ViewCommander-NVR

Version 6

User Guide

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Note: Some product features included in this manual may not be available in all product versions.

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ViewCommander-NVR User Guide

The ViewCommander-NVR (Network Video Recorder) Software connects to Network IP cameras and video servers. It lets you to view, record, and manage your IP video devices.

This guide describes the software features and functions included with the ViewCommander-NVR Professional Plus edition, as well as some functions and features that are optional add-on features. Some features and functions listed may not be available in all ViewCommander-NVR editions.

Video Sources - IP Cameras and IP Video Servers

ViewCommander connects to a wide range of IP video cameras and IP video servers. These IP video devices are also referred to as *Video Devices* or *Video Sources* throughout this document.

Video Source Connectivity

Before ViewCommander can connect to your video source, it is essential your video source has an IP address or hostname, and that the video source is accessible to the ViewCommander computer via a network connection.

If you can connect to your video device with a web browser from the ViewCommander computer, then ViewCommander will also be able to connect to this video source, provided the model is supported by ViewCommander.

If you cannot connect to your video device with a web browser from the ViewCommander computer, then it is unlikely that ViewCommander will be able to access this device either. If you are in this situation, please consult the documentation that came with your video device on how to set up the connection and gain access to the camera or video server.

See *Video Source Setup and Configuration* on page 5 for adding a video source to ViewCommander.

Video Source Settings

All IP cameras and video servers come with utilities to change the settings on the device itself. Usually these settings can be modified with a web browser by connecting to the video source directly. These settings can include:

- Video settings, such as brightness and contrast
- Video frame rate and bandwidth settings
- Pan Tilt Zoom functions, such as speed and preset position settings
- Other special functions, such as preset touring, video overlay text, etc…

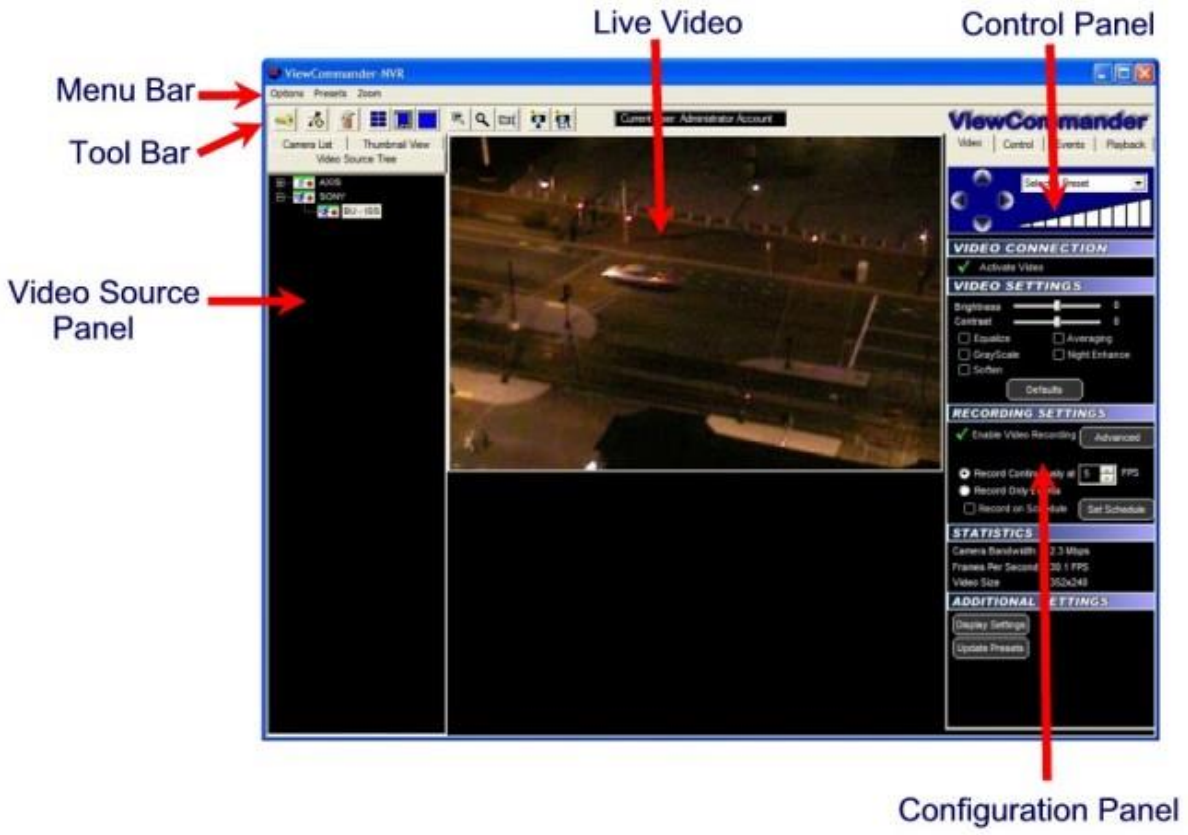
Many of these settings can be specified when setting up a video source in ViewCommander. However, some settings cannot be specified in ViewCommander and must be set on the video source directly. This varies between the different camera models.

See *Video Source Setup and Configuration* on page 5 for settings these settings in ViewCommander.

ViewCommander-NVR User Interface

ViewCommander-NVR has an easy to use interface allowing the operator to view and control remote video cameras, and to adjust various video settings. This section describes the different components that make up the user interface.

Many sections throughout this manual will reference the terms listed here.



Menu Bar

The menu bar lists options that allow for the configuration of system settings, navigation, and other features the system offers.

Tool Bar

The tool bar contains shortcuts to commonly used features.

Video Source Panel

Select one of the following tabs in the Video Source Panel for the video source layout you would like to view:

Video Source Tree – Displays a list of all video sources, which can then be expanded to show cameras attached to each video source.

Camera List– Displays a list of cameras only – for easier navigation. Checking the "Show only active" box will only display cameras that are active and receiving live video. Un-checking this will list all cameras in the tree.

Thumbnail View– Displays thumbnail size images of all incoming active video cameras.

Icons next to each item in the Video Source Tree and Camera List indicate the status of the camera. By looking at the tree, you can determine if a video feed is active, if recording is enabled, and if there is event activity on that camera.

Live Video

The live video image is displayed in the main viewing area. The dimensions of the displayed video change proportionally to the size of the ViewCommander-NVR application.

Some camera systems allow the camera to be centered by clicking on an object within the live video screen.

Configuration Panel

The Configuration Panel allows you to configure several settings for the camera and video image. When video is being displayed, different settings can be adjusted and controlled in the configuration panel.

The configuration panel contains four 'tabs' – Video, Control, Events, and Playback. See the *Configuration Panel Overview* on page 10 for more information on these options.

Control Panel

A small control panel is embedded in all configuration panel tabs for easy access to camera control functions. The control panel allows you to pan, tilt and zoom the camera for PTZ-enabled cameras, as well as other navigation methods, including preset position selection, depending on your specific camera model.

NOTE: When selecting the Playback tab, the control panel switches to a Digital Video Recorder (DVR) Control, allowing you to play, pause, fast forward, and rewind recorded video. The DVR control will remain visible on all tabs, and the main viewing area will show pre-recorded video until the "EXIT DVR MODE" button in the control panel is pressed.

Video Source Setup and Configuration

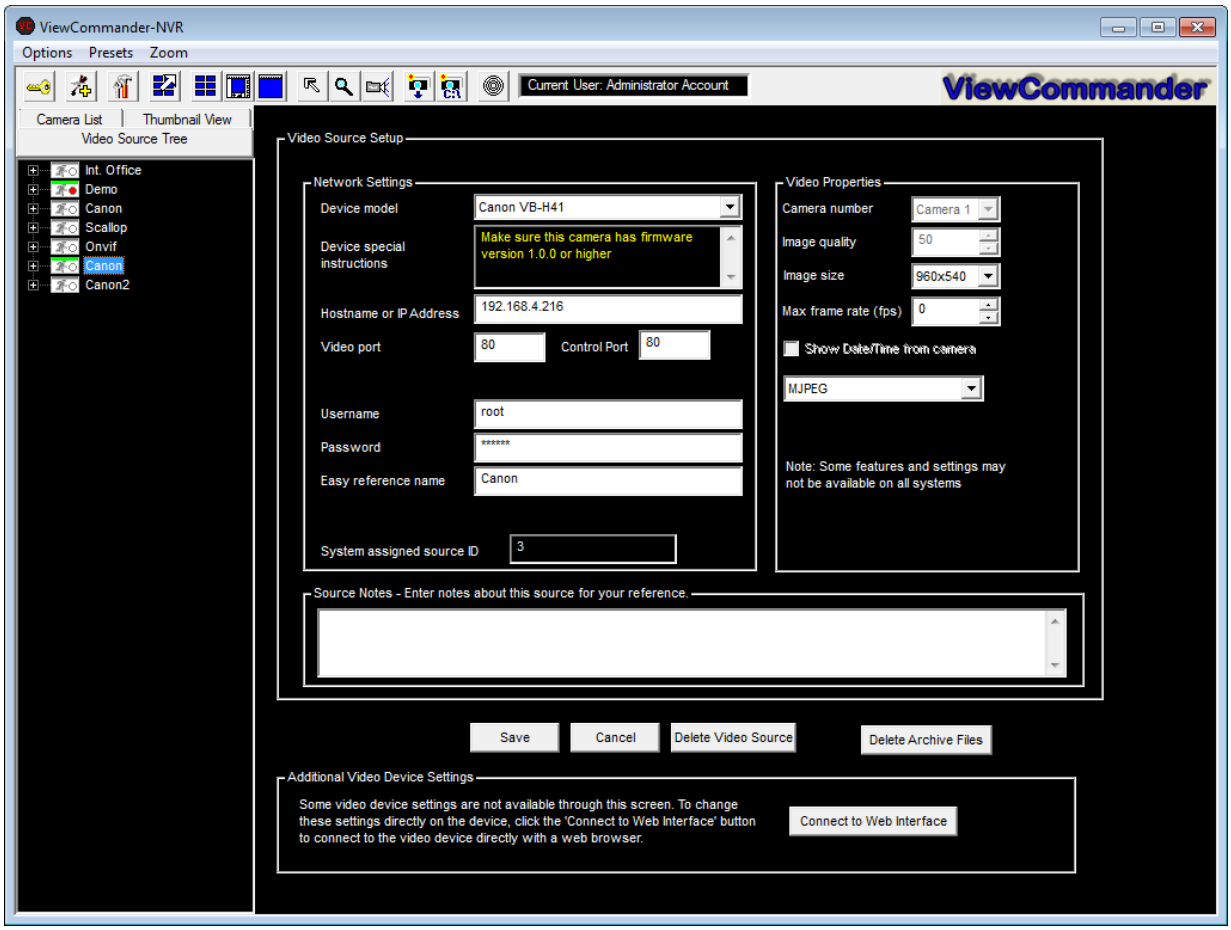
ViewCommander-NVR allows you to add and configure multiple video sources, which can either be network cameras or network video servers. Multiple sources can be added to the list, and your license agreement will determine the number of video feeds that can be active at one time.

Add New Video Source

To add a new video source:

Press the “Add New Video Source” button on the toolbar,
or select “*Options* → Add New Video Source” from the menu bar.

After the “Add New Video Source” button is pressed, the main viewing area will show the Video Source Setup Panel. Add your camera or video server settings here and press the “Save” button to save your changes.



Video Source Setup

The Video Source Setup Panel contains the necessary settings to connect to remote network video cameras and servers. Each setting will be described below:

Device Model

Select the model of the network video server you will be connecting to. This example shows the “Axis 2130” model has been selected.

Host Name or IP

Enter the IP address or Host Name of the video source you want to connect to. If unsure of what to enter here, check with your company’s technical administrator.

Video Port

Enter the port that the camera server is sending video on (usually port 80).

Username

Some systems require a username and password. If your camera server requires a username and password, enter the username here.

Password

Some systems require a username and password. If your camera server requires a username and password, enter the password here.

Easy Reference Name

Create a name for the server for easy reference.

System Assigned Source ID

This is a number assigned by the system. It is used by the system for functions including storage and web access. This value cannot be changed.

Image Quality

Some camera servers allow you to set the video quality.

Lower quality settings will reduce image quality, but allow for a faster frame rate.
Higher quality settings produce a clearer image. Higher image quality results in larger image and video size, so increasing this value will also mean that the incoming frame rate may be reduced.

Valid settings are from 0 to 100. Settings from 50 to 75 are recommended on most systems.

Image Size

Some camera servers allow video to be transmitted in different sizes. Select the appropriate size for your needs. The lowest setting that is acceptable to

you is recommended. Lower settings allow for faster frame rates and faster processing. Lower image sizes also require less disk space for recording.

Max Frame Rate

Video frame rate can be limited to reduce network bandwidth traffic. Select the maximum frame rate at which you want to receive video. Valid ranges are from 0 to 30 Frames per second.

A setting of 0 will get the default frame rate that is set on the camera or video server.

Note: Frame rate may be limited depending on your network's capacity and the capabilities of the camera server. The frame rate selected is a cap on how fast the camera server will send video.

Show Date/Time

Some camera servers allow a date and time stamp to be embedded in the video image. Check this option to enable this feature.

Save / Cancel Buttons

Click the "Save" button to save your changes, or the "Cancel" button if you don't wish to save your changes.

"Delete Video Source" Button

Press this button if you wish to permanently remove the video source from the system. You will be prompted for confirmation when selecting this option. Once this option is selected, the camera server and all camera settings associated with this server will be removed from the system.

"Connect to Web Interface" Button

Some video cameras and servers allow you to adjust additional settings through a web-based interface. Select this option to connect to a remote camera server setup screen. Refer to your camera's manual on adjusting these settings.

View Modes

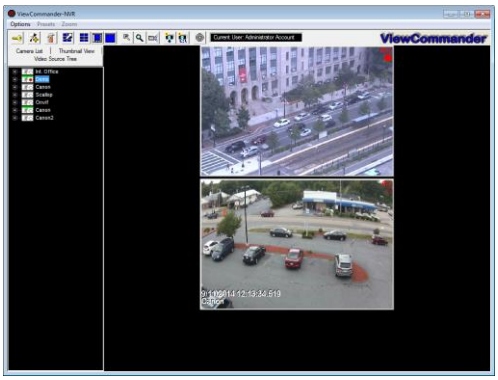
ViewCommander-NVR lets you to display the video in several screen formats:

MultiView Mode

Select the *Display MultiView Mode* icon from the toolbar to enter MultiView Mode. This mode displays all active video feeds in the main viewing area. Video images will be optimally sized to fit the screen.

When in MultiView Mode, video feeds with motion activity will be highlighted with a red box (if the motion detection feature is enabled for a particular feed).

When a video image is clicked, the video will expand, and the view mode will switch to Video and Control Mode (see *Video and Control Mode* section below).



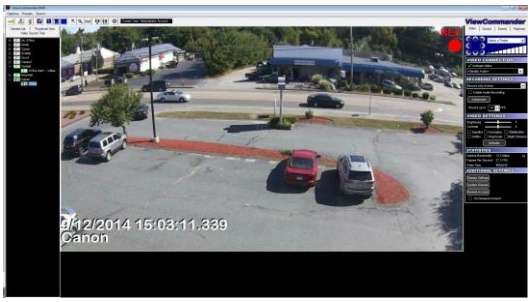
In *MultiView* mode, all video screens are displayed.

Video and Control Mode

Select the *Display Video and Controls* icon from the toolbar to enter Video and Control Mode.

Note: The mode will switch to Video and Control Mode when a video feed is selected from a camera in the Video Source Panel.

Control Mode will display the Configuration Panel on the right hand side of the screen. In this mode, you will have access to advanced features of the video and camera settings (see the *Configuration Panel Overview* section on page 10).

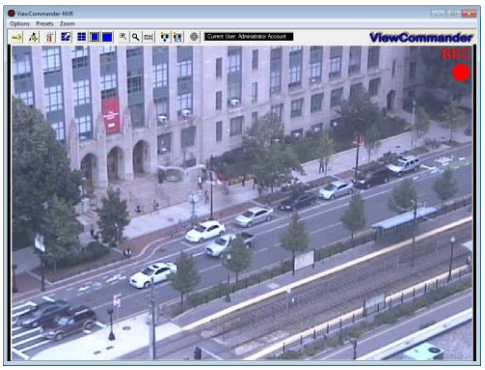


In *Video and Control* mode a single video screen is displayed. The right side of the screen will display the tabs for the different configuration panels (shown here).

