Surveon®

Video Management Software

Version 2.4

User Guide

Release 1.5

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Chapter 1. Introduction

This document provides an overview of Server surveillance functionality, and details on how to operate and monitor a Server network using the Surveon Video Management Software. It is targeted at Server network administrators and security personnel tasked to monitor a surveillance area using the Server software.

1.1. Product Introduction

Surveon's Video Management Software (VMS) is a highly modular and powerful video and hardware management suite that incorporates Server recording, management, and video monitoring and playback functionalities to serve the core purposes of a video surveillance system.

Surveon VMS Modules:

Client Station	Software capable of accessing, configuring, and monitoring VMS servers. Serves as the default configuration point for NVR2000/3000 series.
Local Client Station	Local access software for monitoring, access and configuration of NVR500/1000, as well as standalone PCs with VMS installed.
VI Server	The Video Intelligence processing point for a VMS solution. May be co-located with the VMS server, or exist on a separate server/PC.
Local Domain	The interface between the VMS/VI Servers and any clients.
VMS Server	Combines video recording, archival and retrieval functionalities for individual servers/standalone PCs with VMS installed. Serves as the connection point for client stations.
CMS Server	Allows centralized control over multiple VMS Server points and connections from multiple clients.
CMS Client	Software capable of accessing multiple VMS Servers through the CMS Server

1.2. Requirements

Hardware Requirements

The hardware requirements for the client software are:

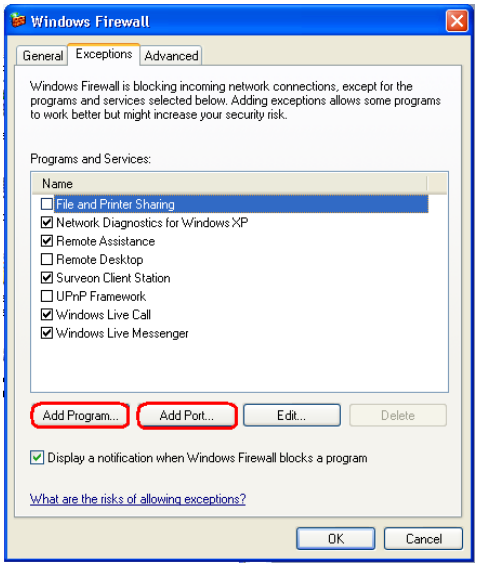
- CPU: Intel(R) Core(TM)2 Q9550 2.83 GHz or above
- RAM: 4GB or higher
- Operating system: Windows XP SP3/Vista/7(32 and 64)
- Display card: GeForce 9400 GT or above
- Monitor Resolution: 1280 x 1024 or greater recommended
- Ethernet Network Interface: 1000Mbit/s
- Hard Drive: 500GB SATA 7200RPM or Higher

Network Requirements

In order to preserve enough bandwidth for surveillance video, a surveillance network is presumed to be free of user/business traffic. Server software currently supports Class B and Class C type addresses. Currently the Server software only searches for Servers on the same subnet. Cameras should also reside on the same subnet.

Configuring Windows Firewall Exceptions

The Windows firewall will block incoming network connections, so the VMS should be added to the firewall exceptions list. The instructions below are for Windows XP, however the process is similar under Vista and Windows 7.



1. Open **Settings> Control Panel> Windows Firewall.**
2. Under the *Exceptions* tab, click **Add Program…**
3. Click browse and go to *Surveon Server* your install directory. (Default *C:\Program Files\Surveon*)
4. Select NVRService.exe
5. If you require DHCP services, repeat steps 3 and 4 and add dhcpsrv.exe
6. Click **OK** to save your settings.

Opening Ports

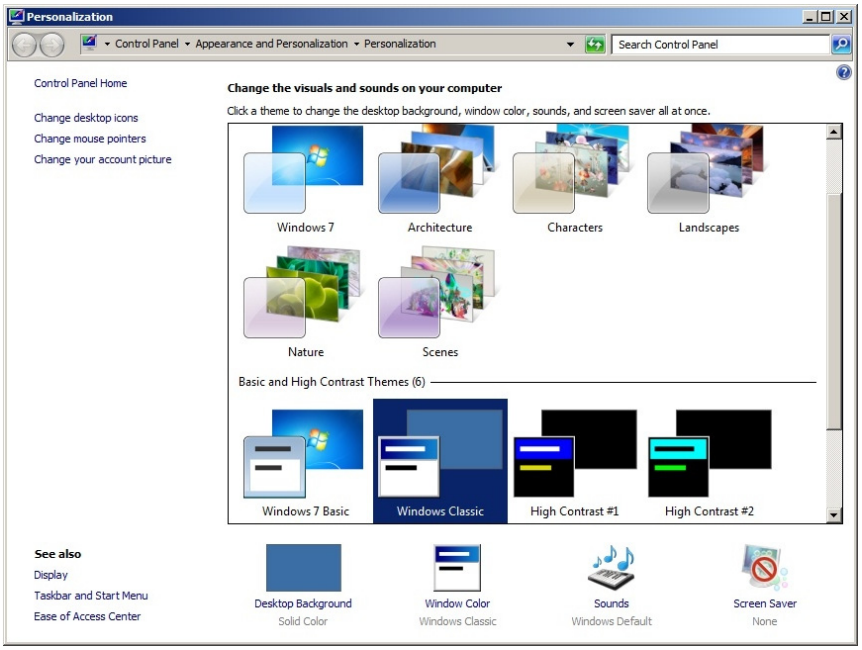
If access through a firewall in a local network is required, try opening the following ports: SMTP (25), HTTP (80), FTP (20, 21), OMNI (2809), HTTPS (443) and RTSP (554, 8554.).

Warnings / Precautions

If the Server and a VMS client reside on separate subnets, please set up gateway, VLAN, or cross-subnet routing to bridge surveillance traffic. Please consult with a network administrator for problems with network setups. A VMS client needs to be rebooted when network settings are changed.

Windows Vista/7 User Notes

Windows Vista and 7 users may experience problems with the video display/overlay when using certain themes. If you experience these problems, we recommend you change your theme to *Windows Classic* under **Control Panel>Appearance and Personalization> Personalization.**



In Windows Vista and Windows 7, User Account Control (UAC) is a security infrastructure that restricts application privileges. This feature must be disabled for the recording functionality of the VMS to work correctly. To disable UAC, first open a command prompt by selecting **All Programs> Accessories> Command Prompt.** At the command line, enter the following command:

```
C:\Windows\System32\cmd.exe /k %windir%\System32\reg.exe
ADD   HKLM\SOFTWARE\Microsoft\Windows\CurrentVersion\Policies\System
/v EnableLUA /t REG_DWORD /d 0 /f
```

To reenable UAC use the following command:

```
C:\Windows\System32\cmd.exe /k %windir%\System32\reg.exe
ADD KLM\SOFTWARE\Microsoft\Windows\CurrentVersion\Policies\System
/v EnableLUA /t REG_DWORD /d 1 /f
```

Common Terms

The following are common definitions, acronyms and abbreviations that will be used in this manual:

VMS: Video Management Software, software used to manage, view and playback video streams from capture devices.

VMS Server: A device that records video streams or transmits video streams to VMS Clients.

Domain: An identification label that defines a realm of administrative autonomy, authority, or control in a network.

DHCP: Dynamic Host Configuration Protocol, an auto configuration protocol for IP networks.

IP Camera: Surveillance cameras that transmit video information via standard TCP/IP network and cabling.

URL: Uniform Resource Locator - The global address of documents and other resources on the World Wide Web.

E-map: Electronic map - An E-map allows users or system integrators provide a layout drawing of the surveillance area, and place icons on it to indicate camera locations.

1.3. Quick Installation Guide

Install the VMS (VMS Professional/Enterprise/Trial)

1. Insert the client software CD-ROM. The CD should autorun. If it does not, open the CD manually and double-click **AutoRun.exe**. The menu below will be displayed.

2. Depending on the version you have, you may choose to install one or more of the following :

   - **Enterprise** – The enterprise version software package is bundled with a USB license key for 4, 8, 16, or 32 cameras. Customized camera configurations are also available, and third-party cameras are supported.

   - **Trial** – The trial software package is a 30 day test version of the VMS Enterprise, with support for up to 4 Surveon and/or third-party cameras.

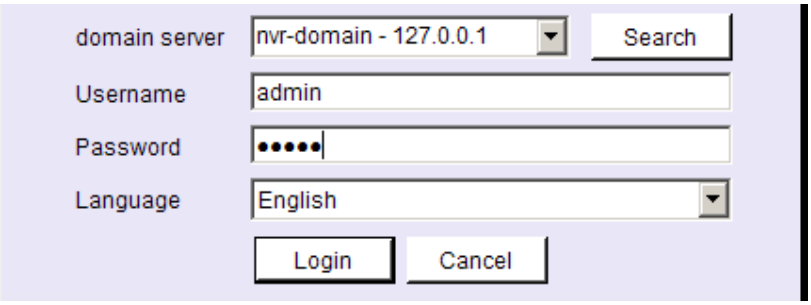
   - **Professional** – The professional version of our VMS comes bundled with each Surveon camera, and supports up to 16 Surveon cameras.

3. Once you have made your selection, installation will begin, and a welcome screen will display. Follow installation prompts to complete installation.

Start the Client Software

1. In NVR500 and NVR1000 systems, the client should start once the system is booted. In all other systems, double click the **StartClient** link on your desktop to start the client

2. The software will prompt for the following information:



- **Domain Server** – This dropdown specifies a Server within the domain that you want to log into. (**Leave Default)**
- **Username** – The username for the domain. **Default is always *admin*.**
- **Password** – The password for the domain. **Default password is *admin*.**
- **Language -** The default interface language to be used. Choices currently include: English, Chinese (Traditional and Simplified), Spanish, German, Portuguese and French.

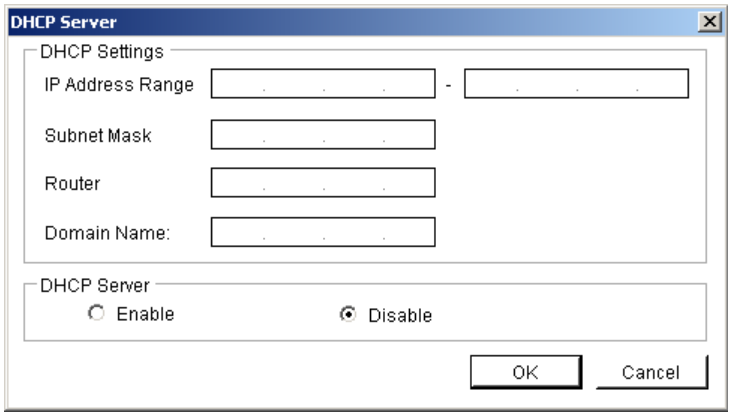
Click **Login** when the forms have been filled out to login and start the VMS client.

Configure DHCP Services

The VMS has built in DHCP server functionality. Although this function is disabled by factory default, it should be turned on in the event that there is no DHCP service available, such as in simple-switch based setups. When enabled, the VMS will assume DHCP Server duties and assign addresses within the range specified.

Note: You may skip this step if you have separate DHCP service. Most routing devices will have DHCP capabilities.

1. Right-click the VMS and select **Configurations>DHCP Server** option to bring up the *DHCP Server* dialog box.



2. Fill in the following information:

   - **IP Address Range -** The range of addresses to be assigned. *We recommend 192.168.88.11-192.168.88.250.*
   - **Subnet Mask** – *255.255.255.0 recommended*
   - **Router** – The router IP, leave blank if not applicable.
   - **Domain Name** – The DNS IP, leave blank if not applicable.

3. Click the **Enable** button and then click **OK** to start the service.

Note: DHCP service may take a few minutes to begin.

Attach Cameras to Network

Once a DHCP service has been configured for the network, attach the cameras into the network and start the cameras, and wait for them to start. Surveon cameras already attached to the network and started will require a hard restart in order to obtain a new IP address.

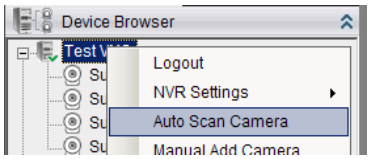
Cameras should be in the same subnet as the VMS server.

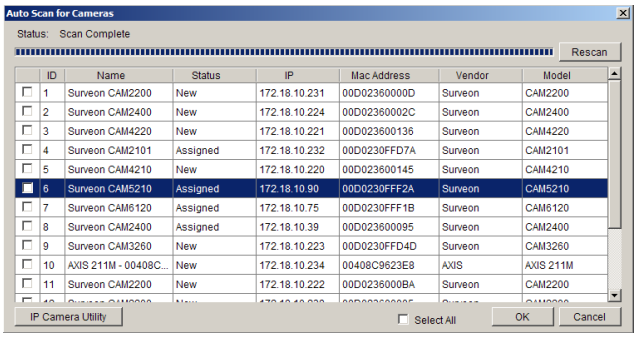
Add IP Cameras

There are two methods to add cameras. Recording starts immediately once the camera(s) is added to the VMS server. Default recording method is always on.

Scanning for Cameras

3. Right-click the Server entry and select **Auto Scan Camera**. The system will respond by beginning an automatic scan. Once the scan is complete, the cameras that can be added to the Server will be displayed.



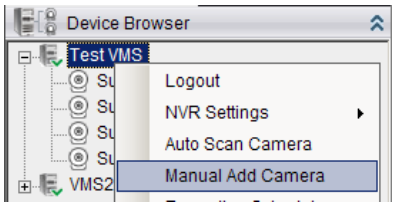


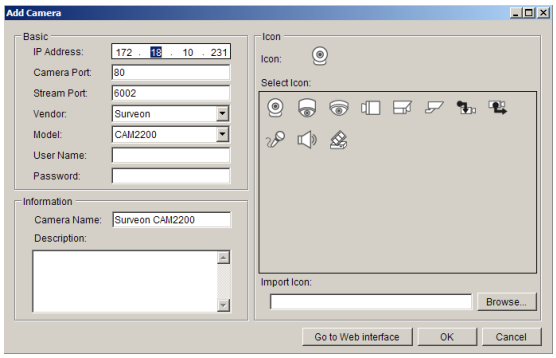
4. To add a camera to the system, check the box by the camera entry. You may also check the **Select All** box at the bottom of the window to select all the cameras found.

5. Click **OK** to add the selected cameras to the Server.

Manually Adding Cameras

1. Right-click the Server entry and select **Manual Add Camera**.



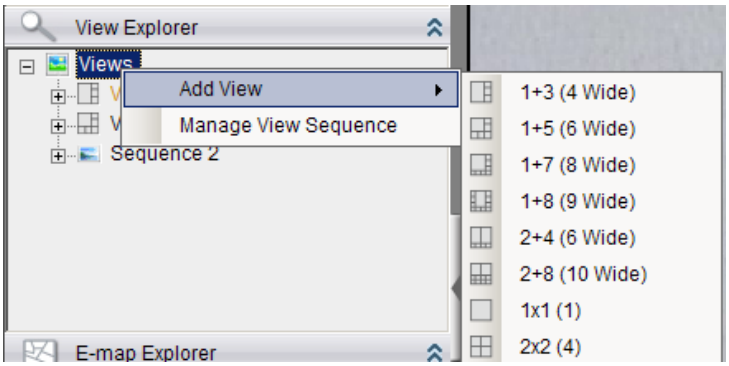


2. In the window fill out the information, the following fields are required:
   - **IP Address**
   - **Camera Port** - This value will automatically populate with the default value for the **Vendor** and **Model** selected.
   - **Vendor**
   - **Model**
   - **Stream Port** - This value will automatically populate with the default value for the **Vendor** and **Model** selected.
   - **User Name** – Camera username. This value is not always required.
   - **Password** – Camera Password. This value is not always required.
3. Finally, once basic camera information is filled in click **OK** to add the camera.

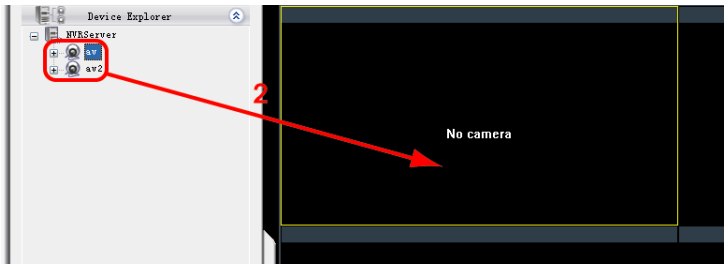
Setup Live View

An important part of monitoring your surveillance network is to have the right views so that you will have the optimum viewing angle to discern a situation. To add a customized view to the VMS client:

1. Right click on **Views>Add** in the *View Explorer* window, and choose the type of view that you wish to add. The software responds by placing a blank template in the main viewing area.



2. From the *Device Browser* window, you can click and drag the entries for individual cameras into the separate frames. The camera output will be displayed in the frame.



Dragging a camera into a frame that already has a camera assigned will cause the frame to be reassigned to the new camera.

Note: Depending on your connection and computer speed, it may take a moment for the image to refresh after dragging the camera into the view window. During this time the frame may still display *No Camera* or *Failed to connect*. If this problem persists, however, there may be a problem with your connection or hardware.

Set Recording Schedule

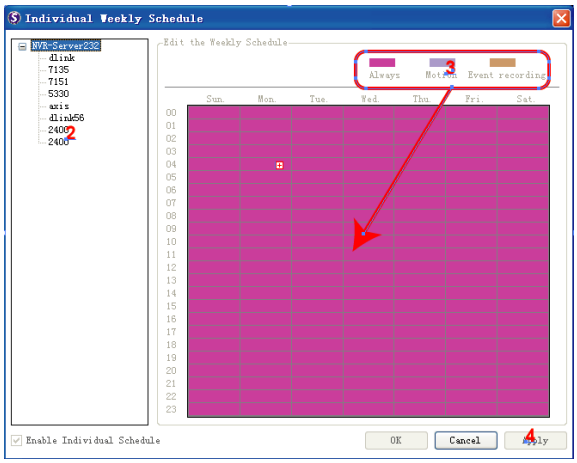
A global Schedule applies to all cameras, while individual schedules are for each camera. Individual schedules take precedence over global schedules.

Weekly Scheduling

1. Right-Click the VMS entry and choose *Schedule Manger> Global Settings* or *Schedule Manager>Individual Settings* to bring up the Weekly Schedule popup.

2. If setting individual schedule and more than one camera is configured, choose the camera you wish to set from the list.

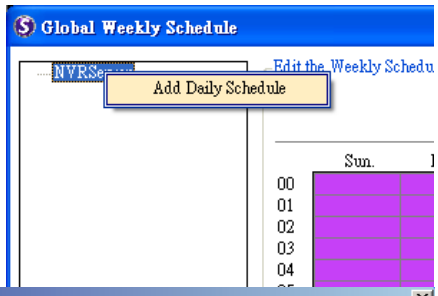
3. The schedule grid corresponds to every hour in the week. Click on one of the three recording methods and then click on the grid area to "paint in" the method for the corresponding hour.

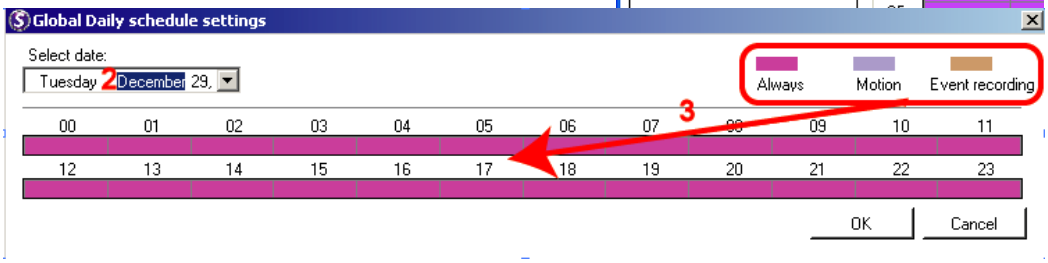


4. Click the **Apply** button to apply the schedule and **OK** to exit the dialog.

Daily Scheduling

1. Under the *weekly schedule* right-click the NVR (for global schedule) or Camera (for individual schedule) entry and choose **add Daily Schedule**.





2. Click the **Select Date** selection box and choose the date that you want to schedule.

3. Click on one of the methods and then click on the grid area to "paint in" the method for the corresponding hour.

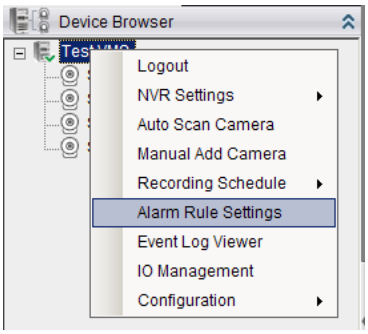
4. Click **Ok** to apply the changes.

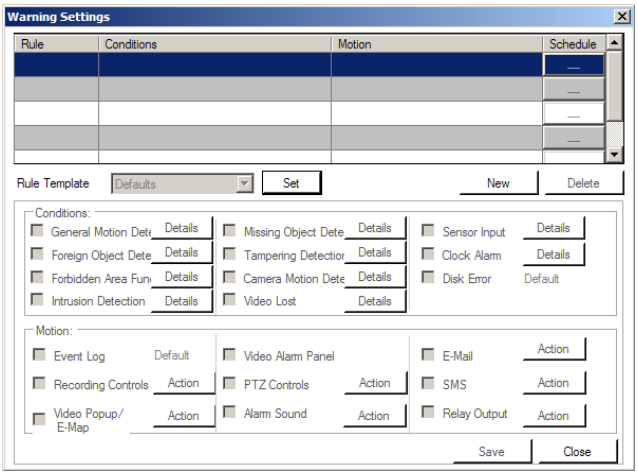
Add Alarm Rules

Alarm rules can be created using the following elements:

- **Rule**: A short description. For example, "east –fence intrusion detection" or "front entrance access control."
- **Condition**: Specifies triggering conditions such as Motion/Video loss/Sensor input/Clock Alarm, etc.
- **Action**: Specifies the action to take when the alarm is triggered.
- **Schedule**: Allows the user to schedule the application of specific Alarm rules. This is useful in cases such as applying rules to non-office hours.

1. Right-click the NVR entry and select the **Alarm Rule Settings** option under VMS node.





2. Click the **New** button.
3. Enter name for the new rule and click **OK** to create the rule.
4. Choose conditions for the Alarm. Detailed settings can be changed by clicking **Details.**
5. Select actions for the alarm. Detailed settings for actions can be set by clicking **Action.**
6. Click the …. button in the alarm field to set up a schedule for the rule. Default scheduling is record always on.
7. Click the **Save** button to save the rule.

Chapter 2. Basic System Setup

This section serves as a guide through installing the Surveon VMS software, as well as basic Server and IP camera installation and maintenance procedures.

2.1. Basic Functions

Installing VMS (VMS Professional/Enterprise/Trial)

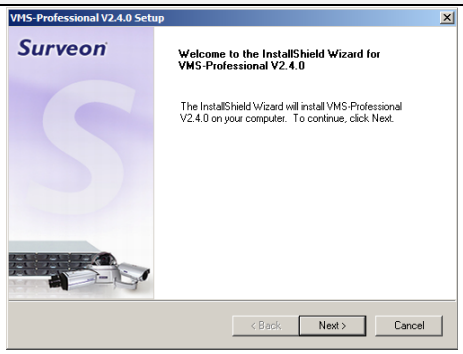
3. Insert the client software CD-ROM. The CD should autorun. If it does not, open the CD manually and double-click **AutoRun.exe**. The menu below will be displayed.

4. Depending on the version you have, you may choose to install one or more of the following :

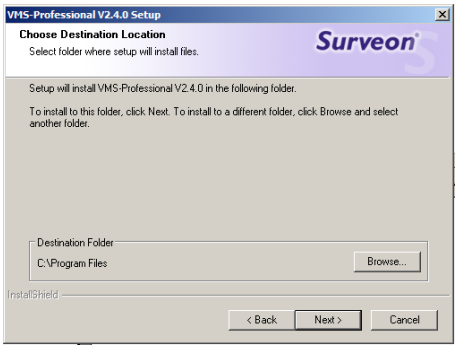
   - **Enterprise** – The enterprise version software package is bundled with a USB license key for 4, 8, 16, or 32 cameras. Customized camera configurations are also available, and third-party cameras are supported.
   - **Trial** – The trial software package is a 30 day test version of the VMS Enterprise, with support for up to 16 Surveon and/or third-party cameras.
   - **Professional** – The professional version of our VMS comes bundled with each Surveon camera, and supports up to 16 Surveon cameras.
   - **Remote Client** – The remote client can be installed on individual PCs to connect to existing VMS servers.

5. Once you have made your selection, installation will begin, and a welcome screen will display. Click **Next** to proceed.

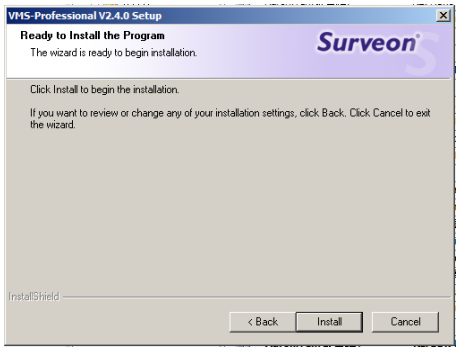
Note: For illustrative purposes this section will show installation screens for VMS Professional. Installation for VMS Enterprise and Trial may differ slightly in wording, but installation flow is consistent across the versions.

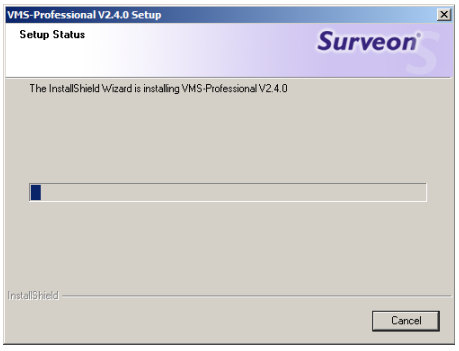


6. The installation folder screen will appear. You may leave this folder as default, or click the **Browse** button to choose a different location for installation. Click **Next** when you are satisfied with your selection.

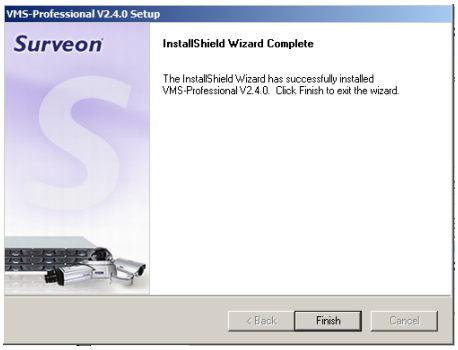


7. The confirmation screen will display. Click **Install**. A progress bar will display, indicating installation progress.

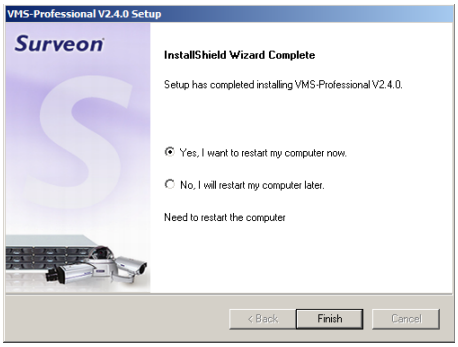




8. When installation is finished, an informational screen will display. Click **Finish** to complete installation.

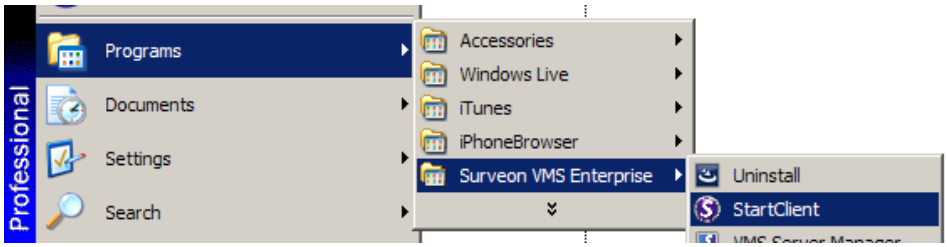


9. The system will prompt for a restart. A restart is required before the VMS will function correctly. You may choose to immediately automatically restart your computer, or restart your computer later. Clicking **Finish** will apply your choice.

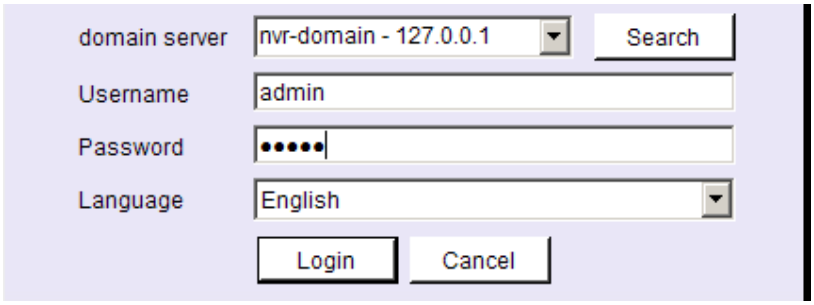


Starting the Client Software

10. To start the software, click to **Programs>Surveon VMS Enterprise>StartClient** under the Windows **Start** menu.



11. The software will prompt for the following information:



- **Domain Server** – This dropdown specifies a Server within the domain that you want to log into.
- **Username** – The username for the domain. **Default is always *admin*.**
- **Password** – The password for the domain. **Default password is *admin*.**
- **Language** - The default interface language to be used. Choices currently include: English, Chinese (Traditional and Simplified), Spanish, German, Portuguese and French.

Click **Login** when the forms have been filled out to login and start the VMS client.

Logging Out or Exiting the VMS

The client can be logged out of all the Server Servers configured on the system by pressing the **Logout** button on the upper right hand corner in the GUI. Logging out of individual servers can be achieved by double clicking the server entry and clicking the **Yes** button on the confirmation screen.

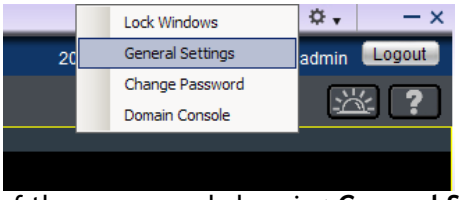
Closing the window using the **X** button on the top right corner will exit the VMS Client. A confirmation screen will appear, click **Yes** to exit the system.

Changing the User Language

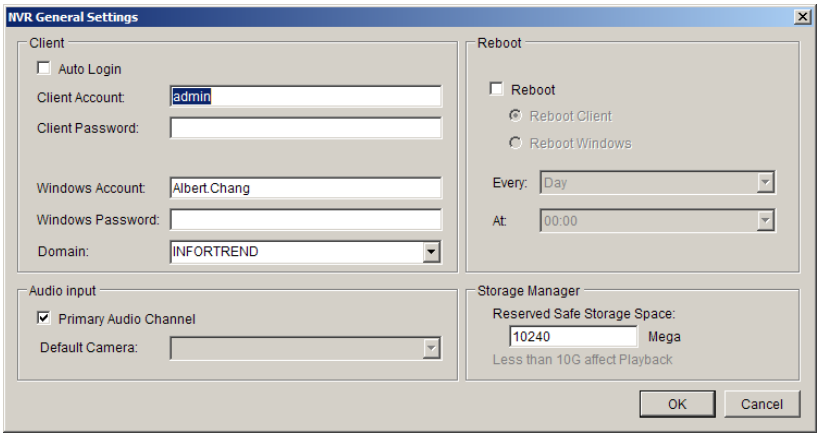
The default language can be changed by first logging out of the domain, changing the language in the **Language** dropdown, and logging in again.

2.2. Client General Settings

The client general settings can be accessed by right-clicking the gear icon at



the top right corner of the screen and choosing **General Settings**.



Client Auto-Login

The client can be setup to automatically login after a crash or on startup.

To configure the auto-login function:

1. From the client general settings popup, check the **Auto Login** box.
2. If you want to automatically login to the client, enter the following information:
   - **Client Account** – The client account name.
   - **Client Password** – The client password.
3. If you want to automatically log into windows after a restart enter the following information:
   - **Windows Account** – The Windows account name.
   - **Windows Password** – The Windows password.
   - **Domain** – The login domain.

Scheduling Reboot

The client can be setup to automatically restart the client or the computer.

To configure the auto-reboot function:

1. From the client general settings popup, check the **Reboot** box.
2. Select either **Reboot Client** to schedule a client restart, or **Reboot Windows** to schedule a windows restart.
3. From the **Every** dropdown, choose the day that you want to schedule restarts, or you may choose to restart every day.
4. From the **At** dropdown, choose the scheduled restart time.

Note: Auto-Login should be configured with Auto-restart or you will lose functionality until a user can be logged-in.

Selecting Audio Channel

There are two choices available for audio channel selection. These two are selected using the **Primary Audio Channel** check box. If checked, the client will automatically use the audio feed from the selected/highlighted camera during live view.

Unchecking the box will allow you to select a camera from the **Default Camera** drop-down. This camera will provide the audio feed no matter which channel is selected in live-view.

Client Storage

During playback, the client will download a certain amount of video locally for use as a video buffer. The size of this buffer file can be specified in the **Reserved Safe Storage** field.

Note: Specifying less than 10GB of storage may affect playback.

