ST7501 Free-standard Recording software

User's Manual

32-channel video recording • Records data on to hard disks or networked storage • Local or remote LiveClient

Rev. 1.7.7

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Revision History

Rev. 1.5.2:

* Automatically saves the last layout when the management session is closed (for both LiveClient and Playback).
* Added Playback as one of user's previlege options.
* A web session with an individual camera can be launched by a double-click on a camera's icon.

Rev. 1.6.1:

* Added description for Adaptive Frame Rate Adjustment with the new SVC codec cameras.
* Added description for Auto Stream Size functionality.
* Added functionalities related to FE8171V fisheye camera.
* Added description for fisheye-specific screen control and playback functions.
* Replaced some description for the changes/improvements made on the user interface.
* Modified the graphic size limitation of E-map upload from 5MB to 2MB.

Rev. 1.6.18:

* Corrected editorial errors and added a conceptual drawing for the SVC-T (Temporal) function.

Rev. 1.6.1.11:

* Changed the maximum number of channel number in trial mode to 256.

Rev. 1.7.7:

* Added description for the Bookmark function.
* Added description for the Instant Replay function.
* Reflected changes on the new display and layout design.
* Added Hot key combinations.

Getting Started

Introduction

VIVOTEK ST7501 is the new generation recording software, featuring reliable recording and easy system management for diverse IP surveillance applications. ST7501 has three major components including: ST7501 Server for recording, ST7501 LiveClient for viewing live media data and system management, and ST7501 Playback for browsing the database and retrieving the recorded media data. You can install and run the three components on a single computer, or install them on three separate computers.

ST7501 Server is able to record network video streams up to 32 channels, and ST7501 LiveClient allows for real-time remote monitoring. For video playback, you can use ST7501 Playback to retrieve the database with multiple advanced functions such as searching, browsing, and exporting. With ST7501 LiveClient and ST7501 Playback installed on other computers in different locations, you can have live viewing and database access for more efficient video management. Working seamlessly with VIVOTEK network cameras and video servers, ST7501 recording software provides you with a reliable and seamless video surveillance system.

Special Features

- Convenient Remote Access via Client/Server Architecture
- Intelligent PiP Function -- Digital Zoom In and Multi-touch Mode
- Convenient Remote Access via Client/Server Architecture
- Effective & Reliable Event Trigger Management
- Real-time 32-channel Live Viewing and Simultaneous 16-channel Playback
- Multiple Simultaneous Streams for Different Media Platforms
- Activity Adaptive Streaming for Dramatically Reducing Bandwidth and Storage Space
- Extremely Versatile Settings for Recording Storage and Recording Schedule Management
- Role-based User Management to Enhance Security Operations
- Efficient Data Backup, Search, and Export
- Intelligent PTZ/ E-PTZ Remote Camera Control
- Overall Device Management through Intuitive E-map Feature
- Instantly Playback Event Recording
- Supports Web Access via IE and FireFox
- Built-in Instant Player for Playback
- Supports Post-Video Enhancement and Defog
- Accessible through NAT Using the Public IP
- Supports Two Way Audio
- Supports Auto Stream Size
- Supports SVC adaptive frame rate setting
- Bookmark function to mark a specific point in time during playback with event description.

* The number of linked devices will depend on the license on the key dongle.

* The ability to extend devices is also subject to the network bandwidth and computer performance.

Server and Client Components

There are two components in ST7501: **LiveClient and Playback**.

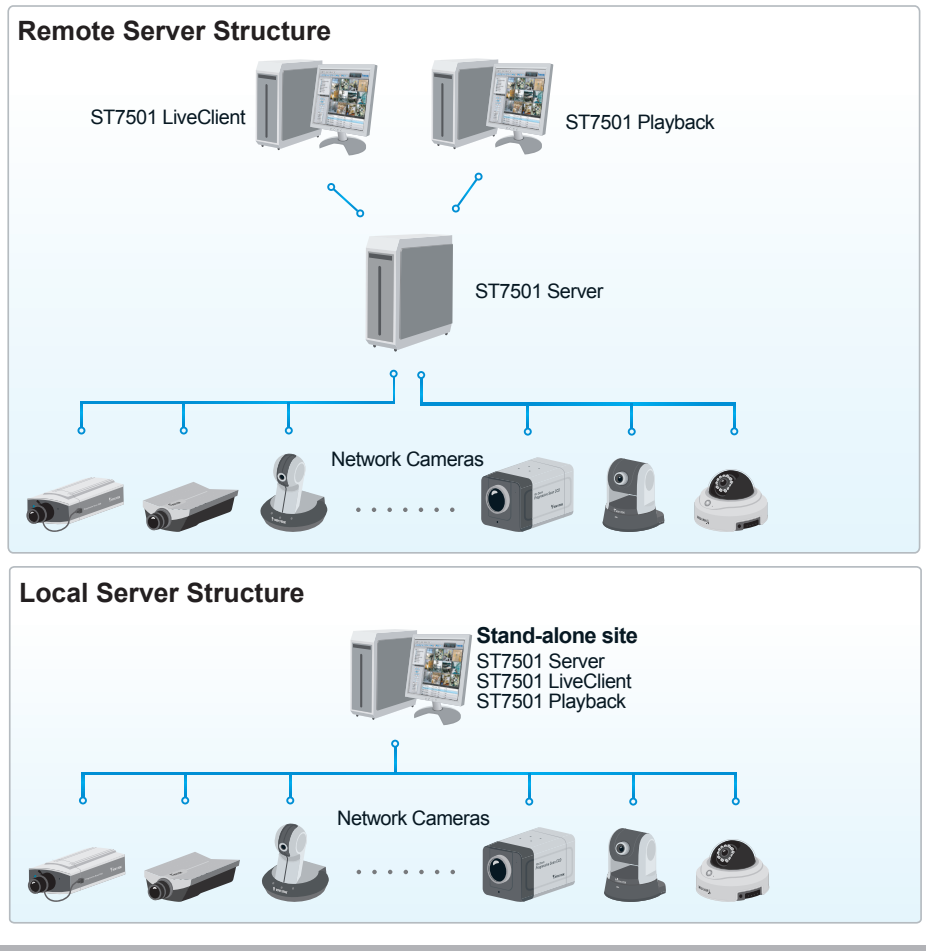
The **Server** provides a centralized management site for video recording. **LiveClient** is a client program for the user to login and modify the server's configuration, edit the server's recording storage, schedules and many other functions on the server; **Playback** is another client program for the user to login and browse the recorded video database and video clips related to specific events on the server.

Usage Scenario

The three components can be installed separately or combined together on the same host. You can just install the components you need on your local host. For example, you can only install ST7501 LiveClient on your local computer to monitor the live video from a remote ST7501 Server; or you can only install ST7501 Playback on another local computer to login to a remote server to review recorded videos.

For users that only manage a few cameras, we recommend installing the client and server components on the same computer. A host with all of the three components installed is recognized as a stand-alone site. All the functions can be simultaneously performed on one single site.

Shown below is the usage scenario of ST7501 Server and client components.



Technical Specifications

Features

• Client/Server for Remote Video Management	• Easy Snapshot & Export Functions
• Real-time 32-channel Live Video Monitoring	• Effective & Reliable Event Trigger Management
• 16-channel Playback	• Overall Device Management through Intuitive E-map Feature
• Flexible Layout Types	• Two-way Audio, Multi-channel Audio Broadcast
• Integrates with All VIVOTEK Network Cameras	• Instant Replay & Playback on LiveClient
• Supports Multiple Streams for Live Viewing and Recording	• Auto Stream Size Function for Reducing Display Loading
• PTZ/ePTZ Function Control by Control Panel & Mouse	• Directly Set up Basic Parameters for Cameras

Technical Specifications

ST7501 Server

• Serves as a video management site	• Feeds live video to the local/remote LiveClient users
• Performs 32-channel video recording	• Feeds recorded video to the local/remote Playback users
• Provides recording in multiple hard disks	• Zero waiting database recovery after unpredictable crash or power failure

ST7501 LiveClient

- Login to the ST7501 server
- Controls the server functions
- Manages user accounts of the server
- Edits the recording groups of the server
- Provides powerful monitoring window
- Dual screens for maximum 32 channels simultaneous monitoring
- 1x1, 2x2, 1+5, 3x3, 1+12, 4x4, 5x5, 1+31, 1P+2, 1P+6, 1P+8 monitoring layouts
- Multiple video viewing pages and page switching
- Supports convenient evidence exporting
- Exports media files of recorded video
- Supports snapshot and print out
- Supports convenient multiple monitor switching
- Provides PTZ operation panel for PTZ camera control
- Remote configuration for network cameras
- Log settings for security concern
- Event pop-up window based on event triggers
- Instant Replay & Playback on LiveClient
- Auto Stream Size Function for Reducing Display Loading

32-channel Live Video Monitoring

ST7501 Playback

- Login to the ST7501 server
- Browses the database of recorded video from the server in day base
- Provides convenient playback window
- Maximum 16-channel playback
- 1x1, 2x2, 1+5, 3x3, 1+12, 4x4 playback layouts
- Supports powerful playback functions
- 1/8, 1/4, 1/2 slow-down playback
- 2, 4, 8, 16, 32, 64 speed-up playback
- Supports convenient evidence exporting
- Exports media files of recorded video
- Supports snapshot and print out
- Supports convenient multiple monitor switching
- Powerful search engine
- Time Search
- Event Search
- Bookmark Search
- Log Search

16-channel Playback

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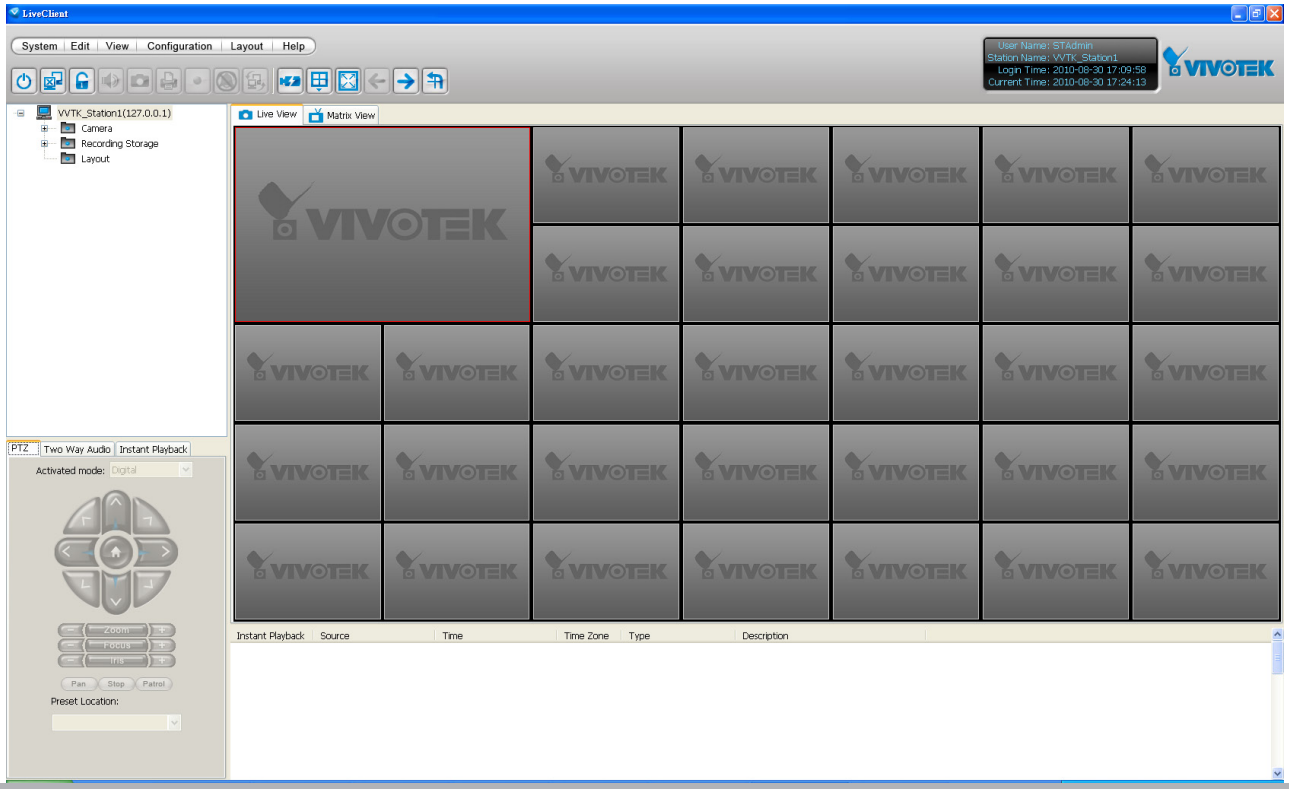
Server Functionality

- Serves as a remote video management site for all the logged in clients
- 32-channel video recording
- Store recorded data onto multiple hard/network disks
- Live video for the local/remote LiveClient users
- Recorded video for the local/remote Playback users
- Zero latency database recovery

To configure the server, you should use ST7501 LiveClient to log in. The convenient and intuitive user interface in ST7501 LiveClient will enable you to edit the settings of the target server.

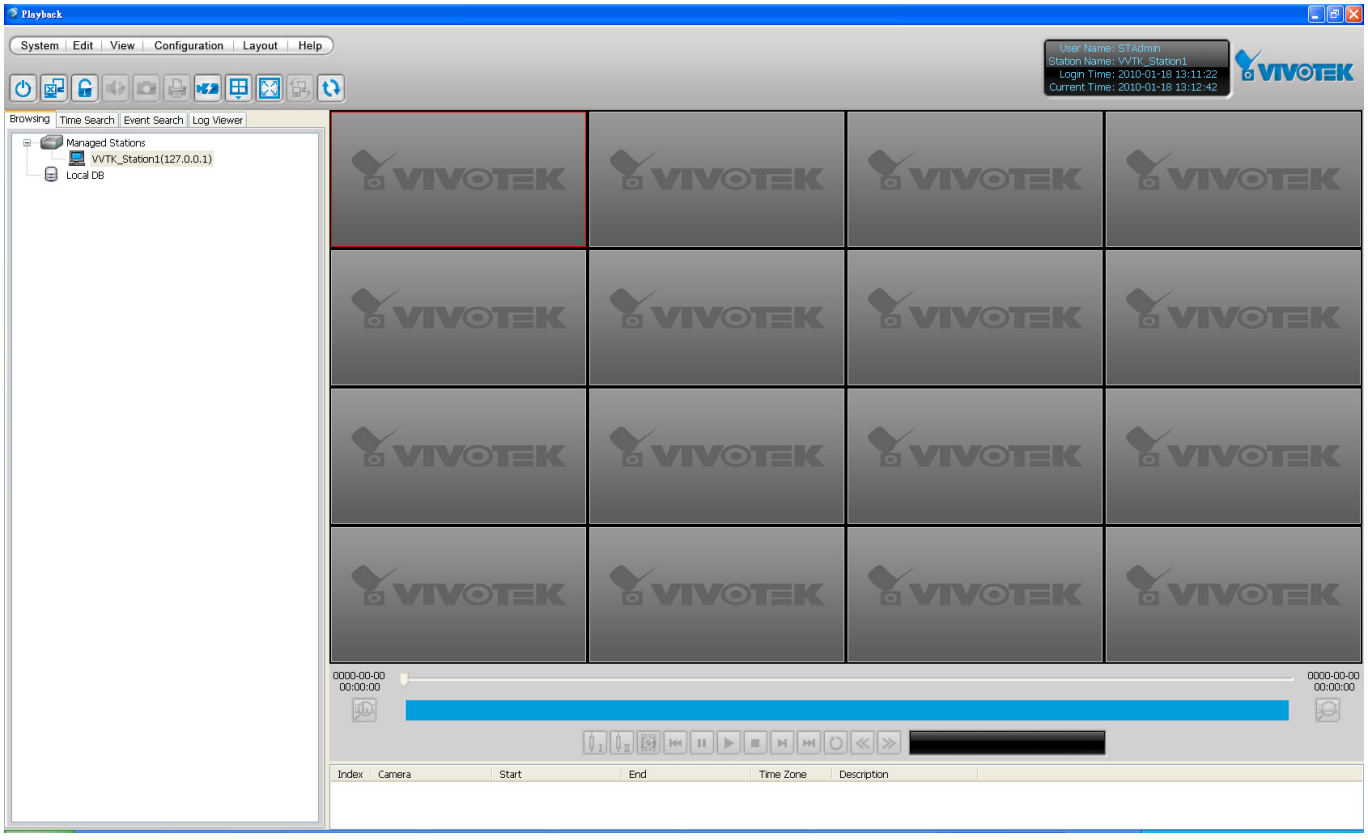
LiveClient Functionality

- Server function control
  - User account management
  - Recording storage management
  - Recording schedule management
  - Recorded data backup
  - Event trigger management
- Flexible video live view layout
  - Dual screens for a maximum of 64 or more channels for simultaneous monitoring
  - 1x1, 1P+2, 2x2, 1+5, 1P+6, 3x3, 1P+8, 1+12, 4x4, 5x5, 1+31 monitoring layouts
  - 1P+2, 1P+6, and 1P+8 Panoramic PTZ layouts
  - Multiple video viewing pages
- Intelligent PiP function
- E-map for overall management
- Network storage for recorded video
- Convenient switching among multiple monitors
- PTZ / E-PTZ operation panel for camera control
- Supports two way audio
- Instant playback for event recording
- Instant replay for immediate playback
- Supports joystick control
- Remote configuration for network cameras



Playback Functionality

- Browse the database of recorded video from the server
- Flexible video playback layout
  - Maximum 16 channels with simultaneous playback
  - 1x1, 2x2, 1+5, 3x3, 1+12, 4x4 video playback layouts
- Supports powerful playback functions
  - 1/8x, 1/4x, 1/2x slow-down playback
  - 2x, 4x, 8x, 16x, 32x, 64x video playback speed
- Intelligent PiP function
- Supports convenient evidence and data exporting
  - Export media files of recorded video
  - Supports snapshot and print out
- Supports convenient switch among multiple monitors
- Search engine:
  - Time search
  - Event search
  - Bookmark search
  - Log search
- Playback while recording



Minimum System Requirements

Before installing the software, please make sure your system meets the following recommended minimum system requirements.
If you would like to install ST7501 Server only, please follow the requirements as below:

Server			
Operating System	Windows Server 2000, 2003, 2008 / Windows XP Professional (32 and 64 bit), Windows Vista Business (32 and 64 bit), Windows 7 (32 and 64 bit)		
Recording Channels	Below 32 CH	32 ~ 64 CH	64CH
CPU	2nd Generation Intel® Core™ i3 Processors	2nd Generation Intel® Core™ i5 Processors	2nd Generation Intel® Core™ i7 Processors
RAM	2 GB or above	4GB or above	4GB or above
Network Interface Card	Ethernet, 1 Gbit recommended		
Graphics Adapter	DirectX 9 compatible 1GB graphics card		
Hard Disk Type	SATA, SCSI, SAS (7200 rpm or faster) in NTFS format		
Hard Disk Space	750 GB free *		

If you would like to install both the server and client programs, please follow the requirements as below:

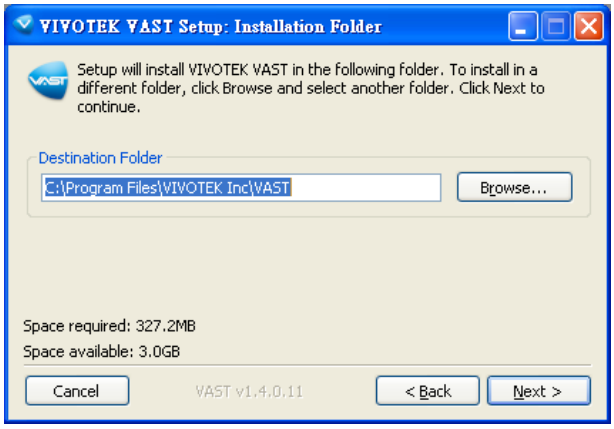
LiveClient and Playback			
Operating System	Windows Server 2000, 2003, 2008 / Windows XP Professional (32 and 64 bit), Windows Vista Business (32 and 64 bit), Windows 7 (32 and 64 bit)		
Channels	8 CH	16 CH	24 CH
CPU	2nd Generation Intel® Core™ i3 Processors	2nd Generation Intel® Core™ i5 Processors	2nd Generation Intel® Core™ i7 Processors
RAM	2 GB or above	4GB or above	4GB or above
Network Interface Card	Ethernet, 1Gbit recommended		
Graphics Adapter	DirectX 9 compatible 1GB graphics card		
Hard Disk Type	SATA, SCSI, SAS (7200 rpm or faster) in NTFS format		
Hard Disk Space	750 GB free *		

- *Only users with Administrator privileges can install or use ST7501 on a Windows Vista system.*
- *The required hard disk space will depend on the video settings, the number of network cameras and recording group settings. Please add more hard disks if you want to extend the system.*
  Below are approximate numbers for a week-long recording. The actual storage space required also depends on imaging parameters, e.g., a complex retail environment that involves many moving objects requires more pixel data to be transmitted over network than a simple environment such as a parking lot.
  32-CH, VGA, about 1 week recording: 750 GB
  32-CH, 2-megapixel, about 1 week recording: 2TB x 2

Software Installation

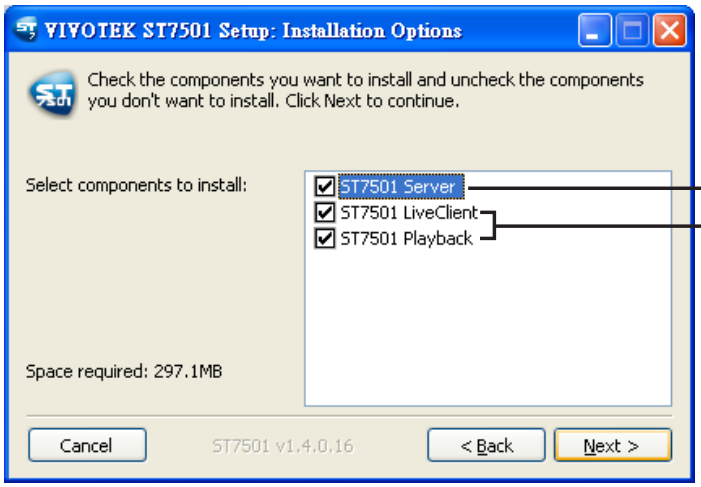
Installing the Software

1. Run **ST7501_Setup.exe** on your computer. Click **I ACCEPT** the License Agreement and specify a location to install the program.

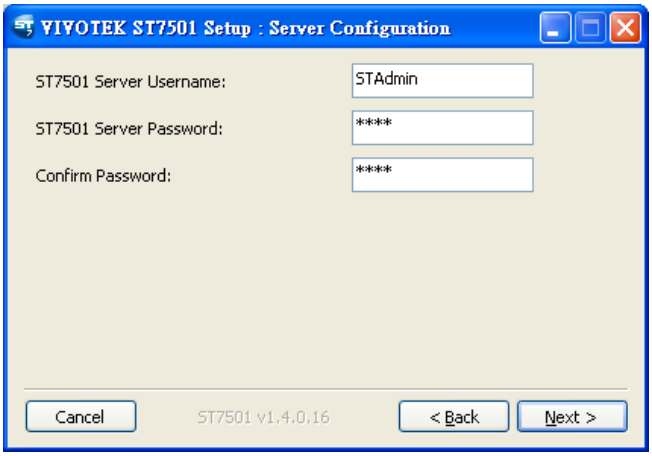


2. Select the items you want to install, then click **Next** to continue.

■ If you want to install both Server component and Client components, please follow the steps below to install the database.



3. Assign a **username** and **password** for the Server and click **Next** to continue.



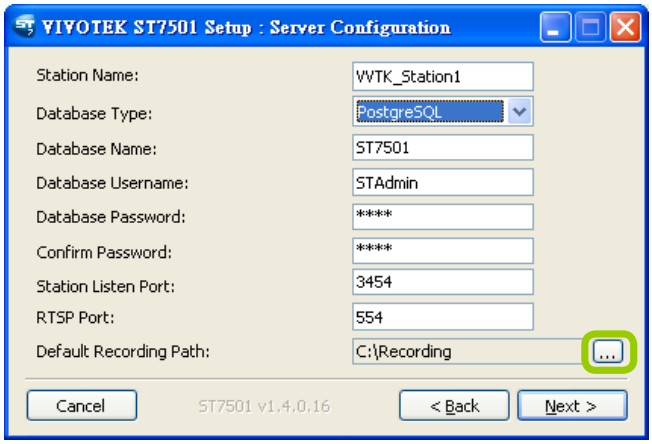
Please record the user name and password for login later.

4. Install a database on your server. There are two options--**PostgreSQL** (8.2 version or above) or **SQL server** (2005 express version or above). In order to avoid conflicts among different databases, we suggest you remove the original database from your host. Then follow the instruction below to install PostgreSQL or SQL server.

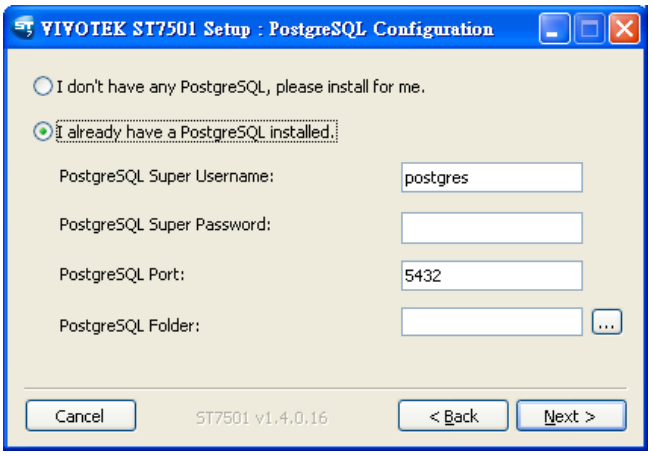
PostgreSQL

Please note that PostgreSQL may interrupt an antivirus program.
Follow the steps below to install PostgreSQL Server:

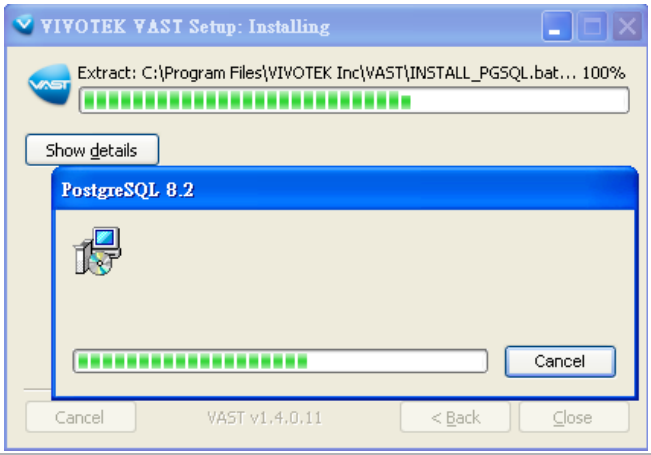
a. Select PostgreSQL from the drop-down list and assign a password. The server will by default store the recorded media file under c:\Recording. Click **Browse** ... to change the path if you plan to store the video data to another folder. Then click **Next** to continue.



b. If you do not have PostgreSQL, select the first option to begin the installation. If you already have PostgreSQL installed on your host, select the second option to enter the related information.



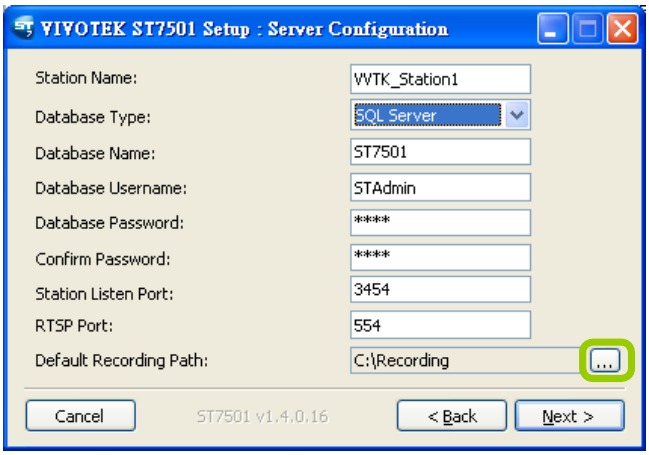
c. Wait for the installation process to complete, then click **Close** to exit the installation program.



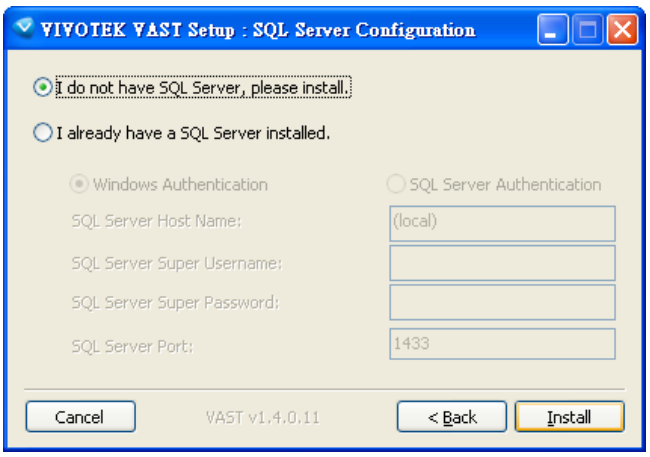
SQL Server

Follow the steps below to install SQL Server:

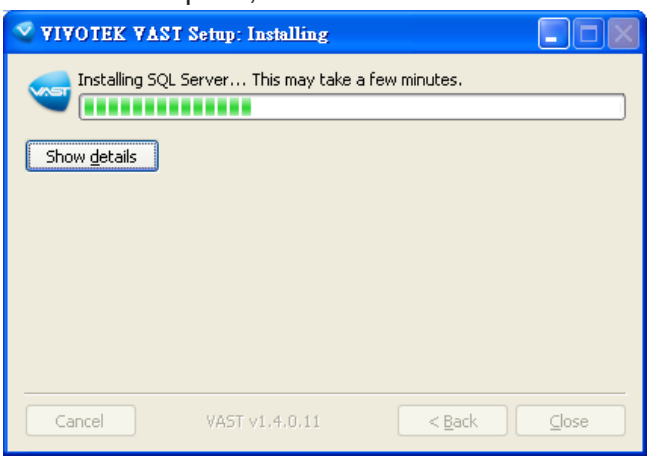
a. Select SQL Server from the drop-down list and assign a password. The server will by default store the recorded media file under c:\Recording. Click **Browse** ... to change the path if you plan to store the data under another path. Then click **Next** to continue.



b. If you do not have SQL server, select the first option to begin the installation. If you already have SQL server installed on your host, select Windows authentification or SQL Server authentification. (Username and Password may be necessary according to the settings when you install the SQL server.) Click **Install** to begin the installation.



c. Wait for the installation process to complete, then click **Close** to exit the installation program.



Once you have created a user account for an ST7501 station, you can login to Server from any computer over the network through LiveClient and Playback.

ST7501 Server

Activating the Server

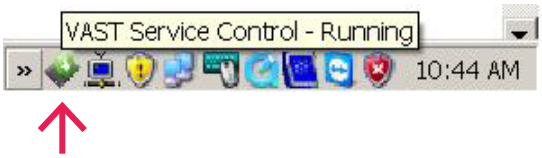
The server is a service program that will run automatically when your ST7501 station starts. Users can also deselect the Auto launch option at windows startup on the Service Control program tray. The program tray icon can be located on Windows tool bar.

How to Configure the Server

Please follow the steps below to configure the Server:
1. Find a local/remote computer that has installed LiveClient.
2. Activate LiveClient and login to the target Server.
3. Configure the server using the LiveClient user interface.

How to Stop/Reboot the Server

Please follow the steps below to stop/reboot the server:
1. Click on the ST7501 Service Control program tray icon in the toolbar.



2. There are 3 options: Start Service, Stop Service, and Restart Service. It's selectable by a right-click on the Service Control program tray icon.

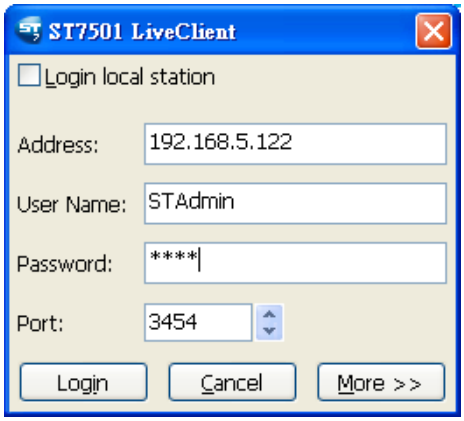
LiveClient Configuration

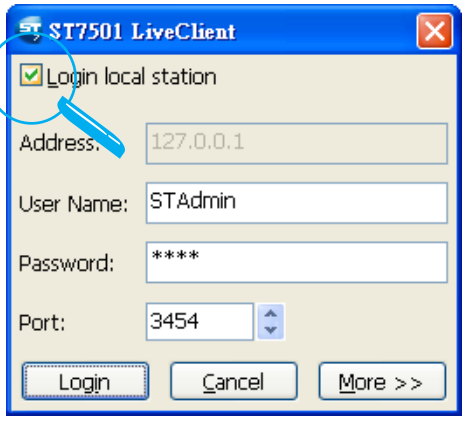
Activating the LiveClient and Logging in to a Server

LiveClient allows you to monitor live video from cameras managed by the software Server; it is also the main user interface for server function control.

After installing the LiveClient program, please follow the steps below to activate LiveClient:

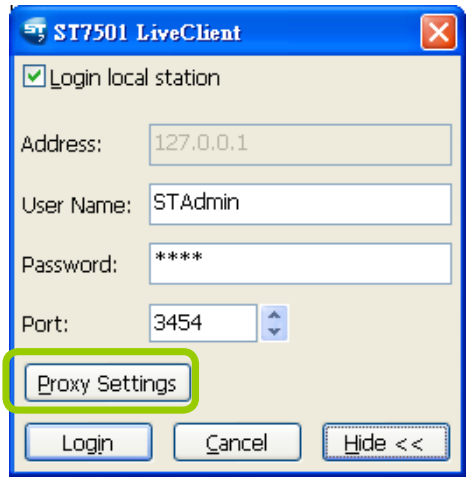
1. Run the **LiveClient** program.
2. A **Login** window will pop up. Enter the information as shown below:
   - If you want to login to a remote Server, enter the **IP Address**, **User Name**, **Password** and the **Communication Port** of the target server correctly. Click **Login** to log in to the target server.
   - If you want to login to a local host that is running Server, check the **Login local station** checkbox, then the local **IP Address** will be displayed automatically. Enter the **User Name**, **Password**, and **Communication Port** of the local server for login. Click **Login** to login to the target server.

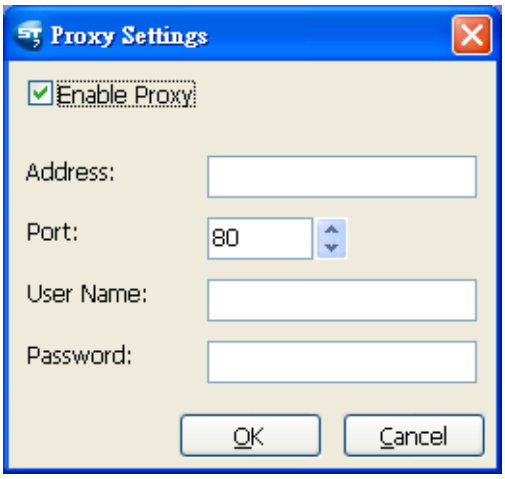




3. The LiveClient monitoring window will prompt.

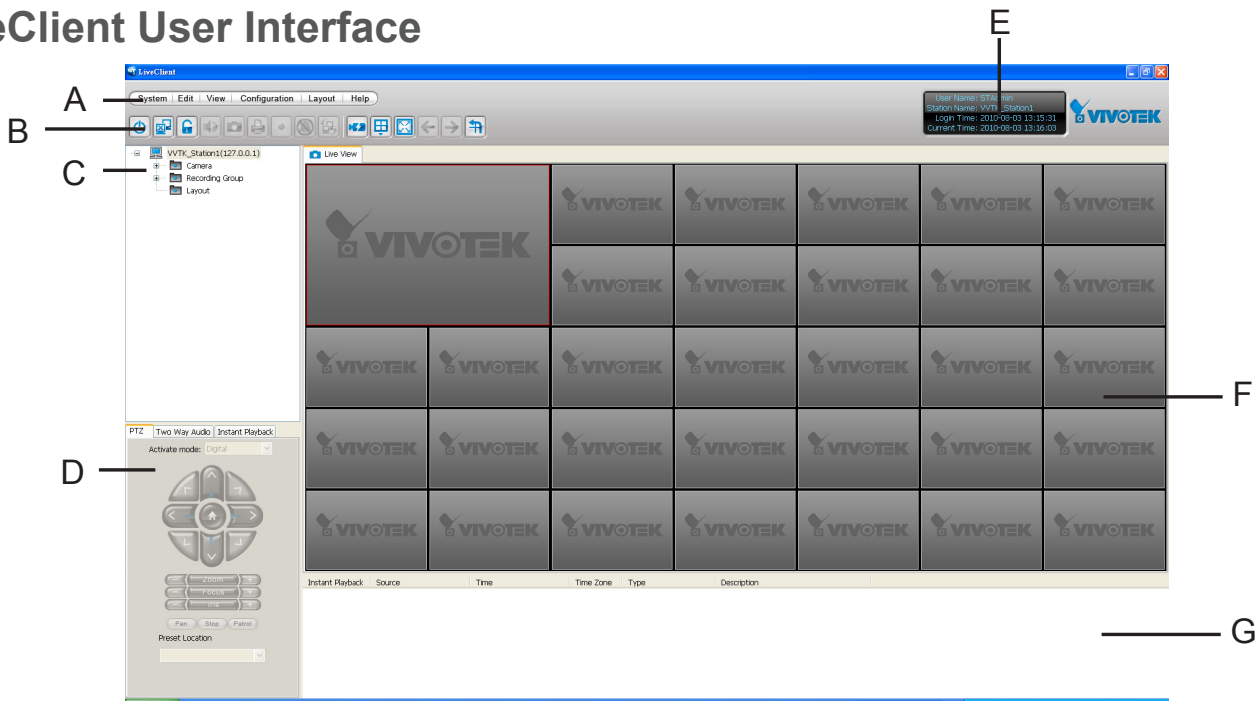
- *If your network environment need to set up proxy, click **More >>** to extend the login window, then click **Proxy Settings** to open the dialog. Then enter related information to link to your proxy server.*





- *Available functions of the LiveClient program will be enabled according to the role of your login account. For more details about the privileges of the user account, please refer to **How to Manage User Accounts** on page 65.*

LiveClient User Interface

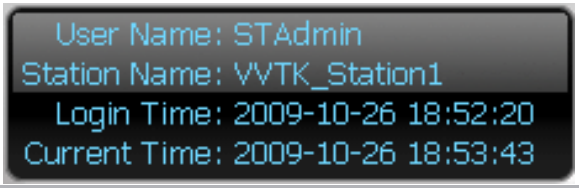


A. Menu bar B. Quick access bar C. Device tree
D. Camera control panel (PTZ / Two way audio / Instant Playback control panel)
E. Status panel F. Live video monitoring window G. Event window

Menu Bar

Menu Item	Drop-down Options
System	Lock / Enable Click On Image (Disable Click On Image) / Language / Second View / E-map / Launch Playback / Logout / Exit
Edit	Manually Begin Recording (Stop Manual Recording) / Snapshot / Print / Record to EXE (3GP, AVI) / Snapshot Zoomed Image / Print Zoomed Image / Find
View	PTZ Panel / Two Way Audio Panel / Instant Playback Panel / Event Window / Full Screen / Minimize / Matrix View
Configuration	Camera Management (Insert Camera / Update Camera / Delete Cameras / Batch Insert Cameras) / Station Management / User Management / Association Management / Event Management / Station Settings (General Settings / Network Settings / Recording Storage Settings / Recording Schedule Settings / Scheduled Backup Settings / Server Settings / Relay Settings) / Client Settings (Snapshot Settings / Recording Settings / View Settings / General Settings / Joystick Settings / Proxy Settings / PiP Settings) / Video Enhancement (Basic Image Adjustment / Defog)
Layout	Start Rotating (Stop Rotating) / Save to / Delete / Choose
Help	About / License

Status Panel

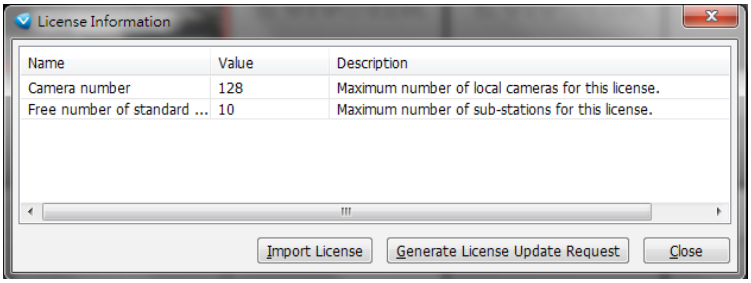


User Name
Station Name (IP Address)
Login Time (yyyy-mm-dd hh:mm:ss)
Current Time (yyyy-mm-dd hh:mm:ss)

Help Panel

The Help panel provides software revision information and the access to the associated iViewer software in either the iOS or Android version. You can also click on the License button to review the number of cameras and manageable substations.

If necessary, you may also use the Import License button to activate the functionality you separately purchased or generate a request for a license request.



Quick Access Bar

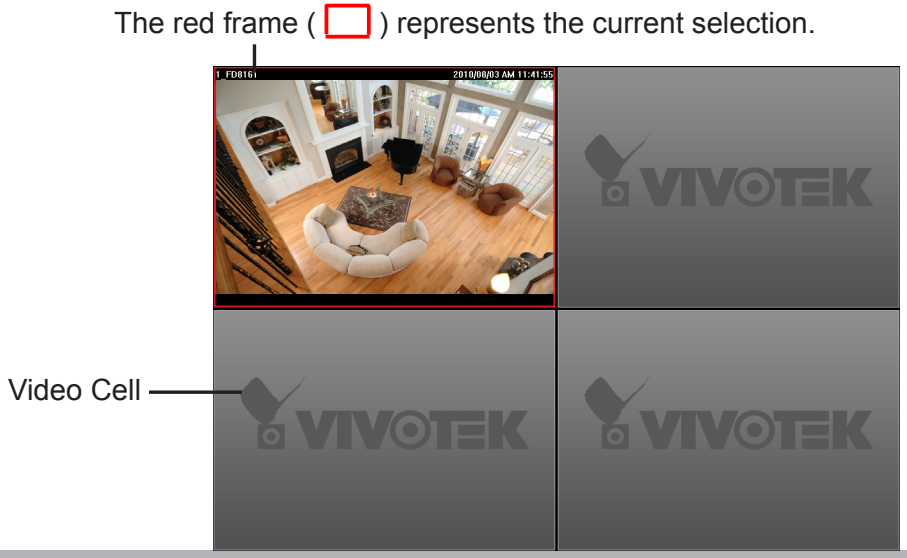
Icon	Function	Description
	Exit	Exit the system
	Logout	Log out from the current station
	Lock	Click to Lock the system for security concerns (Unlock the system)
	Volume	Adjust the audio volume of the current video (Mute)
	Snapshot	Capture pictures from the focus live video cell
	Print	Print out the pictures of focus live view window or all live video cells
	Record to Media	Record media in EXE/3GP/AVI format (Recording Media)
	Alert Sound	Play sound when an event triggers
	Switch Screen	Switch the current window to another screen
	Adjust SVC Level	Dynamically adjust the SVC control over frame rates
	Remove All Connections	Remove all live videos from the live view window
	Layout	Change the layout of the live view window
	Full Screen	Maximize the live video cell
	Page Up	Switch to the previous live view page
	Page Down	Switch to the next live view page
	Start / Stop Rotating	Start or stop live view layout rotating

Some buttons will be disabled if the selected devices do not support the corresponding functions.

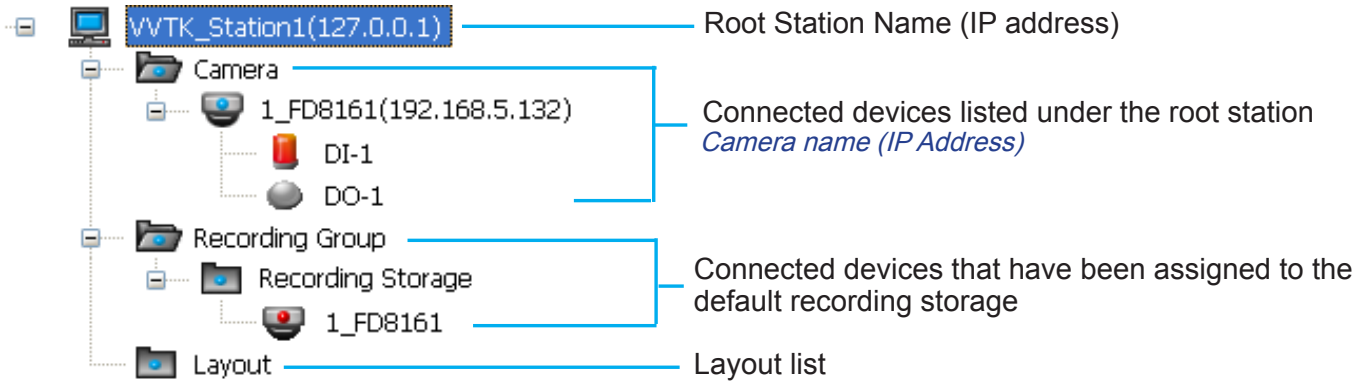
Live Video Monitoring Window

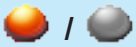
The "VIVOTEK" logo is displayed where no camera has been assigned to a video cell.

The red frame ( ) represents the current selection.



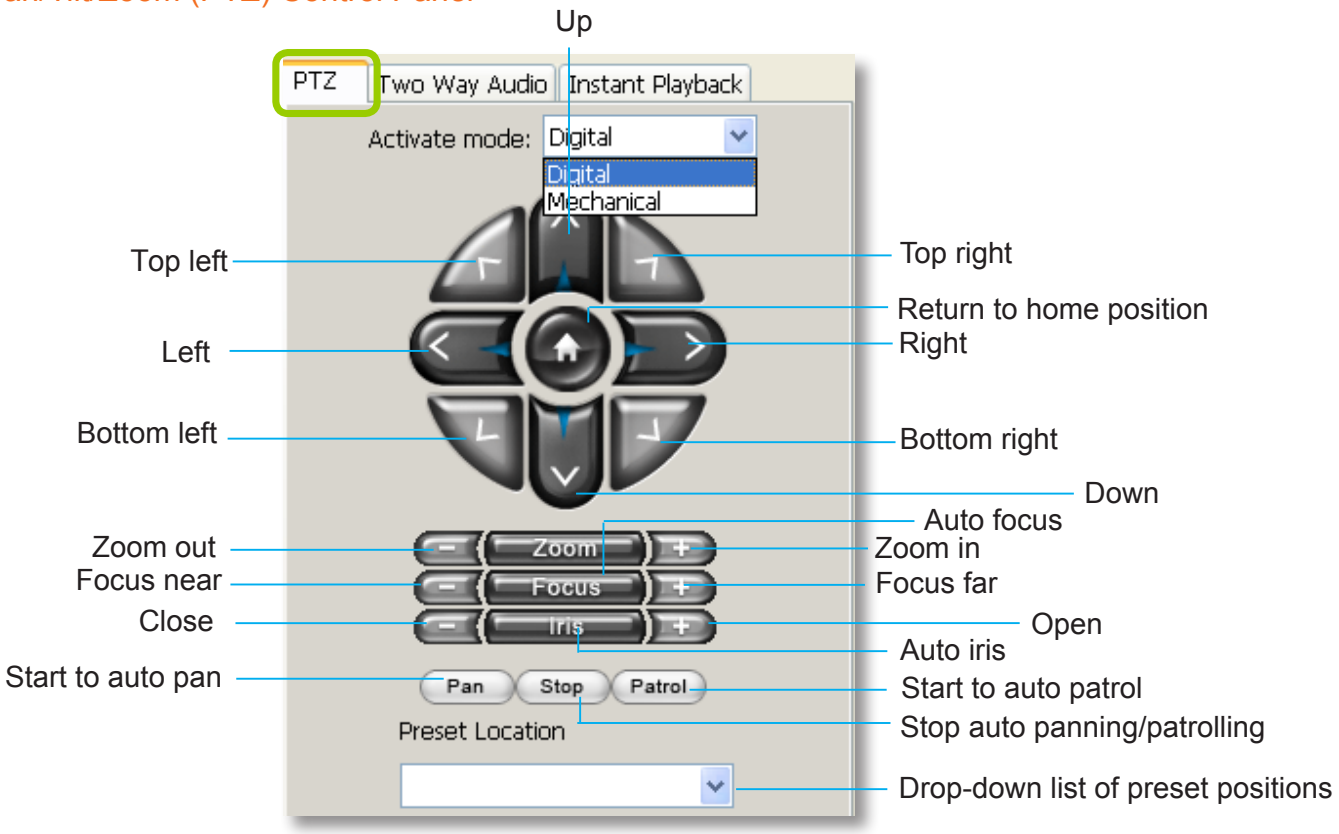
Hierarchical Management Tree



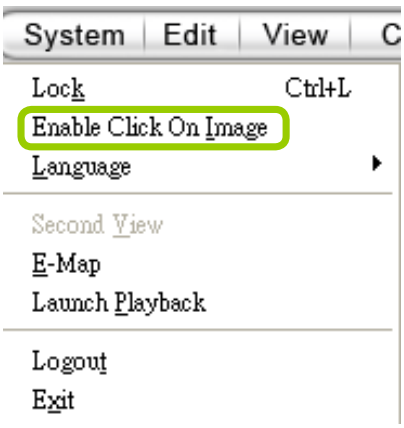
Icon	Description
	A station (The host that's installed with ST7501 Server)
	VIVOTEK fixed network camera Red dot signifies that the camera is recording.
	VIVOTEK PTZ network camera Red dot signifies that the camera is recording.
	VIVOTEK dome network camera Red dot signifies that the camera is recording.
	VIVOTEK fisheye network camera Red dot indicates that the camera is recording.
	VIVOTEK video server Red dot signifies that the video server is recording.
	Digital input on / off
	Digital output on / off
	A layout of the live monitoring window
	A station that's not able to be connected currently.
	A device that's not able to be connected currently.

Camera Control Panel

Pan/Tilt/Zoom (PTZ) Control Panel



- *There are two types of PTZ control: Digital (E-PTZ for megapixel cameras) and Mechanical (PTZ cameras or fixed cameras with camera control via RS-485). If the connected cameras support PTZ/E-PTZ function, the PTZ option(s) will appear on the drop-down list. For detailed camera control settings, please refer to the user's manual of VIVOTEK network camera .*
- *Click **System > Enable Click On Image** to use the mouse for the control of the PTZ and e-PTZ functions in the video cells for linked cameras. An icon will appear in the video cell as shown below.*



- *You can control the PTZ function through joystick as well. For more information regarding to the joystick configuration, please refer to instructions on page 135.*

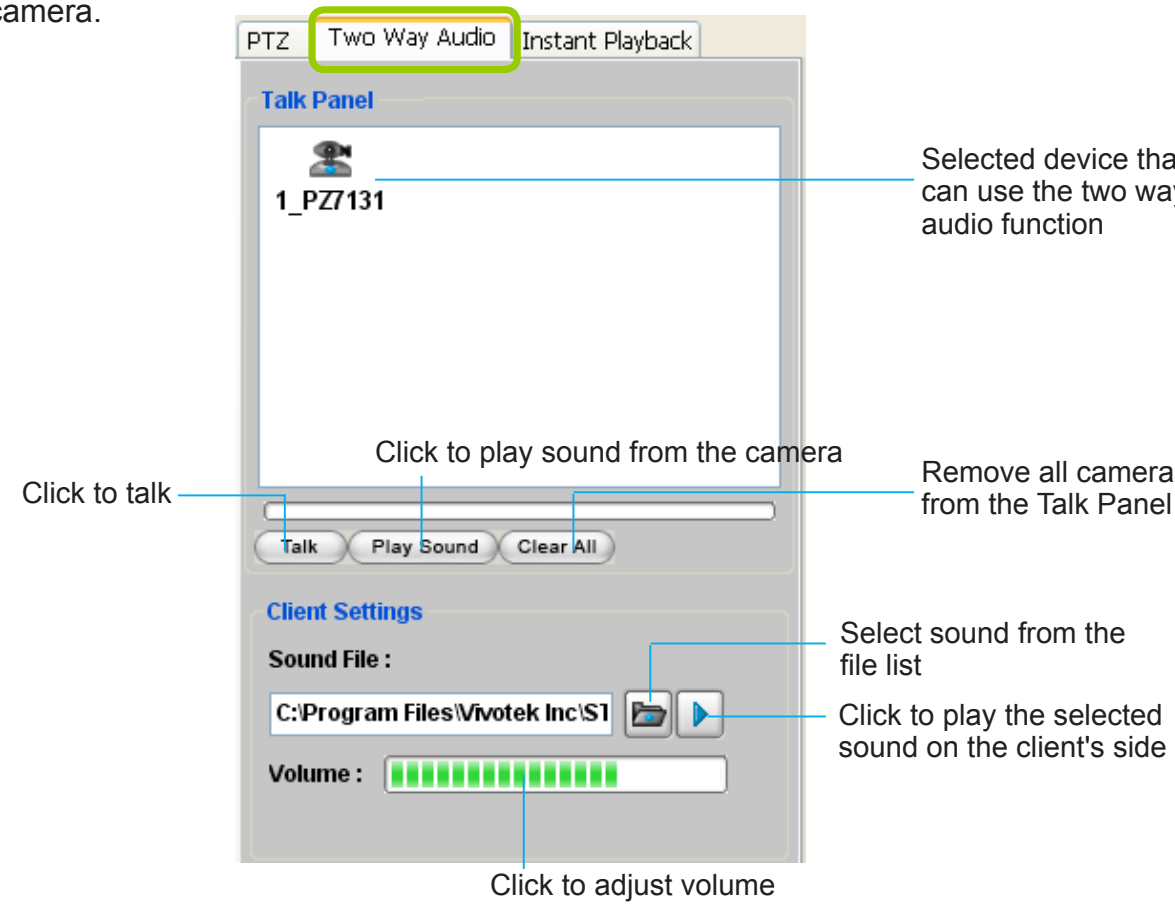
In addition to the PTZ panel, the following hot key combinations are also available:

Ctrl + NumPad (PTZ control)		
Up	Ctrl + 8	
Left	Ctrl + 4	
Home	Ctrl + 5	
Right	Ctrl + 6	
Down	Ctrl + 2	
Focus (Far - Near)	Ctrl + 1	Ctrl + 3
Zoom (Out - In)	Ctrl + 7	Ctrl + 9
Pan	Ctrl + /	
Stop	Ctrl + *	
Patrol	Ctrl + -	

Preset locations (pre-configured by users)	Ctrl + 0~9 (number keys above the alphabetic keys)
Full screen	Ctrl + F
Single view	Ctrl + V
Previous layout page	Alt + PageUP
Next layout page	Alt + PageDown
First layout page	Alt + Home
Last layout page	Alt + End
Snapshot	Ctrl + S
Stop alarm	Ctrl + A
Mute audio from current stream	Ctrl + M
Start/ Stop rotation	Ctrl + O

Two Way Audio Control Panel

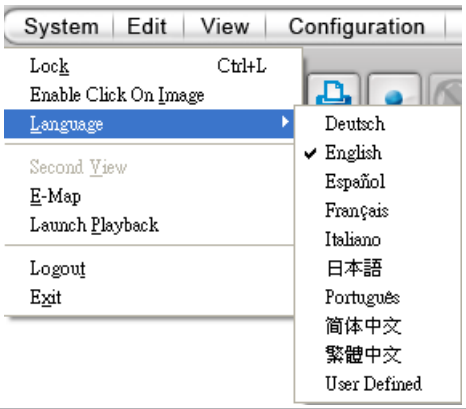
The two way audio function allows the user to remotely communicate with people nearby the network camera.



- *For detailed information about **How to Use the Talk Panel**, please refer to page 110.*
- *Only cameras that come with the two way audio function can be added to the Talk Panel.*

Language Selection

The software currently supports multi-lingual user interfaces including: English, Deutsch, Español, Français, Italiano, 日本語, Português, 簡体中文, 繁體中文. If you want to select another language for the interface, please click **System > Language** on the menu bar to select the desired language. Please note that if you want to change the language option, a message will prompt to remind you to restart the system.

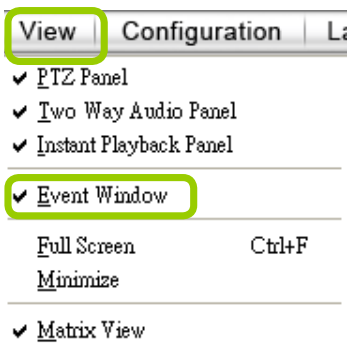


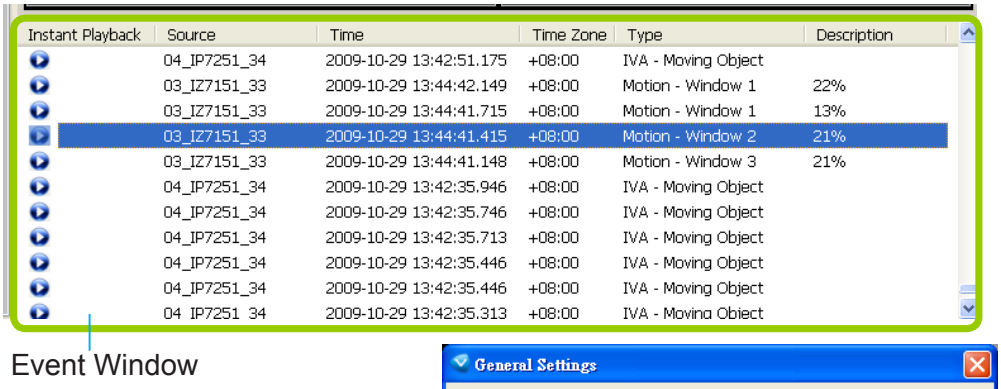
If you want to use "User Defined" language, please prepare images and language strings, and upload the files to the following folders:

...\ST7501\Client\LiveClient\language\zz_UD (language string)
...\ST7501\Client\LiveClient\image (images)

Event Window

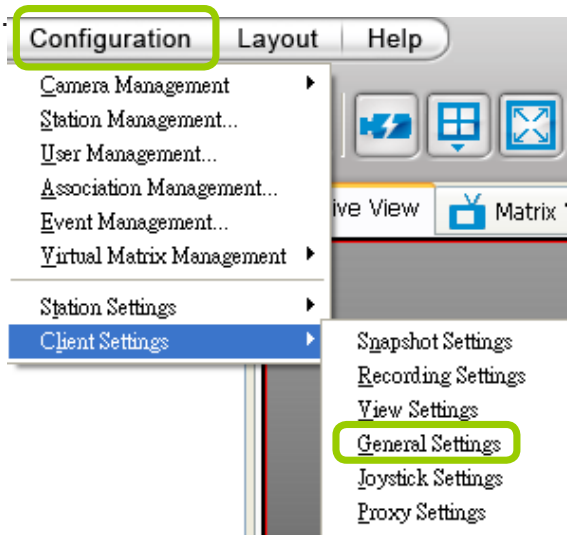
Click **View > Event Window** to open a window showing the real-time information for event triggers. If you want to hide this window, deselect this option on the menu bar.

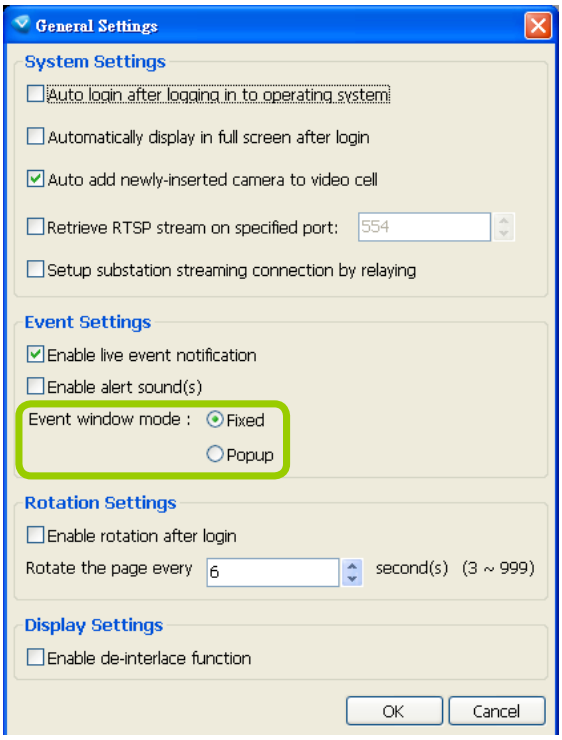




Event Window

The default event window is fixed on the bottom of the LiveClient. If you want to change the event window as a popup page, please click **Configuration > Client Settings > General Settings** to switch the modes.



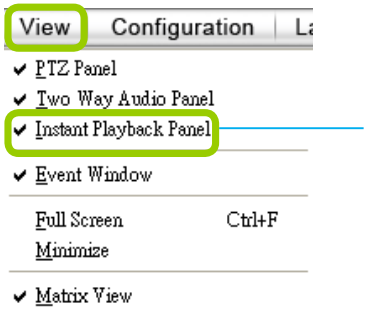


- The **Type** field in the event window shows the event category and another field **Description** displays the **percentage** of motion in the detection window. You can go to the Configuration setting page of the connected device to set the percentage.

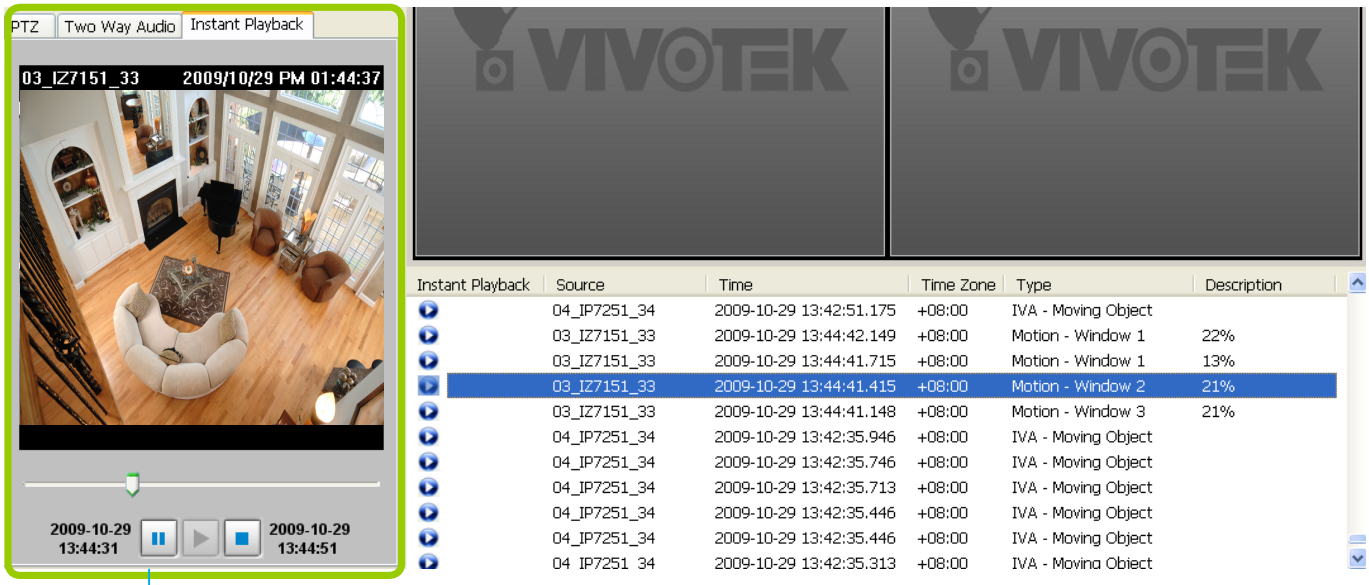
*For more information about DI/DO settings, please refer to **Association Management** on page 70.*

Instant Playback

Check **View > Instant Playback** to open the window on the panel. The entries listed in the Event panel are the short recordings made from triggered events.



Uncheck this item if you want to hide this window.



Instant Playback Window with a slide bar, play, pause, and stop function

The recorded media that was triggered by an event will be indicated with an icon.

You can **double-click** an event on the list to playback the recorded video. Each event contains about 20-seconds recorded video clip. (The default recording data of an event is 20 seconds. For more information about event recording, please refer to page 83.)

Instant Replay

If a camera is currently recording to the NVR, then a Replay button will be available at the lower left corner of its view cell. This allows you to immediately retrieve the video recording in the past 30 seconds.

The Instant Replay function enables you to quickly retrieve videos of what has just happened (20 seconds to 15 minutes ago), without the need to open the Playback utility for the past videos.

Prerequisites for Instant Replay:

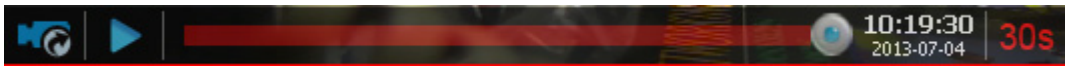
1. The function is enabled by default, only available on a LiveClient installed on a PC.
2. There must be recorded videos of the immediate past. If the video streams from a camera were not recorded, you can not retrieve videos using the Instant Replay function.

NOTE:

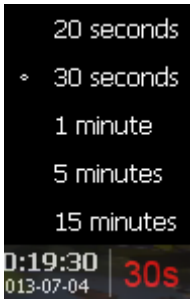
1. When using the Instant Replay function and you change the stream number on a video cell, the Instant Replay will be interrupted.
2. The Instant Replay will also be interrupted when the time comes for a rotation of Live View pages. For example, if you have multiple Live View pages and you set up a rotation of these pages by every 10 seconds, page swap (rotation) still has a higher priority even if you are viewing the Instant Replay.

How to Use:

1. On a selected view cell, mouse over to the lower left corner. A Replay icon will appear.
2. Click on it to display the Replay control bar. Click on the play button.



3. The default queue length is 30 seconds. You can click on the number on the right to change the queue length.



The queue length configuration stays with the view cell, and it will not go unless you remove and insert the camera again.

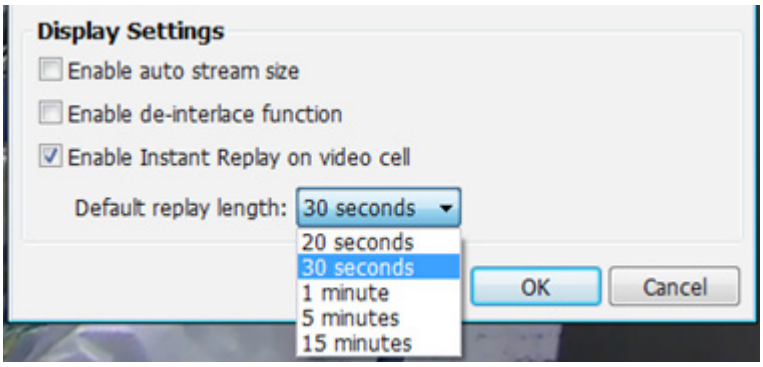
4. To stop the Replay and return to the Live View, click on the Return to Live button.

5. On a Replay view cell, you can apply the same Snapshot, Print, Single view and Full screen control as those on a normal view cell. You can also right-click to display the Display Mode and Video Enhancement functions.

   Click and drag the playhead to skip or move to a different point in time on the playback.

An active Replay view cell is indicated by the Replay text indicator and the time of occurrence of the current playback.

To change the default Replay settings, open the Configuration > Client Settings > General Settings menu.



Audio Control

The audio function will be enabled if the device is equipped with an internal or external microphone. For detailed audio control settings, please refer to page 138.

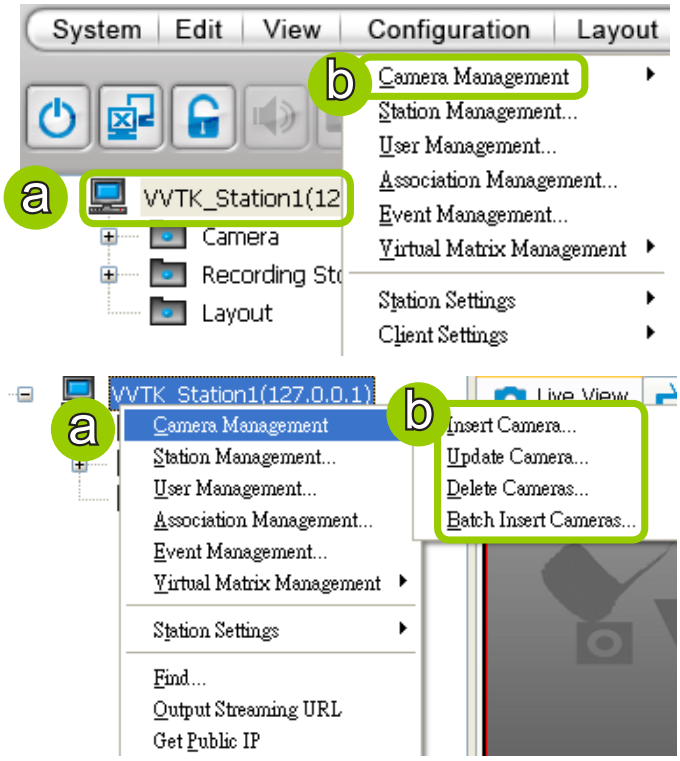
How to Manage Devices

Please follow the steps below to open the Camera Management window:

a. Select the station from the hierarchical management tree.

b. Click **Configuration > Camera Management** on the menu bar (or **right-click** the station, then select **Camera Management**).

c. Then you can choose to insert, update, delete, or batch insert cameras.



Insert Cameras

Please follow the steps below to add devices to a station:

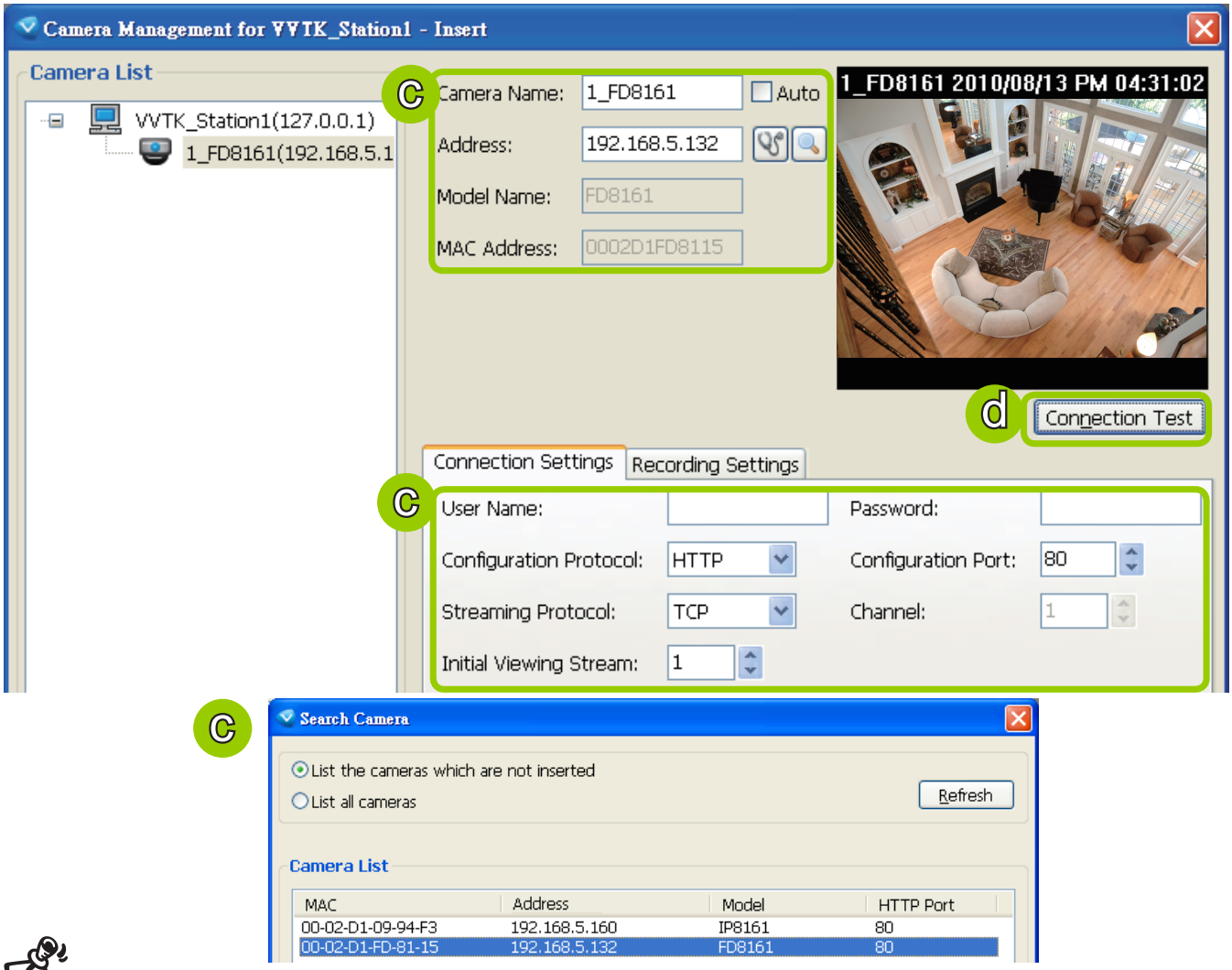
a. Click **Configuration > Camera Management > Insert Camera** on the menu bar (or **right-click** the device/station, then select **Camera Management > Insert Camera**).

b. The **Camera Management - Insert** window will pop up. The device tree managed by the station will be displayed in the left Camera List window.

c. Enter the **Camera Name**, **IP address** (or you can enter an **IP address** and check **Auto** to get a camera name automatically) and configure the **Connection Settings**.

- If the camera is on the LAN, you can click **Search Camera** to detect all VIVOTEK network cameras on the LAN. A **Camera List** window will pop up and show a list of detected cameras on the LAN. On the top of **Camera List** window, you can select "**List the cameras which are not inserted**" or "**List all cameras**". The items listed below will then change accordingly. You can click **Mac, IP Address, Model, HTTP port** to sort the items. Then select a camera from the list to insert to the station.
- The streaming protocol determines how the live video stream is sent from the camera to the local computer. Please refer to the note on the next page for a detailed description of each transmission protocol. Specify the recommended live monitoring stream for the device. If you want to change the live viewing stream, please refer to the next page to update the camera settings. Or you can **right-click** the desired cell, then select a desired stream. Please refer to Dual / Multiple Streams on page 50 for a detailed illustration.
- Click **Detect Model** to detect the device. The Model Name and MAC Address of the device will automatically be displayed in the respective fields if the connection is successful.

d. If you want to make sure you are connected to the target device, click **Connection Test** to preview the live video from the device.

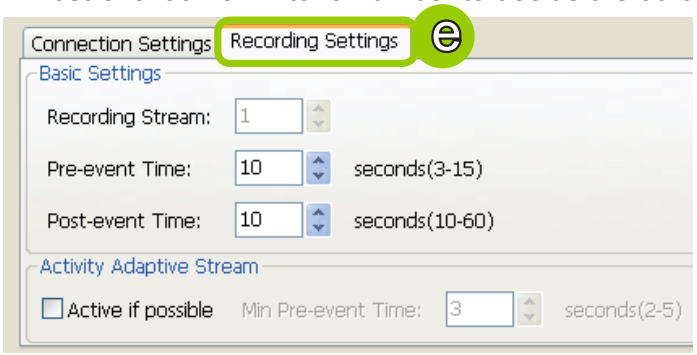


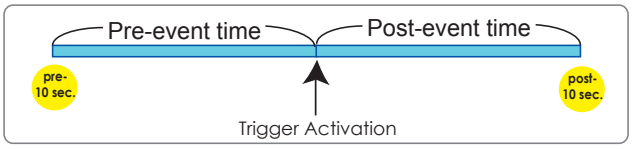
- *If you want to use "HTTPS Port", please enable the HTTPs settings on the configuration page of the Network Camera first.*
- *The characteristics of each protocol are shown in the following table:*

Protocol	Description
UDP	UDP uses a simple transmission model without implicit hand-shaking dialogues for guaranteeing reliability, ordering, or data integrity. Thus, UDP provides an unreliable service and data grams may arrive out of order, appear duplicated, or go missing without notice. This protocol allows for almost real-time audio and video streams. However, network packets may be lost due to network burst traffic and images may be obscured. Activate UDP connection when occasions require time-sensitive responses and video quality is less important.
TCP	TCP provides the service of exchanging data reliably directly between two network hosts, whereas IP handles addressing and routing message across one or more networks. In particular, TCP provides reliable, ordered delivery of a stream of bytes from a program on one computer to another program on another computer. This protocol guarantees the delivery of streaming data and thus provides better video quality. The downside with this protocol is that the real-time effect is worse than that with UDP for a narrower bandwidth.
HTTP	HTTP is a networking protocol for distributed, collaborative, hypermedia information systems. It's the foundation of data communication for the World Wide Web. This protocol allows for the same quality as TCP and the users need not open a specific port for streaming under some network environment. Users inside a firewall can utilize this protocol to allow streaming data through.
HTTPS	This protocol enables authentication and encrypted communication over SSL (Secure Socket Layer), which protects streaming data transmission over the Internet on higer security level.

e. Configure **Recording Settings**:

- Recording Stream: By default, the stream source of the recording stream is stream 1, if you want to change it later on, please refer to the previous page to update the camera settings.
- Pre-event time: Enter a number to decide how much time to record before an event is triggered.
- Post-event time: Enter a number to decide the duration of recording after an event is triggered.

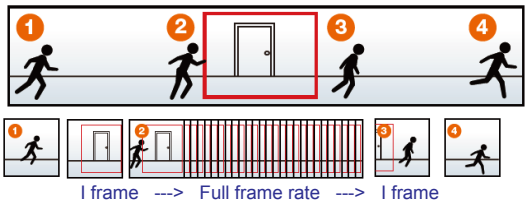


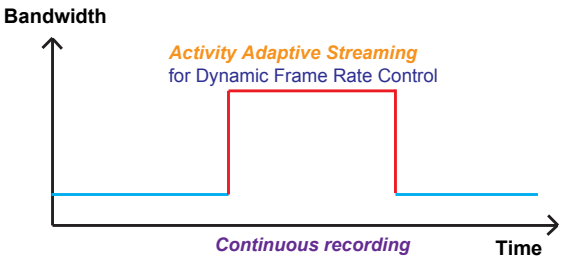


For example: If both the Pre-event time and Postevent time are set to 10 seconds, a total of 20 seconds of video will be recorded if an event is triggered. This function is supported by the buffer area of the server (time shift cache stream).

- Activity Adaptive Stream (active if possible): Check this item to enable activity adaptive stream recording and time shift recording. For cameras combined with time-shift cache stream and multiple streams features, user can make use of activity adaptive streaming for dynamic frame control.

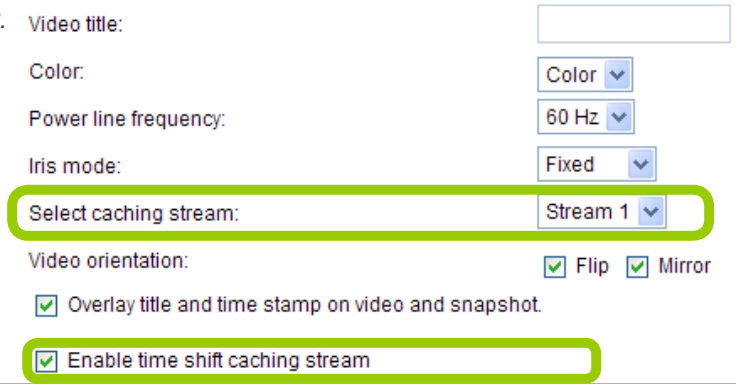
  If you check Activate Activity Adaptive Stream and enable time-shift cache stream on the camera, the server will record full-frame-rate video only when an event is triggered on the camera; otherwise, it will only request the I frame data during normal monitoring, thus effectively save lots of bandwidths and storage.

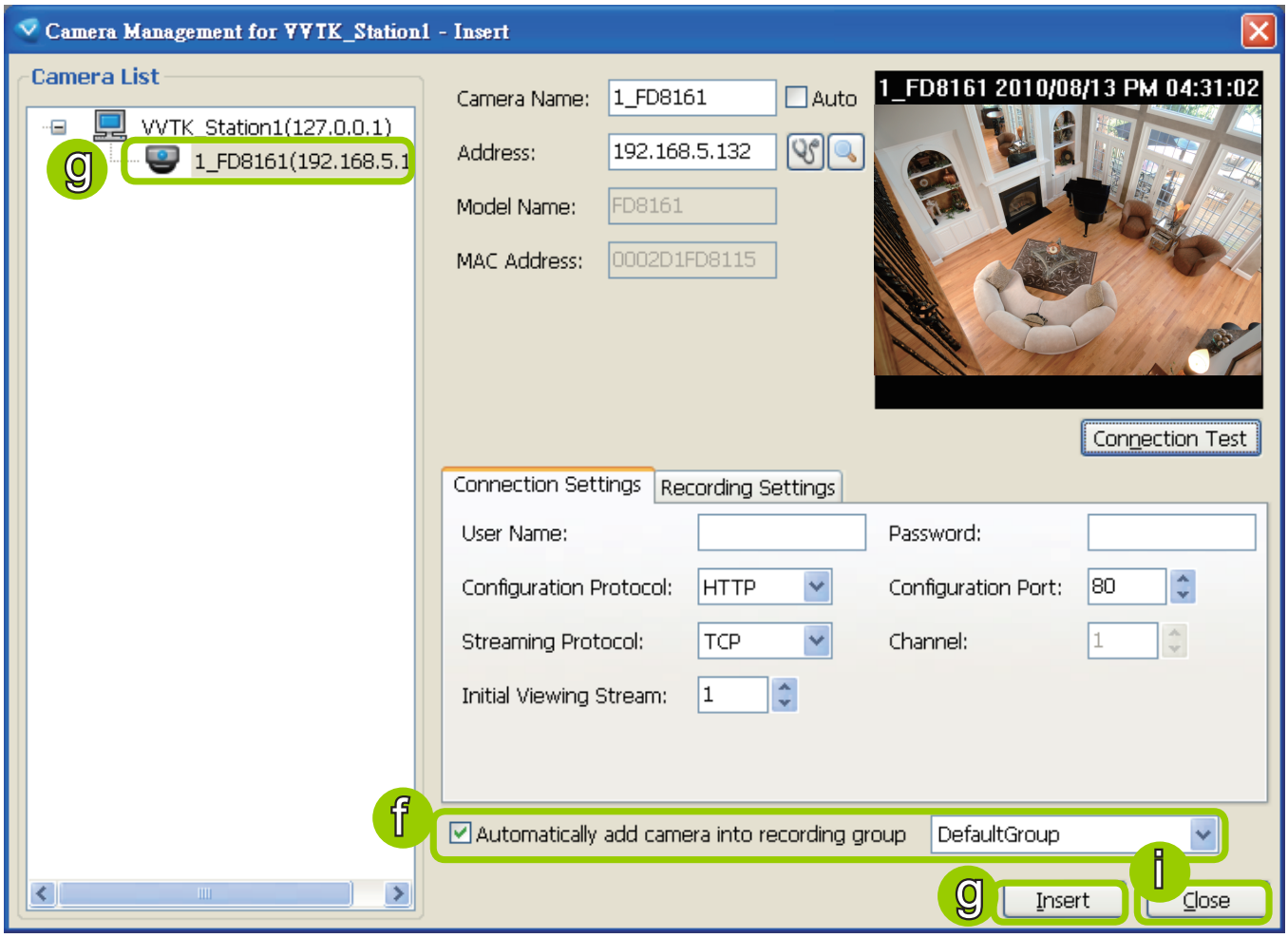




- Minimum pre-event time: Due to the limited cache memory on each network camera, the pre-event time of time shift cache stream on camera may be very short. Then you can choose to set pre-event recording on the server. For example: To set up a minimum of 5 seconds. If the cache memory of the selected Network Camera can only support up to 3 seconds, the Server will switch to enable pre-event recording for 5 seconds by itself, rather than requesting the time shift cache stream from the network camera.

