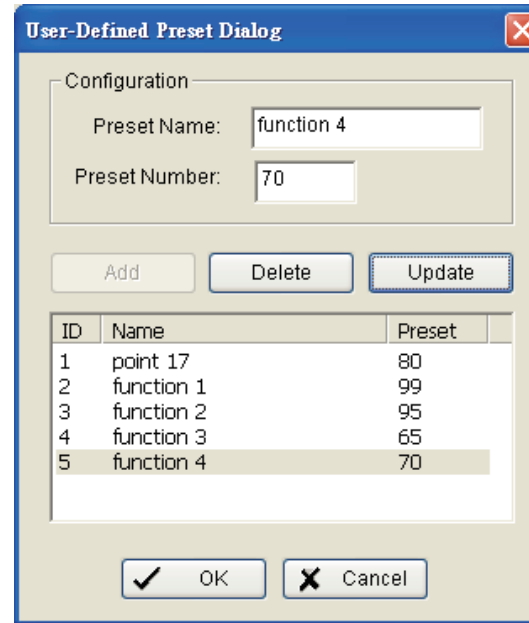
User-Define Preset: User-Define Preset can trigger the extra-function of speed dome itself such as auto-tracking, login menu of camera... etc. You can refer the detail description of each speed dome on it's user manual.

Step 1: Type a Preset Name.

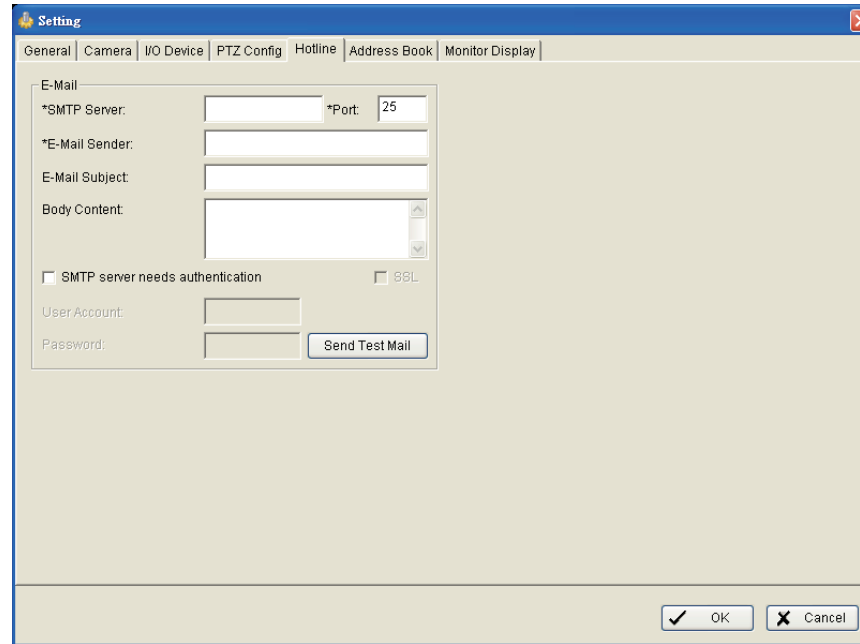
Step 2: Type the Preset Number.

Step 3: Click **OK** to save your preset.

You may click **Add** to add a new preset, highlight a preset in the list and click **Delete** to remove it, or highlight a preset and change the preset name and/or preset number and then click **Update** to save.



Hotline



Configure the Hotline settings including E-mail, once an unusual event is detected.

E-mail: Input the following information: Server, Port, Sender's E-mail address, E-mail's subject title, Body content and SSL option for encrypted transmission. Click on the **Send Test Mail** button to test the settings.

Address Book

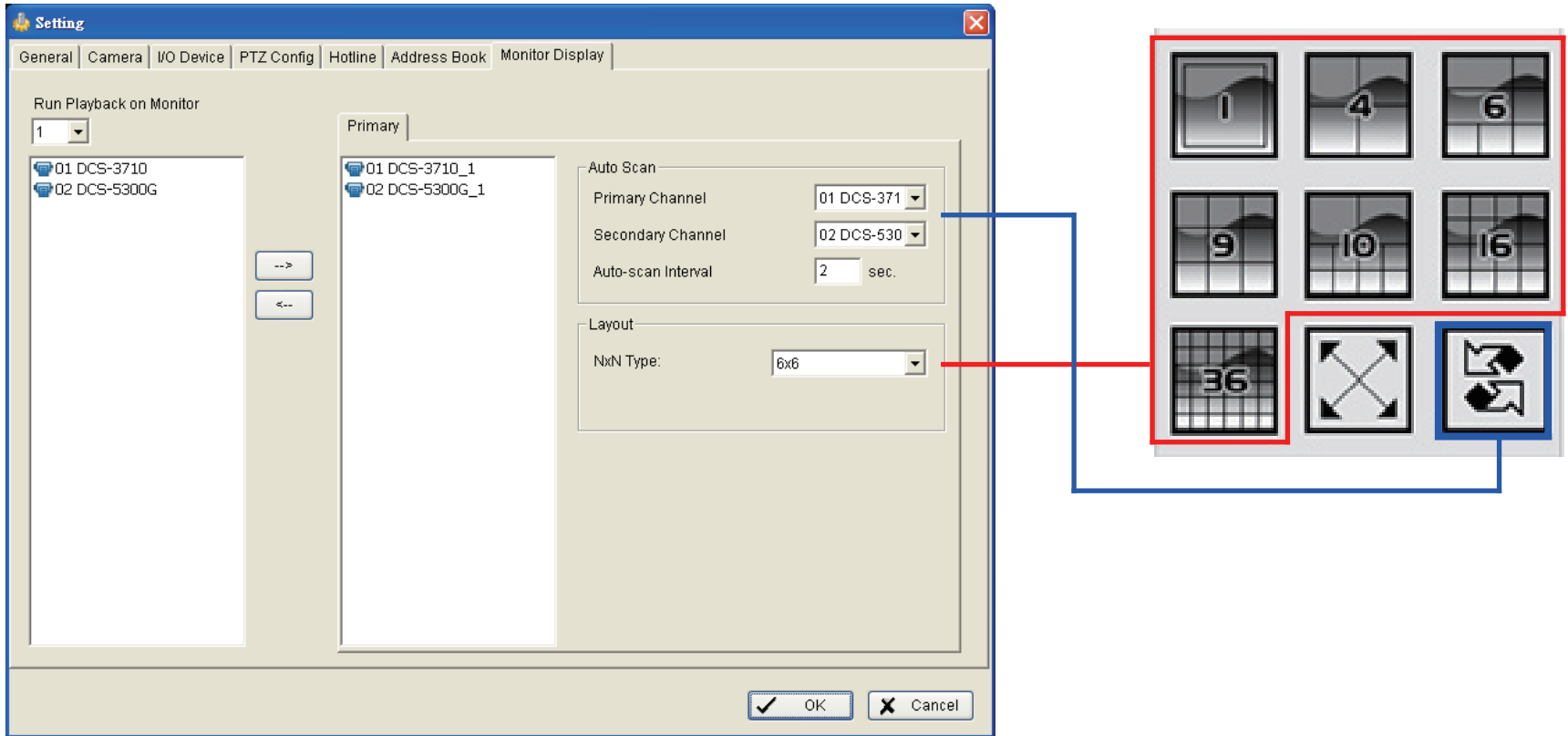
Address Book: Manage the address book from which you may send out an E-mail when an unusual event is detected.

The screenshot shows a 'Setting' dialog box with the 'Address Book' tab selected. The dialog contains the following elements:

- Tabbed interface: General, Camera, I/O Device, PTZ Config, Hotline, User Account, **Address Book**, Monitor Display.
- Text: 'Please input the name and contact information'.
- Input fields: Name (Michael), Phone (555-1123125), E-Mail (mike@hotline.com).
- Text: 'Description:' followed by an empty text box.
- Buttons: Add, Clear, **Modify**, Remove.
- Text: 'Contact persons'.
- Table with columns: Name, Phone, E-Mail, Description.
- Table content: Michael, 555-1123125, mike@hotline.com.
- Bottom buttons: OK, Cancel.

Name	Phone	E-Mail	Description
Michael	555-1123125	mike@hotline.com	

Monitor Display



Cameras List: The left column displays a list of all available cameras. Highlight the camera and click the right arrow --> to move the camera to the right column. The right column will display the primary and secondary cameras. These cameras will be available for the auto-scan function.

Auto Scan: Activate auto scan to rotate the channels / cameras on the display screen.

For instance, you may select to show only 4 sub-screens on the main console while having 16 channels connected to the system. With auto scan function, you will be able to see all 16 channels by turns. You can set up a primary channel that will always be on the screen and a secondary channel that has secondary priority.

User Account Setting

Only the default admin account can manage user accounts. From the list on this tab, highlight each account and modify the privilege setting.

Note: When entering into this page, the system will display one of the account group's default privilege profiles first. End users can insert Name and Password to create a new account, or click an existed account to modify his/ her privilege.

There are 3 default privilege profiles of account groups:

Admin: Have privileges to all system functions and devices, except add/delete/update privileges of other users.

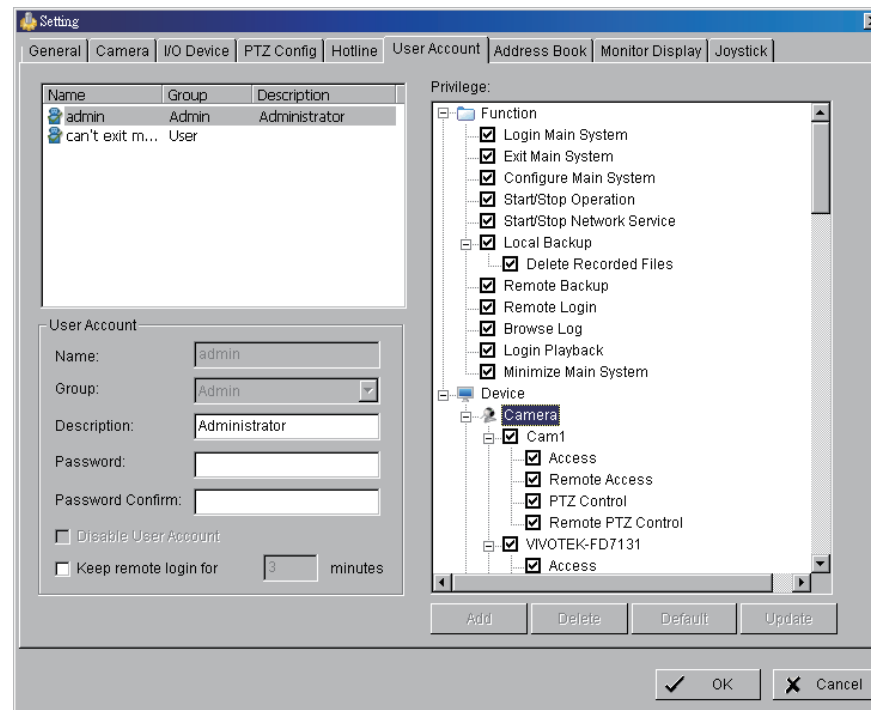
Power User: Have limited privileges of system functions and complete privileges of assigned devices.

User: All the privileges of system functions are forbidden, user can only manage assigned devices.

Add: Click it to create a new account after inserting related information. The **Add** button is only enabled when filled a new account.

Delete: Click it to delete the indicated account.

Default: Click it to go back to default privilege settings of related user group.



User Account Setting: The admin may create and modify the content of user account here.

Name: Insert an user name.

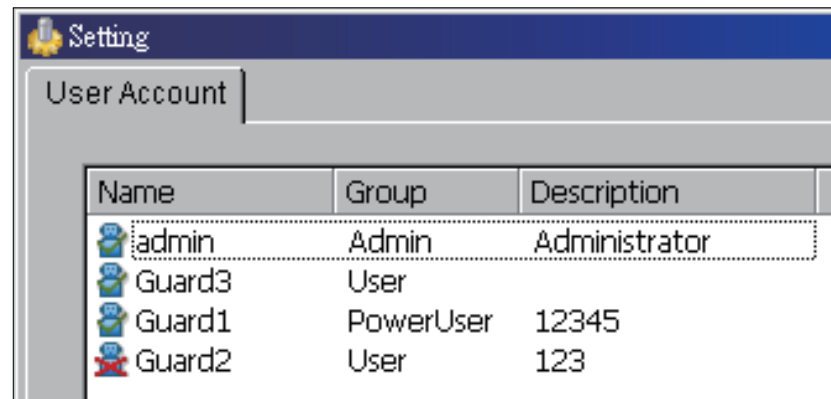
Group: Assign the group for each user.

Description: Insert a description related to each user.

Password: Insert the password assigned to each user.

Password Confirm: Insert again to confirm the password.

Disable User Account: Check “Disable User Account” to block this account.



The screenshot shows a window titled 'Setting' with a tab labeled 'User Account'. Below the tab is a table with three columns: 'Name', 'Group', and 'Description'. The table contains four rows of user accounts. The first row is 'admin' with group 'Admin' and description 'Administrator'. The second row is 'Guard3' with group 'User'. The third row is 'Guard1' with group 'PowerUser' and password '12345'. The fourth row is 'Guard2' with group 'User' and password '123'. The 'Guard2' row has a red 'X' icon next to its name, indicating it is disabled.

Name	Group	Description
admin	Admin	Administrator
Guard3	User	
Guard1	PowerUser	12345
Guard2	User	123

Note: Only the default admin account cannot be disabled.

Keep remote login for ___minutes: Insert the duration to autolog off an account after logging in from remote LiveViewer or Remote Playback server.

Privilege: Check each privilege of functions and devices for each user account.

Function: Check the settings and operations related system configuration, and the privilege of remote access.

Device: Check the device privileges of camera, digital output in MainConsole and client applications.

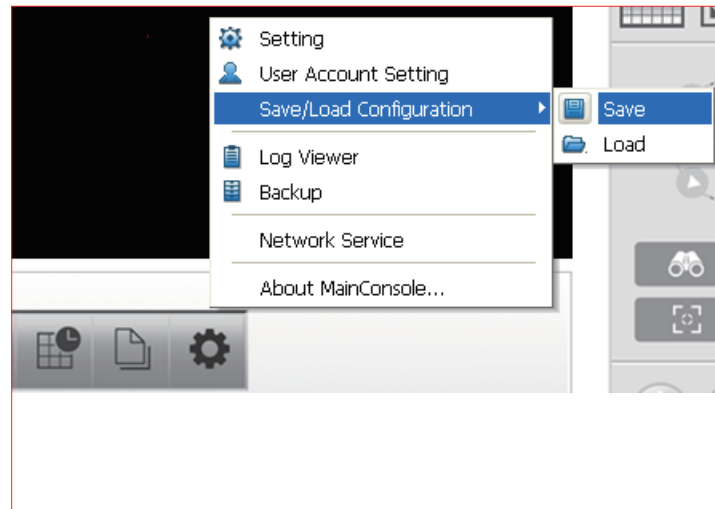
Save/Load Configuration

The Save/Load Configuration function allows system users to save any specific setting as a .cfg (config) file. You may save up several different .cfg files at any time.

Save Configuration: To save a specific setting, go to **General Setting and Utilities > Save/Load Configuration > Save**. In the popup window, type in the file name and then save it as a .cfg file.

Load Configuration: To load a specific setting, go to **General Setting and Utilities > Save/Load Configuration > Load**. In the popup window, go to the directory that you saved the .cfg files at, select any one of them and then click **OK** to load the file.

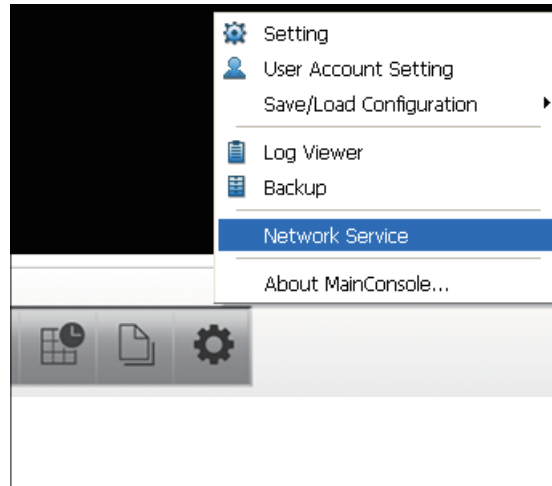
Note: MainConsole will be automatically shutdown after loading a new configuration. Please re-start MainConsole manually.



Network Service

There are 2 types of network services:

Live streaming server and **Remote playback server**. From the Main Console, go to **General Setting and Utilities > Network Service** to obtain the Network Service panel.

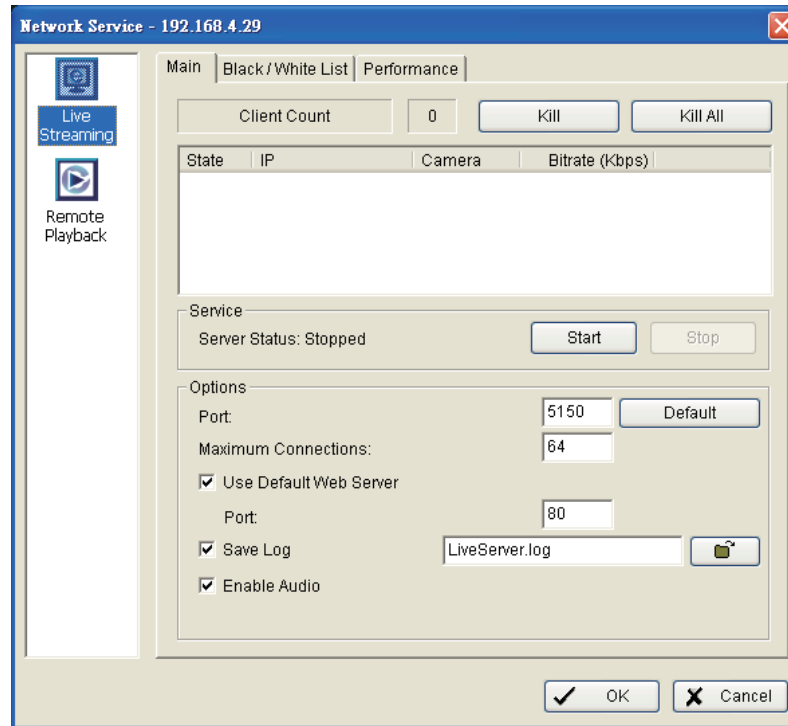


Live Streaming Server

When starting the live streaming function of computer, the system allows remote users to log in to the specific computer and view cameras that are connected to it. As system administrator, user could be able to monitor these accounts in order to maintain the system efficiency.

Main

On Live Streaming Server panel, administrator can see all the clients who are currently logging in to the computer and watching the live video from the remote side.



Client List

Client Count: Show the amount of channels that are connected.

Kill Client: Highlight an IP address and click on the **Kill Client** button to block the client from your client list.

Kill All Clients: Click on this button to block all the clients logging to your system.

Service

Server Status: Click on Start/Stop to turn on/off the server.

Options: Adjust the setting only when the server is stopped.

Port: Assign a port for the clients to connect to your system via Remote Live Viewer. Default port is 5150.

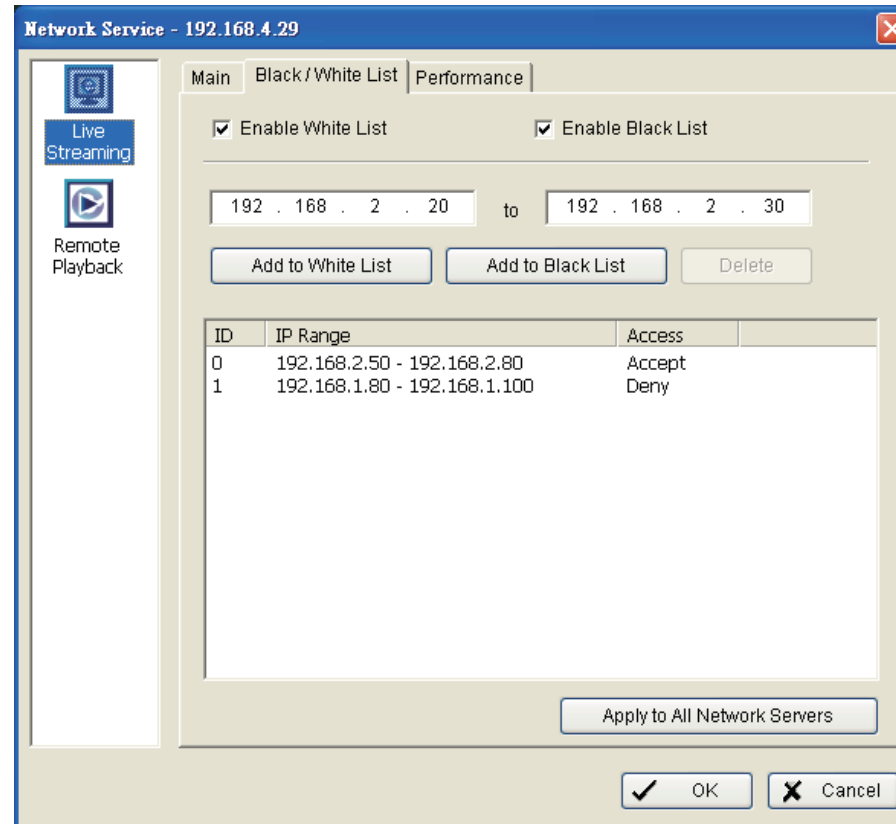
Maximum Connections: Number of connections that are allowed to connect to the system. Default is 64 channels and maximum is 64, one camera video counts as one connection.

Use Default Web Server: Activate the Web server by checking this box. Clients will be able to watch live video via Internet Explorer. The port for live streaming server is 80 by default.

Save Log: Save the current log information to your computer.

Enable Audio: Select this option to enable the audio transmission along with video stream.

Black / White List



White List: Check the “Enable White List” box to activate the white list filter. Only IPs from the white list is allowed to log in.

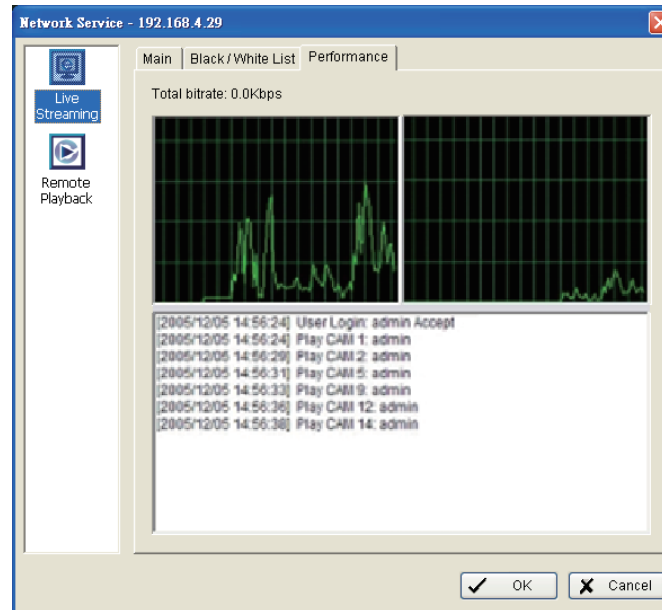
Black List: Check the “Enable Black List” box to activate the black list filter. IPs from the black list will be blocked.

IP Address: Enter an IP address into the IP address field on the left. To add an IP address range to the system, enter 2 sets of IP address to indicate a series of IP(s).

Add/Delete: Add the IP(s) onto the list or remove it from the list.

Apply to All Network Servers: Apply the settings to both live streaming server and remote playback server.

Performance

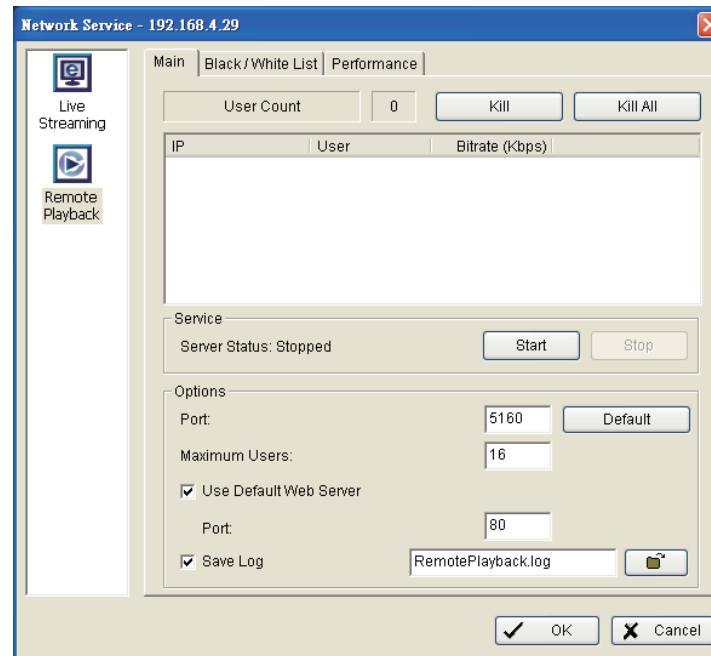


Remote Playback Server

When starting the remote playback function, the system allows remote users to log in to the specific computer and withdraw data files that are stored on it. As system administrator, user could be able to monitor the accounts logging in to maintain the system efficiency.