2.3. Upgrading Your Client

In certain circumstances it may be necessary to upgrade or change the computer that the remote client is running on. To perform this operation without losing your configuration and video files:

1. Ensure that the new client hard disk capacity is greater than or equal to the capacity of the current client hard drive. The partition structure should be the consistent with the original PC, and each partition should be greater than or equal to the size of the original client's partition.
2. The new operating system should match the operating system on the original client.
3. Export the server configuration files and account records.
4. Make a list of the current set of storage paths.
5. Replicate these storage folders in the new client system.
6. Transfer all the stored video files to the new client

Chapter 3. Server Setup

This section deals with Server setup procedures.

3.1. Server Basic Functions

When you are logged into a domain, the Servers configured on the domain will appear in the *Device Browser* area. The icon by the Server shows the current connection state of the Server.

Server Icon Meanings

Icon	Meaning
	The Server cannot be reached
	The Server can be reached, but the user is not logged in
	The user is logged in to the Server

Logging Into a Server

To log into a server:

1. Right-click the server entry in the *Device Browser* window to bring up the options popup.
2. Highlight and click the **Login** option. As long as the credentials supplied at the beginning of the session are correct, you will be automatically logged in.

Logging Out of a Server

To log out of a server:

1. Right-click the server entry in the *Device Browser* window to bring up the options popup.
2. Highlight and click the **Logout** option to bring up the logout dialog box.
3. Press the **Yes** button to logout.

Note: Logging out of the domain server will cause the client to logout completely.

Renaming a Server

You must be connected to a server as an admin to rename it. To rename a Server:

1. Right-click the server entry in the *Device Browser* window to bring up the options popup.
2. Highlight and click the **Configuration>Rename** option.
3. Type the new name in the box that appears.

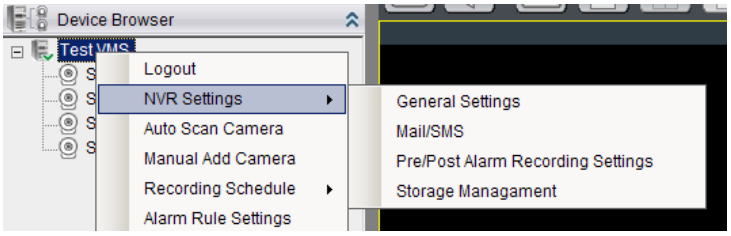
Viewing Server and Client Information

To view the server and client information,

4. Right-click the server entry in the *Device Browser* window to bring up the options popup.
5. Highlight and click the **Configuration>About** option to bring up the *About* dialog box.
6. Click **OK** when finished viewing.

3.2. Server Settings

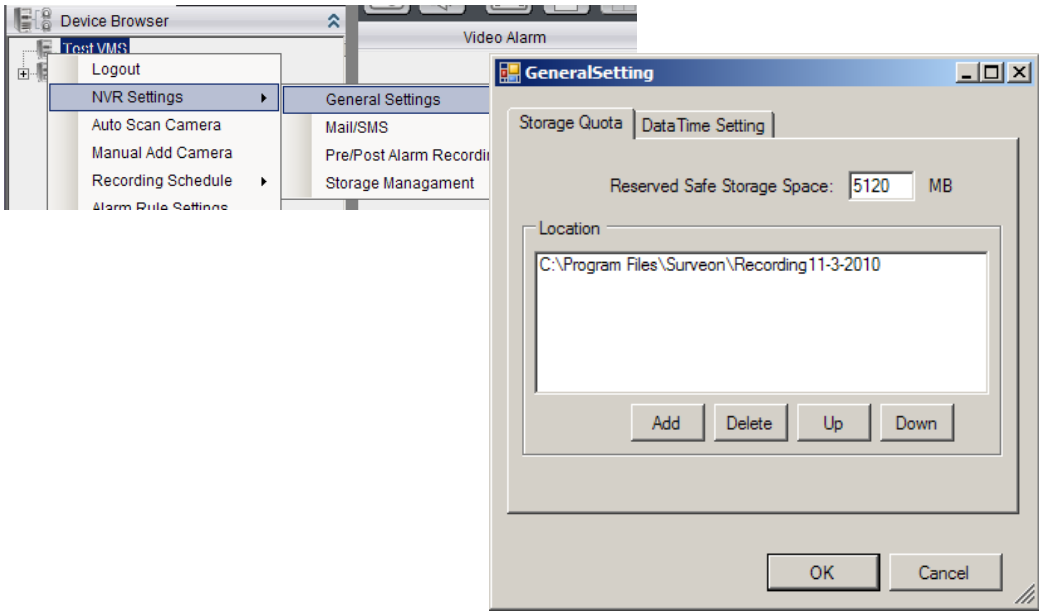
The following sections deal with Server settings that can be configured under the *Server Settings* menu. These include Server General Settings, Mail/SMS Settings, Pre/Post Alarm Recording Settings, and Storage Management Settings.



Server General Settings

Server general setup procedures involve configuring both storage and server time settings. To perform Server general setup:

1. Right-click the Server entry in the *Device Browser* highlight and click the **Server Settings>General Settings** option. A tabbed window will appear providing the following configuration tabs: *Storage Quota*, and *Date and Time Settings*. The window starts with the *Storage Quota* tab.



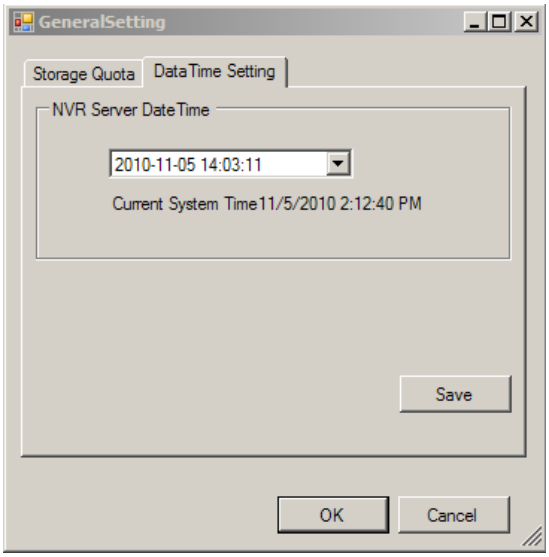
2. In the **Reserved Safe Storage Space** field enter the amount of space, in Megabytes, that will be designated as a reserve at a location.

3. The *Location* box contains a list of the storage locations. The server will store video at the first location until only the **Reserved Safe Storage Space** remains. It will then jump to the next location on the list. The following actions can be performed. Click the *Date and Time Settings* tab when finished.

   - To add a location, click the **Add** button. A dialog will appear, allowing you to choose another location. Select the location, and click **OK** to add the location to the location list.
   - You can delete locations by selecting them and clicking the **Delete** button. At least one location must be configured.
   - You may move the locations up and down the list using the **Up** and **Down** buttons, to change the storage priorities.

Note: The server checks available storage space by every 10 minutes. It is important that the reserved storage space be able to hold 10 minutes of video footage from the cameras within your Server network.

4. To set the server time click on the number you wish to change and enter a value. Click **Save** to preserve the setting. The default time is set according to the real-time clock on server.

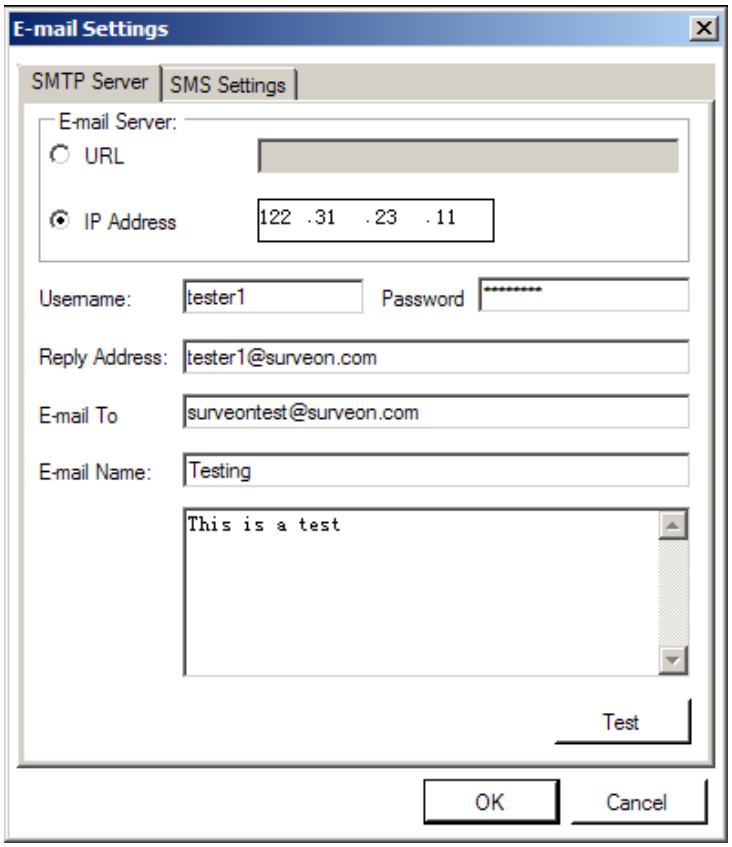


5. Click **OK** finish the configuration.

Mail/SMS Notification Setup

To perform Mail and SMS notification setup:

1. Right-click the Server entry in the *Device Browser* highlight and click the **Server Settings> Mail/SMS** option. A tabbed window will appear prompt providing the following configuration tabs: *SMTP Server* and *SMS Settings*. The window starts with the *SMTP Server* tab displayed.



2. In the *SMTP Server* tab, under the *Mail Server* heading, you may either enter the URL (such as smtp.abc.com) or IP address of the SMTP server that the Server will use to deliver E-mail notifications. The SMTP server configured here must support Unicode Transformation Format-8 (UTF-8) encoding.

3. Enter the user name for the Server email account in the **Username** field.

4. Enter the password for the Server email account in the **Password** field.

5. Enter a valid E-mail address in the **Reply Address** field. This address will be the default sender listed in E-mails sent from the Server.

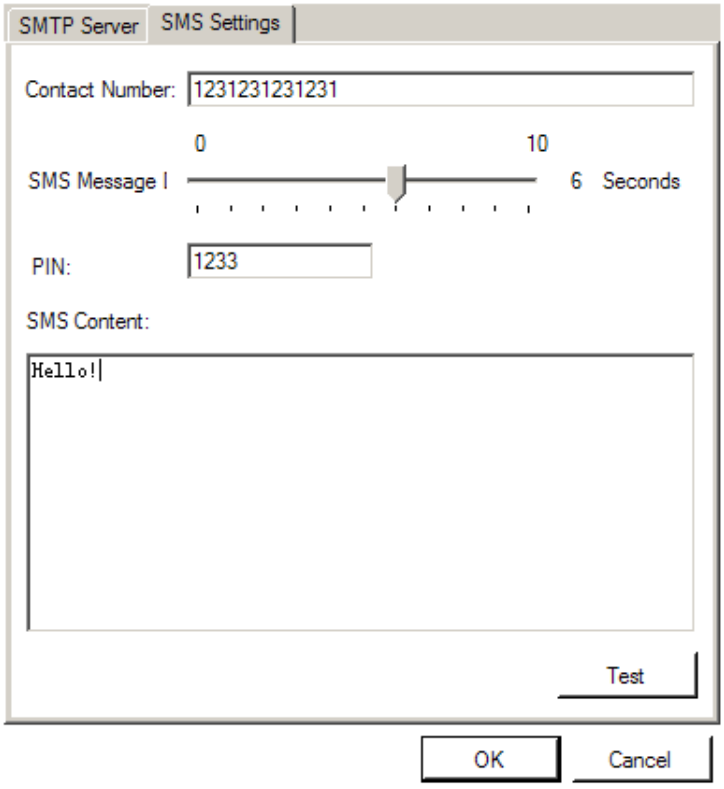
6. Enter one or more E-mail addresses in the **Recipients**: field. These address(es) will receive notifications from the Server. Multiple addresses can be entered by separating individual addresses with semi -colons ";".

7. Enter the subject of your notification E-mails, e.g., Server-xxxsite1notification in the **E- Mail Title:e** field.

8. Enter a short message in the large field to describe the Server or a surveillance network.

9. **(Optional)** Click **Test** to send a test message to the E-mail addresses listed.

10. Click the *SMS Settings* tab to continue.



Drivers for supported GSM/GPRS modems have already been installed on the server. Currently, only the WaveCOM-M1206B is supported. Use COM1 on the Server to connect to a GSM modem.

11. In the **Contact Number** field, enter the phone numbers that will receive SMS notifications. Be sure to include the area code, e.g., "86", in front of phone numbers. Use commas, "," to separate individual phone numbers.

12. Use the slider bar to select a delay between the occurrence of an event and SMS message delivery.

13. **(Optional)** If a SIM PIN is required, enter the PIN code in the **PIN** field. Note that applying incorrect PIN code may disable your SIM card.

To change the PIN code, remove the SIM card from your GSM modem. Use a cell phone to change the PIN code and then re -install SIM card into the GSM modem. Changing PIN codes is not recommended because a configuration failure may disable your SIM card.

14. In the **SMS Content** field, type a simple description to include in the outgoing SMS messages

15. **(Optional)** Click **Test** to send a test message to the phone numbers listed.

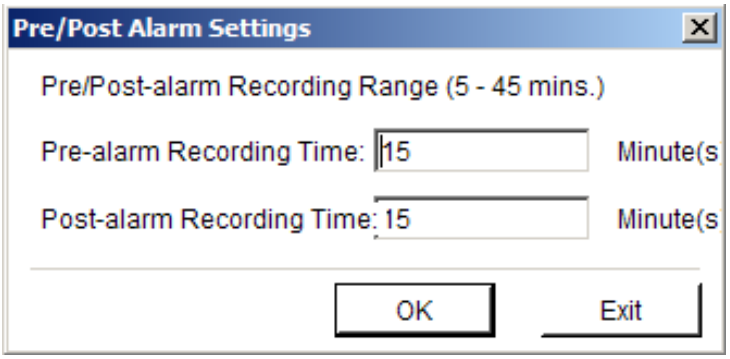
16. Click the **Apply** button to apply the changes.

17. Click the **OK** button to exit Mail/SMS settings.

Pre/Post Alarm Recording Settings

Video streams are constantly processed and cached in memory. The Server can trace back and preserve video/images from several minutes before and after the occurrence of an alarm.

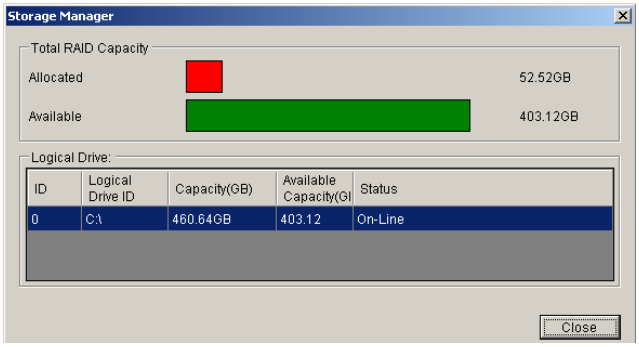
To configure pre/post-alarm recording times, highlight and click the **Pre/Post Alarm Recording Settings** option under **Server Settings**. The following pop-up window will appear:



In each of the boxes enter values for the Pre and Post-Alarm Recording times. from 5 to 45 minutes (default is 45 minutes). Click the **OK** button to finish the process.

Storage Management

Currently storage management only provides information on the drives configured in your Server. To access this information, highlight and click the **Storage Management** option under **Server Settings**.



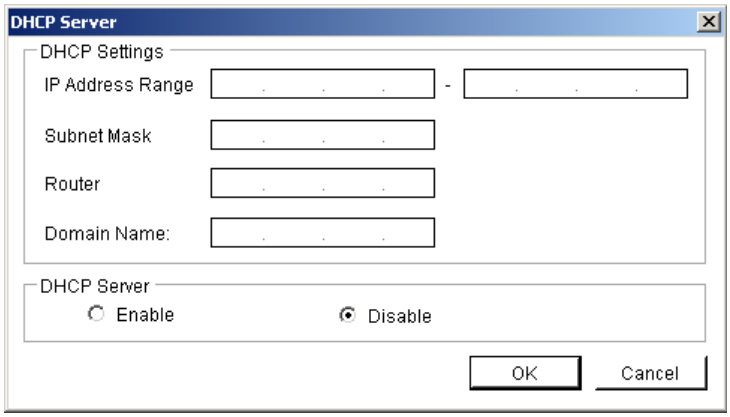
The window will list all available Logical Drives, as well as their size, free space, and status. Clicking on the drive will display both the allocated and remaining space on the drive.

Configuring DHCP Services

The VMS has built in DHCP server functionality. Although this function is disabled by factory default, it should be turned on in the event that there is no DHCP service available. When enabled, the VMS will assume DHCP Server duties and assign addresses within the range specified.

You may skip this step if you have separate DHCP service.

1. Right-click the VMS node and select **Configurations>DHCP Server** option to bring up the *DHCP Server* dialog box.



2. Fill in the following information:

   - **IP Address Range** - The range of addresses to be assigned. The first IP address should be lower than the second IP address.
   - **Subnet Mask**
   - **Router** – The router IP
   - **Domain Name** – The DNS IP

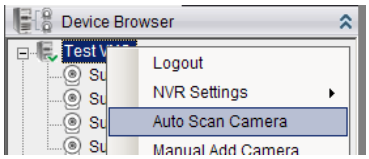
3. Click the **Enable** button and then click **OK** to start the service.

3.3. Adding Cameras

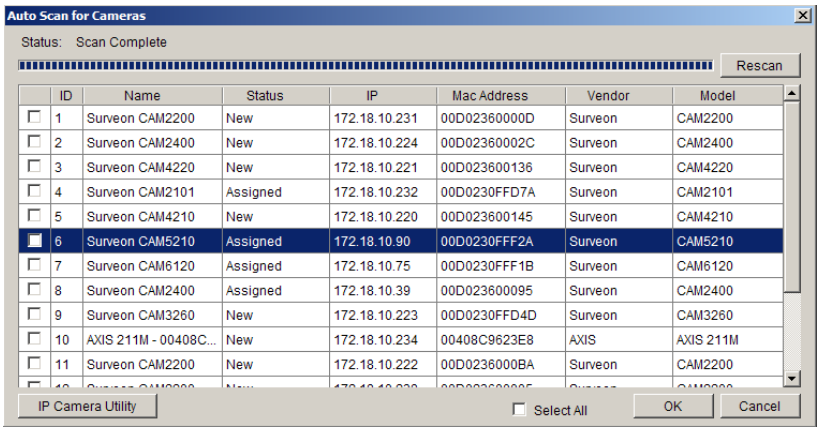
Cameras can be added to the Server in two ways, VIA and automatic scan, or by manually inputting the camera information.

Automatic Scan for Cameras

To begin an automatic scan for cameras:



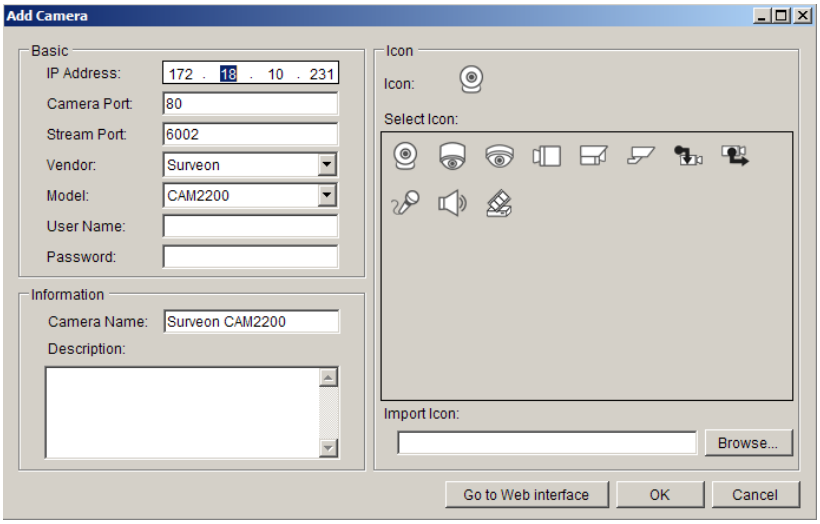
1. Right-click the Server entry and select **Auto Scan Camera**. The system will respond by beginning an automatic scan. Once the scan is complete, the cameras that can be added to the Server will be displayed. Information available for each camera will include:



- **Name** – The default camera name (Make/Model)
- **Status** – The camera will display *New* if it has not been added to this Server, otherwise it will display *Assigned*.
- **IP Address**
- **MAC Address**
- **Vendor**
- **Model**

2. To add a camera to the system, check the box by the camera entry. You may also check the **Select All** box at the bottom of the window to select all the cameras found.

3. **(Optionally)** Double-click any camera entry to bring up the camera detail page. From this page you may change the following information:



- **IP Address** – Changing this value will affect connectivity.
- **Camera Port -** The web access port, default is 80.
- **Stream Port** – Default is 6002
- **Vendor** – Changing this value will affect connectivity.
- **Model** – Changing this value will affect connectivity.
- **User Name** – This value is not always required.
- **Password** – This value is not always required.
- **Camera Name** – It is recommended you change this value if you have more than one camera of this make/model.
- **Camera Description**
- **Camera Icon -** You can also import your own icon by clicking on the **Browse** button and choosing an icon file. Valid icon files include JPEG, GIF, PNG, BMP and ICON files.

Finally, you can access the web interface for the camera by clicking on the **Go to Web Interface** button. Click **OK** to save your changes, or **Cancel** to exit without saving.

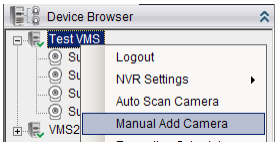
4. **(Optionally)** You may access the Surveon IP Utility for configuration of Surveon cameras by clicking the **IP Camera Utility** button.

5. Click **OK** to add the selected cameras to the Server.

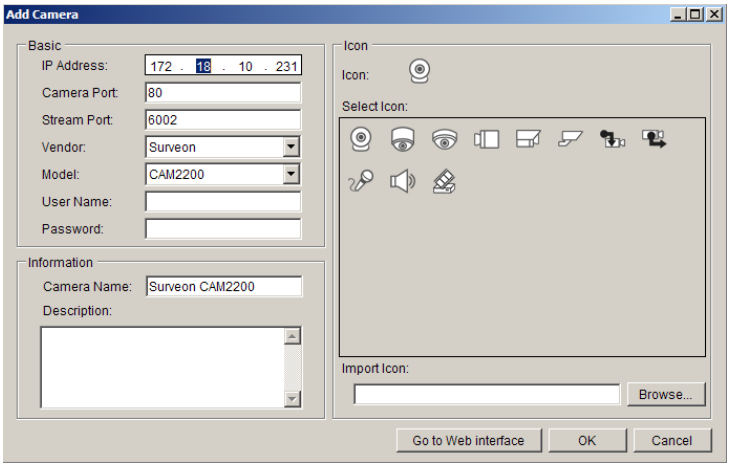
Manually Adding Cameras

To manually add a camera to the Server:

1. Right-click the Server entry and select **Manual Add Camera**.



2. In the camera window fill out the following information:



- **IP Address**
- **Camera Port** - This value will automatically populate with the default value for the **Vendor** and **Model** selected.
- **Vendor**
- **Model**
- **Stream Port** - This value will automatically populate with the default value for the **Vendor** and **Model** selected.
- **User Name** – This value is not always required.
- **Password** – This value is not always required.
- **Camera Name** – It is recommended you change this value if you have more than one camera of this make/model.
- **Camera Description**
- **Camera Icon** - You can also import your own icon by clicking on the **Browse** button and choosing an icon file. Valid icon files include JPEG, GIF, PNG, BMP and ICON files.

3. Finally, once basic camera information is filled in, you may access the web interface for the camera by clicking on the **Go to Web Interface** button. Click **OK** to add the camera.

3.4. Other Server Camera Actions

Deleting a Camera

1. Right-click the camera entry you wish to remove in the *Device Browser* window to bring up the options popup.
2. Highlight and click the **Delete Camera** option. The system will respond with a warning dialog.
3. Click **Yes** to delete the camera from the Server.

Initializing a Camera

Initializing the camera resets the camera so that it will correspond to the settings on the Server. To perform this operation:

1. Right-click the camera entry in the *Device Browser* window to bring up the options popup.
2. Highlight and click the **Initialize** option. The system will respond with a warning dialog.
3. Click **Yes** to reset the camera.

Once initialized, camera settings will be as follows:

- All single-stream cameras will be set to a frame rate of 10fps.
- Frame interval of Axis cameras will be set to 10 frames.
- The first stream of dual-stream cameras will be set to 20 fps, with main frame interval of 10 frames.
- The second stream of dual-stream cameras will be set to 10 fps.

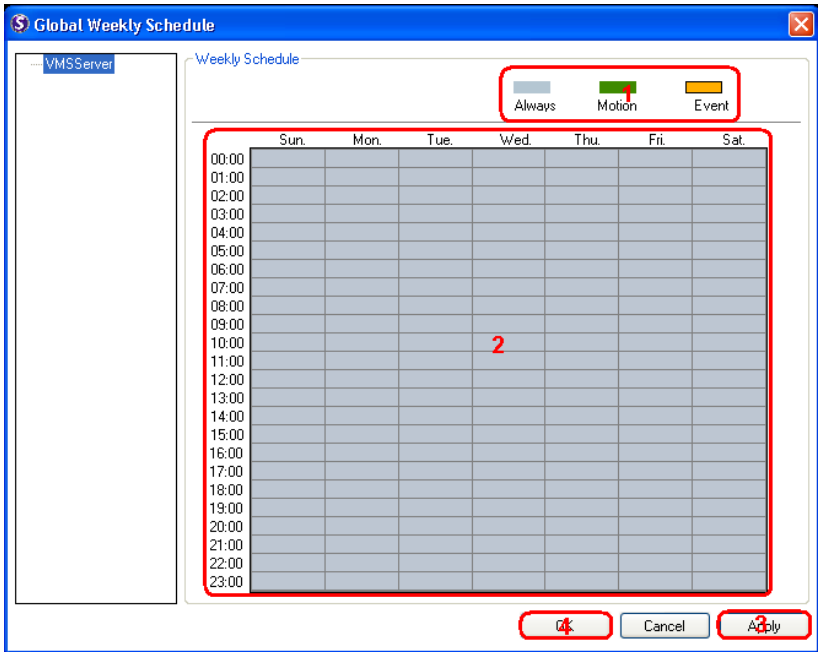
3.5. Scheduling Recording

There are two forms of scheduling available. A global schedule can be created to apply to an entire Server, while an individual schedule can be created for each camera on a Server. Schedules are further split into weekly and daily schedules. When scheduling conflicts occur, the daily schedule takes precedence over the weekly schedule.

Global Scheduling

Weekly Global Scheduling

To access the Global Scheduling tool right click the Server entry, then highlight and click the **Schedule Manager>Global Settings** option to bring up a popup containing a schedule grid corresponding to every hour of every day in the week. The schedule default is always recording, all the time. To change the global schedule:



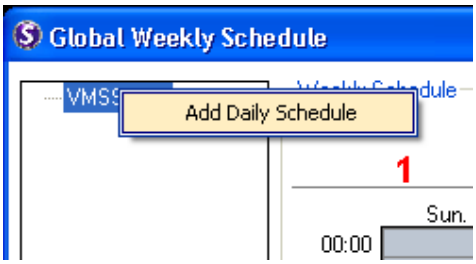
1. Choose a recording method by clicking on one of the three methods: **Always** record, record on **Motion** detection, or record on **Event** trigger.
2. Click on a table cell to "paint" the recording method. The color in the cell will change to match the selected recording method. Click and drag the cursor to paint large areas.
3. When you are finished, click the **Apply** button to apply the schedule.
4. Click **OK** to exit the menu.

Daily Global Scheduling

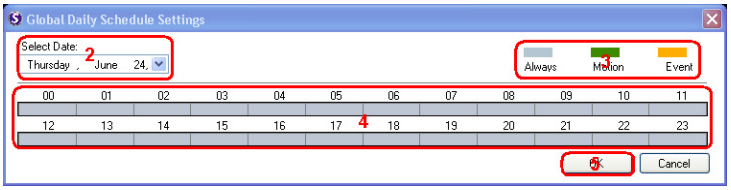
Adding a Daily Global Schedule

In addition to the weekly global schedule, a daily schedule can also be set for a certain day. To perform this action:

1. Under *Global Weekly Schedule* Right-click the server listing, and click on the **Add Daily Schedule** option to bring up the *Global Daily Schedule Settings* popup. This popup consists of 24 segments corresponding to the hours in the day.



2. Choose the date that you want to schedule



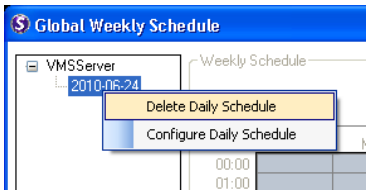
3. Choose a recording method by clicking on one of the three methods: **Always** record, record on **Motion** detection, or record on **Event** trigger.

4. Click on a table cell to "paint" the recording method. The color in the cell will change to match the selected recording method. Click and drag the cursor to paint large areas.

5. When you are finished, click the **OK** button to apply the schedule. The schedule will show up under the server entry in the *Global Weekly Schedule* menu.

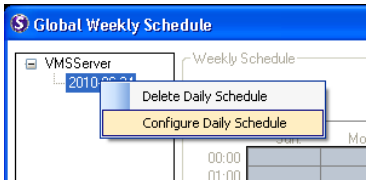
Deleting a Global Daily Schedule

To delete a global daily schedule, right-click the schedule entry and select **Delete Daily Schedule.** Click the **Yes** button to confirm deletion.



Editing a Global Daily Schedule

To edit a global daily schedule, right-click the schedule entry and select **Configure Daily Schedule.**



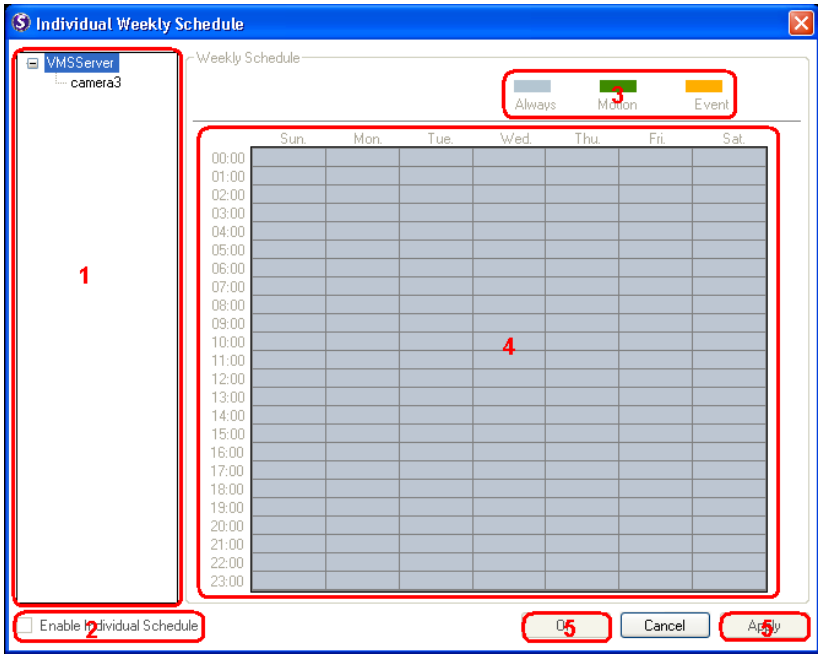
Individual Scheduling

Individual schedules, which take precedence over the global schedule, can be set for each camera.

Weekly Individual Scheduling

To access the individual scheduling tool right-click the server entry, then highlight and click **Schedule Manager>Individual Settings.**

Schedule defaults are always recording, all the time. To create a schedule:



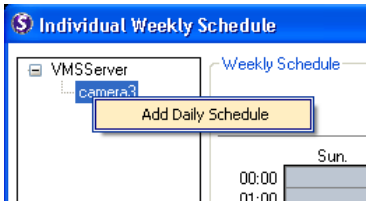
1. Select the camera which you want schedule.
2. Click the **Enable Individual Schedule** box to enable the schedule.
3. Choose a recording method by clicking on one of the three methods: **Always** record, record on **Motion** detection, or record on **Event** trigger.
4. Click on a table cell to "paint" the recording method. The color in the cell will change to match the selected recording method. Click and drag the cursor to paint large areas.
5. When you are finished, click the **Apply** button to apply the schedule. Click **OK** to exit the menu.

Daily Individual Scheduling

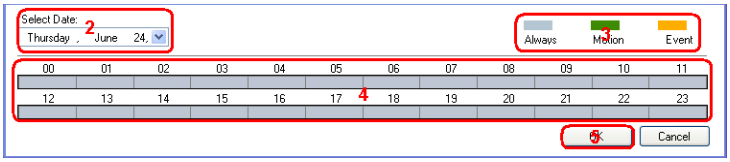
Adding a Daily Individual Schedule

In addition to the weekly individual schedule, a daily schedule can also be set for a certain day. To perform this action:

6. In *Weekly Individual Schedule* right-click the camera listing, and select **Add Daily Schedule** option to bring up the *Individual Daily Schedule Settings* popup. This popup consists of 24 segments corresponding to the hours in the day.