*Please note that if you want to enable activity adaptive stream, we suggest you **right-click** the camera on the heirarchical management tree **> Camera Settings** to open a managment session. Move to **Configuraion > Media > Audio and Video** to activate **"Time Shift Cache Stream"** on the camera and select a stream source. This will help record complete pre-event recording.*





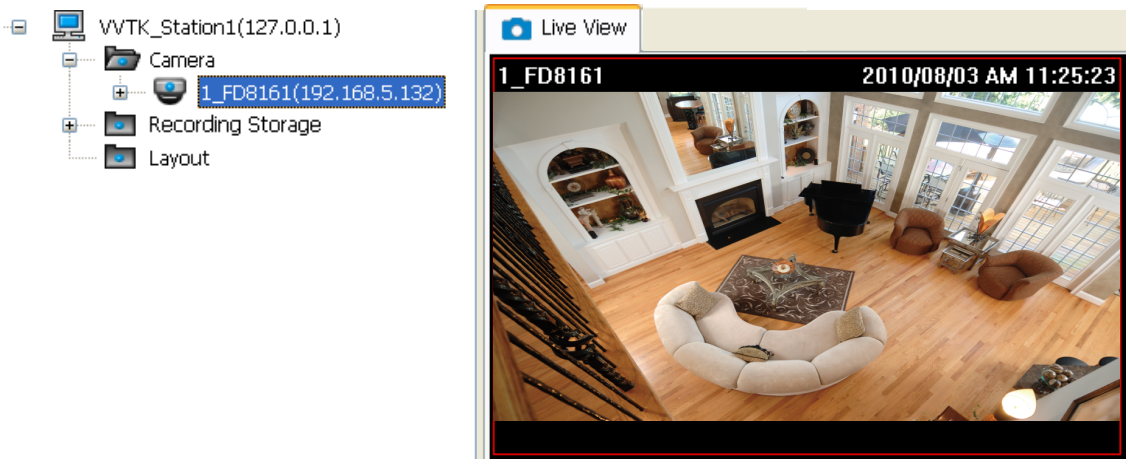
f. The device will automatically be assigned to the default recording group. Deselect the item if you want to cancel this setting.

g. When all settings are completed, click **Insert** to add the device to the station. The device will be displayed under the Camera List on the left.

h. To insert additional devices to the station, repeat the above steps.

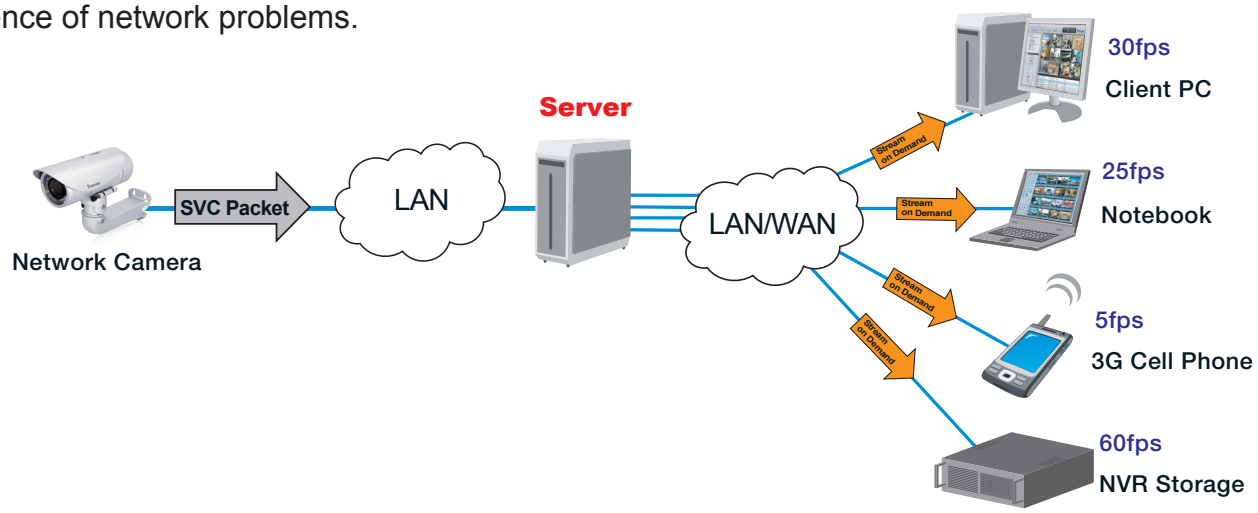
i. When completed, click **Close** to exit the camera management window.

j. Back to the main window, you will find the newly-inserted devices displayed under the station and the live video in the video cell.



Enable SVC

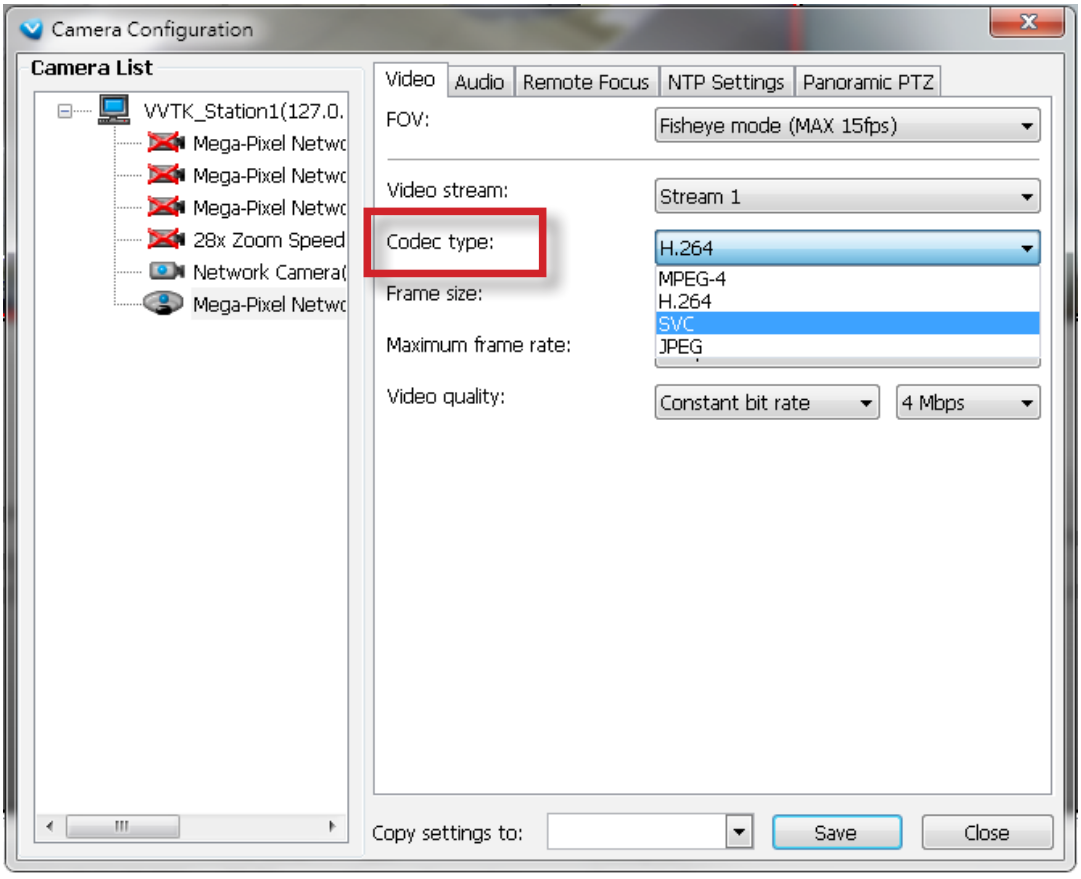
If the camera to-be-added supports the latest SVC (Scalable Video Coding) feature, select the SVC checkbox to enable the related control. The SVC feature enables streaming of videos for multiple clients from one single set of layered IP packets. Designed for saving bandwidth and CPU load on client stations, the frame rate of a video stream appearing through a view cell can be individually adjusted. This feature applies when an administrator experiences unstable video streaming due to the lack of network bandwidth, less-than-ideal hardware, or during an occurence of network problems.



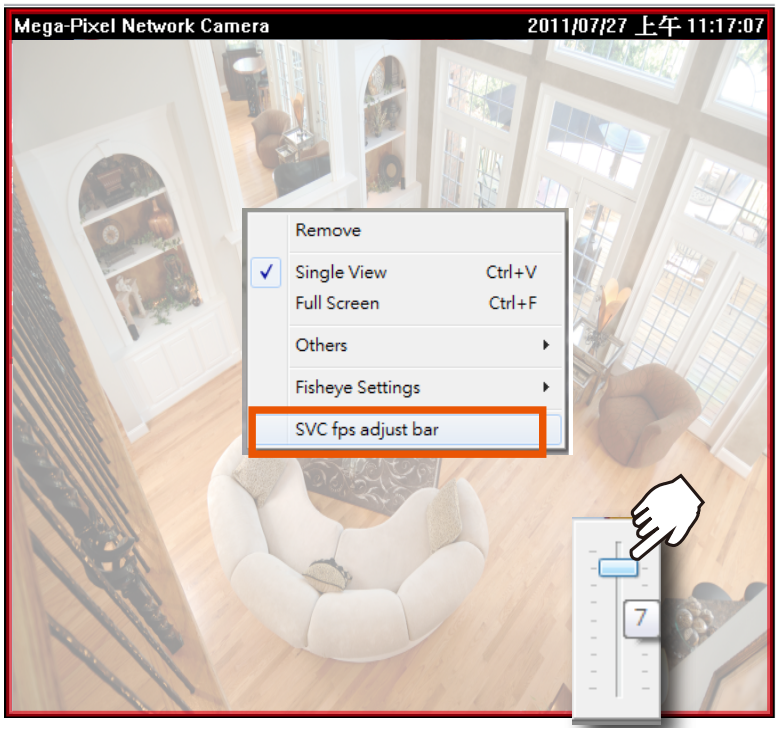
The server (rev. 1.6.1 and later) automatically negotiates with a camera and determines whether a network camera comes with the SVC feature.

To configure the SVC-related feature:

1. When inserting a new camera into your configuration, select the streaming option, usually the stream #1.



2. Right-click on the view cell of an SVC-enabled camera. Select **SVC fps adjust bar**.



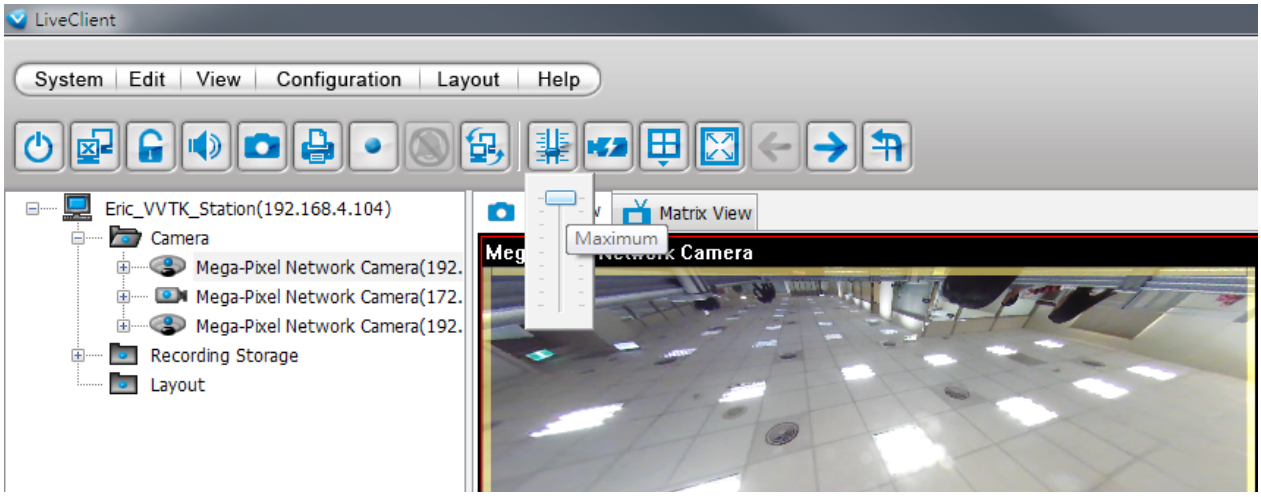
3. A slide bar will appear above the view cell. Click and drag the slide bar. A numeric indicator will display the current selection. See below for the frame rates represented by the numeric indicator.

Indicator	Frames per second (fps)
Maximum	30
7	26
6	22
5	18
4	12
3	8
2	4
1	1
Minimum	1/4

NOTE:

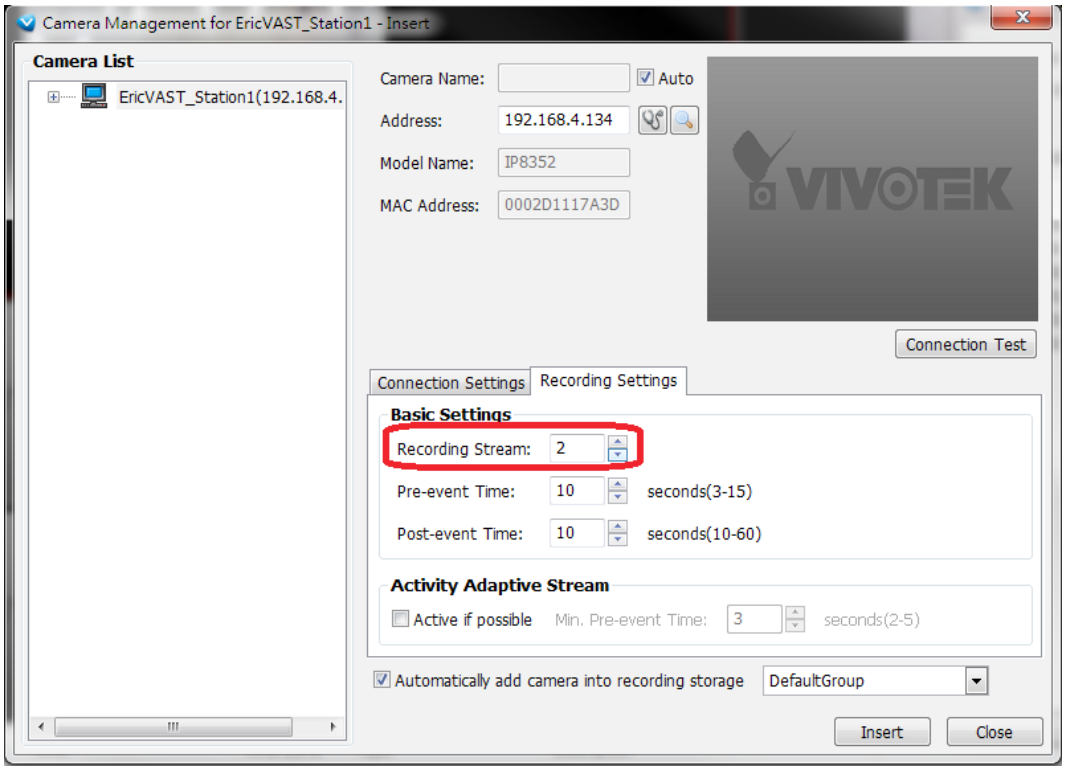
The SVC feature only applies to H.264 and MJPEG streams. It is not applicable to MPEG-4 streams. Please refer to Configuration -> Media -> Video for individaul stream settings.

If you have multiple SVC-enabled cameras, you can enable a collective setting via the **Adjust SVC level** button on the tool bar. The frame rate selected here will then apply to all view cells on the LiveClient console.



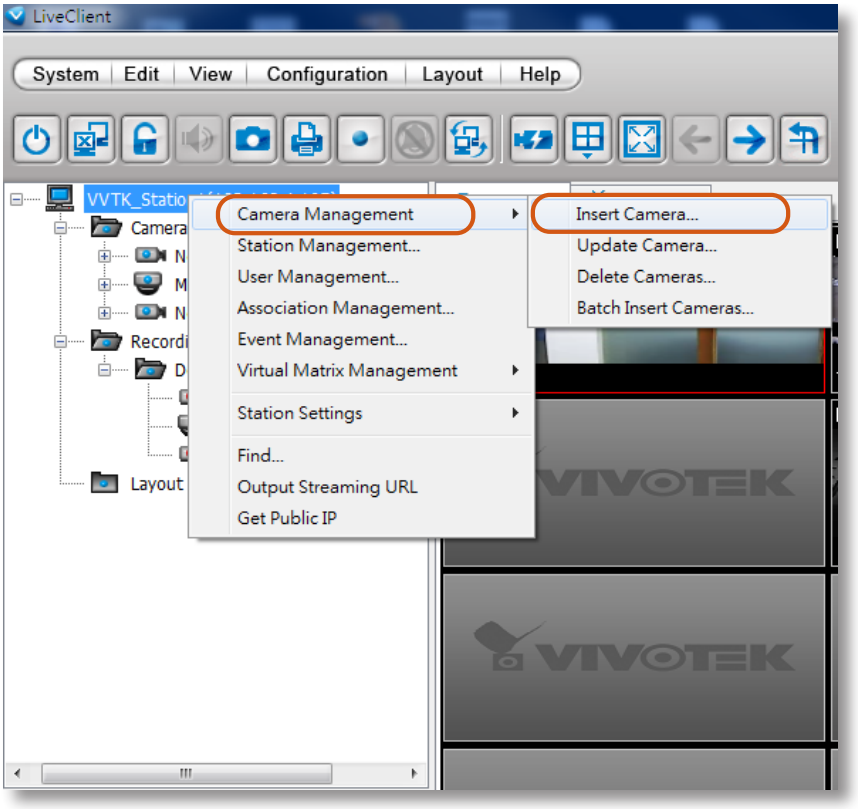
Please note that the SVC related setting can not take effect while the LiveClient station is running the Layout Rotation. Stop the layout rotation before configuring the SVC function.

While you save your bandwidth for live viewing, you can still record full-frame-rate video by changing the recording setting. For example, you can enable resource-saving SVC on stream #1 and configure stream #2 to be recorded with full details, in terms of frame size, frame rate, and video quality.

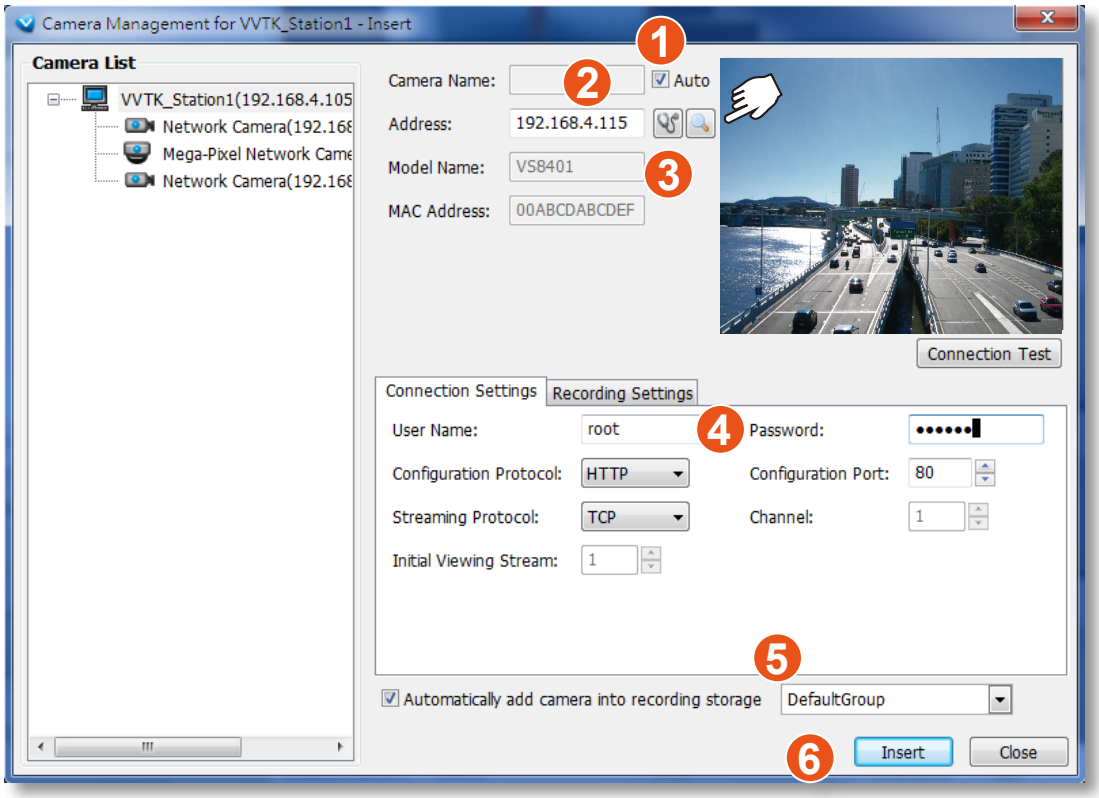


Insert a Video Server

1. Left-click on your station, and then right-click to display the **Camera Management** command. Let your cursor stay on the command for a second and then move to the **Insert Camera** command. Click on the command to open its configuration window.



2. See below for the steps to insert a Video Server along with its subordinate cameras.



2-1. You can deselect the **Auto** checkbox to enter a name for the Video Server. If set to Auto and your video server already has a name, that name will be displayed in your device list.

2-2. Enter the **Address** of the video server - or - use the **Search** button to open a Search window.

2-3. If you enter its address and it is found after you click on the **Detect Model** button, its **Model Name** and **MAC Address** will be listed.

2-4. Before you click the Detect button, you should enter the **User Name** and **Password** for access to the video server. You should also confirm the **Configuration Protocol**, **Configuration Port**, **Streaming Protocol**, and the rest of the networking parameters.

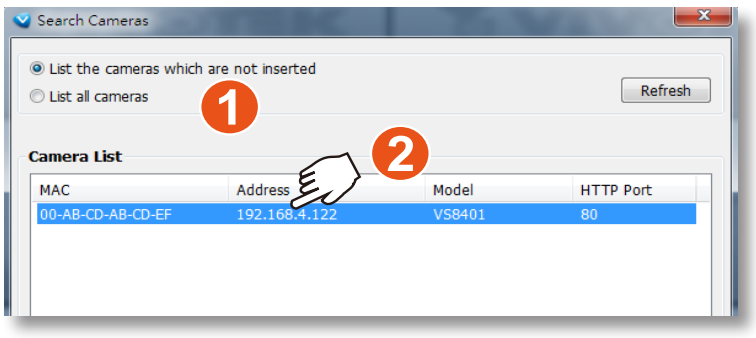
2-5. You may select or deselect the checkbox in front of the recording storage option - or - use the pull-down menu to select the default group or a pre-configured storage group.
You might use the **Connection Test** button to verify if the stream comes from the device you prefer.

2-6. Click **Insert** to include the video server to your configuration.

The Video Server should now be listed on the Camera List.

You can also use the **Search** button to poll the local area network for VIVOTEK's devices. You can select to list all cameras or list those that have not been included in your current configuration.

Click on a device, and its detailed information will immediately appear in the **Camera Management** window on the left. For recording settings, please refer to page 34 as previously described.



Update Devices

Please follow the steps below to update a device via Camera Management window:

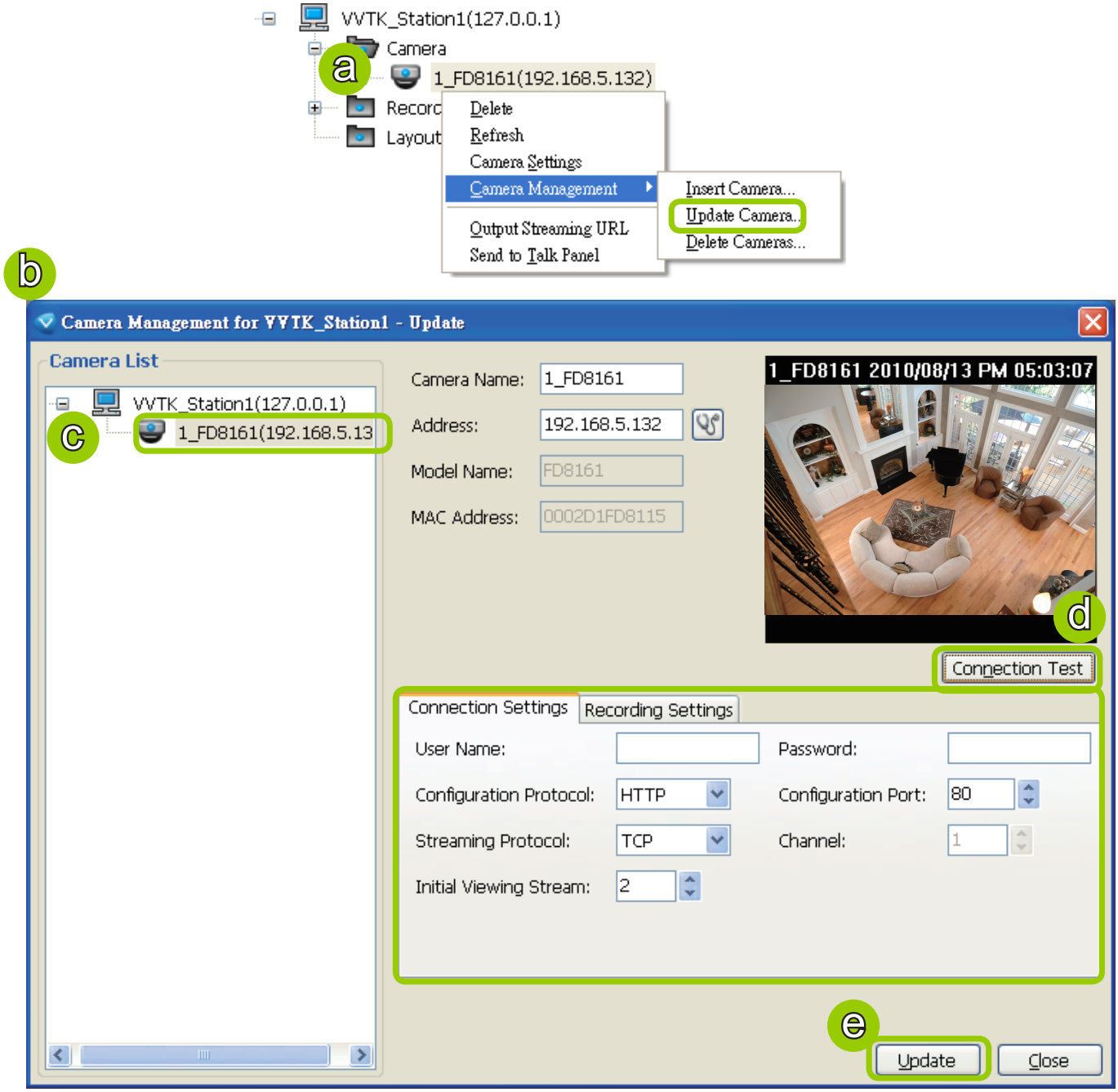
a. Click **Configuration > Camera Management > Update Camera** on the menu bar (or **right-click** the device/station, then select **Camera Management > Update Camera**).

b. The **Camera Management - Update** window will pop up. The device tree managed by the station will be displayed in the left Camera List window.

c. Select a device from the list you want to update. Its related information will automatically be displayed in the corresponding fields in the Camera Management window. Then you can modify **Connection Settings** and **Recording Settings** of the device.

d. After modifying the settings, you can click **Connection Test** to preview the live video from the device.

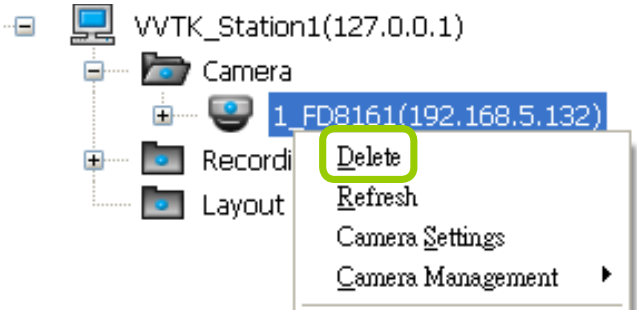
e. When all settings are completed, click **Update** to enable the settings.

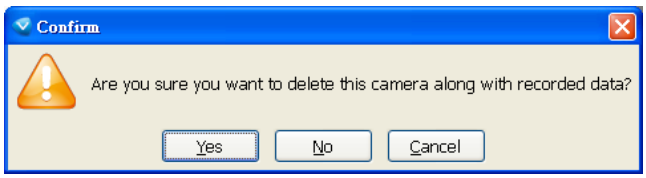


Delete Devices from the Server

- Delete a device:

  Right-click the device on the device tree, then select **Delete.** A dialog box will pop up. Click **Yes** to delete the device along with the recorded data; click **No** to delete the device but retain the recorded data; click **Cancel** to cancel the delete action.





- Delete more than one device at a time:

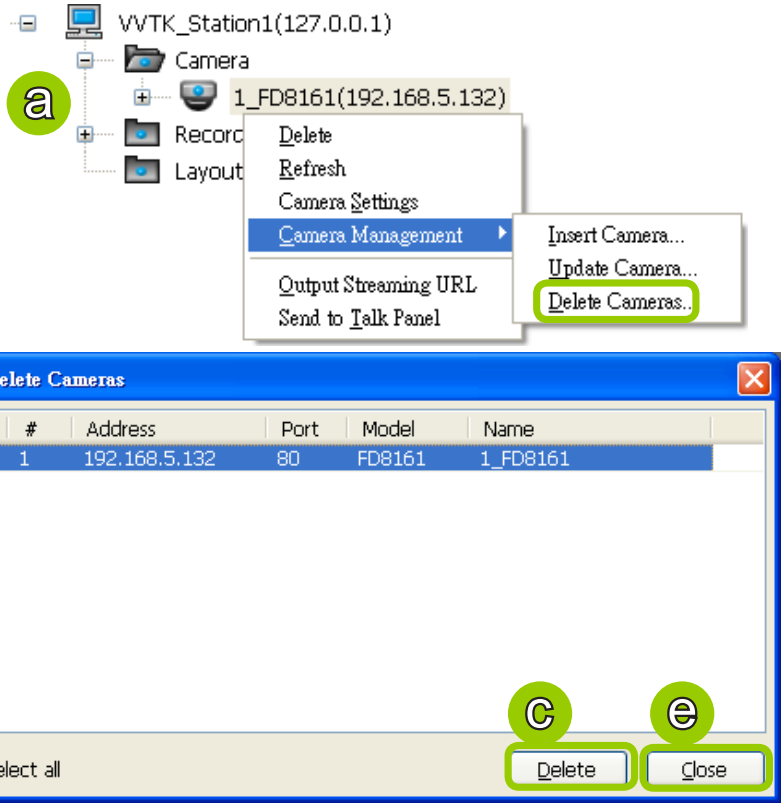
a. Click **Configuration > Camera Management > Delete Cameras** on the menu bar (or **right-click** the device/station, then select **Camera Management > Delete Cameras**).

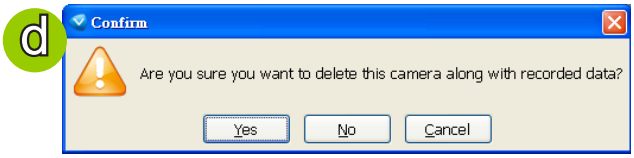
b. The **Delete Cameras** window will pop up.

c. Select the devices you want to delete from the list, then click **Delete**.

d. A dialog box will pop up. Click **Yes** to delete the device along with the recorded data; click **No** to delete the device but retain the recorded data; click **Cancel** to cancel the delete action.

e. When completed, click **Close** to exit the **Delete Cameras** window and return to the main window. The deleted device will disappear from the station.





Batch Insert Devices

Batch insert is a very useful function that allows user to search, filter, and import a row of devices that are in the same LAN to an ST7501 station. The basic settings can also be applied to those inserted devices simultaneously.

Please follow the steps below to batch insert devices to a station:

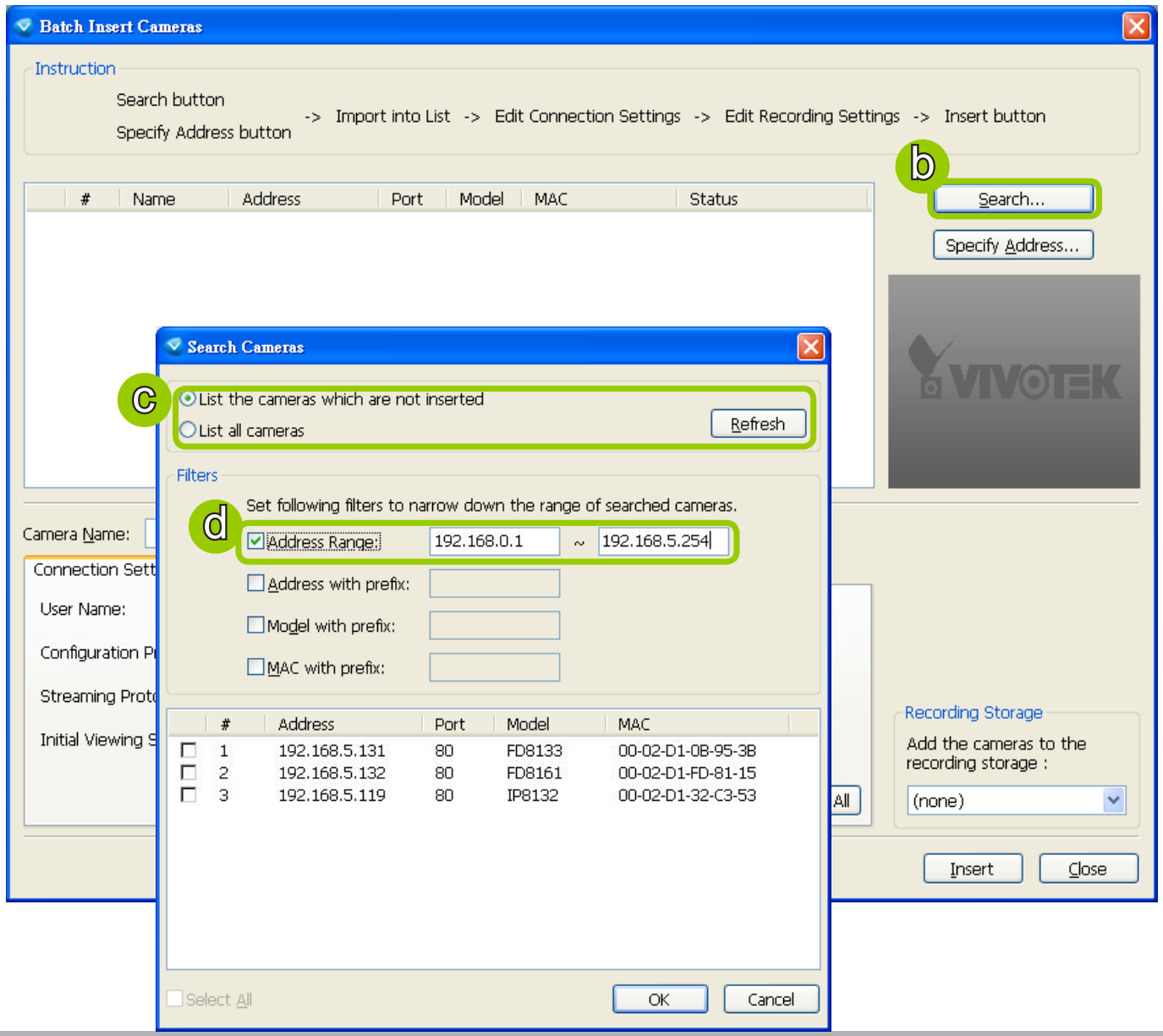
a. Click **Configuration > Camera Management > Batch Insert Cameras** on the menu bar (or **right-click** the station, then select **Camera Management > Batch Insert Camera**).

b. The **Batch Insert Cameras** window will pop up. Then click **Search** to open the Search Camera window.

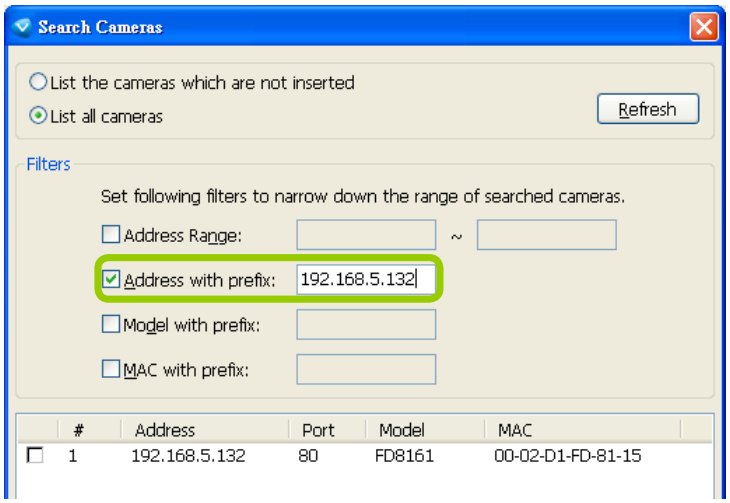
c. On top of the Camera List window, you can select "List the cameras which are not inserted" or "List all cameras". The items listed below will then change accordingly.

d. Use the 4 Filters to narrow down the range of the wanted cameras from the list.

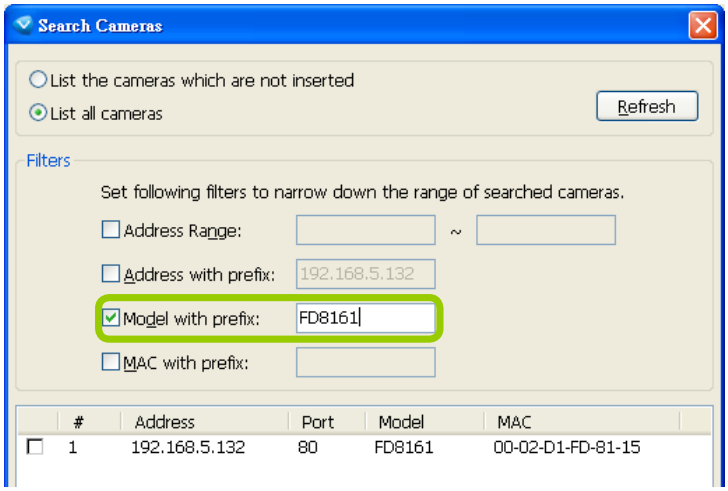
- IP Range: Type in a range of IP address to narrow down the list; the filter automatically applies after you fill in a correct IP range.



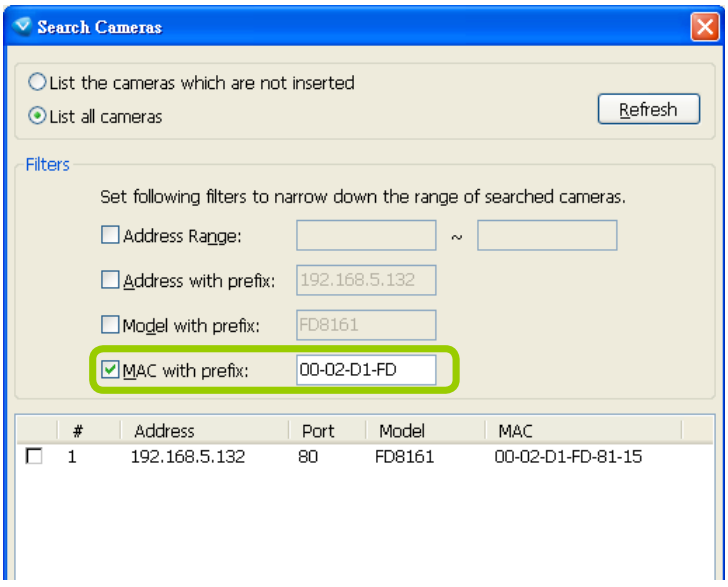
- IP with prefix: Type in the prefix of the IP address to narrow down the list.



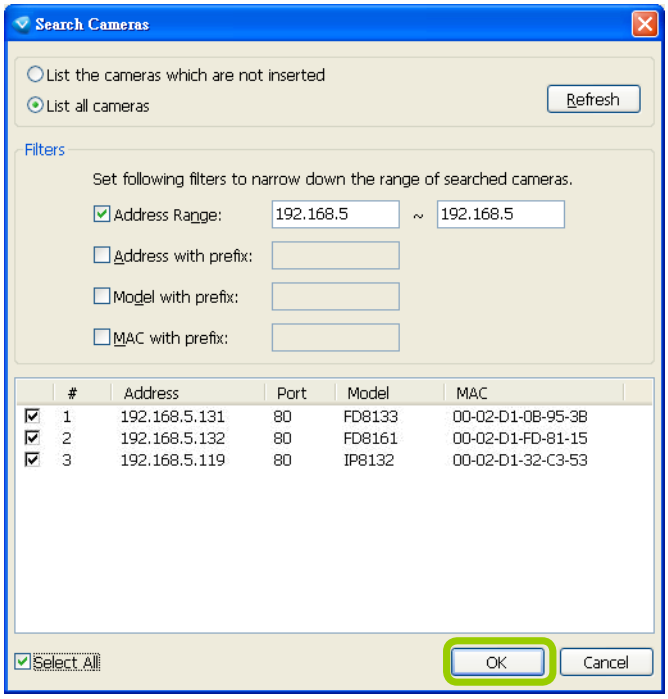
- Model with prefix: The user can type in the prefix of the model name or the complete model name of the cameras to narrow down the list.



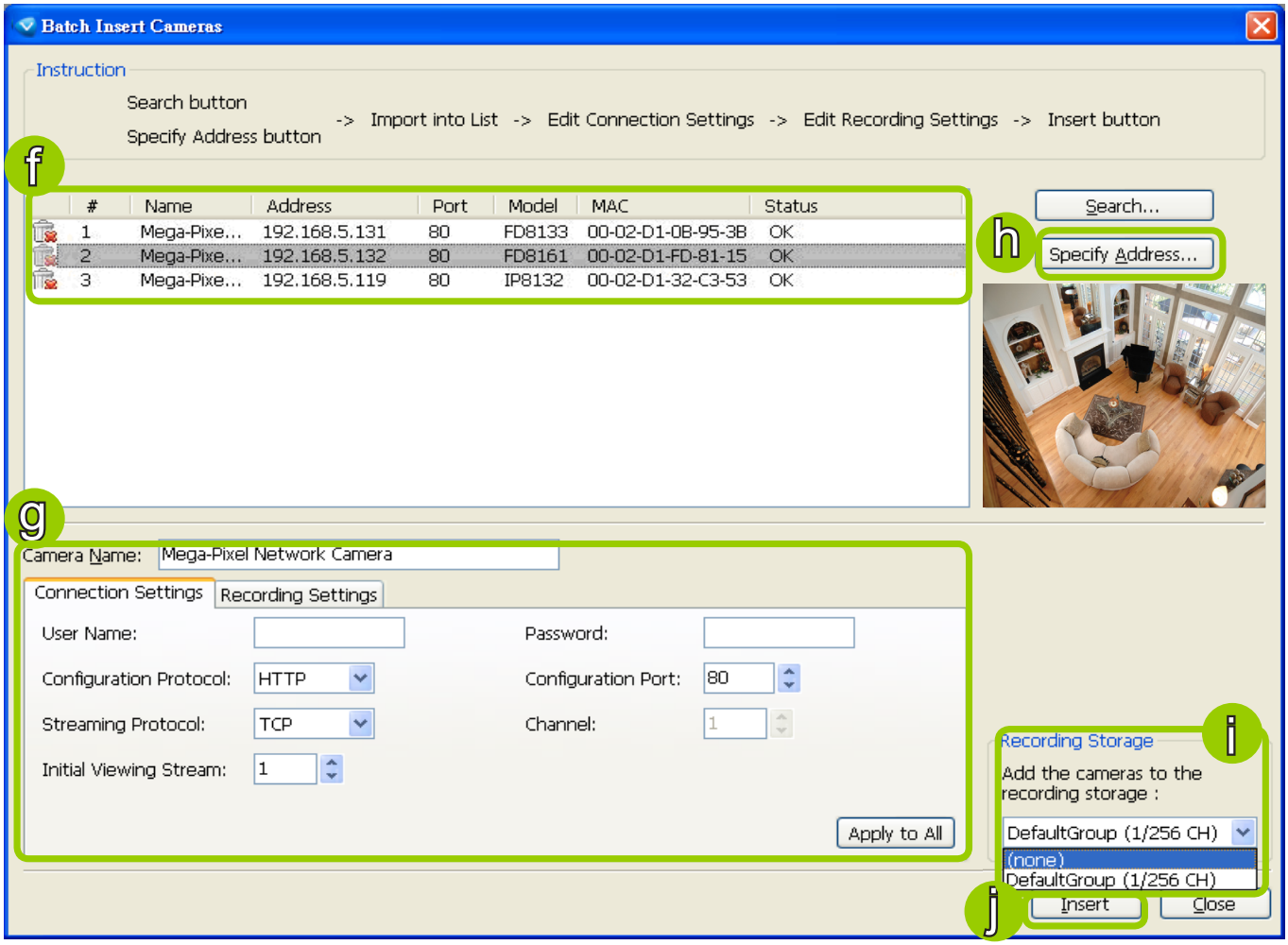
- MAC with prefix: You can type in the prefix of the MAC address of the cameras to narrow down the list.



e. When the list is filtered, you can select the cameras one by one or check **Select All** to add them to the batch insert list. Then click **OK** to finish searching.

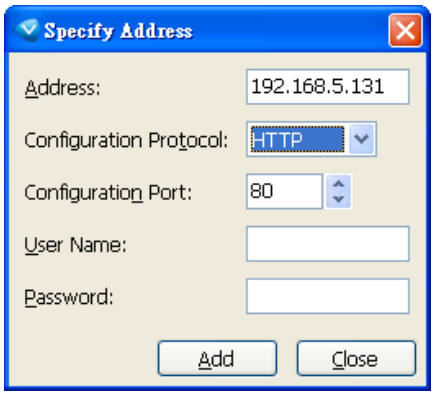


f. The selected cameras will be shown on the batch insert camera list with the camera information and the connection status. When you click on a camera, a live view will show up on the right side for you to identify the cameras on the list. If you want to remove a camera from the list, click the trash can icon to delete it.



g. At the bottom of the window, there is a field for you to alter the camera settings including Connection Settings and Recording Settings. You can apply the new settings to each camera on the list, or click **Apply to All** to apply the same configurations to all the cameras. For more information about Connection Settings and Recording Settings, please refer to Insert Device on page 32 for detailed information.

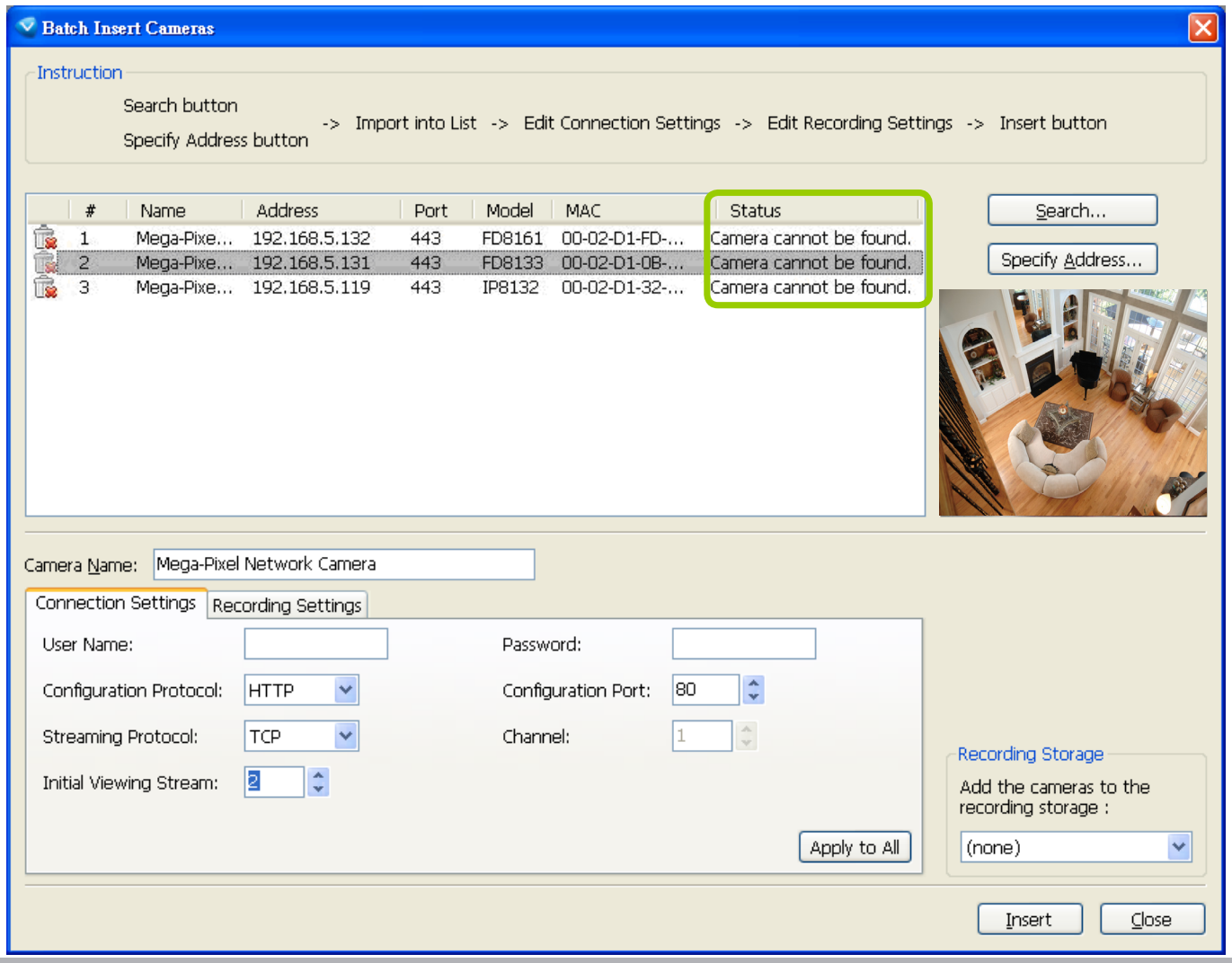
h. Specify host: If you want to add a camera to the list, click **Specify Address** to directly add a wanted camera. Click **Add** after filling in the correct information. The camera will be added to the list of the Batch Insert Camera window.



i. By default, all inserted devices will be applied to the default recording group. Deselect the **Add** checkbox if you do not want to assign the selected devices to the default recording group.

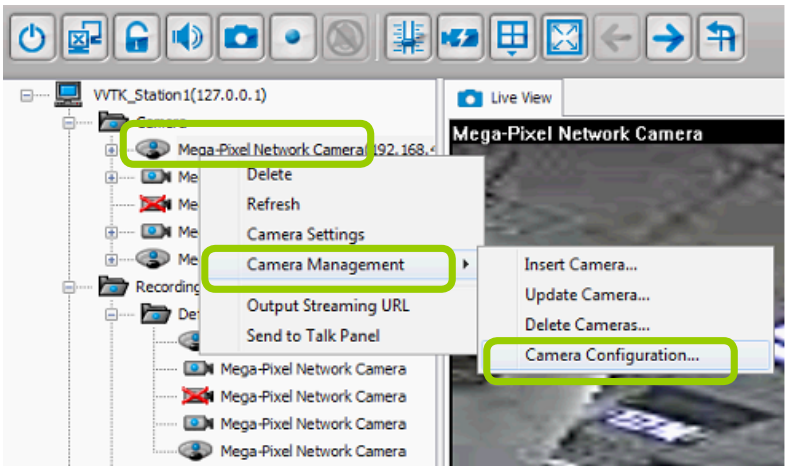
j. Click **Insert** when all the settings are done. Cameras will be added.

When you modify the camera settings, and when the connection information (User Name, Password, Configuration Protocol, Configuration Port, and Streaming Protocol) does not match the current network environment, the camera will be disconnected and the status of the camera will become "Camera cannot be found" as shown below.



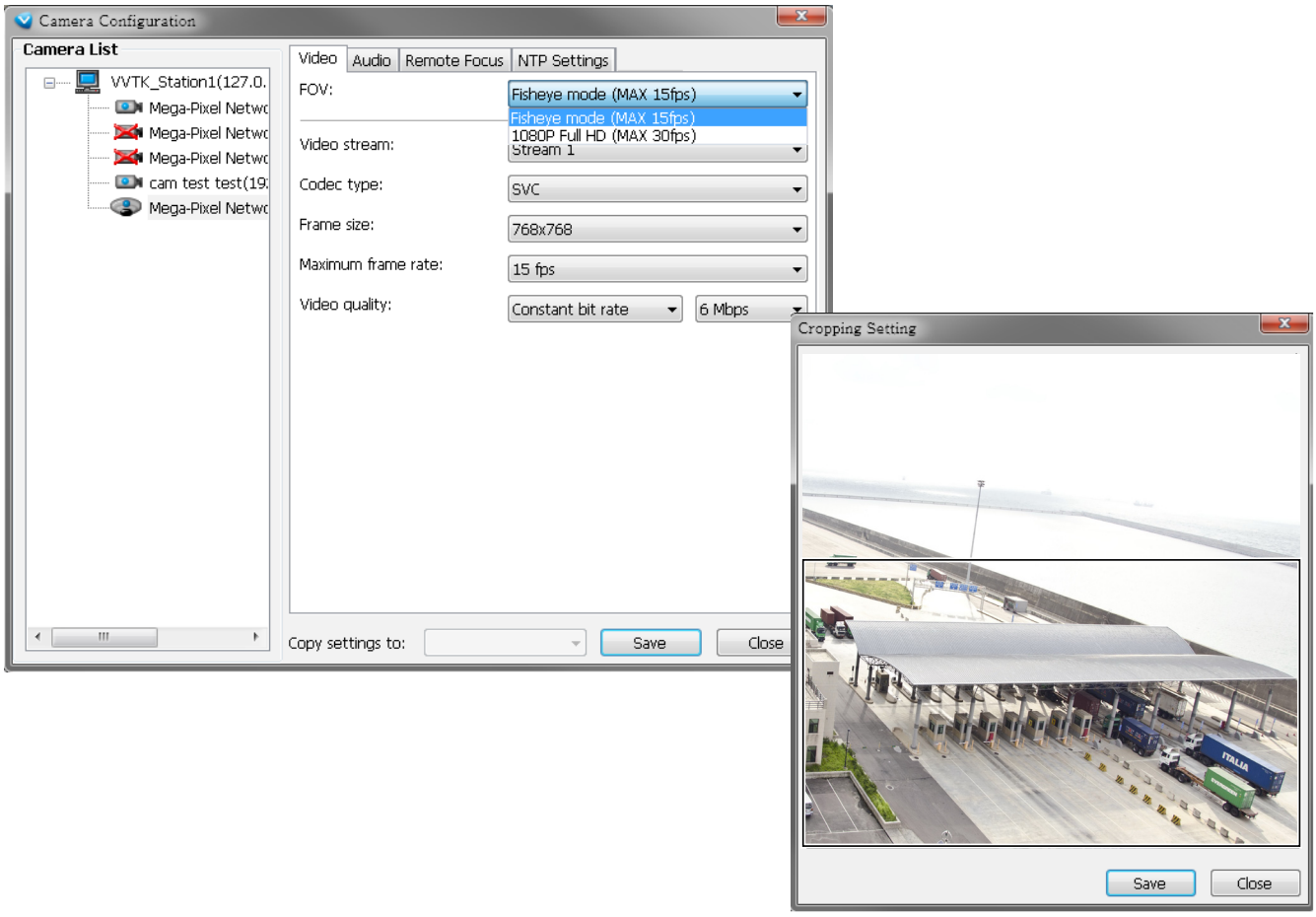
Camera Configuration

The **Camera Configuration** function group provides immediate access to the video streaming and other settings without the need to open a web console. The function group is accessed by selecting a camera on the device tree, and right-click to select **Camera Management** > **Camera Configuration**.



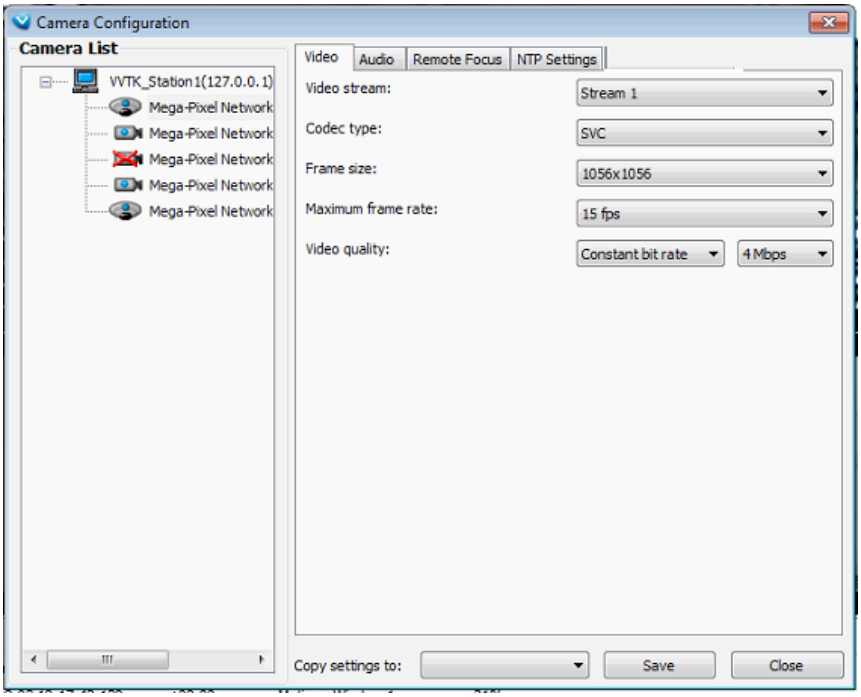
- FOV (Field of View)

The FOV configuration is available for 5 megapixel cameras (such as FE8172, IP8372, and IP8172P), which allows you to crop a portion of the image captured by the sensor. The FOV setting applies in the scenario where you do not need all of the video a camera can capture. For example, when shooting a parking lot where the upper half of the image is the sky. Cropping a field of view can help save bandwidth and reduce the requirements for storage space.



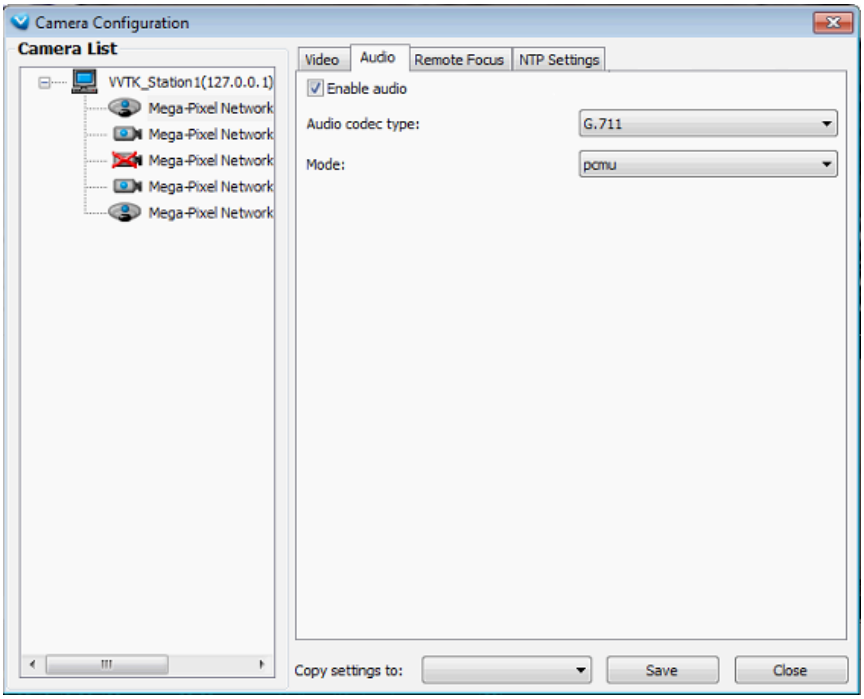
■ Video

This tabbed window privides access to the selection of the live view stream, its compression codec, frame size, max. frame rate, and video quality. Note that the **Constant Bit Rate** methodology can be used to ensure that the size of video stream does not exceed a preferred threshold, regardless of the complexity or the changes of pixels in the image. You should use a maximum of 1080P as **frame size** and 6Mbps as **constant bit rate** for video streams managed by this system.



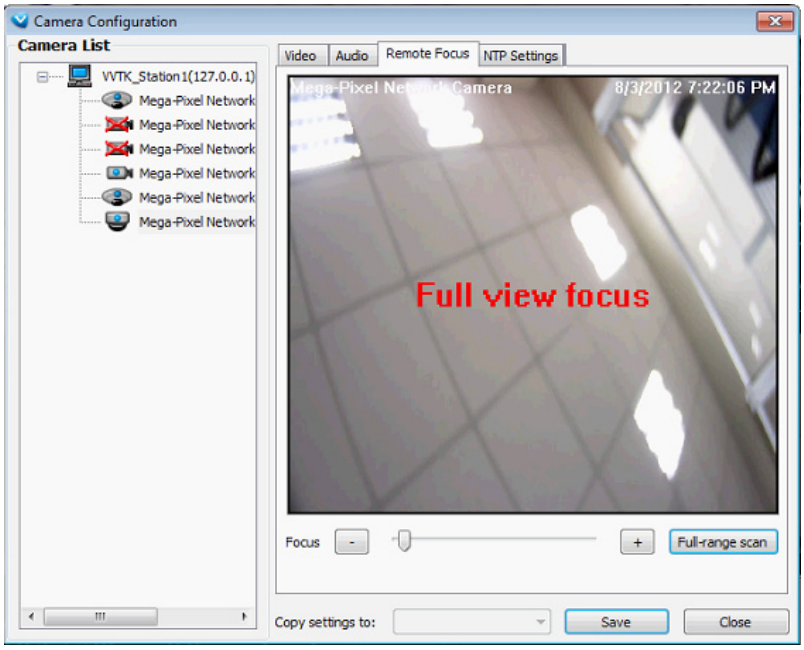
■ Audio

If audio feed is preferred, configure the audio codec type and operating mode in here.



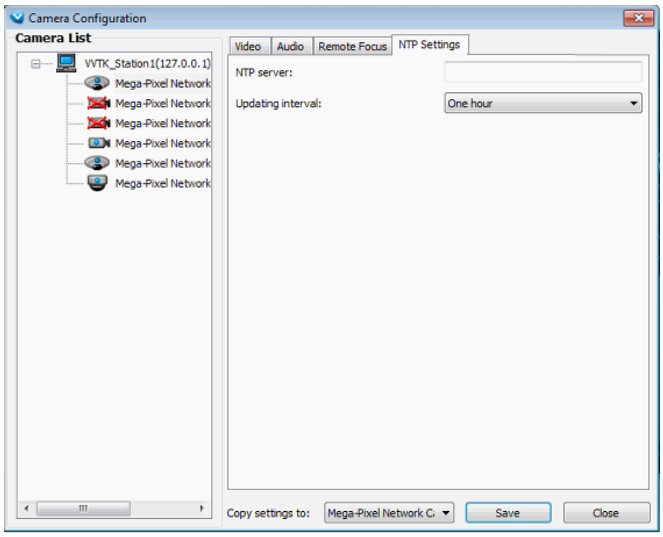
■ Remote Focus

For cameras supporting the remote focus feature, such as the FD8362E that comes with a motorized lens, this window provides finetune buttons and full-range scan fucntion to help reach the best image focus.



■ NTP Settings

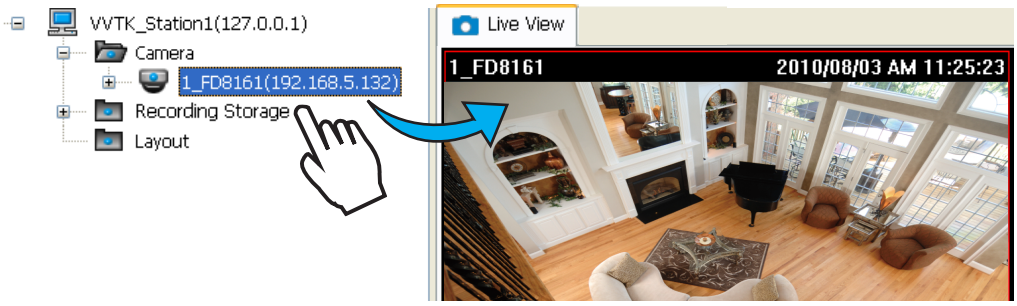
If cameras' real time clocks are set to be synchronized with a time server, enter the NTP server's address or domain name and specify an Updating interval. If you select the "Synchronize camera time with system automatically" checkbox during the initial setup, the NTP server IP will be the PC's IP.



Always remember to **Save** your configuration before leaving this window. You can also use the "**Copy settings to"** button below to duplicate your current settings to adjacent cameras.

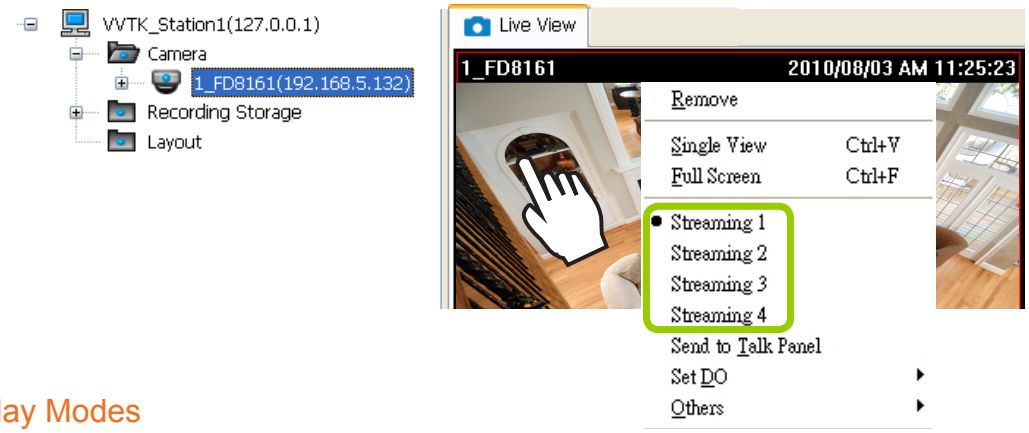
View Live Videos

The server will automatically add a newly-inserted device to the video cell for live viewing. You also can **double-click** the target device or **drag-and-drop** the target device from the hierarchical management tree window to the video cell.



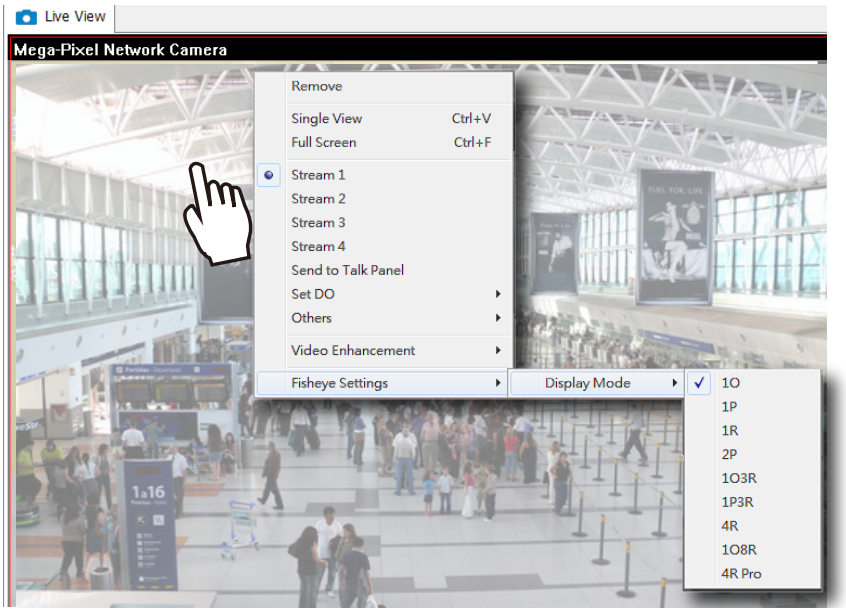
Dual / Multiple Streams

For dual-stream devices, you can **right-click** on the focused cell to select stream 1 or stream 2. For multiple-stream devices, you can select from stream 1 ~ stream 4.



Fisheye Display Modes

By default, an oval view is displayed when a fisheye camera is successfully connected. To display Regional, Panoramic, or the combination of different views, **right-click** on a fisheye camera's live view to display the associated commands. The display modes available are: 1O (Original), 1P (Panoramic), 1R (Regional), 2P (2 Panoramic), 1O3R (1 Original & 3 Regional), 1P3R (1 Panoramic & 3 Regional), 4R (Quad Regional), 1O8R (1 Original & 8 Regional), and 4R Pro (4 Proactive) modes.

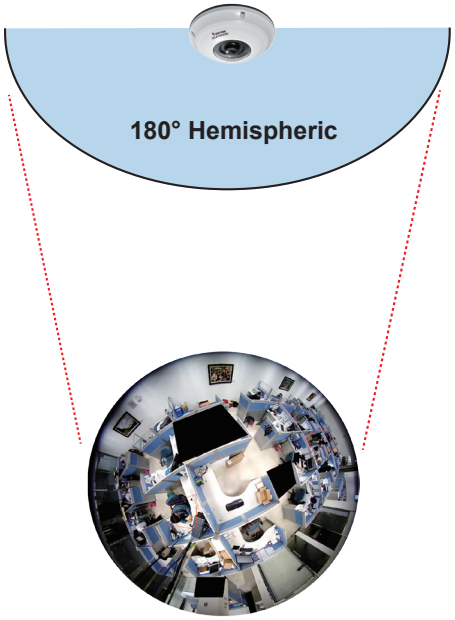


Fisheye Display Modes: below are conceptual drawings for different display modes.

1O (Single Original) Display mode:

An **Original** oval view covers the hemisphere taken by the fisheye lens.

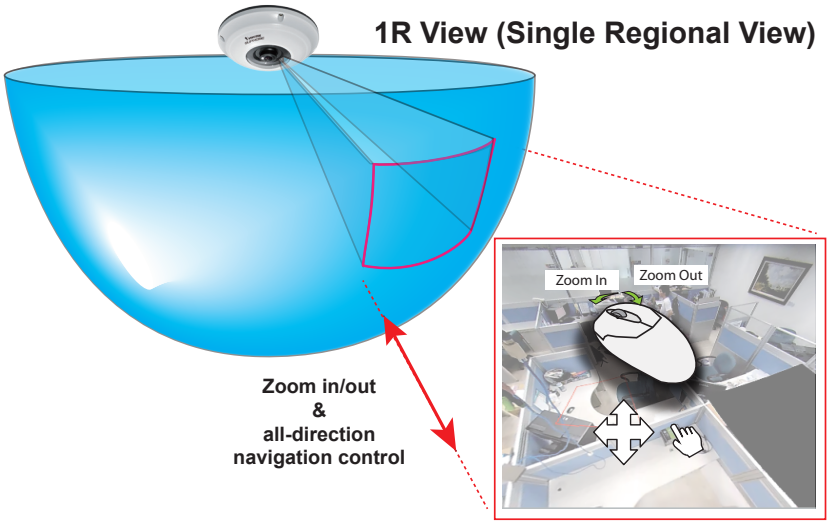
1O View (Original View)



1R (Single Regional) Display mode:

A **Regional** view crops a portion of the hemisphere as a region of interest. You can zoom in or out or move the view area elsewhere from on the regional view.

1R View (Single Regional View)



A Regional view is dewarped, by correcting images from the distorted oval view to a rectangular and visually proportional image.

1P (Single **Panoramic**) Display mode:

With image correction algorithms in firmware, the hemispheric image is transformed into a rectilinear stripe in the 1P display mode. Viewers can use the PTZ panel or simply use mouse control to quickly move through the 360º panoramic view.

Note that the 1P view is apt for an overview, the Zoom in/out function does not apply in this mode.

1P (Panoramic) Mode Screen Control

2P (2 Panoramic) Display mode:

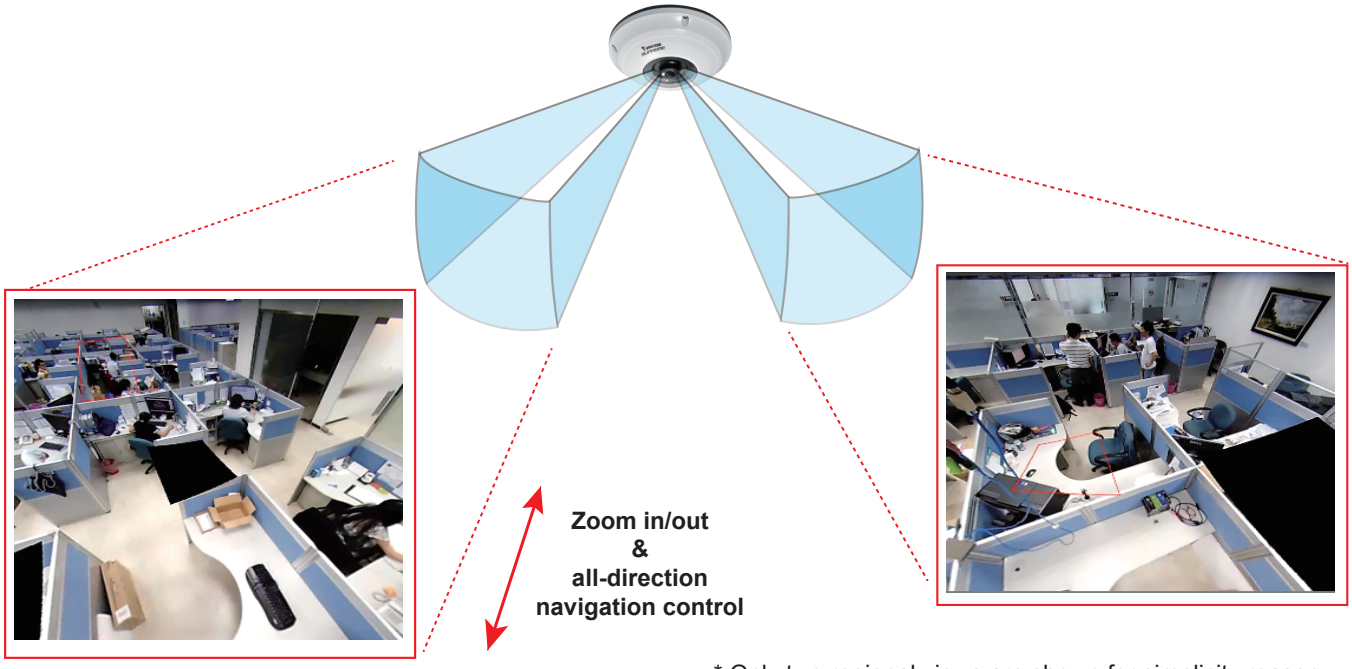
Two dewarped rectangular views are placed one on top of another each showing 180 degree of panoramic view. The 2P view looks like the upper view shows the front of hemisphere, and the lower view the rear half of the hemisphere.

2P (Panoramic) Mode Screen Control

1O3R (One Original & 3 Regional) Display mode:

Fisheye cameras also support the display of multiple regional views taken from within the same hemisphere, and they can be displayed with or without an Original view in its view cell.

3R View (Regional View)



* Only two regional views are shown for simplicity reason

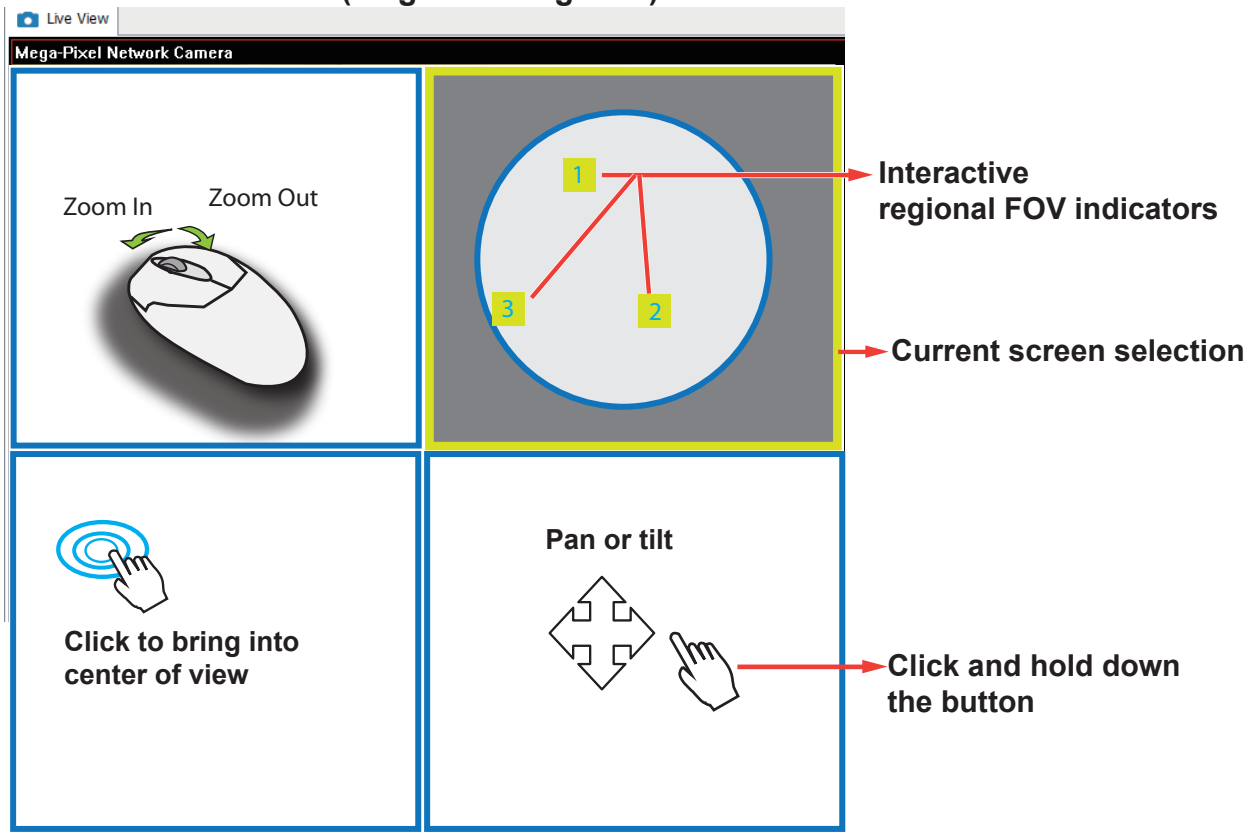
PTZ Mouse Control

The "Mount type" setting also determines the display modes available to your display modes. Please refer to fisheye camera's User Manual for more information.

A highly versatile mouse control is implemented with fisheye cameras. The same control takes effect on a browser management session, on the LiveClient utility, and even on a video playback screen. See the drawing below for how it works.

You can click and hold down the left mouse button to quickly swipe through the field of view, change the view angle, or use the mouse wheel to zoom in/out on a region of interest. However, the PTZ mouse control is only available in the **"R" (Regional) mode**. In the **Panoramic mode**, you can only scroll horizontally across the 180º or 360º panoramic view.

1O3R (Original & Regional) Mode Screen Control

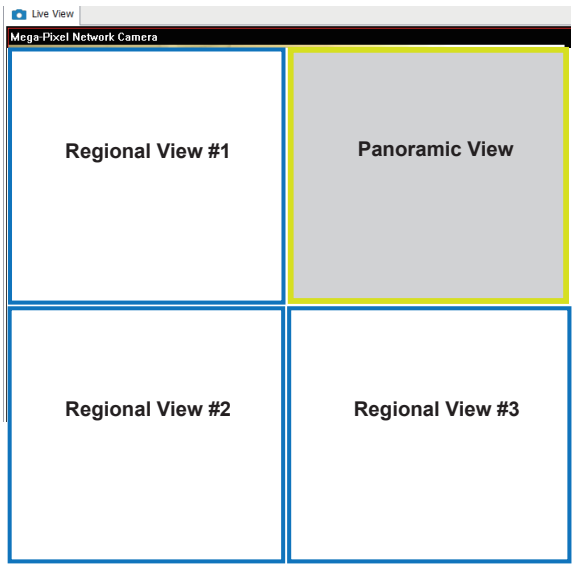


The various display modes require the support of D3D technologies by your display card on the LiveClient or Playback station. Most off-the-shelf display cards today support this feature.

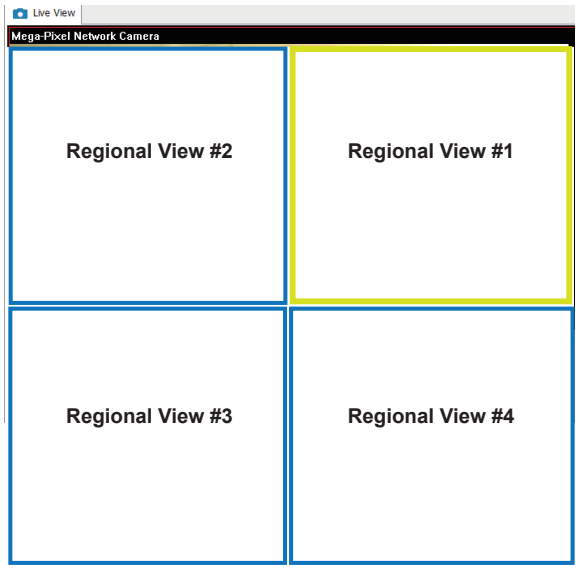
The onscreen mouse control is very agile. Therefore, use the PTZ panel for more delicate moves in a field of view. **Pan** and **Patrol** moves are also supported if you have configured preset PTZ positions in the camera's firmware. Note that the Pan move takes place in the Panoramic and Regional views, while the Patrol function through preset positions applies only in the Regional views.