Main

On the Remote Playback Server panel, all the clients who are currently logged into the computer and watching the playback video from the remote side.



Client List

User Count: Show the amount of users that are connecting to system.

Kill Client: Highlight an IP address and click on the **Kill Client** button to block the client from your client list.

Kill All Clients: Click on this button to block all the clients logging in to your system.

Service

Server Status: Click on Start/Stop to turn on/off this option.

Options

Port: Assign a port for the clients to connect to your system via Remote playback server. Default port is 5160.

Maximum Users: Number of connections that are allowed to connect to the system. Default is 16 users and maximum is 16.

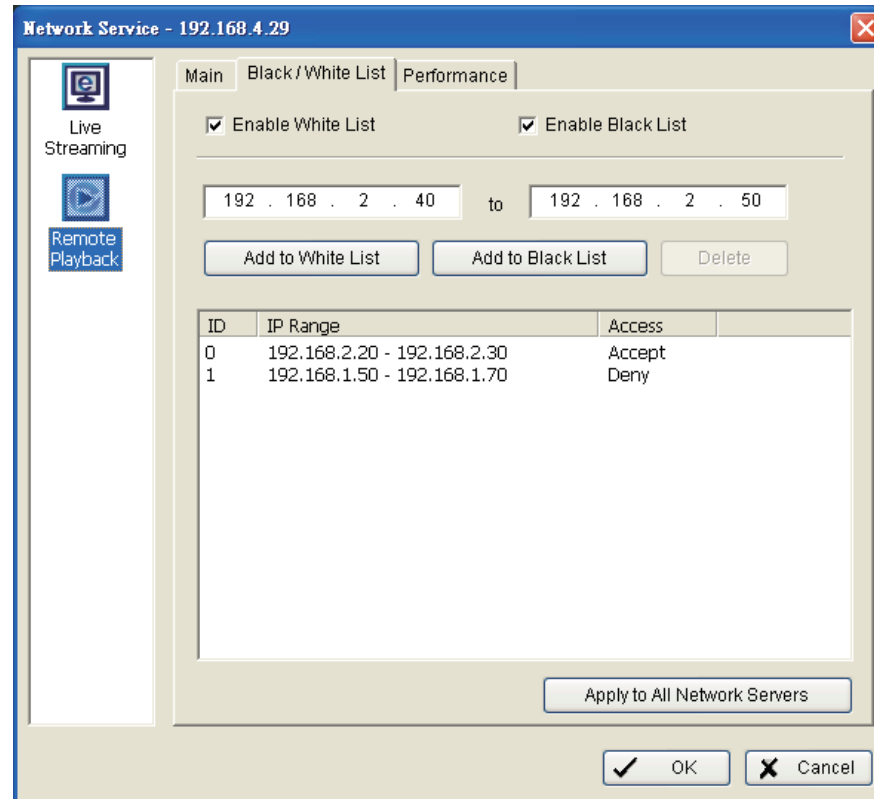
Note: One user counts as one account that is logging in to the server.

Use Default Web Server: Activate the Web server by checking this box. Clients will be able to watch live video via Internet Explorer. The port for live streaming server is set to 80 by default.

Save Log: Save the current log information.

Note: The server must be stopped before editing any settings.

Black / White List



White List: Check the “Enable White List” box to activate the white list filter. Only IPs from the white list is allowed to log in.

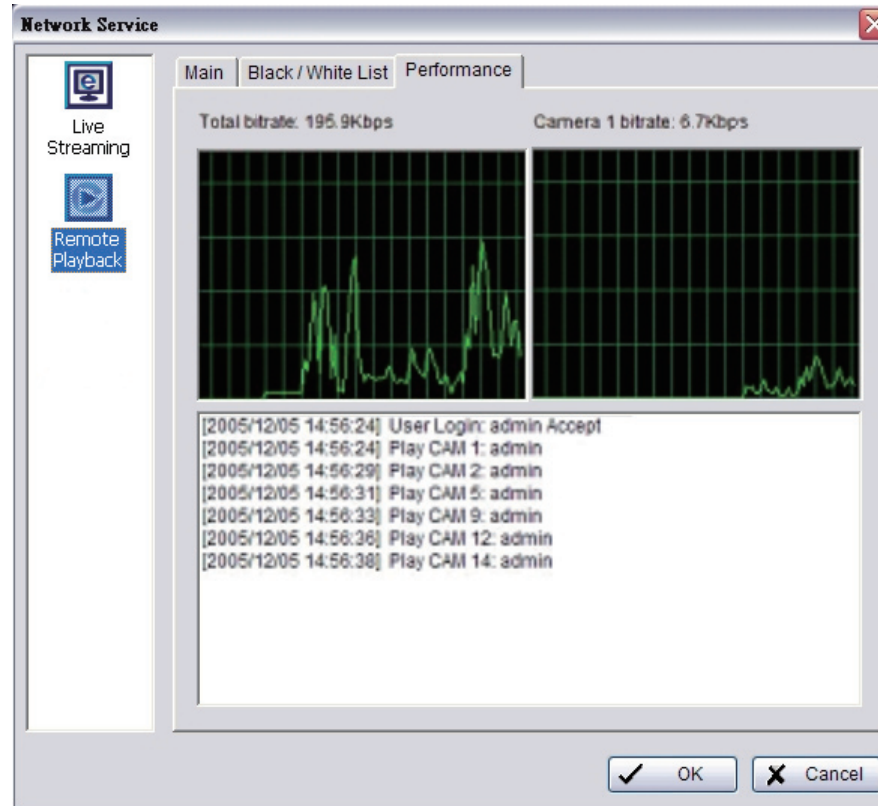
Black List: Check the “Enable Black List” box to activate the black list filter. IPs from the black list will be blocked.

IP Address: Enter an IP address into the IP address field on the left. To add an IP address range to the system, enter 2 sets of IP address to indicate a series of IP(s).

Add/Delete: Add the IP(s) onto the list or remove it from the list.

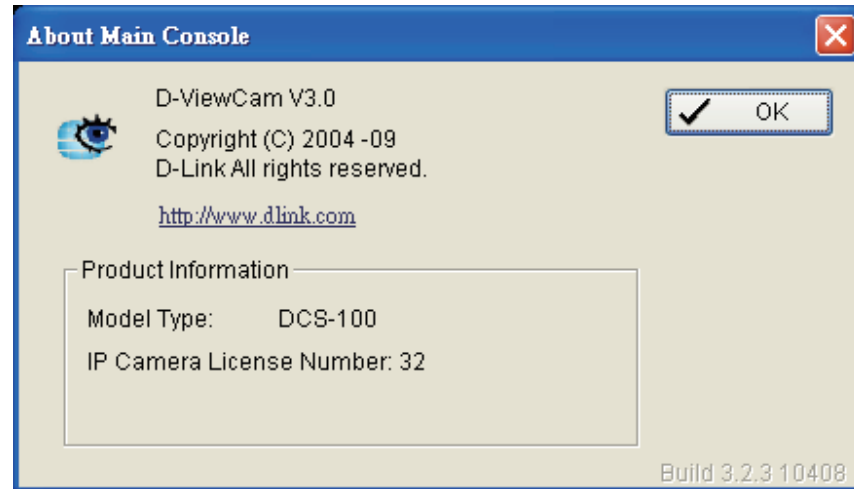
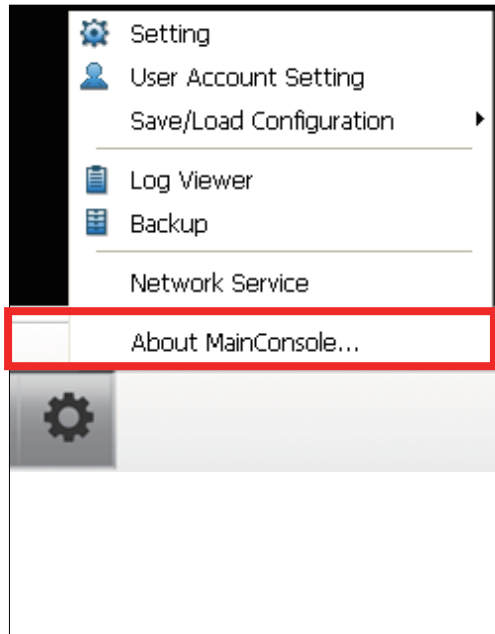
Apply to All Network Servers: Apply the settings to both live streaming server and remote playback server.

Performance



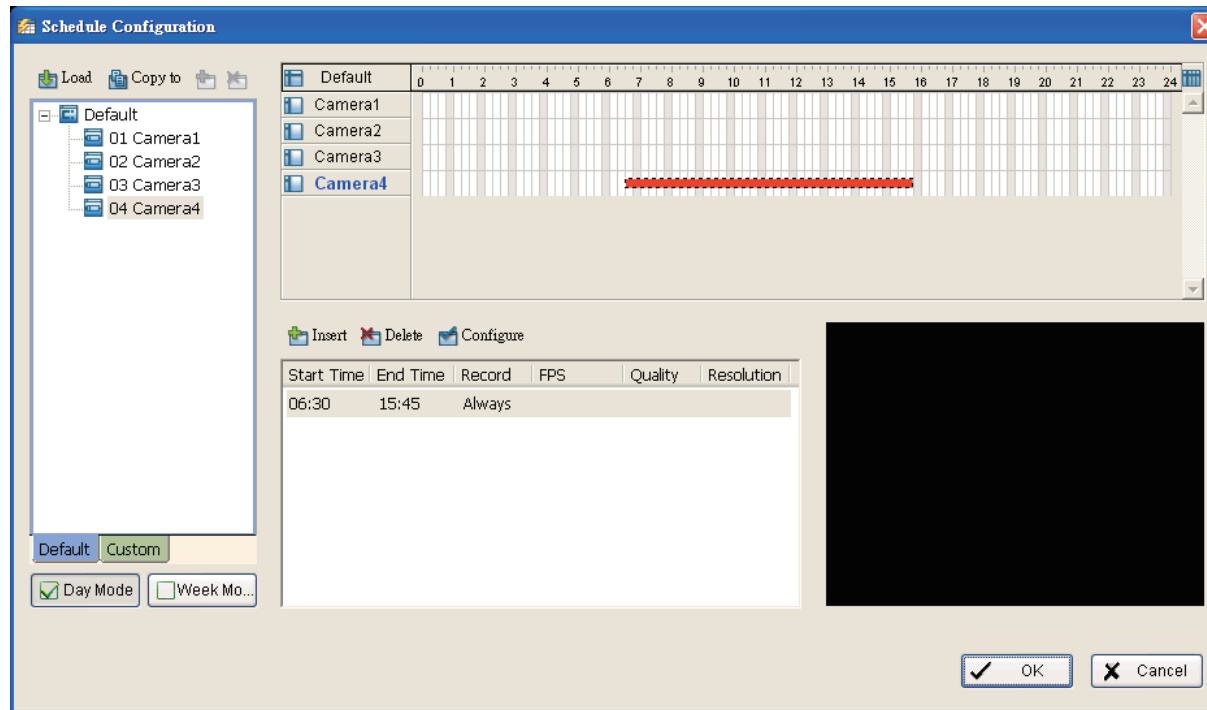
About Main Console

Go to About Main Console to view the version of your D-ViewCam software and model name information.



Schedule

Click on the **Schedule** icon on the Main Console to set up the time duration for video recording.

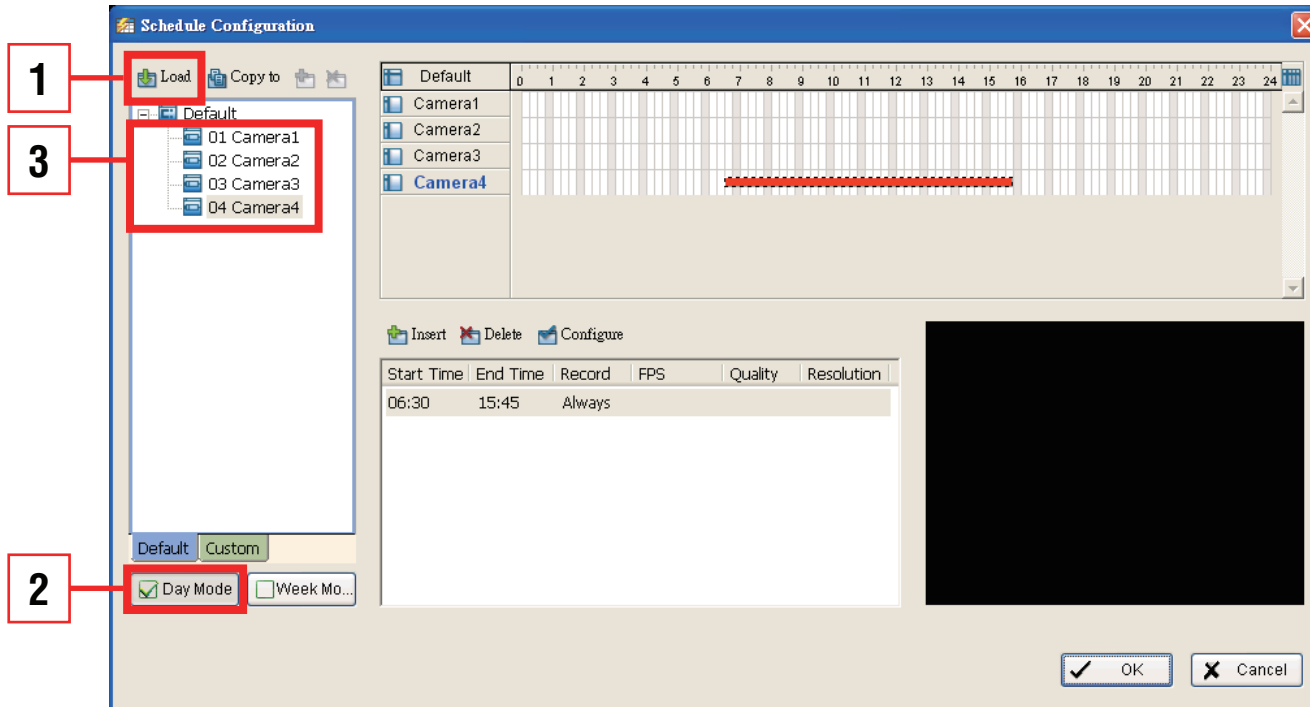


Day Mode

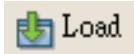
Schedule the camera(s) to record video at the same time every day.

There are three ways to setup the time schedule for each camera:

1. Load a preset mode or
2. Insert a new schedule manually or
3. Copy to other cameras after manually setup.



Load Preset Modes

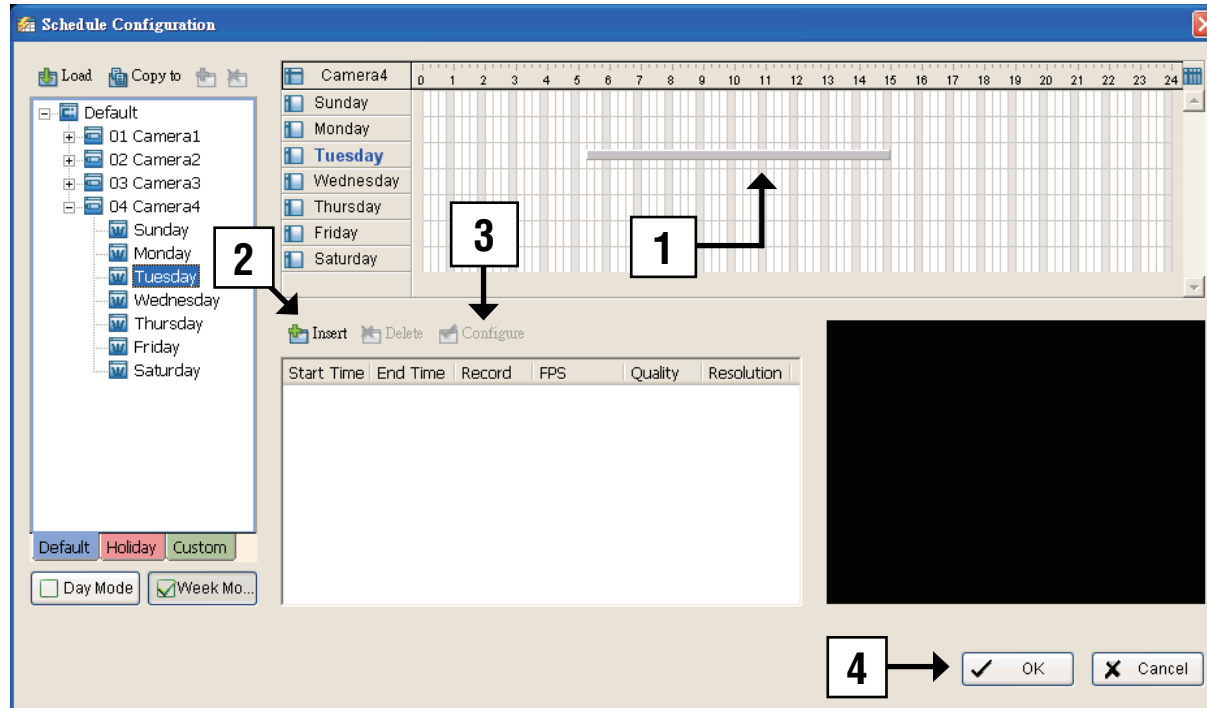
The system provides six modes to quickly setup recording schedule. Click on the  button to bring up the drop-down menu to select the preset mode. Refer below tables for the definitions of each mode in each series.

Mode	Format	Time	Record	FPS	Quality	Resolution
Regular	M-PEG	0:00 - 24:00	Always	Max	Max	Max
	MPEG-4			Max		
Office	M-PEG	8:00 - 20:00	Always	Max	Max	Max
	MPEG-4			Max		
Shop	M-PEG	10:00 - 22:00	Always	Max	Max	Max
	MPEG-4			Max		
Highly Secure	M-PEG	0:00 - 24:00	Always	Max	Max	Max
	MPEG-4			Max		
Disk Saving	M-PEG	0:00 - 24:00	Motion	10	Max	Max
	MPEG-4			i-frame		
Minor	M-PEG	0:00 - 24:00	Motion	5	Max	Max
	MPEG-4			i-frame		

Insert a New Schedule Manually

Step 1

Left-click and draw the bar you want to add to the time table. The scheduled time will show as a grey bar.



Step 2

Click the **Insert** icon and add a new schedule in the Regular Mode, i.e. to record video during the time period you set with 30 FPS, Normal video quality, and Normal resolution.

Step 3

Change the settings by clicking on the **Configure** icon or double-click the schedule information.

Step 4

Click **OK**.

Copy Schedule

You may set up the schedule for each channel/camera by repeating the process above, or simply apply the settings of a single camera to all the others by clicking the **Copy To** icon on the top of the display window.

Week Mode

Schedule the camera(s) for each day of the week. In addition, you may assign holidays under the Week Mode.

Default

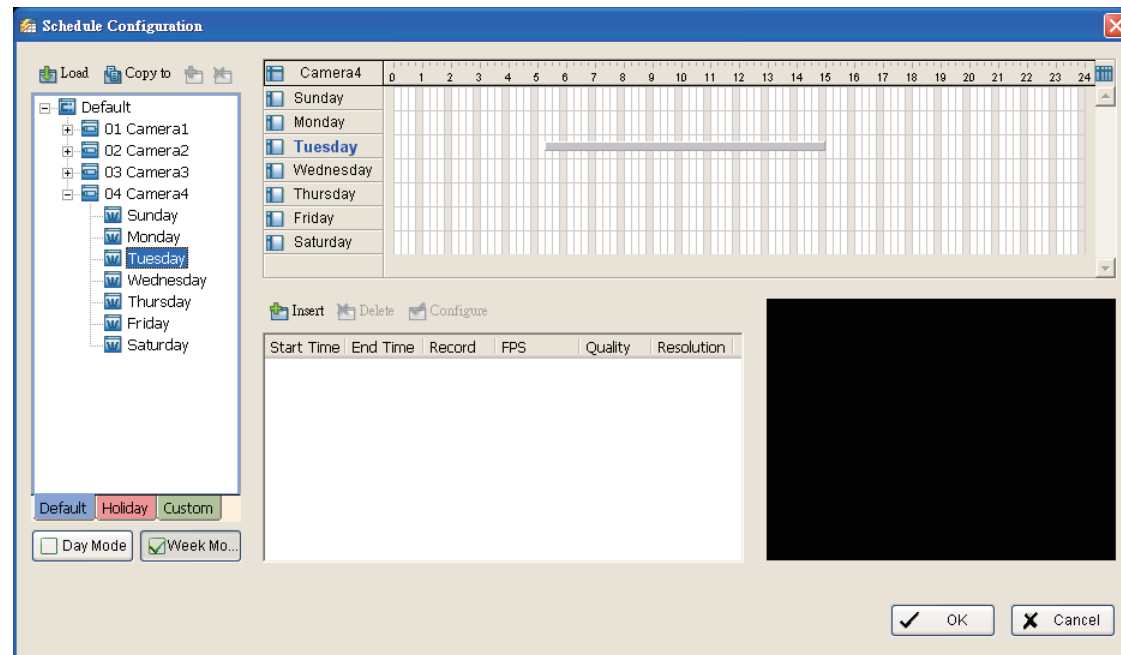
Follow the same process to setup the schedule for every day in a week.

Holiday

You may assign holidays where the system will work according to the Sunday setting.

Custom

You can assign a particular date(s) on which the system will work according to a special schedule(s) different from the others.

