PELCO

by Schneider Electric

INSTALLATION/OPERATION

Spectra® HD Series Network Dome System

Sarix™ Technology

C3470M-B (4/12)

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LEGAL NOTICE

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REGULATORY NOTICES

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

RADIO AND TELEVISION INTERFERENCE

This equipment has been tested and found to comply with the limits of a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Changes and modifications not expressly approved by the manufacturer or registrant of this equipment can void your authority to operate this equipment under Federal Communications Commission's rules.

This Class A digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

VIDEO QUALITY CAUTION

FRAME RATE NOTICE REGARDING USER-SELECTED OPTIONS

Pelco systems are capable of providing high quality video for both live viewing and playback. However, the systems can be used in lower quality modes, which can degrade picture quality, to allow for a slower rate of data transfer and to reduce the amount of video data stored. The picture quality can be degraded by either lowering the resolution, reducing the picture rate, or both. A picture degraded by having a reduced resolution may result in an image that is less clear or even indiscernible. A picture degraded by reducing the picture rate has fewer frames per second, which can result in images that appear to jump or move more quickly than normal during playback. Lower frame rates may result in a key event not being recorded by the system.

Judgment as to the suitability of the products for users' purposes is solely the users' responsibility. Users shall determine the suitability of the products for their own intended application, picture rate and picture quality. In the event users intend to use the video for evidentiary purposes in a judicial proceeding or otherwise, users should consult with their attorney regarding any particular requirements for such use.

OPEN SOURCE SOFTWARE NOTICE

This product includes certain open source or other software originated from third parties that is subject to the GNU General Public License (GPL), GNU Library/Lesser General Public License (LGPL) and different and/or additional copyright licenses, disclaimers, and notices.

The exact terms of GPL, LGPL, and some other licenses are provided to you with this product. Please refer to the exact terms of the GPL and LGPL at *http://www.fsf.org (Free Software Foundation)* or *http://www.opensource.org (Open Source Initiative)* regarding your rights under said license. You may obtain a complete corresponding machine-readable copy of the source code of such software under the GPL or LGPL by sending your request to *digitalsupport@pelco.com*; the subject line should read *Source Code Request*. You will then receive an email with a link for you to download the source code.

This offer is valid for a period of three (3) years from the date of the distribution of this product by Pelco.

Introduction

The Spectra® HD Series is a pan, tilt, and zoom network dome system with a built-in, Web-based viewer for live streaming to a standard Web browser (Microsoft® Internet Explorer® or Mozilla® Firefox®). The device features open architecture connectivity to third-party software. Pelco offers an application programming interface (API) and software development kit (SDK) that enables third-party systems to interface with Pelco's IP cameras. The device is also compatible with Endura®, DX Series, and Digital Sentry® systems to record, manage, configure, and view multiple live streams.

The Spectra HD Series supports up to two compression formats and many resolutions. The two standard compression formats include H.264 and MJPEG. The dual streams can be configured for a variety of resolutions, frame rates, and bit rates.

The Spectra HD Series includes a 1.3 megapixel (MPx) high-definition day/night camera with an 18X optical zoom lens. The camera has a mechanical IR cut filter that increases camera sensitivity in low-light situations.

Spectra HD includes a choice of four back box models: in-ceiling, environmental in-ceiling, pendant, and environmental pendant. All environmental models meet NEMA Type 4X, IP66 standards when properly installed.

COMPATIBLE SYSTEMS

The device can also be used with an Endura, DX Series, or Digital Sentry system. It also works with many third-party systems with Pelco's API and the ONVIF API. For detailed instructions on configuring the device using one of these systems, refer to the manual shipped with the system.

Go to *partnerfirst.pelco.com* for a list of compatible products and partners.

MODELS

S5118-FW0	Indoor, in-ceiling back box with smoked lower dome and day/night camera
S5118-FW1	Indoor, in-ceiling back box with clear lower dome and day/night camera
S5118-YB0	Environmental in-ceiling back box with smoked lower dome and day/night camera
S5118-YB1	Environmental in-ceiling back box with clear lower dome and day/night camera
S5118-PG0	Indoor, gray pendant back box with smoked lower dome and day/night camera
S5118-PG1	Indoor, gray pendant back box with clear lower dome and day/night camera
S5118-PB0	Indoor, black pendant back box, with smoked lower dome and day/night camera
S5118-PB1	Indoor, black pendant back box with clear lower dome and day/night camera
S5118-EG0	Environmental, gray pendant back box with smoked lower dome and day/night camera
S5118-EG1	Environmental, gray pendant back box with clear lower dome and day/night camera

Getting Started

Before installing your unit, thoroughly familiarize yourself with the information in the installation section of this manual.

NOTES:

- Pelco recommends connecting the dome to a network that uses a Dynamic Host Configuration Protocol (DHCP) server to address devices.
- Do not use a network hub when configuring the network settings for the dome.
- To ensure secure access, place the unit behind a firewall when it is connected to a network.

PARTS LIST

IN-CEILING MODELS

Qty	Description
1	Back box with mounting hardware
1	Lower dome (includes trim ring and bubble)
1	Dome drive
1	Resource disc
1	Quick Start Guide
3	MAC address labels (extra)

The following parts are needed but not supplied:

Qty	Description
1	Safety chain
1	Conduit fitting and lock nut
1	Cat5 cable

PENDANT MODELS

Qty	Description
1	Back box
1	Lower dome (includes trim ring and bubble)
1	Dome drive
1	Thread compound
1	Resource disc
1	Quick Start Guide
3	MAC address labels (extra)

The following parts are needed but not supplied:

Qty	Description
1	Pendant mount
1	Cat5 cable

Product Overview

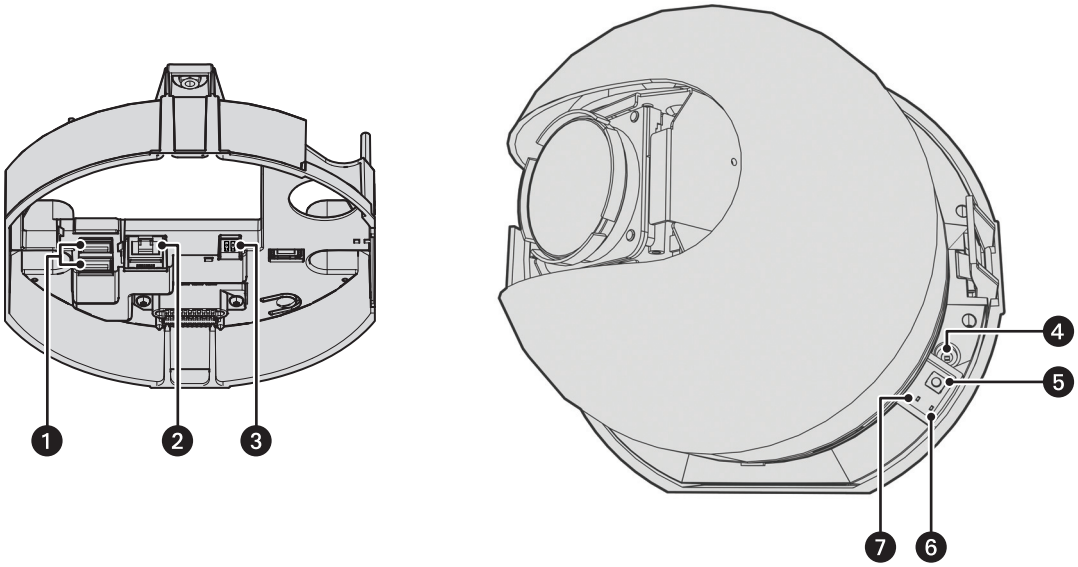


Figure 1. Connections and Features

1. **Accessory Ports:** For use with compatible Pelco accessories.
2. **RJ-45 Network Port:** Connects the camera to the IP network. Also supplies power to the camera through the network using Power over Ethernet (PoE). Only use PoE if heater operation is not required for the installation.
3. **24 VAC Power:** Operates the heater and blower; 24 VAC is required for heater and blower operation. Also supplies power to the camera if PoE is not available.
4. **Power LED:** Flashes green during the configuration sequence; glows solid green after the sequence is complete. The LED can be disabled. If this LED glows red (solid or flashing), contact Pelco Product Support at 1-800-289-9100 (USA and Canada) or +1-559-292-1981 (international) for assistance.
5. **Reset Button:** Reboots the camera or restores the camera's factory default settings. This button is recessed. Using a small tool, such as a paper clip, press and release the reset button once to reboot the camera. Press and hold the reset button for 10 seconds to restore the camera to the factory default settings.
6. **Ethernet Activity LED:** Flashes green to indicate that data is being transmitted or received by the camera.
7. **Ethernet Link LED:** Glows solid amber to indicate that a live network connection is established.

Installation

You can install the Spectra HD Series dome system using one of the following methods:

- Installation in a suspended ceiling or a fixed ceiling. Refer to *In-Ceiling Models* on page 11.
- Installation using a pendant mount (not supplied). Refer to *Pendant Models* on page 13.

IN-CEILING MODELS

1. Locate the center point of the mounting location.
2. Insert the compass tool into the ceiling and draw a circle.
3. Cut out the circle.
4. Attach a conduit fitting (not supplied) and lock nut (not supplied).
5. Install a safety chain/cable (not supplied). The safety chain/cable should be capable of supporting up to 16 pounds (7.3 kg).
6. Pull the wiring into the back box through the conduit fitting.
7. Install the back box:
   a. Compress the spring clips and push the back box through the hole.
   b. Tighten the screws until you hear a clicking noise.

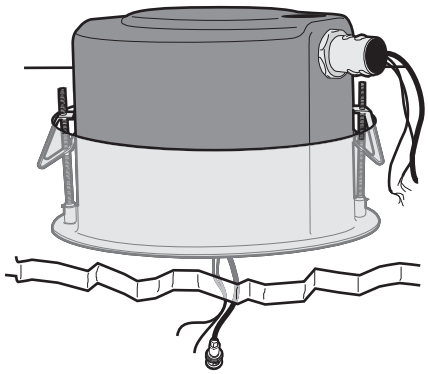


Figure 2. Installing the Back Box

8. Connect the power wiring. Refer to Figure 3 and *Wiring* on page 15 for more information.

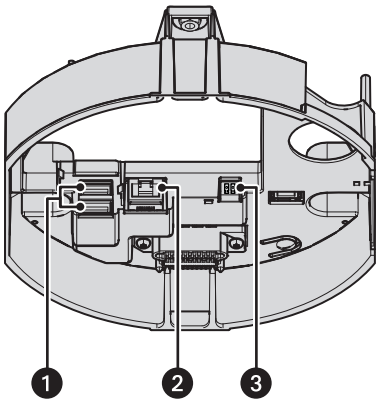


Figure 3. Power Wiring Connections: In-Ceiling Models

1. **Accessory Ports:** For use with compatible Pelco accessories.
2. **RJ-45 Network Port:** Connects the camera to the IP network. Also supplies power to the camera through the network using Power over Ethernet (PoE). Only use PoE if heater operation is not required for the installation.
3. **24 VAC Power:** Operates the heater and blower; 24 VAC is required for heater and blower operation. Also supplies power to the camera if PoE is not available.

9. Install the dome drive:
   a. Line up the blue and red tabs on the dome drive with the blue and red arrows inside the back box.
   b. Push in the tabs that are located on both sides of the dome drive.
   c. Insert one side of the dome drive, and then insert the other.
   d. Continue pushing on the ends of the tabs until both sides of the dome drive click into place.

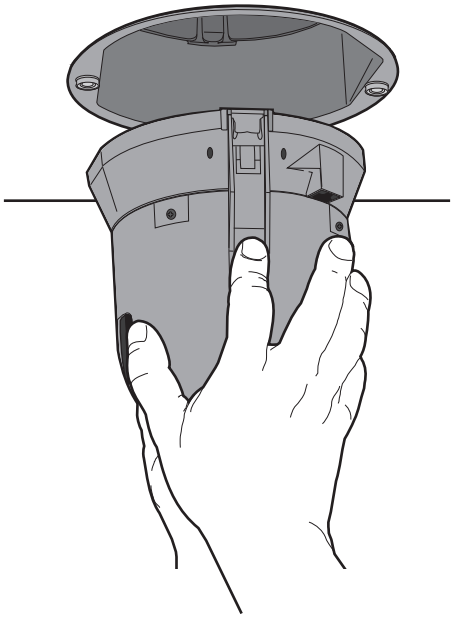


Figure 4. Installing the Dome Drive: In-Ceiling Models

10. Install the lower dome:
    a. Snap the clip on the end of the trim ring leash into the hole on the lip of the back box.
    b. Snap the trim ring onto the plastic snap washers on the back box mounting screws.

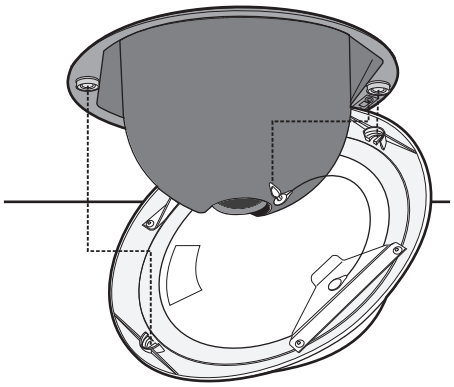


Figure 5. Installing the Lower Dome: In-Ceiling Models

11. Apply power to the dome. The dome system will complete a configuration sequence.

    NOTE: If the system is not connected to a DHCP server and DHCP is enabled, the configuration sequence might take up to five minutes to complete.

PENDANT MODELS

1. Install the pendant mount (not supplied). Refer to the instructions supplied with the mount.
2. Pull the wiring into the back box.
3. Screw the back box onto the pendant mount. If outdoors, apply thread compound (supplied) to the threads on the back box.

   NOTE: Thread compound must be applied. Not doing so may prevent the units from being separated in the future.
4. Connect the power wiring. Refer to Figure 6 and *Wiring* on page 15 for more information.

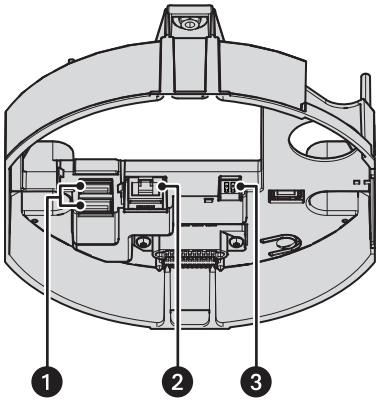


Figure 6. Power Wiring Connections: Pendant Models

1. **Accessory Ports:** For use with compatible Pelco accessories.
2. **RJ-45 Network Port:** Connects the camera to the IP network. Also supplies power to the camera through the network using Power over Ethernet (PoE). Only use PoE if heater operation is not required for the installation.
3. **24 VAC Power:** Operates the heater and blower; 24 VAC is required for heater and blower operation. Also supplies power to the camera if PoE is not available.