Full Screen Mode

Select the *Display Full Screen Video* button from the toolbar to enter Full Screen Mode.

Selecting this option in Video and Control Mode will expand the video to fill the entire viewing area. Selecting this option in MultiView Mode will display all active video images to fill the entire viewing area.



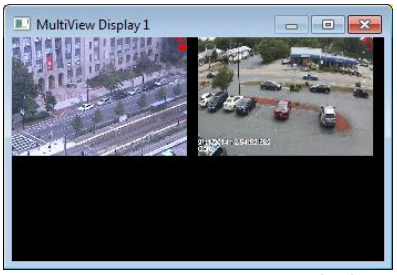
Full Screen mode will show a live video in the entire viewing area. You can control PTZ functions by clicking in the image, or selecting an option from the menu bar.

Remote MultiView Window

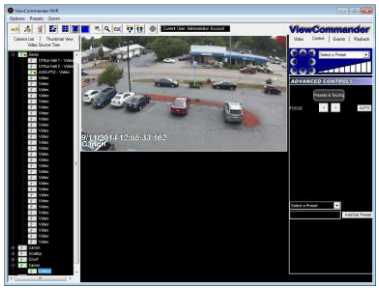
Select the "Toggle MultiView display in External Window" to create a new window containing all the live video thumbnails.

This window can be moved and resized to fit on a separate monitor. Clicking on a video feed in the MultiView window will switch the active video feed on the main screen to this selection.

You can choose to have video not be displayed in the remote MultiView window by disabling it in the Display Settings screen. See *Display Settings – Set Camera Properties* on page 15



Remote window


Control video in the main viewing area, while watching all the video feeds in a separate window or separate monitor.

Remote MultiView Window for Multiple Floating Windows (optional feature)

Select the "Toggle MultiView display in External Window". You will then be presented with a screen to choose which floating windows to display (up to 32 floating windows). You can then drag and drop a camera from the camera list into a selected window.

You can choose to have video not be displayed in the remote MultiView window by disabling it in the Display Settings screen. See *Display Settings – Set Camera Properties* on page 15

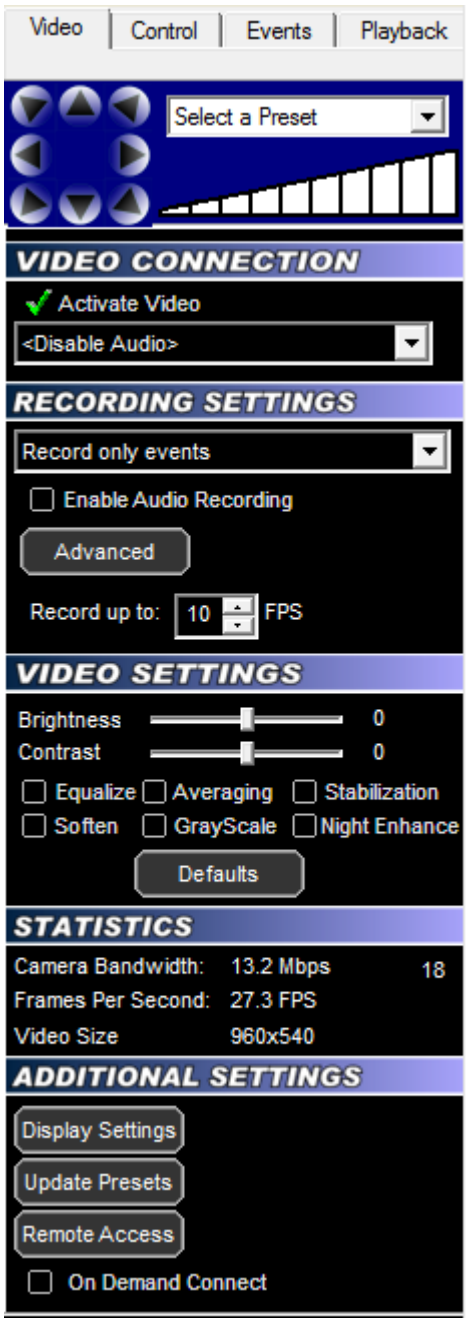
Configuration Panel Overview

The Configuration Panel allows easy access to each camera's settings. The configuration panel contains four tabs:

- Video – To control video settings and set recording options
- Control – Advanced controls for some IP camera models
- Events – To set up motion detection settings, I/O alarms, and other events
- Playback – A panel to playback saved video organized by dates & times

Video Configuration Panel

The Video Configuration Panel allows you to adjust video settings, set recording options, and control PTZ functions.



Embedded Mini Control Panel

The reduced size control panel is a convenient way to control PTZ video cameras without opening a separate control panel. (See page 42)

Video Connection

Activate Video

Checking this option will establish a network connection between ViewCommander and the camera to obtain a live video stream.

Enable/Disable Audio

Choosing “Enable Audio” will establish a network connection between ViewCommander and the camera to obtain a live audio stream.

Video Enhancement Settings

The video enhancement settings allow for the enhancement of the video stream in real-time, as well as in playback mode. In order to maintain the original image integrity of the image that was received from the camera, these video enhancements are applied after the video is received and recorded.

Brightness

Adjusts the brightness of the video.

Contrast

Adjusts the contrast of the video.

Equalize

This video property allows light levels in the video to be equalized, and makes objects easier to see in darkened images.

Grayscale

Grayscale converts a color image to a black & white image.

Soften

Softening the video will reduce visual noise and artifacts.

Averaging

This feature will further reduce noise and bring out detail in non-moving objects within the video.

Night Enhance

This feature will brighten and enhance detail in non-moving objects in dark video.

Stabilization

Selecting this option will stabilize the video when the camera is shaking or swaying. This is useful if the camera is located in an outdoor location and high winds are causing the camera to move or vibrate.

Defaults

Selecting this option returns all values to their default settings.

Recording Settings

Enable Audio Recording

Check this option to allow audio to be saved to disk for later playback.

Record Continuously at __ FPS

Select this option to continuously record video (as opposed to saving video only on motion detected events). Adjust the Frames per Second (FPS) value to record video at the desired frame rate. Lower frame rates use less disk space.

Note: If the incoming video frame rate is lower than the frame rate specified in this option, then the video will be saved at the incoming frame rate.

Record Only Events

Selecting the “Record Only Events” radio button will save video only when events are triggered, provided the event properties are set to record video (see Record Video on page 22). Events can include motion, I/O, or other detected events. Events can be configured in the Events Configuration Panel. When an event is detected, it will be saved at the incoming frame rate.

Record Continuously W/ Schedule

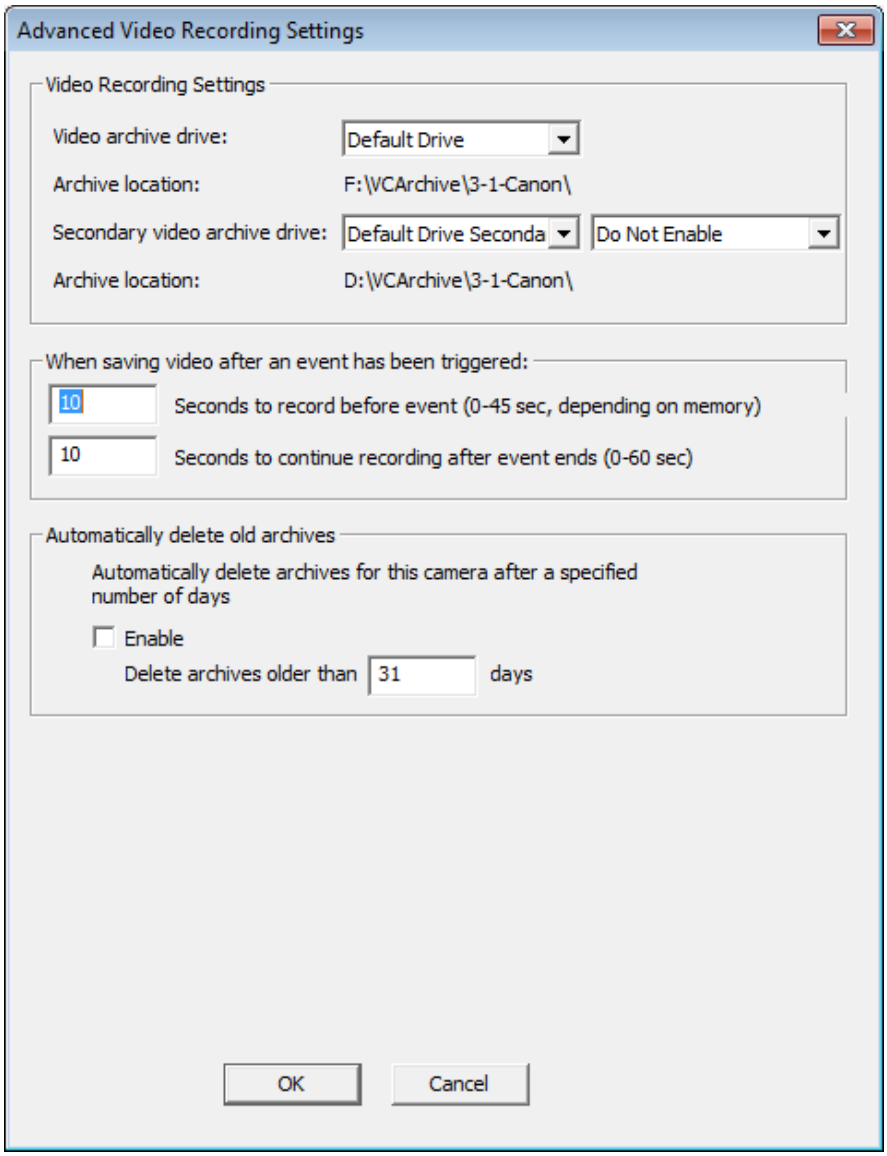
Select this option to set a schedule of when to allow recording of video.

Set Schedule

Press this button to set up an individual schedule for this camera.

Advanced

This option allows for advanced video recording settings.



Video Recording Settings

Select a drive to save the video. If 'Default Drive' is selected, then video will be saved to the drive specified in the *System Settings.* To save to a network drive, the network drive must be mapped to a drive letter. The full UNC path will be displayed below after the drive letter is selected. In the Professional Plus model or higher, you can select a secondary failover drive to record to if the primary drive is full or offline. In the Professional Advanced model, you can record to both drives simultaneously.

Save pre-alarm video buffer

Checking this option will save all the video frames in memory to disk when an event is triggered. ViewCommander will keep frames in memory for the specified time period. The seconds specified in the "Seconds to Continue" box will determine how long to record video once the event has stopped.

Automatically delete old archives
Checking this option will delete archives older than the days specified. Archives are automatically deleted every night at midnight, and are also deleted when the software starts. Video that is locked will not be deleted.

Statistics

This section displays usage statistics for the video feed. This is useful to see how much or how many network resources the video is utilizing. The incoming video dimensions are also displayed.

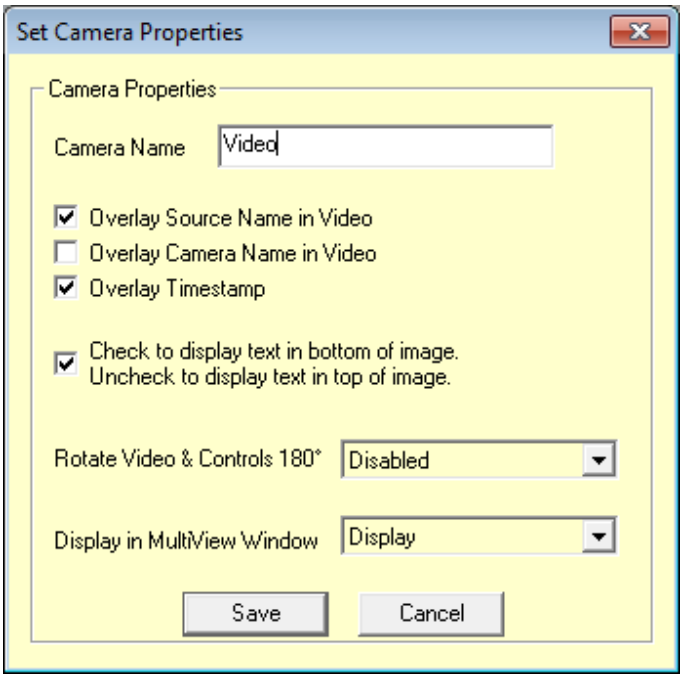
Additional Settings

Update Preset List

Some cameras have the capability to store preset positions for easy navigation. Press the 'Select the Update Preset List' button to download the presets into the control panel's preset box.

Display Settings – Set Camera Properties

These settings allow for different video options such as name overlay and rotating the video.



This option allows:

- Camera Name – Enter an easy reference name for the camera.
- Overlay Source Name in Video – checking this will overlay the video source *Easy Reference Name* in the live video.

- Overlay Camera Name in Video – checking this will overlay the camera name in the live video.
- Overlay Timestamp – checking this will overlay the current time in the live video.
- Display text in bottom of screen - Checking the option to place text at the top or bottom of the screen.
- Rotate Video and Controls 180 degrees – Select an option to rotate 'video', 'control', or 'video & control' 180 degrees.
- Display in MultiView Window - Choosing whether or not to display the video stream in the MultiView window. For systems with multiple remote windows, you will be able to choose which window number to display the video in.

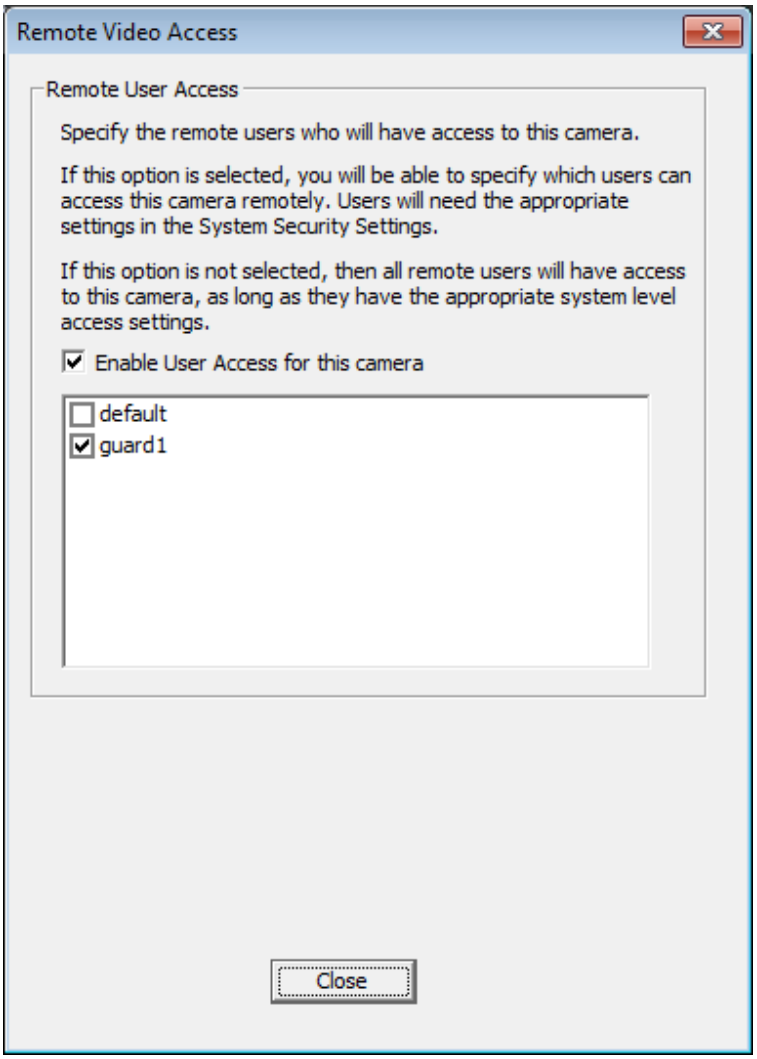
Remote Access

Remote access allows specific users to view specifically assigned cameras when connecting via the remote web interface.

Important: When a new video source is added, all remote users by default will have access to this video source. You must explicitly enable this feature for all new cameras, and assign the users who will have access to this camera.

To enable this feature:

- Press the "Remote Access" button on the Video Configuration Panel
- Check the "Enable User Access for this camera" button.



In the “Remote Video Access” screen, check the specific users who will be allowed to access to this camera. In this example, only the user ‘guard1’ will have access to this camera, in addition to the ‘admin’ account which always has access.