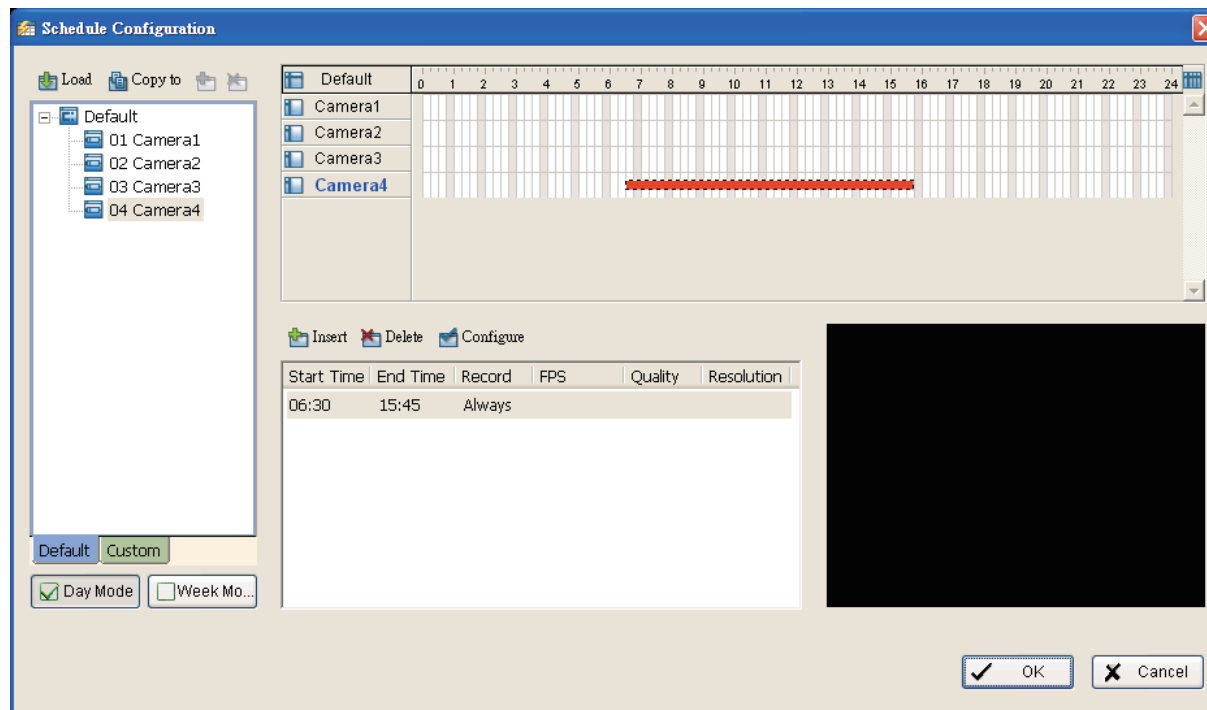


Adjust the Schedule Settings

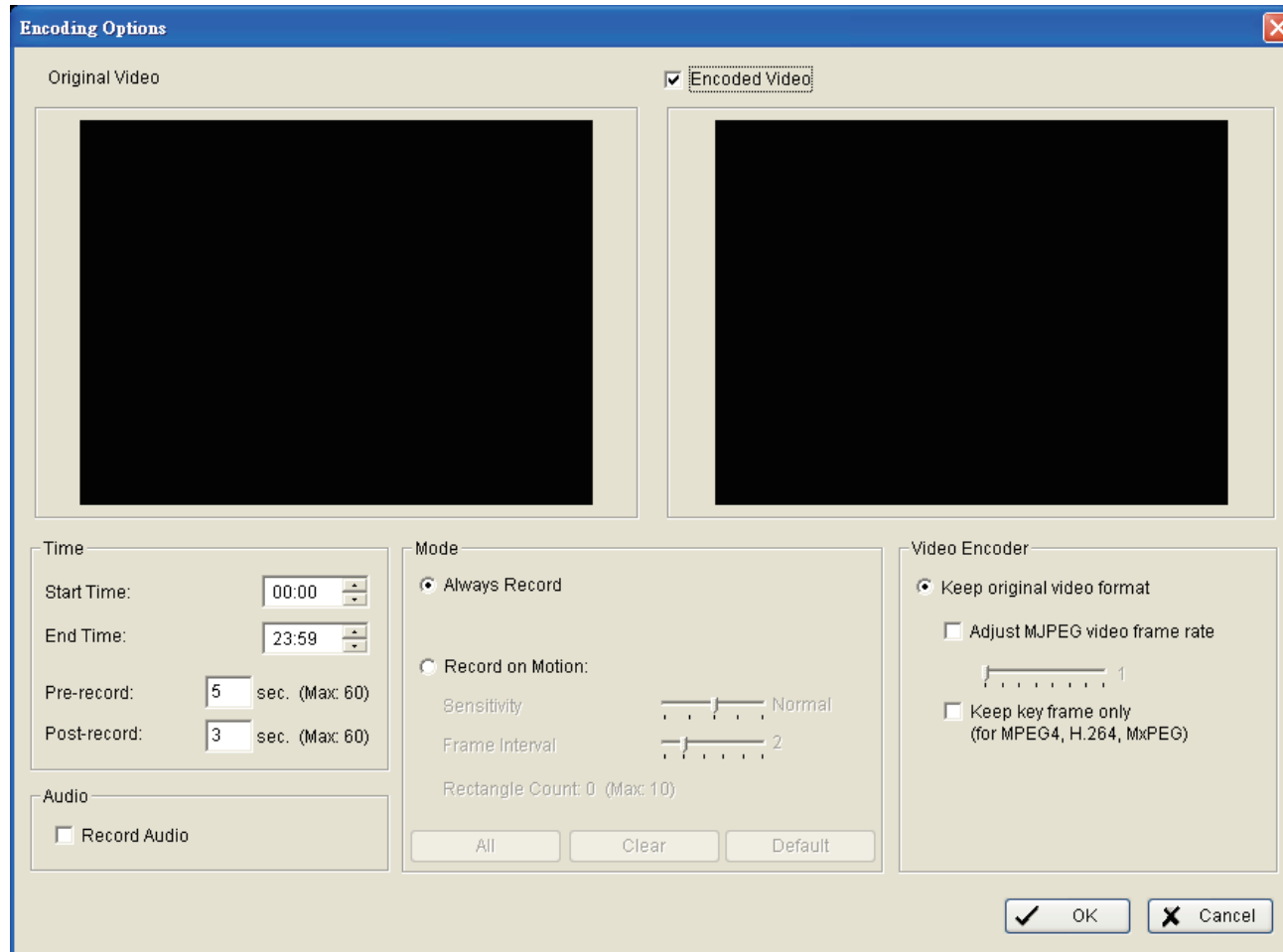
You can manually change the settings at any time after you insert or load a schedule.

Option 1: Move the cursor to the Time Bar and slide the bar to the left or right to change the start and end points.

Option 2: Click on the **Configure** icon or double-click on the schedule information on the screen (highlighted in blue) to open the Encoding Option panel (next page) and change the settings.



Encoding Option



Pre-record/Post-record Time

The pre-record/post-record function saves the recording data accordingly. For instance, to set up a 5 second pre-record time means the system will start saving the recording data 5 seconds before the event happens.

Note: The maximum record period is 60 seconds.

Record Mode

Always Record

Select this option to record video continuously.

Record on Motion

Select this option to start recording when motions are detected. Please adjust sensitivity, the frame interval and setup the detection zone to detect motion. To setup a single detection zone, left-click and drag the mouse to draw a rectangle. To setup more than one detection zones, simply repeat the same process. You may create up to 10 detection zones. Click **All** to select the entire detection zone.

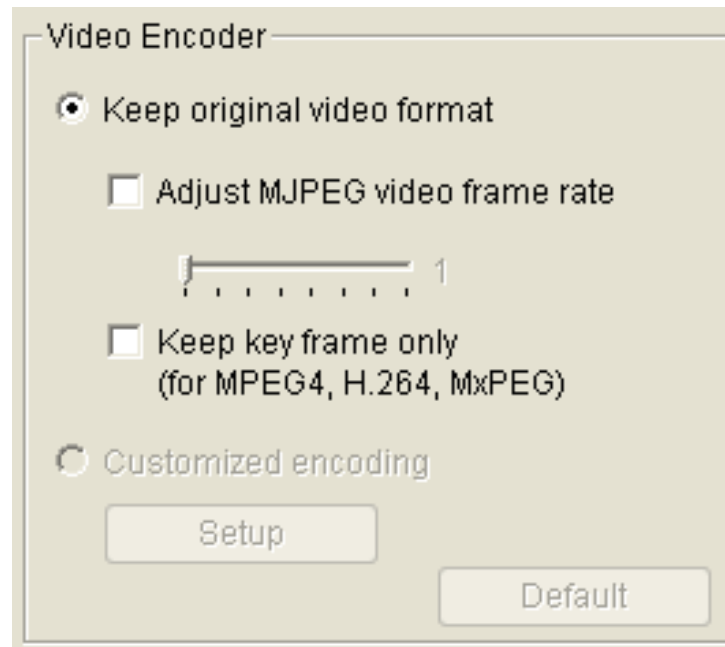
Encoded Options

This option is to configure the quality of video. The Original Video window is the original stream from the camera and the Encoded Video window is a preview of the recording video correspond with the encode settings (on the next page).

Keep Original Video format

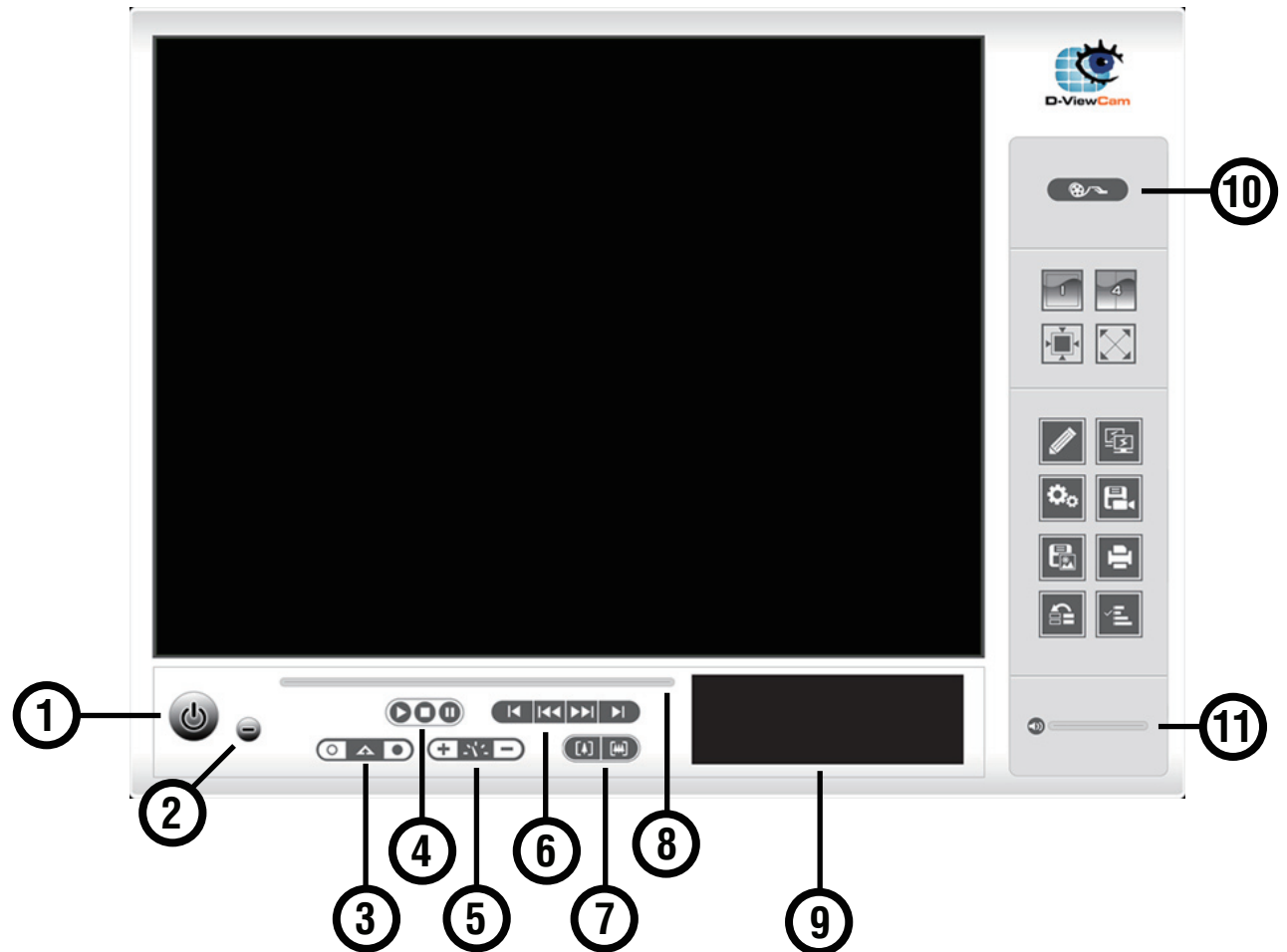
Select this option to lower the frame rate but not re-encode the video stream.

- **Adjust MJPEG video frame rate:** Use the slider to reduce or increase the frame rate.
Note: The maximum FPS (move the slider to the right) will be correspond with original video stream set up on camera configuration.
- **Keep key-frame only:** System will only record key frames of video streaming.
Note: The key frame interval is controlled by each camera manufacturer and cannot be adjusted.



Playback

The Playback console allows you to watch the recorded video, view and/or search for unusual events, and view recorded system information.



1	Exit Playback
2	Minimize Window
3	Cue (Start/Stop Point)

4	Control (Play/Stop/Pause)
5	Speed
6	Play/Rewind/Fast Forward

7	Zoom
8	Scroll Bar
9	Information Window

10	Open Record
11	Volume Control

1. Exit

Close the Playback window.

2. Minimize

Minimize the Playback console.

3. Cue

When playing video, click on the **Cue In/Cue Out** icon to set the starting/ending point of a saved video clip. The Cue In and Cue Out time will be displayed on the Playback Information Window once they are set.

4. Control

Play, pause, and stop the video.

5. Speed

Control the speed of the playing video. Click + to speed up and – to slow down.

6. Play/Rewind/Fast Forward

Control the video.

7. Zoom

Zoom in and out of the recorded video.

8. Scroll Bar

Indicates the status of the playing video; drag it to where you want to review.

9. Information Window

Display video date and time, current video status, cue in/out points' time, and speed.

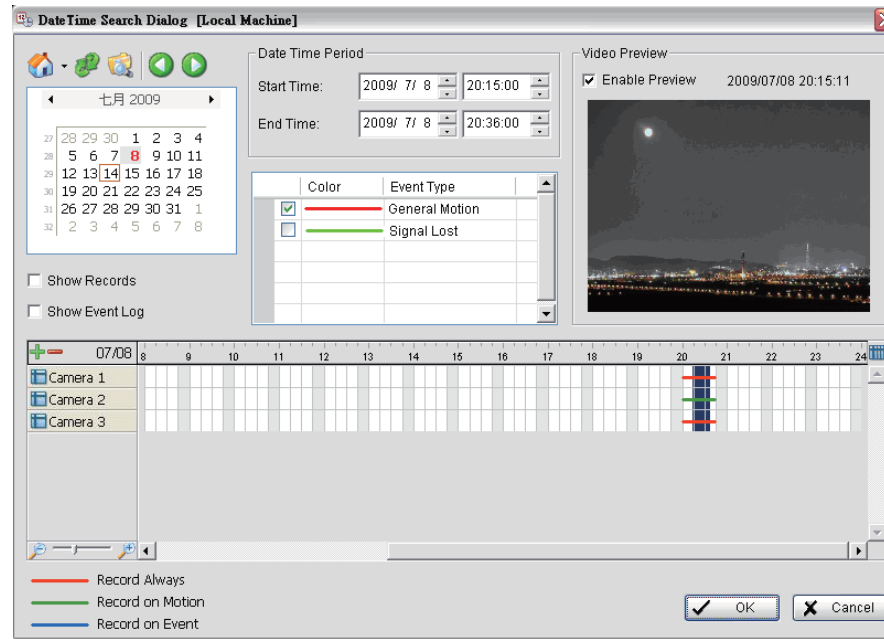
10. Open Record

Click on the **Open Record** button to access the **Date Time** Panel.

11. Audio Volume Control


Adjust the sound level.

Date Time Panel




Record Display Window

The record display window shows the information of the available video clips. It may show in calendar or list control view.

 **Remote Server Site:** Open Remote Playback Site Management dialog could select to access local machine or set up remote playback server. Select Folder option could directly access recorded data folder or use Recent List to access previous browser recorded folders.

Note: To use Select Folder function need password of MainConsole.

 **Refresh:** To refresh the record display window.

 **Log Viewer:** To access the Log Viewer Tool.

 **Previous Days:** To show recorded video from the previous recording date.

 **Next Days:** To show recorded video of the next recording date.

Date Time Period

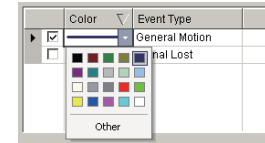
Select the starting and ending time points that indicate the time period you would like to view.

Video Preview



Check the **Enable Preview** box to view the selected video.

Event Type

You can change the color by clicking on the color bar and then click the down arrow.



Time Table

- Click the  icon to select all channels or the  icon to deselect all channels. Finally, utilize the scale bar to modify the scale of the time table.
- Check the **Show Records** box to display the time period of recording data.

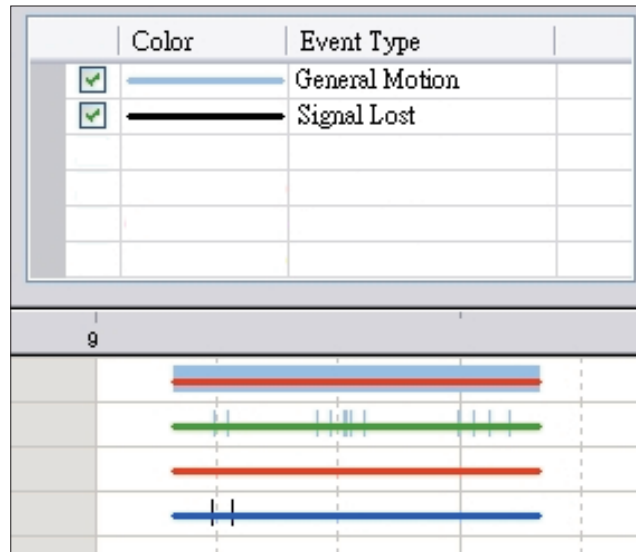


The screenshot shows the main configuration window. At the top left is a calendar with the date 07/08 and the 14th highlighted. Below the calendar are two checkboxes: Show Records and Show Event Log. To the right is a legend table:

Color	Event Type
<input checked="" type="checkbox"/> Red	General Motion
<input type="checkbox"/> Green	Signal Lost

Below the legend is a time table for three cameras (Camera 1, Camera 2, Camera 3) from 8 AM to 17:00. Red horizontal bars indicate 'General Motion' events for all three cameras between 14:00 and 16:00. A scale bar is visible at the bottom left of the interface.

- Click the **Show Event Log** button to display the time of event detection:



To Withdraw the Record

Step 1: From the record display window at the top left of the Date Time Panel, select the date you want to view the recorded video from. The red/green/blue lines shown on the time table indicate available recorded video records.

Note: The record display window can be shown in (a) calendar view or (b) list control view. To modify the settings of the record display window, click on the **Settings** button at the right of the Playback Console. Refer to the next page for more details.

Step 2: Use color bars to differentiate event types from each other.

Step 3: Highlight the video clip you want to review by left-clicking and dragging the time period. You may also utilize the Start Time and End Time in the **Date Time Period** Section. In addition, modify the scale of the time table with the + and – signs on the bottom left.

Step 4: Check the **Enable Preview** option to view the video you select.

Step 5: Click **OK** when finished.

Post Processing Tool

General Setting

Select the option to either apply the filter settings to only the active channels or to all channels.

Filter Setting

Visibility: Check the box and adjust the gamma value of the image to enhance the image and make it cleaner.

Sharpen: Check the box to activate. Move the slider control to the right to sharpen the image or to the left to soften it.

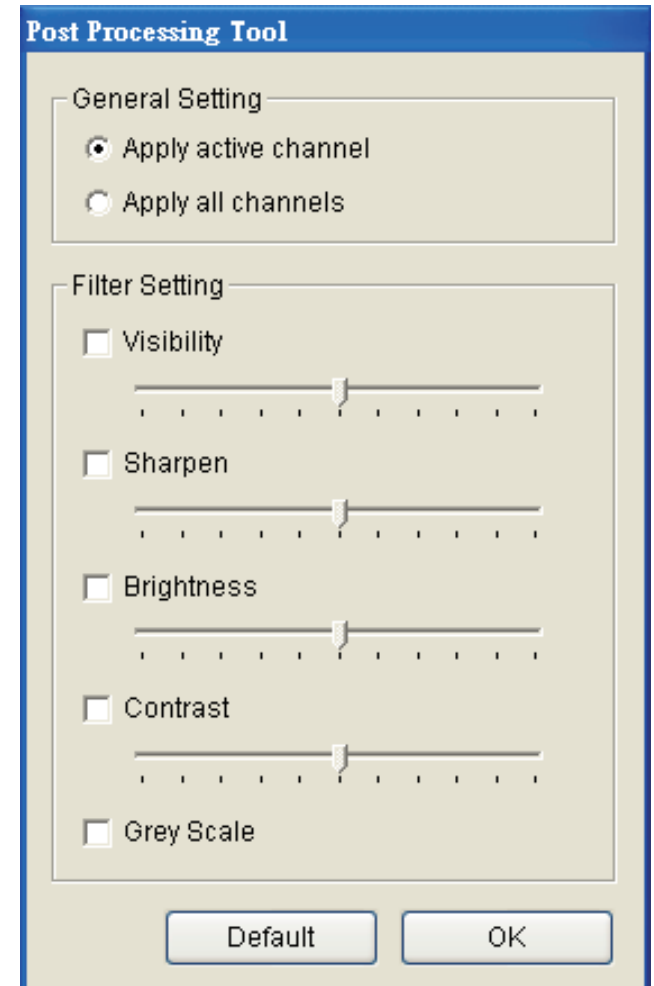
Brightness: Check the box to activate. Move the slider control to the right to make the image brighter.

Contrast: Check the box to activate the function. Move the slider control to the right to increase contrast.

Grey Scale: Check the box to show the record in grey scale mode so the image displays in black and white.

Default: Click to change the settings back to the default settings.

OK: Click to save and apply your settings.



Save Video

Step 1: Click on the display screen to select the camera display that you want to save as a video clip.

Step 2: Click the cue buttons to select the start and end points. The cue in and cue out time will show in the information window.



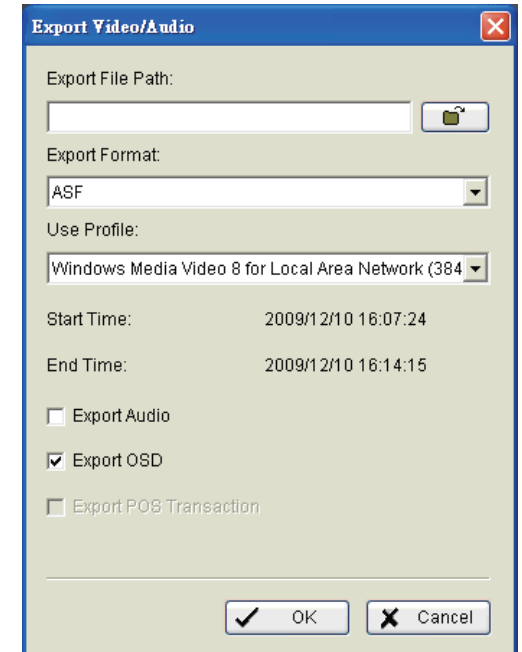
Step 3: Click the **Save Video** icon. Select the location where you want to save the file at and enter the file name. Click **Save**.

Step 4: Set the **Export Format** from the drop-down (ASF or AVI).

Step 5: Select the profile to use from the **Use Profile** drop-down.

Step 6: Select to export (i.e. save) the recorded video with Audio, OSD (On-Screen Display), or export video only.

Step 7: Click **OK** to save the video.



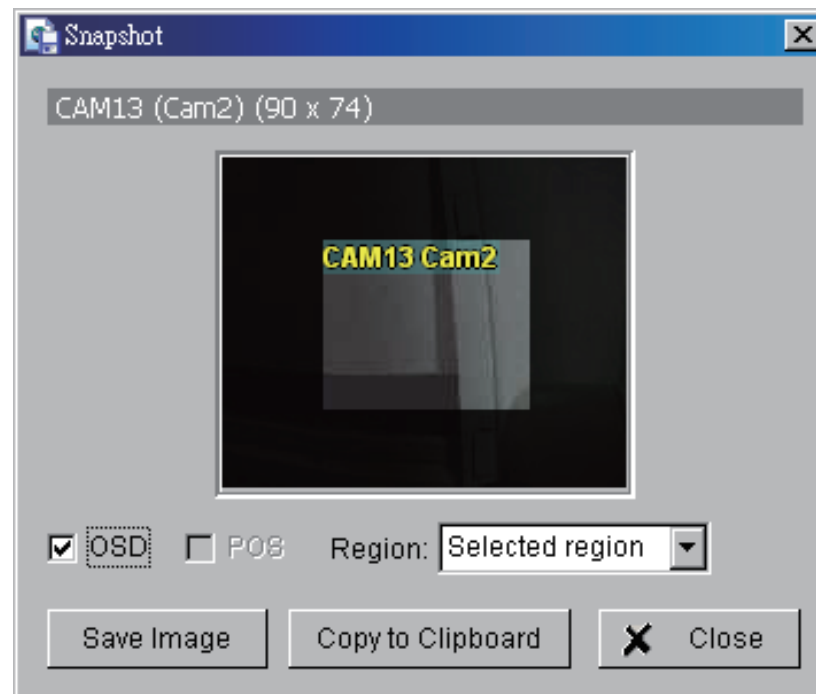
Save Image (Snapshot)

Step 1: Click on the display screen to select the camera display from which you want to save pictures.

Step 2: Click the **Save Image** button when the image you want is displayed on the screen. You may click **Pause** to freeze the video and use the Step Forward/Step Backward buttons to find the picture that you want to save.

Step 3: Check the **OSD** box to export the image with the date/time and camera number/name displayed. If the digital PTZ function is enabled in the display view, you can also select either **Full size** or **Selected Region** as your image region.

Step 4: You have the option to copy the image to the clipboard or to save it to your computer. Click **Save Image** and select the folder you want to save it to. Select the image format (BMP or JPEG) and click **Save**.



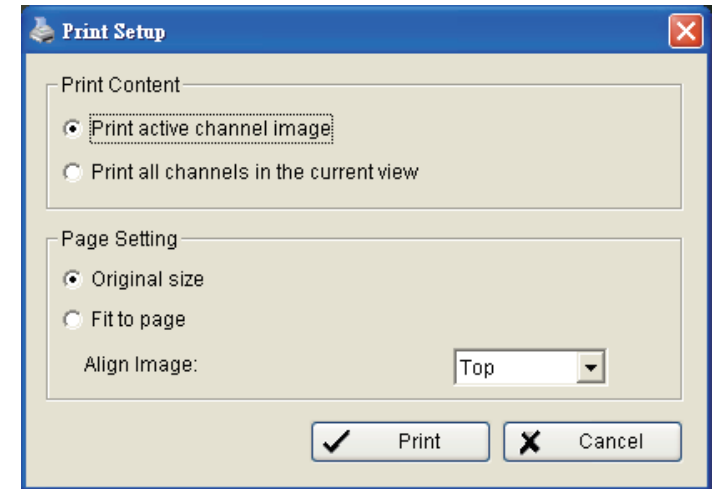
Print

Print the current image of the video you have selected.

