exacqVision®

Network Video Recorder

User Manual

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exacqVision

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1 System Installation Checklist

	Quick Start
	Installation ☐ See the server's Quick Start Guide for information on installing the hardware.
	Establishing Initial Communications ☐ See the server's Quick Start Guide for information on establishing initial communications from the client software to an exacqVision Server.
	Configure IP Cameras ☐ See the IP Camera Quick Start Guide for information on configuring the camera IP addresses, usernames, and passwords. This document can be found at http://www.exacq.com/support/specsheets.html.
	Config (Setup) Page (see Chapter 4)
	System* ☐ Set exacqVision server for static IP address. ☐ Configure the system name, time, and time zone.
	Storage ☐ Ensure all disks are selected for recording except the system drive ("C:\" in Windows or "/mnt/edvr/0" in Linux) ☐ Ensure total disk space matches the expected value.
	Add IP Cameras ☐ Add IP cameras to the exacqVision servers.
	Camera Recording (IP cameras) ☐ Set resolutions[1]. ☐ Set frame rate[1].
	Camera Recording (analog cameras) ☐ Set resolutions[1]. ☐ Set frame rates[1]. ☐ Disable cameras that are not connected.
	Serial Port ☐ Set up serial port for RS-485 mechanical PTZ control. ☐ Set up serial port for input from serial devices.

	Camera Settings ☐ Name camera. ☐ Enable onscreen display. ☐ Set motion mask on IP cameras (there are generally no motion windows set on a new camera). The default motion recording schedule won't trigger recording. ☐ Mask motion from irrelevant objects such as moving trees. ☐ Create windows in relevant locations, such as doors and hallways. ☐ Configure quality just high enough to see relevant details[1]. ☐ If supported by the cameras, set recording format to MPEG4 or H.264 instead of JPEG for better storage. ☐ Watch for blue border around live video window on setup page when motion is occurring to ensure that motion sensitivity and masking are appropriately configured. ☐ Configure mechanical PTZ presets.
	Schedule ☐ Motion is recorded by default. Change any cameras to continuously record or stop recording as needed. ☐ Audio is not recorded by default. Schedule audio recording if necessary. ☐ Schedule events for notification only when they are unexpected. (Not available in exacqVision Start.)
	Users ☐ Add user accounts for the people who will use the system.
	Trigger Input ☐ Name input triggers to be used. ☐ Set radio button to normally open or closed to match physical switch.
	Alarm Output ☐ Name any alarm outputs to be used.
	Notifications (Not available in exacqVision Start.) ☐ Create email profile for system health administrator. ☐ Create email profile for security events such as unexpected motion or input triggers. ☐ Create email profile for the installer.
	Auto Export (Not available in exacqVision Start.) ☐ Create profile for video sources and duration to store on high-priority event. ☐ Insert blank CD or DVD in DVD drive.
	Event Linking ☐ Create events to alert administrator via email of system health issues. ☐ Create events to record video on input triggers. ☐ Create events to email security administrator upon unexpected triggers or motion. ☐ Create event to burn CD via Auto Export profile upon event or manual activation**. (Not available in exacqVision Start.)** ☐ Create event to email installer when license subscription is near expiration.
	Export Settings ☐ Save settings and license to a USB flash drive to aid the recovery process, if necessary.

	Live Page (see Chapter 5)
	Live ☐ Create views as required by users for live viewing or multi-camera search and playback.
	Install Client ☐ Install the exacqVision Client on another computer and ensure that it can connect to the exacqVision Server using the static IP address and one of the configured user accounts.
	Search Page (see Chapter 6)
	Search* ☐ Connect after 24 hours. ☐ Connect after 7 days. *Search to ensure cameras are not recording excessive amounts of motion; if they are, adjust motion sensitivity or windows/masks, or possibly adjust camera for low-light noise. Look at Storage page and extrapolate the storage duration to ensure that it meets requirements; if it does not, decrease frame rate, quality, or resolution.

2 Installing exacqVision Software on Third-Party Clients and Servers

Server Requirements

Hardware Requirements

See the Exacq website at https://www.exacq.com/products/vms_requirements.html for current minimum hardware requirements. Actual hardware requirements vary considerably based on each user's application:

- CPU requirements increase greatly when hosting multiple concurrent web clients.
- The exacqVision server application requires a maximum of 4GB, although additional memory is required for the operating system, web hosting, or any other server applications.
- The storage system is often the performance limitation because of the large amount of read and write processes. Your storage system should be capable of sustained reads/writes at least twice the maximum data rate from all cameras. Exacq highly recommends using RAID 5 or RAID 6 for all video storage to reduce the likelihood of catastrophic failure.
- Enterprise-grade hard drives are highly recommended to handle constant video recording.
- The server operating system and exacqVision software should be installed on a dedicated, mirrored operating system drive.
- Servers should always be UPS-powered to avoid data corruption during power failure.

Operating System Requirements

See the Exacq website for minimum operating system requirements. In addition:

- If automatic updating is enabled, your server might stop recording video when the operating-system restarts.
- Anti-virus programs should scan *only the operating system and exacqVision software drives*. Virus scanning should be disabled on all video storage drives to avoid large decreases in drive performance.
- Port blocking is not recommended because many edge devices use multiple or dynamic port assignment.

MAC addressing requirements

exacqVision software is licensed based on MAC addressing. Servers with teamed NICs or other arrangements that obscure the MAC require an additional USB-based NIC to provide a licensing MAC.

Networking

For the greatest system reliability and performance, the network administrator should observe the following best practices:

- A dedicated VLAN and NIC port for all cameras.
- A dedicated VLAN and NIC port for storage networks (if used).
- A separate VLAN and NIC for all client connections.
- Cameras and servers should use fixed IP addresses. Clients can use DHCP.
- Camera-to-server network capacity should be twice to maximum video data rate.
- Server-to-thick-client network capacity should be 1.5 times the maximum total data rate of all simultaneously viewed cameras.

Web Server

The exacqVision Web Services installer provides lighttpd as the default web service. For systems where more than five to ten concurrent client connections are expected, you should upgrade to Apache web services. For more information, see https://www.exacq.com/kb/?kbid=34927.

As noted previously, web services increase server hardware requirements and can require installation on a dedicated web server. For additional information on configuring web services, see the Exacq knowledge base at https://www.exacq.com/kb/.

Server Software Installation

1. For Windows servers, download the latest server and web services software installation from http://downloads.exacq.com/reseller/exacqVision.exe
2. For Linux servers, download the latest server and web services software installation from http://downloads.exacq.com/reseller/Ubuntu/Dapper/exacqVisionServer.deb.
3. Using an administrator account, run the executable to start the installation wizard.
4. Configure the IP address, username, and password on all cameras by following the manufacturer's instructions or the *exacqVision IP Camera Quickstart Guide* found at https://www.exacq.com/downloads/ev-ip-quickstart-0311.pdf.
5. Test connectivity to each camera with the ping command.

Client Software Installation

1. Download the latest client software from https://downloads.exacq.com/downloads/exacqVisionClient.exe.
2. Using an administrator account, run the executable to start the installation wizard.
3. Confirm connectivity with the server using the ping command and server IP address. If the client PC cannot communicate with the server, contact the network administrator.
4. Start the exacqVision Client software and enter the configuration page.
5. In the site tree, select Add Systems.
6. Click New and enter the username admin, password admin256, and IP address (static) or hostname (fixed) that was configured in previous steps. Click Apply. If the new server appears in the system list table with a status of Connected, the initial server configuration is complete. If the server does NOT connect, but server connectivity was confirmed in previous steps, ensure that the PC anti-virus software is not blocking communications with the server IP addresses and ports.
7. Proceed to Chapter 4 to start exacqVision server configuration.

3 exacqVision Software Overview

Client/Server Architecture

exacqVision software is based on a client/server architecture in which every computer is a client, server, or client/server combination. These configurations are defined as follows:

- A client computer provides access to a remote service on another computer over a TCP/IP network. The exacqVision Client software is a thick client, and the web browser is a thin client.
- A server computer provides services to client computers over the TCP/IP network. An exacqVision server receives and stores video from cameras; provides audio, video, and data as requested by thick clients; and hosts a web server (if enabled) for thin clients. The exacqVision Server software does not have a graphical user interface; only the client software allows interaction. A server can serve multiple simultaneous client connections, within hardware limitations.
- A client/server combination simultaneously operates client and server software. A loopback TCP/IP address of "localhost" (127.0.0.1) allows the client software to communicate with the server software on the same computer. exacqVision servers are configured at the factory as a client/server combination to provide a convenient initial configuration experience.

Logging In

All exacqVision servers are shipped with two operating system accounts:

1. Username: **admin**
   Password: admin256
   Privileges: computer administrator

2. Username: **user**
   Password: user5710
   Privileges: restricted user

NOTE: Exacq recommends that the default passwords be changed by the operator and written and secured to prevent unauthorized access or modifications to the system. As part of the initial exacqVision System configuration, Exacq recommends that the operator configure a new user on the exacqVision Server with restricted privileges and change the exacqVision Client settings in the user operating system account to connect to the local exacqVision Server via this user. See the Users section of this manual or the context-sensitive online help file for instructions on creating a new exacqVision user.

When exacqVision servers start, they immediately start the exacqVision service, boot into the user account, and start the exacqVision Client software. Server log-in is not required to start video recording or communication with client PCs. All third-party servers start the exacqVision service on startup, but user accounts and automatic login must be manually configured.

The user account functionality is limited to using the exacqVision client software for maximum reliability. All server maintenance tasks (such as shutting down the exacqVision service) that are not performed within the exacqVision Client require logging into the operating system's administrator account.

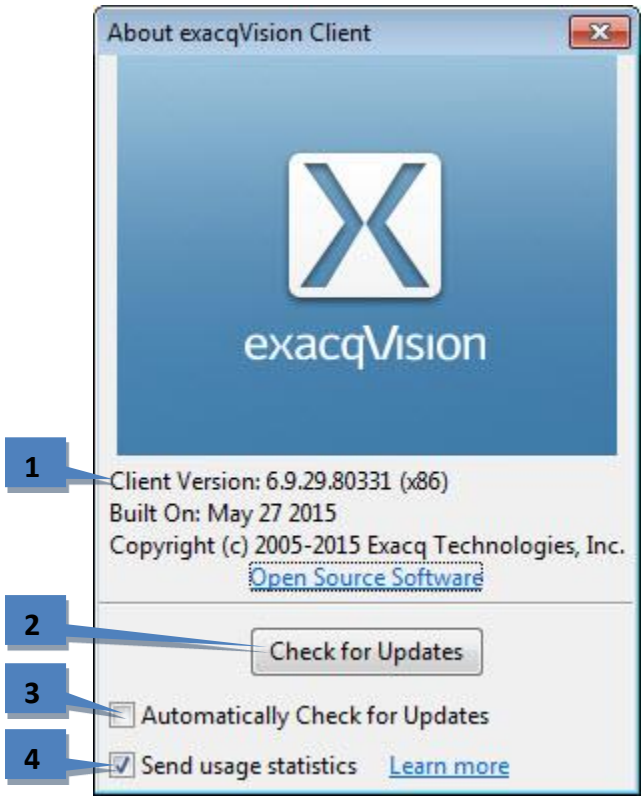
Each operating system user account maintains separate settings for its exacqVision Client. These settings include usernames, passwords, and network addresses required for exacqVision Clients to access exacqVision Servers. By default, both the **user** and **admin** operating system accounts have settings that provide administrator access to the instance of exacqVision Server running on the local computer, which is always via the **localhost** (127.0.0.1) IP address.

Exacq recommends that all servers be configured with one system administrator account with Remote Desktop (Windows) or SSH (Linux) remote access for system support.

The exacqVision Server can be accessed from multiple exacqVision Clients, which can be running from the same computer as exacqVision Server or from remotely networked computers. The exacqVision Server has been preconfigured with one user.

Updating exacqVision Client Software

Click the exacqVision logo in the upper-right corner of the page to open the About exacqVision Client window.



1. The window lists information about the current version, the build date, copyright information, and Open Source Software used in exacqVision Client.

2. To check for software updates, click Connect to the Internet and Check for Updates. There are two possible results:

    - If you have already installed the most recent version of the software, a message is displayed; click OK to return to the About exacqVision Client window.

    - If a more recent version of the exacqVision Client is available, the download process starts. After the download is complete, close all instances of the exacqVision Client to complete the update. Click Yes to accept the download, and then follow the instructions in the Setup Wizard onscreen.

3. Select Automatically Check for Updates to allow the client to search for newer versions of exacqVision Client periodically and notify the user when newer versions are available. If a newer version is available, it is not installed automatically; you must confirm that you want to install the update.

4. Send Usage Statistics provides anonymous and non-sensitive information to the manufacturer about how cameras and exacqVision features are used on the system.

Main Pages

exacqVision systems have three main operating pages, as represented by the following three icons:

Live Page allows users the ability to view live video.

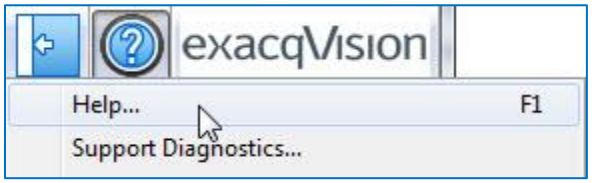
Search Page allows users the ability to search for recorded video.

Config (Setup) Page allows Administrators and Power Users the ability to configure systems.

Clicking on any of these icons changes the mode of operation. Each mode is explained in the following chapters.

exacqVision Help

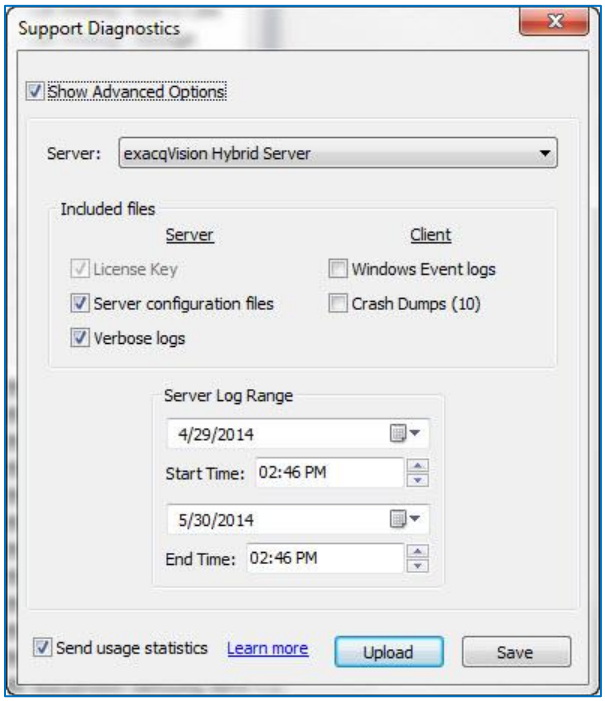
You can access online help and additional information about your exacqVision System by clicking the Help button or the F1 key. On some platforms, online help is context-sensitive. To view online help, click the question mark button and select Help from the pop-up menu. You can also view online help by pressing the F1 key on your keyboard.



The Help menu also can also be used to open the Support Diagnostics window, which allows you to compile log files for a server and send them to Exacq Technical Support. Select a server, the log files to send, and the date/time range of the log information. When you are finished, click Save to compile the logs so that you can send them to technical support.

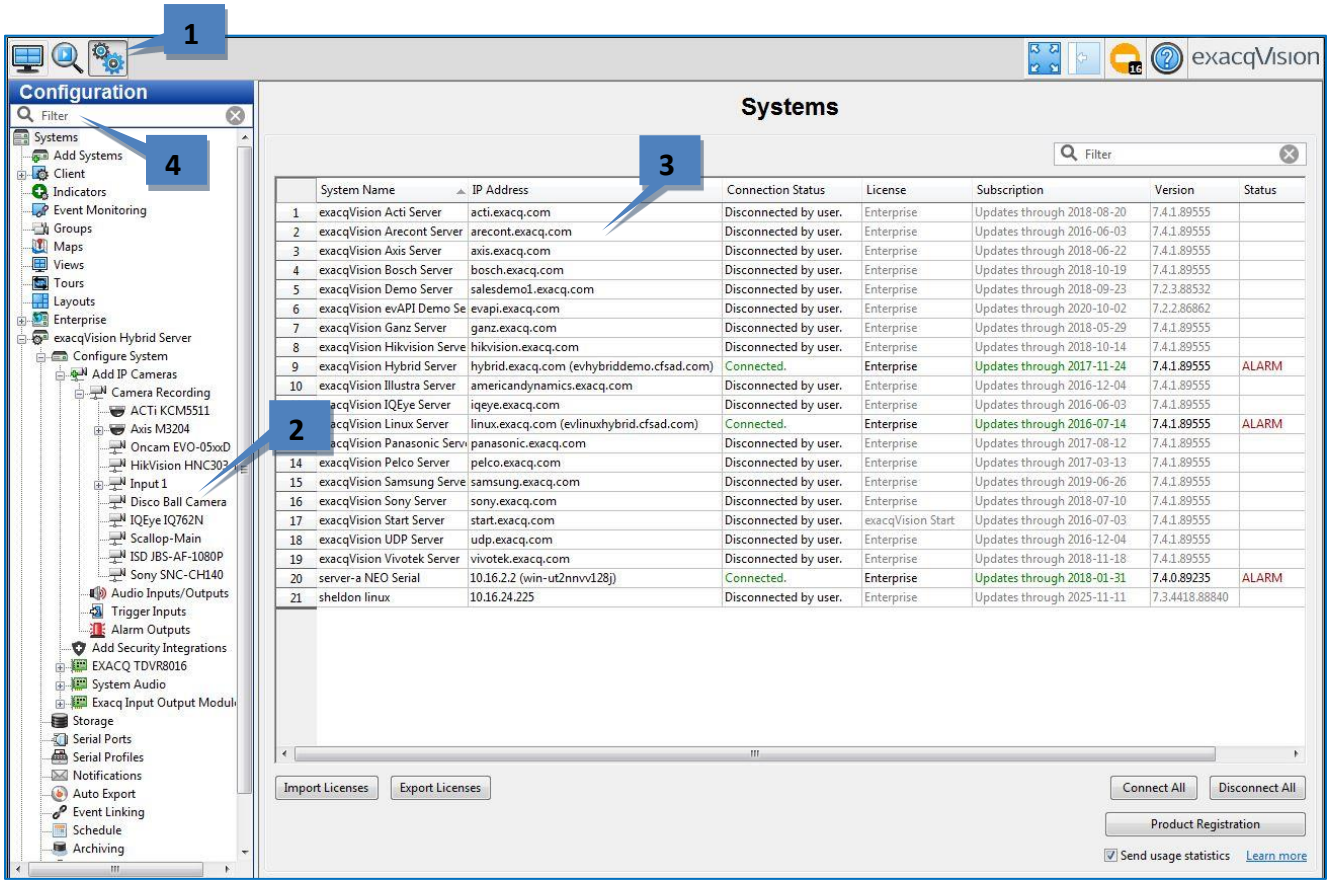
Alternatively, you can click Upload to open a Support Request Form that includes the compiled log files as an attachment. Enter all the requested information on the form and verify that the log files were attached at the bottom. When finished, click Submit Email Form.

NOTE: The Send Usage Statistics option on the Support Diagnostics page provides anonymous and non-sensitive information to the manufacturer about how cameras and exacqVision features are used on the system.



The Help menu also contains Internet links to new product information, technical support and knowledge base resources, and subscription and registration information.

4 Config (Setup) Page Overview

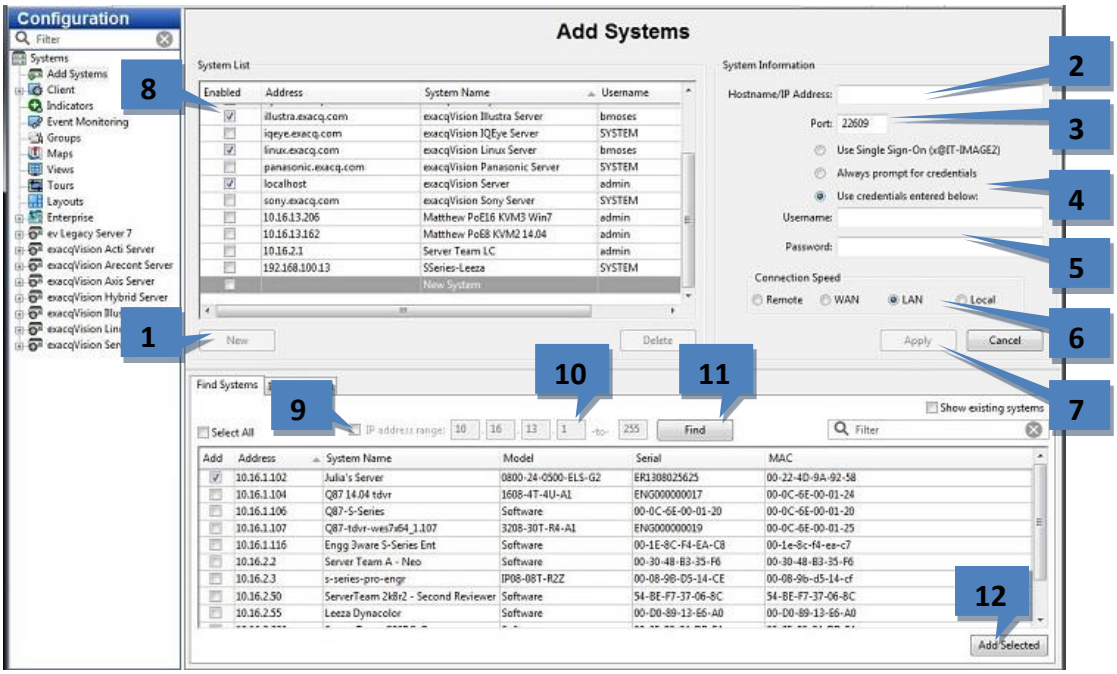


The Config (Setup) Page allows you to configure systems, cameras, and other devices.

1. **Config (Setup) Page Icon.** This button opens the Config (Setup) Page.
2. **Configuration Tree.** This tree allows you to open the various configuration pages for each connected system. Each of the pages are described in detail in the following sections.
3. **Systems.** This default Config page displays systems that have been added.
4. **Filter -** Filters the node tree list based on simple character match of items in the tree. This filter is also available in Search and Live View modes.

NOTE: Connected S-Series storage servers are also listed in the tree, but only those configuration pages applicable to storage are available for each server. The options on each S-Series configuration page are also restricted as needed.

Add Systems



Add a System manually

1. Click New
2. Enter the system's hostname or IP address
3. By default, the port number is 22609; (change this only if necessary for your network configuration)
4. Select one of the following login methods:
   - **Use Single Sign-On** - available only on systems with an Enterprise license. See the "Enterprise Users" section of this manual for more information.
   - **Always Prompt for Credentials** - requires username and password every time exacqVision Client is started.
   - **Use Credentials Entered Below** - automatically log in to the system every time exacqVision Client is started.
5. Enter username and password for the exacqVision system you are connecting to
6. Select a Connection Speed - helps determine how much audio to buffer and also determines the default video multistreaming speed.
7. Click Apply
8. To temporarily disconnect or reconnect a system, toggle its checkbox in the System List.

Add a System automatically

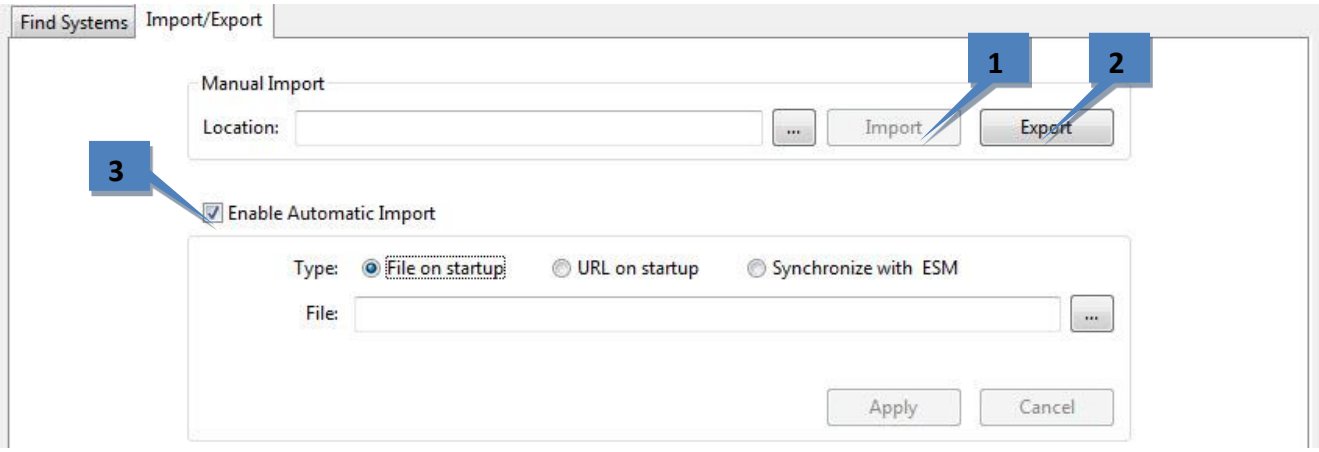
exacqVision recorders will automatically be discovered. To be automatically discovered the recorders must reside on the same IP subnet as the exacqVision Client performing the search. You can simply click checkboxes from the list and click "Add Selected" button to add these systems. You will be prompted for log in credentials via a popup.

9. Alternatively you can check the "IP Address Range" checkbox to enter a specific subnet to search
10. Enter an IP address range. You are limited to using the fourth number of the IP address to create the range.
11. Click "Find" to list all systems whose IP addresses are within the IP address range. When the search is complete select the systems to add You will be prompted for log in credentials via a popup

Connected systems in the System List also appear in the Configuration, Live, and Search trees. Disconnected systems do not appear in these trees.

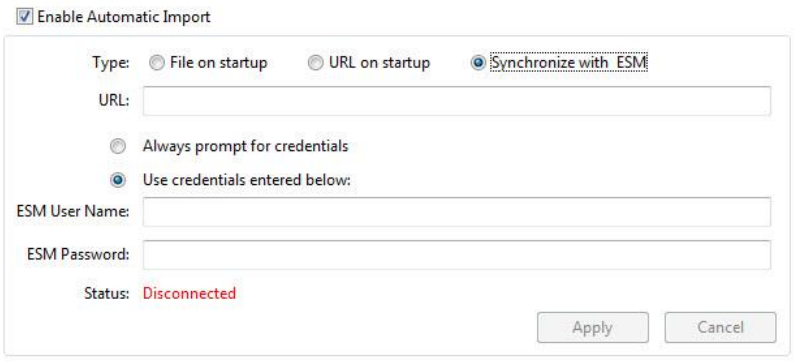
NOTE: Only one "Start" licensed exacqVision server can be connected to a client at a time.

The Import/Export tab allows you to quickly share pre-configured system lists with other exacqVision Clients.



1. To import a system list manually, enter a network location or web site where a server configuration file is located and click Import to load the list to the client computer. (This will not delete any systems already added.)
2. To export the currently displayed system list, click Export and save to file to a location where it can be accessed by another exacqVision Client.
3. Enable Automatic Import allows exacqVision Client to automatically check for an updated system list in one of the following ways:

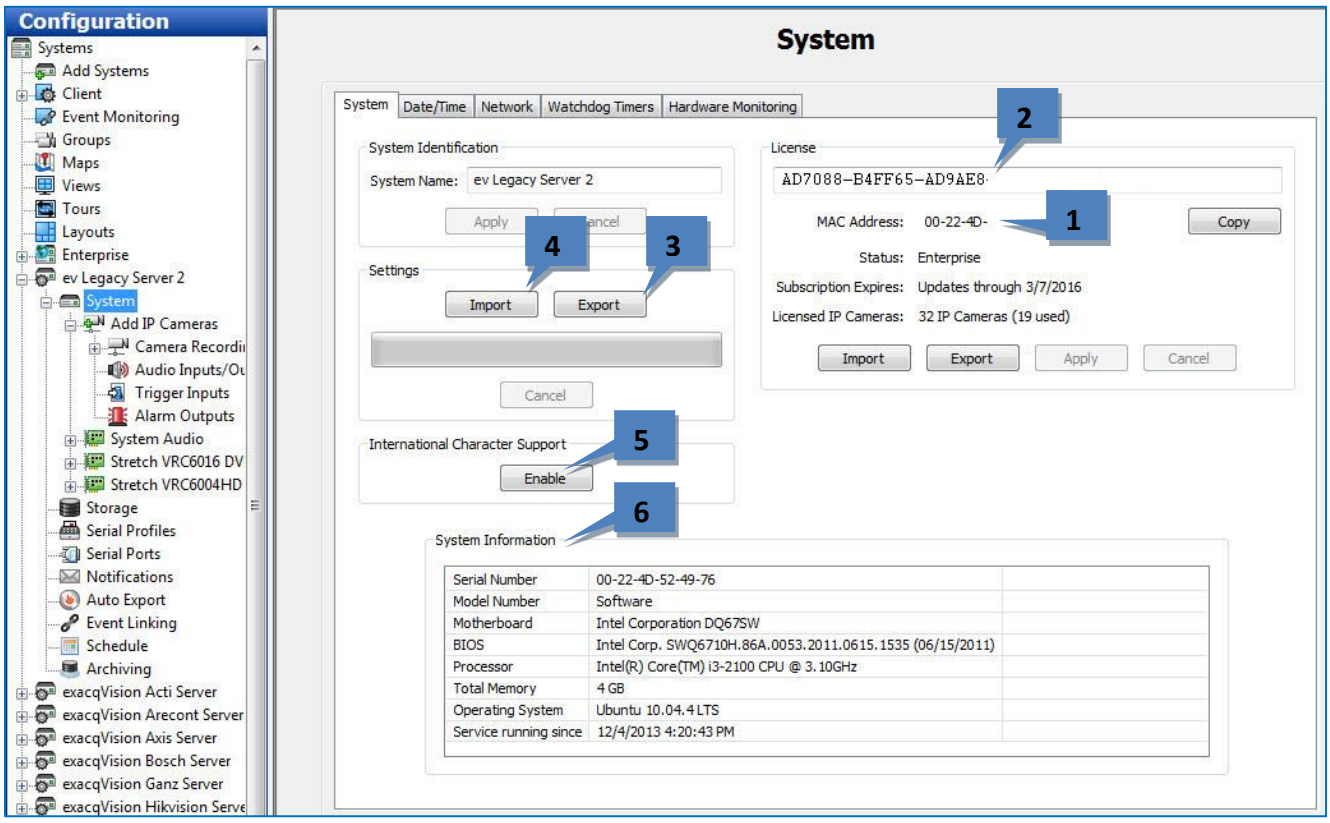
    - Select File on Startup to automatically load the system list from a file saved to a dedicated location whenever exacqVision Client is started. Then type the path of the file in the text box, or browse to its location, and click Apply.
    - Select URL on Startup to automatically load the system from a web location whenever exacqVision Client is started. Then type or paste the URL into the text box and click Apply.
    - Select Synchronize with ESM to continuously ensure exacqVision Client is using the same system list as Enterprise System Manager (if available). You will need a URL and valid credentials to connect to the ESM server. Click Apply.



System

The **System** page allows you to set basic system parameters for the client application. The page is separated into the following tabs:

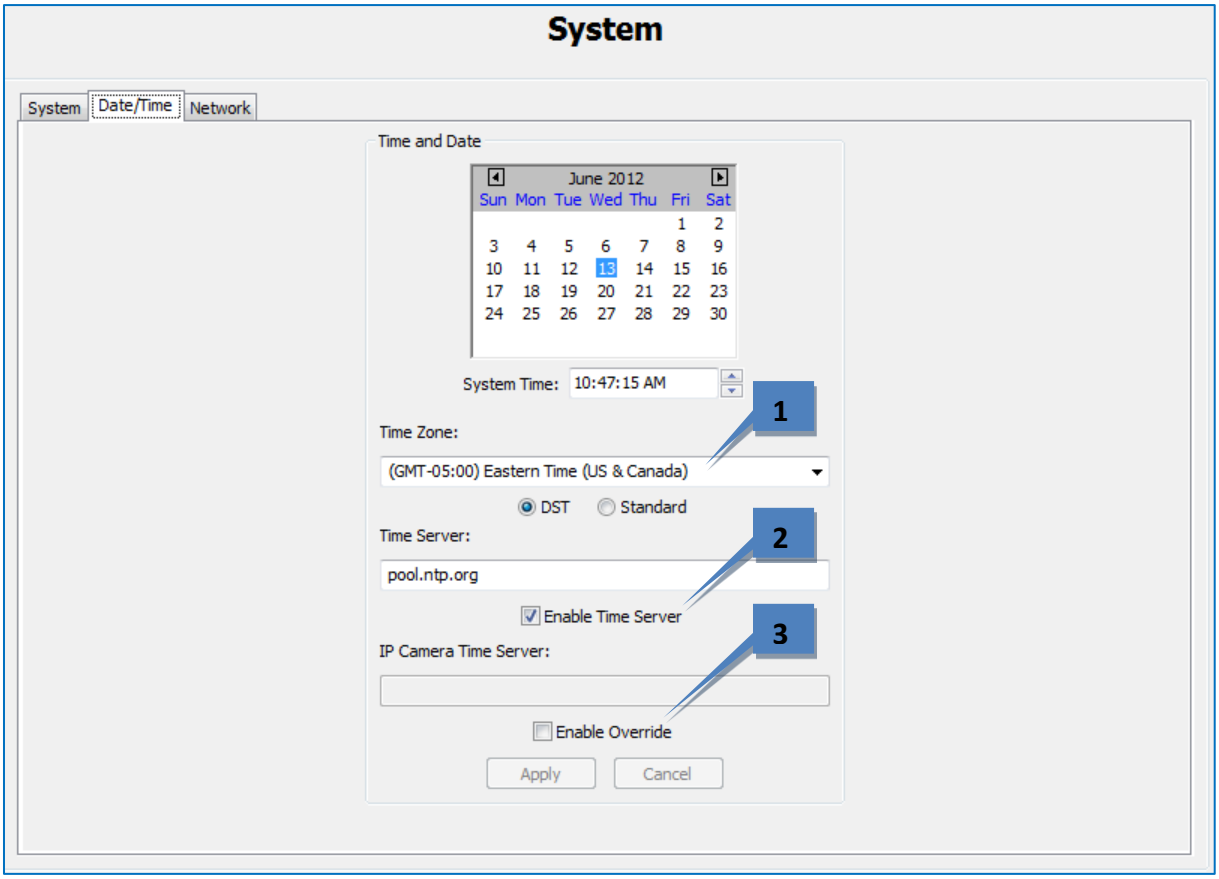
- The **System** tab allows you to create a name for the system, export and import settings from other systems, import and export graphics, and manage the licensing of your system.



1. The MAC Address of the system's primary network adaptor is used to generate a license key. To obtain a license key online, provide the system MAC address to your dealer. Unlicensed exacqVision servers can connect to only one IP device at a time.
2. After the dealer obtains a license key from Exacq, enter the key in this box.
3. After configuring your system, it is recommended that you click Export Settings to export system settings to a USB or network drive and store it off-site for recovery from a disaster or malfunction.
4. If you ever need to restore the settings or simply import them from another system, click Import Settings and apply the saved settings.
5. For proper encoding of certain international characters and symbols, click Enable. This feature allows exacqVision to correctly display international characters in all entered information, such as camera and server names. Carefully read the pop-up message before confirming. **This action cannot be reversed on the server, and it could cause international characters to be displayed incorrectly on previous versions of exacqVision Client.**
6. System information provides basic information about the system hardware.

Date/Time

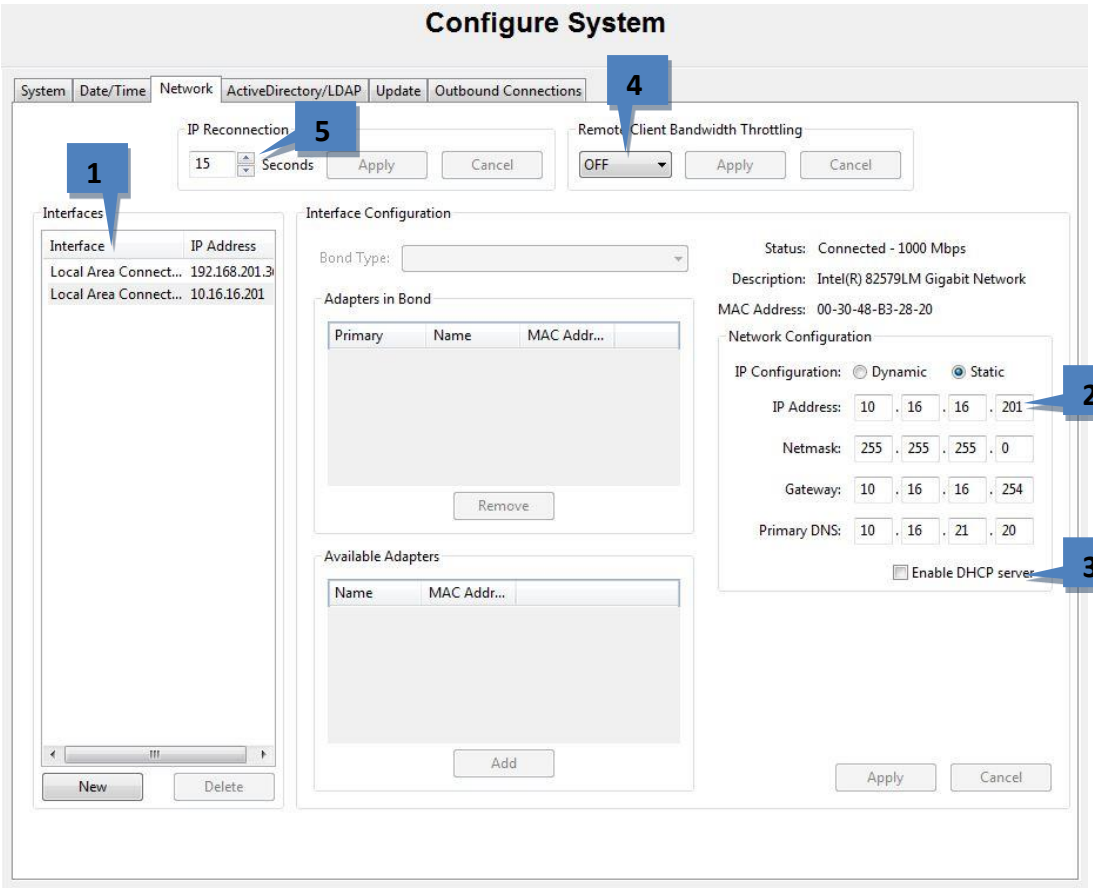
- The **Date/Time** tab displays the exacqVision server's time information.



1. Select the time zone and daylight saving time (DST) information for the server's location.
2. On systems with Internet access, select Enable Time Server and enter a valid Internet time server. On systems without Internet access, select Enable Time Server and enter an internal time server (see your network administrator for more information).
3. If the IP cameras on the network need to synchronize with a time server other than the exacqVision server, select Enable Override and enter the server address.

Network

- The **Network** tab displays your system's IP Address, Netmask, Gateway, and Primary DNS server.



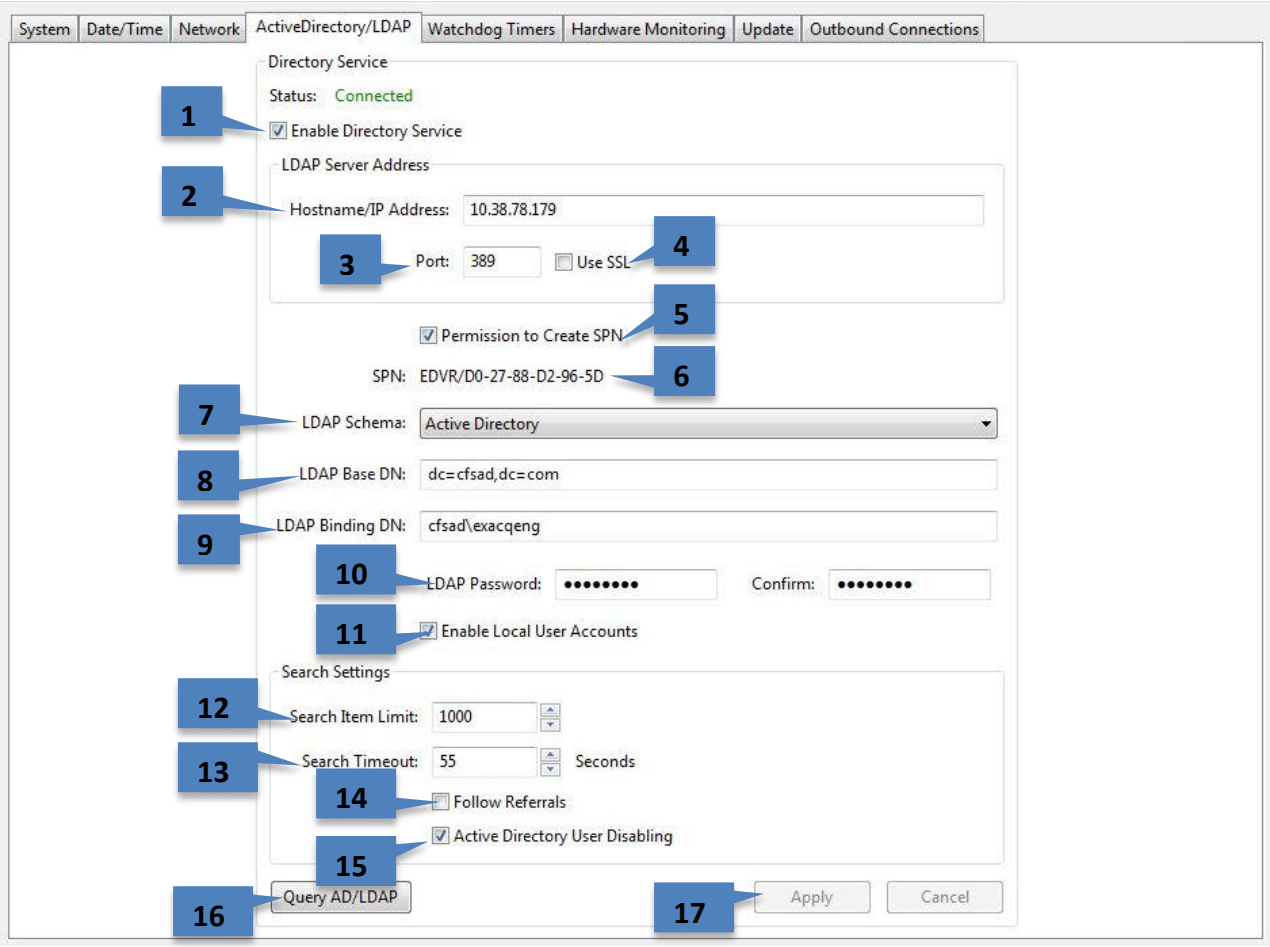
NOTE: On a Linux-based system with multiple network interface cards (NICs), the DNS server is the same for all the NICs in the system. Therefore, changing the DNS on a single NIC changes the DNS for all the NICs in the system.

1. Select a network connection from the Interfaces list to display its information. Systems with multiple NICs have more than one entry in the list.
2. Enter the IP Configuration information for the network connection. Gateway and Primary DNS information is required to connect with a network time server. Click Apply.
3. Enable DHCP server will start a DHCP server for the selected network interface. Ensure that no other DHCP server also resides on the network segment before enabling this.
4. Enable bandwidth throttling to limit network traffic from the server to client computers and iSCSI drives. Click Apply **NOTE:** This setting applies to outbound traffic from all NICs in the system.
5. Select the IP Reconnection Settings value in seconds. Click Apply. Default is 300 seconds (5 mins)

Active Directory/LDAP

- The **Active Directory/LDAP** tab appears on the System page on systems with an Enterprise license. For more information, see the LDAP integration document appropriate for your platform found at https://www.exacq.com/downloads/LDAP/index.html.

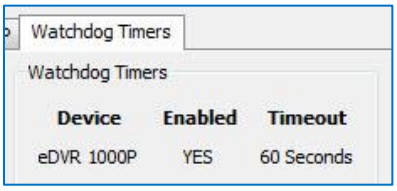
NOTE: LDAP is now supported on most EDGE cameras. Enterprise license required



1. Check the **Enable Directory Service** checkbox
2. Enter IP address or hostname of LDAP Server
3. Port is automatically configured for the well-known value of 389
4. Check **Use SSL** to use well-known port of 636 over Secure Sockets Layer (LDAPS)
5. Check to allow LDAP Server to create an SPN (Service Principal Name)
6. Resulting SPN name that the server will use
7. Choose LDAP Schema
8. LDAP Base DN(s) (Distinguished Names)
9. LDAP Binding DN (Distinguished Name)
10. LDAP password and confirmation
11. Check to allow local user accounts as well on the exacqVision server
12. Search Item Limit - specifies max number of items to return in a search
13. Search Timeout - seconds to wait for server response
14. If the LDAP responds with referrals, check this box to follow them
15. If the LDAP server determines that the LDAP Binding DN account has had too many failed login attempts then checking this box will regard the LDAP server's lockout feature for the Binding DN account.
16. Use the **Query AD/LDAP** button to test connectivity and query the LDAP server
17. Click **Apply** when complete

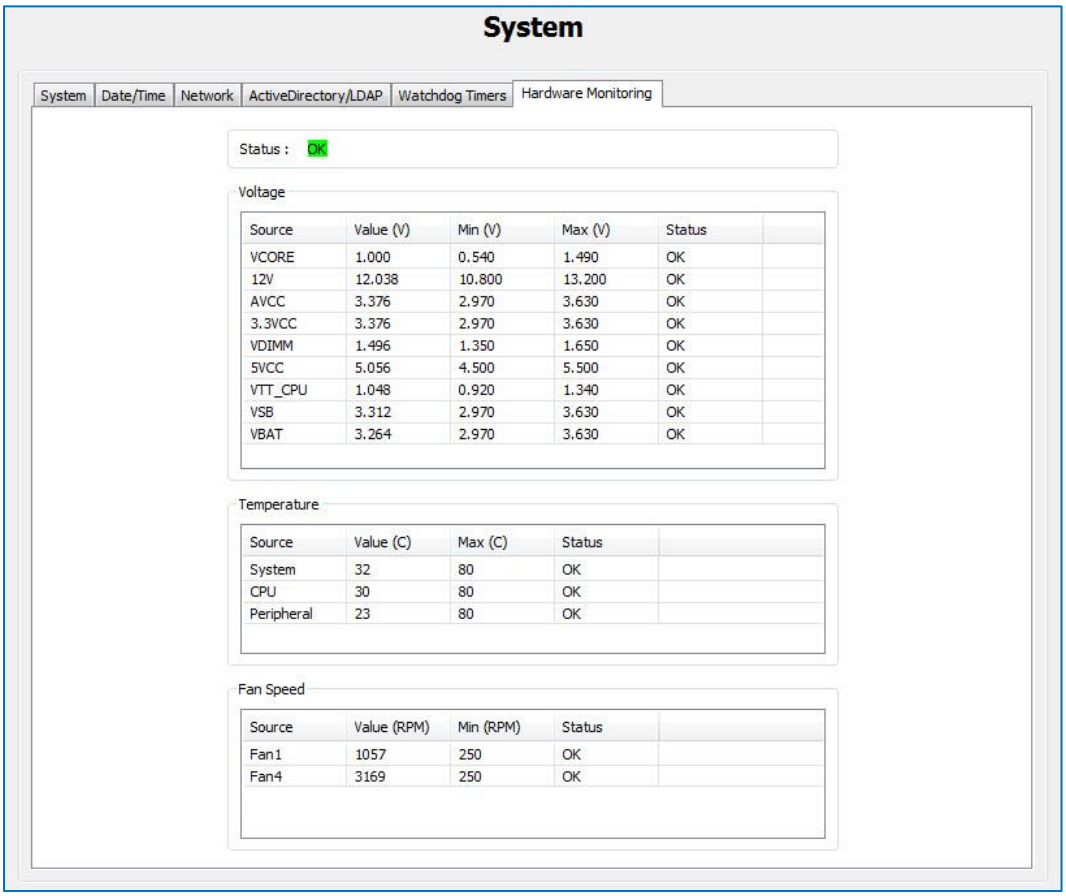
Watchdog Timer

- The **Watchdog Timer** tab displays information about the system's factory-installed watchdogs, if available. The watchdogs can restart systems or capture cards if they lock up. The information on the tab is not configurable.



Hardware Monitoring

- The **Hardware Monitoring** tab (available only on certain systems) displays information about the system voltage, temperature, and fan speed. The Status message changes to a red ALARM if a minimum or maximum value of a monitored parameter is reached.

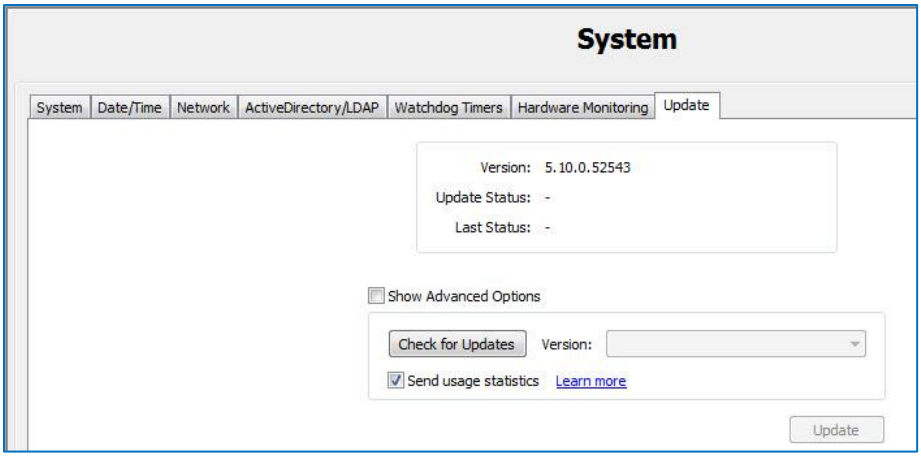


Update

- The **Update** tab allows you to remotely update the exacqVision Server software. The server's current exacqVision Server version is listed at the top of the tab. Click Check for Updates; if a newer exacqVision Server release is available, it will be listed in the Version drop-down list.

  After you select an exacqVision Server release, click Update. Update Status tracks the progress of the update. After your first update, the Last Status will provide information about the most recent update.

  NOTE: Alternatively, you can select Show Advanced Options to open the Location field, which contains a network share location accessible by the client and server. Copy the update list and all server software updates to the location specified.

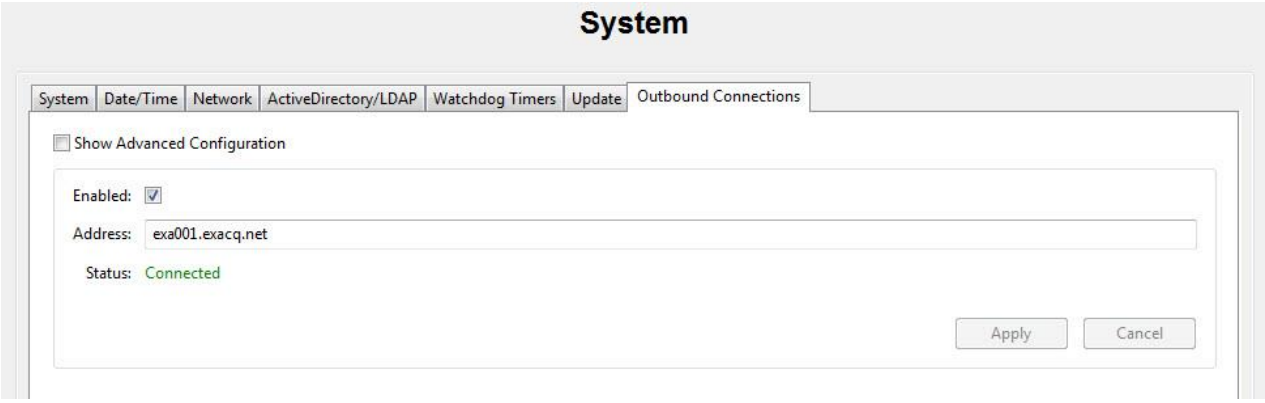


Please note the following additional information about remote updates:

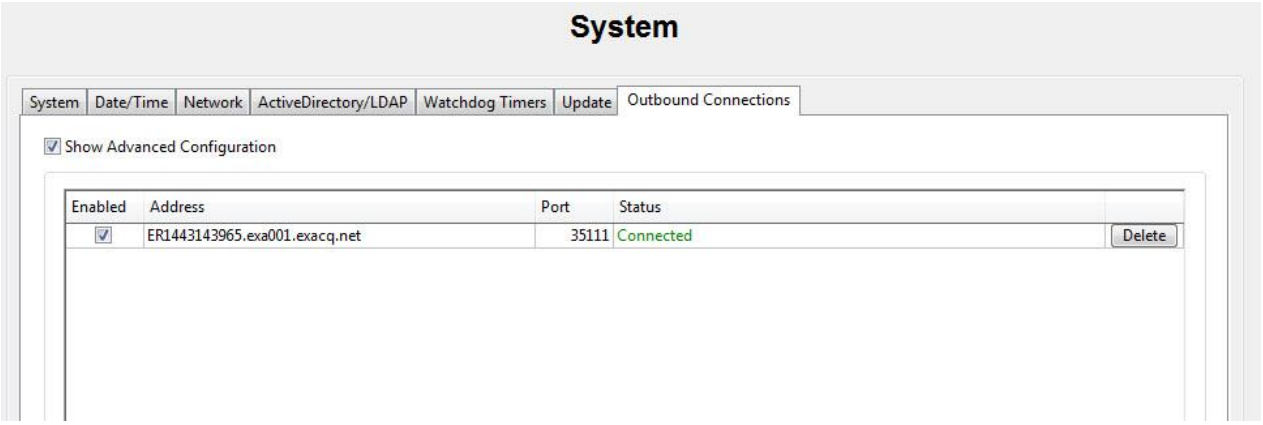
- **The exacqVision system will stop recording for several minutes during the update**, and then it will automatically begin recording when the update is complete.
- Available exacqVision Server releases can vary based on the system's license and subscription status.
- Remote updates on the System page require the exacqVision Server and exacqVision Client both to be connected to the Internet.
- If the server and client are not connected to the Internet, you can copy your license file to a flash drive or other portable media device. Then upload the license file to the Offline Software Update Packaging Utility on exacq.com under Support and Downloads.
- Send Usage Statistics provides anonymous and non-sensitive information to the manufacturer about how cameras and exacqVision features are used on the system.

Outbound Connections

- The **Outbound Connections** tab allows you to connect to services outside the system's network, such as when you run Enterprise System Manager or other services in a cloud environment. To use this feature, click Enabled, enter the address of the cloud service, and click Apply. If you use a domain name for the address, exacqVision uniquely identifies the system by attaching the system's serial number automatically.



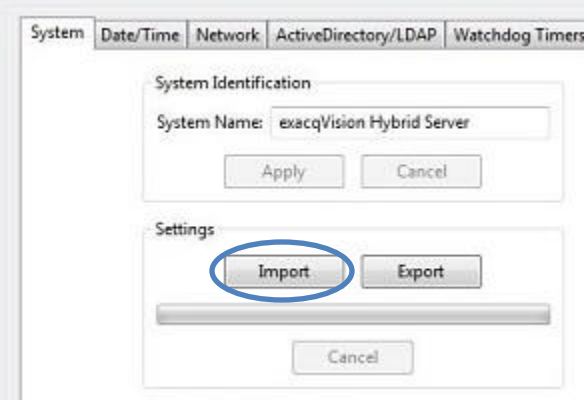
To configure multiple connections on a single system, or to configure the port used for a connection, select Show Advanced Configuration. Click New to add a connection, edit the address and port as needed, and then select the Enabled checkbox for each connection.