Note: The ‘admin’ user will always have access to all cameras, and this setting cannot be changed.

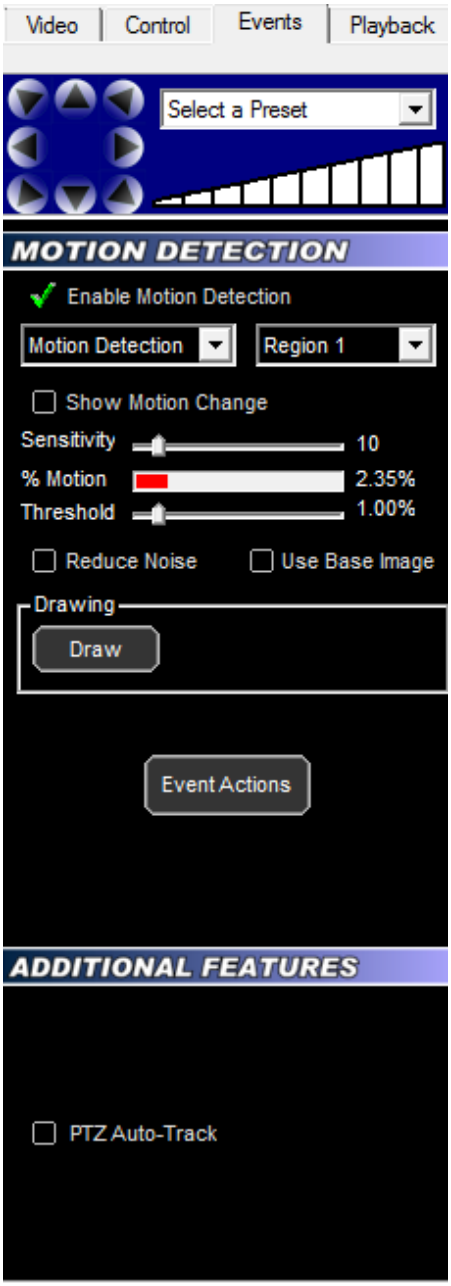
Note: If the ‘default’ user is checked, then all remote users will be able to view this camera (as long as the ‘Allow web and handheld access’ is selected in the default user’s security settings.

On Demand Connect

ViewCommander-NVR will continuously receive video even if the video is not being viewed. Checking this option will allow ViewCommander-NVR to stop receiving video until you select the video feed, or access it via the web interface. Checking this option has no effect if archiving is enabled and video is recording.

Event Configuration Panel

The *Events* tab allows for the setting of different types of events, such as motion detection or I/O port events. You can configure ViewCommander to handle events differently for each camera.



Embedded Mini Control Panel

The reduced size control panel is a convenient way to control PTZ video cameras without opening a separate control panel. (See page 42)

Motion Detection

This section allows different motion settings to be configured.

Enable Motion Detection

Checking this option will enable the motion detection system for a particular camera. Checking this option uses additional computing power to analyze the video, so leave this option unchecked unless these settings are required.

Show Motion Change

This useful feature shows where the motion is happening within the video. White pixels will be overlaid in the viewable image where motion is occurring. This is very useful when adjusting the Sensitivity setting.

Motion detection status

Sensitivity

This setting adjusts the sensitivity to detect motion. Choosing a low value for sensitivity will cause the motion detector to detect small changes in movement. This may be undesirable if small objects are moving in the background. Choosing a higher value for sensitivity will cause the motion detector to be more tolerant of movement in the image.

Also, network cameras may produce visual noise that may be detected on low sensitivity settings. Check the *Show Motion Change* box when adjusting this setting.

% Motion

This status bar shows the level of detected motion in real-time. In the example above, the % motion is 0.65% - which is greater than the set Threshold (see next item). In this event, the motion exceeds the threshold, and actions set in the *When Motion Exceeds Threshold Section* (page 21) will trigger the selected events.

Threshold

This setting determines when to take an action based on detected % motion. Setting this to lower values will trigger actions when small changes are

detected (such as a bird flying by). Higher values filter out smaller objects and will trigger alarms when larger objects are detected. The arrow on this control corresponds directly with the %motion bar above. When the motion bar above passes the arrow on this control, an event will be triggered.

Reduce Noise

Checking this option will help reduce false motion detected events caused by small amounts of movement and noise that may be caused by the compressed video.

Use Base Image

Normally motion is detected when the current video frame is compared to a video frame received earlier. In some situations, it may be better to use a base image. Selecting this option will compare the current video frame to a base image frame instead. The base frame is continuously updated and reconstructed over time.

Regions of Interest

When configuring events, you can set up motion detection for both the whole image, and specific regions of interest.

In the Professional Advanced model, you can create up to 3 regions of interest per camera. In all other models, you can create only 1 region of interest.

To set up a region of interest, use the tools in the “Drawing” section.

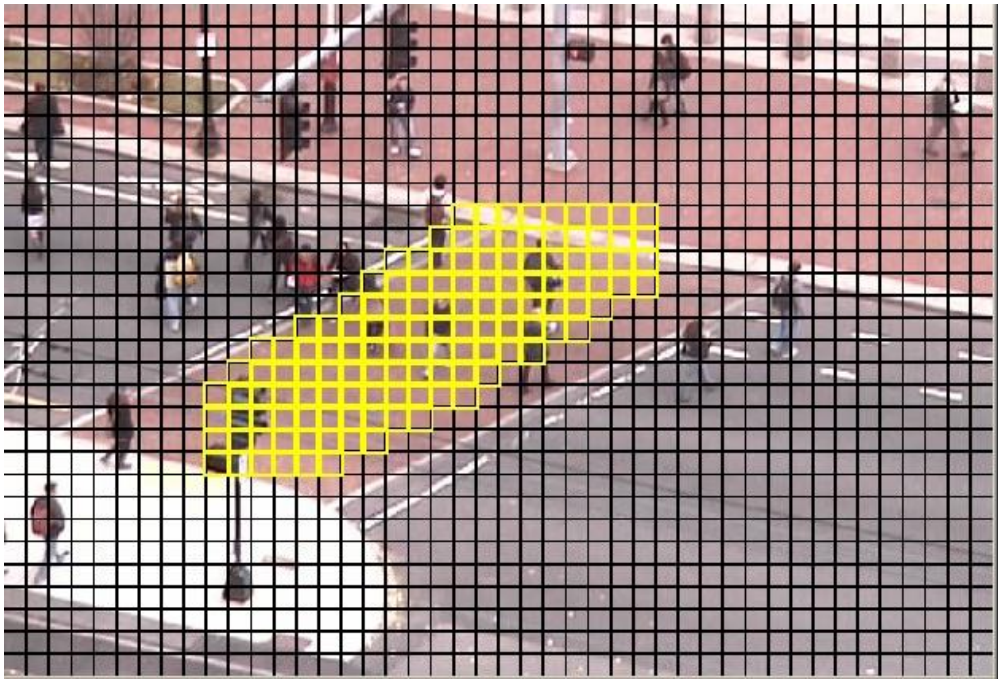
Select “Motion detection” from the first pull-down menu.

Select the desired region from the second pull-down menu.

Press this “Draw” button to begin selecting the region of interest with the mouse. When pressed, a grid will be placed over the active video. Use the left mouse button to highlight an area. Use the right mouse button to un-select an area.

Select the “Wide” checkbox to highlight several squares at once.
Press the “Reset” button to reset and unselect the entire window.

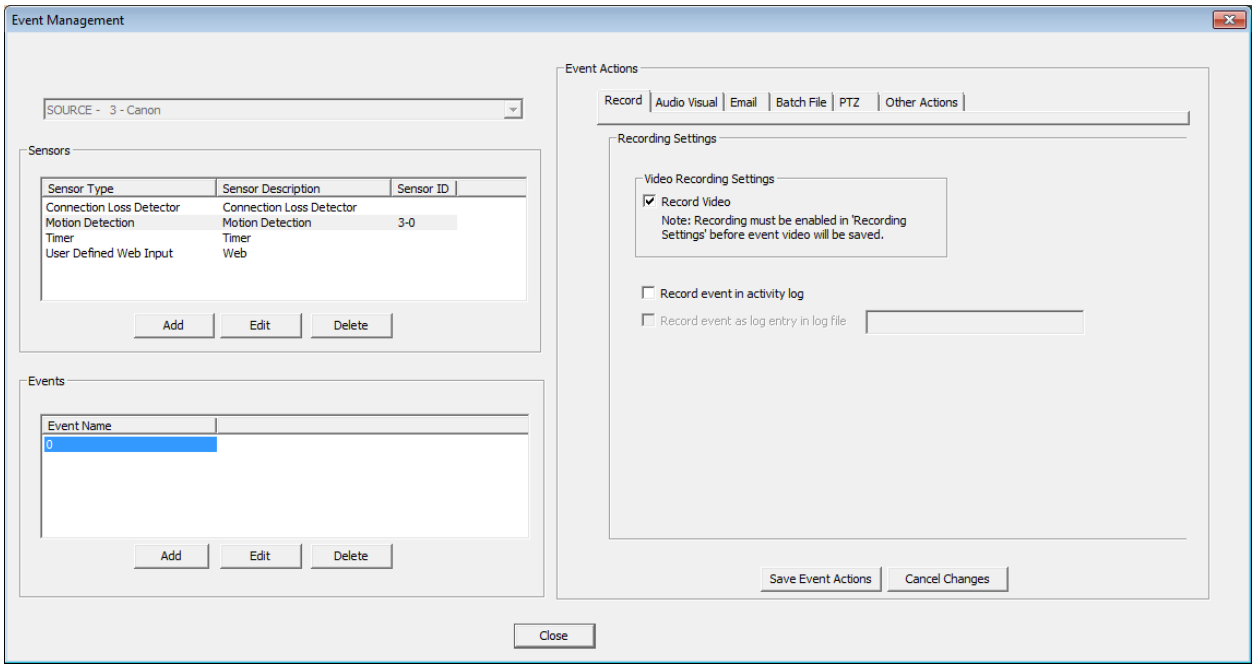
Drawing a region will look similar to the image below. In this image, only the crosswalk was highlighted.



When finished selecting the area of interest, press the “SAVE” button to save the selected area.

Event Actions

The Event Actions menu allows you to configure Sensors, Events, and Event Actions.



Sensors

Sensors are used to detect specific events, like motion, connection loss, or I/O from the camera.

To configure a sensor, press the “Add” button in the Sensors section of the menu and select a sensor type. For Motion Detection sensors, you will also need to choose between analyzing the whole image, or a region of interest (See “Regions of Interest”, p.20).

Events

Each sensor can have multiple events, each with their own set of Event Actions. To configure an event, first choose a Sensor, then press the “Add” button in the Events section of the menu.

Each event has a user-specified name, and can be configured to be triggered either any time or on a specific schedule. Multiple events on each Sensor can be given their own individual schedules.

Event Actions

Each Event can be assigned a number of Event Actions, which occur whenever the event is triggered. The Event Actions are grouped into several tabs for organization.

Record

Record Video

Checking this option will record video when an event is triggered.

IMPORTANT: In addition to the “Record Video” checkbox, “Enable Recording” must be checked and “Record only events” must be selected on the Video Tab.

Record event in activity log

Creates an entry in the camera’s activity log, which can be filtered during playback.

Record event as log entry in log file

Adds an entry to the ViewCommanderLog.txt file for this event. Only some events provide this action.

Audio Visual

Flash Box

Checking this option will draw a red box around the video when an event is triggered. The Flash Box will also appear around a video feed when in MultiView Mode.

Sound Audio Alert

For systems equipped with a sound card and speakers, checking this option will play a sound when the event is triggered.

Overlay Message in Video

This option allows you to specify text to overlay when an event is triggered.

Email

These settings determine how email notification of events will be handled:

- Enable Email Notification – Email will be sent for a particular event.
- Milliseconds to wait. Set this value to wait after the event before sending the email. Useful only if the “Attach JPEG snapshot” option is checked.
- Minutes to wait – this value prevents sending too many email notifications within a period of time. This value will be the number of minutes to elapse before sending another email notification.
- Attached JPEG – check this to attach a JPEG snapshot of the current video in the email.
- Alternate email addresses. Use this field to add email addresses to send notifications to. This will override the default system email address. Use a semicolon (;) to separate multiple email addresses.

Batch File

This tab allows you to specify an external batch file to run when an event is triggered. You can specify both the file to execute, and a period of time to wait before running it again.

PTZ

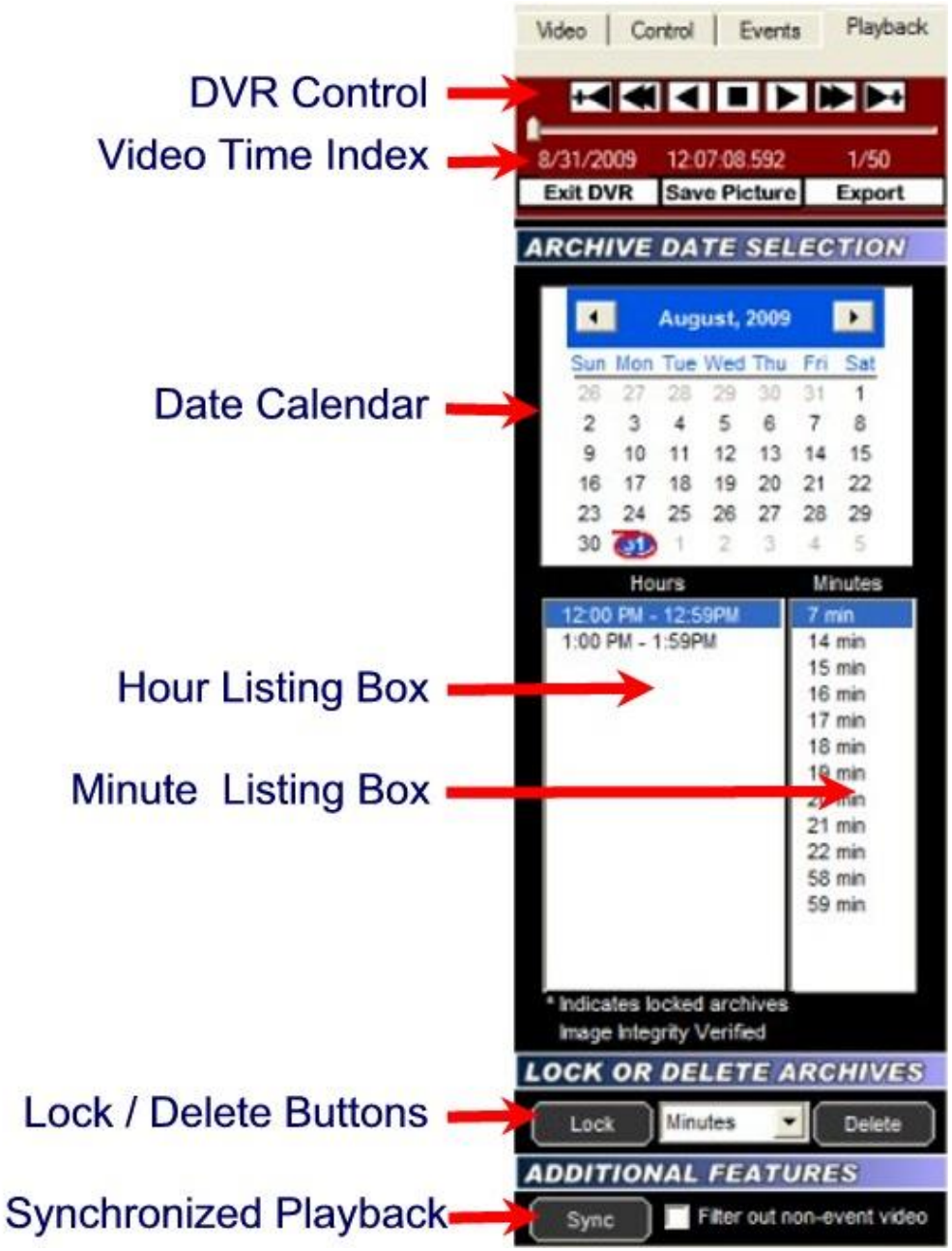
This action moves the camera to a preset position when the action is triggered. The camera returns to its original position after a user-defined time period.

Other Actions

These actions are available for Timer events only. You can configure the event to activate or deactivate ViewCommander’s connection to the camera, send an email with the camera’s status, move to a preset, or set a function on the camera, such as enabling an IR filter.