Below are the conceptual drawings for other display modes:

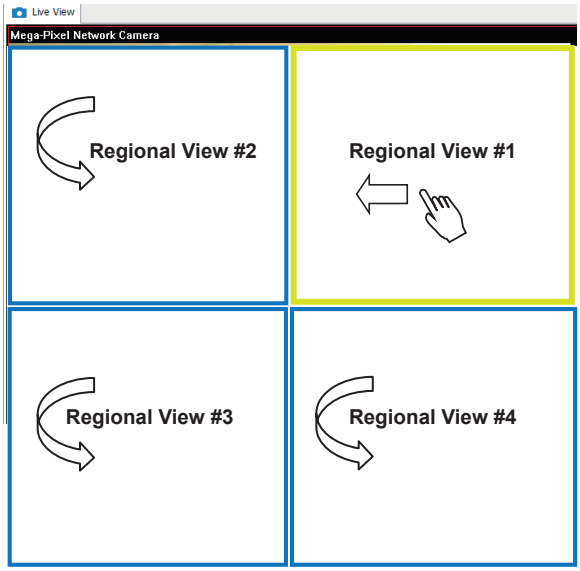
1P3R (One Panoramic & 3 Regional) Display mode:



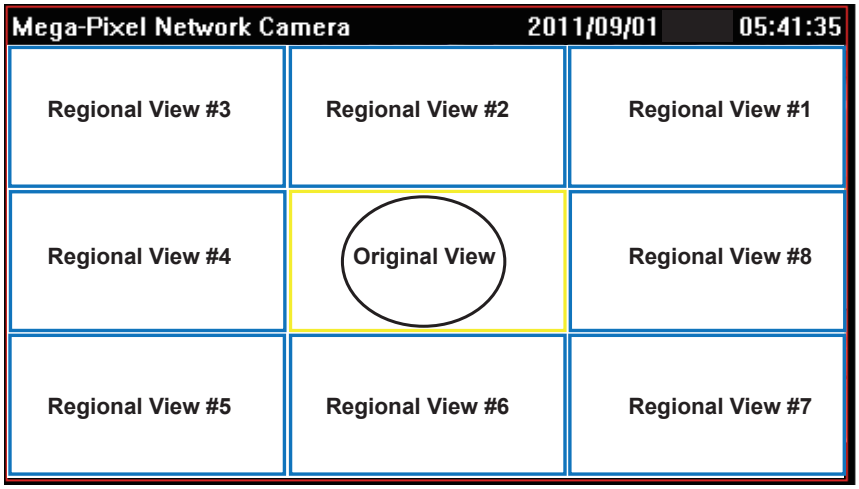
4R (Quad Regional) Display mode:



4RPro (4 Regional Proactive) Display mode:

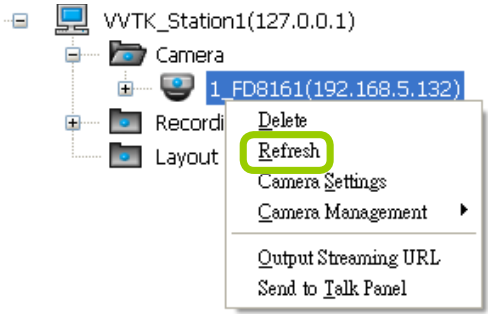


1O8R (One Original & 8 Regional) Display mode:



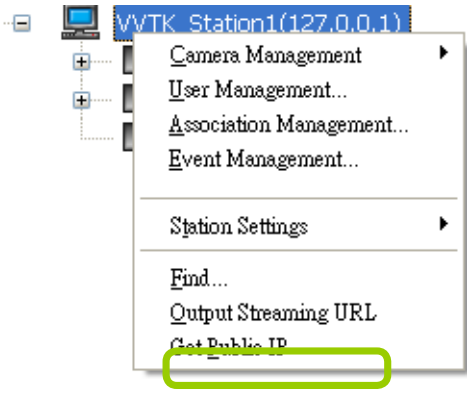
Refresh

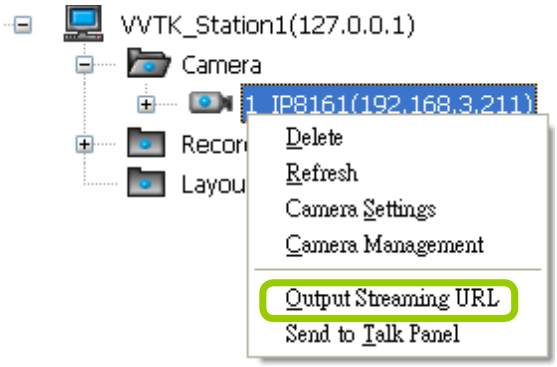
Right-click the device, then click **Refresh**, the camera information will be refreshed from the server.



Streaming Server

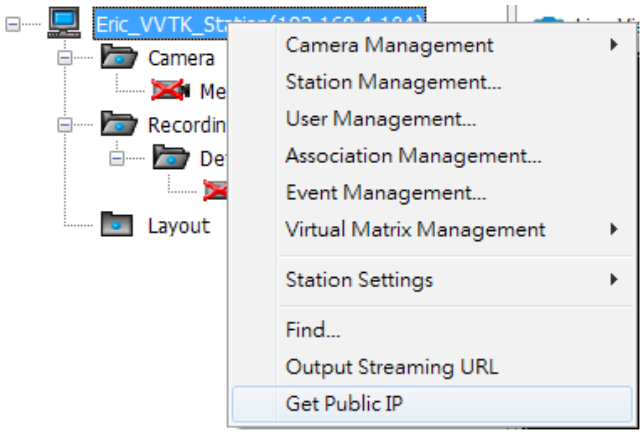
Right-click the station or the device and click **Output Streaming URL**. A .txt file with streaming URL will pop up. Then you can use this URL to link to the live streaming through QuickTime Player.





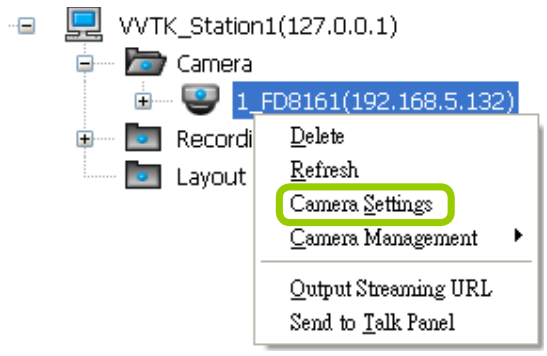
Get Public IP

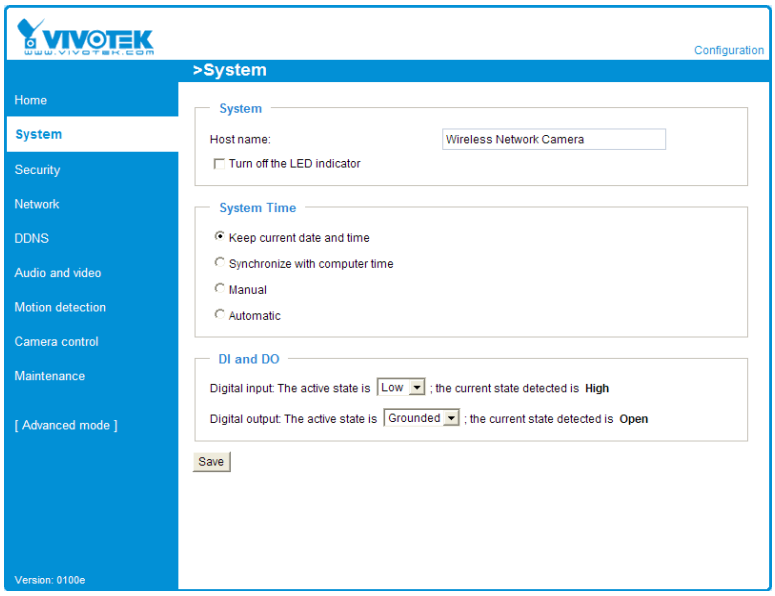
If your access to Internet is via PPPoE, this function will display the public IP provided by your service provider. If your access to Internet is via a router, please consult your network administrator or consult your ISP for a valid public IP.



Camera Settings

Right-click the device, then click **Camera Settings** to open a brower's session to the camera.



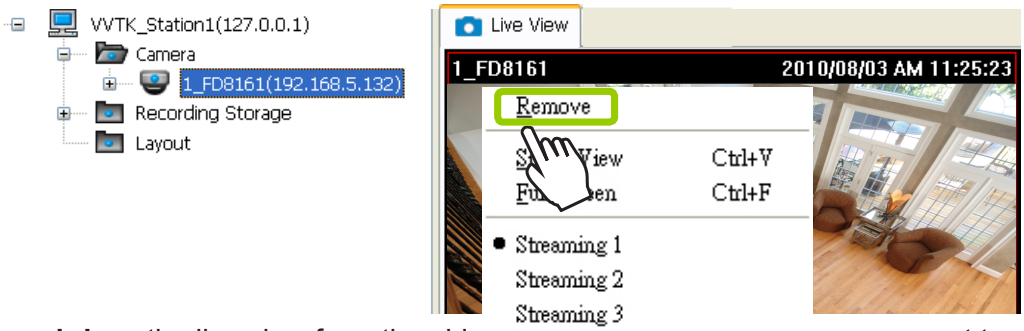


You must have an IE browser rev. 8.0 or above for opening a management session.

Remove Live Video from the Video Monitoring Window

There are two ways to remove a live video from the video cell:

Method 1. **Right-click** the video cell and select **Remove**.



Method 2. **Drag-and-drop** the live view from the vide nanagement tree window.

If you want to remove all live videos from the video cells, please click on the menu bar.

How to Change the LiveClient Layout

Changing the Layout of the Live Video Monitoring Window

VIVOTEK LiveClient supports up to 32-CH simultaneous video viewing on a single monitor and allows you to change the layout of the live video monitoring window based on the number of inserted devices.

Switch Video Channels

To move a video channel to another empty video cell, **drag-and-drop** the view to the target video cell.

To switch two different channels, **drag-and-drop** one view to the other, then the two different channels will be switched to the opposite.

Configure Layout Mode

Click the **Layout** button on the quick access bar. Select a desired layout mode, and the layout window will be changed accordingly. Below we illustrate 11 types of layout modes and the corresponding page numbers:

Layout mode	Description	Video page
1 x 1		32
1P+2		20
2 x 2		8
1 + 5		4
1P+6		8
3 x 3		3
1P+8		6
1 + 12		2
4 x 4		2
5 x 5		1
1 + 31		1

P-PTZ modes

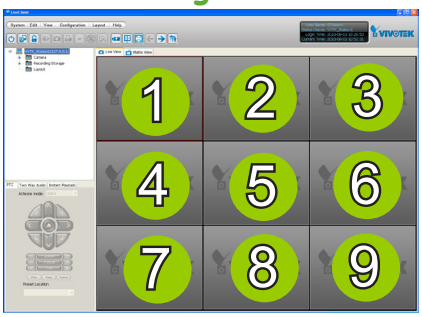
More than 1 video page; rotation function is enabled

Only 1 video page; rotation function is disabled

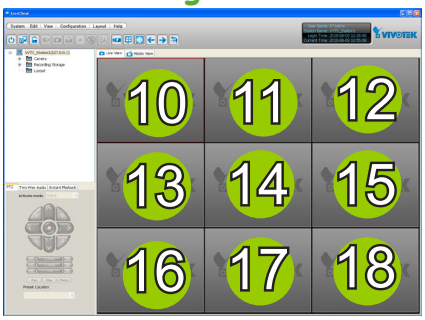
Some layout modes (1 x 1, 2 x 2, 1 + 5, 3 x 3, 1 + 12, 4 x 4) will divide all video channels into several pages.

For example, under 3 x 3 layout mode, you can switch among the pages by clicking and on the quick access bar. To arrange the content of each page, manually **drag-and-drop** cameras from the hierarchical management tree to the video cells on each page.

Page 1



Page 2



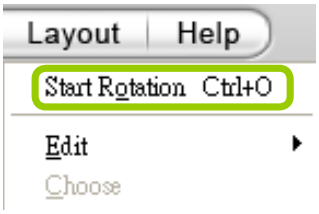
Page 3

Rotating Video Pages

For layout modes that contain more than one page, ST7501 LiveClient offers the rotating function for displaying all video pages in turn.

- To enable this function, click on the Quick Access Bar, which will become **Stop Rotating**, and the video pages will start to rotate so that the user does not have to click to move to the next page.
- To disable this function, click **Stop Rotating**, which will become on the Quick Access Bar.

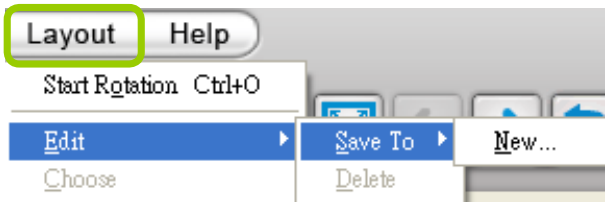
You can also click **Layout > Start to Rotate/Stop Rotating** to enable/disable this function.

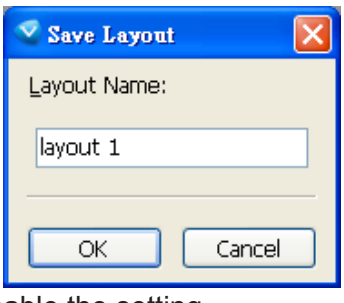


The default rotating time interval is 6 seconds. If you want to edit rotation settings, please refer to **Rotation Settings** on page 132.

Edit Layout

Please follow the steps below to save a layout:
a. Arrange a layout mode and drag devices to their desired video cells.
b. Click **Layout > Edit > Save to > New** on the menu bar. A **Layout Name** dialog box will pop up.

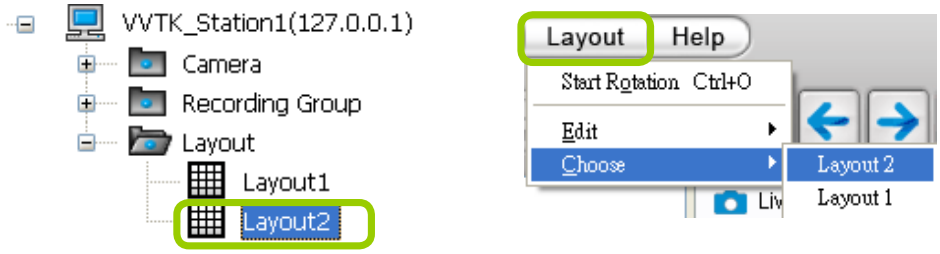




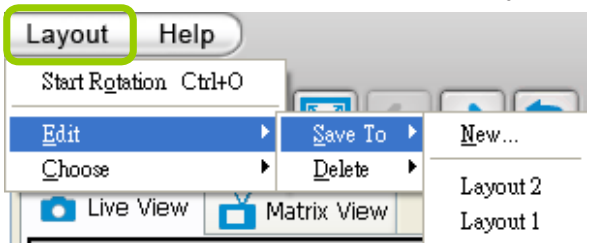
c. Enter a name for the the layout, then click **OK** to enable the setting.

d. Back to the monitoring window, the new layout will be displayed under the hierarchical management tree as shown below. You can save up to 10 layouts.

e. To change to another layout, **double-click** the layout options on the hierarchical management tree, or click **Layout > Choose** on the menu bar to select a desired layout.

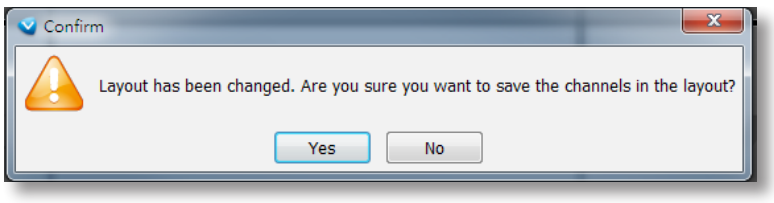


- If you want to edit an existing layout, arrange a layout mode and drag devices to the desired video cells, then click **Layout > Edit > Save to > New** to save as a new layout or an **existing layout** to replace with the new one.



- If you want to delete an existing layout, **right-click** the layout item on the hierarchical management tree or click **Layout > Edit > Delete** on the menu bar to delete it.

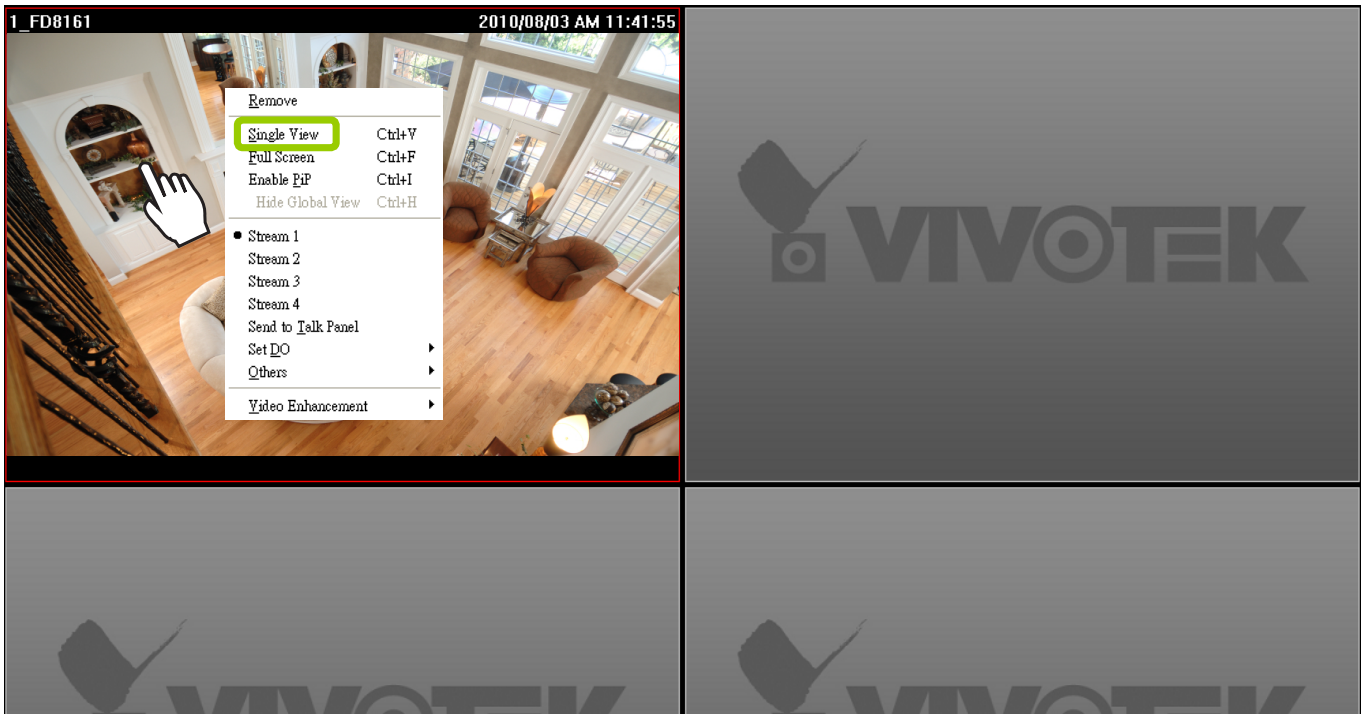
Whenever you close the LiveClient or Playback programs and changes in screen layout have been made, you will be prompted to save your current configuration.

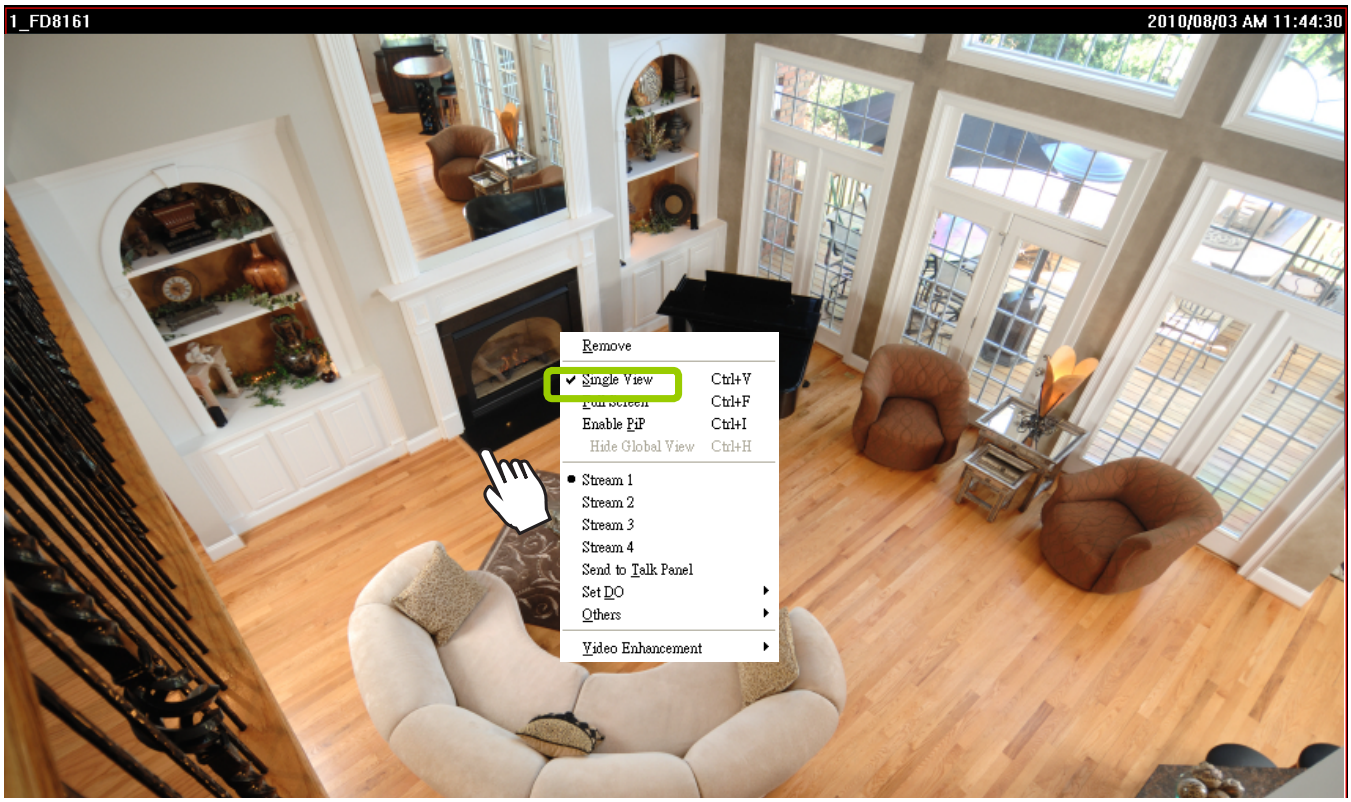


Maximize/Minimize the Live Video Monitoring Window

- Single View: to maxmize a video cell to the entire live video window

Double-click the video cell, or **right-click** the video cell and select **Single View**. The focused video will occupy the entire playback window as shown below.



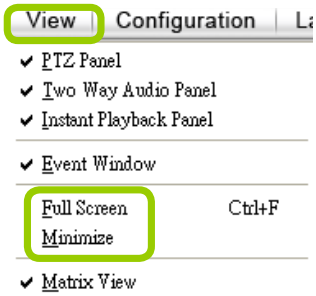


To restore to the original layout, **double-click** the video cell or **right-click** the video cell and uncheck **Single View.**

- Full Screen: Maximize the live video monitoring window to the entire screen

Click **Full Screen** on the quick access bar or **right-click** the video cell and select **Full Screen**. In addition, you can also click **View > Full Screen** on the menu bar to maximize the live video monitoring window.

To restore to the original layout, you can **right-click** a video cell and uncheck **Full Screen** or press the **Esc** button on the keyboard to exit full screen mode.



- Minimize: If you click **View > Minimize** on the menu bar, LiveClient will minimize to the Windows tool bar.

View Live Video on Dual Monitors

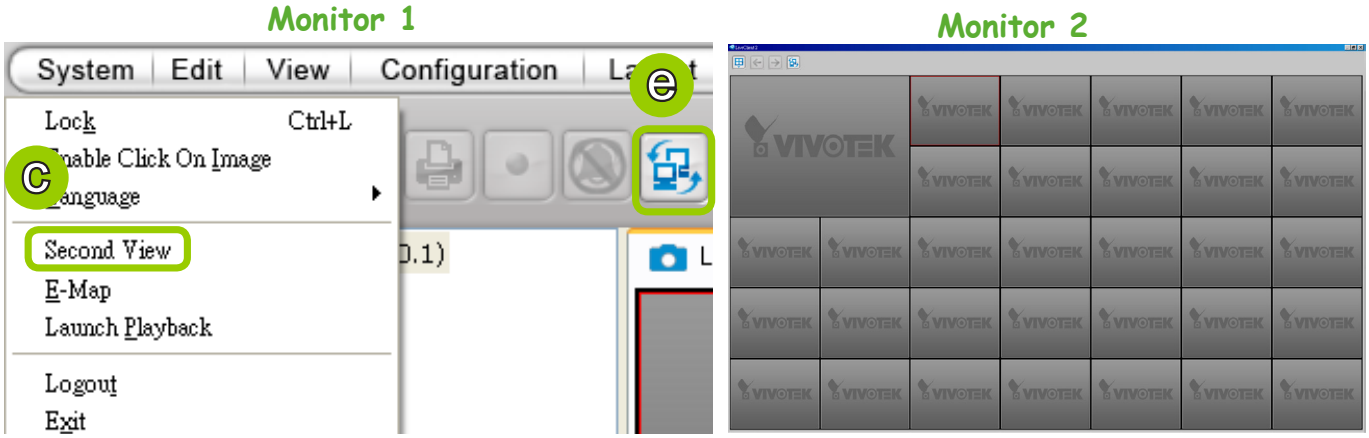
The software also supports live video viewing on dual monitors, allowing you to manage maximum 64 channels on two screens concurrently. Moreover, the layout of the video monitoring window on different monitors can be set up individually.

Please follow the steps below to set up dual-screen mode:

a. Set up dual monitors for your local computer.

b. Launch the LiveClient on monitor 1.

c. Click **System > Second View** on monitor 1, then the live video monitoring window will be displayed in monitor 2 as shown below.



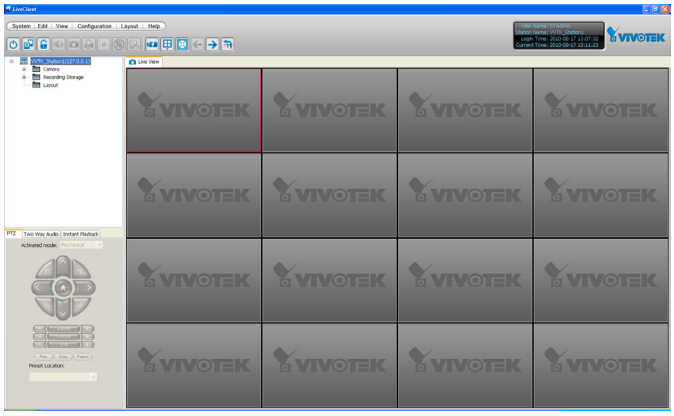
d. There are two ways to view live videos. One is to **drag-and-drop** the target device from the hierarchical management tree window to the video cells. The other is to click any video cell on monitor 1 or monitor 2, then **double-click** the target device; the live video will be displayed in monitor 1 or 2 in accordance with your selection.

e. If you click **Switch Screen** on the quick access bar, the live monitoring window on monitor 1 and monitor 2 will swap.

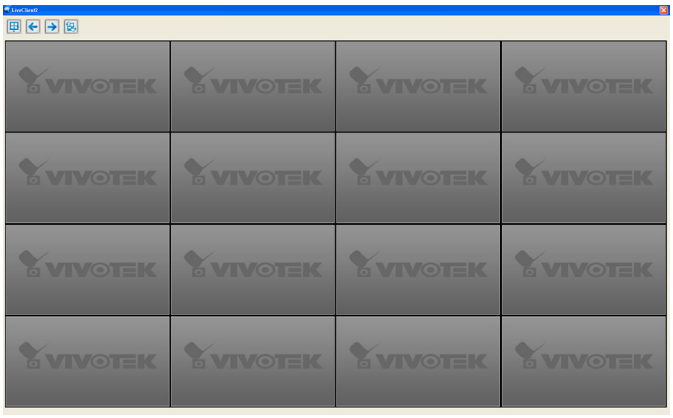
View up to 32 channels simultaneously

If you select 4x4 layout on dual screens, you can view a maximum of 64 channels live video simultaneously. In this case, each layout contains 32 channels on 1 video page.

Monitor 1 - 16 channel



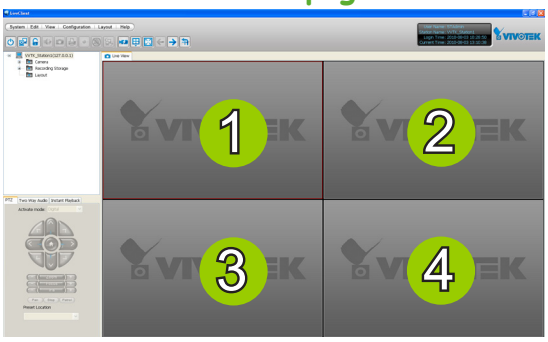
Monitor 2 - 32 channel



Using different layouts on each monitor

You can also select different layout for two monitors, simply click the **Layout** button on the quick access bar. Below is an example of the 2x2 layout with 8 video pages on monitor 1 and the 4x4 layout with 2 video pages on monitor 2. You can click and to switch among the video pages.

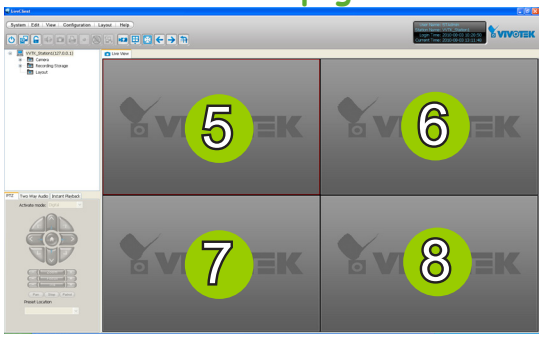
Monitor 1 - page 1



Monitor 2 - page 1

Monitor 1 - page 2

Click

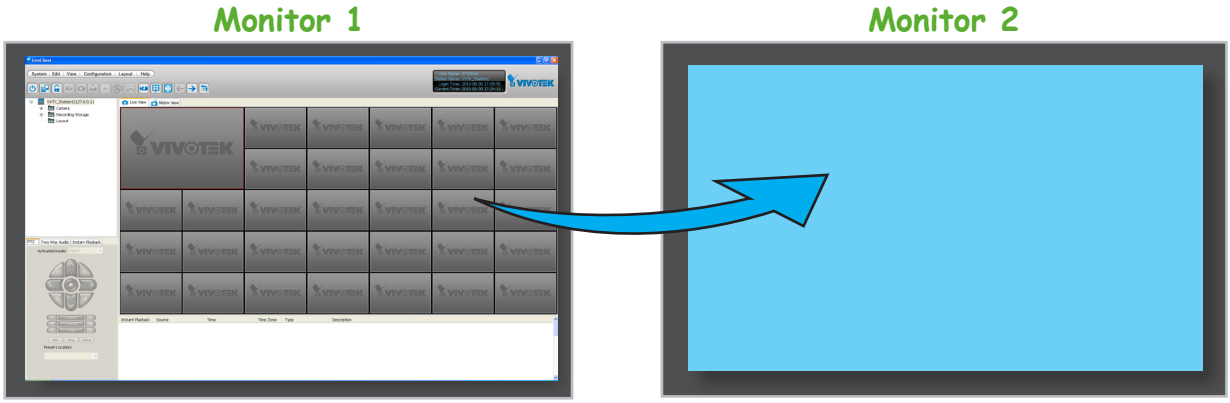


Monitor 1 - page 4

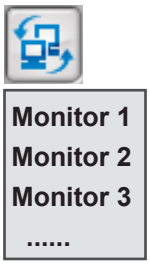
View Live Video with Multiple Monitors

If you have multiple screens in your monitoring center, you can switch the LiveClient Window among these screens.

- If you have two monitors, click **Switch Screen** on the menu bar; the LiveClient window on monitor 1 will switch to monitor 2.



- If you have three or more monitors, a drop-down list will be displayed when you click **Switch Screen** on the menu bar. The number of items on this list depends on the number of your screens. Select a desired screen on the drop-down list and the LiveClient Window will switch to the specified screen.



How to Manage User Accounts

The software allows users to apply multiple user accounts to a station with five levels of user roles: Administrator > Power User > User > Operator > Guest. Each role has different permissions listed as shown below. Moreover, Administrators have the highest privileges, while Power Users can only add/edit users as Power Users, Users, Operators, and Guests.

The Default User Roles and Permissions of User Accounts

Functions \ User Roles	Administrator	Power User	User	Operator	Guest	Description
User Management	V	V	V			Manage user accounts
Camera Management	V	V				Insert and configure the camera settings
Association Management	V	V	V			Access and modify the association settings
Access Event Management	V	V	V			Access event management
Modify Event Management	V	V	V			Modify event management
General Station Settings	V	V				Modify general station settings
Station Network Settings	V	V				Modify network settings
Access Recording Storage/ Recording Schedule Settings	V	V	V	V		Access the recording group and recording schedule
Modify Recording Storage/ Recording Schedule Settings	V	V	V			Configure the recording group and recording schedule
Manually Record	V	V	V	V		Enable the recording function manually
Scheduled Backup Settings	V	V	V			Configure backup schedule
Access Server Settings	V	V	V			Access server settings
Modify Server Settings	V	V	V			Modify server settings
License Management	V	V				Allow user to manage station licenses
Relay Management	V	V				Allow user to manage station relaying settings
Client Settings	V	V	V	V		Configure the client settings: snapshot, AVI, etc.
Video Enhancement Settings	V	V	V			Allow user to edit profile for video enhancement and assign profile to camera in LiveClient

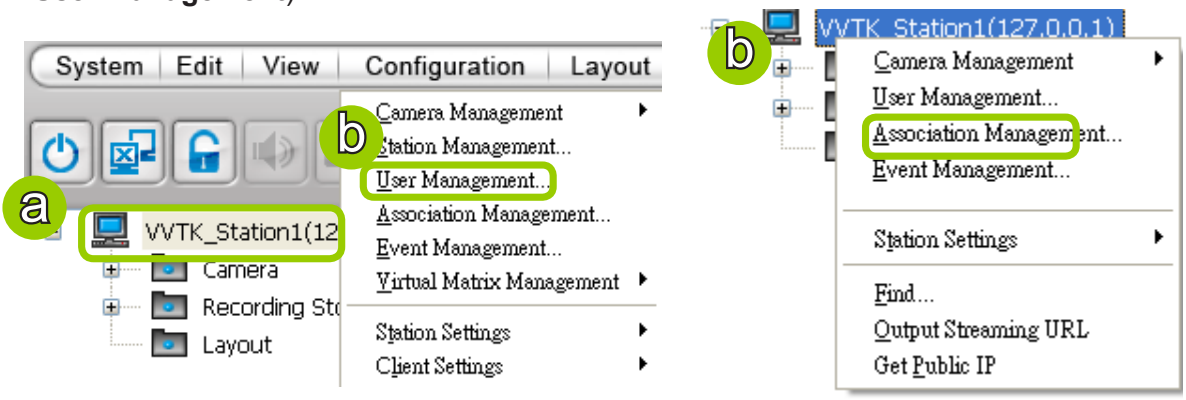
Privileges \ User Roles	Administrator	Power User	User	Operator	Guest	Description
Modify Directories	V	V	V			Add, remove and rename directories
Delete Camera	V	V				Delete camera from the station
PTZ Control	V	V	V	V		PTZ control for PTZ cameras and speed domes in LiveClient
Device Control	V	V	V	V		Control the digital output or white light/IR illuminators of the cameras
Talk Control	V	V	V	V		Two way audio function for the cameras
Access Camera Configuration	V	V	V			Access the camera settings
Modify E-map	V	V	V	V		Allow user to modify the E-map
Event Search	V	V	V	V		Use built-in search engine to search specific events
Log Viewer	V	V	V	V		Use built-in search engine to search the log
Backup	V	V	V	V		Back up database manually
Record/Export Media	V	V	V	V		Record live stream or export playback stream to local files
Playback Authority	V	V				Allow user to access Playback

Manage a User Account

Add a New User Account

a. Select the station from the hierarchical management tree.

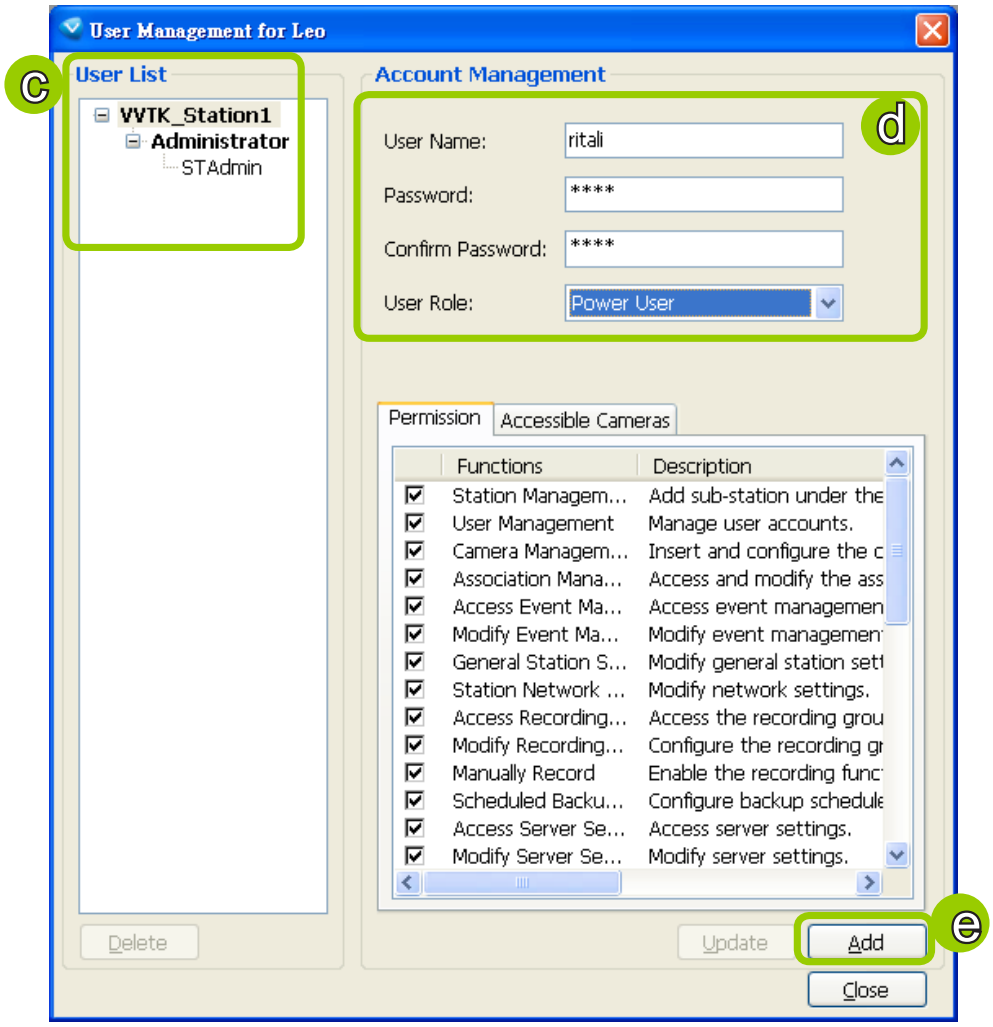
b. Click **Configuration > User Management** on the menu bar (or **right-click** the station, then select **User Management**).

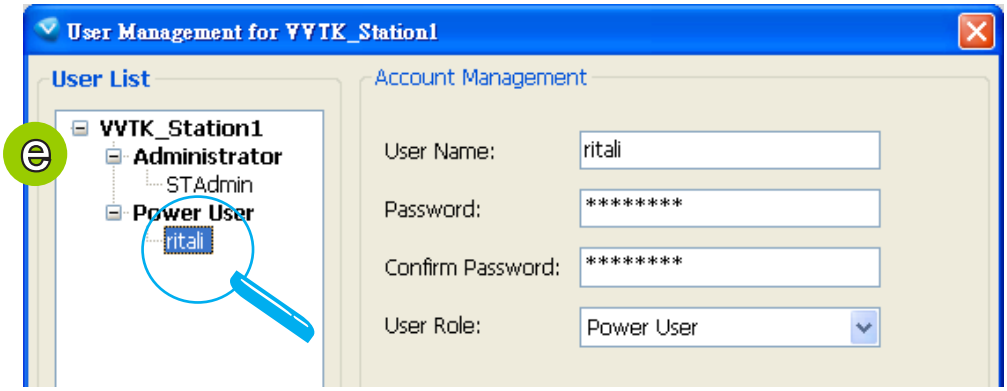


c. The **User Management** window will pop up. The user accounts under the station will be displayed under the left User List tree.

d. Enter the **User Name**, **Password,** and specify the **User Role** of this user.

e. Click **Add** to add the user account to the station. It will be displayed under the User List.



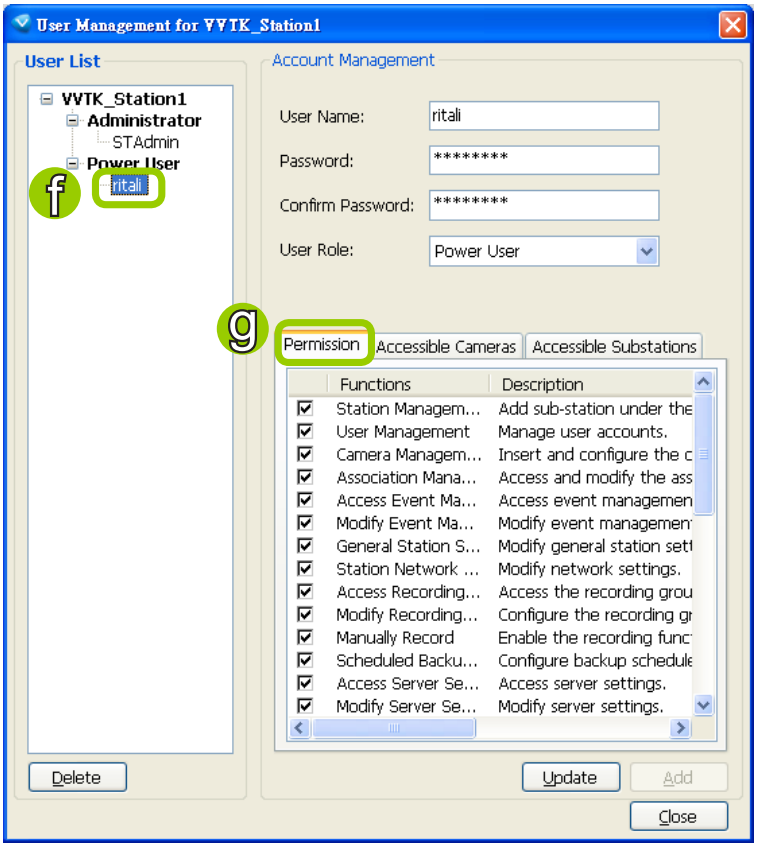


Permission of the User Account

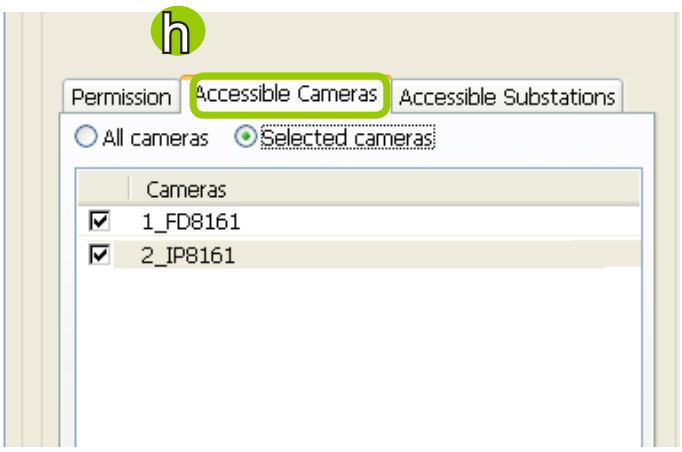
Administrator is granted with all access privileges, while other user roles' permission is limited. If you want to modify the permission, please login as the Administrator to configure the settings.

f. Select a User account from the User List tree.

g. If you want to set the limit of the permission of the user, click **Permission** tab to check or uncheck the items.



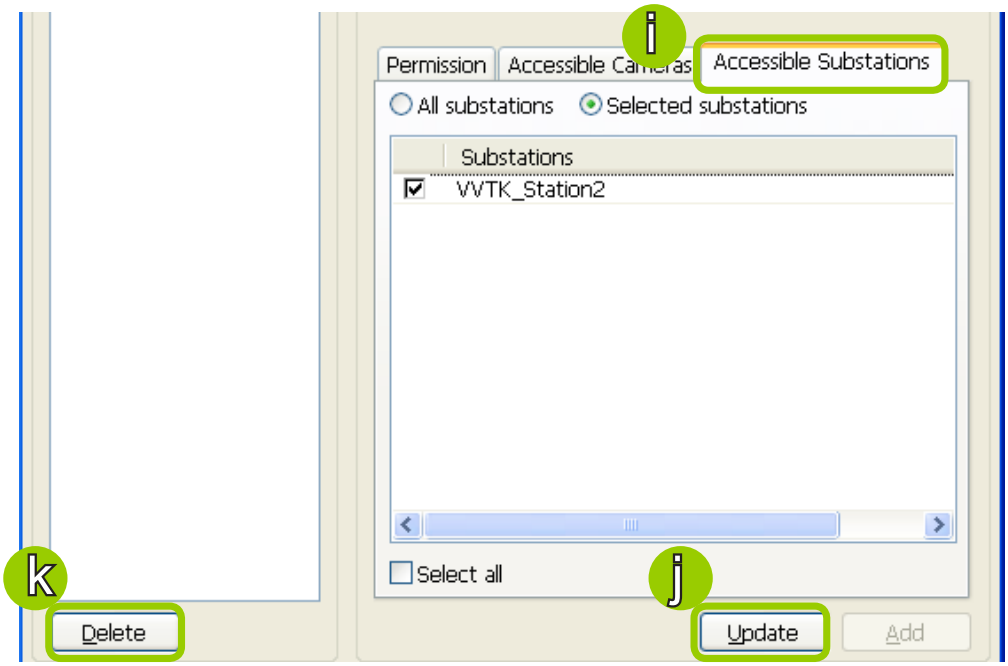
h. If you want to limit the devices accessible by the user, click **Accessible Cameras** tab to select the desired devices.



i. If you want to set the access limit of the sub-station accessible by the user, click **Accessible Substations** tab to select the desired devices.

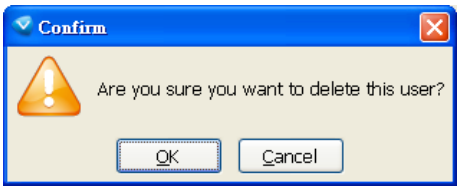
If you want to remove access permission mentioned above from the account, the user will not able to operate some functions listed in the following warning dialog.

j. When completed, click **Update** to enable the new settings.



Delete the User Account

k. Click **Delete**, a delete user dialog will pop up. Click **OK** to delete the user account.



If the Administrator modifies or deletes the User Account, that modified user might be kicked off from the station.

How to Set up Association Management

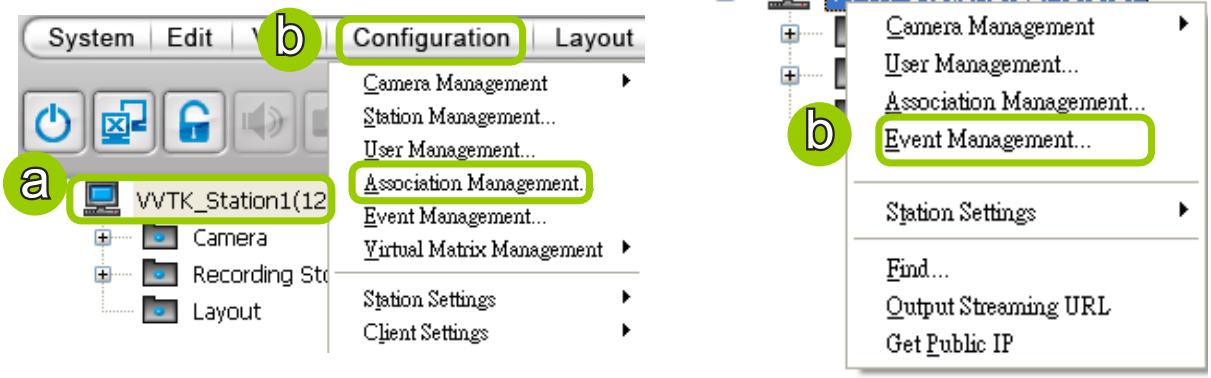
The LiveClient supports association management which allows the user to configure relative event trigger notifications of connected network devices. (Eg. DI/DO status on the hierarchical management tree, motion detection windows appear in the video cell, the event list in the event window)

Association Management

Please follow the steps below to configure assocation settings:

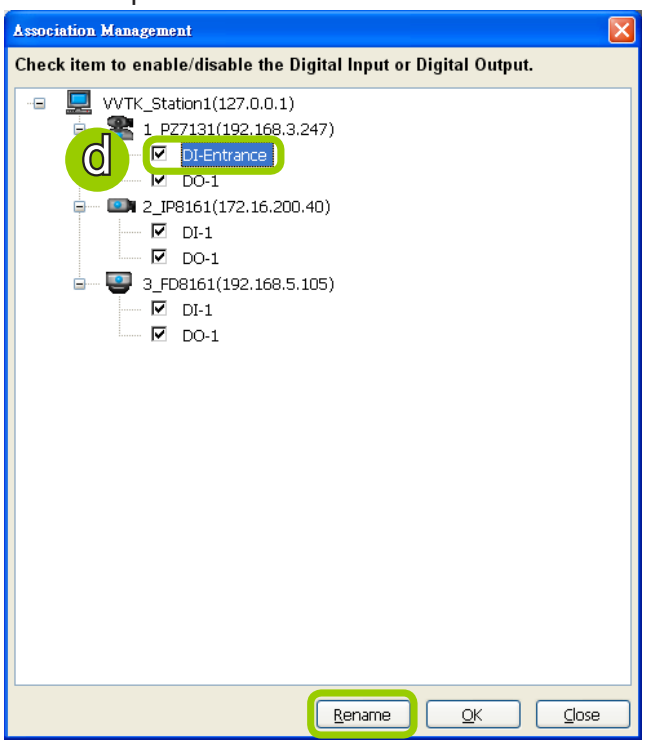
a. Select the station from the hierarchical management tree.

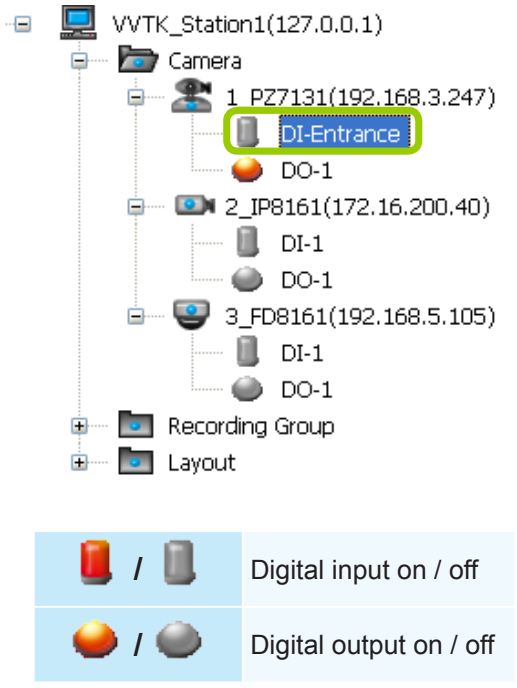
b. Click **Configuration > Association Management** on the menu bar (or **right-click** the station and select **Association Management**).



c. The **Association Management** window will pop up. Check or uncheck the items and click **Save** to enable the settings. The items you've selected will also be displayed under the hierarchical management tree.

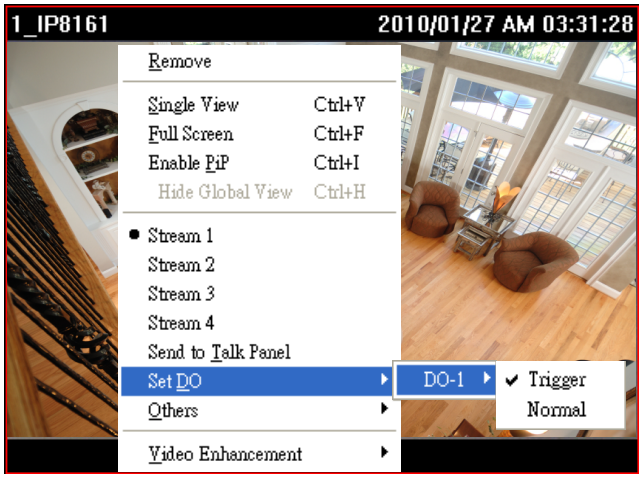
For example:

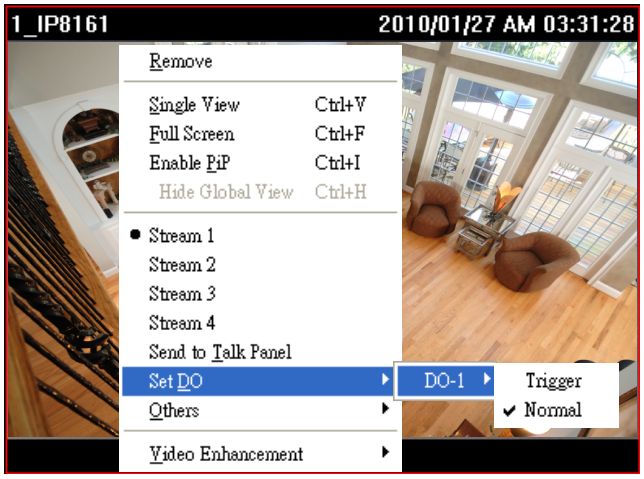




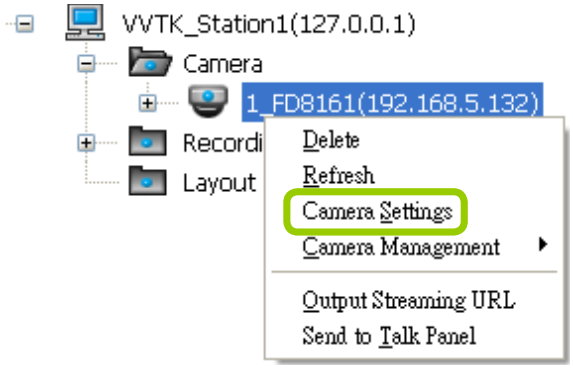
d. If you want to rename the DI device, select the DI item and click the **Rename** button. It will be very convenient for you to recognize the target DI device.

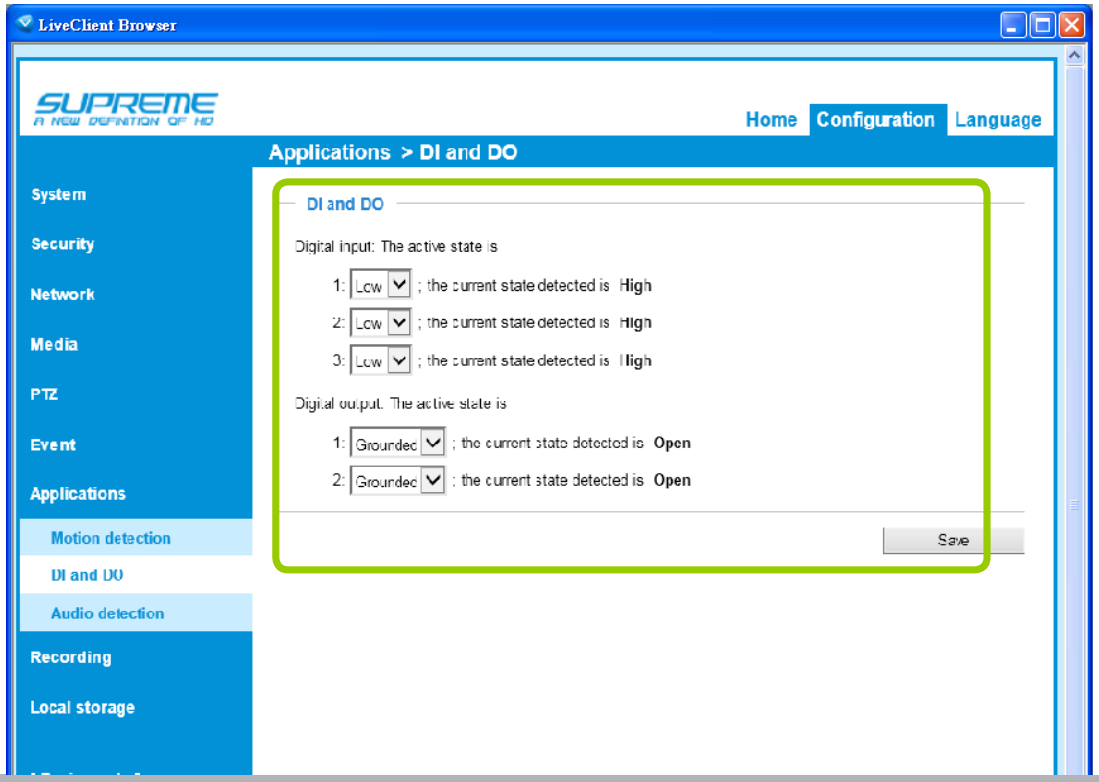
- *To manually enable DI/DO settings, please **right-click** the video cell and select **Set DO** to enable (**Trigger**) or disable (**Normal**) the digital output of the linked device.*





- *Before you configure the DI/DO Settings, please enable DI/DO settings on your network device and set up the camera correctly on the configuration page. You can **right-click** the device and click **Camera Settings** to open the configuration page.*





How to Set up Event Management

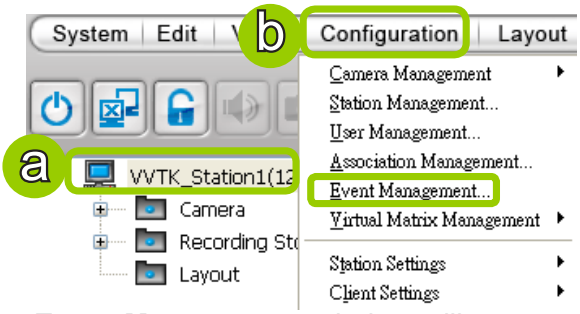
The LiveClient supports event management which allows the server to respond to particular situations (events).

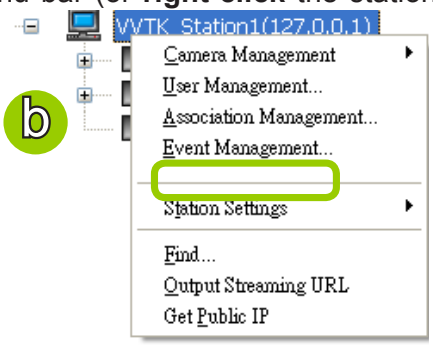
Event Management

Please follow the steps below to configure event management:

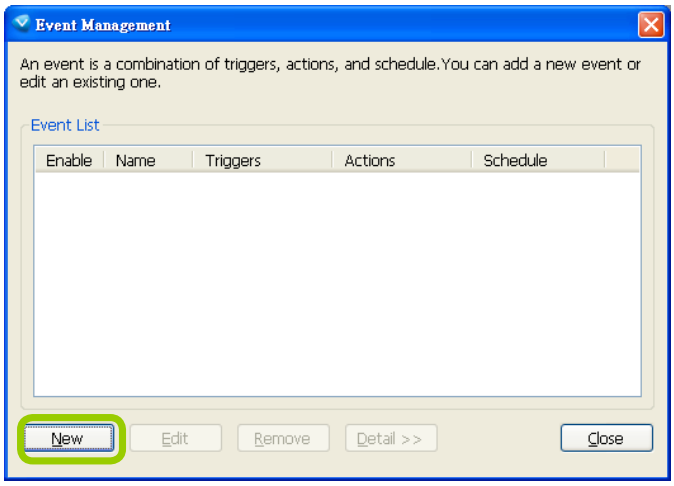
a. Select the station from the hierarchical management tree.

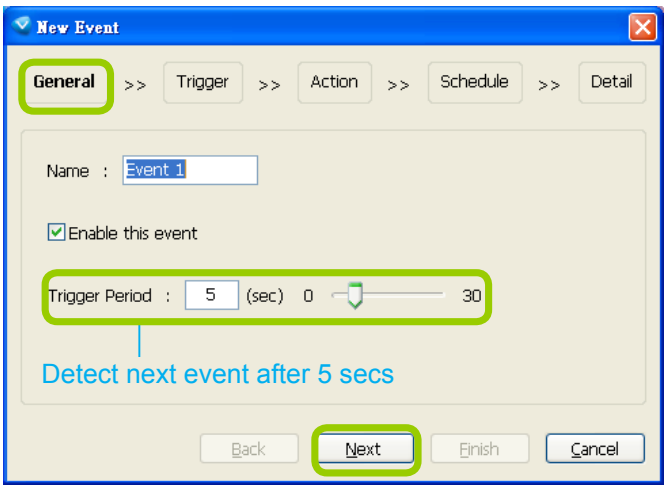
b. Click **Configuration > Event Management** on the menu bar (or **right-click** the station and select **Event Management**).



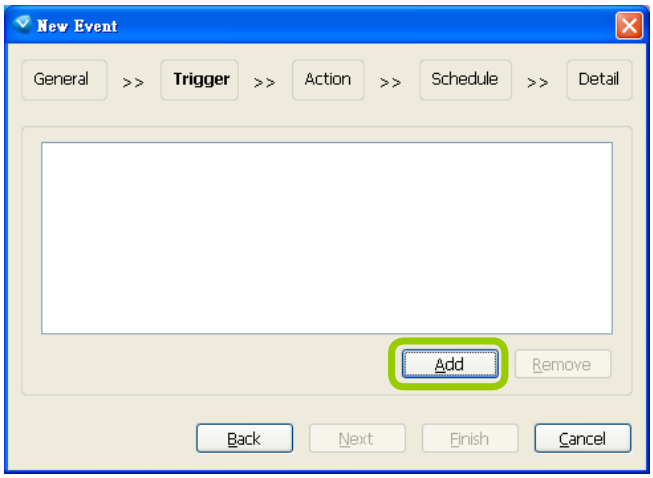


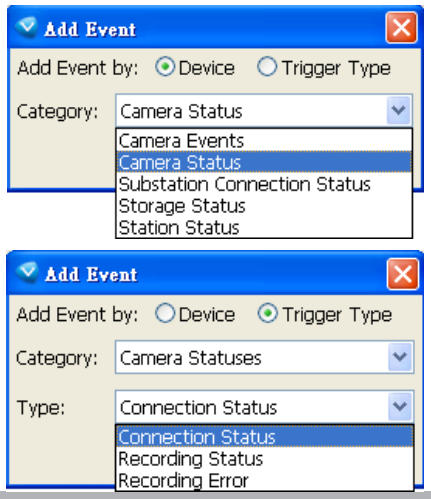
c. The **Event Management** window will pop up. Click **New** to set up a new event. When you finish the general settings, click **Next** to set up trigger source settings.



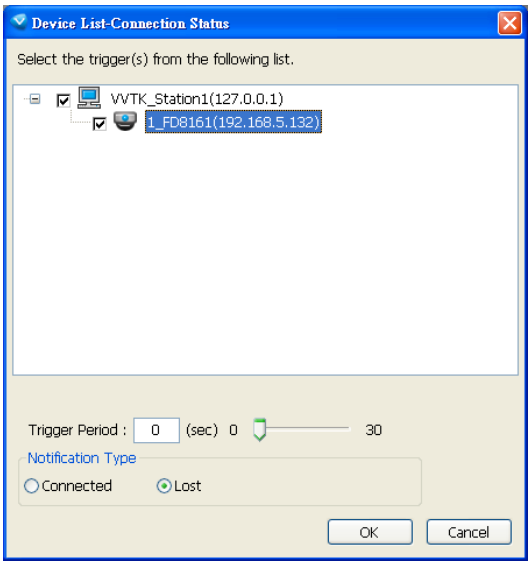


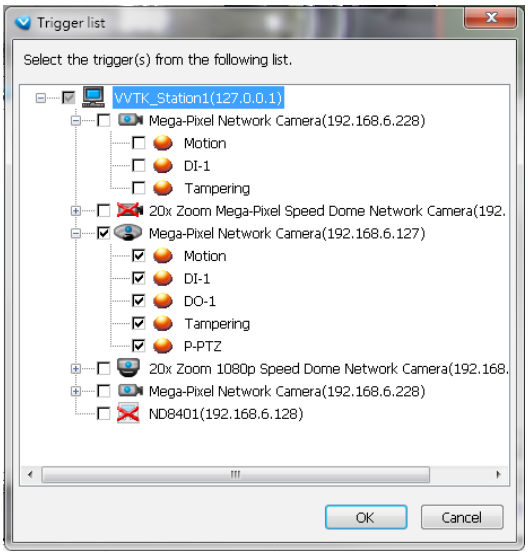
d. Click **Add** to select the trigger source by Device or Trigger Type.





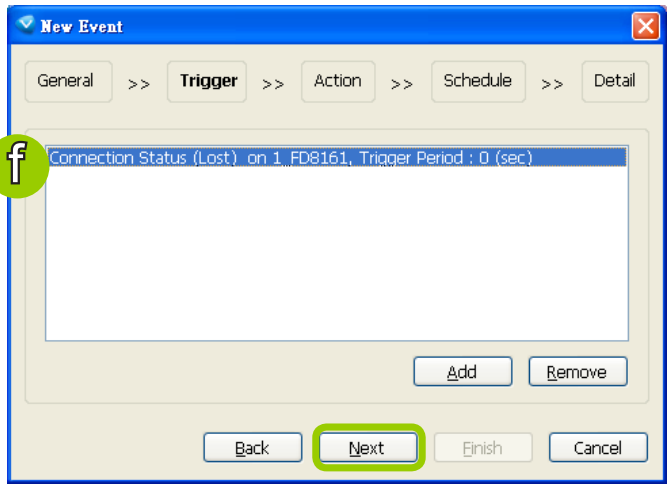
e. The Device List window will pop up. Select one or more devices and set the Notification Type. Depending on the trigger source, the Notification Type will be different. Then click **OK** to close the window.

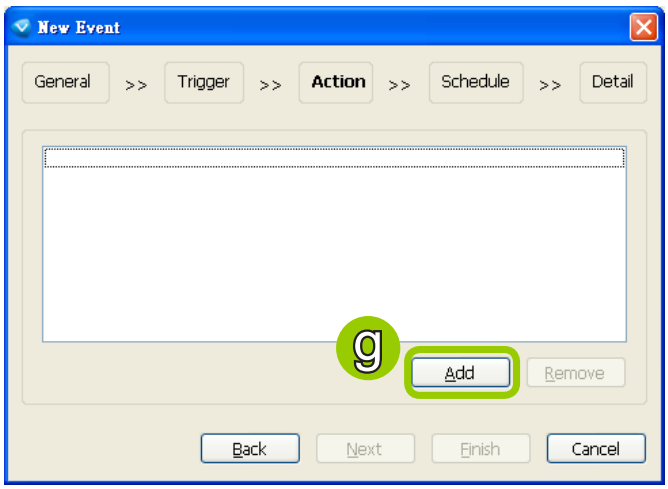




f. The trigger source(s) will be listed on the window as shown below. If you want to add more Trigger sources, click **Add** and repeat d.~e. Then click **Next** to assign action(s) to the trigger source(s).

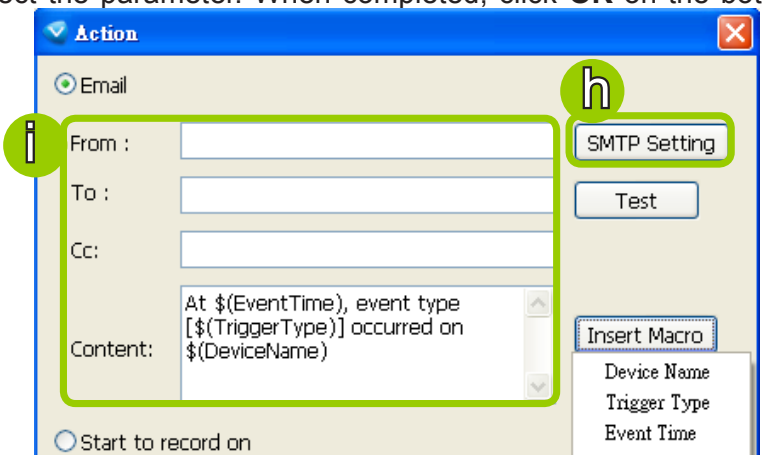
g. Click **Add** to open the **Action** Settings window.



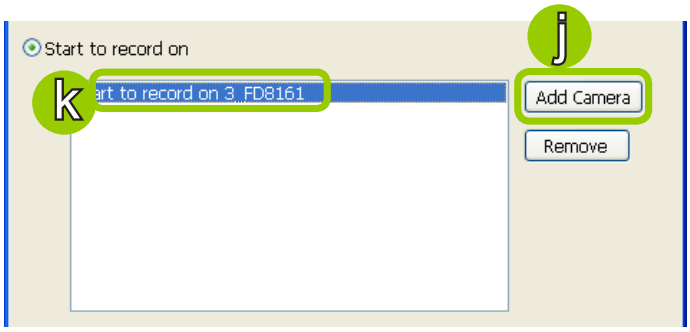


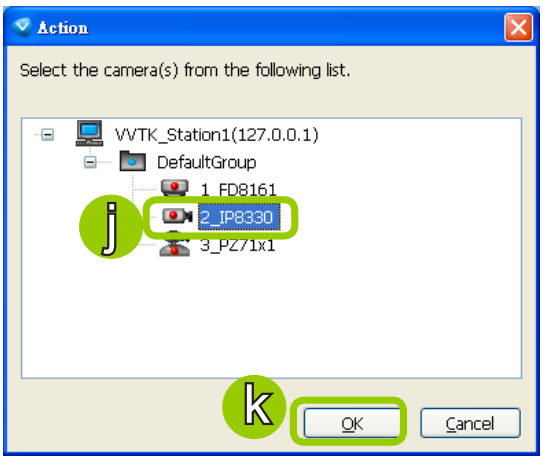
There are several types of Action Settings.

- Email: The sever will send a notification via e-mail when a trigger is activated.
  h. To enable this function, please set up the SMTP server first. Click **SMTP Setting** to open the window and refer to page 108 for detailed information.
  i. Enter the related informtaion. You can modify the mail content in the blank. If you want to modify the content, click **Insert Macro** to select the parameter. When completed, click **OK** on the bottom to enable the setting.

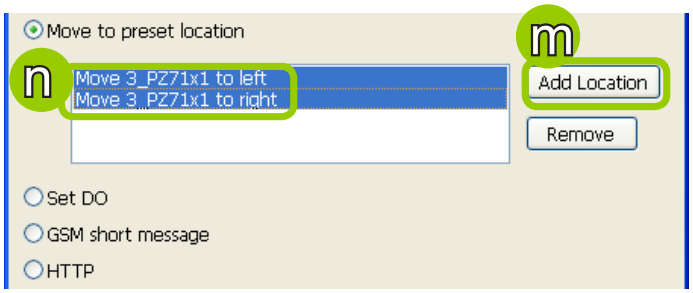


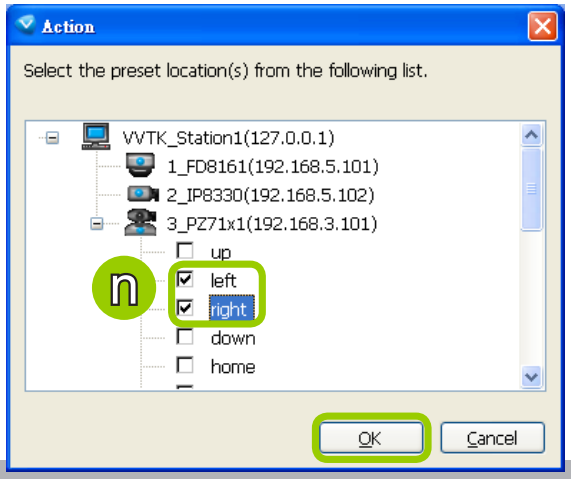
- Start to record on: The sever will start to record video from selected camera(s) when an event is triggered.
  j. Click **Add Camera** to select the target camera(s).
  k. The selected camera(s) will be listed on the left window below. When completed, click **OK** on the bottom to enable the setting.



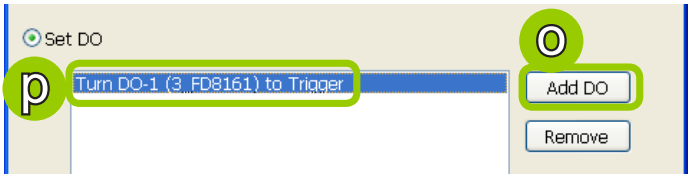


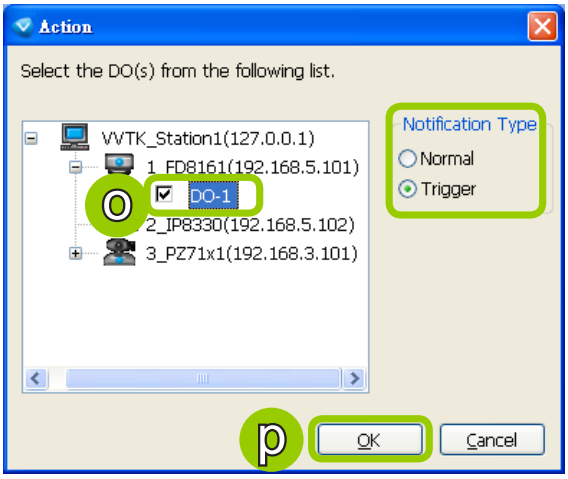
- Move to preset location: The target camera(s) will move the shooting area to the preset location(s) when an event is triggered.
  l. To enable this function, please set preset locations on the camera configuration page first.
  m. Click **Add Location** to select preset location(s).
  n. The selected preset location(s) will be listed on the left window below. When completed, click **OK** on the bottom to enable the setting.





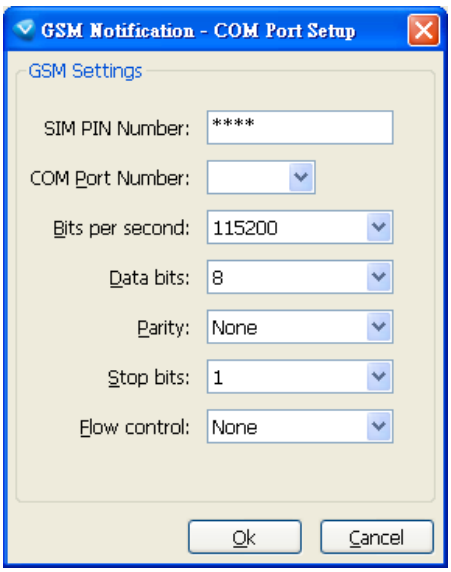
- Set DO: Select this option to turn on external digital output device(s) when an event is triggered. For more information about how to set DI/DO settings on the target camera, please refer to page 70.
  o. Click **Add DO** to select DO decive(s) and select a DO status (Normal or Trigger).
  p. The selected DO device(s) will be listed on the left window below. When completed, click **OK** to enable the setting.



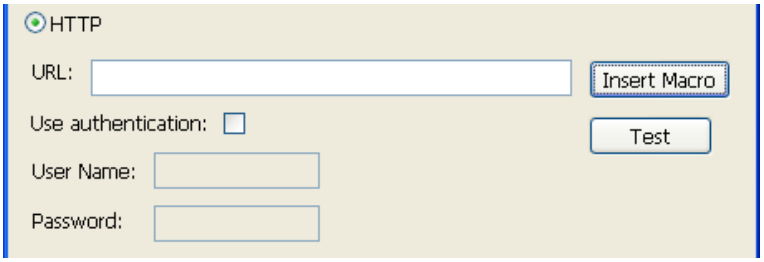


- GSM Short Message: The sever will send a short message to a GSM cell phone when an event is triggered.
  q. Please enter the Phone Number and open **GSM Settings** window to set related information if necessary. When completed, click **OK** to enable the setting.

Please enter the country code if you use overseas call.

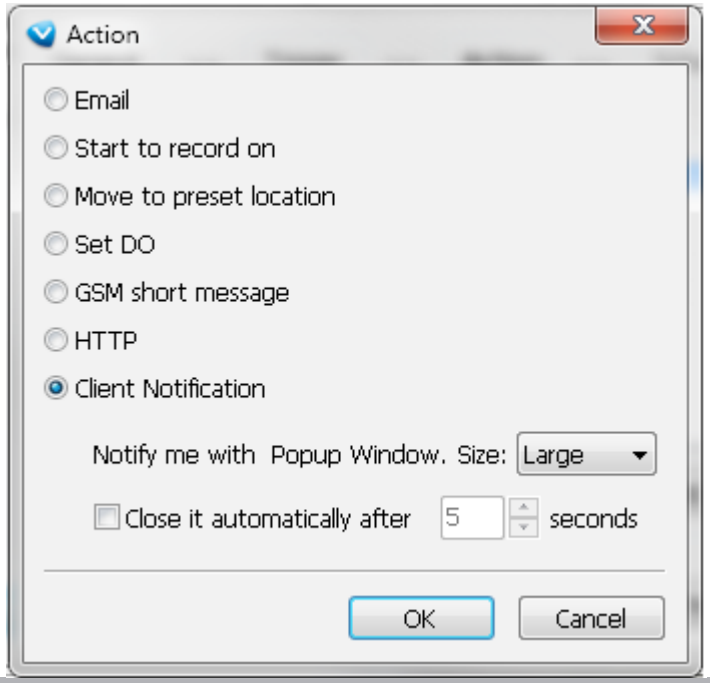


- HTTP: This function allows users to send a CGI command to the linked network camera, such as pan/tilt/zoom function or enable DO devices.
  r. You can click **Insert Macro** to select the parameter. Please enter authentification information if necessary. For example: http://192.168.3.66/cgi-bin/admin/setparam.cgi?system_hostname=$(EventTime) $(CameraName)
  If you want to use special characters such as $-_.+!*'(),#%+$,@:;/?=&, please refer to the following table to transfer the Code (Hex).
  For example: http://192.168.3.66/cgi-bin/admin/setparam.cgi?system_hostname=123&456
  --> http://192.168.3.66/cgi-bin/admin/setparam.cgi?system_hostname=123%26456



Character	Code (Hex)	Character	Code (Hex)
!	21	,	2C
#	23	-	2D
$	24	.	2E
%	25	/	2F
&	26	:	3A
'	27	;	3B
(	28	=	3D
)	29	?	3F
*	2A	@	40
+	2B	_	5F
		~	7E

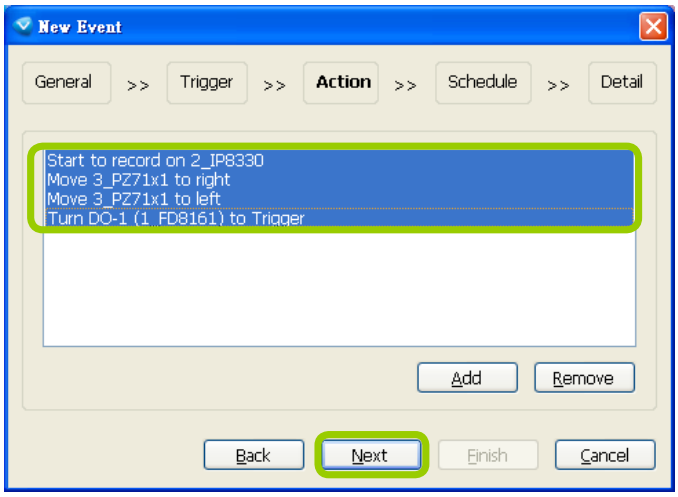
- Client Notification: On the occurence of an event, a pop-up window will display to show what is triggering the current event. Select the window size, and select the display duration of the notification window. If not selected, the notification window is manually closed.

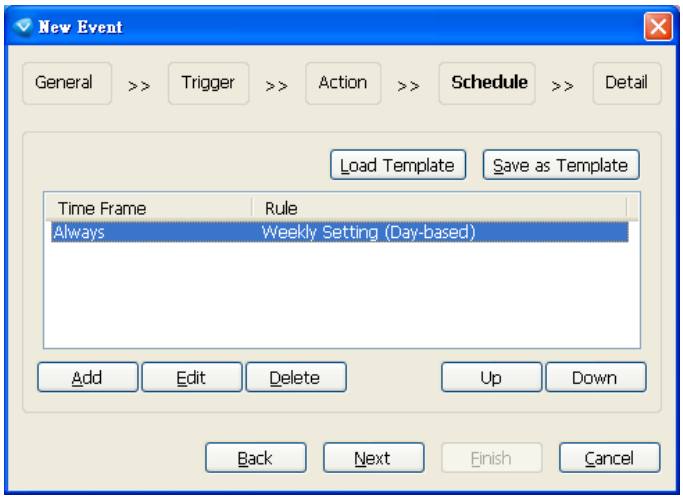


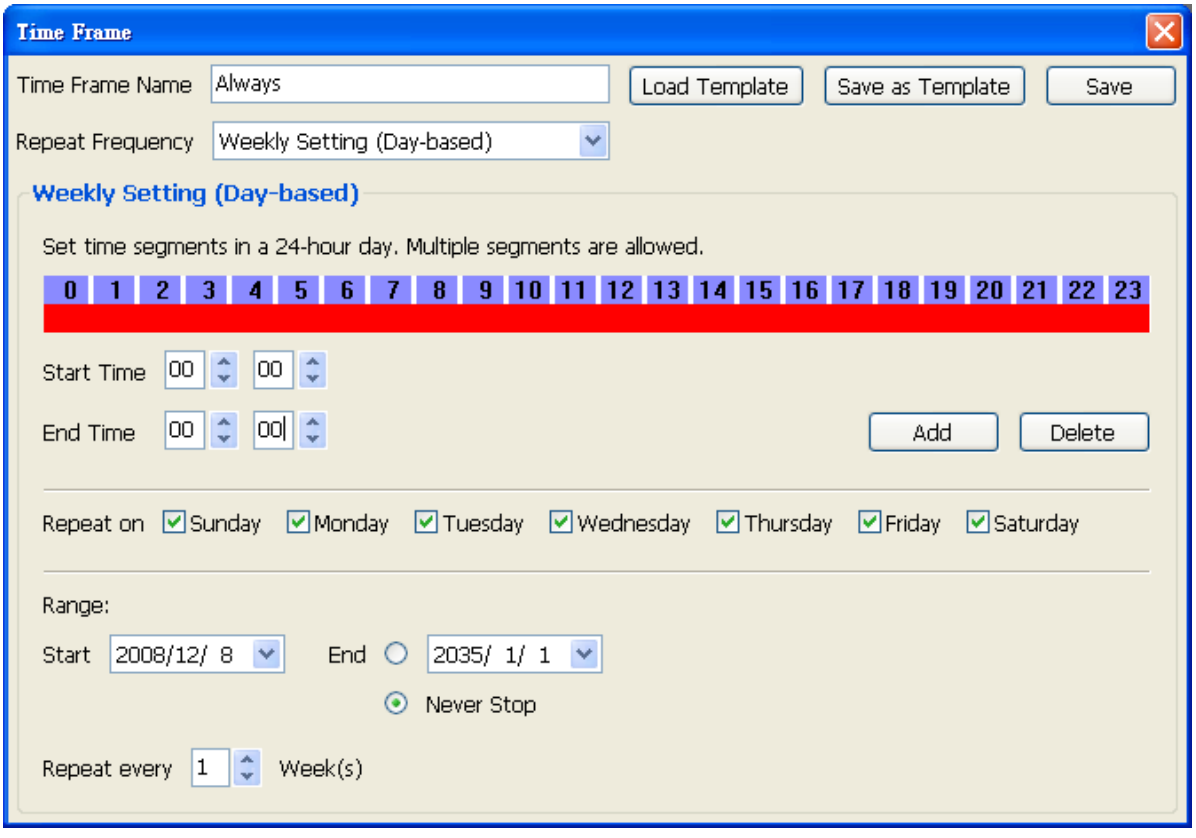
s. The action(s) will be listed in the window as shown below.

Then click **Next** to set up schedule(s) to the action(s).

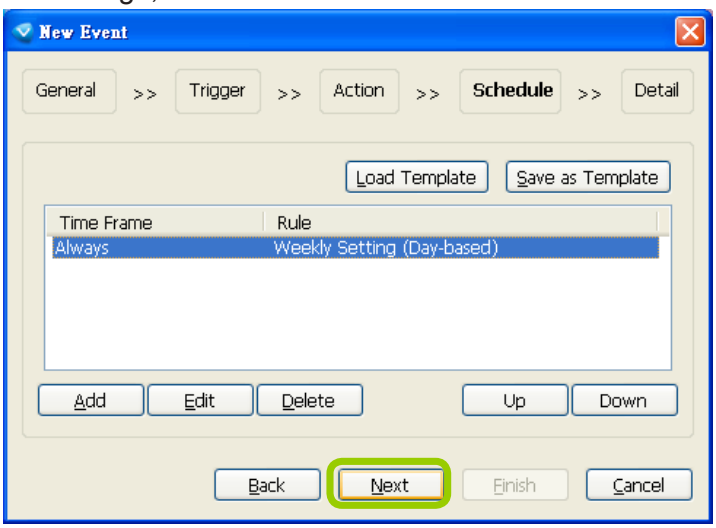
For more information about **Schedule Settings**, please refer to Recording Schedule Settings on page 85. You can assign more than one time frame to one action.