Print Content: Print the image from the selected channel or all the channels shown on the screen.

Page Setting: Set to print the image at the **Original Size** or **Fit to Page**. Set the alignment from the **Align Image** drop-down (Top, Center, or Bottom).

Print: Click to print the image.



Backup

The Backup function saves everything from the Playback panel, including log information.

You can start a full function Playback Console and load the backup files into it on any PC with Windows operating system. This means you may monitor the real time video and work on the backup files on separate computers simultaneously.

Step 1: Press the **Open Record** button and click **Backup**.

Step 2: In the *Date Time Period* section, select the Start Time and End Time you want to backup.

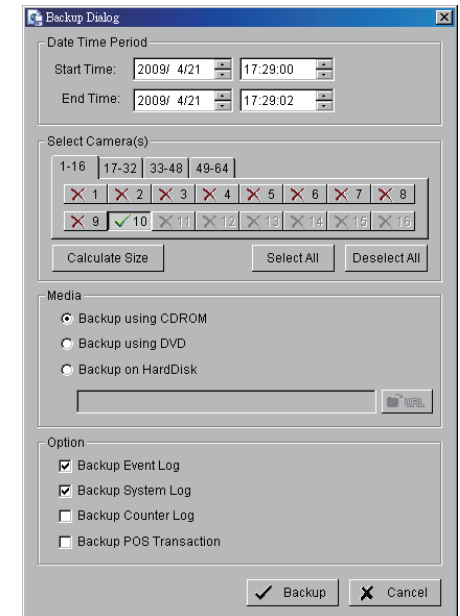
Step 3: In the *Select Camera(s)* section, select the camera(s) you want to backup.

Step 4: Click the **Calculate Size** button to calculate the size of the backup data.

Step 5: Under *Media*, select where you would like to save the backup data.

Step 6: Under *Option*, check the type of data you want to backup.

Step 7: Click the **Backup** button to start backing up.



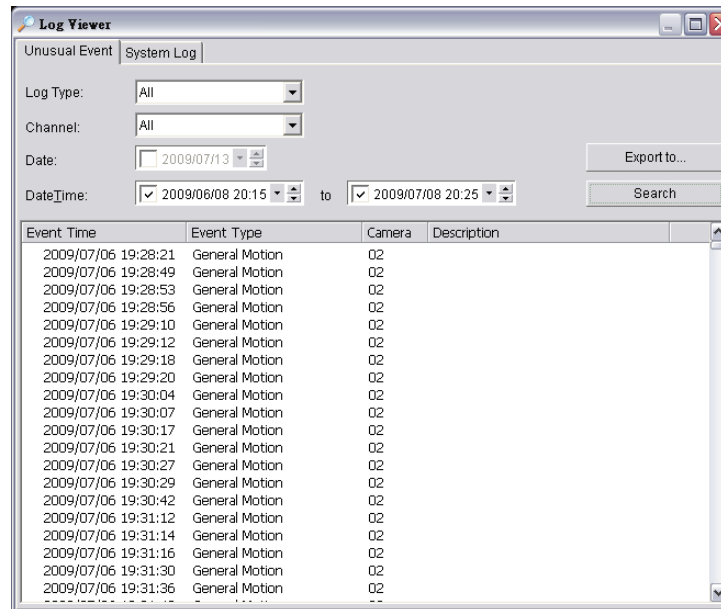
Log Viewer

Unusual Event

View the unusual event history that had been detected by the Smart Guard System.

- Step 1:** Select the type of events you wish to view or select **All** from the drop-down menu to view all types of events. The types of Unusual Event include **General Motion**, **Signal Lost**, and **Digital Input Triggered**.
- Step 2:** Select the camera channel you wish to view or select **All** for all the channels available.
- Step 3:** View the events that happened on a particular date or during a given time period by selecting the search period.
For a particular data: check the **Date** box right and indicate the date.
For a period: check the **Date&Time** and then enter the date and time.
- Step 4:** Click **Search**.

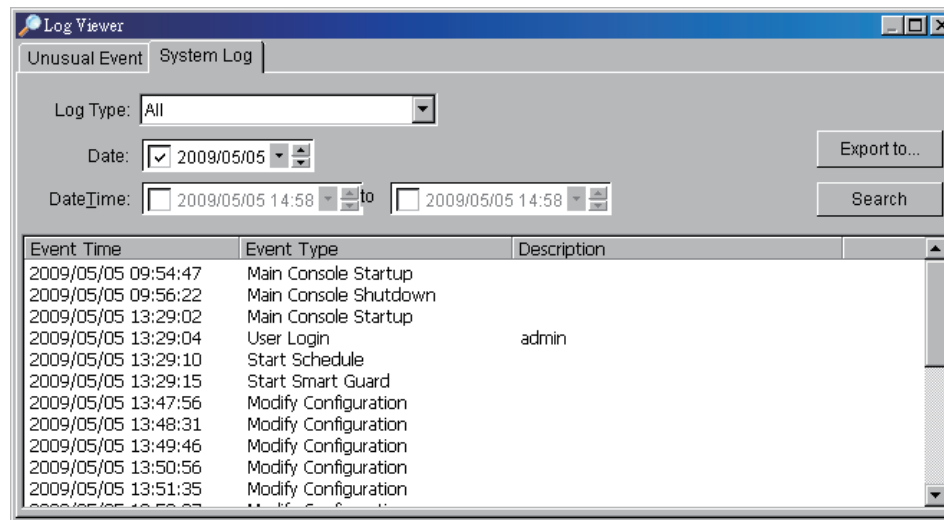
Note: When working with a video record, Log Viewer will search for Unusual Event in the video record in Date & Time mode, start from the beginning to the end of the record, which is the default setting of the system. A link will appear right next to each event time. By clicking on the link, the video will jump to the point where the unusual event takes place.



System Log

Select Log Type form the drop-down menu. There are total 23 types of log types, including:

- | | | | |
|--------------------------|------------------------|----------------------------------|-----------------------------------|
| 1. Main Console Startup | 7. Execute Recycle | 13. Modify Schedule | 19. Stop Remote Playback Server |
| 2. Main Console Shutdown | 8. Enable Channel | 14. Modify Configuration | 20. Modify Remote Playback Server |
| 3. User Login | 9. Disable Channel | 15. Start Live Streaming Server | 21. IP Camera Connection Lost |
| 4. User Login Failed | 10. Start Smart Guard | 16. Stop Live Streaming Server | 22. Auto Restart Windows |
| 5. Start Schedule | 11. Stop Smart Guard | 17. Modify Live Streaming Server | 23. Modify E-Map |
| 6. Stop Schedule | 12. Modify Smart Guard | 18. Start Remote Playback Server | |



Step 1: Select the type of event you want to check or select **All** from the drop-down menu.

Step 2: View the events that happened on a particular date or during a given time period by selecting search period.

Step 3: Click the **Search** button.

Step 4: You can export the data to a text file (.txt) or Excel file (.xls). Click the **Export to** button, enter the filename, and select the format to export to.

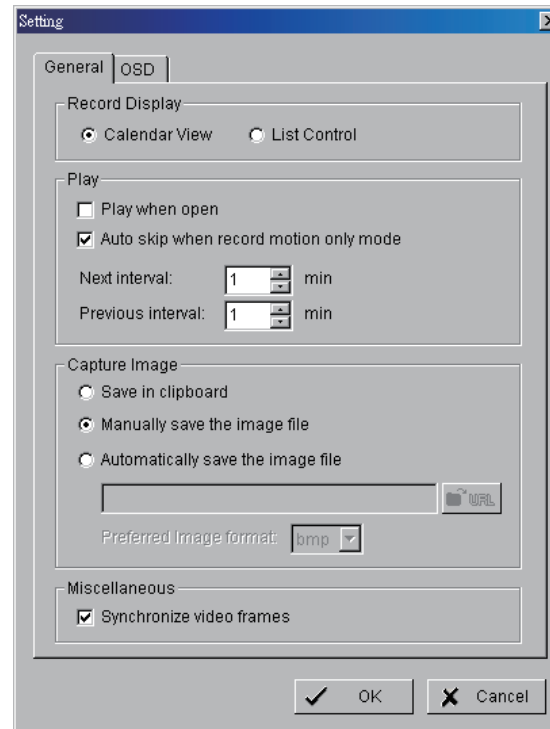
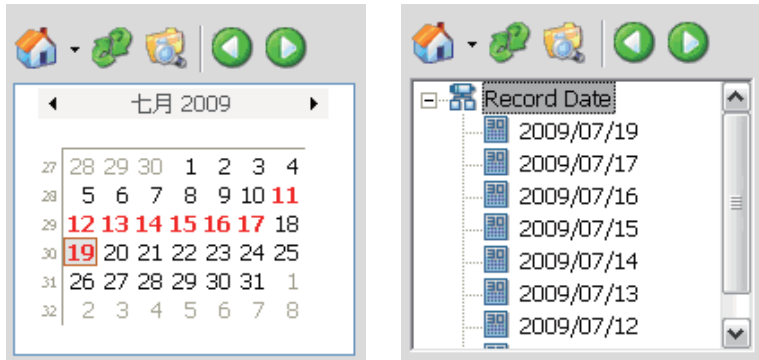
Setting - Record Display

Calendar View (left):

Display in calendar view.

List Control (right):

Display in list view.



Play

- **Play when open:** Check this option to start playing the video clip every time when a record is withdrawn.
- **Auto skip when record motion only mode:** Check this option to set up the system to automatically skip to the points where there were motions recorded.
- **Next interval:** Set the interval with which the video goes forward when you click on the **Next** icon on the control panel.
- **Previous interval:** Set the interval with which the video goes backward when you click on the **Previous** icon on the control panel.

Capture Image

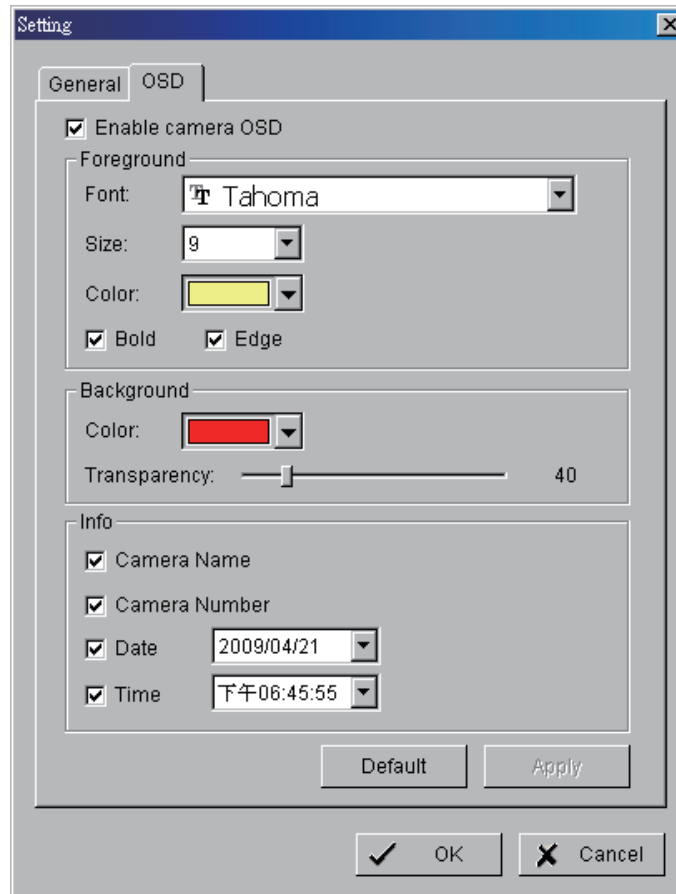
- **Save in clipboard:** The image will be saved in the clipboard and can be pasted to other applications.
- **Manually save the image file:** You can manually select where you want to save the image, name the saved file, and the format you want to save the image.
- **Automatically save the image file:** By pre-setting a path/URL and the image format, the system will automatically save the image accordingly when you click the **Save** button in the control panel.

Miscellaneous

- **Synchronize video frames:** Select to prevent tearing that may occur in the video display. However, this will increase the CPU processing load.

OSD Setting

Check the **Enable Camera OSD** box to display video information on recording video. Information includes camera name, camera number, date and time. Users also can set up the font, size, font color and any font effects desired.



Remote Server

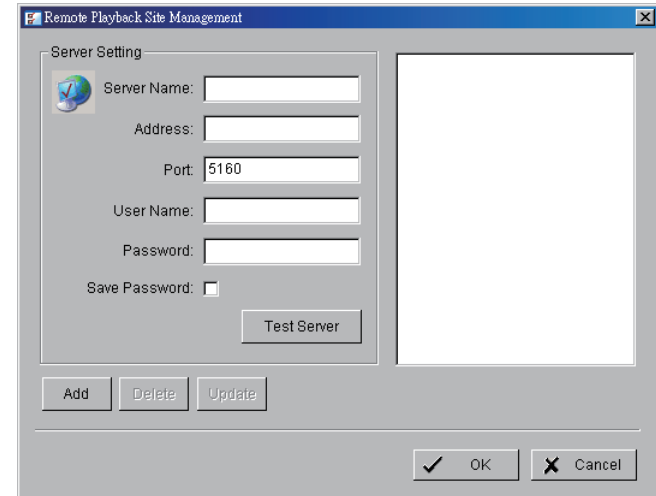
Add Remote Playback Site

Click the **Remote Server** icon to add and setup a remote playback site.

Step 1: Enter the IP address or DNS, Port, Username, and Password.

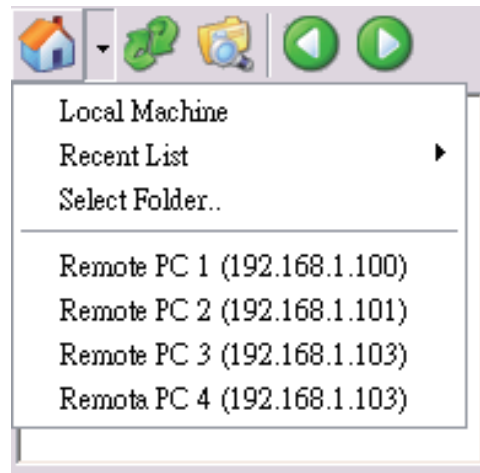
Step 2: Click **Add** to add the server.

Step 3: Click **OK** to exit.

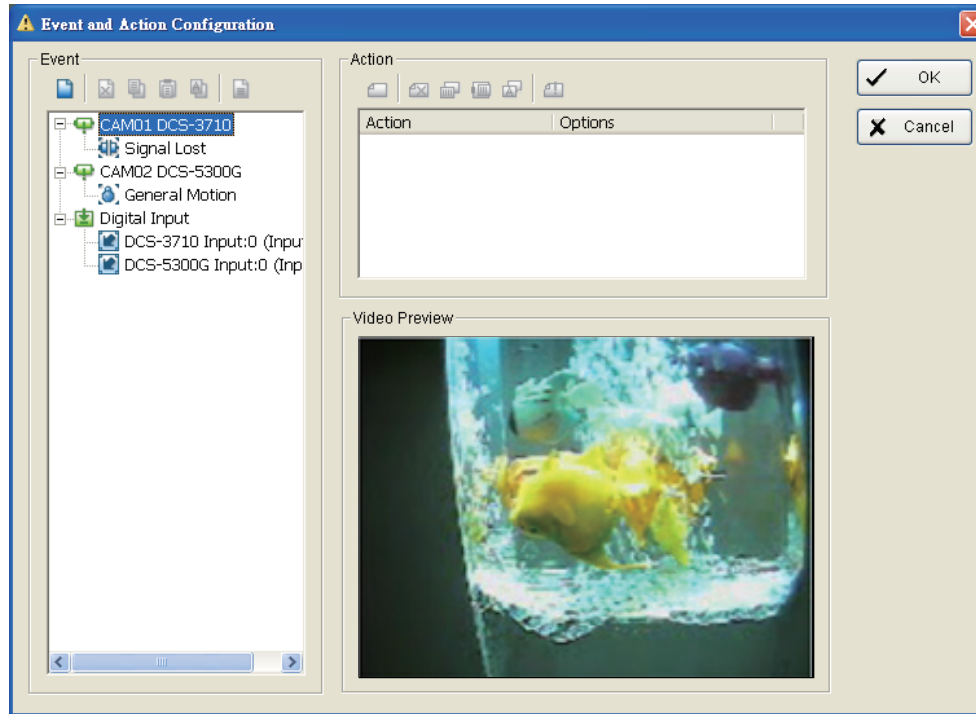


Access Remote Playback Site

Go to the Date Time Panel and click the  icon on the top of the display window to access the Remote Playback Site.

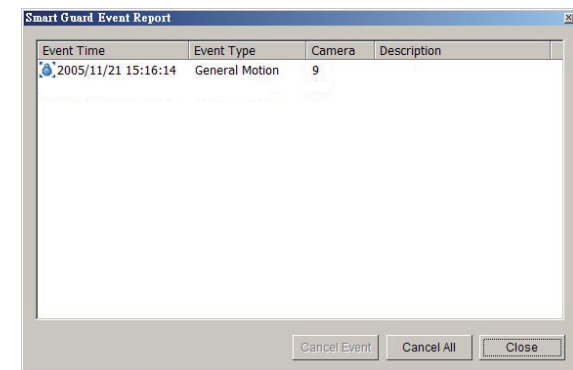


Guard



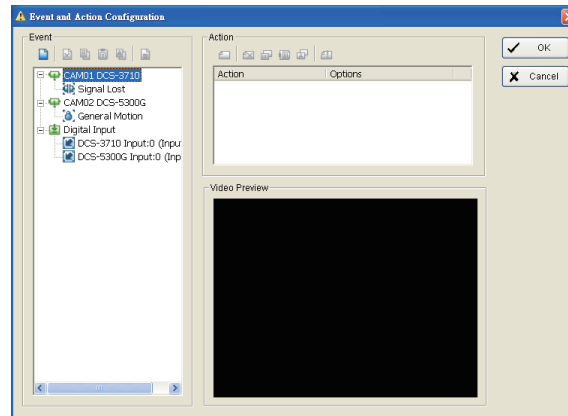
Click on the **Guard** icon on the Main Console to start the Event and Action Configuration panel. You need to specify an event to be detected and set up an action in which the system will take when the specified event is detected.

Note: To access the Event Report, click **Start > Open Event Report**.



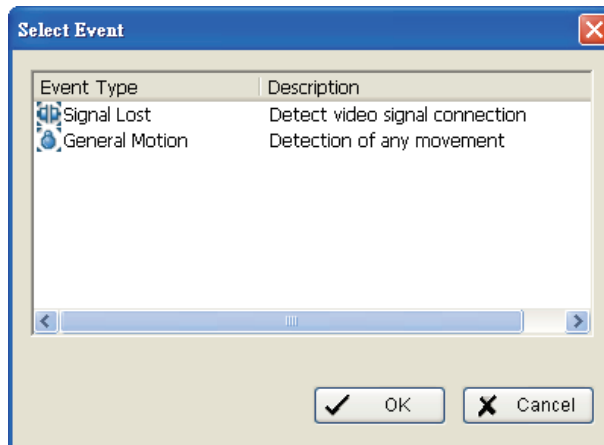
Event

There are 2 sources of events: **Camera** (video image) and **Digital Input**. You can assign multiple events by following the instructions below.



Assign a Camera Event

Step 1: Select a channel from the camera list and click the **Insert Event** icon.



Step 2: There are two types of events: **Signal Lost** and **General Motion**. Select the event you want in the Event Type list and click **OK**.

Step 3: Configure the setting of the Event Type. Refer to the next page.

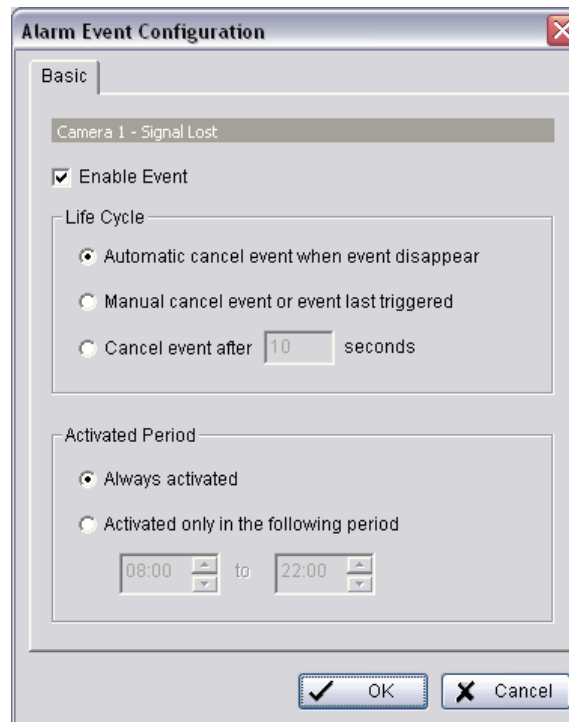
Camera Event Settings

Basic setting of video Signal Lost and General Motion.

Enable Event: Check the box to activate the event.

Life Cycle:

- **Automatically cancel event when event disappears:** The alarm/action will be cancelled once the abnormality is fixed or ends.
- **Manually cancel event or event continues triggered:** The alarm/action will continue until canceled from the Main Console. To cancel the event, click **Start > Open Event Report > Cancel All Events**.
- **Cancel event after timeout xx seconds:** Click the checkbox and enter the time (in seconds) to cancel the event after the time that you set whatever the events disappear or not.
- **Always Activated:** Select to have the event enabled 24 hours a day.
- **Activated only in the following period:** Select and choose a time period to have the event active.



General Motion

Detect any movement in the defined detection zone.

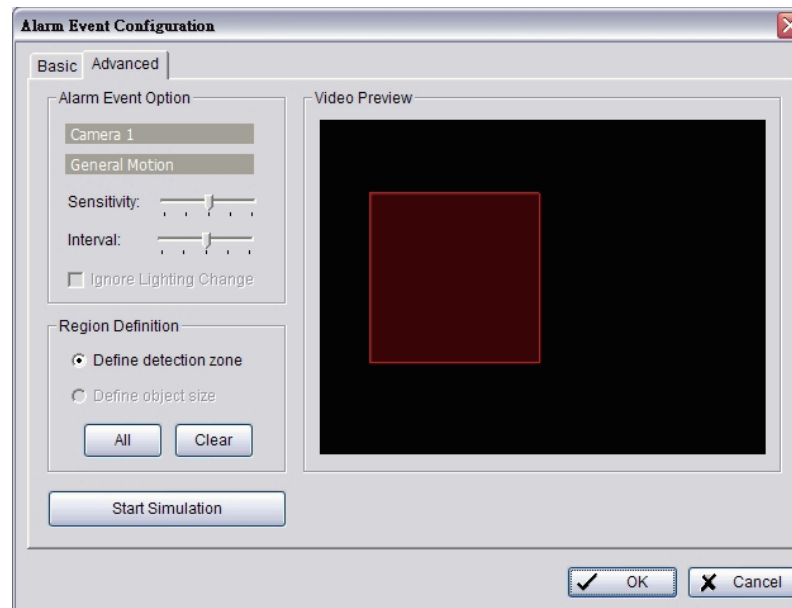
Alarm Event Option:

- **Sensitivity:** Click and move the slider control to the right to increase sensitivity so that a relatively small movement will trigger the alarm. Move the bar to the left to reduce the sensitivity of movement detection. Set up an appropriate Sensitivity value will reduce the chance of false alarm. For example, you can lower the Sensitivity to avoid the alarm being triggered by a swinging tree in the breeze.
- **Interval:** Click and move the slider control to the right to increase interval time so that the alarm will only be triggered when the movement lasts longer. Move to the left to reduce the interval time.

Region Definition:

- **Define detection zone:** To detect General Motion, you have to define a detection zone. Left-click and drag the mouse to draw a detection zone. You may define more than one zone on the screen by repeating the same process. You can also click on the **All** button to select the entire detection zone.

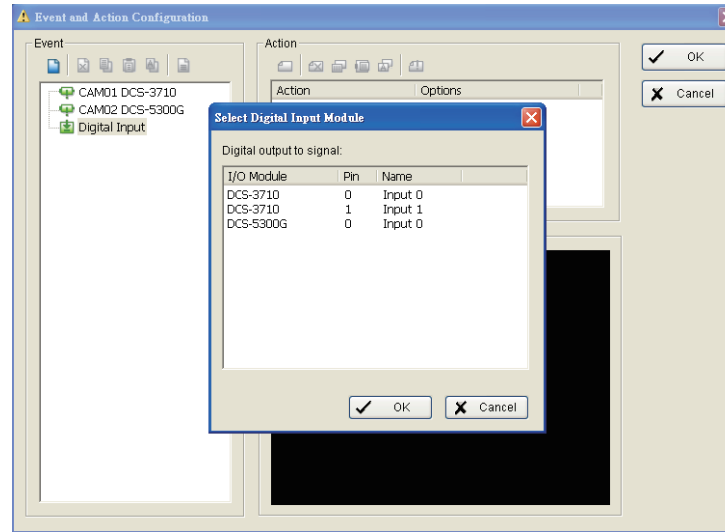
Start Simulation: Click the **Start Simulation** button and test the function on the preview screen.