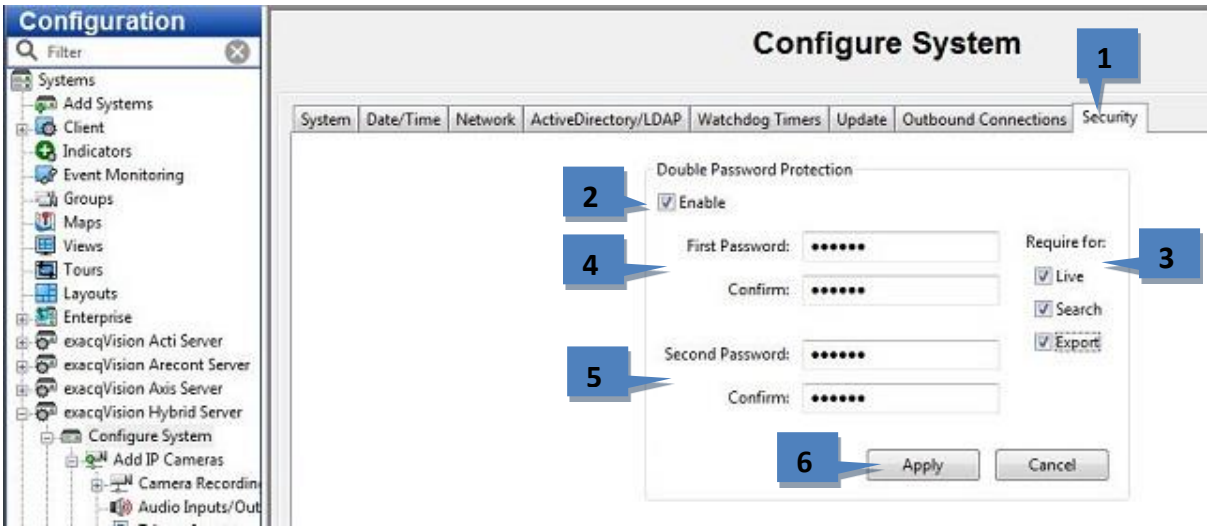


Second Reviewer

The second reviewer feature requires two people to simultaneously enter credentials to view live video or search recorded video.

- This feature is hidden by default and requires a special configuration file to make visible.
- The configuration file is imported via the **Configure System | System tab | Settings | Import** button
- Contact exacq Support https://exacq.com/support/form/ to get this file





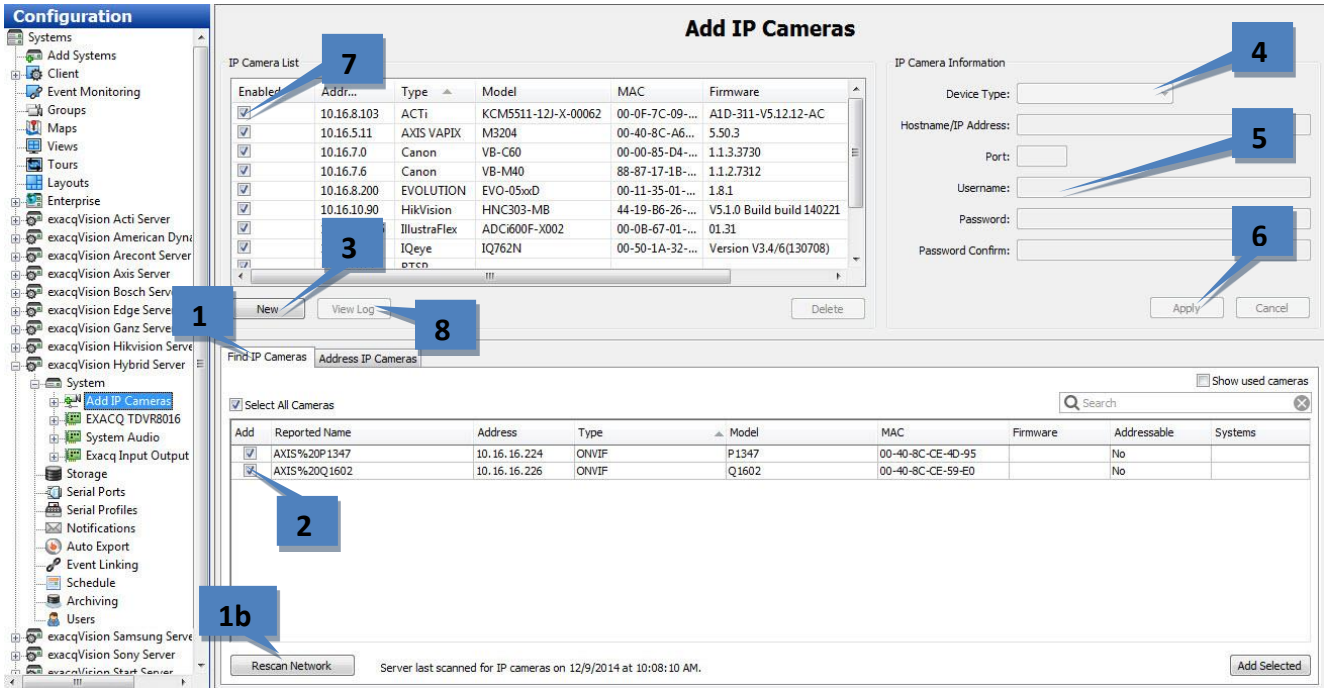
1. After importing the file, click the Security new **Security** tab
2. Check **Enable**
3. Select which functions this feature shall apply to
4. The first person defines their password and confirms it
5. The second person defines their password and confirms it
6. Click Apply

exacqVision Client will prompt for both passwords when performing tasks that require the selected features from step 3.

NOTE: When Second Reviewer is enabled:

- Any archiving, auto export jobs and email notification attachments such as .jpg and .mov files are disabled
- video preview may not be available on configuration pages
- The exacqVision web service is not supported

Add IP Cameras



The **IP Cameras** page allows you to add IP cameras and devices to the system and configure their settings. The following features are available on the IP Cameras page:

1. The Find IP Cameras tab scans for supported IP cameras available on the same network that the system is connected to. If you don't see an IP camera as expected, verify that the camera has been configured as instructed in the *exacqVision IP Camera Quickstart Guide* and that the camera can be pinged from a command prompt. If you make any changes to an IP camera, click Rescan Network (1b) and check whether it is listed.

   NOTES: To confirm which camera you are installing, right-click the camera in the IP Camera List or Find IP Cameras list to access the camera's website and view a video image. Also, if you want to quickly assign IP addresses to cameras listed as Addressable, see the Address IP Cameras tab discussion on the following page.

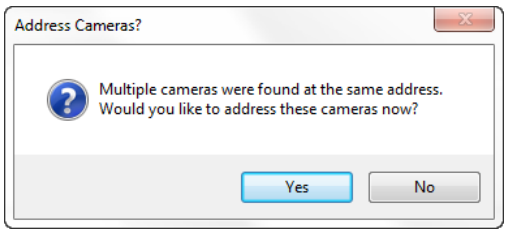
2. Select a camera in the Find IP Cameras list to add it to the IP Camera List.
3. Alternatively, you can manually add a camera by clicking New.
4. Select the device type as follows:

   - If the appropriate manufacturer-specific driver is shown in the list, select it.
   - If that is not available and the device is ONVIF-compliant, select the ONVIF driver. (The level of integration can vary by manufacturer or model.)
   - RTSP-compliant cameras can stream video but not motion detection or camera configuration data.

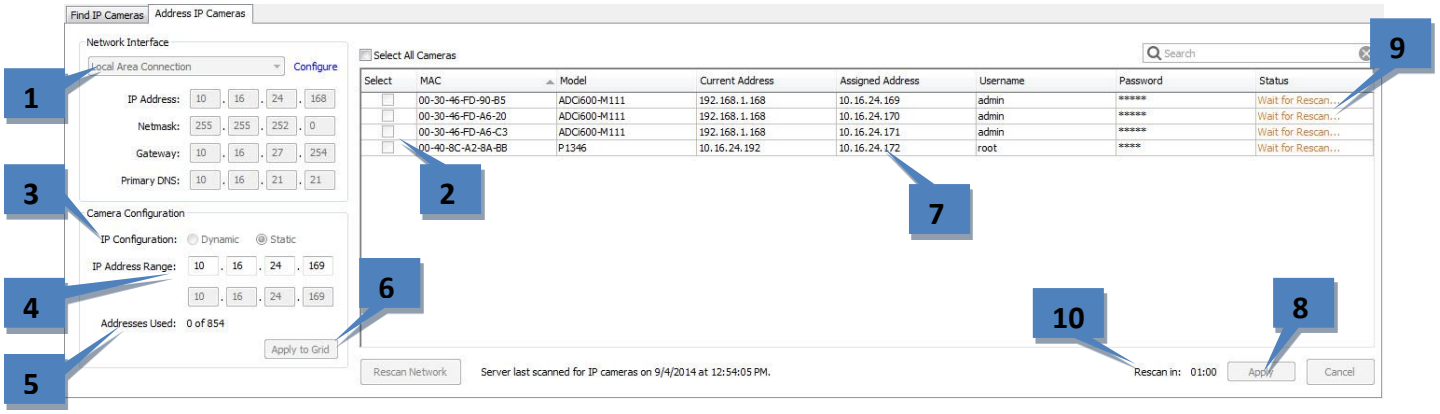
5. Enter a username, password, and IP address as configured on the camera.
6. Click Apply to save the camera configuration.
7. To enable a camera, select its checkbox in the IP Camera List. The number of cameras you can enable is subject to licensing limits. The Status column displays connection information; hover over any error status for details.
8. Select one or more cameras and click View Log to view system log messages from the previous 10 minutes.

The camera should now also be listed in the Configuration, Live, and Search trees.

Certain camera models from certain manufacturers can be listed as Addressable on the Find IP Cameras tab. This allows you to select the **Address IP Cameras** tab and change the IP address of those cameras (also known as EasyConnect). Or, if multiple cameras on the Find IP Cameras tab have the same IP address, you might also see the following message:



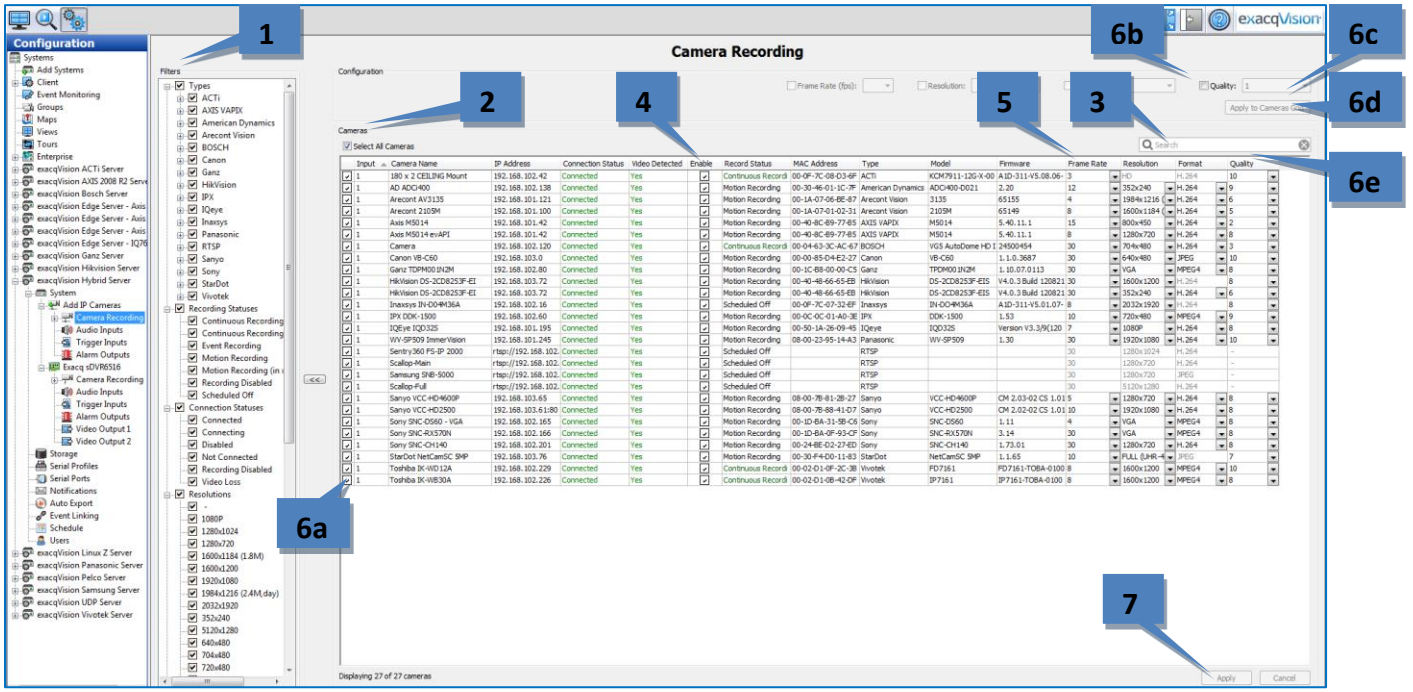
Click Yes to open the Address IP Cameras tab:



1. On systems with more than one network interface card (NIC), you might need to select a different NIC from the drop-down list to see the cameras that you want to address. You can click Configure to open the Network tab on the System page to view or modify the NIC's configuration.
2. Select the checkboxes for the cameras that you want to address (or Select All Cameras).
3. Select Dynamic (DHCP) or Static for the IP Configuration.
4. If you selected Static, modify the IP Address Range as needed.
5. If you selected Static, the Addresses Used item shows the number of cameras selected in the list and the number of addresses available based on the entered IP address and Netmask. If any of those addresses are already used by other devices, the number of such addresses are shown as "skipped." The first number cannot be larger than the second number.
6. Click Apply to Grid.
7. The Assigned Address column displays the new IP address (if Static was selected) or Dynamic.
8. Click Apply.
9. The Status column displays the progress of the addressing. Assigning a new address normally forces a restart of the camera; thus, the system automatically rescans for the cameras after one minute.
10. The timer indicates when the automatic rescan will occur.

If the addressing was successful, a message box allows you to add the cameras to the IP Camera List. If more than one camera is added, you are prompted to open the Schedule page for recording configuration.

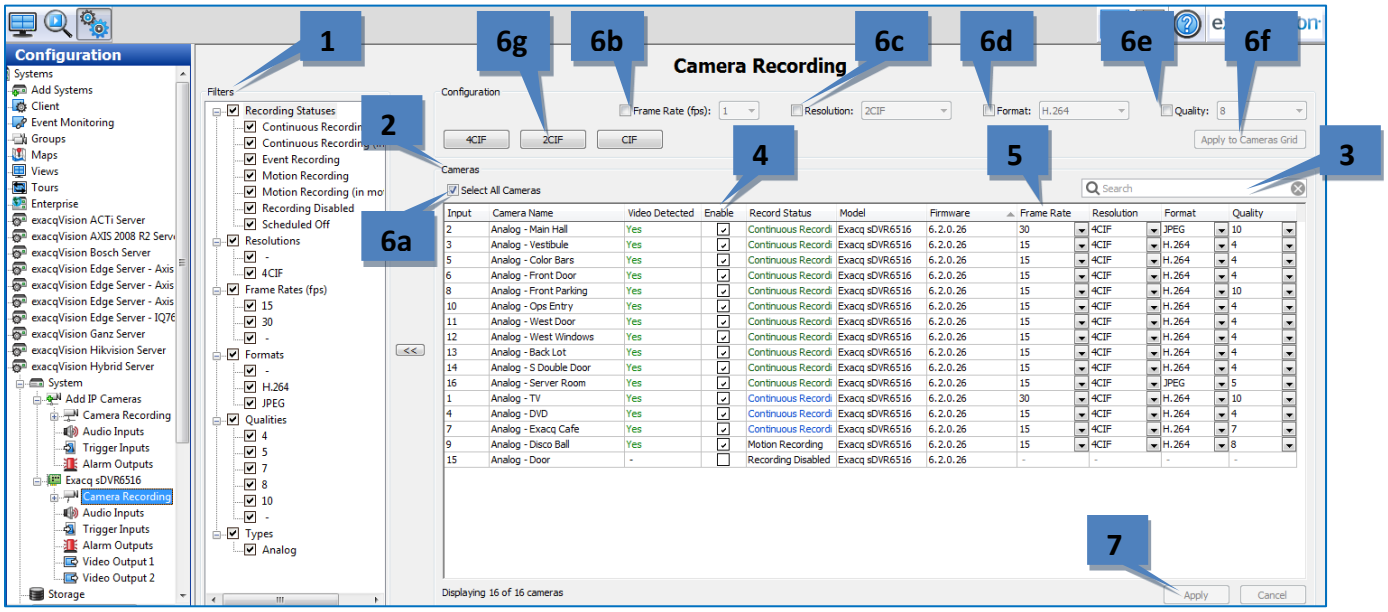
IP Camera Recording



The IP **Camera Recording** page allows you to enable IP cameras to record video and configure recording settings. The following features are available on the IP Cameras page:

1. The Filters list allows you to select which cameras are displayed in the Cameras list, based on categories such as camera type, recording status, resolution, and more.
2. The Cameras list displays all cameras on the selected server that match the criteria selected in the Filters list. Cameras can be sorted by clicking the title of any column. Several of the columns can also be hidden or displayed by right-clicking any column title, although the checkboxes, camera names, and recording settings (frame rate, resolution, format, and quality) cannot be hidden.
3. To search for a camera in the list, enter text in the Search field. If any of the information about a camera entry matches the Search text in any displayed or hidden column, the camera entry is shown; all other camera entries are hidden. To display the rest of the cameras that match the Filter criteria, delete the text in the Search field.
4. The Enable column contains check boxes that allow you to enable or disable recording from that camera. By default, the check box is selected if a signal is detected; however, you can manually disable recording on a camera that is connected and sending a signal to the system.
5. Recording settings can be changed individually for a camera by selecting any of the drop-down lists in the Frame Rate, Resolution, Format, and Quality columns. The options available in each drop-down list can vary by manufacturer and model. If a drop-down list is not displayed for a camera in any of the fields, the camera does not support any other settings for that parameter.
6. Alternatively, to apply a quality setting to multiple cameras simultaneously, select the checkbox (a) in the first column for each applicable camera (or select the Select All Cameras checkbox), select Quality checkbox (b), choose a video quality from the drop-down list (c), and click Apply to Cameras in Grid (d). The quality should now be modified for all selected cameras, as shown in the Quality column in the Cameras list (e).
7. Click Apply to activate any changes.

Analog Camera Recording



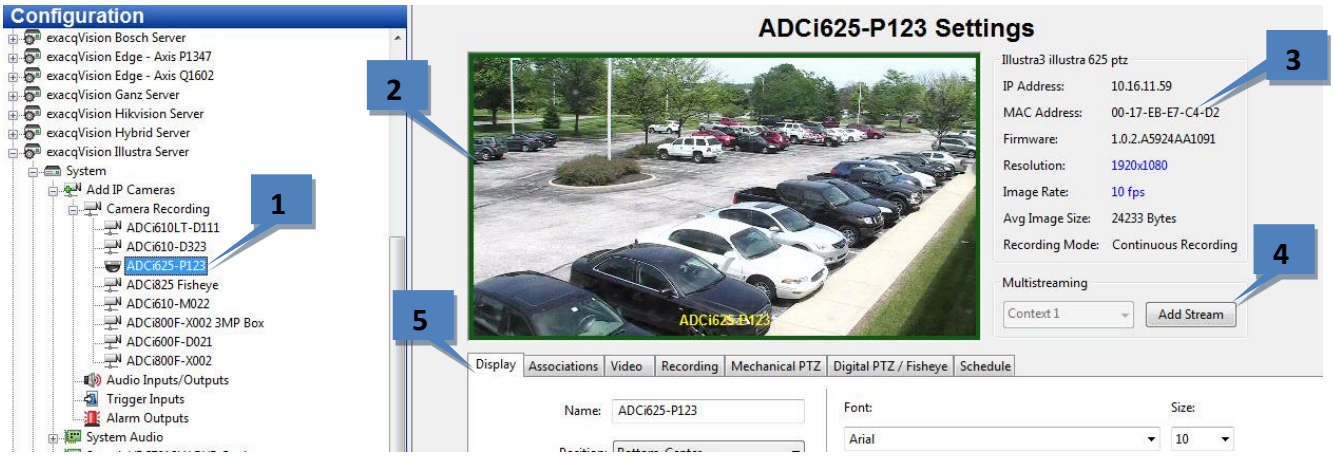
The analog **Camera Recording** page allows you to enable analog cameras to record video and configure recording settings. This page is similar to the IP Camera Recording page, with a few minor differences. The following features are available on the IP Cameras page:

1. The Filters list allows you to select which cameras are displayed in the Cameras list, based on categories such as recording status, resolution, and more.
2. The Cameras list displays all cameras on the selected server that match the criteria selected in the Filters list. Cameras can be sorted by clicking the title of any column. Several of the columns can also be hidden or displayed by right-clicking any column title, although the Enable column, camera names, and recording settings (frame rate, resolution, format, and quality) cannot be hidden.
3. To search for a camera in the list, enter text in the Search field. If any of the information about a camera entry matches the Search text in any displayed or hidden column, the camera entry is shown; all other camera entries are hidden. To display the rest of the cameras that match the Filter criteria, delete the text in the Search field.
4. The Enable column contains check boxes that allow you to enable or disable recording from that camera. By default, the check box is selected if a signal is detected; however, you can manually disable recording on a camera that is connected and sending a signal to the system.
5. Recording settings can be changed individually for a camera by selecting any of the drop-down lists in the Frame Rate, Resolution, Format, and Quality columns. The options available in each drop-down list can vary by manufacturer and model. If a drop-down list is not displayed for a camera in any of the fields, the camera does not support any other settings for that parameter.
6. Alternatively, to apply a quality setting to all displayed cameras simultaneously, enable the Select All Cameras checkbox (a), select one or more of the Frame Rate (b), Resolution (c), Format (d), or Quality (e) checkboxes, select a setting for each selected parameter, and click Apply to Cameras in Grid (f). Note that the resolution can be alternatively be changed for all cameras using the 4CIF, 2CIF, and CIF buttons. The settings should now be modified for all selected cameras, as shown in the Cameras list.

   NOTE: If a parameter is greyed out in the Configuration section, a setting universal to all selected cameras is not available for that parameter.

7. Click Apply to activate any changes.

Camera Settings



The **Camera Settings** page is where you configure the individual IP and analog camera settings such as camera name, onscreen display, PTZ settings, video settings, recording quality and motion and video masks. This page is similar for IP and analog cameras, but certain features might be unavailable depending on the type of camera you are configuring. The following features are available on the Camera Settings page:

1. Use the Configuration tree to select the camera that you want to configure.
2. A live view of the selected camera is displayed.
3. Basic information about the camera is listed.
4. The Multistreaming feature (**not available in exacqVision Start**) appears only for cameras that support multistreaming. It allows you to create streams with different video settings or regions of interest from a single camera view. For example, you might want to limit video quality for remote clients while displaying the same camera in high quality for local clients. Each stream can have custom recording schedules, storage rules, and event triggers.

   Each camera has a different limit to the number of streams that can be added. The drop-down list shows the next context (stream) number available; click Add Stream to name the new context. You can then adjust the quality settings for the stream or modify the Crop Window section (explained later) to create a region of interest.

   A camera configured for multistreaming is listed with a plus button in the Configuration tree; click the plus button to view all streams configured on the camera. In the Live site tree, a stream with a specific region of interest is listed as a separate camera; a stream with different video settings is listed as a child, and the parent is labeled with a yellow star (see the “Live Page Overview” chapter for an example). To delete a stream, select it in the tree and click Delete Stream.

5. A series of tabs allows you to complete the rest of the camera’s configuration, as described in the following sections.

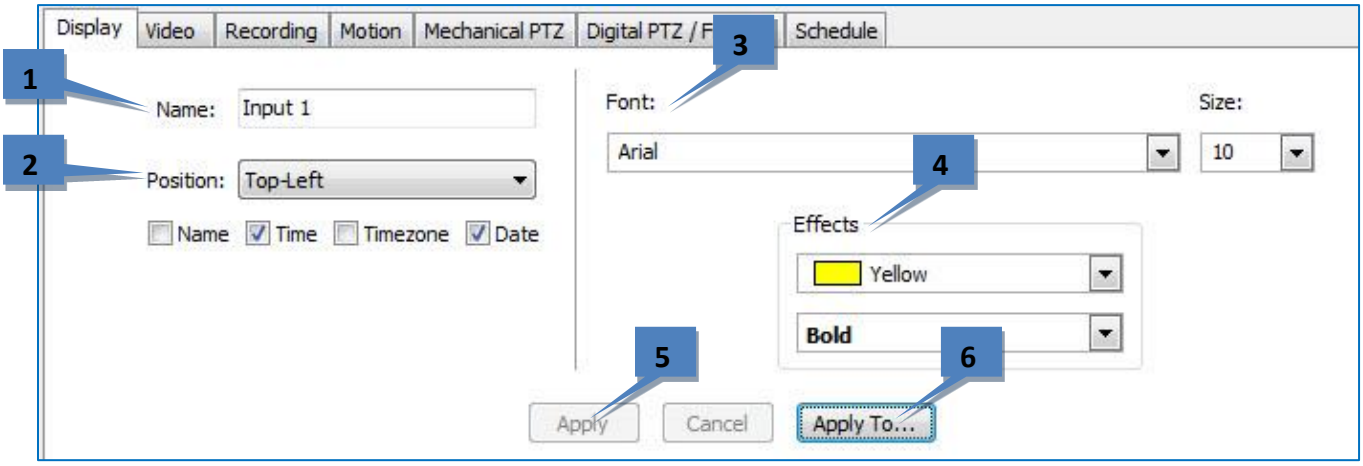
IMPORTANT NOTES ABOUT CAMERA SETTINGS

The tabs available for each camera, the settings available on each tab, and the options available for each setting can vary greatly among camera manufacturers and models. If you see a setting in the following sections that does not appear onscreen, that setting is not available for that camera.

Many IP camera settings that are not available in the exacqVision software can be accessed through the camera's web page. To view an IP camera's web page, click the hyperlink in the IP Address field. If you don't see a hyperlink beside the IP Address field, it could be for one of two reasons:

A. You are not logged in to the operating system with administrative privileges. You must log in to operating system account with administrative privileges to access the hyperlink.
B. Your client computer is not located on the same IP subnet as the IP camera. This could occur if you are using the client from a home computer to access a server at your office, for example. This restriction should cause few issues because camera website settings are typically changed only during initial configuration.

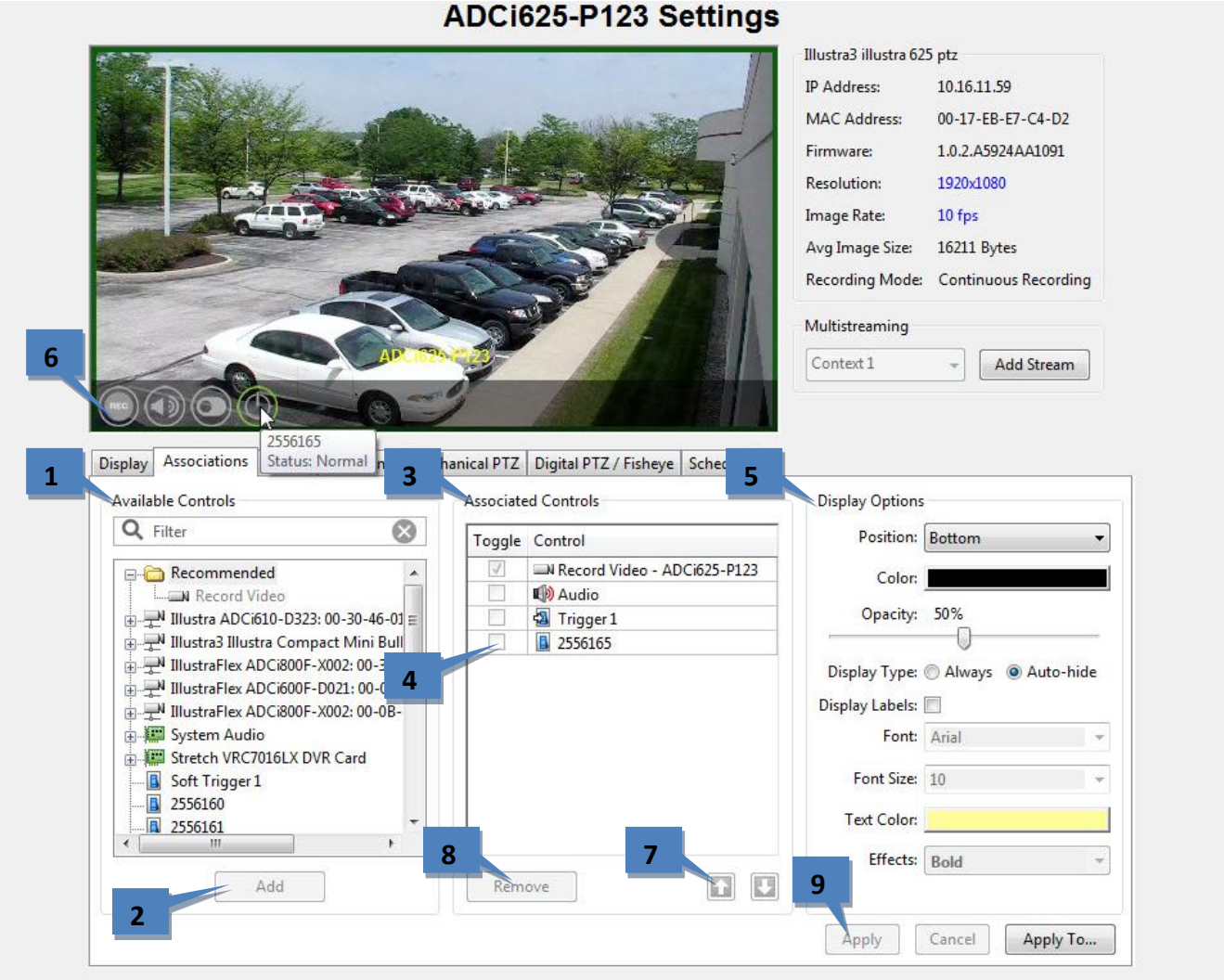
Display Tab



1. Enter a name for the camera (up to 32 characters).
2. Select the position of the onscreen display (OSD) of the camera, along with the camera information included in the display.
3. Select a font and size of the OSD.
4. Select the color of the OSD, along with bold/italics options.
5. To enable changes of settings on this tab, click Apply.
6. To enable the settings on this tab to multiple cameras on the server, click Apply To.

Associations Tab

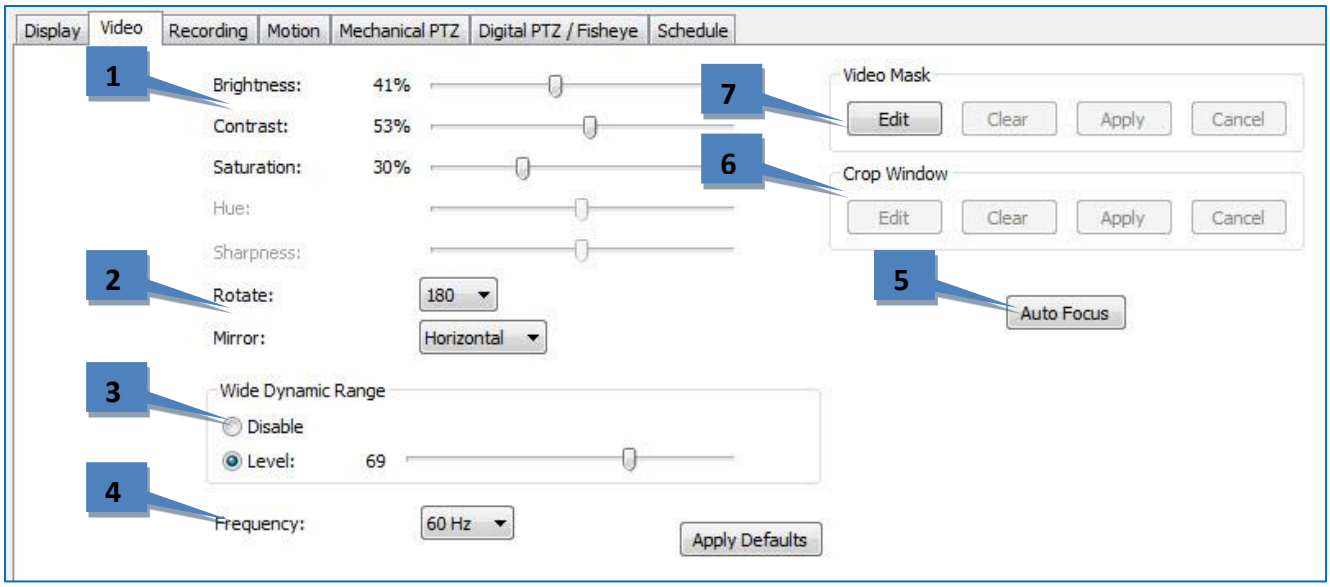
The Associations tab allows you to associate a camera with controls for audio inputs, triggers, and manual recording. Each associated control is displayed in an icon overlay on the camera's live video windows.



1. The Available Controls list displays all controls that can be associated with the camera. Enter text to filter the list. **NOTE:** The Recommended portion of the Available Controls list includes all inputs and outputs on the camera.
2. Select a control and click Add to display the control in the Associated Controls list.
3. The Associated Controls list displays all controls that have been associated with the camera.
4. To enable manual toggling of a control's state when you click its icon, select the toggle checkbox next to the control. (Some controls must have toggling enabled, so their checkboxes cannot be disabled.)
5. To configure the parameters of the overlay, change any of the settings under Display Options. You can change the overlay position, color, opacity, and display labels and fonts. You can also select whether to always display the overlay, or display it only when the mouse is hovering over the video window.
6. Associated controls are displayed as icons in an overlay in the video window on this page and in Live View. To test the association, hover the mouse over each icon and read the information in the text pop-up. Controls that allow you to perform an action are shown in color when you hover the mouse over their icons. Click the icon to perform the action. The icons will react in the same way on the Live page as they do on this page.
7. To change an associated control's order, select it in the Associated Controls list and click the up or down arrow.
8. To delete an associated control, select it in the Associated Controls list and click Remove.
9. Click Apply when finished, or Apply To… to apply the associations to additional cameras on the same server.

Video Tab

NOTE: The following settings on the Camera Settings page are not available on RTSP interfaces, and they vary on ONVIF and certain proprietary interfaces.



1. The sliders allow you to adjust the image as it is displayed on your screen.
2. Rotate and Mirror allow you to change the orientation of the camera's video. This can be useful if the camera's mount points the camera in a direction that causes video to be displayed vertically instead of horizontally.
3. Wide Dynamic Range allows you to compensate for very bright or dim lighting in the area where the camera is installed.
4. Frequency allows you to switch between 50 and 60 Hz. This allows you to reduce flicker by matching the frequency of lights and electronics screens used in different geographical regions.
5. Auto Focus allows you to adjust the clarity of the camera view.
6. Crop Window, available on certain IP cameras, allows you to crop unimportant portions of a camera image in order to save disk space. Click Edit and then use the mouse cursor to draw a box on the video window. This box will be the portion of the camera's view that will be recorded and displayed (the rest of the view will be ignored). Click Apply to activate the crop; click Edit, Clear, and Apply to deactivate the crop.
7. The following types of masks can be created on cameras connected to an exacqVision system:

    - A Motion Mask is an area of a video window where motion is ignored.
    - A Video Mask is used to block an area of a camera's view so that it cannot be seen onscreen in live or recorded video.

    NOTE: The type of masks available varies by camera. The following special section contains more detailed information about masks.

MOTION MASKS, VIDEO MASKS, AND MOTION WINDOWS

A motion mask reduces unwanted recording by ignoring motion events that occur in certain areas of an image. For example, if a camera is pointed at a room that has a moving ceiling fan in the field of view, you can avoid continuous motion recording by masking out the fan while still recording motion that occurs in the rest of the camera's field of view. Motion masks save storage space, extend recording time, and make it easier to visually see motion events on the video timeline on the Search Page. A motion window is simply the opposite of a motion mask.

To create a motion mask or motion window, complete the following steps:

1. On the Camera Settings page, click Edit in the Motion Mask or Motion Window section. This displays a blue motion grid over live video from the camera.
2. Draw the mask directly in the grid. You can either individually click each rectangle to create the mask or window, or you can left-click while dragging the cursor across multiple rectangles.

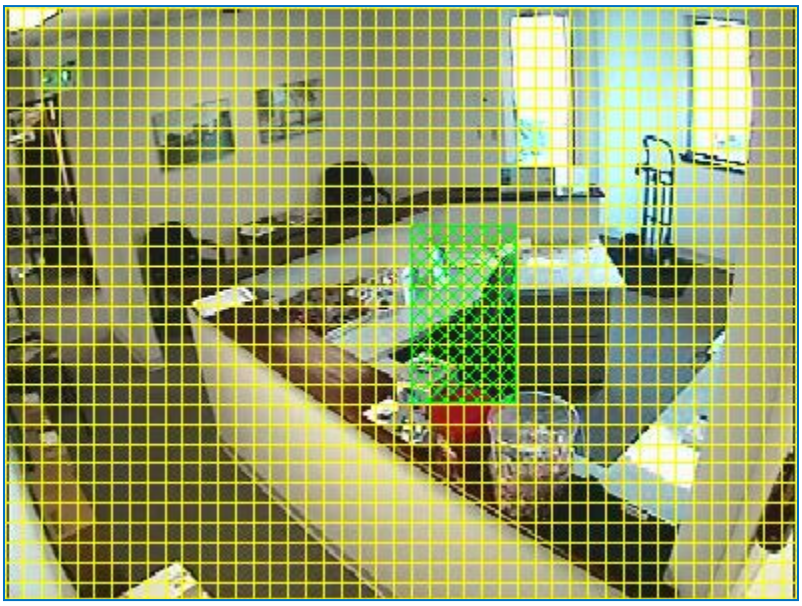
3. Click Apply to enable the motion mask or motion window.

To delete a motion mask or window, click Edit, click Clear, and click Apply.

A Video Mask is used to block an area of a camera's view so that it cannot be seen onscreen in live or recorded video. This can be useful if you don't want system users to see a combination safe or keypad that is in the camera's field of view, for example.

To create a video mask, complete the following steps:

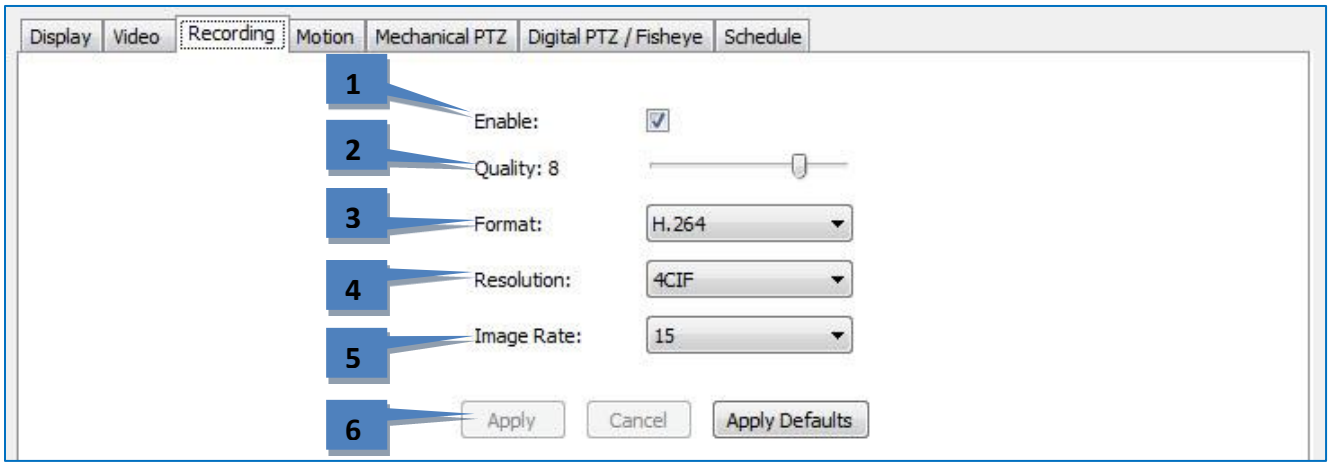
1. On the Camera Settings page, click Edit in the Video Mask section. This displays a yellow grid over the live video from the camera.
2. Draw the mask directly in the grid by left-clicking while dragging the cursor over the area of the grid you want to mask. A green rectangle indicates the masked area.



Click Apply. The yellow grid disappears and green rectangle is replaced by a solid gray rectangle. This area is now masked from both live and recorded video. To clear the mask, click the Clear button.

Recording Tab

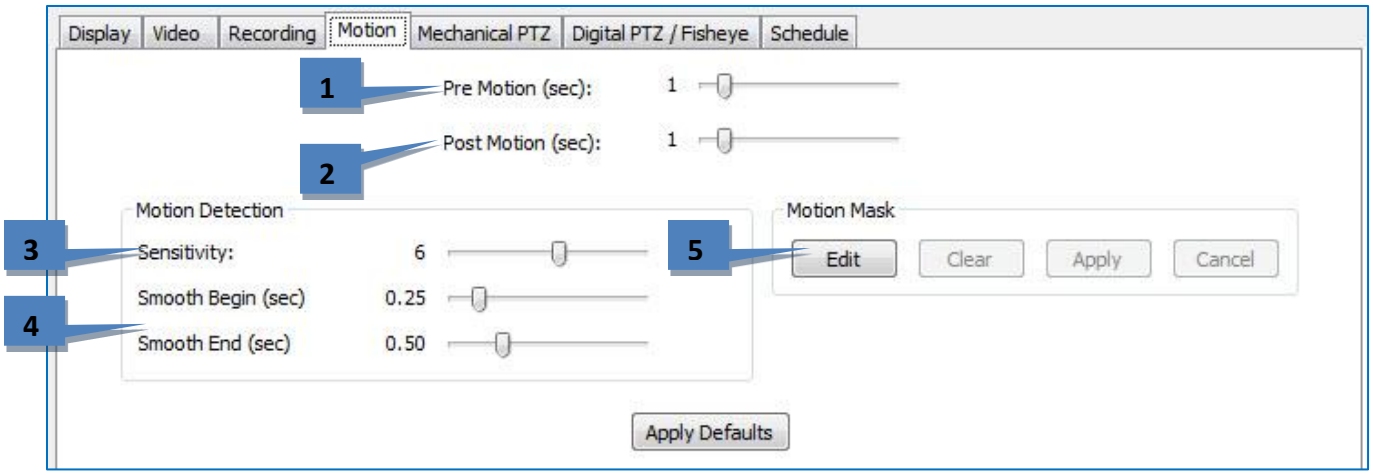
NOTE: The following settings on the Camera Settings page are not available on RTSP interfaces, and they vary on ONVIF and certain proprietary interfaces.



1. Select Enable to record video from the camera based on the configured schedule.
2. The Quality slider allows you to modify the image quality by increasing or decreasing its size. Decreasing image quality saves disk space by reducing the size of the video as it is recorded.
3. The Format setting allows you to select the compression format.
4. The resolution setting allows you to select the size of the video.
5. The Image Rate setting allows you to select the number of images recorded per second from the camera.
6. Click Apply to enable changes, or Apply Defaults to revert to the factory default settings.

Motion Tab

NOTE: The following settings on the Camera Settings page are not available on RTSP interfaces, and they vary on ONVIF and certain proprietary interfaces.



1. The Pre Motion slider adjusts the number of seconds of video that are saved before the motion event occurs. For example, suppose Pre Motion is set to 5; when you play back motion video from that camera, you will see five seconds of video that was recorded before the motion event occurred, followed by the motion event itself.
2. Post Motion is the same as Pre Motion, except that the slider adjusts the number of seconds of video that are saved after the motion event has completed.
3. The Sensitivity slider allows you to configure how much motion must occur in the camera's view to trigger motion recording (if enabled on the Schedule page). A low sensitivity setting can reduce false motion created by video noise or shadows.
4. Smooth Begin and Smooth End (available only on analog cameras) can be used to reduce the number of motion alarm events:

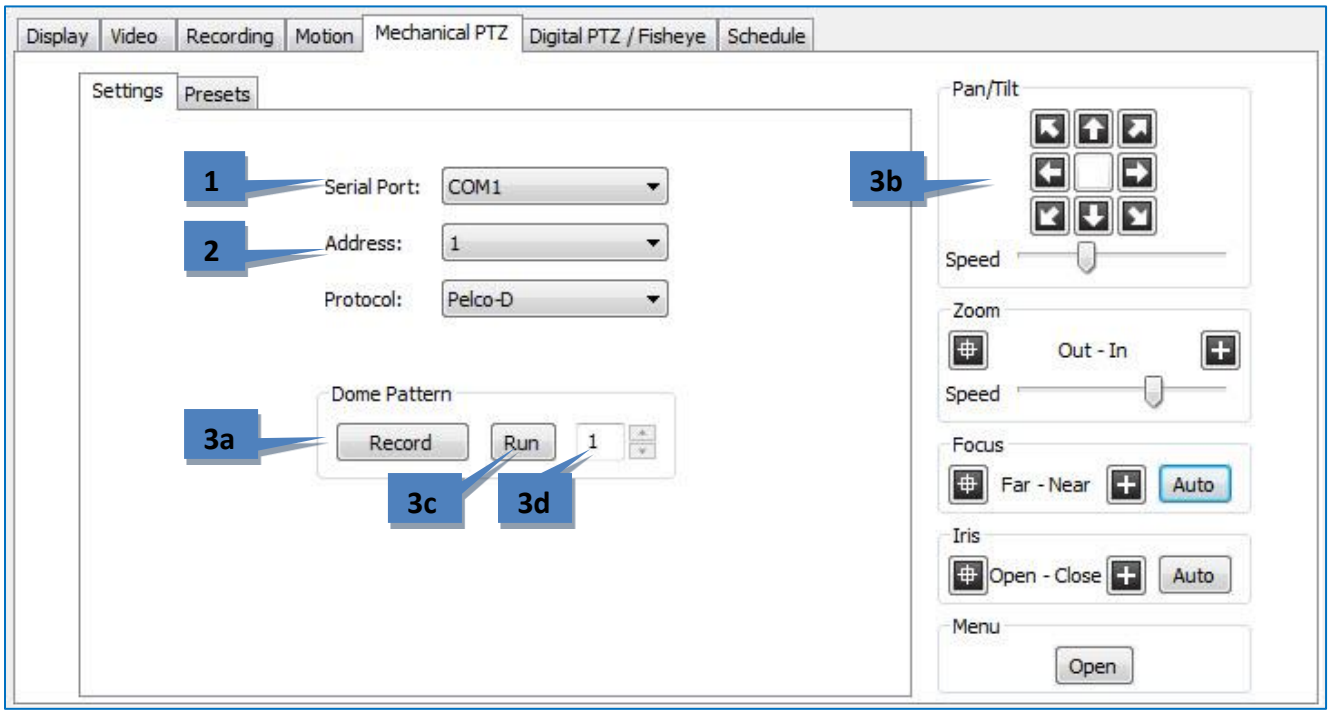
    - Smooth Begin requires a minimum number of seconds for motion to occur before a motion alarm event begins; this prevents very brief motion occurrences from triggering a motion alarm event.
    - Smooth End requires a minimum number of seconds without motion before a motion alarm event is completed; this combines a continuous series of short motion occurrences into a single motion alarm event.

5. For more information about motion masks and motion windows, see the special information in the Video Tab section.
6. Click Apply Defaults to revert to the factory default settings.

Mechanical PTZ Tab

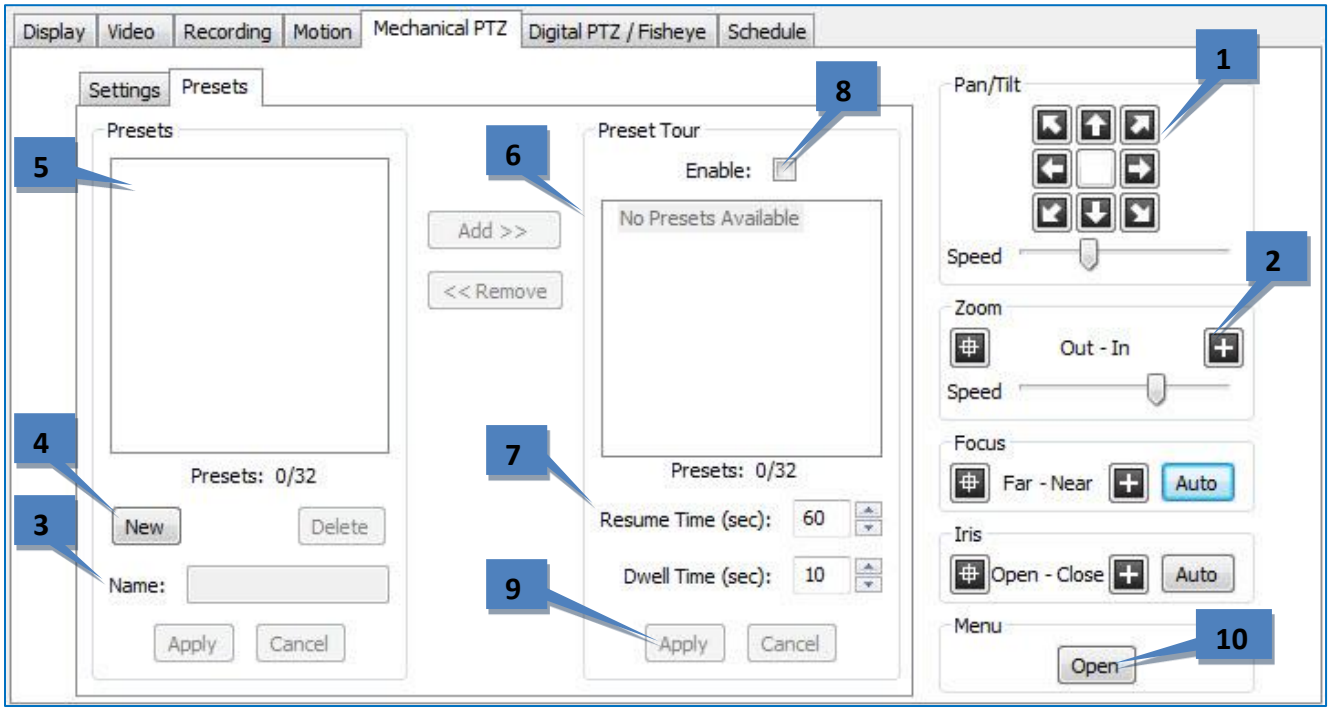
This tab contains two additional tabs: Settings and Presets.

The Settings tab allows you to configure the COM port and address of the PTZ camera.



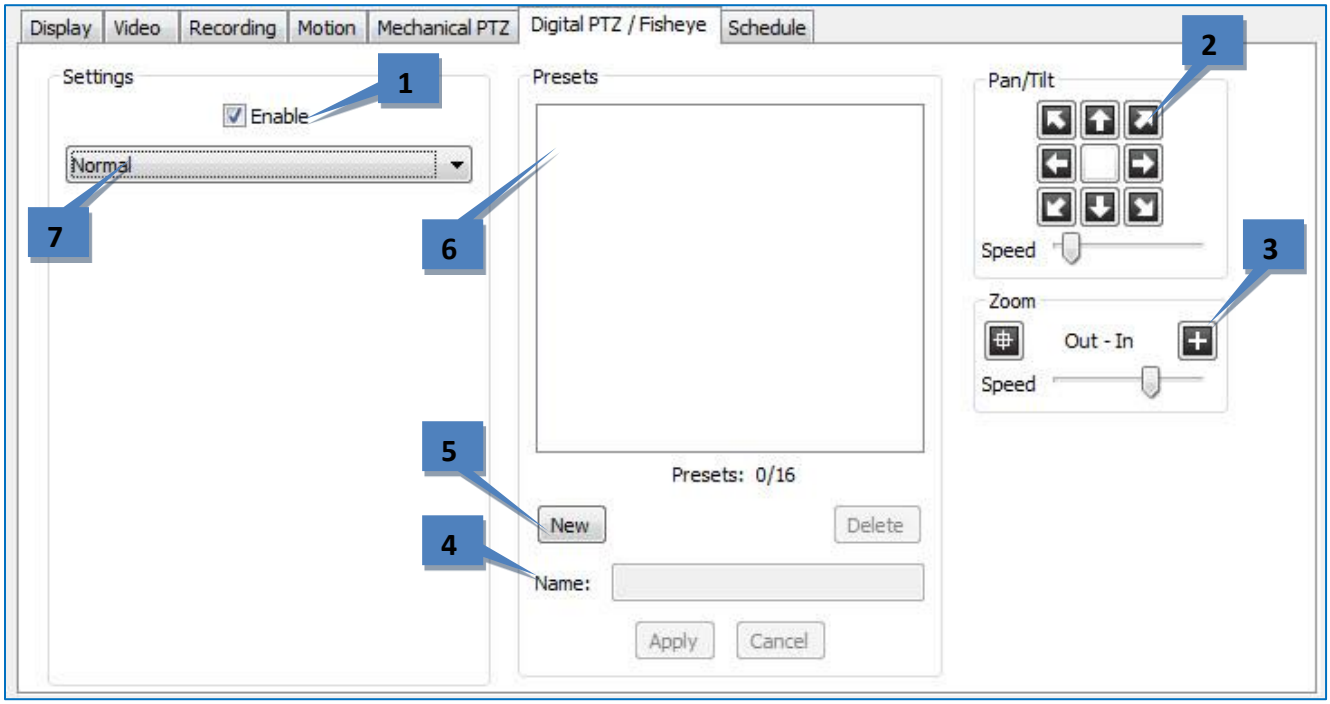
1. Select the camera's COM port from the Serial Port drop-down list. This port is configured on the Serial Ports page.
2. Select the camera's Address as configured on the camera hardware. (The protocol is automatically displayed based on the Serial Port selected.)
3. To create a dome pattern (available only on certain analog cameras), click Record (3a), use the PTZ controls (3b) to move the camera in the pattern desired, and click Stop. Click Run (3c) to review the pattern. Use the number indicator (3d) to create additional dome patterns.

The Presets tab allows you to configure PTZ presets on the camera.



1. Use the Pan/Tilt buttons to point the camera at the desired preset location. If the camera moves too quickly or too slowly, move the Speed slider left (slower) or right (faster).
2. Adjust the Zoom, Focus, and Iris settings as desired (Focus and Iris are not available when configuring IP cameras).
3. Enter a name or number for the preset in the Name field.
4. Click New to enable the preset.
5. The preset is listed under Presets. The total number of presets configured and supported is shown under the list.
6. To create a Preset tour, select a preset from the Presets list and click Add>> to show it in the Preset Tour list. Repeat for each remaining preset that you want to include in the tour. You can re-order the presets in the Preset Tour list by clicking and dragging them to the desired place in the tour. To delete a preset from the tour, select it in the Preset Tour list and click <<Remove. A preset can be included multiple times in the tour.
7. Resume time is the number of seconds that certain PTZ functions (such as a tour, a linked event, or a soft trigger) can resume after a user manually controls PTZ functions. Dwell time is the amount of time that the camera stays on each preset.
8. Select Enable to activate the tour.
9. Click Apply to complete the process.
10. The Open button displays the camera manufacturer's onscreen menu. Actions required to accept onscreen information vary by manufacturer; clicking Iris Open and Focus Far are the most common.