7. Choose the date that you want to schedule



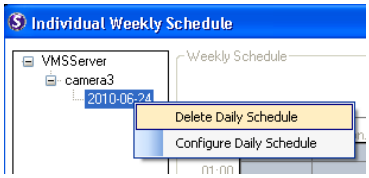
8. Choose a recording method by clicking on one of the three methods: **Always** record, record on **Motion** detection, or record on **Event** trigger.

9. Click on a table cell to "paint" the recording method. The color in the cell will change to match the selected recording method. Click and drag the cursor to paint large areas.

10. When you are finished, click the **OK** button to apply the schedule. The schedule will show up under the camera entry in the *Individual Weekly Schedule* menu.

Deleting an Individual Daily Schedule

To delete an individual daily schedule, right-click the schedule entry and select **Delete Daily Schedule.** Click **Yes** to confirm deletion.



Editing an Individual Daily Schedule

To edit an individual daily schedule, right-click the schedule entry and select **Configure Daily Schedule.**

Chapter 4. Camera Setup

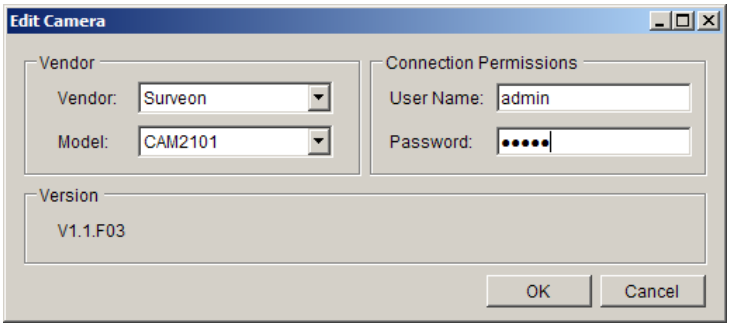
This section deals with Camera setup procedures. These options can be accessed by right-clicking the Camera entry in the *Device Browser*.

4.1. Camera General Settings

Logging into a Camera

It is important to note that you must be logged into the camera before you can change any settings. To login to the camera:

1. Right-click the camera entry and select **Camera General Settings> Edit Camera**.



2. In the *Connection Permissions* section, enter a valid username in the **User Name** field and password in the **Password** field.

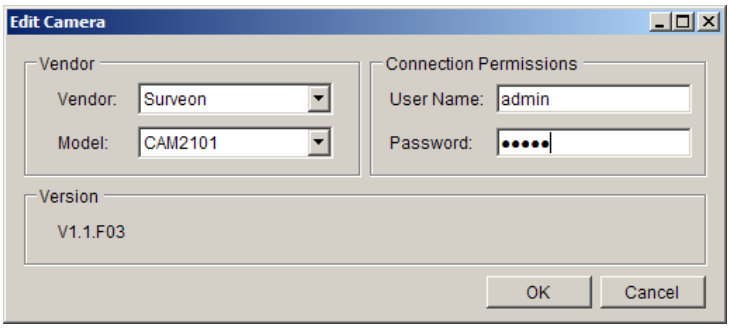
Note: The system will not perform an active check on the username and password. Setting an incorrect username or password may affect camera connectivity and configurability.

3. Click **OK** to login.

Changing the Camera Model and Vendor

In certain situations it may be necessary to change the Vendor or Model information for the camera. To perform this operation:

1. Right-click the camera entry and select **Camera General Settings> Edit Camera**.



2. Select the new **Vendor** and **Model** from the respective drop-downs.

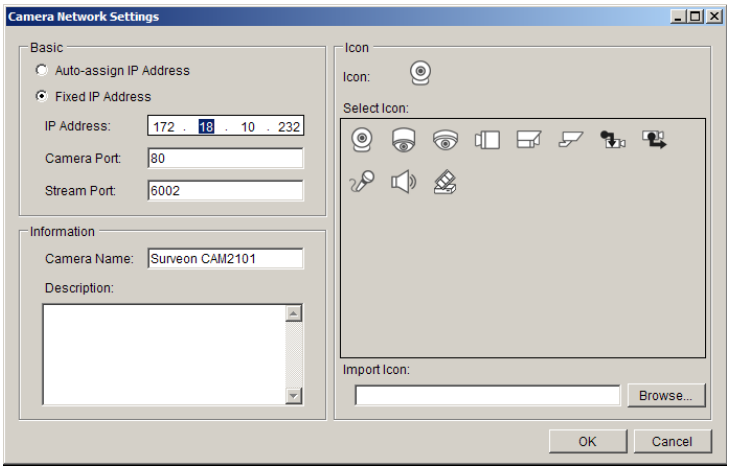
Note: Setting an incorrect vendor or model may affect camera connectivity.

3. Click **OK** to save your changes.

General Settings

Camera general settings include network connectivity settings, as well as basic camera name, description and icon settings. To configure these settings:

1. Right-click the camera entry and select **Camera General Settings> General**.

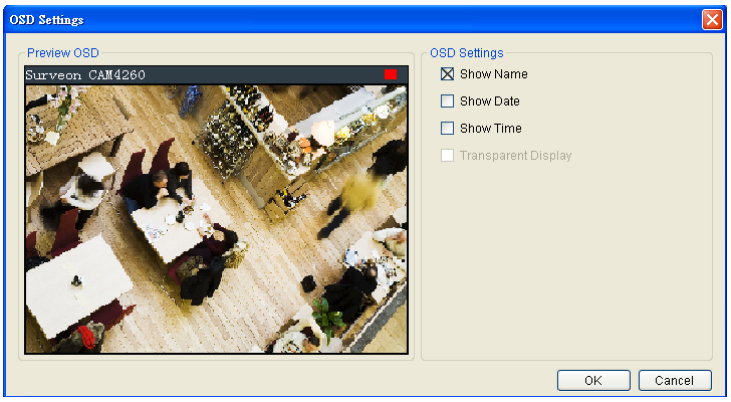


2. There are two ways to specify the IP address for the camera.
   - If you wish to automatically assign an IP address to the camera using DHCP services, select the **Auto-assign IP Address** option.
   - If you wish to assign a fixed IP, select **Fixed IP Address**, and provide an IP address for the camera in the **IP Address** field.
3. You may continue by editing any of the following options:
   - **Camera Port** - This value will automatically populate with the default value for the **Vendor** and **Model** selected.
   - **Stream Port** - This value will automatically populate with the default value for the **Vendor** and **Model** selected.
   - **Camera Name** – It is recommended you change this value if you have more than one camera of this make/model.
   - **Camera Description**
   - **Camera Icon** - You can also import your own icon by clicking on the **Browse** button and choosing an icon file. Valid icon files include JPEG, GIF, PNG, BMP and ICON files.
4. Click **OK** to save your changes.

OSD Settings

On cameras with OSD capabilities, these capabilities can be configured within the server. To configure the information for the on-screen display:

1. Right-click the camera entry and select **Camera General Settings>OSD & Text Over Video** to bring up the OSD settings menu.

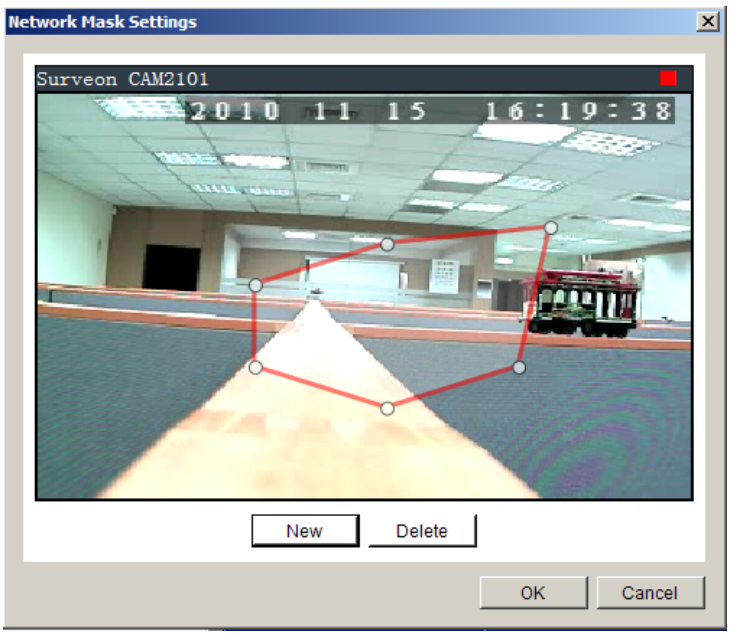


2. From the **OSD Settings** section, choose any of the following options:
   - **Show Name** – Displays the camera name. If this item is selected, you will also have the option of entering another name to display.
   - **Show Date** – Displays the camera date.
   - **Show Time** – Displays the camera time.
   - **Transparent Display** – When this option is chosen, the camera will not black-out the lettering background.
3. Click **OK** to save your changes.

Privacy Mask Settings

The camera can be configured to display useful information on the top bar. To configure the information for the on-screen display:

1. Right-click the camera entry and select **Camera General Settings> Privacy Mask Settings** to bring up the privacy mask settings menu.



2. Click the **New** button to create a new privacy mask overlay, denoted by a red border.

3. Click and drag the overlay to move the overlay around the screen. Click and drag one of the six white dots on the red border to resize and reshape the overlay. If multiple windows are present, the window being edited will have a red border.

4. Repeat these steps to create up to three windows. Click **OK** to save the privacy mask.

Note: The masked areas can be unmasked during a video export with an administrative password. For more details refer to the section on video export.

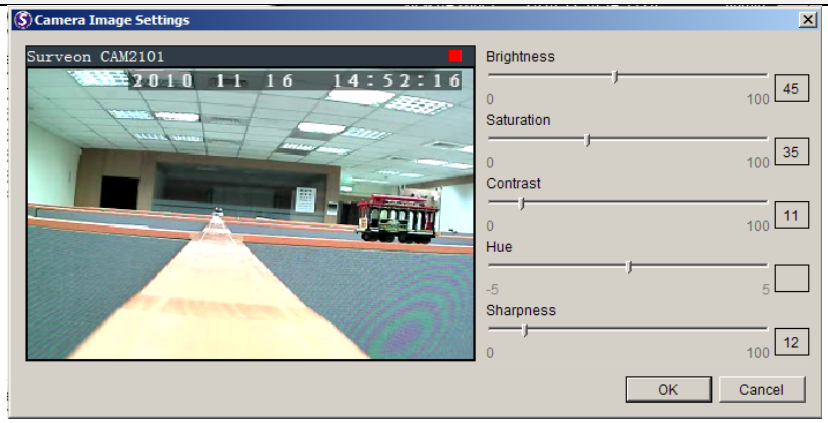
4.2. Camera Image and Quality Settings

Camera Image Settings

To configure camera general settings:

1. Right-click the camera entry in the *Device Browser*, then highlight and click the **Image Settings** option.

Note: You must be logged into the camera before changing settings or else the operation will fail.

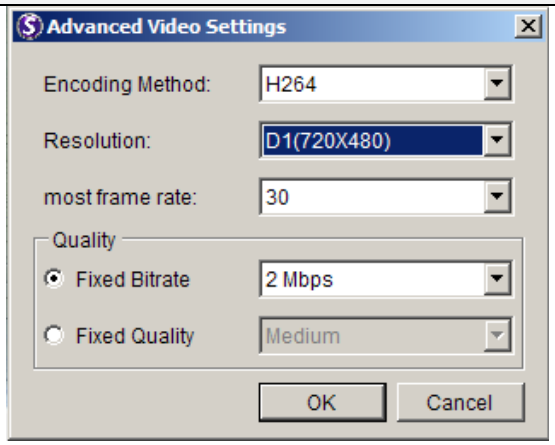


2. Adjust the following sliders to change the camera image:
   - **Brightness** – The overall lighting level of the image. This value can be used to boost or reduce the apparent lighting of the image.
   - **Saturation** – The overall color intensity of the image. This value can be used to boost or reduce overall color intensity.
   - **Contrast** – The lighting difference between dark and light areas of the image. This value can be used to boost or reduce apparent differences in lighting.
   - **Hue** – The color cast of the image. This value can be used to compensate for colored lighting or other color casting.
   - **Sharpness** – The edge contrast of the image. This value can be used to make the picture appear clearer.
3. Click **OK** to save your changes.

Video Quality Settings

1. Right-click the camera entry in the *Device Browser*, then highlight and click the **Quality Settings** option.

Note: You must be logged into the camera before changing settings or else the operation will fail.



2. Select a video encoding method from the **Encoding Method** drop-down. Encoding methods will vary by camera type, but common ones include:
   - **MJPEG**
   - **MPEG-4**
   - **H264**
3. Select a video resolution from the **Resolution** drop-down. Supported resolutions will vary by camera.
4. Select the maximum video frame rate from the **Maximum Frame Rate** drop-down.
5. From the *Quality* section, choose one of the following
   - **Fixed Bitrate** – The camera image quality will be adjusted within a fixed bitrate selected in the dropdown. Dropdown values will vary by camera.
   - **Fixed Quality** – The camera bitrate will be adjusted to meet the quality selected in the dropdown. Dropdown values will vary by camera.

4.3. PTZ Settings

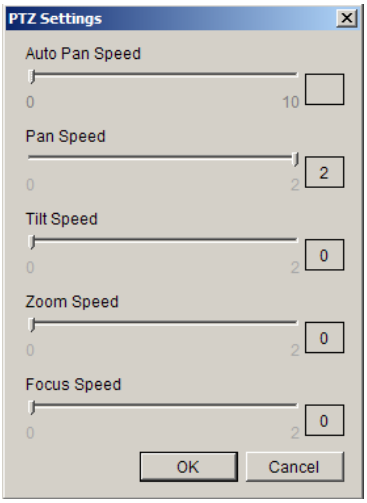
In cameras equipped with any combination of pan, tilt or zoom (PTZ) functionality, these settings are used to configure the PTZ functions.

PTZ Settings

The PTZ settings deal with the software PTZ control panel. These settings adjust how much the camera will pan, tilt, zoom, and focus with each control panel input. To change these settings:

Note: You must be logged into the camera before changing settings or else the operation will fail.

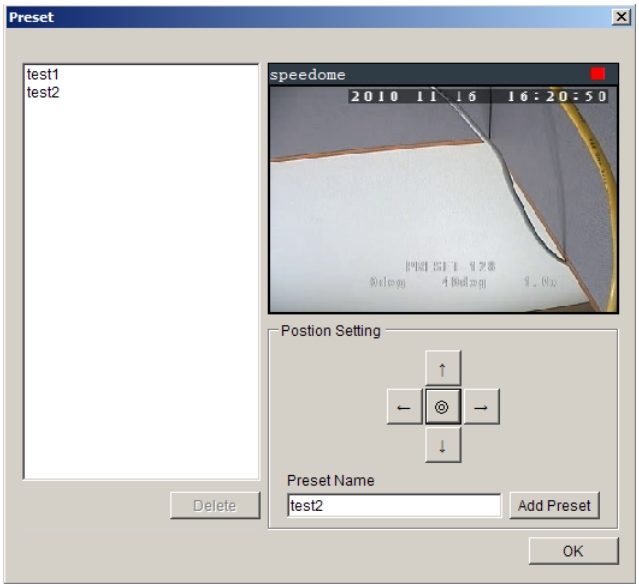
1. Right-click the camera entry in the *Device Browser*, and click **PTZ Settings> PTZ Control Settings**.



2. Adjust the following sliders to increase and decrease the following speeds: (The higher the value, the higher the speed) Unsupported features on specific cameras will be grayed out.
   - **Auto Pan Speed** – The speed which the camera will pan between the mechanical stops when the **Auto Pan** function is activated.
   - **Pan Speed** – The distance the camera will pan to each side.
   - **Tilt Speed -** The distance the camera will tilt up and down.
   - **Zoom Speed -** The distance the camera will zoom near or far.
   - **Focus Speed -** The amount the camera will focus forward or backward.

PTZ Preset Settings

Certain preset pan/tilt/zoom values can be saved in order to move the camera quickly to a point of interest. To configure camera PTZ preset settings, right-click the camera entry, then highlight and click **PTZ Settings> Preset Settings** option.



The popup will display the camera output, as well as a *Position Setting* pad.

Note: You must be logged into the camera before changing settings or else the operation will fail.

Adding a Preset

To make a preset:

1. Use the directional pad to move the camera view. Use the center "home" button to return the camera to the default zeroed view.
2. Once the camera reaches the point where a preset is desired, type a name into the **Preset Point Name** field.
3. Click the **Add a preset point** to add the preset to the list. Click **OK** exit the menu, or you may continue to add/delete additional presets.

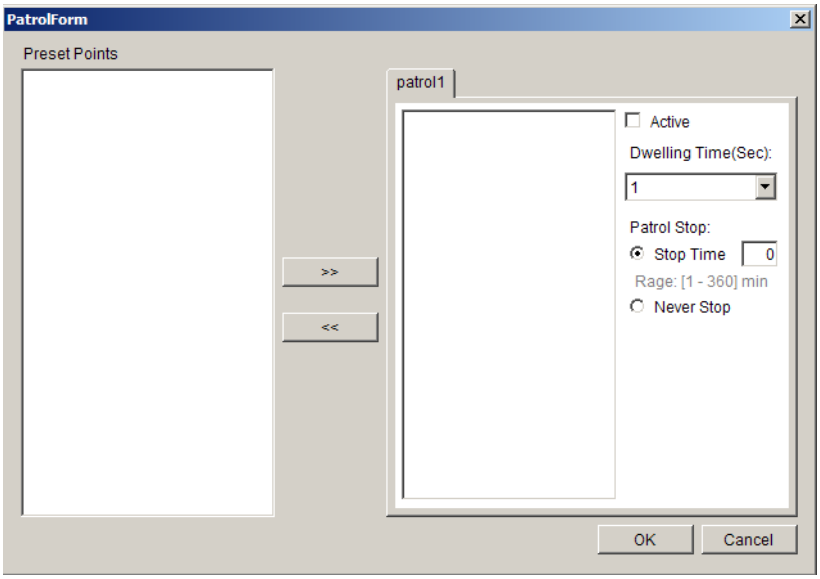
Deleting a Preset

To delete a preset, simpy highlight the preset and click the **Delete** button. Click the **Yes** button to confirm deletion. Click **OK** exit the menu, or you may continue to add/delete additional presets.

PTZ Patrol Settings

In cameras with PTZ functionality, one camera can be used to survey a large area. This can be done automatically using the patrol functionality. This function basically moves the camera between preset points in a fixed pattern. To configure camera patrol settings:

1. Right-click the camera entry in the *Device Browser*, then highlight and click the **PTZ Settings>Patrol Settings.**



Note: You must be logged into the camera before changing settings or else the operation will fail.

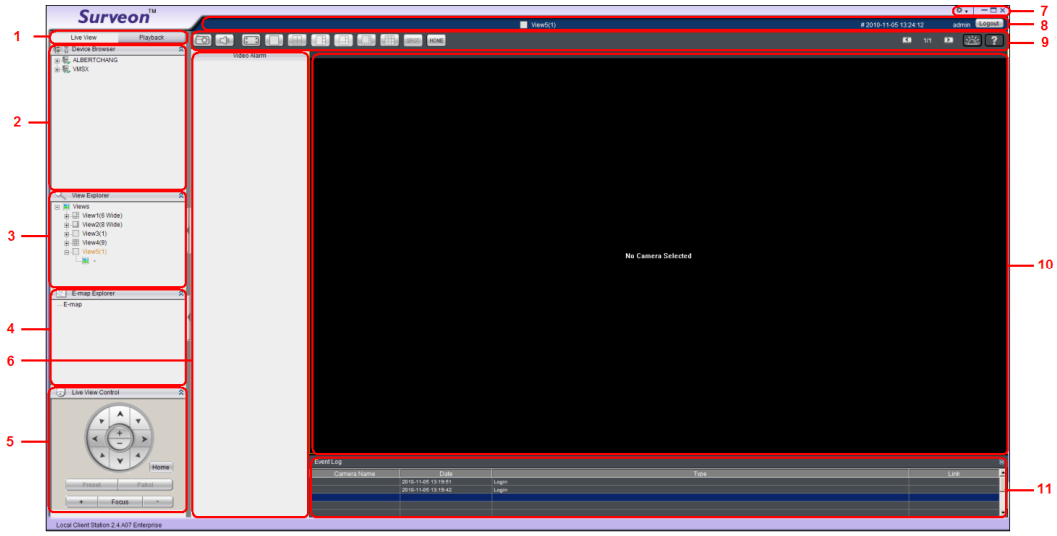
2. On the right side of the popup there will be a list of preset points that are defined for the camera. Use the >> button to add the points to the patrol list in the order that they are to be viewed. Points can also be removed by highlighting them and clicking on the << button.
3. Select the length of time the camera will dwell at each preset point before continuing from the **Dwelling Time (Sec)** dropdown.
4. Select one of the following:
   - **Stop Time** – The camera will stop the number of minutes specified in the box between patrol sessions.
   - **Never Stop** – The camera will not stop between patrol sessions.
5. Click the **Active** button to activate the patrol list.
6. Click the **OK** button to save the patrol list and exit the popup.

Chapter 5. Live View

Live viewing is a crucial part of any surveillance system. Having the right view can be the crucial difference between catching an event as it happens and missing it altogether. Surveon VMS provides powerful tools to manage the viewing experience to help ensure that monitoring personnel are always on top of any event.

5.1. Live View Window Overview

The live view window is split into a 11 distinct parts:



1. **Live View / Playback Selection Tabs** – Allows users to choose live view and playback mode.
2. **Device Browser** – Lists the Servers in the domain.
3. **View Explorer** – Lists the views that are configured on this client.
4. **E-Map Explorer** – Lists the E-maps available on this Server.
5. **Live View Control** – Interface for interacting with PTZ-enabled cameras.
6. **Video Alarm Panel** –Area for alarm notification and instant playback.
7. **Windows Toolbar** – This area includes the windows buttons, as well as a general **"Gear"** button containing Server configuration options.
8. **View/Account Information** – This area contains general information.
9. **Button Area** - This area contains the buttons to change views, enter full screen mode, capture photos and other useful functions.
10. **Main View Area** – This area contains the actual video feed(s).
11. **Event Log** – This area contains alarm and event information.

Resizing and Minimizing Windows

Minimizing Controls

The Device Browser, View Explorer, E-Map Explorer, Live View Controls, and Event Log can all be minimized by clicking on the arrow buttons on the top-right corner of their screens.

Hiding and Showing the Explorer Area

The entire left panel (containing the Live View/Playback Selection Tabs, Device Browser, View Explorer, E-Map Explorer, and Live View Controls) can be hidden by clicking on the arrow on the left of the Live View Control.

Displaying the Video Alarm Panel

The Video Alarm Panel can be viewed by clicking on the *Gear* button in the windows toolbar, and selecting **16:9 Aspect Ratio.**

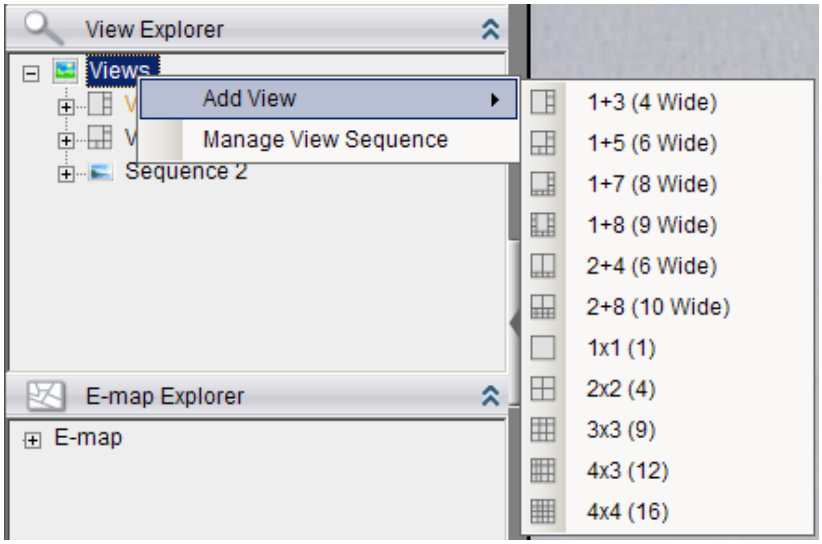
Locking the Video Panels

The Video Panels can be locked in a certain configuration by clicking on the *Gear* button in the windows toolbar, and selecting

5.2. View Setup

Types of Views

The Surveon Server supports viewing of up to 16 cameras in a single view, with views of 1, 4, 6, 8, 9, 10, 12 and 16 cameras.



Views with more subdivisions are more useful for giving an overview of an area, while ones with fewer subdivisions give better details. Multiple views can also be displayed in sequence or in separate windows for managing more than 16 cameras.

Adding a View

An important part of monitoring your surveillance network is to have the right views so that you will have the optimum viewing angle to discern a situation. To add a customized view to the VMS client:

1. Right click on **Views** in the *View Explorer* window, and choose the **Add View** option, the software will respond by listing available screen division types.
2. Choose the type of view that you wish to add by clicking on the view. The software responds by placing a blank template in the main viewing window that has been subdivided into individual frames according to the view selected. The empty frames will display the message *No camera*
3. From the *Device Browser* window, you can click and drag the entries for individual cameras into the separate frames. The camera output will be displayed in the frame. Cameras in the view do not have to all be from the same server.

   Dragging a camera into a frame that already has a camera assigned to it will cause the frame to be reassigned to the new camera. You can also drag the same camera into multiple frames or leave frames blank, although this is not suggested.

   The *View Explorer* will be updated as you add cameras to your view. The root will list the camera numbers that have been added to the view starting from the top left frame and going from left to right and top to bottom.

Note: Depending on your connection and computer speed, it may take a moment for the image to refresh after dragging the camera into the view window. During this time the frame may still display *No Camera* or *Failed to connect*. If this problem persists, however, there may be a problem with your connection or hardware.

Renaming a View

To perform this function:

1. Right-click the view entry in the *View Explorer* window. This will bring up an options popup.
2. Highlight and click the **Rename** option.
3. Enter a new name for the server and press enter to save the name.

Deleting a View

As views become superfluous or unused, it is desirable to delete a view. To perform this function:

1. Right-click the view entry in the *View Explorer* window. This will bring up an options popup.
2. Highlight and click the **Delete** option. The system will respond with a confirmation screen.
3. Click the **Yes** button to delete the view.

Sending View to a New Window

In multi-monitor setups, you may send views to a separate window which can then be dragged to other screens. To do this:

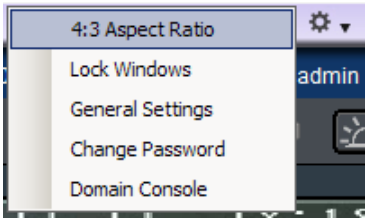
1. Right-click the view entry in the *View Explorer* window. This will bring up an options popup.
2. Highlight and click the **Send To>Floating Window** option. The system will respond by placing the view in a separate floating window. This window can be dragged to a separate screen, maximized, or closed.

Switching Between Views

To switch between saved views, simply click and drag the view entry from the *View Explorer* window into the main view window. Note that the current view is always indicated in **Bold** lettering in the *View Explorer* window.

Changing Aspect Ratio

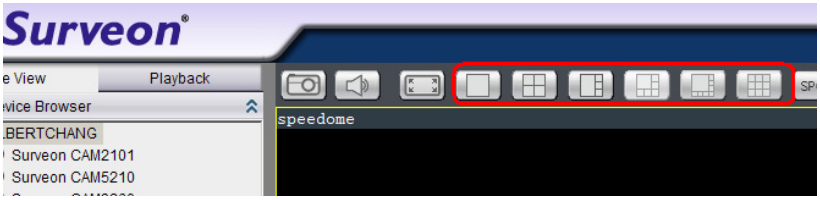
The VMS can be configured to display windows in either 16:9 or 4:3 aspect ratios. To switch between these two, click the gear button in the top right corner and select **4:3 Aspect Ratio** (when in 16:9 mode) or **16:9 Aspect Ratio** (when in 4:3 mode.)



Switching Between Different Screen Divisions

Creating and Using New Screen Divisions

When a view is created, it has a default screen division setting, however when using the view, it may be useful to change the number of screen divisions. This does not create a different view, but divides the existing view into a new set of divisions.

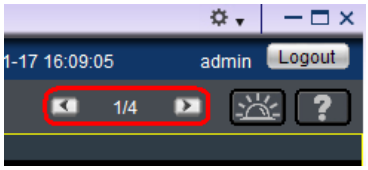


To perform this function within the view, simply click the button corresponding to the view that you want to use. The buttons are located in the area above the main view window.

After you have clicked on the desired view, the original number of cameras will be split into separate pages in the new view. For example, an original view consisting of 16 cameras would display the cameras on 2 pages of 8 frames, clicking on the 4 division button would display the 16 cameras in 4 pages of 4 frames each.

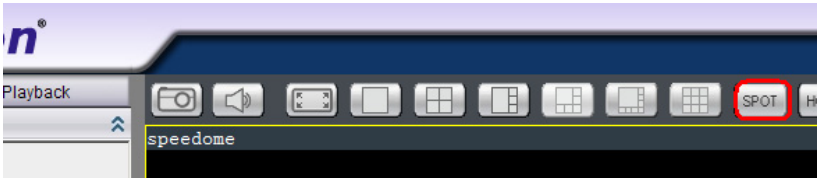
Screen Division Page Use

The page number is displayed to the right of the view buttons. Clicking on the arrow button to the right of the page number or clicking on the current screen partition button will scroll through the pages in order. Clicking on the arrow button to the left of the page number will scroll through the pages in reverse order.



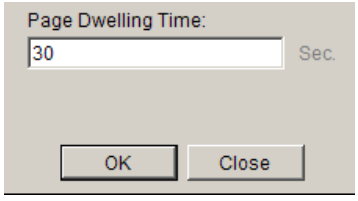
Auto-flipping Pages

When multiple pages of screen divisions exist, you may choose to automatically flip between the pages by clicking on the **SPOT** button. Clicking the button again will end the automatic flip function.



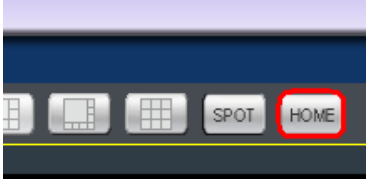
Configuring Page Dwell Time

Right-clicking the **SPOT** button will bring up a field to configure the amount of time each page will be displayed when automatically flipping pages. Enter the dwell time in seconds and click **OK** to change this value.



Exiting Different Screen Divisions

There are two methods to return to your original un-paginated view. You may either drag the original view into the main view area, or click the **Home** button in the button area. This will reset all the settings, including page auto-flipping and different screen divisions.



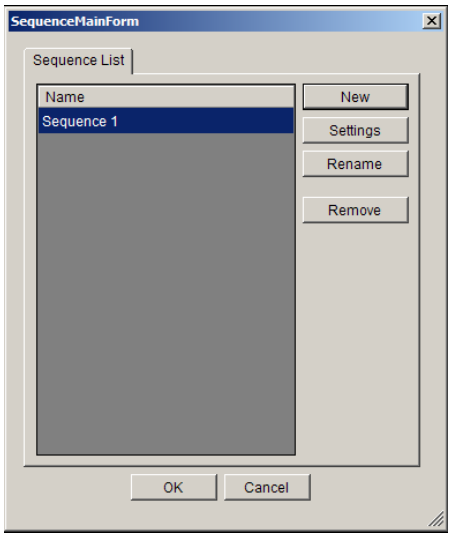
Managing Sequences

A sequence is a combination of two or more views. When more than 16 cameras are necessary, you can create a sequence of views that cuts between 2 or more views. A sequence displays a view for an interval of time before switching to the next view. The sequence will continue down the view list in-order until it reaches the end, after which it will return to the first view on the list and repeat the display.

Creating a Sequence

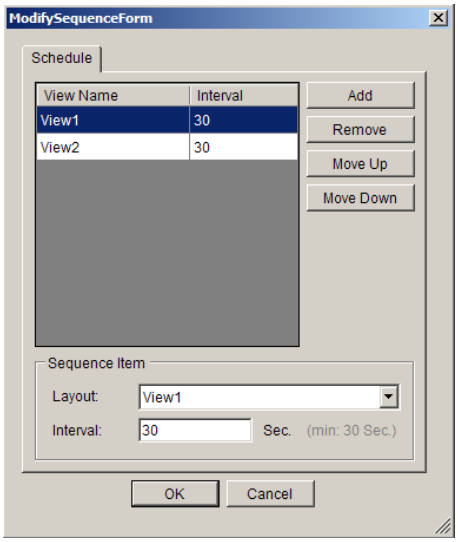
Once there are more than 2 views configured, you can add a sequence. To perform this action:

1. Right click on **Views** in the *View Explorer* window, and choose the **Manage View Sequence** option.
2. In the sequence management form click the **New** button to create a new sequence. The sequence will be given an default name Sequence #.

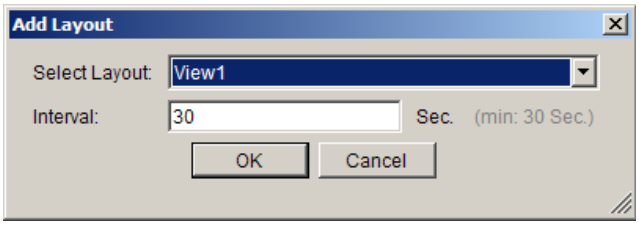


3. **(Optional)** Click the sequence entry to select it, and click **Rename**. Type an appropriate name for the sequence and then press enter to rename the sequence.