Playback Configuration Panel

When the Playback Configuration Panel is selected, the system will enter Digital Video Recorder (DVR) mode for video playback. The system will remain in playback mode until the ***Exit DVR*** button on the DVR Control Panel is pressed. This allows you to switch to the Video and Motion tabs to adjust the video settings of the recorded video – a very useful feature to enhance the video to bring out detail that may be difficult to see.



DVR Control Panel

The DVR Control Panel allows you to Play, Stop, Pause, Fast Forward, Rewind, and Step through video during playback. These controls function similarly to a DVD player's controls.

The slider bar underneath the controls shows the position in seconds within the minute. Clicking and moving it will allow you to move rapidly through the video.

Date Calendar

The Date Calendar will highlight the dates when video was recorded. The dates will be in boldface, making them easy to select. Click on a date to select video recorded on that day. A listing of the hours video was recorded will be displayed in the Hour Listing box.

Hour Listing

When a date is selected, a listing of all hours that video was recorded will be displayed in this box. Clicking on a listed hour will produce a minute listing in the Minute Listing box.

Minute Listing

This displays a list of minutes video was recorded for the date and hour selected. Select a minute from this listing and press the "Play" button on the DVR Control Panel to view the archived video.

Delete

Pressing the Delete button will delete video for the Day, Hour, or Minute selected, depending on what option is selected in the pull-down menu adjacent to this button. Locked video cannot be deleted until it is unlocked.

Lock

Pressing the Lock button will lock video for the Day, Hour, or Minute selected, depending on what option is selected in the pull-down menu adjacent to this button. Locked video cannot be deleted unless it is unlocked.

Image Integrity

A message will be displayed confirming whether or not the video has been altered. The message "Image Integrity Not Verified" means the video has either been modified by an external program, or no fingerprint information has been saved with the video.
A confirmation message "Image Integrity Verified" will be displayed if the image and timestamp match the digital fingerprint saved when the video was recorded.

Save Picture

Pressing this button will save the current video frame to a JPEG file on disk. This is useful if you need to save or send an image via email or other means. If the video frame has been digitally enhanced, the enhanced image will be saved.

Filter out non-event video

Checking this option will display video only at the times which an event occurred.

Export

From the Playback configuration Panel, click on the ‘Export’ button. The ‘Export Video Archives’ screen will appear.

Select this option to output the video to an .AVI, .VCA, or an .EXE file.

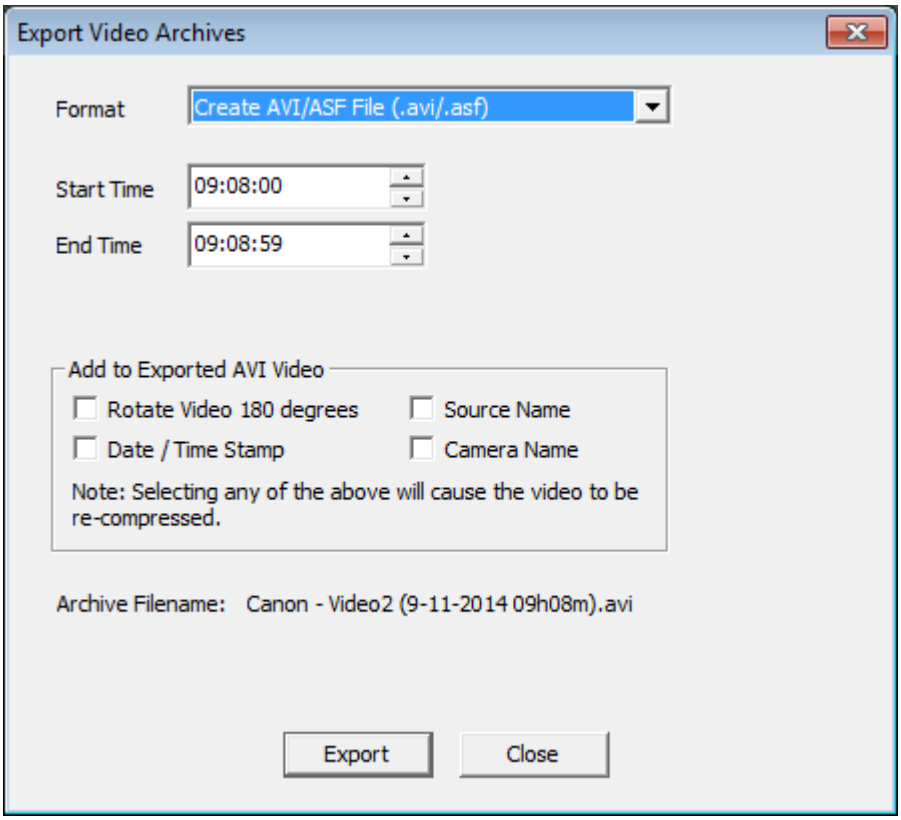
AVI files can be played in external media players, such as those shipped with many operating systems.

The VCA (ViewCommander Archive) format also exports the image timestamp and image fingerprint to verify the image integrity during playback. Note: This is the only format that will export audio.

VCA files must be played back with the ViewCommander-Player. ViewCommander-Player can be distributed with the exported video and does not require any further licensing.

The VCA and ViewCommander-Player is available with Pro-Plus models and higher.

The .EXE format combines both the archive video/audio with ViewCommander-Player.



Format

Select a video format to save the exported video. Choices are an .AVI file, .VCA file, or an .EXE file (ViewCommander-Player combined with the archive).

Start Time

Select a start time of the video to save. This value will be added to the ‘start time’.

End Time

Select the end time of the video to save. The end time cannot go past midnight of any day.

Rotate Video 180 degrees

Check this option to rotate the video 180 degrees.

Source Name & Camera Name

Checking this option will overlay the source and/or camera name in the exported video.

Date / Time Stamp

Checking this option will overlay the date and timestamp of the video in the recorded video.

Note: when exporting to AVI, checking any of the above options will require uncompressing the saved video, modifying the image, and recompressing the video. This will result in longer export time and possibly slightly degraded video quality. If your camera allows, rotate the video and add timestamps at the video source itself.

Export File button

Press this button to begin exporting video. You will be able to choose a filename and path to save the exported video.

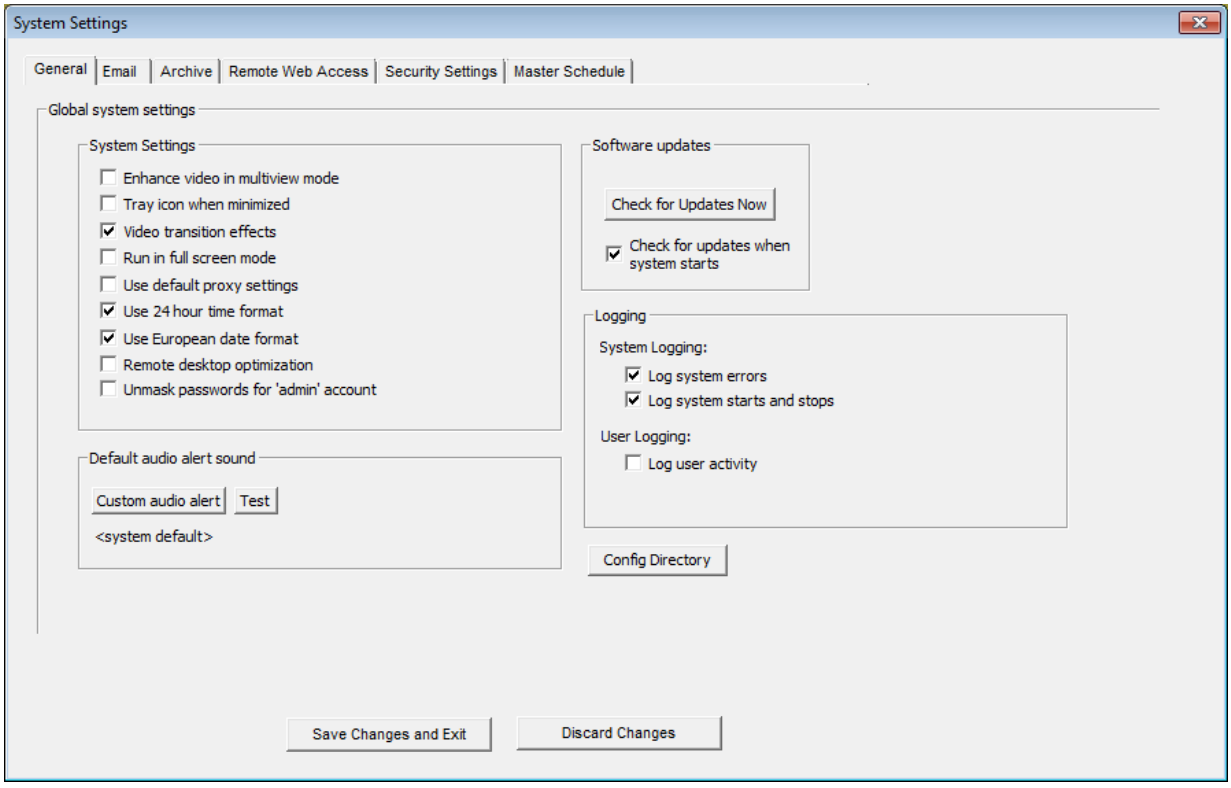
System Settings

The system settings dialog box allows you to configure system settings and select options that apply globally to the whole system, as well as to all cameras. You can override some settings on a per camera basis, such as scheduling and archive save location.

The System Settings screen is broken down into several sections (tabs).

- General – configure global system settings. (page 28)
- Email – configure your email server settings for email notification (page 31)
- Archive – configure where video will be stored (page 33)
- Remote Web Access – configure settings to allow web browser access (page 34)
- Security Settings – setup users and passwords. (page 36)
- Master Schedule – setup master schedules for recording, emailing, etc… (page 39)

General Settings



Enhance thumbnail images

Checking this option will display digitally enhanced video for each video camera when in MultiView mode, or when the thumbnail view is present. Enabling this

option uses more computer resources, and should be turned off if you notice the system performance slowing when in MultiView mode.

Tray icon when minimized

Check to display a small icon in the system tray when the program is minimized.

Video transition effects

Check to allow smooth video transitions. You may want to uncheck this feature if you notice system performance issues.

Run in full screen mode

Selecting this option will run the program in full screen, and prevent access to other features available on the computer. The user will not be able to switch to other programs while ViewCommander is running. This is useful if operators of this software should not be allowed to use other programs on the computer system.

Note: This is not to be confused with expanding a video feed to fill the entire screen.

Use default proxy settings

Checking this option will use any Internet Proxy settings configured in Microsoft® Internet Explorer. This may be necessary for users behind some types of firewalls.

Use 24 hour time format

Check this to use a 24 hour clock. Uncheck this to use AM and PM in time displays.

Use European date format

Check this to display dates in the DD/MM/YYYY format. Uncheck to display dates in the MM/DD/YYYY format.

Remote desktop optimization

Checking this will automatically disable video from being updated on the screen when connecting to the PC using Window's® remote desktop. Having the video update may cause the Remote Desktop program to respond slowly. This will not affect the video recording, or remote user playback.

Custom audio alert

Click the 'Custom audio alert' button to select your own .wav sound file to play when an event occurs. Click the 'test' button to preview the sound.

"Check for Updates Now" button.

Press this button see if there are any software updates available. If updates are available, a web browser will appear with download instructions.

Check for updates when system starts.

Check this box to allow the system to automatically look for product updates when the software starts. If updates are available, a web browser will appear with download instructions. Updates are not automatically installed. You may also press the “Check for Updates” button to see if updates are available.

Note: Updates are not automatically installed.

Log system errors

Check this option to log system errors.
This will save to the ViewCommanderLog.txt file.

Log system starts and stops

Check this option to log system every time the system starts or stops.
This will save to the ViewCommanderLog.txt file.

Log user activity

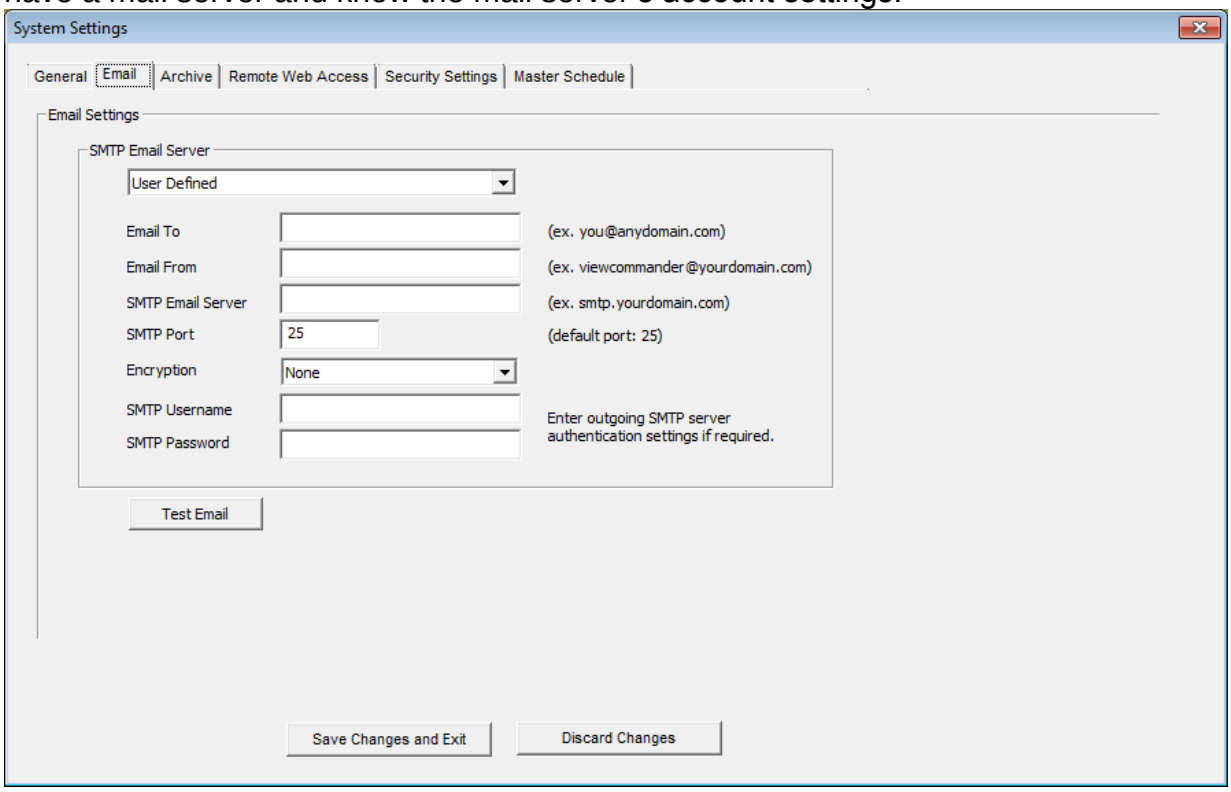
Check this box to log every time a new user logs in via the web interface remotely. Log will save to the UserLog.txt file

Config Directory button

Clicking this button will open (or display the directory path) of the directory where the ViewCommander configuration files are stored. This is also the path of the log file location.

Email Settings

This screen allows you to configure your email server settings. ViewCommander is compatible with many email systems. In order to set up email notifications, you must have a mail server and know the mail server's account settings.



Email to

This is the default email address of where notification emails will be sent. Email notifications may come from individual cameras, or from the system itself alerting you of any system changes (such as if this email is address is changed).

Email From

Enter the email address where email notifications should come from. Some email systems require this be a valid account on the email system.

SMTP Email Server

Enter the IP address or hostname of your SMTP (outbound) email server.