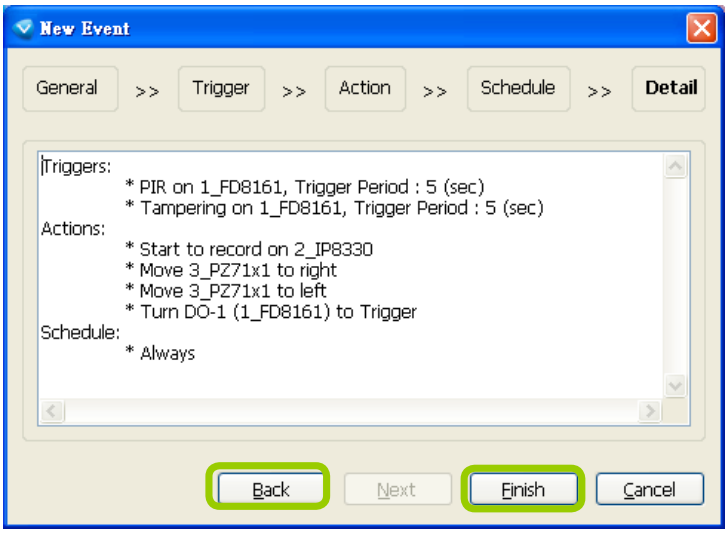




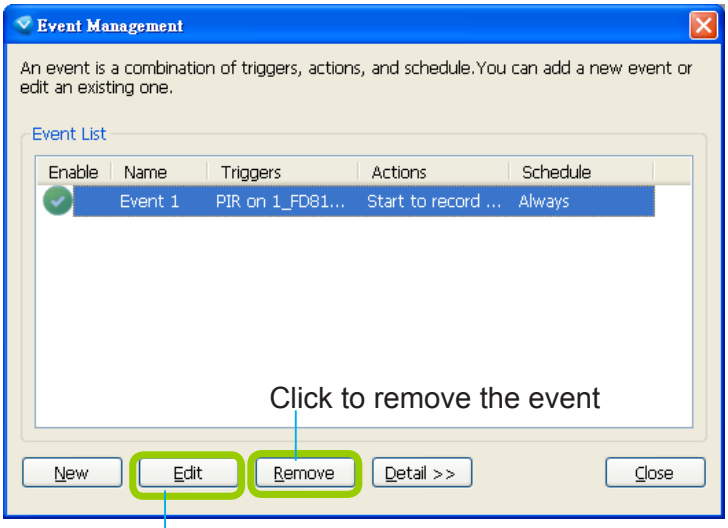
t. When you finish schedule settings, click **Next** to review the detailed information of the new event settings.



u. Following is the detailed information of the new event setting. You can click **Back** to modify the event setting or click **Finish** to close the window.



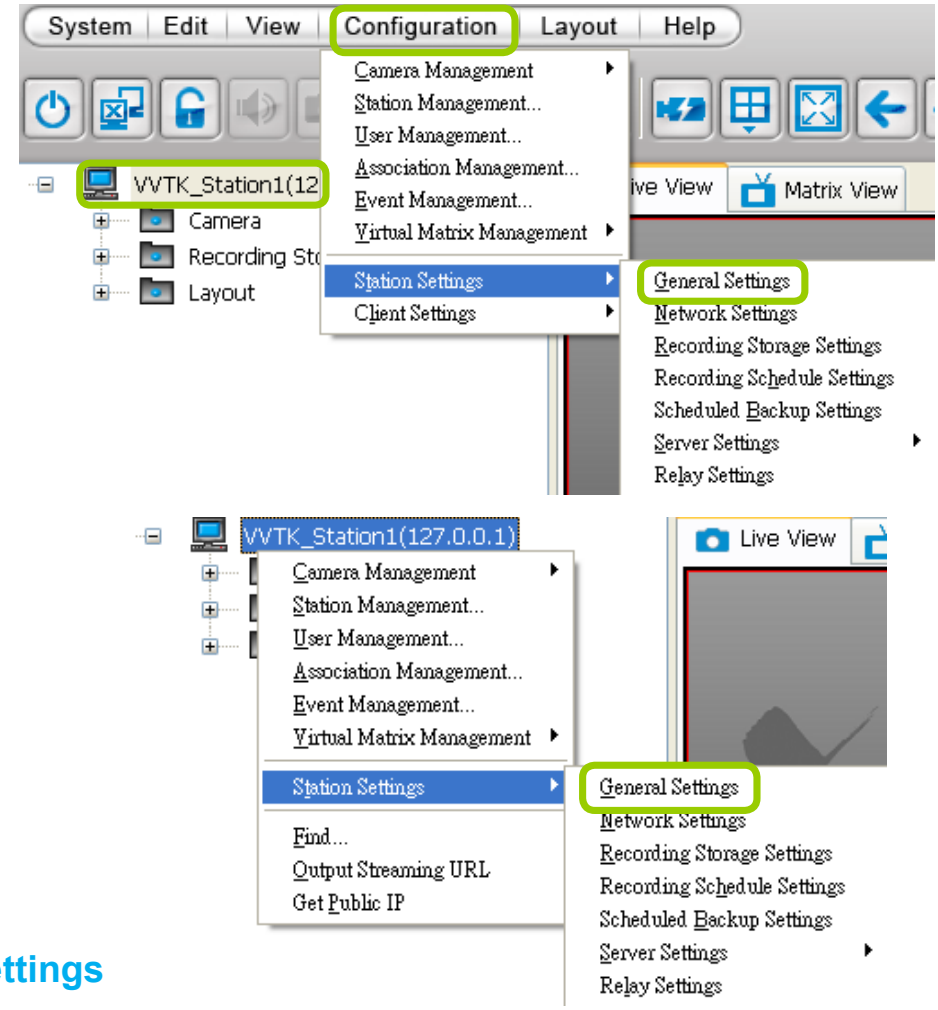
v. Following is an example of an enabled event. You can click **New** to set up more events or click **Close** to exit the window.



*If your target station has sub-station(s), the **trigger sources** can be selected from the device(s) under the sub-station(s); while the **actions** can only be performed on the device(s) under the target station.*

How to Configure the Station General Settings

Select the target station from the hierarchical management tree, then click **Configuration > Station Settings > General Settings** on the menu bar (or **right-click** the station on the hierarchical management tree and select **Station Settings > General Settings**). The **Station General Settings** window will pop up.



Server Settings

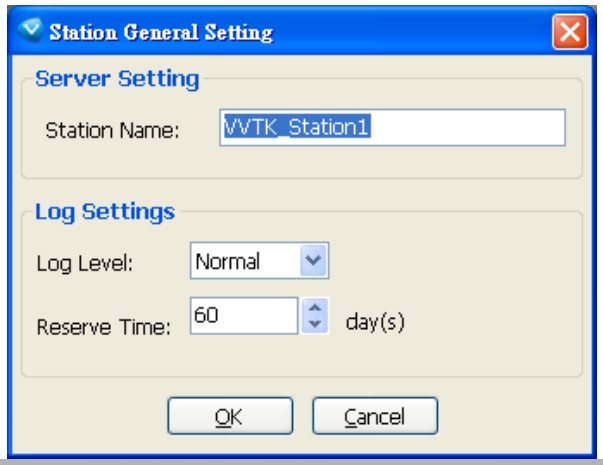
In this section, you can modify the Station Name.

Log Settings

In this section, you can set up **Log Settings** for the station.

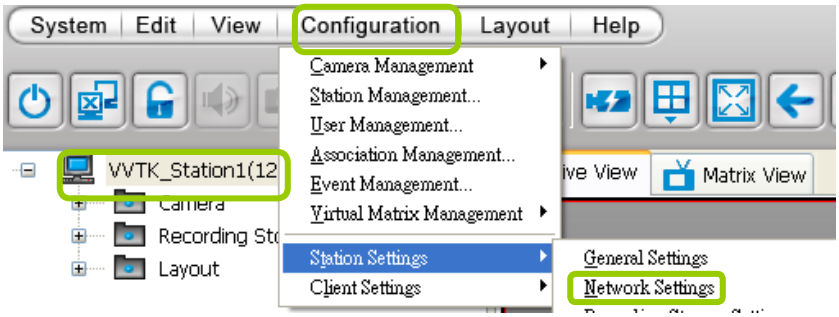
The server allows user to search for the recorded log through the Playback. For more information, please refer to **How to Search Logs** on page 177.

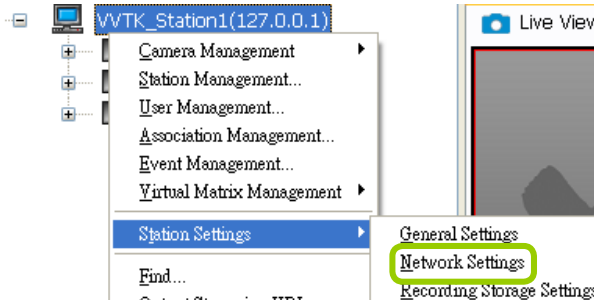
- Log level: Select **High** (only record high-level logs), **Normal** (record high-level and normal-level logs), **Low** (record all logs). For detailed information about log levels, please refer to page 178.
- Reserve Time: Enter the time interval that you want to reserve the log record. The maximum value is 365 days.

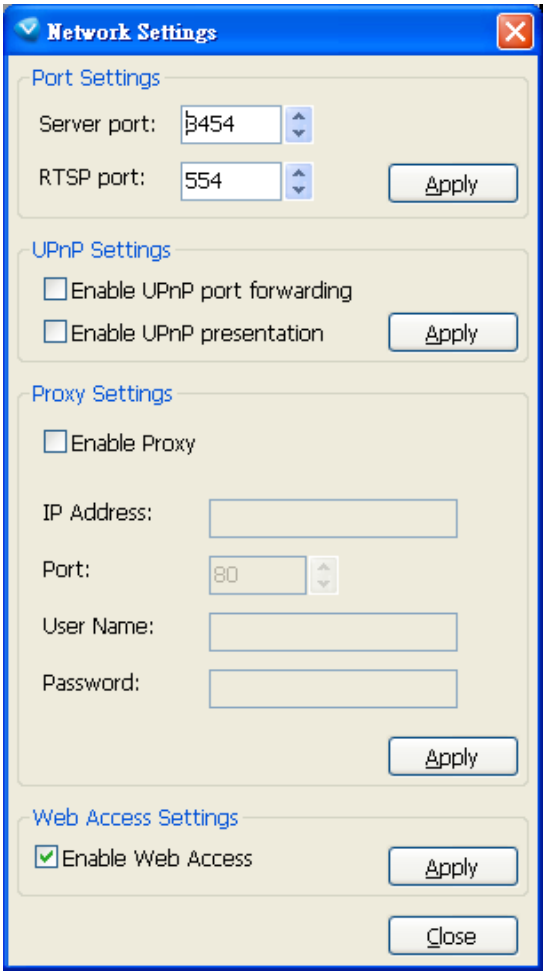


How to Configure Station Network Settings

Select the target station from the hierarchical management tree, then click **Configuration > Station Settings > Network Settings** on the menu bar (or **right-click** the station on the hierarchical management tree and select **Station Settings > Network Settings**). The **Network Settings** window will pop up.







Port Settings

- Server port: The default server port is set to 3454. If you change the server port, please enter the new value while logging the LiveClient next time.
- RTSP port: The RTSP (Real-Time Streaming Protocol) controls the delivery of streaming media. By default, the port number is set to 554.

UPnP Settings

- Enable UPnP port forwarding: For client to access the Server from the Internet, select this option to allow the server to open ports on the router automatically so the video streams can be sent out from a LAN. To utilize of this feature, make sure that your router supports UPnP™ and it is activated.
- Enable UPnP presentation: If you select this option, shortcuts to Server will be listed in My Network Places.

Proxy Settings

In this section, you can enable, modify, or cancel **Proxy Settings** for the Server if your network devices are set up under a proxy.

Web Access Settings

User can access the LiveClient and Playback via Internet web browser (*http://IP address:3454*).

For local host --> *http://127.0.0.1:3454.*

How to Edit Recording Groups

By default, all devices are assigned to the default recording group. You can manually remove a device from the default recording group. However, only those devices which belong to a recording group can produce recorded media files.

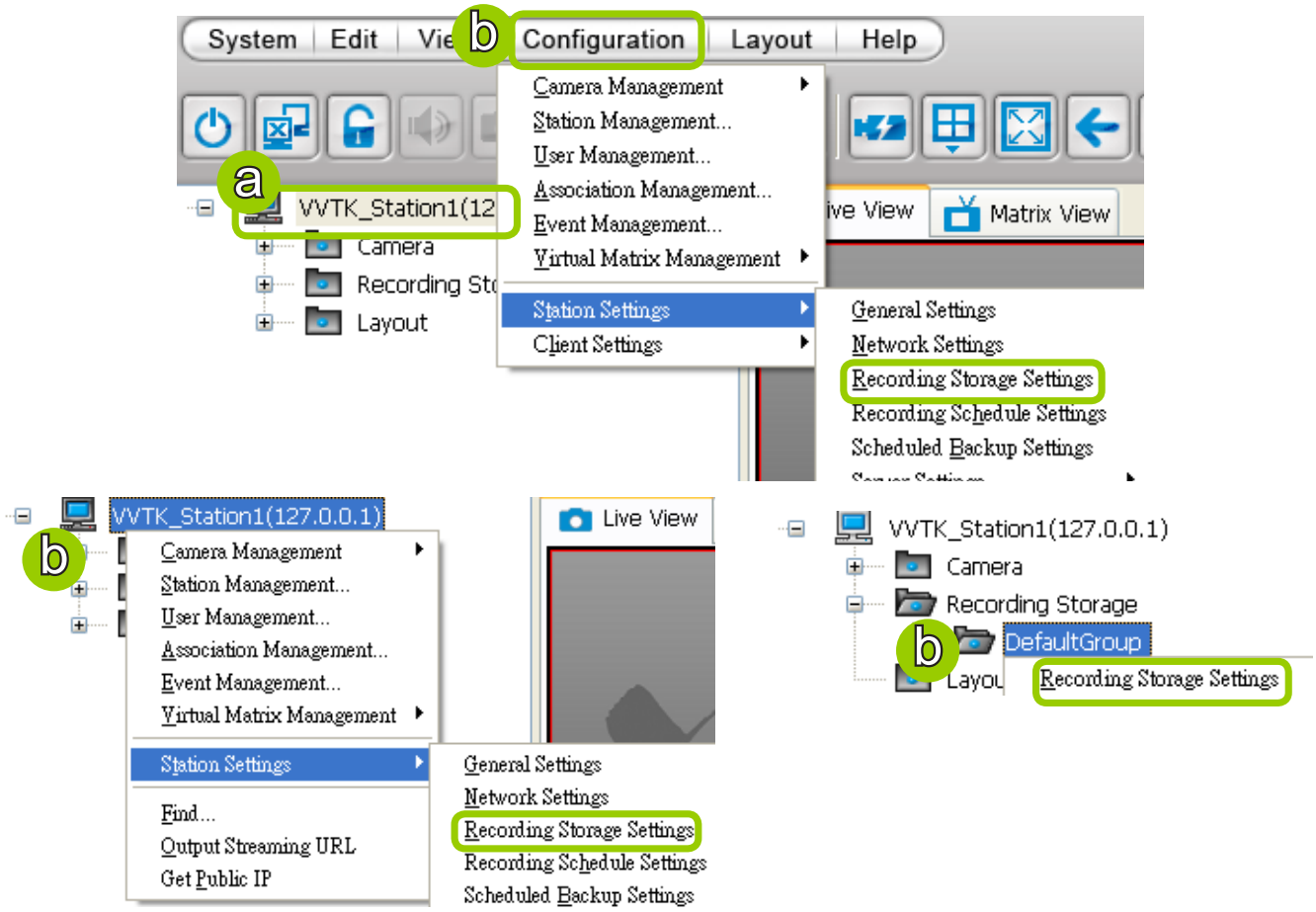
Another purpose of setting recording group is that you can divide all the managed devices into several recording groups, and for each recording group, you can assign several hard-disks (with recording paths) to store media data. The live media data will be stored in the first assigned hard-disk initially, and when the available space of the first hard disk reaches the preset reserved space limit, the media data will be stored in the second disk and so on. If the available space of the last disk reaches the reserved space limit, the recorded files in the first disk will be overwritten with the new media data. This procedure is called "Cyclic Recording".

Recording Storage Settings

Please follow the steps below to set up recording groups for a station:

a. Select the target station from the hierarchical management tree.

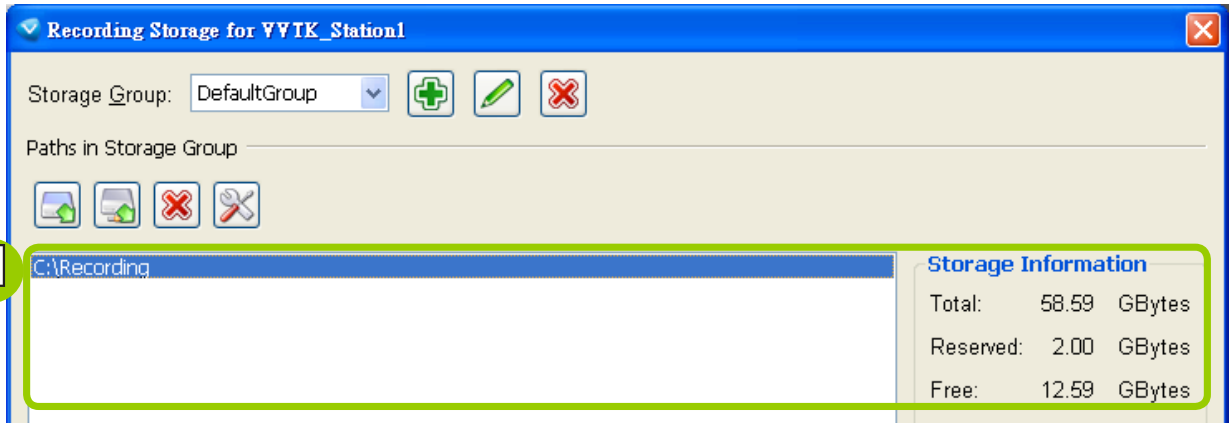
b. Click **Configuration > Station Settings > Recording Storage Settings** on the menu bar (or **right-click** the station on the hierarchical management tree and select **Station Settings > Recording Storage Settings**). You can also **right-click DefaultGroup** under the station **and** click **Recording Storage Settings** since all devices are assigned to the **Default Recording Group** by default settings.



c. The **Recording Storage Settings** window will pop up.

Default Storage Group Settings

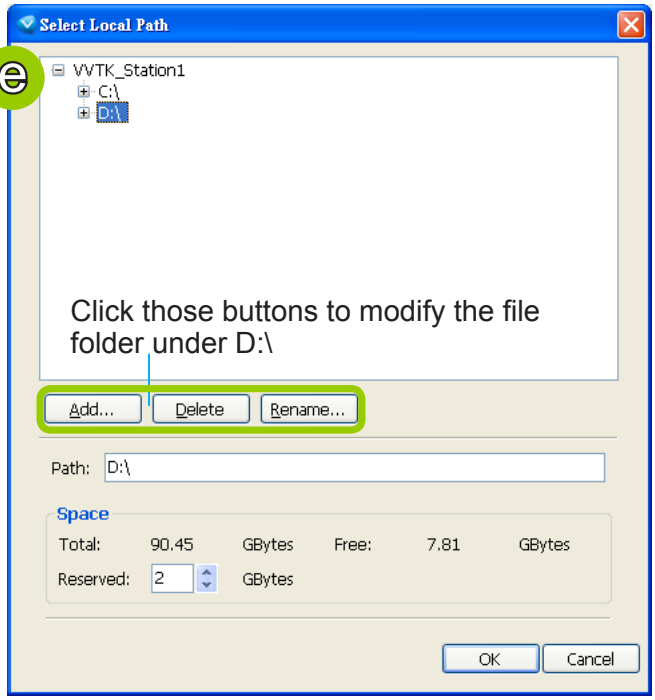
The following example shows the default storage group settings. You can click **Rename** to modify the group name or click **Delete** to remove the default settings.

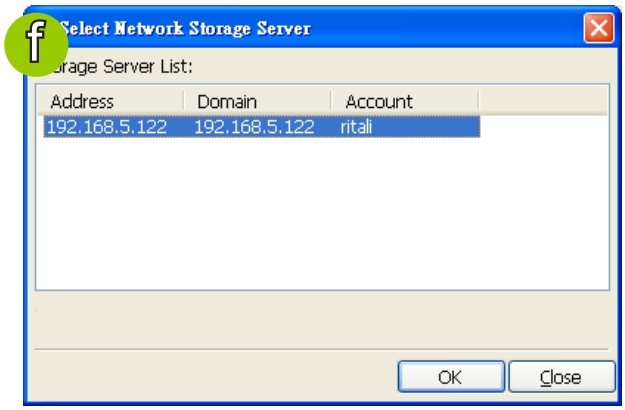


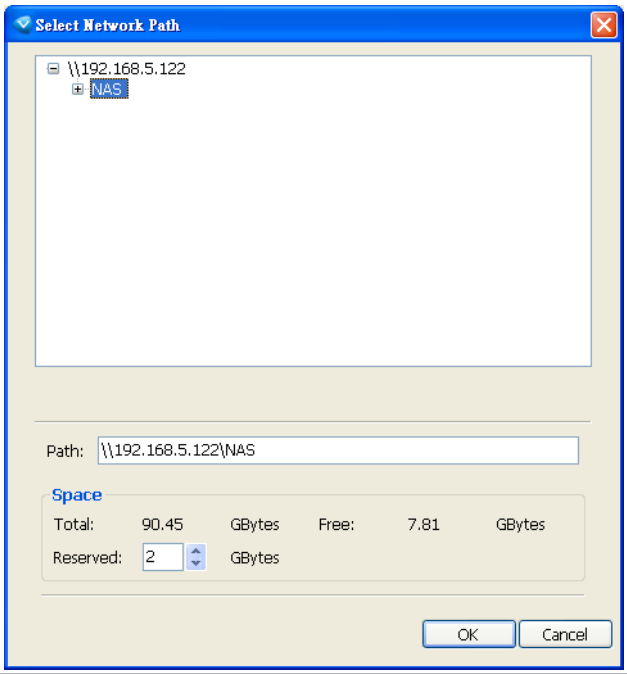
d. The default recording path is **C:\Recording**. The total space and free space of the disk is shown on the right for reference.

e. Add Local Path: Click to add another recording path on your local computer. A Select Path dialog will pop up as shown below. When all settings are complete, click **OK** to enable the settings, or click **Cancel** to discard the settings.

f. Add Network Path: Click to add a network storage for recorded data. Please refer to page 107 for detailed information about how to add a new network storage server. Then double-click the **Path** to assign a specific folder as a new recording path.

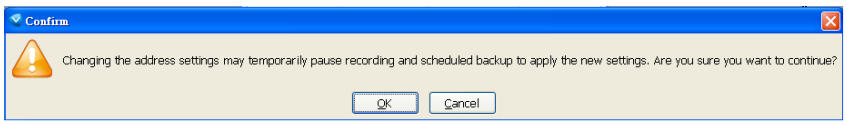






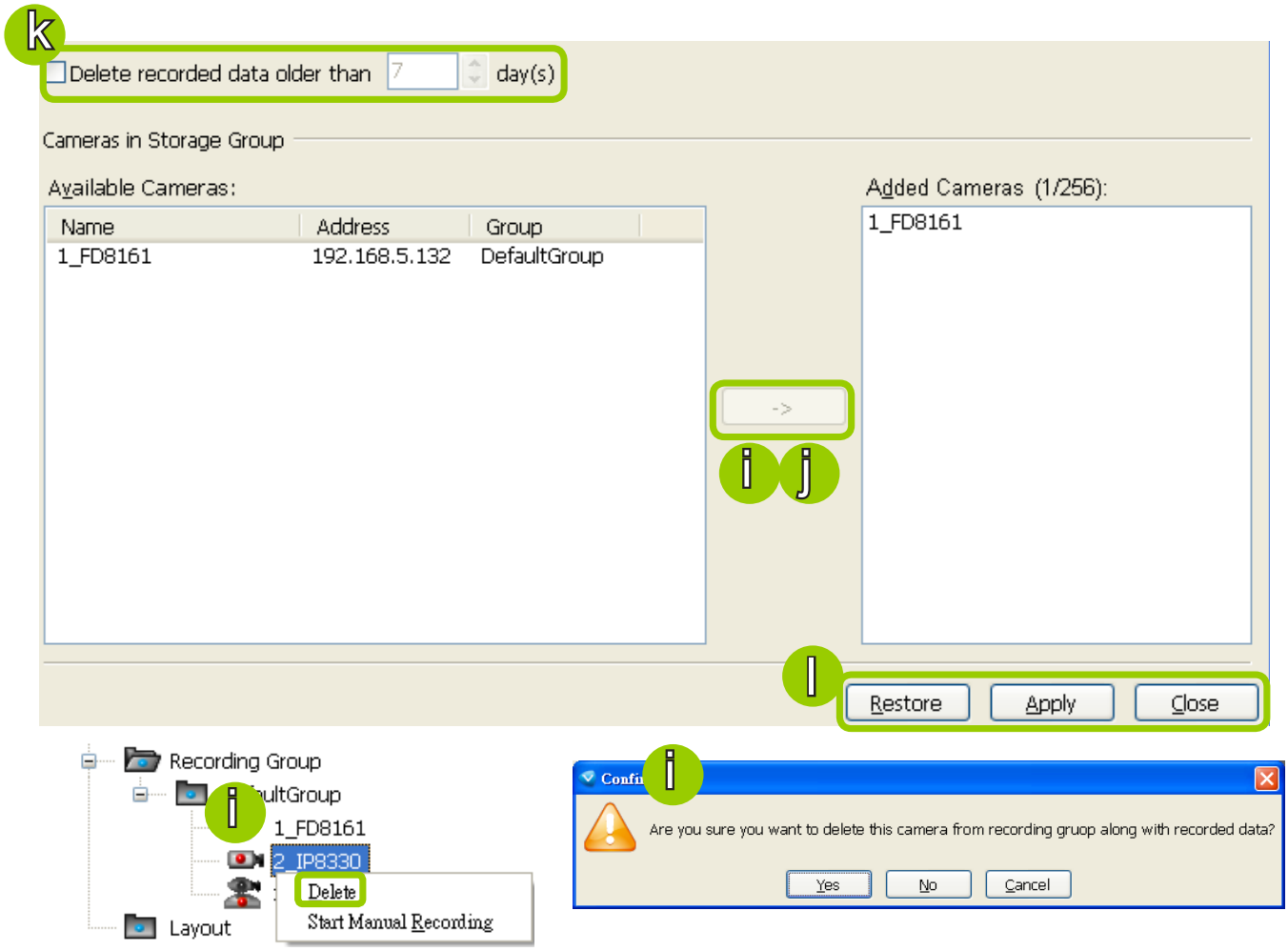
g. To modify the settings of a path, select the path from the list, then click **Change settings** to modify.

h. To delete a path, select the path from the list and click **Delete path**. A warning dialog box will pop up as shown below.



i. By default, all devices are assigned to the **Default Recording Group** in the window on the right. You can select device(s) from the list and click **<<** to delete device(s) (or **right-click** the device under DefaultGroup tree to delete it). Note that a **Delete Camera** dialog box will pop up. Click **Yes** to delete the device along with the recorded data; click **No** to delete the device but retain the recorded data; click **Cancel** to cancel the delete action. Please note that only those designated devices can record videos.

j. Click **>>** to add devices to the **DefaultGroup**.



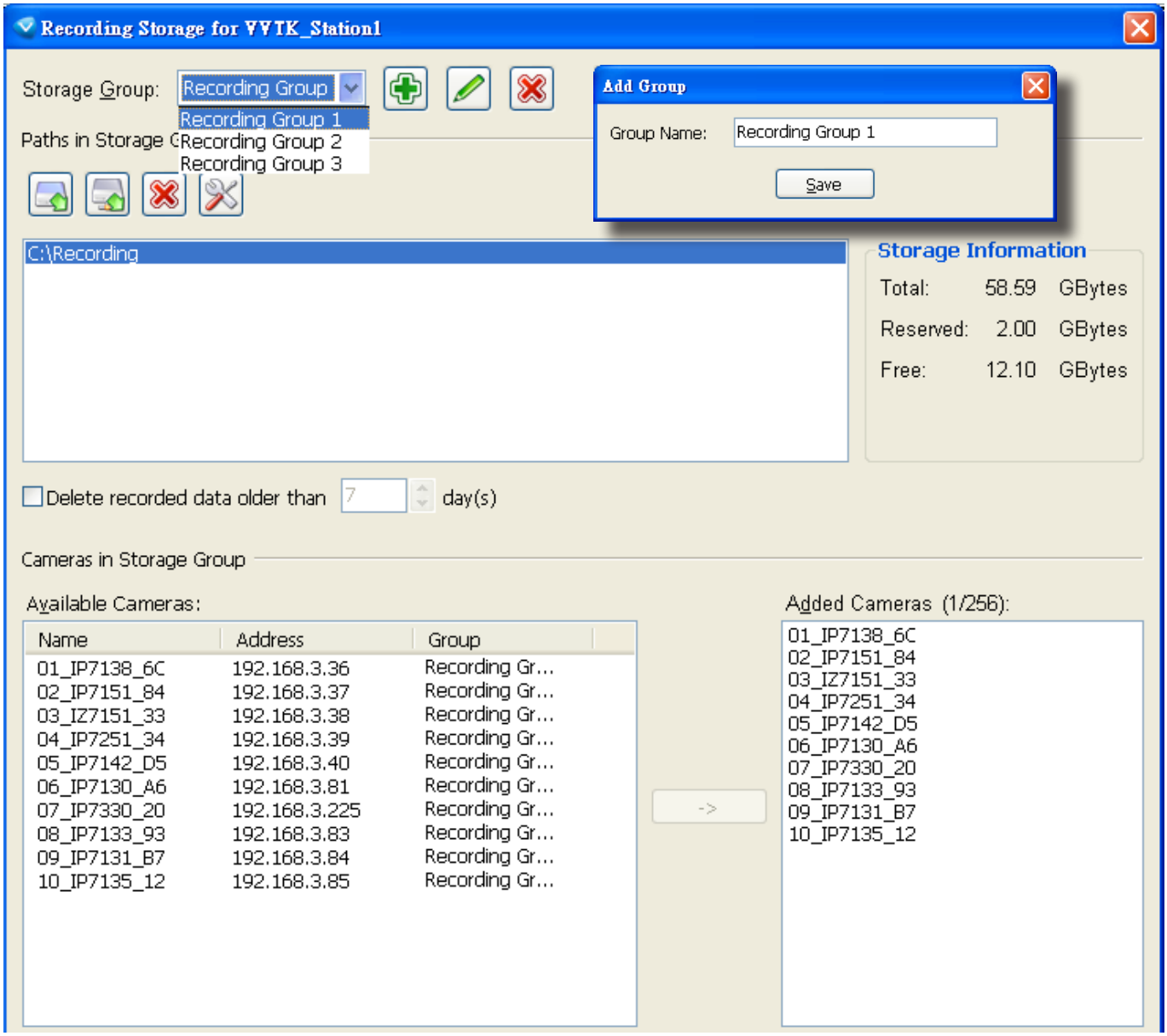
k. Delete recorded data older than the duration: If you only want to retain recorded data for a duration, check this item and enter a number of day(s). In addition, since the Server will do "cyclic recording" automatically, the oldest file will be overwritten by the latest one when the maximum capacity is reached.

l. When completed, click **Apply** to confirm and save your settings. If you want to cancel all of your editing, click **Restore** to return to the previous settings or click **close** to discard the settings.

Add New Recording Group(s)

If you want to add a new recording group, click **Add** to give a name to the new recording group, which will be displayed on the drop-down list.

The following is an example of recording group list.



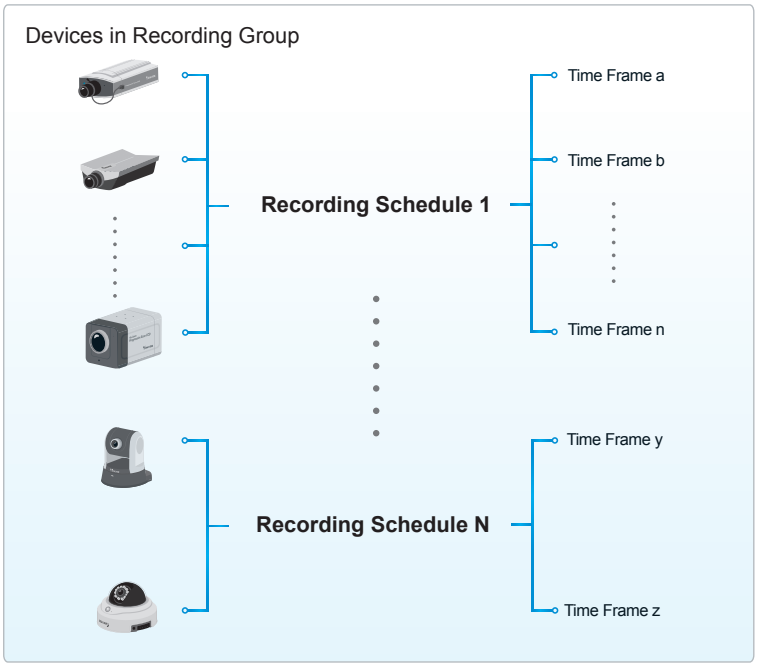
Please refer to the following limits when you set up recording group(s):

- *The maximum number of devices in a recording group is 32-CH.*
- *One recording group can be assigned with several recording paths and do cylic recording; while one recording path should only be assigned to one recording group.*

How to Edit Recording Schedules

After editing recording storage settings, you can begin to edit recording schedules for the devices in a recording group. By default, all devices are assigned to the default recording schedule (Please refer to the default time frame settings on page 89). Therefore, once you insert a device to the station, the Server will begin to record live video according to the default recording schedule. You can also manually remove a device from the default recording schedule. Please note that **you cannot assign recording schedules to those devices which have been deleted from a recording group**.

The following is an illustration of a set of recording schedules, which are composed of several time frames. Each time frame has its own time segments, period of time, repeat interval, and recording mode. You can create different recording schedules with simple or complex time frames based on your needs.



In addition, you can arrange the priority of each time frame according to its importance. The recording schedule with the highest priority will be applied first. This capability is very useful because you can specify a new time frame with the highest priority temporarily without modifying the other time frames.

Features of the recording schedules:

- Each device can be assigned to only one recording schedule.
- Each recording schedule may contain many time frames.
- Each time frame has its own repeat frequency and recording mode.

To save time editing recording schedules and time-frames, we also provide a useful **template** function to save your time on schedules/time-frames settings. That is, you can save a specified schedule and download it as a template for future use or upload a well-arranged schedule template designed by others.

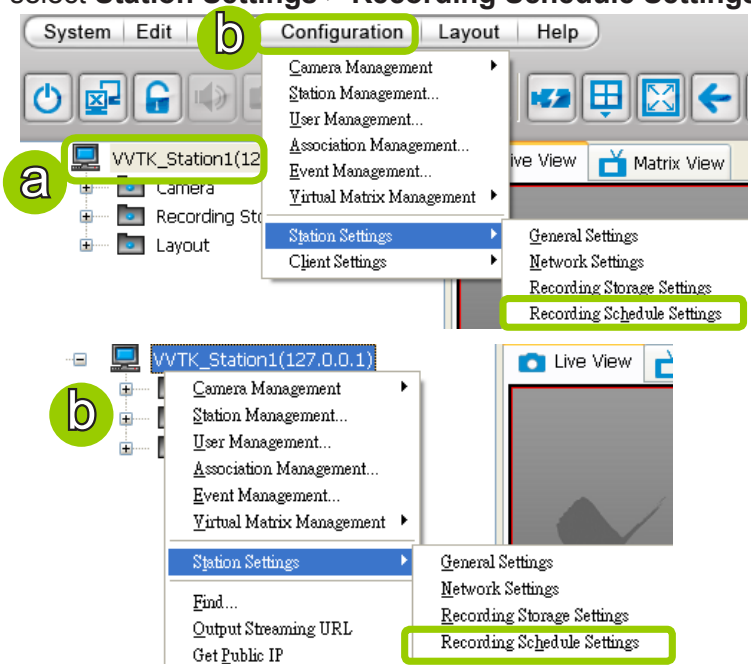
Please note that after you save the recording settings in the server, the recording schedule will begin automatically according to your settings.

Edit Schedule List

Please follow the steps below to set up the recording schedules:

a. Select the target station from the hierarchical management tree.

b. Click **Configuration > Station Settings > Recording Schedule Settings** on the menu bar (or **right-click** the station and select **Station Settings > Recording Schedule Settings**).



c. The **Recording Schedule Settings** window will pop up. By default, all cameras under the station are assigned to **Default Schedule**, **Default Time Frame**, and **Default Camera List**.

Add Schedules

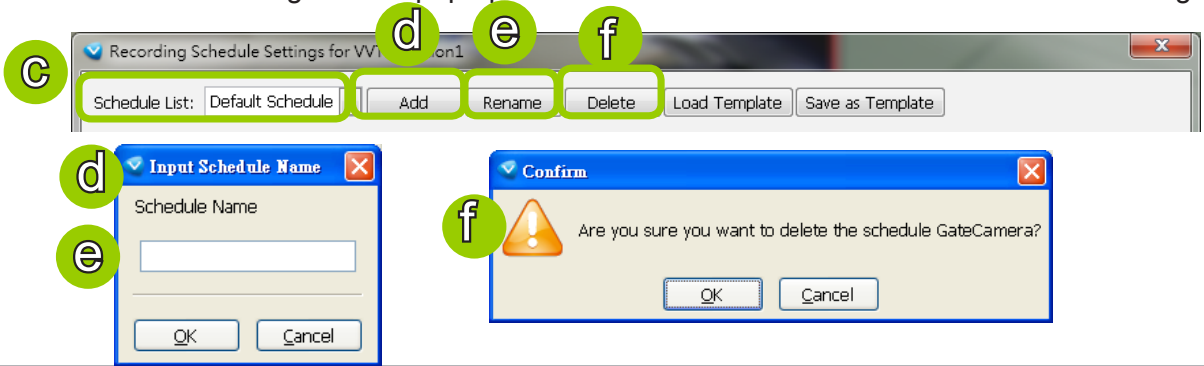
d. To add a new recording schedule, click **Add** to enter a name in the Schedule Name dialog box for the new schedule. Click **OK** to confirm the settings or **Cancel** to discard the settings. The new recording schedule will be displayed on the schedule drop-down list.

Rename Schedules

e. To rename an existing schedule, select the schedule from the schedule drop-down list and click **Rename**. A Schedule Name dialog will pop up for you to fill in a name for the new schedule. Click **OK** to confirm the settings or **Cancel** to discard the settings. The new recording schedule will be displayed on the schedule drop-down list.

Delete Schedules

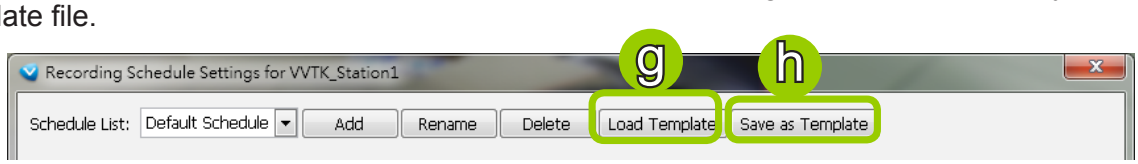
f. To delete an existing schedule, select the schedule from the schedule drop-down list and click **Delete**. A Remove Schedule dialog box will pop up. Click **OK** to confirm or **Cancel** to discard the settings.

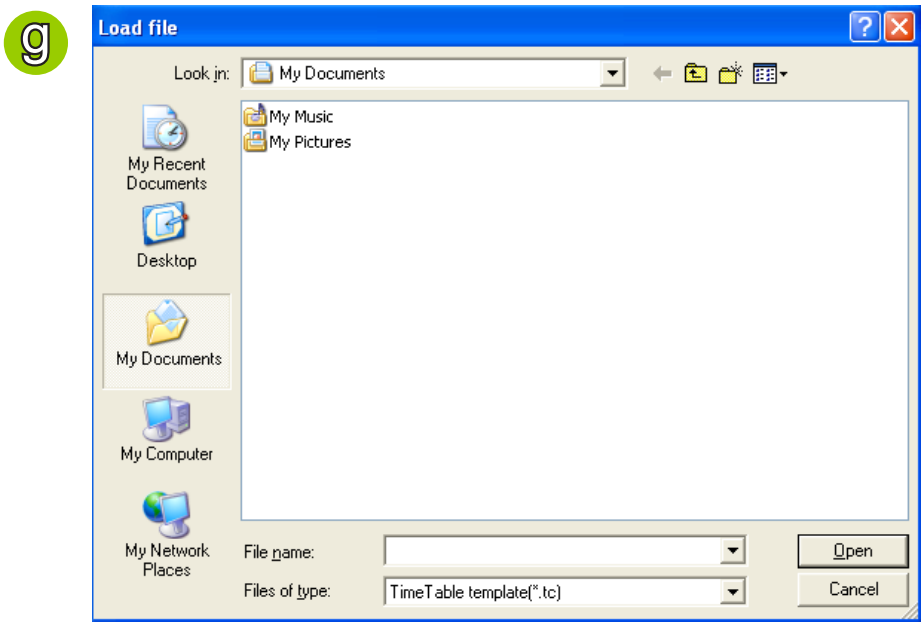


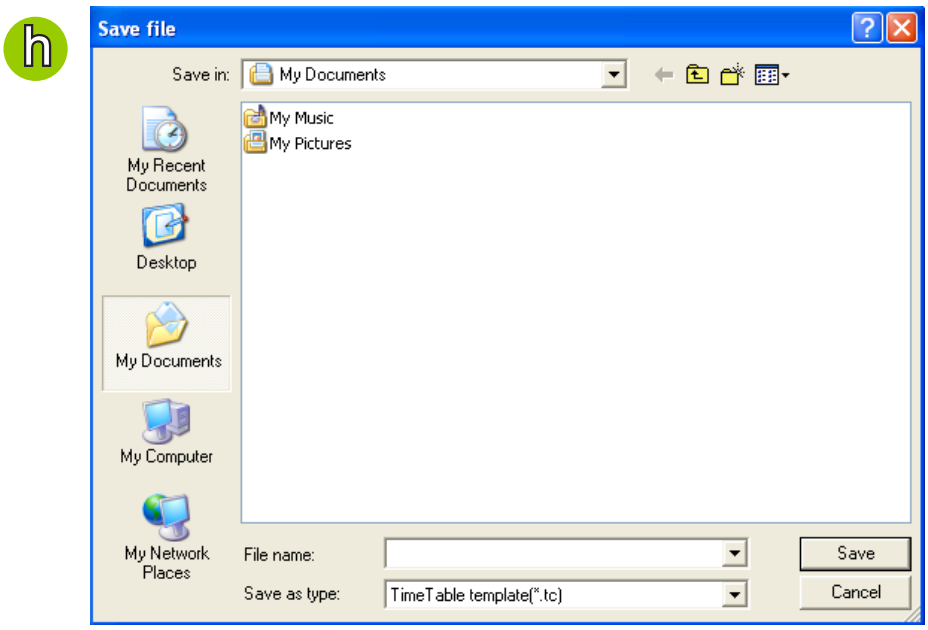
Load/Save Schedule Templates

g. If you have a schedule template with time frame settings, you can upload it to simplify the editing of the schedule. Click **Load Template**, and a **Load File** dialog box will pop up. Select the template file and click **Open** to load.

h. If you want to save a schedule as a template for future use, select the schedule from the schedule drop-down list and click **Save as Template**. A **Save File** dialog box will pop up for you to save the template file.







Edit Camera List

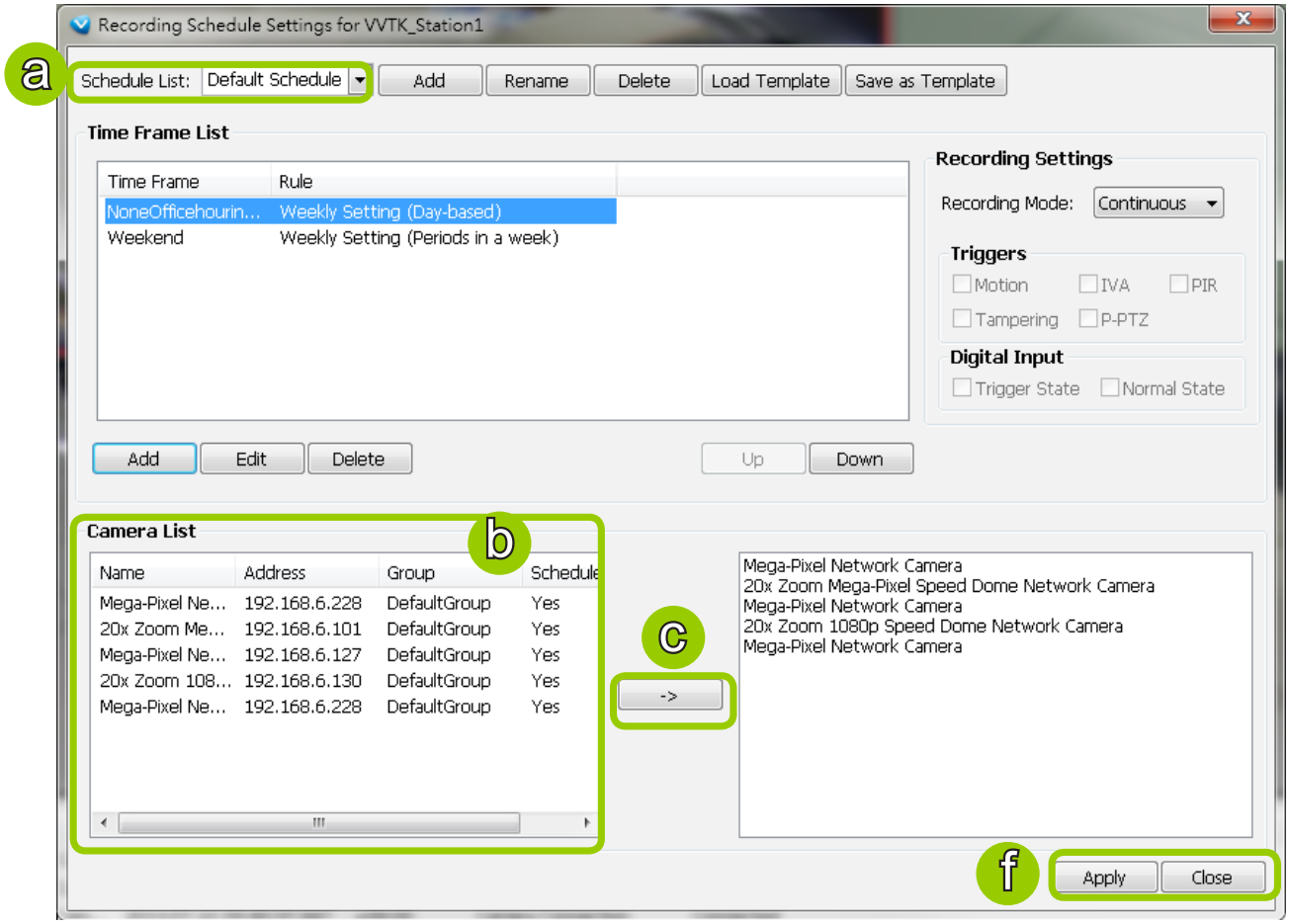
Please follow the steps below to assign a device to a recording schedule:

a. Select a recording schedule on the schedule drop-down list.

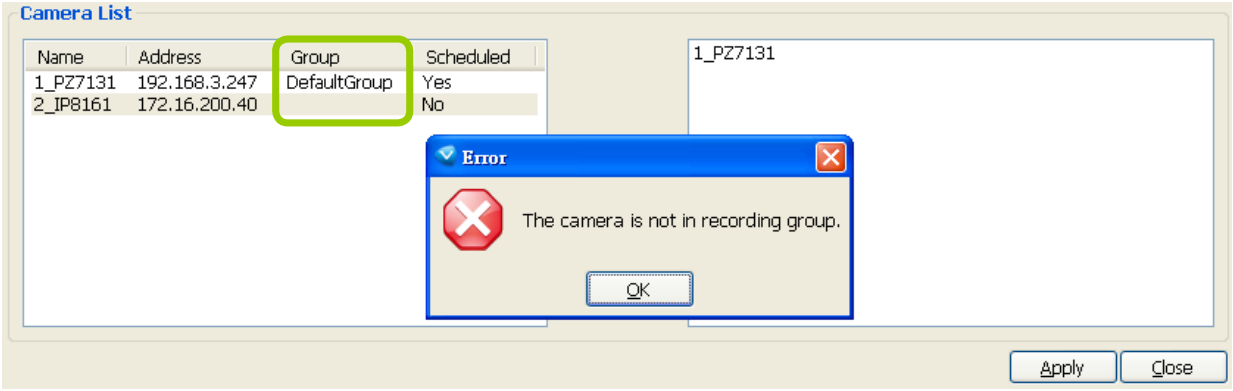
b. By default, all devices under the station are assigned to the **Default Schedule**.

c. Click **<<** to remove devices from the **Default Schedule**. Click **>>** to add devices to the **Default Schedule**.

d. Click **Apply** to confirm or **Close** to discard the settings.

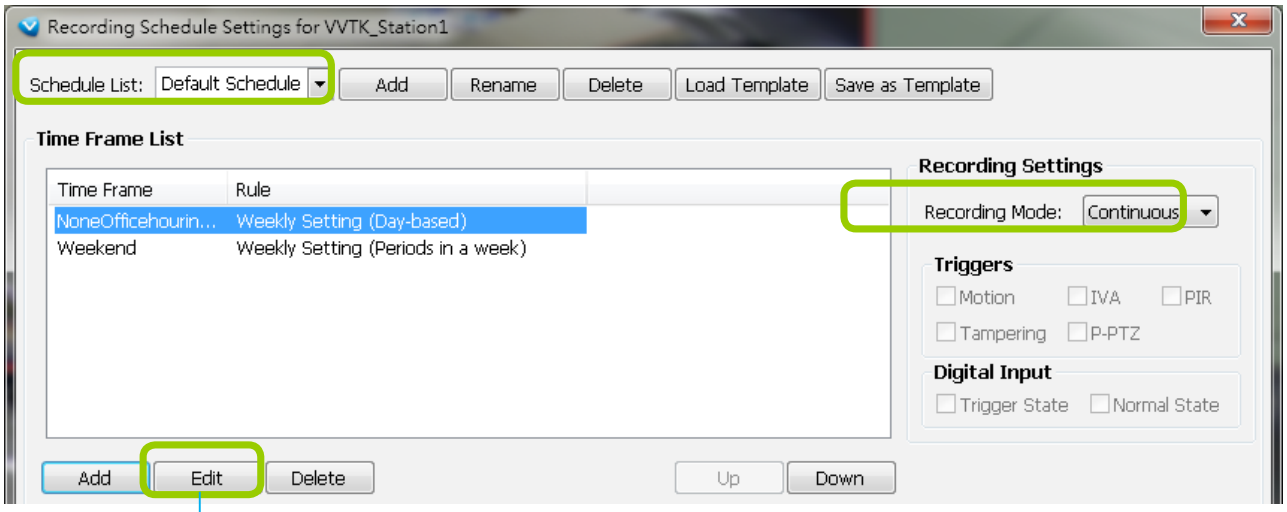


If you add a Network Device that does not belong to any Recording Group, a warning dialog will pop up as shown below. For more information about how to set up Recording Group(s), please refer to Recording Group Settings on page 81.

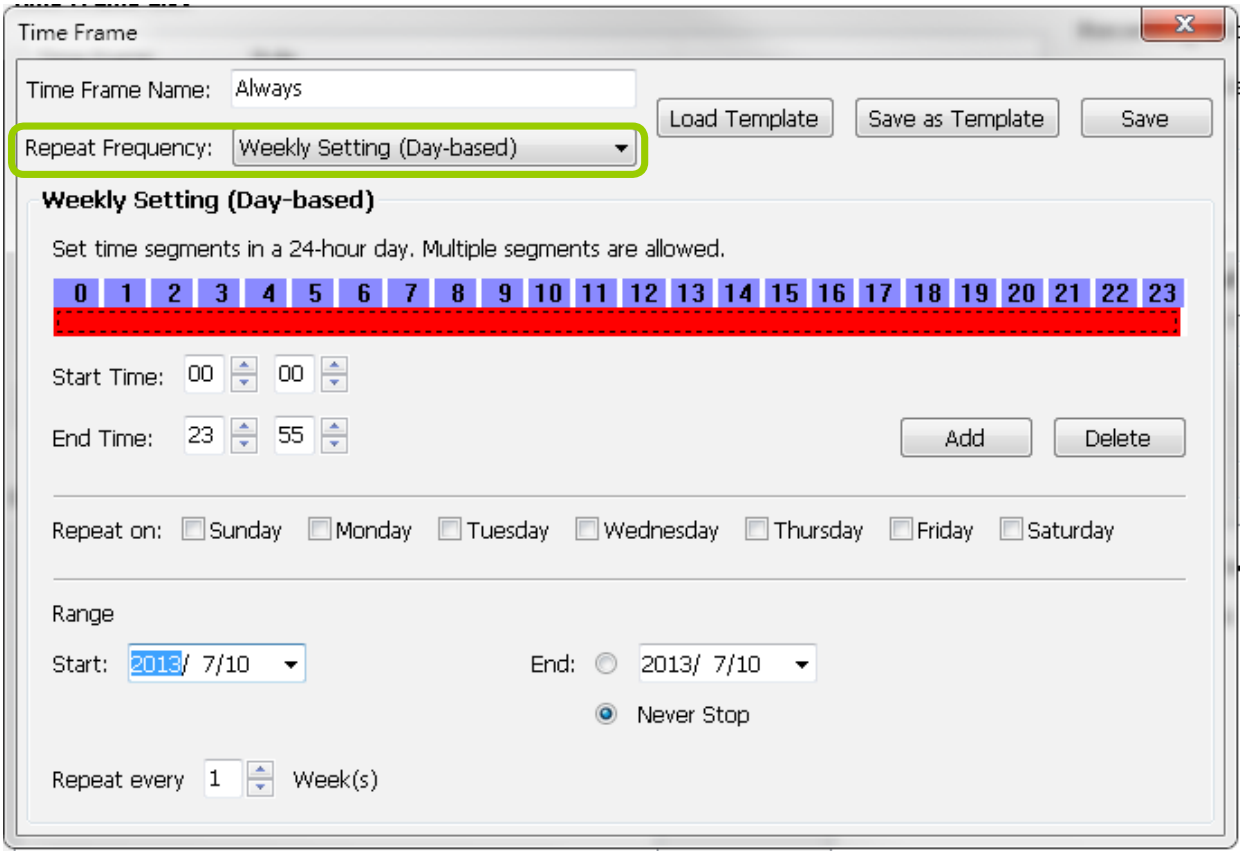


Edit Time Frame List

Default Time Frame: Weekly (Day-based), Mon.~Sun., 24-hour, continuous recording



Click **Edit** to open the Default Time Frame settings page as shown below.

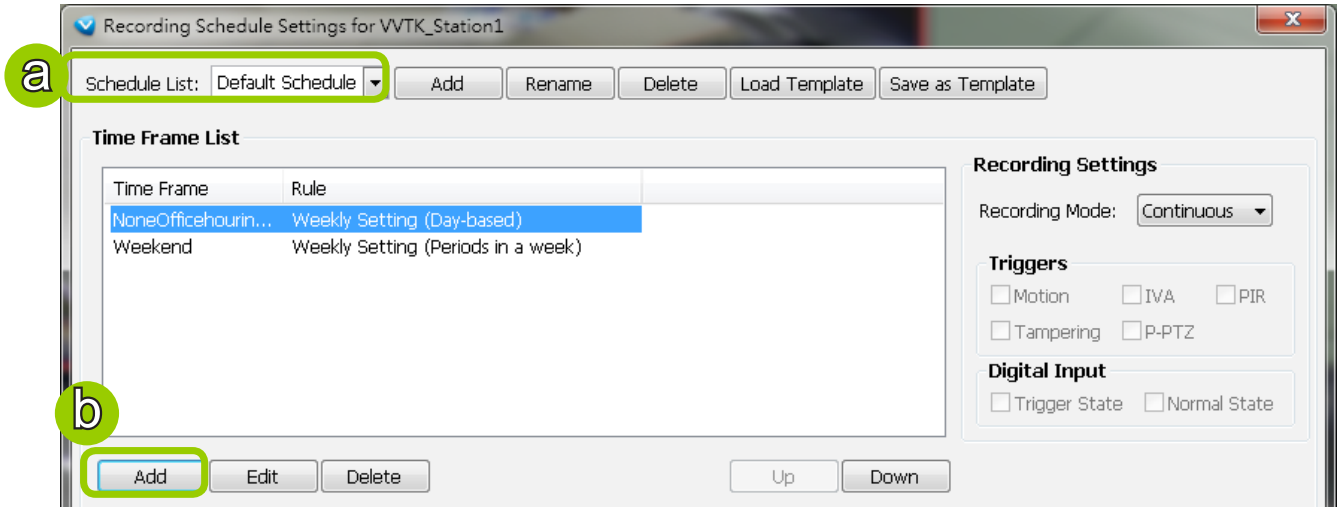


Add New Time Frames

Please follow the steps below to add new time frames to a schedule:

a. Select a recording schedule from the drop-down list.

b. Click **Add** to open the **Time Frame Settings** window.



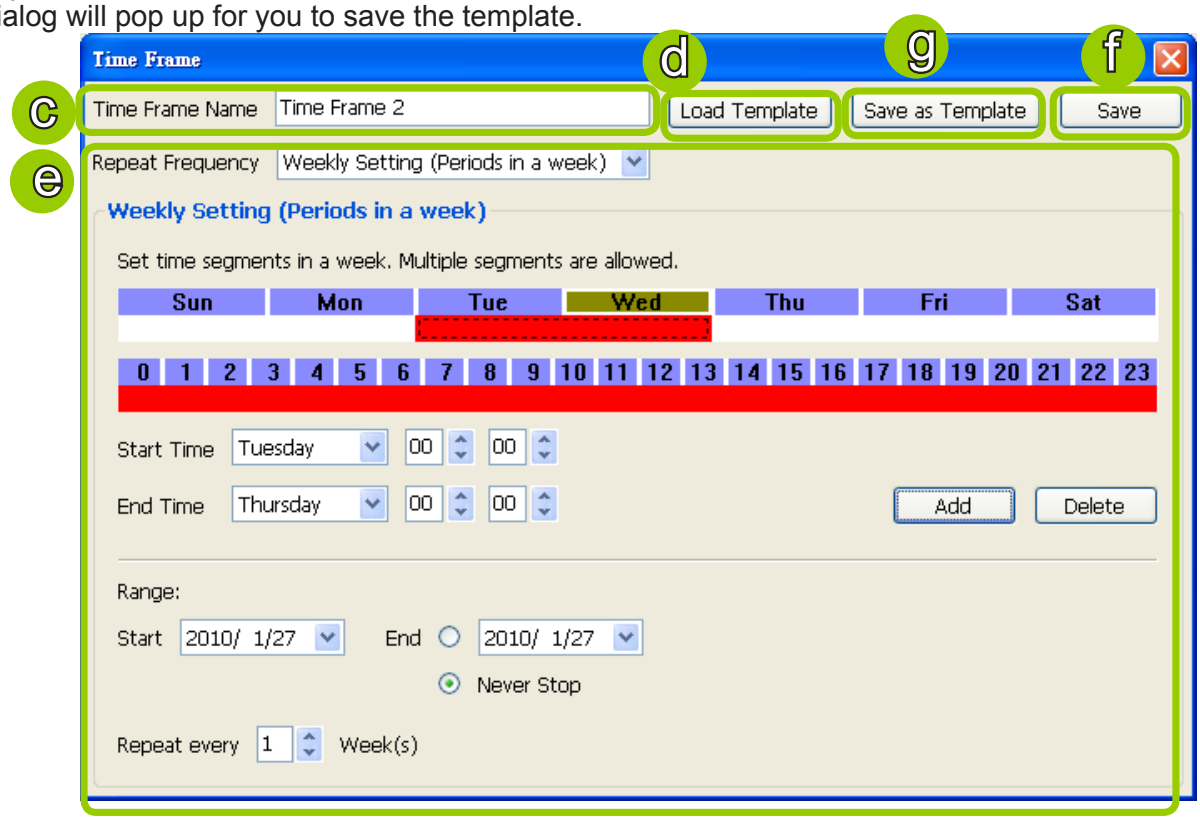
c. Enter a name for the new time frame.

d. If you have a time-frame template, you can upload it to simplify the editing of the schedule. Click **Load Template** and the **Load File** dialog box will pop up. Select the template file to load.

e. To edit the new time frame, select a **Repeat Frequency** from the drop-down list and edit the time segments, applicable days, applicable period of time, and repeat time interval. For the detailed settings of each repeat frequency, please refer to **The Concept of Repeat Frequency** on page 92.

f. When completed, click **Save** to enable the settings.

g. If you want to save this time frame as a template for future use, click **Save as Template**. A **Save file** dialog will pop up for you to save the template.



h. If you want to add additional time frames to the schedule, repeat the steps above.

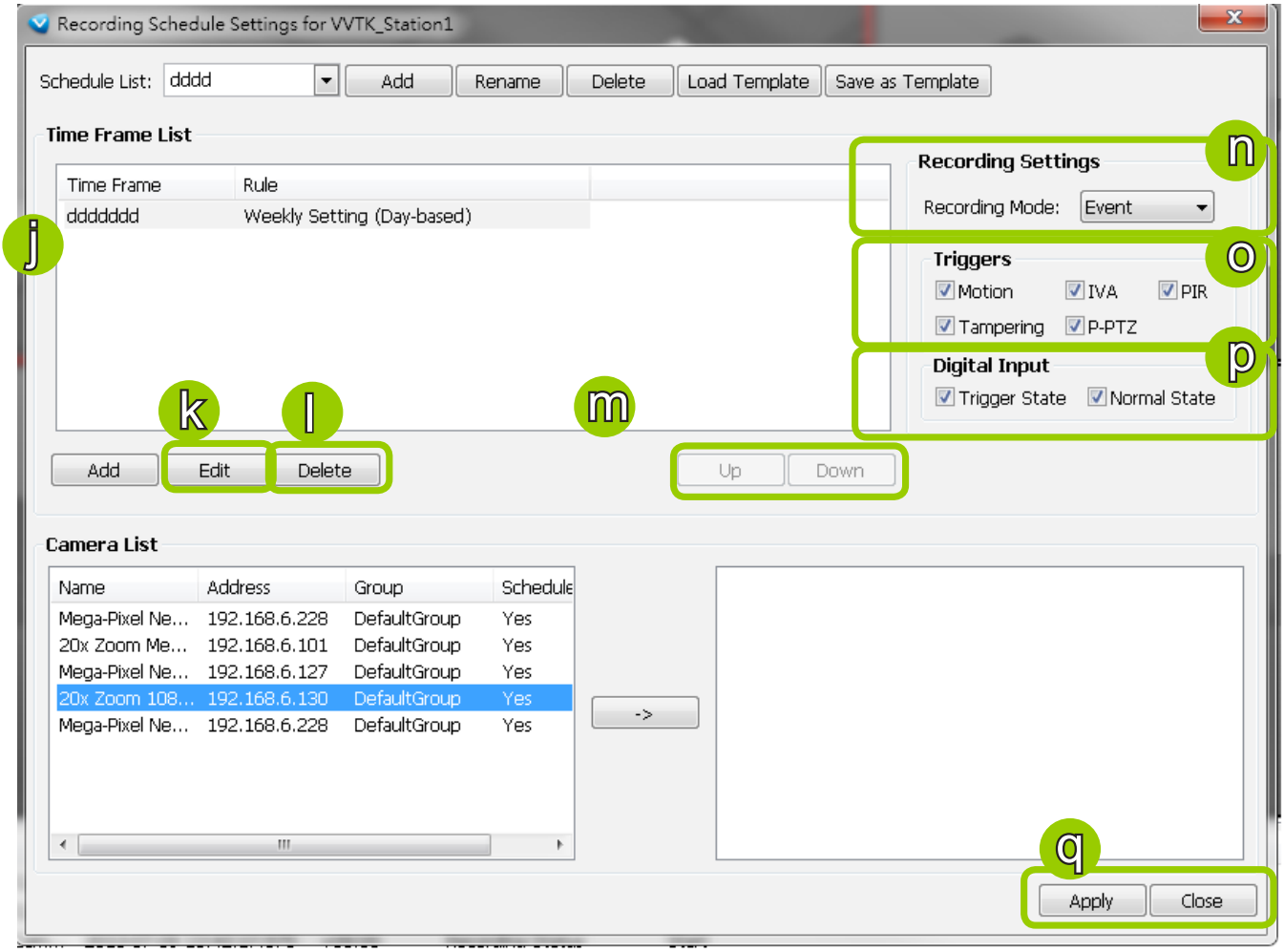
i. Close the window when you finish the time frame settings.

j. Back to the Recording Schedule Settings window, the new time frame will be displayed on the Time Frame List.

k. If you want to edit an existing time frame, select if from the Time Frame List and click **Edit** to set up.

l. If you want to delete an existing time frame, select if from the Time Frame List and click **Delete**.

m. If you want to change the priority of a time frame, select it from the Time Frame List and click **Up** or **Down** to shift its position. The time frame on the top of the list has the highest priority.



Recording Settings

n. Select one of the following Recording Modes for the time frame:

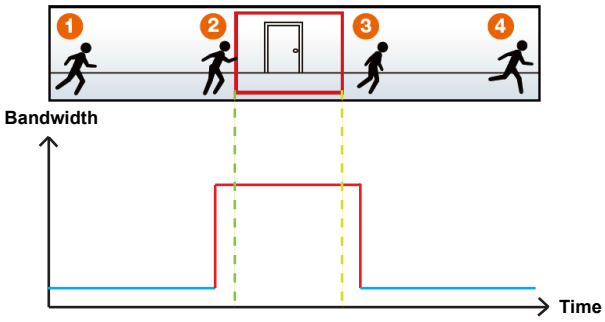
- **None**: No recording action.
- **Continuous**: 24-hours continuous recording. If you want to enable Activity Adaptive Streaming, please refer to page 84 for detailed illustration.
- **Event**: The server will start to record only when an event is triggered. The recording time length depends on the settings in Recording Storage Settings. The default time length is 20 seconds (10s pre-event time plus 10s post-event time). Please refer to page 83 for more information. For more information about event catagories, please refer to page 171 for detailed illustration.

o. Select Trigger Source(s): Motion Detection, IVA (Intelligent Video Analysis), PIR, Tampering Detection, and P-PTZ (Auto Tracking).

p. Select the status of Digital Input(s): Trigger State or Normal State

q. Click **Apply** to confirm the settings. Then close the window when you finish the recording schedule settings.

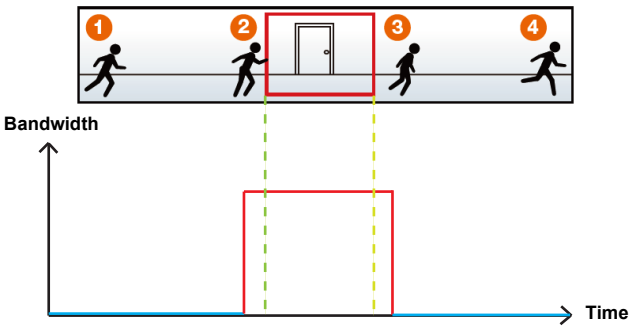
The following diagrams show the frame rate variation of two recording modes:
1. Continuous recording + Activity adaptive recording (helps save bandwidth and storage)



I frame ---> Full frame rate ---> I frame

Continuous Recording

2. Event recording



No recording data ---> Full frame rate ---> No recording data

Event Recording

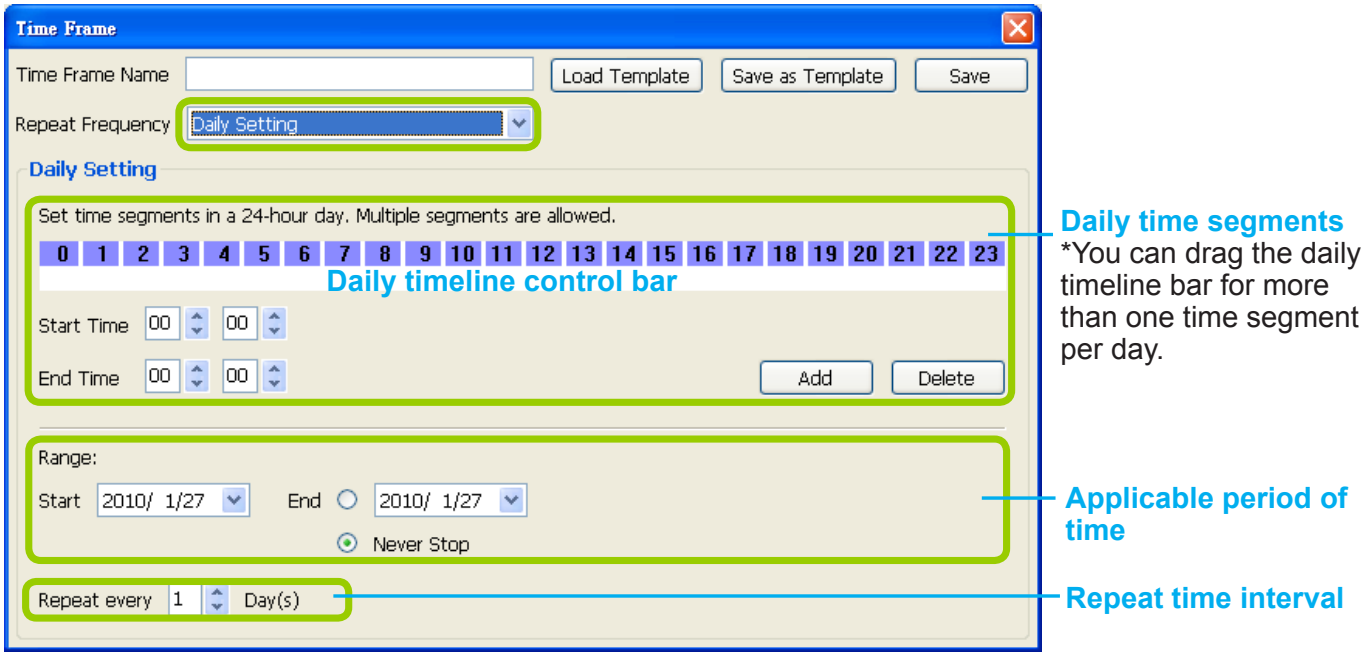
The Concept of Repeat Frequency

The software offers the following types of repeat frequency. The definition of each type is listed in the following table:

Repeat Frequency	Discription
Daily Setting	■ Specify arbitrary time segments within a day, ■ Repeat the segments every N days in the specified period of time.
Weekly Setting (Day-based) (Default Time Frame)	■ Specify arbitrary time segments within a day, ■ Apply only on selected days of a week, ■ Repeat the segments every N weeks during the specified period of time.
Weekly Setting (Periods in a week)	■ Specify arbitrary time segments within a week, ■ Repeat the segments every N weeks during the specified period of time.
Monthly Setting (Day-based)	■ Specify arbitrary time segments within a day, ■ Apply only on selected days of a month, ■ Repeat the segments every N months during the specified period of time.
Yearly Setting (Day-based)	■ Specify arbitrary time segments within a day, ■ Apply only on selected days of a year, ■ Repeat the segments every N years during the specified period of time.

Repeat Frequency: Daily Setting

To set up daily repeat frequency, please configure the following items: Daily time segments, applicable period of time, and repeat time interval.



Set up daily time segments

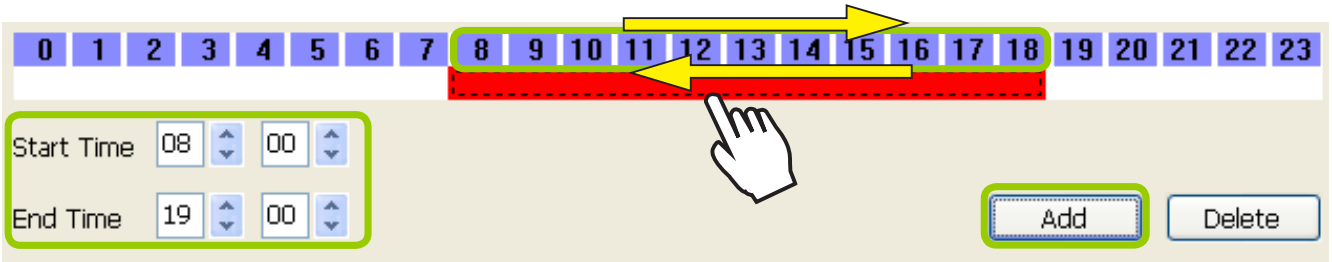
You can specify several time segments within a day. The numbers 0~23 on the **hourly timeline control bar** (the purple rectangles) represent the 24 hours in a day.

There are two ways to define time segments: one is to use the computer mouse to manipulate the timeline control bars; the other is to fill in the precise start and end time values in the corresponding fields.

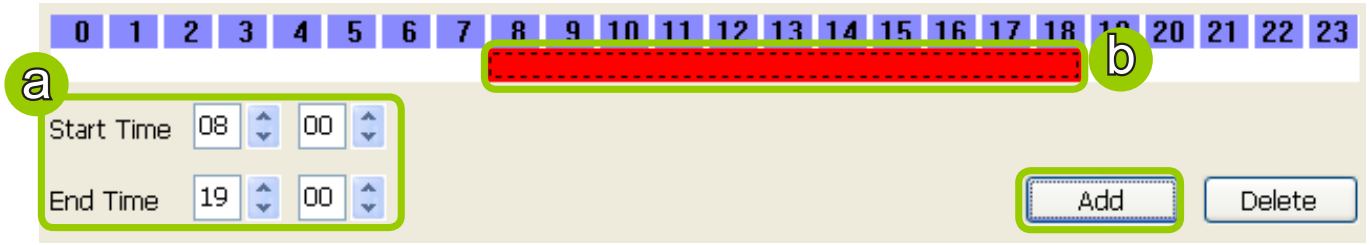
<u>Add time segments</u>: Choose either step 1 or step 2 to set up

1. Use the mouse to drag the timeline bars:
   a. **Left-click** the **daily timeline control bar** (the purple rectangles) and drag the mouse.
   b. The corresponding time segment will also appear in the Start Time and End Time fields. Click **Add**, then the red timeline bars representing new time segments will appear as shown below. You can drag multiple time segments within a day.

      In the following illustration, the yellow arrows show the dragging direction of the mouse. You can drag from left to right or the opposite.



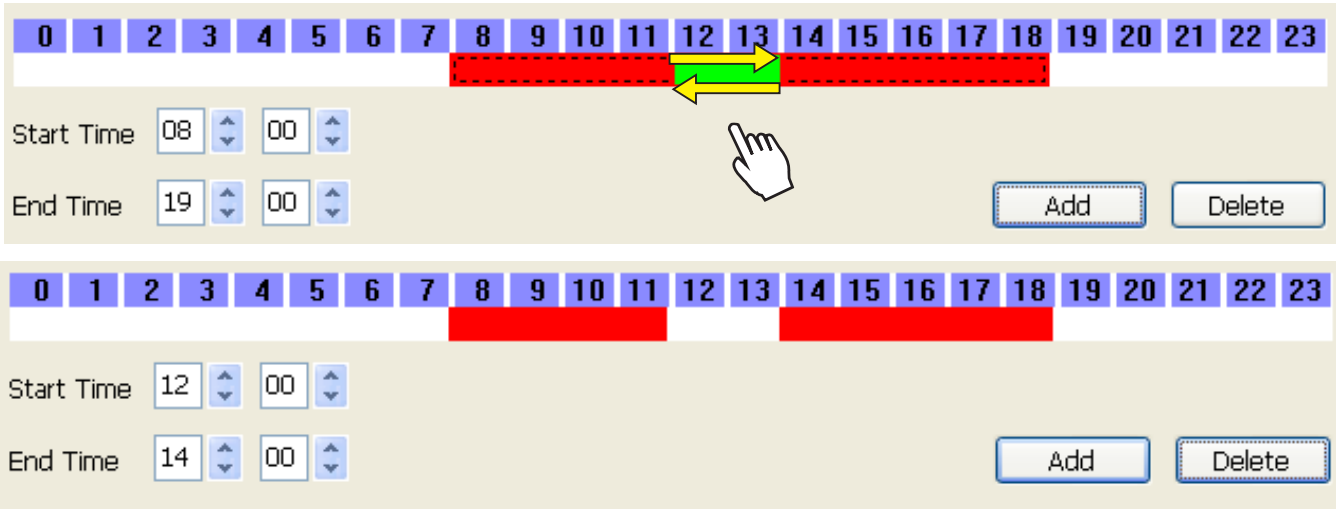
2. Fill in the precise Start Time and End Time:
   a. Directly enter the value in the Start Time and End Time fields, then click **Add**.
   b. The corresponding red timeline bar will automatically appear as shown below.



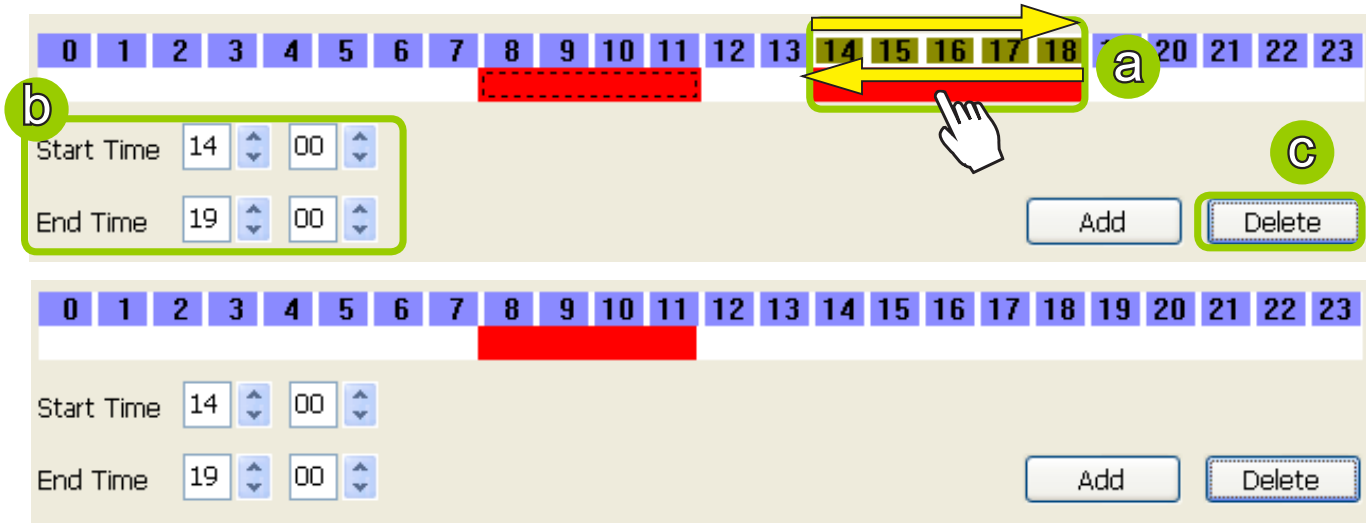
<u>Delete time segments</u>: Choose either step 1 or step 2 to set up

1. Use the mouse to erase the timeline bar: **Right-click** on an existing red timeline bar and drag the mouse. A green timeline bar representing the deleted part of the time segment will erase the red bar as shown below.

   In the following illustration, the green arrows show the dragging direction of the mouse. You can drag it from left to right or the opposite.



2. Use the delete button to remove the entire timeline bar:
   a. Click an existing red timeline bar or **left-click** the **daily timeline control bar** (the purple rectangles) and drag the mouse.
   b. The corresponding time segment will appear in the Start Time and End Time fields.
   c. Click **Delete**, and the selected timeline bar will disappear.

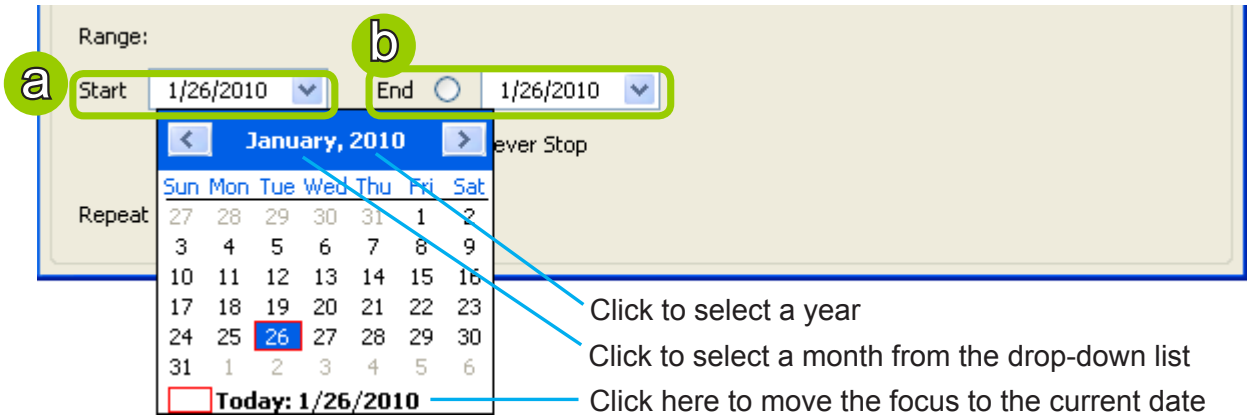


Set up applicable period of time

For repeat frequencies, you can set up the applicable date and period of time for the time frame.

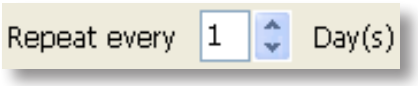
a. Specify the start date and time in the **Start** field. A calendar date selector will appear when you click on the drop-down list of **date**. Click < or > to select the month, then pick a desired day in the calendar.

b. Specify the end date and time in the **End** field if you have an end time for applying this time frame. If you do not have a terminating time for this time frame, select **Never Stop**.



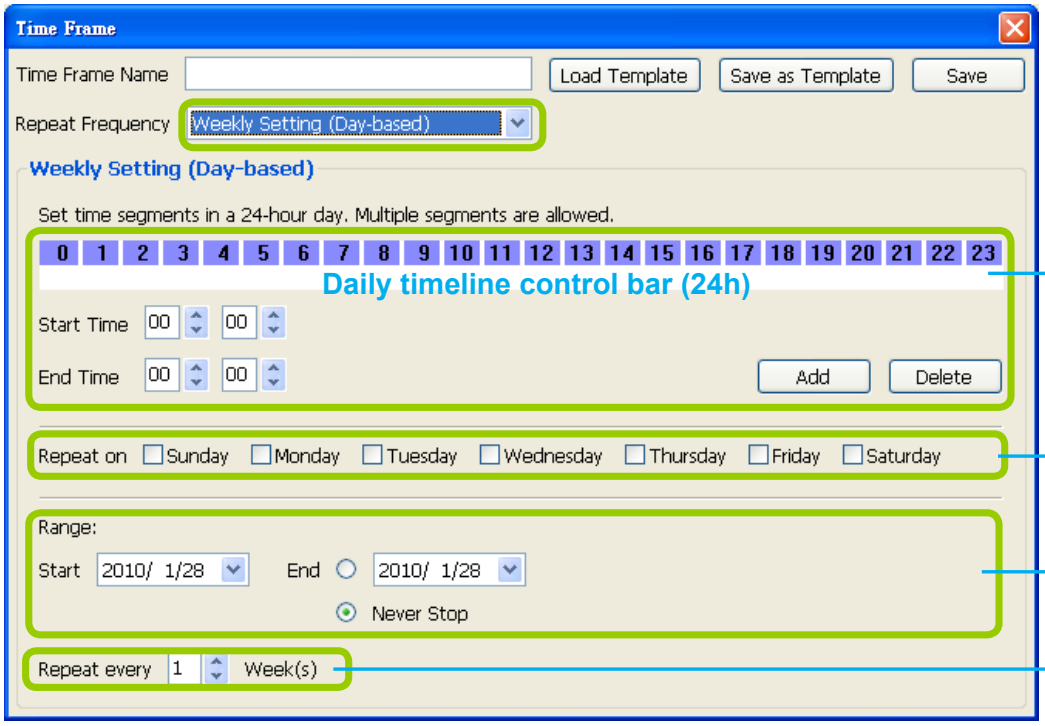
Set up repeat time interval

The repeat time intervals is "every N day(s)" as shown below. Repeat every 1 day means the time frame would apply for every day within the period of time.