4. Click the sequence entry to select it, and then click **Settings** to begin the sequence setup. In the sequence setup menu, click the **Add** button.



5. In the add screen, select a view to add from the **View** dropdown.



6. In the **Interval** field, enter how many seconds you want this view to be displayed in the sequence. Click **OK** to add the view.

7. Repeat the 2 previous steps to add additional views.

8. **(Optional)** Once you have added a view, you may select it by clicking on it. When selected you may change the following.

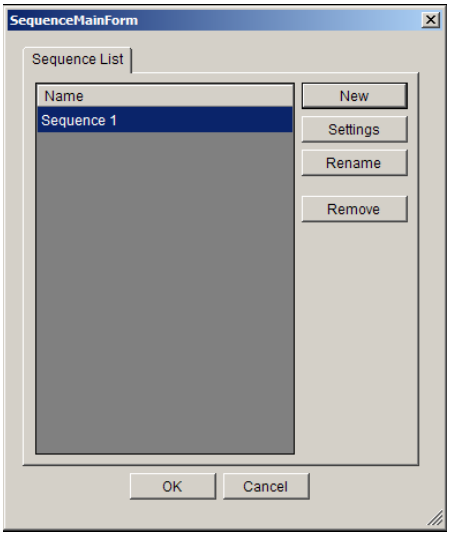
   - Clicking **Move Up** will move the view up the sequence list.
   - Clicking **Move Down** will move the view down the sequence list.
   - Clicking **Remove** will remove the view from the sequence.
   - You may select an alternate view from the **View** dropdown.
   - You may select enter a new interval in the **Interval** field.

9. Click **OK** to save the setup, and **OK** again to save the sequence. The sequence will be added to the *View Explorer*. To view the sequence drag the sequence into the live-view area, as you would a view.

Editing a Sequence

Once a sequence is created, settings and values for the sequence can be changed. This is done by:

1. Right click on **Views** in the *View Explorer* window, and choose the **Manage View Sequence** option.

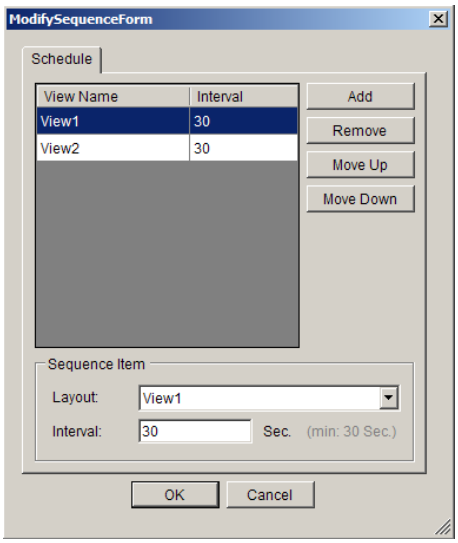


2. **(Optional)** If you wish to rename a sequence, click the sequence entry to select it, and click **Rename**. Type an appropriate name for the sequence and then press enter to rename the sequence.

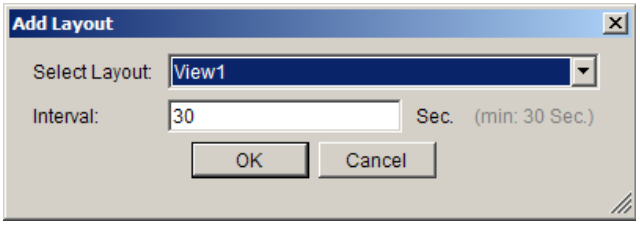
3. (**Optional)** To perform other edits, click the sequence entry to select it, and then click **Settings** to begin the sequence setup.

Note: A sequence displays a view for an interval of time before switching to the next view. The sequence will continue down the view list in-order until it reaches the end, after which it will return to the first view on the list and repeat the display.

- If you wish to add more views:
  - Click the **Add** button in the sequence setup menu.



  - In the add screen, select a view to add from the **View** dropdown.
  - In the **Interval** field, enter how many seconds you want this view to be displayed in the sequence. Click **OK** to add the view.



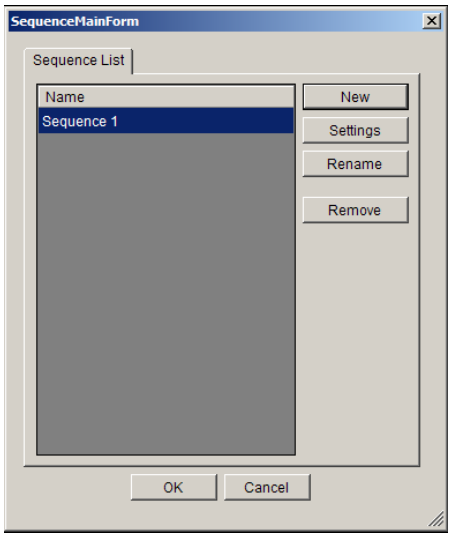
  - Repeat the 2 previous steps to add additional views.
- If you wish to edit an existing view, you may select it by clicking on it. When selected you may change the following:
  - Clicking **Move Up** will move the view up the sequence.
  - Clicking **Move Down** will move the view down the sequence.
  - Clicking **Remove** will remove the view from the sequence.
  - You may select an alternate view from the **View** dropdown.
  - You may select enter a new interval in the **Interval** field.

4. Click **OK** to save the setup, and **OK** again to save the sequence.

Deleting a Sequence

To delete a sequence:

1. Right click on **Views** in the *View Explorer* window, and choose the **Manage View Sequence** option.

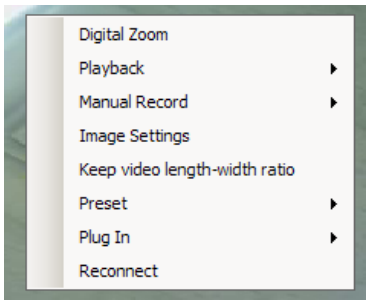


2. Click the sequence entry to select it, and click **Remove** to remove the sequence. Click **Yes** to confirm the deletion.

3. Click **OK** to exit the popup.

5.3. Functionality Within Views

Right clicking an active window will cause a function list to appear. These are settings and functions that can be changed within the live-view window.



Digital Zoom

Digital zoom increases the view size without increasing resolution. The digital zoom function can be used within any panel (even in full screen mode) with the following steps:

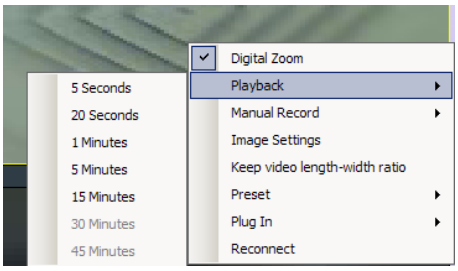
4. Right-click the panel that zoom is required on, and select **Digital Zoom** to activate the function. A picture-in-picture showing the whole screen framed by a yellow box will appear.

5. Click the corners of the box and drag to resize it over the area of interest. The main picture will show the digitally-zoomed output, while the picture and picture will display the entire view.

6. Alternatively, you may use the mouse scroll to zoom into the center of the image. Scrolling forward will zoom in, scrolling backward will zoom out.

Instant Playback

The instant playback function gives users the ability to instantly playback up to 45 minutes of video. Right-click the panel that playback is required on, and select **Playback>[Time Length]** to activate the function. A popup will open with the desired playback. Time lengths available are dependent on, and will not exceed the pre-alarm recording time set in **Pre/Post Alarm Recording Settings**.



Manual Recording

When recording schedules are set, it may be necessary to manually record a video stream, even when the schedule does not specify for recording. In this case right-click the panel that recording is required on, and select **Manual Record>[5, 10 or 30 minutes]** to activate the function. The camera will record the stream for the amount of time specified.

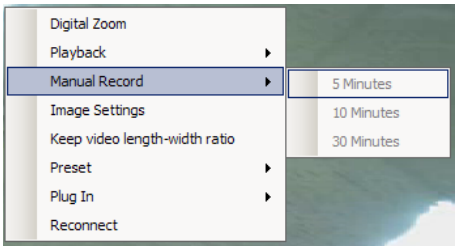
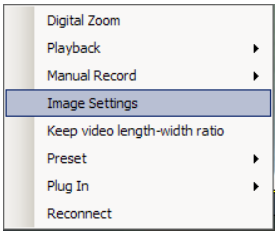


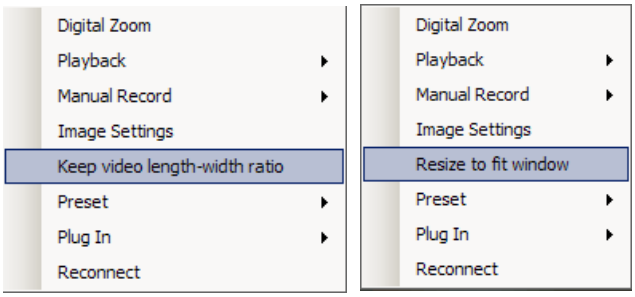
Image Settings

Camera image settings can also be accessed by right-clicking the panel containing the camera video and selecting **Image Settings**. This will pull up the camera image settings menu.



Video Ratio Adjustment

In most cases the video panel size will not match the size of the video feed exactly. By default the VMS will stretch or shrink the video to fit the screen, however you may also choose to preserve the original video ratio by right-clicking the screen and selecting **Keep Video Ratio**. To return to a stretched view, right-click the appropriate panel and choose **Resize to Fit Window**.



Preset Pan

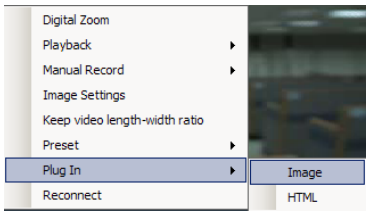
In cameras equipped with PTZ functionalities, presets set on the camera in the PTZ Preset Settings will be available. To access the presets, right-click on the panel containing the camera feed, and mouse-over **Preset**. The system will respond with a list of presets configured on the camera. Selecting a preset will pan the camera to the preset position. The user may also choose to **Start/Stop Patrol** functionality through this menu.

Plug-In Overlays

The panel can be replaced with a user overlay.

Image Overlay

To overlay an image on top of a panel:

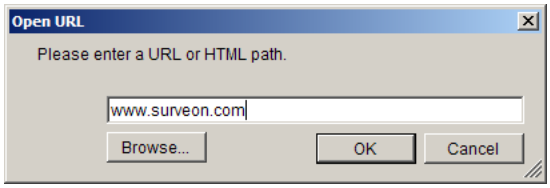


1. Right-click the panel and choose **Plug-In>Image.** The system will prompt you to choose an image file.
2. Choose an image file, valid image types are JPEG, BMP, TIFF, PNG. Click **Open** to open the file.
3. The image will be displayed in the panel. Click the red X in the top-right corner to close the image.

HTML Overlay

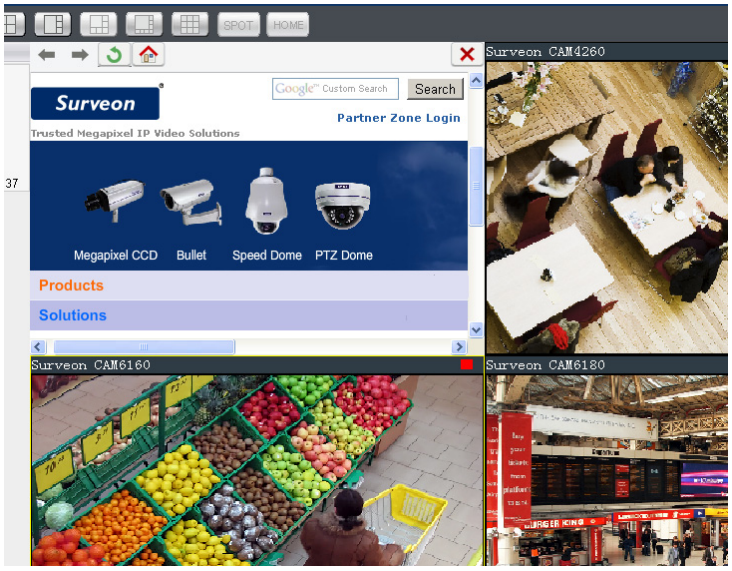
The HTML overlay function allows simple integration of web applications in the VMS by replacing one or more panels of the screen with an active browsing window. To overlay an HTML form or website on top of a panel:

1. Right-click the panel and choose **Plug-In>HTML**.



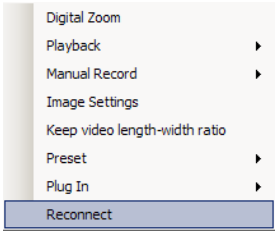
2. In the field, enter a URL or the path containing the HTML form. You may also choose to click **Browse** and choose an HTML file.

3. The HTML or website will be displayed in the panel. Click the red X in the top-right corner to close the image.



Reconnect

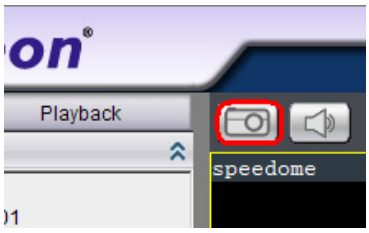
In some cases it may be necessary to manually reset the connection to a camera. To perform this action, right-click the panel corresponding to the camera and choose **Reconnect.**

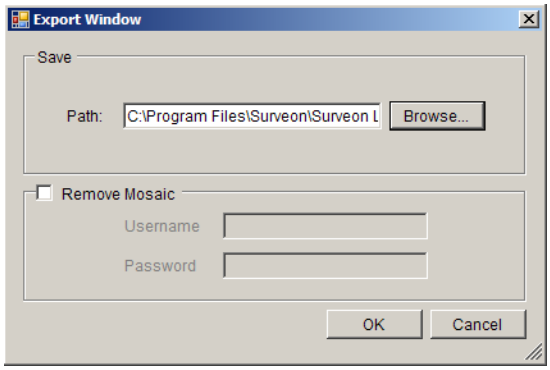


Screenshot

To capture a screenshot:

1. Highlight the feed to be captured by clicking on the panel containing the feed.
2. Click the **Capture** button located in the button area.
3. In the **Path** field enter a file path and filename for the screenshot. Alternately, you may also click **Browse** and select a file path.
4. **(Optional)** You may click **Remove Mosaic** and enter a valid **Username** and **Password** to remove any privacy-mask mosaicing.



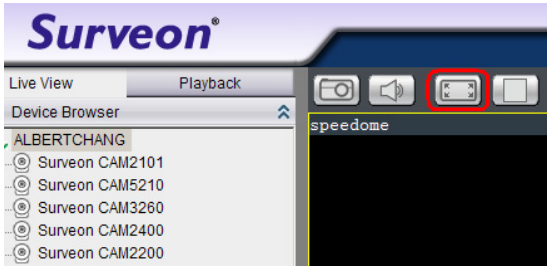


5. Click **OK** to save the screenshot.

5.4. Full Screen View

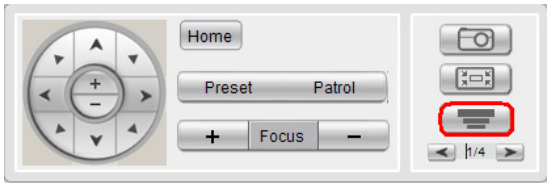
Entering Full Screen View

From any view, you can switch to full screen mode by clicking on the full screen button located above the main viewing window. Optionally you may also choose to view a single frame in full screen mode by double clicking on the frame.



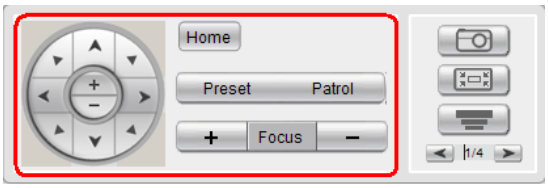
Function Panel

The camera controls, capture button, and page indicators are available in the full screen view. Moving the cursor to the bottom edge of the screen will cause the full screen function panel to appear in the bottom right corner. To minimize this panel, hit the hide button.



PTZ in Full Screen Mode

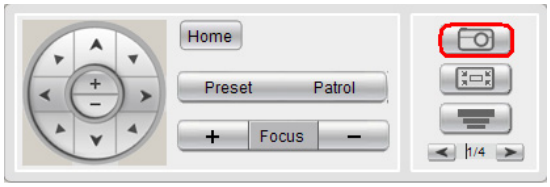
The camera controls, capture button, and page indicators are available in the full screen view. Moving the cursor to the bottom edge of the screen will cause the full screen function panel to appear in the bottom right corner. To minimize this panel, hit the hide button.



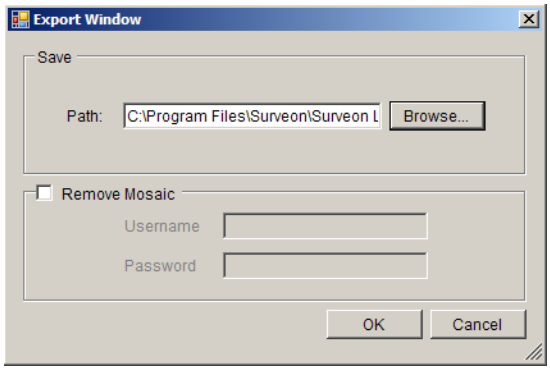
Screenshot

To capture a screenshot in fullscreen mode:

1. Highlight the feed to be captured by clicking on the panel containing the feed.
2. Click the **Capture** button.



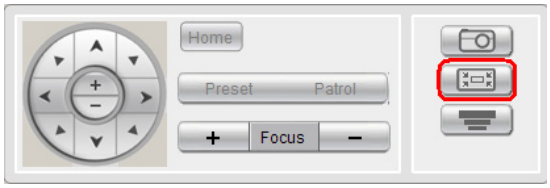
3. In the **Path** field enter a file path and filename for the screenshot. Alternately, you may also click **Browse** and select a file path.



4. **(Optional)** You may click **Remove Mosaic** and enter a valid **Username** and **Password** to remove any privacy-mask mosaicing.
5. Click **OK** to save the screenshot.

Exiting Full Screen Mode

To exit full screen mode, hit the **ESC** key on your keyboard, or within the full screen function panel, you may hit the exit full screen button.



5.5. PTZ Controls

Cameras equipped with Pan-Tilt-Zoom functionality can be controlled directly within the Surveon VMS client software. These controls can be found in the *Control Area* window within the live view screen, or in the full screen function panel. The functionality is identical in both cases.

Note: The camera to be controlled must be selected by highlighting it (clicking its output window) in the main view window.

Basic Functions

Pan and Tilt

The pan and tilt functionalities can be controlled with the directional pad.

Clicking the right or left arrow will pan the camera by one step in the direction clicked. Clicking the up or down arrow will tilt the camera by one step in the direction clicked. Clicking diagonal arrows will combine the pan and tilt action of the adjacent arrows. Clicking on the Home icon, located at the center of the pad, will re-center the camera.

Focus

The focus on a camera can be controlled with the + and - buttons located beside the *Focus* box. Pressing the + button will increase focus distance by 1 step. Pressing the - button will decrease focus distance by one step.

Zoom

The zoom on a camera can be controlled with the + and – buttons located inside the direction pad. Pressing the + button will increase zoom distance by 1 step. Pressing the - button will decrease zoom distance by one step.

Patrol

The camera can be set up to switch between preset viewpoints. To switch this functionality on, click the **Patrol** button and select **Start**. To switch the patrol function off, click the **Patrol** and select **Stop**. You may also click the **Patrol** button and select **Set** to bring up the patrol settings.

Presets

Panning to a Preset

The camera may have preconfigured viewpoints, or presets configured. To switch to one of these presets, click the **Preset** button and select the preset.

Adding a Preset

You must first be logged into the camera to add a preset. To add a preset using the PTZ controls.

1. Pan, tilt, zoom, and focus to the desired preset position.
2. Click the **Preset** button and select **Add Preset Point**.
3. Type a name into the **Preset Name** field. Click **OK** to add the preset.

Deleting a Preset

You must first be logged into the camera. To delete a preset using the PTZ controls:

1. Pan to the the preset.
2. Click the **Preset** button and select **Delete Preset Point**.
3. Click the **Yes** button to confirm deletion.

Chapter 6. Search and Playback

In many cases, such as investigations or for reference purposes, it may be useful to be able to replay video streams. The Server has the ability to store video from the IP cameras, as well as playback and export this video information.

6.1. Introduction

You must be logged into a server to access playback functionality.

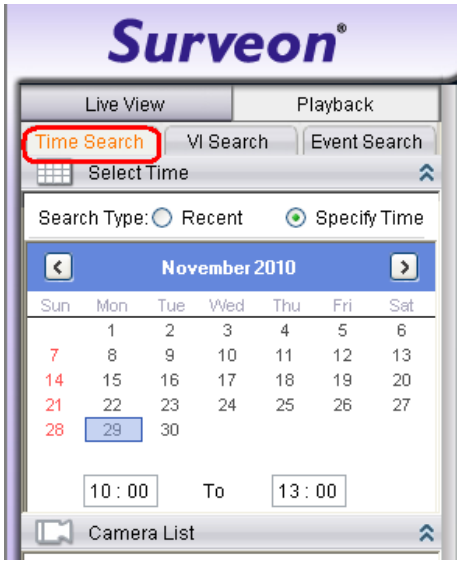
The Surveon VMS has 3 distinct playback functions:

- Time Search – Plays back according to a time period specified by the user.
- VI Search – Applies a VI functionality to a recorded video stream.
- Event Search – Searches the video stream for distinct events.

These functions may be accessed by clicking on the *Playback* tab located directly above the *Device Browser* window in the live view screen.

6.2. Date/Time Search

Time based playback can be accessed using the **Time Search** tab at the top of the screen. This search allows you to specify the time of the clip you want to view.

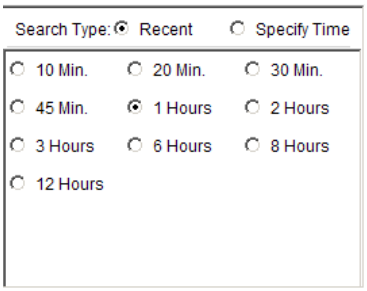


Time Selection

There are two types of time selections that can be made: Recent Time and Specified Time.

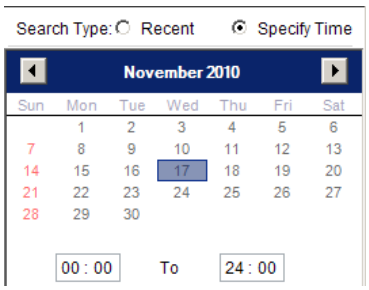
Recent Time

To perform a recent time search, click the **Recent** option in the time selection box. Choose one of the simple time choices to perform playback/search from that time period.



Specified Time

A specified time search can be selected by choosing the **Specify Time** option from the time selection box, and involves defining a time and date for the playback/search. Using the calendar and time boxes, specify a specific period to search/playback.

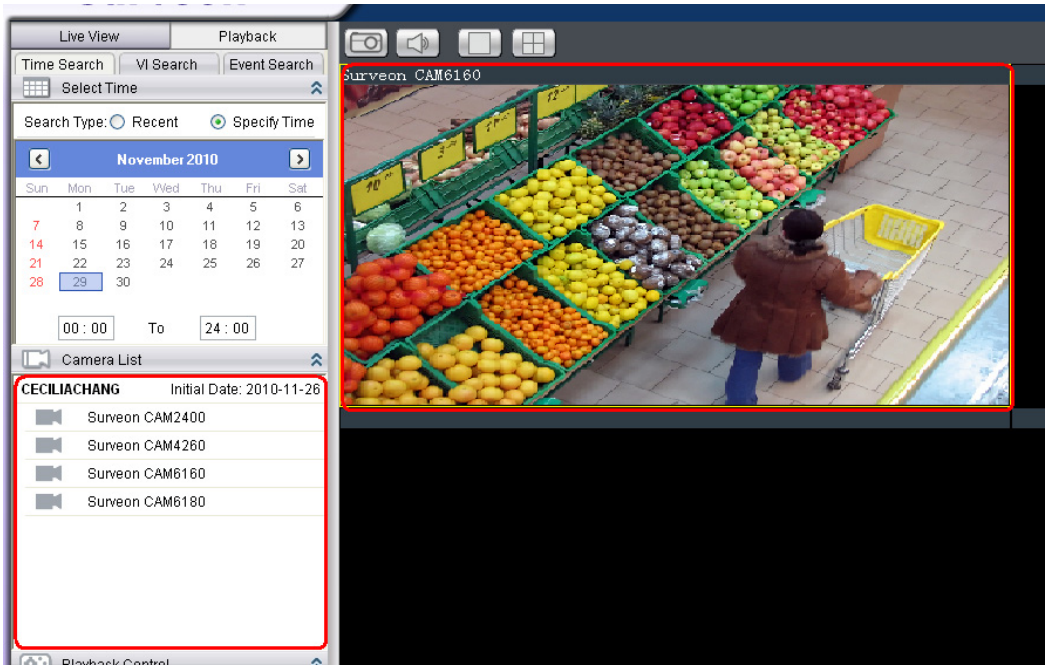


Use of 1x/4x views

The user has the option of viewing up to 4 recorded video streams at once, or just one stream at a time. Either of these options can be chosen by clicking on corresponding button in the button area above the main view screen. In both cases functionality and operation is the same.

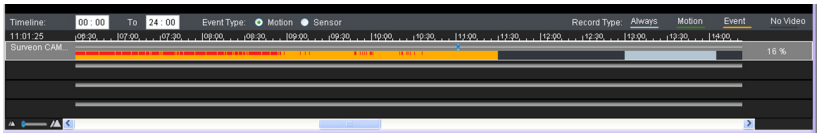
Camera Selection

Once a time period has been selected, the cameras available for each period will be listed in the *Camera List*. These cameras can then be dragged into one the search/playback box(es).



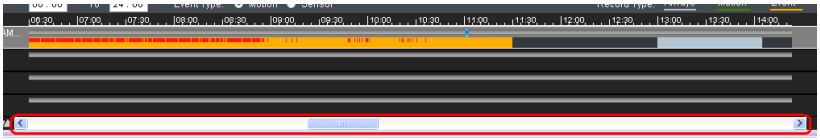
Timeline

After choosing the cameras to view, the timeline for the camera is displayed below the video window.

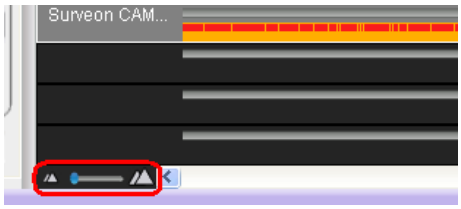


The timeline window displays a graphic representation of the video information available for the camera on the date and timeframe you have chosen in the *Select Date* window. You may choose to reset the timeframe to be displayed by using the dropdown at the top of the timeline.

The timeline will, at most, show a period of a little more than 3 hours. If the timeframe that you desire to view is larger than this, the remaining portion of the timeline can be viewed by using the scrollbar located beneath the timeline.



The amount of time displayed in the timeline can also be adjusted using the slider located next to the scrollbar. Sliding the indicator toward the right will cause a smaller amount of time to be displayed along the length of the timeline. In 4 camera mode, the timelines for the separate feeds will be locked to the same time period.



Once a timeline is loaded, the viewer will be able to see what kind of information is available. The timeline will be divided into 5-minute segments, with each segment colored according to what type of information it contains.

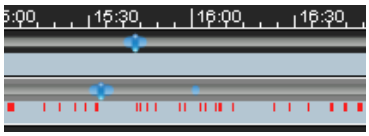
The colors are explained below:

Color	Meaning
Light Grey	The camera was set to Record Always and there is video
Green	Video due to motion sensed
Yellow	Video due to an alarm trigger
Dark Grey	There is no video for this segment.

There are also two types of events that will be recorded on the timeline. These events will be displayed as vertical striping on the normal color. If a motion sensor has been triggered during a period of recording, vertical red stripes will appear, and if another type of sensor (pressure, window/door, etc) is triggered, vertical green stripes will appear.

Playback

Once a timeline has been loaded, you may choose the point to begin playback. This is done by clicking the timeline. After selecting the start point you may start playback.



To start playback of a camera's video feed, ensure that the video is selected (the pane, timeline and camera name will be highlighted in yellow). Select feeds by clicking the corresponding pane, timeline, or camera name. Once you have selected a camera, you may use the buttons in the *Control Area* to control the playback. Playback time is denoted above the control buttons.

Note: The system may take a while to buffer the video before playback starts. A status line above the timeline will indicate portions that have been buffered. Jumping to unbuffered points in the video will cause the system to display an error message.

Clicking on a selected portion of the timeline will cause playback to jump to the point that you have clicked on. You must start playback separately for each feed you wish to view.

The following table explains the buttons:

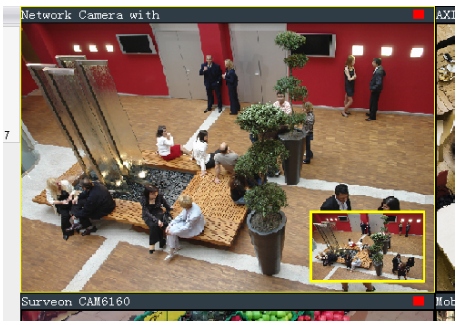
Button	Function
	Starts video playback
	Pauses the video (replaces play button)
	Stops video playback
	Fast forwards the video playback
	Jumps to the next segment
	Slows down the video playback
	Jumps to the previous segment
	***Cue out***: denotes an end time within the selected video segments. The cue out time will be displayed by the words *Out:* on the top right of the control area
	**Export Video** button. Exports clip between **cue in** and **cue out** times.

	Loops the video denoted between the ***cue in*** and ***cue out***
	Stops looping the video denoted between the ***cue in*** and ***cue out***
	Sets playback speed

Digital Zoom

Digital zoom increases the view size without increasing resolution. The digital zoom function can be used within time-search modewith the following steps:

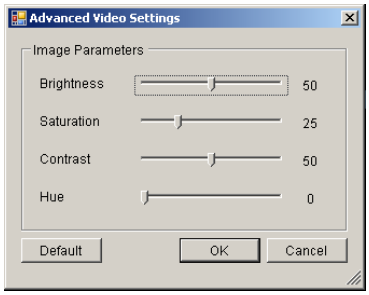
1. Right-click the panel and select **Digital Zoom**. A picture-in-picture will display showing the whole screen framed by a yellow box.



2. Click the corners of the box and drag to resize it over the area of interest. The main picture will show the digitally-zoomed output, while the picture-in-picture will display the entire view. Alternatively, you may use the mouse scroll to zoom into the center of the image. Scrolling forward will zoom in, scrolling backward will zoom out.

Advanced Video Settings

Right-clicking a panel and selecting **Advanced Video Settings** will bring up a menu that allows you to drag sliders and adjust the following:

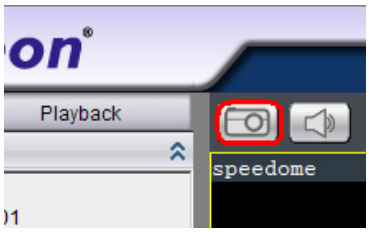


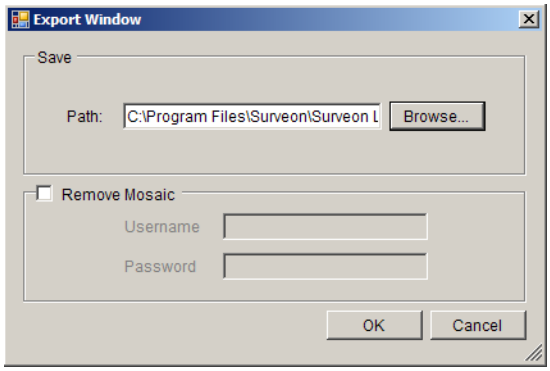
- Brightness
- Saturation
- Contrast
- Hue

Capture Screenshot

To capture a screenshot:

3. Click the **Capture** button located in the button area.
4. In the **Path** field enter a file path and filename for the screenshot. Alternately, you may also click **Browse** and select a file path.
5. **(Optional)** You may click **Remove Mosaic** and enter a valid **Username** and **Password** to remove any privacy-mask mosaicing.



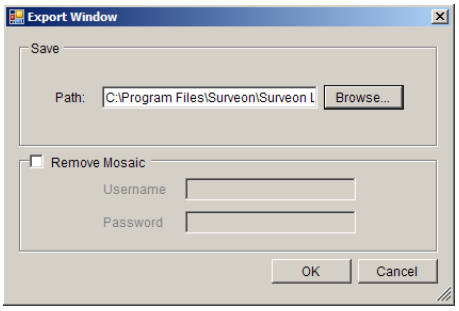


6. Click **OK** to save the screenshot.

Capture Video Clip

To capture a video segment:

7. Make sure that the video clip is playing.
8. When the beginning of the segment to be captured is reached, click the **Cue In** button.
9. When the end of the segment to be captured is reached, click the **Cue Out** button.
10. Click the **Save Video Clip** button located in the control area beside the **Cue In** and **Cue Out** buttons. A system popup will open prompting for a filename and location for the video clip.