SMTP Port

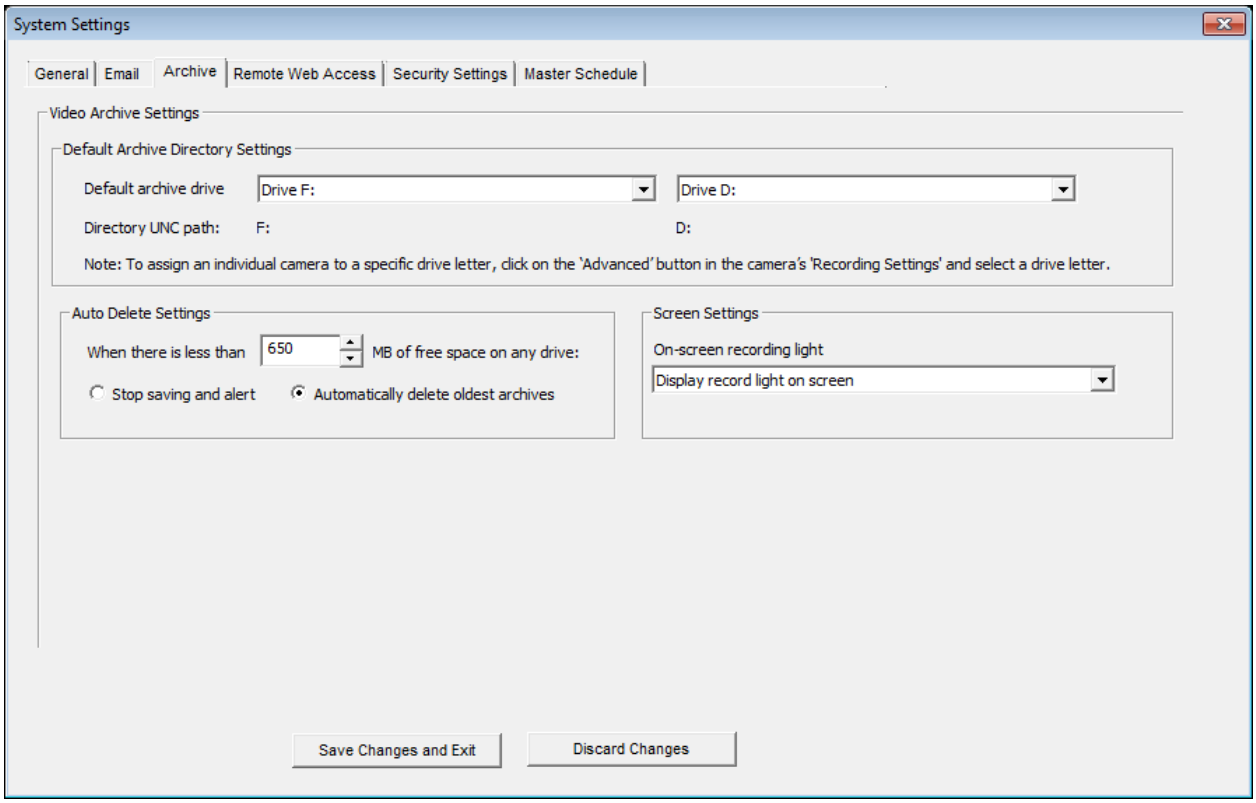
Enter the port of your SMTP (outbound) email server. This is usually port 25.

Encryption
The type of encryption used by the email server. Options are SSL and TLS.

SMTP Username
A username may be required to be able to send email from some SMTP servers.

SMTP Password
A password may be required to be able to send email from some SMTP servers.

Archive Settings



This section contains items related to saving video to the hard disk on the computer.

Default Archive Directory Settings

This setting allows you to choose the drive to use for video storage. Press the "Change" button to select a different drive.

Note: Selecting this will show only the drives on the system that can be recorded to. ViewCommander supports the saving of video to Network Attached Storage (NAS) as long as the network drive is mapped to a drive letter. Once selected, ViewCommander will extract and use the Universal Naming Convention (UNC) network path.

Note: If this software is running as a Window's service (see *Running the software as a Windows Service* on page 42), your network mapped drive letter will not appear in the drive pull-down list. If this happens, temporarily disable this software from running as a service and start the program manually. The mapped drive letters will then appear in the pull-down list. After selecting a drive, ViewCommander will extract the UNC path, and the system can be restarted as a service. ViewCommander will use the UNC path thereafter.

Auto Delete Settings

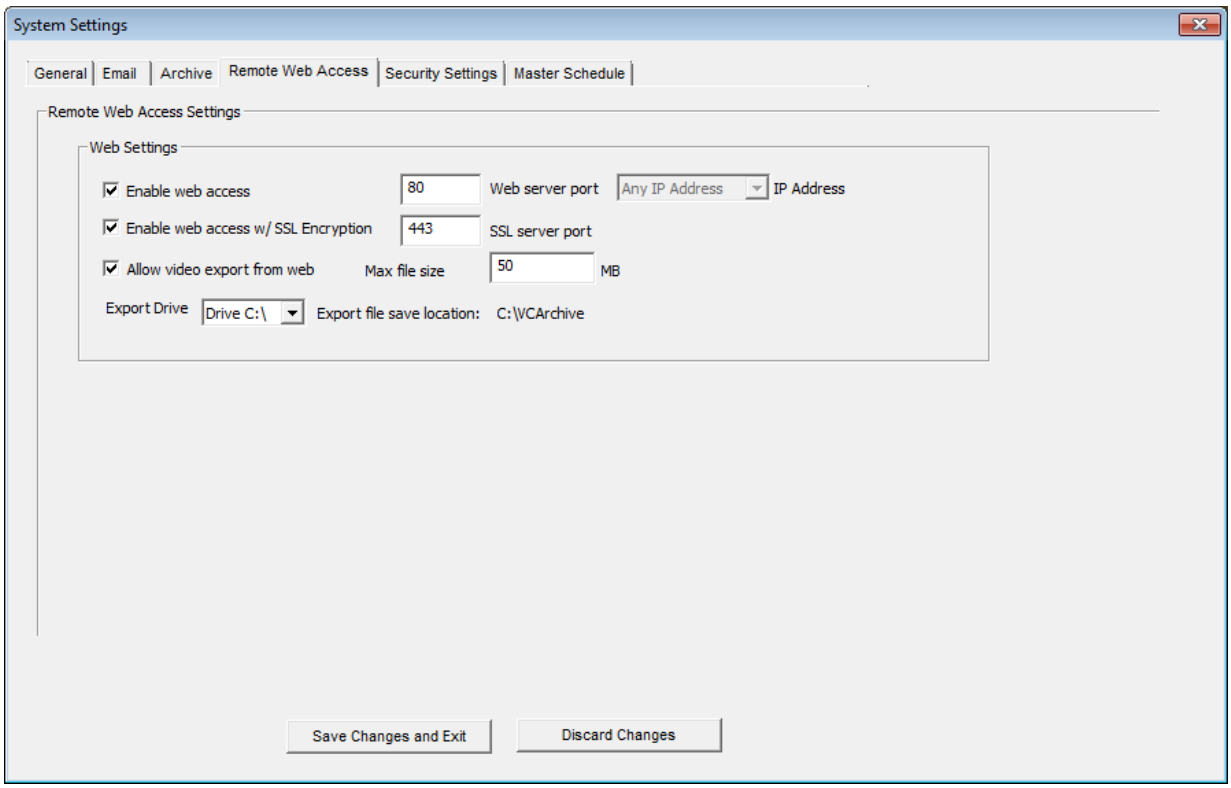
When the amount of free disk space is less than this value, you can select one of two options:

1) Stop saving and alert – Video will stop being saved to disk until you manually free disk space. A 'disk full' message will appear in the live video feed.
2) Automatically delete oldest archives – The oldest video archives in the Archive Directory will be automatically deleted, unless they are locked.

Optical Storage Unit

Some copies of ViewCommander allow integration with Rimage® Optical Storage Units. If your copy of ViewCommander includes this feature, it can be configured here.

Remote Web Access



This section contains configuration settings for the integrated web/video server. Enabling this option will make ViewCommander's live and recorded video available to remote users who connect to the ViewCommander system using a standard web browser.

Enable Web Access

Checking this option activates the ViewCommander-NVR Video Web Server - allowing video to be seen and controlled over IP networks including the Internet.

Web Server Port

Set the port that the video server will use. Port 80 is the standard port for web servers. It is strongly recommended (but not necessary) that if you change the port, you use a value of 1024 or higher.

IP address

Select the IP address to use for multi-homed systems that have 2 or more IP addresses. This is useful if you are using another web server on the same system, and you wish to use it with the same port as ViewCommander's web server simultaneously.

On most systems, this option will be grayed out and you will not be able to select an option. This is normal, and means that ViewCommander is listening for connections on the computer's current IP address.

Enable Web Access w/SSL Encryption

Checking this option activates the ViewCommander-NVR Web Server with encryption. This web server is identical to the normal web server (See 'Enable Web Access', above), but encrypts the data travelling across the network for extra security.

SSL Server Port

Set the port for the secure video server. Port 443 is the standard port for SSL servers. It is strongly recommended (but not necessary) that if you change the port, you use a value of 1024 or higher.

Allow Video Export from the Web

Check this box to allow users of the web server to download video onto their local machines. A copy of the exported video will be saved on the ViewCommander-NVR host machine.

Max File Size

The maximum size, in MB, of videos exported by the web server. This limit saves both bandwidth and hard drive space on the ViewCommander host machine.

Export Drive

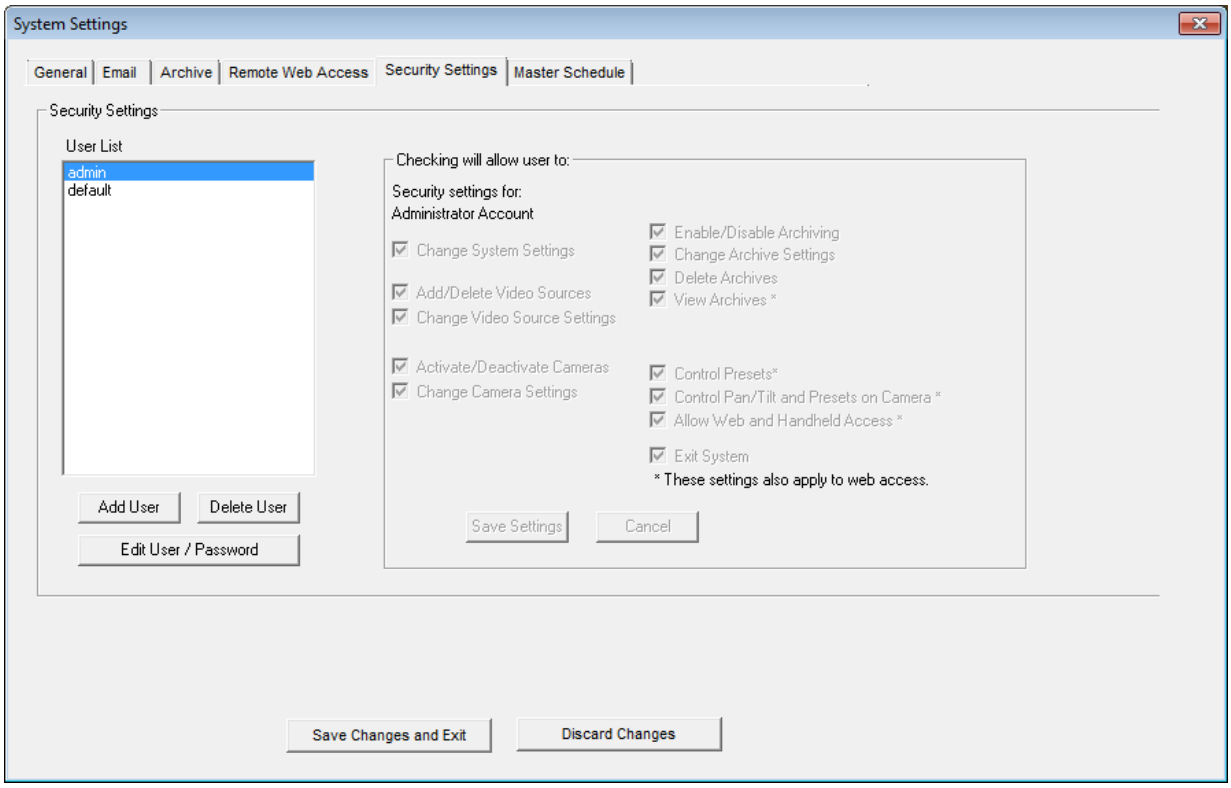
The drive on the ViewCommander host machine where exported videos will be saved. The exported videos are saved in VCArchive/exports in the selected drive.

User and Password Security Settings

The *User and Password Security Settings* screen allows you to add multiple users. Each user can have customized levels of system access. Setting up users and passwords, and enabling security, prevents system use and access from unauthorized users.

Note: Enabling the *User and Password Security Settings* prevents unauthorized access to specific features within the ViewCommander-NVR program. These settings do not protect the computer system from unauthorized use. Please consult with your network systems administrator for more information on securing the computer on which ViewCommander-NVR is installed.

The screen below shows the users on the left, and the user's respective security settings on the right. There are additional buttons to add, delete, and edit a user.



User List

This provides a list of users who are allowed to access the system.
There are two users that cannot be added or deleted from the system:

"admin" Account
The 'admin' account (or Administrator account) allows access to all features of the ViewCommander system. The password for admin can be changed, however this account name must remain 'admin'. The security settings for this account cannot be changed.

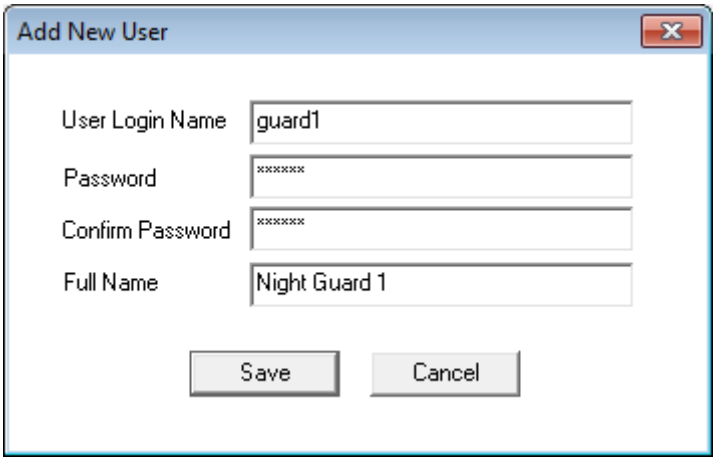
Important: By default, the admin password is not set. System security settings will not work until the ‘admin’ password is set.

“default” Account

The ‘default’ account is the account that the system starts up in. The default account does not have a password; however the security settings can be changed for the ‘default’ account.

Add User Button

Users can be added by pressing the *Add User Button.* The following screen will be displayed:

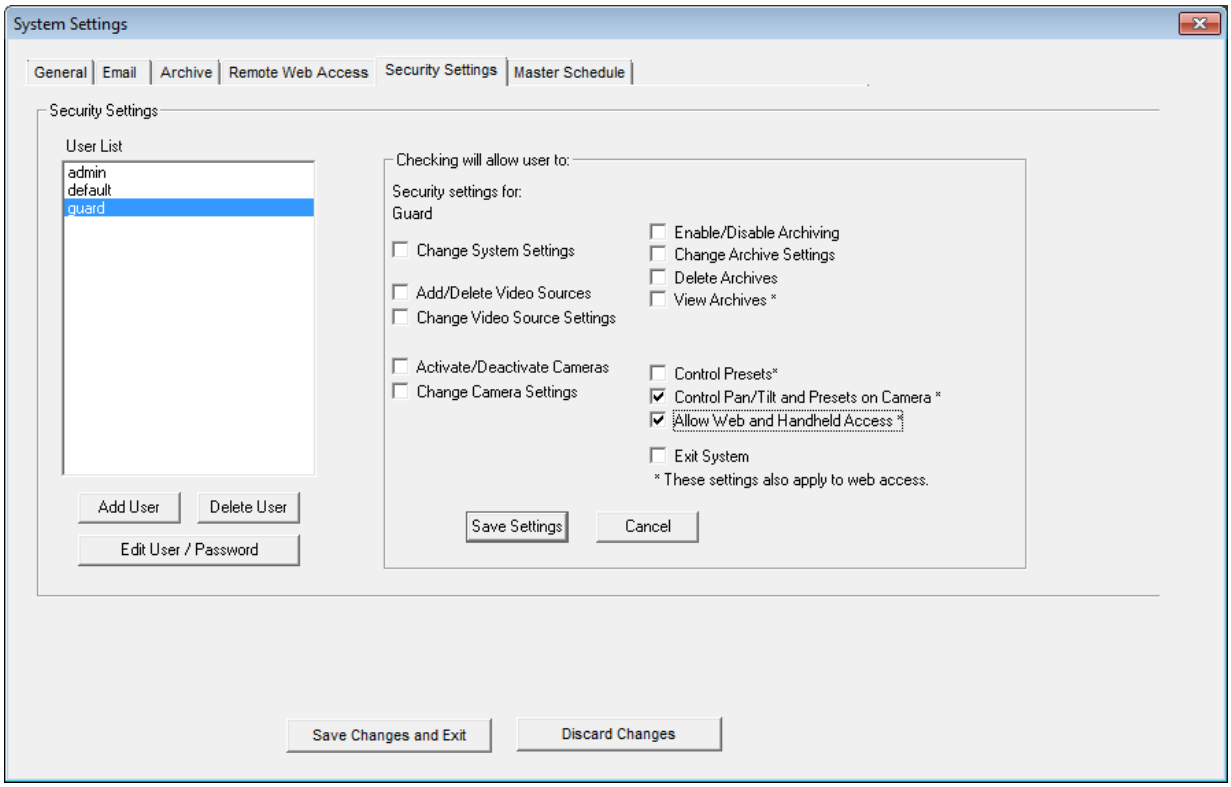


User Login Name: The name a user will log into the system with.
Password: The password the user will use to access the system.
Confirm Password: The password the user will use to access the system.
Full Name: The full name of the user, for reference purposes.