5. Install the dome drive:
   a. Line up the blue and red tabs on the dome drive with the blue and red arrows inside the back box.
   b. Push in the tabs that are located on both sides of the dome drive.
   c. Insert one side of the dome drive, and then insert the other.
   d. Continue pushing on the ends of the tabs until both sides of the dome drive click into place.

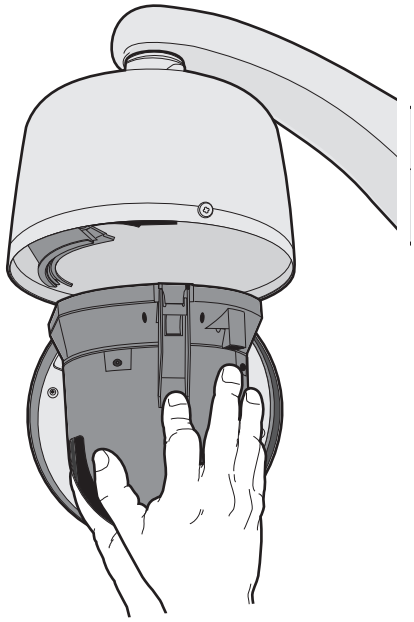


Figure 7. Installing the Dome Drive: Pendant Models

6. Install the lower dome:
   a. Attach the back box leash to the lower dome.
   b. Align the back box screws with the threaded holes on the lower dome.
   c. Push the lower dome onto the back box.
   d. Tighten the screws to secure the lower dome to the back box.

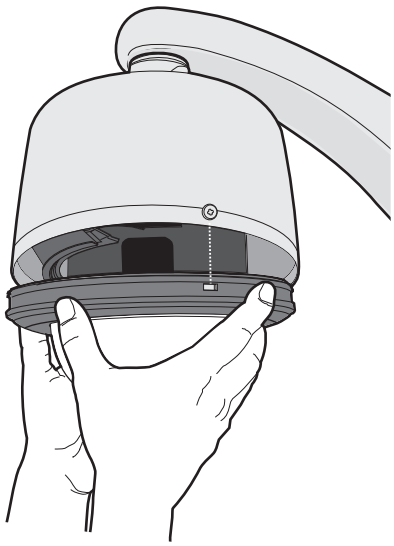


Figure 8. Installing the Lower Dome: Pendant Models

7. Apply power to the dome. The dome system will complete a configuration sequence.

   NOTE: If the system is not connected to a DHCP server and DHCP is enabled, the configuration sequence might take up to five minutes to complete.

WIRING

CAT5 (REQUIRED FOR POE)

Connect a Cat5 cable (not supplied) to the RJ-45 network port. The 8-pin port includes video and PoE for the camera. PoE (IEEE 802.3af) injects power over the same cabling that carries the network data, eliminating the need for a separate power supply. This simplifies the installation and operation of the camera without affecting network performance.

NOTES:

- The camera will autosense and configure itself to use either a crossover cable or a straight cable.
- Only use PoE if heater operation is not required for the installation. The operating temperature range without the heater is 0° to 50°C.

Refer to Figure 9 for pin descriptions.

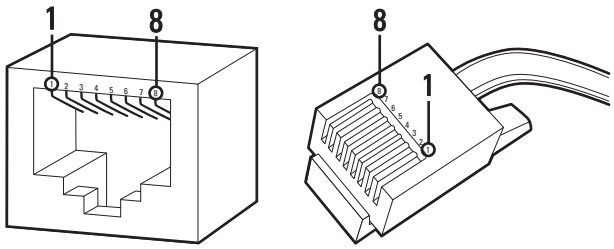


Table A. Cat5 Cable Pin Descriptions

Pin	Function
1	TX+
2	TX–
3	RX+
4	PoE 1-2
5	PoE 1-2
6	RX–
7	PoE 3-4
8	PoE 3-4

Figure 9. Cat5 Cable Pin Descriptions

24 VAC

To operate the heater and blower inside the dome, 24 VAC power is required. Power consumption for the heater is 72 VA. Use a 24 VAC transformer with a minimum of 100 VA per dome.

Table B. 24 VAC Wiring Distances

AC/DC Total VA/ Total Watts	Wire Gauge			
	20 AWG (0.5 MM^2)	18 AWG (1.0 MM^2)	16 AWG (1.5 MM^2)	14 AWG (2.5 MM^2)
23 VA/15 W	123 ft (38 m)	196 ft (60 m)	311 ft (95 m)	495 ft (151 m)
75 VA/65 W	39 ft (12 m)	62 ft (19 m)	98 ft (30 m)	156 ft (48 m)

NOTE: If you are operating the camera using 24 VAC and you are wiring more than one camera to the same transformer, connect one side of the transformer to the red wire (24 VAC +) and connect the other side of the transformer to the black wire (24 VAC –). Failure to connect all modules identically might introduce video noise for some installations.

Operation

CAMERA CONFIGURATION SEQUENCE

Once the device is installed and power is applied, the device will start a configuration sequence: the green LED flashes five times per second for approximately two minutes, indicating that the boot cycle is complete and the device is on line.

NOTE: If the device is not connected to a Dynamic Host Configuration Protocol (DHCP) server and DHCP is enabled, the configuration sequence might take up to five minutes to complete.

Refer to the following sections for more information:

- *Network Tab* on page 27
- *Turning On DHCP* on page 28
- *Turning Off DHCP* on page 28

MINIMUM SYSTEM REQUIREMENTS

Network and processor bandwidth limitations might cause the video stream to pause or appear pixilated when additional Web-interface users connect to the camera. Decrease the images per second (ips), resolution, compression, or bit rate settings of the Web interface video streams to compensate for network/processor limitations.

Processor: Intel® Core™ 2 Duo microprocessor, 2.6 GHz

Operating System: Microsoft® Windows® XP, Windows Vista®, or Mac® OS X 10.4

Memory: 2 GB RAM

Network interface card: 100 megabits (or greater)

Monitor: Minimum of 1024 x 768 resolution, 16- or 32-bit pixel color resolution

Web browser: Internet Explorer® 7.0 (or later) or Mozilla® Firefox® 3.0 (or later)

Media player: Pelco Media Player or QuickTime® 7.6.5 for Windows XP, Windows Vista, and Windows 7; or QuickTime 7.6.4 for Mac OS X 10.4 (or later)

NOTES:

- Pelco Media Player is recommended for control, smoothness, and reduced latency as compared to QuickTime.
- This product is not compatible with QuickTime version 7.6.4 for Windows XP or Windows Vista. If you have this version installed on your PC, you will need to upgrade to QuickTime version 7.6.5.

ACCESSING THE IP CAMERA

The first time you access the camera, the live video page appears. By default, you are viewing the video as a public user and only have access to the single stream live view.

If, for security purposes, users should not be allowed to view video without first logging on to the camera, change the permissions for public users.

LOGGING ON TO THE CAMERA

1. Open the Web browser.
2. Type the camera's IP address in the browser address bar.

   NOTE: If you do not know the camera's IP address, you can locate it using the Pelco Device Utility software.
3. Click the Login button in the navigation bar; a dialog box appears.
4. Type your user ID and password.

   NOTE: If you are logging on to the camera as the administrator for the first time, the default User ID and Password are **admin** (all lowercase). For security purposes, be sure to change the password after you log on for the first time.
5. Click Log In.