Digital PTZ/Fisheye Tab



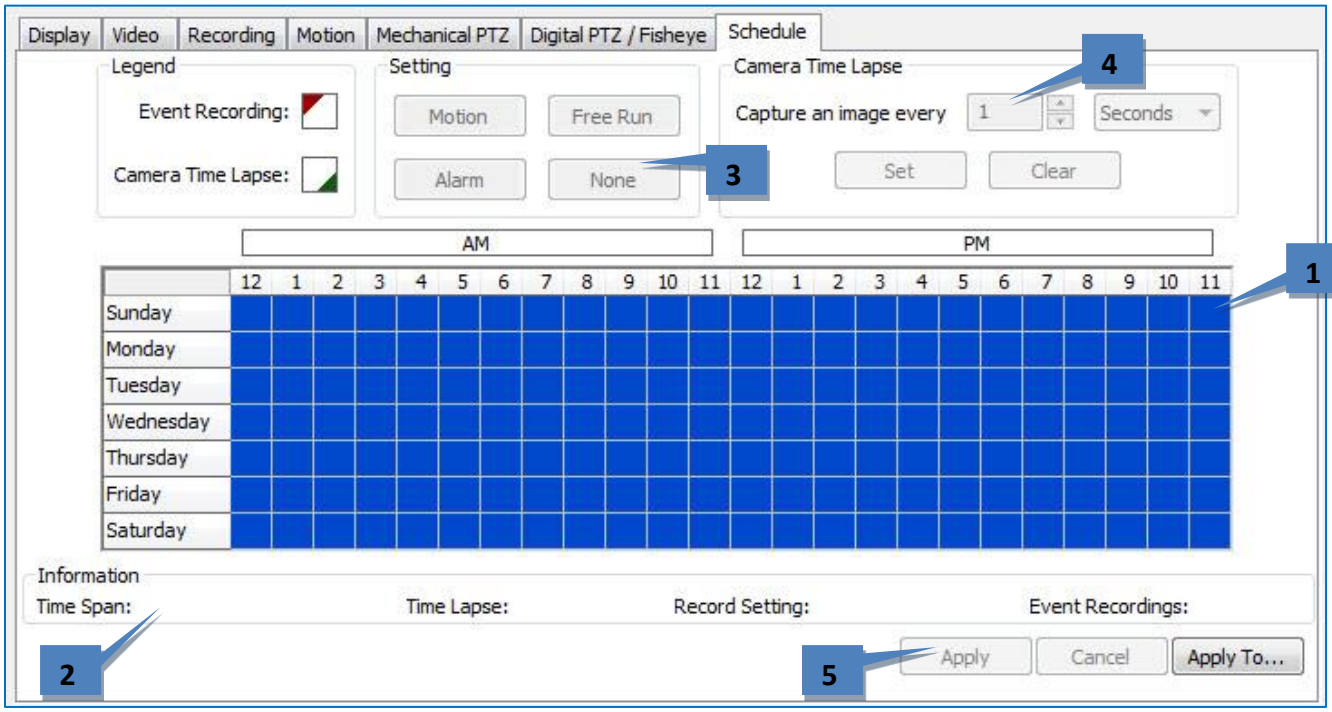
1. To enable digital PTZ functions on the Live and Search pages, select the Enable checkbox. This feature is available even if the camera is not mechanically capable of PTZ functions.
2. Use the Pan/Tilt buttons to point the camera at the desired preset location. If the camera moves too quickly or too slowly, move the Speed slider left (slower) or right (faster).
3. Adjust the Zoom setting as desired.
4. Enter a name or number for the preset in the Name field.
5. Click New to enable the preset.
6. The preset is listed under Presets. The total number of presets configured and supported is shown under the list.
7. Select a Mode for cameras with exacqVision-supported fisheye lenses. If you select Immervision, additional drop-down lists appear that allow you to select a model and mounting options.

NOTE: When you create a PTZ preset, it is initially named New_preset_1 by default. Then, if a PTZ preset named New_preset_1 exists, the next PTZ preset is named New_preset_2. However, if you create a new digital preset, it will also be named New_preset_1, regardless of whether there is already a PTZ preset with that name. To avoid having both a PTZ preset and a digital preset with the same name, make sure you enter a unique name for each preset that you create.

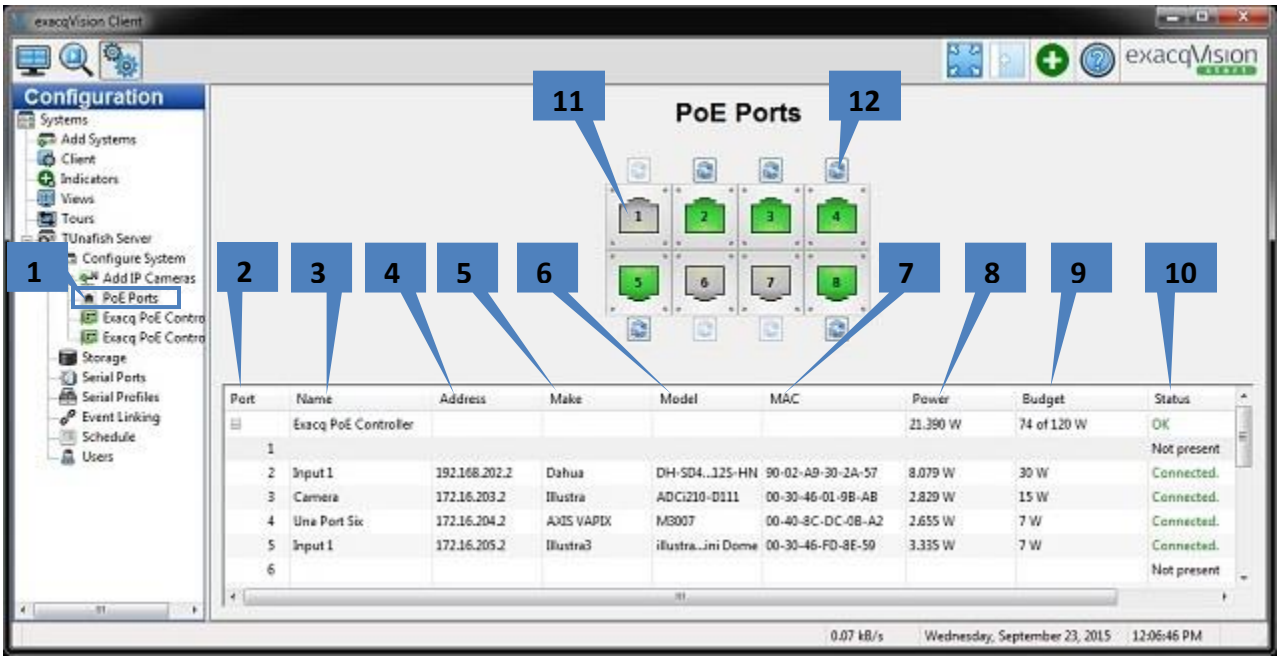
Schedule Tab

NOTE: This tab allows you to create a recording schedule specifically for this camera. The Schedule tab includes additional options for creating a schedule for all cameras on the server.

1. In the grid, draw a rectangle that corresponds to the hours for each device that you want to schedule.
2. When you hover the cursor over a square, note the details displayed in the Information section.
3. Select the appropriate Setting button to determine whether video should always be recorded from this camera (Free Run), or only when Motion or Alarm events occur.
4. To configure time-lapse recording, select the number of images you want to record every second or minute, and then click Set.
5. Click Apply to enable the schedule for this camera, or click Apply To if you want to enable the schedule on multiple cameras on the same server.



PoE Ports (for Una Systems only)



1. Click PoE Ports
2. Port - corresponds with the physical Ethernet port on the back panel of the Una exacqVision recorder
3. Name: detected camera name
4. Address: detected IP address
5. Make: detected camera brand
6. Model: detected model of camera
7. MAC: detected MAC address of camera
8. Power: actual power draw from camera
9. Budget: maximum power draw per camera
10. Status: connection status of camera
11. Port status color indicator:

Gray = Camera not connected

Yellow = Camera discovery, port scanning

Green = Camera connected

Red = Camera disconnected or is not responding

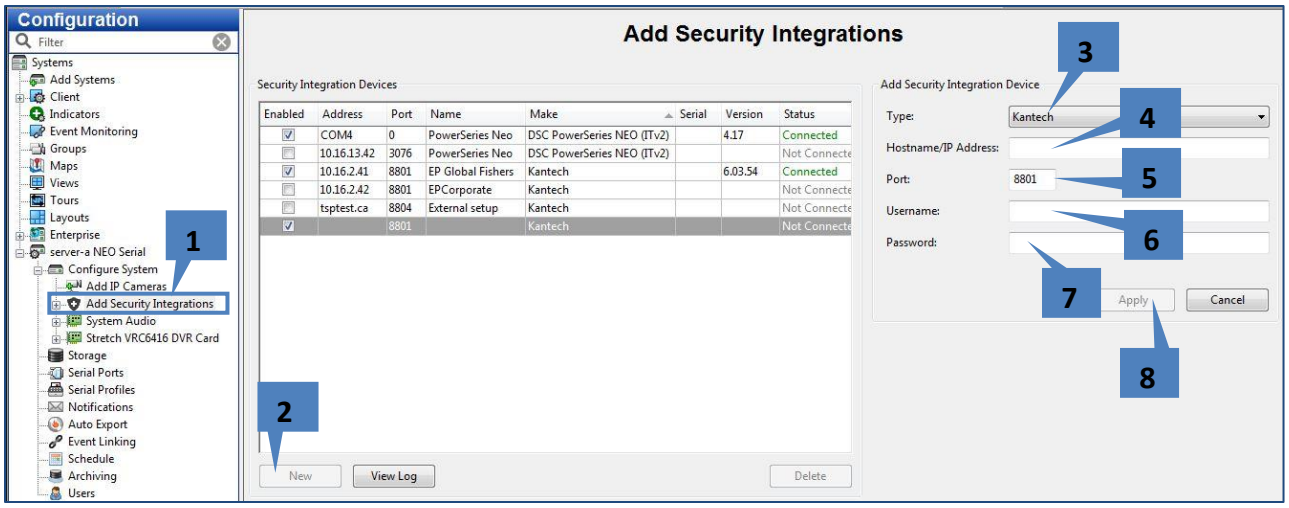
12. Cycle power: momentarily disconnects PoE power to the camera

Add Security Integrations

The Add Security Integrations page allows the user to connect to supported security equipment.

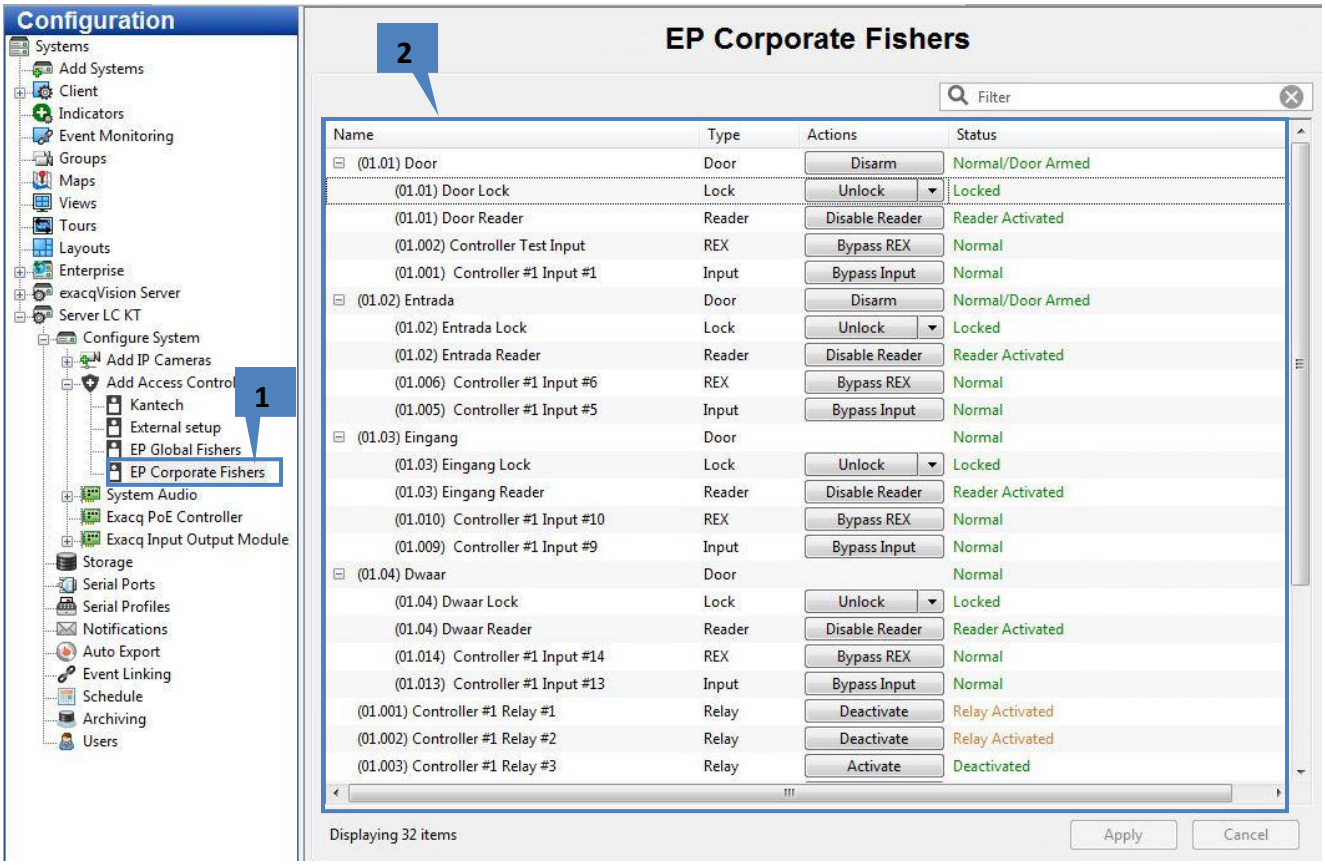
1. Click **Add Security Integrations**
2. Click **New**
3. Select **Type**
4. Enter the IP address or URL of the access control equipment
5. Enter port number for access control equipment
6. Enter username for access control equipment
7. Enter password for access control equipment
8. Click Apply to connect

NOTE: The security equipment should already be configured for its intended purpose. This section of the exacqVision User's Manual is not intended to provide guidance for setting up or configuring third party equipment.



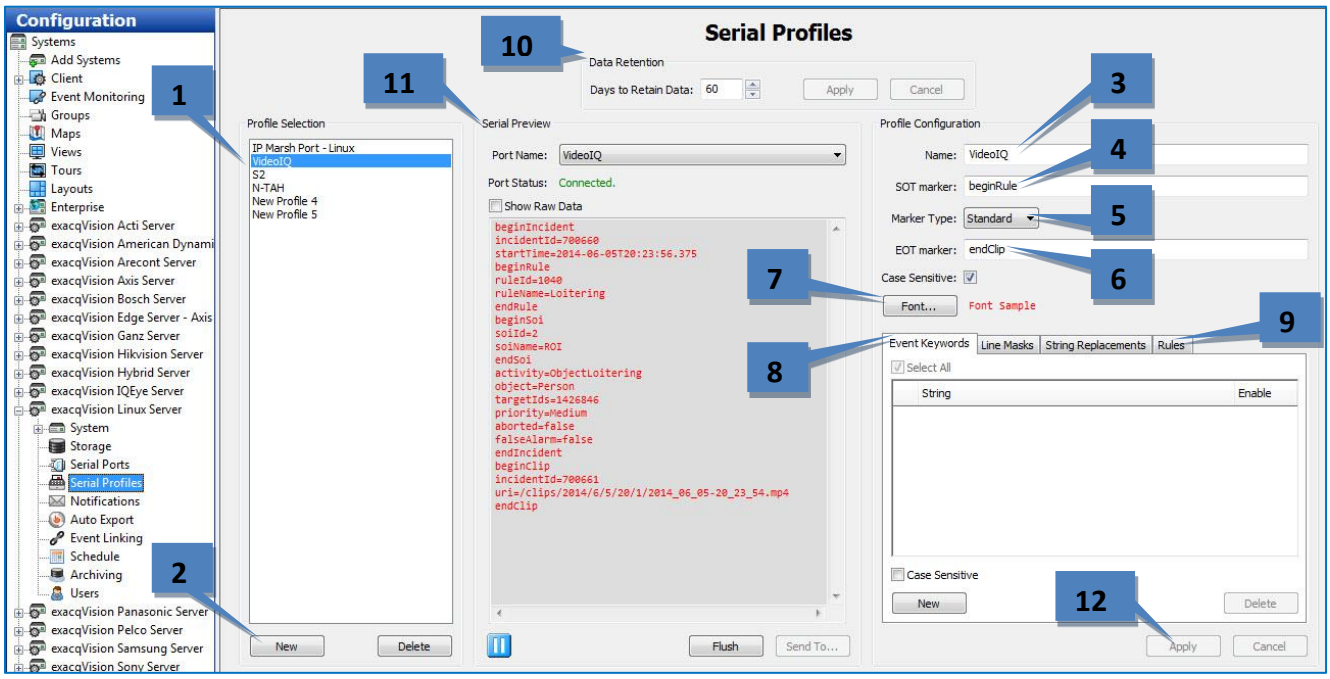
Once connected to an access control device, it should appear as a node under **Add Access Control** in the node tree.

1. Click on the name of the access control device
2. Available controls for that access control device will display in the list



Serial Profiles

The Serial Profiles page enables the exacqVision server to integrate with serial data devices such as point-of-sale (POS) and bank machine systems.



1. To view an existing profile, select it from the list.
2. To add a new profile, click the New below the list of profiles.
3. Enter a unique name in the Profile Name field in the Current Profile Properties box.
4. The SOT Marker, or Start of Transaction Marker, tells the exacqVision System when the transaction has started. For example, you could enter the first line shown on a receipt. **This entry is case-sensitive.**
5. Select the marker type (standard or XML).
6. The EOT Marker, or End of Transaction Marker, tells the exacqVision System when the transaction has ended. For example, you could enter the last line shown on a receipt. **This entry is case-sensitive.**
7. The Font button allows you to select the font you want to be displayed on the Live view.
8. Event Key Words (not available in exacqVision Start) allows you to set alarms that will be triggered through key words on a receipt after you link the profile through the Event Linking system.
9. The Line Masks and String Replacements tabs are discussed starting on the following page.
10. The Data Retention section allows you to select the number of days that serial data is stored before it is automatically deleted.
11. The Serial Preview section allows you to see an example of the serial data coming through the selected port in the selected profile. Select Show Raw Data to see all the invisible characters between lines of data (sometimes the desired EOT or SOT is hidden in the invisible data).
12. When finished, click Apply.

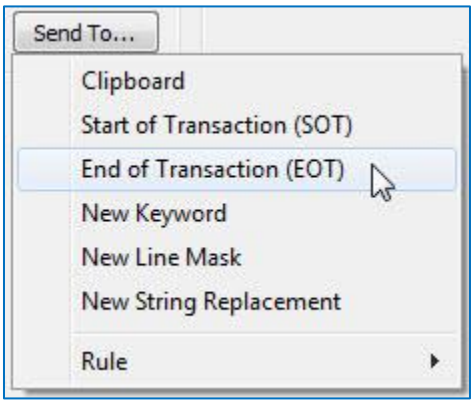
You have now created the new serial profile. If you entered any data in the Event Key Words box, you must link the profile to the appropriate Action through the Event Linking page, selecting Serial Profile as the Event Type.

Please read the important notes regarding serial profiles on the following page.

SERIAL PROFILE NOTES:

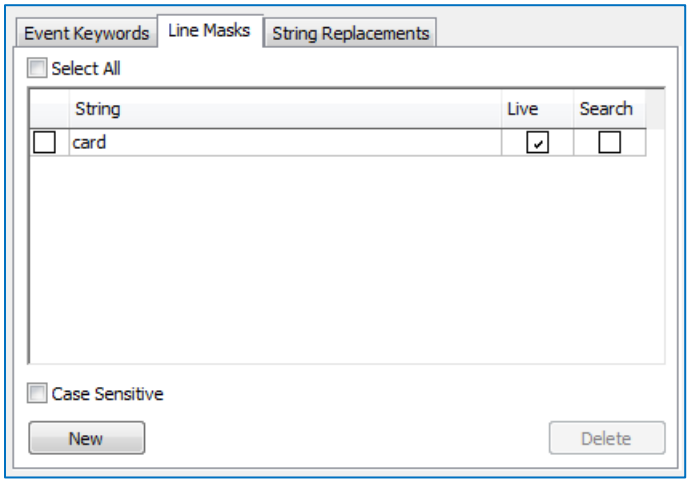
- You can require case sensitivity for all strings or all key words by selecting the appropriate Case Sensitive option under each list.
- To enter the ESC (0x1b) ASCII character as the SOT, EOT, mask, or key word, enter "/x1b" in the appropriate field. CR, LF, or 80 characters terminates a line.
- The Send To button allows you to copy a string from the Serial Preview section and save it as a SOT, EOT, keyword, line mask, or string replacement. You can also save the string from one rule to a new rule or an existing rule. This feature helps you avoid the difficulty of typing complex strings.

  To use this feature, pause the serial preview display, highlight the string, click Send To, and select an option from the pop-up menu.

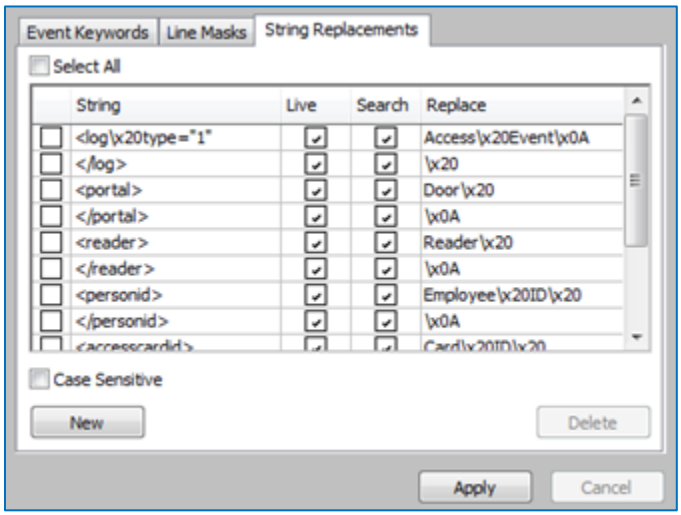


- The Flush button allows you to display the next line of data in the Serial Preview window, if the serial port timeout is zero, and the data has not reached the Max Line Length, and an EOT has not been transmitted. See the following section for more information about configuring serial ports.
- Configured rules are available as an Event Source on the Event Linking page. See the "Event Linking" section for more information.

The Line Masks tab allows you to black out lines so they are not visible on the live camera or through recorded data. (This can be used to hide credit card information.) Enter one or more signal words in the String field, and the system will black out the entire line on the live display screen, on the search results, or in both cases, as selected.

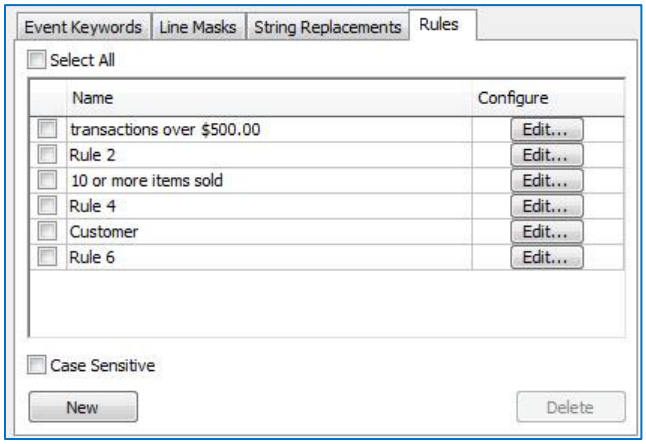


The String Replacements tab allows you to modify serial data to a human-readable format. In the String column, enter information as it appears in the serial data; in the Replace column, enter substitute information that is easier to read and understand. Select whether the strings should be replaced in serial data on the live display screen, on the search results, or in both cases.

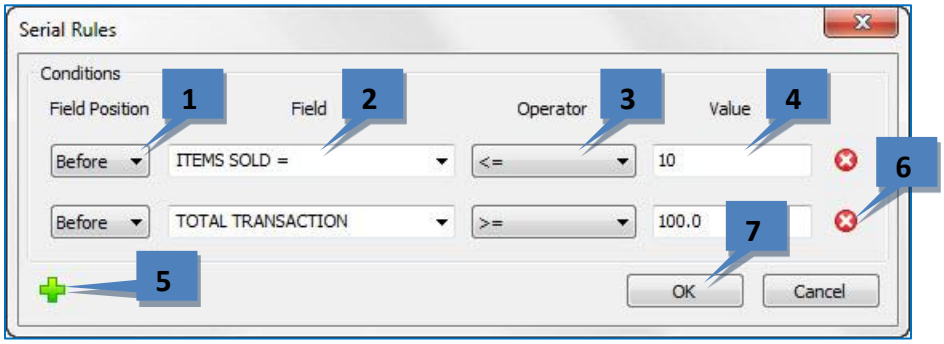


NOTE: Certain characters must be entered in ASCII format. For example, spaces should be entered as "/x20," and carriage returns should be entered as "x0A." It might require several adjustments to make the replacement text appear exactly as desired.

The Rules tab allows you to create serial information conditions that can be used for more detailed serial searches.



Click New to create a rule, or Edit to change an existing rule. This opens the Serial Rules page. To configure a rule, complete the following steps:

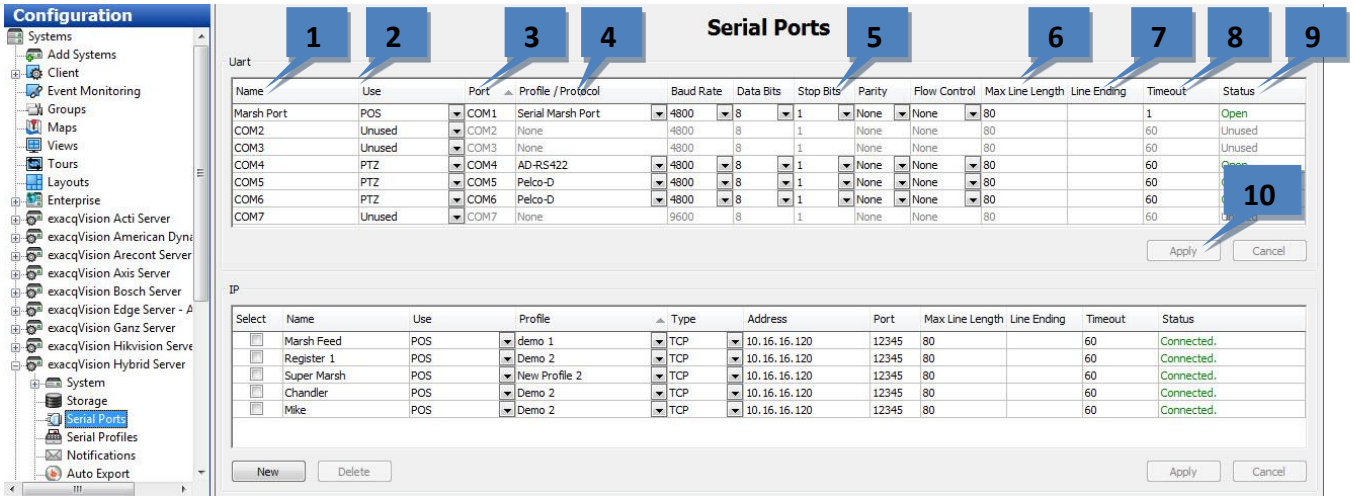


1. Select whether the identifying text occurs before or after the value of interest.
2. Enter the exact identifying text for the value of interest.
3. Select the operator (such as greater than, or equal to).
4. Enter the value of interest, or if appropriate, the maximum/minimum value.
5. Click the green plus button to add conditions to the rule, if needed.
6. Click a red X button to delete a condition.
7. Click OK after the rule is completely configured.

Now the rule should be available in the Serial Search drop-down list on the Search page, and you can search for all transactions that match the conditions in the rule.

Serial Ports

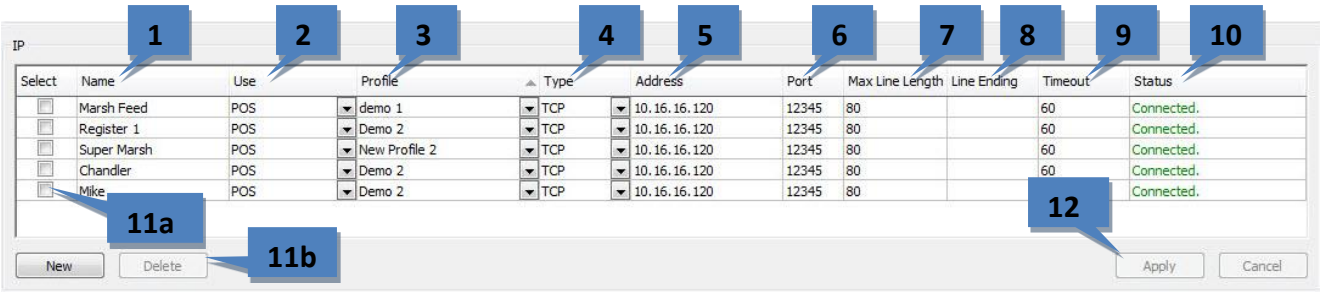
The Serial Ports page allows you to configure serial ports on your exacqVision system so that they can be used to communicate with serial devices such as POS terminals or pan-tilt-zoom (PTZ) cameras. There are two Serial Ports sections — one for standard UART (Universal Asynchronous Receiver/Transmitter) and one for serial ports over IP.



For a UART serial port, connect the wires to the serial port and then configure the port. The system automatically detects and displays the serial ports. You can configure the following settings on each port:

1. Enter a unique name in the Name field.
2. Select the intended use of the serial port from the drop-down list in the Use column. The choices are unused, PTZ (pan/tilt/zoom), POS (point of sale), ATM (automatic teller machine), or Access Ctrl. Generally, the POS mode is used to record transactions at a cash register. By default, the last serial port listed is the built-in RS-485 port.
3. The Port is automatically selected by the Operating System.
4. The Profile/Protocol column allows you to select one of the profiles configured on the Serial Profile page. If you haven't created the appropriate profile, select New. If you select New, the Serial Profiles page will automatically open after you complete the port configuration, and then you can create the profile.
5. The Baud Rate, Data Bits, Stop Bits, Parity, and Flow Control must match the device you are connecting to. See the device's documentation for more information.
6. The Max Line Length is 80 by default. Generally, you should not change this.
7. Line Ending is the number of characters received before an end-of-line character is inserted automatically. This prevents lines from becoming extremely large.
8. Timeout is the number of seconds after which an end-of-line character is entered if a serial device has not sent text. This is useful if the serial data does not have an end-of-line character but it hasn't reached the number of characters entered in Line Ending.
9. The Status column displays the current status of the serial port.
10. When you are finished, save the settings by clicking the Apply button at the bottom of the page.

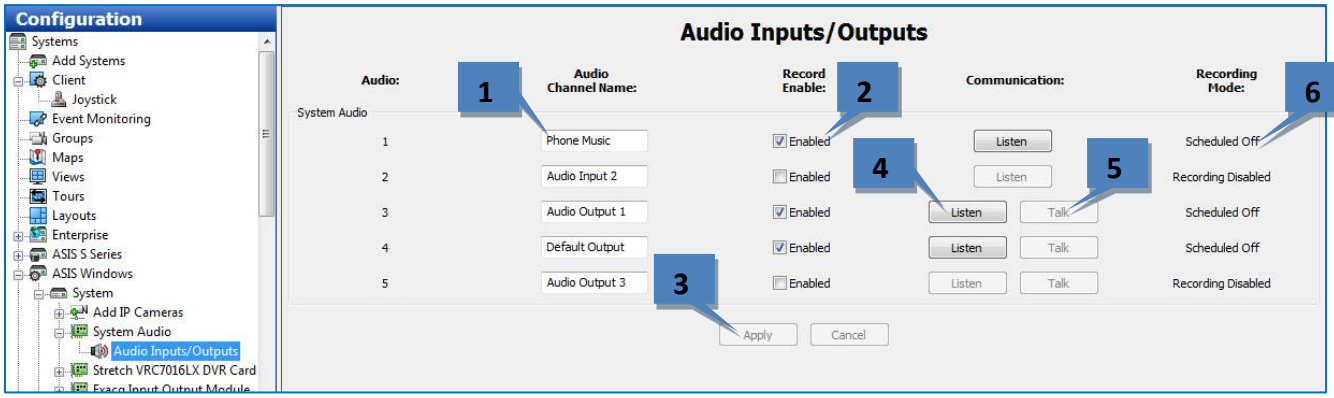
The IP section is explained on the following page.



For serial over IP, you must add the port by clicking New; the system does not automatically detect and list IP serial ports. You can configure the following settings on each port:

1. Enter a unique and descriptive name for the port that will appear to client and Live view users.
2. Select the intended use of the port (unused, POS, ATM, or Access Control).
3. Select a profile from the drop-down list. Profiles, which are created on the Serial Profiles page, are used to filter an incoming serial string to isolate useful information.
4. Select the transport type as defined by the source device manufacturer's documentation.
5. Enter the IP address of the source device.
6. Enter the TCP port of the source device as defined by the device manufacturer's documentation.
7. Enter the maximum number of characters per line sent by the source device. If you are unsure of the correct value, use the default setting of 80. Setting this number too low could result in missing characters at the end of certain lines.
8. Line Ending is the number of characters received before an end-of-line character is inserted automatically. This prevents lines from becoming extremely large.
9. Timeout is the number of seconds after which an end-of-line character is entered if a serial device has not sent text. This is useful if the serial data does not have an end-of-line character but it hasn't reached the number of characters entered in Line Ending.
10. The Status column displays whether the port is currently connected.
11. To delete an IP port, choose its Select checkbox (11a) and click Delete (11b).
12. When you are finished, save the settings by clicking the Apply button at the bottom of the page.

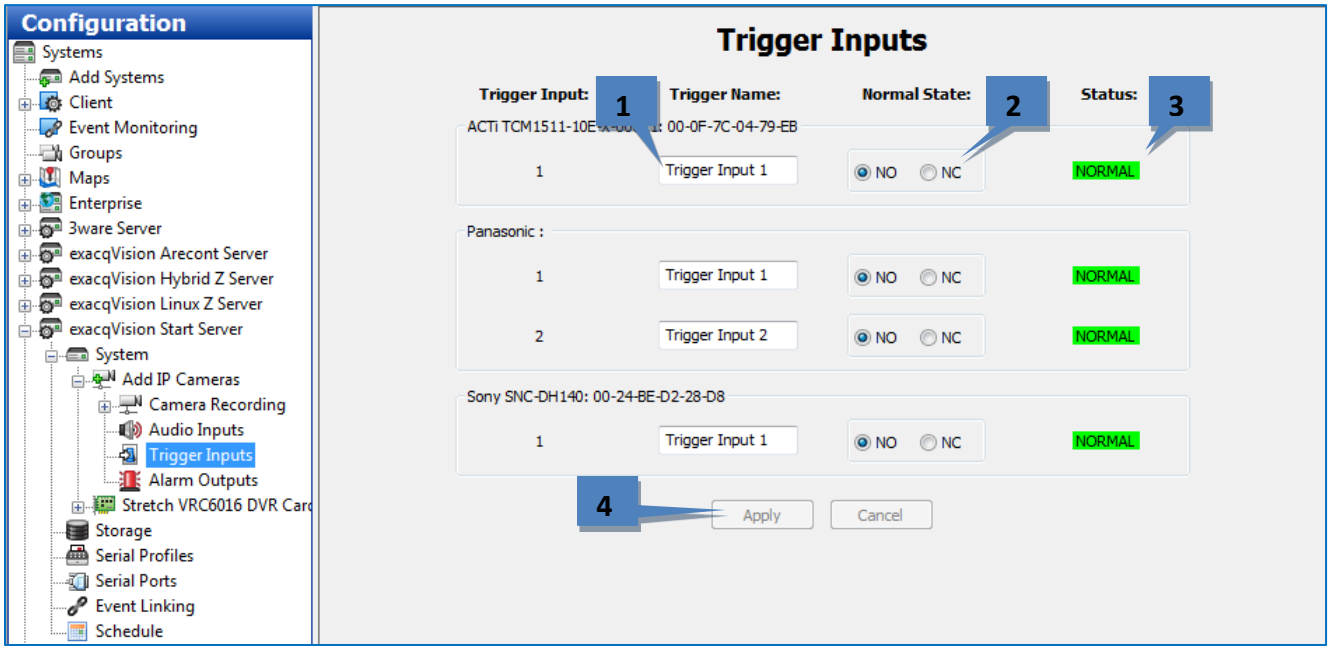
Audio Inputs



The Audio Inputs page allows you to name and enable the audio inputs you want to record. The exacqVision System ships with the audio input positions disabled due to legal restraints on audio recording in some jurisdictions. You may want to seek legal guidance prior to recording any audio inputs.

1. Enter a name for the audio input channel.
2. Select Enabled to enable audio recording on the input.
3. Repeat this process until all audio inputs have been named, and then click the Apply button.
4. Click Listen to verify the audio input connected to a channel. This is sometimes helpful when assigning names to multiple audio inputs.
5. On systems with 2-way audio, click Talk to verify that you can send audio to the system.
6. The Recording Mode column shows the recording mode selected for the audio input on the Schedule page.

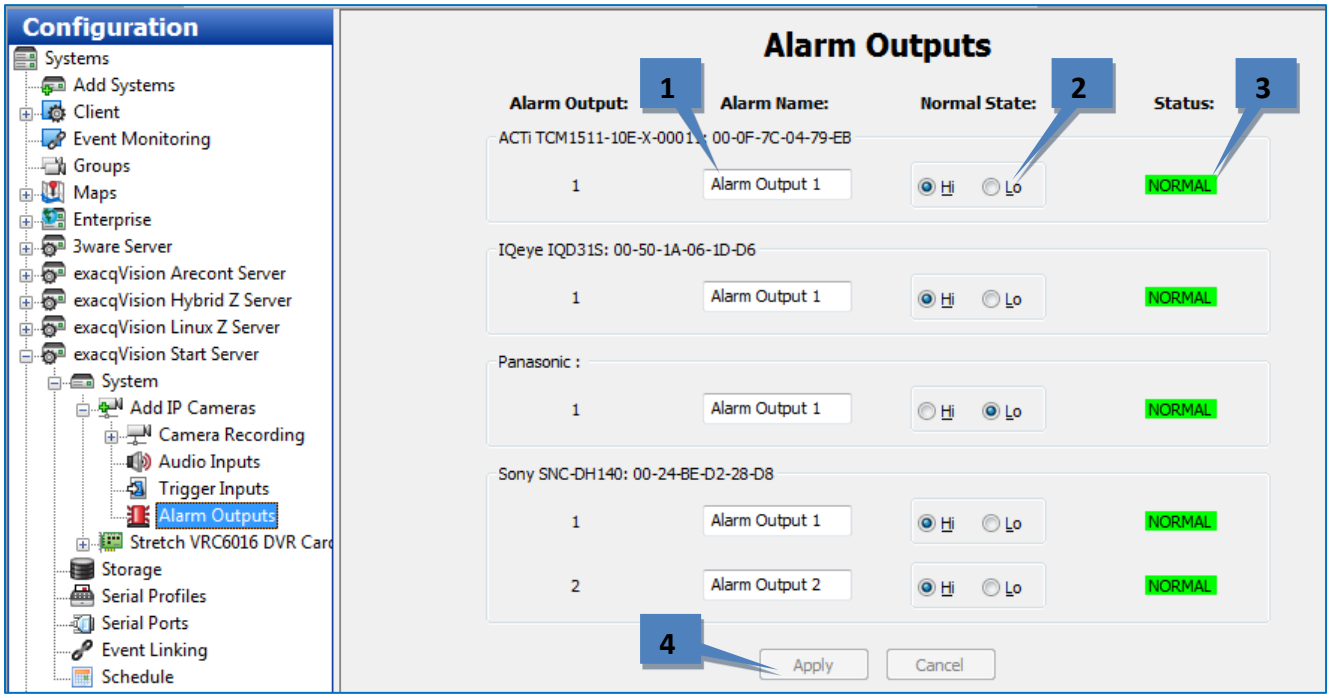
Trigger Inputs



The Trigger Inputs page allows you to assign a name and configuration to the discrete inputs on hybrid systems and certain IP cameras with alarm inputs. These triggers can be configured to trigger video recording or a relay using the Event Linking page.

1. Enter a name for each trigger input in the Trigger Name column.
2. Configure the trigger input's Normal State as Normally Open (NO) or Normally Closed (NC).
3. The Status column indicates whether the trigger input is in its normal (green) state or in its alarm (red) state.
4. When you are finished configuring trigger inputs, click Apply.

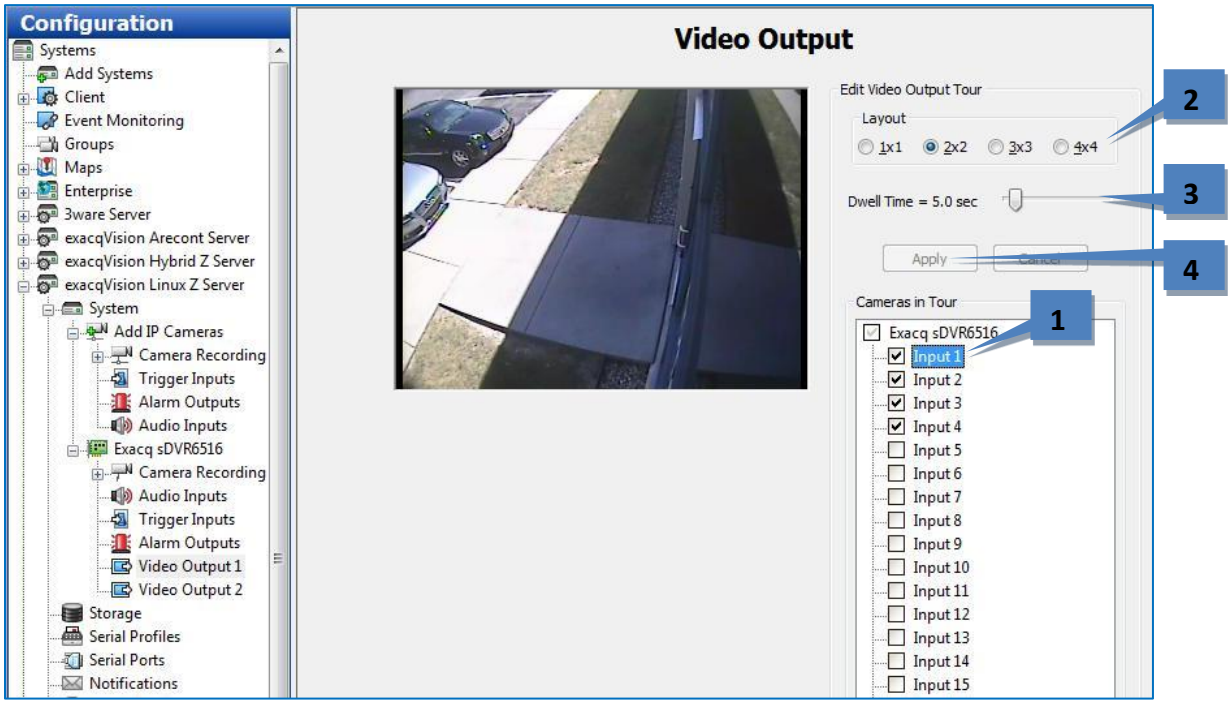
Alarm Outputs



The Alarm Outputs page allows you to assign a name and configuration to the alarm outputs on hybrid systems and certain IP cameras.

1. Enter a name for each alarm output in the Alarm Name column.
2. Configure the alarm output's Normal State as Hi (5VDC) or Lo (0VDC).
3. The Status column indicates whether the alarm output is in its normal (green) state or in its alarm (red) state. The output can be triggered to alarm state by an event configured on the Event Linking page.
4. When you are finished configuring alarm outputs, click Apply.

Video Output



On hybrid systems, the Video Output page allows you to configure your security spot monitor for touring (switching) between analog video cameras in various display modes.

1. Select the cameras that you want to include in the tour from the Camera in Tour check box. This displays video from the camera in the video window.
2. Select a Layout mode.
3. Move the Dwell Time slider to configure the length of time before the monitor switches to the next camera. The Dwell Time range is from 1 to 60 seconds.
4. When you are finished configuring the video output, click Apply to start the tour.

Storage

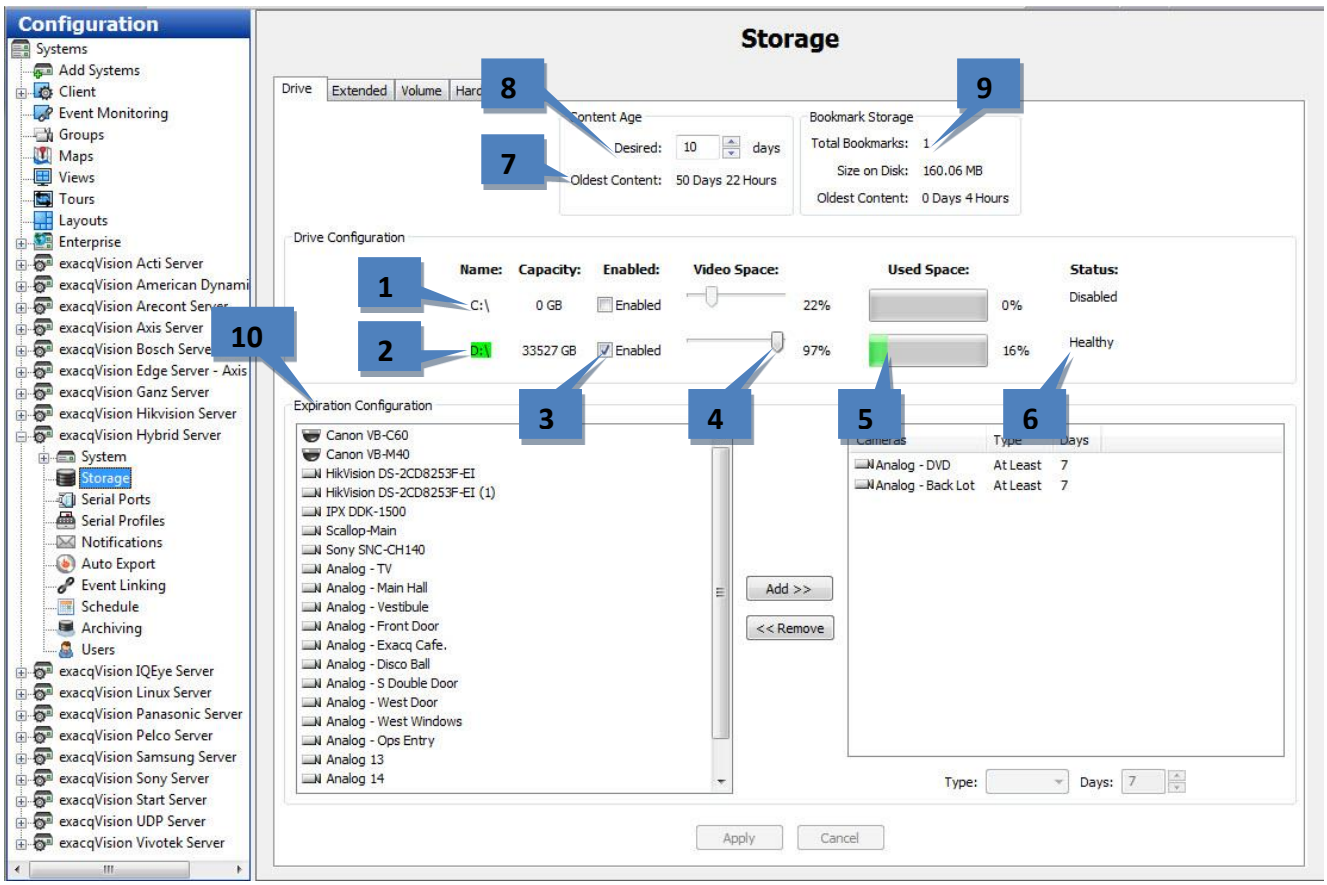
The **Storage** page allows you to configure the system's hard drives for video storage and monitor the health of drives and RAID arrays. The following tabs are available on the Storage page:

- The **Drive** tab displays all the installed drives, their capacity, available storage space, and status.
- The **Extended** tab allows you to configure drives on extended storage servers.
- The **Hardware** tab allows you to monitor attributes of each hard drive and RAID controller.
- The **Network** tab, available on S-Series network storage servers, allows you to designate drives as archiving or extended storage drives.

Each tab is explained on the following pages.

Drive Tab

The following features are available on the Drive tab:



1. The system drive ("C:\" in Windows, or "/mnt/edvr/0" in Linux) is reserved for the exacqVision software and operating system and is not enabled for video storage. Do not record video to this drive.
2. The storage drives are listed below the system drive.
3. To enable a drive for video storage, select its Enabled: box.
4. To adjust the maximum amount of drive space that can be used for data storage, adjust the Video Space slider for each storage drive. **NOTE:** Performance can decrease if you set the Video Space slider greater than 85%.
5. Used Space displays how much of the hard drive capacity is currently full.
6. Status displays the current state of the hard drive.
7. Oldest Content indicates the age of the oldest video recorded on this system. This does not affect cameras added in the Expiration Configuration section.
8. Select the target period of video that you would like to store data. If data is deleted before that target is reached, it creates an event that can trigger an action as configured on the Event Linking page.
9. The Bookmark Storage section lists the number of bookmarks saved on the system, the total size of storage required for the saved bookmarks, and the oldest content contained in the bookmark. Bookmarks will not be deleted automatically by the system, assuming their total size does not exceed the total storage capacity.
10. Expiration Configuration allows you to set minimum or maximum time periods for video from each camera to be stored. For example, you could configure one camera's video to be stored for at least 30 days before it is deleted, and another camera's to be deleted after no more than 7 days. This feature is explained on the following page. **See the IMPORTANT NOTE on the following page before using this feature.**

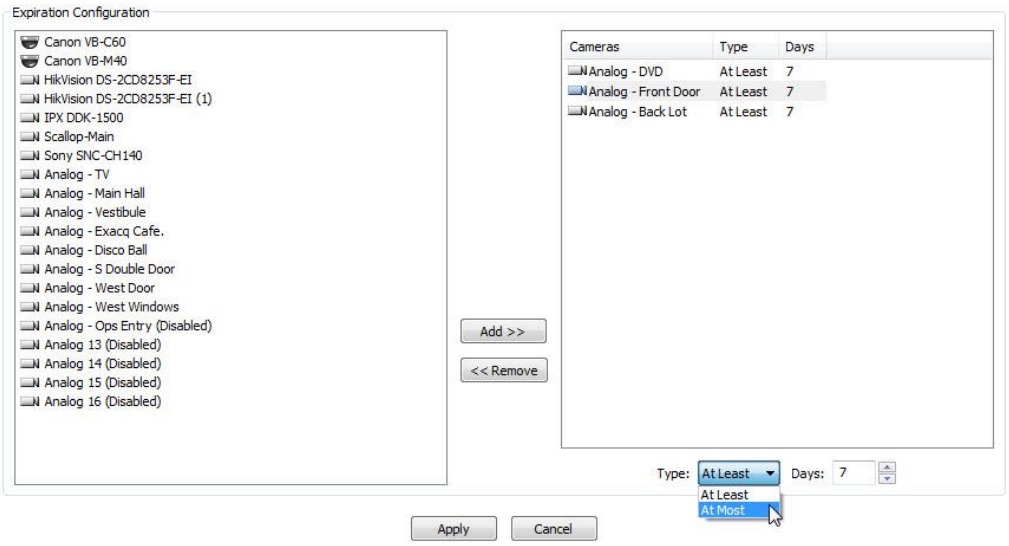
To configure video expiration, select a camera name in the list on the left and click Add>>. (You can select multiple cameras by pressing the Ctrl or Shift buttons.) Then select the camera name in the list on the right. You can configure two types of expiration:

- To delete video after a certain amount of time, select At Most from the Type drop-down list and use the arrows to select the maximum number of days the video should be stored.

  NOTES: If an At Most setting is configured for a camera, the camera cannot be selected for archiving. Also, bookmarked video from the camera is not deleted even if the video is older than the At Most setting.

- To save video for a minimum amount of time, select At Least from the Type drop-down list and use the arrows to select the minimum number of days the video should be stored.

Repeat for each camera that requires expiration rules. To remove expiration rules, select one or more camera names in the list on the right and click <<Remove. Click Apply when finished.



IMPORTANT NOTE ON EXPIRATION CONFIGURATION

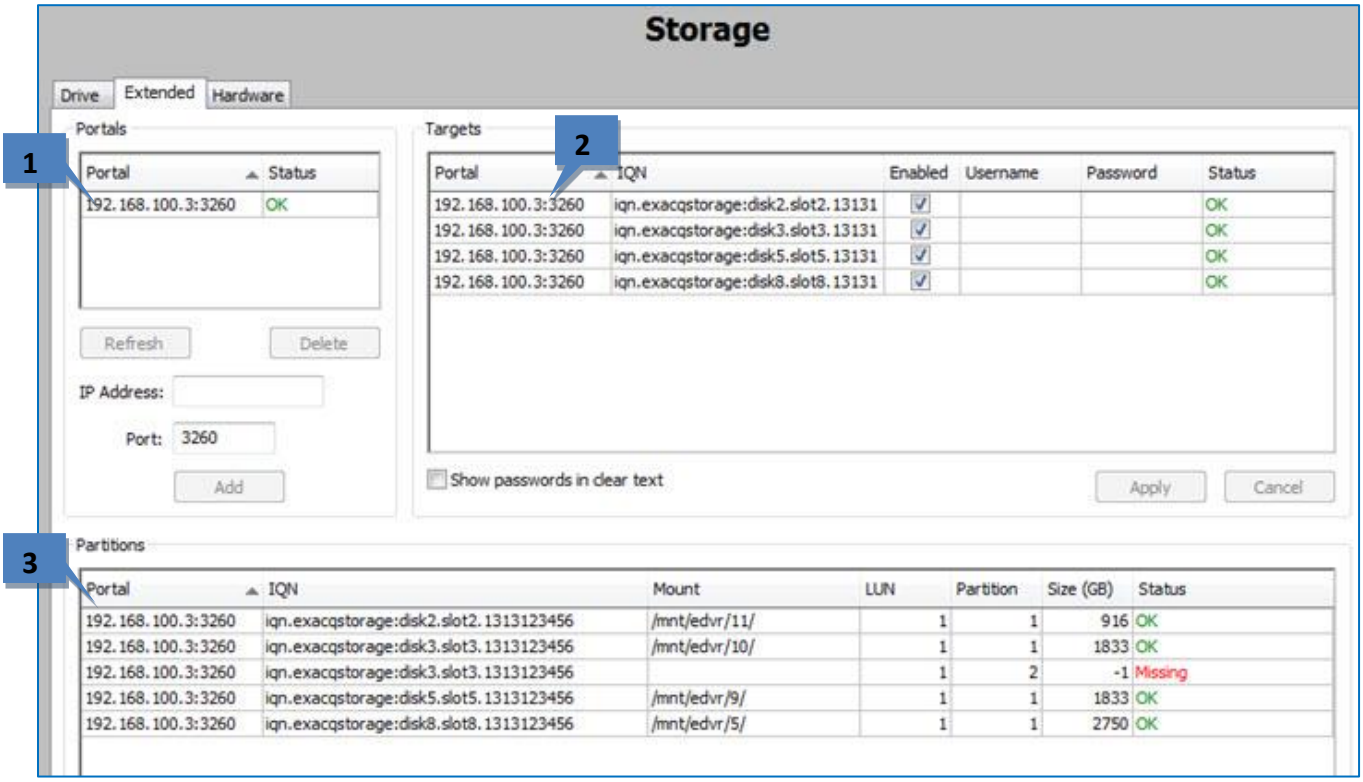
The system normally retains recorded video from all cameras for as long as possible, deleting the oldest video only when required to create room for newly recorded video. Thus, **it is recommended that you use the Expiration Configuration feature only when necessary**, such as if video must be deleted after a specific maximum time period as required by law.

If you configure an At Least expiration rule for a specific camera, the system will attempt to save video from that camera for that period of time. If necessary, the system will reduce the amount of time that data from other cameras is saved on the server. The system could eventually stop recording video from all cameras to avoid violating the expiration configuration rule.

For example, consider a server that has filled all available video storage for 20 cameras, and the Oldest Content is ten days. If you configure a storage expiration rule for Camera 1 to save at least 30 days of video, the system will delete video from other cameras as new video is recorded, so that data from Camera 1 can be saved for a longer period of time. In this case, the oldest content for the other 19 cameras will be less than ten days. In an extreme case, the system could reduce the oldest content on the other 19 cameras to zero days, and then stop recording new video from Camera 1, to avoid deleting any video protected by the At Least expiration rule.