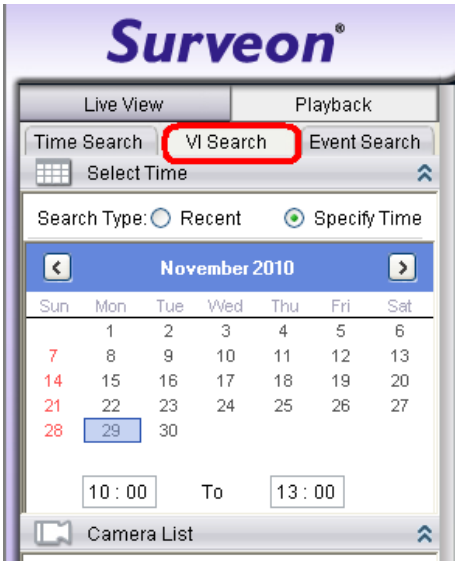


11. **(Optional)** Change the filename and file path. If you do not change the file details, the default save location for the video clip will be your installation path.

12. **(Optional)** You may click **Remove Mosaic** and enter a valid **Username** and **Password** to remove any privacy-mask mosaicing.

6.3. VI Search

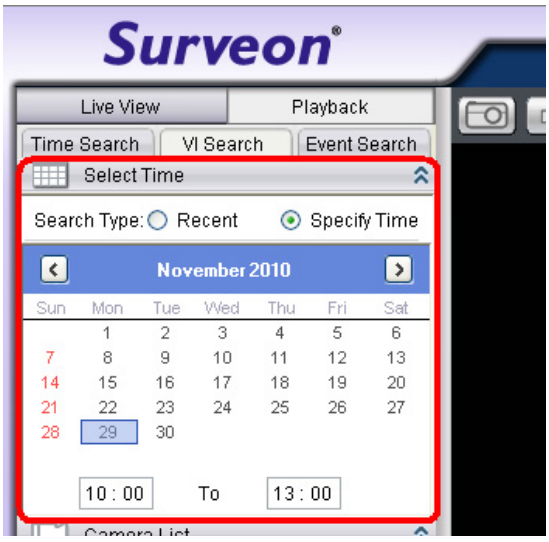
A VI search involves applying VI to existing recorded video in order to locate a specific event or action. To access the VI search, click the *VI Search* tab in the *Playback* context.



Creating a VI Search

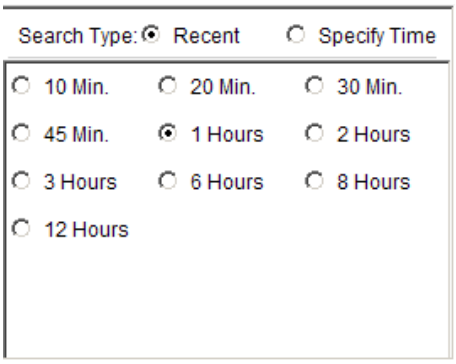
Time Selection

There are two types of time selections that can be made for each playback: Recent Time and Specified Time.



Recent Time

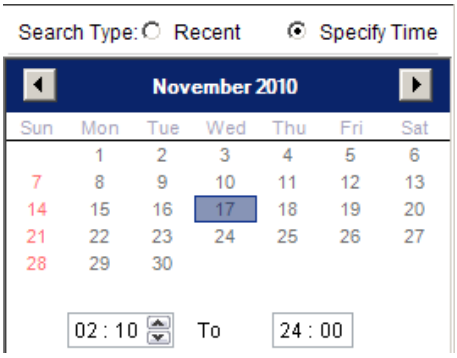
To perform a recent time search, click the **Recent** option in the time selection box. Choose one of the simple time choices to perform playback/search from that time period.



Specified Time

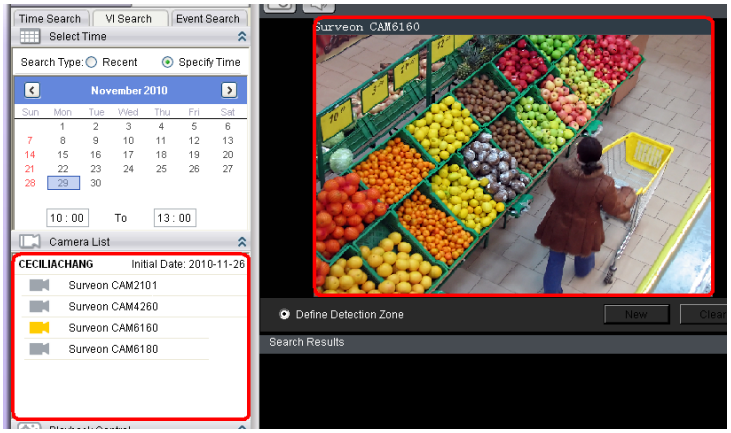
A specified time search can be selected by choosing the **Specify Time** option from the time selection box, and involves defining a time and date for the playback/search.

Using the calendar select a date for search/playback. Once a date is selected, clicking on the boxes will allow you to specify a specific period to search/playback in 10 minute increments.



Camera Selection

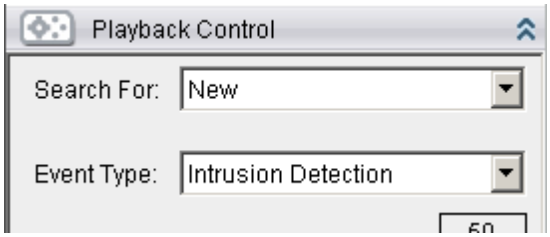
Once the search time range has been specified, a list of cameras with video recorded during the period specified will appear in the *Camera List*.



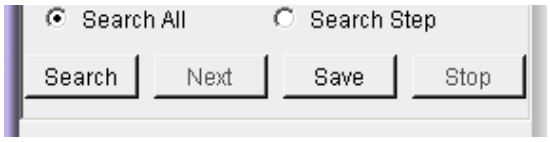
Select a camera to perform the VI search on by clicking its entry. This will display an initial thumbnail of the camera output.

Setting New Search Criteria

To create a New VI search:



1. **New** in the playback control.
2. Follow directions in the following sections to set up the VI search.
3. Once the VI search is set up select either:
    - **Search All** - Finds all events within the search range that trigger the VI set up.

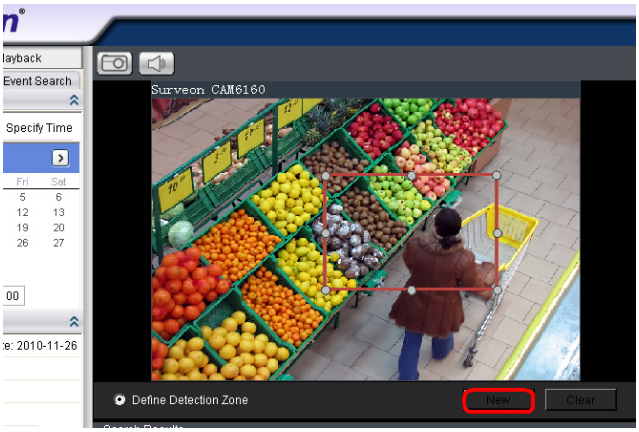


    - **Search Step** – Finds the first event that triggers the VI, then stops. The next event can be found by repeating the same search.
4. Click **Search** to begin the VI Search.

General Motion Detection

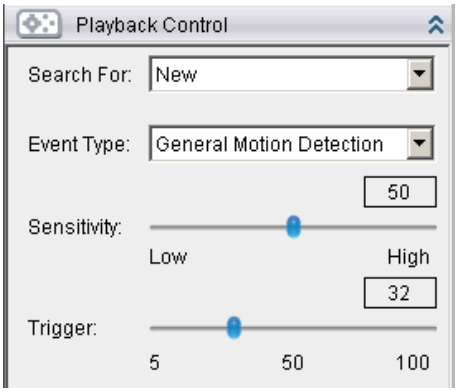
General motion detection involves detecting motion in specified areas. To set up General Motion Detection

1. Select **General Motion Detection** from the **Event Type** dropdown.
2. **New** button to create a detection window. Up to 3 detection windows can be set for each camera. The current window will be highlighted with a red border.



3. Click and drag the white dots along window border of a window to resize or reshape the window. Click the interior of windows and hold to drag to reposition them. Move and resize windows until the area of detection is covered.

4. Adjust the sliders in the *Playback Control* section. (Settings will be applied to all existing windows)

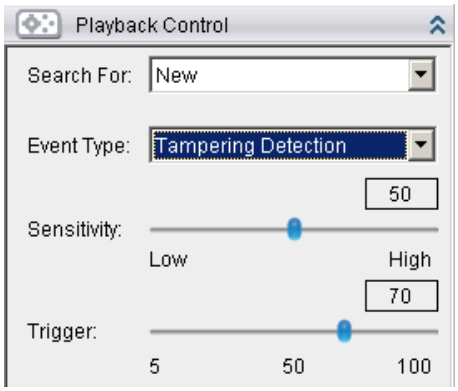


- **Sensitivity** - Adjusts window sensitivity from 0 (low) to 100 (high).
- **Trigger Threshold -** Adjusts the amount of change allowed before and event is triggered.

Tampering Detection

Tampering detection involves using the software to determine when the camera has been improperly moved or redirected. To configure:

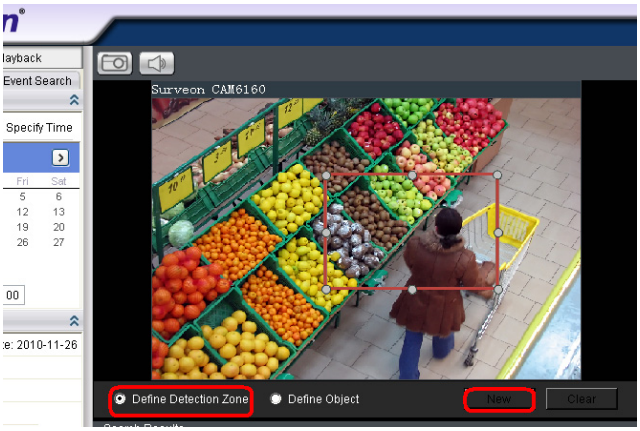
1. Select **Tampering Detection** from the **Event Type** dropdown.
2. Adjust the sliders:
    - **Sensitivity** - Adjusts window sensitivity from 0 (low) to 100 (high).
    - **Trigger Threshold -** Adjusts the amount of change allowed before an event is triggered.



Intrusion Detection

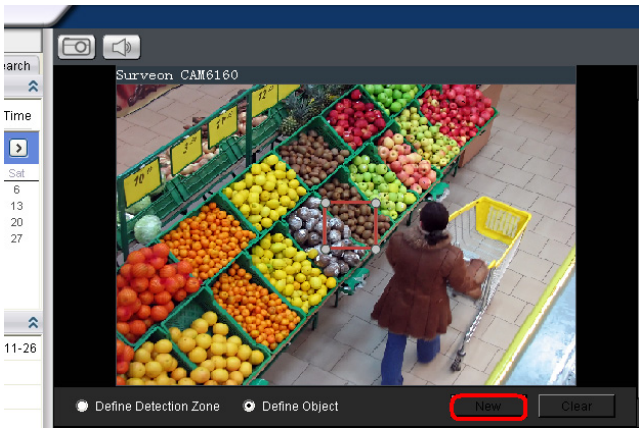
Intrusion detection involves using the software to analyze the video feed and detect intrusion in specified areas. To configure:

1. Select **Intrusion Detection** from the **Event Type** dropdown.
2. Select **Define Detection Zone** and click the **New** button to create a new window. Up to 3 detection windows can be set for each camera. The current window will be highlighted with a red border.

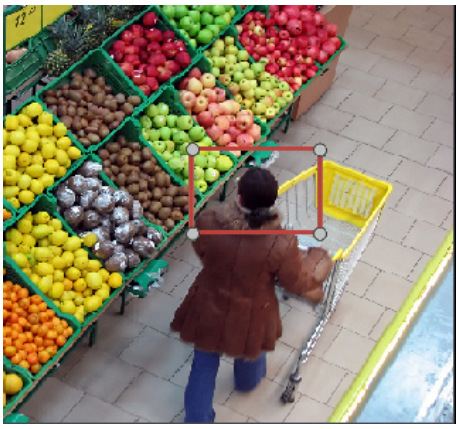


3. Click and drag the white dots along window border of a window to resize or reshape the window. Click the interior of windows and hold to drag to reposition them. Move and resize windows until the area of to be secured is covered.

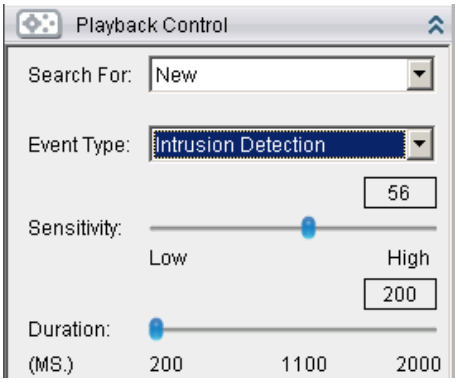
4. Select **Define Object** and click the **New** button to create an object box.



5. Click and drag the white dots along the window border to resize it and define the minimum size of objects that will be detected.



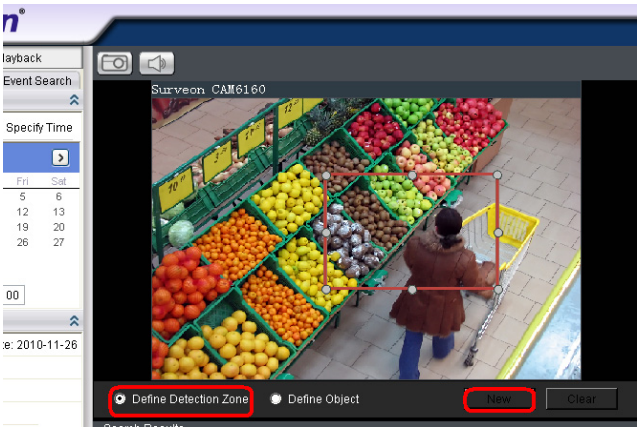
6. Adjust the sliders in the *Playback Control* section. (Settings will be applied to all existing windows)
   - **Sensitivity** - Adjusts window sensitivity from 0 (low) to 100 (high).
   - **Interval -** Adjusts how much time between each check of the window for intrusions.



Missing Object Detection

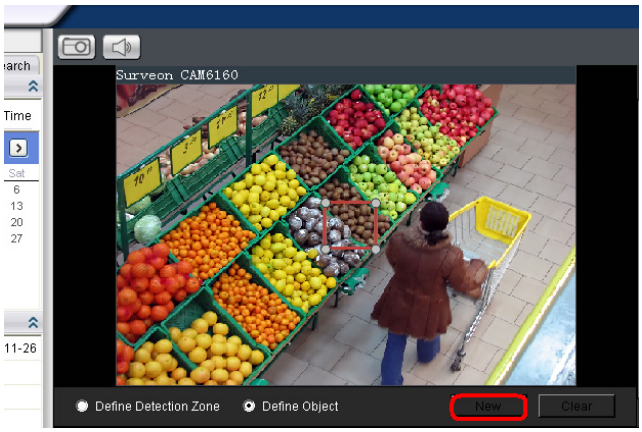
Missing object detection involves using the software to analyze the video feed and detect missing objects larger than a certain size. To configure:

1. Select **Missing Object Detection** from the **Event Type** dropdown.
2. Select **Define Detection Zone** and click the **New** button to create a new window. Up to 3 detection windows can be set for each camera. The current window will be highlighted with a red border.

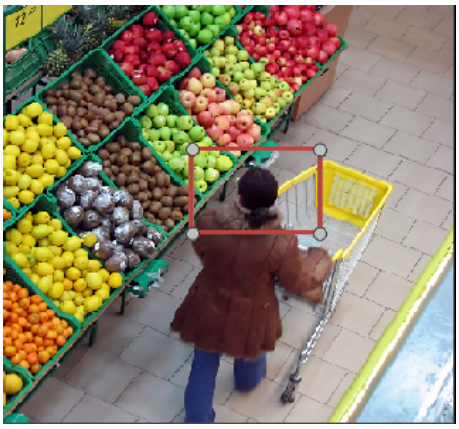


3. Click and drag the white dots along window border of a window to resize or reshape the window. Click the interior of windows and hold to drag to reposition them. Move and resize windows until the area to be secured is covered.

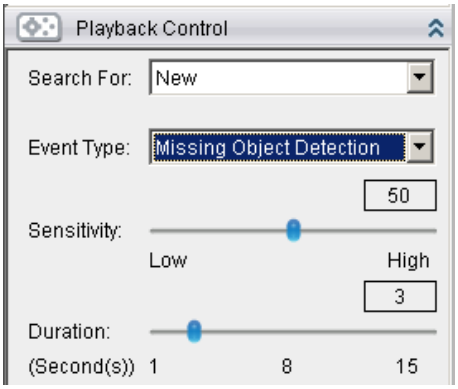
4. Select **Define Object** and click the **New** button to create an object box.



5. Click and drag the white dots along the window border to resize it and define the minimum size of the object(s) that will be secured.



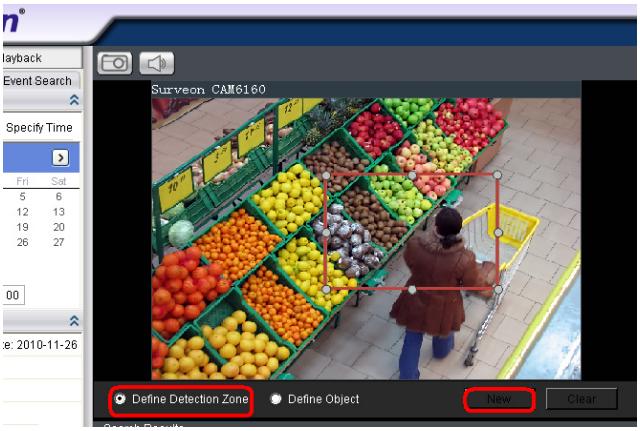
6. Adjust the sliders in the *Playback Control* section. (Settings will be applied to all existing windows)
   - **Sensitivity** - Adjusts window sensitivity from 0 (low) to 100 (high).
   - **Duration (Sec) -** Adjusts how much time an object is missing before an event is triggered.



Foreign Object Detection

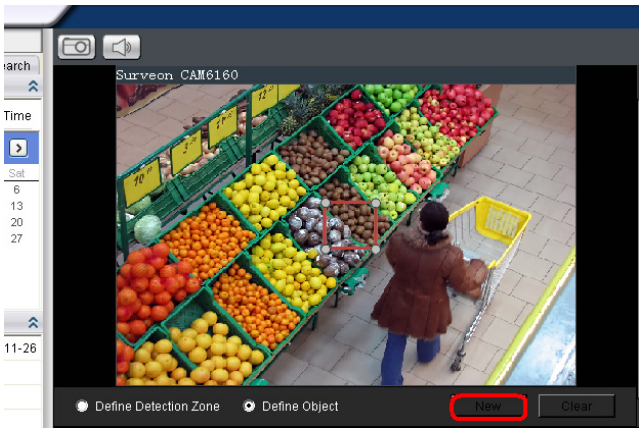
Foreign object detection involves using the software to analyze a video feed and detect objects that do not belong. To configure:

1. Select Foreign Object Detection from the Event Type dropdown.
2. Select **Define Detection Zone** and click the **New** button to create a new window. Up to 3 detection windows can be set for each camera. The current window will be highlighted with a red border.



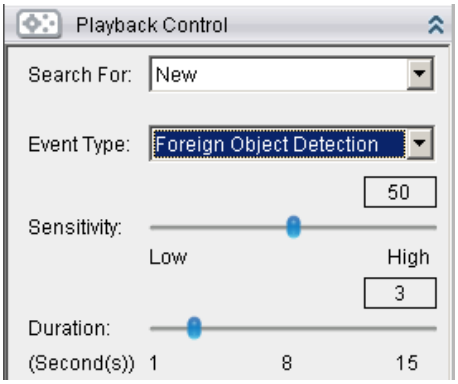
3. Click and drag the white dots along window border of a window to resize or reshape the window. Click the interior of windows and hold to drag to reposition them. Move and resize windows until the area of detection is covered.

4. Select **Define Object** and click the **New** button to create an object box.



5. Click and drag the white dots along the window border to resize it and define the minimum size of foreign objects that will be detected.

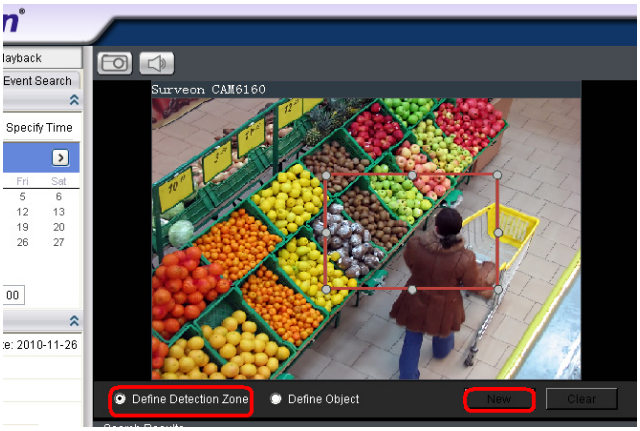
6. Adjust the sliders in the *Playback Control* section. (Settings will be applied to all existing windows)
   - **Sensitivity** - Adjusts window sensitivity from 0 (low) to 100 (high).
   - **Duration -** Adjusts the amount of time before an object triggers an event.



Forbidden Area Detection

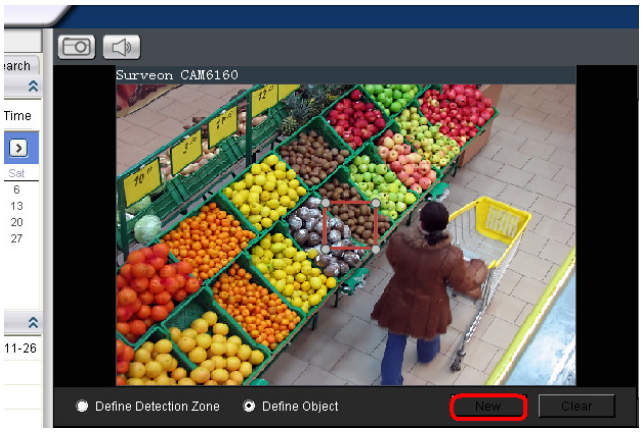
Forbidden area detection involves using the software to analyze the video feed and immediately detect any object in specified areas. To configure:

1. Select **Forbidden Area Detection** from the **Event Type** dropdown.
2. Select **Define Detection Zone** and click the **New** button to create a new window. Up to 3 detection windows can be set for each camera. The current window will be highlighted with a red border.

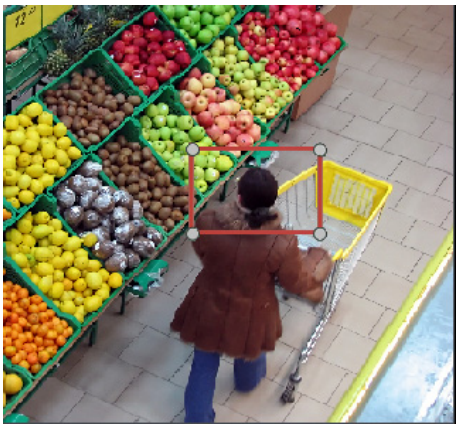


3. Click and drag the white dots along window border of a window to resize or reshape the window. Click the interior of windows and hold to drag to reposition them. Move and resize windows until the forbidden area is covered.

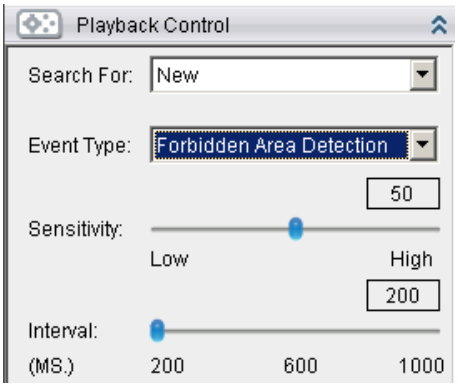
4. Select **Define Object** and click the **New** button to create an object box.



5. Click and drag the white dots along the window border to resize it and define the minimum size of objects that will be detected.



6. Adjust the sliders in the *Playback Control* section. (Settings will be applied to all existing windows)
   - **Sensitivity** - Adjusts window sensitivity from 0 (low) to 100 (high).
   - **Interval -** Adjusts how much time between each check of the forbidden area.



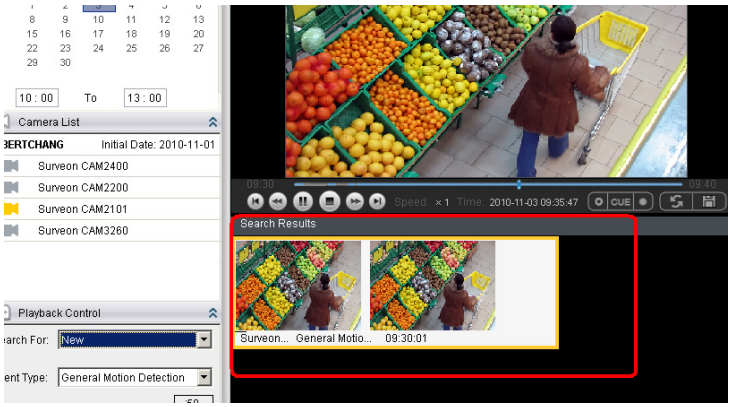
Saving/Retrieving a VI Search

Once the VI search is setup, you may save it by clicking the **Save** button. The system will prompt you for a name. Saved VI searches can also be retrieved using the **Search for** dropdown, or by clicking the **Next** button.

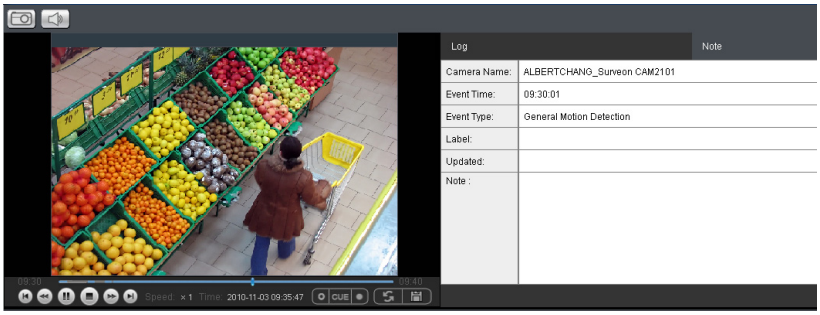
Using the Search Results

Selecting the Result

Search result thumbnail(s) will be displayed in the results box.



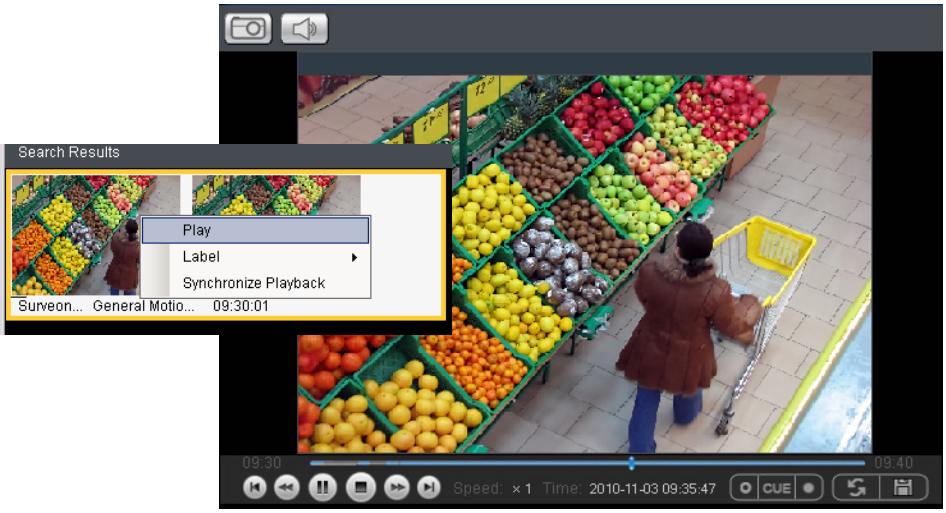
Clicking the thumbnail will select the detection instance. The following information fields are available for each instance:



- **Camera Name** – The camera used to capture the video.
- **Event Time** – The time the event occurred.
- **Event Type** – The type of VI detection that the event triggered.
- **Label** – A user-defined label (optional).
- **Updated -** The last time the event was updated.
- **Note -** A simple comment or note for the clip.

Result Playback

Once a result is selected by clicking on it, playback can be started by double clicking on the thumbnail. Alternatively, you may right-click the thumbnail and click **Play**. A ten minute clip containing the event will begin playing, with the start time synchronized with the start of the event.

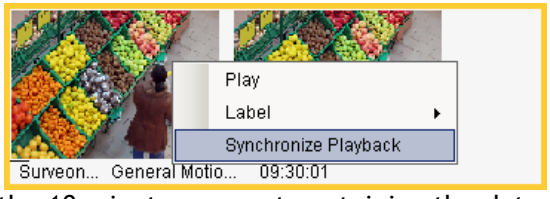


The following functions are available for playback:

	Starts video playback.
	Pauses the video.
	Stops video playback.
	Fast forwards the video playback.
	Jumps to the next segment.
	Slows down the video playback.
	Jumps to the previous segment.
	Clicking this button and clicking the timeline will set the cue-in time.
	Clears the cue-in and cue-out markers
	Clicking this button and clicking the timeline will set the cue-out time.
	Clicking this button will loop the video segment between the cue-in and cue-out markers.

Playback Synchronization

Search results can be sent to the time-based playback window for comparison with other video streams using the **Synchronize Playback** function. This

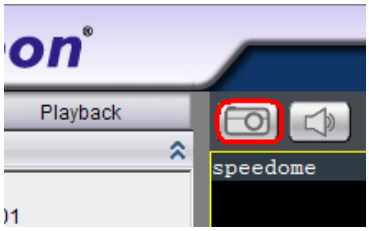


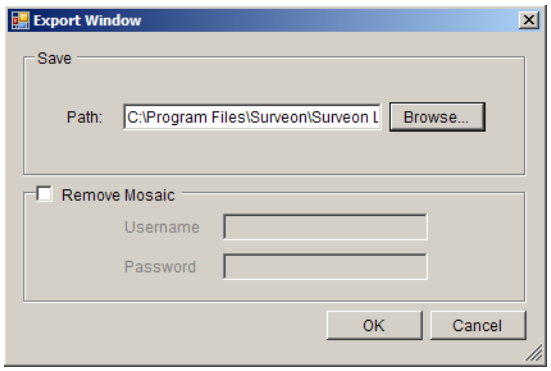
action will send the 10 minute segment containing the detected event to the time-based playback window.

Capture Screenshot

To capture a screenshot:

1. Click the **Capture** button located in the button area.
2. In the **Path** field enter a file path and filename for the screenshot. Alternately, you may also click **Browse** and select a file path.
3. **(Optional)** You may click **Remove Mosaic** and enter a valid **Username** and **Password** to remove any privacy-mask mosaicing.



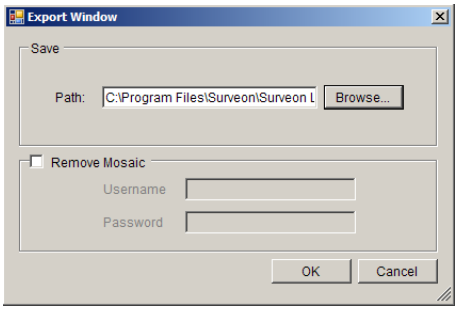


4. Click **OK** to save the screenshot.

Capture Video Clip

To capture a video segment:

1. Click the **Cue In** button, and place the marker at the start of the segment to be captured.
2. Click the **Cue Out** button, and place the marker at the end of the segment to be captured.
3. Click the **Save Video Clip** button located in the control area beside the **Cue In** and **Cue Out** buttons. A system popup will open prompting for a filename and location for the video clip.



4. **(Optional)** Change the filename and file path. If you do not change the file details, the default save location for the video clip will be your installation path.
5. **(Optional)** You may click **Remove Mosaic** and enter a valid **Username** and **Password** to remove any privacy-mask mosaicing.

Logging and Noting

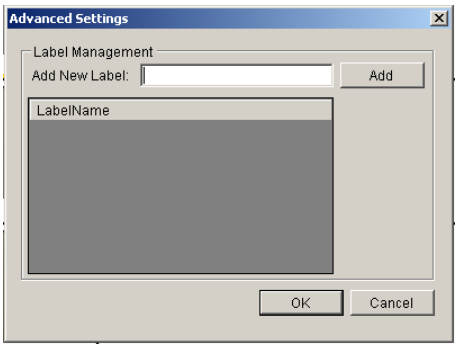
Clicking the **Note** tab beside the log entry will let you tag and note the search result for future references.

You may choose one of the following:

- **Label** - Select one of the defined labels.
- **Note** - A short description for the video clip.

Label Setup

Clicking **Advanced** from the note context will bring up the label setup menu.

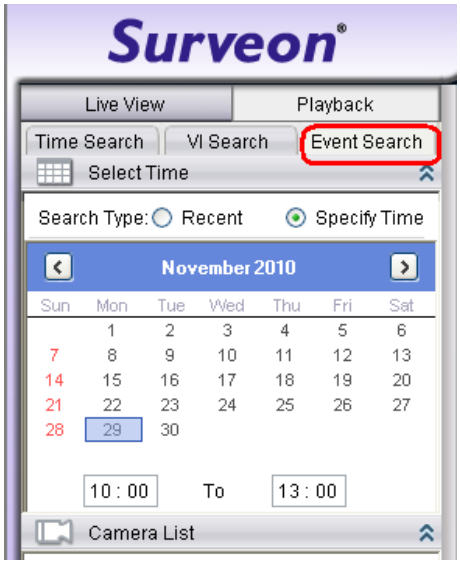


To add a label:

6. Enter a name in the **Add New Label** field.
7. Click **Add**. The new label will appear in the LabelName table. Future clips may be tagged with this label.