Digital Input Event

Step 1: Click and highlight the **Digital Input** on the event type list and then click the  **Insert Event** icon.

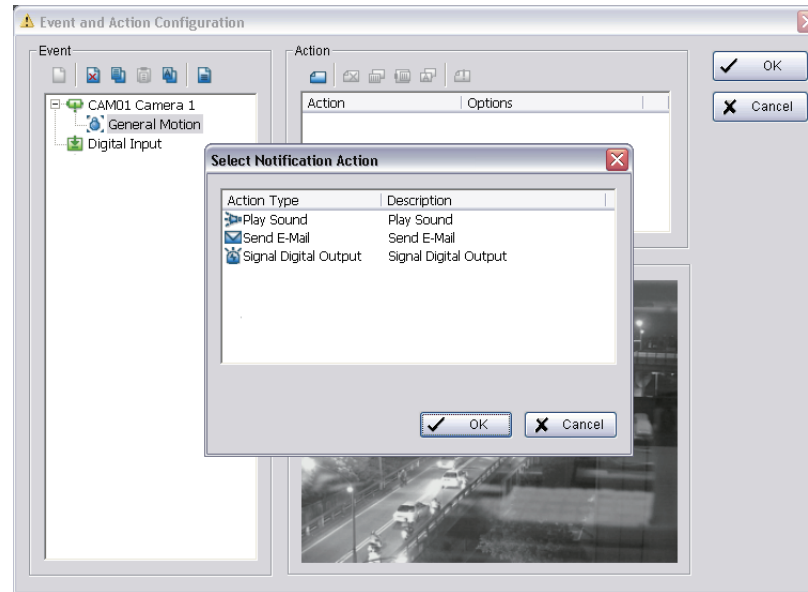
Step 2: Select the device that is connected to your camera(s).



Action

Assign an Action Type

Insert Action: To configure actions responding to an unusual event.



Step 1: Select an event and click the  **Insert Action** icon.

Step 2: Select one of the three actions you want and then click **OK**.

1. Play Sound
2. Send E-mail
3. DI/DO

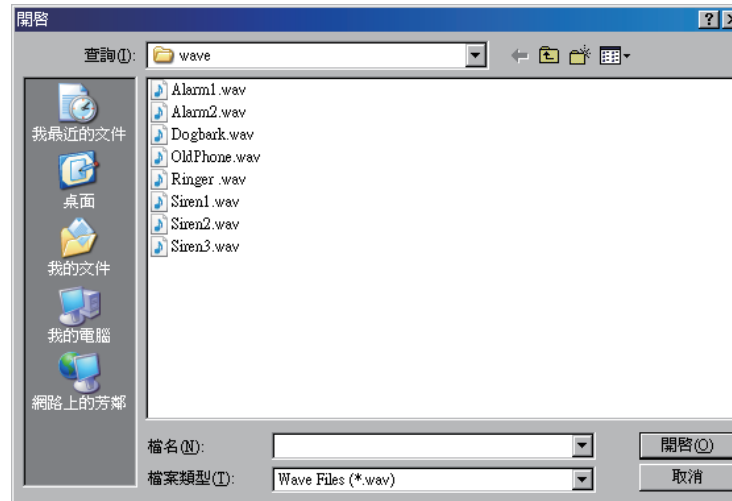
Step 3: Configure the setting of the **Action Type** if needed.

Play Sound

The system will play the sound when an unusual event is detected.

Step 1: Select the **Play Sound** action and then click **OK**.

Step 2: The window below will appear. Select a Wave file (.wav) and then click the **Play Sound** indicator to modify the setting.

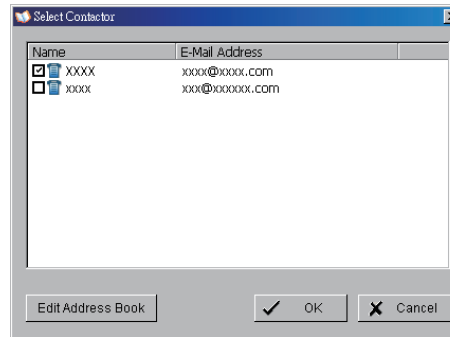


Send E-mail

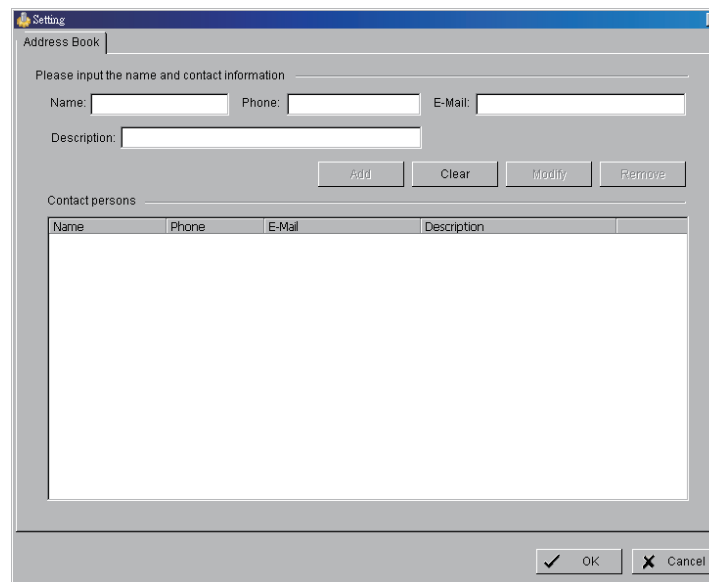
The system will send an E-mail immediately to given accounts indicating the type of event, the time, and attaching a picture taken while the event is detected.

Step 1: Select the **Send E-mail** action and then click **OK**.

Step 2: From the **Select Contactor** window select the email address(es) you want to send alerts to.

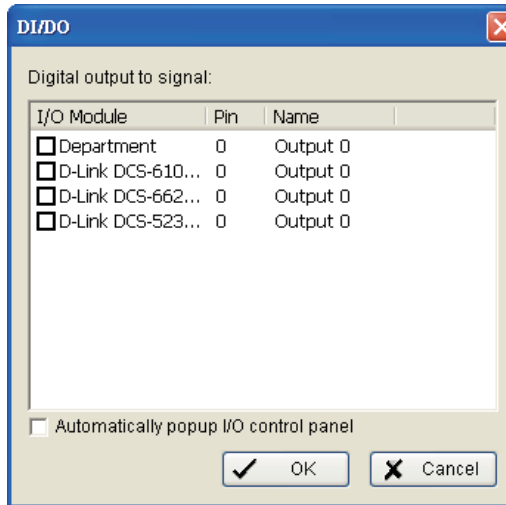


Edit Address Book: Click the **Edit Address Book** button to add, delete, or edit contacts.



DI/DO


Use to trigger Digital Input/Output devices that are connected to the camera(s), such as alarm lights and sirens.



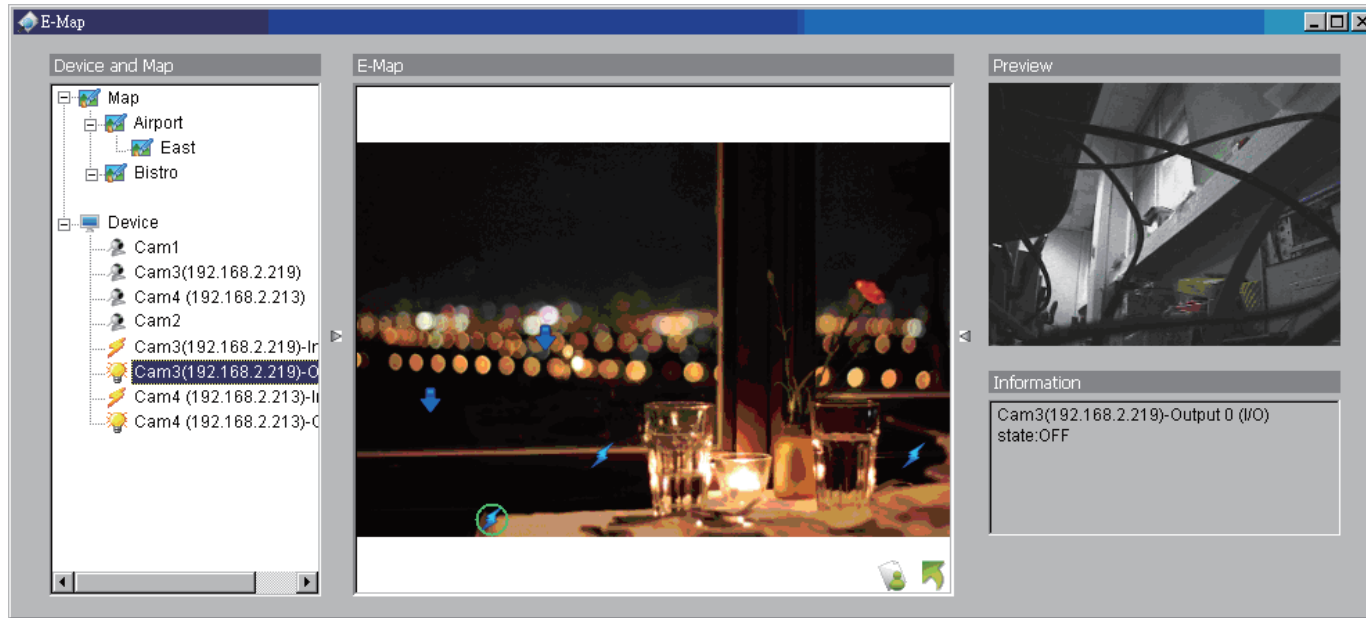
Step 1: Select the **DI/DO** action and then click **OK**.

Step 2: Select **Digital Input Module** and then click the “DI/DO” indicator to modify the setting.

Step 3: Select the device that is connected to your system, that is, the PC you are working with. You can enable the Automatically popup I/O control panel check box to obtain the correspondent panel to monitor the I/O status.

You should adjust the setting of I/O device in **General Setting and Utilities > Setting > I/O Device** first, the I/O control panel will display the device status based on it. You can also adjust the size of the panel by dragging a mouse or click the  on the right top of the display window.

E-Map



With E-Map, users can track the actual location and alarm status easily for each camera and receive instant response when the event happens. The arrows and lightning icon on E-Map represent cameras and I/O devices and these icons will turn red once they are triggered by alarms.

To launch E-Map application, simply click on **Start** and select **Open E-Map** from start menu to open E-Map window.

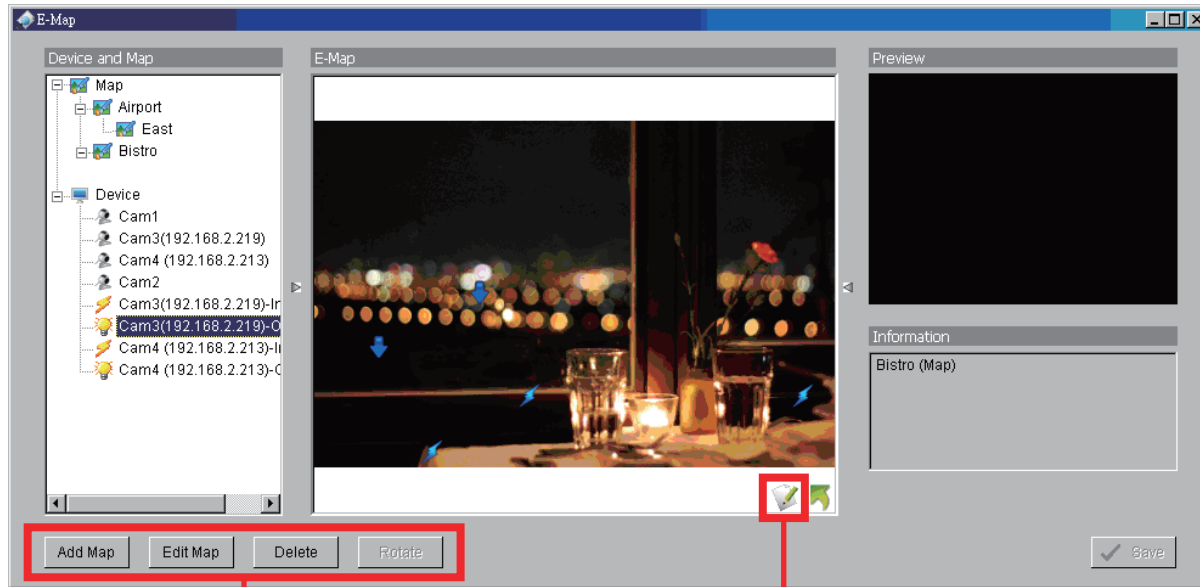
There are 2 modes in E-Map application:

Edit mode: Allow users to add/edit maps and indicators of devices. In Edit mode, the function buttons on the bottom of the window will be active, and then setup the configuration before running E-map function at the first time.

Operate mode: All settings will be activated in this mode.

Edit Mode

You will need to be in Edit Mode to activate the function buttons.



Function Buttons

Edit mode/Operate mode
Switch button

Add/Edit/Delete Map

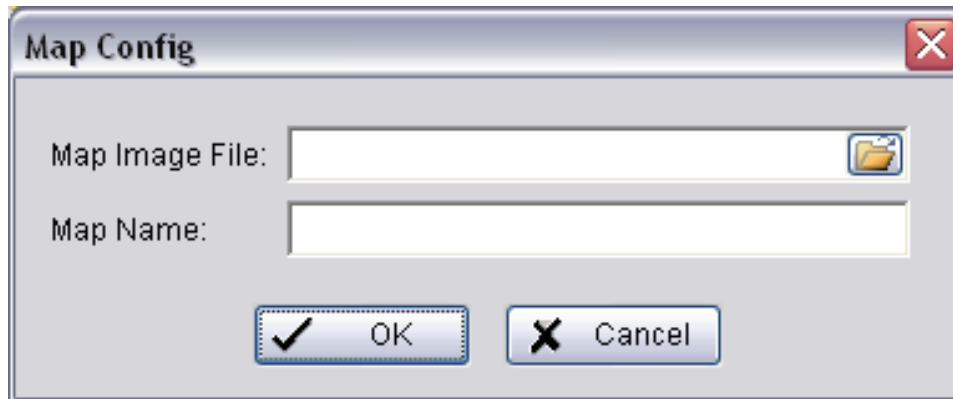
Add E-Map

Step 1: Make sure you are in Edit Mode and all devices are connected.

Step 2: Click the **Add Map** button to load a map image.


Step 3: Select the map file and insert the map name. Click **OK**, and then the map you added appears in the tree structure in the device and map list.

Step 4: The map indicator appears on the left-up corner of parent map. Drag it to the position you want on the map.



Edit E-Map

Step 1: Make sure you are in Edit Mode and all devices are connected.

Step 2: Right-click on the **Map**  icon to obtain the option menu to edit map, or just click the **Edit Map** button to open the “Map Config” dialog.

Step 3: Modify the required details and then click **OK** to save configuration.

Delete E-Map

Step 1: Make sure you are in Edit Mode and all devices are connected.

Step 2: Right-click on the **Map**  icon to open the option menu to delete map, or just click **Delete** to remove the map from the list.

Note: The root map cannot be deleted.

Add/Rotate/Delete Device Indicator

Add Indicator:

Step 1: Make sure you are in Edit Mode and all devices are connected.


Step 2: Select on the Map  icon which you want add device indicator to.

Step 3: Before adding indicator, ensure that the map you want is displayed. Select device from list and directly drag a device to the desired location on the map.

Note: Different device is symbolized by different indicator.

 - Camera indicator  - digital Input indicator


Rotate Indicator

Step 1: Make sure you are in Edit Mode and all devices are connected. Select device indicator from map or form Device and Map list. The device indicator will be marked with a green .

Step 2: Click the **Rotate** button, the indicator will rotate 45 degree.

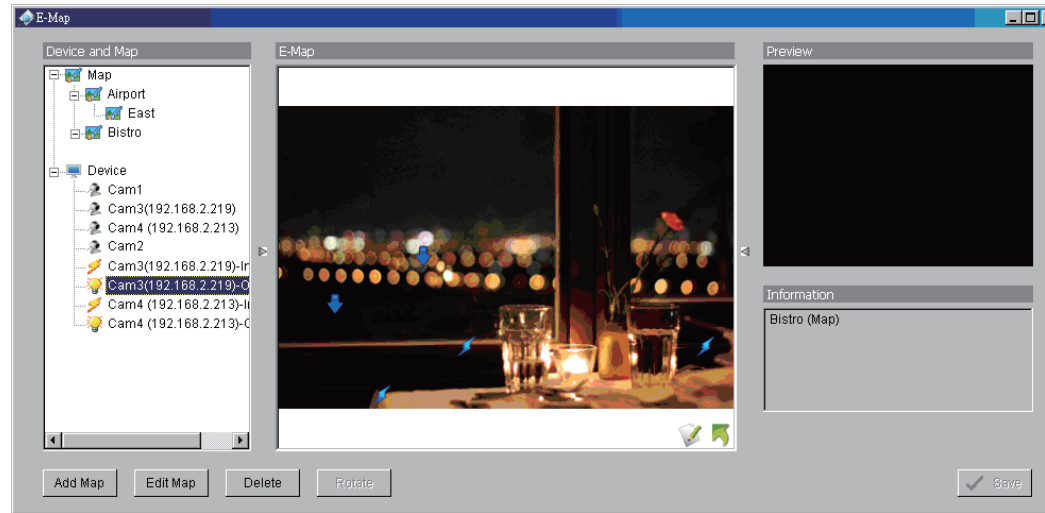
Note: Only camera indicators are allowed to be rotated.

Delete Indicator

Step 1: Make sure you are in Edit Mode and all devices are connected. Select device indicator from map or form Device and Map list. The device indicator will be marked with a green .

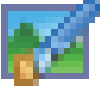



Step 2: Click the **Delete** button, the indicator will be gone.

Operate Mode

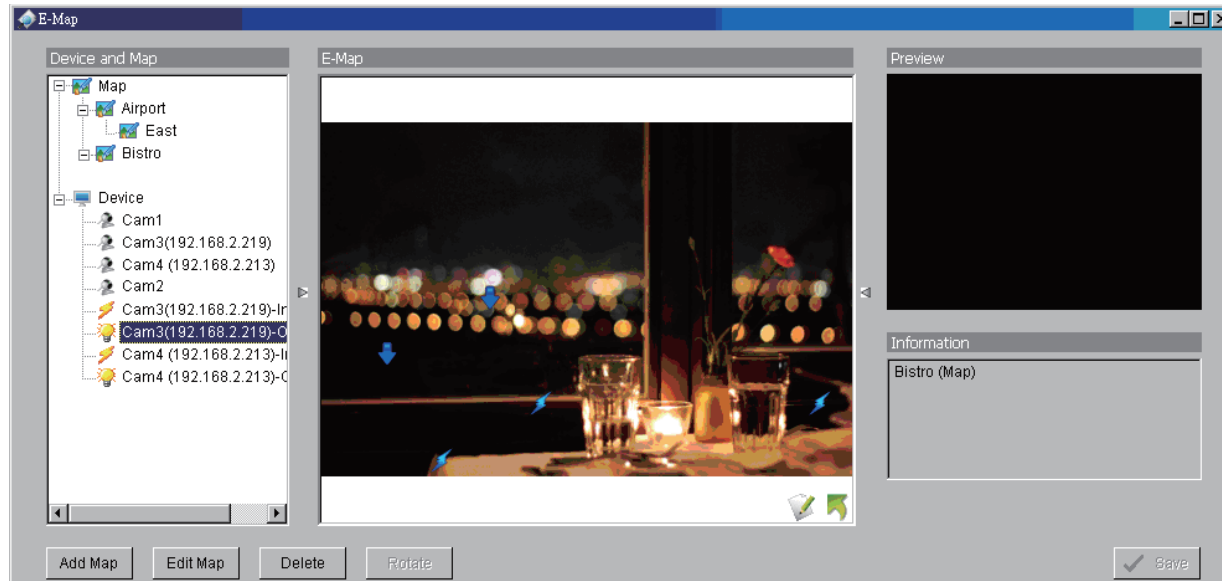


Device and Map Tree list

This window will list all devices and map hierarchies. Click the Device or Map indicator to show related information in the E-Map window.



	Map	Select the map you want to show in the E-Map Window.
	Camera	Select the camera you want to preview video from in the preview window.
	Digital Input	Select to highlight the device with a green ring on the map and show its status in the Information window. If the Digital Input is from an IP camera, the preview window will display live video from the camera.
	Digital Output	Select to highlight the device with a green ring on the map and show its status on the Information window. If the Digital Output is from an IP camera, the preview window will display live video from the camera.

Layout Adjustment



Adjust layout Window

Shrink the window:

Click the triangular indicators   to hide the Device and Information windows on the right and left side. Click triangular indicator again to go back to the default setting.

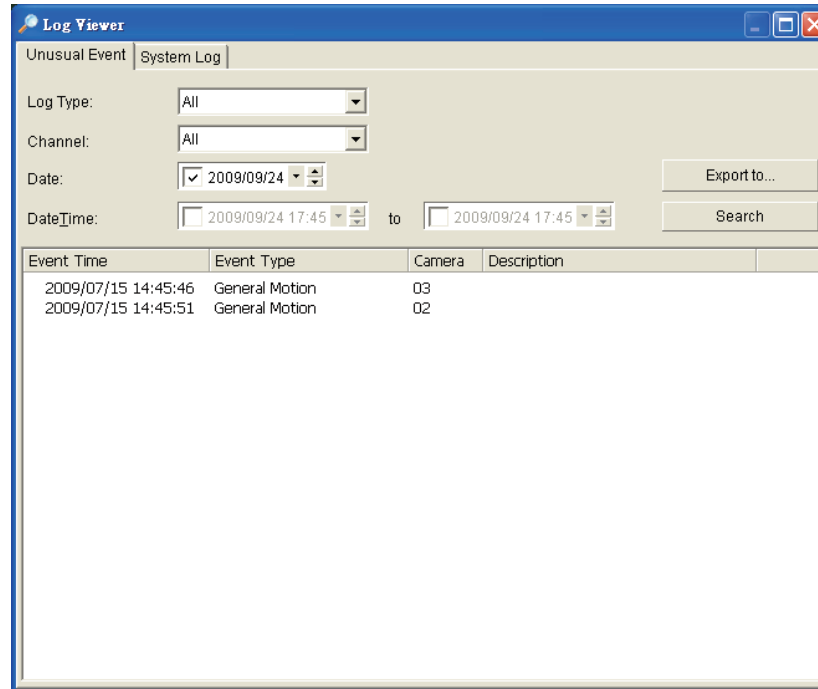
Full screen display:

For a computer system with dual monitors, you can view the MainConsole on primary monitor and view the full-size E-Map on a secondary monitor.

Step 1: Click the triangular indicators   to hide the Device and Information windows on the right and left side.

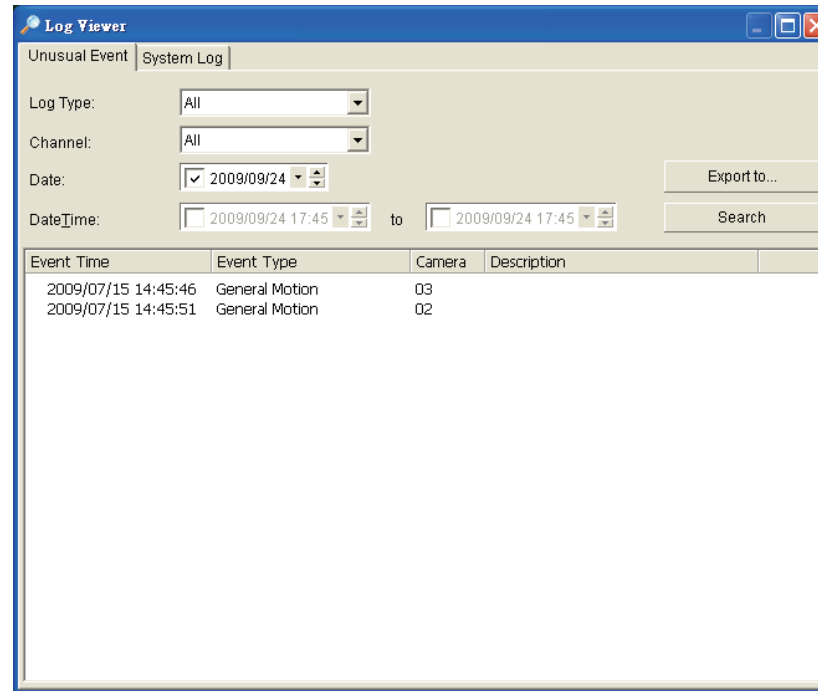
Step 2: Click on  located on the upper-right of the window to switch to full screen mode.