After the information has been entered, press the ‘Save’ button to save the user, or the Cancel button to close this screen without saving the user.

User Level Access

The following screen allows you to set up different levels of system access for users.



Select a user from the *User List.* Then check the appropriate levels of access for that user. Levels of Access include:

- Change System Settings
- Add/Delete Video Sources
- Change Video Source Settings
- Activate/Deactivate Cameras
- Change Camera Settings
- Enable/Disable Archiving
- Change Archive Settings
- Delete Archives
- View Archives *
- Control Presets *
- Control Pan/Tilt and Presets on Camera *
- Allow Web and Handheld Access *
- Exit System

* Items with an asterisk (*) indicate that these settings also apply to users who access the system via ViewCommander's web interface.

Master Schedule

Set up a master schedule to control system default schedules that will schedule the recording of video, email notification times, and system restarts. Refer to the *Master Schedule* section *(page 39)* for more information on scheduling.

Scheduling

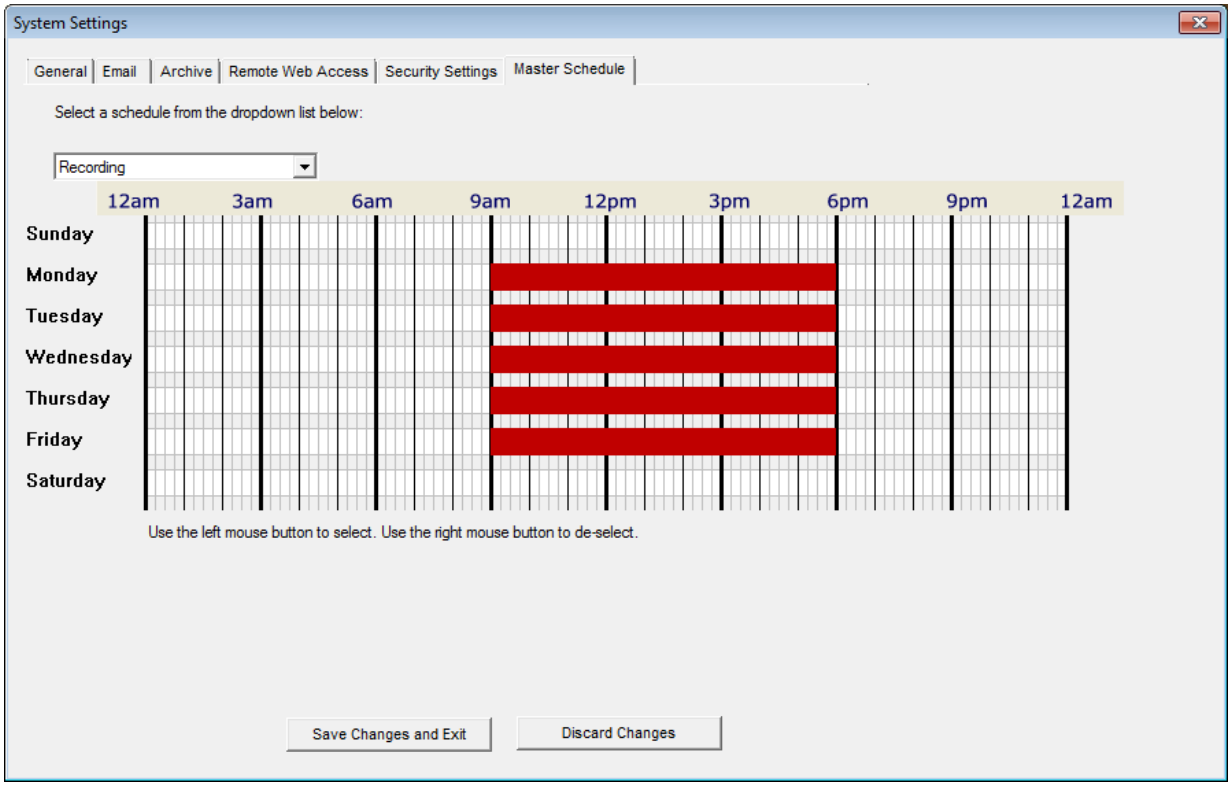
Scheduling can be set up to allow certain functions to run during specified times. For example, you can have video record only during nighttime hours.

Scheduling can be set up in the *System Settings* screen. This will set up a default schedule that all the cameras on the system can use, with the option to override the schedule on a per-camera basis if required.

Scheduling can also be set up for each individual camera.

Master Schedule

The master schedule is accessed from the *System Settings* screen.



Scheduling allows certain ViewCommander functions to run at specified times. Scheduling can be set down to 15 minute segments, Sunday through Saturday.

The dropdown box allows for three master schedules to be set up. Once a schedule is selected, times can be selected by left clicking the mouse over the

times in the schedule, and right clicking the mouse over the time to erase a highlighted time.

Recording
This schedule will allow video to be recorded at specified times.

Email on Motion
This schedule will allow email alerts to be sent at specified times.

Restart Program
This option will restart the software at specified times. Restarting the software periodically is not necessary, but some users may choose to do this. The software needs to be running in order for the software to restart itself. If the software is running as a service, the software will turn off at the selected times and allow the operating system to restart the software. Settings will not be lost, however video will not be recorded during the few seconds it takes for the software to restart.

Individual Camera Schedules

For each camera, you can set a schedule for various system functions and events, such as video recording and email alerts. The schedule will look and function similar to the master schedule; however there will be an option to choose the master schedule setting, or to set a new schedule.

Additional Features

ViewCommander-NVR provides many additional useful features.

Switching Users

To switch users, click on the *Change User Login* button on the toolbar. The following screen will be displayed:

Enter the username and password and press the Login button to change users.

To log out of the system, press the Logout to 'Default' Account button. Users using the system will have access levels defined by the 'default' account.

Save Snapshot

Clicking on the *Save Snapshot* button will save the current live video frame to disk. The file will be stored in the "snapshots" directory in the archive directory defined in the System Settings. The saved image can be viewed with a standard image viewer. The image will be saved without any digital enhancements selected on the video tab.

The saved image will have a filename in the following format:
sourceID-cameraname-year-month-day-hour-minute-second-millisecond.jpg

Save Snapshot with Filename

Clicking on the *Save Snapshot with Filename* button will save the current live video frame to disk. The file will be stored with a name and directory that you chose when saving. The saved image can be viewed with a standard image viewer. The image will be saved without any digital enhancements selected on the video tab.

Embedded Mini Control Panel

The reduced size control panel is a convenient way to control PTZ video cameras without opening a separate control panel.

The control panel contains:

- Directional Arrows to move the camera
- Zoom Control scale to zoom the camera near and far
- A Preset Selections dropdown box to quickly navigate to preset positions

Note: Control Panel controls may vary for different camera models.

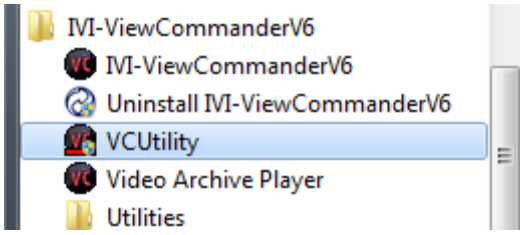
Running the software as a Windows Service

ViewCommander can run as a Windows Service.

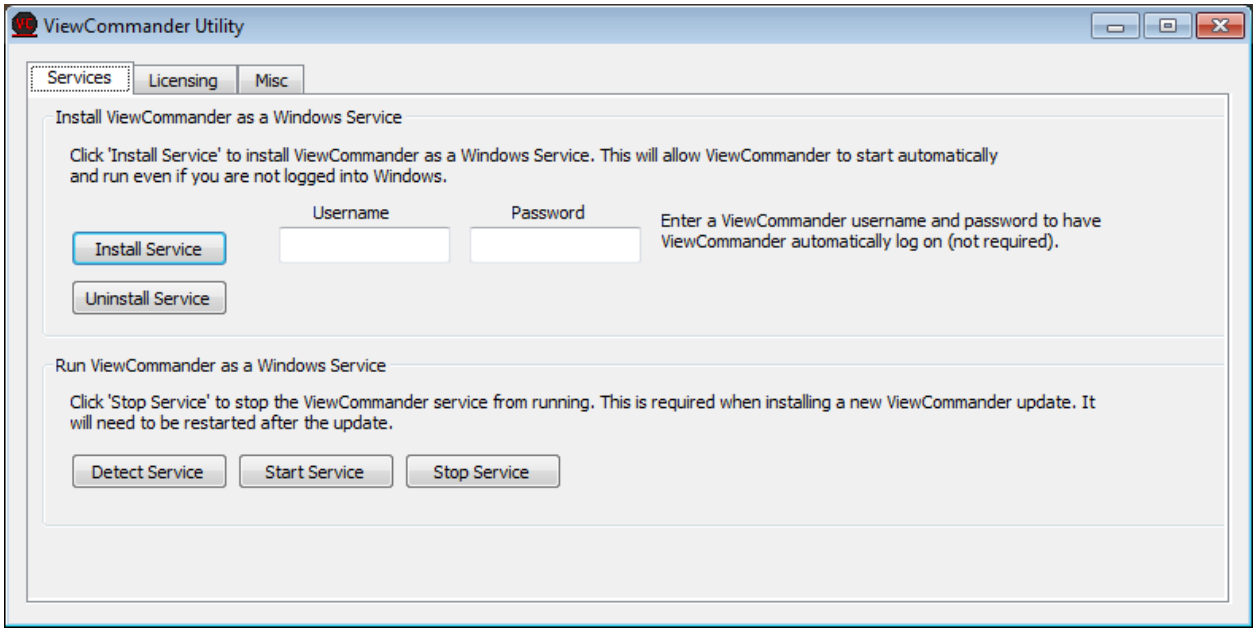
When running as a service, ViewCommander will automatically start if the computer is rebooted. Video will start to record, and other functions such as the web access will be enabled, even if a user has not logged onto the ViewCommander system and started the software. The software will also restart itself it someone accidentally tries to turn off ViewCommander.

To install ViewCommander as a Window's service, use the ViewCommander Utility by selecting:

"Start->Programs->IVI-ViewCommanderV6->VCUtility"



Within the Utility, press the “Install Service” button. If you’d like ViewCommander to automatically log into a specific user account, provide the credentials in the utility.



ViewCommander allows you to remotely view, control, and playback your video from anywhere on the Internet using a standard web browser. To enable the ViewCommander web server, refer to *Enable Web Access* on page 35.

Remote Viewing and Control

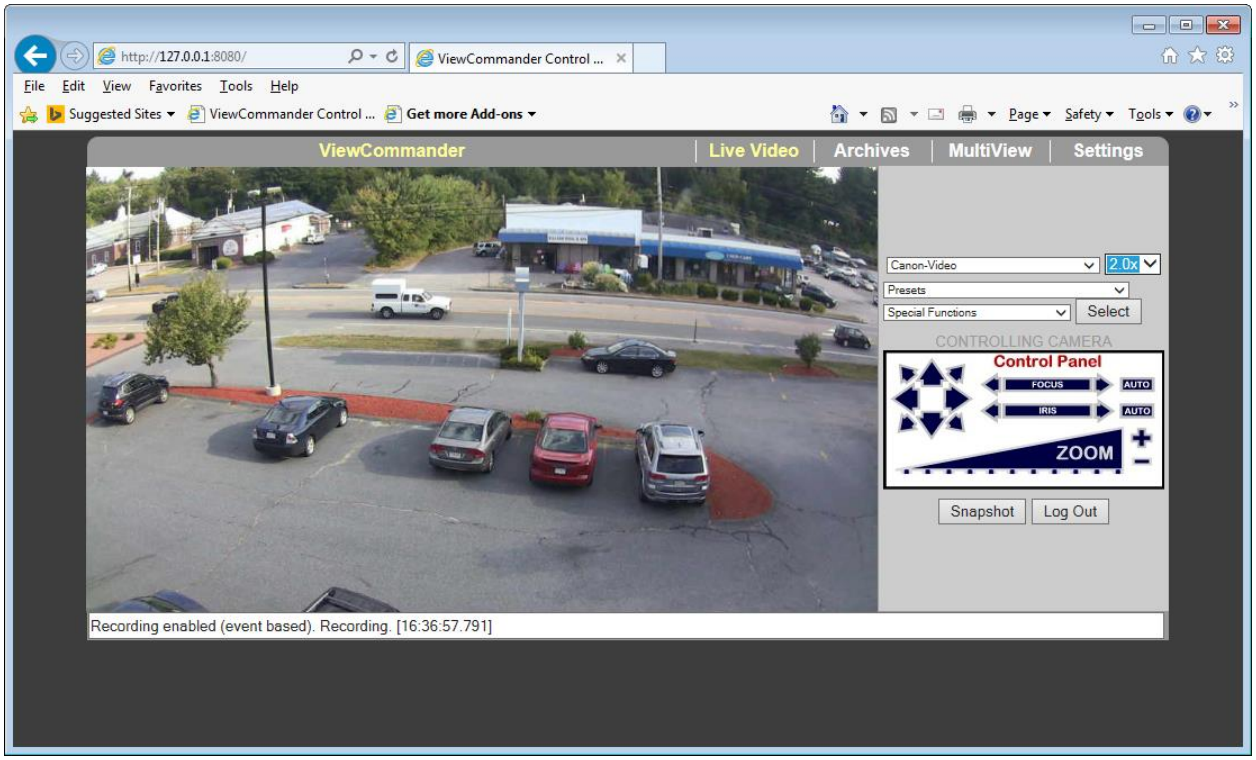
To access ViewCommander remotely from the Internet, use a web browser and enter the IP address or hostname of the ViewCommander computer into the address bar in your web browser. The URL will be in the format:

http://<IPAddress>:Port

where <IPAddress> is the IP address of the server that ViewCommander-NVR is running on and Port is the Web server port specified in ViewCommander’s System Settings.

Live Video

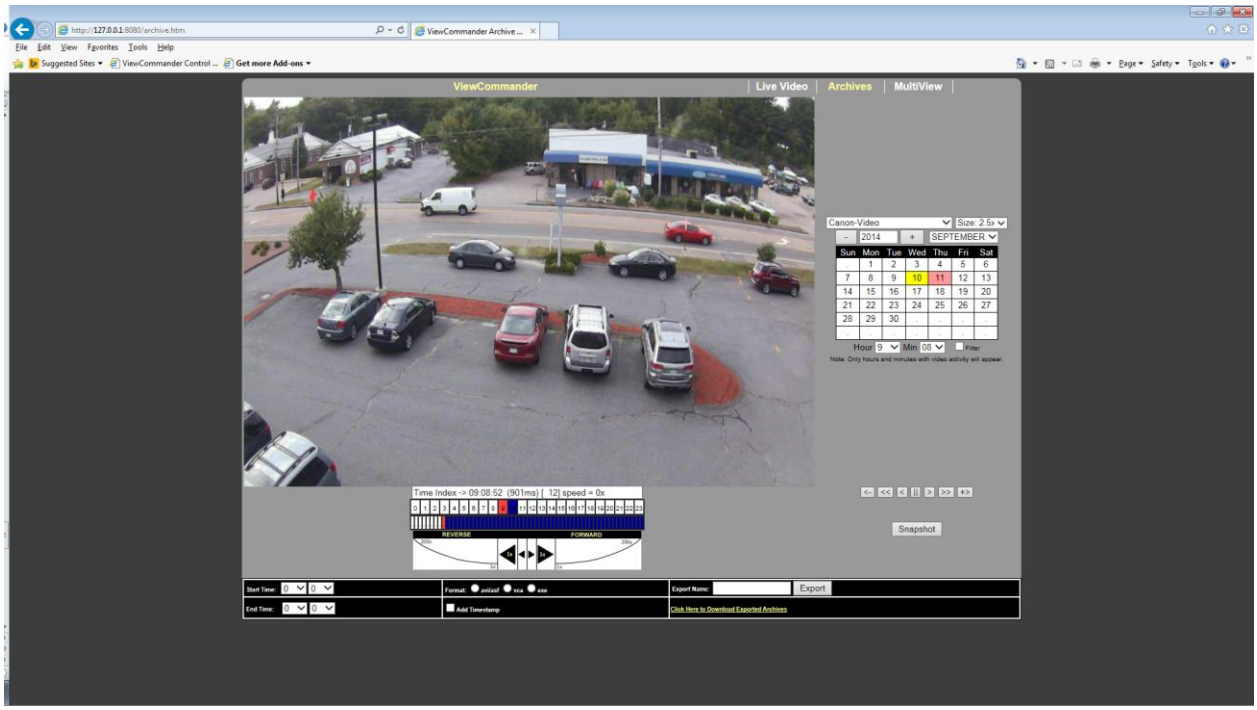
To view a camera, select the ‘Live Video’ tab on the web page, and select a camera from the pull-down menu.