Repeat Frequency: Weekly Setting (Day-based)

To set up Weekly (Day-based) repeat frequency, please configure the following items: Daily time segments, applicable days within a week, applicable period of time, and repeat time interval.



Daily Time segments
*You can drag more than one time segment per day.

Applicable days within a week

Applicable period of time

Repeat time interval

Set up daily time segments

Please refer to page 93 for detailed instructions.

Set up applicable days within a week

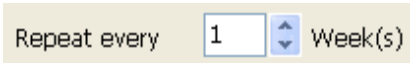
For repeat frequency--"Weekly (day based)", you can apply the time segments only on selected days of the week.

Set up applicable period of time

Please refer to page 95 for detailed instructions.

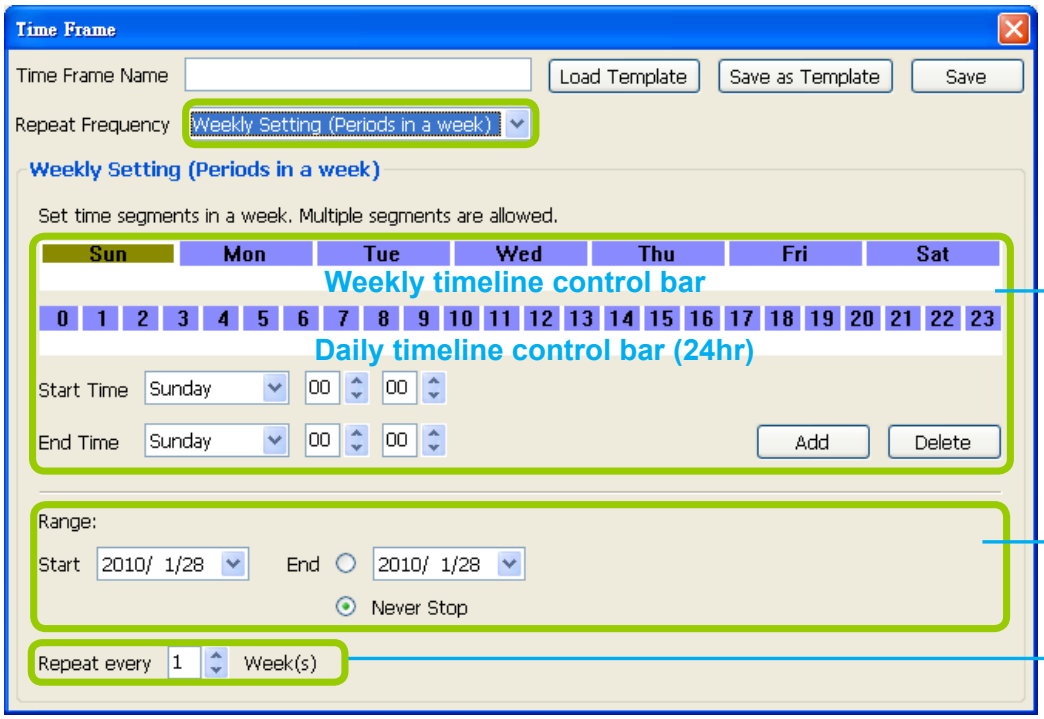
Set up repeat time interval

The repeat time intervals is "every N week(s)" as shown below. Repeat every 1 week means the time frame would apply for every week within the period of time.



Repeat Frequency: Weekly Setting (Periods in a week)

To set up Weekly (Periods in a week) repeat frequency, please configure the following items: Time segments within a week, applicable period of time, and repeat time interval.



Set up time segments within a week

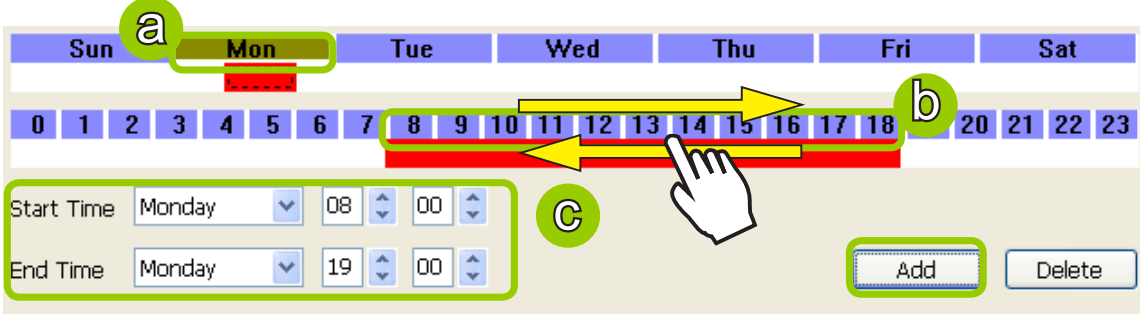
You can specify several time segments within a week. The **weekly timeline contol bar** represents the 7 days of a week, and the **daily timeline contol bar** represents the 24 hours in a day. The daily timeline control bar is only valid when one of the days on the weekly timeline control bar has been selected.

There are two ways to set up time segments: one is to use the computer mouse to draw the timeline control bars; the other is to fill in the precise start and end time value in the corresponding fields.

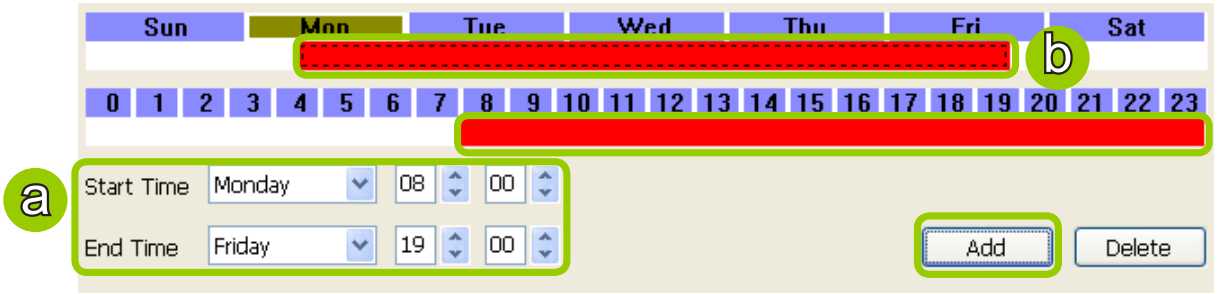
<u>Add time segments</u>: Choose either step 1 or step 2 to set up

1. Use the mouse to drag the timeline bars:
   a. Click on a day on the **weekly timeline control bar**. The selected bar will turn green.
   b. **Left-click** the **daily timeline control bar** and drag the mouse.
   c. The corresponding time segment will also appear in the Start Time and End Time fields. Click **Add**, then the red timeline bars representing new time segments will appear as shown below. You can drag multiple time segments within a day and a week.

      In the following illustration, the yellow arrows show the dragging direction of the mouse. You can drag from left to right or the opposite.



2. Fill in a precise Start Time and End Time:
   a. Directly select a day and enter the value in the Start Time and End Time fields, then click **Add**.
   b. The corresponding red timeline bars will automatically appear as shown below.
      The following is an example of an extended time segment from Mon. 8:00 to Fri. 19:00.



Delete time segments: Please refer to page 94 for detailed instructions.

Set up applicable period of time

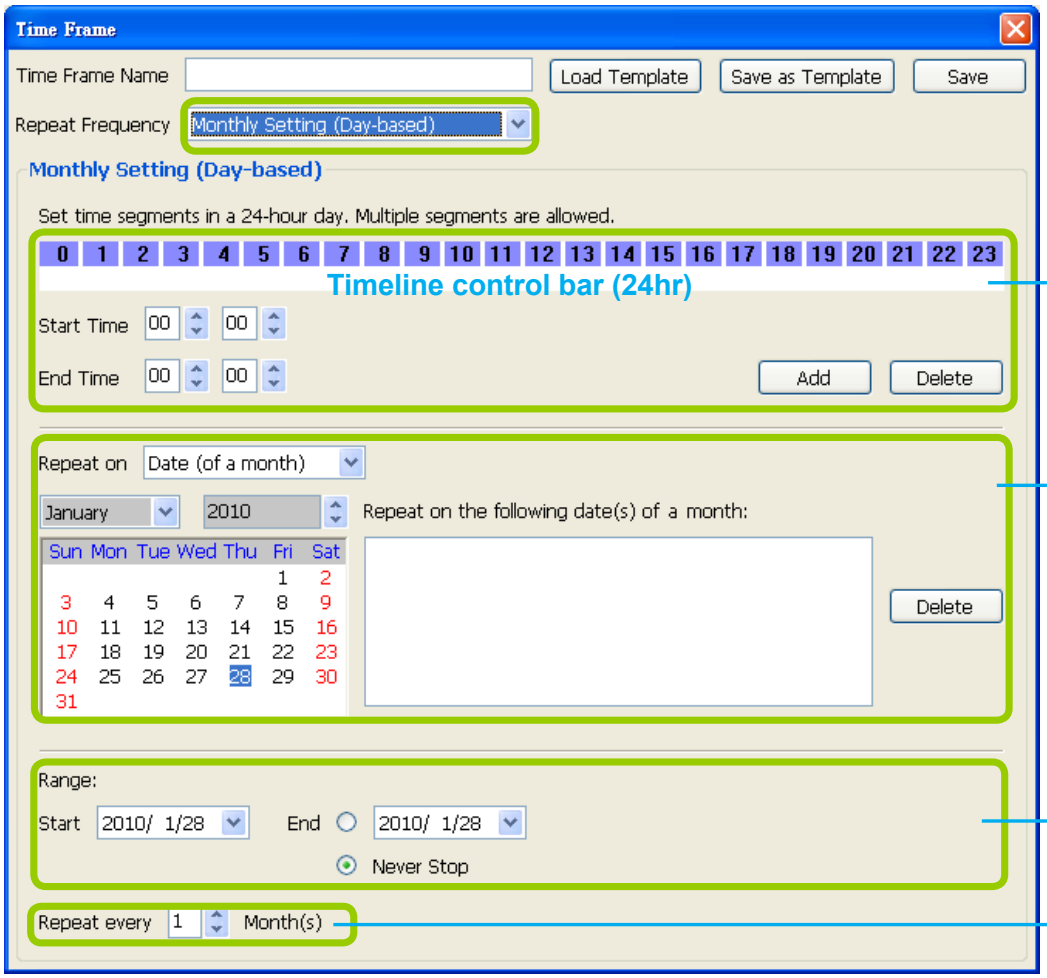
Please refer to page 95 for detailed instructions.

Set up repeat time interval

Please refer to page 96 for detailed instructions.

Repeat Frequency: Monthly Setting (Day-based)

To set up Monthly (Day-based) repeat frequency, please configure the following items: Daily time segments, applicable date(s) of a month/ day(s) of a week, applicable period of time, and repeat time interval.



Daily time segments
*You can drag more than one time segment per day.

Applicable date(s) of a month/ day(s) of a week

Applicable period of time

Repeat time interval

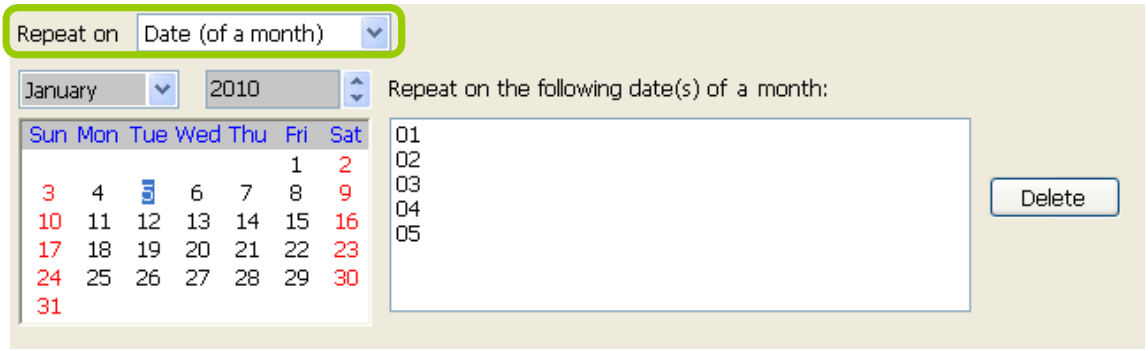
Set up daily time segments

Please refer to page 93 for detailed instructions.

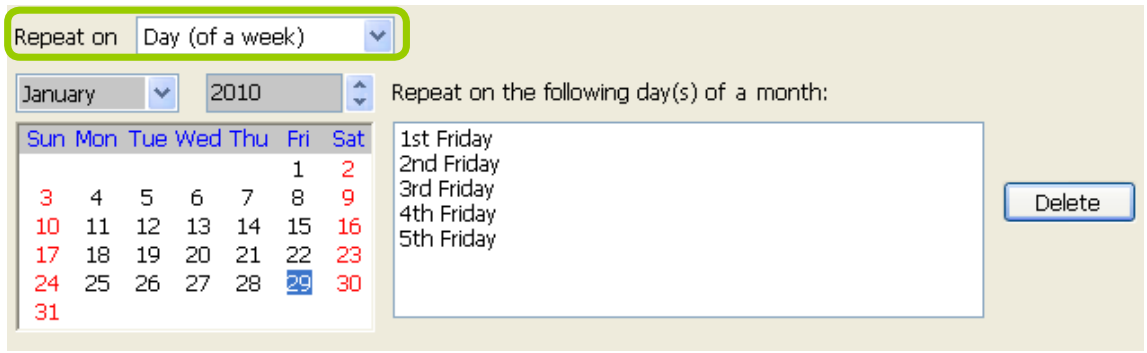
Set up applicable date(s) of a month/ day(s) of a week

For repeat frequency--"monthly (day-based)", you can apply the time segments only on selected days of a month. There are two types of repeat frequencies: Date(s) of a month and Day(s) of a week.

Repeat by date(s) of a month:
Select date(s) from the calendar, and it will be displayed on the right blank as shown below.
The following example refers to the 1st ~ 5th day of a month.



Repeat by day(s) of a week:
Select day(s) from the calendar, and it will be displayed on the right blank as shown below.
The following example refers to the 1st ~ 5th Friday of a month.

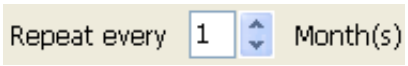


Set up applicable period of time

Please refer to page 95 for detailed instructions.

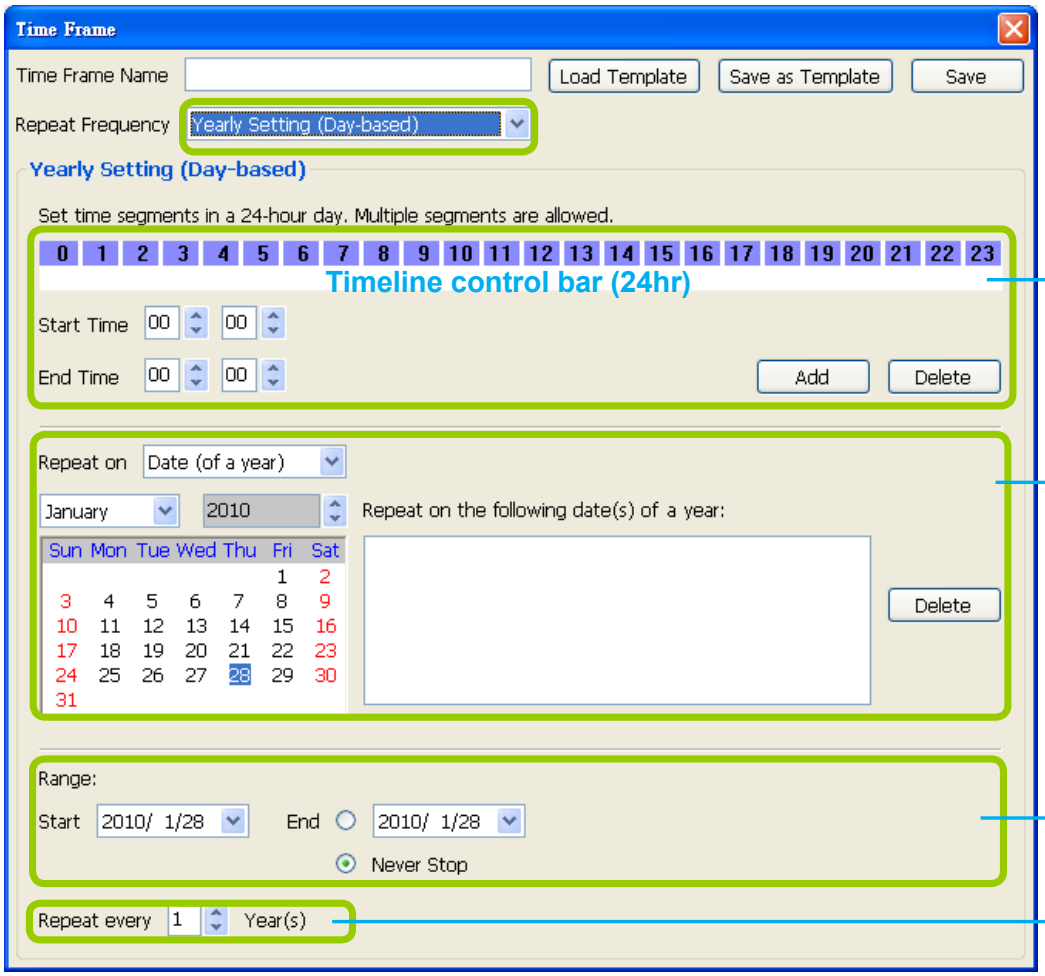
Set up repeat time interval

The repeat time intervals is "every N month(s)" as shown below. Repeat every 1 month means the time frame would apply for every month within the period of time.



Repeat Frequency: Yearly Setting (Day-based)

To set up Yearly (Day-based) repeat frequency, please configure the following items: Daily time segments, applicable date(s) of a year/ day(s) of a week, applicable period of time, and repeat time interval.



Daily time segments
*You can drag more than one time segment per day.

Applicable date(s) of a year/ day(s) of a week

Applicable period of time

Repeat time interval

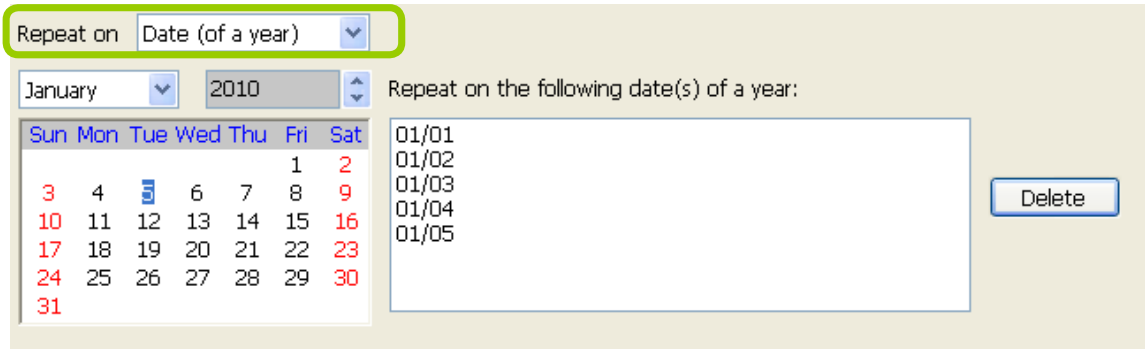
Set up daily time segments

Please refer to page 93 for detailed instructions.

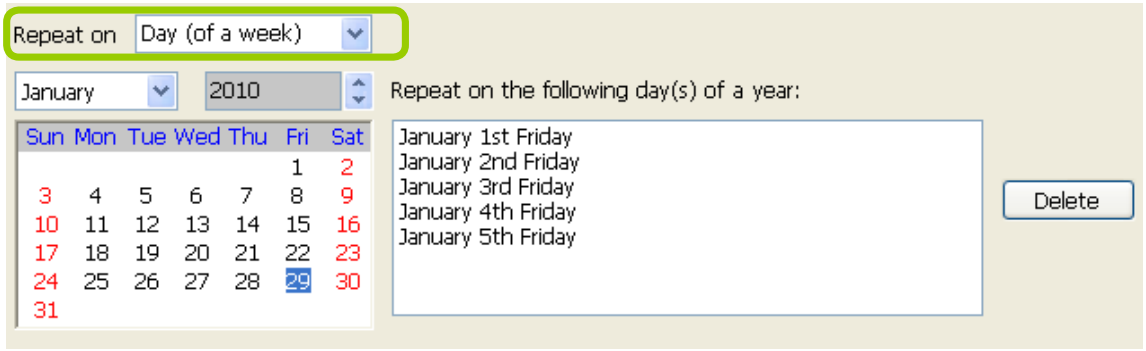
Set up applicable date(s) of a year/ day(s) of a week

For repeat frequency--"yearly (day-based)", you can apply the time segments only on selected days of a year. There are two types of repeat frequencies: Date(s) of a year and Day(s) of a week.

Repeat by date(s) of a year:
Select date(s) from the calendar, and it will be displayed on the right blank as shown below.
The following example refers to the 1st ~ 5th day of a year.



Repeat by day(s) of a week:
Select day(s) from the calendar, and it will be displayed on the right blank as shown below.
The following example refers to the January 1st ~ 5th Friday of a year.

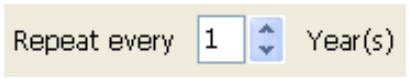


Set up applicable period of time

Please refer to page 95 for detailed instructions.

Set up repeat time interval

The repeat time intervals is "every N year(s)" as shown below. Repeat every 1 year means the time frame would apply for every year within the period of time.

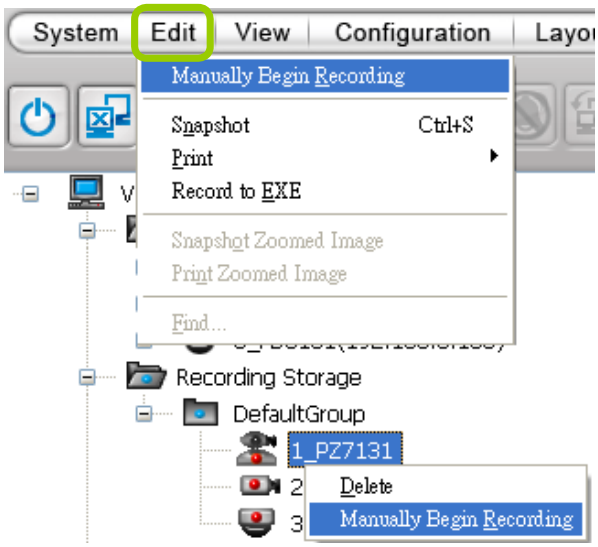


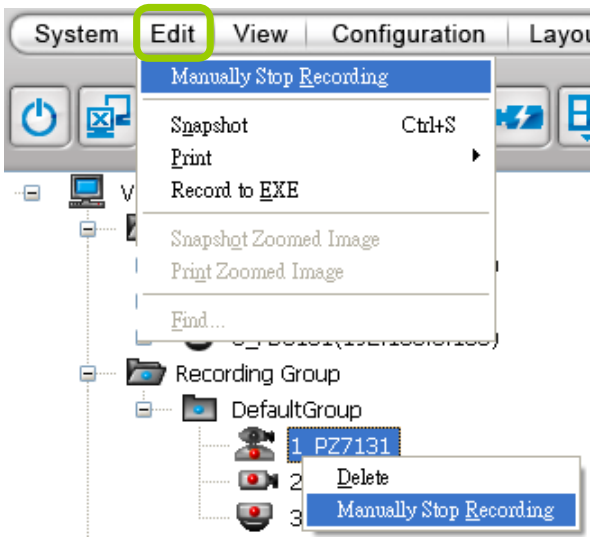
How to Manually Begin /Stop Recording

By default, all devices are assigned to the default recording storage and default recording schedule. Therefore, once you insert a device onto the station, the Server will begin to record live video according to the default recording schedule. Please refer to **How to Edit Recording Schedules** on page 85.

However, if you have changed the default schedule, you can manually click **Manually Begin Recording** to enable a device without setting up a recording schedule. Please follow the instructions below to manually begin recording.

Select the device from the hierarchical management tree under Default Group, then click **Edit > Manually Begin Recording** on the menu bar (or **right-click** the device and select **Manually Begin Recording**). The string on the menu bar will turn into **Manually Stop Recording** as shown below and the Server will start to record video from the target camera. Please note that its priority will be higher than the recording schedule, so it will continue unless you click **Manually Stop Recording.** After you click **Manually Stop Recording**, the device will then follow the preset recording schedule.



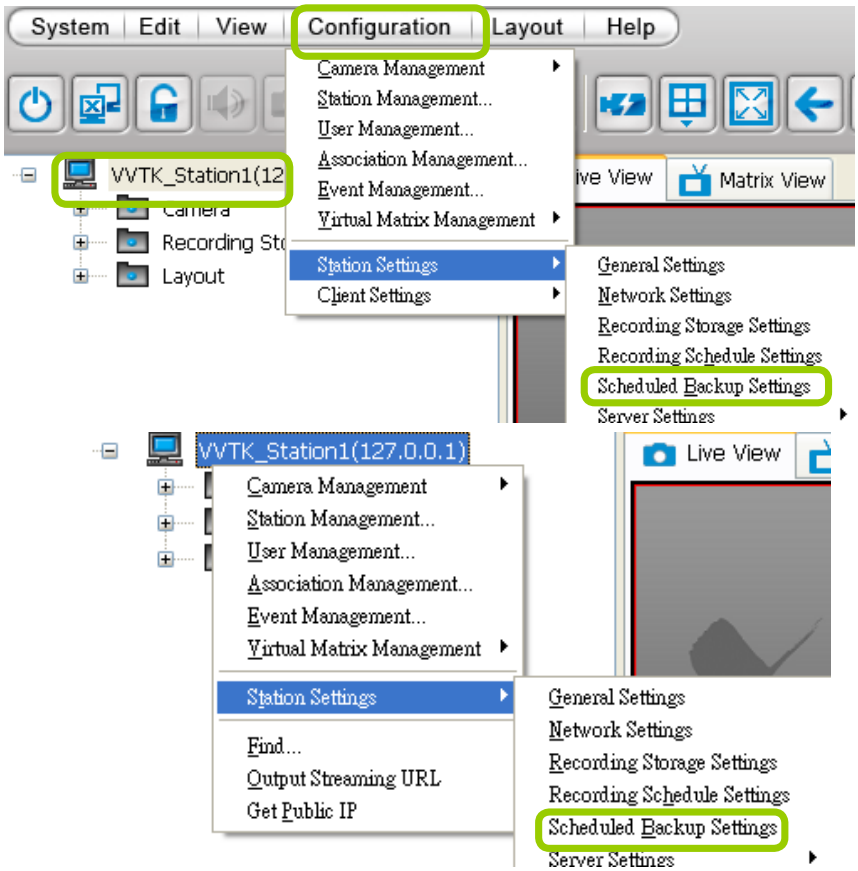


How to Edit Scheduled Backup Settings

The LiveClient supports scheduled backup which allows the user to back up the recorded data in another disk.
Please follow the steps below to enable scheduled backup settings:

a. Select the target station from the hierarchical management tree.

b. Click **Configuration > Station Settings > Scheduled Backup Settings** on the menu bar (or **right-click** the station and select **Station Settings > Scheduled Backup Settings**).

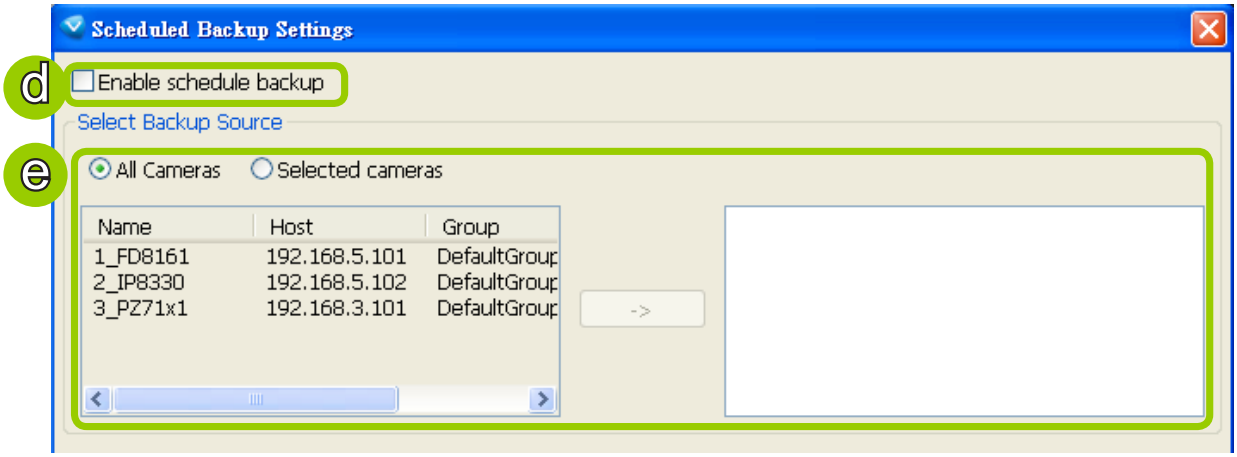


c. The **Scheduled backup settings** window will pop up.

Select Backup Source

d. Check Enable schedule backup.

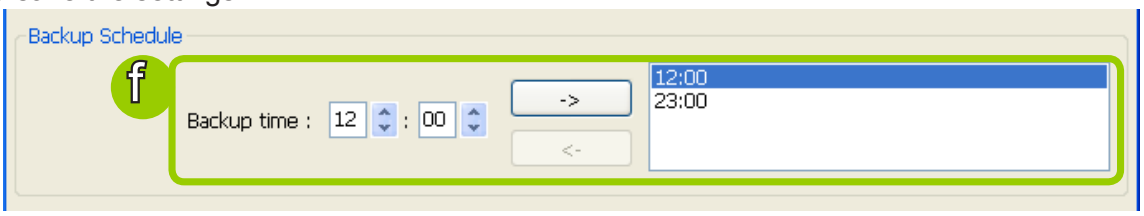
e. Select the data source you want to backup. If you check **Selected cameras**, you can click **>>** or **<<** to choose the data source that you want to backup.



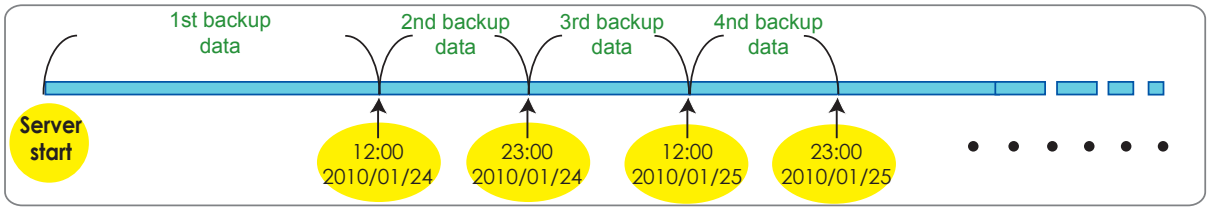
Setup Backup Schedule

f. Fill in a desired time and click **>>** to add the backup time. Please note that the backup time interval must not less than 1 hour. For example, 23:40 and 00:15 are not allowed to exist simultaneously.

In the following example, the server will backup the recorded data at 12:00 PM and 23:00 PM everyday once you save the settings.

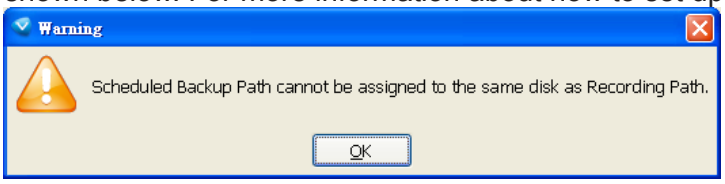


The following diagram shows the backup schedule and backup data:



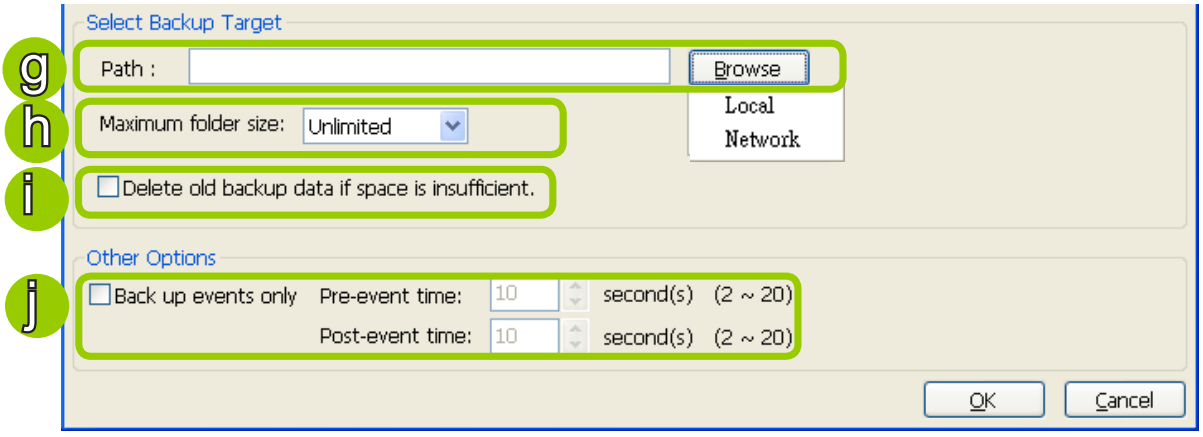
Select Backup Target

g. Click **Browse...** to select a path (local path or network storage) to store the backup data. Please note that the disk for backup data should be different from the original recording path, or a warning message will pop up as shown below. For more information about how to set up recording path, please refer to page 82.



h. Select a maximum size for backup folder. The server will divide backup data into the following size: VCD (650M), DVD (4.7G), Customize, or Unlimited size according to your choice.

i. Select **Delete old backups if space is insufficient** if you want to do cylic backup due to the limited size of the hard disk.



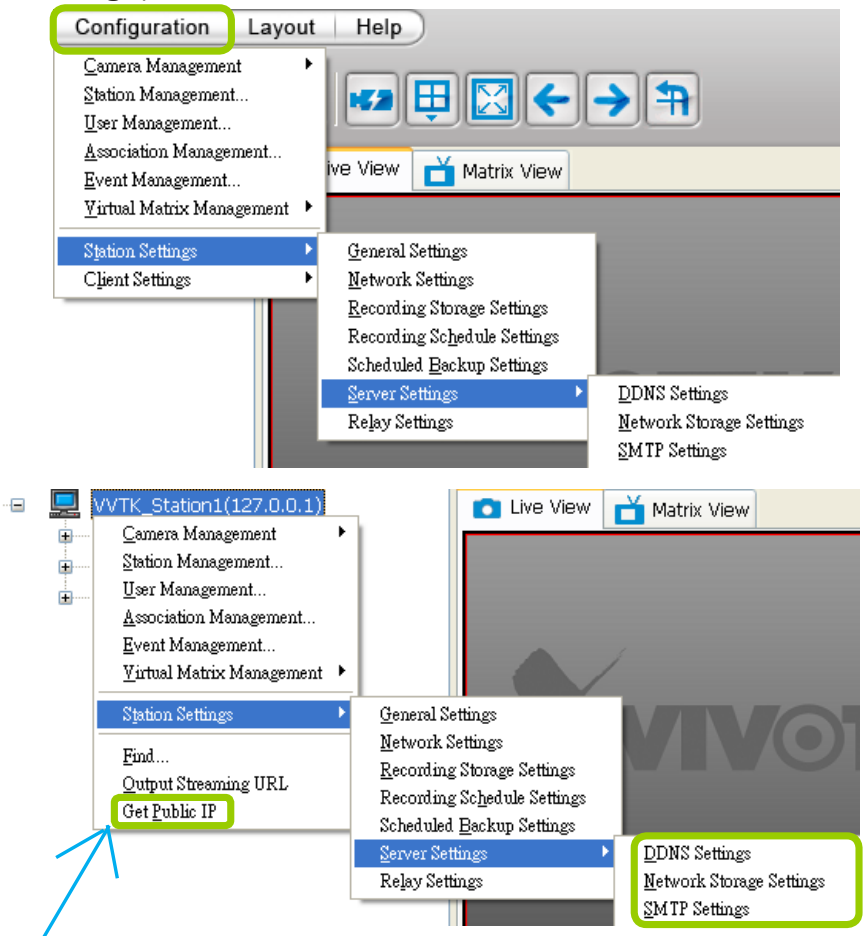
Other Options

j. If you only want to backup the recorded data of events, select **Backup only events** and fill in the pre- and post-event time.

How to Configure Station Server Settings

The LiveClient supports Server Settings including DDNS Settings, Network Storage Settings, and SMTP Settings.

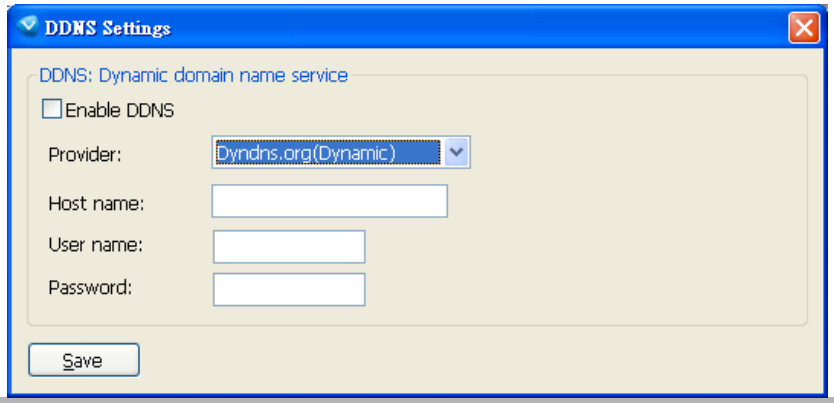
Select the station from the hierarchical management tree and click **Configuration > Station Settings > Server Settings** to open the page (or **right-click** the station and select **Station Settings > Server Settings**).



DDNS Settings

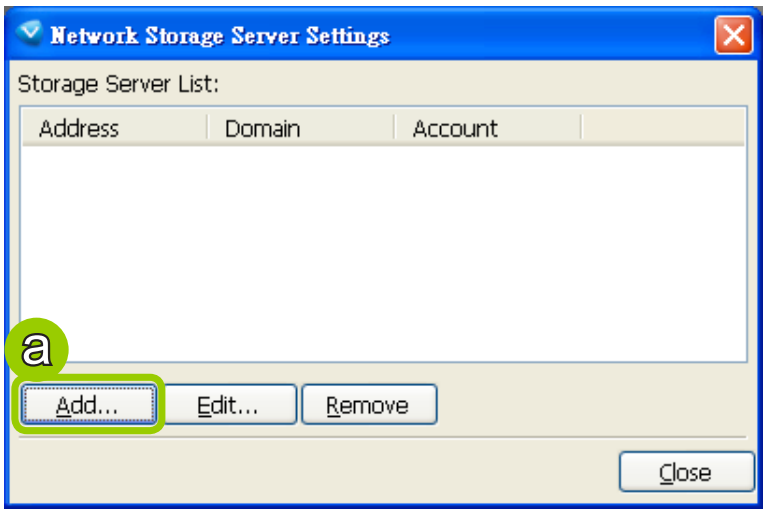
Since the public IP of Server may be a dynamic IP address, DDNS service will give it a fixed domain name.

Select a DDNS provider from the provider drop-down list. VIVOTEK offers 2bthere.net (Safe100.net), a free dynamic domain name service, to VIVOTEK customers. Please refer to the user's manual of VIVOTEK's network camera for detailed DDNS settings.

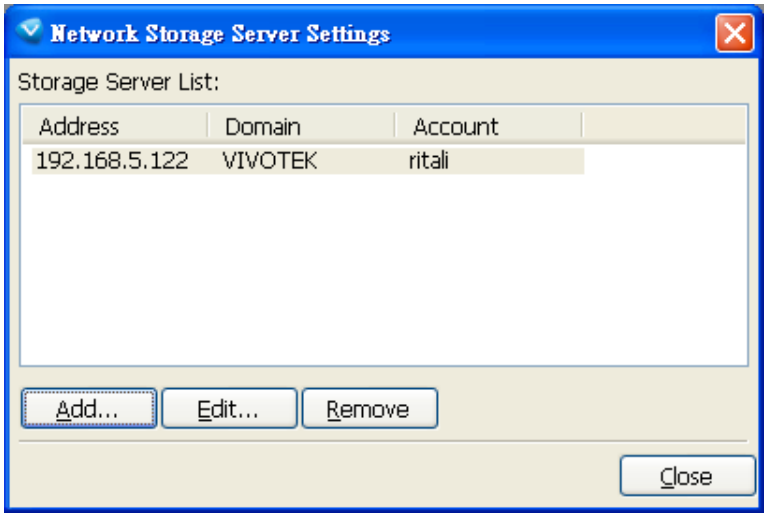


Network Storage Server Settings

The Server allows users to set up network storage path(s) for recorded files. Please follow the steps below to add a new network storage path.
a. Click **Add** to open the Network Host Window.
b. Fill in the related information for the network host. Then click **OK** to save the new settings.

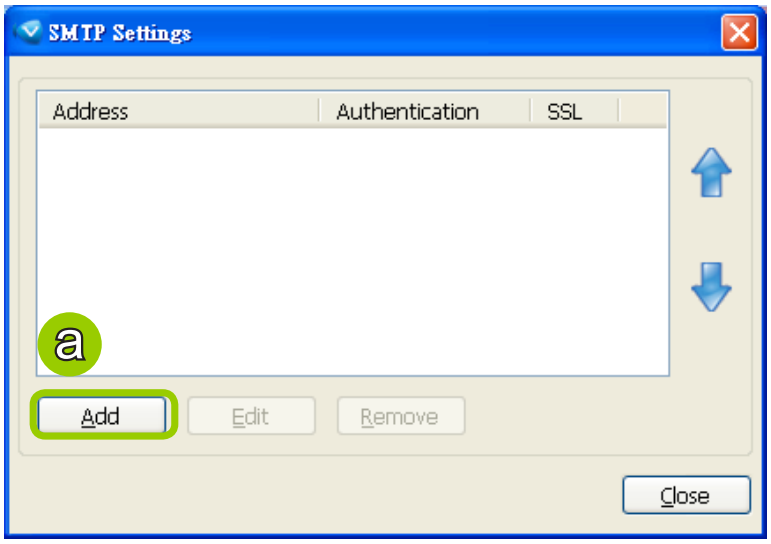


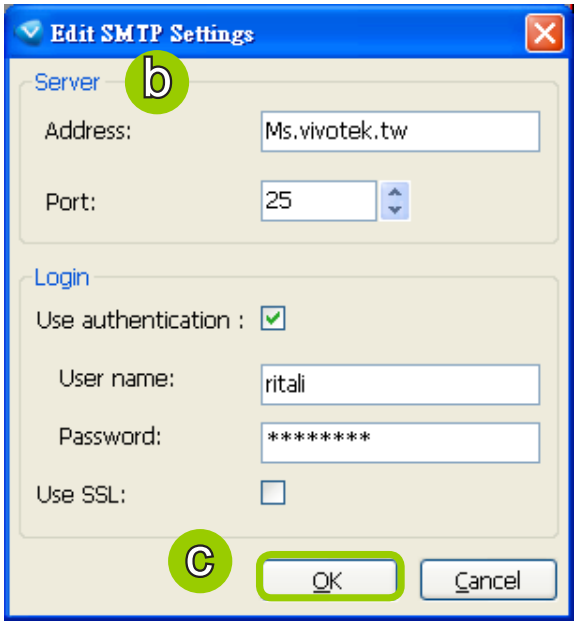
c. If you want to add more network host(s), please repeat step a. b.

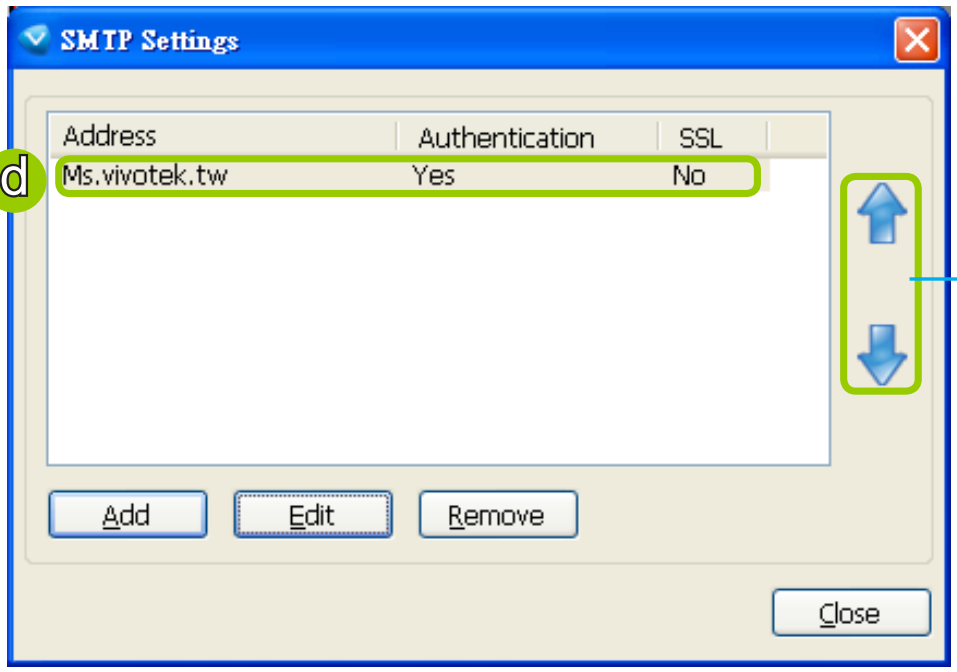


SMTP Settings

The Server allows user to set up SMTP Server to send mail alert when event triggers. For more information about how to set up event management, please refer to page 72.
Please follow the steps below to configure the SMTP Server:
a. Click **Add** to open the SMTP Settings page.
b. Enter the related information of your mail server. If your SMTP server requires a secure connection (SSL), check **Use SSL**.
c. Click **OK** to enable the settings.
d. Then the new information will appear on the SMTP Settings window as shown below.



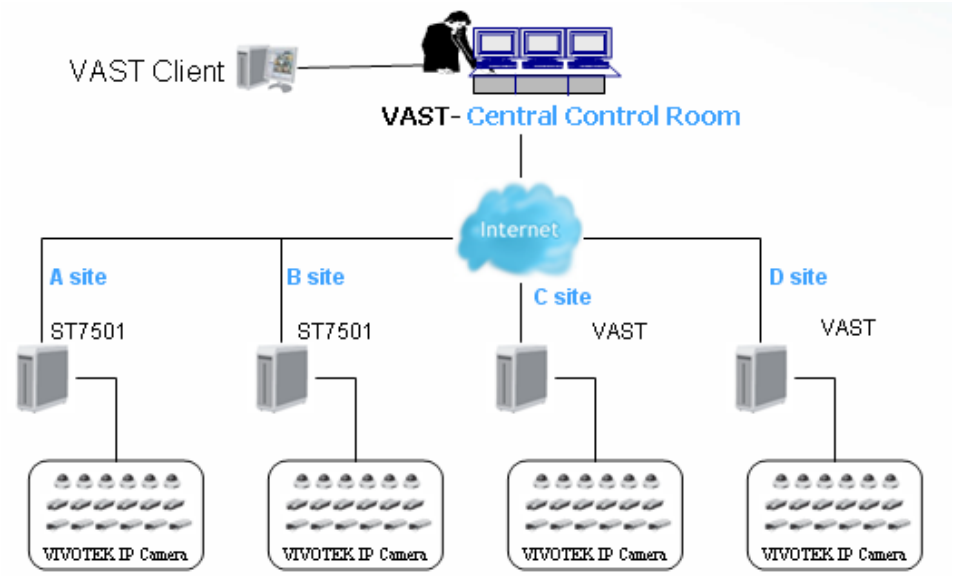




If you have more than one SMTP server, you can click to arrange the priority.

Relay Settings

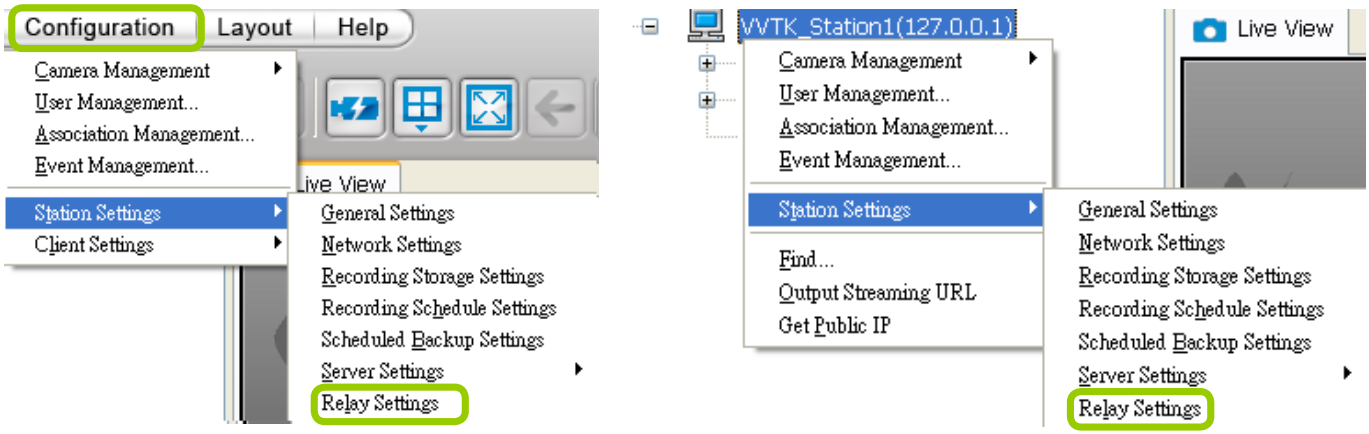
The ST7501 server can be set as a sub-station of VAST, the VIVOTEK professional central management software, so as to construct a hierarchical management architecture. Following is an illustration for two-level hierarchical architecture:

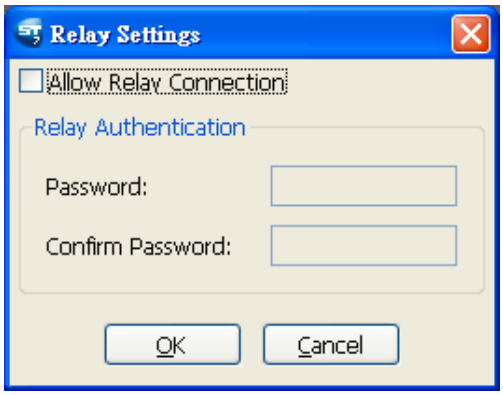


For VAST to set ST7501 as a sub-station, please follow the instruction below to enable the Relay Settings first.

a. Click **Configuration > Station Settings > Relay Settings** on the menu bar (or **right-click** the station on the hierarchical management tree and select **Station Settings > Relay Settings**).

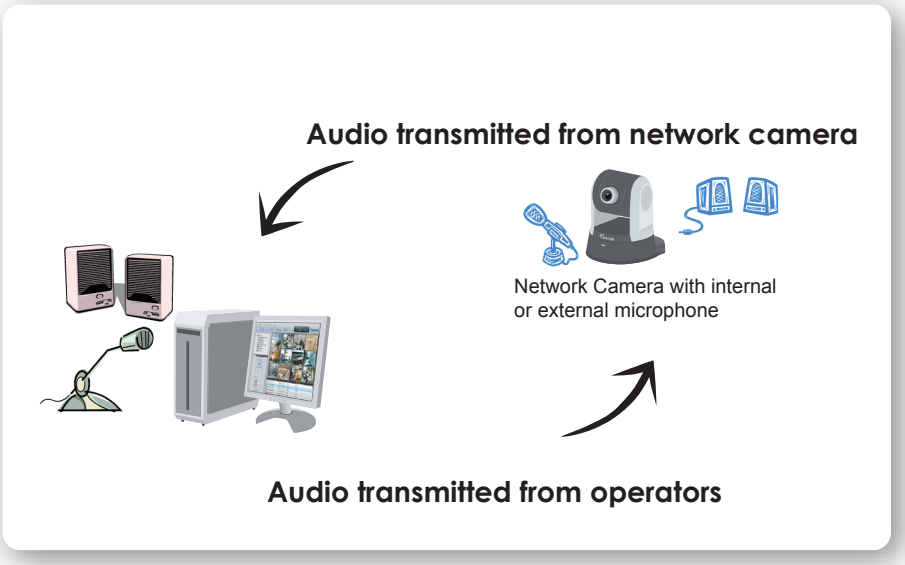
b. The **Relay Settings** window will pop up. Check **Allow Relay Connection** and enter a **Password**. Then click **OK** to enable the settings.





How to Use the Talk Panel

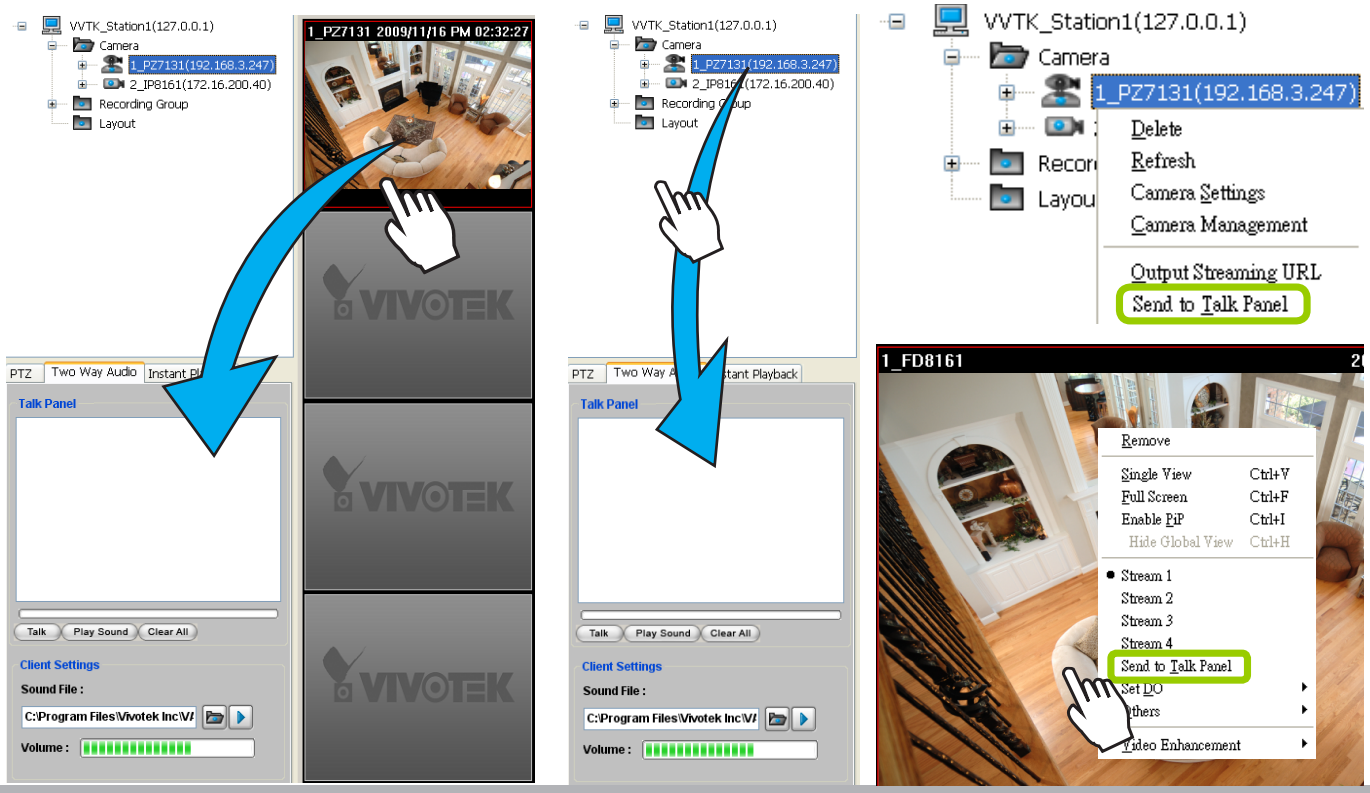
The LiveClient supports the two way audio function which allows the user to communicate with people around the network camera. Please enable the two way audio function on the camera side.
The following is an illustration of the two way audio function:



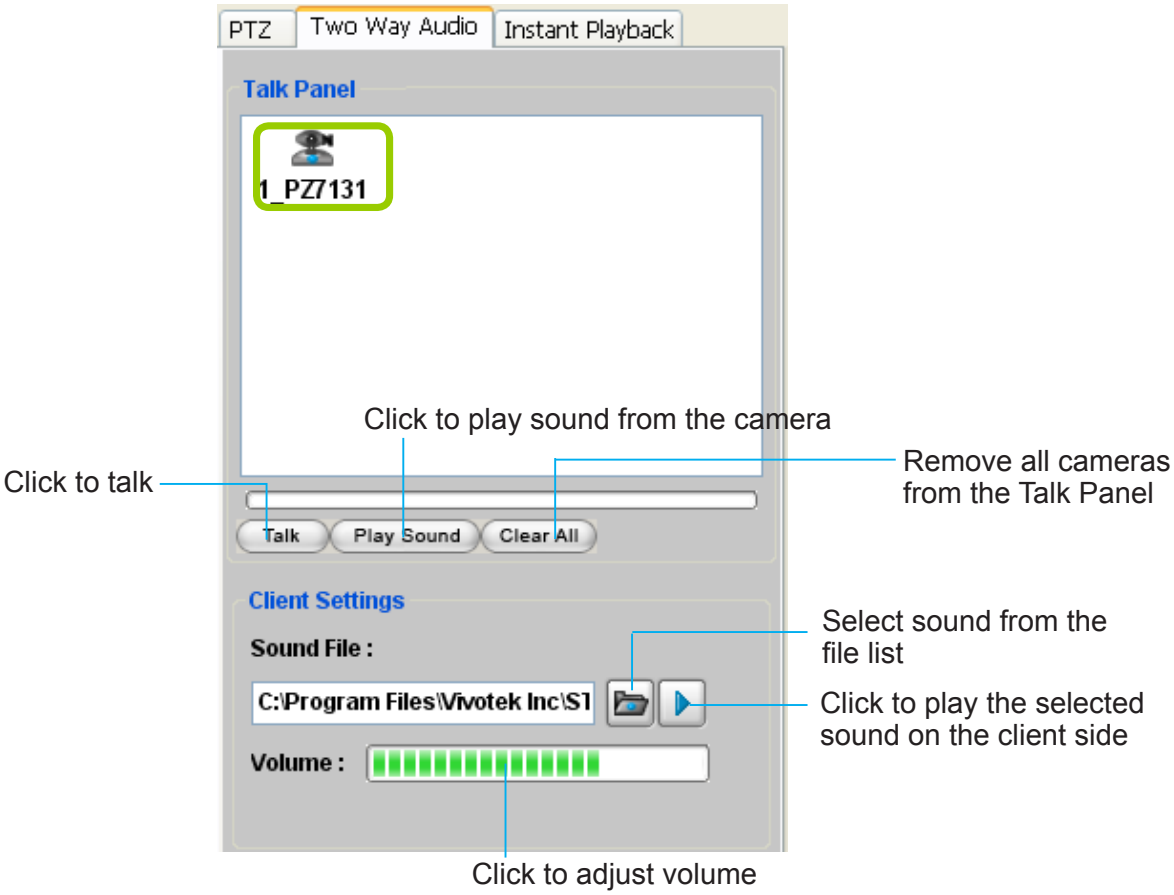
Add a Camera to the Talk Panel

■ There are several ways to add a Network Camera to the Talk Panel:

Drag-and-drop a camera from the video cell or from the hierarchical management tree to the talk panel as shown below. You can also **right-click** the target camera or the video cell, then click **Send to Talk Panel** on the popup menu.

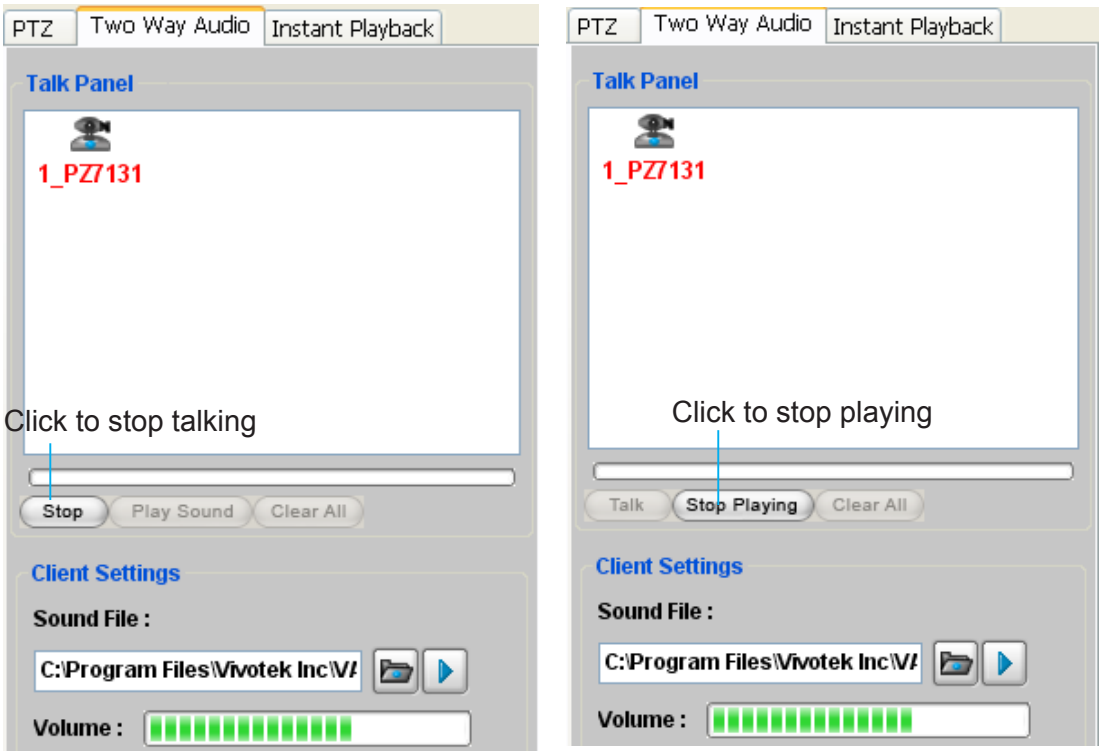


■ An icon with the camera name will be displayed in the Talk Panel.



■ *Please note that you cannot **Talk** and **Play Sound** at the same time.*

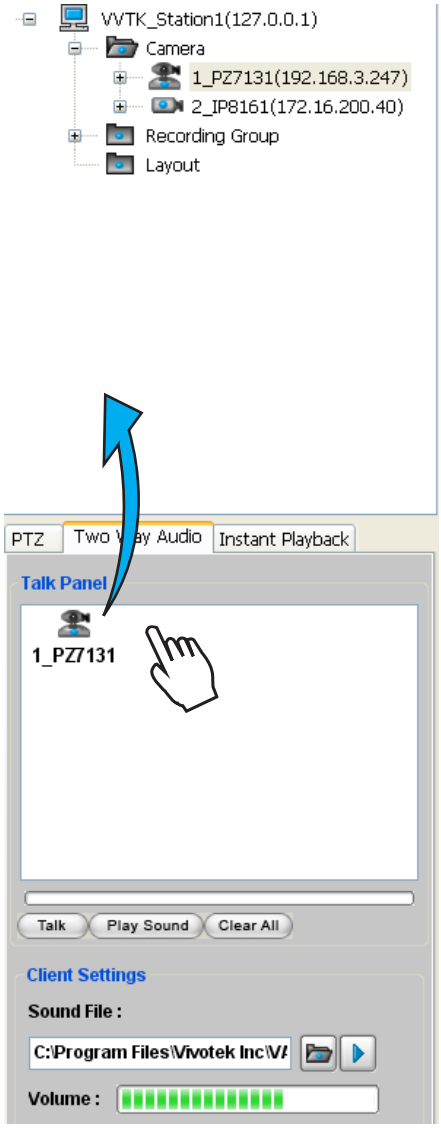
■ *When you are talking or playing sound, you cannot add other cameras to the Talk Panel. If you want to add more cameras to the Talk Panel, please **Stop Talking** and **Stop Playing** first.*



Remove a Camera from the Talk Panel

■ Remove a camera

Drag a camera from the Talk Panel and drop to the hierarchical management tree window as shown below. The camera icon will disappear.

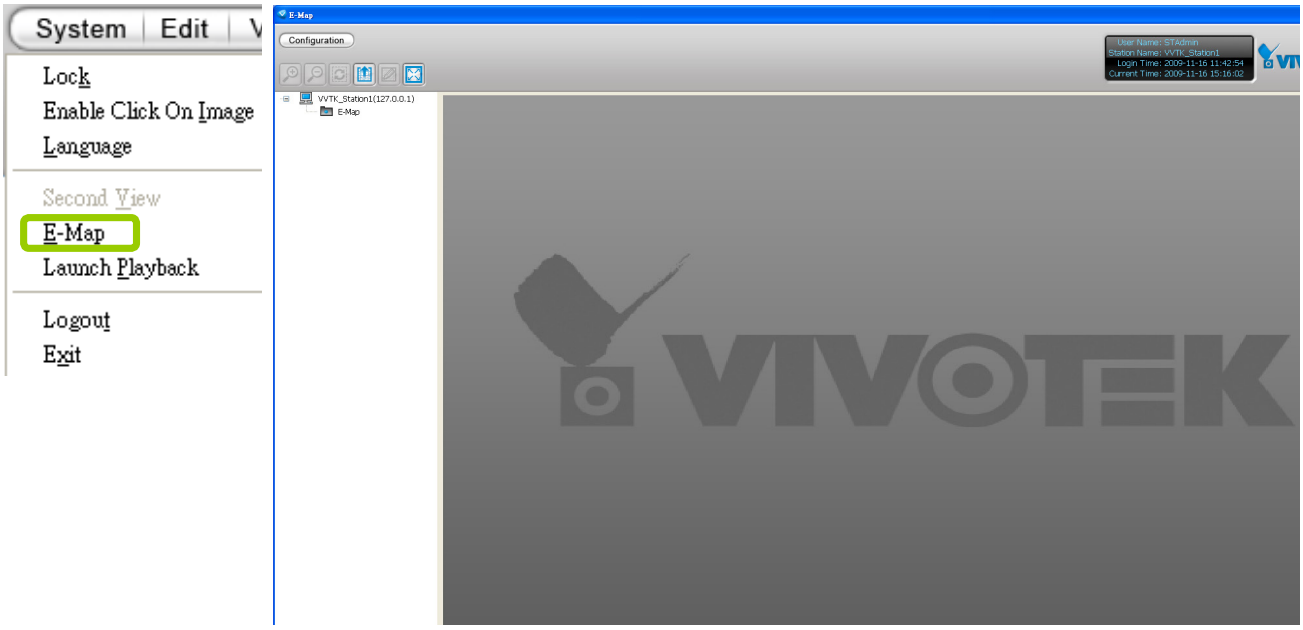


■ Remove all cameras

Click Clear All , all cameras in the Talk Panel will be removed.

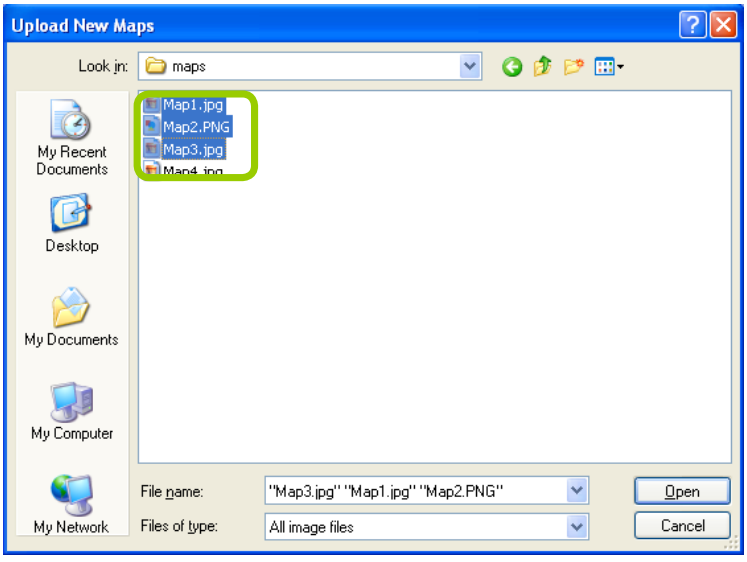
How to Configure E-map Settings

The LiveClient supports intuitive E-map function which allows users to upload E-maps for overall devices management.
Click **System > E-map** to open E-map Settings Page:



Upload an E-map

Click to search for E-map(s) to upload.

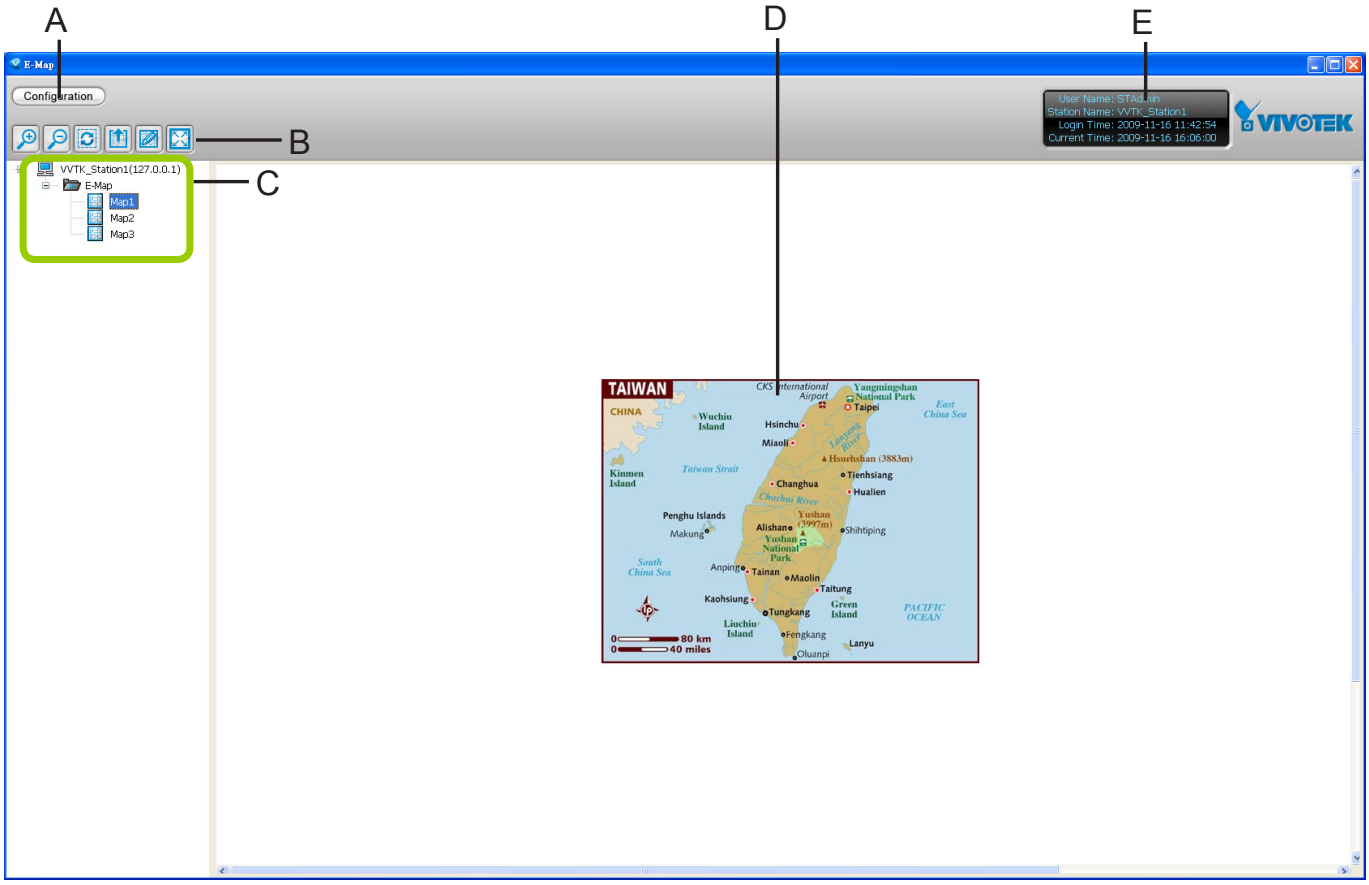


The uploaded E-maps will be listed under the E-map list tree.

If the uploading procedure fails, please compress the image size of your map (equal or smaller than 2MB) and try again.

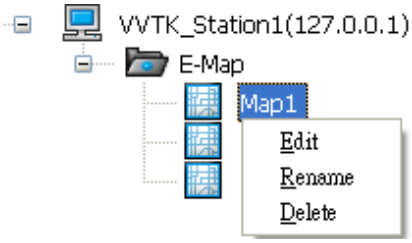
User Interface of E-map Settings Page (View Mode)

■ **Double-click** an E-map on the tree, it will be displayed on the E-map window as shown below. There are two operation modes of E-map settings page: "View Mode" and "Edit Mode". The following is the "View Mode" illustration.

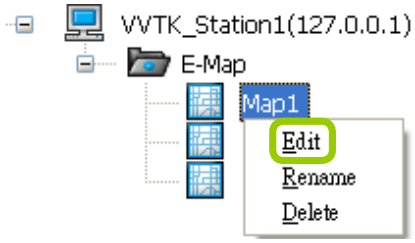


A. Menu bar B. Quick access bar C. E-map list tree D. E-map window E. Status panel

■ **Right-click** the E-map, then you can **edit**, **rename**, or **delete** the E-map.



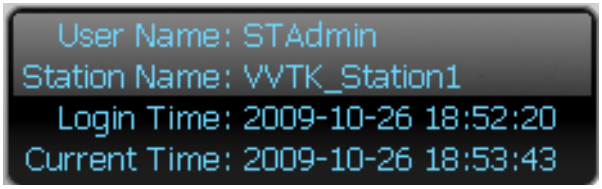
■ **Right-click** an E-map on the tree and click **Edit** or click on the Quick Access Bar, it will switch to edit mode.



Quick Access Bar

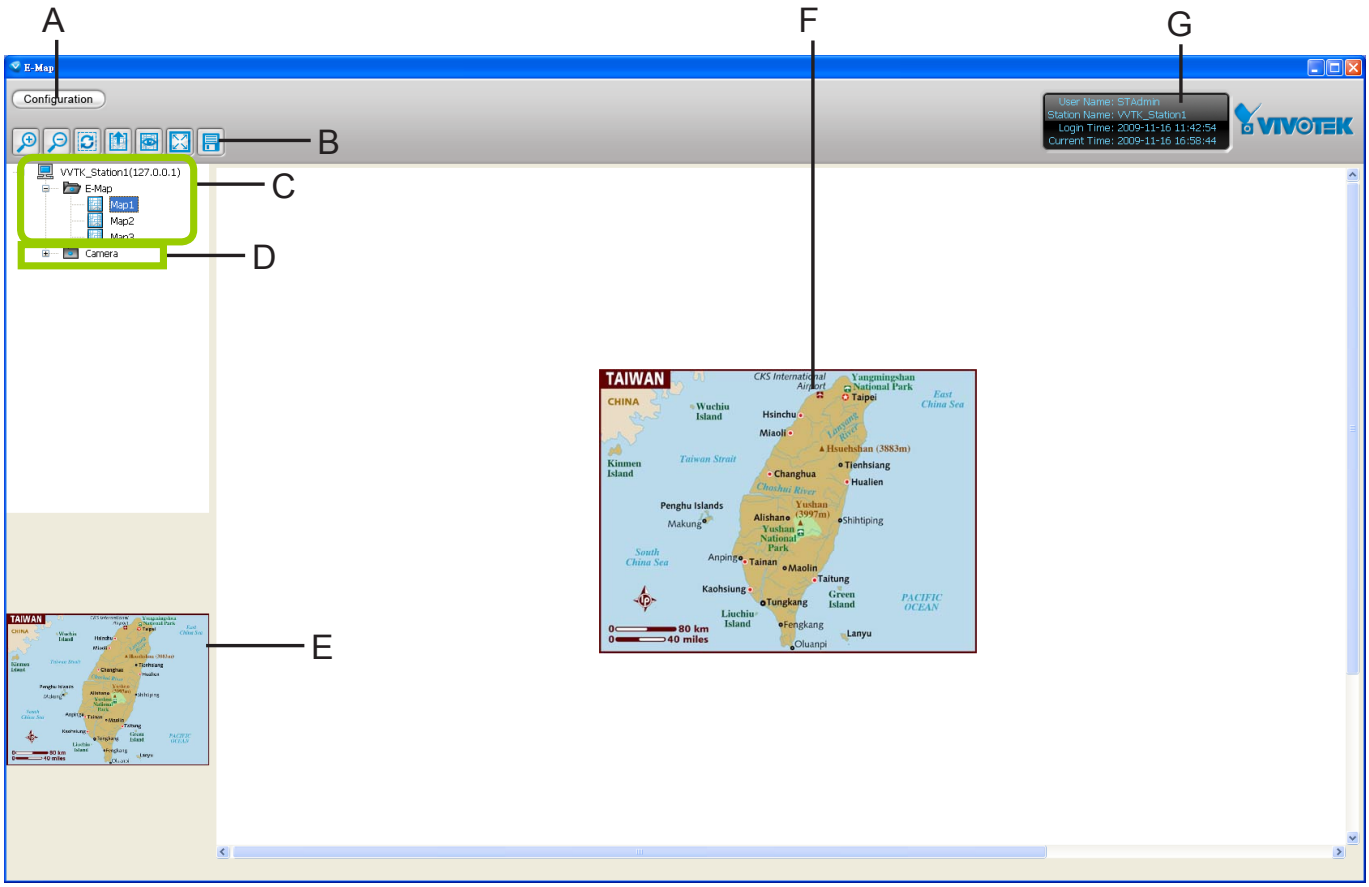
Icon	Function	Description
	Zoom in	Zoom in the E-map
	Zoom out	Zoom out the E-map
	Default size	Adjust the E-map to default size
	Upload	Upload E-map to the login station
	View Mode	Click to switch to view mode
	Full Screen	Extend the E-map settings page to full screen
	Save	Save E-map settings

Status Panel



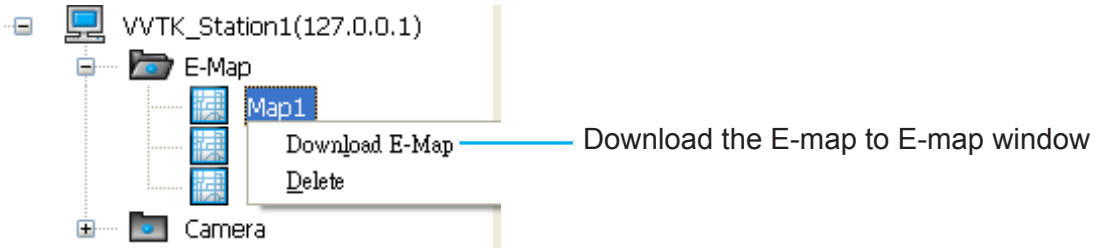
User Name
Station Name (IP Address)
Login Time (yyyy-mm-dd hh:mm:ss)
Current Time (yyyy-mm-dd hh:mm:ss)

User Interface of E-map Settings Page (Edit Mode)



A. Menu bar B. Quick access bar C. E-map list tree D. Device tree
E. Map preview F. E-map window G. Status panel

■ **Right-click** the E-map, you can **download, rename**, or **delete** the E-map.



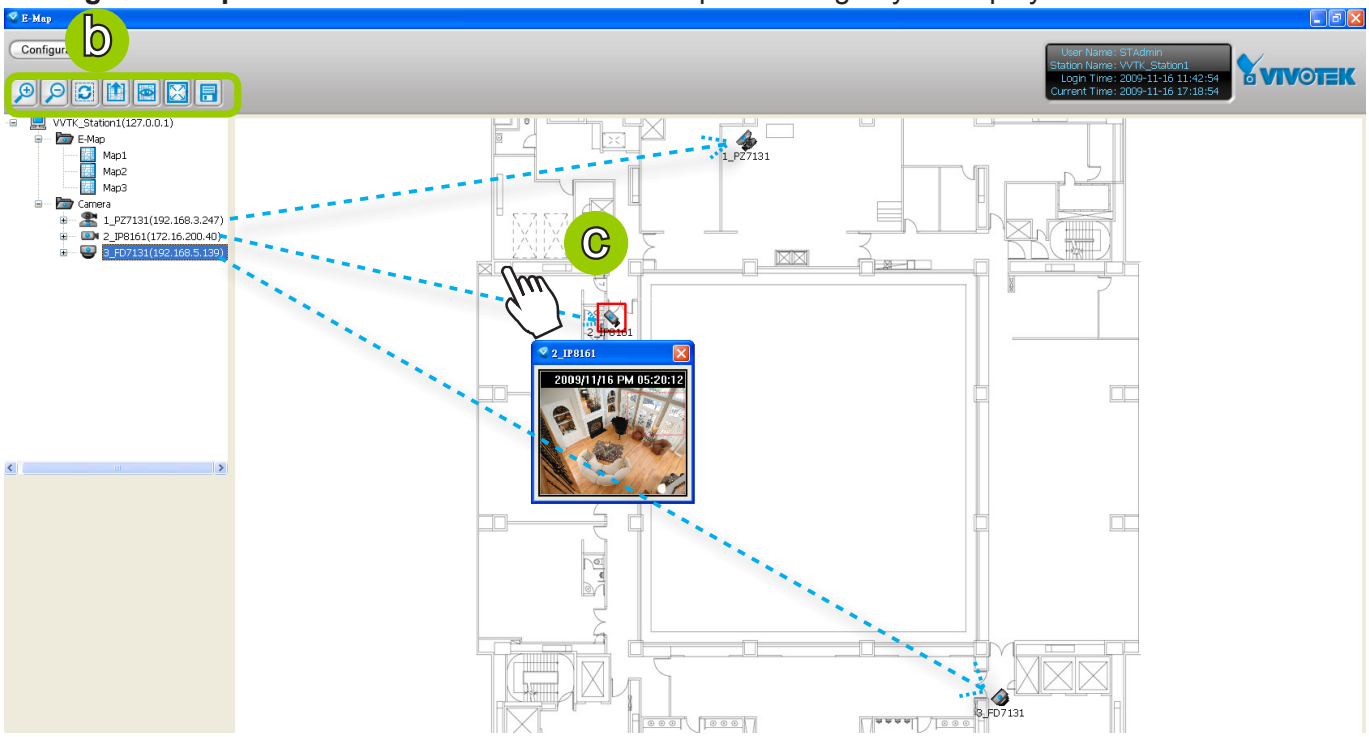
Device Management

Please follow the steps below to edit an uploaded E-map.

a. **Double-click** the E-map you want to edit, it will be displayed on the E-map window.

b. Use Quick Access Bar to adjust the size of the E-map. In edit mode, you can also use your mouse to drag the position of the E-map and zoom in or zoom out the E-map.

c. **Drag-and-drop** the connected devices to the E-map according to your deployment.



d. **Right-click** the device icon on E-map, you can **rotate** the direction or **delete** the device. The device can be rotated in 8 derections as shown below.

e. You can also drag the DI/DO device under the connected device onto the E-map. If you want to change the status of the **DO** device, **double click** the DO icon on E-map.

For more information about DI/DO settings, please refer to Association Management on page 70.

/	Digital input on / off
/	Digital output on / off

f. Click on the Quick Access Bar to save the new settings.