Extended Tab

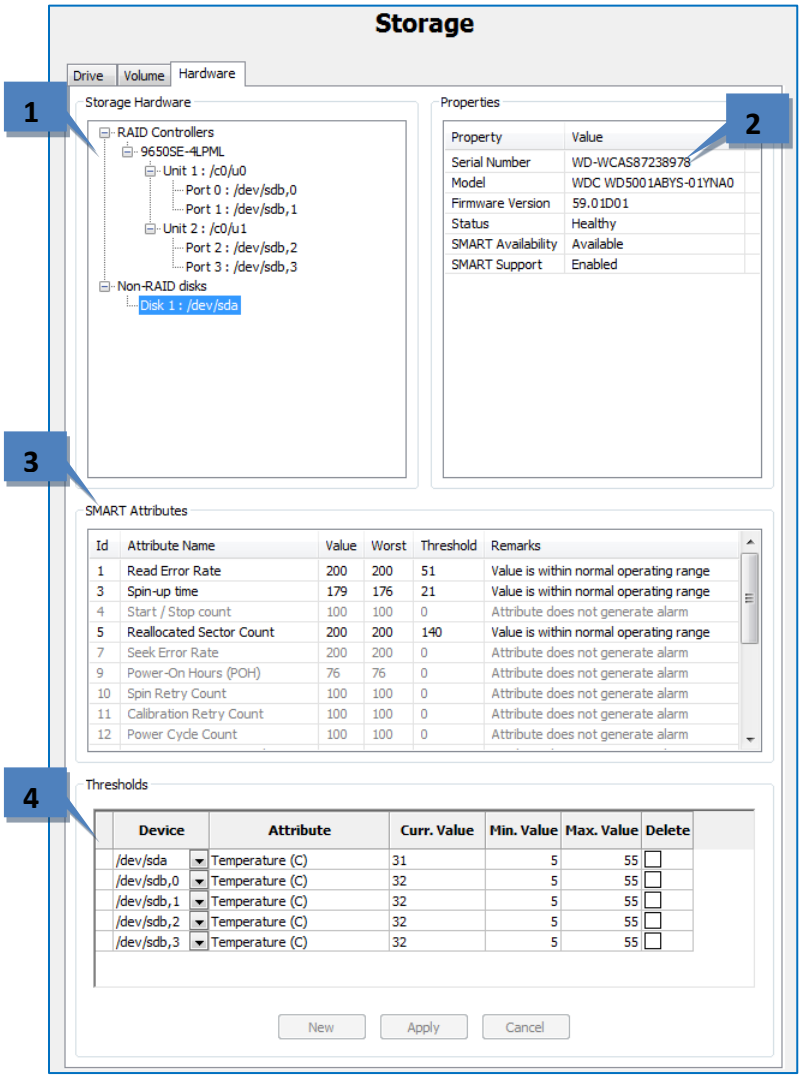
The Extended tab allows you to configure extended storage drives on S-Series network storage servers.



1. In the Portals area, click Add and enter the IP address of the S-Series system.
2. Drive targets on the system selected are displayed in the Targets area. Select and enable drive targets as desired.
3. View the status of the partitions in the list at the bottom.

Hardware Tab

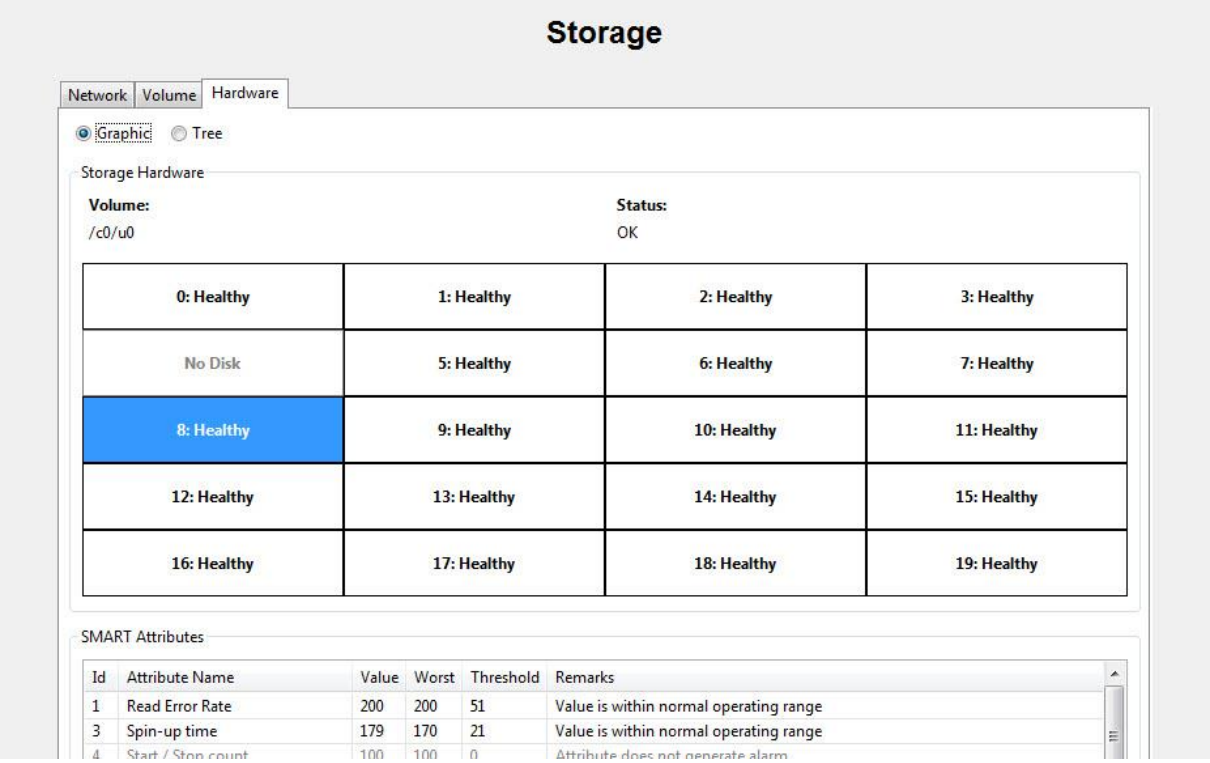
The following features are available on the Hardware tab:



1. The Storage Hardware section lists all the RAID controllers and hard drives installed in the system.
2. The Properties section lists properties of the controller or drive selected in the Storage Hardware list.
3. The SMART Attributes list displays the current values and operating threshold of various attributes, as provided by the hard drive manufacturer. This section is shown for informational purposes only; details about SMART attributes are available at http://en.wikipedia.org/wiki/S.M.A.R.T.
4. The Thresholds section allows you to modify the temperature thresholds for a hard drive. To do this, click New, select a hard drive from the Device drop-down list, and enter a minimum temperature and maximum temperature. Click Apply when finished.

If a drive or controller is in an alarm condition, it is highlighted in red in the Storage Hardware list. Alarm conditions can include a rebuilding array, high drive temperature, drive verification failure, drive removal, new drive, and more. You can configure a notification of a drive alarm using the Event Linking feature (see the “Event Linking” section of this manual for more information).

On certain newer systems with RAID storage arrays, you can view drive information in Tree format, as shown on the previous page, or in Graphic format, as shown below.

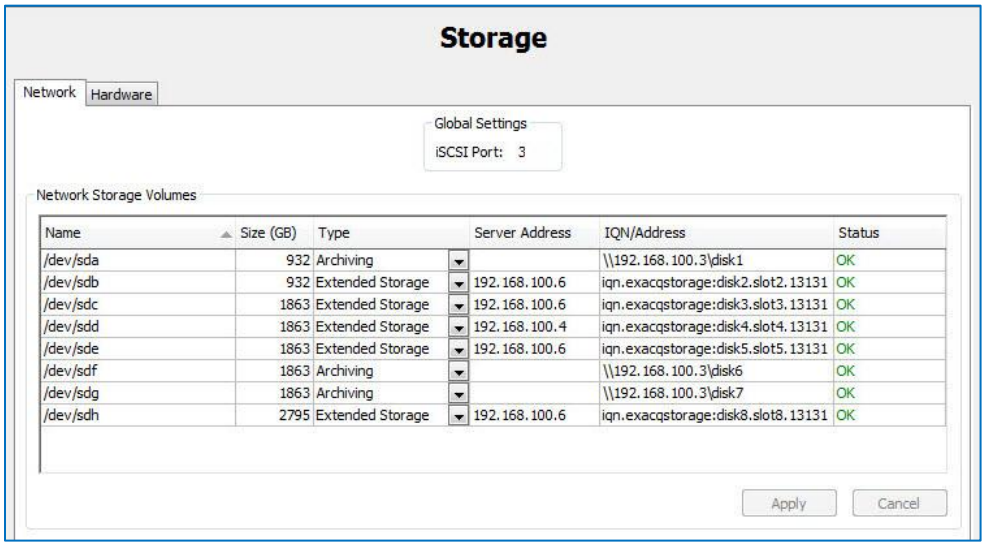


The Graphic format displays all the RAID drives in their installed locations in the physical system. This allows you to more easily identify the drive that has failed or entered into an alarm condition, in case you need to remove the drive from the server chassis. For example, the system represented by the image below has 20 drive bays arranged in five rows. If drive 8 failed, you would know to remove the drive located in the third row and in the drive bay on the far left side of that row.

You can also click on any drive in the grid to view its SMART attributes and thresholds.

Network Tab

The Network tab also appears on the Storage page on S-Series network storage servers.



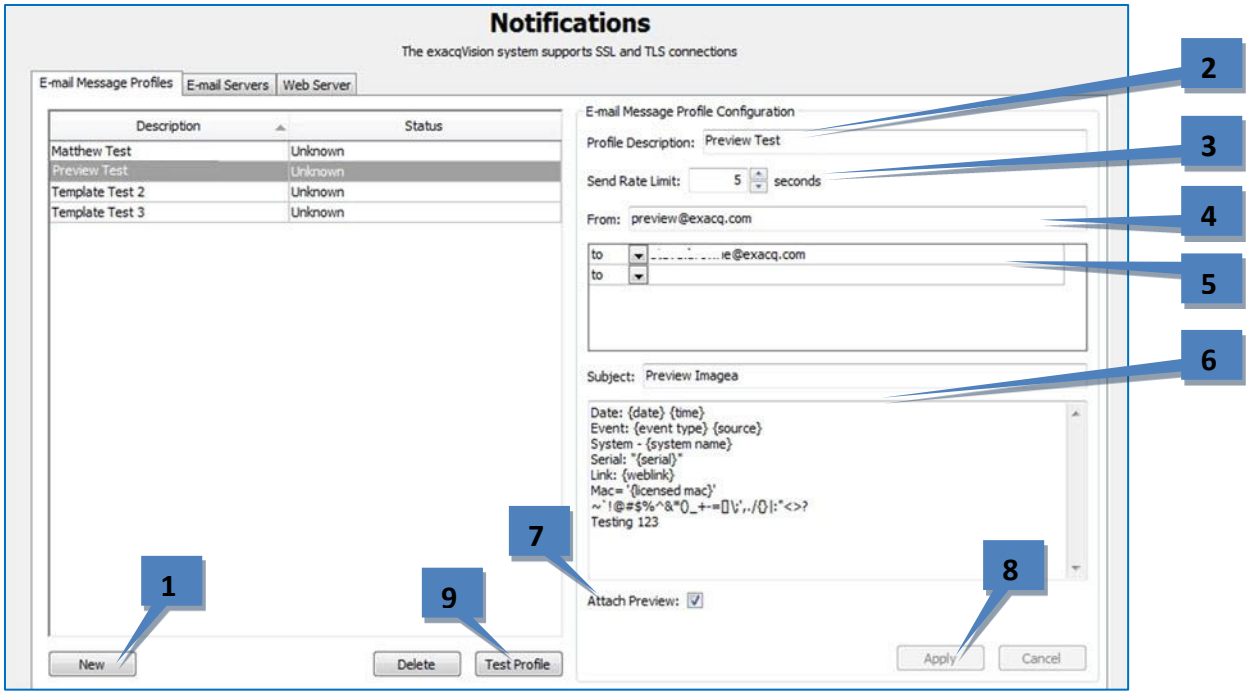
All the drives installed on the S-Series server are listed on the tab, along with information and status indicators. The Type column allows you to designate each drive as an archiving drive, an extended storage drive (which operates as if it is local to the recording exacqVision system), or None.

Notifications

NOTE: The Notifications page is not available in exacqVision Start.

The Notifications page allows you to configure an e-mail server and message profile that will send an email message when an event occurs. To configure events that cause an email notification to be sent using these email settings, see the "Event Linking" section of this manual.

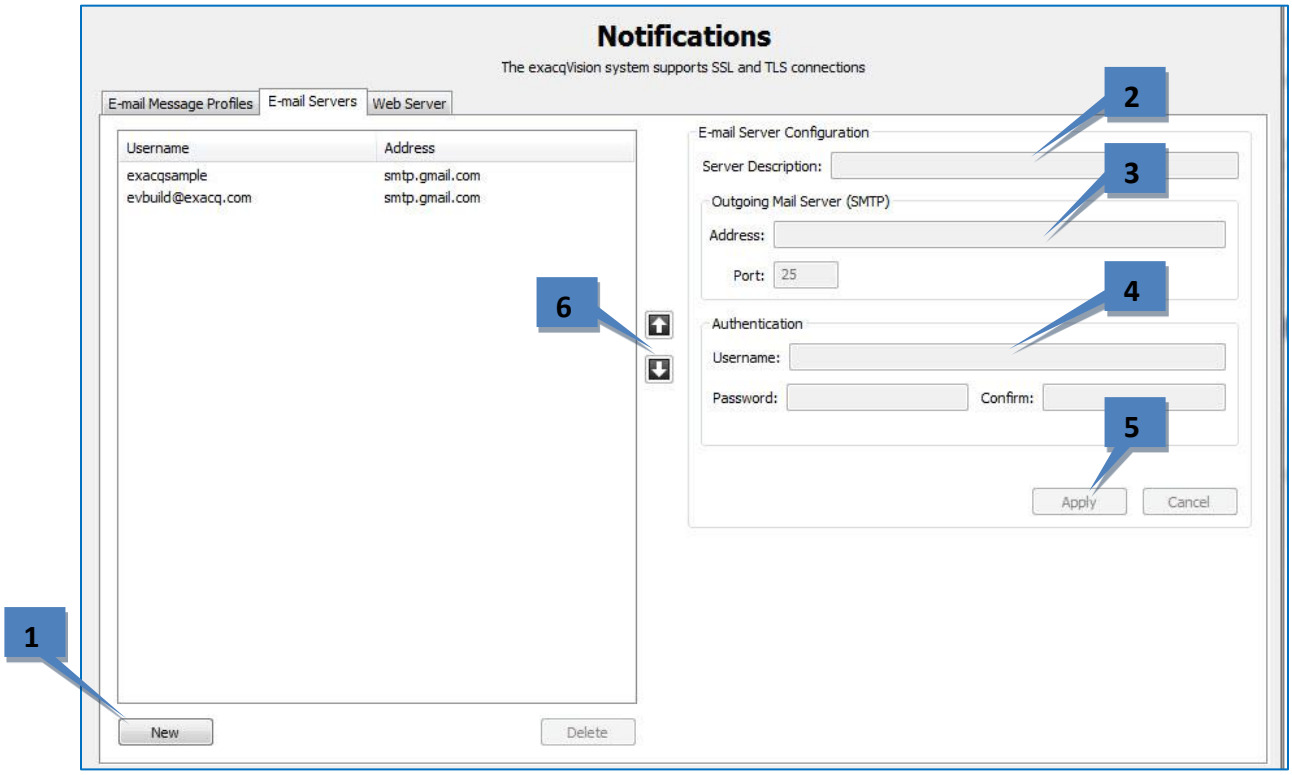
The Notifications page is separated into three tabs: E-mail Message Profiles, E-mail Servers, and Web Server.



The E-mail Message Profiles tab allows you to configure email notification content and recipients.

1. Click New.
2. Enter a brief description in the Profile Description field. This description will also appear in the Action Target field on the Event Linking page.
3. To reduce the number of email notifications sent, select the minimum number of seconds between notifications from the Send Rate Limit box. This is useful if you receive a large number of repeated messages about certain events. For example, if you configure a notification every time a motion event occurs, a thunderstorm at night could trigger thousands of emails over a short period of time. Limiting notifications about the motion events to a maximum of one every 15 or 30 minutes (900 or 1800 seconds) could drastically reduce unnecessary emails.
4. Enter the e-mail address of the person the email is coming from.
5. Enter the e-mail addresses of the recipients.
6. Enter a Subject and Message information that should appear in the email notification. You can automatically insert camera names using the bracketed tag *{source}* and the date and time using *{date format=%H:%M:%S}*. You can also include a link to the video *{weblink}*, serial information *{serial}*, the MAC address *{licensed mac}*, and more (see the image above for a syntax sample). Only the first instance of each tag is replaced; additional usage of the same tag in the same profile will cause the tag itself to appear in the message.
7. Select Attach Preview to attach a brief video clip (in .MOV format) or image of the notified event. The preview will be a video clip instead of a single image only if the camera is streaming in H.264 or MPEG-4 format.
8. Click Apply to add the message profile to the list of profiles.
9. You can test the profile by selecting it from the list and clicking the Test Profile button.

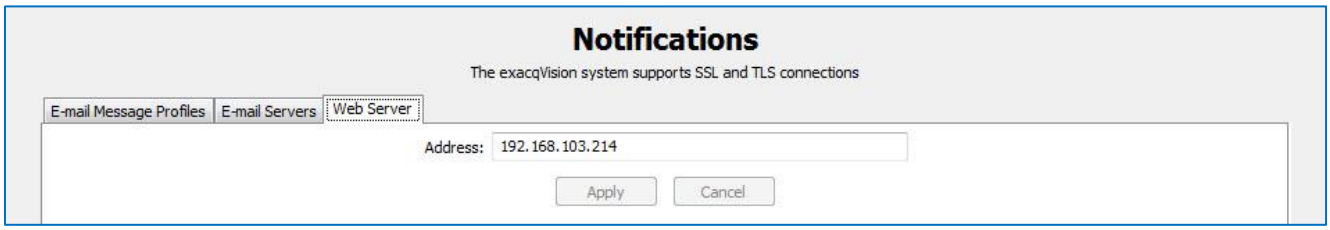
The E-mail Servers Configuration tab allows you configure the outgoing SMTP mail server that sends email from the exacqVision system. This information can be provided by the network administrator.



1. Click New.
2. In the Server Description field, enter a unique, descriptive name of email server.
3. In the Outgoing Mail Server (SMTP) section, enter the address and port number (25 is the default) of the outgoing mail server.
4. If your email server requires authentication, enter a valid Username and Password in the Authentication section.
5. Click Apply to add the email server to the list.
6. To change the order of the email servers, select a server from the list and then click the up or down button.

   NOTE: If more than one email server is configured, exacqVision will use the first listed email server to send a notification. If the notification fails on the first listed email server, exacqVision will send the notification using the next server in the list, and so on until the notification is successfully sent.

The Web Server tab allows you to enter the IP address of the web server so that email notifications can include a direct link to video associated with a notification.



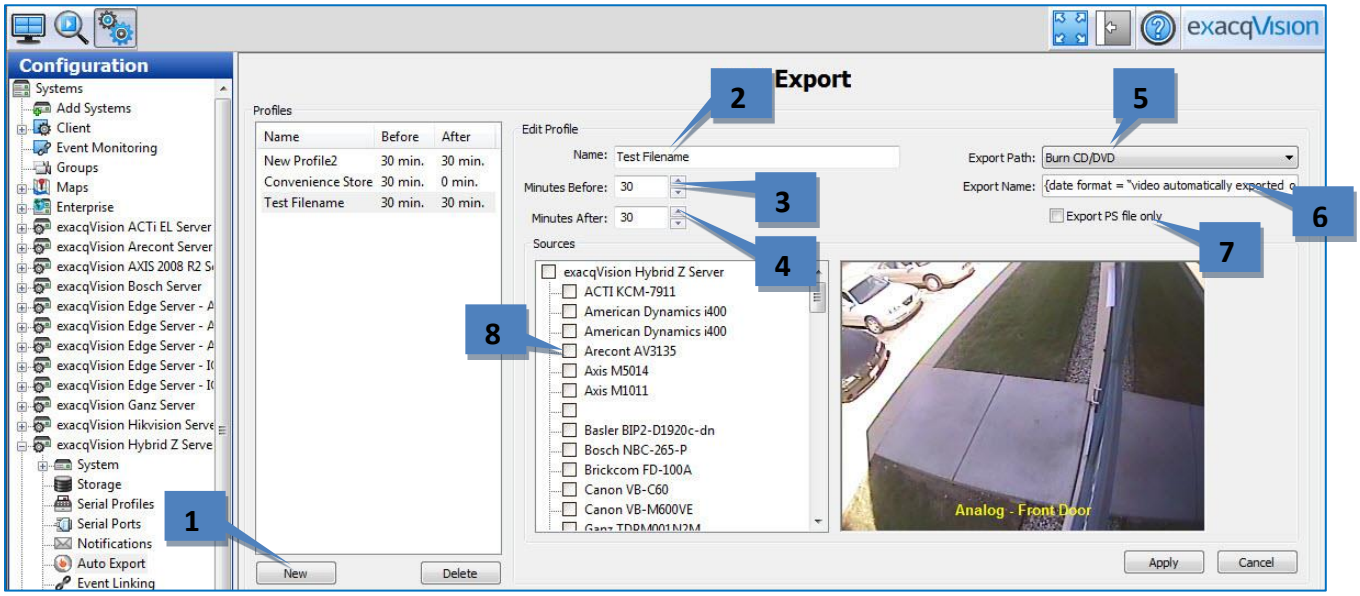
An exacqVision server can also send automated text messages. To configure a text message notification, complete the following steps:

1. Create a list of all phone numbers and their service providers that will be notified. For ported phones, you must know the current service provider, not the previous service provider.
2. Look up the service provider's e-mail-to-text service gateway address at a public web site.
3. Test your existing e-mail server connection by configuring an e-mail server, creating a notification profile to your e-mail address, and configuring an event link to send a notification upon event.
4. After confirming the existing e-mail server is operational, add a new profile on the Notification page to send text messages.
5. Enter one or more text recipients in the e-mail message profile, with a format of PhoneNumber@SMSProvider, such as 13215551234@txt.att.net and 13215551235@vnet.net (which would send a text to AT&T and Verizon recipients, respectively).
6. Enter a Subject and a message of 140 characters or less. (Some providers will not display the Subject line in the received text message, but you must enter at least one character for the Subject anyway.)
7. On the Event Linking page, configure one or more events to use the new text profile.
8. If necessary, create multiple notification profiles for multiple user groups or events.

Auto Export

NOTE: The Auto Export page is not available in exacqVision Start.

Auto Export quickly exports data from specified inputs to the local server via CD, DVD, hard drive, or removable drive.



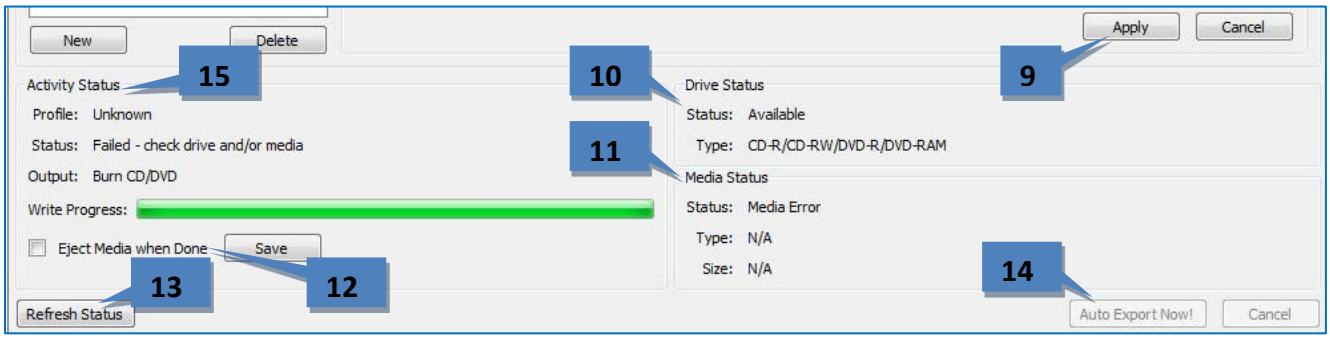
1. If you want to create a profile that can be used on the Event Linking page, click New. Otherwise, skip to step 10 on the following page.
2. Enter a Name for the profile.
3. Select a Minutes Before value, which is the amount of video that occurred before the Auto Export was started that should be included in the export.
4. Select a Minutes After value, which is the amount of video that occurs after the Auto Export was started that should be included in the export. This can be useful when an event of interest is still occurring.
5. Select the destination of the export files from the Export Path drop-down list. All local Windows drives or Linux mount points, and USB drives should be listed. (Windows shared directories are not listed.) The correct file extension will be added automatically.
6. If you choose a drive, enter a name for the drive in the Export Name field. If you want to generate different automated names for each export, you can enter {date format} and any combination of the following variables:

%a	weekday abbrev.	%H	hour (24h format)	%S	second	%y	last 2 digits of year
%A	weekday name	%I	hour (12h format)	%U	week of year (start Su)	%Y	year (20xx)
%b	month abbrev.	%j	day of year (001-366)	%w	day of week (Su=0, Mo=1)	%Z	time zone abbrev.
%B	month name	%m	month (01-12)	%W	week of year (start Mo)	%%	percent symbol
%c	full date/time	%M	minute	%x	date (xx/xx/xx)		
%d	day of month	%p	AM/PM	%X	time (xx:xx:xx)		

For example, you could enter **{date format = "video automatically exported on %x at %X"}** or simply **{date format = "%H, %M, %S, %x"}**.

7. To enable export files greater than 4GB (up to 137GB), select Export PS File Only. Otherwise, the file export will be in .exe format. A .ps file must be viewed in a separate video player.
8. Select the cameras to be included in the export profile.

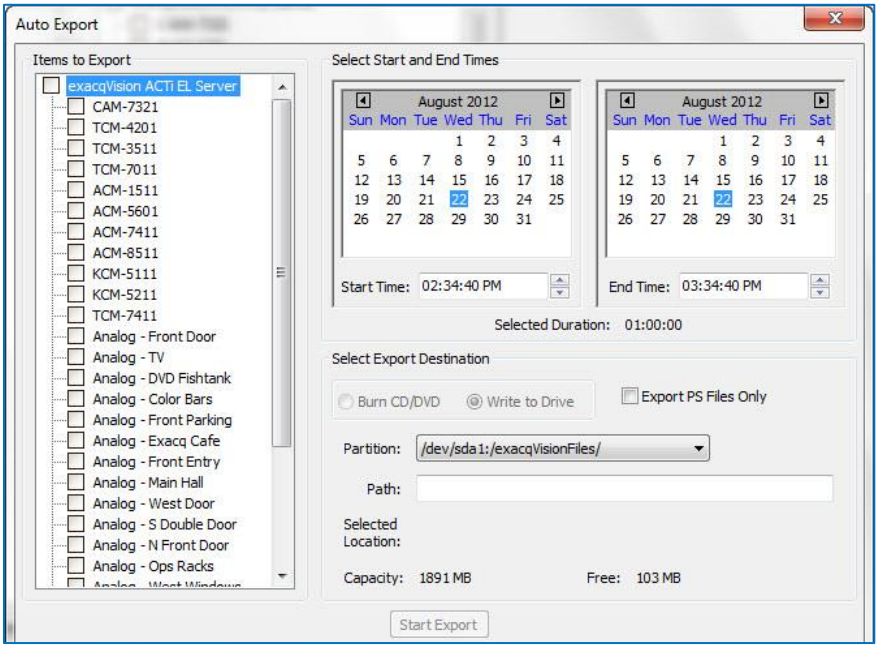
The rest of the Auto Export page is described on the following page.



9. Click Apply to finish creating an Auto Export profile and add it to the Profiles list. This button is not available until you modify the default profile name (New Profile).

   NOTE: The system will NOT use the profile until you link it to an event on the Event Linking page using Button Input as the Event Type and Auto Export as the Action Type.

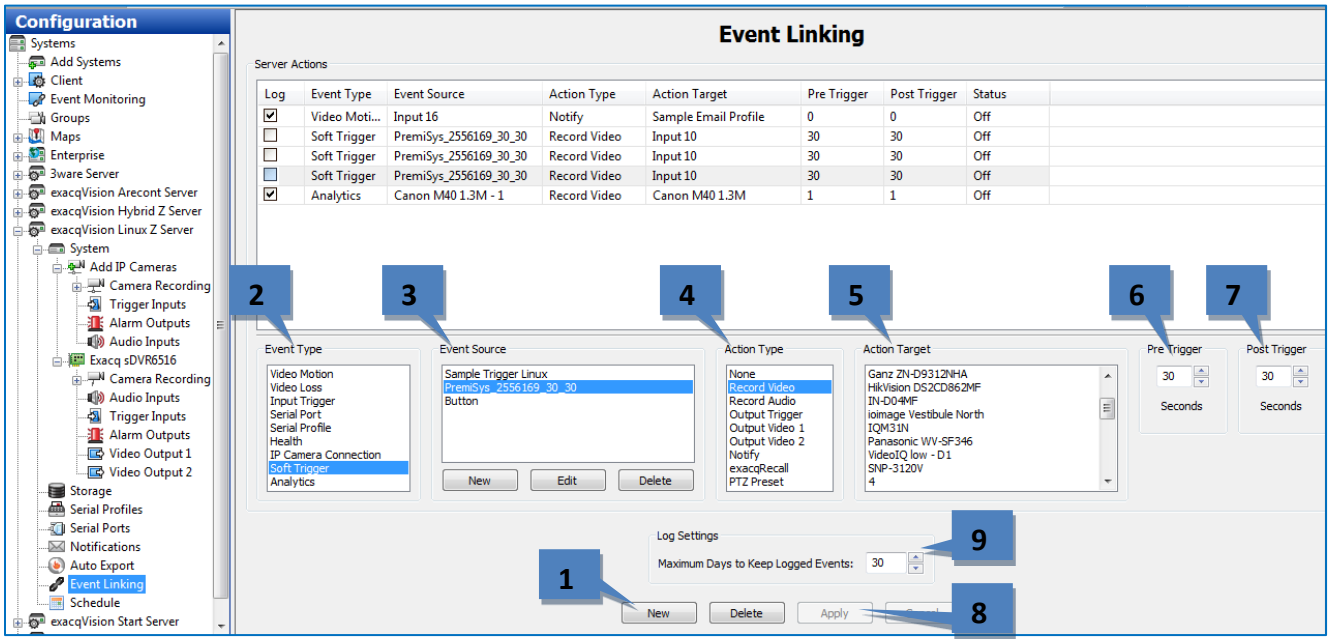
10. Drive Status indicates whether the system has a writable CD/DVD drive and compatible formats.
11. Media Status indicates whether a blank disc is loaded in the drive and its format and storage size.
12. The Eject Media When Done option configures the CD/DVD drive to open automatically when the system finishes exporting the data to the disc. (Note that if the front door on the system is latched, the drive cannot open.) Click Save if you change the setting.
13. If you insert a disk while the Auto Export page is open, click Refresh Status.
14. To initiate an export, click Auto Export Now! This opens the Auto Export window.



This window allows you to select cameras, a start and end date and time, and an export destination. When the export configuration is complete, click Start Export.

15. The Activity Status box indicates the status of Auto Export. This can include Idle, Gathering Video, Creating ISO Image, In Use, and so on. It also contains a Write Progress bar that shows how much of an active Auto Export has completed.

Event Linking



The Event Linking page allows you to connect different types of events, such as the activation of an input trigger, to an action, such as recording video or triggering an alarm. Event linking provides quicker searches for specific event types. For example, you might normally search for motion video captured on a camera pointed toward a door; however, if the door has a sensor, you could improve your search by looking for video recorded whenever the door opened by linking that event with video recording.

You can see how it works by looking at the lists from left to right below the main Event List, as shown in the figure above. When the specified Event Type (2) occurs on an associated Event Source (3), Action Type (4) is triggered on an Action Target (5). These events are then stored in a database (if Log is selected in the Event List) to provide easy search capabilities. To create a new event, complete the following steps:

1. Click the New button to add the event to the Event List.
2. Select the Event Type.
3. Select the Event Source. (If Soft trigger, Time Trigger, or Source Group is selected, you can create or edit the event source using the buttons that appear immediately below the selection box.)
4. Select the Action Type.
5. Select the Action Target.

NOTE: See the charts on the following pages for information about available Event Types, Event Sources, Action Types, and Action Targets.

6. Pre Trigger allows you to store buffered data that was captured up to 100 seconds before the event occurred. This feature can be used only with certain Event Types. Very large Pre Trigger can negative impact system performance.
7. Post Trigger continues the Action Type for up to 100 seconds of video after the event concludes.
8. Click Apply to save all changes to the selected event.
9. The Log Settings field determines how long the event will be stored in the Event database, from zero to 365 days.

The following Event Types are available:

NOTE: Input Trigger and Soft Trigger are the only Event Types available on exacqVision Start systems.

Event Type	Description
Video Motion	Camera detects motion.
Video Loss	Analog video signal is disconnected.
Input Trigger	Discrete input on hybrid server or IP camera with alarm input is activated.
Serial Port	Key word entered on Serial Profile page is detected on a pre-selected port.
Serial Profile	Key word is detected on any Serial Port with that profile.
Health	Detected problem involving the health of the exacqVision server hardware.
IP Camera Connection	Network can't connect to the IP Camera.
Soft Trigger	Signal sent from the client to the server.
Time Trigger	Time of day or day of week reached.
Analytics	Video analytics event detected.
Source Group	Multiple event types for advanced event linking.

The Event Source list varies depending on the Event Type selected:

Event Type Selected	Event Source
Video Motion	Any of the cameras connected to the exacqVision server.
Video Loss	Any analog camera connected to the exacqVision server.
Input Trigger	Any input trigger on the back of the server or IP camera connected to the server. The system defaults to a device and input number, but these can be customized on the Trigger Input page. See the "Trigger Inputs" section of this manual for details.
Serial Port	Any of the serial ports configured on the server. See the "Serial Ports" section of this manual for details.
Serial Profile	Any of the serial profiles you have configured. You can select all key words and rules associated with a serial profile by selecting the profile name, or you can select an individual key word or rule configured in the profile.
Health	Includes failures or temperature problems on a device; problems with storage configuration; subscription expiration; video throttling alarms; alarms related to parameters monitored on the Hardware Monitoring tab on the System page; failed connection to shared network drive for archiving.
IP Camera Connection	Any of the IP cameras connected to the exacqVision server.
Soft Trigger	Select New to create a new soft trigger with a default name. Double-click to name it, or click Delete to remove it. You can also select any of the pre-configured soft triggers that are listed.
Time Trigger	Select New to open a window. Name the time trigger, select a start and end time, and select the days of the week when the selected action should occur. (For example, you could perform an Auto Export at 2:00 every morning.)
Analytics	A list of video analytics events (configured through the provider's interface).
Source Group	Select New to open a window. You can then select any combination of event types and event sources and determine whether any or all of them must occur to trigger the selected action.

The following Action Types are available:

Action Type	Description
None	No action will be performed. The event will be logged in the Event Database and searchable on the Search Page.
Record Video	Video will be recorded.
Record Audio	Audio will be recorded.
Output Trigger	A wired output trigger on the back of the server or IP camera will be activated.
Output Video 1	The analog monitor will switch to a full-screen view of the selected camera.
Notify	An email notification will be sent according to profile created on the Notifications page.
Auto Export	Data will be saved to a CD/DVR based on an Auto Export profile. See the "Auto Export" section of this manual for details.
PTZ Preset	The camera will be pointed in a specific direction. See the "Camera Settings" section of this manual for details.

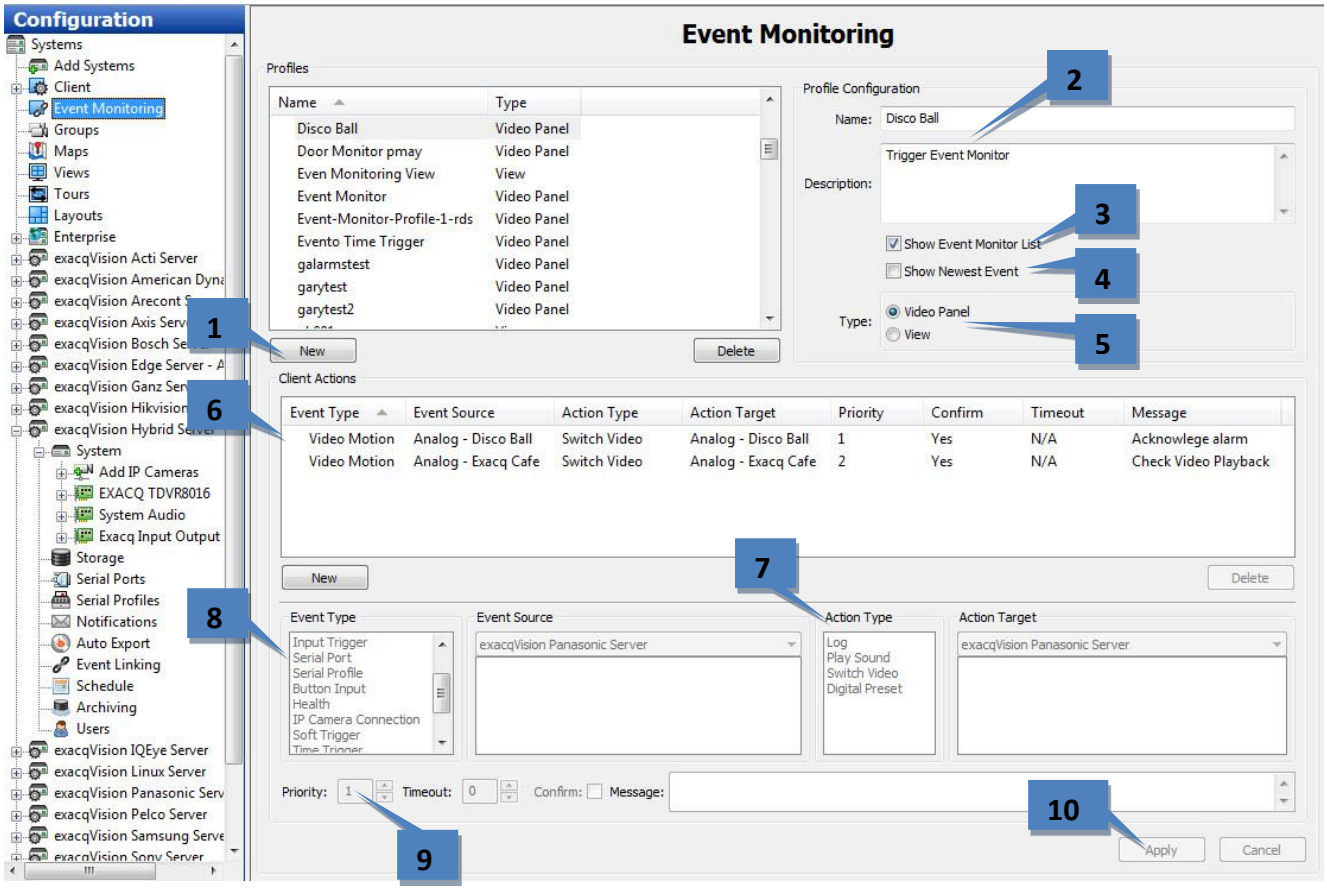
The Action Target list varies depending on the Action Type selected:

Action Type Selected	Action Target
None	No Action Target available.
Recorded Video	Any of the cameras connected to the exacqVision server.
Recorded Audio	Any of the audio inputs connected to the exacqVision server.
Output Trigger	Any output trigger on the back of the exacqVision server or IP cameras.
Output Video 1	Any of the analog cameras connected to the exacqVision server.
Notify	Any of the profiles that configured on the Notifications page.
Auto Export	Any of the profiles that configured on the Auto Export page.
Preset	Any of the presets associated with the camera on the Camera Settings page.

Event Monitoring

NOTE: The Event Monitoring page is not available in exacqVision Start.

The Event Monitoring page allows you to configure your exacqVision Client to react to events that take place on connected servers. First, you must create and define Event Monitoring Profiles, which are a set of actions (such as displaying live video or triggering a sound) that are triggered by events (such as motion or triggered inputs). Each profile can be activated and assigned to a specific video window on the Live Page.



1. To create a new profile, click the New button in the Profiles section.

2. Enter a name and description for the profile.

3. Select Show Event Monitor List to automatically display a window on the Live Page when one or more monitored events occur.

4. Select Show Newest Event to ensure that the most recent event is displayed, assuming that it does not have a lower priority level than a simultaneously occurring event. (Priority levels are discussed later in this procedure.)

5. Select the type of profile you would like to create:

   - A Video Panel profile can display a single camera on the Live Page when a specific event type occurs.
   - A View profile displays a preconfigured view when a specific event type occurs.

6. Add an event to monitor. This works in a similar way as the Event Linking discussed in the "Event Linking" section of this manual. Select an Event Type, and Event Source, an Action Type, and an Action Target. The options listed in Event Source vary depending on which Event Type (such as triggers, serial ports, and serial profiles) is selected and how it is configured. For more information, see the sections of Config (Setup) Page Overview chapter that are related to the desired Event Type.

7. The Action Type list allows you to select an action that will occur when the selected Event Type occurs on the selected Event Source. When you select an Action Type, a list of options is displayed in the Action Targets list. Following are the available Action Type options and their associated Action Target options:

   NOTE: The list of Action Types varies based on whether the profile is a Video Panel or View.

Action Type	Description	Action Target Options
Log (Video Panel or View)	A notification of the event is saved in the system log file.	None
Play Sound (Video Panel or View)	A sound is played.	A list of sounds.
Switch Video (Video Panel)	Video from a camera is displayed.	All cameras enabled on all connected systems (or on the system selected from the drop-down list)
Digital Preset (Video Panel)	A PTZ preset configured on a camera is displayed.	All PTZ presets configured on all connected systems (or on the system selected from the drop-down list)
Switch View (View)	A single view is displayed until a specific event occurs.	Any view configured on the client computer. The view is automatically displayed when the event occurs.
Switch View Tour (View)	A tour is displayed until a specific event occurs.	Any tour configured on the client computer. The tour is automatically displayed when the event occurs.

   NOTE: With Event Monitoring, you can select Any as the Event Source if you do not want to create separate but similar profiles for every source. If you select Any as the Event Source and Switch Video as the Action Type, the Action Target list contains an Event Source option so that you can create an action on the same source associated with the event.

8. If you selected Show Event Monitor List, three more options are activated:

   - Timeout allows you to determine how long, in seconds, an event is shown in the Show Event Monitor List. If you select 0, the event listing is displayed it until it is acknowledged.
   - Confirm requires a confirmation before the event is removed from the list.
   - Message is any general information that you want to display with the event, such as an action that a guard should take when the event occurs.

9. Select a Priority level for the action. If different event types occur simultaneously, the event with the higher priority level is displayed until it is acknowledged. Then events with lower priority are displayed. The highest priority is 1, and the lowest priority is 10.

10. Click the Apply button when you have finished your profile.

You can now view your event profile in Live mode. A Video Panel profile can be displayed on the Live Page by right-clicking a video window. A View profile can be displayed by selecting the Views button in the site tree. See the Live Page Overview chapter for more information.

Schedule

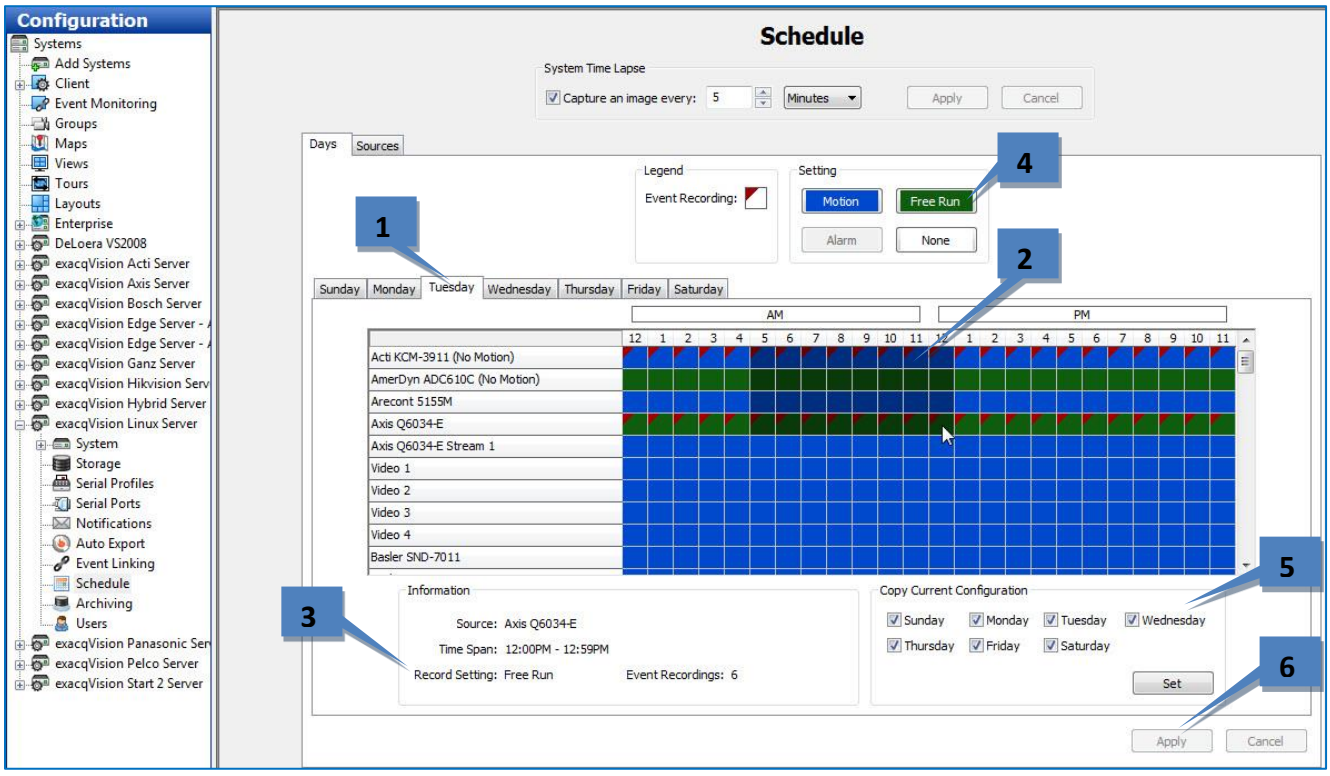
The Schedule page allows you to configure your recording schedule. By default, an exacqVision system is scheduled to record motion and events. There are four modes of video recording, which are color-coded on the Schedule page: motion (blue), free run (green), alarm (red), and off (white). Free run is continual recording. This type of recording uses a large amount of disk space.

NOTE: To configure time lapse recording, select the Capture An Image Every button, select a number, and then select Seconds, Minutes, or Hours from the drop-down list. Click Apply. Time lapse recording is not associated with the schedule configured in the grid on the Schedule page.

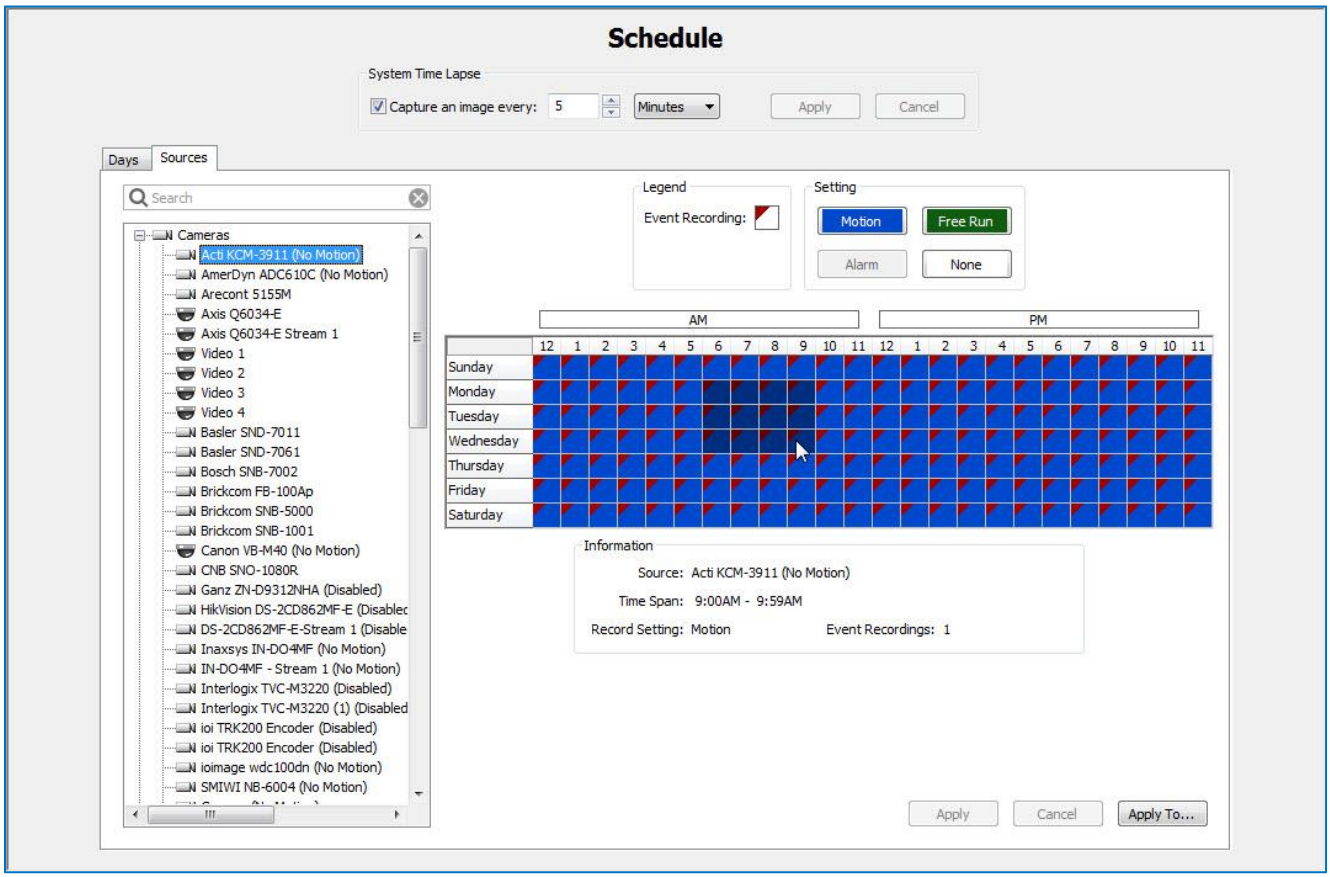
There are two scheduling tabs: Days and Sources.

On the Days tab, you can configure recording of all video, motion video, or just alarm video. To create a schedule, complete the following steps:

1. Select the appropriate tab for the day of the week.
2. In the grid, draw a rectangle that corresponds to the hours for each device that you want to schedule.
3. When you hover the cursor over a square, note the details displayed in the Information section.
4. Select the appropriate Setting button.
5. To copy the schedule from one day of the week to another, select the appropriate days of the week in the Copy Current Configuration section, and then click Set.
6. Click Apply.



- On the Sources tab, you can configure a separate recording schedule for each device:

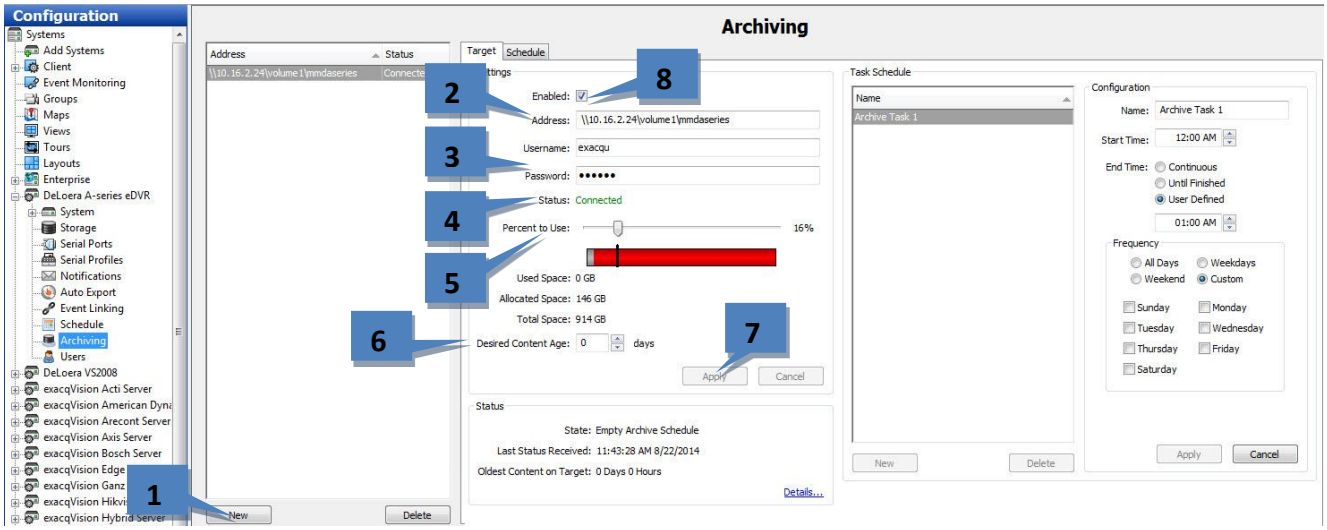


Select the device from the tree and schedule it in the same way as described for the Days tab.

NOTE: You can apply the one device's schedule to another device by clicking Apply To…

Archiving

NOTE: Archiving (**not available in exacqVision Start**) uses a significant amount of a system's resources. Thus, video recording rates could be automatically throttled while archiving is in progress, especially on a wide area network with limited bandwidth. To avoid throttling of video recording, it is highly recommended that archiving be scheduled for periods when video recording rates are reduced. For example, if motion video is normally recorded at a retail location, schedule archiving for overnight hours when the location is closed to customers.



The Archiving page allows you to configure an SMB shared network drive (a Windows share), such as those on an exacqVision S-Series server, for archiving of video and other data. The archive provides storage and quick retrieval of recorded video and audio data using the Search page. Files archived to the network share can be searched as if the files are located on the server itself. Multiple exacqVision servers can archive to the same drive.

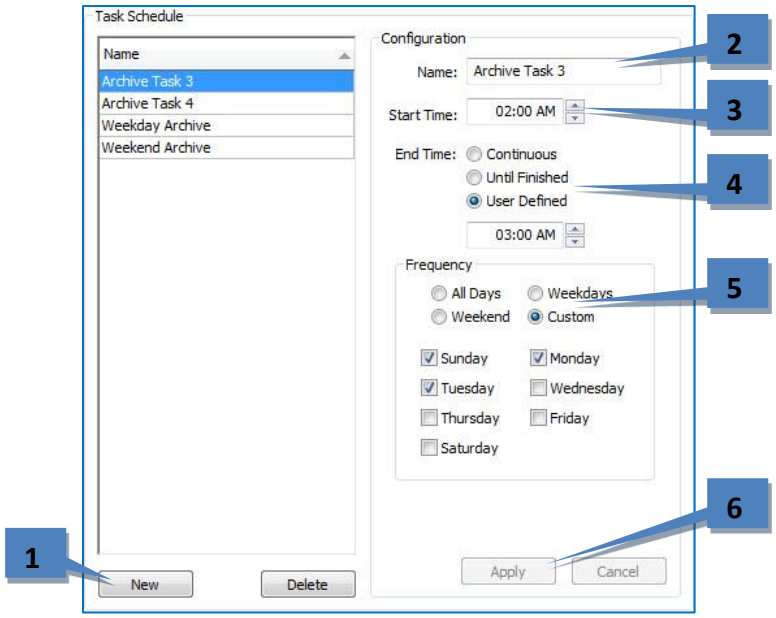
To enable and identify the location of one or more shared network drives for easy retrieval of exacqVision data using the Search page, complete the following steps in the Settings section on the Target tab:

1. Click the New button to configure the first archive server.
2. In the Address field, enter the path to the shared network folder. Include the subdirectory in the shared folder used in the configuration of the archiving task.
3. Enter a valid Username and Password required to log in to the shared network drive.
4. The Status portion of the Settings section shows whether the server has successfully connected to the shared network drive. The following page shows the status messages that can appear here.
5. Move the Percent To Use slider to configure the targeted amount of the drive that should be used for archiving. The blue portion shows the amount of space used for this archiving configuration. The gray portion shows the unused space. The red portion shows the amount of space already used for other storage and archiving from other systems. You can select a percentage that includes the red portion, but that portion of the drive will not actually be used for archiving unless the stored data is deleted.
6. Select the target period of video that you would like to archive data. If data is deleted before that target is reached, it creates an event that can trigger an action as configured on the Event Linking page.
7. Click Apply to save the information that has been entered.
8. To activate the drive for storage of exacqVision data, select the Enabled checkbox.

To add another archive server, repeat these steps.

Status Messages	Description
Invalid Address	The address entered is not in a valid format. It must be entered as *ipaddress**share**folder* or *hostname**share**folder* ("folder" is optional in each case).
Path Not Found	The target server is reachable, but the folder is not found on the shared network drive.
Disconnected	The system cannot connect to the shared network drive because of an invalid address or username/password.
Connected	The system is successfully connected to the target server.