Refer to the following sections for more information:

- *System Tab* on page 24
- *Network Tab* on page 27
- *Imaging Tab* on page 33
- *A/V Streams Tab* on page 41
- *Users Tab* on page 44
- *Events Tab* on page 47

Live Video Page

The live video page allows you to manage the way you view live video and capture images. You can also view live video from this page and access menus on the navigation bar (based on user permissions).

NOTE: The PTZ controls are viewable only after you have logged on to the device.

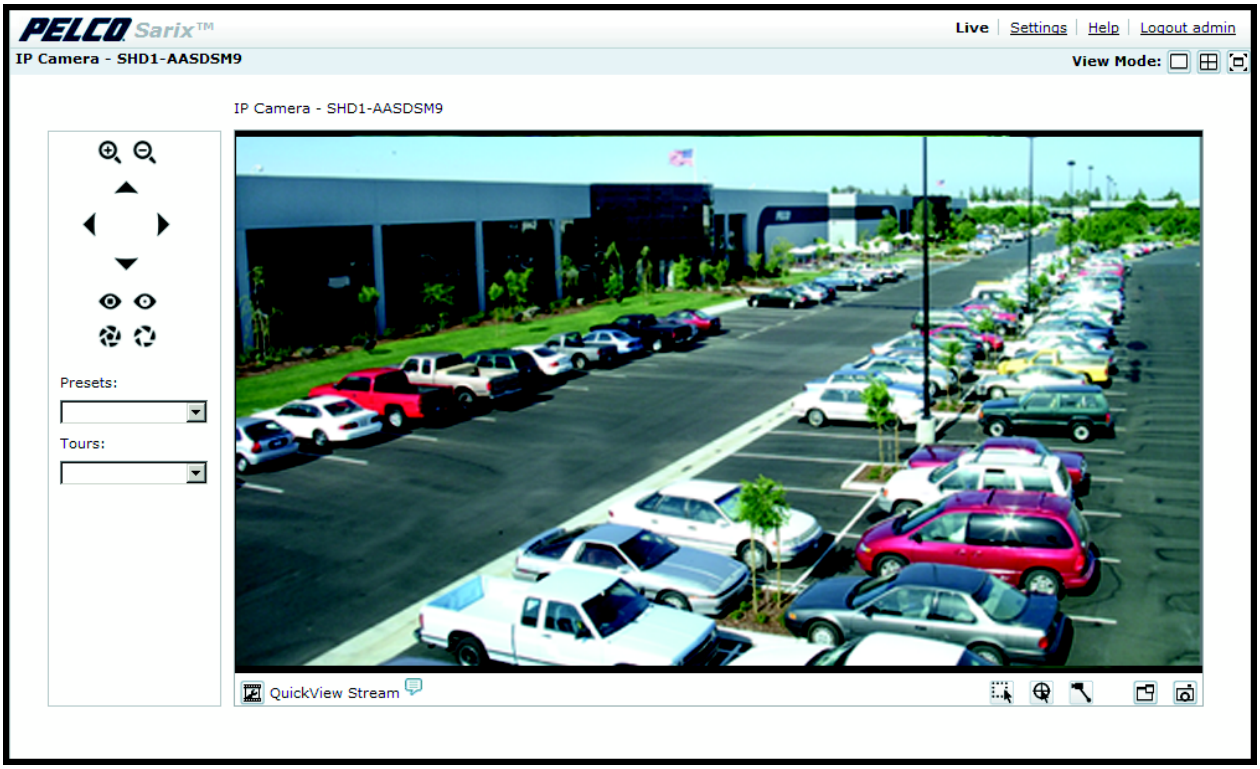


Figure 10. Live Video Page

Refer to the following sections for more information:

- *Live Video Page Icons* on page 19
- *Keyboard Shortcuts* on page 20
- *Taking a Snapshot* on page 22
- *Displaying Video in the Multiscreen View* on page 22

LIVE VIDEO PAGE ICONS

Viewable icons are based on user permissions.

Select Stream: Selects the viewable video stream that is displayed in live view (primary or secondary) and selects unicast or multicast settings.

Maximize Viewing Area: Scales the image to the full size of the browser. To resize the video pane to normal view, click the Show Toolbar button in the upper-right corner of the window.

Show Toolbar: Returns the window to normal view. This option is only available after the window has been set to maximize the viewing area.

Open Stream in New Window: Opens the video in a scalable, independent window. Opening the video in a separate window allows you to view the video while other applications are running. This window can be minimized, maximized, or closed using the title bar buttons of the active window. The window can also be resized by dragging the lower-right corner of the window.

Take a Snapshot: Captures the image displayed in the video pane and then saves it as a JPEG file.

Center Viewing Area*: Centers the camera on an area in the video pane. To center a viewing area, click the desired location in the video pane.

Pan and Tilt*: Controls the pan and tilt functions. Click and drag the mouse to the left or right to pan the camera. Click and drag the mouse up or down to tilt the camera.

Resize Viewing Area*: Zooms in on an area of interest. Click and drag the mouse over the view pane to zoom in on an object.

*These icons are always available when using the Pelco Media Player. If you are using QuickTime®, these icons are available only when the QuickView Stream is selected.

PTZ CONTROLS

NOTE: The PTZ controls are viewable only after you have logged on to the device.


Zoom In: Click and hold the button to zoom the lens in.


Zoom Out: Click and hold the button to zoom the lens out.


Tilt Up: Click and hold the button to tilt the camera up.


Tilt Down: Click and hold the button to tilt the camera down.


Pan Left: Click and hold the button to pan the camera left.


Pan Right: Click and hold the button to pan the camera right.


Focus Near: Click and hold the button to focus on an object near the camera.


Focus Far: Click and hold the button to focus on an object far away from the camera.


Iris Close: Click and hold the button to close the iris and darken the image.


Iris Open: Click and hold the button to open the iris and lighten the image.

KEYBOARD SHORTCUTS

Several keyboard shortcuts are available when viewing live video from Microsoft® Internet Explorer® and the Pelco Media Player. These keyboard shortcuts display different overlays on a video pane and provide quick access to a specific function.

Table C. Keyboard Shortcuts

Keyboard Shortcut	Function
SHIFT + A	Displays analytics information for the current active behavior.
SHIFT + S	Displays details about the live video such as image rate, resolution, and transmission rate.
SHIFT + T	Displays the current date and time.

These keyboard shortcuts are not available when viewing video with Apple® Quicktime®.

SELECTING A STREAM

1. Click the Select Stream button.
2. Select one of the following stream options from the Select Stream page:

   Primary Stream: To select this stream, click the button next to Primary Stream.

   Secondary Stream: To select this stream, click the button next to Secondary Stream.

   QuickView Stream: To select this stream, click the button next to QuickView Stream.

   Event Stream: To select this stream, click the button next to Event Stream.

   NOTE: If the secondary stream has not been configured, only Primary Stream, Event Stream, and QuickView Stream are available.

3. Select one of the following options to adjust the stream settings:

   H.264 compression: Select the video transmission type from the Transmission drop-down menu. Available settings include Unicast and Multicast. Select the media player from the Player drop-down menu. Available settings include Pelco Media Player or QuickTime.

   JPEG compression: Select the image rate for the stream from the Image Rate drop-down menu. The available settings for the primary and secondary streams depend on the Image Rate setting. The QuickView Stream has only two image rate settings: 2 ips and 1 ips.