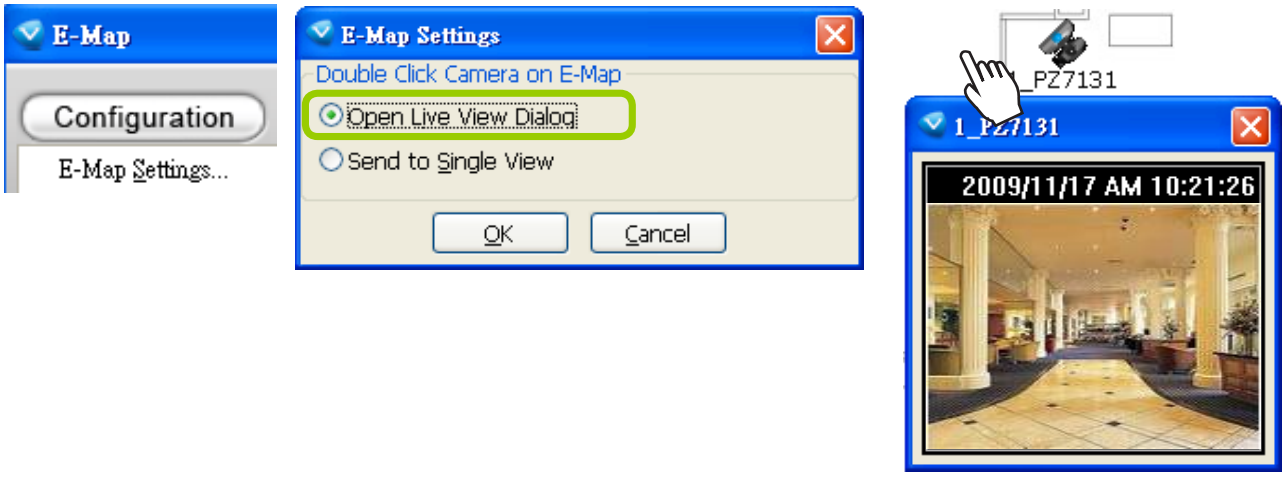
The red frame twinkling around the device means there is event trigger(s) going on. Meanwhile, a live view dialog will pop up beside the model.

Live View Dialog Settings

Click **Configuration** > **E-map Settings** to open the E-map Settings dialog, then you can choose to **Open Live View Dialog** or to **Send to Single View** when you double-click the device deployed on the E-map.

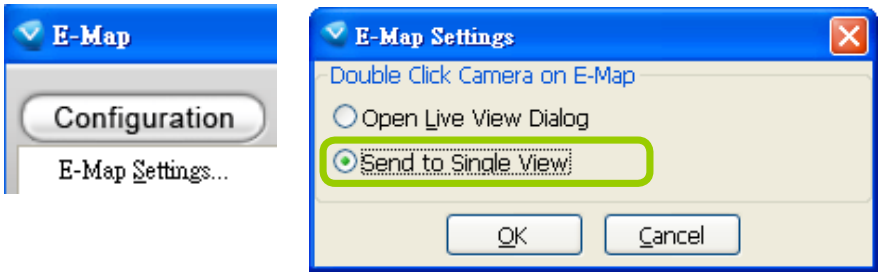
Open Live View Dialog

Select **Open Live View Dialog**: When you **double-click** the device icon on the E-map or when an event triggers, a live view dialog will pop up beside it. It is the default setting in E-map Settings window.

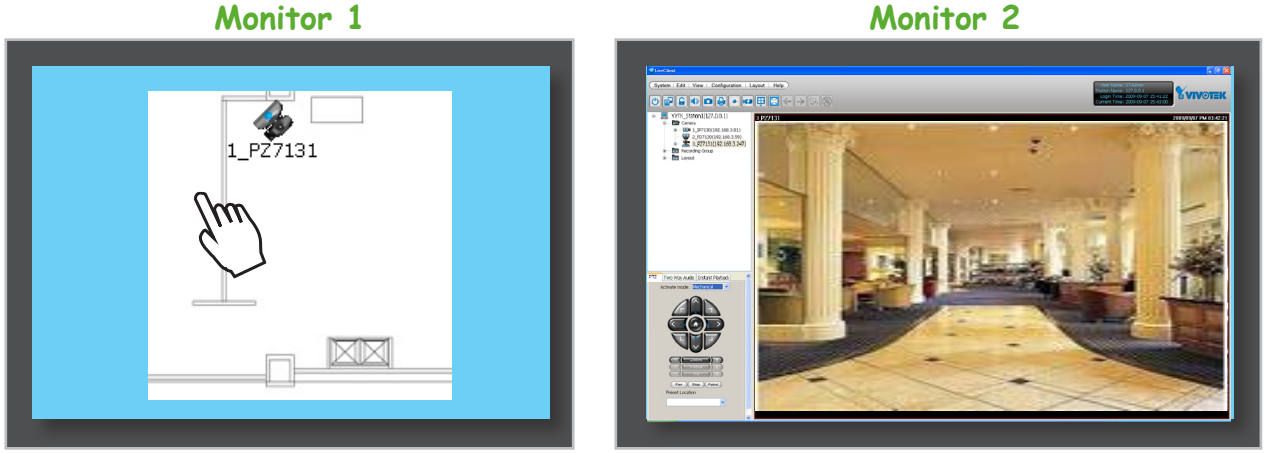


Send to Single View

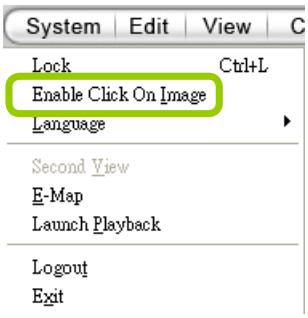
Select **Send to Single View**: When you **double-click** the device icon on the E-map, it will open a single view on the LiveClient.



If you have set up dual monitor, it will be automatically sent a single view to the second monitor.



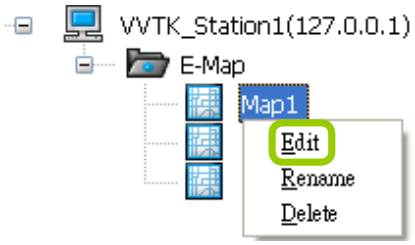
*The live view dialog also supports **click on image**, **PTZ**, and **e-PTZ** as long as the linked device supports and enables those functions. To enable those function on E-map, please check the item "Enable click on image" on the menu bar of LiveClient as shown below. Then an icon will appear in the live view dialog for you to control the cameras.*



E-map Link

After completing device deployment on your E-map, you can link an E-map to another E-map. Please follow the steps below to configure E-map link:

a. Select a map you want to edit and enter **Edit Mode**.

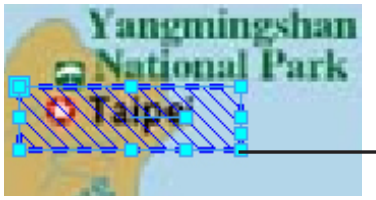


b. **Drag-and-drop** another E-map onto current E-map. A blue frame will appear as shown below.
For example: Link Map1 to Map2 by dargging Map2 onto Map1

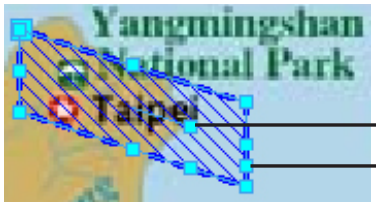
c. Use to move the position of the blue frame.

d. **Right-click** the blue frame to **Resize** or **Delete** it.

Click **Resize**, some nodes will appear around the blue frame. Then You can drag the nodes to move the position, rotate the direction, adjust the size, and change the shape.

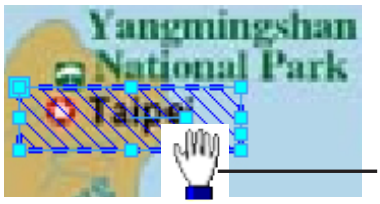


resize



rotate the direction

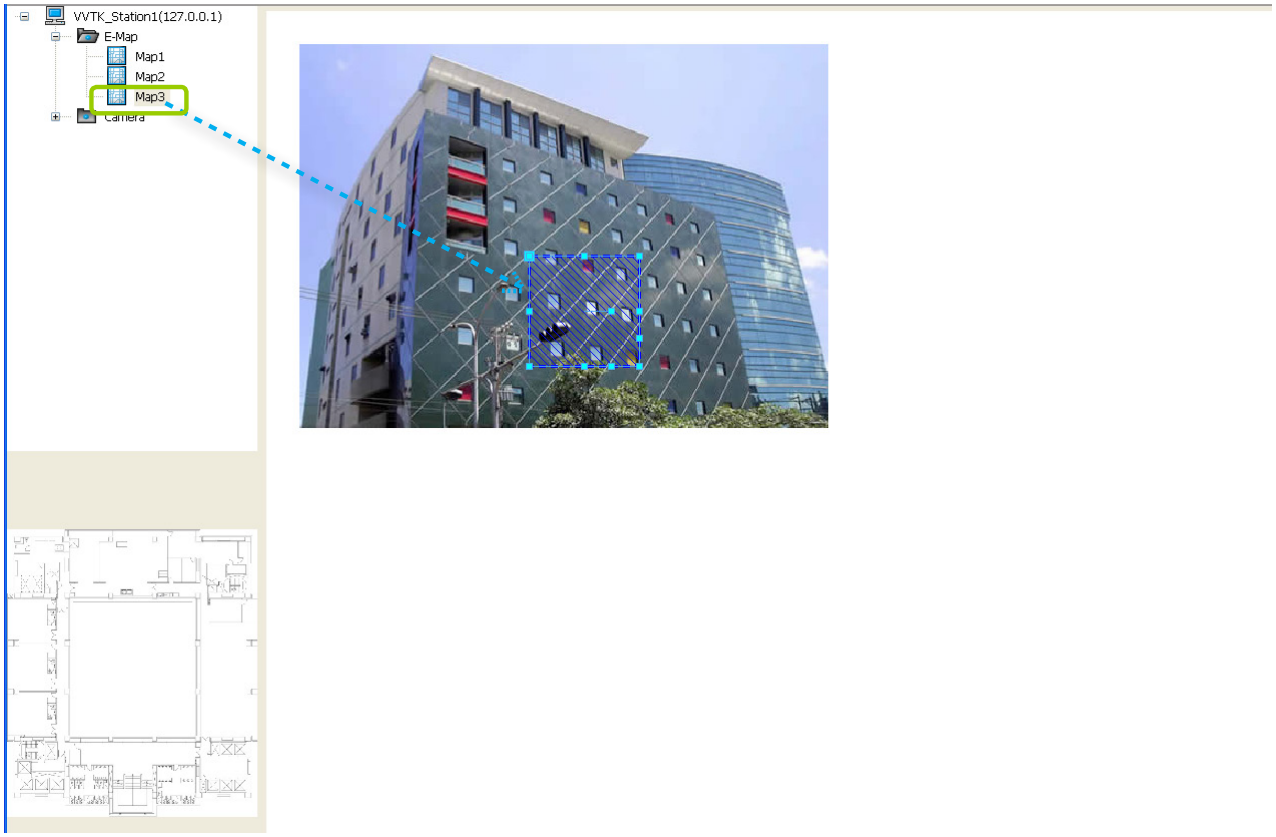
change the shape



move the position

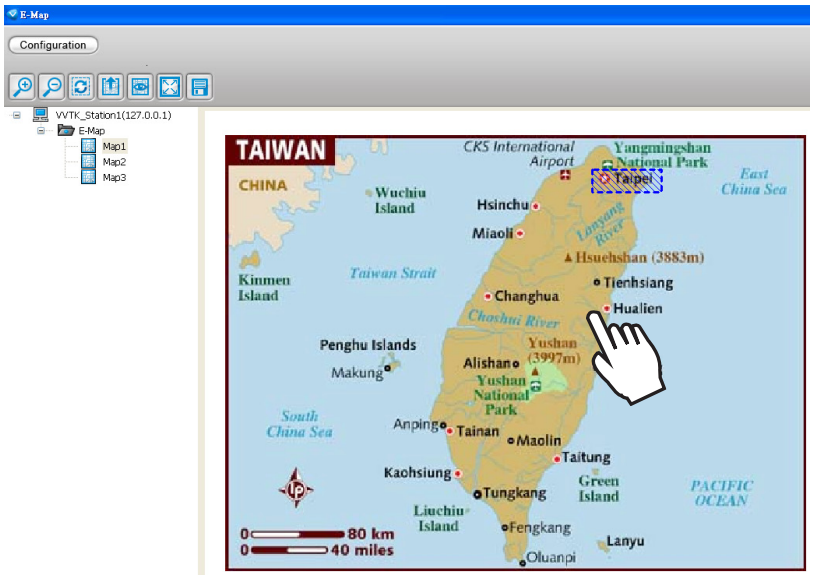
e. Click on the Quick Access Bar to save the new settings.

f. If you want to set additional map links, please repeat steps a. ~ e.
For example: Link Map2 to Map3 by dargging Map3 onto Map2

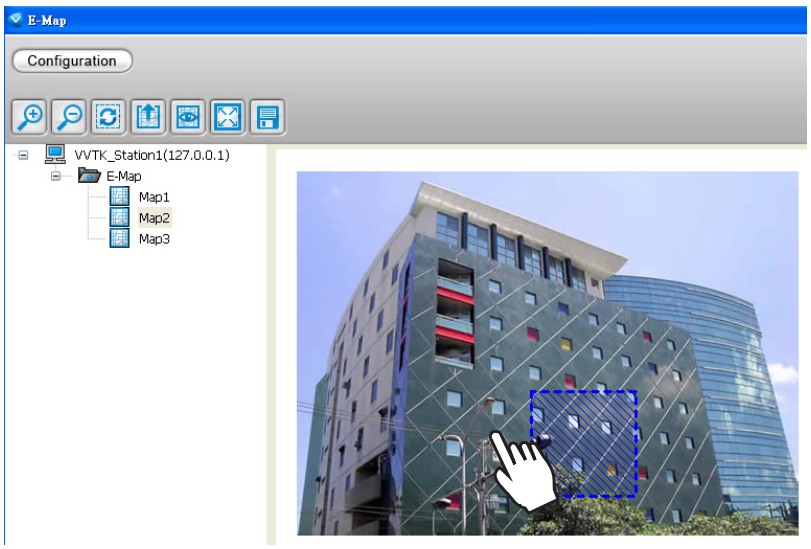


g. Click on the Quick Access Bar to save the new settings.

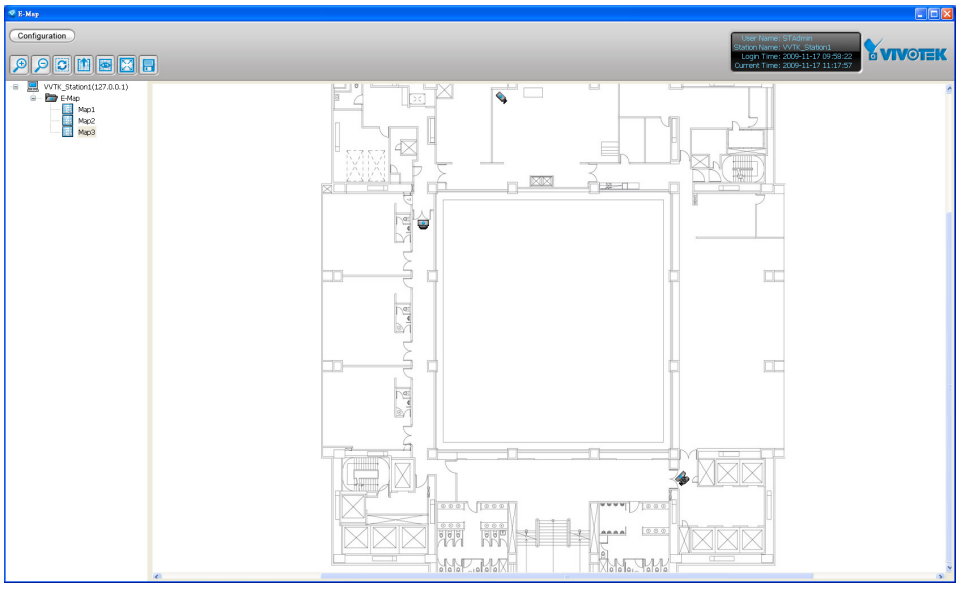
h. Test the web links. Click on the Quick Access Bar to switch to view mode.
Double-click the blue frame on Map1, it will automatically switch to map2. Then **double-click** the blue frame on Map2, it will automatically switch to map3.



Map 1



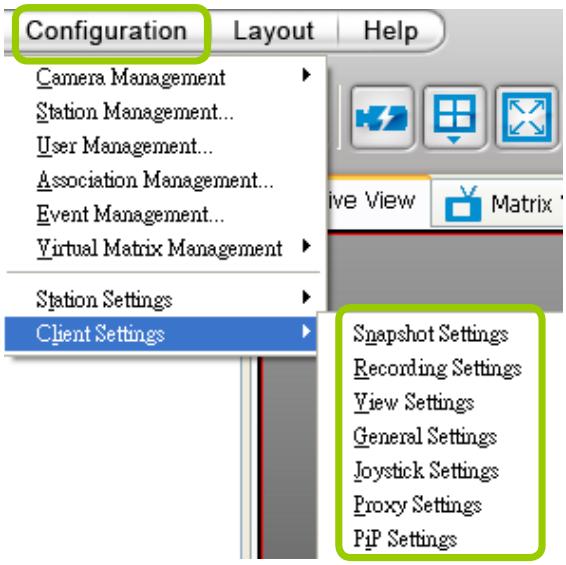
Map 2



Map 3

How to Configure Client Settings

In Client Settings, you can configure Snapshot Settings, Recording Settings, View Settings, General Settings, Joystick Settings, Proxy Settings, and PiP Settings.



Snapshot Settings

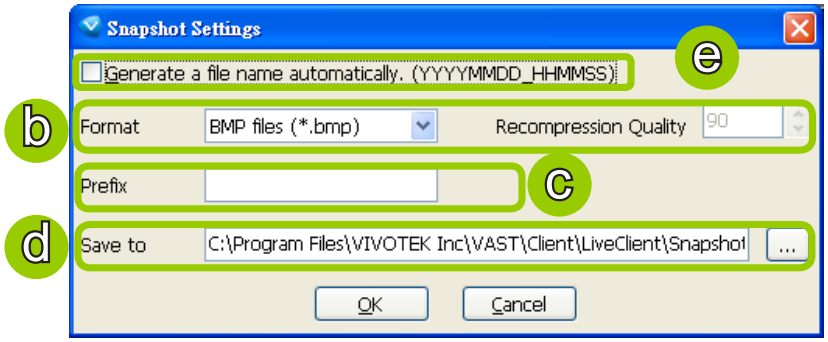
Please follow the steps below to configure snapshot settings:

a. Click **Configuration > Client Settings > Snapshot Settings** on the menu bar to open the **Snapshot Settings** window.

b. Select a picture format for snapshots (**BMP** or **JPEG**). If you select **JPEG** format, you can adjust the recompression quality (from 1 to 100). Note that a higher value would generate higher picture quality but lower compression rate.

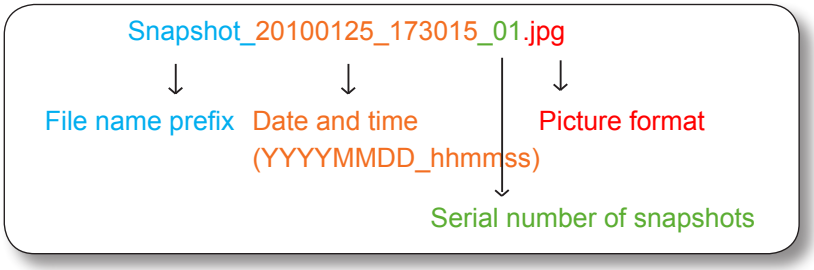
c. Fill in a filename prefix for the snapshots.

d. The default storage path for snapshots is C:\Program Files\VIVOTEK Inc\ST7501\Client\LiveClient\Snapshot. If you want to change the storage path, click **Browse** ... to select another folder.

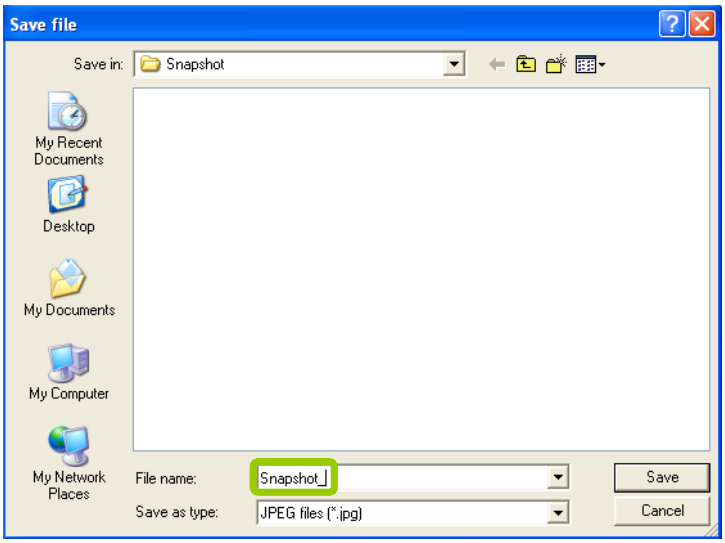


The recompression quality is only enabled in MPEG-4 streaming. If your stream source is MJPEG, the system will directly save the JPEG image without recompression.

e. If you check **Generate a file name automatically**, the software will directly save snapshots with the following filename format to the storage folder.



If you uncheck **Generate a file name automatically**, the **Save file** dialog box will pop up when you take a snapshot. The file name prefix will automatically be displayed in the Save File dialog box.

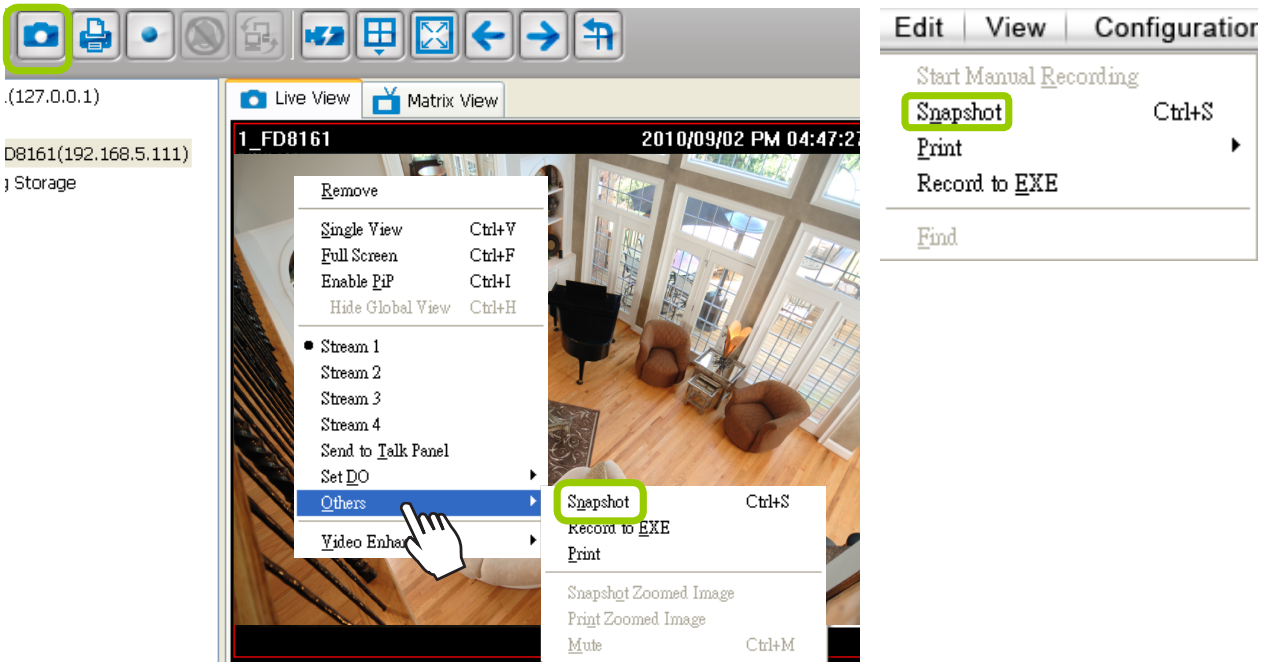


Take a Snapshot

Please follow the steps below to take a snapshot of the live video stream:

a. Select the video cell of which you want to take a snapshot.

b. Click **Snapshot** on the quick access bar, or **right-click** the video cell and select **Others > Snapshot** from the popup menu. You also can click **Edit > Snapshot** to take a snapshot.



c. The snapshots will be found in the preset storage folder on your local computer.

Recording Settings

The Server allows you to record the live video in EXE, 3GP, or AVI format to your storage folder.

Type 1: Record to EXE

Record video as an EXE file. The EXE is not only a media file but also a built-in media player. When user execute the EXE, the media file will be played automatically. There is no need to install any other program. For more information about how to use the EXE player, please refer to page 128.

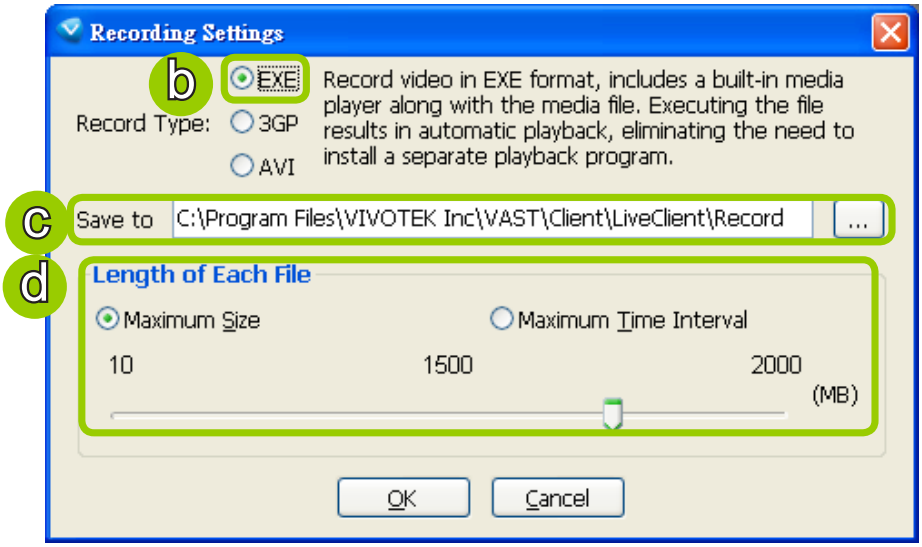
Please follow the steps below to configure EXE record settings:

a. Click **Configuration > Client Settings > Recording Settings** on the menu bar to open the **Recording Settings** window.

b. Select **EXE** as the Record Type.

c. The default storage path is C:\Program Files\VIVOTEK Inc\ST7501\Client\LiveClient\Record. If you want to change the storage path, click **Browse** ... to select another folder.

d. Select the Length of each file-- **Maximum Size** (10~2000MB) or **Maximum Time Interval** (1~150 min).



e. Click **OK** to enable the settings.

Type 2: Record to 3GP

Record video as a 3GP file. 3GP file is a standard MP4 format compatible with players such as VLC, QuickTime, or Real players. Choose this type if you has already installed one of these players.

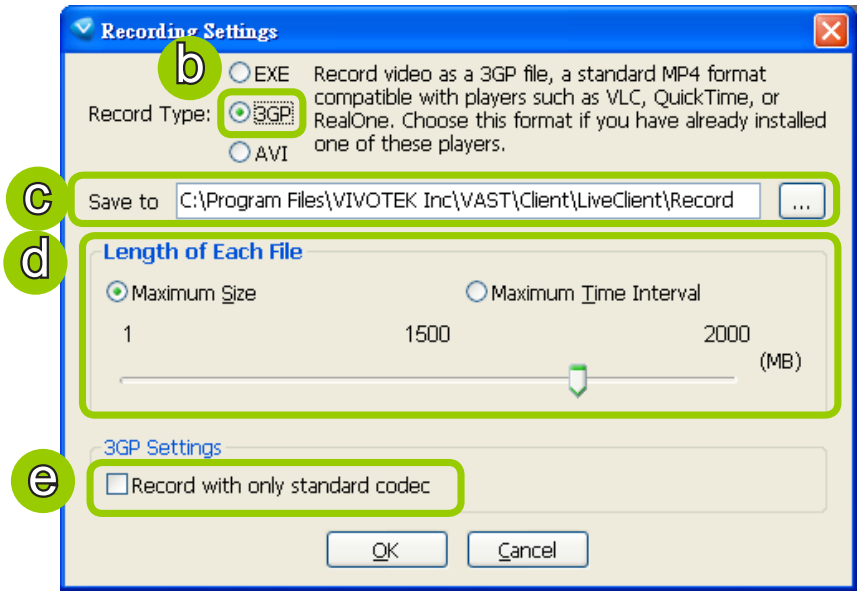
Please follow the steps below to configure 3GP record settings:

a. Click **Configuration > Client Settings > Recording Settings** on the menu bar to open the **Recording Settings** window.

b. Select **3GP** as the Record Type.

c. The default storage path is C:\Program Files\VIVOTEK Inc\ST7501\Client\LiveClient\Record. If you want to change the storage path, click **Browse** ... to select another folder.

d. Select the Length of each file-- **Maximum Size** (1~2000MB) or **Maximum Time Interval** (1~150 min).



e. If you check "Record with only standard codec", the video from old models (VIVOTEK 6000-series products) using H.263 codec will not be recorded.

f. Click **OK** to enable the settings.

Type 3: Record to AVI

Record video as an AVI file, which uses the popular codecs pre-installed in the Windows OS. Please note that the speed may be slower due to the need of decoding the video/audio and re-encoding both into a compatible codec.

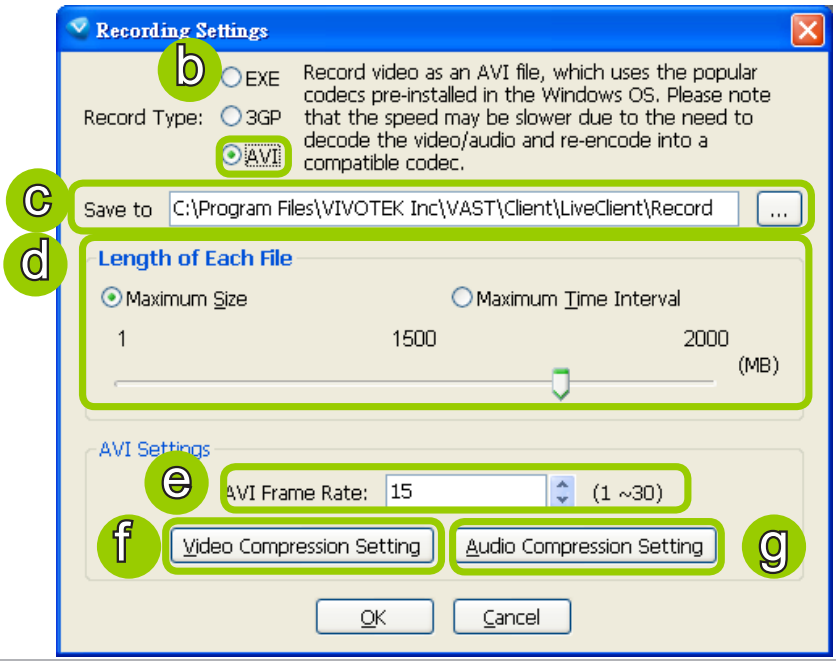
Please follow the steps below to configure AVI record settings:

a. Click **Configuration > Client Settings > Recording Settings** on the menu bar to open the **Recording Settings** window.

b. Select **AVI** as the Record Type.

c. The default storage path is C:\Program Files\VIVOTEK Inc\ST7501\Client\LiveClient\Record. If you want to change the storage path, click **Browse** ... to select another folder.

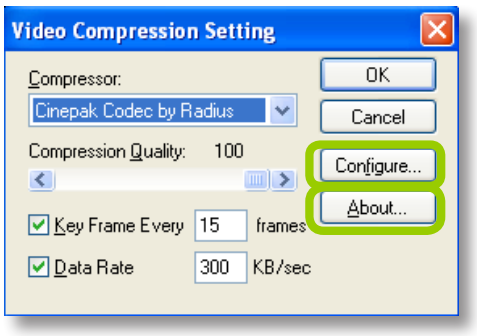
d. Select the Length of each file-- **Maximum Size** (1~2000MB) or **Maximum Time Interval** (1~150 min).



Due to the AVI file has a limitation on the maximum file size of 2G bytes, if the setting "time length" generates data larger than 2G bytes, several files will be created.

e. Select the frame rate/ per second.

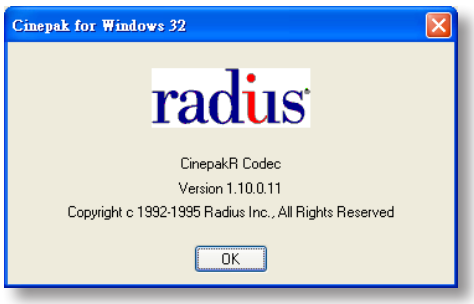
f. To modify the video compression settings, click **Video Compression Setting** to open the AVI Video Compression Setting window. Select the desired **video compression algorithm, compression quality, key frame intervals,** and **data rate** in the corresponding fields.



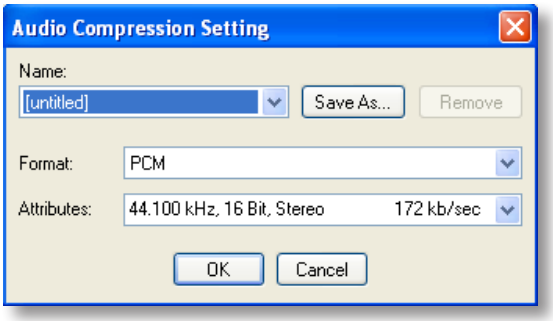
If you do not choose to compress the video, the generated AVI file will be very large.

- To modify the settings of the compression algorithm: Click **Configure**, then a dialog box will pop up for you to modify the settings. The dialog box will be different according to the compressor you select.

- To read the information of a compression algorithm (its version for instance): Click **About,** and a dialog box will pop up showing the related information. The dialog box will be different according to the compressor you select.



g. To modify the audio compression settings, click **Audio Compression Setting** to open the AVI Audio Compression Setting window. Select the desired **audio quality, format**, and **attributes** in the corresponding fields.

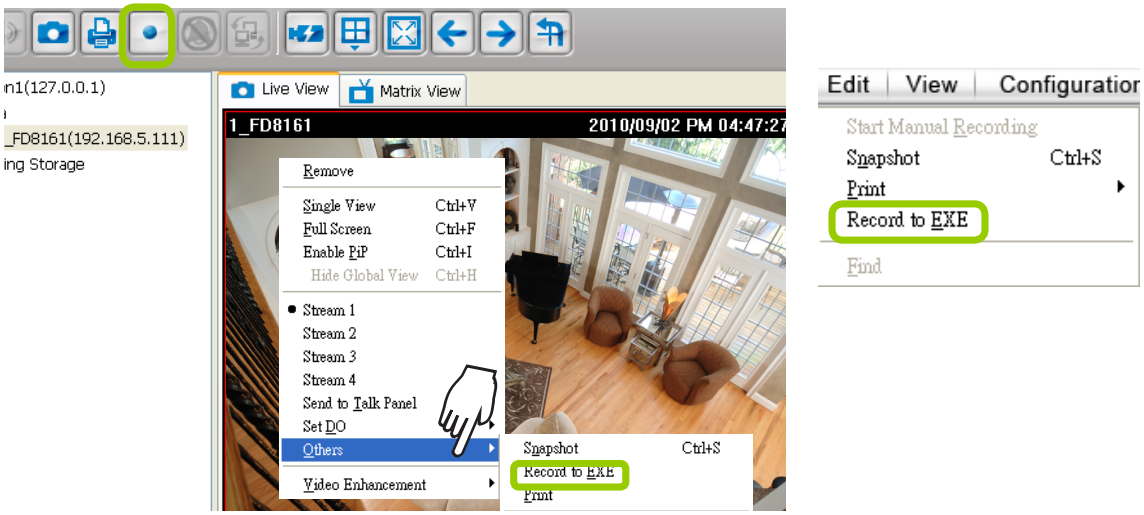


Record an EXE/3GP/AVI File

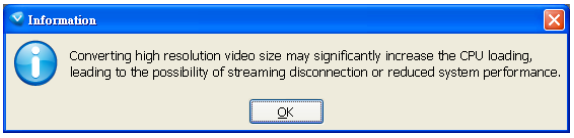
Please follow the steps below to record an EXE/3GP/AVI file of a live video stream:

a. Select a video cell or a device from the heirarchical management tree which you want to record to media file.

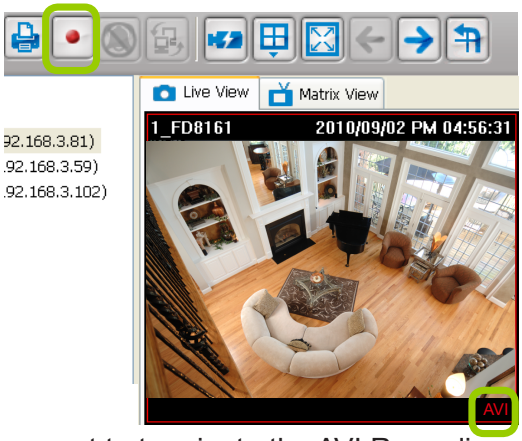
b. Click **Record to EXE/3GP/AVI** on the quick access bar, or **right-click** the video cell and click **Record to EXE/3GP/AVI**. You can also click **Edit > Record to EXE/3GP/AVI** on the menu bar. (The UI string will change according to your Recording Settings.)



c. For recording a high-resolution video (1600 x 1200) in AVI type, a dialog box will pop up as shown below to remind you that the CPU loading will increase. Click **OK** to continue the process.



d. The icon will then change to **Recording EXE/3GP/AVI**, and a red text string (**EXE/3GP/AVI**) will appear at the bottom right of the video cell. Note that only one video channel can be recorded at a time.



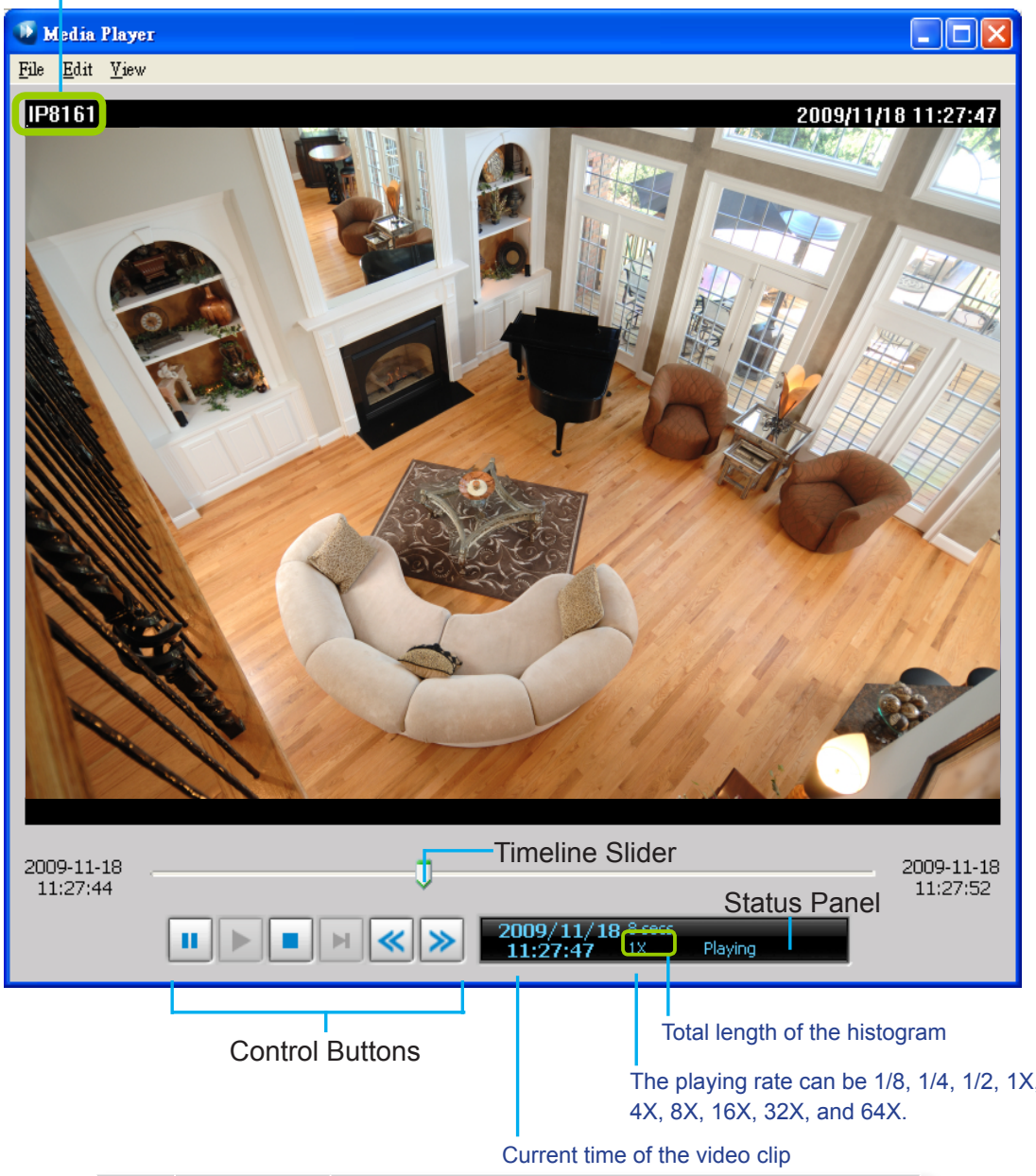
*If you save your video via a LiveClient installed on another computer, the videos will be placed in where you installed the LiveClient utility: e.g., **C:\ST7501\Client\LiveClient\Record.***

e. When you want to terminate the AVI Recording, click the icon on the Quick Access Bar. The export process will then terminate and the button will change from to . The recorded media files will be found in the preset storage folder on your local computer as shown below.

Below is the file name format for AVI files:

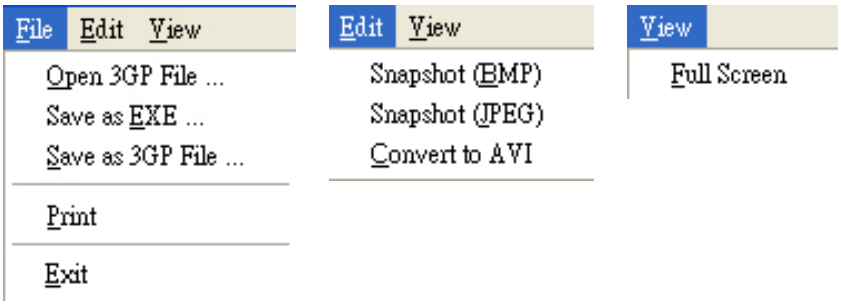
Built-in Media Player--EXE

Below is the icon of footages saved as EXE files. Double-click on it, the recorded video will be played automatically as shown below. You may also open the built-in Media Player in the default location: C:\Program Files\VIVOTEK Inc\ST7501\Client\LiveClient.



Icon	Function	Description
	Pause	Pause playback of the focused video clip
	Play	Start playback of the focused video clip
	Stop	Stop playback of the focused video clip
	Next Frame	Go to the next video frame of the focused video clip
	Slow Down	Slow down the playback rate
	Speed Up	Speed up the playback rate

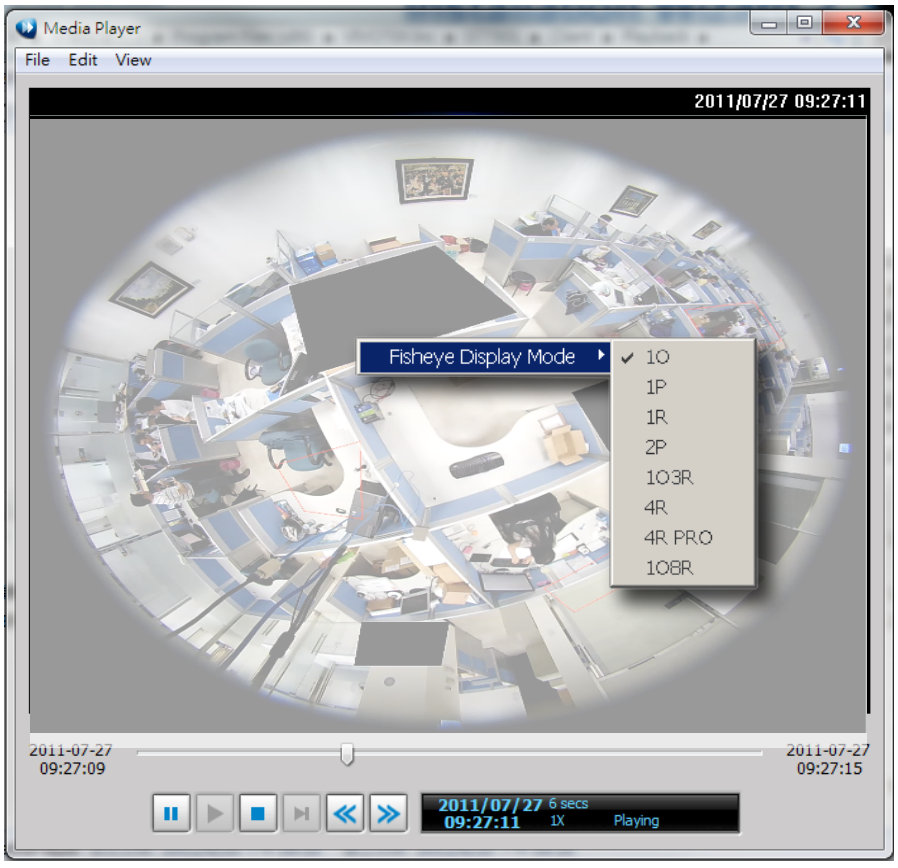
The function menu of the built-in media player are displayed as shown below:



- The built-in player is able to playback 3GP and EXE files.
- The built-in player is able to save 3GP files as EXE files.
- The built-in player is able to save EXE files as 3GP files.
- The built-in player is able to convert EXE and 3GP files into AVI files.
- The built-in player also supports snapshot and print functions.

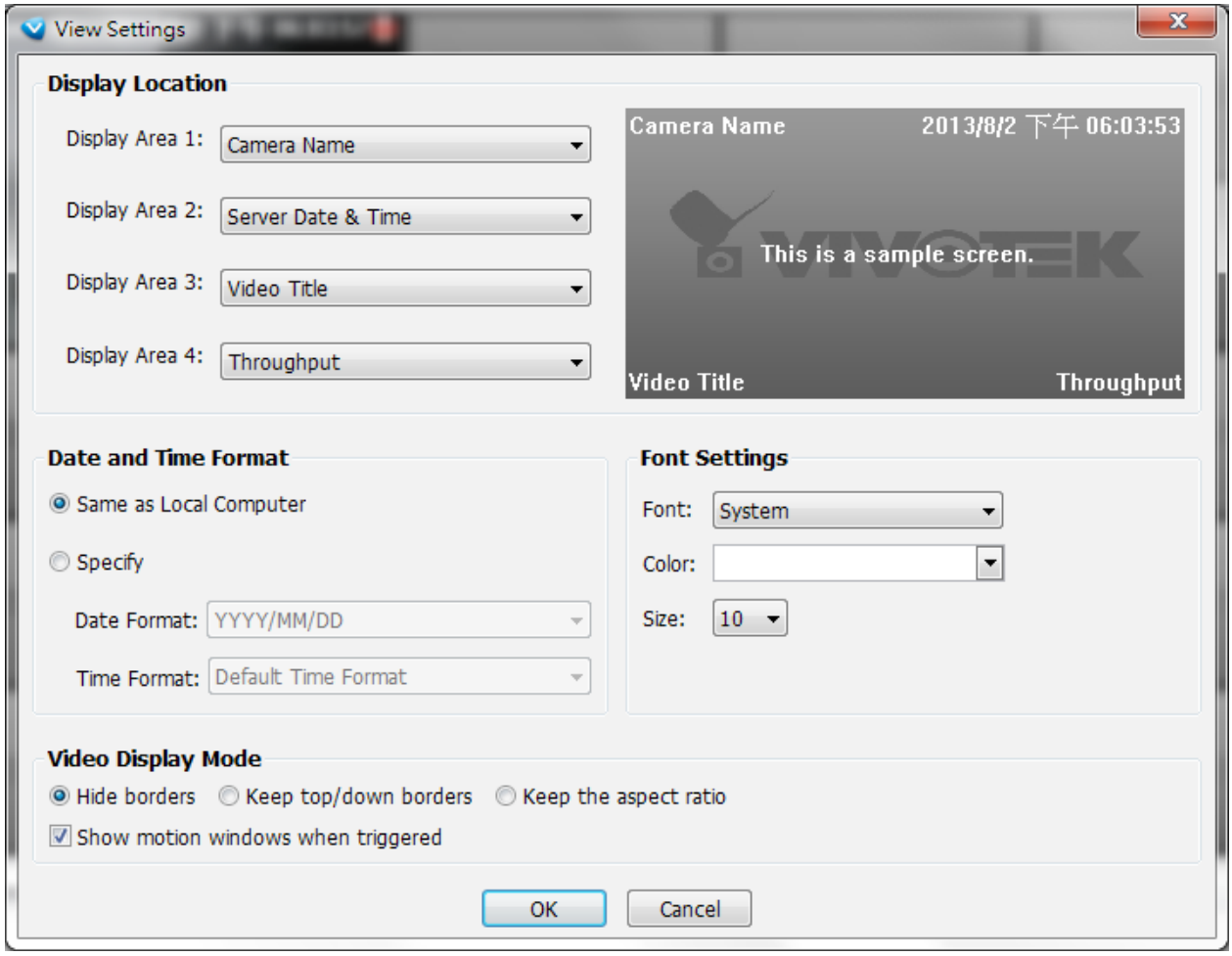
Below are special notices related to video recording with the fisheye cameras:

- For recorded videos from the fisheye cameras, only the built-in Media Player can playback the **Regional** or **Panoramic** views. If you access the recorded videos using other playback software, you will end up with the circular-shape Original view.
- When recording videos from fisheye cameras, Regional and Panoramic views can only be preserved in the EXE and 3GP format. If you save the dewarped views, i.e., Regional and Panoramic, as AVIs, only the circular Original view will be preserved.
- Currently the video playback on the Emap window displays the Original view only.
- To display a Regional or Panoramic view, right-click on the Media Player window.

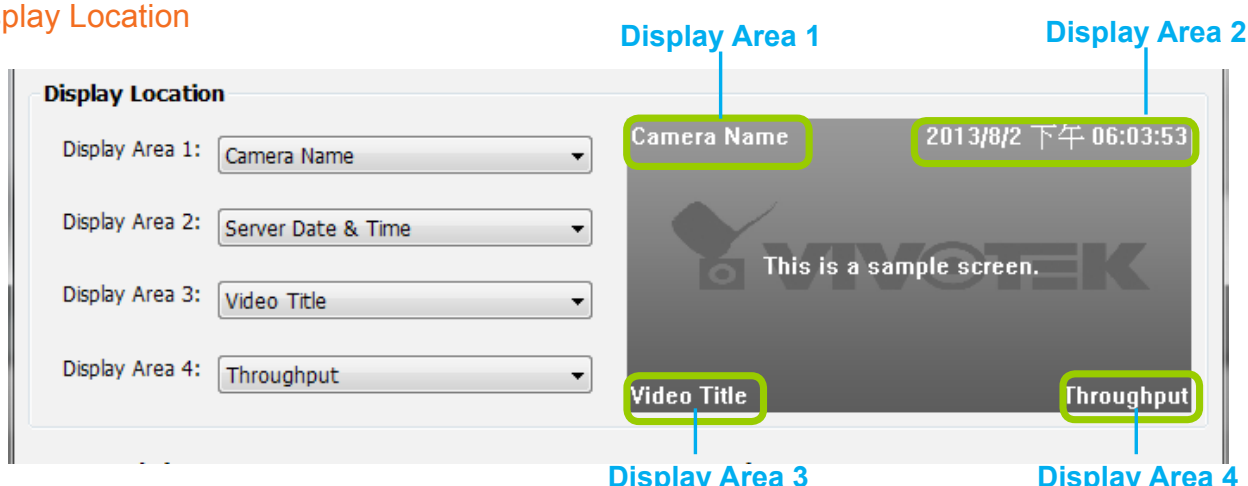


View Settings

This section allows you to set the display mode of a video cell, including **Display Location, Date and time Format, Video Display Mode,** and **Font Settings**. When you change the settings, the sample window will change accordingly for you to preview the settings.

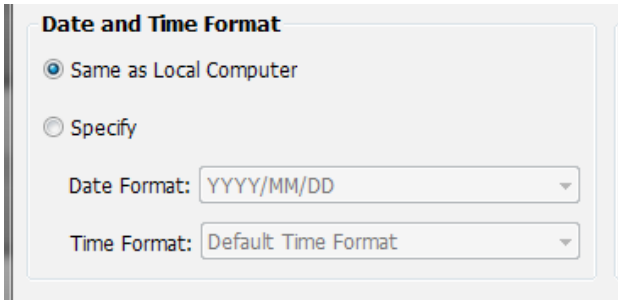


Display Location



As the illustration shows, there are 4 display areas for you to input information about the live video. Each drop-down list includes many options for you to select: **No display, Camera Name, Video Title, Camera Date, Camera Time, Camera DateTime, Server Date, Server Time, Server Date & Time,** and **throughput.**

Date and Time Format

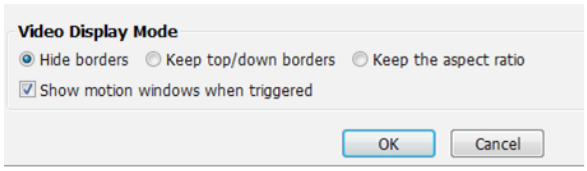


- Same as local computer: Select this option and then the date and time format will synchronize with the local computer.
- Specify: Select a desired format for the date and time from the drop-down list.

  Date format: Select YYYY/MM/DD or MM/DD/YY.

  Time format: Select the default time format (synchronize with the local computer), 12h AM/PM, or 24h.

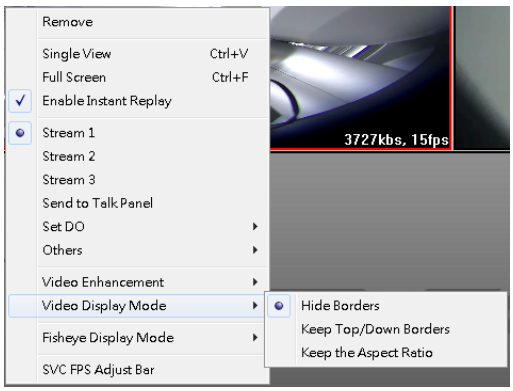
Video Display Mode



- Keep the aspect ratio: In the default settings, the size of the video window will change according to the layout of the live view window you choose. However, the frame size may be distorted.
- Keep top/down borders: the camera name, video title, and time will be displayed on the black borders instead of displaying floating text on the screen.
- Keep the aspect ratio: If you select **Keep the aspect ratio**, the video window will be adjusted to the same frame size as the preview window. This function is disabled as default.
- Show motion window when triggered: If you select this option, the red frame of the motion detection window will appear in the video window when motion is triggered. This function is enabled as default.

For detailed information about how to set up the layout of the live view window, please refer to **How to Change Video Viewing Mode** on page 57.

The Display options can also be accessed by a right-click on the view cell.



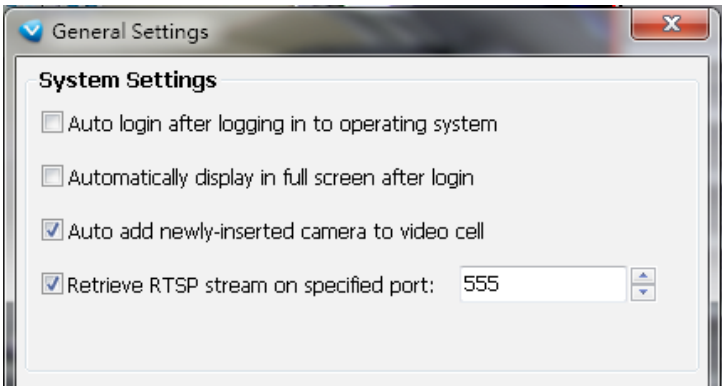
Font Settings

This function allows you to change the font on the video cell.

- Font: Automatically lists all fonts installed on your operating system. Select the desired type.
- Color: Select a desired font color (white, red, green, blue).
- Size: Select a desired font size (8, 10, 12, 14).

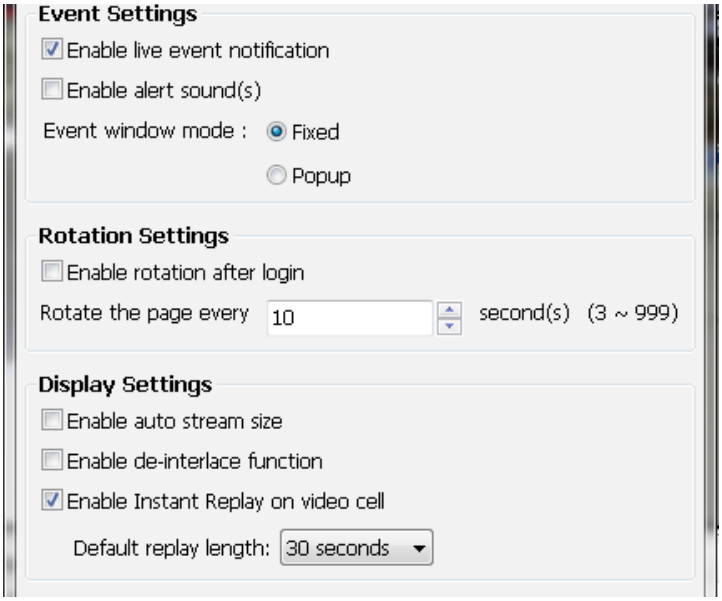
General Settings

This section allows you to configure the **System Settings** and **Rotation Settings**.



System Settings

- Auto login after logging in to operating system: If you check this option, the LiveClient will automatically login after you login to Windows without filling in the user name and password. This function is disabled as default.
- Automatically display in full screen after login: If you check this option, the video cells will be displayed in full screen without showing the menu bar or the control panels.
- Auto add newly-inserted camera to video cell: If you check this option, the LiveClient will automatically add the newly-inserted device to a video cell. This function is enabled as default.
- Retrieve RTSP streaming on specific port: The default port for RTSP streaming is 554. If you want to change this port, please check this item and fill in a desired port.



Event Settings

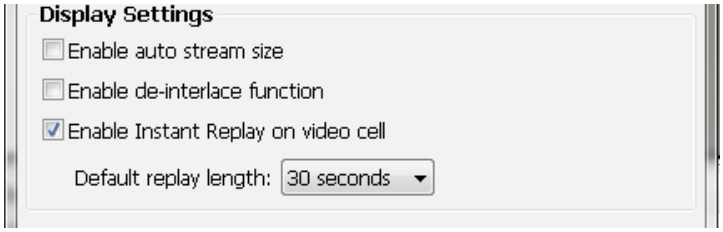
- Enable live event notification: Select this option to activate real-time event notification. For example: the event notification of DI/O status on the hierarchical management tree, the event list in the event window, motion detection windows in video window, or the event notification on E-map settings page, etc. This function is enabled as default.
- Enable alert sound(s): If you enable this option, you will hear alert sound on the client side when the event is triggered..
- Event window mode: Select **Fixed** or **Popup** mode for the event window. For more information about event window, please refer to page 28.

Rotation Settings

- Enable rotation after login: If you check this option, the video cells will start to rotate after you login to the LiveClient. The default setting of this function is disabled.
- Rotate the page every ☐ second(s): Fill in a desire interval time for video page rotation. The maximum value is 99 seconds. The default value is set at 6 seconds.

For detailed information about how to set up the layout of the monitoring window and rotation functions, please refer to **How to Change Video Viewing Mode** on page 57.

Display Settings



- Enable **auto stream size**: The Auto Stream Size feature dynamically adjusts the stream sizes of video feeds from network cameras in order to reduce CPU load and bandwidth consumption.

  It is often the case that in surveillance deployments the physical dimensions of monitors, the effectiveness of visual stimulus, and the operators' regions of interest can all be very limited. Streaming large-size videos at all times will be a waste of bandwidth and system computing power. CIF and VGA size videos are usually sufficient for the operators of a surveillance software.

  When enabled, your LiveClient station automatically requests smaller-size streams as video feeds (any from streams #1 ~ #4) from the network cameras. For example, the frame size of video stream #4 will be reduced to 320x240 (CIF). Depending on the actual size of view cells on the LiveClient monitoring screen, the server automatically requests different video streams.

  When the size of view cells is manually expanded, a server requests a different stream. This is called **Stream Jump**. Shown below are the details of the corresponding stream jumps.

View cell size	Stream jump to...
4:3 resolutions	
<= 320x240	stream #4 (CIF)
> 320x240 or 640x480	stream #1
16:9 resolutions	
<= 384x216	stream #4 (CIF)
> 384x216 or 640x360	stream #1
1:1 (fisheye cameras)	
<= 384x384	stream #4 (CIF)
> 384x384 or 640x640	stream #1

  Facts about Auto Stream Size:

  - The LiveClient utility automatically adjusts stream selection according to the size of view cells, no user's configuration is required.
  - The frame size of stream #1 is user-configurable. The server only resizes stream #4.
  - If a user disables the Auto Stream Size function later, the frame size of stream #4 will not be restored to the previous configuration.
  - Stream jump takes place on the display of all connected cameras once the function is enabled.
  - The Auto Stream Size function does not apply to the Matrix view.
  - If users configured a region of interest before the Auto Stream Size function is applied, e.g., via the ePTZ control, the view cell might display a different live view.

- Enable de-interlace function: Select this option if your connected device does not support de-interlace function. For example: VS7100.

- Enable Instant Replay on video cell: Here you can change the duration of a playback that happened immediately before a user utilizes the instant playback function.

Joystick Settings

This section explains how to remote control connected network devices with a USB joystick. It's easy to install and configure via the USB interface.

Enable Joystick

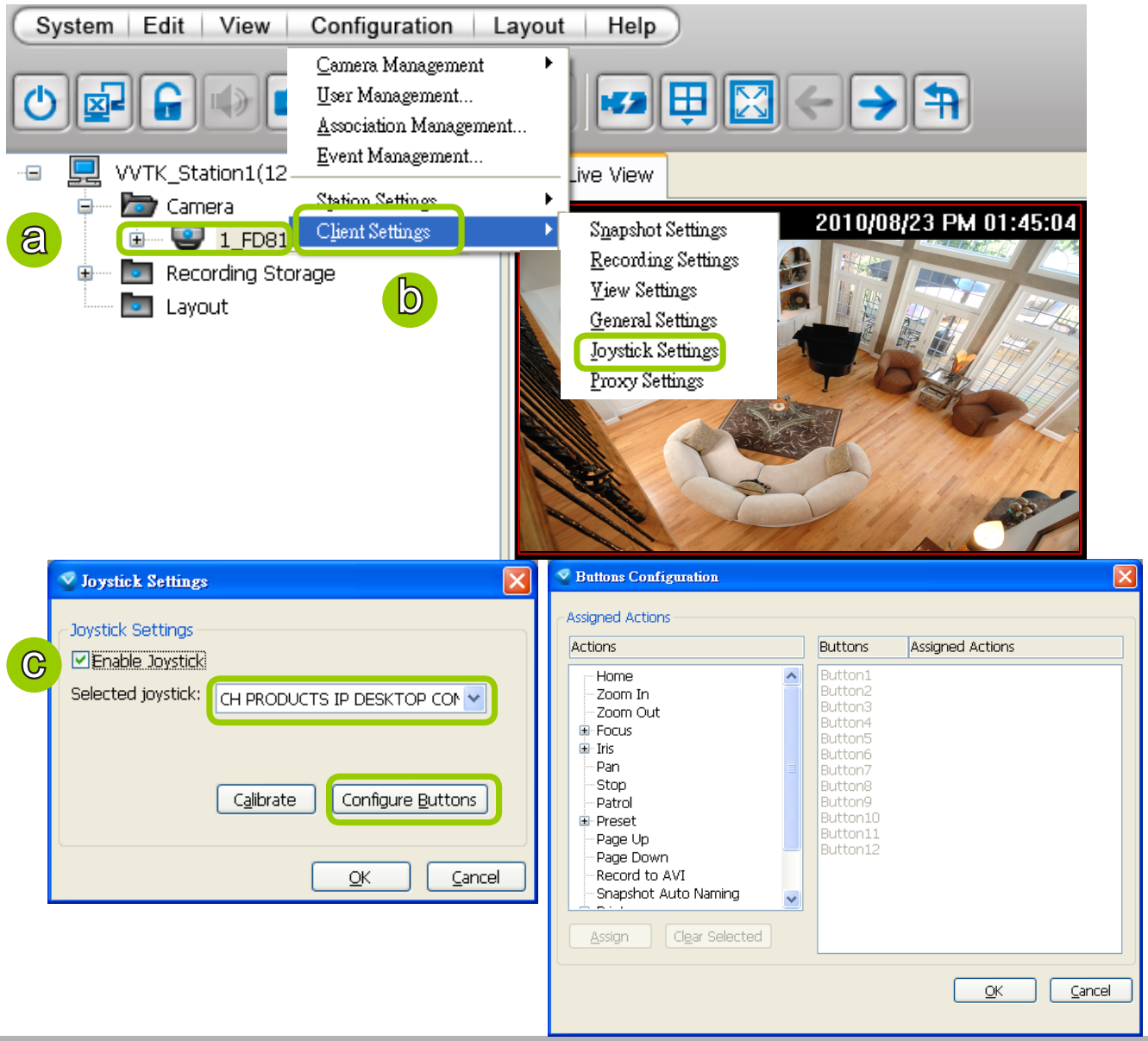
Connect to the USB plug of the joystick to a USB port on your computer. Supported by the plug-in in the main page (Microsoft's DirectX), once the plug-in in the main page is loaded, it will automatically detect if there is any joystick on the computer. The joystick should work properly without installing any other driver or software.

Then you can begin to configure the joystick settings of connected devices. Please follow the instruction below to enable joystick settings.

a. Select the target device from the hierarchical management tree.

b. Click **Configuration > Client Settings > Joystick Settings** on the menu bar to open the **Joystick Settings** window. If your joystick is working properly, it will be displayed on the drop-down list.

c. Select the joystick you want to configure. Check **Enable Joystick**, then click **Configure Buttons** to open Buttons configuration window.

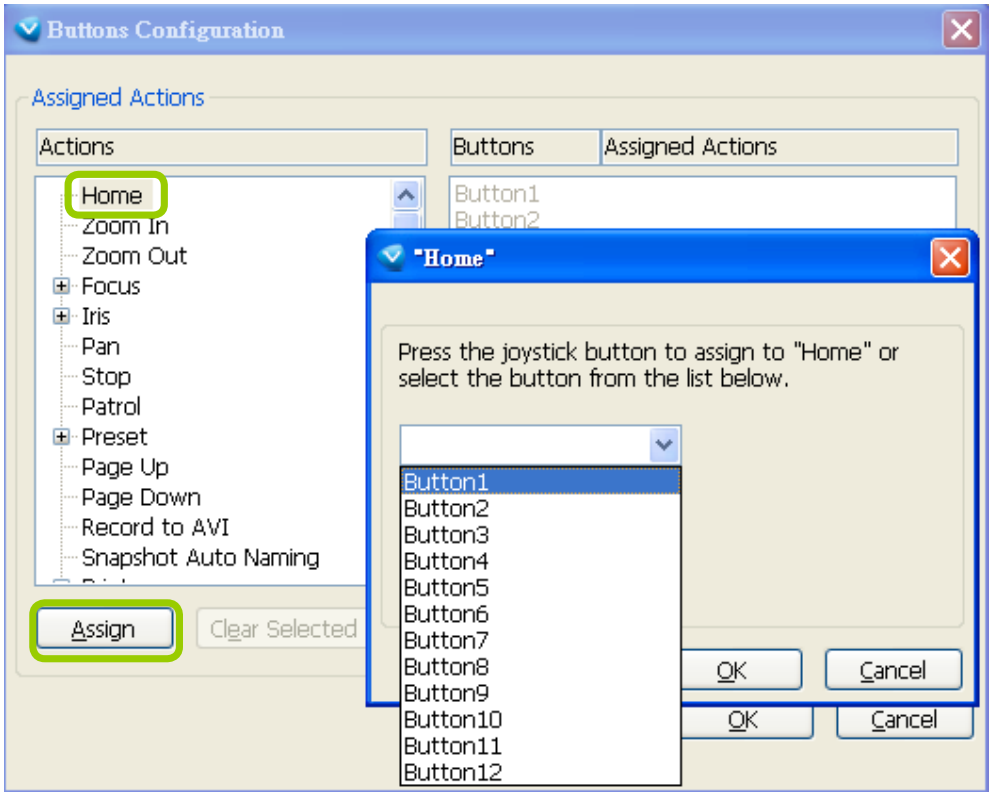


Buttons Configuration

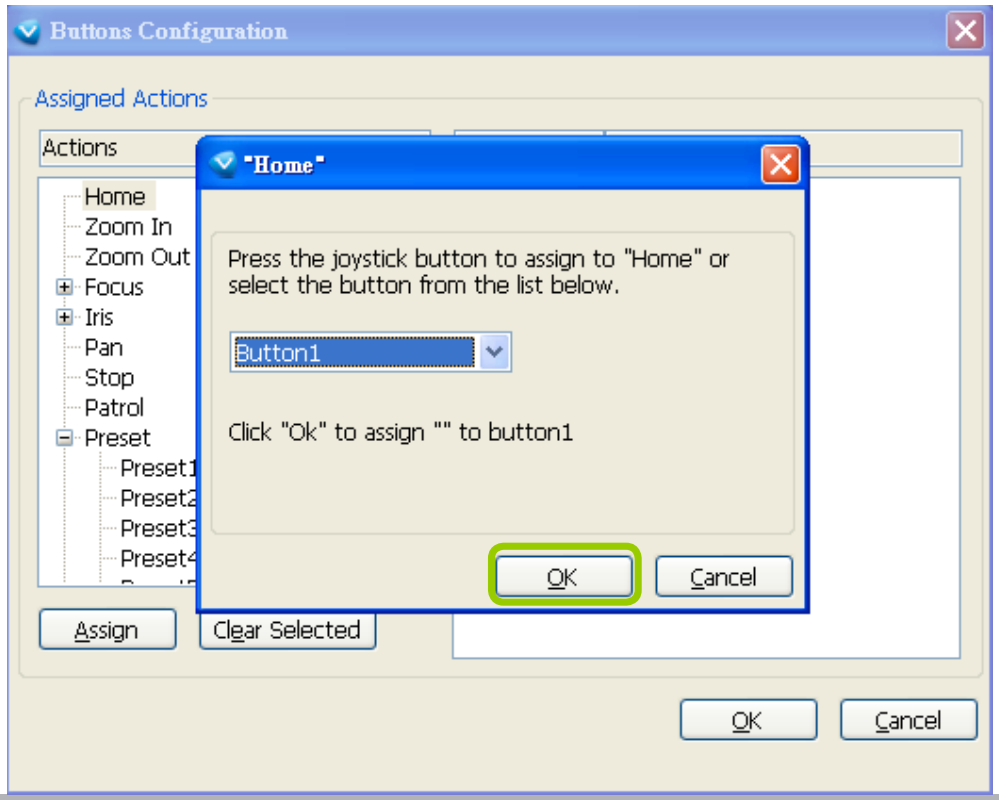
In Button Configuration window, the left column shows the actions you can assign, and the right column shows the functional buttons and assigned actions. The number of buttons may differ from different joysticks.

Please follow the steps below to configure your joystick buttons:

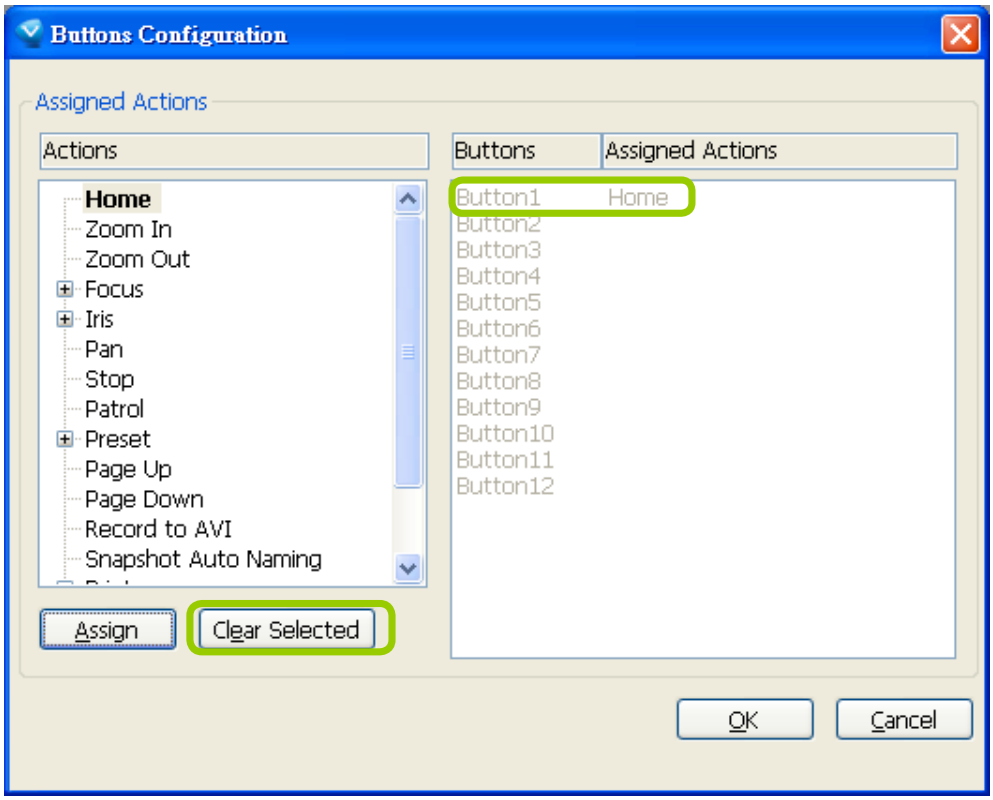
a. Choosing one of the actions and click **Assign** will pop up a dialog. Then you can assign this action to a button by pressing the joystick button or select it from the drop-down list.
For example: Assign **Home** (move to home position) to Button 1.



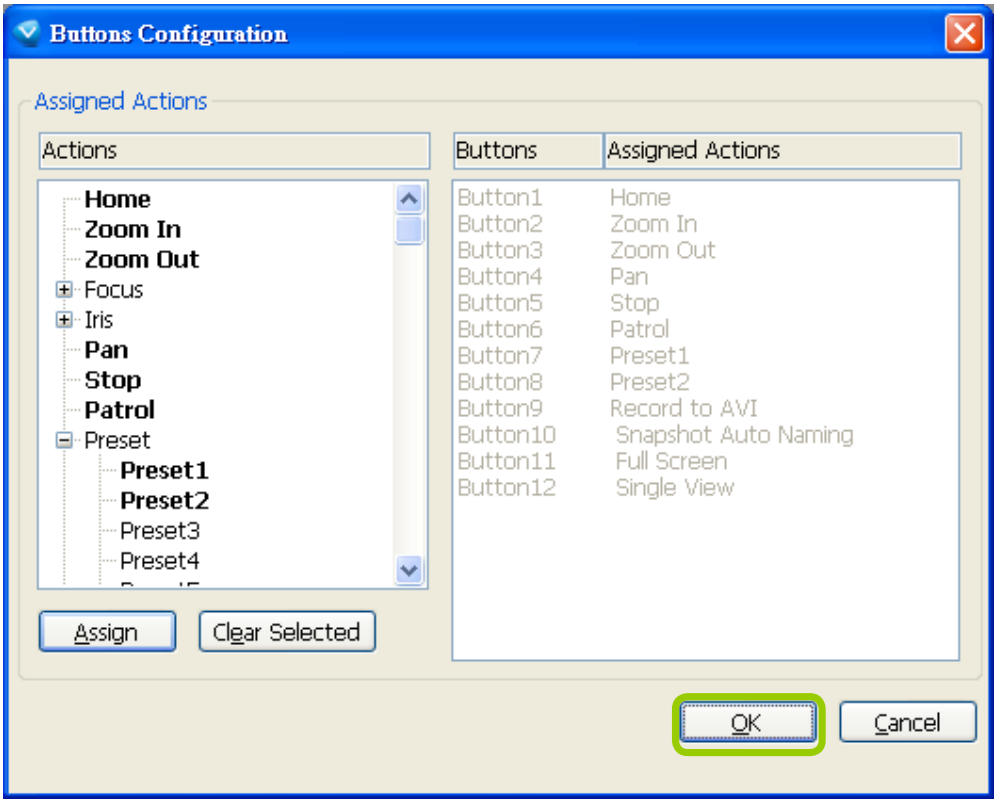
b. Click **OK** to confirm the configuration.



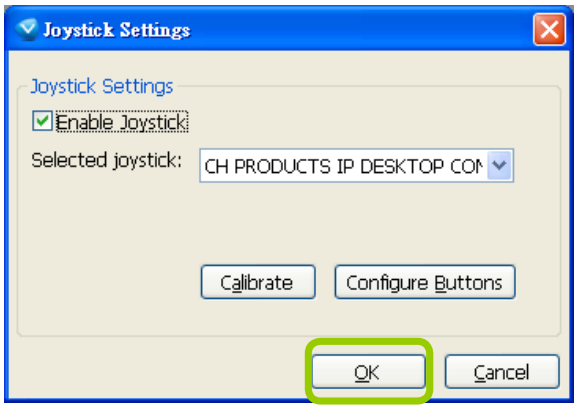
c. The Assigned Action will appear beside Button 1 in the right column as shown in the following diagram. Note that a button can only be assigned with an action. If you want to modify the settings, select the action on the list and click **Clear Selected**.



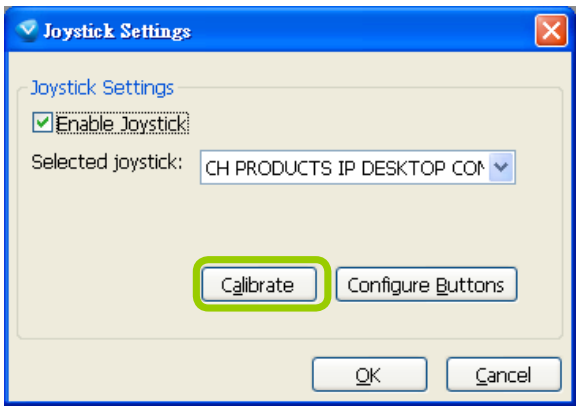
d. If you want to assign additional actions, repeat step a.~c. When all settings are complete, click **OK** to save the settings or click **Cancel** to discard the settings.



e. Click **OK** to save the settings or click **Cancel** to discard the settings.



- *If you want to assign Preset actions to your joystick, the preset locations should be set up in advance.*
- *If your joystick is not working properly, it may need to be calibrated. Click **Calibrate** to open the Game Controllers window located in the MS Windows control panel and follow the instructions for trouble shooting. For more information, please refer to the MS Windows help files for details.*



- *The joystick will appear in the Game Controllers list in the Windows Control Panel on your computer. If you want to check out your device, go to the following page: Open Start > Control Panel > Game Controllers.*

PTZ/ E-PTZ Function

In addition to using the PTZ control panel, you may also control the rotation handle of the joystick to remote control a PTZ/ E-PTZ network camera with ease.

Pan/Tilt: Move the rotation handle of the joystick; you can pan the camera to the desire position. There will be blue line displaying the moving direction in the center of the video image as the diagram 1 below.

Zoom in/Zoom out: Shift the rotation handle clockwise to zoom in the camera on an image or go counterclockwise to zoom out the camera on an image. There will be a circle and four vectors in the center of the video image as the diagram 2, 3 below.

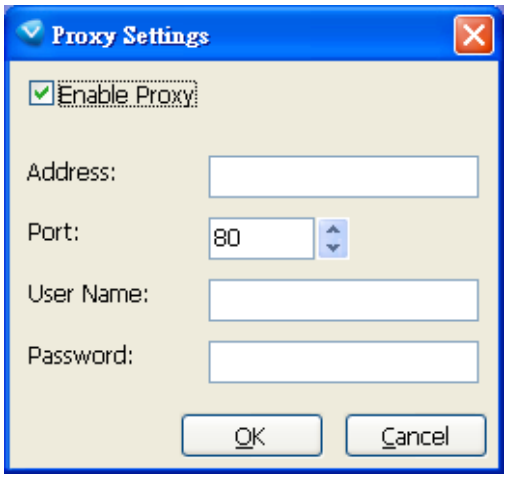
Pan/Tilt
(Move the rotating handle back and forth)

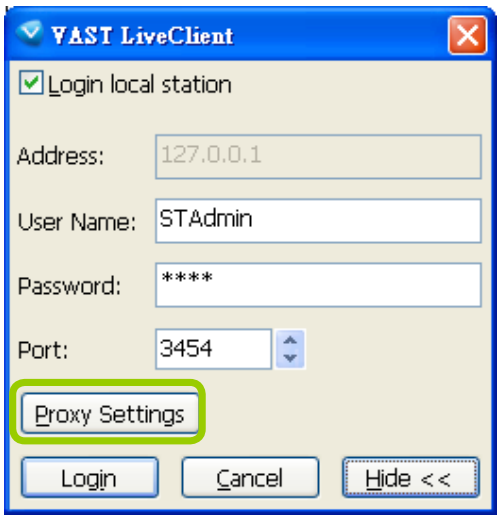
Zoom in
(Turn the rotating handle clockwise)

Zoom out
(Turn the rotating handle counter-clockwise)

Proxy Settings

In this section, you can enable, modify, or cancel **Proxy Settings** for client if your Server is under a proxy. If you change the proxy settings, please fill in the new value next time you login the LiveClient next time.





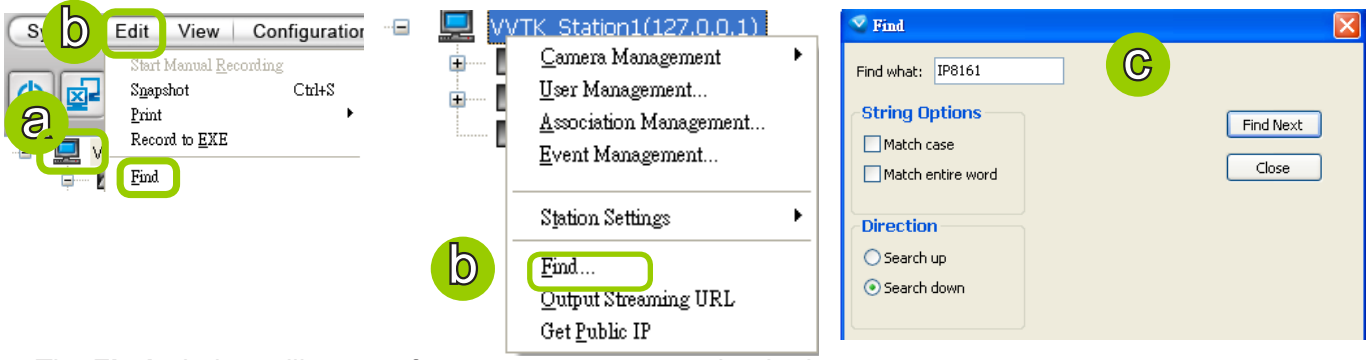
How to Search for a Device on the Hierarchical Management Tree

This function allows you to conveniently search for an inserted device, which is useful when many devices have been inserted.

Please follow the steps below to find a device on the camera list:

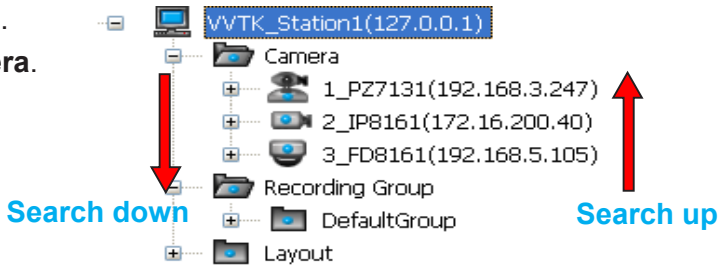
a. Click the station on the hierarchical management tree.

b. Click **Edit > Find** on the menu bar (or **right-click** the station and click **Find**).