6.4. Event Search

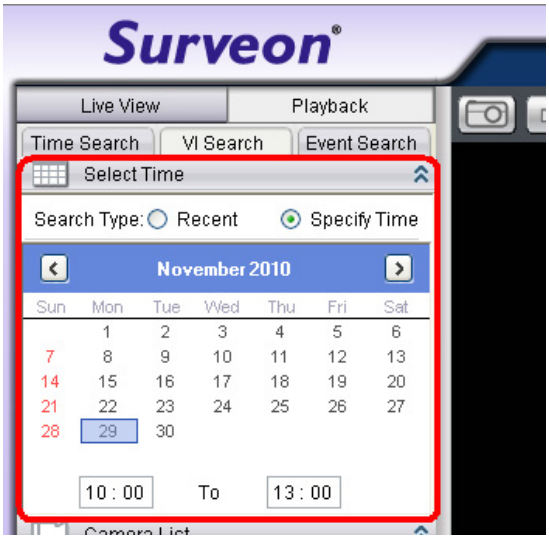
An event search involves searching for multiple tagged events over one more cameras. To access Event search, click the *Event Search* tab in the *Playback* context.



Creating an Event Search

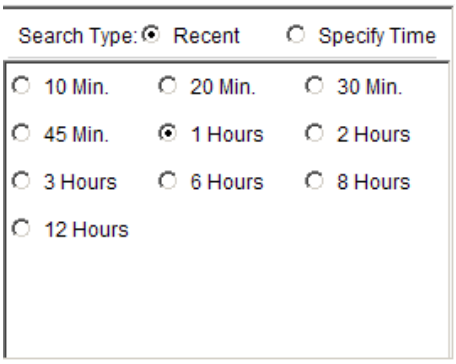
Time Selection

There are two types of time selections that can be made: Recent Time and Specified Time.



Recent Time

To perform a recent time search, click the **Recent** option in the time selection box. Choose one of the simple time choices to perform playback/search from that time period.

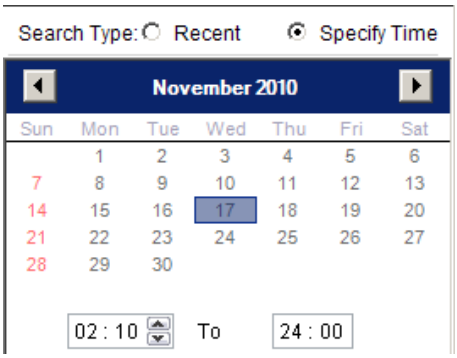


Specified Time

A specified time search can be selected by choosing the **Specify Time** option from the time selection box, and involves defining a time and date for the playback/search.

Using the calendar select a date for search/playback. For an event search, multiple dates can be selected by clicking on the calendar and dragging the cursor to select multiple dates. Multiple areas can be selected by pressing the **control** key and selecting additional dates.

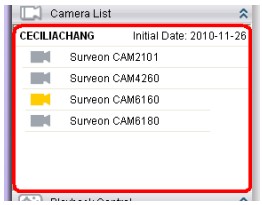
Once a date or dates are selected, clicking on the boxes will allow you to specify a specific period to search/playback in 10 minute increments.



Camera Selection

Once the search time range has been specified, a list of cameras with video recorded during the period specified will appear in the *Camera List*.

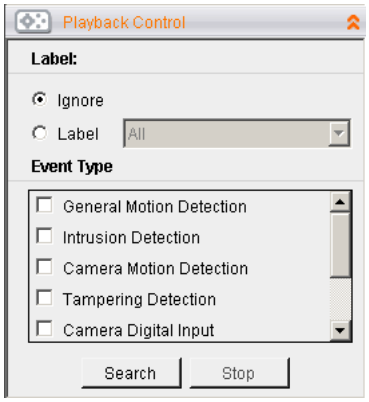
Select a camera to perform the event search on by clicking its entry. Multiple cameras can be selected for the earch.



Set Event Search Criteria

To set the event search criteria:

1. Choose an **Event Type** and/or a **Label** to search for. Selecting **Ignore** will search for all labels.

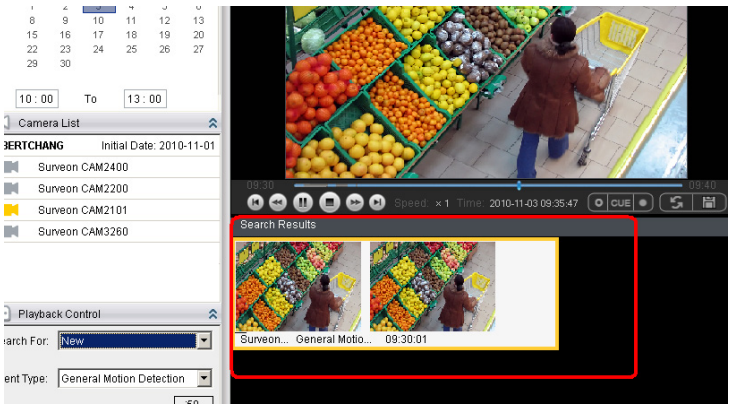


2. Click **Search** to begin the search. Results will display in the *Search Results* panel.

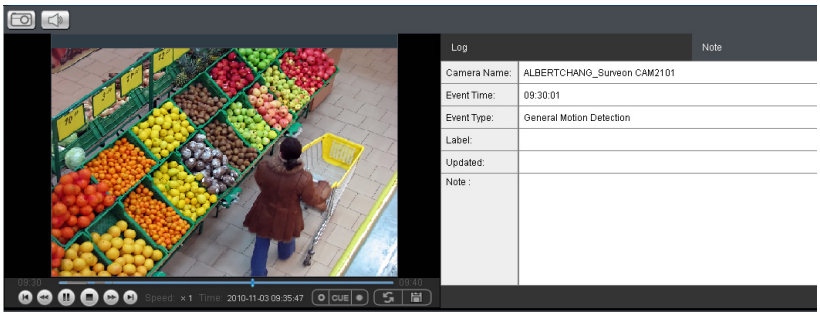
Using the Search Results

Selecting the Result

Search result thumbnail(s) will be displayed in the results box.



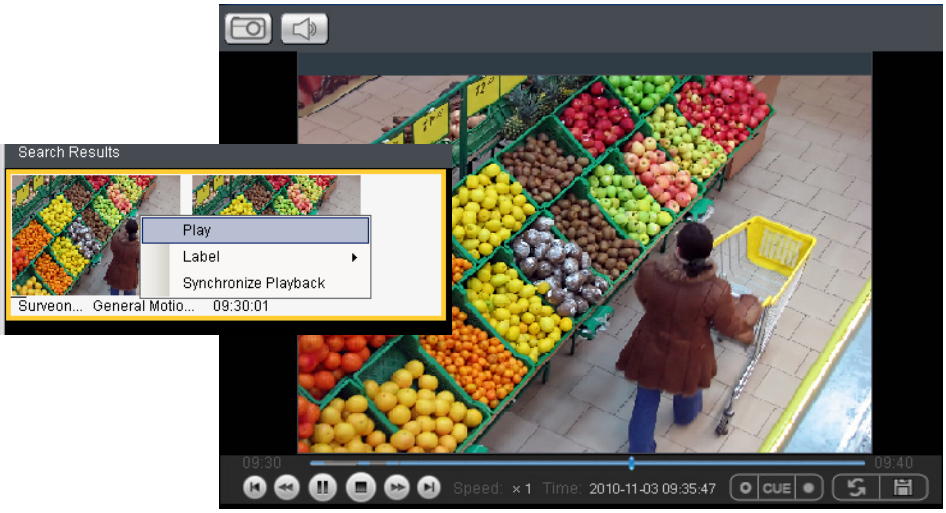
Clicking the thumbnail will select the detection instance. The following information fields are available for each instance:



- **Camera Name** – The camera used to capture the video.
- **Event Time** – The time the event occurred.
- **Event Type** – The type of VI detection (if any) that the event triggered (optional).
- **Label** – A user-defined label (optional).
- **Updated –** The last time the event was updated.
- **Note –** A simple comment or note for the clip.

Result Playback

Once a result is selected by clicking on it, playback can be started by double clicking on the thumbnail. Alternatively, you may right-click the thumbnail and click **Play**. A ten minute clip containing the event will begin playing, with the start time synchronized with the start of the event.

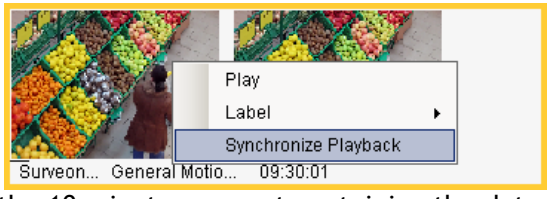


The following functions are available for playback:

	Starts video playback.
	Pauses the video.
	Stops video playback.
	Fast forwards the video playback.
	Jumps to the next segment.
	Slows down the video playback.
	Jumps to the previous segment.
	Clicking this button and clicking the timeline will set the cue-in time.
	Clears the cue-in and cue-out markers
	Clicking this button and clicking the timeline will set the cue-out time.
	Clicking this button will loop the video segment between the cue-in and cue-out markers.

Playback Synchronization

Search results can be sent to the time-based playback window for comparison with other video streams using the **Synchronize Playback** function. This

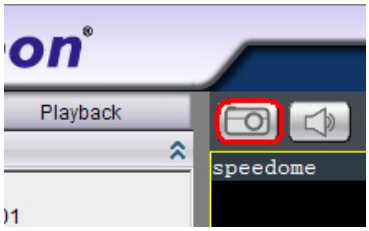


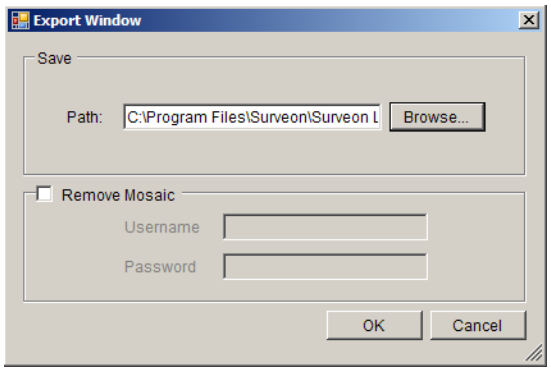
action will send the 10 minute segment containing the detected event to the time-based playback window.

Capture Screenshot

To capture a screenshot:

3. Click the **Capture** button located in the button area.
4. In the **Path** field enter a file path and filename for the screenshot. Alternately, you may also click **Browse** and select a file path.
5. **(Optional)** You may click **Remove Mosaic** and enter a valid **Username** and **Password** to remove any privacy-mask mosaicing.





6. Click **OK** to save the screenshot.

Logging and Noting

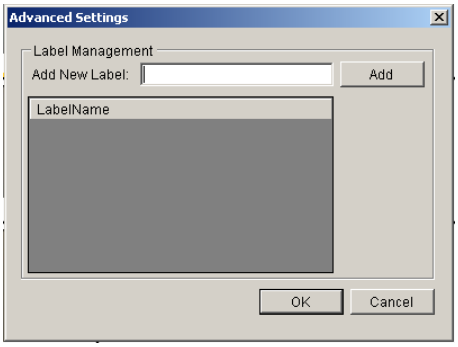
Clicking the **Note** tab beside the log entry will let you tag and note the search result for future references.

You may choose one of the following:

- **Label** – Select one of the defined labels.
- **Note** – A short description for the video clip.

Label Setup

Clicking **Advanced** from the note context will bring up the label setup menu.



To add a label:

1. Enter a name in the **Add New Label** field.
2. Click **Add**. The new label will appear in the LabelName table. Future clips may be tagged with this label.

Chapter 7. E-Maps

This section deals with other advanced features requiring setup.

7.1. E-Maps

When alarms occur, an administrator can quickly locate where the alarms took place using an E-map. This feature allows the administrator to superimpose camera icons over a map/layout drawing of the facility being monitored.

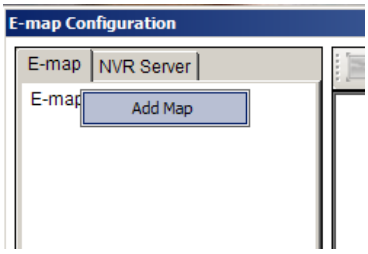
Configuring an E-Map

To bring up the E-Map popup, right-click the E-Maps root in the *E-Map Explorer* section of the live view screen, then highlight and click the **E-map Configuration** option.

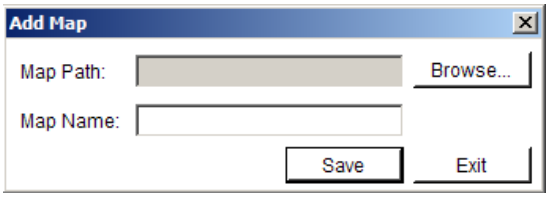
Adding an E-Map

To add an E-Map,

1. Prepare layout drawings or a map of the area being surveyed. For example a perimeter layout would make a good E-Map.



2. In the E-map configuration screen, under the *E-map* tab, right-click the E-map root and select **Add Map.**



3. Click the **Browse** button to open a windows dialog. Select your map and click the **Open** button. The drawing will be stored in the Server.
4. Enter a name for the map in the **Map Name** field.
5. Click **Save**. Once successfully added, an E-map entry will appear on the tree panel.

Adding Sub-Maps

Sub-maps can be used when separate areas within a large maps are complicated enough to have their own specific layout.

1. Prepare layout drawings or a map of the area being surveyed.
2. In the E-map configuration screen, under the *E-map* tab, right-click the node that you wish to add a sub-map to, and select **Add>Sub-Map**.
3. Click the **Browse** button to open a windows dialog. Select your map and click the **Open** button. The drawing will be stored in the Server.
4. Enter a name for the map in the **Map Name** field.
5. Click **Save**. Once successfully added, an E-map node will appear as a sub-node on the tree panel. A link with the sub-map name will also be placed on the root map.

Adding Additional E-Maps

The typical E-map **Add** function will add new maps to the end of the list. You may choose to add a map before or after an existing map by:

1. Prepare layout drawings or a map of the area being surveyed.
2. In the E-map configuration screen, under the *E-map* tab, right-click the node which you want to add a map before or after. Choose **Add>Previous Map** to add a map before the selected map, or choose **Add>Next Map** to add a map after the selected map.
3. Click the **Browse** button to open a windows dialog. Select your map and click the **Open** button. The drawing will be stored in the Server.
4. Enter a name for the map in the **Map Name** field.
5. Click **Save**. Once successfully added, an E-map node will appear as in the tree panel.

Changing E-Map Order

In the e-maps list, it is recommended to organize your e-maps in a logical order. In some cases it may be necessary to re-order the e-maps you have added. To perform this action in the e-map configuration screen, first right-click the node which you want to move. Choose **Move>Previous Map** to move the selected map up the list, or choose M**ove>Next Map** to move the selected map down the list.

Renaming an E-Map

In the e-maps list, it is recommended to organize your e-maps in a logical order. In some cases it may be necessary to rename an e-map you have added. To perform this action in the e-map configuration screen, right-click the node which you want to delete and choose **Rename**. Enter a new name for the map and press enter to save your changes.

Configuring an E-Map

To configure an E-Map

1. Select an E-map entry clicking it.
2. Click the **NVR Server** tab to bring up a list of the cameras available for placement.
3. Drag and drop cameras to anywhere on the layout drawing. The map may be moved by clicking and dragging the map, you may also zoom in and out using the buttons above the map display.
4. Once a camera icon is placed, it may be rotated by clicking one of the dotted corners of the camera icon.
5. You may save any time by clicking on the **Save** button located above the map display.

Deleting an E-Map

In the e-maps list, it is recommended to organize your e-maps in a logical order. In some cases it may be necessary to delete an e-map you have added. To perform this action in the e-map configuration screen, right-click the node which you want to delete and choose **Delete Map**. This action will delete the node and any sub-nodes from the map list.

Using the E-Map

Once E-Maps have been configured on the system, you can pull up an E-Map by double clicking its entry in the *E-Maps* section of the Live View screen. This will open the E-Map in a floating window.

The camera icons that have been placed on the map will blink if there is an alarm associated with it. Double-click on any camera icon to bring up a live video feed in a popup window.

There are also a few buttons associated with this view:

Zoom Out: Located at the bottom mid-left. This button shrinks the background map display.

Zoom In: Located at the bottom mid-right. This button enlarges the background map display.

Arrows: Located on the top left. Use the arrow keys to move from map levels.

Chapter 8. Alarms and Events

Alarm handling in the Surveon VMS is divided into **4** distinct phases:

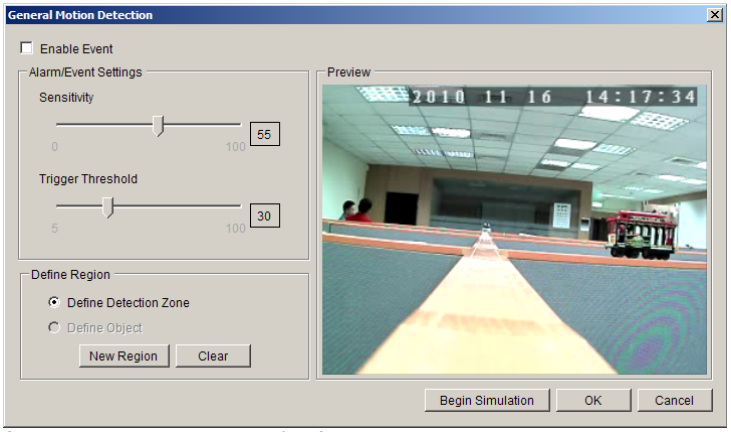
1. **Condition**: The condition is the triggering event for the alarm such as Motion/Video loss/Sensor Input/Clock Alarm, etc.
2. **Action**: Specifies steps and actions that can be undertaken when an alarm is triggered.
3. **Rule**: An alarm rule combines conditions with corresponding actions.
4. **Schedule**: Allows the user to schedule the application of specific alarm rules. This is useful in cases such as applying rules to non-office hours.

This section will guide the user through the setup of VI detection and digital Inputs for detecting alarm conditions, the setup of digital outputs and alarm popups and notifications, as well as the setup of alarm rules and schedules.

8.1. Camera VI Detection Settings

General Motion Detection

General motion detection involves using the software to analyze the video



feed and detect motion in specified areas.

Configuring and Editing Detection Windows

To configure a new detection window:

5. Right-click the camera entry in the *Device Browser*, and click **Motion Settings> General Motion Detection**.
6. If a new window is desired, click the **New Region** button to create a new window. Up to 3 detection windows can be set for each camera. The current window will be highlighted with a red border.
7. Click and drag the white dots along window border of a window to resize or reshape the window.
8. Click the interior of a window to drag it to the desired position.
9. Adjust the sliders: (Settings will be applied to all existing windows)
   - **Sensitivity** - Adjusts window sensitivity from 0 (low) to 100 (high).
   - **Trigger Threshold -** Adjusts the amount of change allowed before and event is triggered.
10. Click **OK** to save the changes and exit the popup.

Testing Detection Windows

To test a detection window:

1. Right-click the camera entry in the *Device Browser*, then highlight and click the **Motion Settings> General Motion Detection** option.
2. Click the **Begin Simulation** button enable test detection. During testing a red border will appear around any moving objects detected.
3. Click **End Simulation** to end the simulation.
4. Click **OK** to exit the popup.

Deleting a Detection Window

To delete a new detection window:

5. Right-click the camera entry in the *Device Browser*, then highlight and click the **Motion Settings> General Motion Detection** option.
6. **H**ighlight an existing detection window.
7. Click the **Clear** button to delete the window.
8. Click **OK** to save the changes and exit the popup.

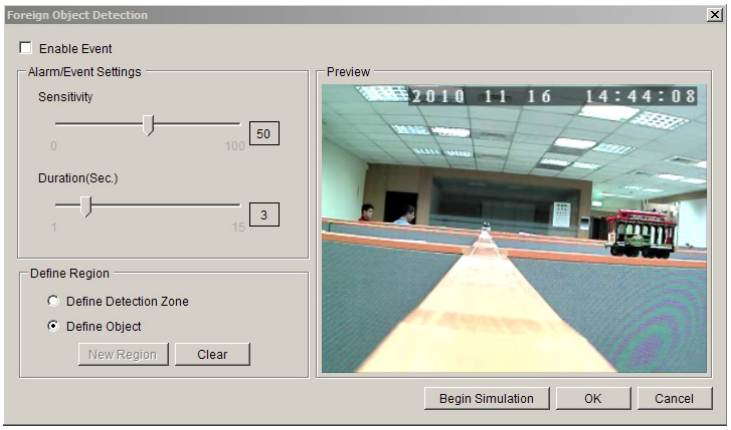
Enabling or Disabling a Detection

To enable or disable the detection functions:

1. Right-click the camera entry in the *Device Browser*, then highlight and click the **Motion Settings> General Motion Detection** option.
2. Check the **Enable Event** box to enable detection, or uncheck the box to disable detection.
3. Click **OK** to save the changes and exit the popup.

Foreign Object Detection

Foreign object detection involves using the software to analyze a video feed and detect objects that do not belong.



Configuring and Editing Detection Windows

To configure a new detection window:

4. Right-click the camera entry in the *Device Browser*, and click **Motion Settings> Foreign Object Detection**.
5. If a new window is desired, select **Define Detection Zone** and click the **New Region** button to create a new window. Up to 3 detection windows can be set for each camera. The current window will be highlighted with a red border.
6. Click and drag the white dots along window border of a window to resize or reshape the window.
7. Click the interior of a window to drag it to the desired position.
8. If an object size has not yet been defined, select **Define Object** and click the **New Region** button to create an object box.
9. Click and drag the corners of the object box to define the minimum size of objects that will be detected.
10. Adjust the sliders: (Settings will be applied to all existing windows)
    - **Sensitivity** - Adjusts window sensitivity from 0 (low) to 100 (high).
    - **Duration -** Adjusts the amount of time before an object triggers an event.
11. Click **OK** to save the changes and exit the popup.

Testing Detection Windows

To test a detection window:

1. Right-click the camera entry in the *Device Browser*, then highlight and click the **Motion Settings> Foreign Object Detection** option.
2. Click the **Begin Simulation** button enable test detection. During testing a red border will appear around any foreign objects detected.
3. Click **End Simulation** to end the simulation.
4. Click **OK** to exit the popup.

Deleting a Detection Window

To delete a new detection window:

1. Right-click the camera entry in the *Device Browser*, then highlight and click the **Motion Settings> Foreign Object Detection** option.
2. Highlight an existing detection window.
3. Click the **Clear** button to delete the window.
4. Click **OK** to save the changes and exit the popup.

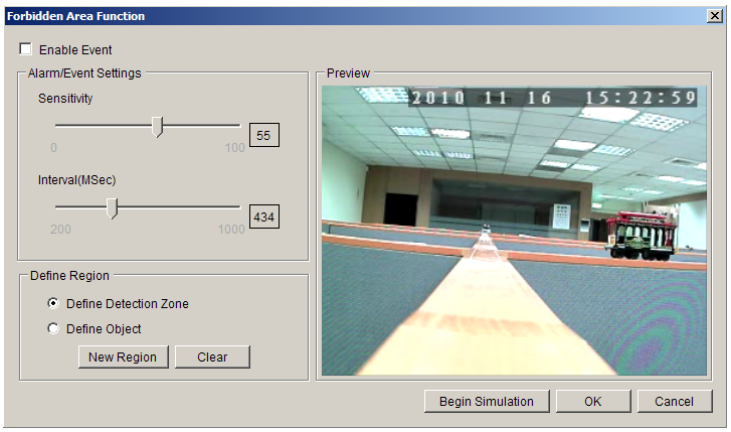
Enabling or Disabling a Detection

To enable or disable the detection functions:

1. Right-click the camera entry in the *Device Browser*, then highlight and click the **Motion Settings> Foreign Object Detection** option.
2. Check the **Enable Event** box to enable detection, or uncheck the box to disable detection.
3. Click **OK** to save the changes and exit the popup.

Forbidden Area Detection

Forbidden area detection involves using the software to analyze the video feed and immediately detect any object in specified areas.



Configuring and Editing Detection Windows

To configure a new detection window:

1. Right-click the camera entry in the *Device Browser*, and click **Motion Settings> Forbidden Area Detection**.
2. If a new window is desired, select **Define Detection Zone** and click the **New Region** button to create a new window. Up to 3 detection windows can be set for each camera. The current window will be highlighted with a red border.
3. Click and drag the white dots along window border of a window to resize or reshape the window.
4. Click the interior of a window to drag it to the desired position.
5. If an object size has not yet been defined, select **Define Object** and click the **New Region** button to create an object box.
6. Click and drag the corners of the object box to define the minimum size of objects that will be detected.
7. Adjust the sliders: (Settings will be applied to all existing windows)
   - **Sensitivity** - Adjusts window sensitivity from 0 (low) to 100 (high).
   - **Interval -** Adjusts how much time between each check of the forbidden area.
8. Click **OK** to save the changes and exit the popup.

Testing Detection Windows

To test a detection window:

1. Right-click the camera entry in the *Device Browser*, then highlight and click the **Motion Settings> Forbidden Area Detection** option.
2. Click the **Begin Simulation** button enable test detection. During testing a red border will appear around any objects detected in the forbidden area.
3. Click **End Simulation** to end the simulation.
4. Click **OK** to exit the popup.

Deleting a Detection Window

To delete a new detection window:

1. Right-click the camera entry in the *Device Browser*, then highlight and click the **Motion Settings> Forbidden Area Detection** option.
2. Highlight an existing detection window.
3. Click the **Clear** button to delete the window.
4. Click **OK** to save the changes and exit the popup.

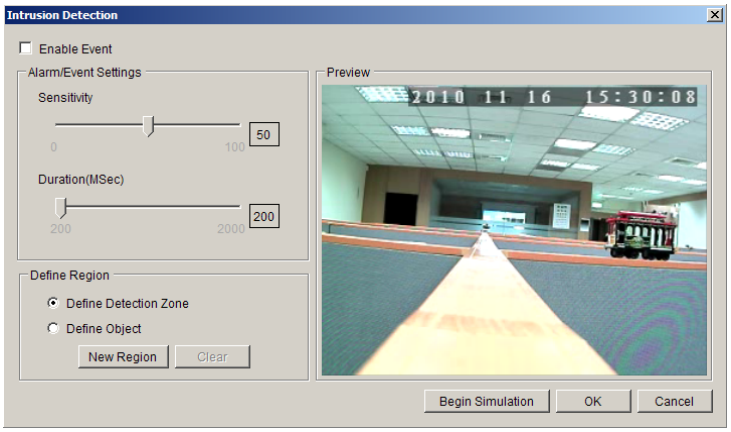
Enabling or Disabling a Detection

To enable or disable the detection functions:

1. Right-click the camera entry in the *Device Browser*, then highlight and click the **Motion Settings> Forbidden Area Detection** option.
2. Check the **Enable Event** box to enable detection, or uncheck the box to disable detection.
3. Click **OK** to save the changes and exit the popup.

Intrusion Detection

Intrusion detection involves using the software to analyze the video feed and detect intrusion in specified areas.



Configuring and Editing Detection Windows

To configure a new detection window:

1. Right-click the camera entry in the *Device Browser*, and click **Motion Settings> Intrusion Detection**.
2. If a new window is desired, select **Define Detection Zone** and click the **New Region** button to create a new window. Up to 3 detection windows can be set for each camera. The current window will be highlighted with a red border.
3. Click and drag the white dots along window border of a window to resize or reshape the window.
4. Click the interior of a window to drag it to the desired position.
5. If an object size has not yet been defined, select **Define Object** and click the **New Region** button to create an object box.
6. Click and drag the corners of the object box to define the minimum size of objects that will be detected.
7. Adjust the sliders: (Settings will be applied to all existing windows)
   - **Sensitivity** - Adjusts window sensitivity from 0 (low) to 100 (high).
   - **Interval -** Adjusts how much time between each check of the window for intrusions.
8. Click **OK** to save the changes and exit the popup.

Testing Detection Windows

To test a detection window:

1. Right-click the camera entry in the *Device Browser*, then highlight and click the **Motion Settings> Intrusion Detection** option.
2. Click the **Begin Simulation** button enable test detection. During testing a red border will appear around any objects detected.
3. Click **End Simulation** to end the simulation.
4. Click **OK** to exit the popup.

Deleting a Detection Window

To delete a new detection window:

1. Right-click the camera entry in the *Device Browser*, then highlight and click the **Motion Settings> Intrusion Detection** option.
2. Highlight an existing detection window.
3. Click the **Clear** button to delete the window.
4. Click **OK** to save the changes and exit the popup.

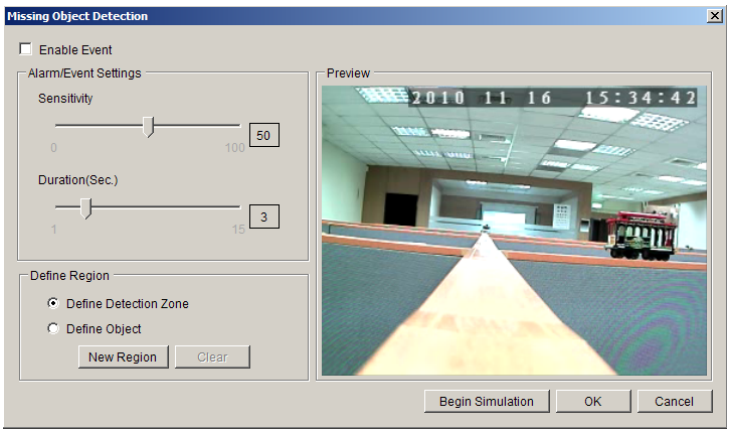
Enabling or Disabling a Detection

To enable or disable the detection functions:

1. Right-click the camera entry in the *Device Browser*, then highlight and click the **Motion Settings> Intrusion Detection** option.
2. Check the **Enable Event** box to enable detection, or uncheck the box to disable detection.
3. Click **OK** to save the changes and exit the popup.

Missing Object Detection

Missing object detection involves using the software to analyze the video feed and detect missing objects larger than a certain size.



Configuring and Editing Detection Windows

To configure a new detection window:

1. Right-click the camera entry in the *Device Browser*, and click **Motion Settings> Missing Object Detection**.
2. If a new window is desired, select **Define Detection Zone** and click the **New Region** button to create a new window. Up to 3 detection windows can be set for each camera. The current window will be highlighted with a red border.
3. Click and drag the white dots along window border of a window to resize or reshape the window.
4. Click the interior of a window to drag it to the desired position.
5. If an object size has not yet been defined, select **Define Object** and click the **New Region** button to create an object box.
6. Click and drag the corners of the object box to define the minimum size of the missing objects that will be detected.
7. Adjust the sliders: (Settings will be applied to all existing windows)
   - **Sensitivity** - Adjusts window sensitivity from 0 (low) to 100 (high).
   - **Duration (Sec)** - Adjusts how much time an object is missing before an event is triggered.
8. Click **OK** to save the changes and exit the popup.

Testing Detection Windows

To test a detection window:

1. Right-click the camera entry in the *Device Browser*, then highlight and click the **Motion Settings> Missing Object Detection** option.
2. Click the **Begin Simulation** button enable test detection. During testing a red border will appear if a object goes missing.
3. Click **End Simulation** to end the simulation.
4. Click **OK** to exit the popup.

Deleting a Detection Window

To delete a new detection window:

1. Right-click the camera entry in the *Device Browser*, then highlight and click the **Motion Settings> Missing Object Detection** option.
2. Highlight an existing detection window.
3. Click the **Clear** button to delete the window.
4. Click **OK** to save the changes and exit the popup.

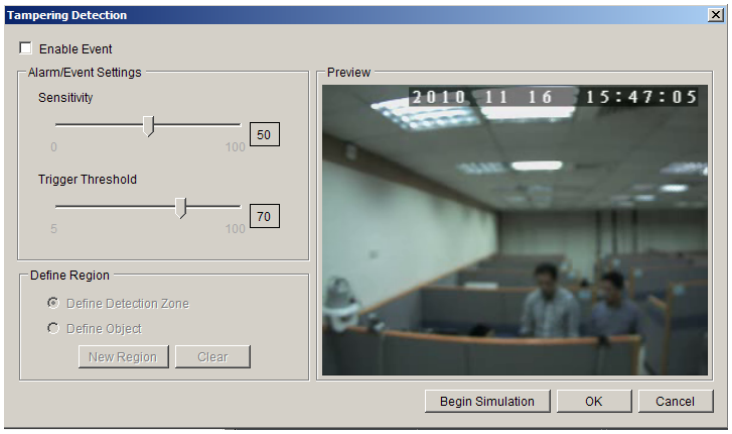
Enabling or Disabling a Detection

To enable or disable the detection functions:

1. Right-click the camera entry in the *Device Browser*, then highlight and click the **Motion Settings> Missing Object Detection** option.
2. Check the **Enable Event** box to enable detection, or uncheck the box to disable detection.
3. Click **OK** to save the changes and exit the popup.

Tampering Detection

Tampering detection involves using the software to determine when the camera has been improperly moved or redirected.