You can configure one or more archive task schedules for each archive server. To do this, select the server from the list and complete the following steps in the Task Schedule section on the Target tab:



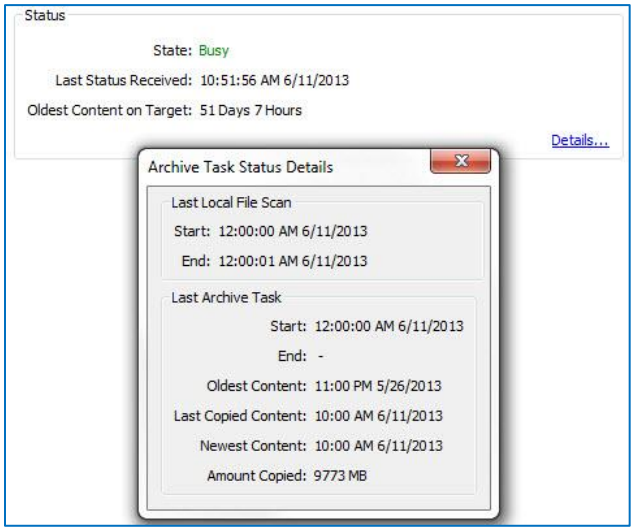
1. Click New.
2. Enter a name for the archive task.
3. Select a Start Time.
4. Select an End Time. There are three types of end times:

   - **Continuous.** The system will scan for data to archive every five minutes. (See the note at the beginning of this section before selecting this option.)
   - **Until Finished.** Archiving will continue until all applicable data is archived. There will be no additional scans for data to archive until the start time on the next day.
   - **User Defined.** Archiving will end at the specified end time. Enter the time desired. If the archive period is not long enough to archive all applicable data, the remaining data will be archived during the next applicable task.

     NOTE: The oldest applicable data will always be archived first. If you see a message in the Status section (see the next page) that indicate the archive didn't complete, consider increasing the length of the user-defined task. Also, any applicable data recorded while the archive task is in progress will be archived if there is enough time remaining in the task.

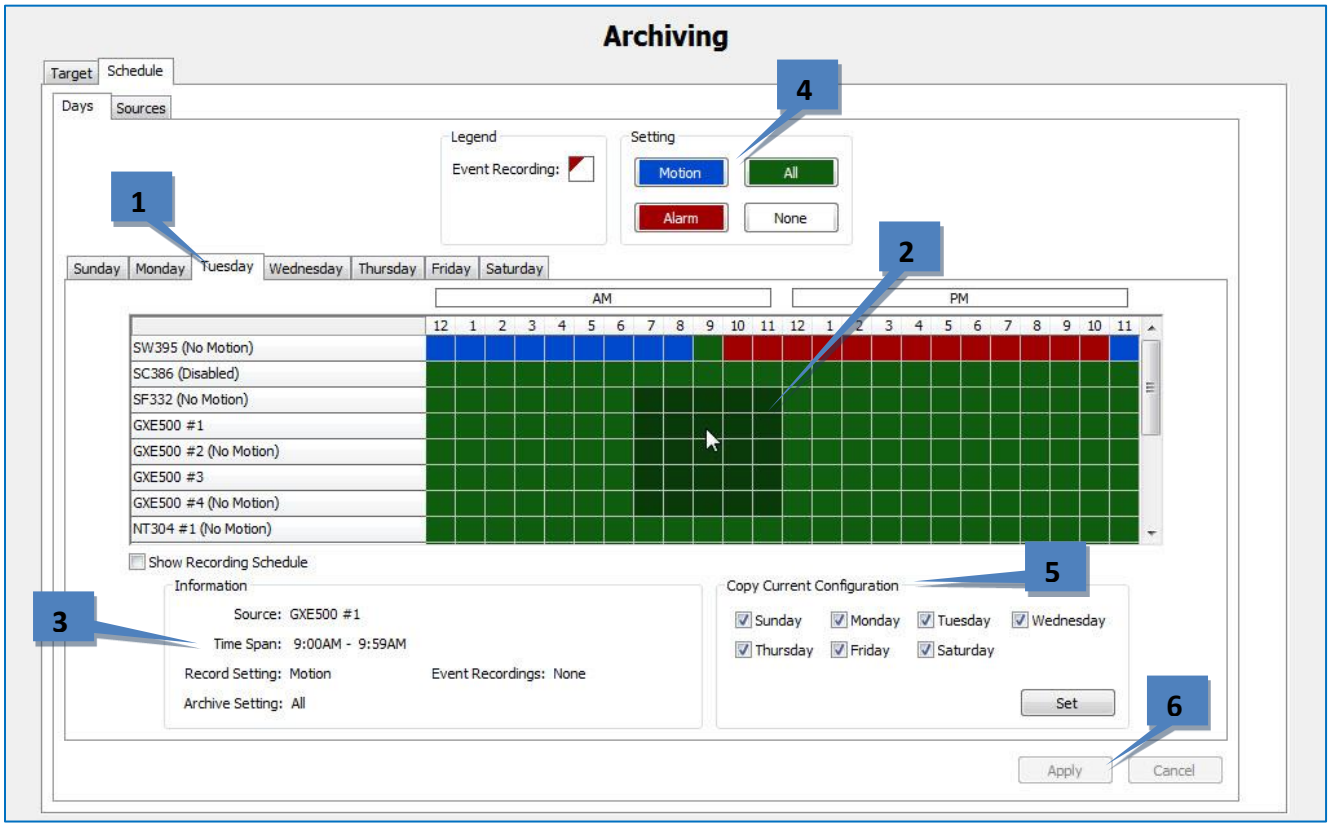
5. If you select Until Finished or User Defined, select a Frequency for the task. Custom allows you to select days of the week individually.
6. Click Apply.

The Status section of the Target tab displays information about the current archive task:



Click Details… to view additional details in the pop-up window.

The Schedule tab on the Archiving page allows you to select the types of data and devices to archive on each archive server:



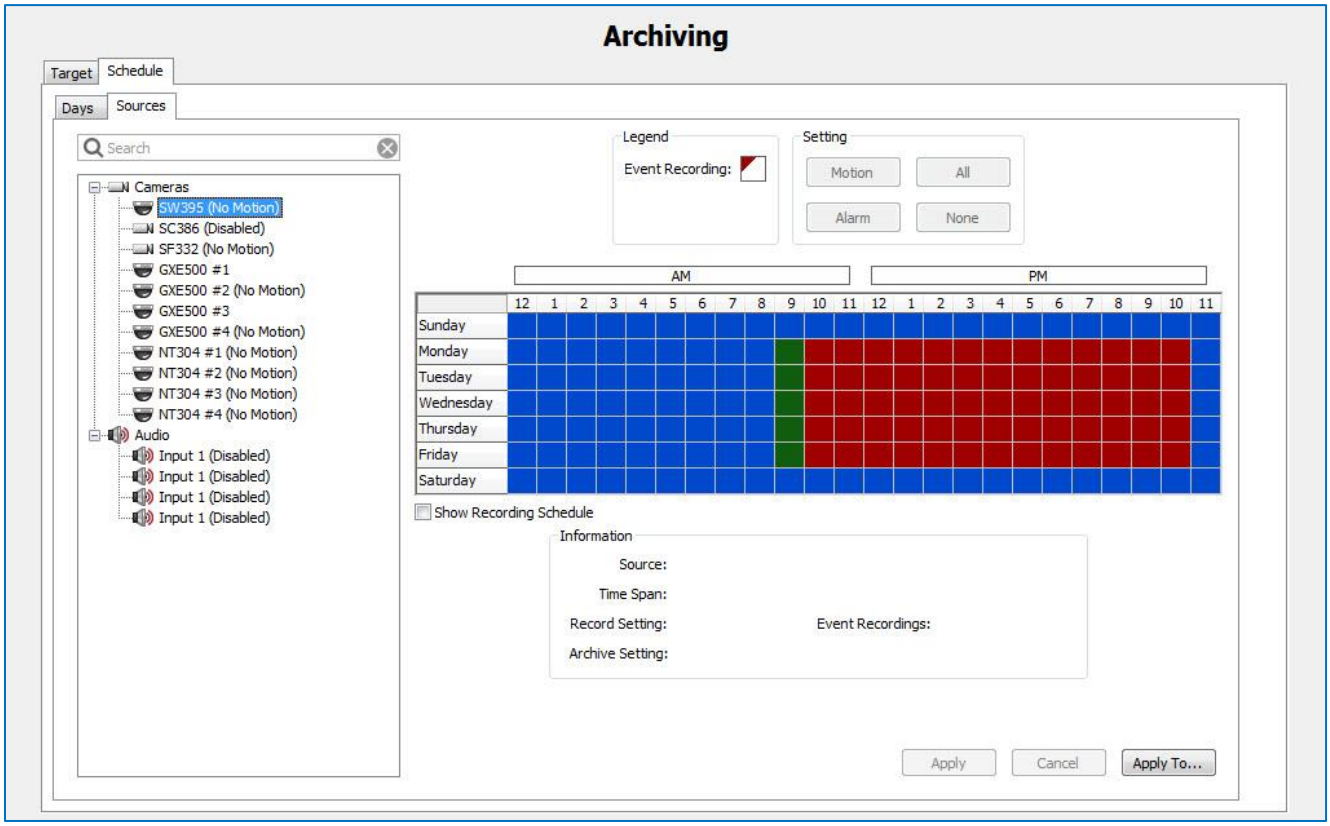
On the Days tab, you can configure archiving of all data, motion video (which includes alarm video), or just alarm video to the selected archive server. To change the Setting, select an archive server and complete the following steps:

1. Select the appropriate tab for the day of the week.
2. In the grid, draw a rectangle that corresponds to the hours for each device that you want to configure.
3. When you hover the cursor over a square, note the details displayed in the Information section.

   NOTE: The Record Setting and the Archiving Setting do not have to be configured for the same type of data. For example, you could record Free Run video on a system at a certain time, but then archive only the motion video recorded during that period. However, if only motion/alarm video was recorded, the All setting on the archive page will cause only motion/alarm video to be archived. The amount of video available for archiving cannot exceed the amount of video recorded during that period.

4. Select the appropriate Setting button.
5. To copy the schedule from one day of the week to another, select the appropriate days of the week in the Copy Current Configuration section, and then click Set.
6. Click Apply.

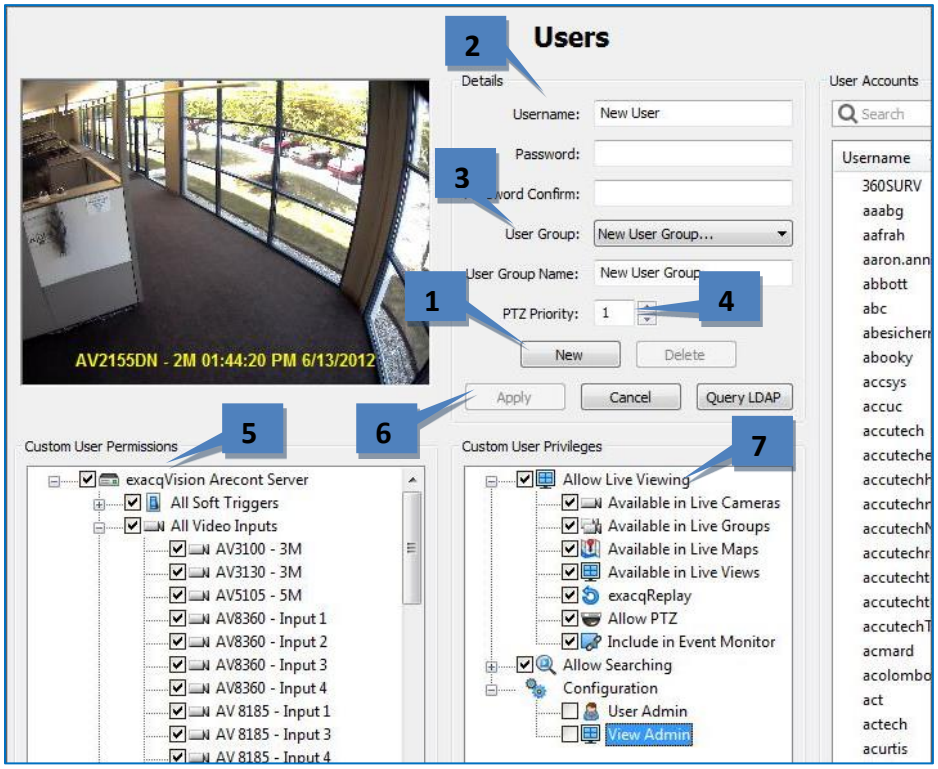
On the Sources tab, you can configure a separate archiving schedule on each archive server for each device:



Simply select an archive server, select a device from the tree, and then configure archiving the same way as described for the Days tab.

NOTE: You can apply the one device's schedule to another device by clicking Apply To…

Users



The Users page allows you to add and delete users, configure a user's group access level, and assign permissions for viewing cameras. After a user has been added to the system, the user can log in and view live and recorded video according to the permissions assigned to them.

1. To add a new user, click New. (To change the password or permissions for a user, select the existing username.)
2. Enter the name of the user in the Username field. Enter or change the password in the Password/Confirm fields.
3. Select a permission level from the User Group drop-down list:

    - Full Admin has access all features of the system.
    - Power User has access all features except for adding or deleting users.
    - Live Only can view live video from all connected cameras.
    - Search Only can search for recorded video.
    - Live + Search can view live video and search for recorded video from all connected cameras.
    - any user or custom group whose permissions and privileges have been modified from one of the standard groups listed above. **NOTE:** Custom groups are not available on exacqVision Start servers.

4. Assign a PTZ Priority level to the user (not available in exacqVision Start). When two users attempt to control the PTZ functions of the same camera simultaneously, the user with the higher priority level (up to 10) is granted PTZ control. If a second user attempts to control PTZ functions on a camera that is already being controlled by a user with the same priority, control remains with the first user. Admin users automatically have PTZ priority over any non-Admin user, and Power Users have priority over all users except for Admin users.
5. The Custom User Permissions section allows you to select which devices the user or group can see and operate in the exacqVision Client. You might have to deselect View Admin and User Admin under Custom User Privileges (if available) to allow the Custom User Permissions data to be edited.
6. When finished, click Apply.

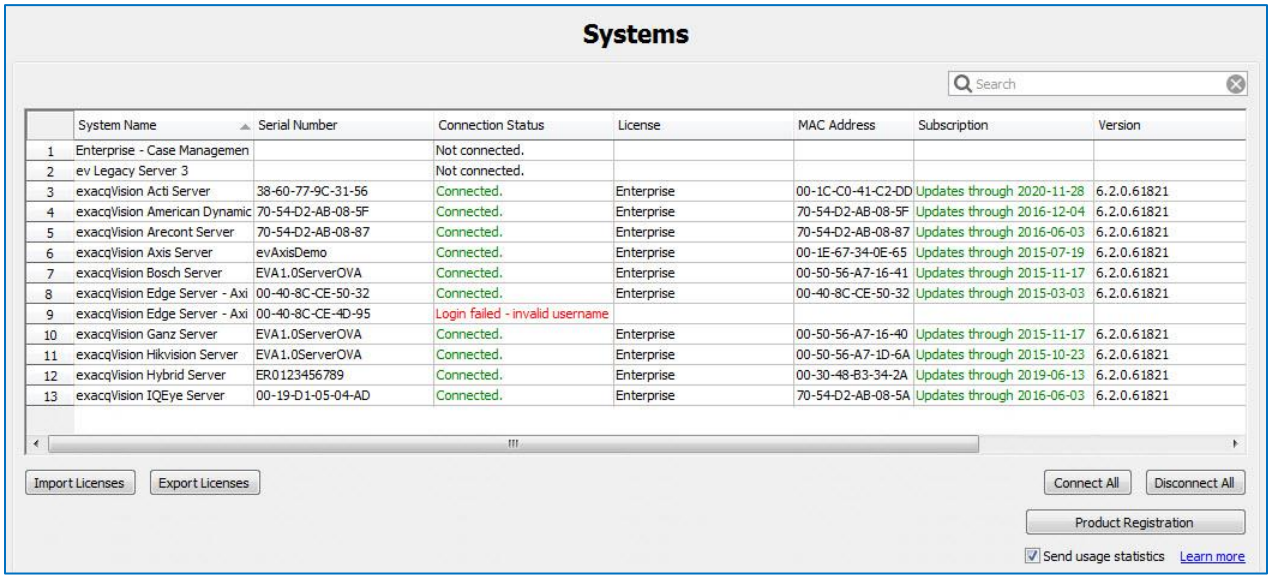
NOTE: The following feature on the Users page is not available in exacqVision Start.

7. The Custom User Privileges section contains the following list of privileges that can be assigned to a user:

    - Allow Live Viewing
        - Available in Live Cameras
        - Available in Live Groups
        - Available in Live Views
        - exacqReplay
        - Allow PTZ
        - Include in Event Monitor
    - Allow Searching
        - Available in Search Cameras
        - Available in Search Groups
        - Available in Search Views
        - Available in Search Events
        - Save Image & Copy to Clipboard
        - Print Image
        - Burn Disc
        - Export Video
        - Smart Search
    - Configuration
        - User Admin
        - View Admin

NOTE: If you change the permissions or privileges for a user or group, enter a name for the new custom group and click Apply.

Systems



The Systems page lists all added systems, along with their serial number, IP address/hostname, connection status, license type, MAC address, subscription information, version information, status (such as, Normal, Alarm, or Motion), and days of recorded video.

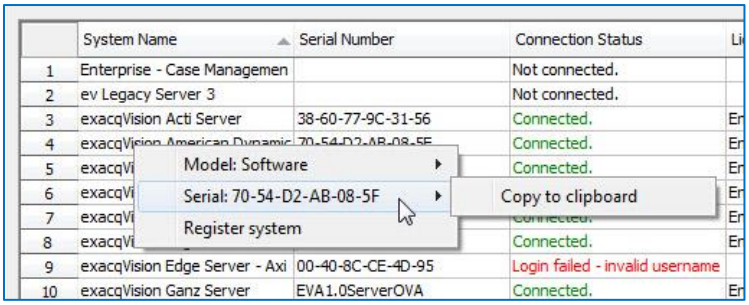
NOTE: To display or remove a column on the Systems page, right-click any column header and select the column from the pop-up menu.

The following actions can be performed on the Systems page:

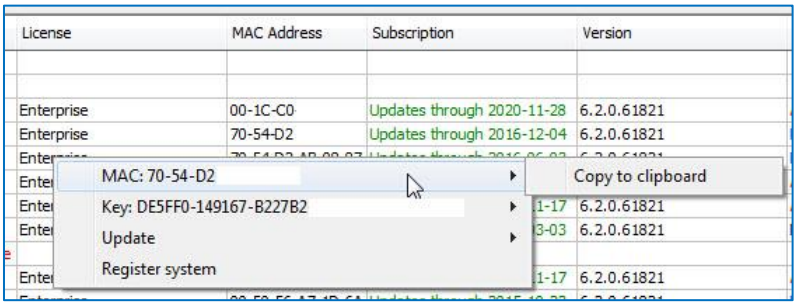
- To connect to or disconnect a system, right-click its connection status and select a Connect option or Disconnect from the pop-up menu. To connect to or disconnect multiple consecutive systems simultaneously, click on the connection status for the first system, and then press Shift while you drag the cursor up or down (and then right-click). To connect or disconnect every listed system, click Connect All or Disconnect All.

  NOTE: If the physical connection between the client computer and server is interrupted while you are connected to the server in exacqVision Client, the Connection Status is displayed as Network Activity Timeout. The status is then displayed as Disconnected after a specific amount of time that varies among operating systems.

- To view the System Information page for a system, double-click its information listed in any column.
- To view model number and serial number information for a system, right-click the system name.

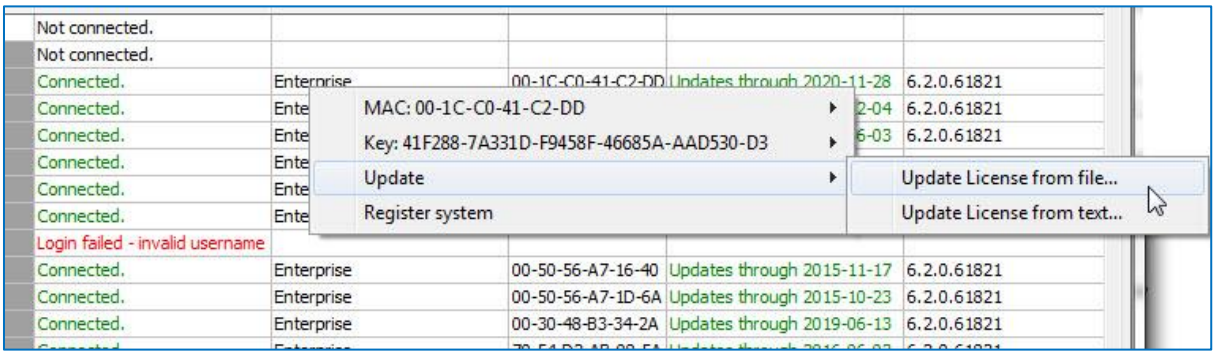


- To view a MAC address and license key for a system and copy it to the clipboard, right-click its information in the License, MAC Address, or Subscription column for that system and select Copy to Clipboard (select the right arrow if necessary to see that option). You can then paste the information into an email or other applications.

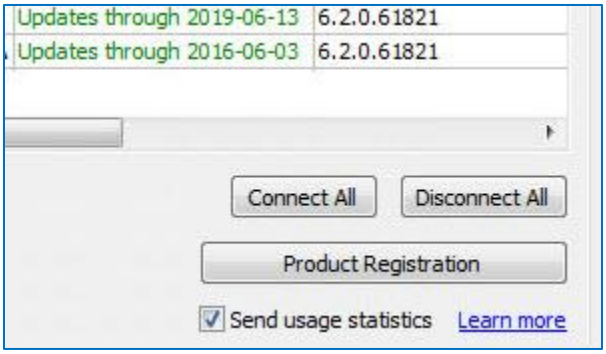


- To update a license key for a system, right-click its information in the License column, select Update, and select an option. Update the License from File allows you to browse to a .KEY file that contains license information and click Open. Update the License from Text allows you to type the license key manually and click OK.

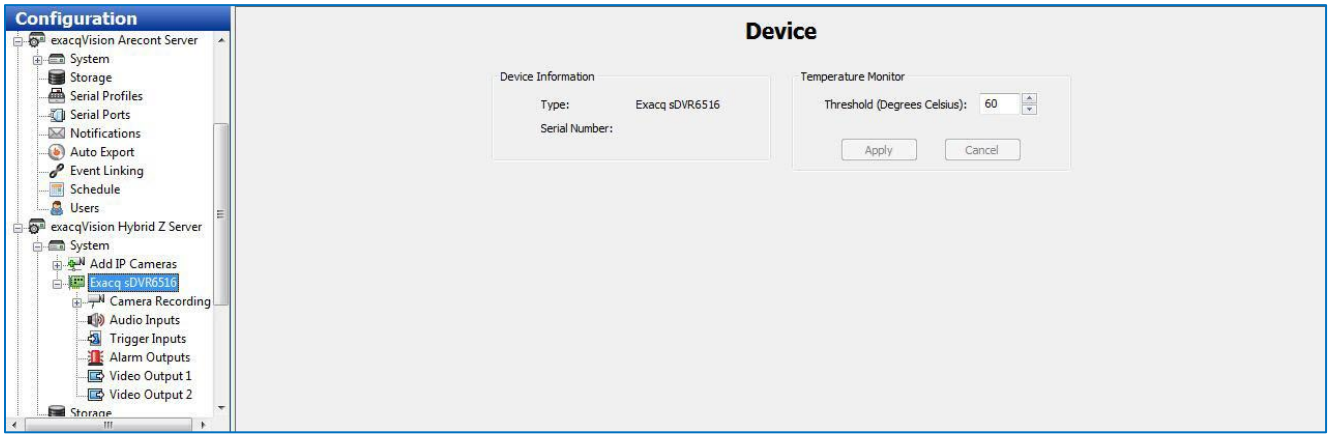
  NOTE: Alternatively, you can click Import Licenses at the bottom of the page to enter multiple licenses from a .CSV file, or click Export Licenses to compile all listed licenses into a .CSV file to import into another client.



- To view additional version information for a system, right-click the information in the Version column for that system.
- To view additional information about Alarm or Motion status, right-click the word while it appears in the Status column.
- To view a general product registration page, click Product Registration.
- Send Usage Statistics provides anonymous and non-sensitive information to the manufacturer about how cameras and exacqVision features are used on the system.



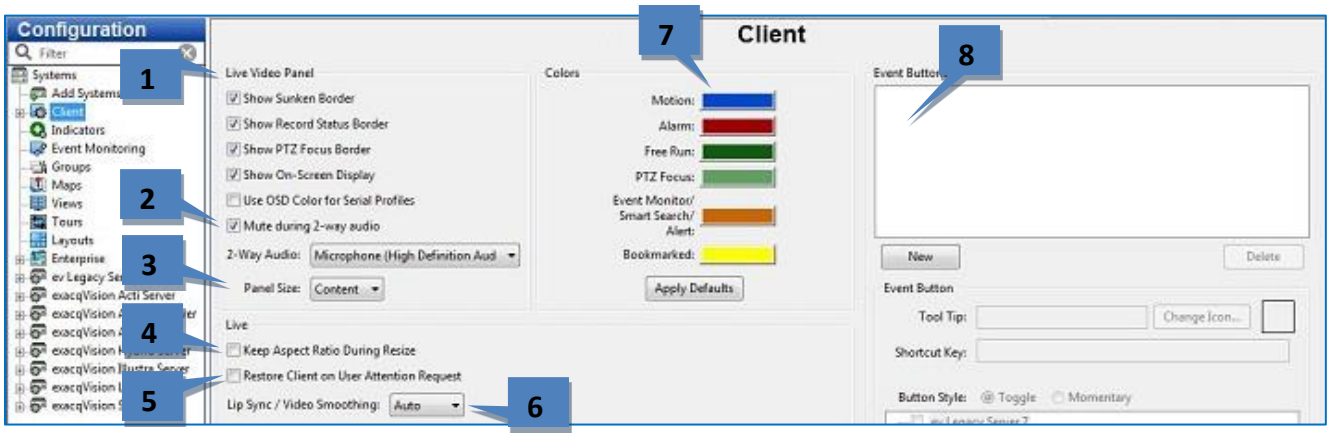
Device



The Device page provides information about the compression board installed in exacqVision hybrid video servers that manages the analog video cameras connected to the systems. If a compression board is installed in the system, the Device Information field displays the eDVR Device Type and Serial Number.

You can also set a temperature threshold that can be linked to an event action using the Event Linking page.

Client



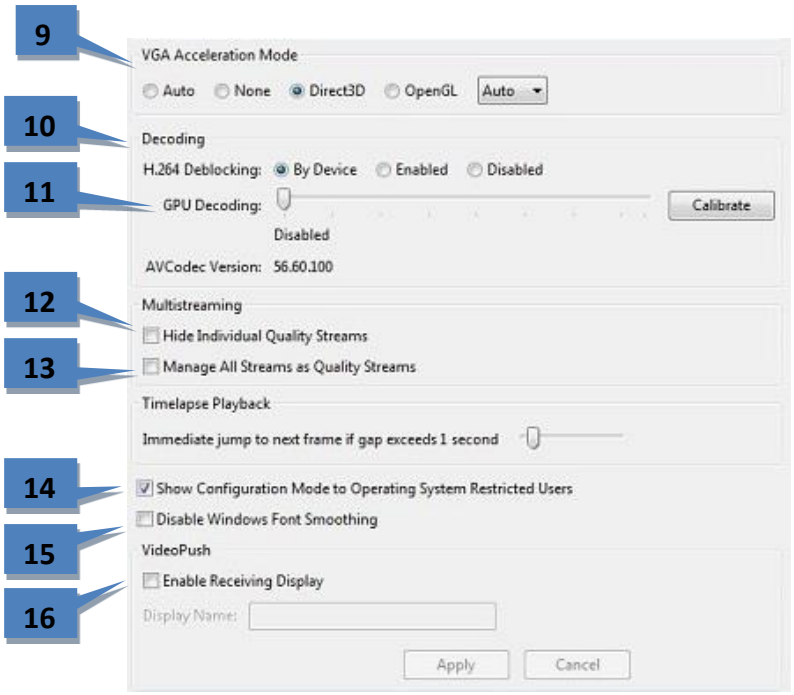
The Client page allows you to customize your client based on your personal preferences.

1. The Live Video Panel section allows you to modify the way certain windows are displayed on the Live page. This includes disabling the colored borders that indicate motion or alarm, and disabling the sunken borders to decrease the separation between video windows (this can be useful if you want to place two separate video streams from a single panoramic camera next to each other and view them a single, nearly seamless video window). You can also mute all sounds while 2-way audio is active (not available in exacqVision Start).
2. The 2-Way Audio drop-down list (not available in exacqVision Start) allows you to select a microphone connected to the client computer that can be used to send audio from the client to the server.
3. Panel Size allows you to choose the aspect ratio of live video windows. The following options are available:

    - **Content** displays the video windows in the aspect ratio of the video as it is captured. If the majority of the displayed video is captured in 16x9, all video windows are shown 16x9.
    - **Window** uses the aspect ratio of the entire Live Page to determine the aspect ratio of the video windows.
    - **16x9** displays all video windows in 16x9.
    - **4x3** displays all video windows in 4x3.

    NOTE: If the video windows are shown in 16x9, wide-screen layout buttons are not available at the top of the Live Page screen.

4. Keep Aspect Ratio During Resize maintains video aspect ratios when exacqVision Client is made larger or smaller.
5. Restore Client on User Attention Request displays a minimized client if an event occurs requiring user attention.
6. Enable Live Audio Lip Sync/Video Smoothing buffers up to five seconds of audio and video to ensure that they play back synchronized. This option can compensate for an intermittent video stream; however, it increases memory usage and video latency, so use it with caution.
7. The Colors section (not available in exacqVision Start) controls the default border colors for Motion, Alarm, Free Run, PTZ Focus, and Event Monitor. To change a color, click on the colored bar of the border type, select a basic color or create a custom color, and then click OK.
8. Event Buttons (not available in exacqVision Start) allows you to create a shortcut to any Soft Triggers you have configured in Event Linking. To create an Event Button, click New. Enter a description in the Tool Tip field and click Change Icon… . Select a default or custom icon and click Open. Select the Soft Trigger from the list and then click Apply. The icons will be displayed next to the Soft Trigger icon on the Live mode toolbar. You must select a different icon for each Soft Trigger shortcut. Buttons can be configured for toggling or momentary activation (momentary is typically used with 2-way audio so that audio out is disabled when the button is released).



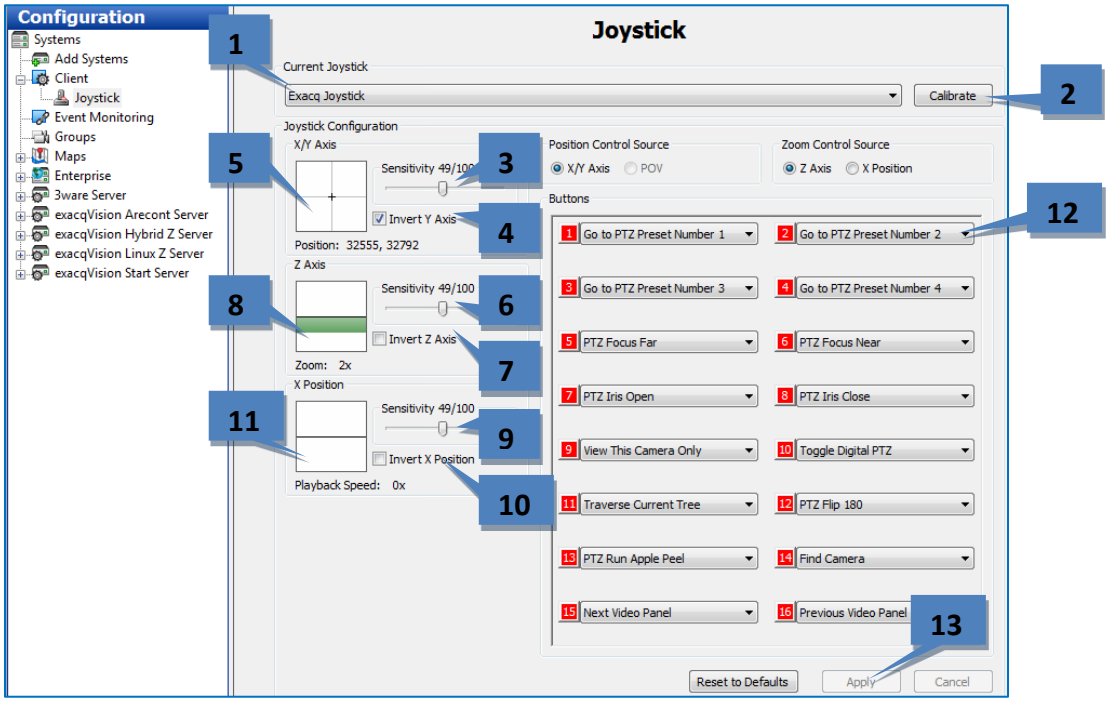
9. The VGA Acceleration Mode section (not available in exacqVision Start) resolves display issues caused by the video card. Selecting Auto should provide the best results for the installed video card. However, you can select Direct3D or OpenGL, along with a colorspace option from the drop-down list, to attempt to improve the video refresh rate or other display issues. Available acceleration and colorspace options vary depending on the video card installed.
10. H.264 Deblocking (available to Administrators and Power Users) enables more detailed decompression on video displayed in exacqVision Client. Deblocking is available only on certain cameras. It is recommended that you select By Device, which enables deblocking on all cameras that stream deblocked video. Selecting Enabled will cause exacqVision to always perform de-blocking decompression even if the video stream is not actually deblocked. Enabling deblocking can reduce the maximum displayed frame rate, so use it with caution.
11. GPU Decoding - This slider will set the proportion of decoding done by GPU vs CPU. Use the Calibrate button to determine optimum setting.
12. Hide Individual Quality Streams - will hide secondary streams of cameras in the site tree on the Live View page of the client and let the client determine the most appropriate stream to display.
13. Manage All Streams as Quality Streams - this selection will force the client to handle all secondary streams as if they were quality streams even if the secondary stream's aspect ratio is different from the main stream.The Timelapse Playback section (not available in exacqVision Start) controls the amount of display time between video gaps due to time-lapse recording or discontinuous motion. Normally, the system automatically jumps to the next video frame after a one-second gap. You can decrease the dwell time to zero by sliding the interval control to the left or increase the dwell time up to 15 seconds by sliding it to the right.
14. The Show Configuration Mode to Operating System Restricted Users checkbox (not available in exacqVision Start) allows you to hide the Config (Setup) Page button for a client who has a restricted Windows setting. Only the Live and Search icons are displayed to these restricted users if you select this option.
15. Select Disable Windows Font Smoothing if fonts are not appearing as desired.
16. Select Enable Receiving Display if this client should be available to other exacqVision Client Enterprise computers for remote control (VideoPush). The display name is the name that will appear in the client title bar on the client that is connected remotely. See the "VideoPush" section in the "Live Page Overview" chapter for a full description of the VideoPush feature.

NOTE: The Mac version of exacqVision Client also contains a Use a 24-Hour Clock option on the Client page.

Joystick

NOTE: The Joystick page is not available in exacqVision Start.

The Joystick page allows you to configure any standard USB joystick to work with your exacqVision system.



1. Select a joystick from the Current Joystick drop-down list.
2. If the position control is drifting while the joystick is in its resting position, click Calibrate.

X/Y Axis (pan and tilt)

3. Move the X/Y Axis Sensitivity slider left to decrease position control sensitivity, or right to increase position control sensitivity.
4. To invert the north and south movement of the camera or view, select Invert Y Axis.
5. Move the joystick to the desired starting position. Click Calibrate.

   NOTE: If your joystick has a Point of View source, you can switch your joystick functionality from X/Y Axis to POV in the Position Control Source box.

Z Axis (zoom)

6. Adjust the Z Axis Sensitivity slider left to decrease zoom sensitivity, or right to increase zoom sensitivity.
7. To invert the zoom direction, select Invert Z Axis.
8. Adjust the zoom on the camera (the box will turn green in the direction of zoom). Click Calibrate.

X Position (playback speed)

9. Adjust the X Position Sensitivity slider left to decrease sensitivity, or right to increase sensitivity.
10. To invert the X Position direction, select Invert X Position.
11. Adjust the X Position (the box will turn green in the direction selected). Click Calibrate.

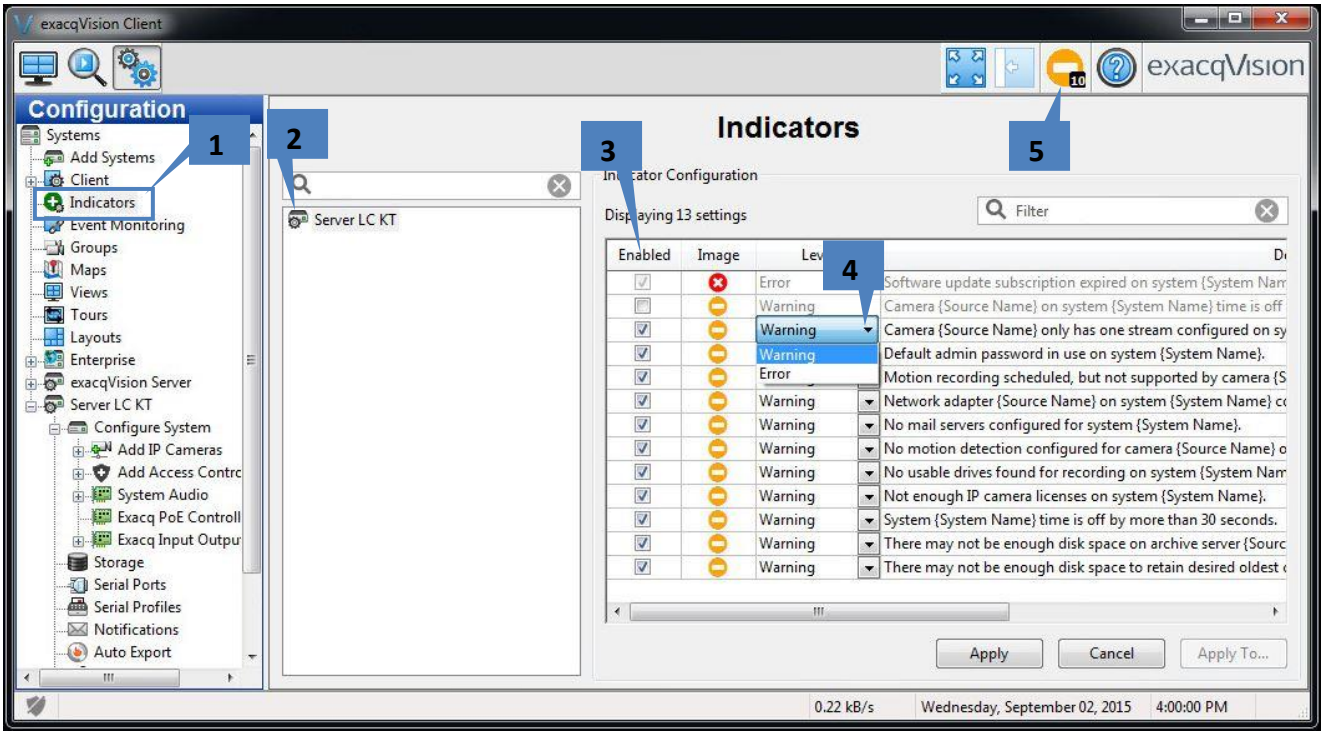
Buttons

12. Program the joystick buttons by selecting associated actions (variable among joysticks) from the drop-down lists.
13. Click Apply to save the joystick settings.

Indicators

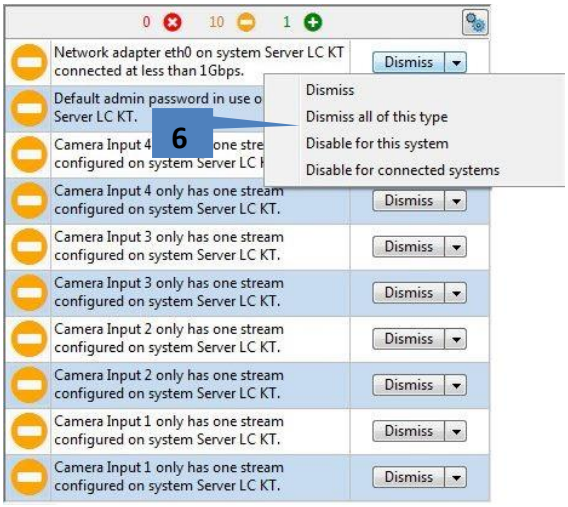
Indicators provide configuration suggestions and health events to the operator.

To view and configure Indicators perform the following steps.



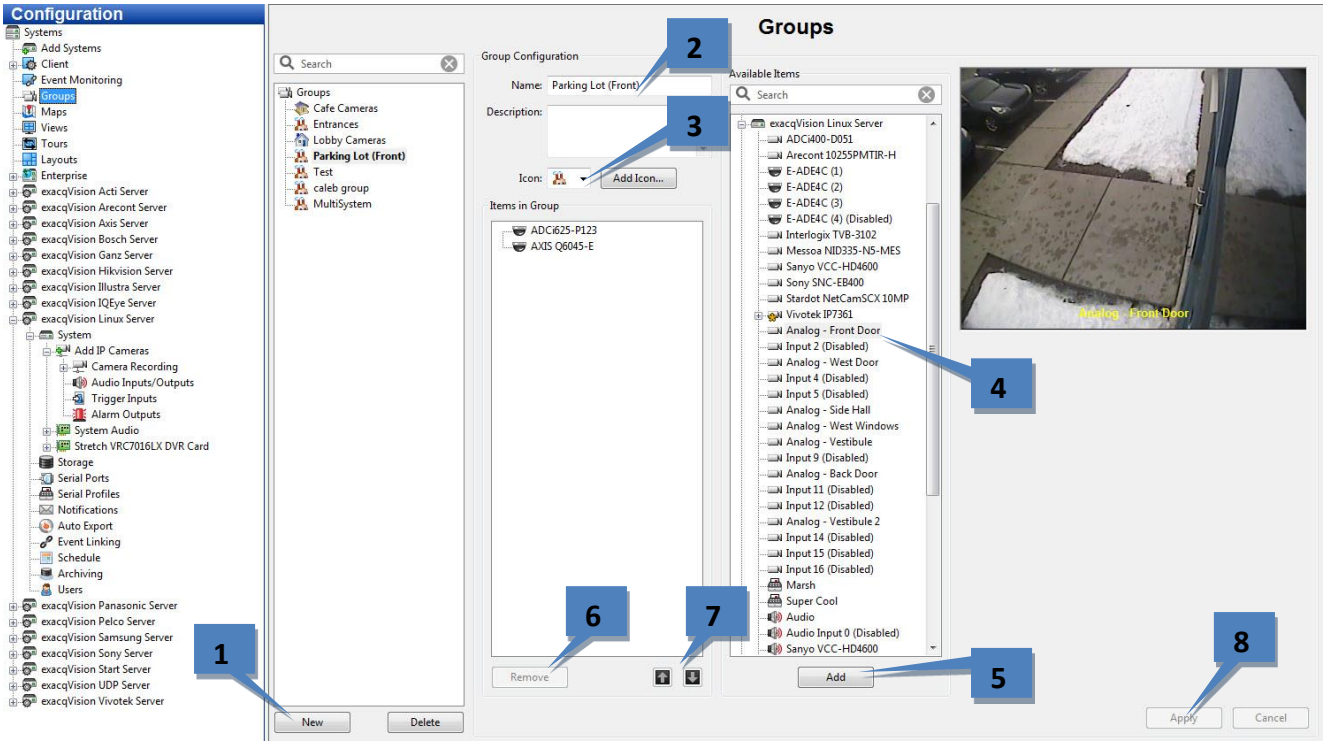
1. Click **Indicators** in the configuration tree
2. List of connected exacqVision servers that support this feature
3. Individual messages can be enabled or disabled. Disabled messages are disabled for all users.
4. Individual messages can be set as a Warning or an Error. The image icon will change accordingly. Error message will have a higher priority than warnings.
5. Toolbar drop down list. Clicking on this will result in a list of current Errors and/or Warnings. The number in the lower right corner indicates the number of errors or warnings detected.

6. These options are available for handling each entry
    a. Dismissed entries are dismissed for the remainder of the client session. Upon restarting client, the indicator will be displayed again.
    b. Disabled indicators are permanently disabled
    c.



Groups

NOTE: The Groups page is not available in exacqVision Start.



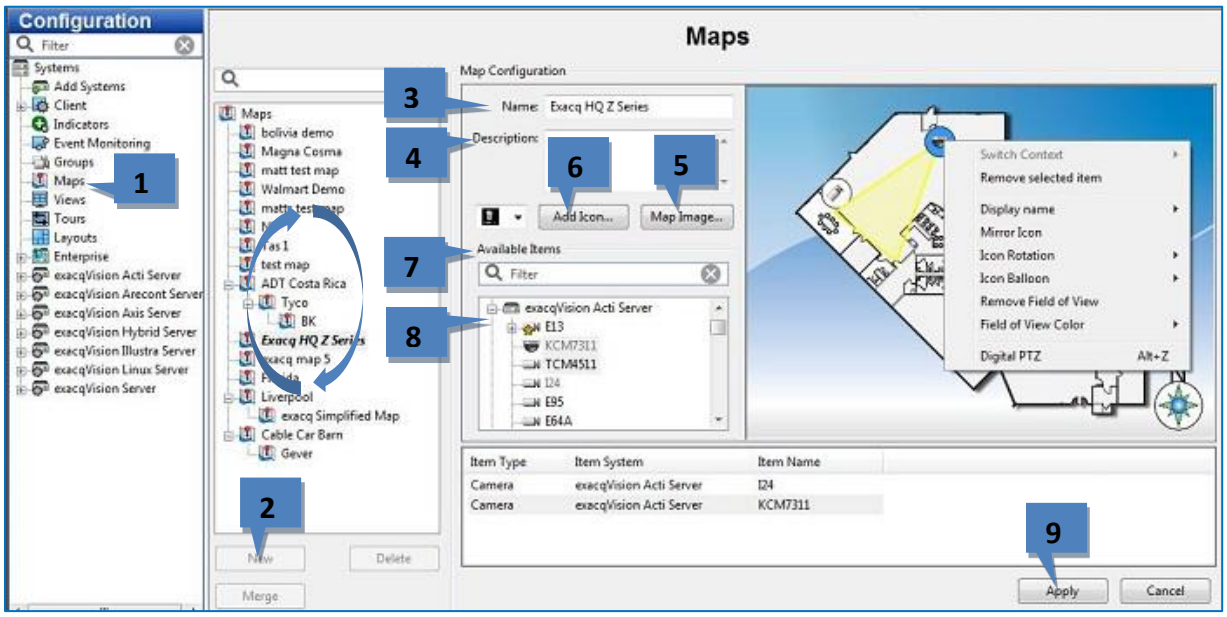
The Groups page allows you to create logical groups of cameras and other items connected to one or more systems. This is a useful when you have multiple systems with a large number of cameras spread across a large building or campus, and you would like to place cameras in logically named groups such as First Floor, Second Floor instead of viewing your cameras in default groups based on their connection to the systems. You can also search for video and data from entire groups instead of adding each item individually during the search.

1. To create a new group, click New.
2. In the Group Configuration section, enter a name and description for the group.
3. Select an icon from the drop-down list to represent the group in the Live and Search site trees. Alternatively, you can select a custom icon in a variety of file formats by clicking Add Icon… and then browsing the location of the file.
4. Select an item from the Available Items list. Video, audio, or data associated with the item is displayed in the video window. You can also select a system name to add all items from that server to the group.
5. Click Add to include the item name in the Items in Group section. Continue adding items until your group is complete.
6. To remove an item from the group, select it in the group list and click Remove.
7. To change the group list order, select an item in the Items in Group list and click the up or down arrow.
8. When finished, click Apply.

These groups can now be selected in Live mode to monitor live video or search recorded video.

Maps

The Maps page allows you to organize your cameras, soft triggers, and other devices visually using a graphics file.
NOTE: The Maps page is not available in exacqVision Start.



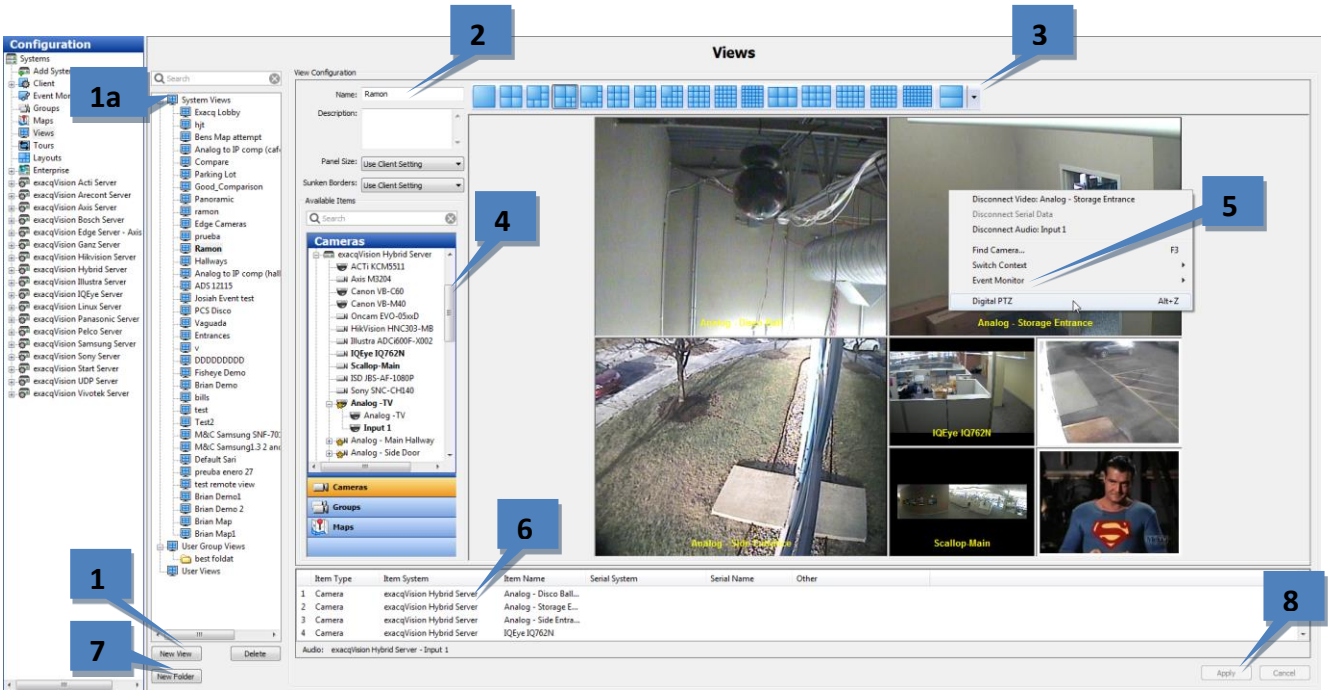
1. Click Maps
2. Click New
3. Enter a Name
4. Enter a Description
5. Click **Map Image** button and browse for the graphic file that you want to use for the map (PNG or JPEG file recommended to improve responsiveness). Select the file and click Open to display the map.
   NOTE: To create a child map for an existing map, select the existing map before you click New. This allows you to place an icon representing the child map on the existing (or parent) map. Notice that the child map is listed under the parent map when you click New.
6. Click **Add Icon** to select a custom icon to represent the map or selecte from previously added icons from the list on the left.
7. The systems that you are currently connected to are listed in the Available Items section. Expand the systems to display the devices associated with it. Any child maps that you create for this map are also displayed in Available Items.
8. To add an icon representing a device, soft trigger, or child map, drag the name of the device or map from the Available Items section onto the new map. When you view the map in Live Maps, double-clicking an icon displays video or data from the device (or opens the child map), and alarm and trigger icons display their current status. To remove an icon from a map, right-click it and select Remove Selected Item. To flip the icon to point the other way, right-click it and select Mirror Icon. To rotate the icon, right-click it, select Icon Rotation, and select any of the available options. To change the appearance of the icon, right-click it, select Icon Balloon, and select any of the available options. Repeat this step until all icons are placed on the map (and listed below it). Field of View and digital PTZ options are available from the context menu.
   NOTE: If the map has a parent map, a small map icon representing the parent map is displayed in the upper-right corner. You can drag this parent map icon anywhere on the map.
   NOTE: the map list can be re-arranged. For example if a map needs to be moved to a different level, you can drag and drop the map to that level.
9. To complete a map, click Apply. See the “Live Maps” section for information about using a completed map.

Views

The Views page allows you to create and name combinations of cameras, groups, and maps that can be displayed with a single click. You can create the following types of views:

- **System views**. These views are available to all users connected to the server.
- **User group views**. These views are available to all users with the same user permission level.
- **User views**. These views are available only to the user account that created it.

NOTE: On exacqVision Start systems, only System Views can be created.

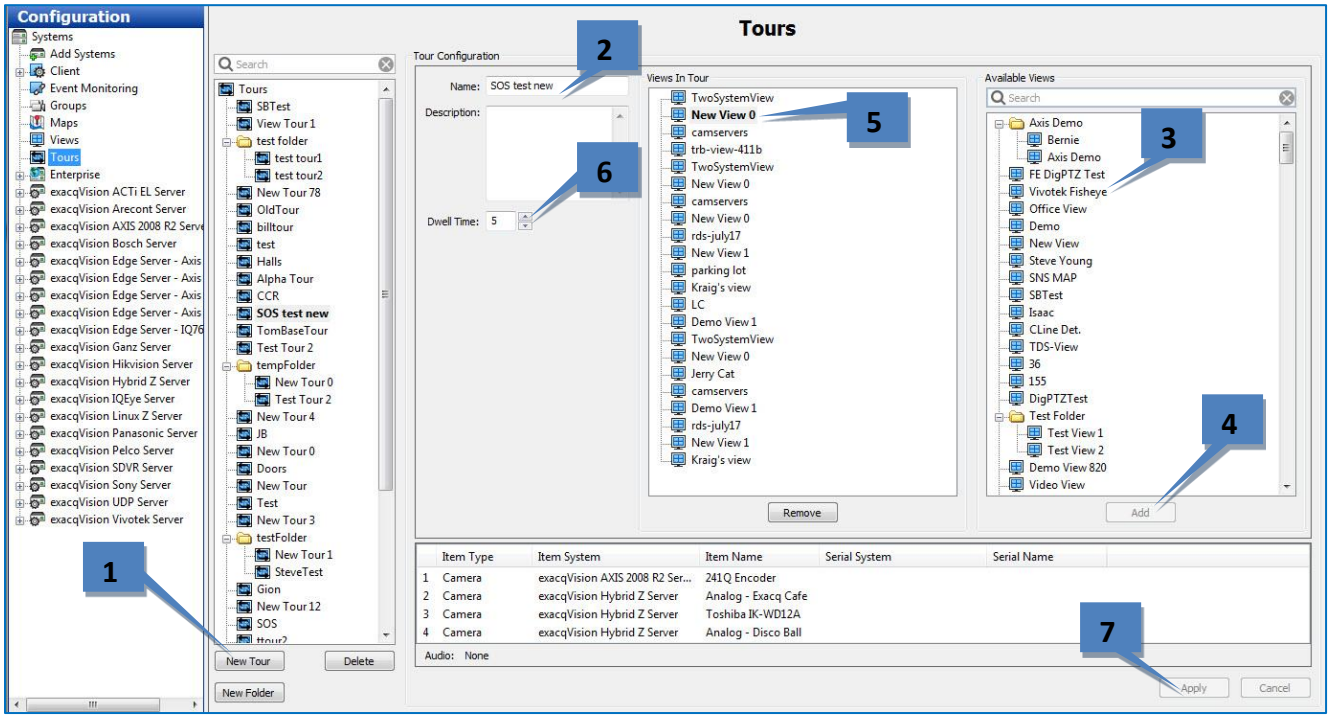


The Views page allows you to do the following:

1. Create a new view. On exacqVision Pro and Enterprise systems, make sure you select System Views, User Group Views, or User Views in the list of views (1a) before clicking New.
2. Enter a name or description for the selected view.
3. Select a video window layout for the selected view.
4. Browse a list of cameras, groups, and maps and then drag and drop them into the selected view.
5. Add an Event Monitor profile to the selected view by right-clicking the video window and selecting Event Monitor from the pop-up menu.
6. View a list of items in the selected view and the system that they are associated with.
7. Create a new folder. You can then drag and drop existing views into the folder.
8. Click Apply after you have finished configuring each view as desired.