Log Viewer



To launch Log Viewer, Click on **General Setting and Utilities** and select **Log Viewer** from the menu. View the unusual event history that had been detected by the Smart Guard System.

Unusual Event



Step 1: Select the type of event you wish to view or select **All** from the drop-down menu to view all types of events. The types include **General Motion**, **Signal Lost**, and **Digital Input Triggered**.

Step 2: Select the camera channel you wish to view or select **All** for all available channels.

Step 3: View the events that happened on a particular date or during a given time period by selecting a search period.

For a particular data: Check the “Date” box and select the date you want to view.

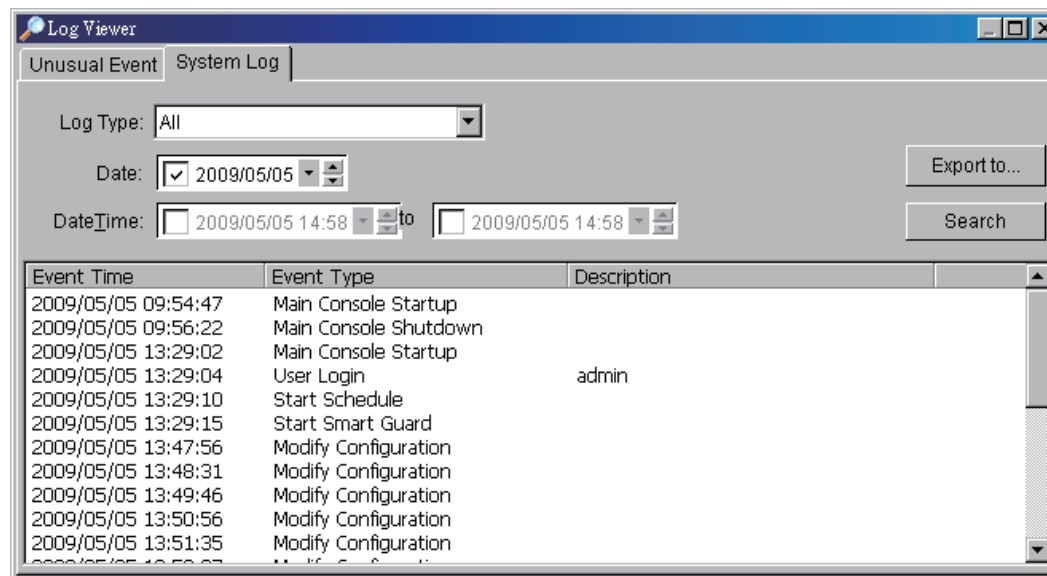
For a period: Check the “Date&Time” box and then enter the date and time.

Step 4: Click **Search**.

System Log

Select the Log Type from the drop-down menu. There are a total of 23 log types to choose from:

- | | | | |
|--------------------------|------------------------|----------------------------------|-----------------------------------|
| 1. Main Console Startup | 7. Execute Recycle | 13. Modify Schedule | 19. Stop Remote Playback Server |
| 2. Main Console Shutdown | 8. Enable Channel | 14. Modify Configuration | 20. Modify Remote Playback Server |
| 3. User Login | 9. Disable Channel | 15. Start Live Streaming Server | 21. IP Camera Connection Lost |
| 4. User Login Failed | 10. Start Smart Guard | 16. Stop Live Streaming Server | 22. Auto Restart Windows |
| 5. Start Schedule | 11. Stop Smart Guard | 17. Modify Live Streaming Server | 23. Modify E-Map |
| 6. Stop Schedule | 12. Modify Smart Guard | 18. Start Remote Playback Server | |



Step 1: Select the type of event you want to check or select **All** from the drop-down menu for all types of events.

Step 2: View the events that happened on a particular date or during a given time period by selecting a search period.

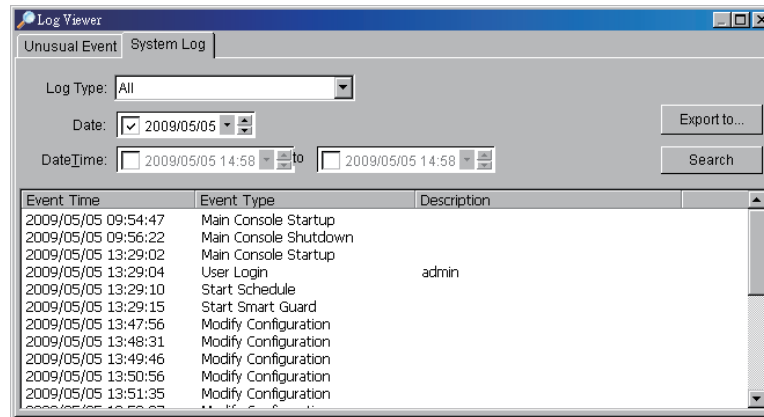
For a particular data: Check the “Date” box and select the date you want to view.

For a period: Check the “Date&Time” box and then enter the date and time.

Step 3: Click **Search**.

Export

After you search the log you want, you can export it to an Excel (.xls) or a text (.txt) file.

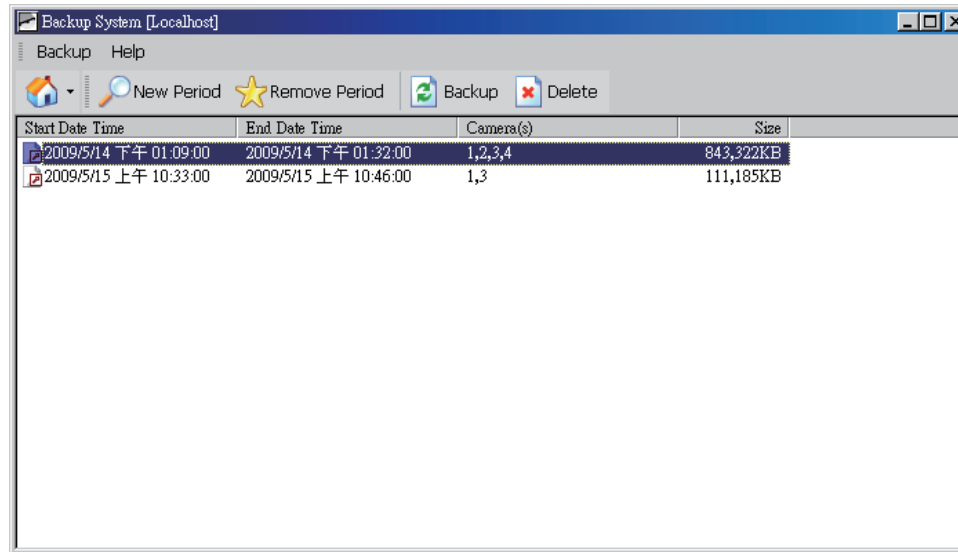


Step 1: Click the **Export To** button.

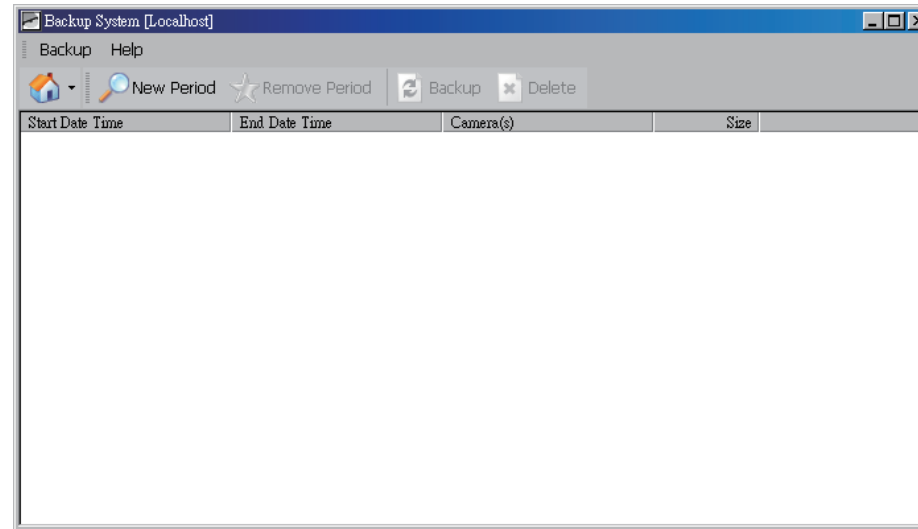
Step 2: Type the file name and select the file format (.xls or .txt).


Backup

The backup function saves video records and other log information.




Backup Recorded File(s)



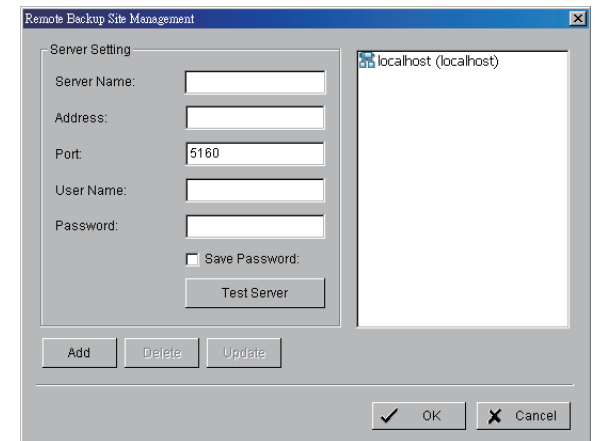
Step 1: Click the **Remote Sever** icon  to add and setup the backup.

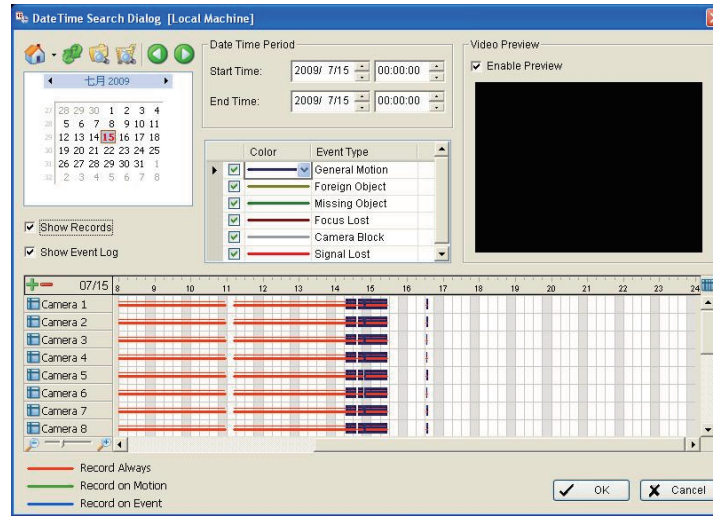
- Enter the IP address or DNS, Port, Username, and Password.
- Click **Add** to add the server.
- Click **OK** to exit the Setting panel.



Step 2: To access the Remote Backup Site, click on the  icon and enter the username/ password of the remote server to access the backup site.

Step 3: Click on **New Period** to open the Select DateTime Period panel.

Step 4: Select the data you want to backup by highlighting the time period. You may also set up a start and end time in the Date Time Period section.





Step 5: Click on the camera number icon to add camera(s) or click   to add/delete all channels.

Step 6: Check the Enable Preview box to display the preview of the video you selected.

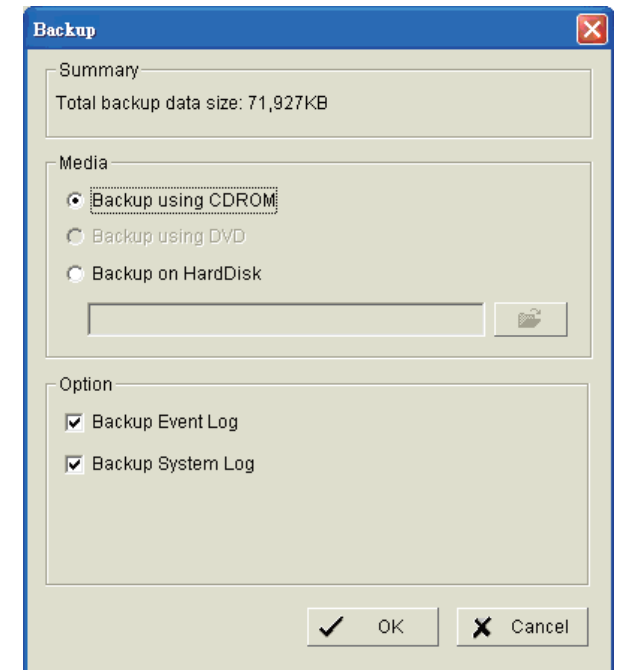
Step 7: Click **OK** when the settings are complete.

Step 8: If there is a data period you do not want, click **Remove Period** to remove the data period from the backup list.

Step 9: Click the **Backup** icon to open the Backup panel.

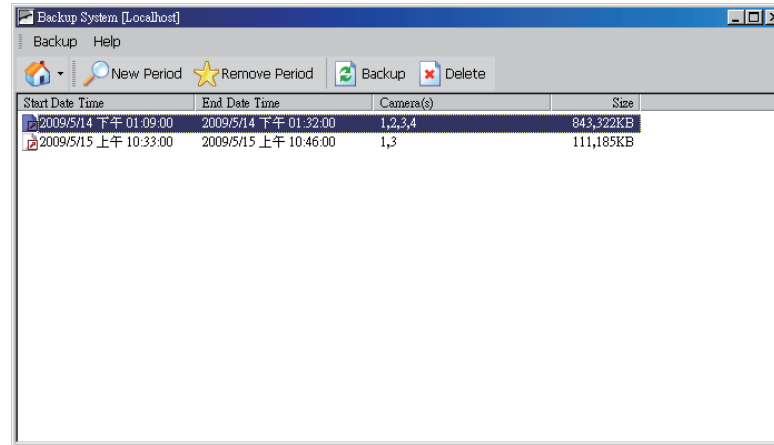
Step 10: Under **Media**, select the path you want to save the file or burn the file directly to a CD (direct CD burning for Windows® XP only), DVD or to a hard drive.

Step 11: Under **Option**, select the log information you would like to backup (Event Log or System Log,) and then click **OK**.



Delete Recorded File(s)

Step 1: Click on **New Period** to open the Select Date Time Period panel.



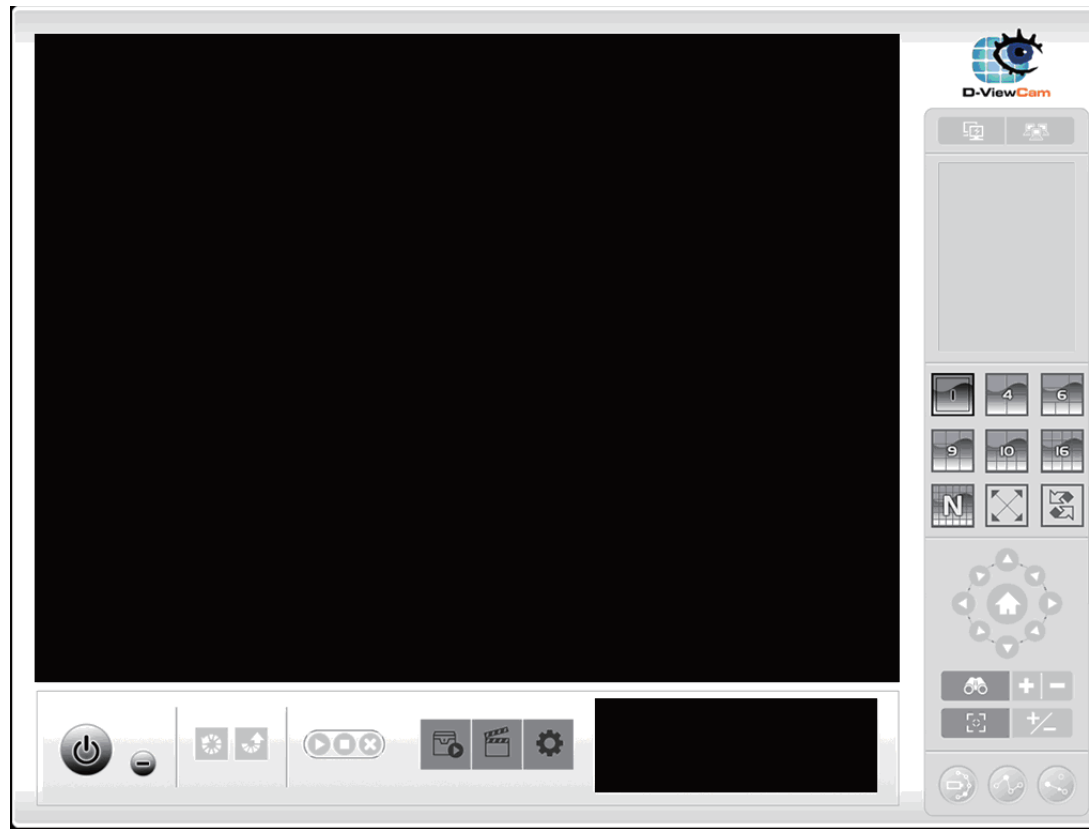
Step 2: Follow steps 3-7 from the previous two pages to select the data period which you want to delete.

Step 3: Click on the **Delete** icon to remove all the data in the backup list from the database.

Note: The deleted video cannot be recovered.

Remote Live Viewer

With the Remote Live Viewer console, remote users may watch up to 64 real-time video channels from remote live streaming servers.

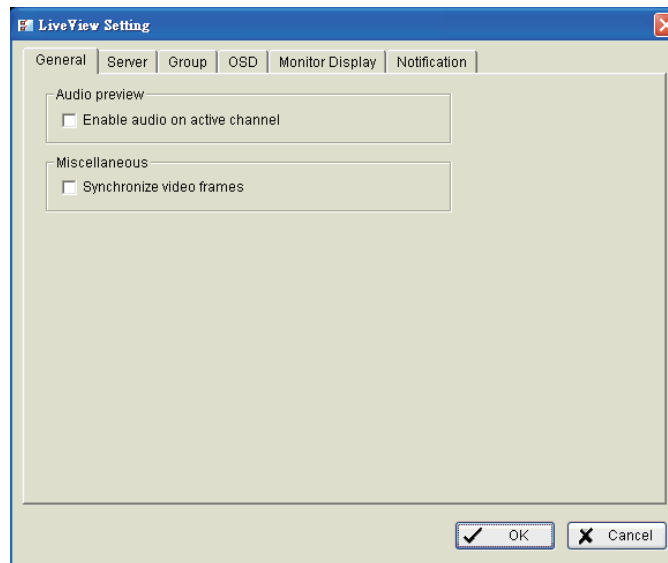


Setting

Click the **General Settings** icon to open settings dialog window.



General Settings



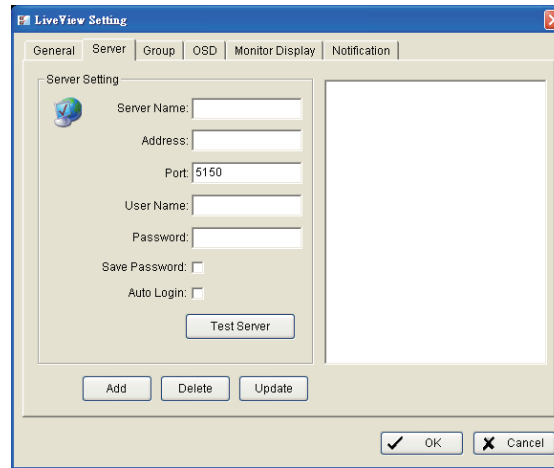
Audio Preview

Enable audio on active channel: Select it to enable the audio streaming on active channel.

Miscellaneous

Select to prevent tearing that may occur in the video display. However, this will increase the CPU processing load.

Server Settings



Step 1: Enter the Server Name as preference.

Step 2: Enter the IP Address, Port, User Name, Password to log in the server.

Step 3: Enable the Save Password to login without entering the password again.

Step 4: Enable the Auto Login to login automatically when starting the Remote Live Viewer.

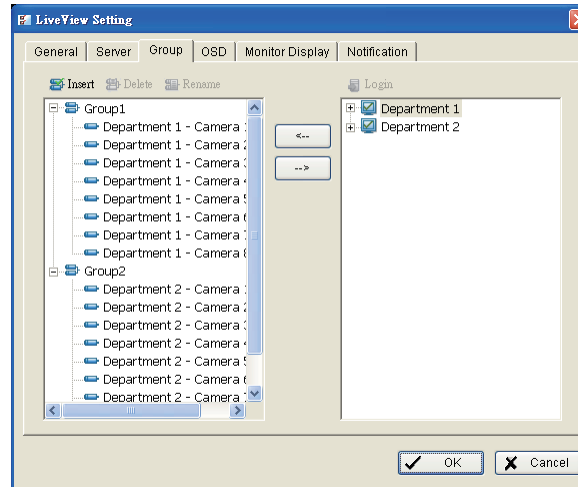
Step 5: Click **Test Server** to check if the server is available.

Step 6: Click **Add** to insert the setting to server list.

Note: To remove the server, select a server on the server list and then click **Delete**.

Group Setting

Allocate different cameras into groups.



Step 1: Log in to all the servers that contain the camera(s) you would like to put into the group(s).

Step 2: Click **Insert** to create and name a new group.

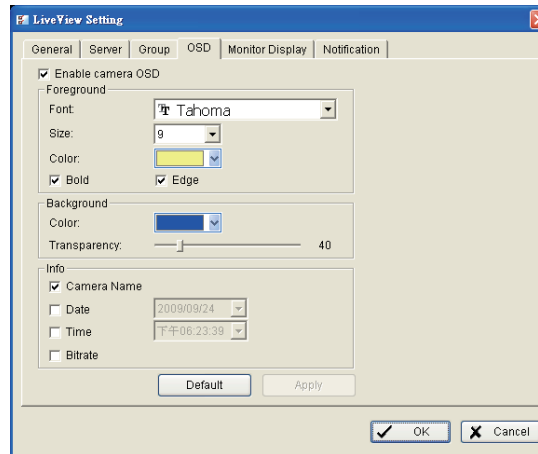
Step 3: From the window at the right, highlight the camera that you would like to add to a group and then click on the <-- button. Repeat the process until all the cameras you want in the group are added.

Step 4: Click on the **Delete** button to remove a specific group or click the **Rename** button to change the name of a specific group.

Step 5: Click **OK** to save your group.

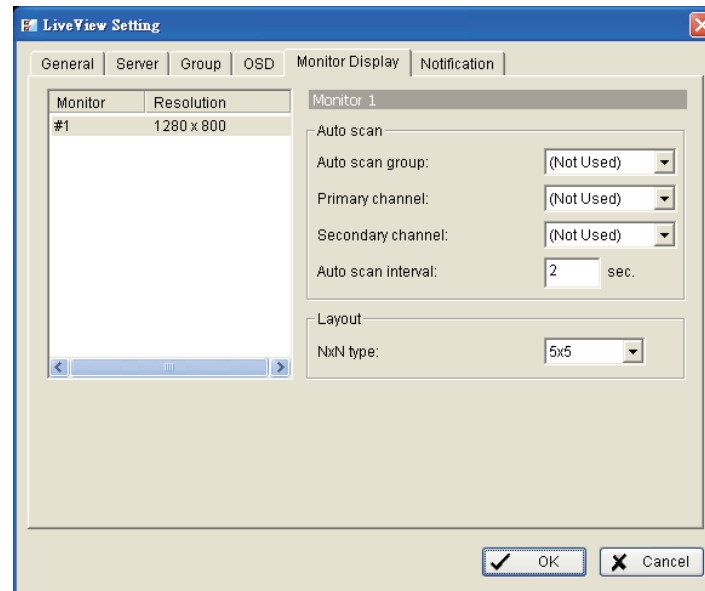
OSD Setting

Select the font style and colors of information displayed on the video.



Monitor Display Setting

Activate auto scan to rotate the channels/cameras on screen. For instance, you may select to show only 4 sub-screens on the live viewer while having 16 channels connected to the system.



Step 1: Select the Monitor connected to the system.

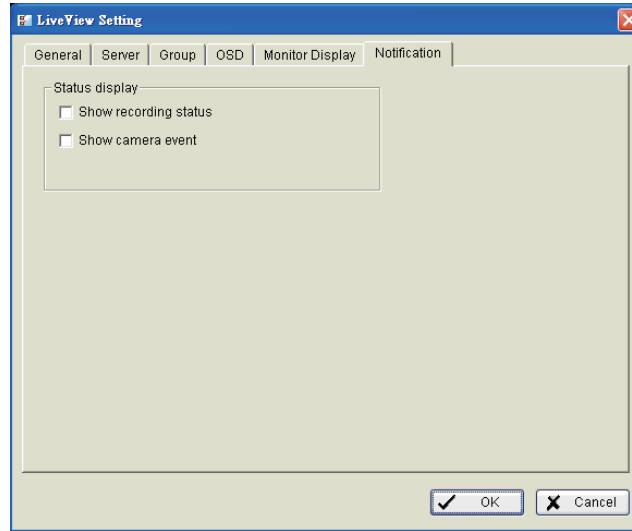
Step 2: From the **Auto scan group** drop-down, select a group.