Configuring Tampering Detection

To configure a new detection window:

4. Right-click the camera entry in the *Device Browser*, and click **Motion Settings> Tampering Detection**.
5. Adjust the sliders:
   - **Sensitivity** - Adjusts window sensitivity from 0 (low) to 100 (high).
   - **Trigger Threshold** - Adjusts the amount of change allowed before an event is triggered.
6. Click **OK** to save the changes and exit the popup.

Testing Tampering Detection

To test a detection window:

1. Right-click the camera entry in the *Device Browser*, then highlight and click the **Motion Settings> Tampering Detection** option.
2. Click the **Begin Simulation** button enable test detection. During testing a red border if tampering is detected.
3. Click **End Simulation** to end the simulation.
4. Click **OK** to exit the popup.

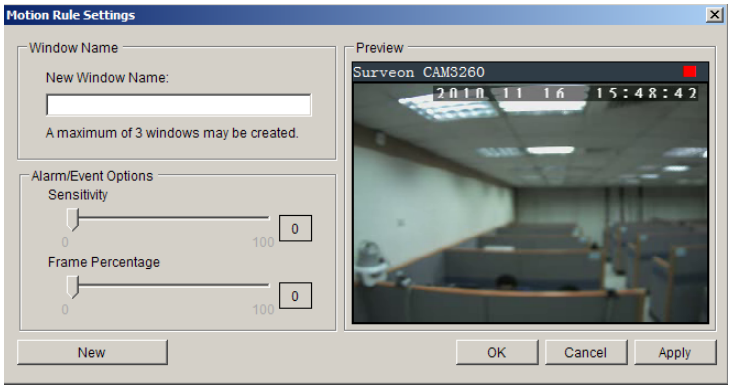
Enabling or Disabling a Detection

To enable or disable the detection functions:

1. Right-click the camera entry in the *Device Browser*, then highlight and click the **Motion Settings> Missing Object Detection** option.
2. Check the **Enable Event** box to enable detection, or uncheck the box to disable detection.
3. Click **OK** to save the changes and exit the popup.

Camera Motion Detection

Camera motion detection involves using the camera hardware to analyze the video feed and detect motion in specified areas.



Configuring and Editing Detection Windows

To configure a new detection window:

1. Right-click the camera entry in the *Device Browser*, and click **Motion Settings> Camera Motion Detection**.

Note: You must be logged into the camera before changing settings or else the operation will fail.

2. If a new window is desired, enter a name in the **New Window Name** field and click the **New** button. Up to 3 detection windows can be set for each camera. The current window will be highlighted.
3. Click and drag the window border of a window to resize or reshape the window.
4. Click the interior of a window to drag it to the desired position.
5. Adjust the sliders: (Settings will be applied to all existing windows)
   - **Sensitivity** - Adjusts window sensitivity from 0 (low) to 100 (high).
   - **Frame Percentage -** Adjusts the amount of the window that must change before an event is triggered.
6. Click **Apply** to save the changes and **OK** to exit the popup.

Deleting a Detection Window

To delete a new detection window:

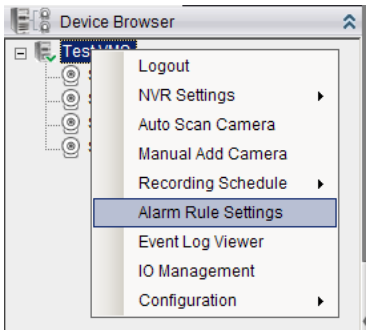
1. Right-click the camera entry in the *Device Browser*, then highlight and click the **Motion Settings> General Motion Detection** option.
2. Click the **X** at the top right corner of the window to delete the window.

Click **OK** to save the changes and exit the popup.

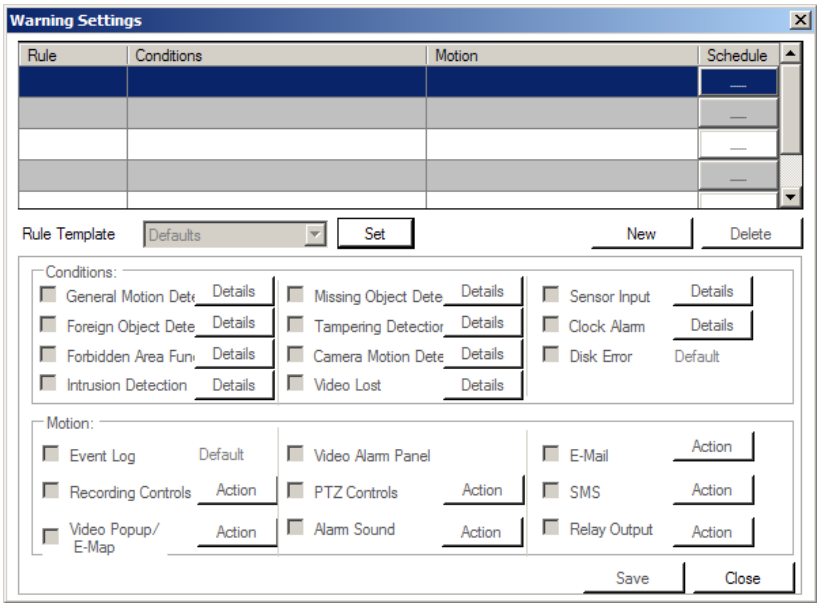
8.2. Alarm Rules

The Surveon Local Client software provides robust alarm handling features.

To access these features right-click the Server entry and then highlight and click the **Alarm Rule Settings** option.



In the alarm rule settings, you can combine the alarm trigger conditions with action items such as event notification, video recording, and/or camera movements. Multiple alarm rules can be created using the following elements:



3. **Rule**: A short description. For example, "east -fence intrusion detection" or "front entrance access control."

4. **Condition**: Specifies triggering conditions such as Motion/Video loss/Sensor input/Clock Alarm, etc.

5. **Action**: Specifies the action to take when the alarm is triggered.

6. **Schedule**: Allows the user to schedule the application of specific Alarm rules. This is useful in cases such as applying rules to non-office hours.

Adding an Alarm Rule

To add an alarm rule

1. Click the **New** button.
2. Enter a short description for the new rule in the **Add Rule** field.
3. Choose conditions and actions. Click the **…..** button in the alarm field to set up a schedule for the rule. These selections are described in the following sections.
4. Click the **Set** button to save the rule.

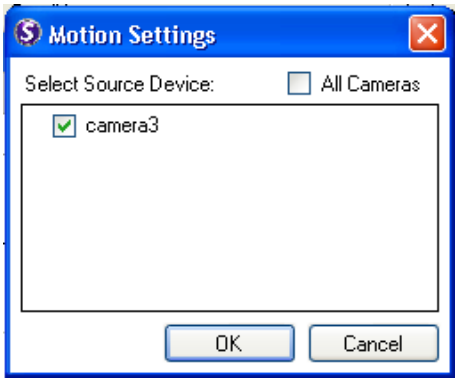
Alarm Conditions

The follow alarm conditions can be set to trigger the alarm:

General Motion Detection

When configuring a camera, a detection area can be specified for General Motion Detection. After the detection area is specified, detection can be activated and an alarm handling scheme configured in this menu.

Clicking on the **Detail** button will pull up a menu listing all the devices with General Motion Detection active.

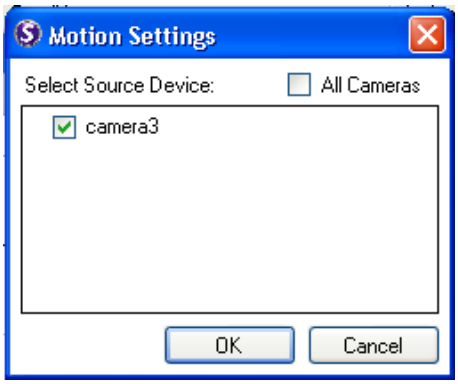


From this menu, click the checkboxes next to the cameras that have General Motion Detection configured. Optionally, check the **All Cameras** check box to use all the cameras available. Click the **OK** button to exit the menu.

Foreign Object Detection

When configuring a camera, a detection area can be specified for Foreign Object Detection. After the detection area is specified, detection can be activated and an alarm handling scheme configured in this menu.

Clicking on the **Detail** button will pull up a menu listing all the devices with the Foreign Object Detection active.

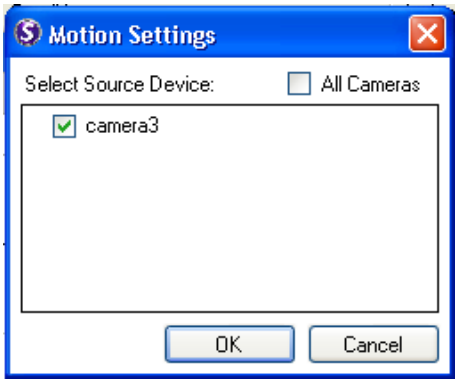


From this menu, click the checkboxes next to the cameras that have Foreign Object Detection configured. Optionally, check the **All Cameras** check box to use all the cameras available. Click the **OK** button to exit the menu.

Forbidden Area Detection

When configuring a camera, a detection area can be specified as forbidden for the Forbidden Area Detection function. After the area is specified, detection can be activated and an alarm handling scheme configured in this menu.

Clicking on the **Detail** button will pull up a menu listing all the devices with the Forbidden Area Detection active.

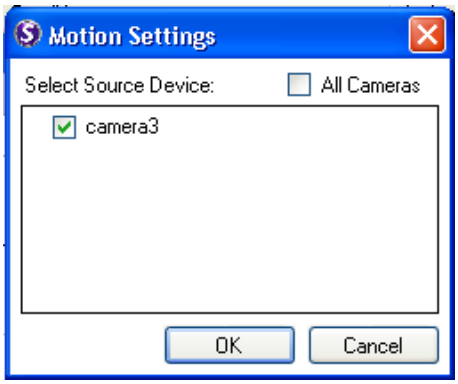


From this menu, click the checkboxes next to the cameras that have a Forbidden Area configured. Optionally, check the **All Cameras** check box to use all the cameras available. Click the **OK** button to exit the menu.

Intrusion Detection

When configuring a camera, a detection area can be specified for Intrusion Detection. After the detection area is specified, detection can be activated and an alarm handling scheme configured in this menu.

Clicking on the **Detail** button will pull up a menu listing all the devices with the Intrusion Detection active.

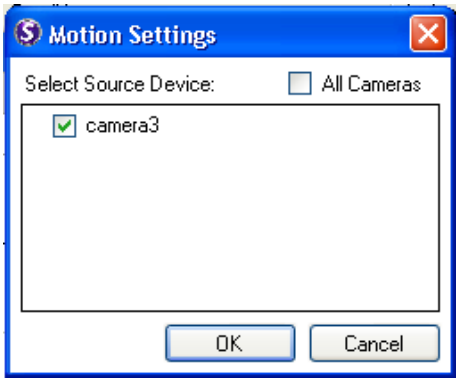


From this menu, click the checkboxes next to the cameras that have Intrusion Detection configured. Optionally, check the **All Cameras** check box to use all the cameras available. Click the **OK** button to exit the menu.

Missing Object Detection

When configuring a camera, an object can be specified for Missing Object Detection. After the object is specified, detection can be activated and an alarm handling scheme configured in this menu.

Clicking on the **Detail** button will pull up a menu listing all the devices with Missing Object Detection active.

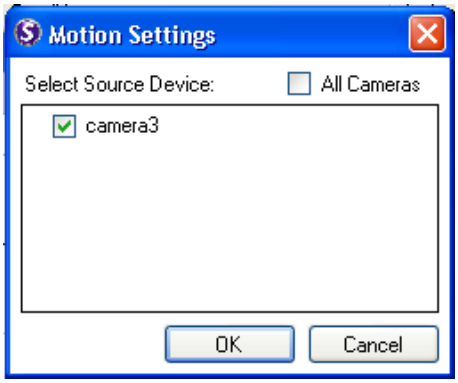


From this menu, click the checkboxes next to the cameras that have Missing Object Detection configured. Optionally, check the **All Cameras** check box to use all the cameras available. Click the **OK** button to exit the menu.

Tampering Detection

When configuring a camera, a detection sensitivity and trigger threshold can be specified for the Tampering Detection. After the detection sensitivity is specified, detection can be activated and an alarm handling scheme configured in this menu.

Clicking on the **Detail** button will pull up a menu listing all the devices with the Tampering Detection active.

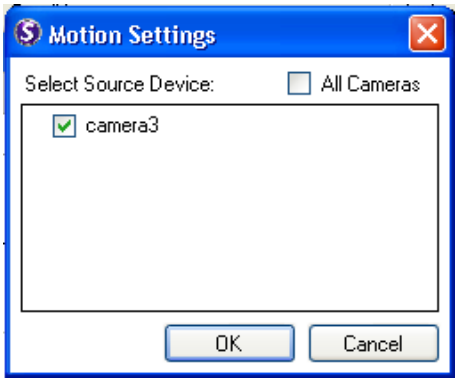


From this menu, click the checkboxes next to the cameras that have Tampering Detection configured. Optionally, check the **All Cameras** check box to use all the cameras available. Click the **OK** button to exit the menu.

Camera Motion Detection

When configuring a camera, a detection area can be specified for Camera Motion Detection. After the detection area is specified, detection can be activated and an alarm handling scheme configured in this menu.

Clicking on the **Detail** button will pull up a menu listing all the devices with Camera Motion Detection active.



From this menu, click the checkboxes next to the cameras that have Camera Motion Detection configured. Optionally, check the **All Cameras** check box to use all the cameras available. Click the **OK** button to exit the menu.

Video Loss

When video input is lost, the alarm is triggered. Clicking on the **Details** button will pull up the *Video Loss Settings* menu, listing all the cameras. From this menu, click the checkboxes next to the cameras that will be used to trigger the Alarm. Optionally, check the **All Cameras** check box to use all the cameras available. Click the **OK** button to exit the menu.

Sensor Input

The alarm is triggered by a sensor input. For example this may include doorway entry sensors that are connected to the camera system. Clicking on the Detail button will pull up the *Sensor Input Settings* menu, listing all the cameras. From this menu, click the checkboxes next to the cameras that will be used to trigger the Alarm. Optionally, check the **All Cameras** check box to use all the cameras available. Click the **OK** button to exit the menu.

Clock Alarm

When a preset time is reached, the alarm is triggered. The Clock Alarm is triggered only on the day it is configured. Clicking on the **Detail** button will pull up the *Clock Alarm Settings* menu.

From this popup select the hour and minute the alarm will be triggered. Click the **OK** button to exit the menu.

Disk Error

The alarm is triggered when a disk drive failure occurs.

Alarm Actions

The following alarm actions can be taken when the alarm is triggered:

Event Log

The system issues event messages when the alarm is triggered.

Recording

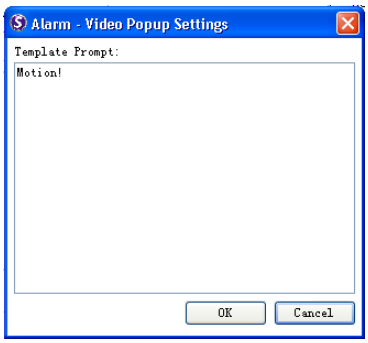
When the alarm is triggered, the system records video onto the storage. Clicking on the **Option** button will pull up the *Recording Settings* menu.

Use the checkboxes within to select cameras that will be recorded. Optionally, check the **All Cameras** check box to use all the cameras available. Click the **OK** button to exit the menu.

Video Popup/E-Map

When the alarm is triggered, a popup video appears on the local client.

Clicking the **Option** button will pull up a menu.



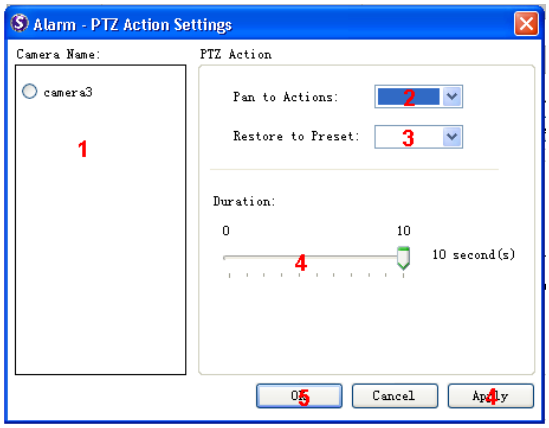
In the *Template Prompt* field type a description or information that will be displayed in the video popup screen. Click the **OK** button to exit the menu.

Video Alarm Panel

This will display the video feed thumbnail in the video alarm panel for review and playback.

PTZ Control

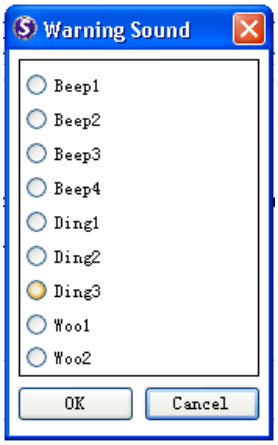
When the alarm is triggered, a Pan-Tilt-Zoom action can be set to slew the camera to a particular position. For examplClicking on the **Option** button brings up the *Alarm-PTZ Action Settings* menu. In this menu:



1. Choose a camera from the list.
2. Select a preset point from the **Pan to Action** dropdown that the camera will pan to.
3. Select the preset that the camera will return to from the **Restore to preset** dropdown.
4. Specify a duration that the camera will stay at the **Pan to Action** preset before returning to the **Restore to Preset** preset using the **Duration** slider. Click **Apply** to save the settings.
5. Click **OK** to exit the menu.

Warning Sound

When the alarm is triggered, the system will play an audible alarm sound. Clicking on the **Option** button will pull up the *Warning Sound* menu, listing

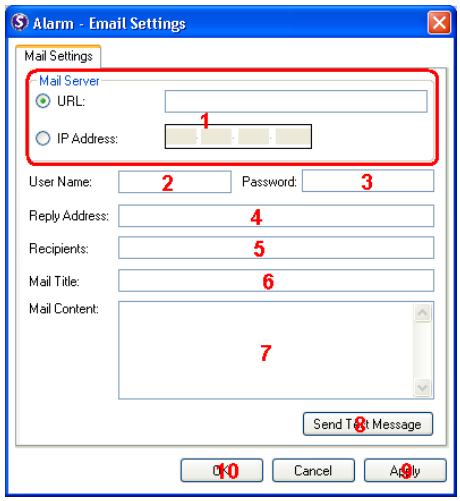


available sounds.

Choose a sound by clicking the radio box next to the desired sound. Click the **OK** button to exit the menu.

E-Mail

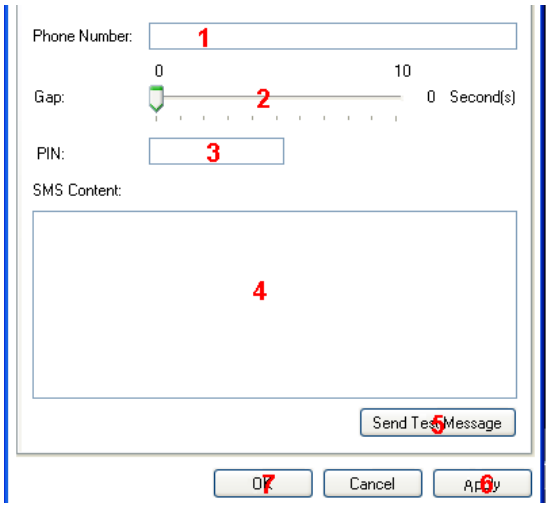
When the alarm is triggered, an E-Mail will be sent. Checking this option will bring up the *Alarm - Email Settings* menu.



1. Under the **Mail Server** heading, enter either enter the URL or IP address of the SMTP server used to deliver e-mail notifications. The SMTP server configured here must support UTF-8 encoding.
2. Enter the server e-mail account user name in the **User Name** field.
3. Enter the server e-mail account password in the **Password** field.
4. Enter default sender listed in e-mails sent from the server in the **Reply Address** field.
5. Enter one or more recipient e-mail addresses in the **Recipients** field. Multiple addresses can be entered by separating individual addresses with semi -colons ";".
6. Enter the subject of your notification e-mails, e.g., Server-xxxsite1notification in the **Mail Title** field.
7. Enter a short message in the **Mail Content** field to describe the Server or a surveillance network.
8. **(Optional)** Click **Send Test Message** to send a test message to the e-mail addresses listed.
9. Click **Apply** to save your settings.
10. Click **OK** to exit the menu.

SMS

When the alarm is triggered, an SMS message will be sent. Checking this option will bring up the *Alarm - SMS Settings* menu.



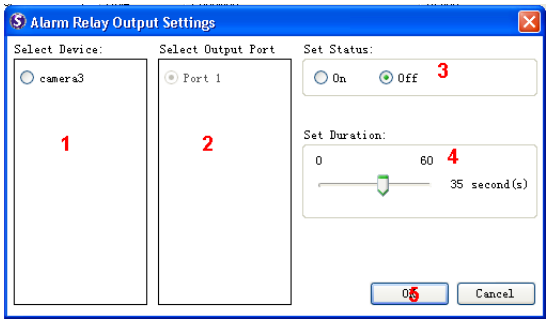
1. In the **Phone Number** field, enter the phone numbers that will receive SMS notifications. Be sure to include the area code, e.g., "86", in front of phone numbers. Use commas, "," to separate individual phone numbers.
2. Use the slider bar to select a delay between the occurrence of an event and SMS message delivery.
3. **(Optional)** If a SIM PIN is required, enter the PIN code in the **PIN** field. Note that applying incorrect PIN code may disable your SIM card.

To change the PIN code, remove the SIM card from your GSM modem. Use a cell phone to change the PIN code and then re -install SIM card into the GSM modem. Changing PIN codes is not recommended because a configuration failure may disable your SIM card.

4. In the **SMS Content** field, type a simple description to include in the outgoing SMS messages
5. **(Optional)** Click **Send Test Message** to send a test message to the phone numbers listed.
6. Click the **Apply** button to apply the changes.
7. Click the **OK** button to exit the menu.

Relay Output

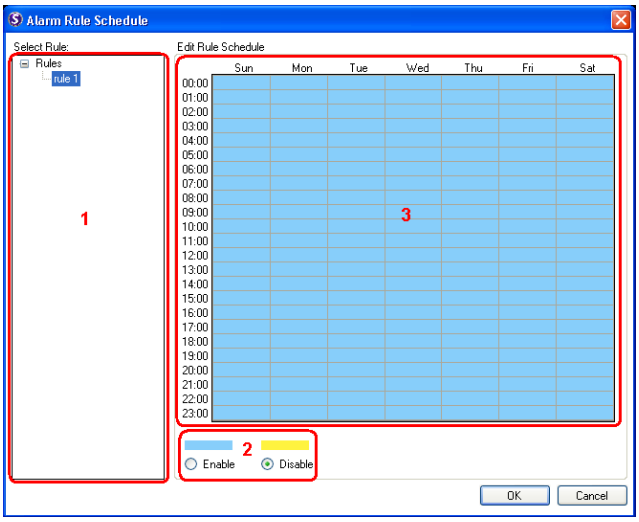
When the alarm is triggered, a signal will be relayed to an external source such as a light switch, siren, or other external link. Clicking on the **Option** button brings up the *Alarm Relay Output Settings* menu. In this menu:



1. Choose a camera from list.
2. Select an output port to relay to.
3. Select **On** to activate the relay
4. Select a output duration, from 0 to 60 seconds.
5. Click the **OK** button to exit the menu.

Alarm Scheduling

When the alarm is created, click the button labeled **Set** located in the scheduling column of the alarm listing to bring up the *Alarm Rule Schedule* menu. This displays a table with the days of the week as the columns, and hours as the rows, allowing the user to schedule the alarm on exact hours.



From this menu, use the following steps to schedule the alarm:

1. Choose the rule that you wish to apply the schedule to.
2. Click the **Enable** or **Disable radio** button to bring up a "paintbrush."
3. Click the cursor on the table to "paint" in a schedule. You may click and drag to paint a wide area.

   For example, if you wish to disable the alarm on Tuesday at 6pm, you would click the box Tuesday-18:00. Disabled time periods are highlighted in yellow.

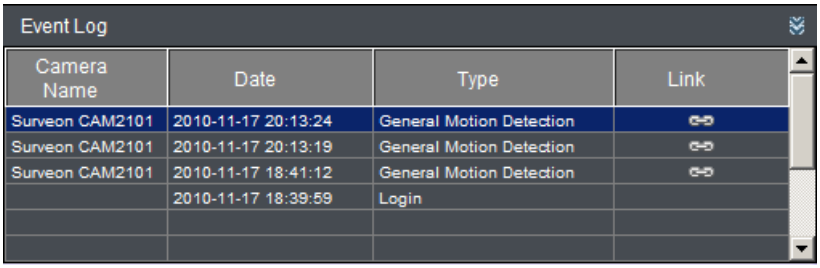
Click the **OK** button to apply the changes and exit the menu.

8.3. Alarms View and Notification

There are three main ways that Alarm information is displayed when in the live view mode.

Live View Event Log

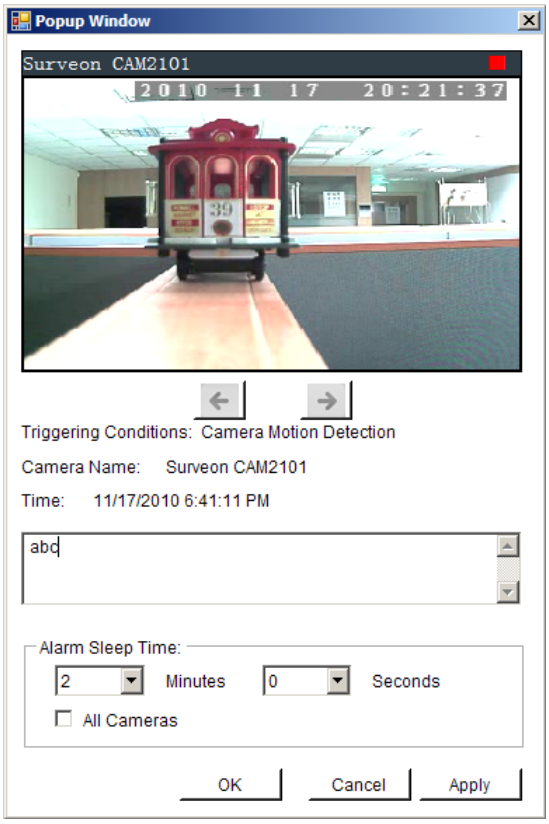
The first way that Alarms are displayed is in the Event Log section of the live view screen. As alarms come in, they are displayed in this area. The area can be minimized using the double arrow at the top right corner of the area.



The Event Log displays the camera the alarm occurred on, the date, the alarm type, and if applicable a link to the live-view feed of the camera. Clicking on the link will open the camera's live-view in a popup.

Alarm Popups

Some alarms can be configured to display a popup window when triggered. When the alarm is triggered the **Open Popup Window**  button will flash red. When this occurs, clicking the button will open a popup.



The popup will display the alarm trigger condition, the camera that triggered the alarm as well as live feed from this camera, the time of the alarm, and a custom configurable message. Any additional popups can be viewed using the left and right arrows located below the video feed.

Setting Popup Sleep Time

A skip time, in which similar alarms will not trigger a popup for the camera in question, can be configured in the *Alarm Sleep Time* box. Using the drop-downs, specify the number of minutes and seconds of skip time. Click **Apply** to save your settings.

Clicking the **OK** button will close the window and save the sleep settings. Clicking the **Cancel** button will close the window without saving the sleep settings.

Video Alarm Panel

Alarms can be configured to display in the *Video Alarm Panel*, located to the left of the main viewing area. When an alarm configured in this manner is triggered, a thumbnail of the triggering event will be displayed in the panel, and actions can be taken from this panel.

Playback from Video Alarm Panel

The server is configured to record up to 45 minutes of video after an alarm is triggered. To play back this video, right-click the thumbnail and select **Play>[Time Length]**. A popup will open with the desired playback. Time lengths available are dependent on, and will not exceed the post-alarm recording time set in **Pre/Post Alarm Recording Settings**.

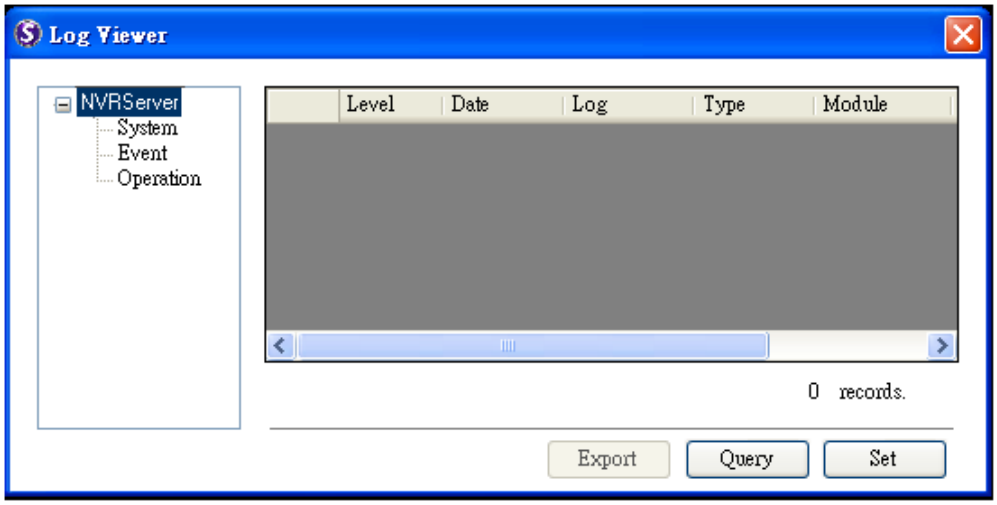
Tagging an Alarm Thumbnail

Another unique feature of alarms in the alarm panel, is that they can be tagged for future reference. To tag the alarm, right-click the thumbnail and select **Mark>[Label].** Labels available are dependent on system configurations, but the default labels are *Mark, Check, Clear, Suspicious*.

8.4. Event Log

The event log is a comprehensive repository of all the events that occur on the system. To access the event log after logging into the system, the system log can be accessed by right-clicking the Server entry and choosing the **Event Log Viewer** entry. The *Log Viewer* window will display

The log viewer displays events, split into three types, System events, which deal with individual modules, Camera events, which deal with cameras and Operational events which deal with users.

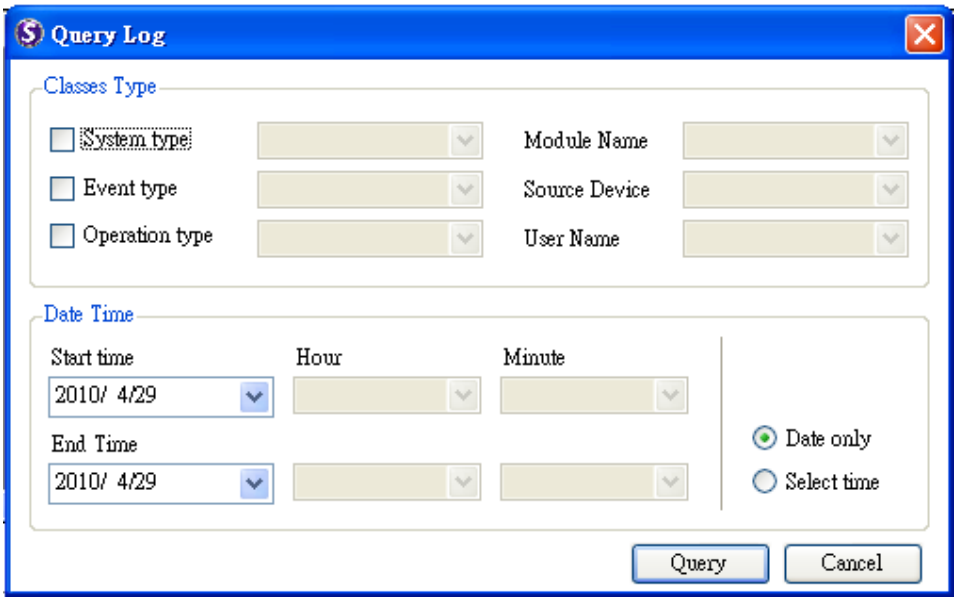


Exporting a Log

If log entries exist, they may be exported by clicking on the **Export** button at the bottom of the *Log Viewer* screen. This will open a dialog box, which prompts the user to choose a location, and fill in a name for the saved log. Fill out the location and filename information and click **OK** to save the logfile.

Searching the Event Log

Within the *Log Viewer* screen, click the **Query** button to bring up the *Query Log* dialog box.



Within this dialog, the user may choose to narrow the search to the three major event types by selecting the checkbox beside the event type:

System Type

These are errors that occur within individual system modules. In the corresponding selection box, the user can specify a severity (debug, warning, error and fatal in increasing severity) of the event. The user may also choose to search all of the severities.

Module Name

The corresponding subfield for *System Type* is *Module Name*. In this selection box, the user can specify a module to search for errors on. The user may also choose to search over all modules by choosing **All**.

Event Type

These include errors that occur with cameras. Events include motion detection, video loss, sensor input, clock alarm, disk error and RAID failure. The user may also choose to search over all these types.

Source Device

This subfield contains a list of all the cameras installed on the system. The events can be further narrowed to focus on a single camera by choosing it, or the search can be done over all cameras by choosing **All**.