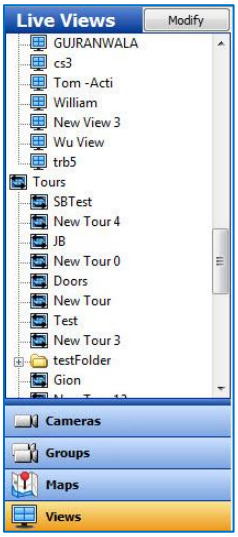
Tours

The Tours page allows you to configure an automated tour of camera views.



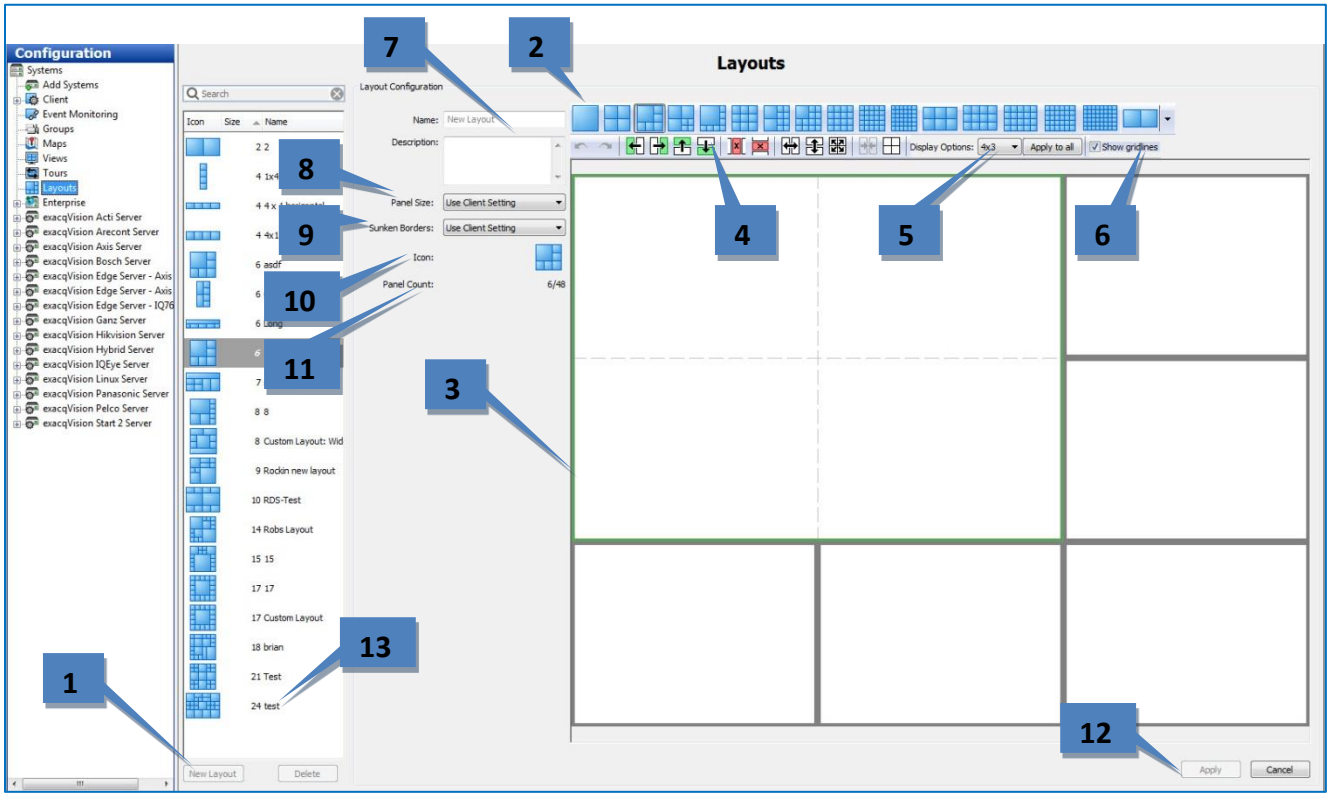
1. Click New Tour.
2. Enter a unique name and description for the tour.
3. Select a view from the Available Views list.
4. Click Add to include the view in the Views In Tour list. Repeat for additional views.
5. Drag and drop views to change their order in the list.
6. Select a Dwell Time. This is the amount of time, in seconds, that each view will be displayed.
7. Click Apply to save the camera view tour.

You can now activate the tour by clicking its name in the Live Views section of the site tree.



Layouts

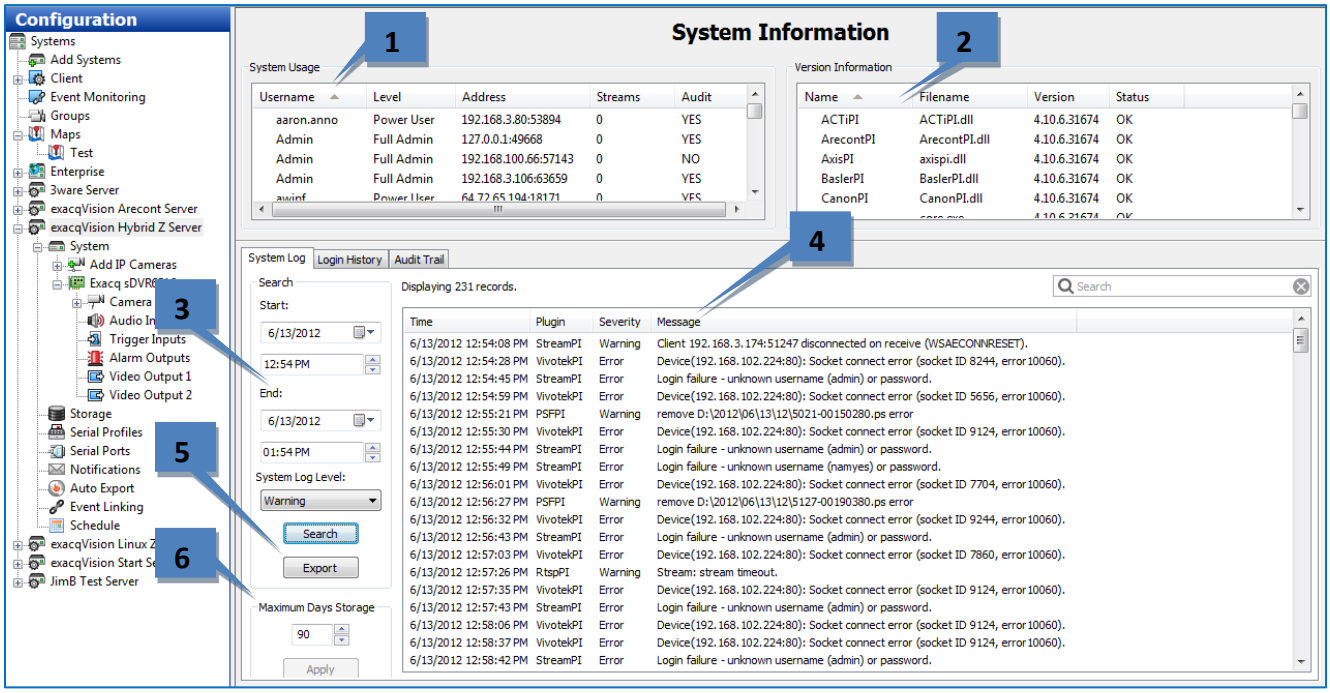
The Layouts page allows you to create custom video window layouts for use on the Live Page. Several basic layouts, such as 1x1, 2x2, and so on, are already available by default. Layouts are limited to a maximum of 48 panels. You can save and search camera views in a custom layout the same way as with default layouts.



To create a custom video window layout, complete the following steps:

1. Click New Layout.
2. Select the layout button that most closely resembles the custom layout that you want to create.
3. Select a video panel, or hold the Shift or Ctrl keys and select multiple video panels. Selected panels are outlined in green.
4. Select any of the configuration buttons. (These buttons are not activated until you select one or more panels.) Hover the cursor over each button to view a description of their functions. You can add or delete columns or rows, merge or split panels, and more. You can also merge two windows by clicking a corner of a panel and dragging it.
5. For each selected panel, select the display option (4x3 or 16x9) that corresponds to the type of camera that you would normally display in the panel. To activate the selected display option on all panels, click Apply to All.
6. Select Show Gridlines to compare the size of smaller windows within a larger window.
7. Enter a name and description for the custom layout.
8. Select the size of the entire layout from the Panel Size drop-down list. You can choose 4x3, 16x9, or use the setting automatically selected by the client based on the client window.
9. Select whether you would like to show or hide sunken borders, or automatically use the setting selected on the Client page.
10. The Icon indicator shows what the layout icon will look like on the Live Page.
11. Panel Count shows how many panels are included in the layout out of the maximum (48).
12. Click Apply to save the layout.
13. To edit a custom layout, select it from the layout list.

System Information

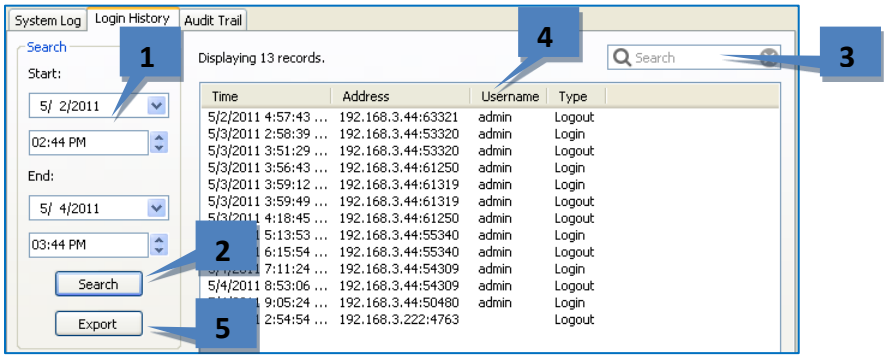


The System Information page displays information about users that are currently logged into the system, plugin file version information number and status, and the system log. This page is displayed when you click on the system name in the Configuration tree.

1. System Usage displays the users that are currently logged in, the user's access level and IP address, and the number of streams being viewed.
2. Version Information displays the version numbers for each exacqVision system file. This information can be useful when contacting technical support.
3. To view the system log, select the start and end date and, select the type of messages you want to see from the Level drop-down list, and click Search. All messages that meet the search criteria are listed.
4. To sort the list, any of the column titles.
5. To view the system log with a text editor, click Export and save the file. Then you can open the file from the location where you saved it.
6. Maximum Days Storage determines the maximum number of days that information is maintained in the system log.

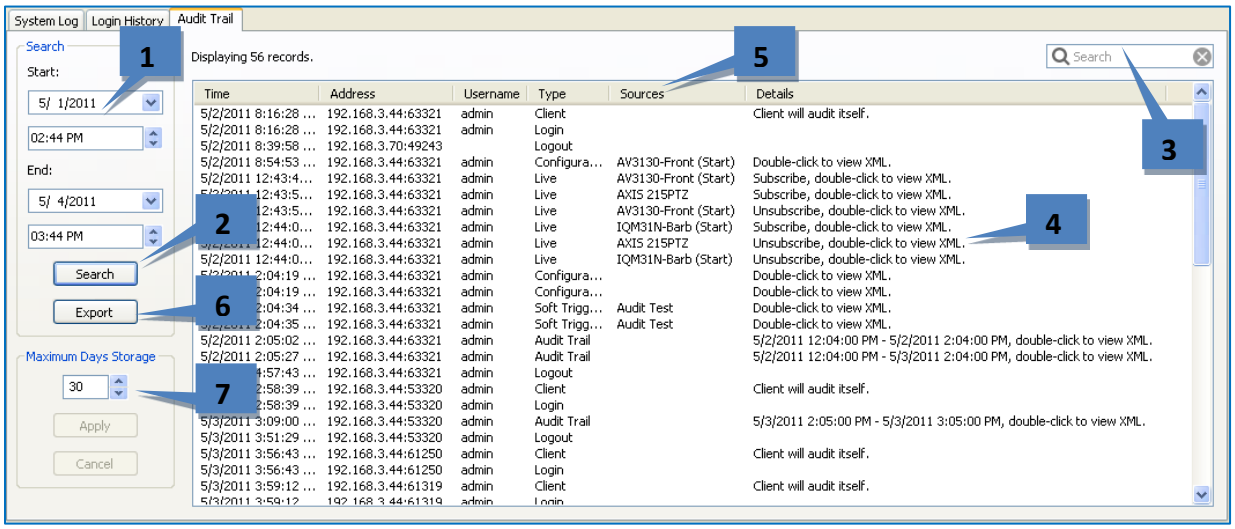
NOTE: If you cannot see all the fields and buttons on the System Log tab, drag the horizontal bar under the System Usage section up.

The System Information page also includes a Login History tab and an Audit Trial tab when you are connected to a compatible system (not available in exacqVision Start).



To view the login history for the system, complete the following steps:

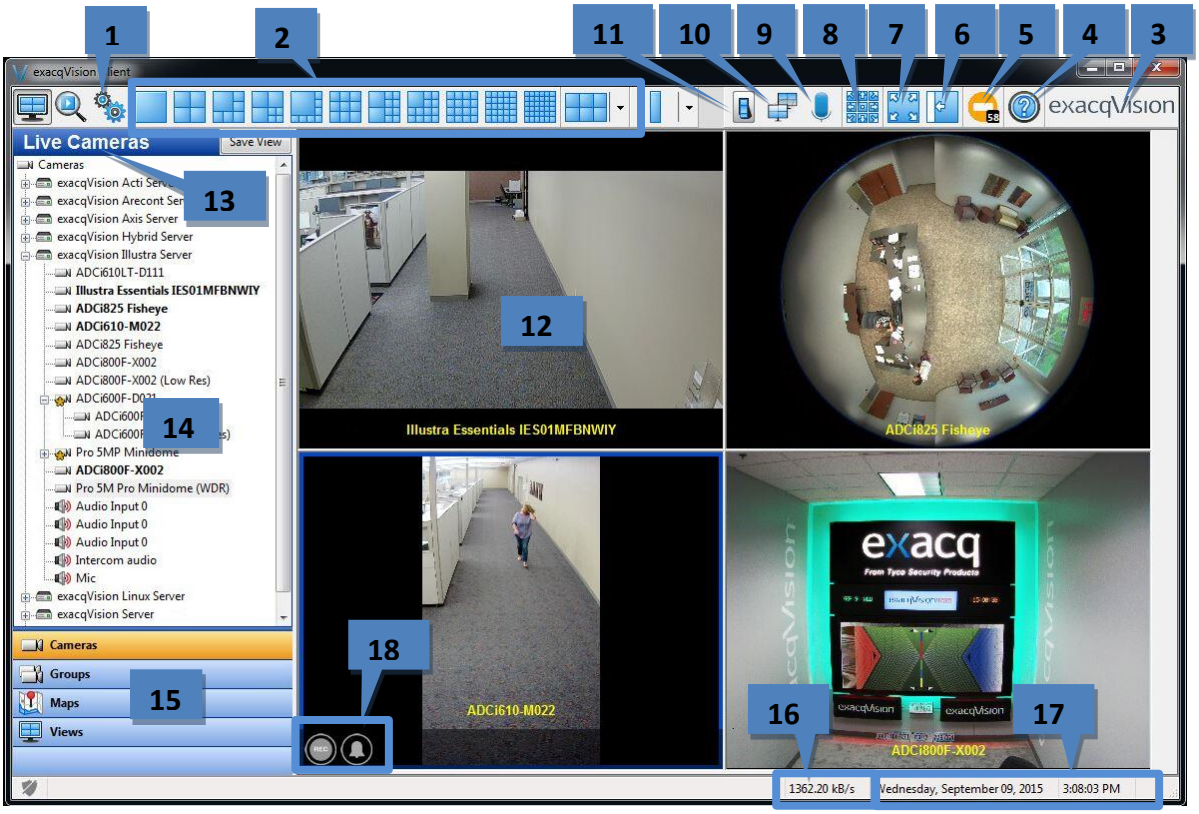
1. Select a start date and time and end date and time.
2. Click Search to list all login and logout actions in that time range.
3. To filter the list, enter a word in the Search column. Only actions containing the word are then displayed.
4. To resort the list, click any column title.
5. Click Export to save the information as a separate log file.



To view an audit trail of various actions that have been performed on the system, complete the following steps:

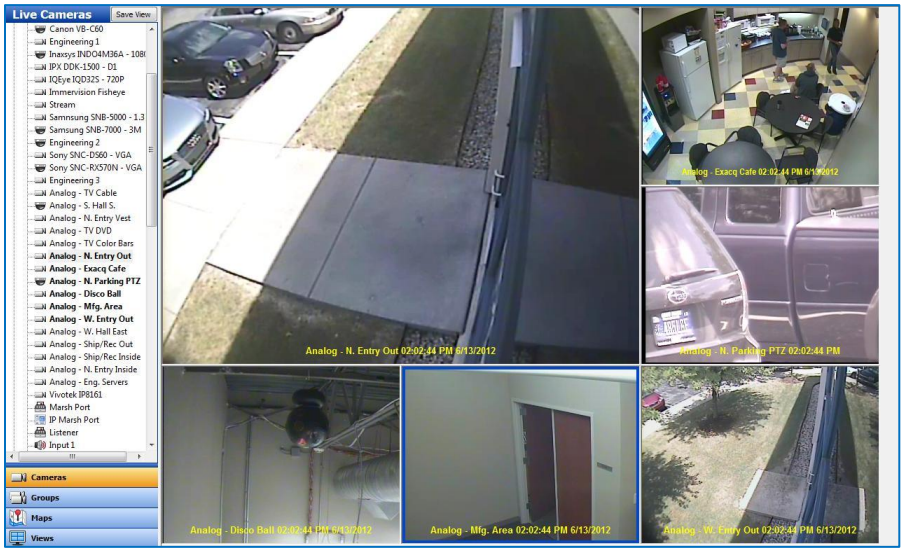
1. Select a start date and time and end date and time.
2. Click Search to list all login and logout actions in that time range.
3. To filter the list, enter a word in the Search column. Only actions containing the word are then displayed.
4. To view an action in XML, double-click its entry.
5. To resort the list, click any column title.
6. Click Export to save the information as a separate log file.
7. Select the maximum number of days that the actions should be stored on the system and click Apply.

5 Live Page Overview



1. **Live Page Icon.** This button opens the Live Page.
2. **Video Window Formats**. Select a video window layout. (Options vary based on settings on Client page.)
3. **About exacqVision Client**. View version information and update the client software.
4. **Help.** Open context sensitive HELP, visit the Exacq Knowledge Base, and more.
5. **Indicators.** - Shows list of helpful tips, warnings and errors.
6. **Hide/Show Navigation Panel**. Expand or hide the tree. (Or press the F4 key.)
7. **Fullscreen Mode**. Enlarge the display by hiding the title and task bars. (Or press the F11 key.)
8. **Launch PTZ Controls.** Open the PTZ Control window.
9. **2 Way Audio.** - Allows user to send audio to a supported 2 way audio camera or device.
10. **VideoPush.** Send a view or layout to another client on the same network (exacqVision Enterprise only).
11. **Soft Triggers**. Display the status of any soft triggers on connected exacqVision servers.
12. **Video Windows**. View video in these panes or layouts.
13. **Live Cameras Sort Button.** Click Live Cameras to sort devices on each server A to Z, Z to A, or as added.
14. **Site Tree.** Browse exacqVision systems, cameras, PTZ cameras, alarms, audio inputs, and more.
15. **Navigation Pane.** Select a button to display cameras, views, maps, groups and more.
16. **Throughput.** - Click to cycle among throughput (kB/s), displayed fps, decompressed fps, and received fps.
17. **Date and Time**. See the current date and time on the client computer.
18. **Associations**. Controls that have been associated with each camera are displayed as icons in an overlay.

Layout Panel

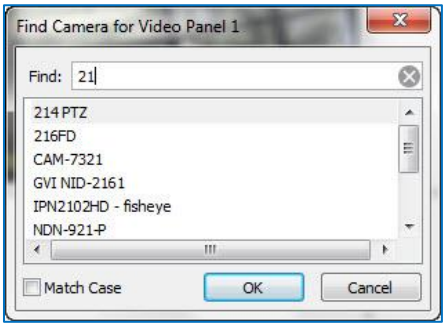


You change the layout of the video windows by clicking on one of the Layout buttons. When you select a layout, it becomes the new default. The system automatically fills the video windows with the cameras from your Live Site Tree in the order they are listed.

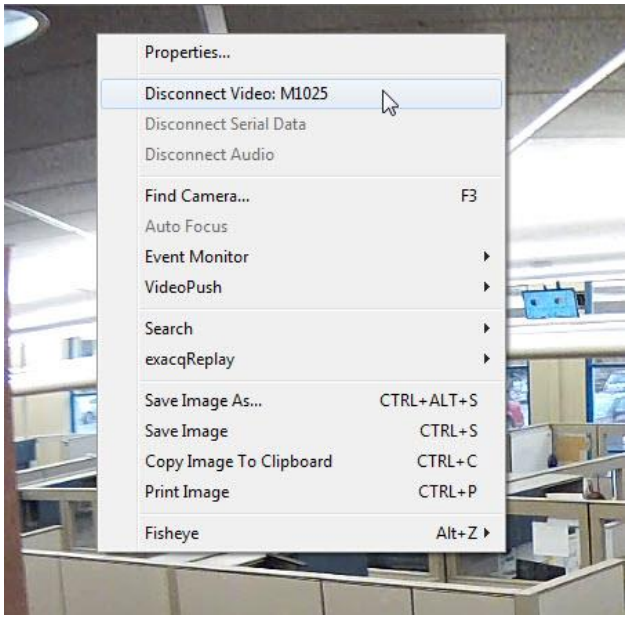
NOTE: The available Layout buttons vary based on the number of cameras connected and the width of the exacqVision Client window.

There are several methods for adding cameras to your Video View Panel.

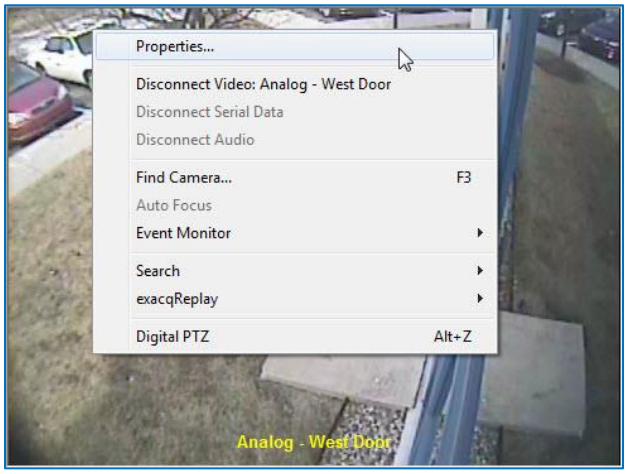
- Select a Layout button on the Toolbar.
- Double-click a camera name listed in the site tree. The system displays that camera in the upper-left video and fills the rest of the windows in order below that camera in the list.
- Drag and drop a camera from the site tree into a video window. The window can be empty or currently displaying video when you do this.
- Drag and drop a server name into the layout panel. If the layout includes six video windows, the first six cameras from the server will be displayed.
- Press F3 or the joystick button to display the Find Camera dialog. Start typing the name of a connected camera, select the camera when you locate it in the list, and click OK. This feature works best when cameras are uniquely named. For example, if camera names start with numerical characters (such as 1-Front Entrance, 2-Back Entrance, and so on), you can quickly find a camera by simply entering one or two numbers in Find Camera.

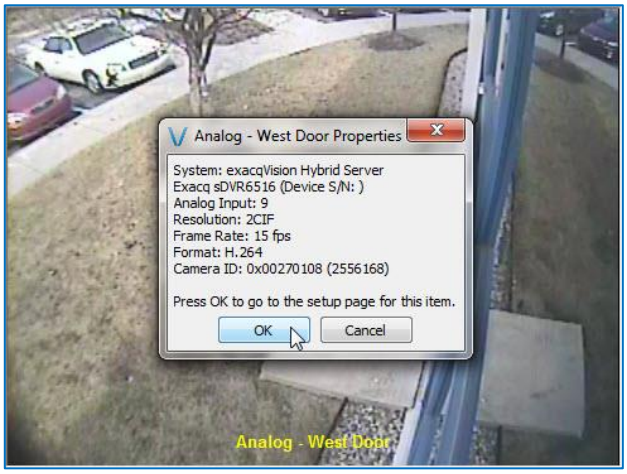


You can delete a camera from the Video View Panel by right-clicking anywhere in the square and selecting Disconnect Video from the pop-up menu. The menu also includes options for saving, copying, and printing images. (Additional features on this menu are explained in other sections of this manual.)



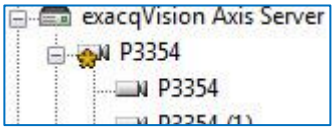
The Properties menu item allows you to access the Camera Settings page directly from Live Page. Click the OK button in the window that appears.





NOTE: To view the video window panel in the largest area possible, press Alt and Enter simultaneously on the keyboard. This combines the previously mentioned keyboard functions (F4 to hide the navigation tree and F11 to hide the title and task bars) with the F8 function, which hides the message bar, the date/time bar, and the toolbar. To reverse this mode and show all the hidden items, press Alt+Enter again.

NOTE: Some cameras configured for multistreaming have a yellow star indicator in the site tree. This indicates that the camera's streams have the same view but are configured with a different quality, frame rate, resolution, or format.

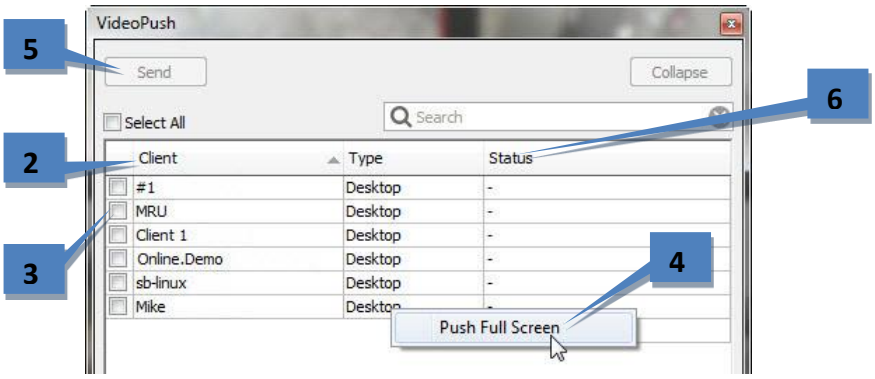


VideoPush

NOTES: VideoPush is available only in exacqVision Enterprise. An exacqVision Enterprise client on the same network must be configured to receive VideoPush before this feature is available. To enable VideoPush on the target client, open the Client page on that system and select the Enable Receiving Display checkbox.

VideoPush allows you to send groups, views, layouts, and more to another client on the same network. This can be a useful feature for public-view monitors or video walls that do not have a keyboard and mouse connected. To use VideoPush to send views and more to another client, complete the following steps:

1. Click the button to open the VideoPush window.



2. A list of available clients is displayed.
3. Select the checkbox for one or more target clients (or Select All). Each client must be connected to the servers associated with the items being sent.
4. To send items in full-screen mode, right-click the target client and select Push Full Screen.
5. Click Send to copy the current view to the selected client. Alternatively, you can drag any item or group of items from the site tree directly onto the client's name in the VideoPush window and then click Send.
6. The Status column displays information about whether the VideoPush was successfully executed. If a target client is not connected to a system associated with one or more sent items, it will not receive those items. The Status column will indicate how many items were received successfully by that client.

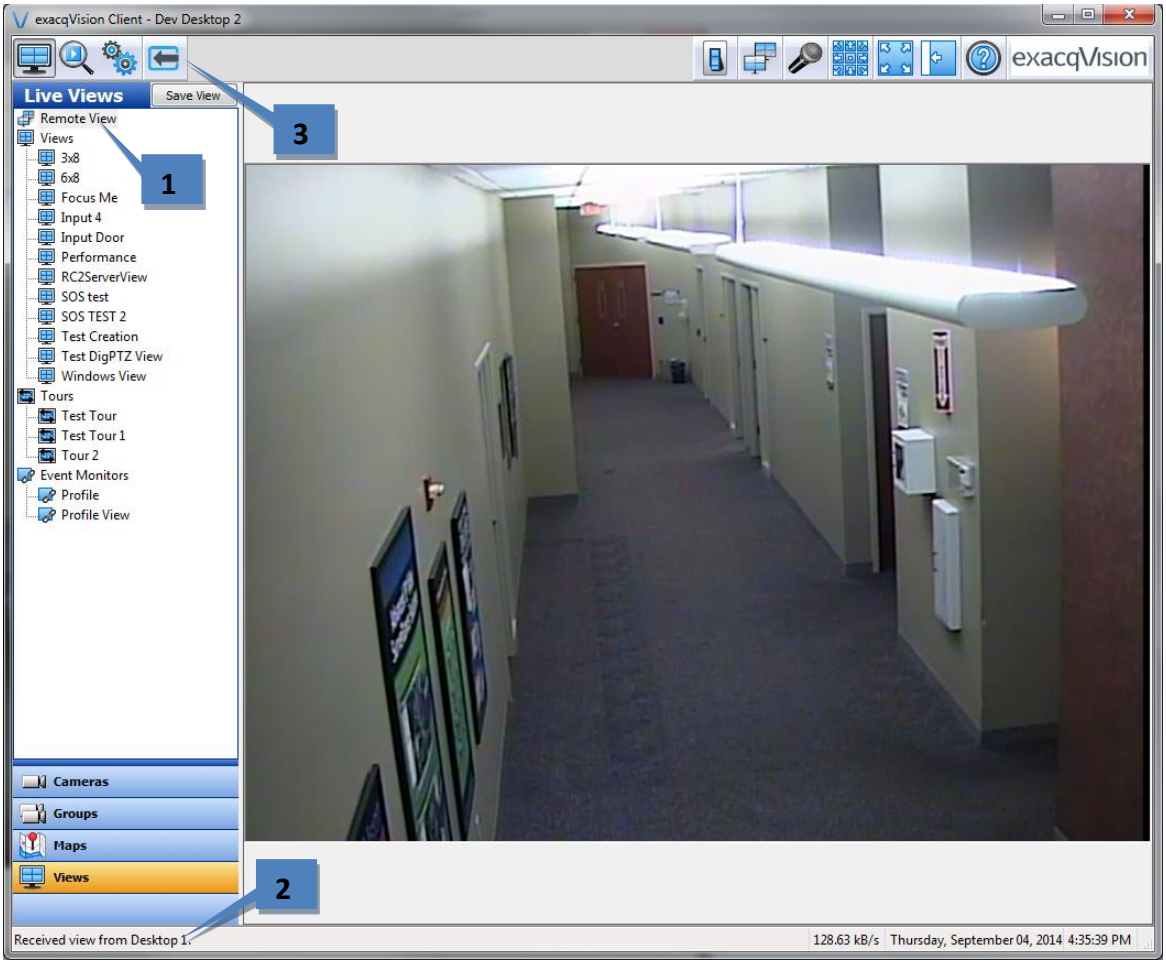
See the next page for an explanation of what the target client displays when it receives a VideoPush.

ADDITIONAL NOTES:

- You can send groups, views, layouts, individual cameras, entire systems, maps, tours, and profiles using VideoPush.
- If you simply want to send a currently displayed video window or layout without dragging items from the site tree, right-click the video window and select VideoPush. Then select Video or Layout from the pop-up menu.
- If you will be sending a VideoPush to a public-view monitor or video wall, it is recommended that you configure exacqVision Client to run on system startup on the target client. This option can be enabled during client installation.
- By default, Power Users and Full Admin users can execute a VideoPush. Any user with lower permission levels must specifically be granted access to VideoPush in Custom User Privileges before using the feature.
- The Collapse button reduces the size of the VideoPush window if it is covering video windows that you want to see. All clients that were selected before you clicked Collapse remain selected in the smaller screen, even though you cannot see the list.
- You can configure a VideoPush event button and then drag and drop cameras onto the button to push the video.

If the VideoPush is successfully received by the selected client, the following occurs on the target client's screen:

1. The target client displays the sent items, which are also listed in the Views panel as a Remote View. You can hover the mouse over the Remote View entry to see who sent it.
2. A brief message also appears in the status bar indicating that the items were received.
3. The target client user can click the back arrow or press the backspace key to return to the display that was active before the remote view was received.

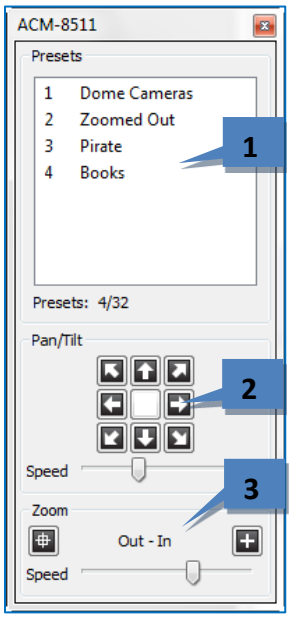


PTZ Control

Mechanical PTZ

To control the pan/tilt/zoom features of a PTZ camera without a joystick, move the mouse cursor over the camera's video window to display a green cross in the center of the window. When you move the cursor, arrows appear that show you which way you can pan and tilt. You can zoom in and out using your mouse wheel.

Or click the PTZ Control Button in the toolbar to display the PTZ Control panel: .. This panel is available only when a PTZ-enabled camera is displayed in a video window.



1. To move a camera to a preset, click the preset name.
2. To control pan and tilt, click the arrow buttons. Adjust the pan/tilt Speed slider if necessary.
3. To control zoom, click the Out or In button. Adjust the zoom Speed slider if necessary.

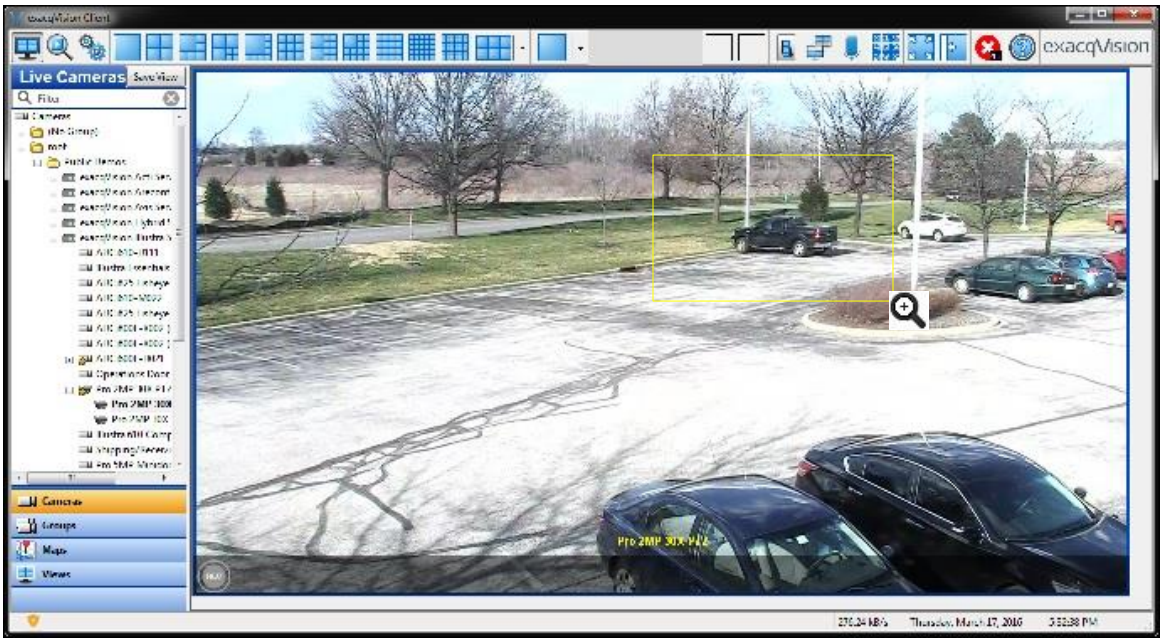
- Some cameras also provide iris and focus control (usually analog PTZ cameras).

You can also control PTZ using the keyboard. The arrow keys move the camera to the left, right, up, and down. Page Up zooms in, and Page Down zooms out.

NOTE: User-initiated PTZ commands have a higher priority than event linking PTZ commands, and both have a higher priority than PTZ preset tours. If two or more of these types of PTZ commands occur simultaneously, the command with the highest priority occurs and the other commands are ignored for the amount of the Resume Time configured in the PTZ Settings window available through the camera's setup page.

Area Zoom

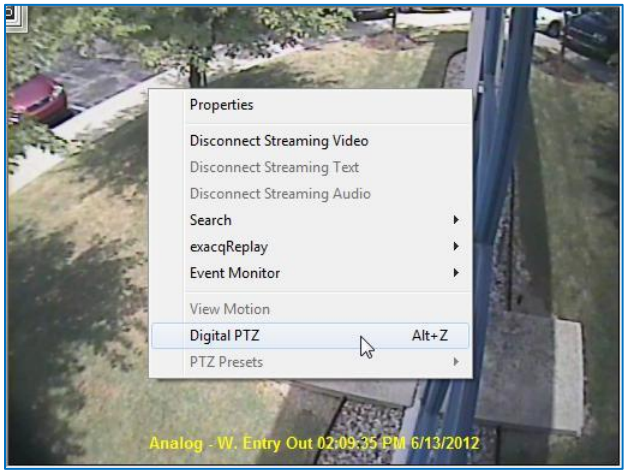
Area Zoom is a feature that lets you draw a box on a camera in live view and zoom directly to that box. To do this, hold the **Ctrl** key and do a **left click** and drag to draw a box on the video. You'll notice your icon turns into this magnifying glass. When you let go of the mouse button the camera will zoom to the box. This feature is only available on some camera brands. This feature is illustrated by the two screenshots below. The camera zoomed to the yellow box

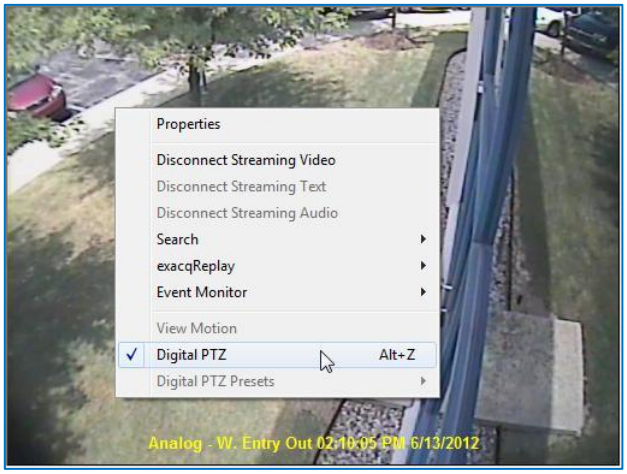


Digital PTZ

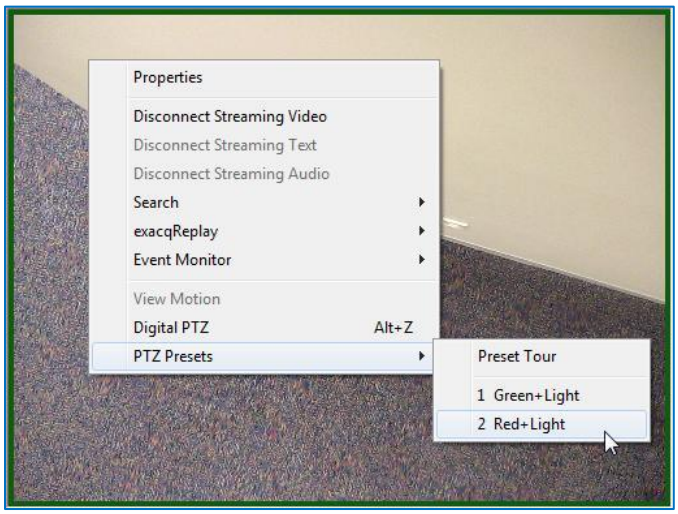
Digital PTZ allows you to zoom in and pan within the resolution of an image (if digital PTZ has not been disallowed during setup). To enable digital PTZ, right-click the video window and select Digital PTZ.

NOTE: On supported fisheye-enabled cameras, Digital PTZ is replaced by a Fisheye menu that can be used to de-warp video.





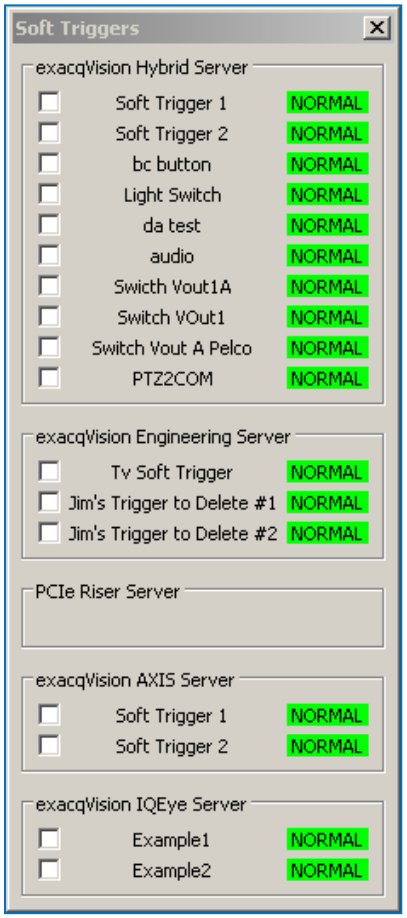
For directions on how to set up a Preset button, the “Camera Settings” section of this manual. In addition to calling presets using the PTZ/preset panel, you can use your mouse to access the PTZ presets by right-clicking anywhere in the camera’s video window, selecting PTZ Presets, and then selecting the name of the preset.



Event Buttons

Your exacqVision system allows you to activate soft triggers from the client screen to trigger events defined in Event Linking. This can include activating outputs, activating Auto Export, or recording video.

After you have set up a soft trigger, a Soft Trigger icon appears in the toolbar at the top of the Live Panel screen. Click the icon to access the Soft Trigger window.



To activate any of the preset soft triggers, select the corresponding checkbox. Notice that status changes from Normal (green) to Alarm (red), indicating that the soft trigger has been activated. To deactivate the soft trigger and return to a normal status, deselect the checkbox.

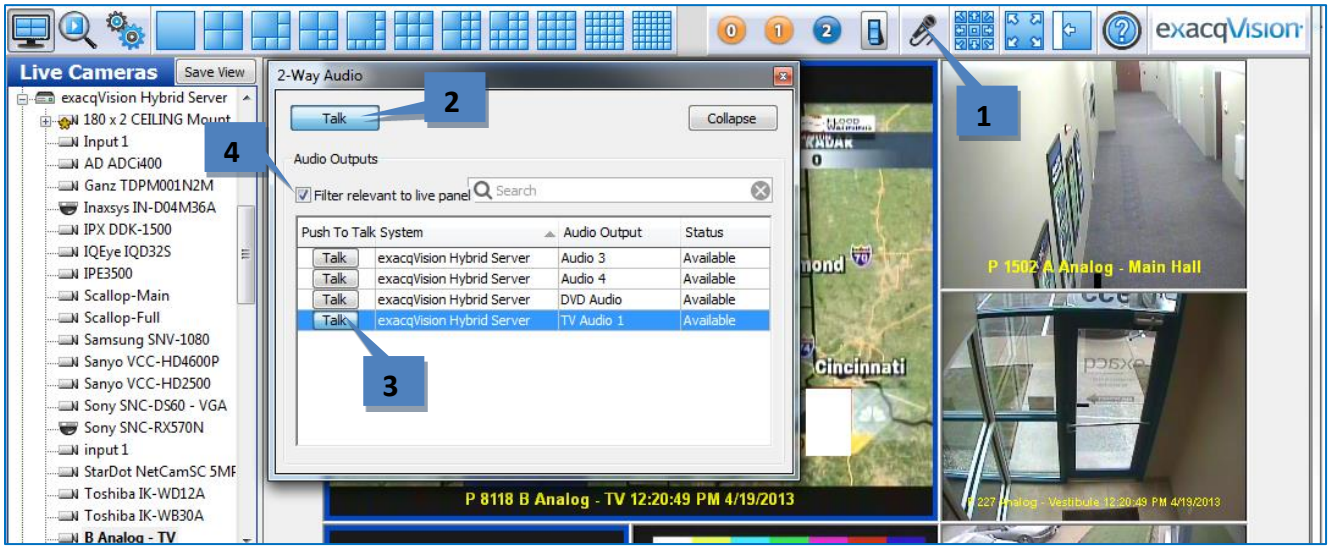
Alternatively, you can also create one or more soft trigger shortcuts using the Event Button feature on the Client page on the Config (Search) page. See the Client section of this manual for detailed instructions.

2-Way Audio

NOTE: 2-way audio is not available in exacqVision Start.

2-way audio allows you to send audio through the system's audio out connector. To use 2-way audio, complete the following steps:

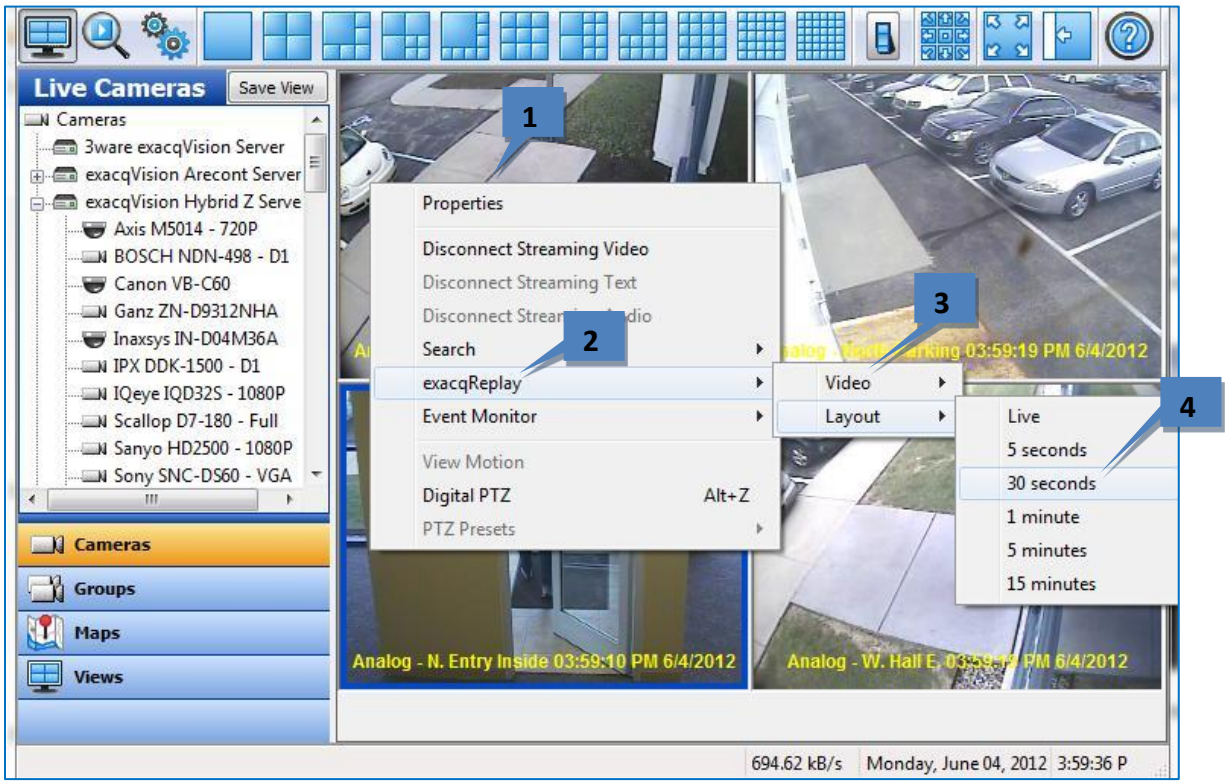
1. Click the audio out icon to display the 2-Way Audio window.
2. Click the main Talk button to open an audio channel on all available outputs.
3. Click a talk button to open an audio channel on any individual output.
4. Select Filter Relevant to Live Panel to display only the audio outputs on servers associated with the cameras displayed in the live video windows.



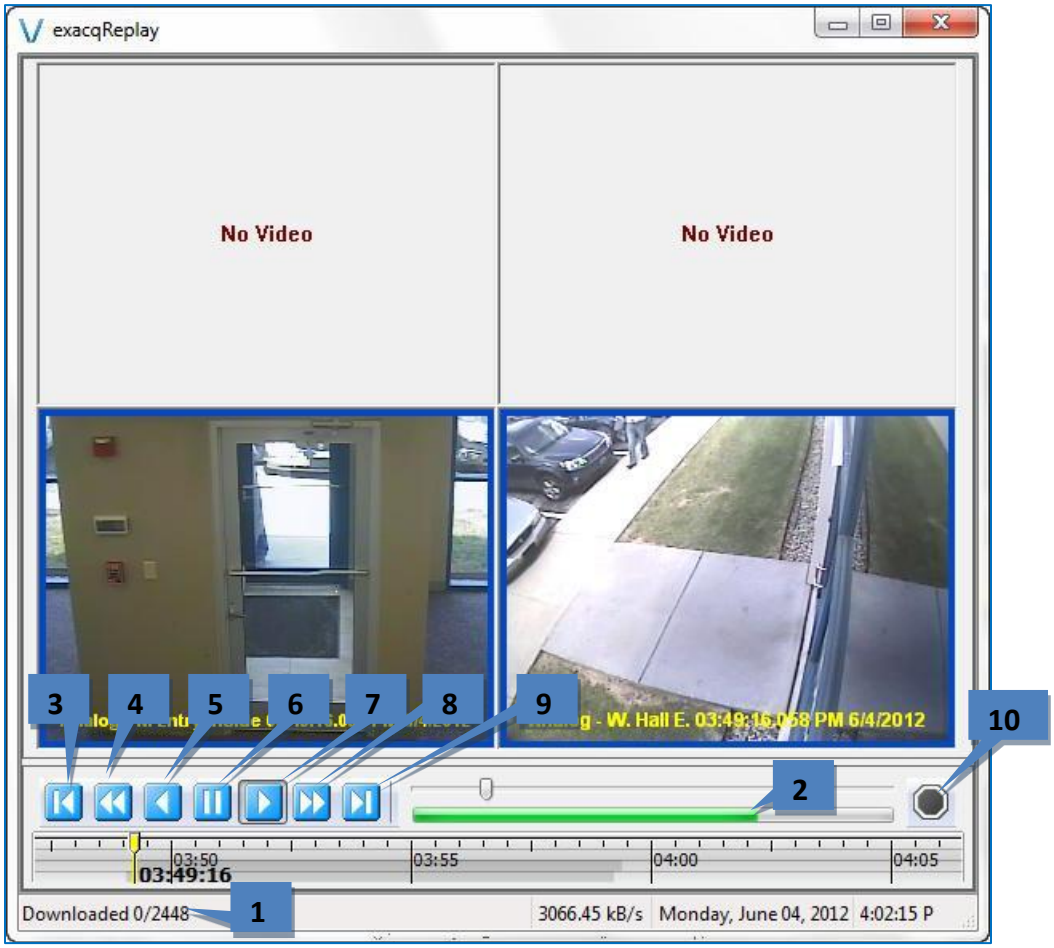
exacqReplay

exacqReplay allows you to quickly replay a limited amount of recorded video from a single camera or all cameras that are currently being viewed. You can review the most recently recorded video in increments of 5 or 30 seconds or 1, 5, or 15 minutes. To do this, complete the following steps:

1. Right-click the camera's video window.
2. Select exacqReplay from the pop-up menu.
3. Select whether you want to replay video from the selected video window or from all windows in the current layout.
4. Select the desired time increment.



If video was recorded in the selected time period, the exacqReplay window opens and the video is downloaded.



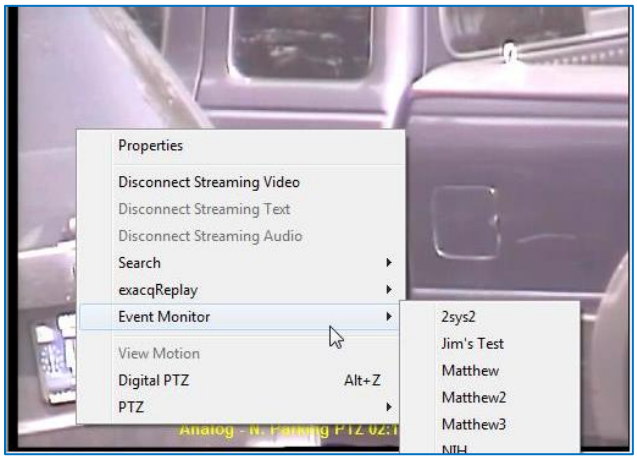
1. The number of downloaded frames and total frames in the video segment are displayed in the status bar.
2. The green bar tracks the download progress. You can play and scrub through video that has been downloaded.
3. This button allows you to play video backward one frame at a time.
4. This button allows you to play video in reverse fast (double) speed.
5. This button allows you to play video in reverse in normal speed.
6. This button allows you to pause video play.
7. This button allows you to play video forward in normal speed.
8. This button allows you to play video forward in fast (double) speed.
9. This button allows you to play video forward one frame at a time.
10. This button allows you to stop the video download in progress.

NOTE: Live Page also allows you to run a quick search of video from the currently selected window or from all displayed video windows. To run a search from Live Page, right-click a video window, select Search from the pop-up menu, and select whether you want to search for video from the selected window or from all windows in the current layout. This procedure opens the Search Page with results from the last two hours from the selected camera or cameras. For more information on the Search Page and other methods for searching for video, see the “Search Page Overview” chapter.

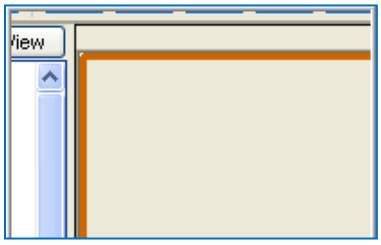
Live Event Monitoring

NOTE: Live Event Monitoring is not available in exacqVision Start.

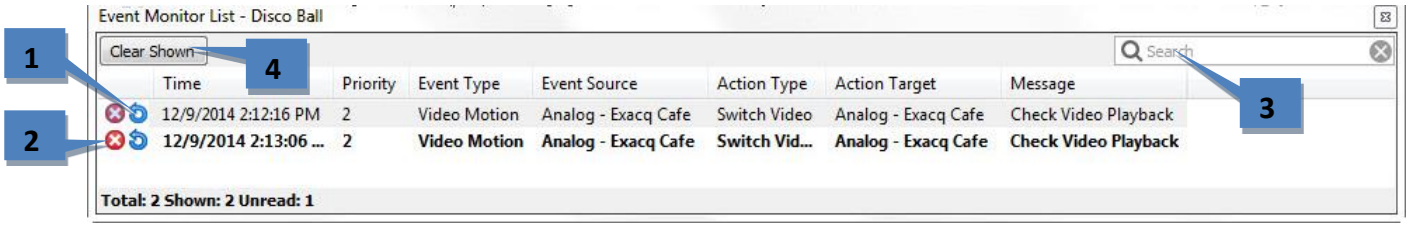
Event Monitoring allows you to view events that have been detected. To do this, right-click a video window, select Event Monitor, and then select the event profile you want to view.



This displays an orange border around the video window; video is not displayed in the window until an event triggers.



You can stop the Event Monitoring display by right-clicking in the active video panel and disabling the active event monitoring profile. If you configured your profile to Show Event Monitoring List, the Event Monitor box appears below this video window (you can move it and resize it as needed). When a video event takes place, it is automatically listed in the box until you confirm it or its timeout range expires. Click an event line to display video from the associated camera.