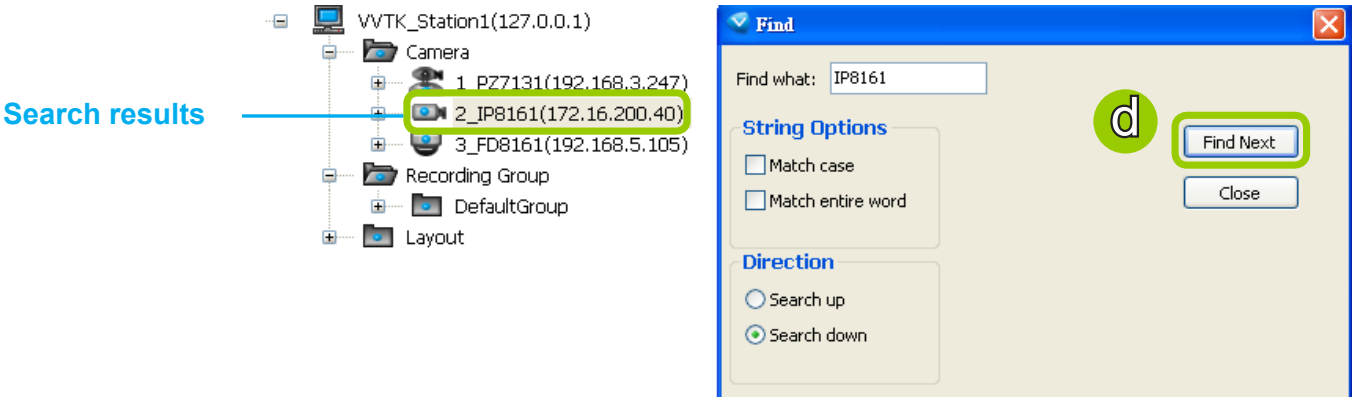


c. The **Find** window will pop up for you to set your search criteria.

- Find what: Enter a string in the blank. The string can be the full or partial name of the device you want to search for.
- String Options: **Match case** represents that the search results should be identical to the string in lower-case or upper-case letters, the string can be part of a word. **Match whole word** means that the search results should be identical to the string for every character, and that the string should be a complete word or phrase. If you select both options, the search results should conform to all criteria listed above.
- Direction: Select **search up** or **search down**.
- Search in: Select **search in station or camera**.



d. Click **Find Next**, the seaching result will be marked as shown below.

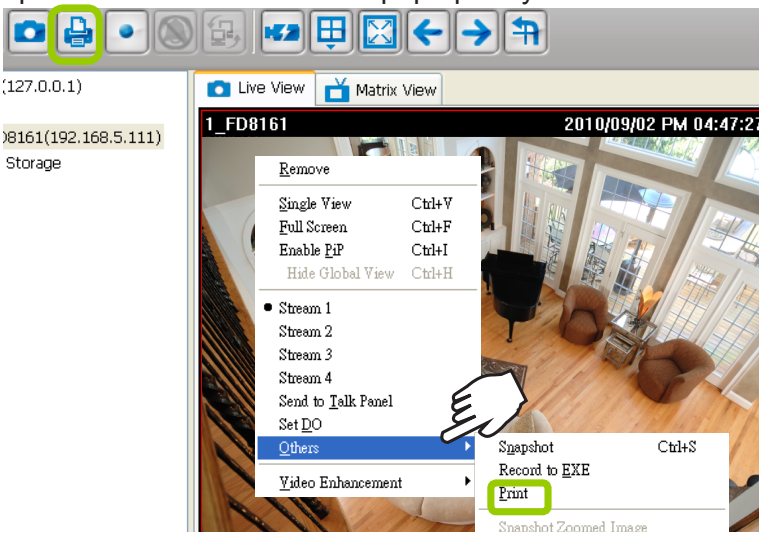


e. If there is nothing found in the camera list, a message will pop up as shown below:

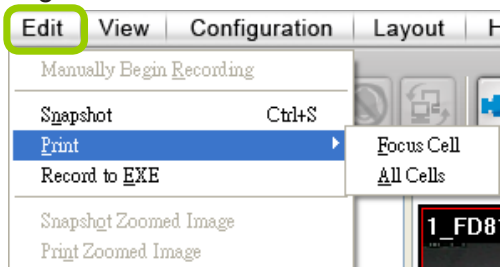
How to Print a Video Image

There are two ways to print out an image of live video:

1. Select a video cell, then click **Print** on the quick access bar, or **right-click** the video cell and select **Print** from the popup menu. A Print window will pop up for you to choose the printer.



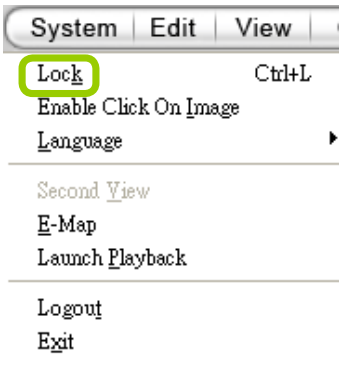
2. You can also click **Edit > Print** to print out an image from a video.
   - Focus Cell: Print out an image of the target video.
   - All Cells: Print out an image with all video cells in the monitoring window.

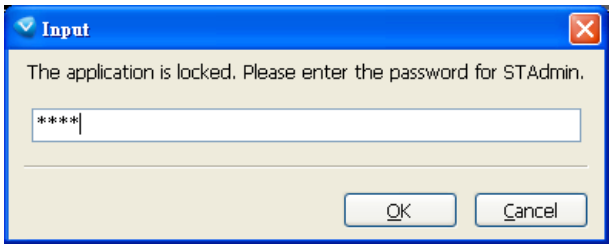


How to Lock LiveClient for Security Concerns

If you are away from your computer, for security reasons, we suggest you lock the program. When LiveClient is locked, the user must fill in the correct password to unlock and access the program again.

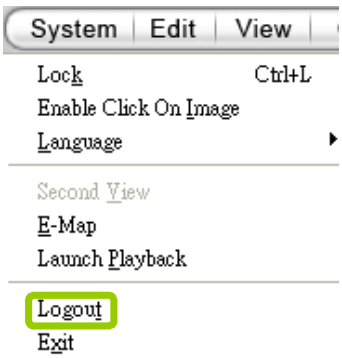
- To lock LiveClient, click **Unlock** on the quick access bar or click **System > Lock** on the system menu. The **Unlock** icon will then turn into **Lock** .
- To unlock LiveClient, fill in the correct password in the popup window.

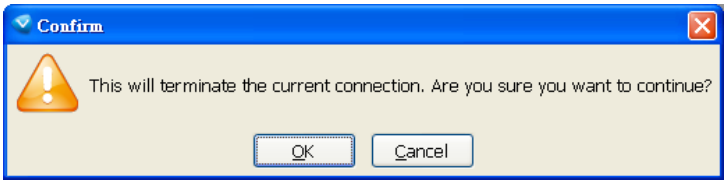




How to Log out from the Server

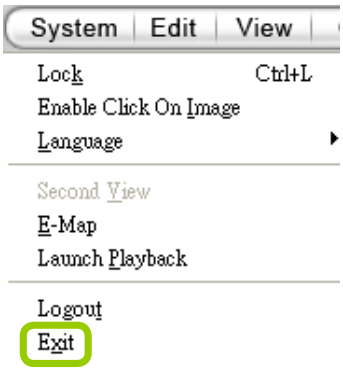
To logout from the current server, click **Logout** on the quick access bar or click **System > Logout** on the menu bar. A confirmation window will pop up. Click **OK** to confirm or **Cancel** to return to the LiveClient window.

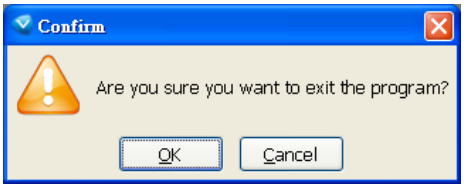




How to Exit LiveClient

To exit LiveClient, click **Exit** on the quick access bar or click **System > Exit** on the menu bar. A confirmation window will pop up. Click **OK** to confirm or **Cancel** to return to the LiveClient window. When you exit the program, your user account will be automatically logged out from the current server.





Playback Configuration

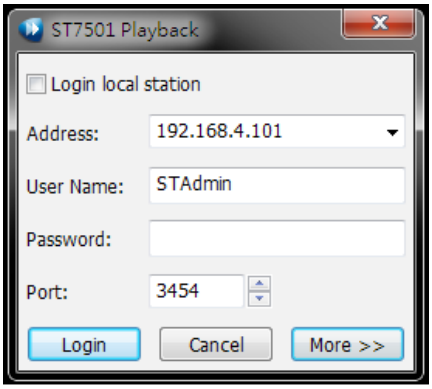
Activating Playback and Logging in to a Server

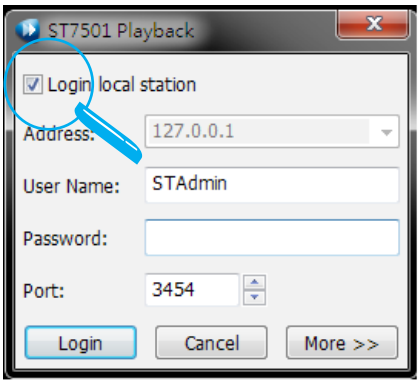
The Playback utility allows you to search and playback recorded media data from a server.

Once you insert a device into the hierarchical management tree of the LiveClient, it will automatically be displayed on the hierarchical management tree of the Playback utility. You can then begin to use the Playback to view recorded or backup video clips.

After installing the the Playback program, please follow the steps below to activate the Playback:

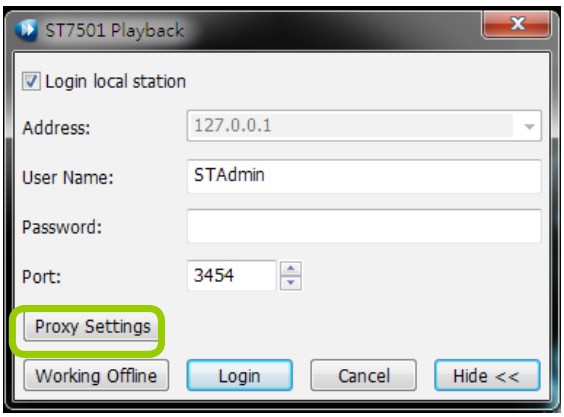
1. Run the **Playback** program. If you have already run LiveClient, you can also click **System > Launch Playback** to activate Playback.
2. A **Login** window will pop up. Fill in the information as shown below:
   - If you want to login to a remote Server, enter the **IP address**, **user name**, **password** and **communication port** of the server. Click **Log in** to login the target server or **Cancel** to exit the system.
   - If you want to login to your local host which is running the ST7501 server, check the **Login local station** checkbox, and the local **IP Address** will be displayed automatically. Enter the **User Name**, **Password**, and **Communication Port** of the local server to log in. Click **Login** to log in to the target server or **Cancel** to exit the system.

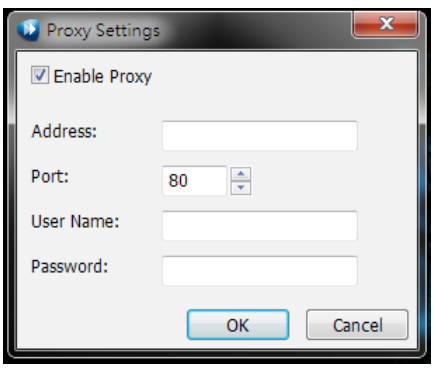




3. The Playback window will be displayed.

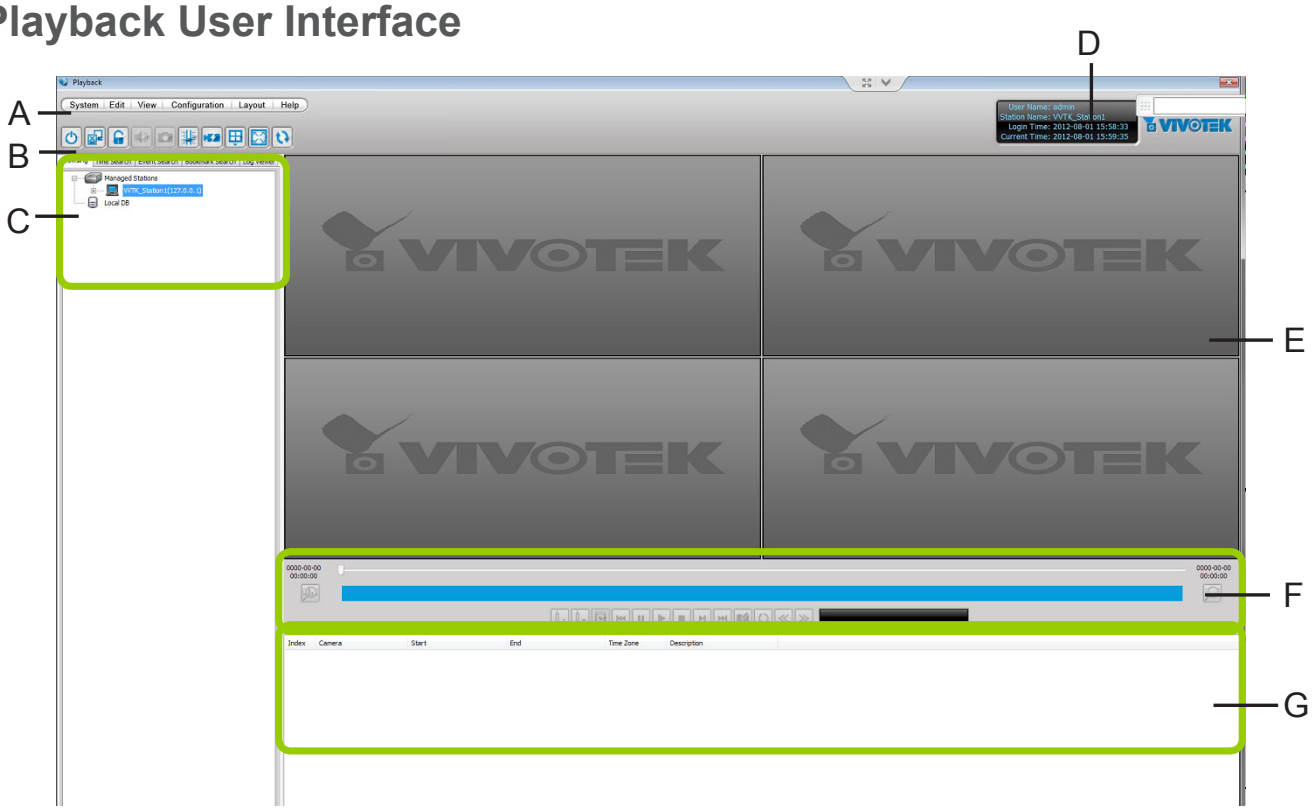
- *If your network environment need to set up proxy, click **More >>** to extend the login window, then click **Proxy Setting** to open the dialog. Then enter related information to link to your proxy server.*





- *Available functions of the Playback program will be enabled according to the role of your login account. For more details about the privileges of the user account, please refer to **How to Manage User Accounts** on page 65.*

Playback User Interface



A. Menu bar B. Quick access bar C. Query panel (Browsing / Time search /Bookmark search / Event search / Log viewer) D. Status panel E. Recorded video playback window F. Playback control panel
G. Video clips list

Menu Bar

Menu Item	Drop-down Options
System	Lock / Language / Launch LiveClient / Logout / Exit
Edit	Snapshot / Print / Find
View	Backup Status /Exporting Status / Time Search / Event Search / Bookmark search / Log Viewer / Full Screen / Minimize
Configuration	Client Settings (Snapshot Settings / Export Settings / View Settings / Proxy Settings / General Settings)
Layout	Change Layout
Help	About

Status Panel

User Name
Station Name (IP Address)
Login Time (yyyy-mm-dd hh:mm:ss)
Current Time (yyyy-mm-dd hh:mm:ss)

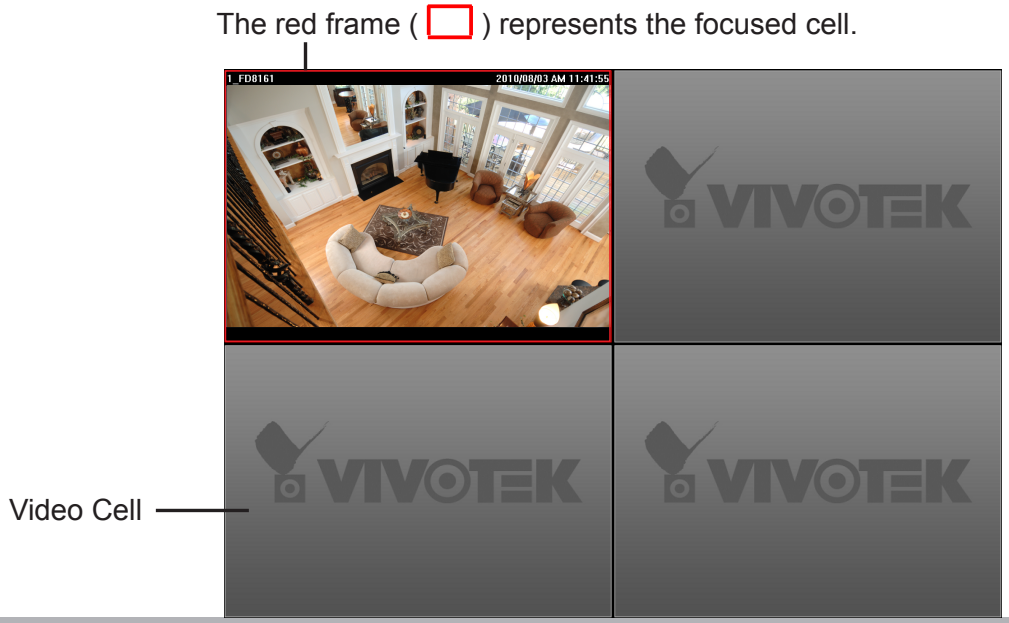
Quick Access Bar

Icon	Function	Description
	Exit	Exit the system
	Logout	Logout from the current station
	Lock	Click to Lock the system for security concerns (Unclock the system)
	Volume	Adjust the audio volume of the target video (Mute)
	Snapshot	Capture the picture of the target video
	Print	Print out the picture of the target video
	SVC Level	Exert SVC control of video playback frame rate
	Remove All Connection	Remove all live videos from the live video monitoring window
	Layout	Change the layout of video monitoring window
	Full Screen	Maximize the live video monitoring window
	Switch Screen	Switch to another screen

Some buttons will be disabled if the selected device does not support those functions.

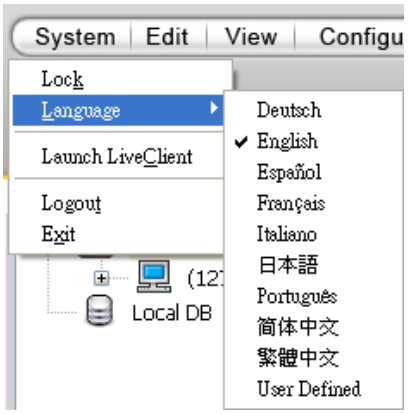
Recorded Video Playback Window

The "VIVOTEK" logo indicates that no camera has been assigned to the video cell.



Language Selection

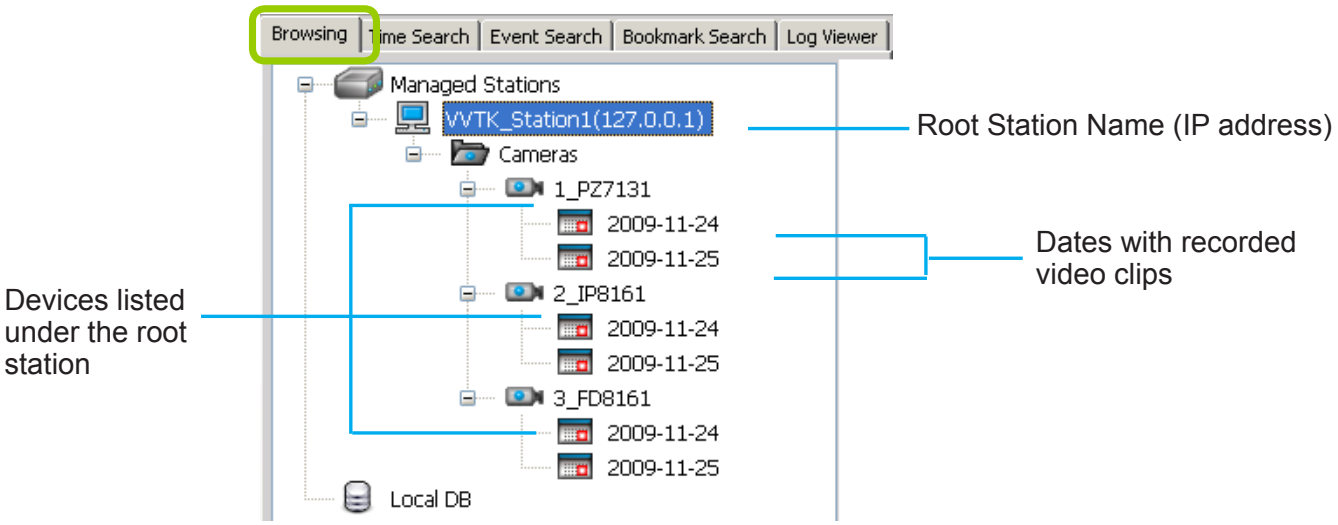
The software current supports user interfaces in multiple languages; and language options are availabe in: English, Deutsch, Español, Français, Italiano, 日本語, Português, 簡体中文, and 繁體中文. If you want to select another language for the interface, please click **System > Language** on the menu bar to select a desired language. Please note that if you want to change the language option, a message will remind you to restart the system.



If you want to use "User Defined" language, please prepare images and language strings, and upload the files to the following folders:

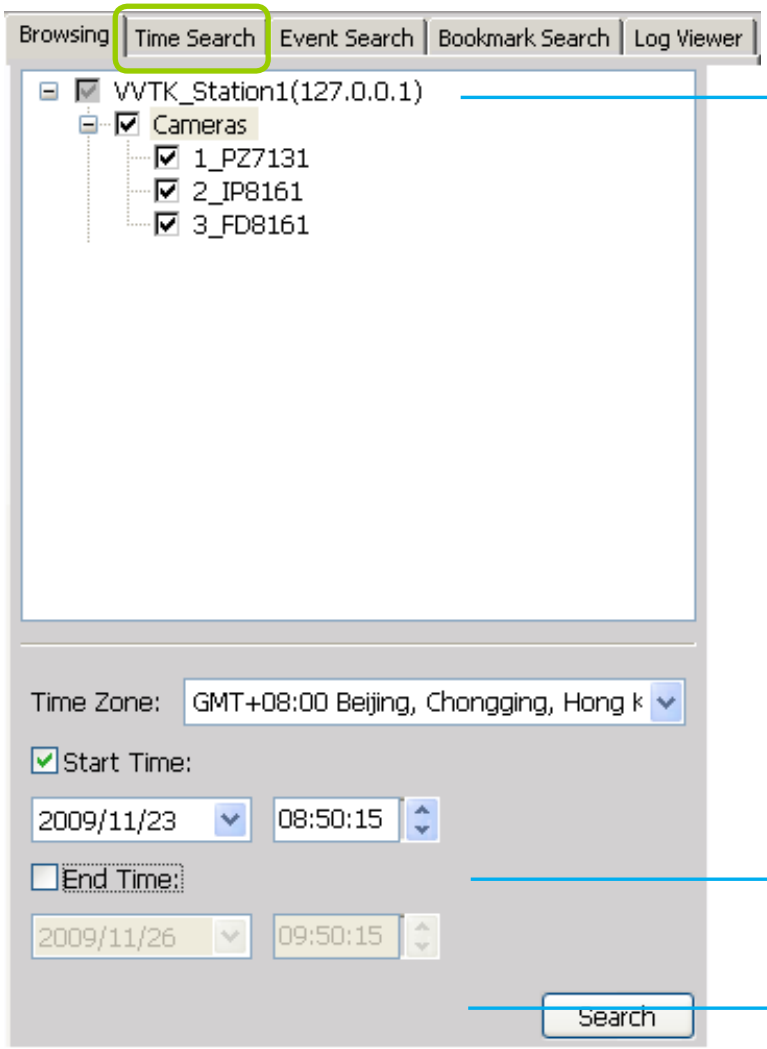
...\ST7501\Client\Playback\language\zz_UD (language string)
...\ST7501\Client\Playback\image (images)

Query Panel-- Browsing Page



Icon	Description
	Station list including server and local database
	A station (a computer that has installed ST7501 Server)
	The camera that exists on the hierarchical management tree of LiveClient.
	The camera that has been removed from the hierarchical management tree of LiveClient (off-line). However, its recorded video (if any) is still accessible from the server.
	Dates with recorded video clips.
	Local database for backup data. For more information about how to upload backup data to the list, please refer to page 164.

Query Panel--Time Search Page



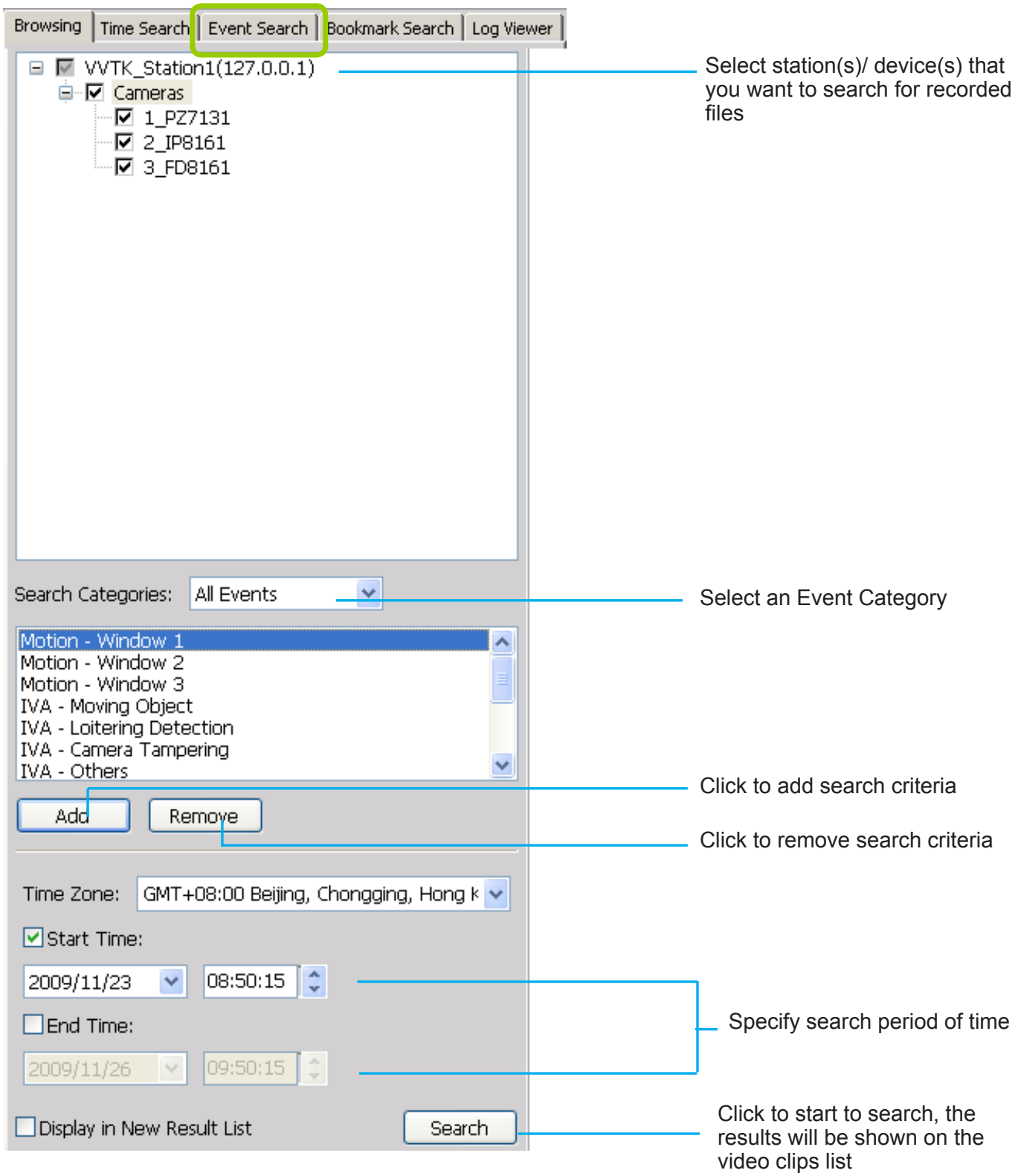
Select station(s)/ device(s) that you want to search for recorded files

Specify search period of time

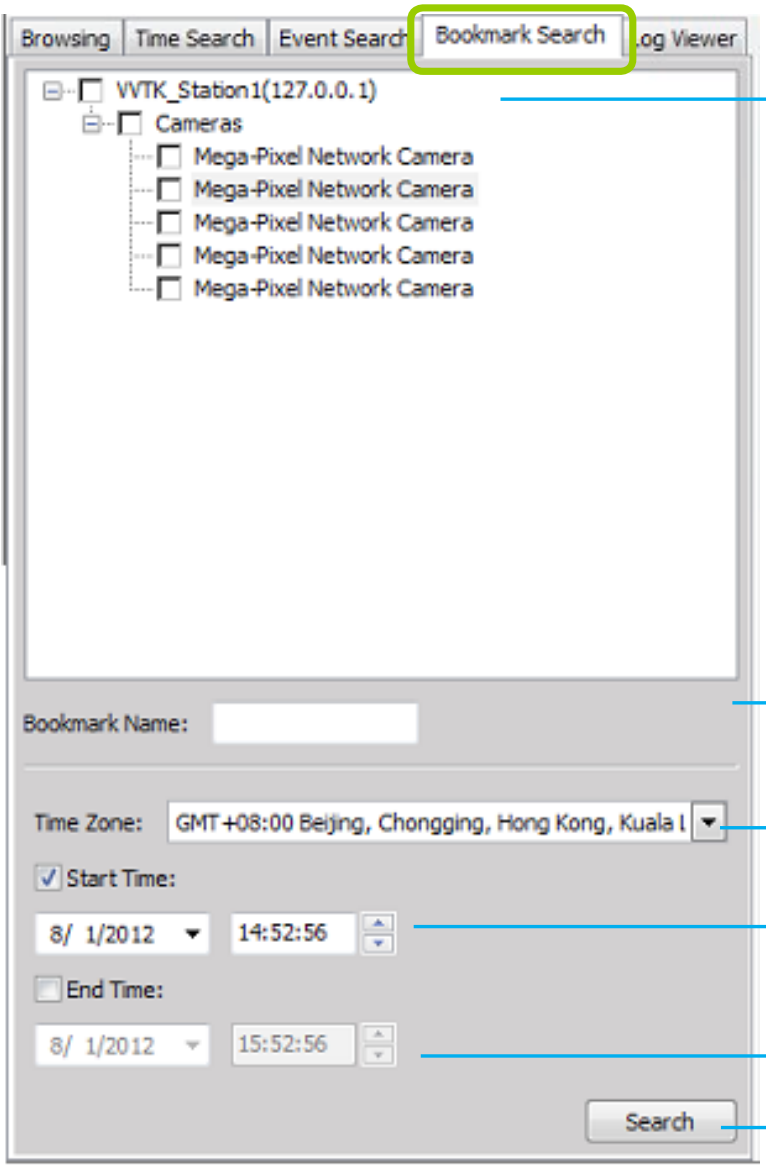
Click to start to search, the results will be shown on the video clips list

*The **Time Zone** setting is automatically synchronized with that on your client computer.*

Query Panel--Event Search Page



Query Panel--Bookmark Search Page



Select station(s) that you want to search for bookmarks

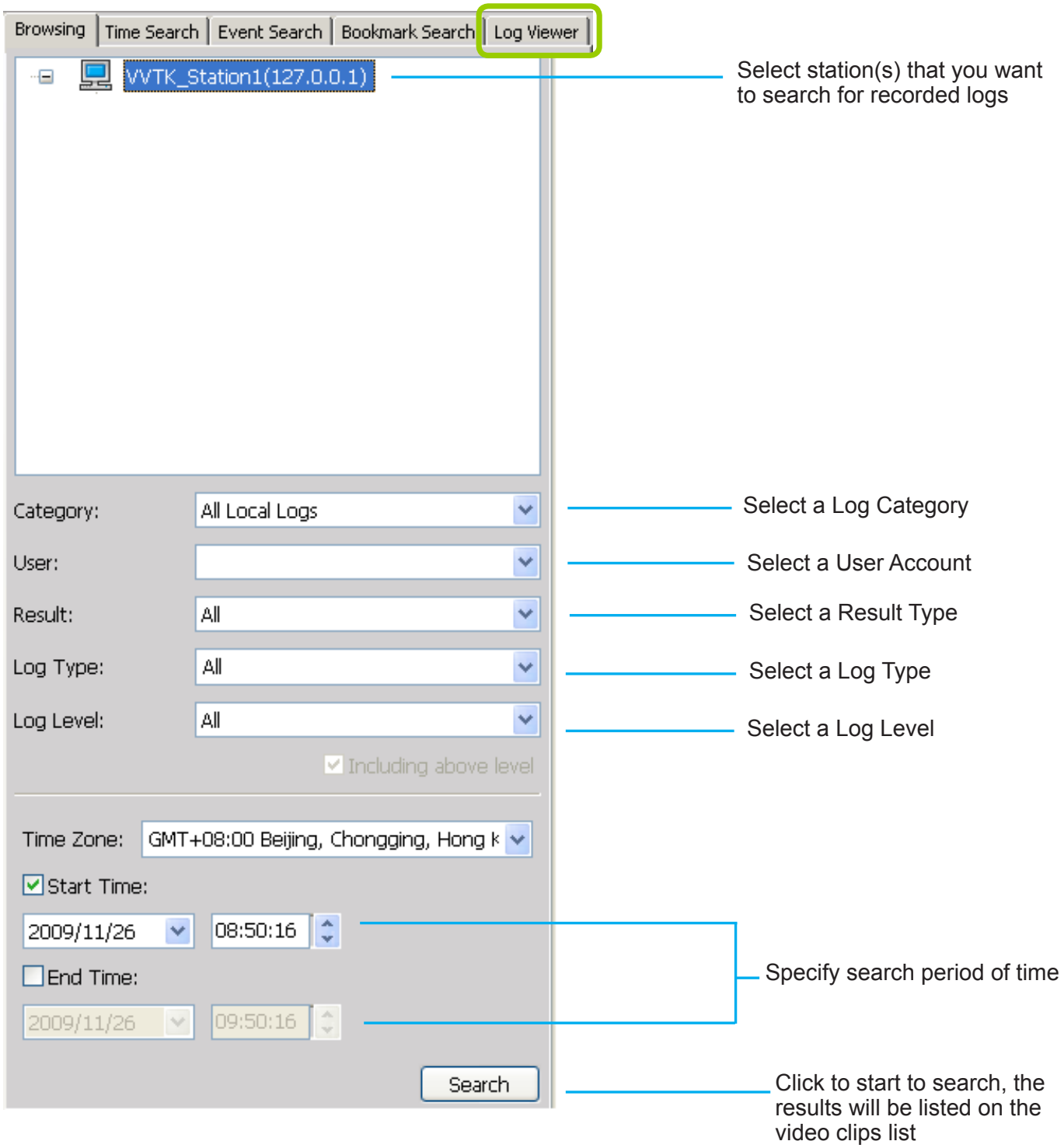
Select a name to serach for

Select a time zone

Specify search period of time

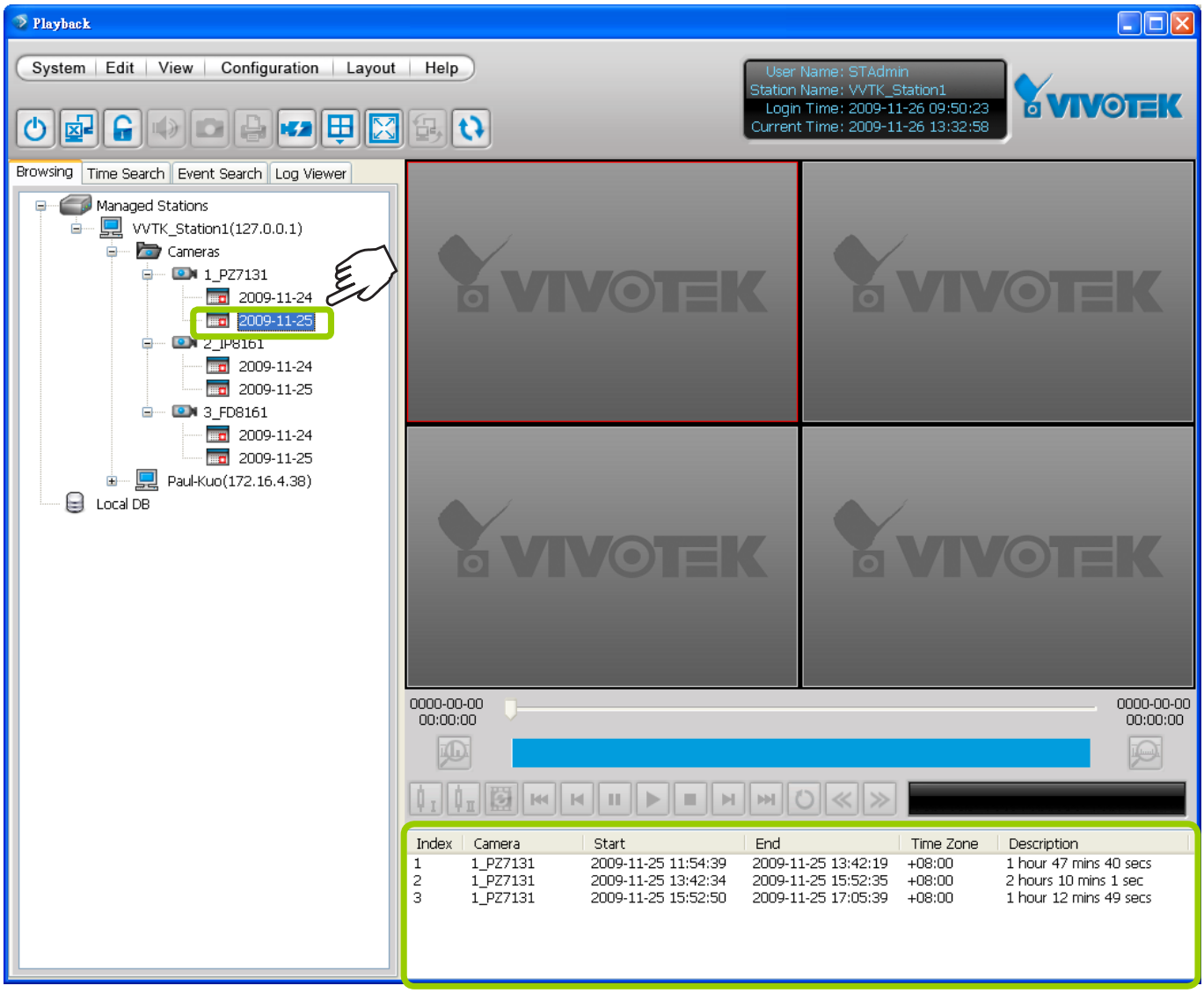
Click to start to search, the results will be listed on the video clips list

Query Panel--Log Viewer Page



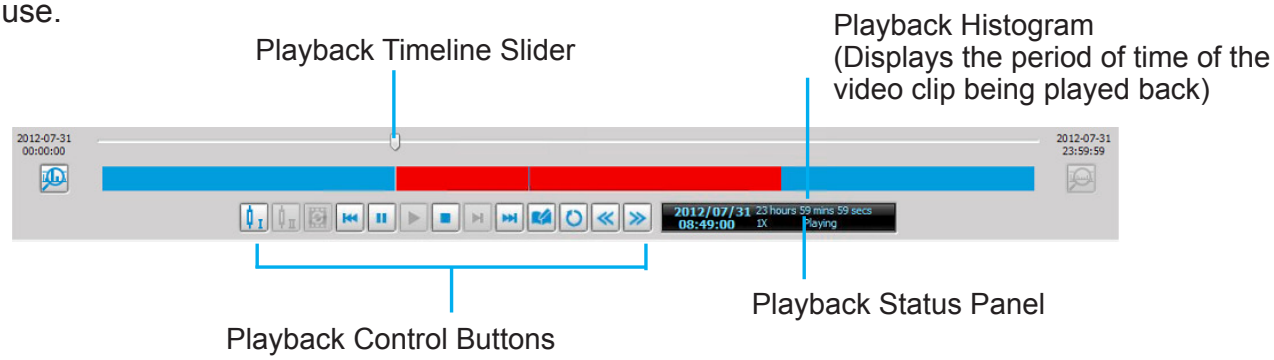
Video Clips List Window

If you select a **option "date"**, the video clips will be displayed in the video clips list window. A option "date" may contain more than one video clip.

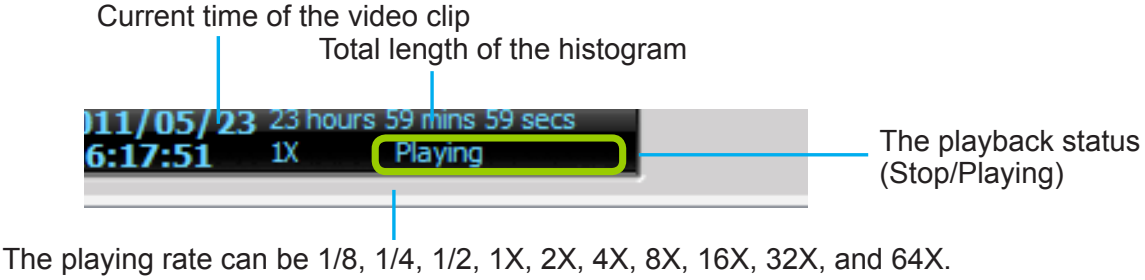


Playback Control Panel

When you double-click a video clip to play, the playback control panel will be enabled for you to use.



Icon	Function	Description
	Histogram Zoom In	Zoom in on the displayed period of time of the histogram
	Histogram Zoom Out	Zoom out of the displayed period of time of the histogram
	Marker I	If you want to export part of the recorded video clip, click to set marker I on the histogram, which will be the start time of the exported media
	Marker II	If you want to export part of the recorded video clip, click to set marker II on the histogram, which will be the end time of the exported media
	Export Media	Click to export the marked video clip
	Last Time Interval	Go to the previous video clip on the video clips list
	Pause	Pause playback the selected video clip
	Play	Start to playback the selected video clip
	Stop	Stop to playback the selected video clip
	Next Frame	Go to the next video frame of the selected video clip
	Next Time Interval	Go to the next video clip on the video clips list
	Add Bookmark	Manually add a bookmark to pinpoint and extract a 20-second video clip from an existing recording
	Repeat Mode	Playback the selected video clip repeatly
	Slow Down	Slow down the playback rate
	Speed Up	Speed up the playback rate

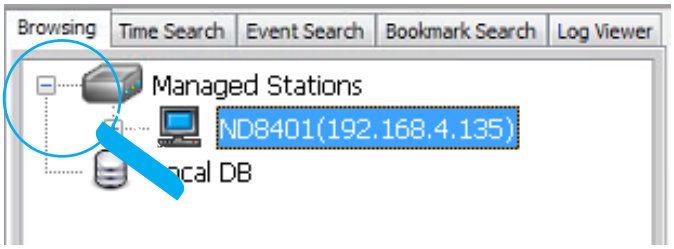


How to Playback Recorded Video

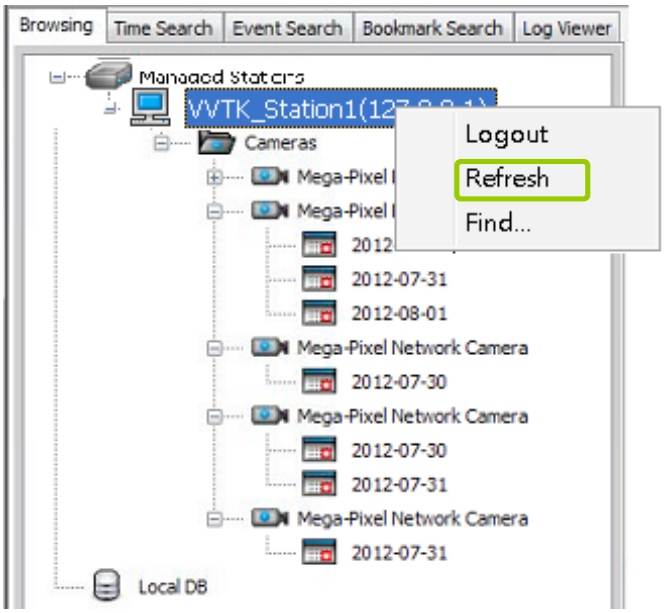
Select a Recorded Video Clip

Please follow the steps below to select a video clip:

1. On the **Bowsing** page, click the plus sign (+) to expand the hierarchical management tree.



2. **Right-click** a station, device, or option “date” on the hierarchical management tree and click **Refresh** to display the recorded video clips.

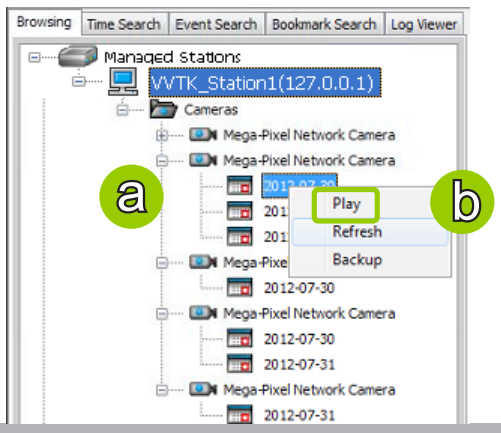


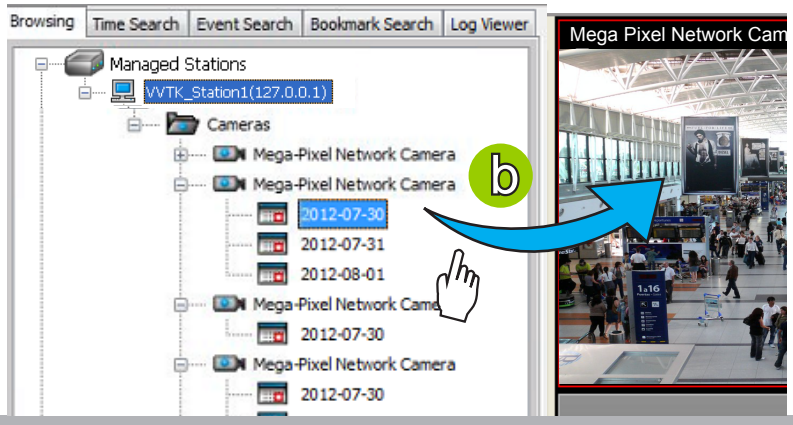
3. There are two ways to view the video clips of a date.

- View all video clips of a date:

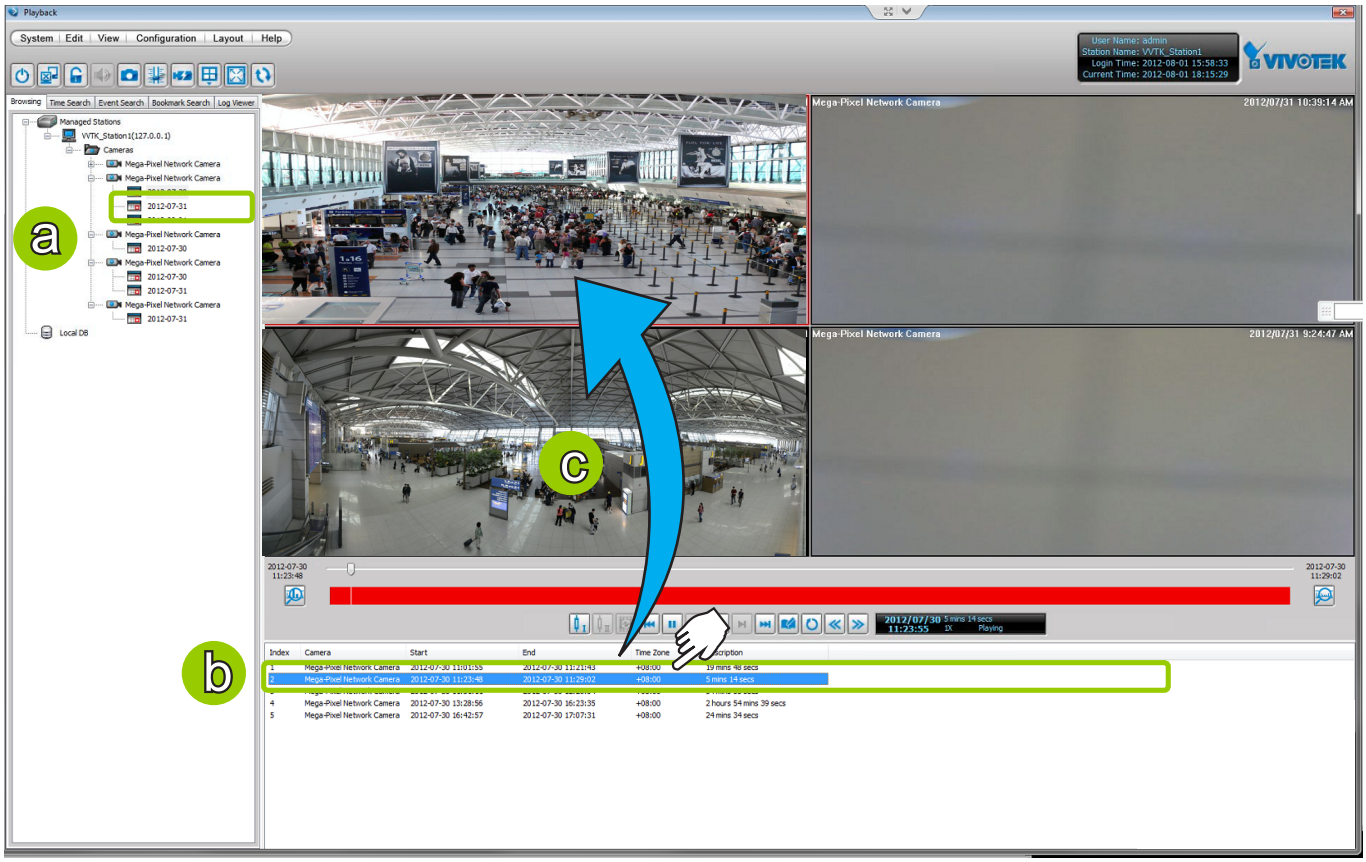
  a. Select an **option** “date” from the hierarchical management tree.

  b. **Double-click** the option “date” or **right-click** the option “date” and click **play**, and it will start to play in an available video cell. (You can also directly **drag-and-drop** the option “date” to a desired video cell in the recorded video playback window. The video clip will start to play.)





- View only one of the video clips of a date:
  a. Click on a “date” on the hierarchical management tree. The corresponding video clips will be listed in the video clip list window.
  b. Select a video clip from the video clip list window.
  c. **Double-click** the video clip, then it will start to play in an available video cell. (You can also directly **drag-and-drop** the video clip to a desired video cell in the recorded video playback window. The video clip will start to play.)

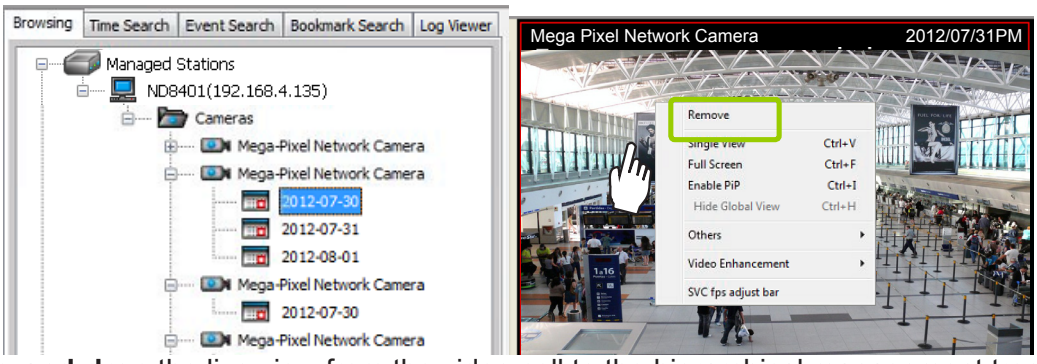


4. Then you can make use of the playback control panel to playback the selected video clip. Please refer to **Playback Control Panel** on page 153.

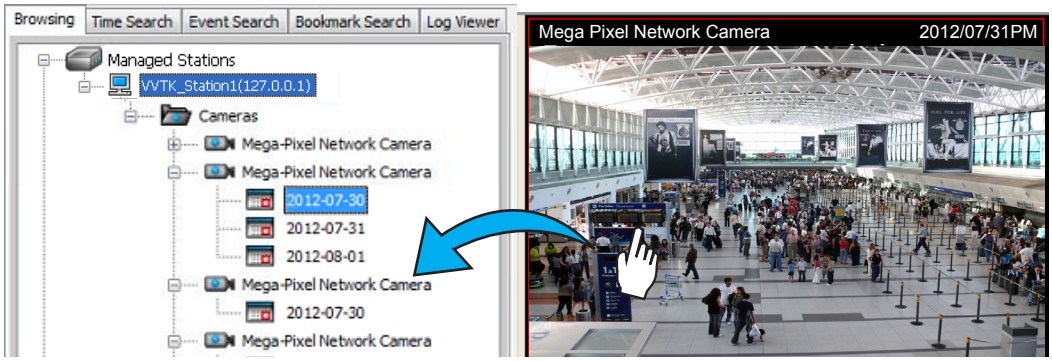
Remove Recorded Video Clips from Video Cells

There are two ways to remove a recorded video clip from the video cell:

1. **Right-click** the video cell and select **Remove**.



2. **Drag-and-drop** the live view from the video cell to the hierarchical management tree window.



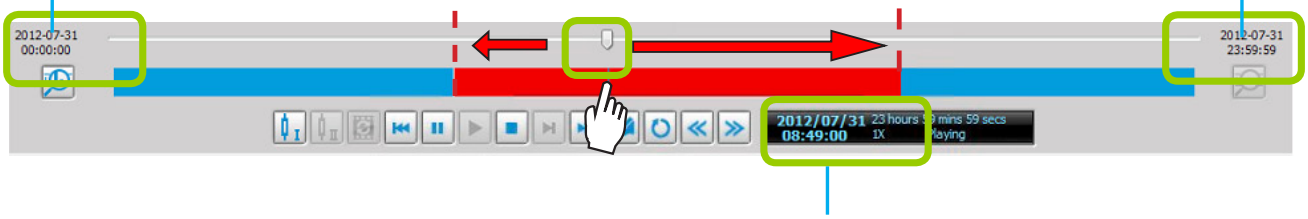
If you want to remove all live videos from the video cells, please click on the menu bar.

Timeline Slider Bar and Histogram

The red part of the histogram shows the period of time of a video clip. The timeline slider bar will move forward as the video is on playback. You can manually move forward/backward the **Timeline Slider Bar** to the desired position as shown below.

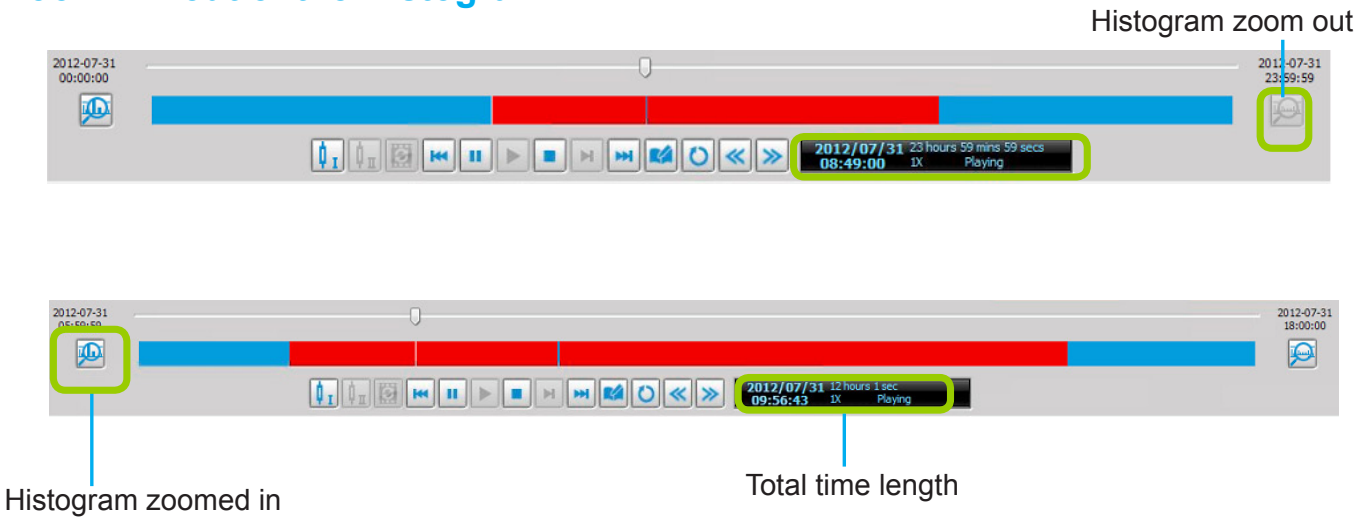
Start time of the histogram

End time of the histogram



The current time of the video clip will be displayed on the status panel. It will change according to the current position of the timeline slider bar.

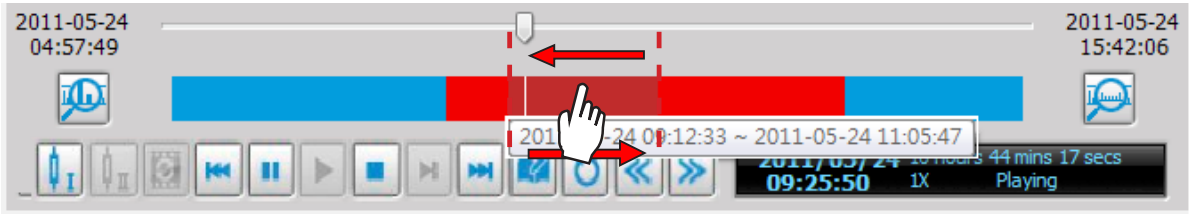
Zoom in / out of the Histogram



As the second picture shows, by clicking **Histogram Zoom In**, the total time of the histogram will shorten to half of the original period of time, while the red part of the histogram that shows the period of time of the video clip will extend to twice the original time span.

In addition to clicking and to zoom in/ out of the histogram, you can use the mouse directly to drag the histogram to zoom in part of the focused video clip.
For example:

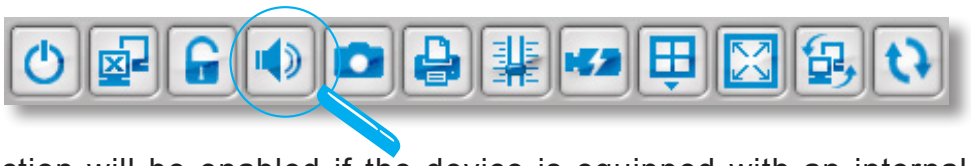
a. Drag a section of the histogram. You can drag it to either direction.



b. The section will be extended as shown below.

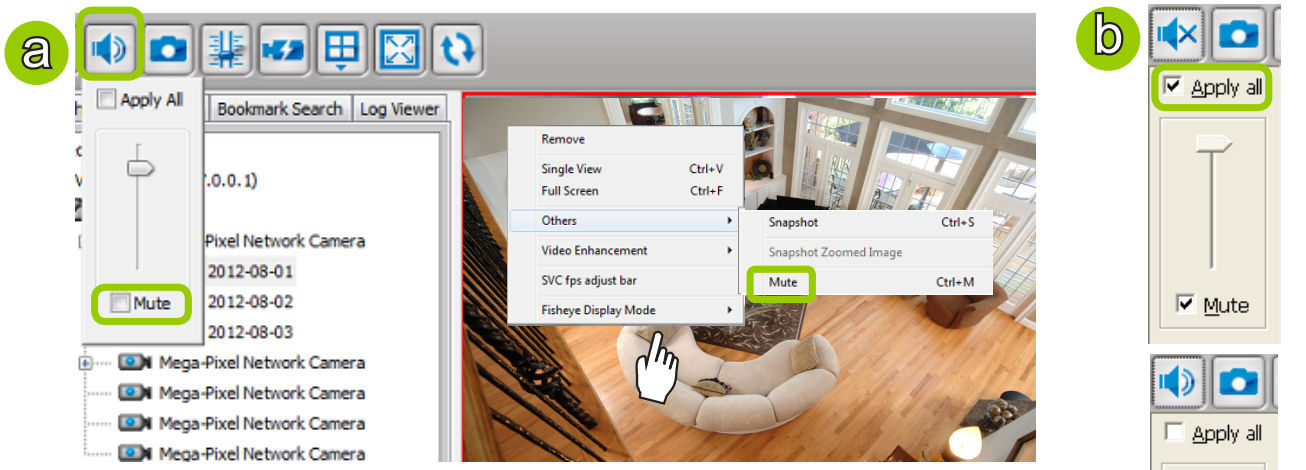
For more functions of the playback control buttons, please refer to page 153 for detailed description.

Audio Control



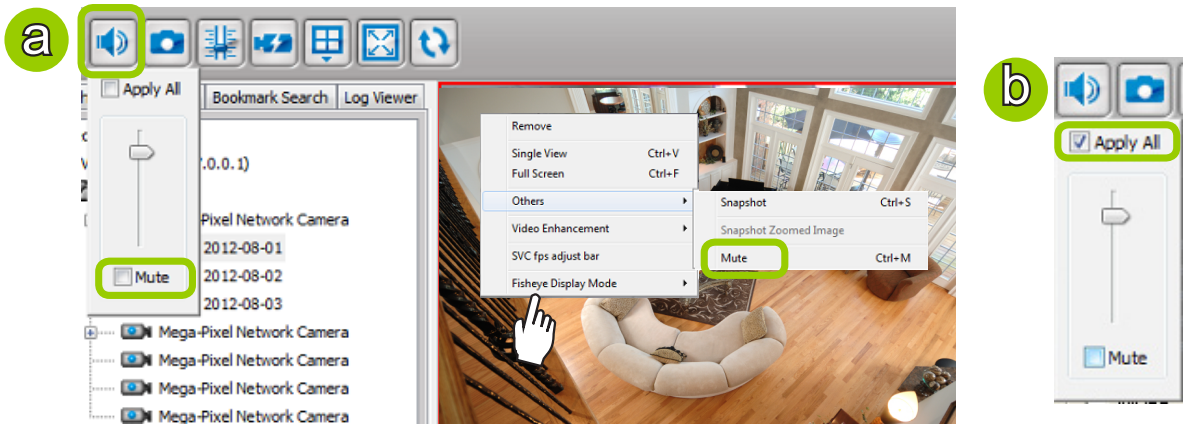
The audio function will be enabled if the device is equipped with an internal or external microphone. Please follow the steps below to adjust the volume or turn on/off the audio of the focused video:

- To turn off the audio (Mute Mode)
  a. Click **Audio On** on the quick access bar and check **Mute**. Or you can **right-click** on the video cell to open the popup menu, then click **Others > Mute**. The mute option in the popup menu will then be selected.
  b. If you want to turn off the audio of all live video, select **Apply all**.
  c. The Audio icon will then change from to .



- To adjust the audio volume
  a. Click **Audio On** on the quick access bar.
  b. Drag-and-drop the slider bar. Slide to a higher position for louder volume.

- To turn on the audio
  a. Click **Mute** on the quick access bar and uncheck **Mute**. Or you can **right-click** on the video cell to open the popup menu, then click **Others > Mute**. The mute option in the popup menu will then be unchecked.
  b. If you want to turn on the audio of all live video, select **Apply all**.
  c. The Audio icon will then change from to .



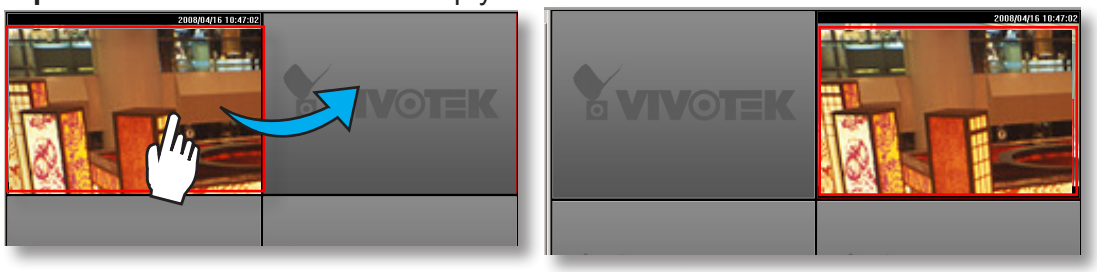
How to Change the Playback Layout

Changing the Layout of the Recorded Video Playback Window

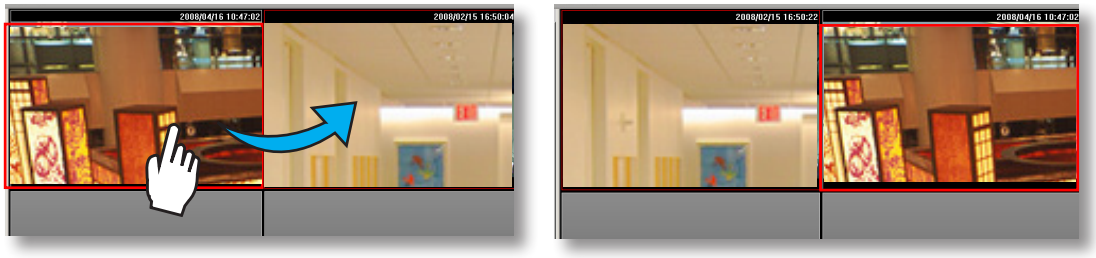
VIVOTEK Playback supports up to 16-CH simultaneous recorded video playback on a single monitor and allows you to change the layout of the recorded live video playback window based on the number of inserted devices.

Switch Video Channels

Drag-and-drop a video channel to another empty video window.

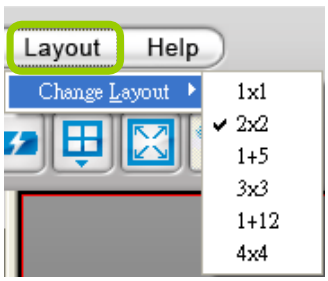


To switch two channels, **drag-and-drop** one view to the other, then the two channels will switch positions.



Configure Layout Mode

Click the **Layout** button on the quick access bar or click **Layout > Change Layout** on the menu bar. Select a desired layout mode and the layout window will change accordingly. Below we illustrate 6 types of layout modes:



Layout mode	Description
1 x 1	
2 x 2	
1 + 5	
3 x 3	
1 + 12	
4 x 4	

Maximize/Minimize the Recorded Video Playback Window

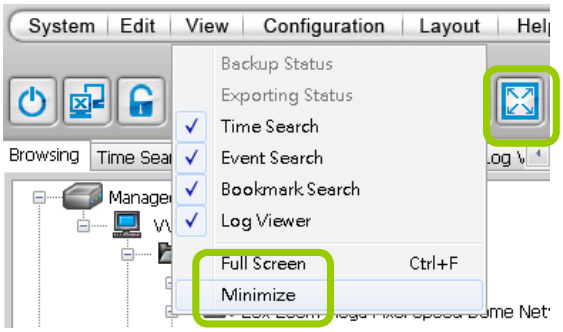
- Single View: to maxmize a video cell to the entire video playback window

Double-click the video cell, or **right-click** the video cell and selec **Single View**. The focused video will occupy the entire Playback window as shown below.

To restore to the original layout, **double-click** the video cell or **right-click** the video cell and uncheck **Single View.**

- Full Screen: to maxmize the video playback window to the entire screen

Click **Full Screen** on the quick access bar or **right-click** the video cell and select **Full Screen**. In addition, you can also click **View > Full Screen** on the menu bar to maximize the recorded video playback window.



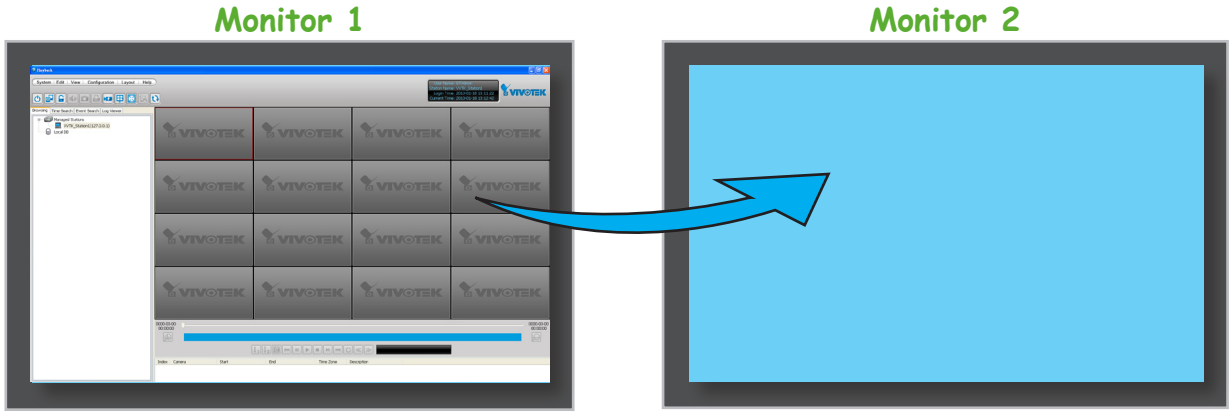
To restore to the original layout, **right-click** the video cell and uncheck **Full Screen**. You also can press the **Esc** button on the keyboard to leave the full screen mode.

- Minimize: If you click **View > Minimize** on the menu bar**,** the Playback window will minimize to the Windows tool bar.

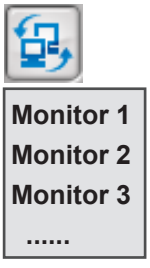
View Recorded Video with Multiple Monitors

If you have multiple screens in your control center, you can switch the Playback Window among these screens.

- If you have two monitors, click **Switch Screen** on the menu bar, the Playback window of monitor 1 will switch to monitor 2.



- If you have three or more monitors, a drop-down list will be displayed when you click **Switch Screen** on the menu bar. The number of options on this list depends on the number of your screens. Select a desired screen from the drop-down list and the Playback Window will then switch to the specified screen.

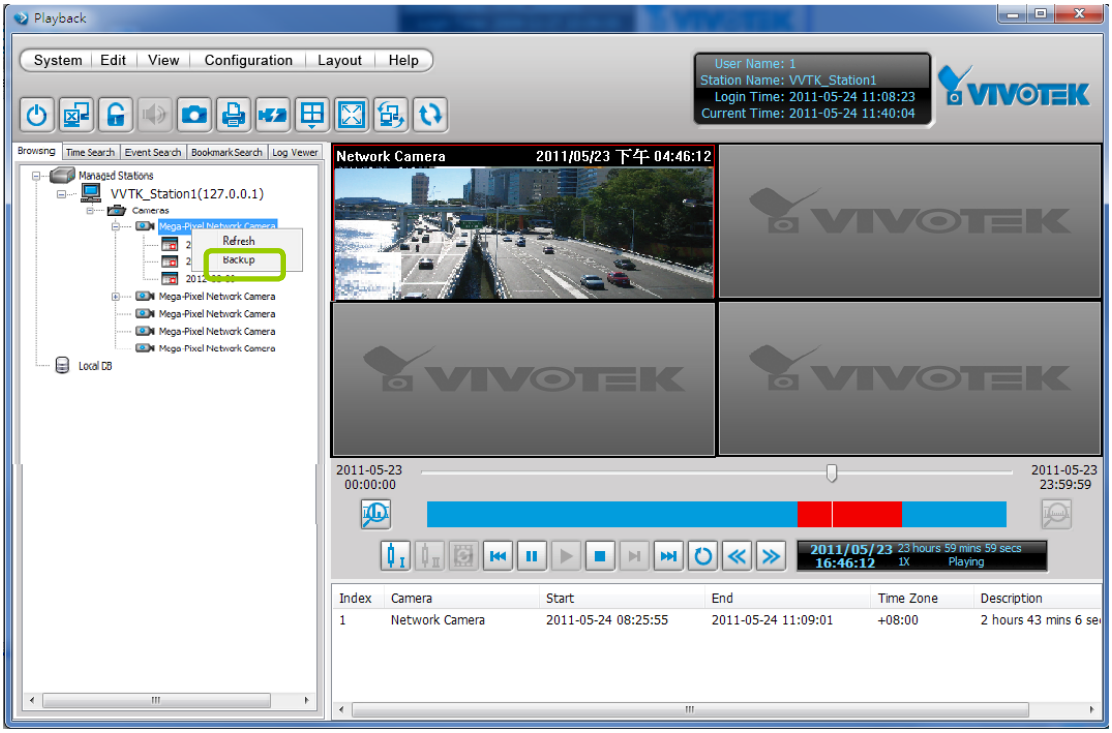


How to Backup Recorded Video

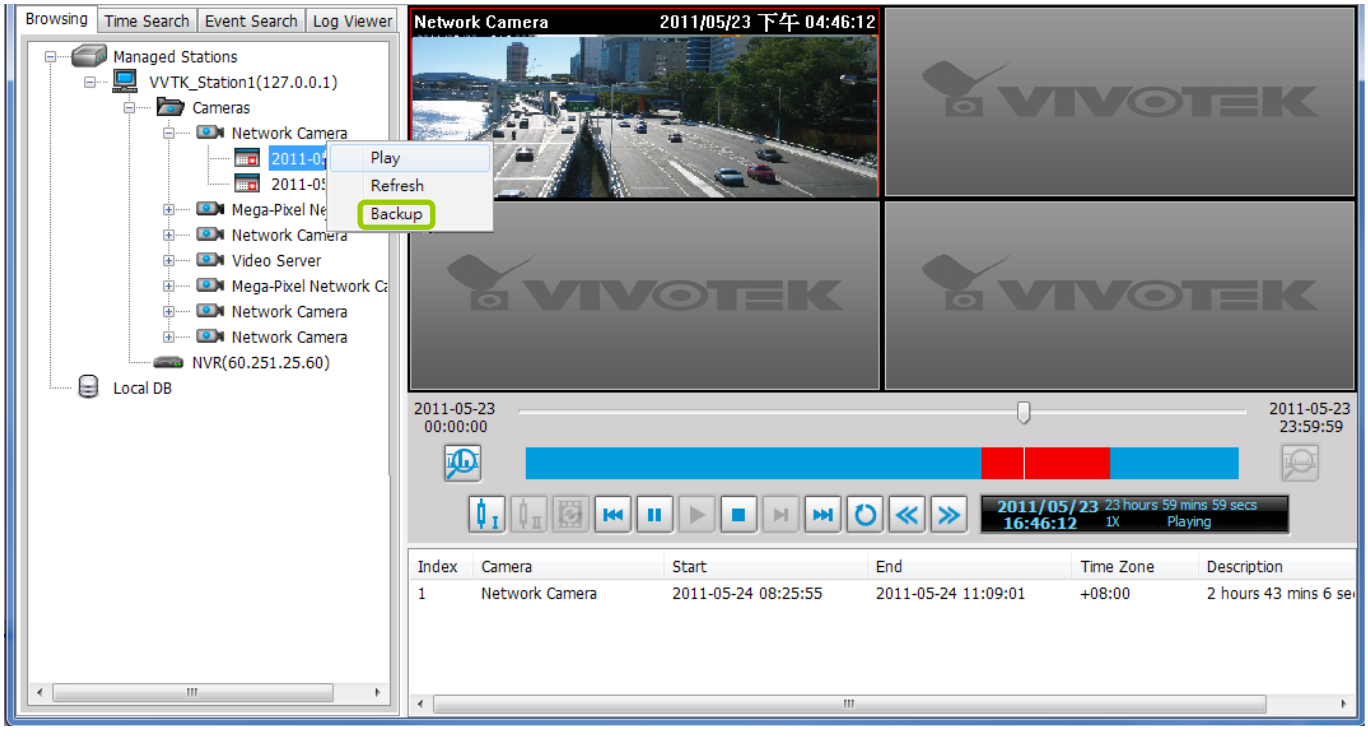
In addition to the Schedule Backup function of LiveClient introduced on page 61, the Playback utility also features to backup recorded video clips from the **local database**. Please open the **Browsing** page and follow the steps below to backup recorded video:

a. Select the target files.

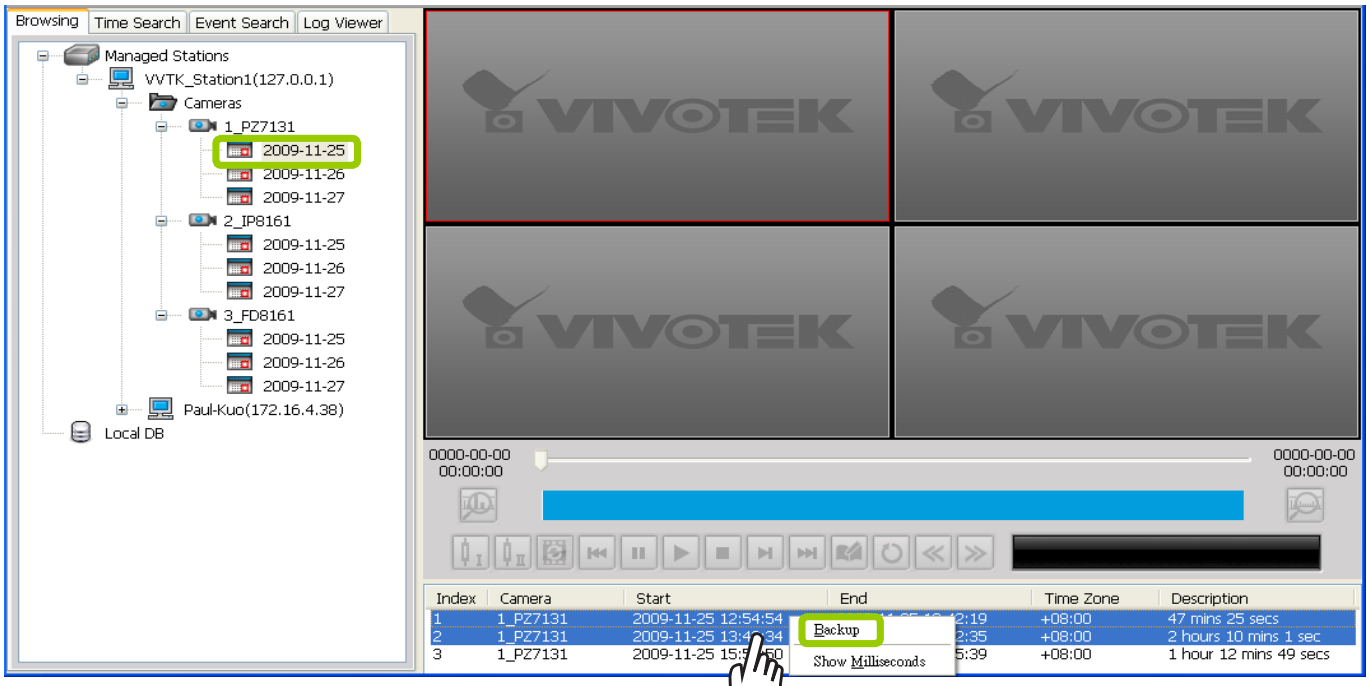
- To backup all recorded video of a selected device: **Right-click** the device and click **Backup**.



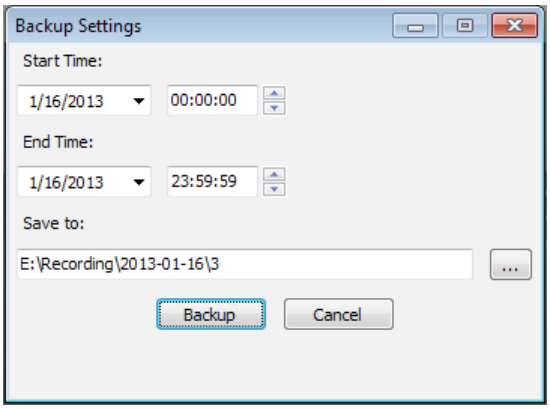
- To backup all recorded video of the day: **Right-click** the option “date” and click **Backup** (or select the date and click the **Backup** button below).

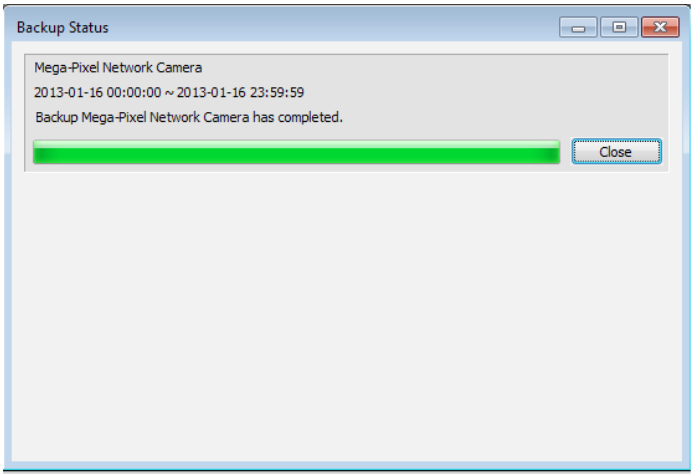


- To backup part of the recorded video of the day: Select the date and choose the video clip(s) from video clip window. Then **right-click** the selected option(s) and click **Backup**. Note: Use the combination of the **Shift** key and left mouse click to select multiple video clips.

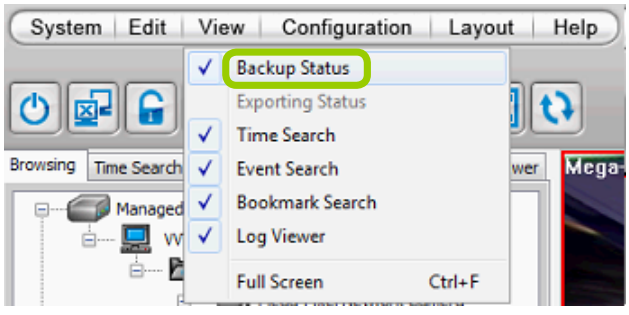


b. A **Backup Settings** window will pop up. Specify the time span and select a storage path, then click **Backup**. The system will start to backup and popup a window showing the backup status.





If you close the status window, you can also open it again by clicking **View > Backup Status**.



d. When the backup is complete, you will see an information dialog. The recorded data will be restored in the specific folder.