Step 3: Select a primary channel that will always be on the screen when activating auto scan settings.

Step 4: Select a channel that has secondary priority then primary channel on the screen when activating auto scan settings.

Step 5: From the **Layout** drop-down, select the screen division you want displayed.

Notification Settings



Status display

Show recording status: Check the box to display the recording status on the monitor display.

Show camera event: Check the box to display detected events on each channel.

Server/Group/Camera

Display a complete list of the server(s), group(s), and camera(s) that are added to the system.

Server View: Display cameras sorted by servers.

Group View: Display cameras sorted by group names.



Server View

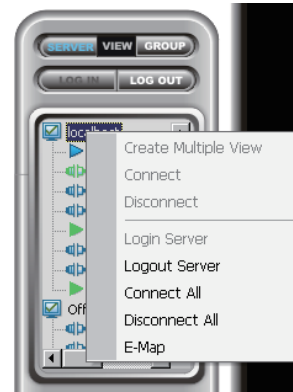


Group View

Login/Logout Server

Option 1: Select a server on the list and then click on the Log In icon to access or the Log Out icon to leave the server.

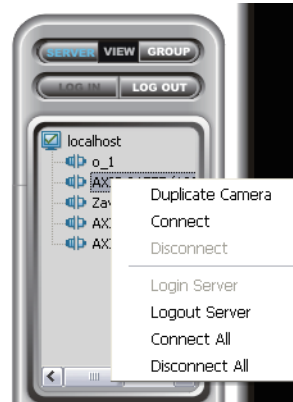
Option 2: On the server list, right-click to open the menu options.



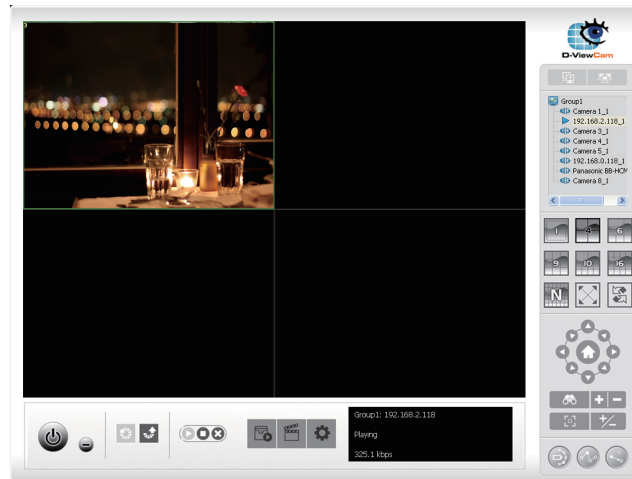
Connect/Disconnect Camera

Option 1: On the server/camera list, double-click on a camera to connect it.

Option 2: On the server/camera list, right-click on a camera to open the menu options to connect/disconnect it.



Option 3: Select a camera from the list and drag it to where you want the image to be displayed.



PTZ Control

Control the movement of PTZ cameras. With cameras that support PTZ control, you can move, zoom, patrol, adjust the focus, and set preset points of the cameras.

Preset/Go

Adjust the camera view and click on the **Set** icon and save the view as preset point 01. Adjust the camera view again and set up the preset point 02. Repeat the process until finish setting up all preset points. Enter any names you want instead of the preset point 01, preset point 02, preset point 03..., click on the **Go** icon to view the preset points.

Note: To change the speed settings of your PTZ camera, click on **Main Console > General Setting and Utilities > Setting > PTZ Config**.

Zoom

Click on the + and – signs to zoom in and zoom out the view.

Focus

To focus near means objects that are closer will be clearer than the objects that are further away. On contrast, to focus far means objects that are further will be clearer than the objects that are closer. Click on the **Focus** icon and select auto focus if you want the system to decide the focus point for you.

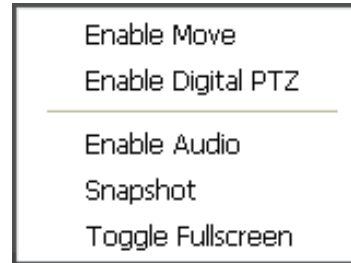
Patrol

To have your PTZ camera to patrol around pre-defined path of preset points, please click on **Patrol** button to start/stop patrol.

Note: To setup a patrol path, please setup on **Main Console > General Setting and Utilities > Setting > PTZ Config > Patrol**.

On Screen Menu

Right-click on the camera screen and get the “On Screen Menu”, from which you can quickly adjust the setting of camera.



Enable Move

With cameras that support PTZ, the function allows you to use your mouse to control the PTZ functions by clicking on the display screen. To enable, click the **Enable Move**. To disable, click **Disable Move** to cancel this function.

Enable Digital PTZ

To enable the digital PTZ functions of the video, select **Enable Digital PTZ**. Use your mouse wheel or click on the + and – signs to zoom in and zoom out on the camera. The square flashing on the video grid indicates the corresponding view of the camera.

Snapshot

The snapshot function captures a specific video image to the clipboard or to a file you can save to your computer.

Toggle Fullscreen

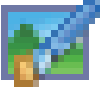



Switch to view video with full screen display. To disable the function, right-click on screen and uncheck this option or simply press **ESC** to go back to original window.

Start Monitor

Open E-Map
Open I/O Control Panel

E-Map

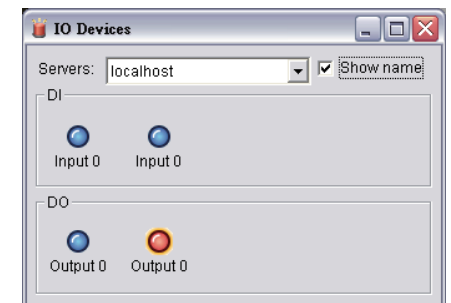
Select **Open E-Map** to open the E-Map window.

	Map	Select the map you want to show on E-Map Window.
	Camera	Select the camera you want to preview video and mark an indicator on E-map.
	Digital Input	Select to highlight the device with a green ring on the map and show status on the Information window. If the Digital Input is from an IP camera, the preview window will display live video from the camera.
	Digital Output	Select to highlight the device with a green ring on the map and show status on the Information window. If the Digital Output is from an IP camera, the preview window will display live video from the camera.

I/O Control

Select to open the I/O control panel. The panel allows you to control DO devices remotely.


Note: Adjust the setting of I/O device in **Main Console > General Setting and Utilities > Setting > I/O Device** first, the I/O control panel will display the device status base on it.



Playback

Select to open the Playback panel and view video remotely.

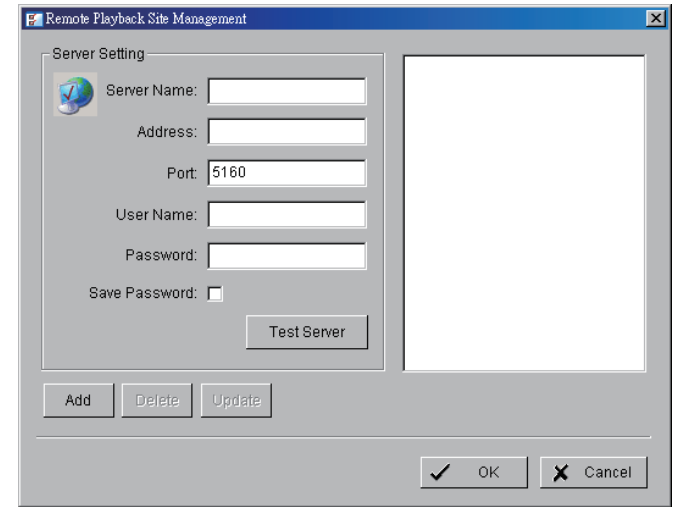
Add Remote Playback Site

Click the **Remote Sever** icon  can go to remote playback site management to add and setup the remote playback site.

Step 1: Enter the IP address or DNS, Port, Username, and Password.

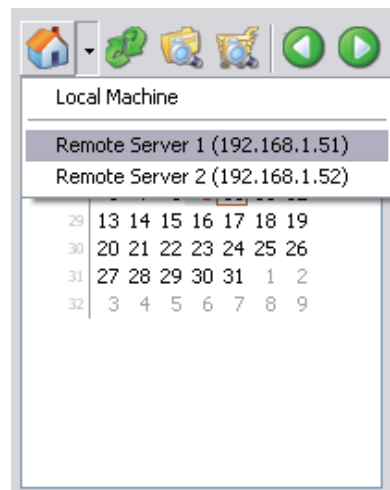
Step 2: Click **Add** to add the server.

Step 3: Click **OK** to exit the Setting panel.

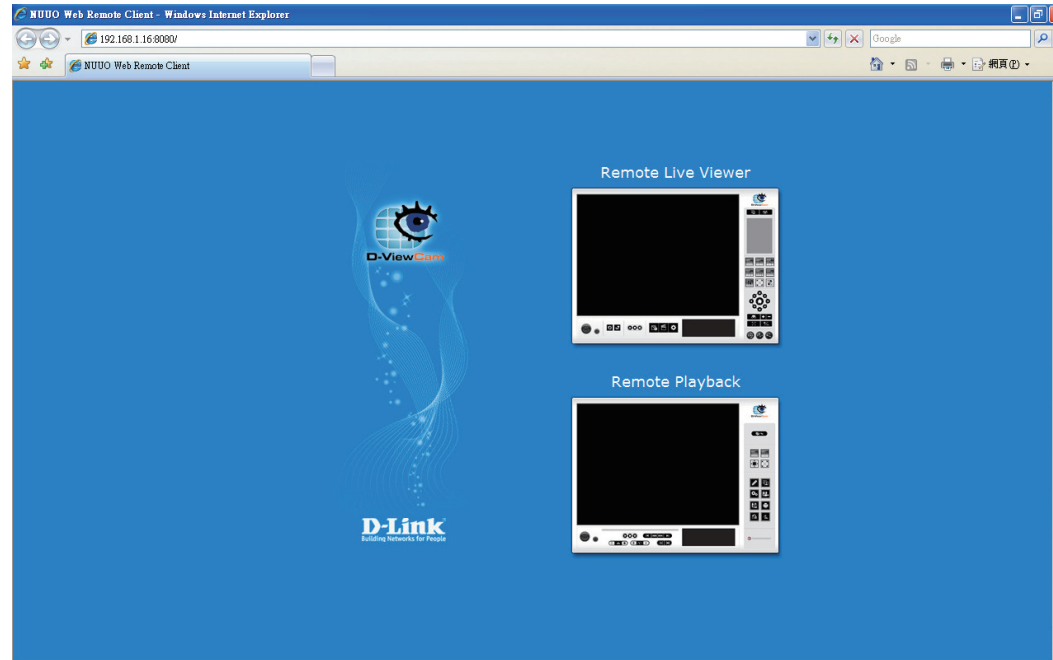


Access Remote Playback Site

Go to Date/Time Panel and click on the  icon on the top of the display window to access the Remote Playback Site



Web View



Note: Make sure the Live Stream Server is enabled.

Server IP

Open Internet Explorer and enter the IP address or DDNS “name” of the server followed by the connecting port.

Example: <http://192.168.1.16:8080/>

Note: 192.168.1.16 is the IP address of the server.

8080 is the port specified in “Use Default Web Server” in Network Service.

Remote Live Viewer

Click this icon to use **Remote Live Viewer**. Refer to page 99.

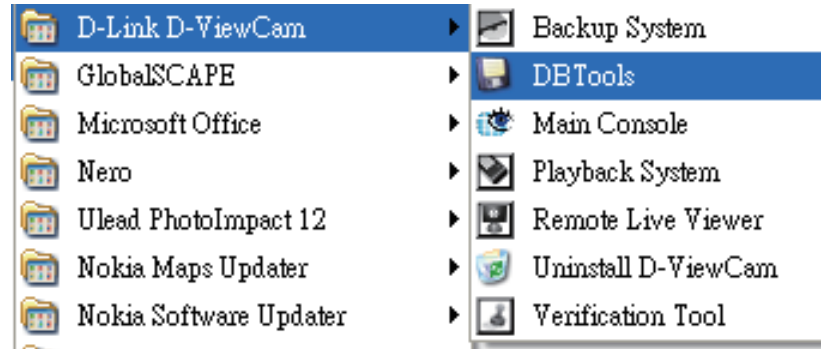
Remote Playback

Click this icon to use **Remote Playback**. Refer to page 112.

Utilities

DB Tools

Step 1: Execute DB Tools from the Start menu.



Step 2: Enter the administrator password and click **OK** to log in.



Repair Database

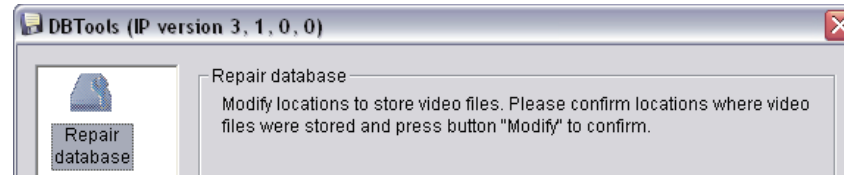
This page has three repair methods: **Modify Location**, **Verify Only**, and **Repair**.

Modify Location

Playback system can recognize all recording video in the folders which list on **MainConsole > Config > Setting > General** page. For some reason, users need to use the Playback system to open recording video beyond storage location setting.

Note: The default storage location is in your installation directory, (ex: C:\Program Files\SCB_IP).


Step 1: Select **Repair Database**.

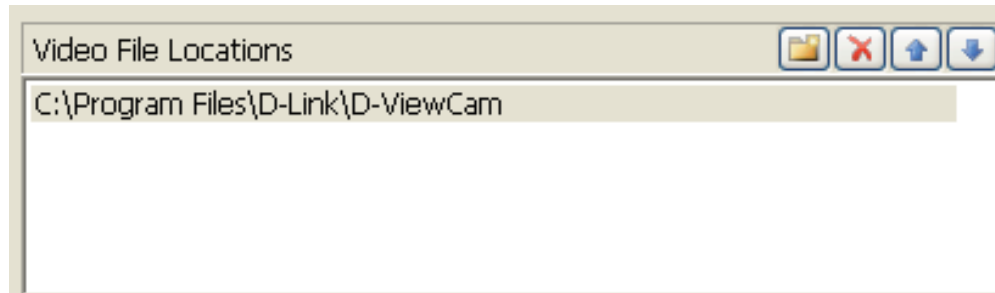


Step 2: Select **Modify Location** from the Method drop-down menu.



Step 3: Click on the  button and select a new location.

To remove a database location, select it from the list and click on the  button to delete location.



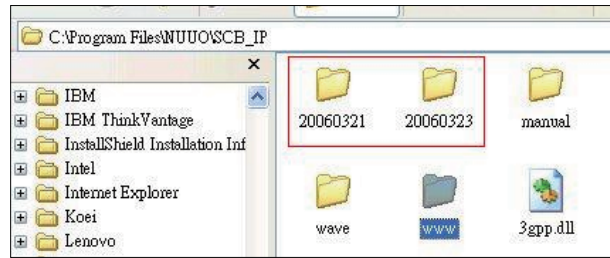
Step 4: Click on the **Modify** button to save the location.



Example of modify database

In certain cases that video data needs to be transferred from one PC to another, you will need to perform the following procedure:

1. Manually copy all recorded video data files from the default installation path or other user-defined storage path of the old PC.



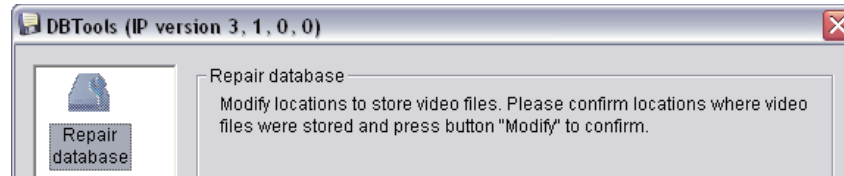
2. Manually paste all recorded video files to the default installation path or other user-defined storage path of the new PC.
3. Follow previous page to add new location on new PC.
4. Old recorded video data can be viewed by playback system on the new PC.

For verify and repair proposes:

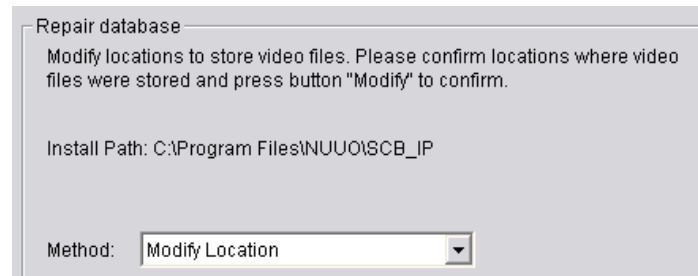
This tool is used to check and repair your database and recording video with below problems:


- (1) If there are records in database, but no video file, use DB Tools to delete records.
- (2) If there are video files but no record in database, use DB Tools to rearrange the database and find these records.

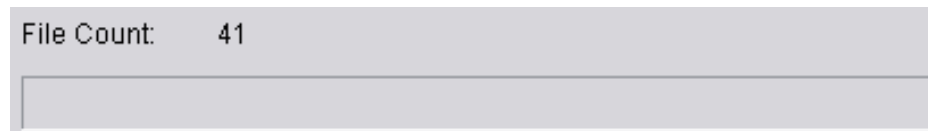
Step 1: Switch to Repair Database.



Step 2: Select Modify Location from the Method drop-down menu.



Step 3: Check the video location windows. The system will list all video locations in table, but if there are any omit, please use  to insert. After inserting location, the system will show a file count table.



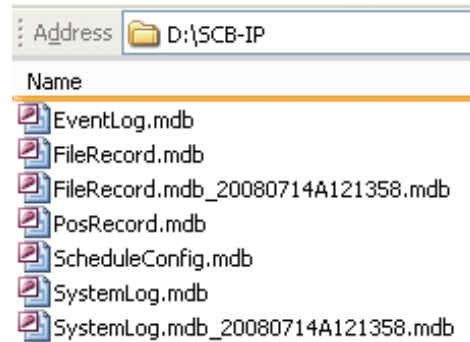
Step 4: Select Verify Only and then click Verify. This method will only check the files without modify. Verify result will show how many files broken or missing.



Step 5: Choose the method of “Repair (Complete)”, and click “Repair” to repair. The Repair Result will show how many files are fixed and inserted.

Repair Result: 2 files fixed, 41 files inserted.

Step 6: The repair new database will replace old ones. And the original database will change file names with extend repair date and time as below.



Note: Open Log is a tool to record repair database recodes. It will recode repair method, file operation, strat time and end time.

```

dbtool.log - Notepad
File Edit Format View Help
-----
Operation "Verify Only" is started at (2008/07/14 12:01:17)
File Broken: D:\Video\20080708\c00002\c00002s00A20080708112323437.dat
File Broken: D:\Video\20080708\c00002\c00002s00A20080708114304625.dat
41 files verified, 2 files broken, 0 files missing.
Operation "Verify Only" is finished at (2008/07/14 12:01:19)

-----
Operation "Verify Only" is started at (2008/07/14 12:13:19)
File Broken: D:\Video\20080708\c00002\c00002s00A20080708112323437.dat
File Broken: D:\Video\20080708\c00002\c00002s00A20080708114304625.dat
41 files verified, 2 files broken, 0 files missing.
Operation "Verify Only" is finished at (2008/07/14 12:13:20)

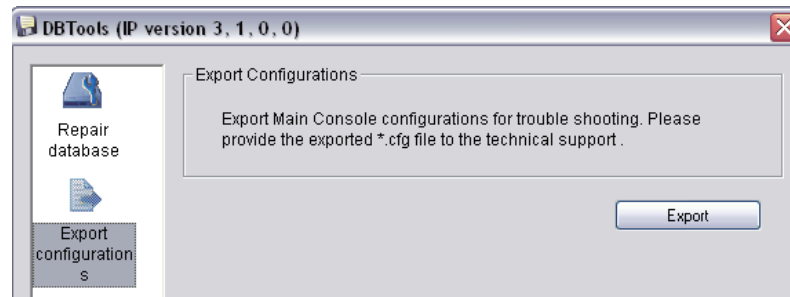
-----
Operation "Repair (Complete)" is started at (2008/07/14 12:13:58)
File Repaired: D:\Video\20080708\c00002\c00002s00A20080708112323437.dat
File Repaired: D:\Video\20080708\c00002\c00002s00A20080708114304625.dat
2 files fixed, 41 files inserted.
Operation "Repair (Complete)" is finished at (2008/07/14 12:14:07)

```

Export Configurations

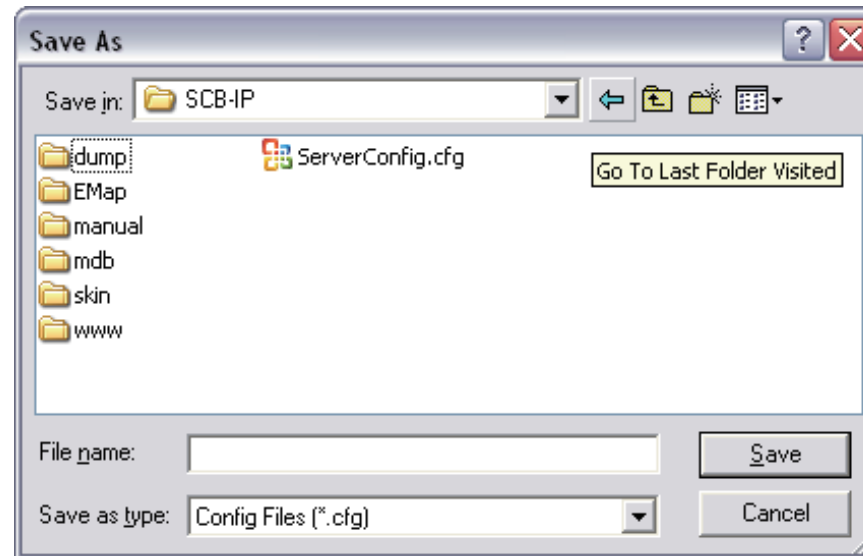
This tool is used when you want to export all configuration settings to a backup.

Step 1: Click **Export**.



Step 2: Select the location you want to export to and type the name of the config file.

Step 3: Click **Save**.



Frequently Asked Questions

D-Link D-ViewCam Features

1. What is the difference between D-Link D-ViewCam and the traditional surveillance system?

D-Link D-ViewCam records video in MJPEG and MPEG4 formats, stores high quality image data on computer hard disks, and provides easy query and review of the stored video. Traditional surveillance systems use videotape for storage and review, which is hard to managed, time consuming and the recorded video will degrade over a period of time or usage.

2. Why use the D-Link D-ViewCam Intelligent Solution?

D-Link D-ViewCam is the bundled video surveillance system software that provides advanced security monitoring and device management functions to use with D-Link Internet cameras. This software uses IP technology to provide comprehensive management functions such as system controls, live video feeds and archived recordings.

3. We have security guards on duty 24 hours a day, 7 days a week. Do we still need D-Link D-ViewCam?

Security guards and camera surveillance systems can complement each other. Your security guards can catch thieves red-handed but not in other circumstances, such as if they are preoccupied with another task. D-Link's D-ViewCam can always automatically record events for review or to be used as evidence. Your surveillance cameras can connect to any I/O devices, and D-ViewCam can discreetly and timely alert your security guards of inadvertent events, allowing them to react to the situation in an effective manner.

4. What kind of network does D-Link D-ViewCam run on?

D-Link D-ViewCam runs on standard TCP/IP networks, such as a local area network (LAN), and over the Internet. If using Internet, a broadband DSL or cable modem connection is recommended to ensure good quality of video image is being transferred over the Internet.

5. How are multiple camera views displayed on the screen?

If you deploy several cameras and they are all displaying video at the same time, you have several options to arrange the display of these videos on your computer screen. One option is to reserve a major part of the screen to display the video from a single camera. Another option is to split the screen to show videos from multiple cameras. To switch the display from one camera to another, you can either manually select a camera, or have the system automatically display videos from all cameras in turn, called auto rotation.

6. Does D-Link D-ViewCam support cameras that have motion detection capability?

Yes. If the camera has motion detection function, D-ViewCam will take advantage of that. When the camera does not have motion detection capability, D-ViewCam will perform software motion detection for it, at the cost of system performance.

7. How do I estimate an adequate disk space to store the recorded video?

The Disk Space required can be calculated with these two formulas:

1. For MJPEG cameras: Frame Size x Frame per Second x Total Second, or
2. For MPEG4 cameras: Bit rate / 8 x Total second.

For example:

MJPEG cameras: Recording at medium quality CIF (10 Kbytes/frame) at 30 FPS for a week requires 173G Bytes/camera

MPEG4 cameras: Recording with bit rate at 64kbps (low quality CIF) for a week = 4.6 G Bytes/camera

Note: *The data revealed here is only for reference. The real recording capacity depends on the view and environment.*

8. Do I need a very powerful computer to run D-Link D-ViewCam?

Please refer to the System Requirements table on page 5. To monitor more than 16 cameras simultaneously, the quality of the live video display may depend on your hardware specification.