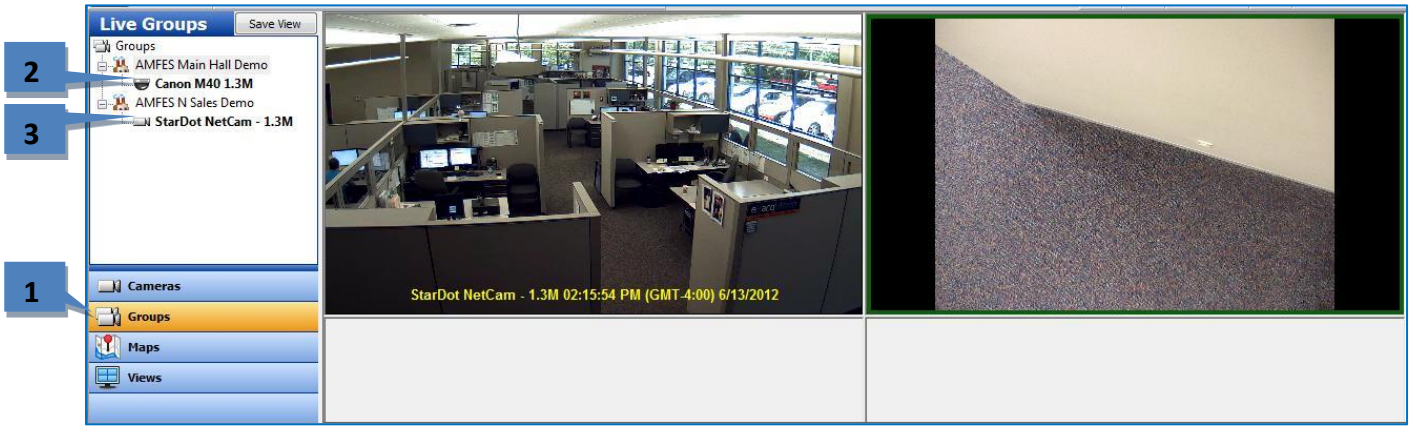
1. Click the blue replay button to replay the event as it was triggered.
2. Click the red X to acknowledge the event and remove it from the list.
3. Filter the list by typing any portion of the displayed text in the Search box.
4. Click Clear Shown to clear all events shown in the list. If the list is filtered, only the events matching the filter are cleared.

If you configured your profile in Virtual Matrix Mode, you will not see an Event Monitor box as motion triggers recording. Instead, the video is automatically displayed as motion occurs.

Camera Groups

NOTE: Camera Groups are not available in exacqVision Start.

exacqVision allows you to organize your cameras into groups that allow you to efficiently view the cameras in the order you choose regardless of how they are listed in the site tree. (See the "Groups" section of this manual for details on creating camera groups.)

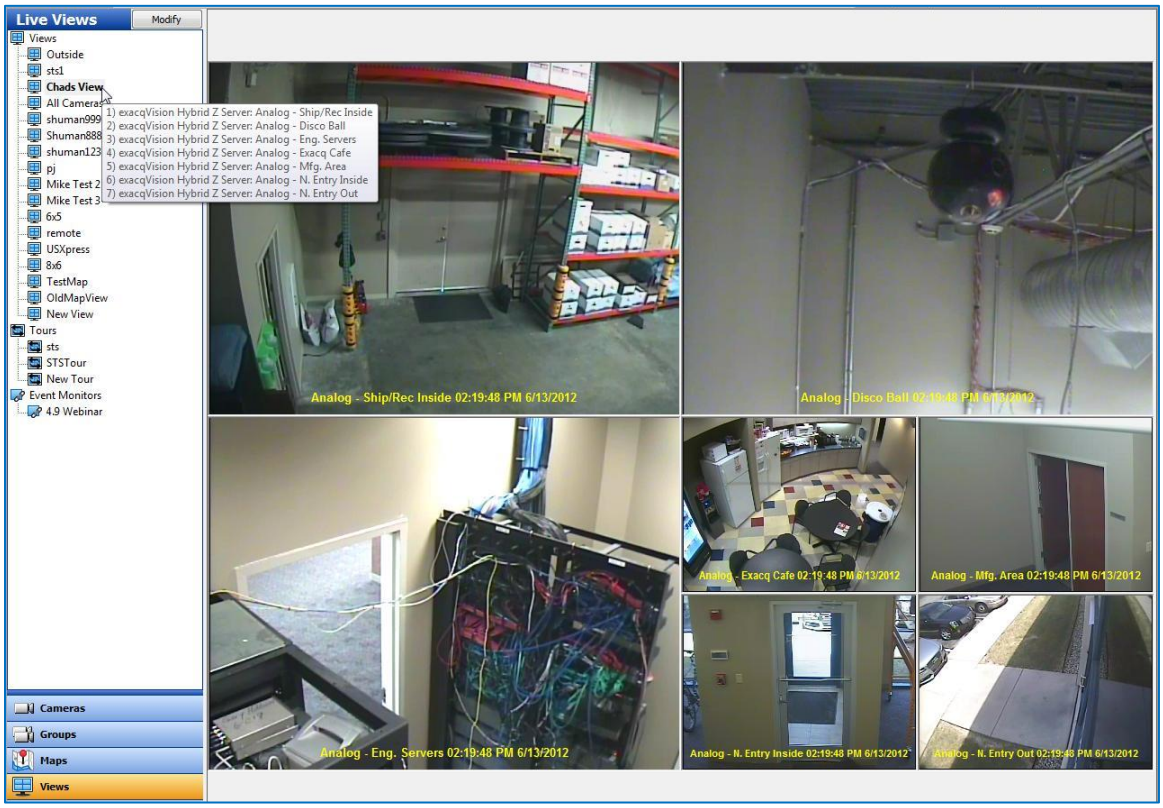


1. To view video from the cameras in the group, click the Groups button in the Navigation Pane.
2. Double-click the first camera in the group to quickly display cameras from the entire group.
3. If the video window layout contains more windows than there are cameras in the group, the first cameras from the next group in the list are shown in the remaining windows.

Camera Views

To display a view in the live video windows, click the Views button in the Navigation Pane.

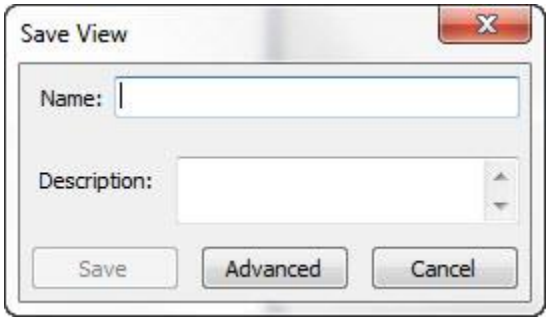
This displays all configured views and view tours in the site tree. Select the view to display video from the cameras saved in the view. Notice how the camera names and systems included in the view are displayed when you hover over the view name in the site tree.



My Event Monitors is a list of profiles created on the Event Monitoring page. These profiles normally display a default view or tour. Whenever an event associated with the profile occurs, the view or tour selected as the Action Target on the Event Monitoring page is automatically displayed in place of the selected view.

You can also create views directly from the site tree. To do this, select a Layout button in the Live mode and drag the cameras, audio, and POS data into the video windows, then click the Save View button at the top of the site tree.

This opens the Save View window. Enter a name and description and click Save.



You can further configure a view by opening the Views page in one of the following ways:

- In the Save View window, click Advanced.
- Select a view in the Live Views panel and click Modify.

For more information about the Views page, see the "Views" section in the Config (Setup) Page Overview chapter.

Live Maps

NOTE: Live Maps are not available in exacqVision Start.

Live Maps allows you to manage your cameras and devices using a graphical representation of their physical location.

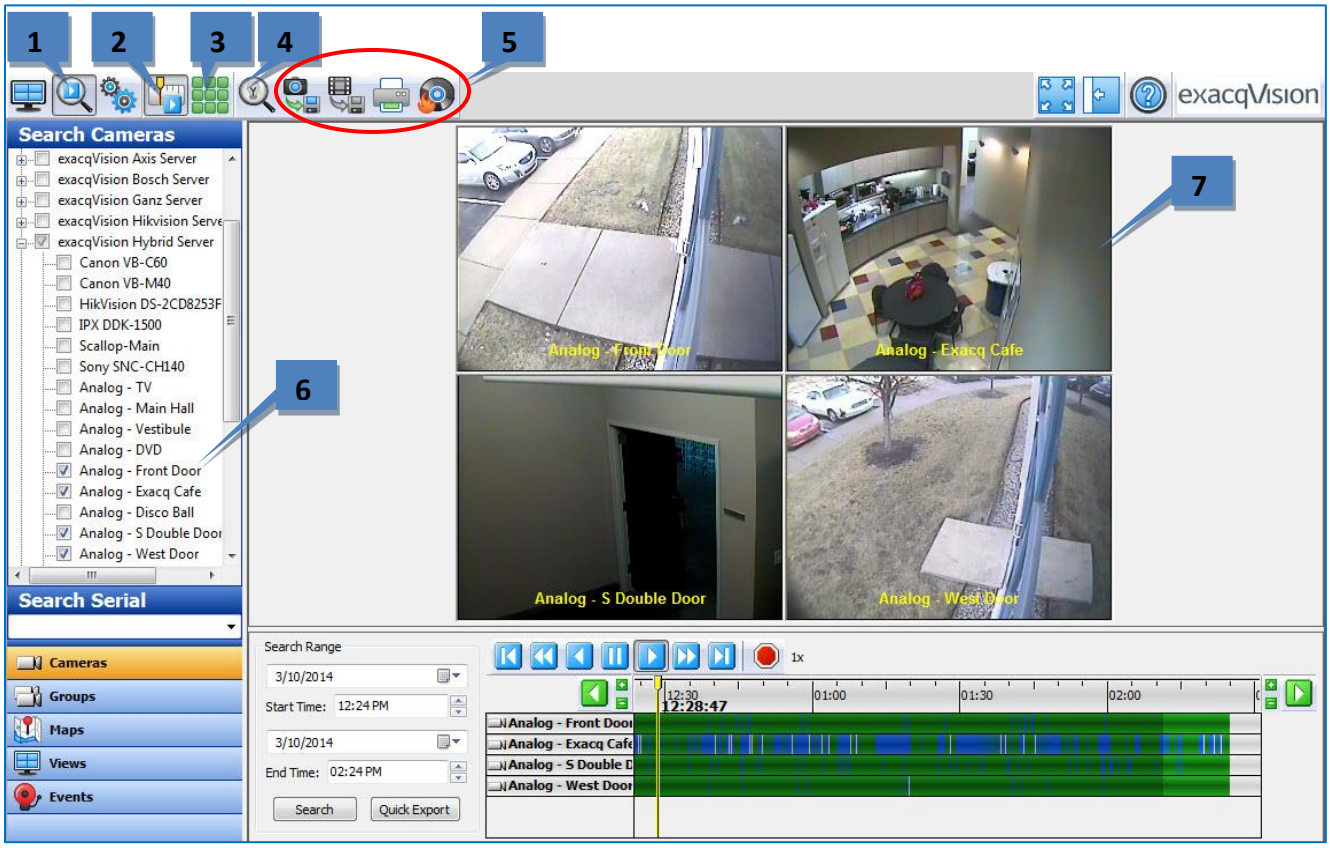
Live Maps allows you to select from a list of maps that you have imported into exacqVision. When you select Maps from the navigation pane, all the maps that you have entered are listed, organized based on parent and child maps.

1. To display a map in the video view panel, double-click its name in the list or drag it into a video window. The map can be displayed in 1x1 mode or with video from other cameras. A configuration with multiple windows displays video or data from as many devices associated with the map as possible in the available video windows. Multiple maps can be displayed in the same configuration.
2. Each map contains icons showing the location of devices. Camera icons change color to represent the current recording status (blue for motion, for example). You can display video or data from the device that it represents by double-clicking the icon or by dragging it to a video window. Soft trigger and alarm icons indicate the status of associated triggers and alarms; you can also activate a trigger by double-clicking it.
3. Each map can contain icons representing parent or child maps (exacqVision Enterprise only). To view a child map, double-click its icon.
4. To view a parent map, double-click the small map button in the upper-right corner of the map window.

For information on setting up maps, see the “Maps” section of this manual. For information on searching for video on devices in a map, see Searching Maps.

NOTE: Maps can be created on a client computer, but they are associated directly with all exacqVision servers that have cameras and devices associated with the map. Thus, any map that you create can be seen by other users when they are connected to any server that the map is associated with. To see which servers a map is associated with, right-click the map on the Live Maps page and select Properties. All associated servers are listed in the properties window, and you can view the setup page for the map by clicking the OK button that appears.

6 Search Page Overview

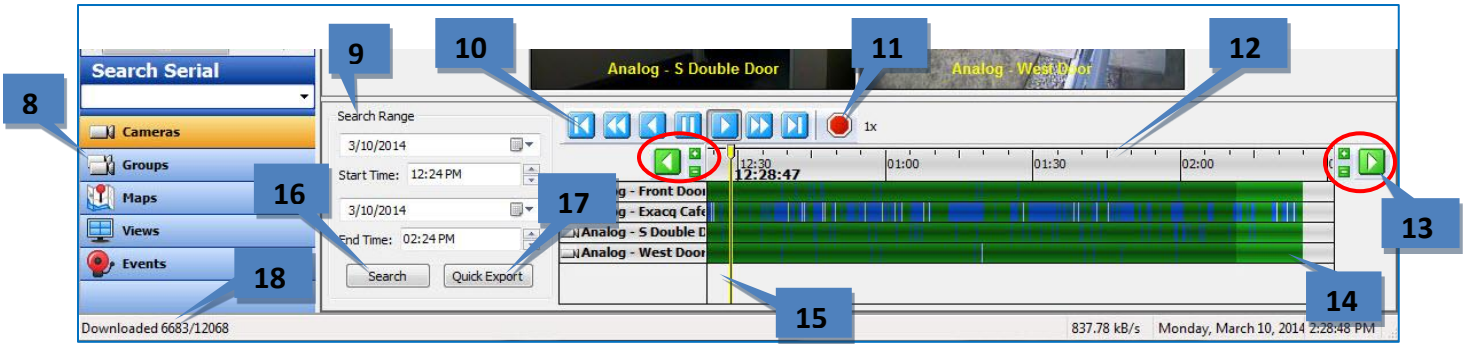


The Search Page allows you to search for recorded video, events, and other data.

1. **Search Page.** This button opens the Search Page and additional Search buttons.
2. **Timeline Search Mode.** This mode allows you to search for video from multiple cameras in a specified time range.
3. **Thumbnail Search Mode.** This mode allows you to search for video from one camera by viewing thumbnail images captured at specified intervals in a time range.
4. **Smart Search Mode.** This mode, available only in Timeline Search Mode, allows you to search for motion that occurs in specific portions of a video window. (Not available in exacqVision Start.)
5. **Export Buttons**. These buttons, available only in Timeline Search Mode, include Save Picture, Export Video, Print Picture, and Burn Saved Files to CD or DVD.
6. **Camera Selection Tree.** This allows you to select cameras, audio, or data sources to search.
7. **Video Playback Window.** Video is played back here.

   NOTE: When Thumbnail Search Mode is selected, the Smart Search and export buttons are replaced by video window layout buttons as described in the “Live Page Overview” section.

The rest of the Search Page is described on the following page.

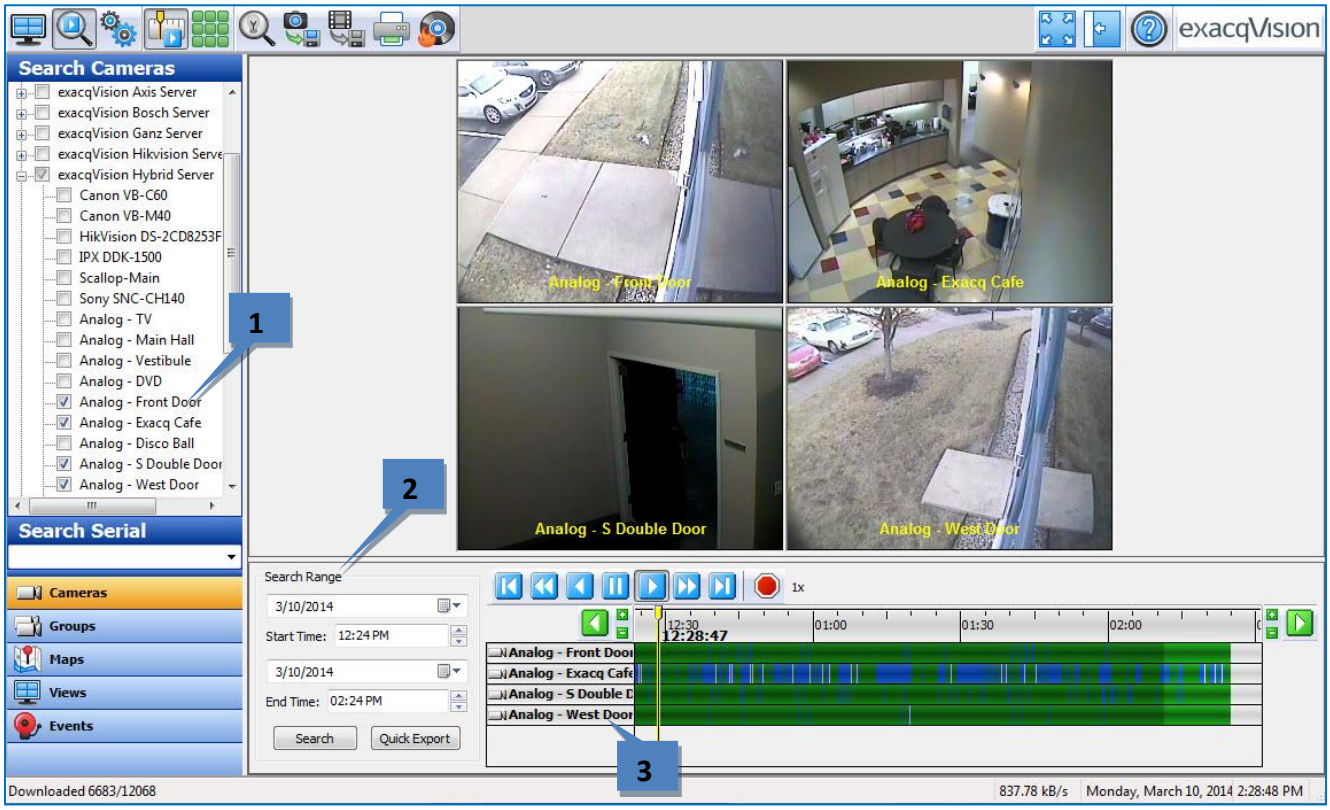


8. **Navigation Pane**. Display lists of individual cameras, camera groups, maps, views, or events to search for.
9. **Search Range**. Select a date and time for the start and end of the search period.
10. **Video Playback Controls**. Standard playback controls (left from right): step back, reverse 2x, reverse normal speed, pause, play normal speed, play 2x, step forward.
11. **Stop Download Button.** Click this button to stop downloading video. Note that the download status indicator disappears when you press this button.
12. **Video Timeline**. To expand or shrink the timeline, click the plus and minus buttons (or scroll your mouse wheel while the mouse cursor is on the timeline). To change the start or end time of the timeline, click the green left or right arrow buttons.
13. **Shift and Zoom Buttons.** Click the left or right arrows to shift the video timeline earlier or later. Click the Zoom In (plus) or Zoom Out (minus) buttons to decrease or increase the range of the video timeline.
14. **Recorded Video Bar**. These color-coded bars represent video that has been recorded.
15. **Video Cursor.** This shows where in the timeline the displayed video was captured.
16. **Search Button**. Click Search to find video based on the search settings.
17. **Quick Export**. This allows you to export video from the entire search result. If the entire result has not yet downloaded, the export occurs in a separate video window. (Serial data cannot be included in a quick export.)
18. **Download Status**. This shows you how many frames have been downloaded and the total number of frames that meet the search criteria.

Searching for Video and Other Data

Timeline Search Mode

To perform a standard timeline search for video and other data, complete the following steps:



1. In the camera, group, map, or view tree, select one or more sources (cameras, audio inputs/outputs, POS, and so on). To search every source on an exacqVision server, check the box next to the server in the Camera Selection Tree (and then deselect any sources individually if desired). You can also select individual sources using the check boxes next to each camera.

2. Select the date and time you want to search. Click Search.

   NOTE: If the client computer and a connected server are located in different time zones, the Client Time and Server Time options are also available. Search result listings are applicable to the selected time zone, and the time offset between the time zones is shown in parentheses.

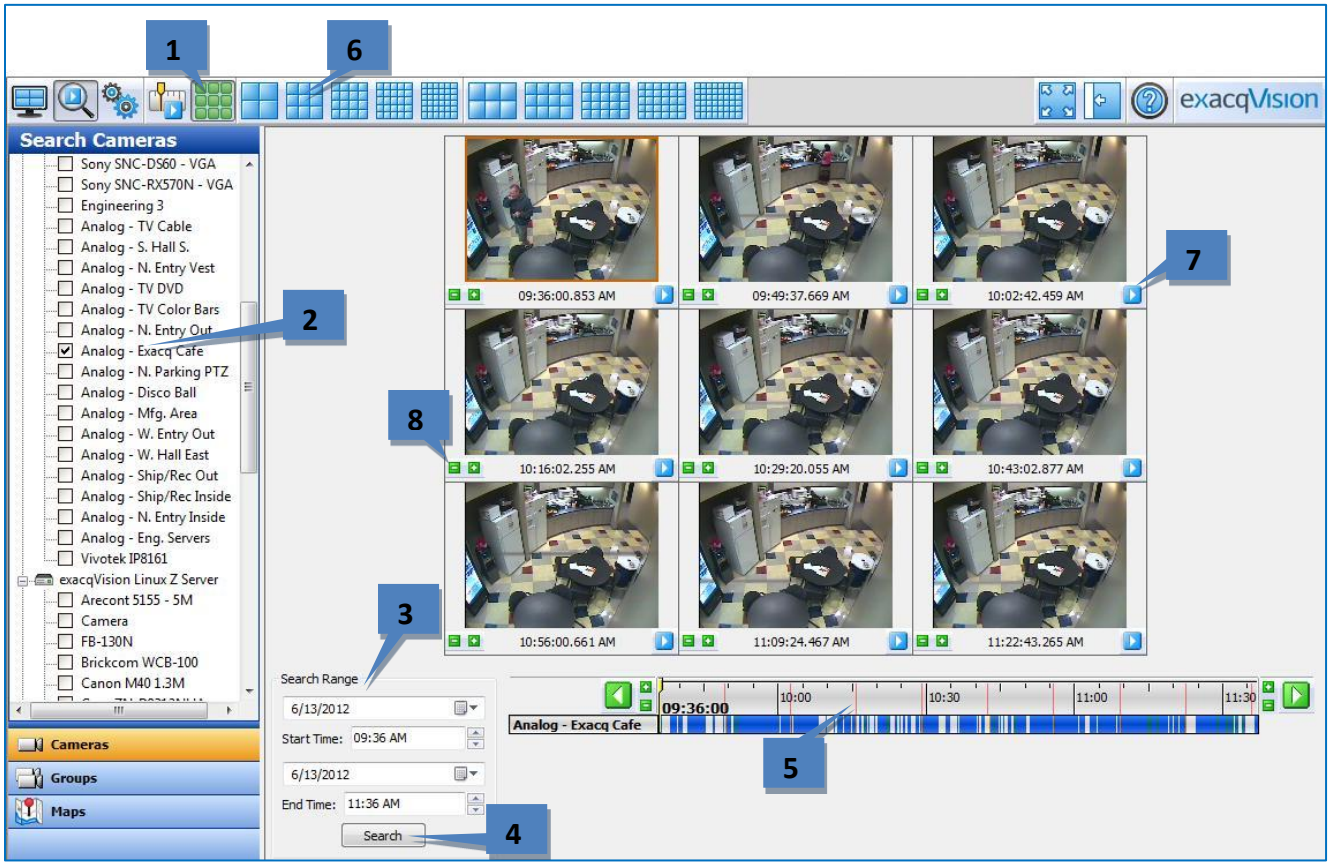
3. When your search is complete, the camera names selected appear under the timeline with color-coded recording bars representing recorded data. A color legend for the recorded video bars is located below the Search Range area; if you cannot see it, click the horizontal bar between the video window and the search results and drag it up.

NOTE: Alternatively, you can perform a quick search on the Live Page by right-clicking a video window, selecting Search from the pop-up menu, and selecting whether you want to search for video from the selected window or from all windows in the current layout. That procedure opens the Search Page with results from the last two hours from the selected camera or cameras.

Thumbnail Search Mode

Thumbnail search mode allows you to visually scan for video from a single camera by viewing thumbnail images captured at specified intervals in a time range.

NOTE: Thumbnail Search Mode is available only when connected to an exacqVision system running exacqVision Server version 4.9 or later.



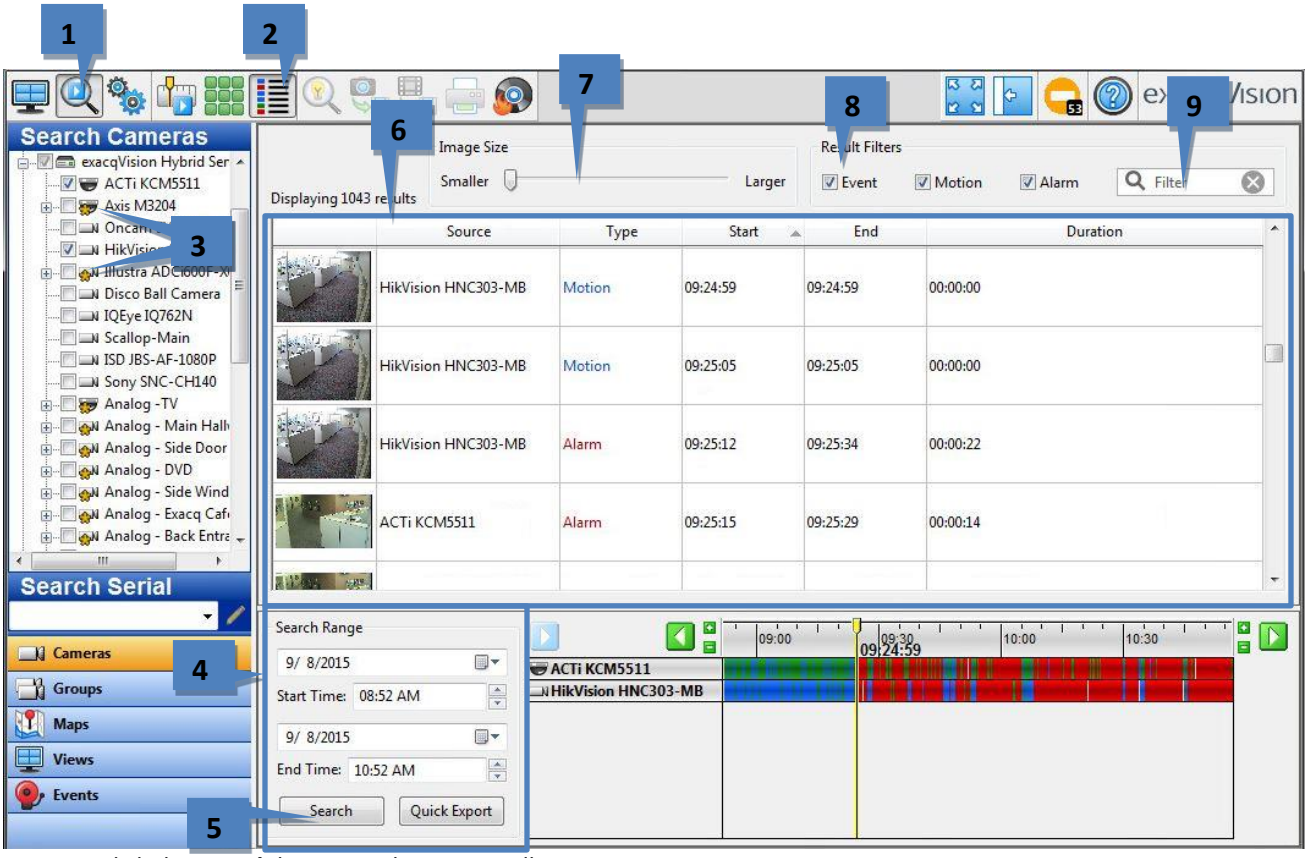
To perform a thumbnail search, complete the following steps:

1. Click the Thumbnail Search Mode button.
2. Select one camera from the camera selection tree.
3. Select a search range.
4. Click Search to display thumbnails of images captured at constant intervals during the search period.
5. The capture time of each thumbnail is represented on the timeline by vertical orange lines.
6. To display more or fewer thumbnails, select a video window layout.
7. To play video starting at a thumbnail image, either double-click the video window or click the play button under the image. If you immediately return to the Thumbnail Search Mode, the same thumbnails should be displayed.
8. To decrease the search range, click a Zoom In (plus) button in a video panel. To increase the search range, click a Zoom Out (minus) button in a video panel.

   NOTE: Each video panel has a Zoom In and Zoom Out button. The thumbnail associated with the selected button becomes the center point of the increased or decreased search range.

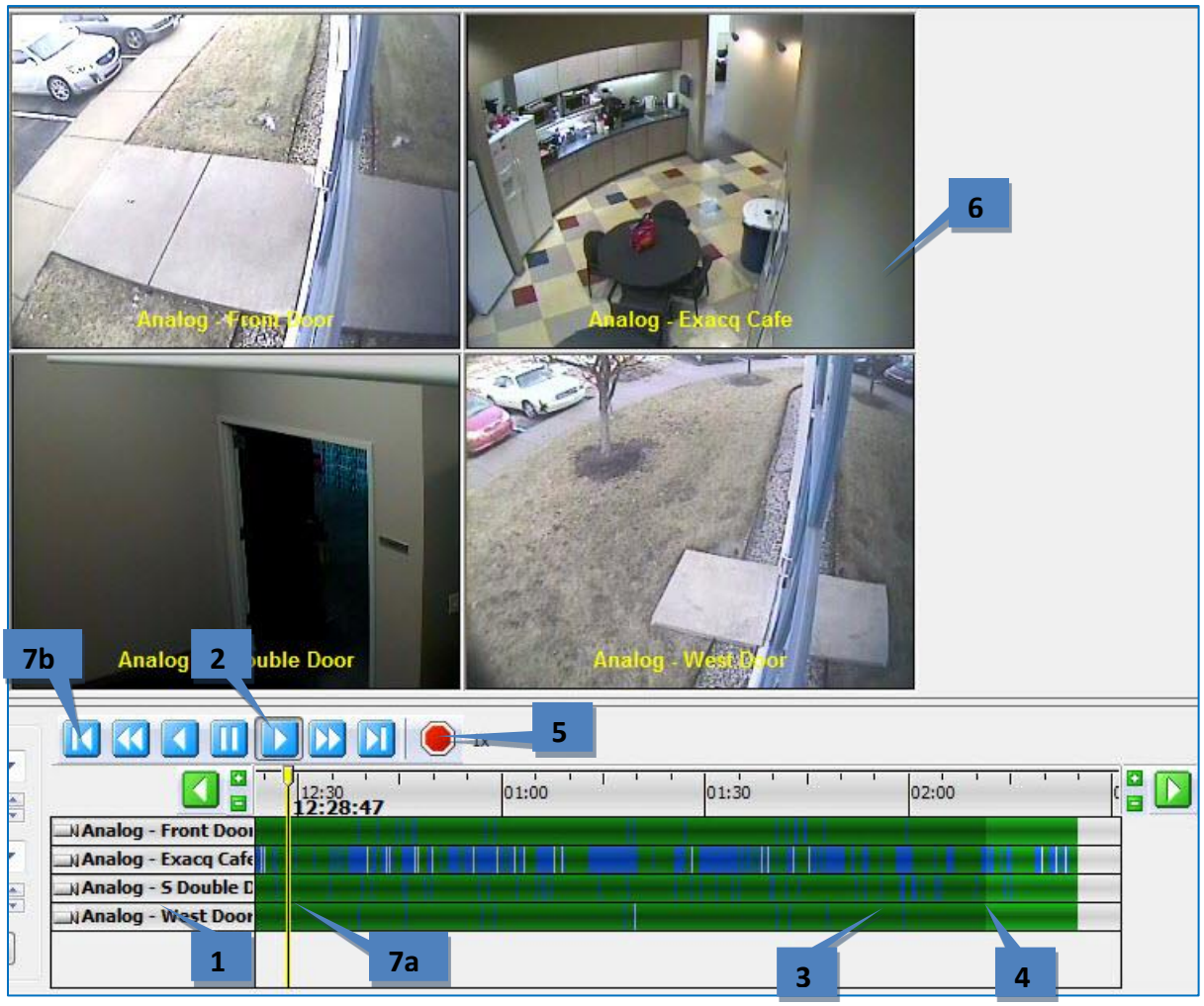
List Search

In a List Search the operator defines search criteria (e.g. time period, type of event) and events are displayed as a list of results. List Search requires exacqVision server and client 7.2 or later.



1. Click the **Search** button in the main toolbar
2. Click the **List Search** button
3. Select one or more cameras, devices or events
4. Enter proper search range
5. Click **Search**
6. A list of all events that took place within that time range are returned with a video capture of the event
    a. Double clicking an event will open the event in Timeline Search View and begin playing associated video
    b. Pressing Return while an event is highlighted will launch exacqReplay and begin playing video
7. Video capture size displayed can be adjusted by **Image Size** slider
8. Result Filter checkboxes can be used to filter these specific types of events
    a. Event - Displays other events that are not Motion or Alarm, such as serial data reception events
    b. Motion - Displays camera motion events that show up in blue on the timeline
    c. Alarm - Displays Alarm events that show up in red. These are events that have been configured in Event Linking in exacqVision
9. Character match filter box

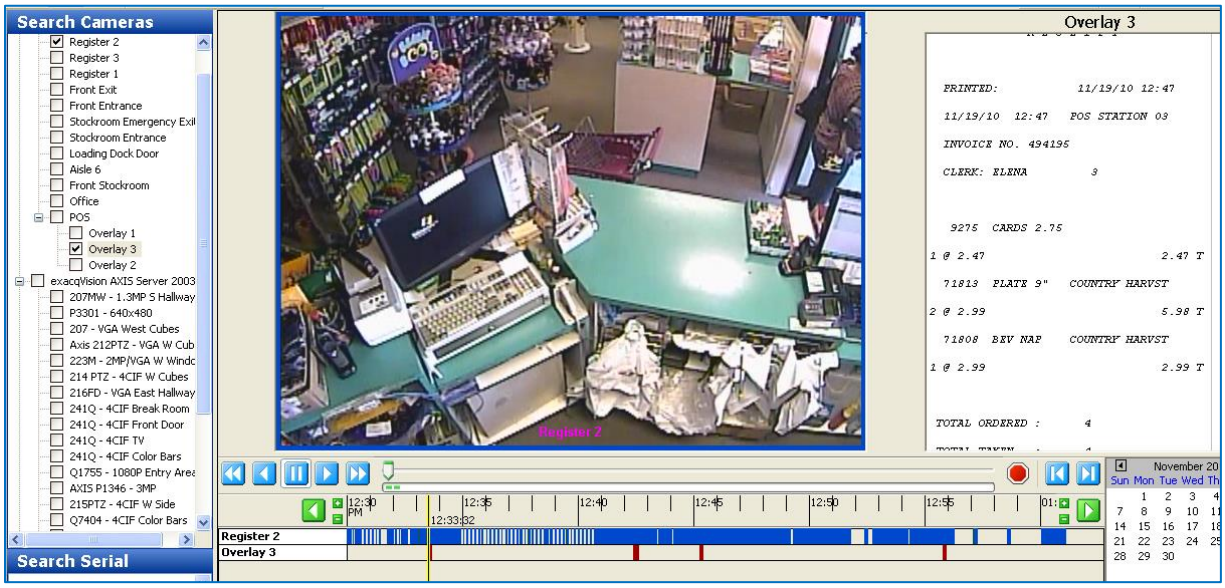
Video Playback



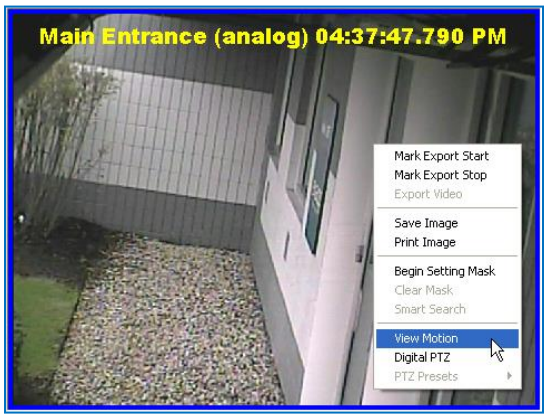
To play back video, complete a search as described in the previous section and complete the following steps:

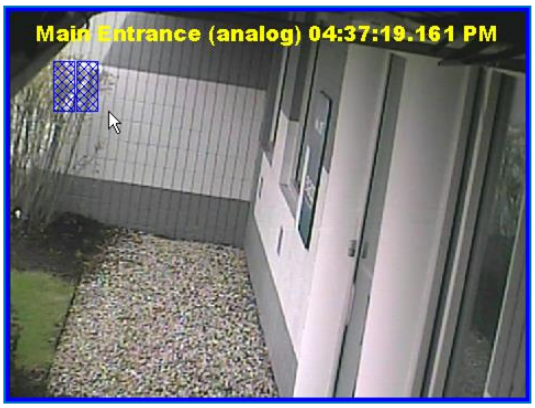
1. By default, all searched cameras are selected for video playback. To deselect a camera, click the camera name. To select a removed camera for playback, click its name again.
2. Click the play button to start displaying video at the beginning of the timeline.
3. To play video starting at another point on the timeline, double-click a recorded video bar in the appropriate location under the timeline. Or, you can click once on the recorded video bar and then click the Play button.
4. The recorded video bars change color show how much of each camera's video has been downloaded. To clear the downloaded video, right-click the timeline and select Clear All Cache or Clear Selected Item(s) Cache
5. To stop video download, click the Stop button. All video downloaded before you pressed the Stop button can still be viewed.
6. To display a single camera, double-click its video playback window. To return to the multi-camera view, double-click the remaining video playback window.
7. After the download has started, you can scrub back and forth through the video using the cursor (7a) or video playback controls (7b). You can quickly scan the video by dragging the cursor to the left or right or by pressing Enter or Backspace on the keyboard. (Enter and Backspace play every frame of video as quickly as the system hardware allows, unlike the normal Play and Reverse buttons, which play video at actual speed even if frames must be skipped to do so.)

When you play back video associated with POS data, any associated video is displayed in sync with the POS overlay data, as shown in the following figure. Notice the data displayed on the right for the transaction that was just completed in the video window. If you searched from more than one serial device, data from each device is displayed on separate tabs. Unprintable characters are automatically deleted from the serial data display.



In some cases, wind or some other invisible motion sets off the camera. On an analog camera, you can highlight the motion that triggered the recording to identify the cause by right-clicking anywhere in the playback window and select View Motion. Blue motion boxes mark the area where the motion occurred. When you want to remove the motion boxes, right-click in the Video Playback window again and select View Motion to remove the checkmark. **NOTE:** This feature is not available on most IP cameras.

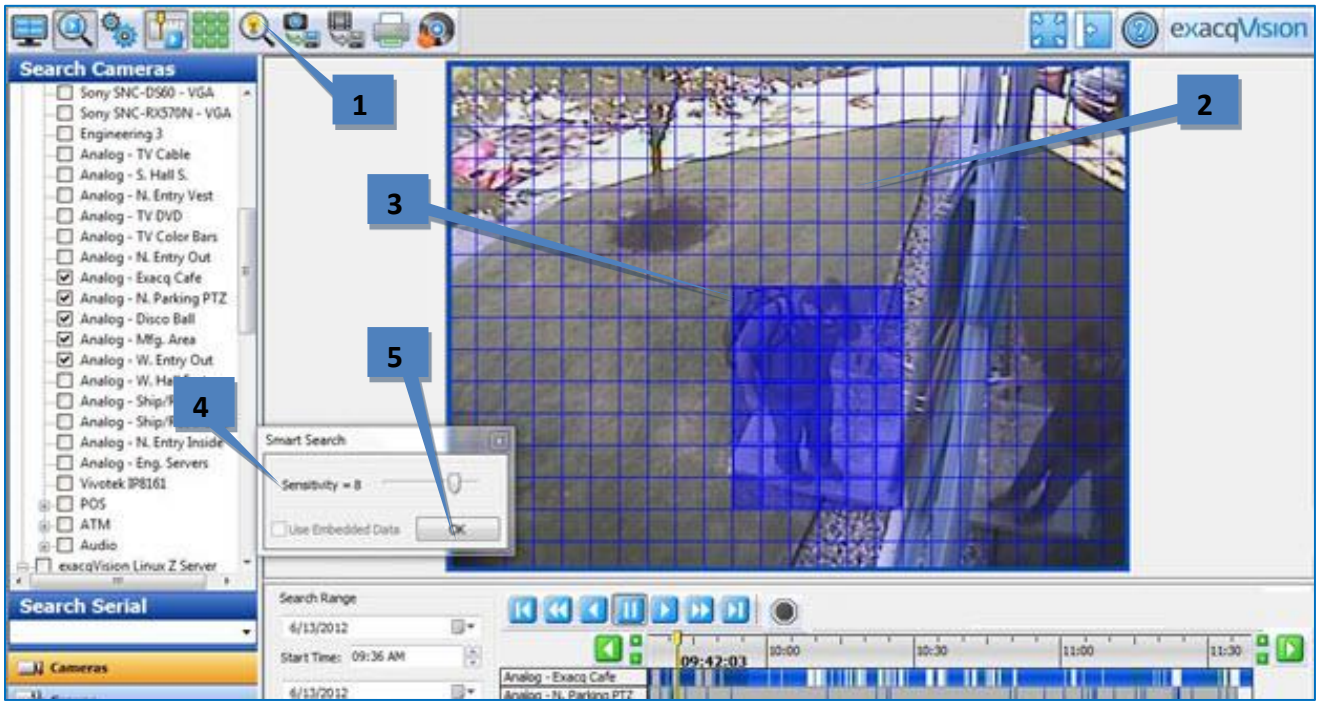




Smart Search

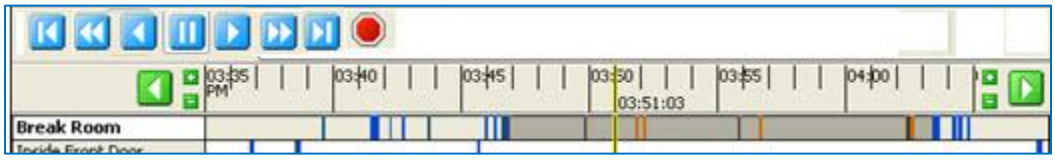
NOTE: Smart Search is not available in exacqVision Start.

Smart Search allows you to search for occurrences of motion in specific areas of a video window in 1x1 layout mode. To activate Smart Search, complete a search as described in the previous section and then complete the following steps:



1. Click the Smart Search button to open the Smart Search box. (If the Smart Search button is disabled, make sure only one camera is selected for playback in the search results, and make sure video has started downloading.)
2. A grid is displayed over the video window.
3. Use the mouse cursor to select grid boxes in the region of interest where you want to view all instances of motion. The selected boxes are filled in with blue; to deselect a box, click it again. To select multiple adjacent boxes, click and drag the cursor.
4. Use the slider bar to adjust the Sensitivity; a higher sensitivity will detect more subtle motion and return more motion frames. Certain types of camera and server hardware also support the Use Embedded Data option, which can increase the speed of smart searches by using motion values obtained when the video was recorded.
5. Click OK in the Smart Search box. The system searches for all video from the original search that contains motion in the region of interest.

When the Smart Search is complete, the number of frames containing motion in the region of interest is displayed. Click OK to view the frames. Smart Search frames appear in orange in the video results bar:

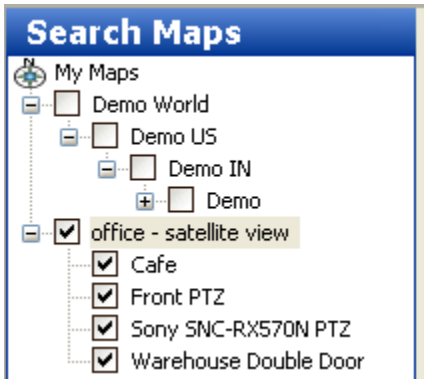


When orange bars appear in the video results bar, only the Smart Search frames that they represent are played back in the video playback window; any non-Smart Search frames in that time range are skipped.

Searching Maps

NOTE: Search Maps is not available in exacqVision Start.

You can also search for video from cameras associated with a map. (See the "Maps" section of this manual for information about importing and configuring maps.)

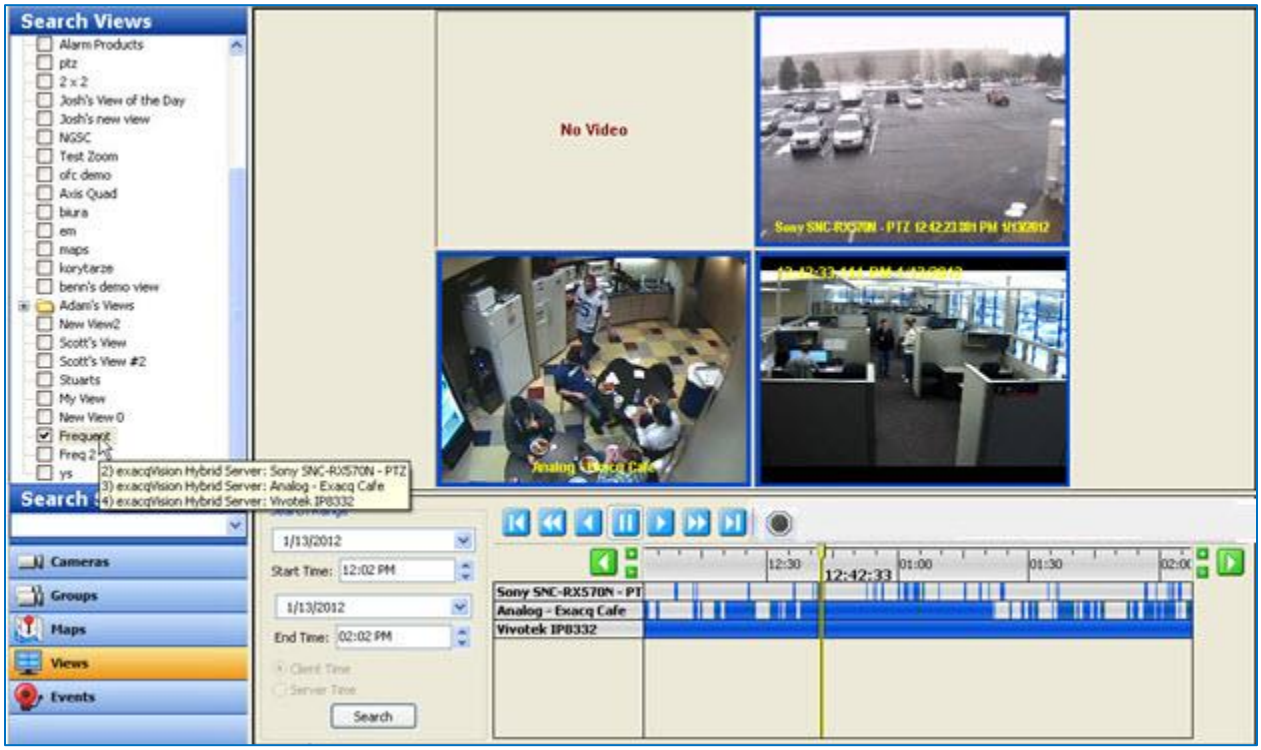


Select Maps from the Navigation Pane, and then select the map you want to search by clicking the appropriate checkbox. This selects all cameras associated with the map or its child maps. You can deselect any of the cameras to eliminate them from the search. Alternatively, you can expand a map without selecting its checkbox, and then select individual cameras to include in the search. You can include cameras from multiple maps in a single search.

Select the date and time you would like to search by using the Calendar and Start Time fields, and then click the Search button. Video from all the selected cameras and maps will be displayed in the Video Playback window.

Searching Views

You can also search for video recorded on all cameras in a specific view.

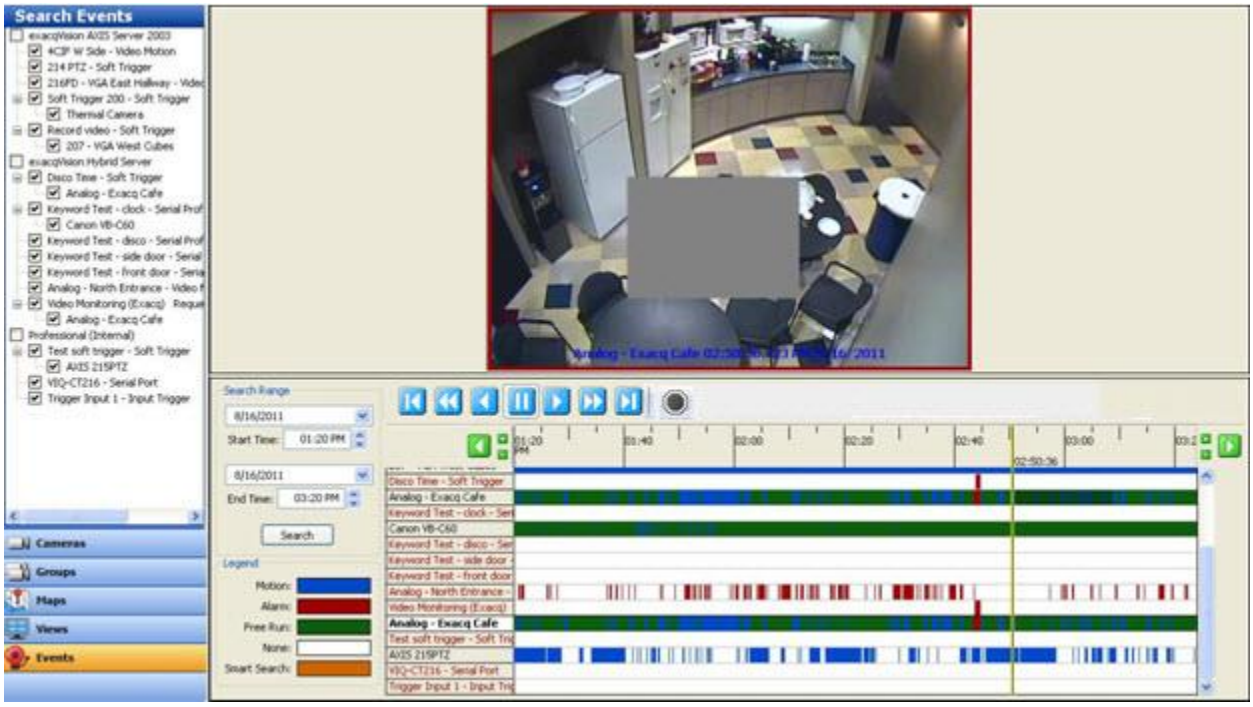


Select Views from the Navigation Pane, and then select the View you want to search by clicking the appropriate checkbox. Select the date and time you would like to search by using the calendar and Start Time field, and then click the Search button. All of the cameras in the View are then displayed in the Video Playback window. To view the names of all cameras in the View, place the cursor over the view's entry in the tree.

Searching Events

NOTE: Search Events is not available in exacqVision Start.

If you want to narrow your search to a specific event previously configured in Event Linking instead of all recorded video, select Events from the Navigation Pane. You can search for the event to locate associated video or audio. To do this, click the Events button on the Navigation pane and the Event you want to search. Then Select the desired date and time and click the Search button.

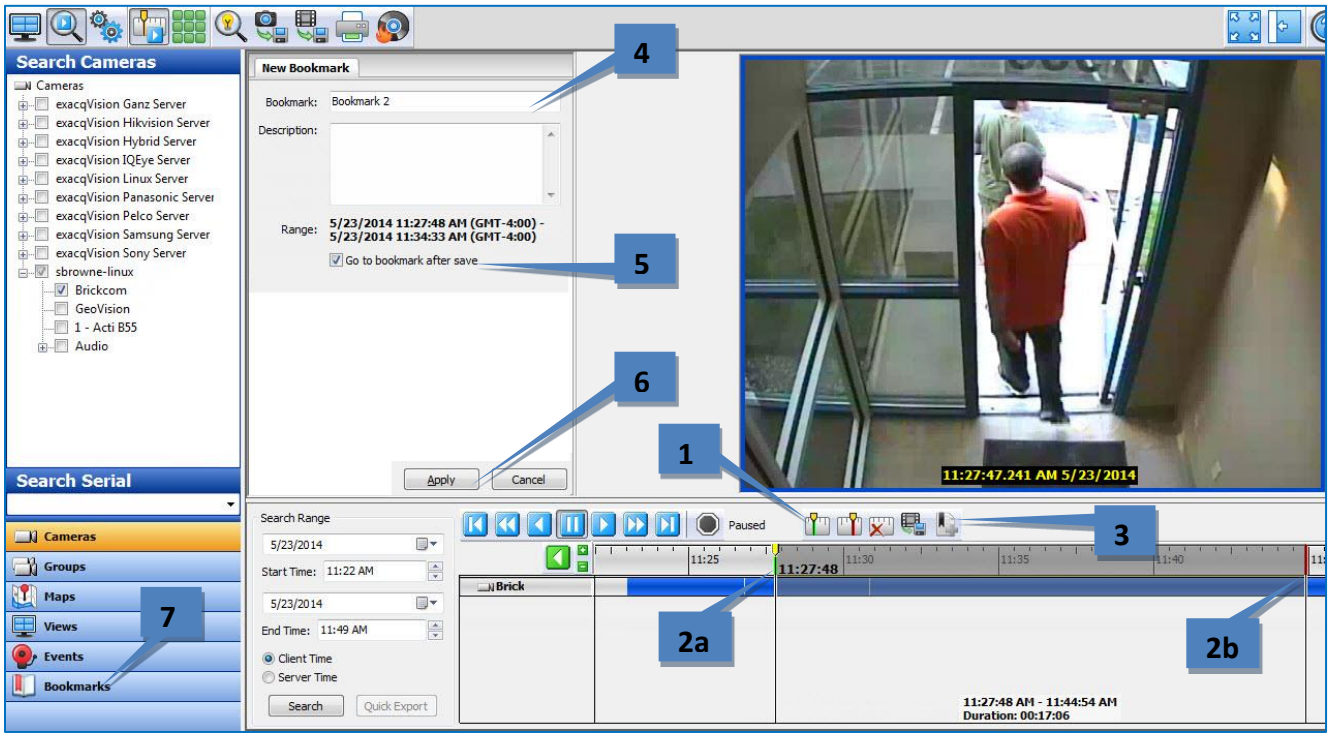


The red bars indicate instances when the event triggered video or audio recording. To search for the video associated with this particular event, click the Cameras button in the Navigation Pane, and then conduct a search on the camera associated with that event.

Bookmarks

NOTE: Bookmarks are not available in exacqVision Start.

Bookmarks are video clips that are saved permanently for easy access from exacqVision Client. To create a bookmark, complete the following steps:

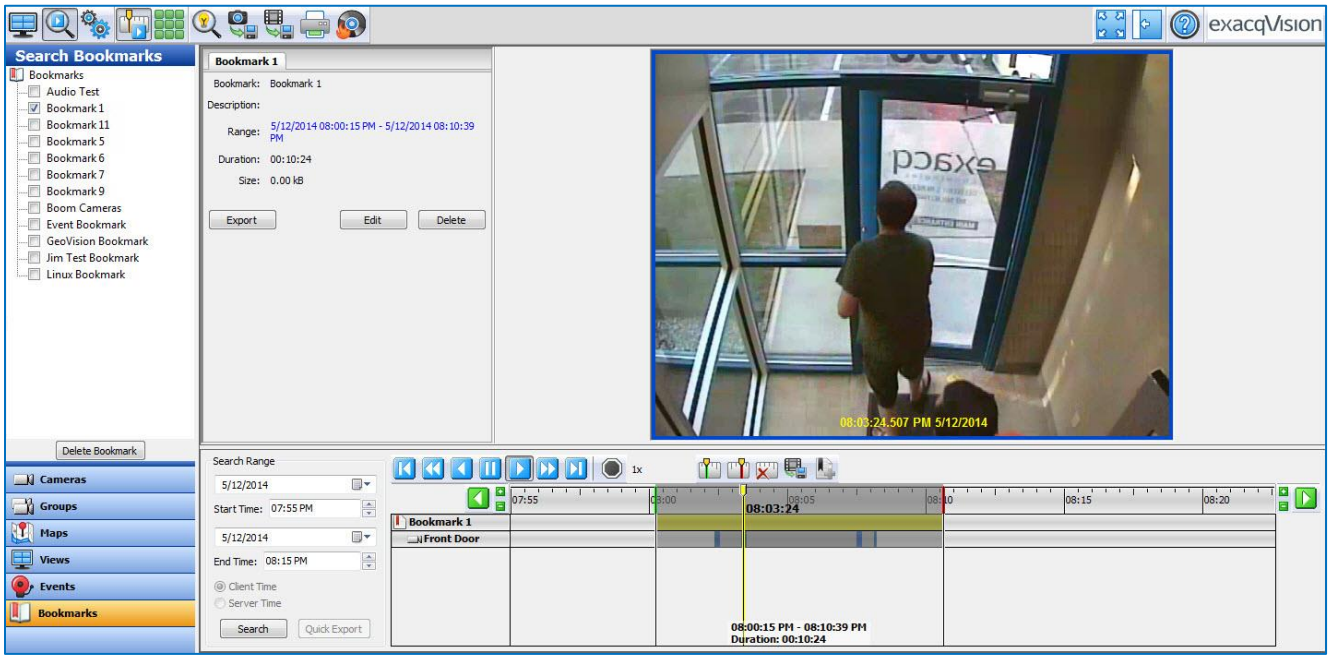


1. When playing back video, click the Mark Start button to mark the beginning of the clip to bookmark, or click the Mark End button to mark the end of the clip to bookmark.
2. A default bookmark range is created with a green marker at the beginning (2a) and a red marker at the end (2b). Adjust the markers if necessary to reduce or increase the size of the bookmark range.
3. Click the Create Bookmark button.