- Use the control panel to pan, tilt and zoom the video
- Click an object in the video image to center the camera
- Press the *Large Video* button to enlarge the video

Recordings

To view recordings, select the ‘Recordings’ tab on the web page, and select a camera from the pull-down menu.



- Choose the camera from the *Camera* pull-down menu
- Select the year
- Select the month
- Click on a yellow highlighted day (yellow dates indicate video has been saved on that day. White indicates no video was saved). The day will turn pink when selected.
- Choose the hour from the pull-down menu
- Choose the minute from the pull-down menu

At this point, the video from the selected date and time will automatically load into the viewing screen.

Use the controls under the image to play, pause, fast forward, and rewind the video.

MultiView

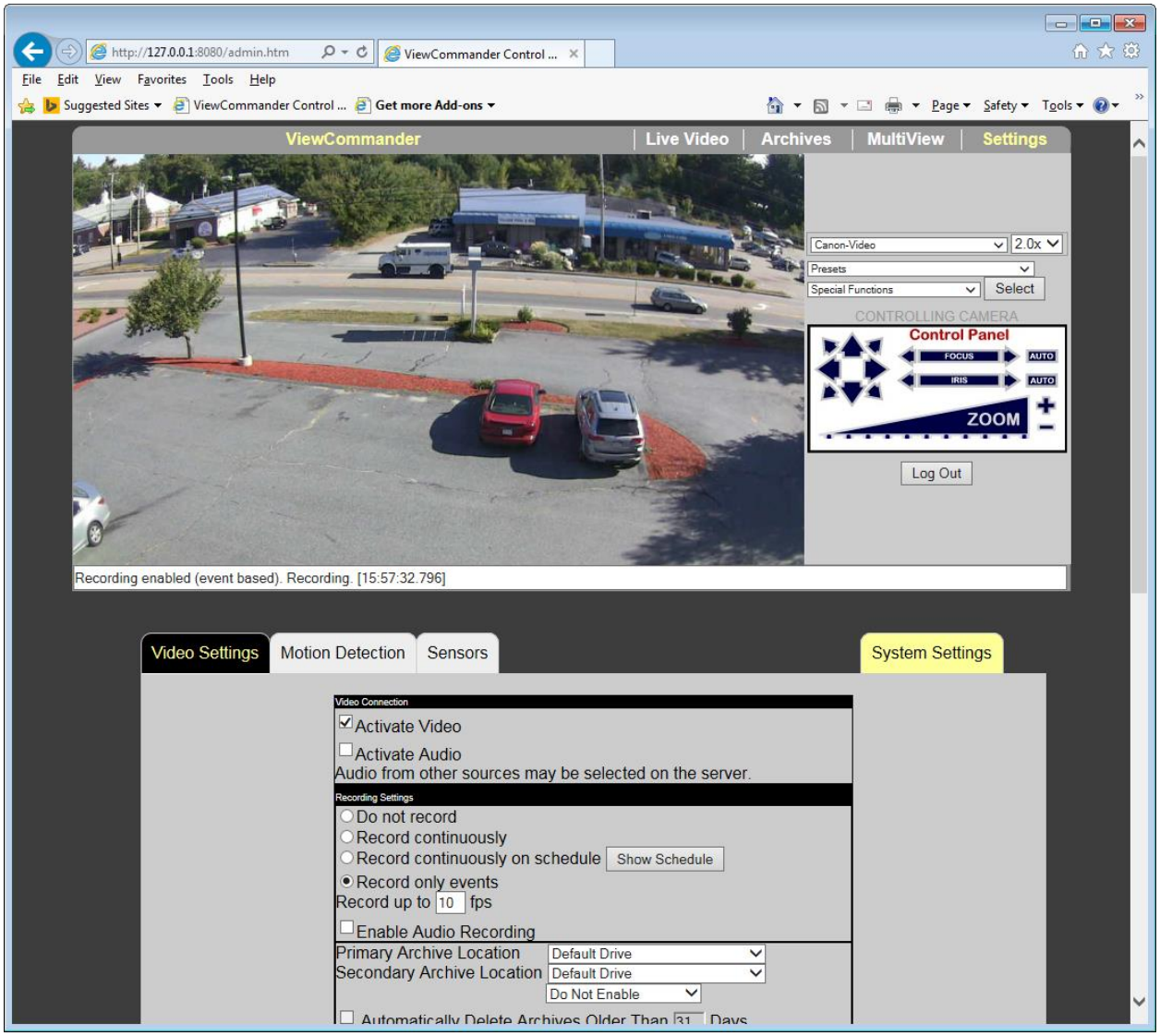
To view all the cameras simultaneously, select the 'MultiView' tab. Video will be automatically resized to fit the viewing screen. Click on a live image to switch back to the 'Live video' screen. The camera selected will appear in the live view.

Remote Management

Through the web client, authorized users can make changes to ViewCommander's system settings via the Remote Management pages.

Video Settings

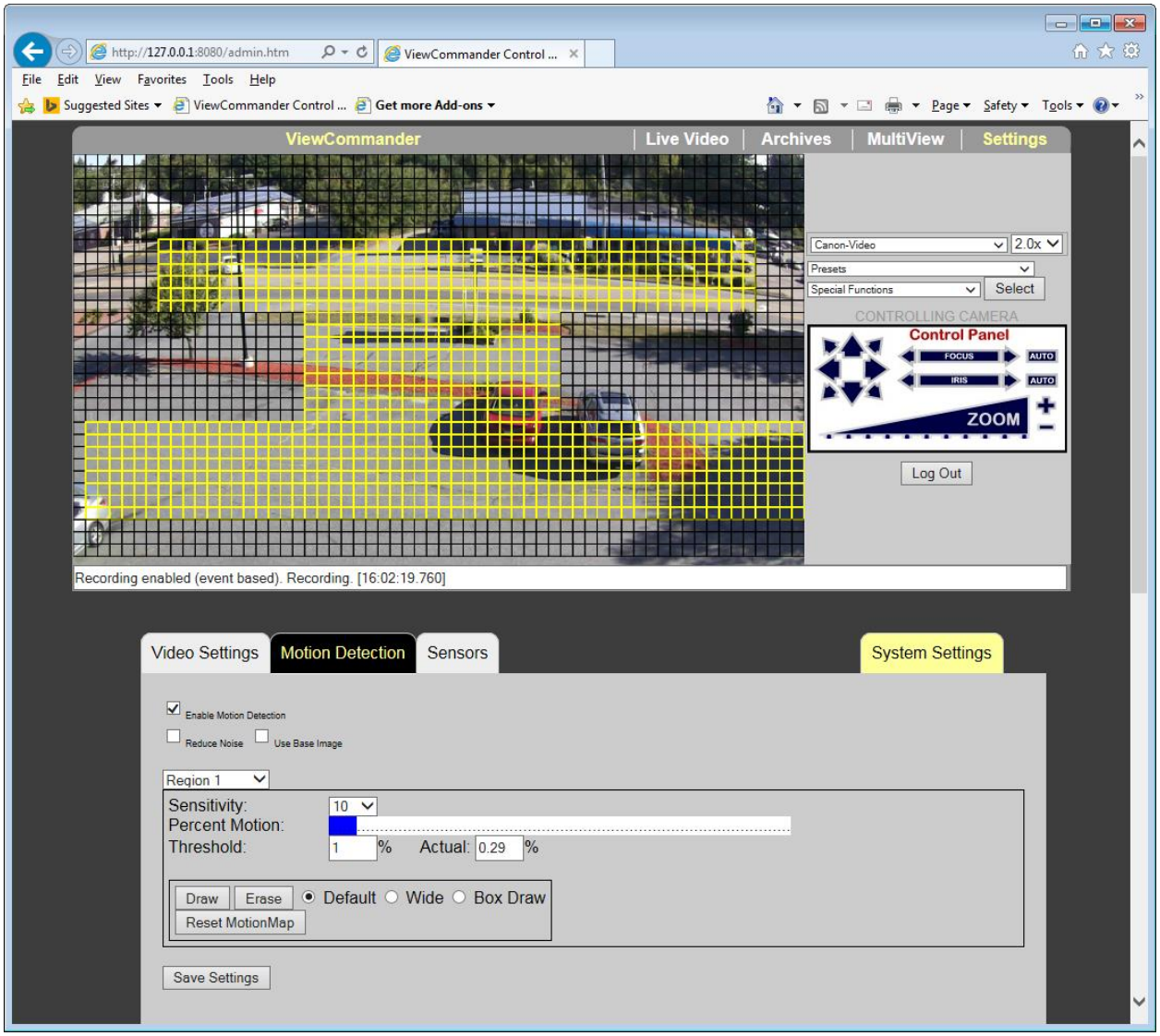
To change a camera's settings, chose it from the pull-down menu. The camera's live feed will open at the top of the page. Below the live view are several options.



These options correspond to the options on the video tab of the control panel in Viewcommander. For more information, refer to the “Video Configuration Panel” section on Page 11.

Motion Detection

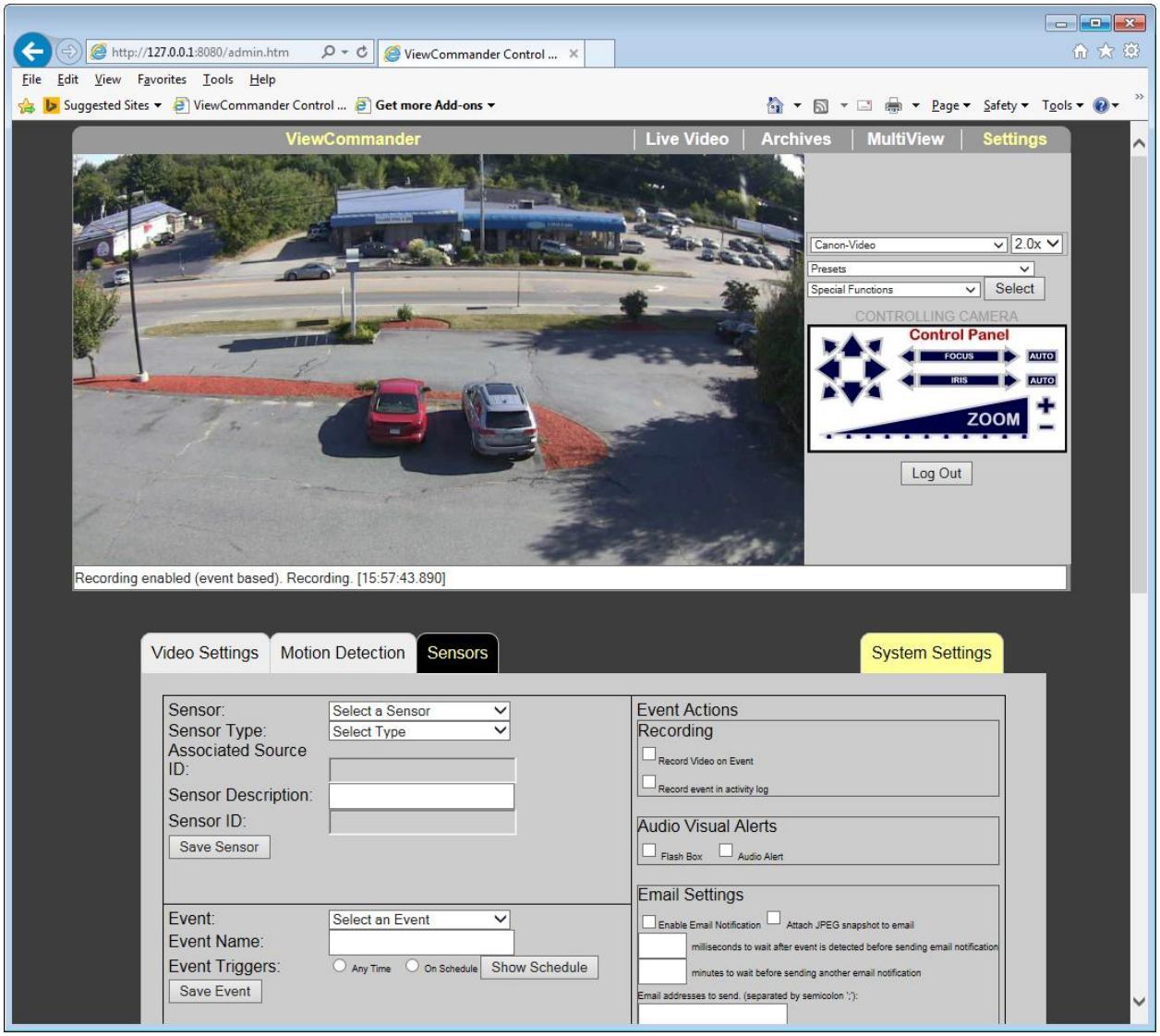
This section allows you to set up sensitivity and regions of interest for motion detection.



When drawing a region of interest, extra options appear to allow you to choose between drawing normally, drawing a wider area, or drawing a box as you drag across the image.

Sensors

Similarly to the Video Settings tab, this tab displays the live view at the top of the screen, and options beneath it.



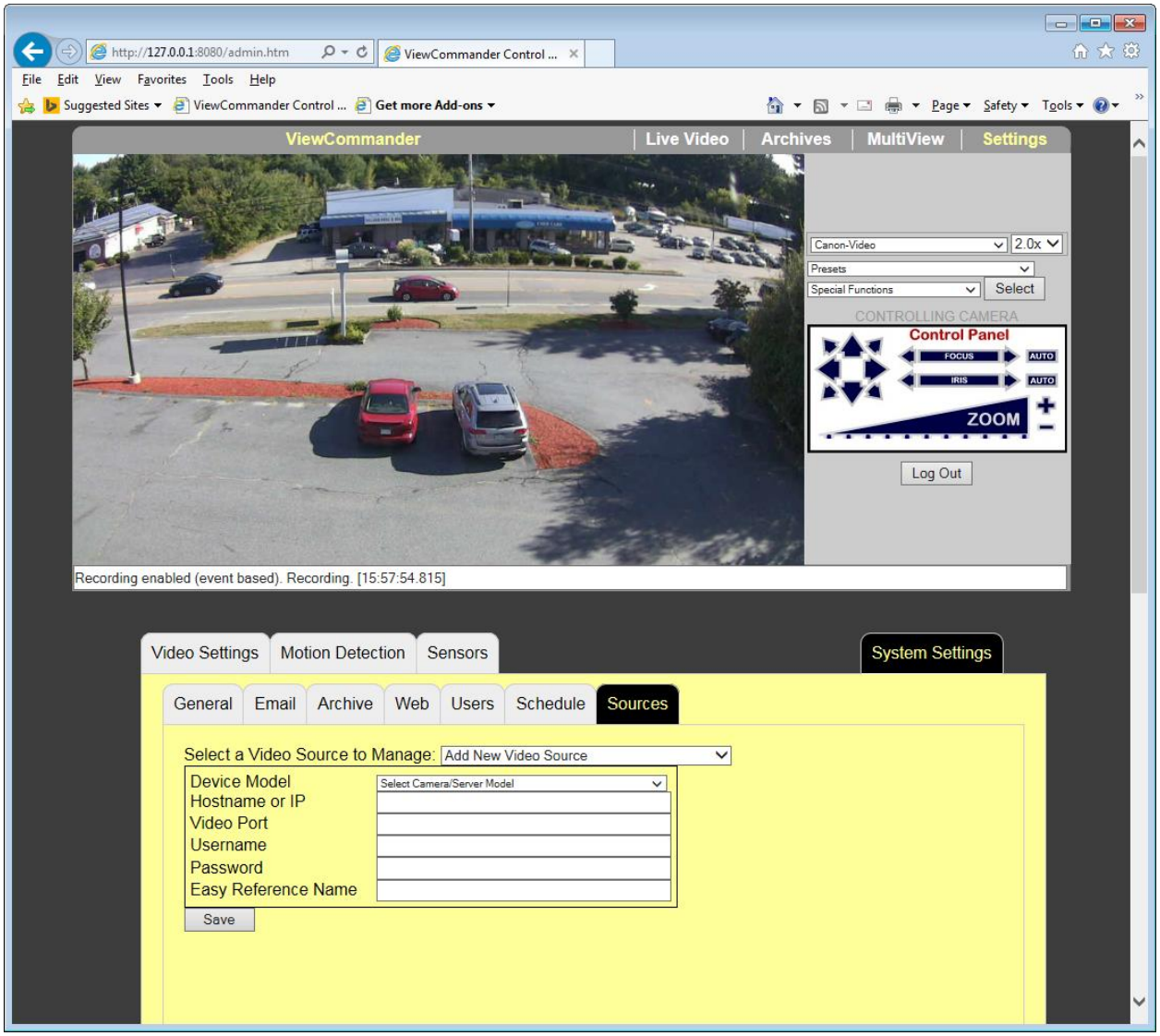
The options on the Sensors tab correspond to the Event Actionss menu on ViewCommander's control panel. For more information, refer to the "Event Configuration Panel" section on page 18.