4. Click the Select button to save the stream settings.

Refer to the following sections for more information:

- *QuickView Stream* on page 21
- *Multicast* on page 22
- *Primary Stream and Secondary Stream* on page 21
- *QuickView Stream* on page 21
- *Compression Standards* on page 42
- *Image Rate* on page 43

PRIMARY STREAM AND SECONDARY STREAM

The Primary Stream and Secondary Stream are video streams that include compression, resolution, image rate, and bit rate settings. The streams can be set up using a video preset setting, or they can be customized using the video configuration settings.

A video preset is a predefined video configuration that offers a good balance between video performance and bandwidth usage. For easy stream configuration, use the Video Preset page located in the drop-down menu of the A/V Streams Tab.

To customize the Primary Stream or Secondary Stream use the Video Configuration page located in the drop-down menu of the A/V Streams Tab. Configurable settings include the stream name, compression standard, resolution setting, image rate, and bit rate. The default names for the streams are Primary Stream and Secondary Stream; however, if these stream names have been changed, the new names will replace the default names (Primary Stream and Secondary Stream) on the Select Stream page.

QUICKVIEW STREAM

The QuickView Stream is a predefined JPEG video stream with a lower resolution. This low resolution, low frame rate stream is displayed when the Imaging Tab settings are configured. This allows users to view changes to exposure, white balance, and tone map settings as they are configured and before the settings are saved.

The QuickView Stream is also ideal for users who are connected to a network with processor bandwidth limitations that might cause a high resolution, high frame rate video stream to pause or appear pixilated.

The aspect ratio of the QuickView Stream mirrors that of the Primary Stream. The only stream setting that is selectable is the framerate: 2 ips or 1 ips.

EVENT STREAM

The Event Stream displays a list of alerts triggered by a running behavior (analytic). The alert includes a screen capture, the profile that was triggered, and the zone where the alert was detected. For the Event Stream to work you must have a behavior profile running. To set up and run behaviors, use the Analytic Configuration page located in the drop-down menu of the Events Tab.

UNICAST

A unicast transmission sends a separate video stream to each user that is requesting data. Although multiple users might request the same data from the camera at the same time, duplicate video streams are transmitted to each user. Every unicast user that connects to the camera consumes additional processing power, which limits the number of simultaneous users who can access the camera.

The camera supports a maximum of 20 simultaneous users.

MULTICAST

A multicast transmission sends data to multiple users at the same time using one transmission stream. Each multicast user that connects to the camera consumes no additional processing power; therefore, multicast video streams can be sent to an unlimited number of simultaneous users.

TAKING A SNAPSHOT

1. Click the "Take a Snapshot" button.
2. The File Download dialog box opens, and the following message appears: "Do you want to open or save this file?"
3. Select one of the following options:

   Open: Your computer's photo editing program opens and displays the screen image. This function is available only when using Microsoft® Internet Explorer® 7.0 (or later) or Mozilla® Firefox® 3.0 (or later).

   Save: The image is saved as a JPEG file on your computer.

   Cancel: The captured image is not saved or displayed and the dialog box closes.

NOTE: If you are using JPEG, the captured image will be the size of the largest MJPEG stream. If you are using H.264, the image is captured using the QuickView Stream, which is approximately VGA resolution.

DISPLAYING VIDEO IN THE MULTISCREEN VIEW

Cameras connected to the same virtual local area network (VLAN) as the camera to which you are logged on can be displayed in a multiscreen view. Use the 4-camera, 9-camera, or 16-camera view mode buttons to display video from multiple cameras simultaneously.

The camera you are logged on to is the default display for the upper-left video pane in the multiscreen view. The device name for this camera is displayed in the gray area near the top of the page.

NOTE: Using Primary and Secondary streams in multiscreen view will limit the available processing power and create responsiveness issues for the camera and PC. If you experience latency issues, set the camera streams to QuickView. Available processing power is determined by the settings for compression standards, resolution, image rate, bit rate, and analytic configuration.

To select video to display in the individual multiscreen panes:

1. Click the desired View Mode display button.
2. Click the Show Device List button above the selected video pane. A list of cameras connected to the same VLAN as the camera to which you are logged on appears in the video pane.
3. Click the name of the camera you want to view. The live video of the selected camera appears in the video pane.
4. Repeat steps 1 to 3 for the remaining video panes.

Settings Page

Depending on user permissions, the Settings page allows you to manage camera system settings, set up users, configure events, and control the camera.

NOTE: The Settings menu might not be available if the user does not have permission to access this feature.

ACCESSING THE CAMERA MENUS

1. Log on to the camera.
2. Click the Settings link in the navigation bar located in the upper-right corner of the page; a list of menu tabs appears.
3. Place the mouse pointer over a tab to display a list of submenus.

Refer to the following sections for more information:

- *System Tab* on page 24
- *Network Tab* on page 27
- *Imaging Tab* on page 33
- *A/V Streams Tab* on page 41
- *Users Tab* on page 44
- *Events Tab* on page 47

System Tab

Use the System tab to change the device name, configure the time settings, set up the text overlay for the live view, display system information, and access snapshots generated by event handlers. You can also use the System tab to generate a system log, reboot the camera, or restore the camera's factory default settings.

General Settings

The General Settings page includes configurable fields for the device name, time server, and text overlay settings. The device name is the user-friendly description of the camera displayed in the gray area near the top of screen. The time server is an external server that uses Network Time Protocol (NTP) to synchronize the camera date and time settings. The text overlay settings allow you to customize the appearance of the Web browser by displaying the device name and the date and time at the top or bottom of the live view.

You can also use the General Settings page to turn the camera's power LED on or off and to configure the Simple Mail Transfer Protocol (SMTP) server to send an email notification when an event handler is activated.

NOTE: Consult your network administrator for information on configuring email notification on your local network.

Backup and Restore Settings

Once the camera settings have been configured for optimal scene display, use the backup feature to save the camera settings. If the camera settings are changed and inadvertently result in a less desirable image, use the restore setting to restore the camera to the previously saved settings.

NOTE: This feature is not intended for the configuration of multiple units or for firmware upgrades.

Information Settings

The System Information page fields are read-only and include the firmware version, hardware version, model number, and serial number of the system. This information is typically required by Pelco Product Support for troubleshooting purposes.Refer to the following sections for more information:

CHANGING THE DEVICE NAME

1. Place your mouse pointer over the System tab.
2. Select General Settings from the drop-down menu.
3. Click the Device Name box and highlight the text.
4. Type a user-friendly name into the Device Name box (2 to 63 characters). A user-friendly name makes it easier to recognize the device on the network. Examples of user-friendly names are Front Door, Lobby, or Parking Lot.
5. Click Save to save the new device name, or click Reset to restore to the previously saved device name.

CONFIGURING THE TIME SETTINGS

If the camera is connected to a Dynamic Host Configuration Protocol (DHCP) network that has time server properties configured, the camera will synchronize automatically with the time server. If the DHCP network's time server properties are not configured or the network does not have a time server, you need to configure the DHCP settings manually.

1. Click the System tab.
2. Select General Settings from the drop-down menu.
3. Type the IP address of the time server in the Time Server field. The time server is an external server that uses Network Time Protocol (NTP) to synchronize the camera date and time settings.
4. Select the Time Zone option. Select the continent and the region that are closest to the camera's location from the Time Zone drop-down menus.

   NOTE: If your location observes a form of daylight saving time, the system will automatically change the time on the associated dates.
5. Click the Save button to save the settings, or click the Reset button to clear all of the information you entered without saving it.

CUSTOMIZING THE APPEARANCE OF THE TEXT OVERLAY

1. Click the System tab.
2. Select General Settings from the drop-down menu.
3. Set the Text Overlay settings:

   Date/Time Overlay: Select Show to display the date and time in the live view overlay. The default setting is Hide.