Note: *If a mega pixel camera is used with the D-ViewCam application, the minimum system requirement should be raised to CPU: Intel P-4 3.4GhZ or above with 1GB of memory due to the resources required to process and store large amounts of image data.*

9. Please describe the privilege-based access of D-Link D-ViewCam.

D-Link D-ViewCam uses a simple privilege control scheme to let users access the system and use different functions. A user can have administration privilege or normal user privilege.

10. Windows Vista® operating system's user account control feature may interfere with the normal operation of the D-ViewCam application.

For Windows Vista® users: please go to **User Accounts and Family Safety > User Accounts > Turn User Account Control on or off**, then uncheck the “**Use User Account Control (UAC) to help protect your computer**” checkbox. Restart your computer to validate the setting.

For additional information of User Account Control, please go to
<http://www.microsoft.com/windows/products/windowsvista/features/details/useraccountcontrol.msp>.

D-Link D-ViewCam Operation

Video Image Configuration

1. How are video images stored?

Video images are compressed into MJPEG or MPEG4 format, and then stored on your computer hard disk or a designated network storage device.

2. What frame sizes does D-Link D-ViewCam use?

For MJPEG, each frame is approximately 14 to 15KB each. However, it also depends on your camera's specifications and setting.

3. What should I do when saving image configuration or image quality and the system pops up "Parameter setup error" message?

One of the following might cause this problem:

1. Camera is disconnected.
2. Network is unstable.
3. Firewall.

If you install D-ViewCam on a PC with firewall software running, the firewall software may reject some Internet packets, which are considered insecure. You need to turn off Internet Security or disable Personal Firewall in order to save image configure/ image quality of your camera. Remember to turn on Internet Security or enable Personal Firewall later to secure your system.

4. Can we change the FPS (frame per second) rate of a camera?

FPS is the number of image frames that a camera shoots in a video operation. For MJPEG file, you can set the FPS rate according to your requirement.

Note: *Not all setting of your camera is available in D-ViewCam. The FPS rate that you set cannot exceed the maximum FPS rate of your camera. For MPEG4 format, you can change bit rate instead of FPS. Please make detail configurations on camera's web interface.*

5. Which format could my recorded video file covert into?

D-Link D-ViewCam can convert the recorded video into AVI format with the available codec in your operating system.

Video Display

6. What should I do if there is no video display of the camera after I have just added it to D-ViewCam?

Please check to see if you correctly typed in the IP address of the camera. If you changed the default user name and password of the camera, you must input that information in D-ViewCam. The changed value will take effect after you re-start D-ViewCam.

7. Why isn't video displayed from the connected camera(s)?

The possible root causes:

1. The network is unstable
2. The workload is too heavy for your computer to handle.
3. Changing the camera's video parameters (by using the camera web server) in the middle of a D-ViewCam operation, can cause D-ViewCam to fail.

8. How do I record video in D-ViewCam?

D-Link D-ViewCam provides four different recording methods:

1. Manual recording (capture of video feed at the moment you command the system to).
2. Schedule recording (automatic recording according to the time periods that you set).
3. Event recording (automatic recording according to the event settings).
4. Motion detection recording in scheduled time. In the time periods you set, start recording only when motion is detected. This can make disk usage more economical.

9. Can I change the audio format at the camera web server while using two-way audio function?

No. Please make sure to complete all camera configurations at the camera web server before using the D-ViewCam application. Changing camera parameters using the camera web server in the middle of a D-ViewCam operation can cause D-ViewCam to fail.

10. Why does my computer screen always display Connecting or Disconnected?

For cameras determined to be offline, and when D-ViewCam is trying to reconnect, a “Connecting” status will appear on the display during the retry. If D-ViewCam fails to connect, a “Disconnected” status will appear on the display. If the connection is stable, but the video stream is non-existent, the reconnect interval will be within 30 seconds. If the connection fails, the reconnect interval will be within 60 seconds.

11. How to get a better image view in D-ViewCam?

D-ViewCam adopts drop frame to optimize the application performance. So if you want to get better image view, please consider below items:

1. Disable the rotation mechanism.
2. For viewing MJPEG video format in CIF resolution, the video FPS display in D-ViewCam is adjusted according to the number camera displayed in the main screen. The higher the FPS, the smoother the motion will appear. 1-split screen display 30 FPS, 4/6/9/10/16-split screen, display 5 - 15 FPS. 32-split screen, display 1 FPS.
3. For viewing MPEG4/H.264 video format, adjust the image resolution to 640*480 and showed in 4-split screen. For the camera with the resolution larger than 1024*640, D-ViewCam will decode I-frame only.

Firewall

10. What about firewalls? Do they affect D-Link D-ViewCam?

If you use D-Link D-ViewCam on computers with Windows XP SP2 or any other applications with personal firewalls, please configure the firewall to allow D-Link D-ViewCam to pass through. Most the personal firewalls will automatically prompt you to permit D-ViewCam program to be used in the network.

11. What about firewalls like Nod32 which has to be manually input to permit D-ViewCam installation?

If you use D-Link D-ViewCam on computers with Nod32 personal firewall, please configure the firewall manually after you have installed D-ViewCam as following steps:

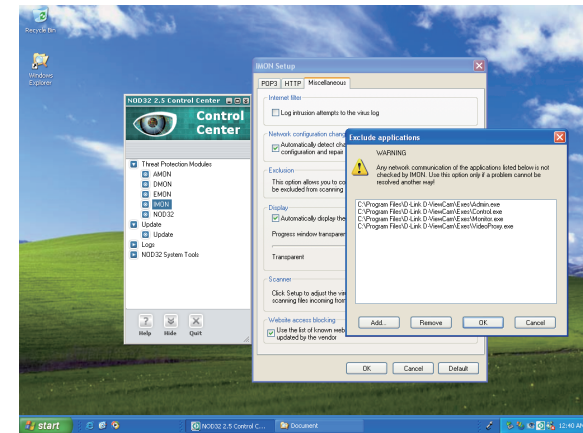
Click NOD32 antivirus system icon on the task bar to open it.



Select **IMON > Setup > Miscellaneous > Exclusion > Edit > Add** to C:\Program Files\D-Link D-ViewCam\Exes\Admin.exe, Control.exe, Monitor.exe, and VideoProxy.exe to the Exclude applications window.

Note: Paths depend on your software installation.

Note: D-ViewCam is not compatible with the ESET NOD32 anti virus version 2.7. Please upgrade your anti virus version to 3.0 and it is also recommended to stop the anti virus application while executing the D-ViewCam installation.

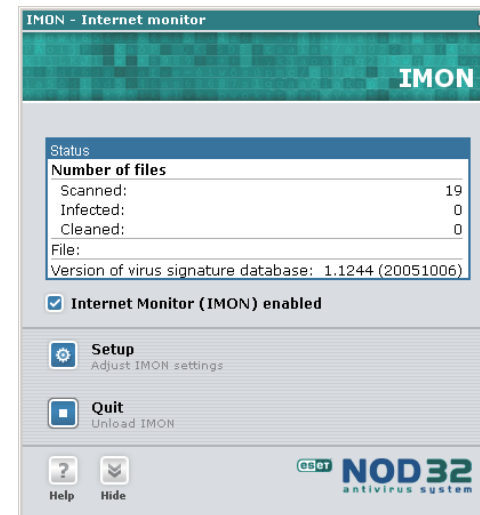


Click **OK** to exit **Exclude applications** window.

Click **OK** to exit **IMON Setup** window.

Click **Quit** to unload IMON.

Click **Start** to load IMON



Event

12. How does the event management operate?

D-Link D-ViewCam can receive input from Motion Detection or Sensor (DI, or Device Input) to create an event. Then, the event can be used to trigger DO (Device Output), video recording, show live video, e-mail notification, play sound, and go to preset point (on cameras with Pan and Tilt functions).

13. How does event recording work?

It starts recording automatically according to your event settings.

14. In what format can I export the event report to?

D-ViewCam can export the event report in text format. Note that Microsoft Word 2000 is currently not supported.

15. When an event occurs, how do I know which camera it comes from?

Please look at the Event Notification Log in the main screen. The source column shows the event source.

16. How do I get event notifications?

D-Link D-ViewCam sends event messages in different ways, based on the event action setting of a camera. For example, if the event action is Email, the message will be sent by Email.

17. After I've changed the time or date of my computer system, the D-Link D-ViewCam event function does not seem to work anymore?

Please exit D-ViewCam then reboot your computer after you've changed your computer system's time and date. Then run D-ViewCam again. The event function should go back to normal.

Database

18. What's the purpose of database backup?

The configuration data, operating parameters and log data of D-ViewCam are stored in database. D-Link D-ViewCam can backup database periodically and automatically. So, you can restore it if the system is corrupted inadvertently.

19. What is the purpose of database restore function in D-Link D-ViewCam?

The database restore function is provided to safeguard your D-ViewCam program database in case if it is corrupted inadvertently. D-ViewCam can backup the database automatically but you have to restore the database manually.

Save and Copy to Setting

20. Why do we need to use “Save Setting” and “Copy to” functions in D-Link D-ViewCam?

These two functions are designed to let users configure cameras efficiently. Camera configurations such as: Area setting, map file, device ratio, configurations in Camera Setting, Image Alarm Setting, Preset, eMap location and sensor alarm setting can all be saved and copy to another camera. However, please remember to review the settings of the target camera after “copy to” to make sure all settings are correct and work as intended.

Storage Space Setting

21. What will happen when my hard disk or network storage device is running out of space?

When your hard disk or network storage device is approaching 90% full, and if you have enabled the Recycle function, the system will automatically start to delete the oldest recorded video on your hard disk or network storage to make space for the new files.

To prevent losing recorded video data, please remember to periodically back up your recorded video files and delete the unwanted ones.

22. How to configure the schedule recording, event recording, manual recording path?

To avoid system failure due to insufficient disk space, please configure the recording path for schedule, event and manual recording options differently from the D-ViewCam installation path.

Open Source Software Notification

D-ViewCam 3.x product makes use of the following software licensed under LGPL (Lesser General Public License). You can download the copies of the LGPL licensed software from the official web site listed as the following.

1. LIVE555 Streaming Media (www.live555.com/liveMedia/, GPL v2)

© 1991, 1999 Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License Agreement applies to any software library or other program which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Lesser General Public License (also called “this License”). Each licensee is addressed as “you”.

A “library” means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The “Library”, below, refers to any such software library or work which has been distributed under these terms. A “work based on the Library” means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without limitation in the term “modification”.)

“Source code” for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it). Whether

that is true depends on what the Library does and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library's complete source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

- a) The modified work must itself be a software library.
- b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.
- c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.
- d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.

In addition, mere aggregation of another work not based on the Library with the Library (or with a work based on the Library) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may opt to apply the terms of the ordinary GNU General Public License instead of this License to a given copy of the Library. To do this, you must alter all the notices that refer to this License, so that they refer to the ordinary GNU General Public License, version 2, instead of to this License. (If a newer version than version 2 of the ordinary GNU General Public License has appeared, then you can specify that version instead if you wish.) Do not make any other change in these notices.

Once this change is made in a given copy, it is irreversible for that copy, so the ordinary GNU General Public License applies to all subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange.

If distribution of object code is made by offering access to copy from a designated place, then offering equivalent

access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a “work that uses the Library”. Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However, linking a “work that uses the Library” with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a “work that uses the library”. The executable is therefore covered by this License. Section 6 states terms for distribution of such executables.

When a “work that uses the Library” uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also combine or link a “work that uses the Library” with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer’s own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use

are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

- a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable “work that uses the Library”, as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)
- b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user’s computer system, rather than copying library functions into the executable, and (2) will operate properly with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.
- c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.
- d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.
- e) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the “work that uses the Library” must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the materials to be distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

- a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed under the terms of the Sections above.
- b) Give prominent notice with the combined library of the fact that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

8. You may not copy, modify, sublicense, link with, or distribute the Library except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

9. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Library or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Library (or any work based on the Library), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Library or works based on it.

10. Each time you redistribute the Library (or any work based on the Library), the recipient automatically receives a license from the original licensor to copy, distribute, link with or modify the Library subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties with this License.

11. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Library at all. For example, if a patent license would not permit royalty-free redistribution of the Library by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply, and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

12. If the distribution and/or use of the Library is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Library under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

13. The Free Software Foundation may publish revised and/or new versions of the Lesser General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library specifies a version number of this License which applies to it and “any later version”, you have the option of following the terms and conditions either of that version

or of any later version published by the Free Software Foundation. If the Library does not specify a license version number, you may choose any version ever published by the Free Software Foundation.

14. If you wish to incorporate parts of the Library into other free programs whose distribution conditions are incompatible with these, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

2. Expat XML parser v2.0.1 (expat.sourceforge.net)

© 1998, 1999, 2000 Thai Open Source Software Center Ltd and Clark Cooper

© 2001, 2002, 2003, 2004, 2005, 2006 Expat maintainers.

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the “Software”), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED “AS IS”, WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

3. OpenSSL v0.9.8.g (www.openssl.org)

The OpenSSL toolkit stays under a dual license, i.e. both the conditions of the OpenSSL License and the original SSLeay license apply to the toolkit. See below for the actual license texts. Actually both licenses are BSD-style Open Source licenses.

© 1998-2007 The OpenSSL Project. All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. All advertising materials mentioning features or use of this software must display the following acknowledgment:

“This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit. (<http://www.openssl.org/>)”

4. The names “OpenSSL Toolkit” and “OpenSSL Project” must not be used to endorse or promote products derived from this software without prior written permission. For written permission, please contact penssl-core@openssl.org.

5. Products derived from this software may not be called “OpenSSL” nor may “OpenSSL” appear in their names without prior written permission of the OpenSSL Project.

6. Redistributions of any form whatsoever must retain the following acknowledgment:

“This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit (<http://www.openssl.org/>)”

THIS SOFTWARE IS PROVIDED BY THE OpenSSL PROJECT “AS IS” AND ANY EXPRESSED OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE OpenSSL PROJECT OR ITS CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

4. Crypto++ v5.5.2 (www.cryptopp.com)

© 1995-2006 by Wei Dai. All rights reserved.

This copyright applies only to this software distribution package as a compilation, and does not imply a copyright on any particular file in the package.

The following files are copyrighted by their respective original authors, and their use is subject to additional licenses included in these files.

mars.cpp - Copyright 1998 Brian Gladman.

All other files in this compilation are placed in the public domain by Wei Dai and other contributors.

I would like to thank the following authors for placing their works into the public domain:

Joan Daemen - 3way.cpp

Leonard Janke - cast.cpp, seal.cpp

Steve Reid - cast.cpp

Phil Karn - des.cpp

Michael Paul Johnson - diamond.cpp

Andrew M. Kuchling - md2.cpp, md4.cpp

Colin Plumb - md5.cpp, md5mac.cpp

Seal Woods - rc6.cpp

Chris Morgan - rijndael.cpp

Paulo Baretto - rijndael.cpp, skipjack.cpp, square.cpp

Richard De Moliner - safer.cpp

Matthew Skala - twofish.cpp

Kevin Springle - camellia.cpp, shacal2.cpp, tmac.cpp, whirlpool.cpp, ripemd.cpp

Permission to use, copy, modify, and distribute this compilation for any purpose, including commercial applications, is hereby granted without fee, subject to the following restrictions:

1. Any copy or modification of this compilation in any form, except in object code form as part of an application software, must include the above copyright notice and this license.
2. Users of this software agree that any modification or extension they provide to Wei Dai will be considered public domain and not copyrighted unless it includes an explicit copyright notice.
3. Wei Dai makes no warranty or representation that the operation of the software in this compilation will be error-free, and Wei Dai is under no obligation to provide any services, by way of maintenance, update, or otherwise. THE

SOFTWARE AND ANY DOCUMENTATION ARE PROVIDED “AS IS” WITHOUT EXPRESS OR IMPLIED WARRANTY INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT WILL WEI DAI OR ANY OTHER CONTRIBUTOR BE LIABLE FOR DIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

4. Users will not use Wei Dai or any other contributor’s name in any publicity or advertising, without prior written consent in each case.

5. Export of this software from the United States may require a specific license from the United States Government. It is the responsibility of any person or organization contemplating export to obtain such a license before exporting.

6. Certain parts of this software may be protected by patents. It is the users’ responsibility to obtain the appropriate licenses before using those parts.

If this compilation is used in object code form in an application software, acknowledgement of the author is not required but would be appreciated. The contribution of any useful modifications or extensions to Wei Dai is not required but would also be appreciated.

5. ffmpeg v51.46.0 (www.ffmpeg.org, GPL v2)

© 1991, 1999 Free Software Foundation, Inc. 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License Agreement applies to any software library or other program which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Lesser General Public License (also called “this License”). Each licensee is addressed as “you”.

A “library” means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The “Library”, below, refers to any such software library or work which has been distributed under these terms. A “work based on the Library” means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without limitation in the term “modification”.)

“Source code” for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library’s complete source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) The modified work must itself be a software library.

b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.

- c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.
- d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.

In addition, mere aggregation of another work not based on the Library with the Library (or with a work based on the Library) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may opt to apply the terms of the ordinary GNU General Public License instead of this License to a given copy of the Library. To do this, you must alter all the notices that refer to this License, so that they refer to the ordinary GNU General Public License, version 2, instead of to this License. (If a newer version than version 2 of the ordinary GNU General Public License has appeared, then you can specify that version instead if you wish.) Do not make any other change in these notices.

Once this change is made in a given copy, it is irreversible for that copy, so the ordinary GNU General Public License applies to all subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange.

If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a “work that uses the Library”. Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However, linking a “work that uses the Library” with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a “work that uses the library”. The executable is therefore covered by this License. Section 6 states terms for distribution of such executables.

When a “work that uses the Library” uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also combine or link a “work that uses the Library” with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer’s own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

- a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable “work that uses the Library”, as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)
- b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user’s computer system, rather than copying library functions into the executable, and (2) will operate properly with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.
- c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.
- d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

- e) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the “work that uses the Library” must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the materials to be distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

- a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed under the terms of the Sections above.
- b) Give prominent notice with the combined library of the fact that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

8. You may not copy, modify, sublicense, link with, or distribute the Library except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

9. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Library or its derivative works. These actions are prohibited by law if you do not

accept this License. Therefore, by modifying or distributing the Library (or any work based on the Library), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Library or works based on it.

10. Each time you redistribute the Library (or any work based on the Library), the recipient automatically receives a license from the original licensor to copy, distribute, link with or modify the Library subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties with this License.

11. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Library at all. For example, if a patent license would not permit royalty-free redistribution of the Library by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply, and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

12. If the distribution and/or use of the Library is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Library under this License may add an explicit geographical

distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

13. The Free Software Foundation may publish revised and/or new versions of the Lesser General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library specifies a version number of this License which applies to it and “any later version”, you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Library does not specify a license version number, you may choose any version ever published by the Free Software Foundation.

14. If you wish to incorporate parts of the Library into other free programs whose distribution conditions are incompatible with these, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE LIBRARY “AS IS” WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL

OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Libraries

If you develop a new library, and you want it to be of the greatest possible use to the public, we recommend making it free software that everyone can redistribute and change. You can do so by permitting redistribution under these terms (or, alternatively, under the terms of the ordinary General Public License).

To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the “copyright” line and a pointer to where the full notice is found.

<one line to give the library’s name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This library is free software; you can redistribute it and/or modify it under the terms of the GNU Lesser General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This library is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU Lesser General Public License for more details.

You should have received a copy of the GNU Lesser General Public License along with this library; if not, write to the Free Software Foundation, Inc., 51 Franklin St, Fifth Floor, Boston, MA 02110-1301 USA

Also add information on how to contact you by electronic and paper mail.

You should also get your employer (if you work as a programmer you're your school, if any, to sign a "copyright disclaimer" for the library, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the library `Frob' (a library for tweaking knobs) written by James Random Hacker.

<signature of Ty Coon>, 1 April 1990
Ty Coon, President of Vice

That's all there is to it!

6. FAAC v20020104 (sourceforge.net/projects/faac, GPL v2)

© 1991 Free Software Foundation, Inc. 59 Temple Place, Suite 330, Boston, MA 02111-1307 USA Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License Agreement applies to any software library which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Library General Public License (also called "this License"). Each licensee is addressed as "you".

A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without limitation in the term "modification".)

“Source code” for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library’s complete source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

- a) The modified work must itself be a software library.
- b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.
- c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.
- d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program

that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.

In addition, mere aggregation of another work not based on the Library with the Library (or with a work based on the Library) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may opt to apply the terms of the ordinary GNU General Public License instead of this License to a given copy of the Library. To do this, you must alter all the notices that refer to this License, so that they refer to the ordinary GNU General Public License, version 2, instead of to this License. (If a newer version than version 2 of the ordinary GNU General Public License has appeared, then you can specify that version instead if you wish.) Do not make any other change in these notices.

Once this change is made in a given copy, it is irreversible for that copy, so the ordinary GNU General Public License applies to all subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange.

If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a “work that uses the Library”. Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However, linking a “work that uses the Library” with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a “work that uses the library”. The executable is therefore covered by this License. Section 6 states terms for distribution of such executables.

When a “work that uses the Library” uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly

with the Library itself.

6. As an exception to the Sections above, you may also compile or link a “work that uses the Library” with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer’s own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

- a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable “work that uses the Library”, as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)
- b) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.
- c) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.
- d) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the “work that uses the Library” must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler,

kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

- a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed under the terms of the Sections above.
- b) Give prominent notice with the combined library of the fact that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

8. You may not copy, modify, sublicense, link with, or distribute the Library except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

9. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Library or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Library (or any work based on the Library), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Library or works based on it.

10. Each time you redistribute the Library (or any work based on the Library), the recipient automatically receives a license from the original licensor to copy, distribute, link with or modify the Library subject to these terms and

conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

11. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Library at all. For example, if a patent license would not permit royalty-free redistribution of the Library by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply, and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

12. If the distribution and/or use of the Library is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Library under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

13. The Free Software Foundation may publish revised and/or new versions of the Library General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library specifies a version number of this License which applies to it and “any later version”, you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Library does not specify a license version number, you may choose any version ever published by the Free Software Foundation.

14. If you wish to incorporate parts of the Library into other free programs whose distribution conditions are incompatible with these, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE LIBRARY “AS IS” WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Libraries

If you develop a new library, and you want it to be of the greatest possible use to the public, we recommend making it free software that everyone can redistribute and change. You can do so by permitting redistribution under these terms (or, alternatively, under the terms of the ordinary General Public License).

To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the “copyright” line and a pointer to where the full notice is found.

<one line to give the library’s name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This library is free software; you can redistribute it and/or modify it under the terms of the GNU Library General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This library is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU Library General Public License for more details.

You should have received a copy of the GNU Library General Public License along with this library; if not, write to the Free Software Foundation, Inc., 59 Temple Place - Suite 330, Boston, MA 02111-1307 USA.

Also add information on how to contact you by electronic and paper mail.

You should also get your employer (if you work as a programmer you’re your school, if any, to sign a “copyright disclaimer” for the library, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the library `Frob’ (a library for tweaking knobs) written by James Random Hacker.

<signature of Ty Coon>, 1 April 1990
Ty Coon, President of Vice

Minimum Hardware Requirement - How to calculate S value

Parameter definition:

M: parameter of resolution of camera.

1 Mega-pixel : **M=10**

VGA or D1 resolution : **M=5**

CIF resolution : **M=1**

N: FPS of Camera

S=M*N

For example: 8 channel system

a) 1 camera at 1 Mega-pixel resolution with 10FPS

b) 2 cameras at D1 resolution with 15FPS

c) 5 cameras at CIF resolution with 30FPS

a) M=10; N=10, S=10*10=100

b) M=5; N=15, S=5*15=75

c) M=1; N=30, S=1*30=30

S of All Cam.=1*100+2*75+5*30=400

Therefore, the Minimum Hardware Requirement is **C level**.

Minimum Hardware Requirement

	E	D	C	B	A
S of All Cameras	1200~600	600~480	480~240	240~120	120~
CPU	Intel Core 2 Quad Q6600	Intel Core 2 Duo E6400	Intel Core 2 Duo E5200	Intel Core 2 Duo E5200	Intel Core 2 Duo E5200
RAM	2 GB	1 GB	1 GB	512 MB	512 MB
Motherboard	Intel G31 or above, MB vendor Asus, Gigabyte or MSI with Intel Chipset recommended				
Display	ATi Radeon 9200 , nVIDIA GeForce FX-5200 , Intel 945G/965G or above (ATi recommended)				
Ethernet	100 baseT or above, Gigabit LAN recommended				
Hard Disk	80 GB or above				
OS	MS Windows XP pro sp2 / 2003 / Vista				