System Settings

The System Settings tabs allow you to change settings for ViewCommander itself remotely. There's one webpage for each of the tabs of ViewCommander's System Settings menu, and an additional page for adding and changing video sources. Some settings are unavailable due to security concerns.

Video Sources

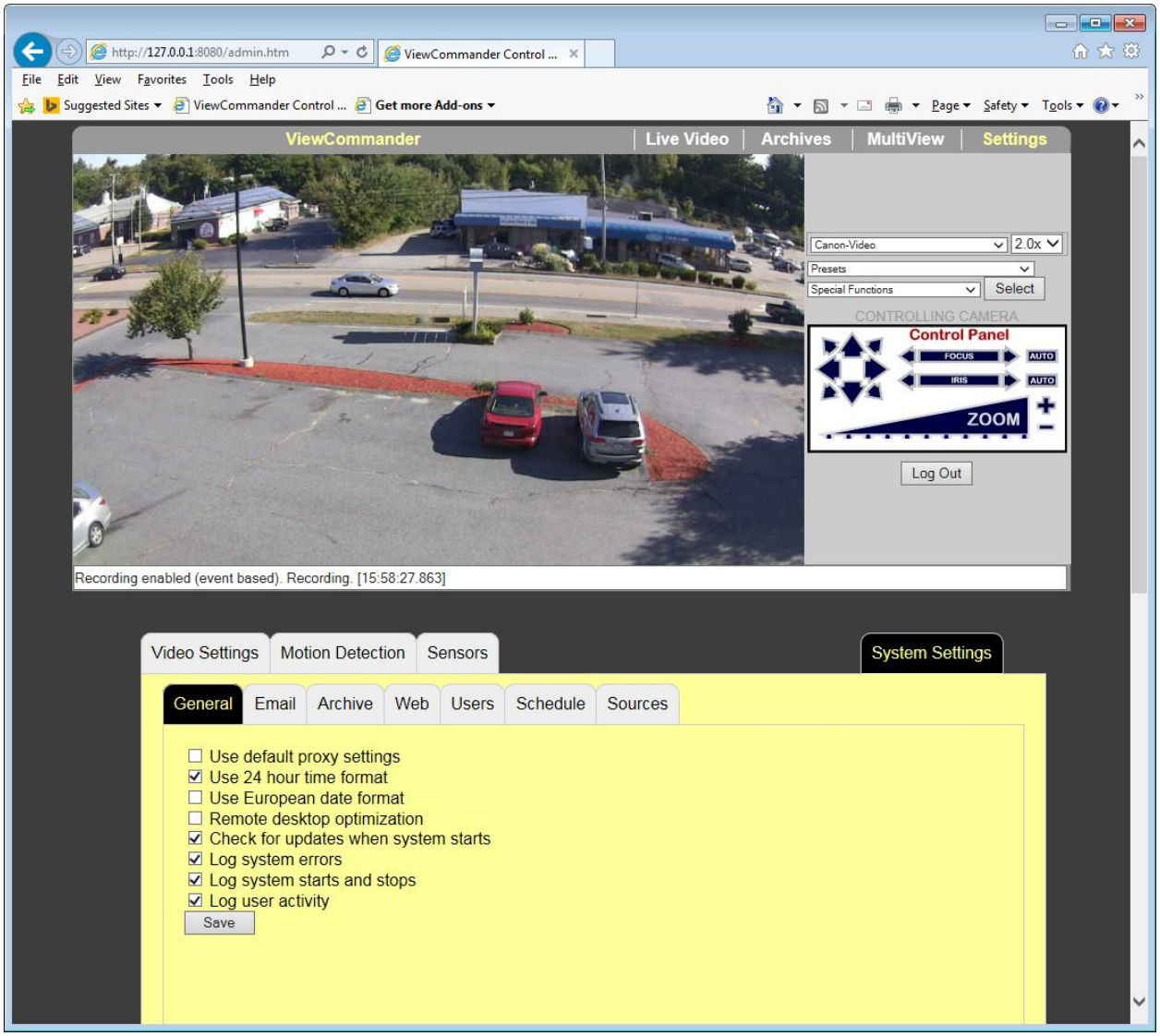
The Video Sources page allows you to add a new video source to your ViewCommander software, and to modify existing video sources.



The available options for each video source are the device model, hostname or IP, video port, username, password, and easy reference name, all of which are described in the Video Source Setup section, on page 6. Some other options, like image quality and framerate, can only be changed through the ViewCommander software itself.

General

The General page corresponds to the General tab of ViewCommander's System Settings menu. It provides options from the "System Settings", "Software Updates", and "Logging" areas of that tab. For the System Settings portion, only four options are available, as the others relate to properties of the software itself, like full screen mode.



Email

For more information on the Email page, see the “Email Settings” section, on page 31.

Archive

The Archive page allows you to set the default archive drive on the ViewCommander computer. Video is saved to the machine running the ViewCommander software, not the machine using Remote Web Access.

Web Access

The Web Access page allows you to make changes to how Remote Web Access works, such as its port, the use of SSL, and the ability to export video to computers using Remote Web Access. Explanations of these options can be found in the “Remote Web Access” section, on page 34.

Note: Disabling Remote Web Access will prevent you from making further changes through the System Settings page, as it will terminate your connection to the ViewCommander software. Remote Web Access can only be re-enabled in the main ViewCommander software.

Security

The Security page allows you to add, change, or delete users. The available options are the same as those on the Security tab in ViewCommander's System Settings, which are described on page 36.

Schedule

The recording schedule can only be set in the main program.

Mobile Access

You can use the Remote Web Access feature from most smartphones and tablets as well, including the iPhone, iPad, and most Android devices. The layouts of the remote access pages have been optimized for mobile devices, without sacrificing functionality.

Software File Locations

Program Installation Directory

ViewCommander is installed in the following directory by default:

C:\Program Files\IVI\ViewCommanderV6
or
C:\Program Files (x86)\IVI\ViewCommanderV6

The following subdirectories stored in this directory:

- '**config'** – This directory contains several files related to camera configuration information. Files in this directory should not be modified directly. On computers running Windows 7 or Windows Server 2008, the config folder is located in C:\ProgramData\ViewCommander\ by default, instead of in Program Files.

- '**html'** – this directory contains the web files for the ViewCommander web interface. HTML files in this directory may be modified to customize the web interface to your specifications.

- '**Utilities'** – This directory contains other utilities which can be access through the menu system.

ViewCommander Camera and System Settings Location

- camera.dat - contains all camera data
- vcsystemsettings.txt - contains all System Settings
- vcusers.txt - contains user information

Video Storage Location

All recorded video is stored in a root drive directory called: ***VCArchive***

This directory contains several subdirectories in the following format:

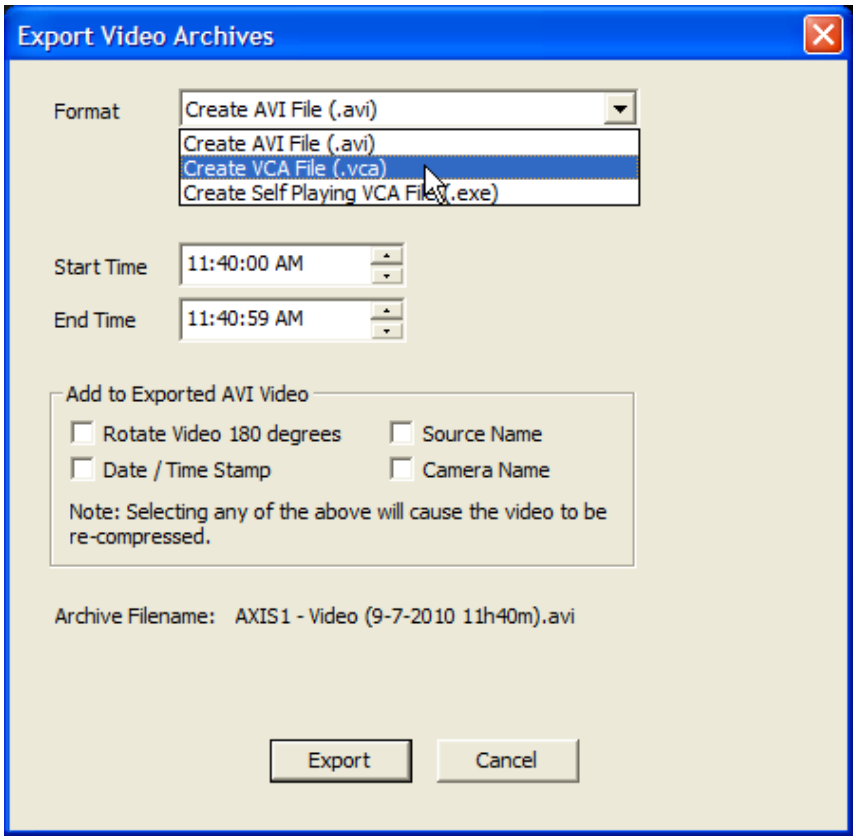
VCArchive \ <source ID>-<camera ID>-<VideoSourceName> \ <Year> \ <Month> \ <Day> \ <Hour> \ <Minute>

Where the '*Source ID'* is the '*System Assigned Source ID'* assigned in the *Video Source Setup* screen. The 'Camera ID' is the sequential number of the camera attached to the video source (usually a value of 1). A 4 port video server will have directories for camera ID's 1 through 4, respectively.

Video Player – VCA Video Format

ViewCommander-NVR Professional Plus and higher models have an optional feature that allows you to export video to a VCA file (in addition to an AVI file). The VCA format is ViewCommander's video format. It preserves the original image integrity, and incorporates timestamp, digital fingerprint, and other video information.

To export video in the VCA format, choose the "Create VCA format" checkbox. There is no need to check any options in the "Add to Exported Video", as these options are automatically exported without affecting image quality. Additionally, the export procedure will split the exported video into multiple files so they will fit on a standard DVD.



To launch the ViewCommander video player, click:
"Start->Programs->IVI-ViewCommanderV4->Video Archive Player"

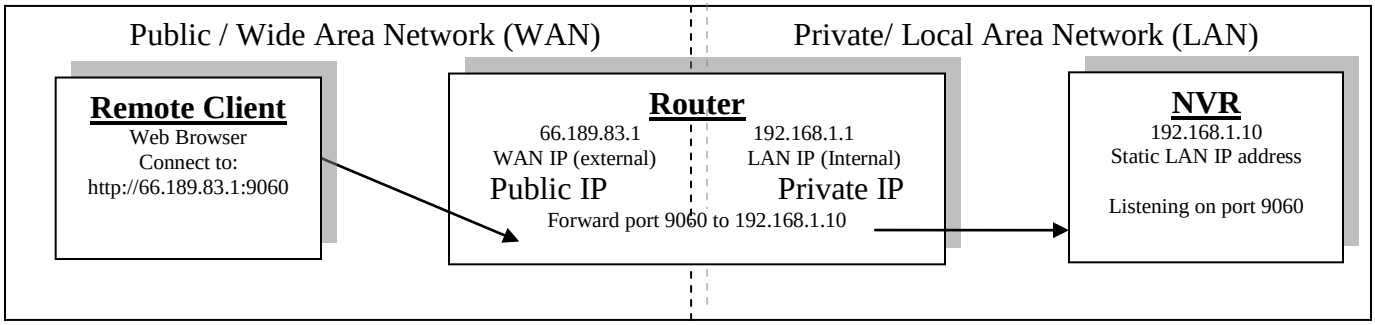
From within the player, click "Options -> Open Archive" and select a file to play back. The playback controls are similar to ViewCommander-NVR's playback controls.

Note: When saving VCA files to optical media (DVD's), you can also copy the ViewCommander Video Archive Player. By default, the player file is located in the directory: *C:\Program Files\IVI\ViewCommanderV4\ViewCommander-Player.exe*

Note: Be sure to copy the .exe file itself, and not the shortcut.

Accessing ViewCommander-NVR Remotely

This example illustrates how to remotely access ViewCommander-NVR located on a private network. This example can also be applied to remotely accessing IP cameras located on private networks.



Remote Client – This is an application on the client computer (PC, laptop, mobile phone) such as a web browser. The client in this example is a web browser used to connect to the NVR.

Router - Your router allows network traffic from the LAN to access data from a WAN (such as the Internet), and vice versa. Your router has two IP addresses:

- The WAN IP Address (also called a public, Internet, or external IP address) is the IP address assigned to your router by your Internet service provider (Cable modem, DSL, wireless card, etc...). Use this address when connecting to the NVR from outside your LAN.
- The LAN IP Address (also called a private or internal IP address) is an IP address that only computers on your Internal LAN can connect to.

NVR – In this example, the NVR is a software program on a computer in your local network you want to access from outside your LAN.

In order for the Remote Client to connect to the NVR, the network traffic must pass through the Router. For security reasons, most routers do not allow public traffic to pass through and connect to devices located on your private network. To allow this, you must enable "Port Forwarding" on your router. Consult your router manual for instructions on how to change the Port Forwarding settings (also called Network Address Translation or NAT).

When you enable Port Forwarding on the router, the router needs to know a few things:

- The port number to forward. This must match the listening port on the NVR. Port 80 is the default for web traffic. (see 'useful tips' below)
- The IP address of the NVR. The IP address of the NVR should be a static IP address.
- Type of traffic (TCP and/or UDP). Choose TCP for most NVR's and IP cameras.

Quick this steps:

1) Assign the NVR a static IP Address. (192.168.1.10 in this example)
2) Configure NVR to use any port number you choose. (Port 9060 in this example)
3) Log into the router and enable port forwarding. Forward the port number (from step 2) to the IP address of the NVR (step 1)
4) Log into the router to determine the Public (WAN) IP address. You can also use sites like http://whatismyip.com from the NVR PC.
5) If connecting from outside your local network, use the Public (WAN) IP Address and Port combination to access your NVR. In this example enter : http://66.189.83.1:9060
6) If connecting from inside your local network, use the Private (LAN) IP Address and Port combination to access your NVR. In this example enter : http://192.168.1.10:9060

Some useful tips:

- Port 80 is the default web port. You can use it, but be aware that some ISP's block port 80. Also, the NVR may be picked up by search engines. Additionally, automated bots can attempt to break into your system. Port values higher than 1024 are recommended.
- You should enable password protection for the NVR.
- If your Internet service provider does not assign you a static WAN IP address, you can use Dynamic DNS services such as dyndns.org to monitor IP address changes. You can then use an easy name to access your NVR, such as http://mynvr.dyndns.org:9060.

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For technical support, please visit:

www.ViewCommander.com/support