   Note for exacqVision Enterprise systems only: A case is a collection of related bookmarks. On the New Bookmark tab, you can select an existing case from the drop-down list if you want to add the bookmark to that case. Otherwise, select New Case… (or No Case if you do not want to associate the bookmark with a case). If you are creating a new case, also enter a name and description for the case.

4. Enter a name and description for the bookmark.
5. If you want to view the saved bookmark immediately after you apply it, select Go To Bookmark After Save.
6. Click Apply.
7. The bookmark is now saved. You can see the list of bookmarks by clicking the Bookmarks button (or the Cases button if you are connected to at least one exacqVision Enterprise system).

To search for bookmarked video, select Bookmarks in the Navigation Pane (or the Cases button if you are connected to an exacqVision Enterprise system). Select one more bookmarks, select a time range, and then click Search. The search results display all the video included in the bookmark, and you can play it back just like any other searched video. You can also export bookmarks and cases or edit any descriptive information associated with it.



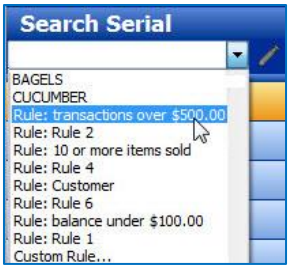
Search Serial

The Search Serial drop-down list contains any key words and rules associated with a profile configured on the Serial Profiles page. If the key word or rule is linked to an event on the Event Linking page, you can search for the event using Search Serial.

NOTE: If you do not see the Search Serial drop-down list, make sure that you haven't selected the Events, Bookmarks, or Cases button from the Navigation Pane.

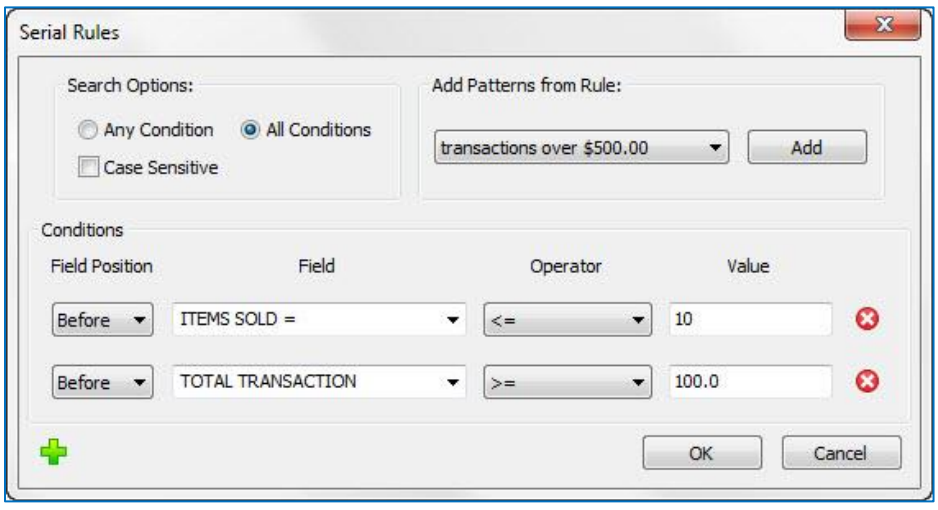
Following is an example of how Search Serial could be used:

1. Suppose you have a cash register connected to an exacqVision server, and you want to be able to search for video of all tobacco purchases at that register.
2. Use the Serial Profiles page to create a profile called Register 1. Also, add and enable a Key Word "tobacco."
3. On the Event Linking page, create an Event with a type of Serial Profile or Serial Port. Select "Register 1 – tobacco" as the source, Record Video as the action, and the camera pointed at Register 1 as the target.
4. On the Serial Ports page, add the register as a POS device using the Register 1 profile.
5. On the Search Page, select the POS device from the tree and the associated camera.
6. Select "tobacco" from the Search Serial drop-down list.



7. Select the desired time range.
8. Click Search. All instances of "tobacco" that occurred in the POS data on the register during the time range are shown on the timeline in red. The associated video is shown in blue.
9. You can now play back the video and associated POS data side-by-side. The data that matches the search parameters is shown in red text in the POS data.

If you select a rule from the drop-down list, you can click the pencil button to open the Serial Rules window and modify the search parameters or edit the rule.



Exporting Files

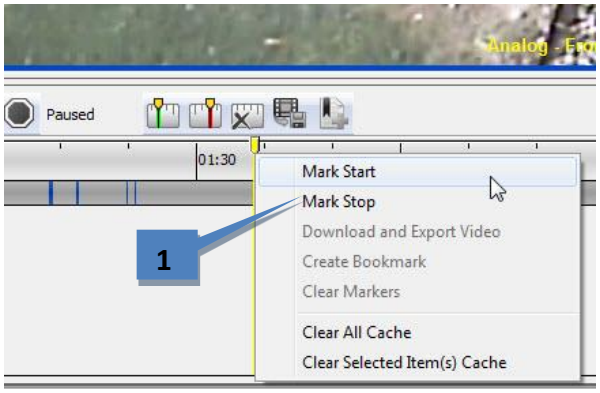
NOTE: For information about the Quick Export button, see the beginning of the "Search Page Overview"chapter.

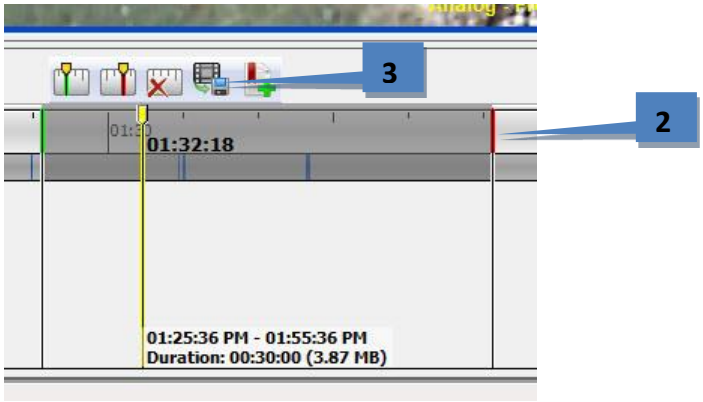
The Export buttons allow you to save a picture or video, print a picture, or save files to a CD or DVD (including DVD+R and DVD+RW). Left to right, the icons are Save Picture, Save Video, Print Picture, and Burn Saved Files to CD or DVD:

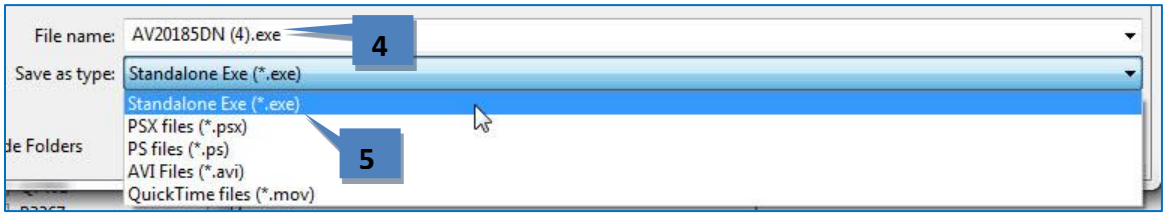
NOTE: You can also copy a picture to a clip board and paste it into a document. When you find the image you need, right-click anywhere in the Video Playback window and select Copy Image to Clipboard. The image will be stored, and you can paste it into another document. (These features are also available on the Live page when you right-click a video window.)

To export video from up to 16 cameras, or from a single camera on exacqVision Start, perform a video search and complete the following steps (note that serial data cannot be exported using this process):

1. Locate the start of the video clip. Right-click the timeline (or right-click the video window) and select Mark Start or Mark Stop from the pop-up menu.
2. A default export range is displayed, with the green marker indicating the start of the export clip and a red marker indicating the end of the export clip. You can slide the start and end markers earlier or later as desired.
3. Click the Export Video button.
4. In the Export Video window, select a file name and location.
5. Select a file type.
6. Click Save (not shown).







By default, the export is saved as an *.exe file, which can be launched in its own player and run by a user who does not have access to exacqVision Client. You can also save the clip as a *.psx file, a packaged .ps file that can be run with a simple double-click. The *.avi, or *.mov file formats are also available if you want to email it to another exacqVision Client user. If you are running the client on a Linux or Mac operating system, you should save the clip as a *.psx file unless you are emailing it to a Windows user.

If the system should disconnect during the middle of an export, the video export process will automatically resume exporting after the system reconnects, avoiding the need to restart a download.

The following chart contains information about file compatibility on each operating system.

Quicktime and AVI File Export Players

	Windows Players			Linux Players		Mac Players
Video format	**WMP***	**Quicktime Player**	**VLC**	**MPlayer**	**VLC**	**Quicktime Player**
AVI MJPEG	•	• with DivX decoder	•	•	•	• with DivX decoder
AVI MPEG4	• with DivX	• with DivX decoder	•	•	•	• with DivX decoder
AVI MPEG4 with ASP	• with DivX	• with DivX decoder	•	•	•	• with DivX decoder
AVI H.264	• with DivX	• with DivX decoder	•	•	•	• with DivX decoder
Quicktime MJPEG		•	•	•	•	•
Quicktime MPEG4		•	•	•	•	•
Quicktime MPEG4 with ASP		• with 3ivx MPEG4 decoder	•	•	•	• with 3ivx MPEG4 decoder
Quicktime H.264		•	•	•	•	•

***WMP = Windows Media Player**

Download players at the following URLs:

- **Windows Media Player**
  http://www.microsoft.com/windows/windowsmedia/default.mspx
- **Quicktime Player**
  http://www.apple.com/quicktime/download/
- **VLC Player**
  http://www.videolan.org/vlc
- **MPlayer**
  http://www.mplayerhq.hu/design7/dload.html

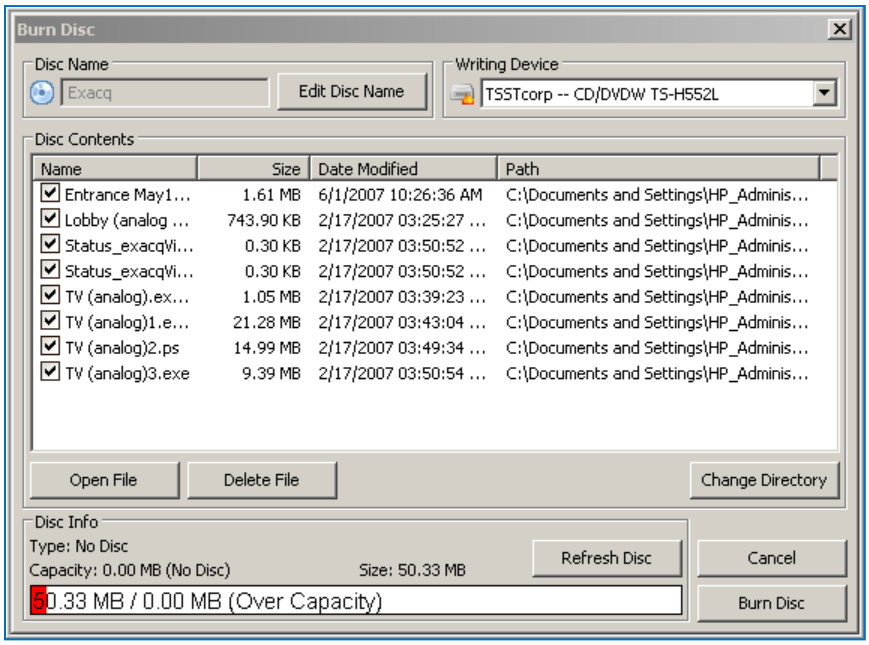
Download codecs at the following URLs:

- **3ivx MPEG4 decoder**
  http://store.3ivx.com/3ivxStore/?features=dec&platform=win&license=plus&Go=Go
- **DivX decoder**
  http://www.divx.com/en/downloads
- **Quicktime codec resources**
  http://www.apple.com/quicktime/resources/components.html?os=Windows&ctype=696d6463&csubtype=48323634

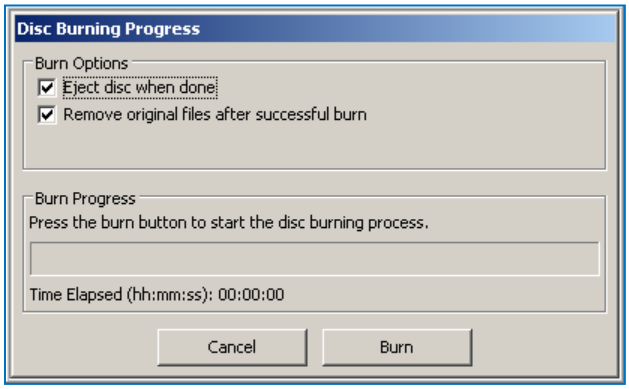
- **Perian Codec for Quicktime**
  http://www.perian.org

To save data to a CD or DVD, insert a writable CD or DVD and click the “Save to a CD or DVD” button at the top of the toolbar to display the Burn Disc window.

NOTE: If you do not have a CD burner, the Save to a CD or DVD button will not be enabled. If you are running the client on a Mac, you can drag and drop the files into your Burn Folder to create links to these files and click Burn.



1. You can change the name of the disc by clicking the Edit Disc Name button.
2. The Disc Contents list displays all of the video clips in your directory. Select the clips you want to burn.
3. To review a video clip, select the file and click Open File.
4. The Disc Info box displays important information about your disc capacity. The first number listed (MB) is the amount of space required to burn all of the video clips you have selected. The next number represents the capacity of the disc you have inserted; if you forget to insert a disc, this number is zero. If you insert or replace a disc, click Refresh Disc to update the numbers.
5. Click Burn Disc to open the Disc Burning Progress window. Review the Burn Options before proceeding.
6. Click the Burn button to start the writing process.

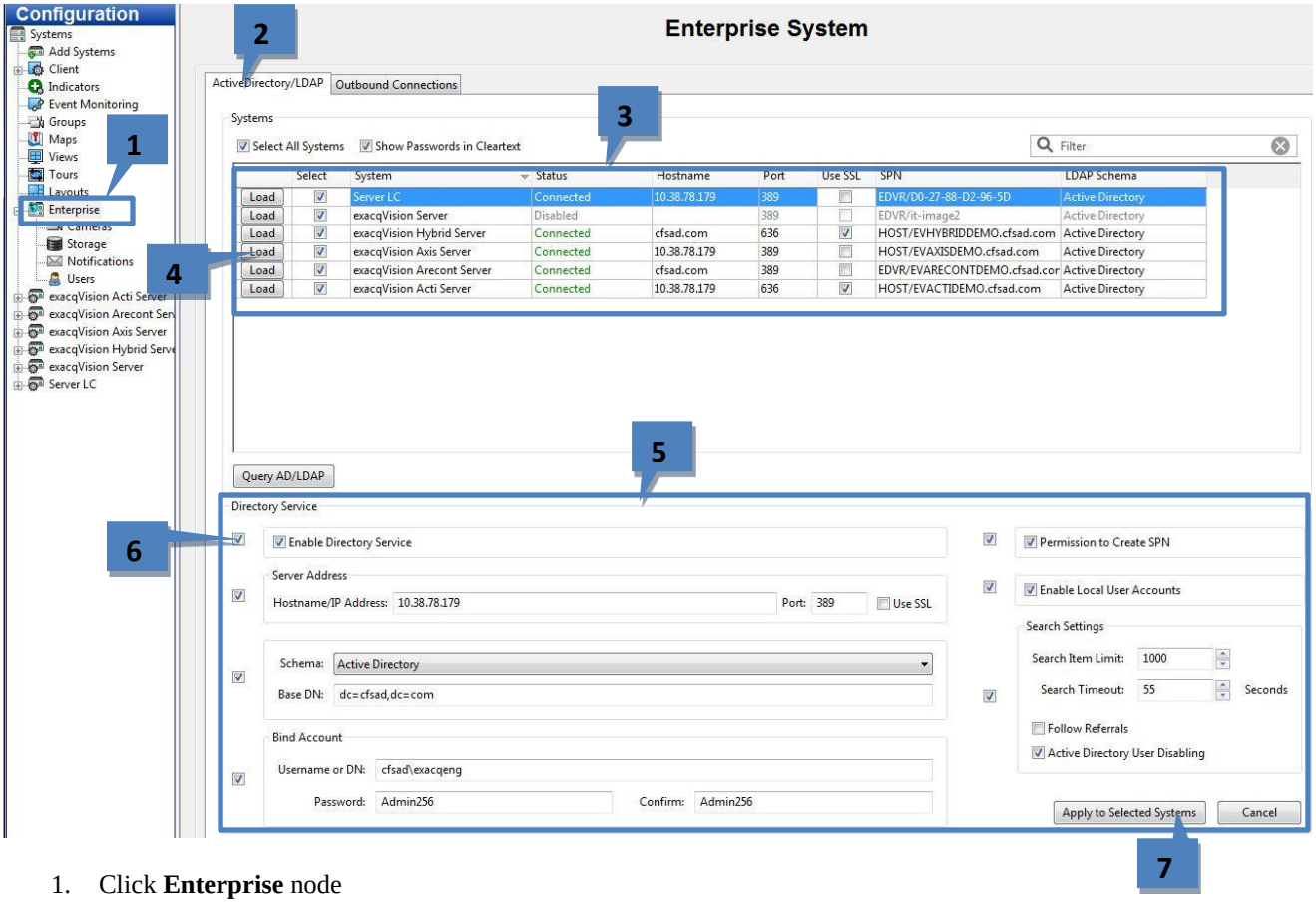


7 Enterprise Management

NOTE: Enterprise Management features are available only if you are connected to a system with a valid Enterprise license.

Enterprise System - Active Directory/LDAP

Typically LDAP configuration will be identical across a network or enterprise. This tab allows the configuration to be loaded from one server and then pushed to all other Enterprise licensed exacqvision servers. See the ActiveDirectory/LDAP section within the Config (Setup) | System section for further details about local server LDAP configuration.

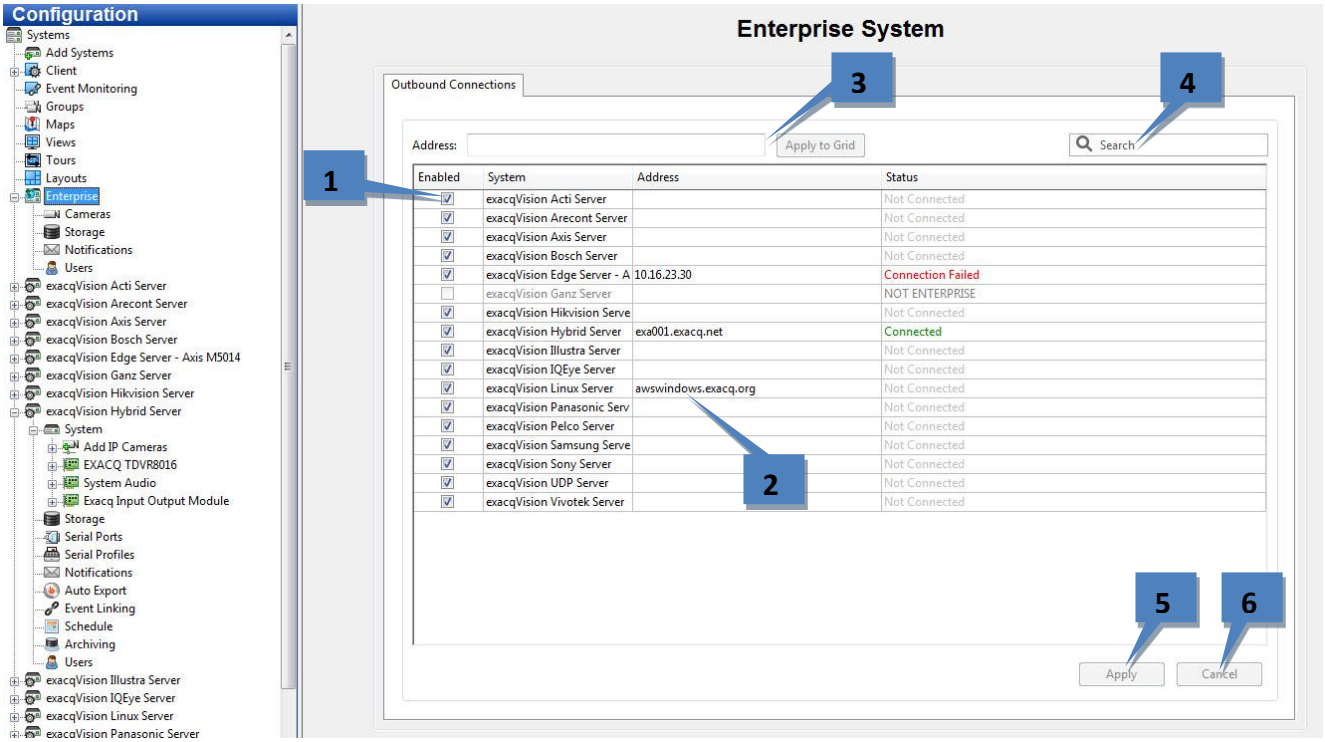


1. Click **Enterprise** node
2. Click the **ActiveDirectory/LDAP**
3. List of exacqVision servers which have Enterprise licenses and available for LDAP configuration
4. The **Load** button will load that server's LDAP configuration to the fields below.
5. These fields will be populated with the same configuration settings that were configured on this server locally. These settings can be edited further before pushing the configuration to the other servers.
6. These checkboxes next to each configuration setting determine whether this setting will be pushed to the grid.
7. Click **Apply to Selected Systems** when satisfied with the LDAP configuration to be pushed. The configuration will be pushed to all systems that are checked in the **Select** field above.

Enterprise System - Outbound Connections

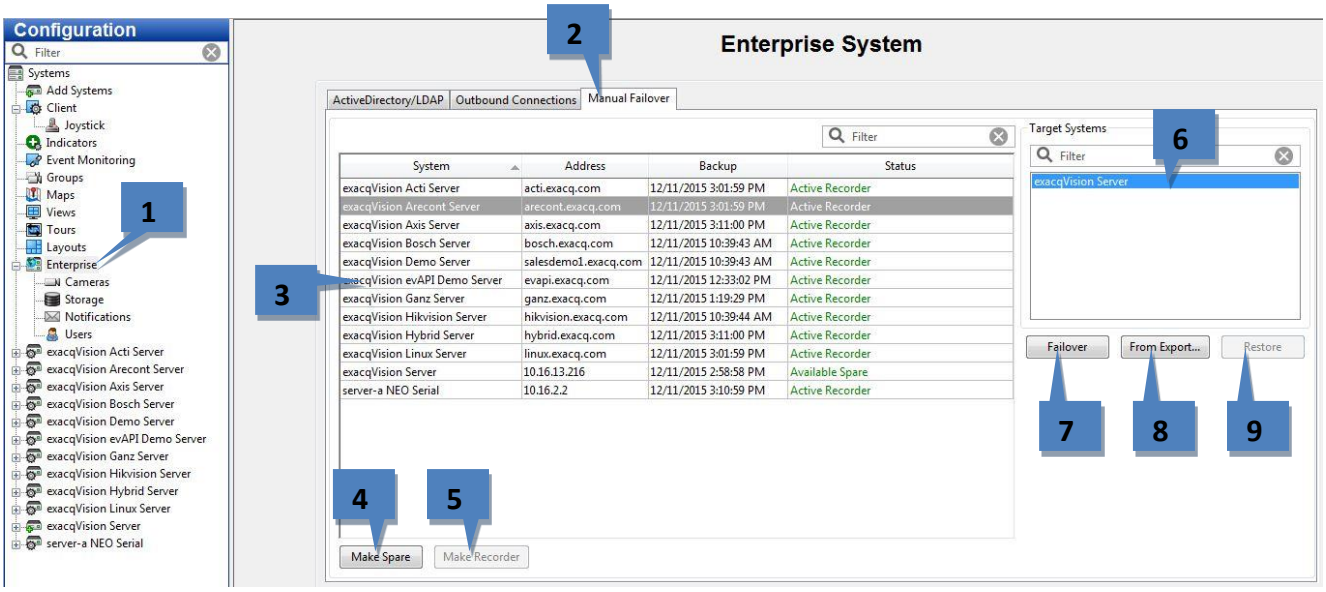
The Enterprise System page allows you to connect to manage the outbound connections configured on the System page for each system and view the status of the connections. This tab allows you to do the following:

1. Select the Enabled checkboxes to enable or disable each connection.
2. Enter address information for each system. If you use a domain name for the address, exacqVision uniquely identifies the system by attaching the system's serial number automatically.
3. To apply an address to all listed enterprise systems, enter the address at the top of the tab and click Apply to Grid.
4. To filter the list to show only those systems that contain certain words, letters, or numbers in the system name or address, type the characters in the Search box.
5. To save all changes, click Apply.
6. To revert to the previous configuration without applying changes, click Cancel.



Enterprise System - Manual Failover

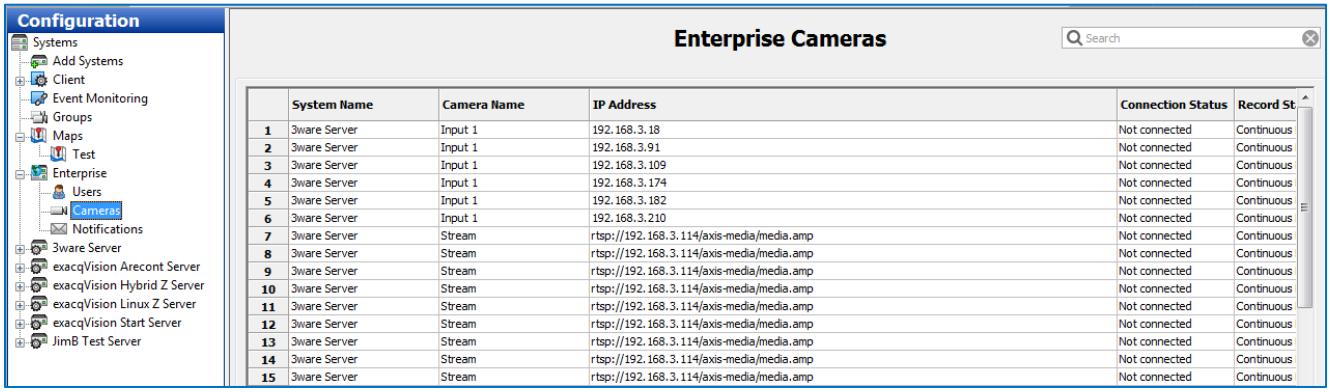
ESM (Enterprise System Manager) provides a failover function for exacqVision servers. ESM can be configured to control this process automatically across exacqVision servers it is monitoring. However if the failover function in ESM is not configured, there will exist a **Manual Failover** tab on those exacqVision server which are not configured for failover in ESM. This allows failover to be asserted at the server level when failover is not configured in ESM. Therefore the **Manual Failover** tab will be present only when an exacqVision server is monitored by ESM but NOT configured for failover within ESM.



1. Click the Enterprise System configuration tree node
2. Click the Manual Failover tab
3. List of available servers for failover purposes
4. Click **Make Spare** to restart the server as a target for other servers to failover to
5. Click **Make Recorder** to restart the server as a regular exacqVision recorder
6. This list will populate with the server names as they are designated as **Available Spares** by using the Make Target button
7. To assert a manual failover, choose an **Active Recorder** from the list and a Target System and click the **Failover** button
8. List can be populated by importing a .config list
9. Restores the failed over system back to its original system

Enterprise Cameras

The Enterprise Cameras page under My Enterprise in the Configuration site tree allows you to see expanded information about all cameras connected to enterprise exacqVision systems listed under Systems.



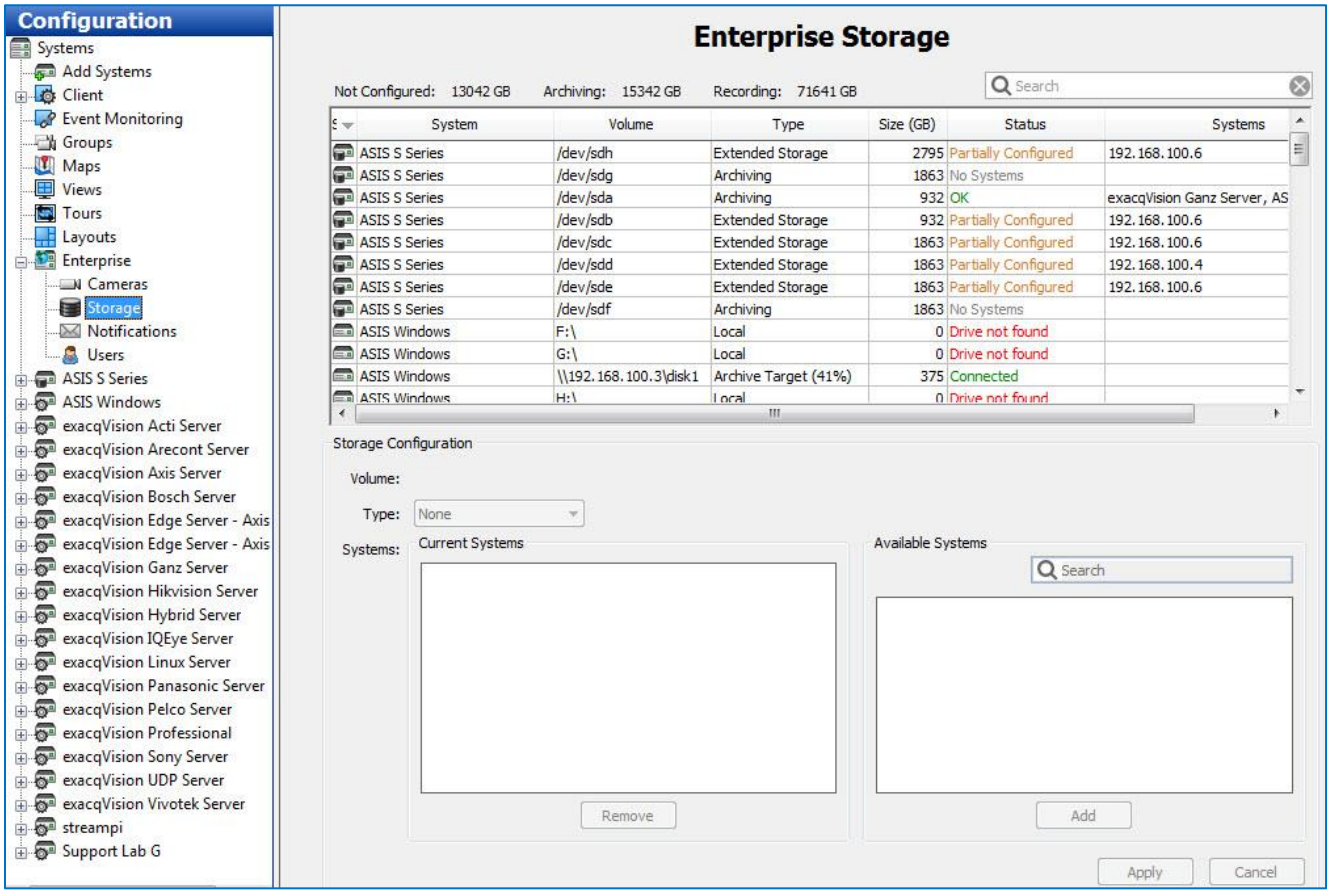
	System Name	Camera Name	IP Address	Connection Status	Record St
1	3ware Server	Input 1	192.168.3.18	Not connected	Continuous
2	3ware Server	Input 1	192.168.3.91	Not connected	Continuous
3	3ware Server	Input 1	192.168.3.109	Not connected	Continuous
4	3ware Server	Input 1	192.168.3.174	Not connected	Continuous
5	3ware Server	Input 1	192.168.3.182	Not connected	Continuous
6	3ware Server	Input 1	192.168.3.210	Not connected	Continuous
7	3ware Server	Stream	rtsp://192.168.3.114/axis-media/media.amp	Not connected	Continuous
8	3ware Server	Stream	rtsp://192.168.3.114/axis-media/media.amp	Not connected	Continuous
9	3ware Server	Stream	rtsp://192.168.3.114/axis-media/media.amp	Not connected	Continuous
10	3ware Server	Stream	rtsp://192.168.3.114/axis-media/media.amp	Not connected	Continuous
11	3ware Server	Stream	rtsp://192.168.3.114/axis-media/media.amp	Not connected	Continuous
12	3ware Server	Stream	rtsp://192.168.3.114/axis-media/media.amp	Not connected	Continuous
13	3ware Server	Stream	rtsp://192.168.3.114/axis-media/media.amp	Not connected	Continuous
14	3ware Server	Stream	rtsp://192.168.3.114/axis-media/media.amp	Not connected	Continuous
15	3ware Server	Stream	rtsp://192.168.3.114/axis-media/media.amp	Not connected	Continuous

In addition to viewing camera information, this page allows you to do the following:

- Double-click any column in a camera's listing to view its Camera Settings page.
- Right-click in the Record Status column to activate exacqReplay on the selected camera. See the "exacqReplay" section of this manual for more information.
- Sort any column by clicking on the column title.

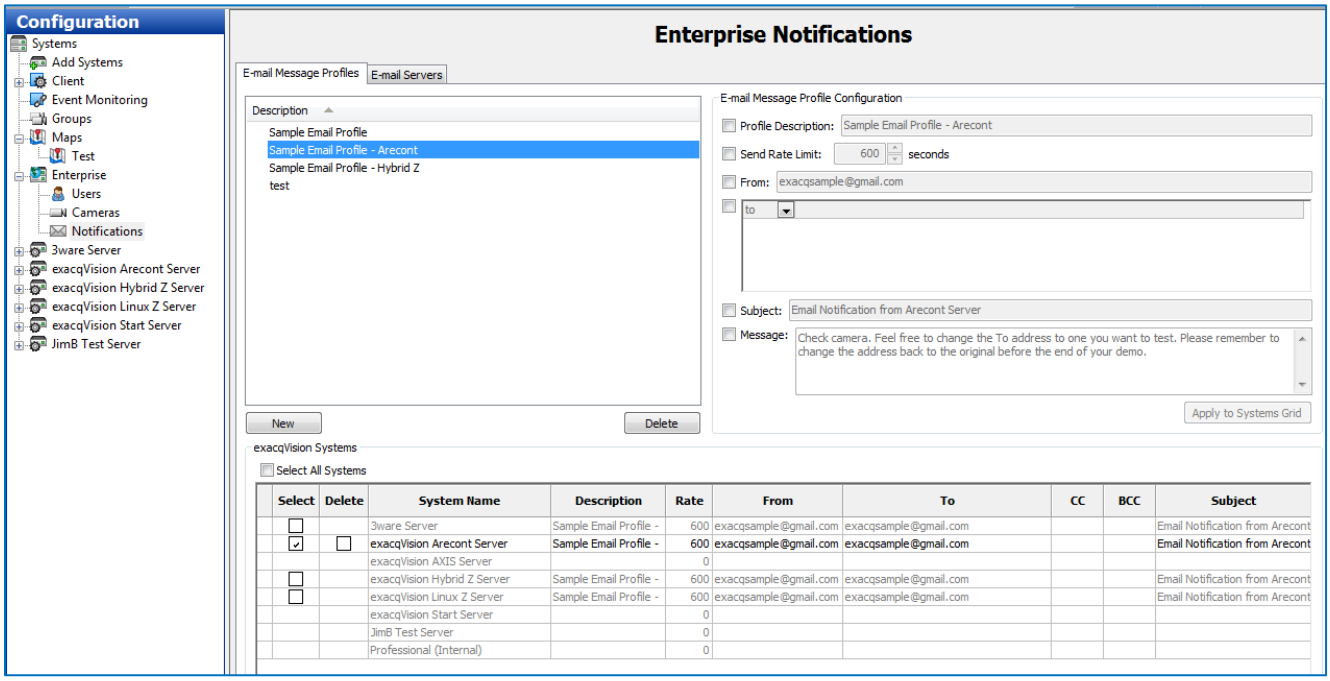
Enterprise Storage

Enterprise Storage allows you to view all storage devices and configure S-Series and server storage on the same page. You can select an S-Series partition, configure it for archiving or extended storage, and associate it with an exacqVision system.

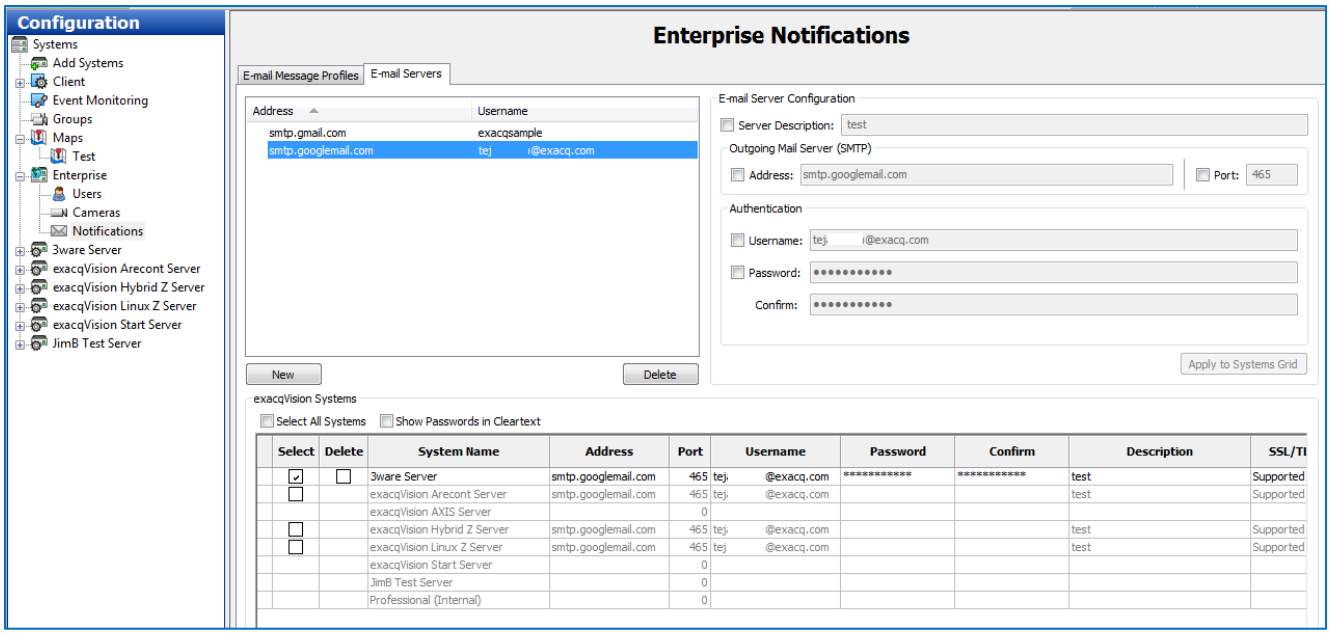


Enterprise Notifications

Enterprise Notifications work the same as standard Notifications, except that notification profiles and email servers can be configured on multiple systems simultaneously. See the "Notifications" section of this manual for information about configuring message profiles and email servers. When you are finished configuring the profiles and servers, select a profile to display the list of exacqVision Systems that it can be applied to. To associate a profile with one or more systems, select each system's checkbox in the Select column on the E-mail Message Profiles tab.



Repeat the same process on the E-mail Servers tab to associate an email server with one or more systems.

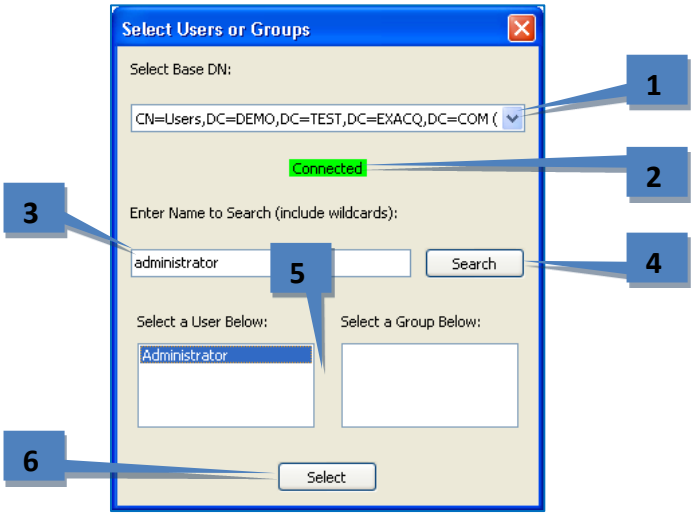


Enterprise Users

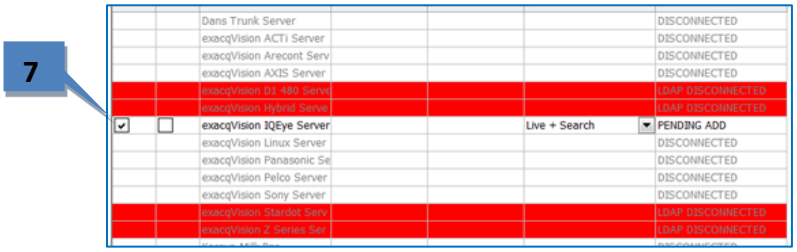
The Enterprise Users page under My Enterprise allows you to create user accounts for multiple systems simultaneously.

Creating New Users Using LDAP Integration

To create a new user using LDAP integration, click Query LDAP on the Enterprise Users page to open the Select Users or Groups window.



1. If the enterprise servers span multiple domains, select the domain of the user or group that you want to add from the Select Base DN drop-down list.
2. If the status indicator does not show that the server is connected, contact the network administrator.
3. Enter the user's or group's network name. This is normally the username used to log in to network computers.
4. Click Search to display matching users or groups.
5. Click on the correct user.
6. Click Select. The main Enterprise User Page then lists servers with active LDAP integration.



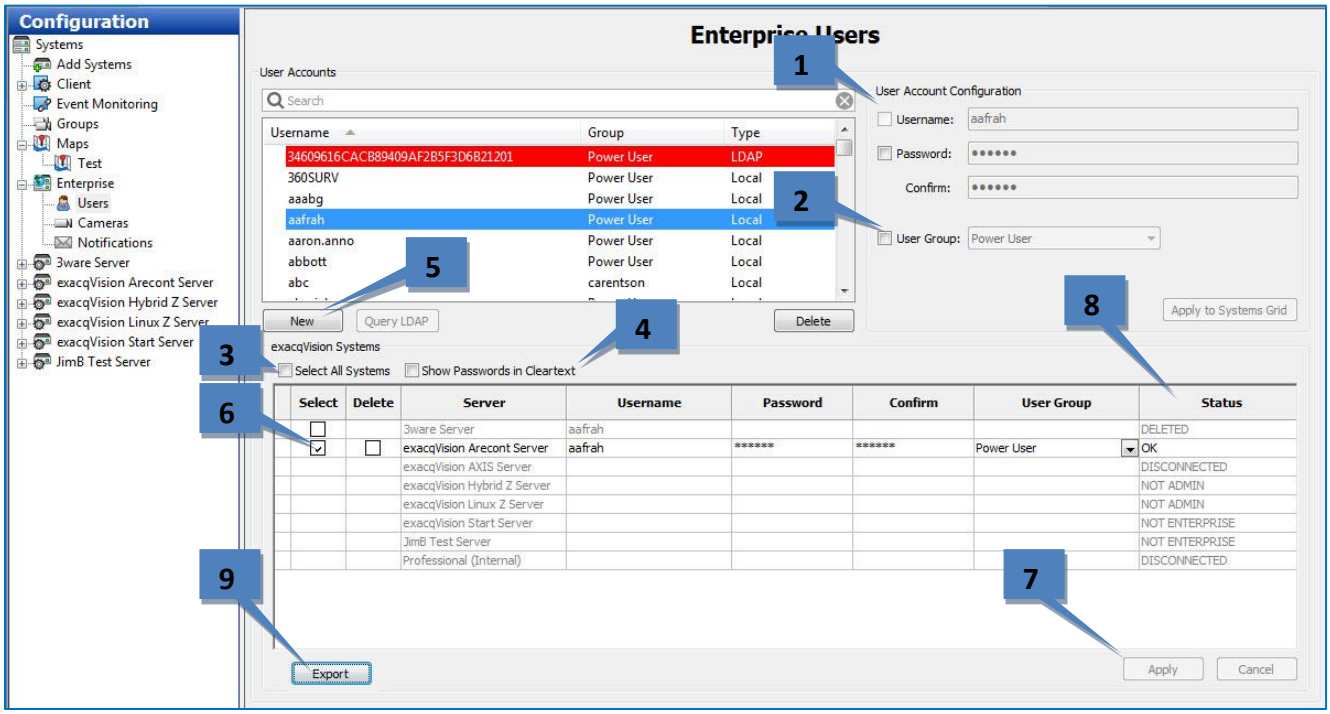
7. In the Select column, activate the checkboxes for servers that the user or group should have access to.

Click Apply to save changes. On the Add Systems page, select Use Single Sign-on so that the exacqVision Client will pass the client computer's login credentials to the server for validation when it starts. Failing to select Single Sign-on could cause failed login attempts because of mismatched passwords.

NOTE: Server entries with a red background have been configured for LDAP integration but are not currently connected. If a server is not licensed as an enterprise system, NOT ENTERPRISE appears in its Status column.

Creating New Users Without LDAP Integration

To create a new user without LDAP integration, complete the following steps.



1. Enter the username, password, and password confirmation.
2. Select a user group from the drop-down list.
3. Activate the Select All in Grid checkbox if the user account's default setting should be applied to all listed servers.
4. To see the actual passwords instead of asterisks, select the Show Passwords in Cleartext checkbox.
5. Click Create New User to list the servers that the user can be added to.
6. In the Select column, activate the checkboxes for servers that the user or group should have access to. The user group can be changed for each server if required.
7. Click Apply.
8. The Status column displays the status of the selected account on each system. The status can be OK, Pending, Not Enterprise, Disconnected, or Deleted.
9. To save the enterprise user configuration file, click Export and browse to the desired location. Then you can send the file to the new user, who can import the file using the Import button on the Add Systems page.

Enterprise Servers

Enterprise servers can be integrated with network management systems (Active Directory, OpenLDAP, or Kerberos) to synchronize user accounts from your computer network and exacqVision servers. Before proceeding with this option, you must configure the integration as explained in the LDAP integration document appropriate for your platform found at https://www.exacq.com/downloads/LDAP/index.html.

A Technical Support

Exacq Technologies is committed to providing exceptional technical and engineering support. When you need help with your exacqVision product, please be ready with a complete description of the problem, including any error messages or instructions on re-creating the error.

Technical support can be contacted as follows:

Exacq Technologies, Inc.
11955 Exit Five Parkway, Bldg 3
Fishers, IN 46037 USA
Phone: +1-317-845-5710
Fax: +1-317-845-5720
e-mail: support@exacq.com
Web: http://www.exacq.com

B Regulatory Notice

Federal Communications Commission (FCC)
Radio Frequency Interference Statement

The Exacq Product contains incidental radio frequency-generating circuitry and, if not installed and used properly, may cause interference to radio and television reception. This equipment has been tested and found to comply with the limits for a Class A computing device pursuant to Subpart J of Part 15 of the Federal Communications Commission (FCC) Rules. These limits are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area may cause interference to radio and television reception, in which case users will be required to correct the interference at their own expense. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, users are encouraged to try to correct the interference by one or more of the following measures: Reorient the television or radio receiving antenna, and/or relocate the Exacq product and the radio or TV with respect to each other. If necessary, users should consult the manufacturer or an experienced radio/television technician for additional suggestions. Users may find helpful the following booklet prepared by the Federal Communications Commission: “How to Identify and Resolve Radio-TV Interference Problems,” which is available from the Government Printing Office, Washington DC, 20402 (stock #004-000-00345-4).

CE Notice

Marking by the CE symbol indicates compliance of this device to the EMC directive of the European Community. Such marking is indicative that this device meets or exceeds the following technical standards:

- EN55022: Conducted Emissions
- EN55022: Radiated Emissions
- 61000-4-2 Electrostatic Discharge
- 61000-4-3 Radiated Immunity
- 61000-4-4 Electrical Fast Transients
- 61000-4-5 Surge Immunity
- 61000-4-6 Conducted Immunity

Electromagnetic compatibility (EMC) requires the use of shielded cable and ferrite cores for all wiring added by the user. Good shielding techniques should be applied in the user’s system.

C Warranty

LIMITED WARRANTY AND LIMITATION OF LIABILITY

LIMITED WARRANTY. Exacq hardware products are warranted against defects in materials and workmanship for three (3) years from the date Exacq ships the products to the Customer. All software products are licensed to the Customer under the terms of the appropriate Exacq Technologies license. For a period of ninety (90) days from the Delivery Date, Exacq software products (when properly installed on Exacq hardware products) (a) will perform substantially in accordance with the accompanying written materials, and (b) the medium on which the software product is recorded will be free from defects in materials and workmanship under normal use and service. Any replacement of a licensed software product will be warranted for the remainder of the original warranty period or thirty (30) days, whichever is longer. Customer must obtain a Return Material Authorization number from Exacq before returning any products under warranty to Exacq. Customer shall pay expenses for shipment of repaired or replacement products to and from Exacq. After examining and testing a returned product, if Exacq concludes that a returned product is not defective, Customer will be notified, the product returned at Customer's expense, and a charge made for examination and testing. This Limited Warranty is void if products or parts are damaged by (a) improper handling, normal wear and tear, accidents, theft, vandalism, fire, water or other peril; (b) conditions outside the specifications for operation of the products, including but not limited to, electrical power, temperature humidity, dust or lightning; (c) Customer supplied third party software not intended for use with the applicable Exacq software; (d) utilization of an improper hardware or software key; (e) or improper use, negligence, repair, alteration or maintenance of the product not performed by Exacq Technologies, Inc. or its authorized service centers or authorized technicians.

CUSTOMER REMEDIES. Exacq's sole obligation (and Customer's sole remedy) with respect to the foregoing Limited Warranty shall be to, at its option, return the fees paid or repair/replace any defective products, provided that Exacq receives written notice of such defects during the applicable warranty period. Customer may not bring an action to enforce its remedies under the foregoing Limited Warranty more than one (1) year after the accrual of such cause of action.

RETURN/CANCELLATION POLICY. Customer may return unwanted products within thirty (30) days of the Delivery Date. Customer shall pay a twenty percent (20%) restocking charge on any unwanted products returned to Exacq. No returns will be accepted after the thirty (30) day period has expired. Where special equipment or services are involved, Customer shall be responsible for all related work in progress; however, Exacq shall take responsible steps to mitigate damages immediately upon receipt of a written cancellation notice from Customer. A Return Material Authorization number must be obtained from Exacq for return of any products. Exacq may terminate any order if any representations made by Customer to EXACQ are false or misleading.

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D Manual Updates

Following are manual updates since the most recent major revision of the exacqVision Client software:

Release 5.0

- Changed exacqRecall to Auto Export and added new feature description.
- Added multistreaming feature to Camera Settings and Add Systems sections.
- Added Clear Cache option to Video Playback section.
- Updated Layout Panel section with modified Find Camera feature.
- Updated PTZ Configuration and PTZ Control sections with merged PTZ and preset windows.
- Updated System section with the Watchdog Timer tab.

Release 5.2

- Added Views and Tours sections.
- Updated Maps and Groups sections to include new layout.
- Updated PTZ sections for clarity.
- Updated Add IP Cameras section to include new layout.
- Updated Add Systems section to include new layout and Import/Export buttons.
- Updated Enterprise Users section to include new Export button.
- Updated System section to include modified System tab and new Hardware Monitoring tab.

Release 5.4

- Updated System section to include Update tab.
- Updated IP Camera Recording and Analog Camera Recording pages to include new layout.
- Update Serial Profile and Serial Port pages to include new layout and columns.
- Added Search Archive page.
- Updated Client page to include audio/video synchronization option.

Release 5.6

- Updated Notifications section to include new layout and Attach Preview feature.
- Updated Schedule section to include new layout.
- Changed Search Archive page to Archive and documented expanded functionality.
- Added deblocking feature to Client section.
- Added Layouts section.

Release 5.8

- Added 2-Way Audio section.
- Added 2-way audio features to Audio Inputs and Client sections.
- Modified Storage section to include Extended and Network tabs.
- Added Enterprise Storage section.
- Modified Add Systems page to include central server database location feature.
- Modified Notifications section to include new supported tags.

Release 5.10

- Added Source Groups to the Event Linking section.
- Added International Character Support and Send Usage Statistics to the System section.
- Clarified information in the Notifications section.

Release 6.0

- Expanded Camera Settings section to include tabbed layout and new features.
- Updated Search Page sections to include new and modified features.
- Updated Storage and Archiving sections to include new features.
- Added new file format to Exporting Files section.

Release 6.2

- Added Bookmarks section.
- Added Support Diagnostics information to exacqVision Help section.
- Modified Smart Search section to include additional descriptions of features.
- Added new Rules feature to Serial Profiles and Search Serial sections.
- Modified Serial Ports section to include reorganized interface.

Release 6.4

- Modified Layout Panel section to include additional export options.
- Added VideoPush section to Live Page Overview chapter, and additional VideoPush information to Client section.
- Added Address IP Cameras tab feature to Add IP Cameras section.
- Updated Archiving section to include availability of multiple archive targets per server.
- Updated information about soft trigger availability in exacqVision Start.
- Updated Bookmark section to include export of multiple bookmarks in a case.

Release 6.6

- Modified Views section to include System Views, User Group Views, and User Views.
- Modified Add IP Cameras section to include additional EasyConnect features.
- Modified Event Monitoring and Live Event Monitoring sections to include new options.
- Modified VideoPush section to include event button functionality.
- Updated Network tab on System page.

Release 6.8

- Reorganized and expanded on features described in Views section.
- Modified Groups section to include custom group icons and item sorting.
- Modified Add Systems section to include new Import/Export tab and features.
- Modified System section and added Enterprise System section to include Outbound Connections tab.

Release 7.0

- Modified Updating exacqVision Client Software section to include additional information and options in About box.
- Modified Hardware Tab section to include Graphic format for systems with RAID arrays.
- Added Associations tab to Camera Settings section, and Associations overlay to Live Page Overview section.
- Added details about the Status column messages to the Add IP Cameras section.

Release 7.2

- Added Access Control section and information.
- Added Indicators section and information
- Added LDAP configuration instructions (Individual server based, non-Enterprise)
- Added LDAP EDGE support note to this section
- Added LDAP Enterprise configuration instructions
- Added List Search instructions and information
- Added Multistreaming options in Client section
- Updated Config|System section with proper sub headings and TOC links

Release 7.4

- Changed Add Access Control section to Add Security Integrations
- Updated Section 4 Config(Setup)Page Overview screenshot to current
- Removed text that stated health Indicators were not supported
- Added information about interrupted exports resuming automatically
- Added PoE Ports page for Una
- Added Manual Failover for page
- Added DHCP option on Network configuration page

Release 7.6

- Updated WS discovery
- Updated IP reconnect interval for faster connection after a connection loss on some cameras
- Added Second reviewer function
- Updated Windows 10 server support
- Added Hardware client decoding
- Updated Map functionality enhancements
- Added PTZ Area Zoom