   Camera Name Overlay: Select Show to display the device name in the live view overlay. The default setting is Hide.

   Pan/Tilt Overlay: Select Show to display the pan, tilt, zoom and direction postition when moving the PTZ in the live view overlay. The default setting is Hide.
4. Select the display position for the overlay from the Position drop-down menu. Selections include Top Right, Top Center, Top Left, Bottom Right, Bottom Center, and Bottom Left.
5. Click the Save button to save the settings, or click the Reset button to clear all of the information you entered without saving it.

GENERATING A SYSTEM LOG

1. Click the System tab.
2. Click the Generate System Log button to create a system log that can be used by Pelco Product Support for troubleshooting. Contact Pelco Product Support at 1-800-289-9100 (USA and Canada) or +1-559-292-1981 (international).

REBOOTING THE CAMERA

1. Click the System tab.
2. Select General Settings from the drop-down menu.
3. Click the Reboot Camera button to restart the camera. Rebooting the camera does not change the configured camera settings.

RESTORING ALL CAMERA DEFAULTS

⚠ **WARNING:** This process cannot be undone; all user and custom settings will be lost.

1. Click the System tab.
2. Select General Settings from the drop-down menu.
3. Click the Restore All Camera Defaults button to restore the camera's factory default settings.

NOTE: If the camera is not connected to a Dynamic Host Configuration Protocol (DHCP) network, the IP address settings for the camera will be lost and the server will not recognize the camera. DHCP On is the default setting for the camera IP address.

Refer to the following section for more information:

- *Turning Off DHCP* on page 28

Network Tab

Use the Network tab to change the camera's general network settings, select the Secure Sockets Layer (SSL) settings, enable Secure Shell (SSH), configure 802.1x port security, and select Simple Network Management Protocol (SNMP) settings.

General Network Settings

The General Network page includes configurable and read-only fields for network communication settings. Available settings include the Hardware Address, Hostname, IP Address, Subnet Mask, Gateway, and DNS Servers.

You can also enable or disable the Dynamic Host Configuration Protocol (DHCP) server from the General Network page. DHCP automatically assigns an IP address to the device if there is a DHCP server on the network. If DHCP is set to On, the IP address, subnet mask, gateway, and DNS server settings are read-only text. If DHCP is set to Off, these settings must be manually changed. The default camera setting for DHCP is On.

SSL Settings

To ensure security on the Internet, all Web browsers provide several security levels that can be adjusted for sites that use SSL technology to transmit data. SSL encrypts communications, making it difficult for unauthorized users to intercept and view user names and passwords.

SSL requires signed certificates to determine if the Web browser accessing the camera has the required authentication. The camera can generate a certificate signing request (CSR) that can be sent to a certificate authority for a signature (for example, VeriSign®), or it can generate a self-signed certificate using the Generate Self-Signed Certificate option.

SSH Settings

SSH is a user-enabled protocol that allows Pelco Product Support to log on to and service the camera for advanced troubleshooting purposes. From this page, users with the appropriate permissions can enable or disable SSH access to the camera.

802.1x

802.1x is a port security that authenticates devices that want to establish a point-to-point access through a wired or wireless port using Extensible Authentication Protocol (EAP). This port-based authentication method prevents unauthorized access to a Local Area Network (LAN) through a physical port. For example, when a device is connected to a network port, the network switch will ask the device for authentication. If the credential is accepted when the device sends a credential to the network switch, the network switch will open the port for normal use. If authentication fails, the device is prevented from accessing information on the port.

SNMP

SNMP is an application layer protocol used to manage TCP/IP-based networks from a single workstation or several workstations. The camera supports SNMP versions 2c and 3 and can be configured to send data using a trap.

Refer to the following sections for more information:

CHANGING THE HOSTNAME

1. Place your mouse pointer over the Network tab.
2. Select General from the drop-down menu.
3. Click in the Hostname box and highlight the text.
4. Type a user-friendly name into the Hostname box (1 to 21 characters) using alphanumeric characters. A user-friendly name makes it easier to recognize the device on the network. Numeric-only names are not allowed.
5. Click the Save button to save the settings, or click the Reset button to clear all of the information you entered without saving it.

TURNING ON DHCP

The default Dynamic Host Configuration Protocol (DHCP) setting for the camera is DHCP On. If the DHCP option is set to Off, complete the following steps to reset it to On.

1. Place your mouse pointer over the Network tab.
2. Select General from the drop-down menu.
3. Select the On option for DHCP.
4. Click the Save button to save the settings, or click the Reset button to clear all of the information you entered without saving it.

NOTE: If the camera is not connected to a DHCP server but DHCP is set to On, the default IP address 192.168.0.20 on subnet mask 255.255.255.0 is automatically assigned to the camera. After the first camera is connected and assigned the default IP address, the system will automatically look for other cameras on the auto IP address system and assign IP addresses in sequential order as required. For example, if three cameras are connected to a network without a DHCP server, the first camera will be assigned address 192.168.0.20, the second camera will be assigned address 192.168.0.21, and the third camera will be assigned address 192.168.0.22.

TURNING OFF DHCP

⚠ **WARNING:** Contact your network administrator to avoid any network conflicts before setting or changing the IP address of the device.

1. Place your mouse pointer over the Network tab.
2. Select General from the drop-down menu.
3. Select the Off option for the Dynamic Host Configuration Protocol (DHCP).
4. Change the following network settings as required:

   IP Address: The address of the camera connected to the network.

   Subnet Mask: The address that determines the IP network that the camera is connected to (relative to its address).

   Gateway: The router that accesses other networks.

   DNS Servers: The addresses of the dedicated servers that translate the names for Web sites and hostnames into numeric IP addresses.
5. Click the Save button to save the settings, or click the Reset button to clear all of the information you entered without saving it.

SELECTING THE SECURE SOCKETS LAYER MODE

1. Place your mouse pointer over the Network tab.
2. Select SSL from the drop-down menu.
3. Select one of the following modes:

   Required: A signed Secure Sockets Layer (SSL) certificate must be installed, and a secure URL that begins with the protocol name "https:" must be used to access the camera. Sensitive data is always encrypted during transmission. A URL that begins with the "http:" protocol rather than the "https:" protocol will be redirected to the secure URL automatically.

   NOTE: Beginning with firmware version 1.8.2, this field cannot be modified in the Web browser. To select or clear the Required mode, you must use the ONVIF or Pelco API call. Doing so avoids placing the camera into a mode in which it would no longer work with a connected VMS system.

   Optional: A signed SSL certificate must be installed, but a secure URL that begins with the protocol name "https:" is optional when accessing the camera. You can also access the camera using a standard URL with the "http:" protocol, but sensitive data is not encrypted during transmission. To ensure that sensitive data is encrypted, you must use a secure URL with the "https:" protocol.

   Disabled (default): Turns off access to the Web client through SSL. Sensitive data will not be encrypted during transmission.

   NOTE: If the SSL mode is set to disabled, you cannot access the camera using a URL that begins with an "https:" protocol. Your Web browser displays an error message if you do not type the camera URL correctly.