Operation Type

These events include the console startup and stop, system usage, and other events that occur during system operation.

User Name

Using the *User Name* subfield a search can be narrowed down to an individual user. This selection list contains all the users configured on the system. All the users can be included by selecting **All.**

Performing a Search

To perform a search of the logfiles:

1. If desired, narrow the search by selecting an event type and subfield to search over. More than one event type can be searched.
2. Choose a start date and an end date to search over using the calendar drop-downs.
3. If desired, click **Select time** and select an hour and minute for the start and end times to further narrow the search.
4. Click the **Query** button. The results will show in the main *Log Viewer Screen*. Mousing over individual entries will display the details for that entry at the bottom of the *Log Viewer*.

Event Log Setup

The event log settings can be changed by clicking on the **Set** button located at the bottom of the *Log View* screen.

From this screen, the slider can be adjusted set the number of days that the system will store each type of log. Days range from 10 to 90 days.

System Alarm View

In addition to the event log, the system alarms will also be displayed at the bottom of the Live View screen.

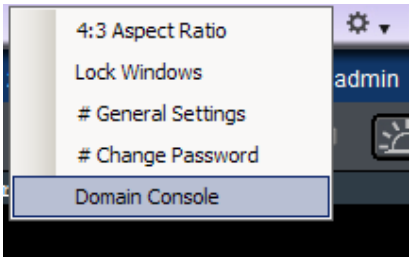
Chapter 9. Domain Settings

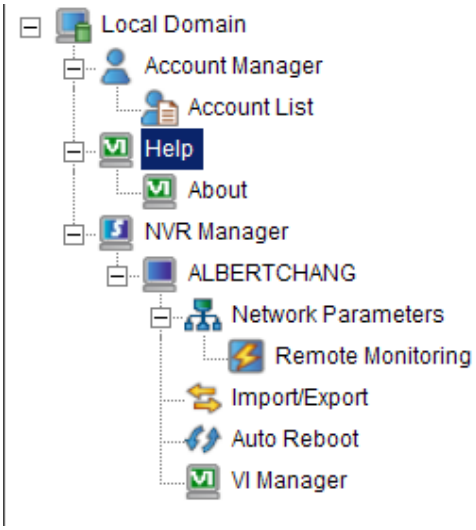
9.1. Domain Console

In the Surveon VMS system, the management scope is referred to as a "Domain." Managed servers are all part of a "Domain" with uniform access rules and a single configuration point. For basic local domains this configuration point is the *Domain Console*.

Accessing the Domain Console

The domain console can be activated by clicking on the Gear icon at the top-right of the main screen, and selecting **Domain Console.**





The domain console contains the following functionalities:

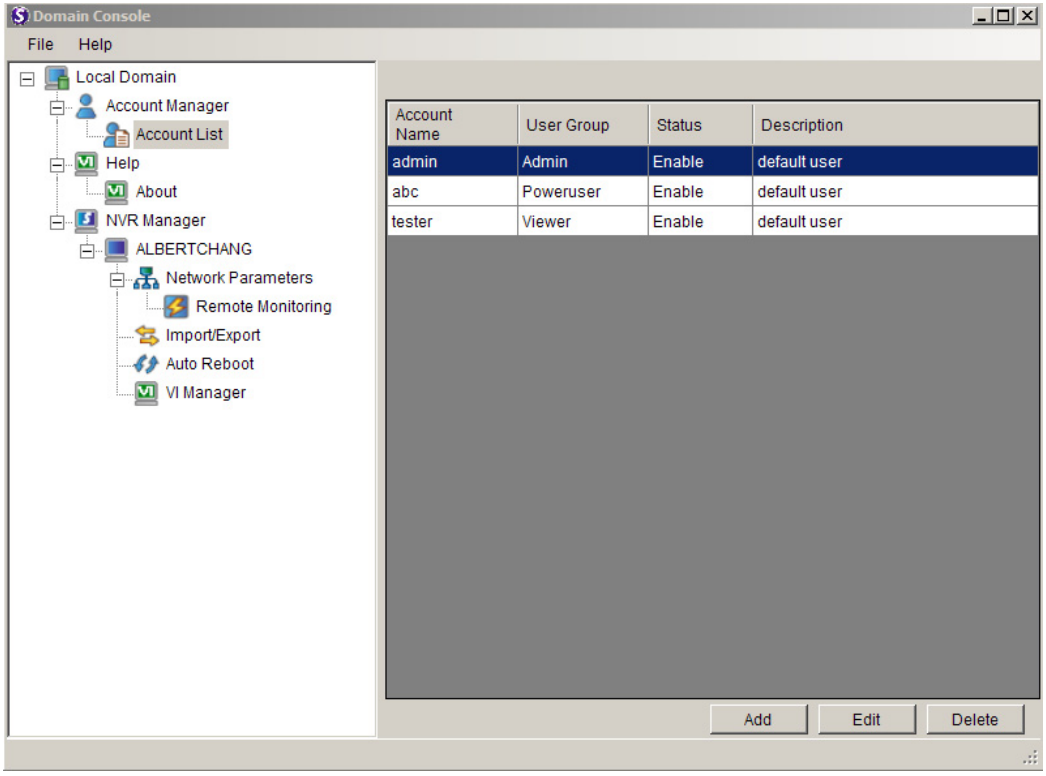
- **Account Manager** – Used to manage user accounts within the domain.
- **Help** - Provides useful information about the domain and software.
- **Server Manager** - Provides tools to access, manage, and configure individual servers within the domain, including the local machine for remote applications.

Exiting the Domain Console

The domain console can be closed by either clicking on the **X** button at the top right corner of the console, or alternately by selecting **File>Exit** from the domain console menu bar.

9.2. Account Management

Account management for the domain can be performed under the *Account Manager>Account List* node in the *Domain Console*. Under this dialog, you may add, delete, and edit domain users.



The *Account List* provides the following information about each account:

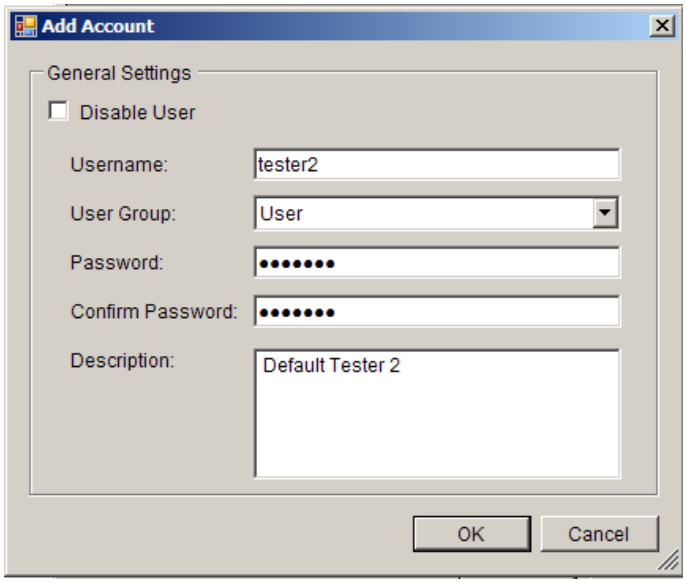
- **Account Name**
- User Group – Select a user type for this user. There are four options:
  - **Admin** – This group has complete management privileges, including account and VMS/Server management rights.
  - **Superuser** – This group has complete account management rights, but does not have many VMS/Server configuration rights.
  - **User** – This group has no configuration rights and limited VMS/Server performance statistics.
  - **Viewer** – This group is limited only to viewing, and has no access to configuration or performance statistics.

- **Status** – This shows if the user is disabled or enabled.
- **Description** – A simple description of the user.

Adding an Account

To add an account to the domain:

1. Access the *Account List* node in the *Domain Console*.

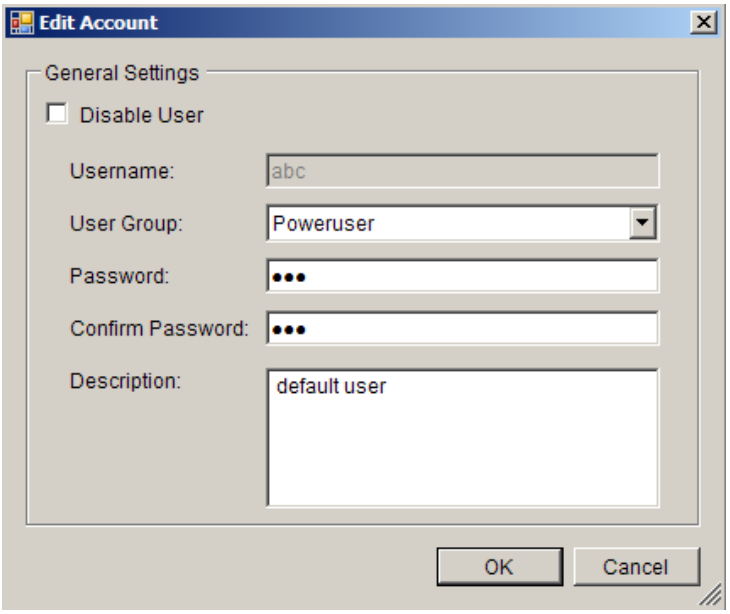


2. Click the **Add** button at the bottom of the *Account List* screen.
3. In the resulting screen fill out information for the new account:
   - **Username**
   - **User Group -** Select a user type for this user. There are four options:
     - **Admin** – This group has complete management privileges, including account and VMS/Server management rights.
     - **Superuser** – This group has complete account management rights, but does not have many VMS/Server configuration rights.
     - **User** – This group has no configuration rights and limited VMS/Server performance statistics.
     - **Viewer** – This group is limited only to viewing, and has no access to configuration or performance statistics.
   - **Password / Confirm Password** – The password must be typed twice for confirmation purposes.
   - **Description** – A simple description of the new user.
4. If desired check the **Disable User** box to disable this account.
5. Click **Ok** to add the new account. The account will appear in the *Account List*.

Editing an Account

To edit an account to the domain:

1. Access the *Account List* node in the *Domain Console*.
2. Select the account that you wish to edit by clicking on the account.
3. Click the **Edit** button at the bottom of the *Account List* screen.



4. In the resulting screen change any of the following account information:

- **User Group -** Selects a user type for this user. There are four options:
  - **Admin** – This group has complete management privileges, including account and VMS/Server management rights.
  - **Superuser** – This group has complete account management rights, but does not have many VMS/Server configuration rights.
  - **User -** This group has no configuration rights and limited VMS/Server performance statistics.
  - **Viewer** – This group is limited only to viewing, and has no access to configuration or performance statistics.

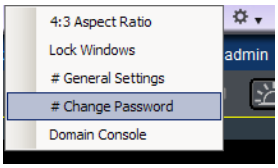
- **Password / Confirm Password** – If changed the password must be typed twice for confirmation purposes.
- **Description -** A simple description of the user.

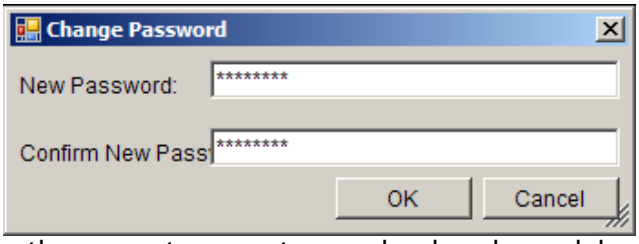
5. If desired check the **Disable User** box to disable this account.

6. Click **Ok** to save the changes to the account. If the account description, user group or status changes, it will be reflected in the *Account List*.

Independently Changing an Account Password

In addition to editing the password from using the *Account List* editing





function, the password for the current account can also be changed by selecting the **Change Password** option from the **"Gear"** menu in the top-right corner of the main screen. This will display a dialog that allows you to enter and confirm a new password.

Deleting an Account

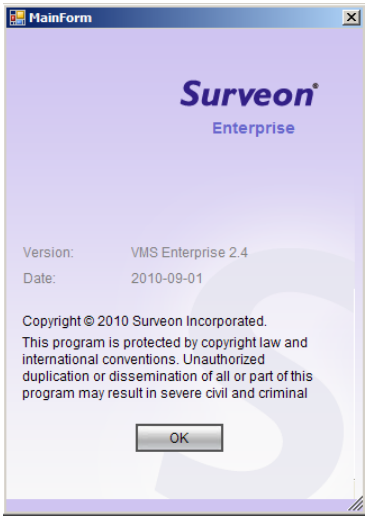
To delete an account to the domain:

1. Access the *Account List* node in the *Domain Console*.
2. Select the account that you wish to delete by clicking on the account.
3. Click the **Delete** button at the bottom of the *Account List* screen.
4. When prompted to confirm deletion click **Yes** to delete the account. The deletion will be reflected in the *Account List*.

Note: The *Admin* account cannot be deleted.

9.3. Domain and Software Help

The *Domain Console* provides a simple information screen that provides information regarding the domain and VMS/Server. This screen can be accessed under *Help*> *About* in the *Domain Console*. Clicking on this item will



bring up the information popup:

This popup contains:

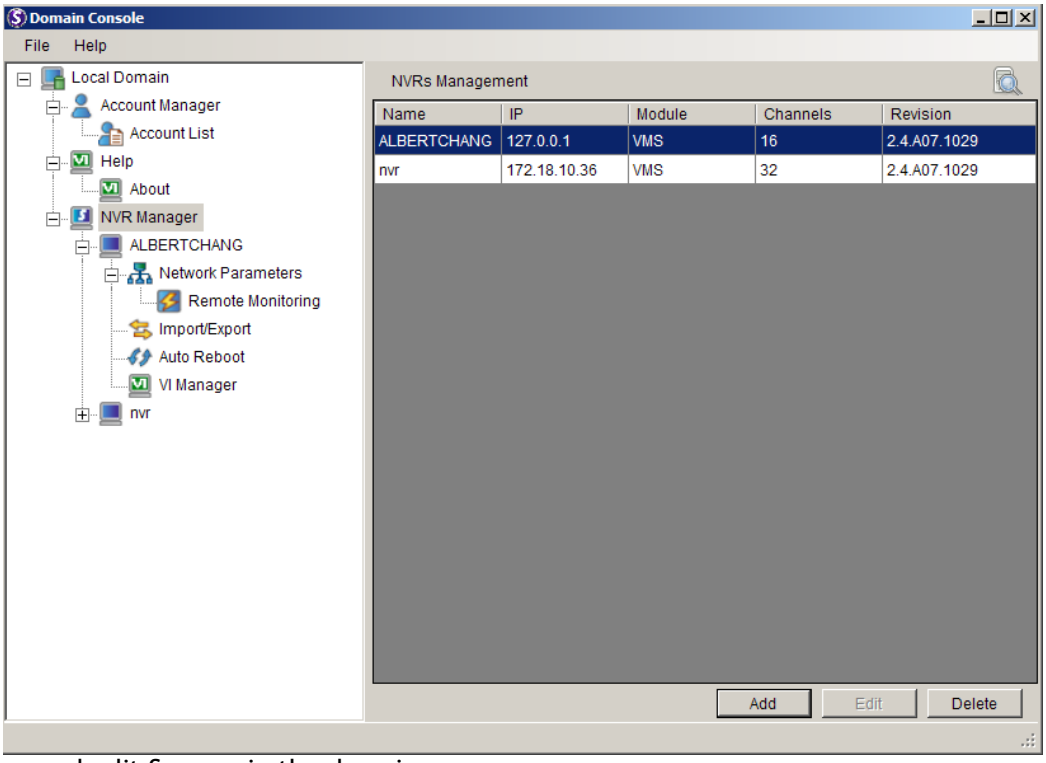
- **Version** – The software version.
- **Date** – The date the software was produced.

Click the **OK** button or the **X** button on the top right of the screen to exit the information popup.

9.4. Server List Management

Surveon's VMS system is designed around a modular client-server architecture. The domain's server list is an advanced application for managing multiple NVR Servers.

Server list management for the domain can be performed under the *Server Manager* node in the *Domain Console*. Under this dialog, you may add, delete,

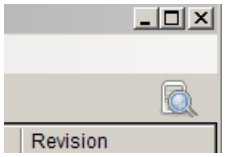


and edit Servers in the domain.

The *Server Manager* provides the following information about each Server configured in the domain:

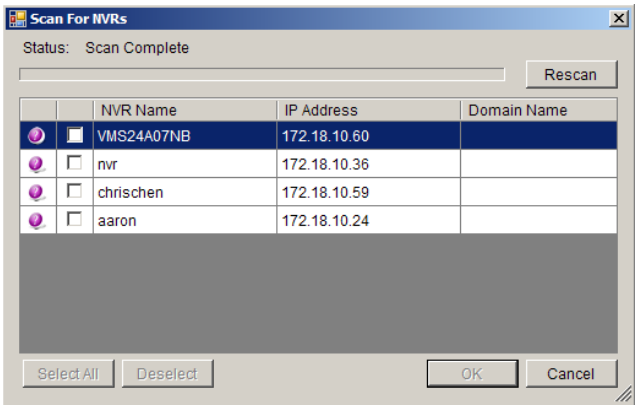
- **Name**
- **IP**
- **Module** - The type of Server (VMS for standalone PC, Server for dedicated hardware Server)
- **Channels** - The number of supported channels on the Server.
- **Revision** - The software revision of the Server.

Scanning for Existing Servers



Users may choose to scan the network for accessible Servers. To add a Server using this method:

1. Access the *Server Manager* node in the *Domain Console*.
2. Click on the search icon at the top right of the screen. This will bring up the auto-search popup. The popup will begin by performing a search.



3. After the search is completed, a list of accessible Servers will be shown, with their corresponding IP addresses, and any domains they belong to already. Users may search again by clicking the **Rescan** button.
4. You must first provide the admin password before you can add the server. Click an entry, and provide an admin password for the Server.
5. Check the **Synchronize all Servers** checkbox if you wish to use this password for all remaining Servers on the list as well.

Note: Please check your username and password are correct for additional servers, as an active check will not be made for you.

6. Click **OK** to log into the Servers. The first column will display a green check if the server can be added or a red question mark if it cannot.
7. Click the checkbox of each Server you want to add. Alternatively click **Select All** or **Deselect** to select or deselect all available Servers.
8. Click **OK** to add the servers to the domain.
9. Click **OK** again to confirm synchronization. Current account information will be overwritten with remote information. The new Servers will be displayed in the *Server Manager* list.

Manually Adding Servers

Servers can be manually added under the *Server Manager* node. To manually add a server to the domain:

1. Access the *Server Manager* node in the *Domain Console*.
2. Click the **Add** button at the bottom of the *Server Manager*.
3. Provide the IP of the Server that you wish to add.
4. When prompted, click **Yes** to confirm synchronization of account information from the remote Server.
5. Provide the admin password for the remote Server and click **OK**. The Server will be added to the Server list.

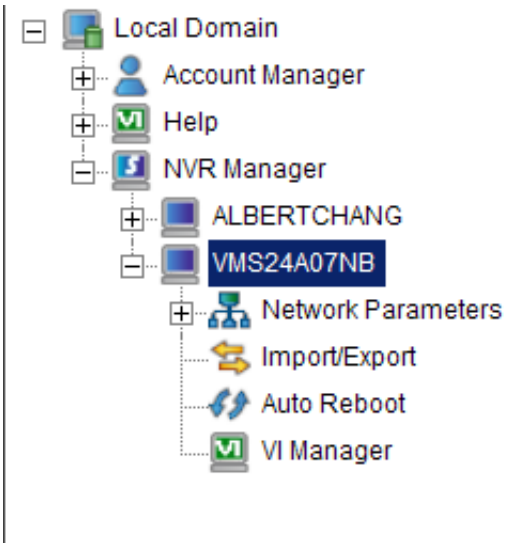
Deleting a Server

To delete a Server:

1. Access the *Server Manager* node in the *Domain Console*.
2. Select the Server that you wish to delete by clicking on the Server entry.
3. Click the **Delete** button at the bottom of the *Server Manager* screen.
4. When prompted to confirm deletion click **Yes** to delete the Server. The deletion will be reflected in the *Server Manager*.

Server Settings Management

Server management for the domain can be performed under the *Server Manager>[Server Name]* node in the *Domain Console*.



Under this dialog, you may configure the following items for each Server in the domain:

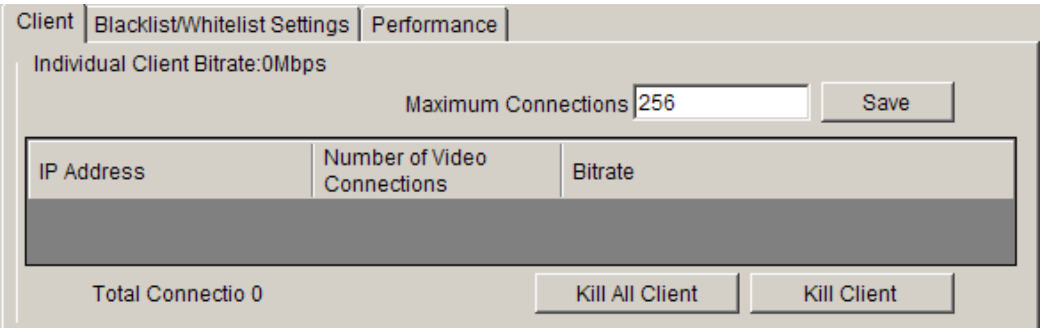
- **Network Parameters** – Includes Remote Monitoring items, such as Clients, Black/white lists, and network performance.
- **Import/Export** - Deals with the import and export of server, account, view, and E-map files.
- **Auto Reboot -** Allows the scheduling of an automatic reboot.
- **VI Manager** - Allows users to specify the server used for VI requests. For VMS the VI server defaults to the recording server.

Network Parameters

The network management parameters can be found under the *Network Parameters>Remote Monitoring* node of under the Server entry. These parameters deal with client connections, black and whitelists, as well as network performance.

Client Parameters

The client parameters can be found in the *Client* tab of under the *Network Management>Remote Monitoring* node.



When clients are connected the following information will be displayed for each client:

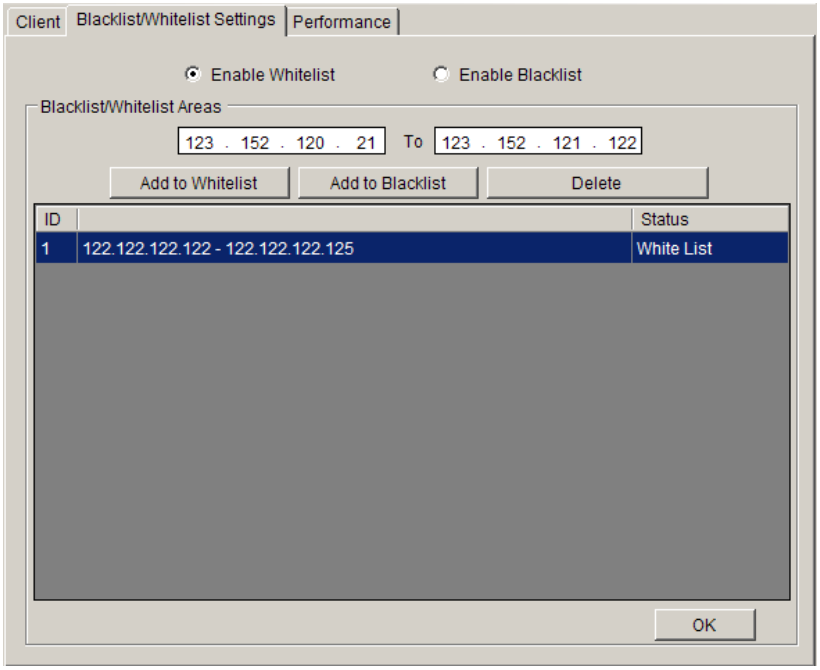
- **IP Address**
- **Number of Video Connections** - The number of streams that the client is using.
- **Bitrate** – The total bitrate of that the client is consuming.

There are also some options that can be changed in this dialog:

- **Maximum Connections** - Change this number to limit the total number of video connections. Default is 256. Click **Save** to save the changes.
- **Kill All Client** – This button disconnects all clients connected on the Server.
- **Kill Client** – Selecting a client from the client list and clicking this button will disconnect the client from the Server.

Blacklist/Whitelist Settings

The blacklist/whitelist parameters can be found in the *Blacklist/Whitelist Settings* tab of under the *Network Parameters>Remote Monitoring* node.

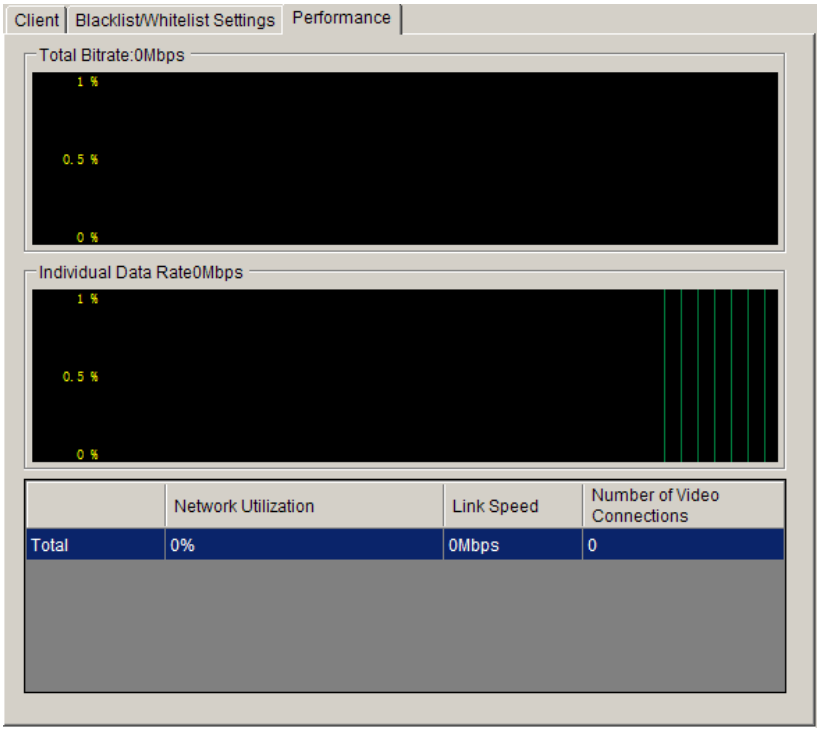


To setup a blacklist or whitelist:

1. Enter an IP range in the two IP fields. The first IP address should be lower than the second IP address.
2. Click either **Add to Whitelist** or **Add to Blacklist** to add the IP range to the whitelist or blacklist respectively.
3. Repeat the first two steps to set up the blacklist and whitelist. You can select ranges that have already been configured from the list and click **Delete** to delete them.
4. When completed, click either **Enable Whitelist** to allow only the IP ranges on the whitelist to access the Server, or **Enable Blacklist** to block all the IP ranges on the blacklist from accessing the Server.
5. Click **OK** to save your changes.

Performance Settings

The performance parameters can be found in the *Performance* tab of under the *Network Parameters>Remote Monitoring* node.

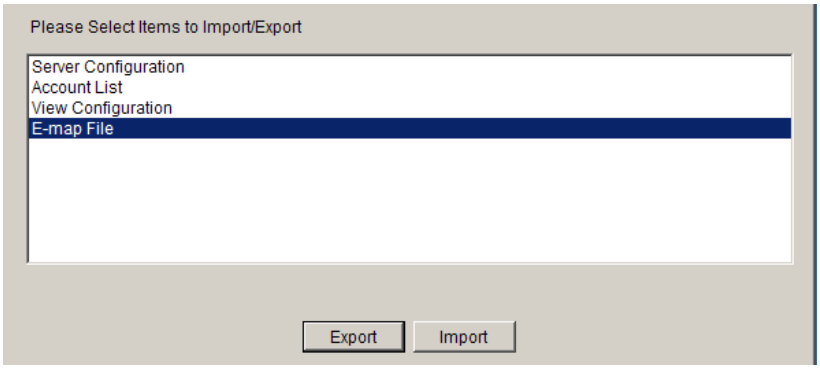


The following information is available:

- **Total Bitrate -** The total video bitrate in Mbps (and loading in percentage) being supplied to all the connected clients.
- **Individual Data Rate** - The individual data rate in Mbps (and loading in percentage) being supplied by the Server.
- **Network Utilization** - Usage statistics for the network link, including.
  - **Network Utilization -** Network link utilization percentage.
  - **Link Speed** – The total link speed in Mbps
  - **Number of Video Connections** – The total number of video connections.

Import/Export

The Import/Export parameters can be found under the *Import/Export* node in the *Server Manager*.



The following types of configuration/setup files can be imported/exported to the Server:

- **Server Configuration**
- **Account List**
- **View Configuration**
- **E-map File**

Importing Parameters

To import parameters into the Server:

1. Select the item that you wish to import by clicking on the item type.
2. Click the **Import** button. A windows explorer dialog will appear.
3. Select the file to import from the file explorer, and click **Open** to import the file.
4. Click **OK** to confirm import. The Server will require a restart before imported configurations and files are applied.

Exporting Parameters

To export parameters into the Server:

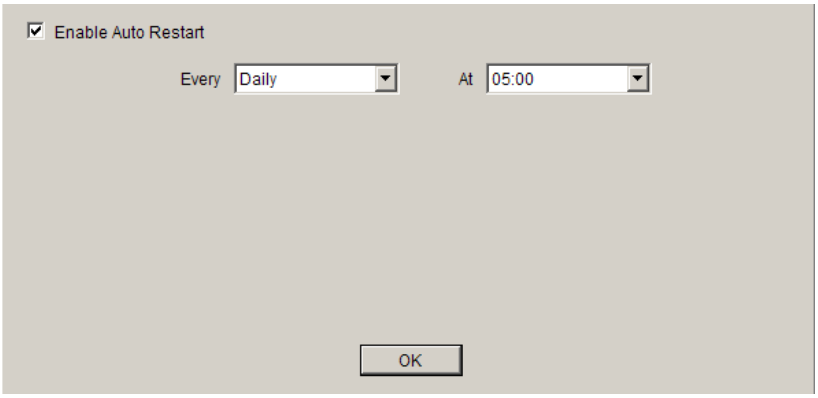
1. Select the item that you wish to export by clicking on the item type.
2. Click the **Export** button. A windows explorer dialog will appear.
3. Input a filename and select the export path in the file explorer, and click **Save** to export the file.

Backing up Saved Video

Saved video can be found in the recording/installation folder (default *C:\Program Files\Surveon*, however this may change depending on your settings) under folders named *RecordingMm-Dd-YYYY*. The folder may be copied and moved between systems for viewing.

Auto Reboot

The Server can be configured to perform a scheduled restart, daily or on a certain day of the week. Due to the trend of Windows performance degradation over time, we recommend that a reboot be performed at least once a week. This function can be found in the *Auto Reboot* node of the *Server Manager*.

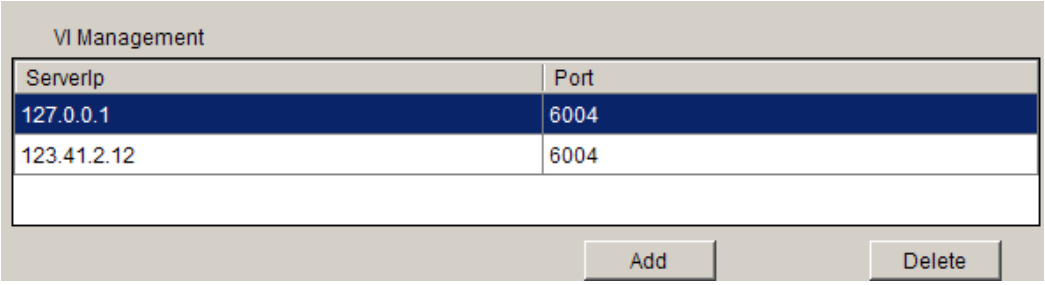


To configure an auto restart in this menu:

1. Select the **Enable Auto Restart** checkbox.
2. From the **Every** dropdown choose a day which you want to schedule an automatic restart. Options include weekly (Monday – Sunday) or Daily restarts.
3. From the **At** dropdown, choose the hour which you want to perform the restart. Options include every hour of the day.
4. Click the **OK** button to save your settings.

VI Manager

When a Video-Intelligent function is performed on the Server, the Server will contact a VI server to perform the computation for the VI function. The VI server list can be managed in the *VI Manager* node in the *Server Manager*. In this dialog existing server IPs and ports can be viewed, and the user can



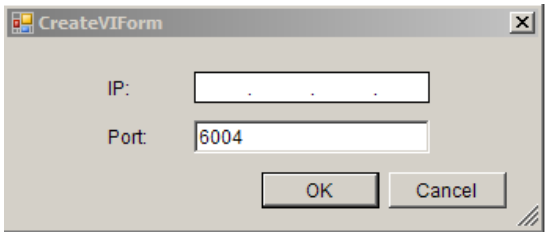
choose to add or remove servers from the list.

Note: At least one VI server must be configured on the system in order to successfully perform VI functions.

Adding a VI Server

To add a VI server to the server list in this dialog:

1. Click the **Add** button, the server will respond with a VI form.



2. Fill in the IP address for the new VI server in the **IP** field.
3. Unless a specific port is desired and configured, leave the **Port** field default value, 6004.
4. Click **OK** to add the server. The server will be added to the VI server list.

Deleting a VI Server

To remove a VI server to the server list in this dialog:

1. Highlight the listing of the server you wish to remove.

Click the **Delete** button, the server will be removed from the server list.