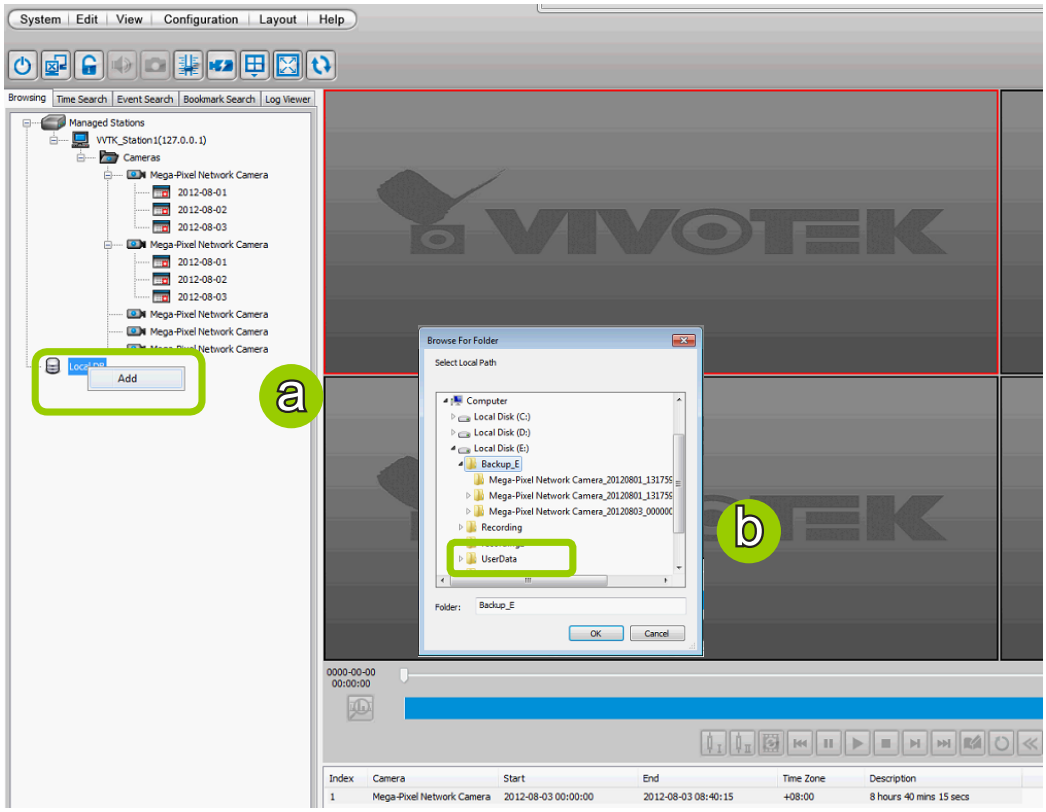
How to View Backup Files

The Playback utility also allows users to playback backup files, including those produced in **Schedule Backup** by LiveClient and **Recorded Data Backup** by the Playback.

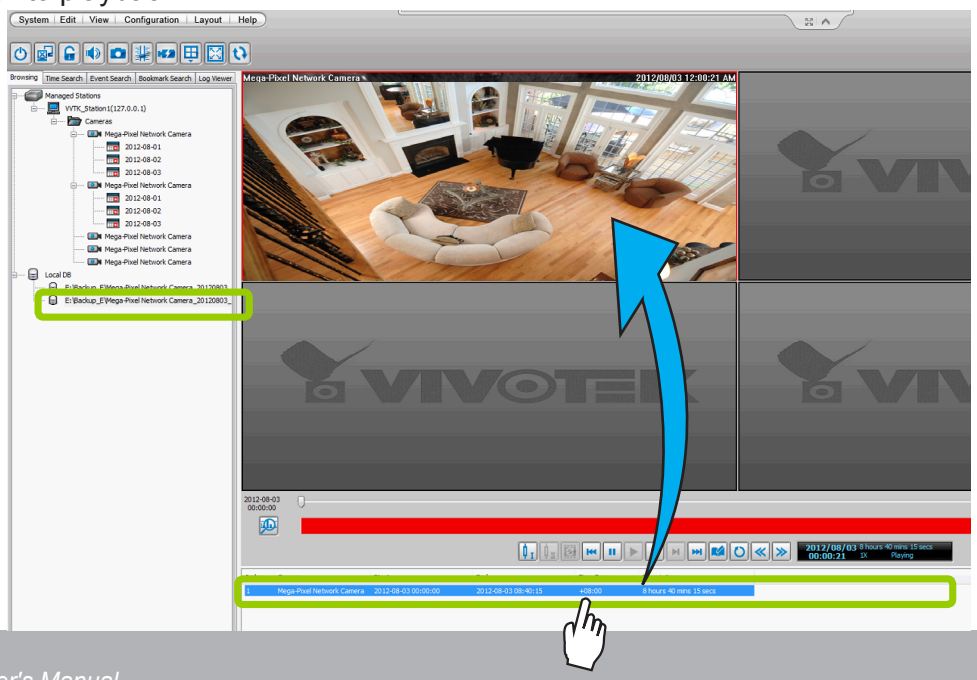
Please follow the steps below to view backup files:

a. **Right-click** Local DB and click **Add**.

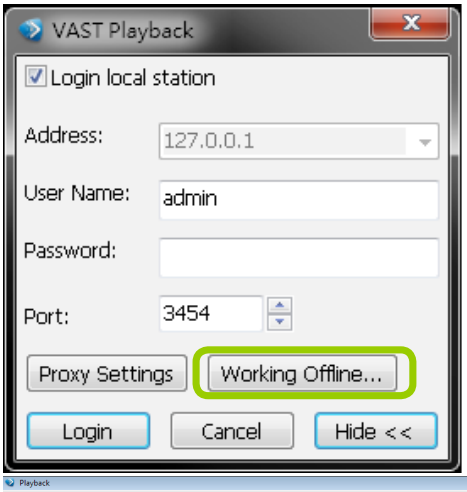
b. A **Load Backup File** window will pop up as shown below. Select the ***.dif file** to upload.

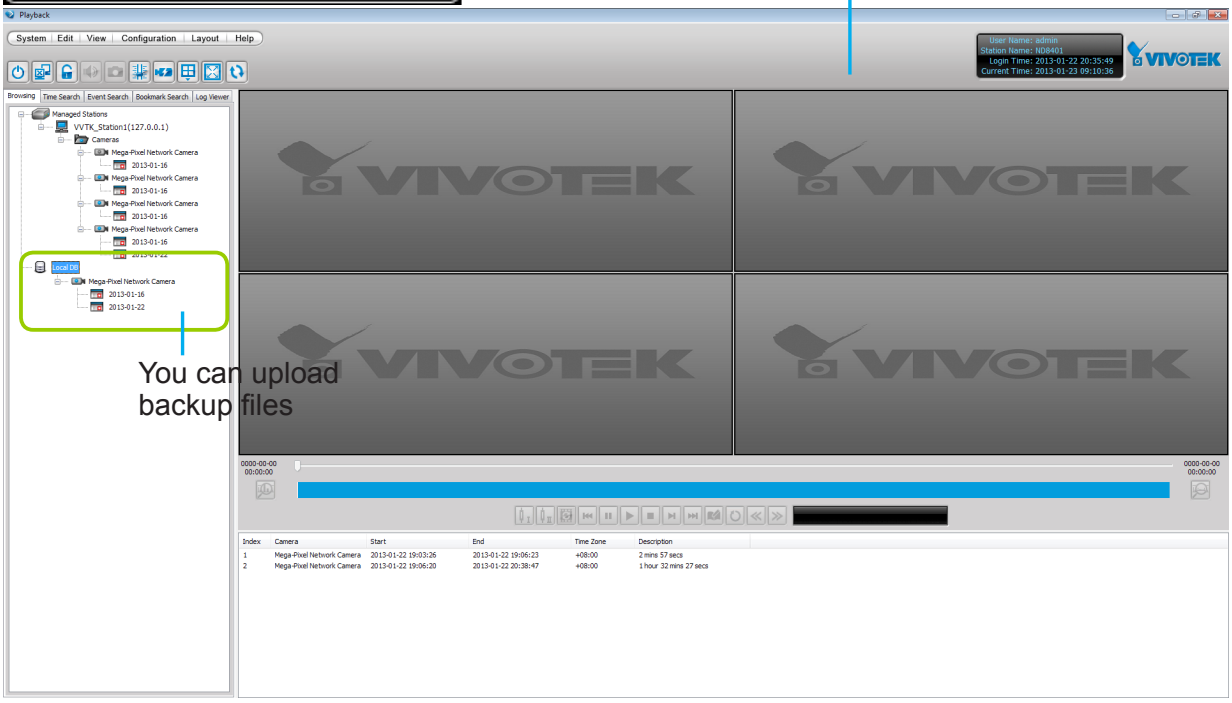


c. The following is an example of uploaded file, and you can **double-click** it or **drag-and-drop** it to a video cell to playback.



*If you want to playback the backup files from the local database, you can also click **Working Offline** in the Login Window without the account information. The Playback will launch as shown below.*



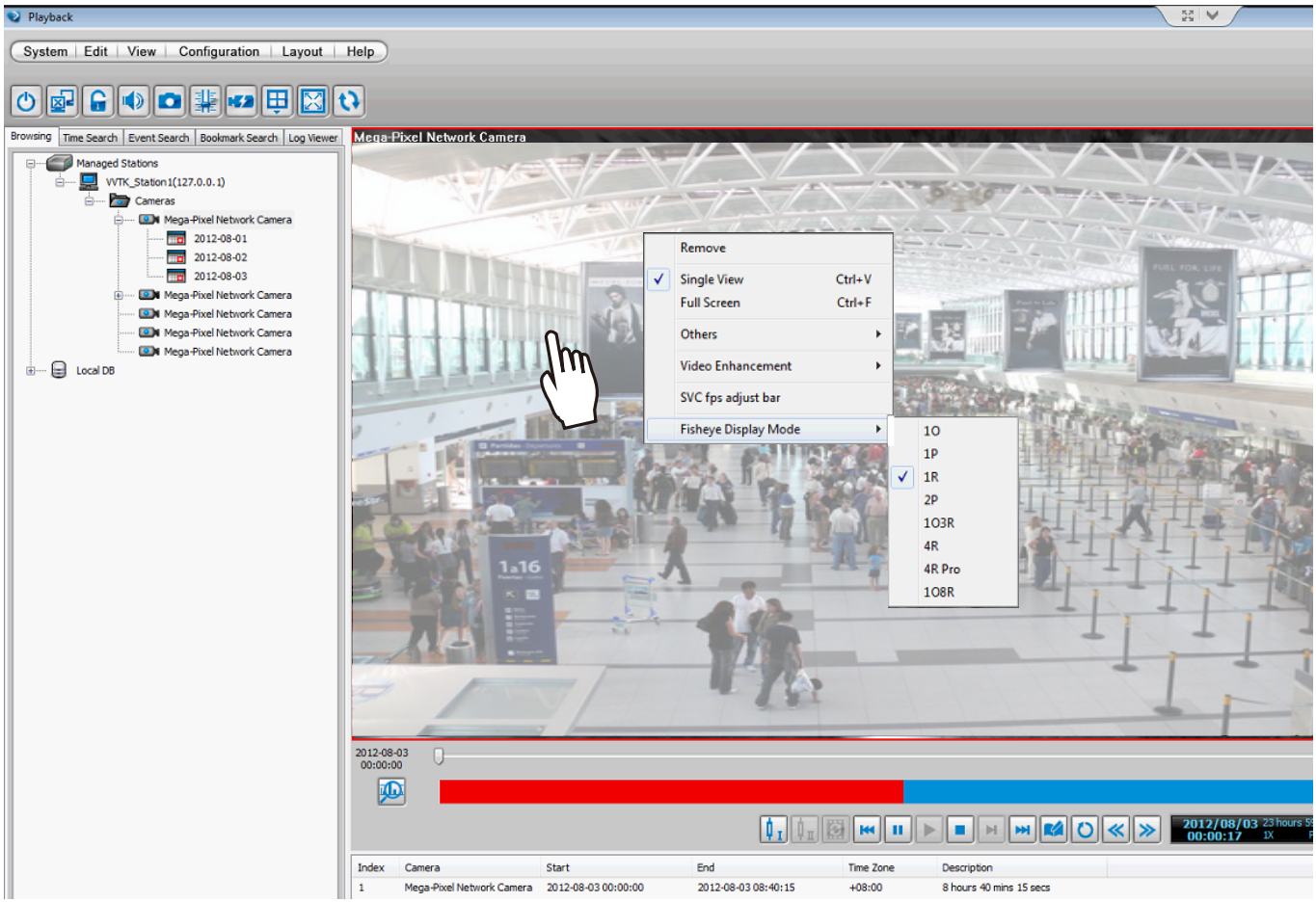


Model-specific Functions (FE Series Fisheye)

The Playback program offers model-specific functions through a right-click menu. For example, if you playback a video clip made from an FE8171V fisheye camera, a right-click on the playback screen will bring up the Display mode options. You can even exert mouse control while playing a recorded video. You can zoom in, zoom out, and change the view angle as if you are investigating a 3D scenario kept in a recorded point in time.

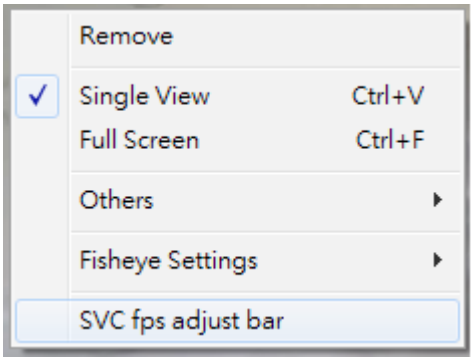
Note that ePTZ functions via the mouse control only takes place in a Regional view, e.g., the 1R or 1O3R mode.

The **Display mode** options and **mouse control** methodologies are identical to those described on page 51 and the following pages.



To configure the SVC-related feature:

1. Right-click on the playback window of an SVC-enabled camera. Select **SVC fps adjust bar**.



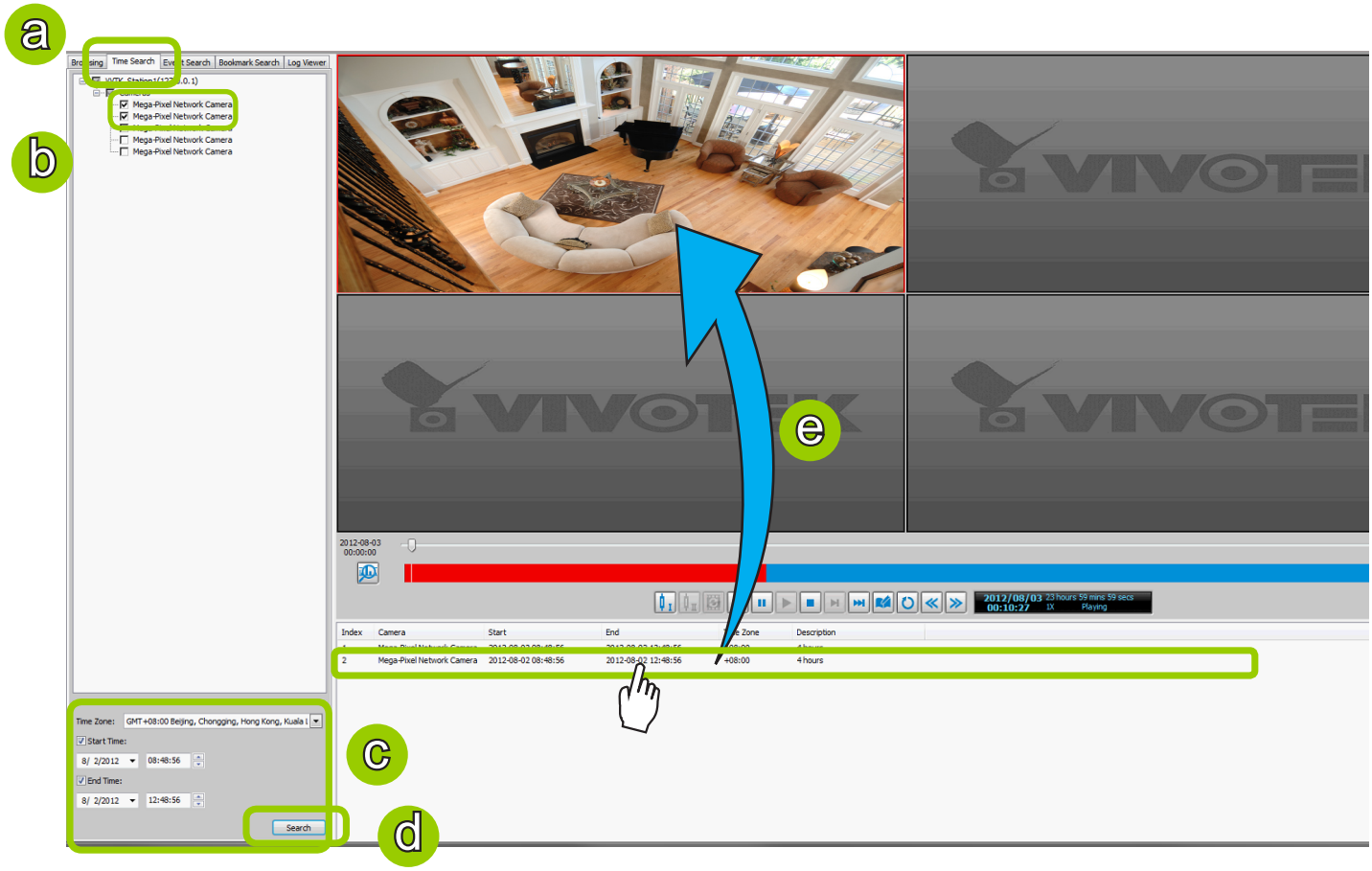
2. A slide bar will appear above the view cell. Click and drag the slide bar. A numeric indicator will display the current selection. See below for the frame rates represented by the numeric indicator. Please refer to page 36 for the introduction of this feature. Changing the SVC vaule takes immediate effect on the number of frames per second shown with the video being played.

Indicator	Frame rate per second (fps)
Maximum	**30**
7	**26**
6	**22**
5	**18**
4	**12**
3	**8**
2	**4**
1	**1**
Minimum	**1/4**

How to Search for a Video Clip in a Specific Period of time

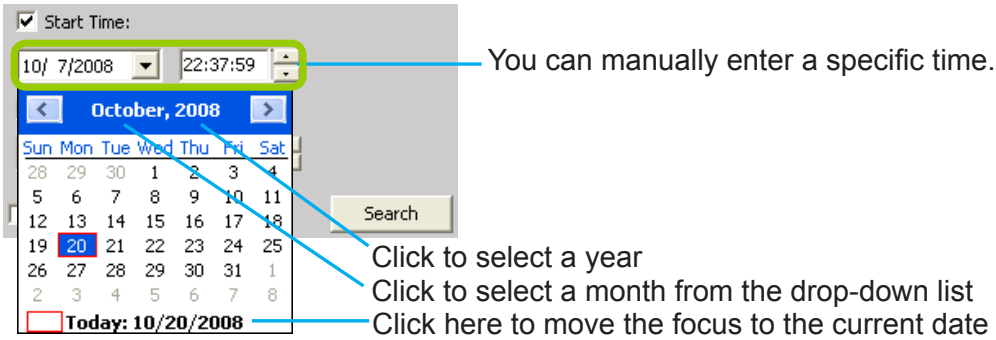
Please follow the steps below to use **Time Search** function:

a. Open the **Time Search** page.



b. Select the target station(s)/device(s) that you want to search for video clips.

c. Specify the time span. You can choose to set up the start time only, the end time only, or both the start time and end time. The search results will only include the video clips within the time span. If you uncheck both the start time and end time, the search results will include all video clips recorded by the selected device(s).



d. Click **Search** to start time search.

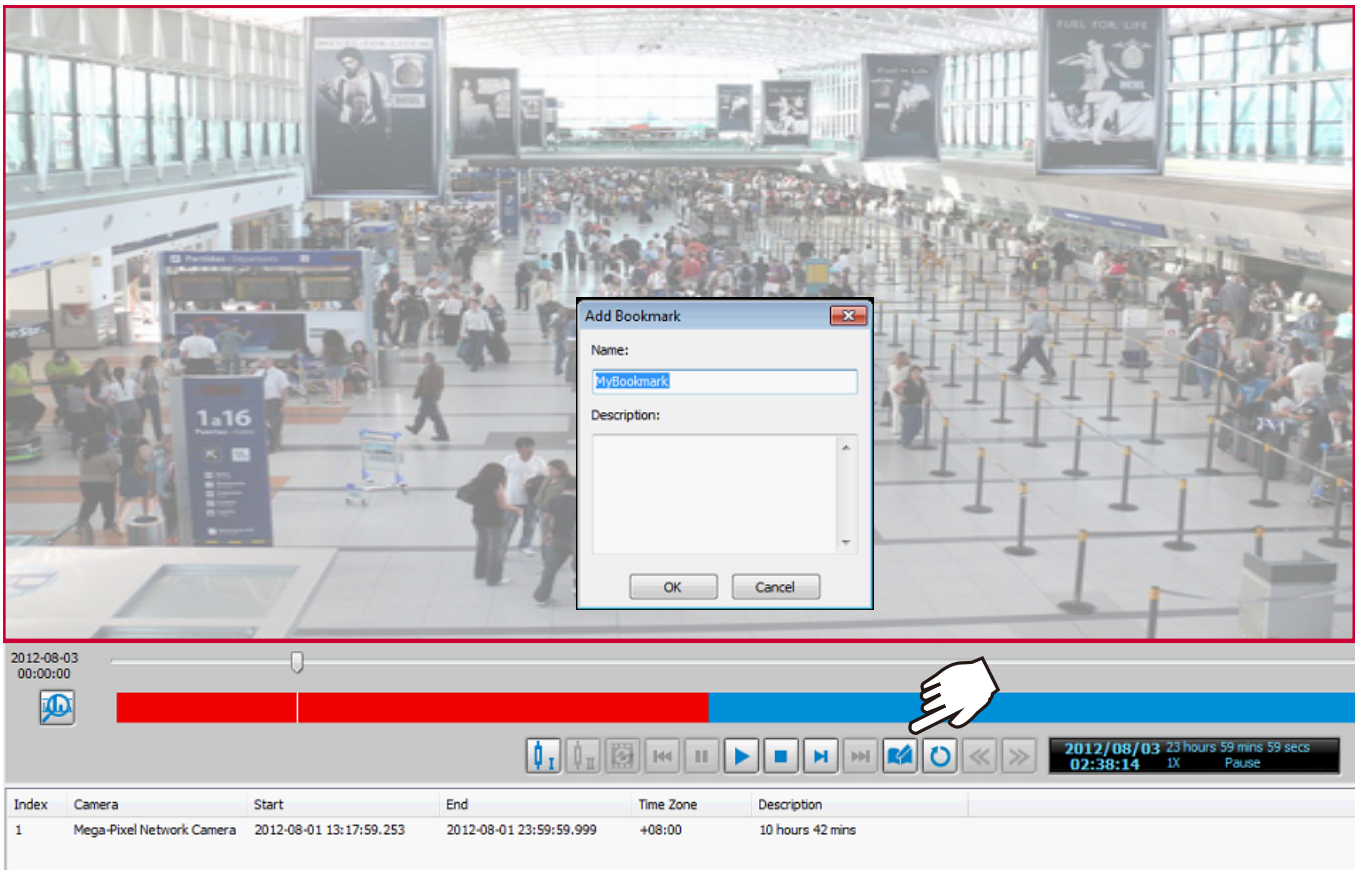
e. View the retrieved video clips.

How to Add a Bookmark

Bookmark is a convenient tagging function that allow your to pinpoint and extract a 20-second video clip from out of a video recording. When you see somehting of your interest while browsing through a recorded video,

1. Click on the Bookmark button,
2. Enter a name for the bookmark, such as "thief spotted."
3. You may enter a short description in the Description field. You may also search for the bookmarks you created later on.

A bookmark comprises a video clip starting from 10 seconds of before and ends at 10 seconds after the point in time you selected.



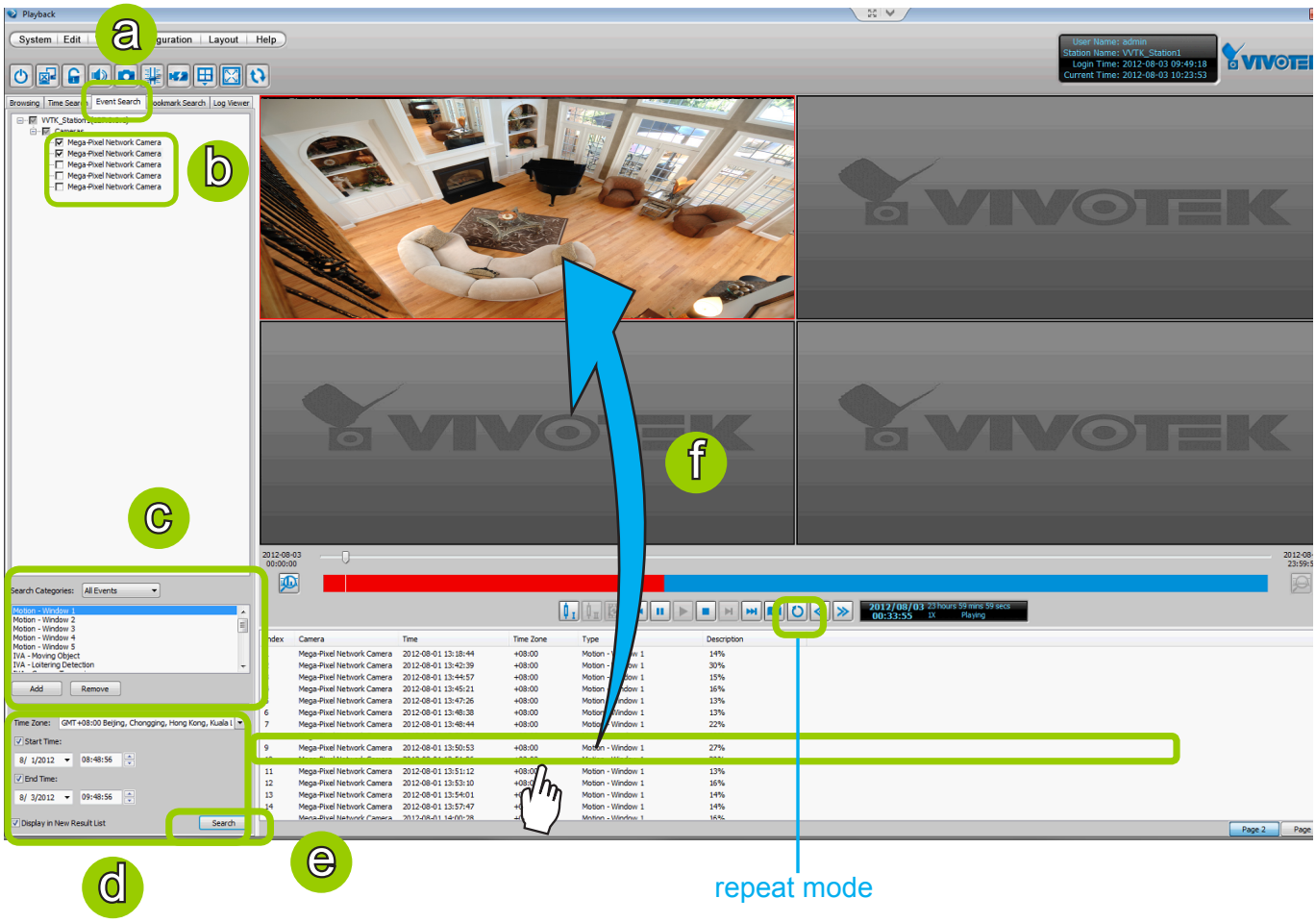
Please refer to page 150 for how to search for bookmarks.

How to Search for Events

The Playback program offers users an intuitive event search engine for retrieving video clips from the database of recorded videos based on different search criteria such as motion, IVA, or DI events.

Please follow the steps below to search for recorded events:

a. Open the **Event Search** page.



b. Select the target station(s)/device(s) that you want to search for events.

c. Specify the **Event Category**. For detailed information, please refer to **Select Event Category** on the following page.

d. Specify the time span for event search. You can choose to set up the start time only, the end time only, or both the start time and end time. The search results will only include the events within the time span. If you uncheck both the start time and end time, the search results will include all events from the selected device(s). Please refer to step c. on the previous page for detailed information.

e. Start event search. Please refer to page 174 for detailed information.

f. View the retrieved video clips. **Double-click** it or **drag-and-drop** it to the video cell. It will playback in repeat mode.

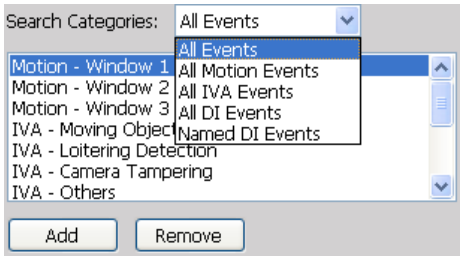
Note: The length of each video clip will depend on your settings of pre-event time & post-event time for the recording storage. The default setting is **20 seconds**. For more infromation, please refer to page 83 for detailed illustration.

Select Event Category

The following introduces the event search categories: **All Events**, **All Motion Events**, **All IVA events**, **All DI Events**, **Named DI Events, PIR, Tampering, Tamperature, Video Loss/ Restore, IR Trigger/Normal, and P-PTZ**. You can also add or remove customized events from the list.

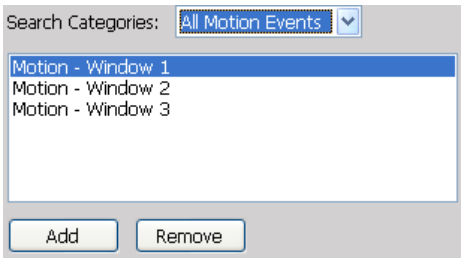
Event Category- All Events

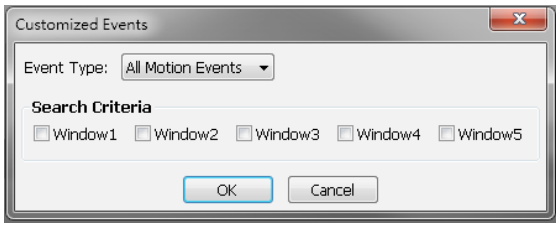
If you select the **All Events** category, all of the events including motion detection, digital input, and intelligent video analysis, PIR, tamper detection, and tamperature alarm will be listed in the search results. You can click **Add** or **Remove** to change the search criteria options.



Event Category- All Motion Events

If you select the **All Motion Events** category, all detected motion events will be included in the search. You can click **Add** or **Remove** to change the search criteria options.

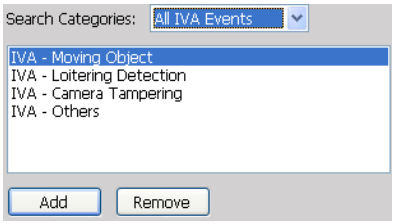


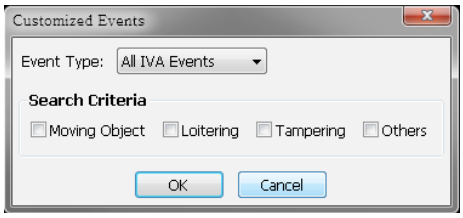


The parameters of the motion detection windows, such as motion percentage and the time of occurrence are also recorded in the database of the server. If you wish to change the parameters of the motion detection windows such as the position, size, detection sensibility, and motion percentage, please link to the camera's Configuration page to modify the values.

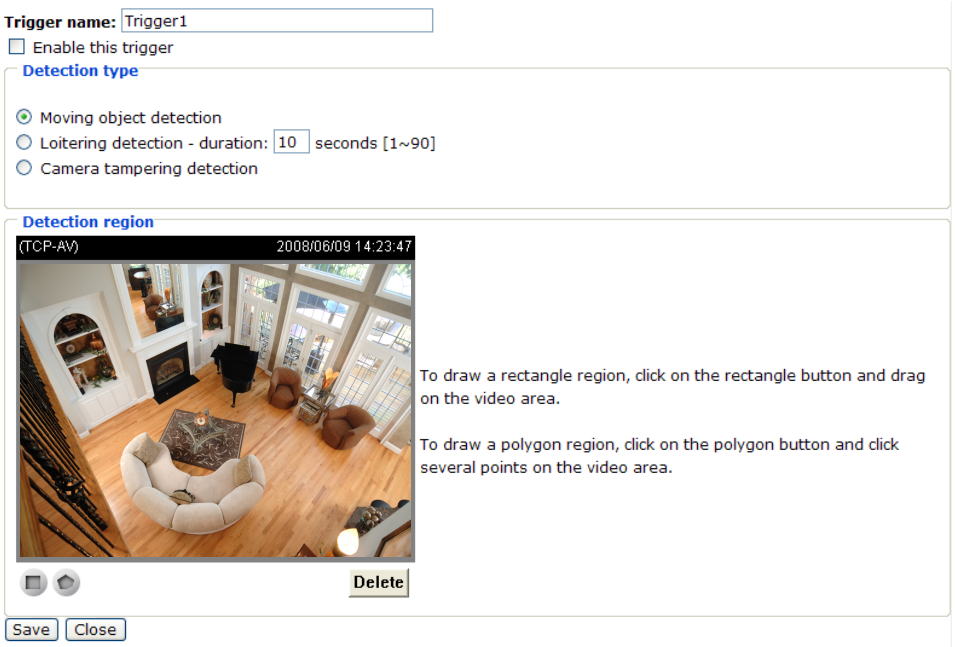
Event Category- All IVA events

If you select the **All IVA events** category, all detected IVA events will be included in the search. Cameras with embedded intelligent video content analysis are capable of detecting IVA events such as moving objects, loitering, and tamper detection.
The embedded video content analysis, superior to the conventional motion detection function, is capable of distinguishing between creature's motions, static backgrounds or natural movements such swaying trees, waves or sunsets to prevent false alarms from environmental noises.
With camera tamper detection, it can detect incidents such as camera redirection, blocking or defocusing of cameras, or even spray-paint. Additionally, a suspicious object in the pre-defined detection region will trigger alarms once the dwell time of the object is longer than the given time.
You can click **Add** or **Remove** to change the search criteria items.



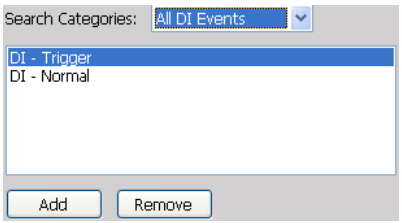


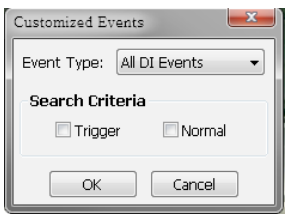
If you want to change the parameters of IVA, such as the detection region, loitering duration, etc, please link to the camera's Configuration page to modify the values.



Event Category- All DI Events

If you select **All DI Events** category, all triggered DI signals will be included in the search. The DI events signify that there is a Digital-Input signal detected by the camera; its corresponding information such as DI-Trigger or DI-Normal signal and the time of occurrence are also transmitted and recorded in the database of the server.
You can click **Add** or **Remove** to change the search criteria options.

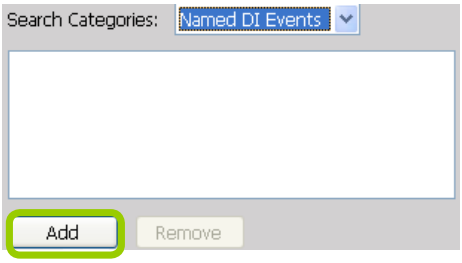


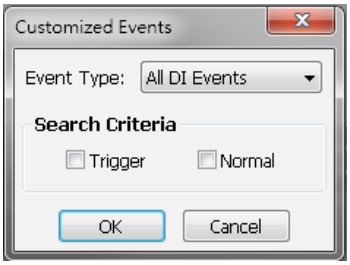


For more information about DI/DO settings on the connected devices, please refer to page 70 for detailed illustration.

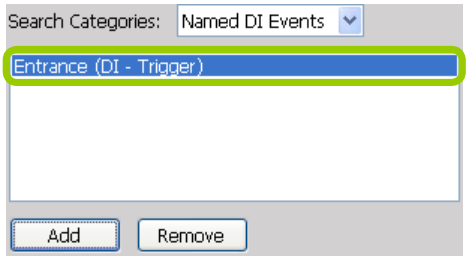
Event Category- Named DI Events

This category allows you to select only **Named DI Events**--the DI device which you have renamed in the LiveClient. Please refer to Association Management on page 70 for more information about how to rename DI device.
Click **OK** and fill in the name you want to search on the left window.





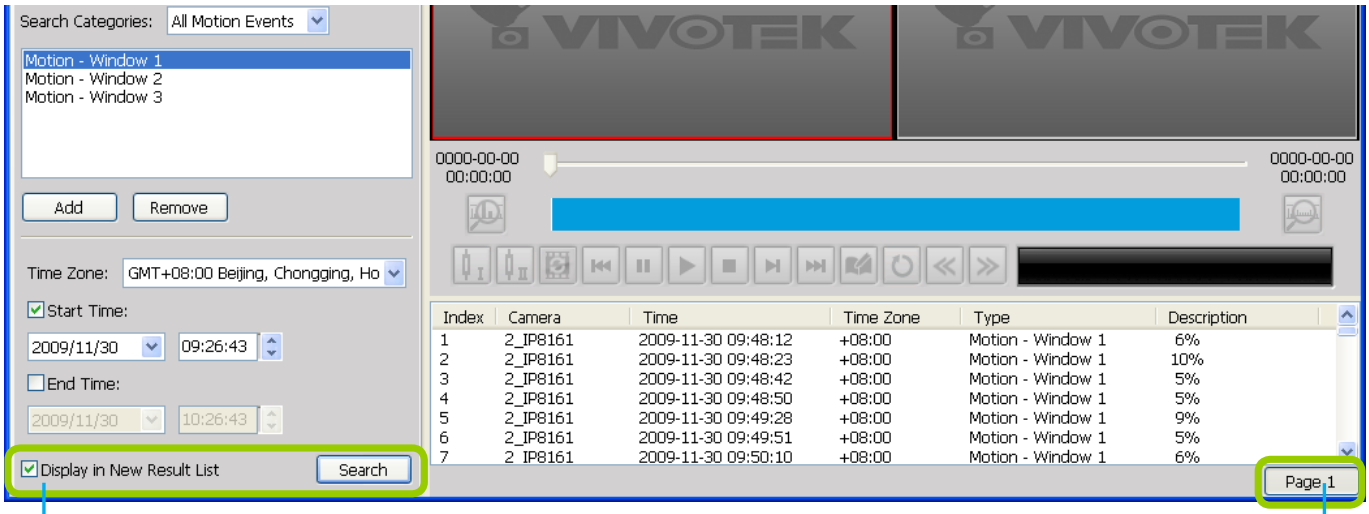
The new search criteria will be displayed in the search categories column as shown below.
You can click **Add** or **Remove** to change the search criteria options.



Start Event Search

After you specify all of the search criteria mentioned above, check/uncheck **Display in new result list** and click **Search** to begin event search.

- If **Display in new result list** is unchecked, all search results will be displayed on the original event list window as shown below.

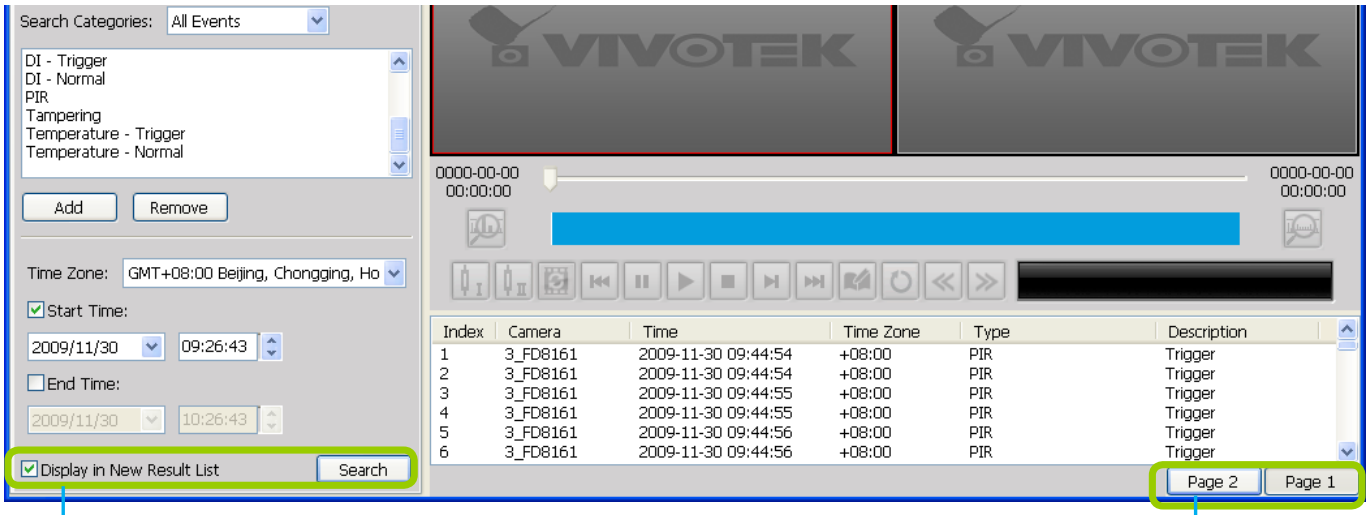


Unchecked

Only one page

- In the above picture, The **Type** field in the search result page shows the event category, and the **Description** field displays the motion **percentage** of the detection window. Please refer to page 171 for more inforamtion about Motion Events.

- If you select **Display in new result list** and click **Search**, the search results will be displayed on a new page as shown below. This allows you to place the search results of each search category on an individual page. You can set up to 5 pages in the event list window.



Checked

You can set up to 5 pages.

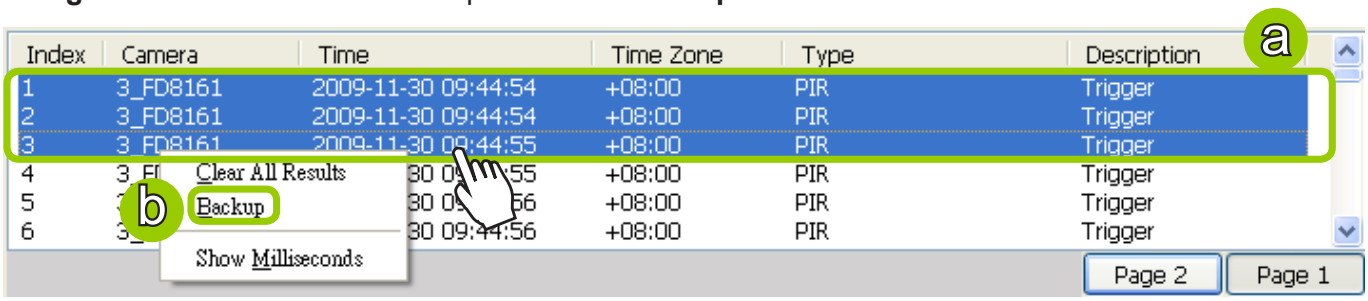
The P-PTZ event type refers to those triggered by the Auto Tracking actions.

Backup the Event Videos

Please follow the steps below to backup the evnet videos on the results list:

a. Select the video clips you want to backup. You can select more than one video clip.

b. **Right-click** the selected video clips and click **Backup**.



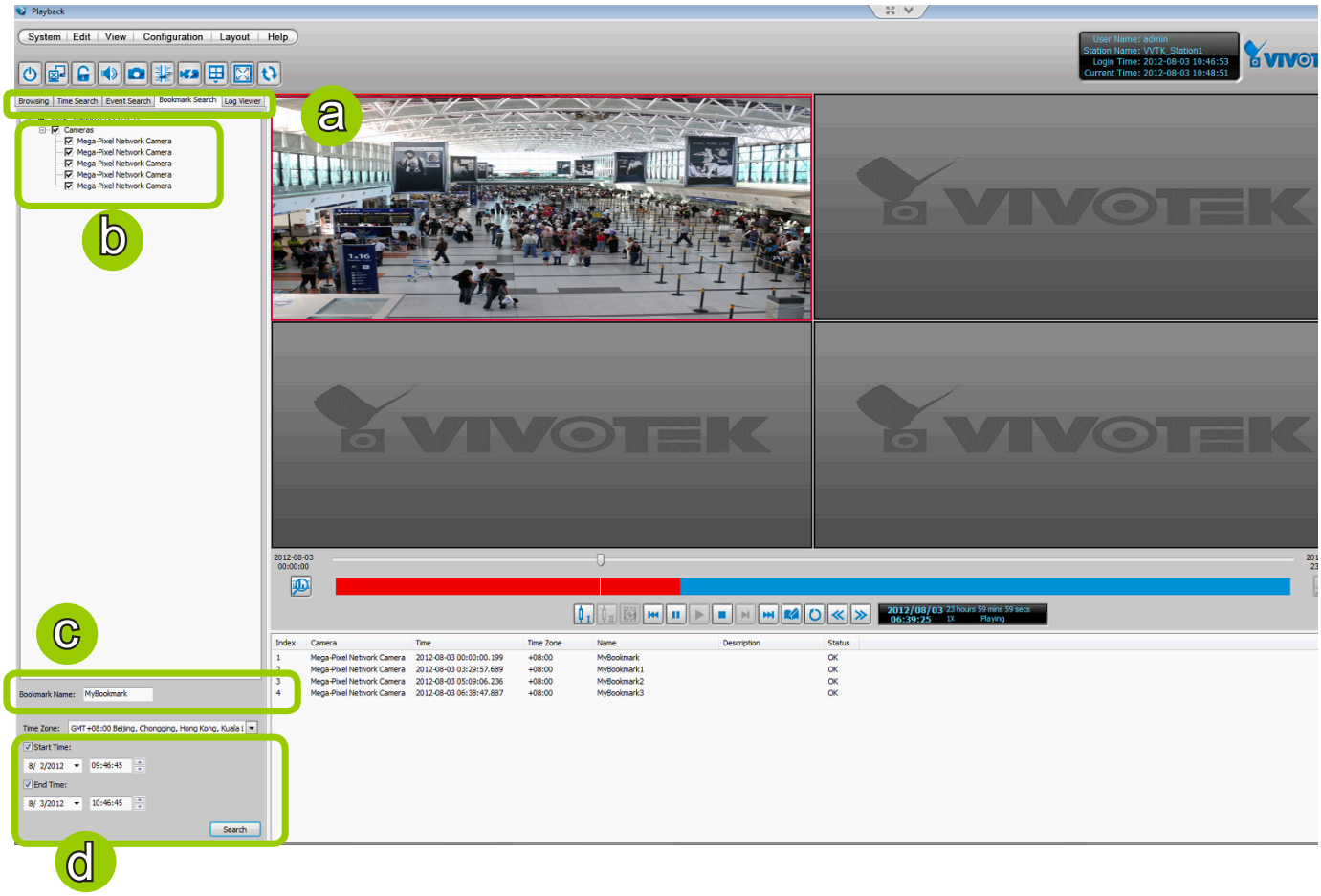
c. A **Backup Settings** window will pop up. For more information about how to set up the Backup Settings, please refer to page 162. For more information about how to view backup files, please refer to page 164 for detailed illustration.

How to Search for a Bookmark

Please follow the steps below to use **Bookmark Search** function:

a. Click on the tabbed menu to open the **Bookmark Search** page.

b. Select the cameras which have video clips you have placed bookmarks on.

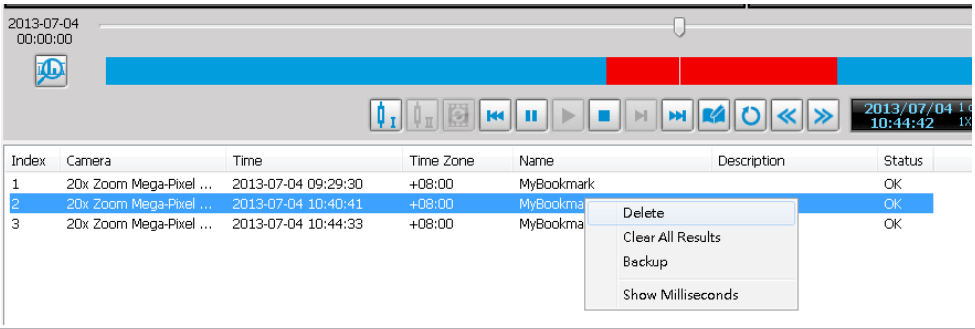


c. Enter the name of bookmark.

d. Specify a range of time during which the video streams were recorded and its points in time were bookmarked.

Click **search**. You can then click on a bookmark to display the short video clip extracted from within the recorded video.

To remove an existing bookmark, left-click to select an entry, and then right-click to display the Delete button. Bookmarks will be indicated as "Invalid" if the videos where the bookmarks were appended were erased, e.g., when the original recording was erased by cyclic recording.



How to Search Logs

The Playback program offers a convenient log engine for searching all local logs based on different search criteria such as log category, log type, and log level. The search results will be displayed in the log viewer window along with the detailed log history.

Please follow the steps below to search logs:

a. Open the **Log Viewer** page.

b. Select the target station where you want to search logs.

c. Specify the **Log Category**. For detailed information, please refer to **Select Log Category** on page 178.

d. Specify the **User Account**. If you have added other user accounts to the station, you can select one to search its login history. For detailed information about user account, please refer to **How to Manage User Accounts** on page 65.

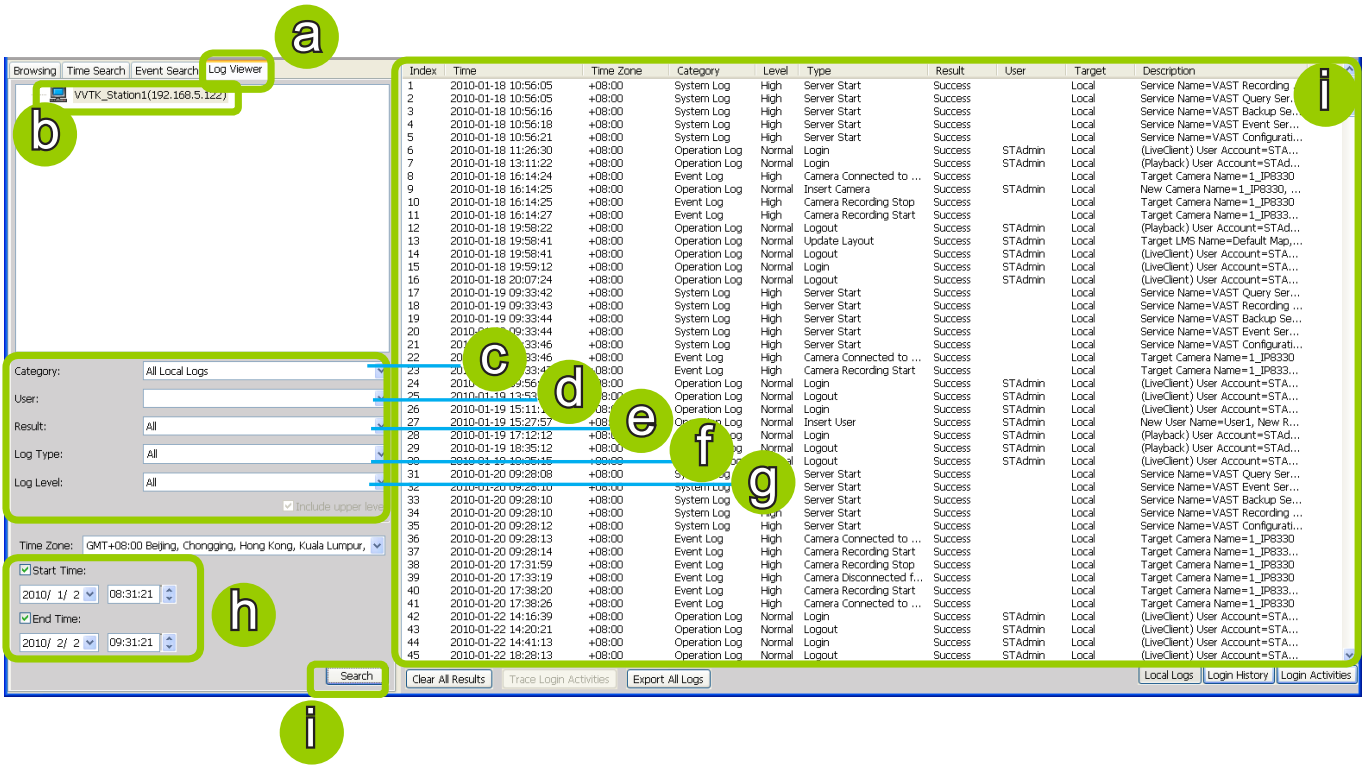
e. Specify the **Search Result**. Select **All** to display all search results; select **Success** to display successful log activities only; select **Fail** to display failed log activities only.

f. Specify the **Log Type**. For detailed information, please refer to **Select Log Type** on page 178.

g. Specify the **Log Level**. For detailed information, please refer to **Select Log Level** on page 178.

h. Specify the search time span. You can check the start time only, the end time only, or both the start time and end time. The search will only include the events within the time span. If you uncheck both the start time and end time, the search will include all events saved by the server. Please refer to page 168 for detailed information.

i. Start the log search and the results will be displayed on the log list window.



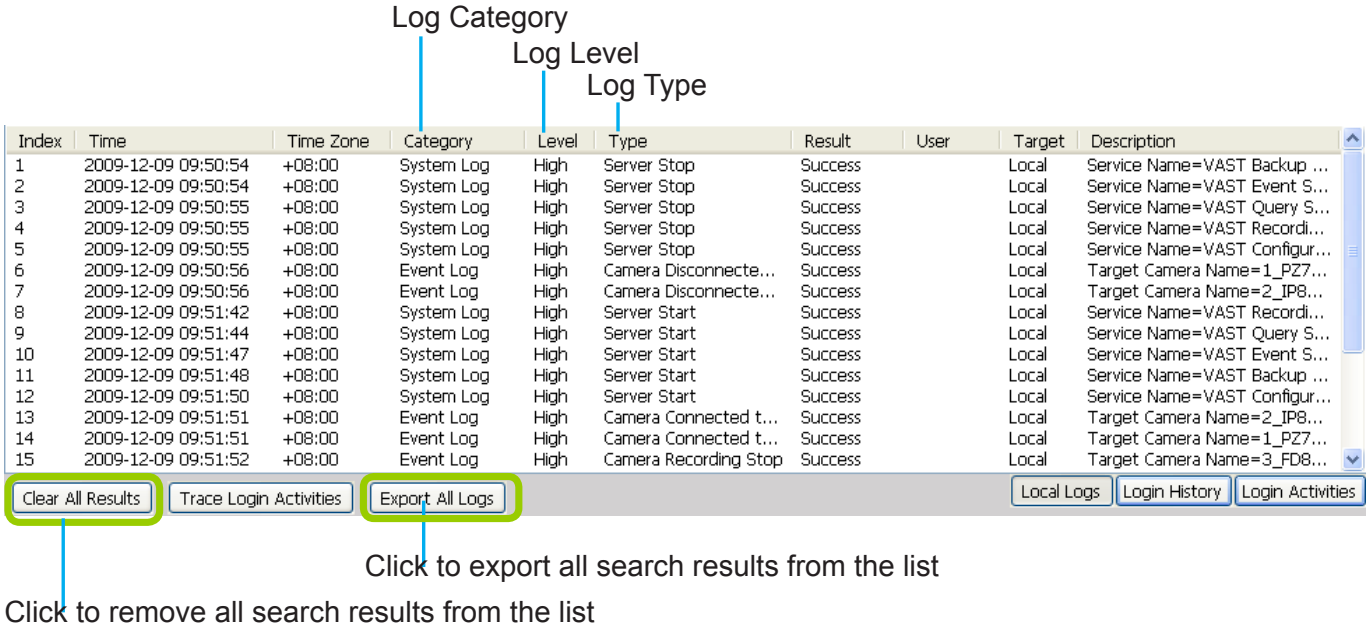
Select Log Category/Log Type/Log Level

The following table shows the breakdown of log category, level, and type. The search results will be different according to your selections.

Log Categories	Log Levels	Log Types
Operation Log	Normal	Login / Logout Insert User Update User Name Update User Password Update User Privilege Delete User Insert Station Update Station Information Update Station Name Delete Station Insert Camera Update Camera Information Delete Camera Set Recording Group Insert Recording Schedule / Update Recording Schedule / Delete Recording Schedule Insert Event Management / Update Event Management / Delete Event Management Insert Recording Group / Update Recording Group / Delete Recording Group Insert Recording Path / Update Recording Path / Delete Recording Path Insert Camera to the Recording Group Update Camera information in the Recording Group Delete Camera from the Recording Group Move Recording Path Move Camera to another Recording Group Insert Layout / Update Layout / Delete Layout Set Digital Output Update Scheduled Backup Update Server Port Set Proxy Server Set UPNP Set DDNS Server Create Directory / Rename Directory / Delete Directory Insert SMTP Server / Update SMTP Server / Delete SMTP Server Insert Network Storage Device / Update Network Storage Device / Delete Network Storage Device Set GSM Modem Set DI/DO Rename Set Relay Settings Update License Information Update Web Access Information Insert Matrix Recipient / Insert Matrix Recipient Information / Delete Matrix Recipient
	High	Manually Begin Recording Manually Stop Recording
	Low	Camera PTZ, Iris, Focus, Pan, Patrol Control Click on Image Select Preset Location
System Log	High	Server Start / Server Stop Trial Expired Key Dongle Lost Virtual Memory Low Network Lost

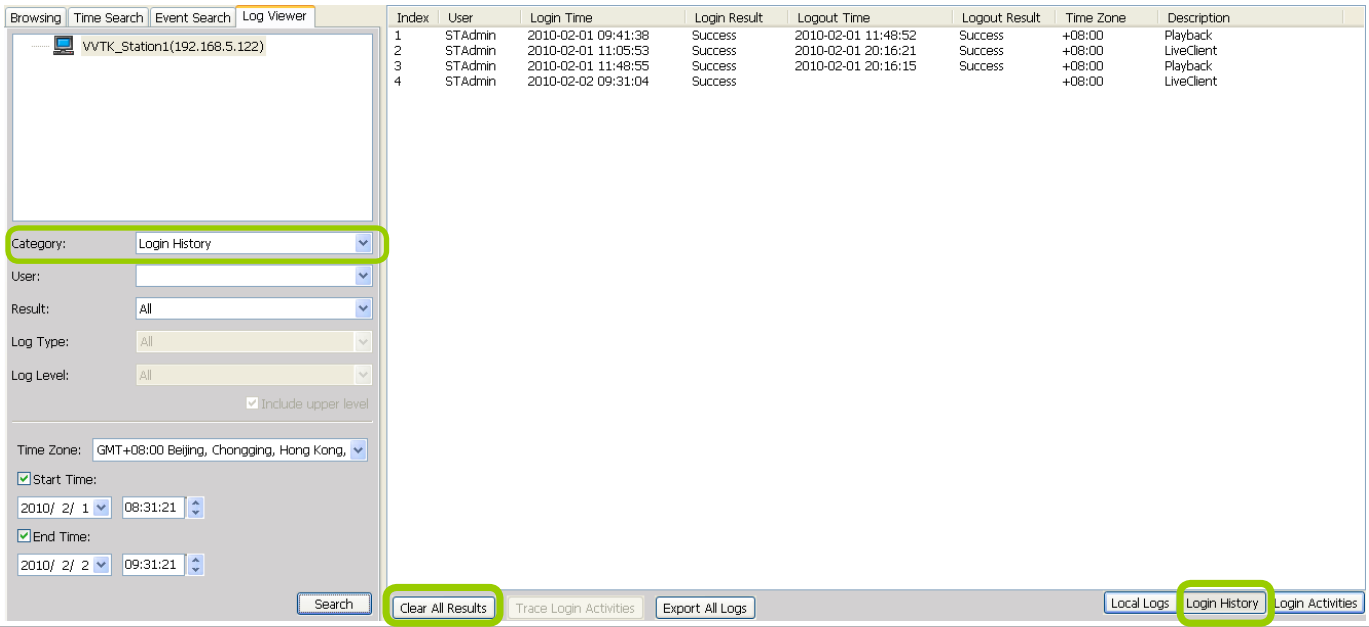
Log Categories	Log Levels	Log Types
Event Log	High	Camera Disconnected from the Server / Camera Connected to the Server Parent Station Connection Lost / Parent Station Connection Restore Sub-station Disconnected / Sub-station Connected Camera Recording Start / Camera Recording Stop Start Scheduled Backup / Stop Scheduled Backup Event Trigger

Search All Local Logs



Search Login History

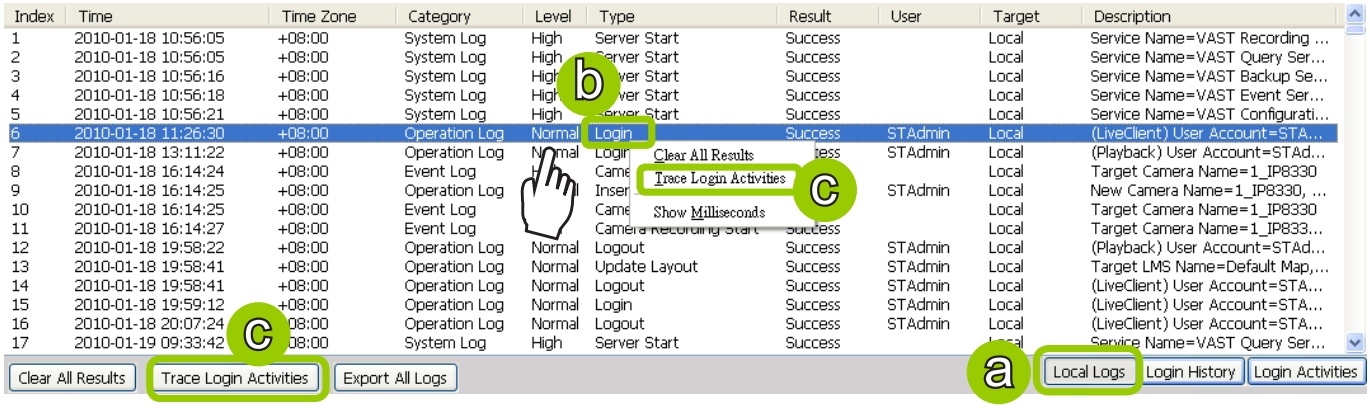
Select **Login History** from the log category field and click the **Search** button below, the search results, including all login logs, will be displayed on the Login History page.



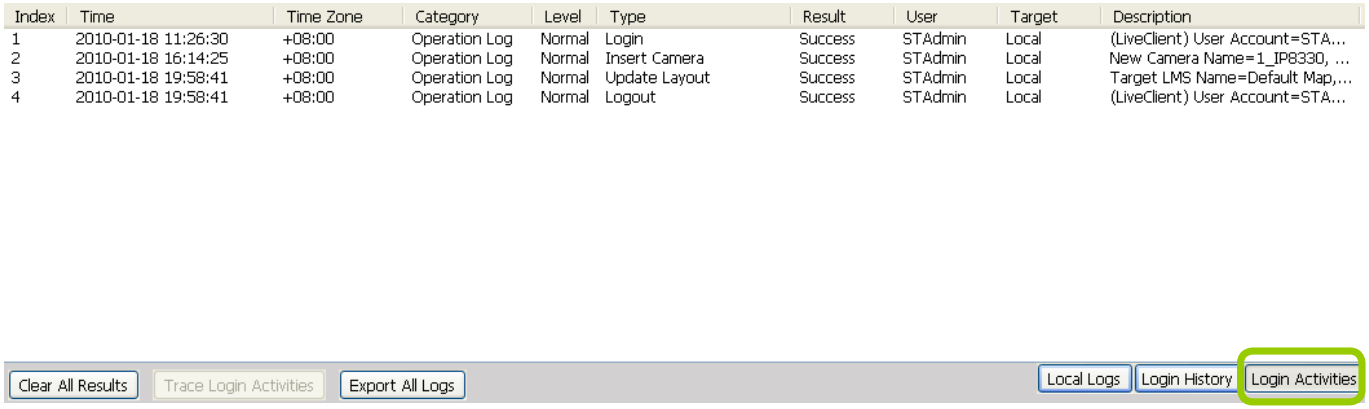
Search Login Activities

This function allows you to search the operations the user performed during the login period of time. You can search for login activities on the Local Logs or Login History page.

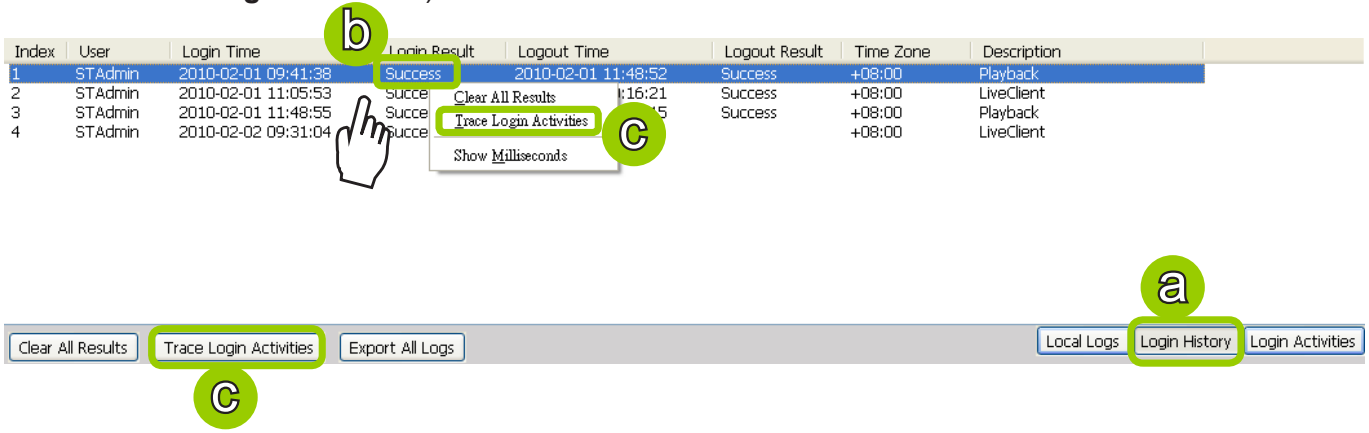
- Search Login Activities on the Local Logs page:
  a. Click on the **Local Logs** page.
  b. Select a login/logout option from the list.
  c. Click **Trace Login Activities** (or you can **right-click** the selected login/logout option on the list, then click **Trace Login Activities**).



d. The search results of the login activities will be displayed on the Login Activities page as shown below.



- Search Login Activities on the Login History page:
  a. Click on the **Login History** page.
  b. Select a login/logout option from the list.
  c. Click **Trace Login Activities** (or you can **right-click** the selected login/logout item on the list and click **Trace Login Activities**).



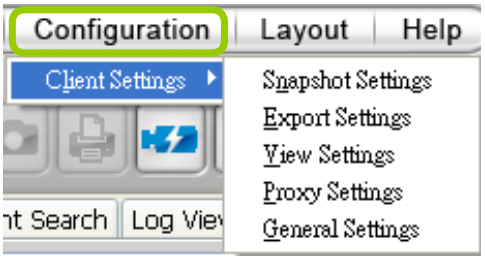
d. The search results of the login activities will be displayed on the Login Activities page as shown below.

Index	Time	Time Zone	Category	Level	Type	Result	User	Target	Description
1	2010-02-01 11:05:53	+08:00	Operation Log	Normal	Login	Success	STAdmin	Local	(LiveClient) User Account=STA...
2	2010-02-01 20:16:21	+08:00	Operation Log	Normal	Logout	Success	STAdmin	Local	(LiveClient) User Account=STA...

*When you select **All** in the **Log Level** field, the search results will include all log levels. If you select Low in the **Log Level** field and select **Including above level** as shown in the picture on the left below, the search results will include all levels of logs. But if you select **Normal** in the **Log Level** field and select **Including above level** as shown in the picture on the right below, the search results will only include **Normal-level** and **High-level** logs.*

How to Configure Client Settings

On Client Settings, you can configure Snapshot Settings, Export Settings, View Settings, Proxy Settings, and General Settings. It allows you to save snapshots and media files on the local computer.



Snapshot Settings

When you play a recorded video, the Playback utility also allows you to take snapshots. For detailed information about **Snapshot Settings**, please refer to page 122.

Export Settings

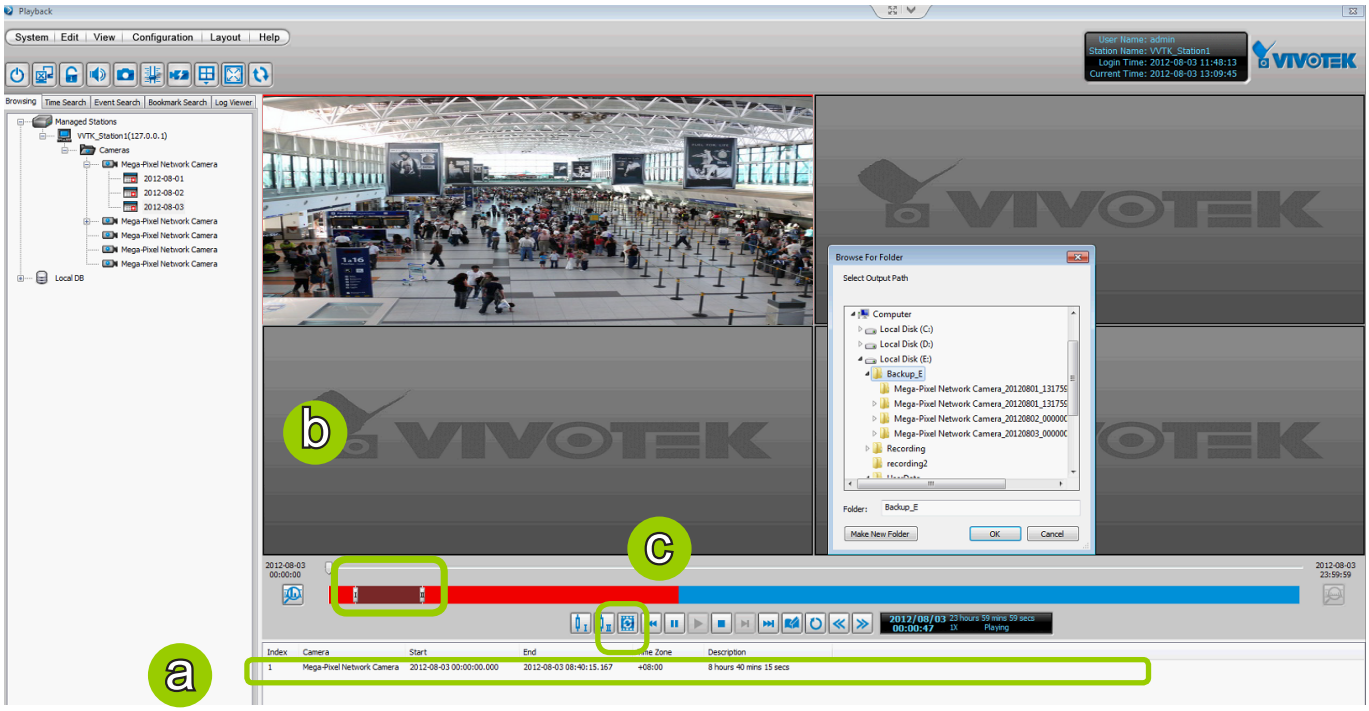
When you playback a recorded video, the server allows you to export part of the recorded video in EXE, 3GP, or AVI format to your local computer. Before exporting a media file, please set up Export Settings first. For detailed information about how to set up EXE, 3GP, and AVI **Export Settings**, please refer to Record Settings on page 124.

Export an EXE/3GP/AVI File

Please follow the steps below to convert part of an EXE/3GP/AVI file of recorded video:

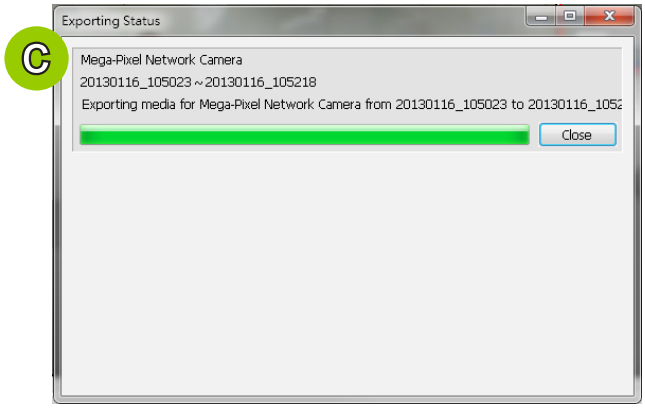
a. Playback a video clip from which you want to export a media file.

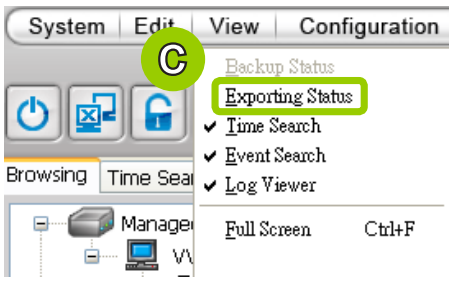
b. Set a period of time. Move the timeline slider bar to the desired start time and click Marker I . Move the timeline slider bar to the desired end time and click Marker II .

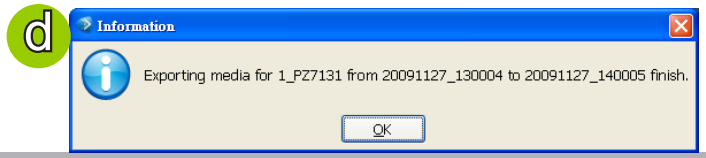


c. Click Export EXE/3GP/AVI , the server will start to export the data and popup a window showing the exporting status. If you close the status window, you can also open it again by clicking **View > Exporting Status**.

d. When the backup is complete, you will see an information dialog. The exported data will be restored in the preset storage folder on your local computer (C:\Program Files\VIVOTEK Inc\ST7501\Client\Playback\Export).







View Settings

This section allows you to set up the display mode of video cell. For detailed information about **View Settings**, please refer to page 130.

Proxy Settings

Please refer to page 139 for detailed illustration.

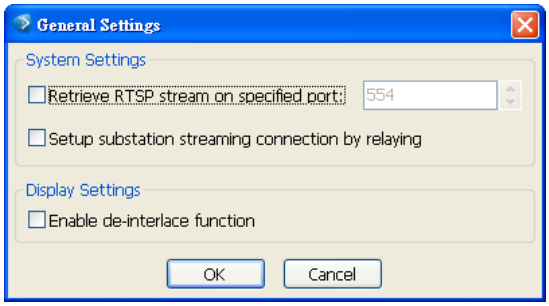
General Settings

System Settings

Please refer to page 132 for detailed information.

Display Settings

- Enable de-interlace function: Select this option if your connected device does not support de-interlace function. For example: VS7100.



How to Search for a Device on the Hierarchical Management Tree

The Playback also allows you to conveniently search for an inserted device. Please refer to page 140 for detailed information.

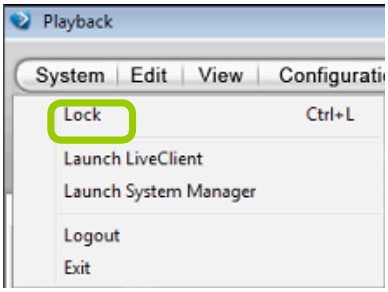
How to Print a Video Image

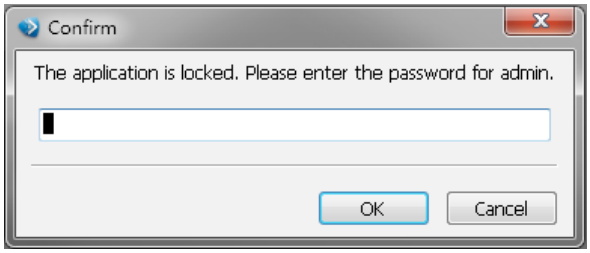
The Playback also allows you print out an image of live video. Please refer to page 141 for detailed information.

How to Lock Playback for Security Concerns

If you happen to be away from your computer, for security reasons, we suggest you lock the program. When Playback is locked, the user must enter the correct password to unlock and access the program again.

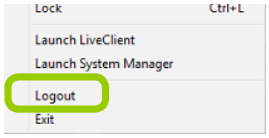
- To lock Playback, click **Unlock** on the quick access bar or click **System > Lock** on the system menu. The **Unlock** icon will then turn into **Lock**.
- To unlock Playback, click and enter the correct password in the popup window.

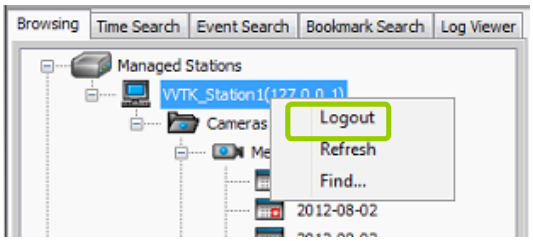


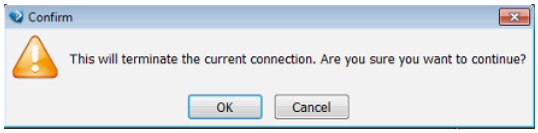


How to Log out from the Server

To log out from the current server, click the station and click **Logout** on the quick access bar or click **System > Logout** on the menu bar. You can also **right-click** the station and click **Logout**. A confirmation window will pop up. Click **OK** to confirm or **Cancel** to return to the Playback window.

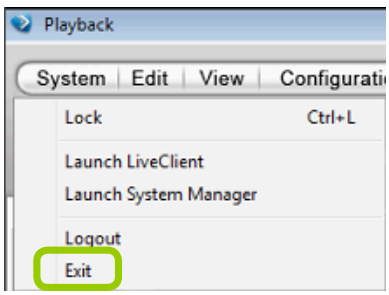


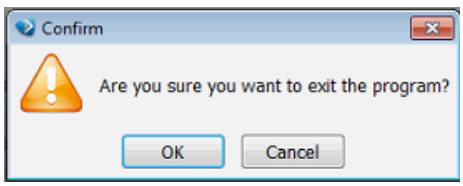




How to Exit Playback

To exit Playback, click **Exit** on the quick access bar or click **System > Exit** on the menu bar. A confirmation window will pop up. Click **OK** to confirm or **Cancel** to return to the Playback window. When you exit the program, your user account will be automatically logged out from the current server.





Import and Export Utility

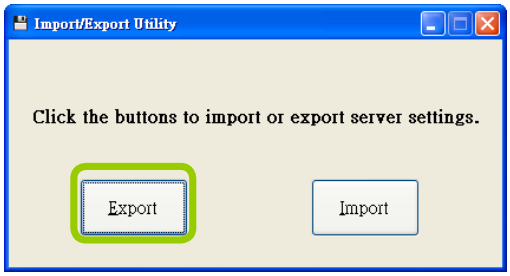
The software provides import and export utility for user to keep record of all server settings. You can use the export file to copy the configuration on another host.

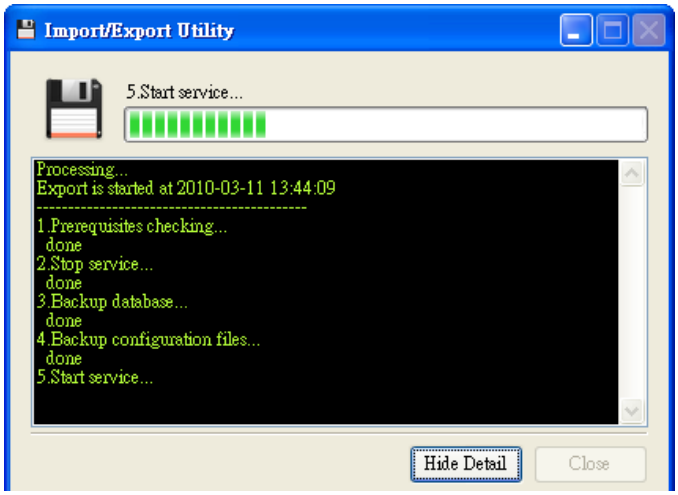
Export Utility

Please follow the steps below to export the server settings:

a. Under Microsoft Windows, choose "**Start > All Programs > VIVOTEK Inc > ST7501 > Tools > Import-export Utility.**"

b. The **Import/Export Utility** window will pop up. Click **Export** and select a target folder. The system will start to export a .bin file.



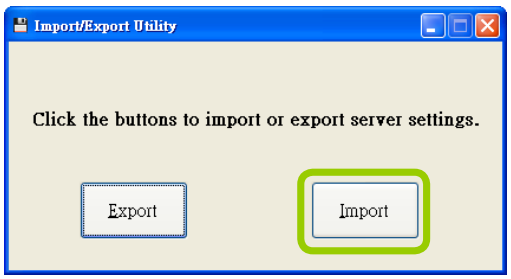


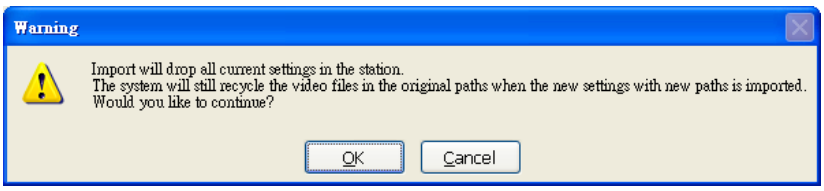
Import Utility

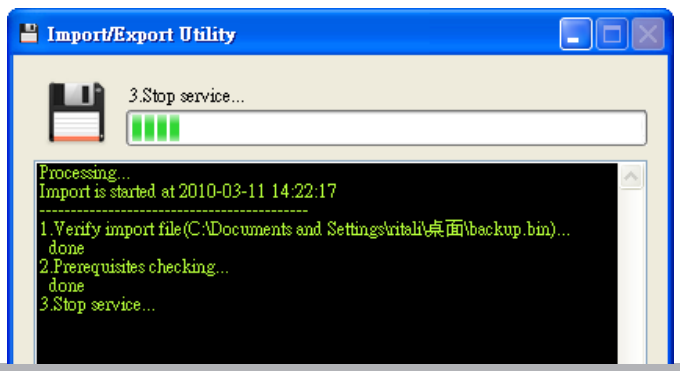
Please follow the steps below to import the server settings:

a. Under Microsoft Windows, choose "**Start > All Programs > VIVOTEK Inc > ST7501 > Tools > Import-export Utility.**"

b. The **Import/Export Utility** window will pop up. Click **Import** and select the export file. The system will start to import the file.



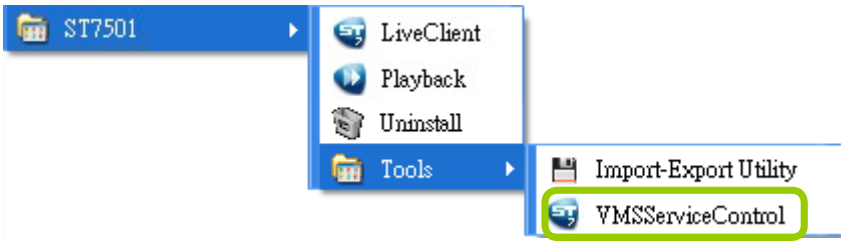




Service Control Tool

Service control tool is a utility for server control and for users to be aware of the Server status. It starts up as Windows OS starts.

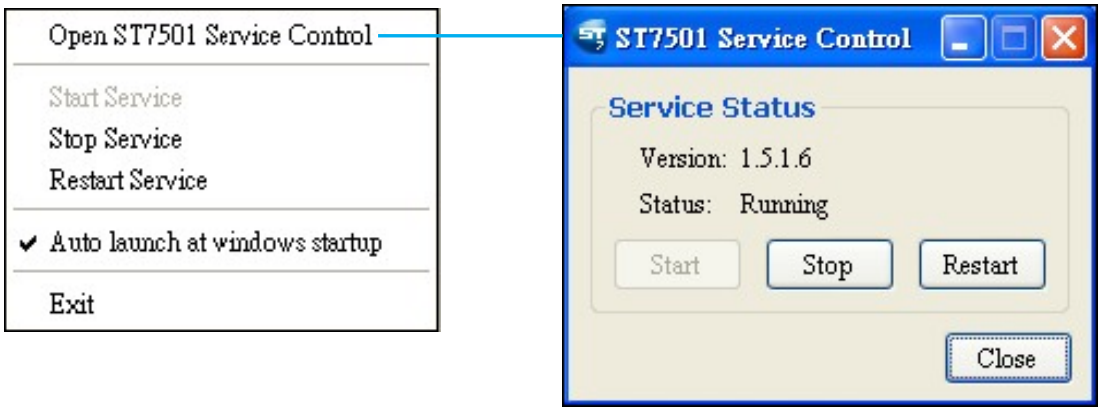
Under Microsoft Windows, choose "**Start > All Programs > VIVOTEK Inc > ST7501 > Tools > VMServiceControl.**"



You may also find it in the system tray icon of the tool bar, which indicates that the service is running:

It shows a disconnection icon when the service is stopped:

A menu for the service control tool will pop up when you **right-click** on the icon:



Here you can manually start, stop and restart the service.