Refer to the following sections for more information:

- *Generating a Certificate Request* on page 30
- *Generating a Self-Signed Certificate* on page 30

GENERATING A CERTIFICATE REQUEST

1. Place your mouse pointer over the Network tab.
2. Select SSL from the drop-down menu.
3. Click the Install Certificate button located at the bottom of the SSL Configuration page. The Select Certificate Install Method option buttons appear on the page.
4. Select Generate Certificate Request, and then click Next. The Certificate Request Form opens.
5. Fill in all of the fields, and then click Generate Request. The following progress message appears on the page: "Generating certificate signing request, please wait."
6. Send the CSR, which looks like an encrypted block of undecipherable text, to a third-party certificate authority of your choice for a signature.
7. After you receive the signed certificate, click the Install Certificate button to upload the signed certificate to the device.
8. After the certificate is uploaded, select the desired mode.
9. Click Save.

NOTE: Depending on the third-party certificate authority that signed your certificate, you might need to renew your certificate after a specified amount of time. Consult the certificate authority for more details.

GENERATING A SELF-SIGNED CERTIFICATE

1. Place your mouse pointer over the Network tab.
2. Select SSL from the drop-down menu.
3. Click the Install Certificate button located at the bottom of the SSL Configuration page. The Select Certificate Install Method option buttons appear on the page.
4. Select the "Generate Self-signed Certificate" option, and then click Next. The "Self-signed Certificate Information Form" opens.
5. Fill in all of the fields, and then click Generate Request. The following progress message appears on the page: "Your changes are being applied. This process might take up to 3 minutes." After three minutes, the certificate is uploaded to the device.
6. After the certificate is uploaded, select the desired mode.
7. Click Save.

NOTE: Self-signed certificates are valid for one year. The certificate's expiration date is listed in the Installed Certificate information section. If the certificate has expired and you attempt to access the camera using a secure URL, the Web browser displays a message. Repeat this procedure to generate and upload a new certificate.

ENABLING SECURE SHELL

1. Place your mouse pointer over the Network tab.
2. Select SSH from the drop-down menu.
3. Select the Enabled check box.
4. Click in the Password box and type a password (4 to 16 alphanumeric characters). Passwords are case-sensitive.

   NOTE: The default username is "root" and cannot be changed. The username and password are required when accessing the camera through a third-party SSH client.
5. Click in the "Re-type Password" box and retype your password.
6. Click the Save button to save the password and enable SSH, or click the Reset button to clear all of the information you entered without saving it.

CONFIGURING THE 802.1X PORT SECURITY SETTINGS

⚠ **WARNING:** To prevent network conflicts, contact your network administrator before configuring the 802.1x port security settings.

1. Place your mouse pointer over the Network tab.
2. Select 802.1x from the drop-down menu.
3. Select the On option for the 802.1x Port Security. The default setting for 802.1x is Off.
4. Select the Extensible Authentication Protocol (EAP) method from the Protocol drop-down menu. Supported EAP methods include EAP-MD5, EAP-PEAP, EAP-TLS, and EAP-TTLS.
5. Type the information required for the selected 802.1x authentication method.
6. Connect the PC to a 802.1x secured switch with like authentication protocols.
7. Click the Save button to save the settings, or click the Reset button to clear all of the information you entered without saving it.

SELECTING SNMP SETTINGS

⚠ **WARNING:** The Simple Network Management Protocol (SNMP) settings are advanced controls. Consult your network administrator to obtain the required information to configure SNMP settings.

1. Place your mouse pointer over the Network tab.
2. Select SNMP from the drop-down menu.
3. Select the SNMP Version: None, V2c, or V3. None disables the SNMP configuration and is the default setting.

NOTE: SNMP V2c and SNMP V3 configuration settings are independent of each other, but only one SNMP version can be active at a time.

CONFIGURING SNMP V2C

1. Place your mouse pointer over the Network tab.
2. Select SNMP from the drop-down menu.
3. Select V2c as the SNMP Version.
4. Type the community name in the Community String box. The default name for the Community String is "public."
5. Configure the Trap Configuration settings.

   Address: Type the host name or IP address of the recipient of the trap message.

   Community String: Type the name of the community that should receive the trap message.
6. Click the Save button to save the settings, or click the Reset button to clear all of the information you entered without saving it.

CONFIGURING SNMP V3

1. Place your mouse pointer over the Network tab.
2. Select SNMP from the drop-down menu.
3. Select V3 as the SNMP Version.
4. Type the SNMP user name in the SNMP user field.
5. Select the encryption algorithm for authentication from the Authentication drop-down menu: None, MD5, or SHA. If you use authentication method MD5 or SHA, type a password in the text box to the right of the selected Authentication encryption.
6. Select the privacy encryption algorithm setting from the Privacy drop-down menu: None, DES, or AES. If you use privacy method DES or AES, type a password in the text box to the right of the selected Privacy encryption.
7. Configure the address for the Trap Configuration. The Address is the host name or IP address of the recipient of the trap message.
8. Click the Save button to save the settings, or click the Reset button to clear all of the information you entered without saving it.

Imaging Tab

Use the Imaging tab to change the camera's general image settings, adjust the camera exposure, tune the white balance settings for scenes with fluctuating lighting conditions, define window blanking privacy areas, or configure presets and preset tours.

General Imaging Settings

General imaging settings include adjustments for digital processing and freeze frame.

Digital processing settings adjust the device's sharpness, saturation, contrast, and brightness.

Freeze frame settings freeze the previewed image when a preset is called. This allows for smooth transition from one preset scene to another. Preset freeze frame also reduces bandwidth and guarantees that blanked areas will not be revealed when a preset is called.

Exposure Settings

Exposure settings include adjustments for exposure, day and night, backlight compensation, and wide dynamic range (WDR) processing.

Exposure is the amount of light detected by the camera sensor. A scene with correct exposure settings has adequate detail and contrast between white and dark values. An image with too little or too much exposure eliminates detail in the scene.

Day night settings control the position of the IR cut filter, which determines the color or black-white setting of the camera. Day night settings change depending on the exposure settings.

Backlight compensation enhances objects in the center of the picture. The device uses the center of the picture to adjust the iris. If a bright backlight is present, the subjects in the picture may appear dark or as a silhouette. If there is a bright light source outside of this area, it will wash out to white. The device adjusts the iris so that the object in the sensitive area is properly exposed.

WDR processing balances the brightest and darkest sections of a scene to produce a picture that is better balanced in lighting and provides more detail.

White Balance Settings

White balance settings define how the camera processes video images to render true colors in a scene. White balance is especially effective in scenes with changing lighting conditions or in scenes with more than one type of light source. For example, scenes that benefit from white balance correction are outdoor scenes, indoor scenes that include a window or door that opens to the outdoors, or indoor scenes that include both incandescent and fluorescent lighting.

Window Blanking Settings

Window blanking is used to conceal user-defined privacy areas. A blanked area appears on the screen as a solid gray window. The device can handle up to eight blanked windows.

Presets

A preset is a predetermined viewing area (such as a door) that a device will go to automatically when instructed, either by an operator giving a simple command or a software program executing an instruction. A maximum of 255 presets can be configured for the device. Presets are available while viewing video.

Preset Tours

A preset tour is a grouping of presets that displays each predetermined viewing area in the sequence for a determined length of time before displaying the next preset. A preset tour can contain a maximum of 64 presets in any order, and presets can be repeated anywhere in the sequence.

CHANGING FREEZE FRAME SETTINGS

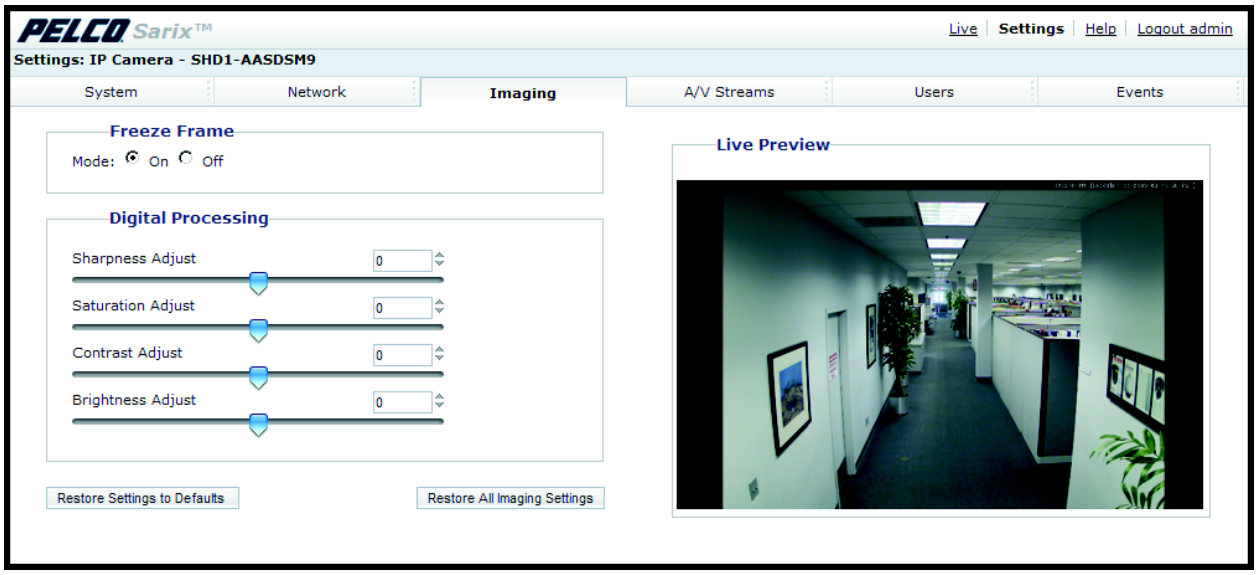


Figure 11. Freeze Frame Page

1. Place your mouse pointer over the Imaging tab.
2. Select General from the drop-down menu.
3. Select the Freeze Frame mode: On or Off. The default is Off.

   On: The camera image freezes when a preset is called. When the device reaches the preset, the image is unfrozen and the preset scene is displayed.

   Off: The camera image is never frozen.

CHANGING THE DIGITAL PROCESSING SETTINGS

1. Place your mouse pointer over the Imaging tab.
2. Select General from the drop-down menu.
3. Move the slider to the left or right to change the following settings:

   Sharpness Adjust: Controls the clarity of detail in a scene. Move the slider to the right to increase the sharpness; move the slider to the left to decrease the sharpness. Increasing the sharpness also increases the image noise. The range of adjustment is –100 to 100; the default setting is 0 (zero).

   Saturation Adjust: Controls how intense or vivid the colors are in a scene. Move the slider to the right to increase the saturation level; move the slider to the left to decrease the saturation level. The range of adjustment is –100 to 100; the default setting is 0 (zero).

   Contrast Adjust: Controls gradations between the darkest and lightest portions of the scene. Move the slider to the right to increase the contrast; move the slider to the left to decrease the contrast. The range of adjustment is –100 to 100; the default setting is 0 (zero).

   Brightness Adjust: Controls the lighting detail in a scene. Move the slider to the right to lighten the image; move the slider to the left to darken the image. The range of adjustment is –100 to 100; the default setting is 0 (zero).

SELECTING NORMAL EXPOSURE SETTINGS

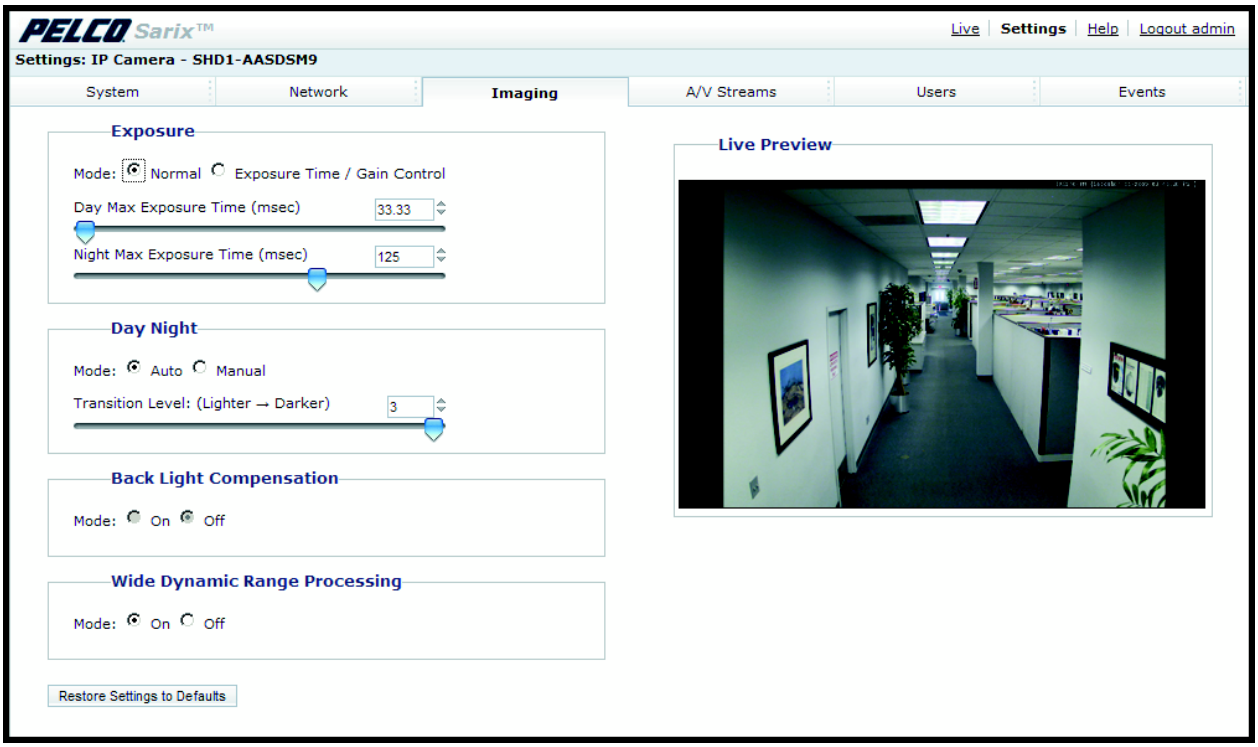


Figure 12. Normal Exposure Page

1. Place your mouse pointer over the Imaging tab.
2. Select Exposure from the drop-down menu.
3. Select the Normal mode.

   NOTE: The available Day Night settings are dependent on the exposure mode.

4. Move the Day Max Exposure Time slider to the desired position. This setting controls the maximum time in milliseconds that an image is exposed during daytime conditions. Decreasing Day Max Exposure Time reduces the blur caused by fast moving objects, but it also reduces the light sensitivity of the camera. Available exposure settings include 33.33, 66.67, 125, and 250 msec; the default setting is 33.33 msec.
5. Move the Night Max Exposure Time slider to the desired position. This setting controls the maximum time in milliseconds that an image is exposed during dim light, such as nighttime conditions. Increase this time to increase the light sensitivity of the camera. Available exposure settings include 33.33, 66.67, 125, and 250 msec; the default setting is 125 msec.

SELECTING EXPOSURE TIME AND GAIN CONTROL SETTINGS

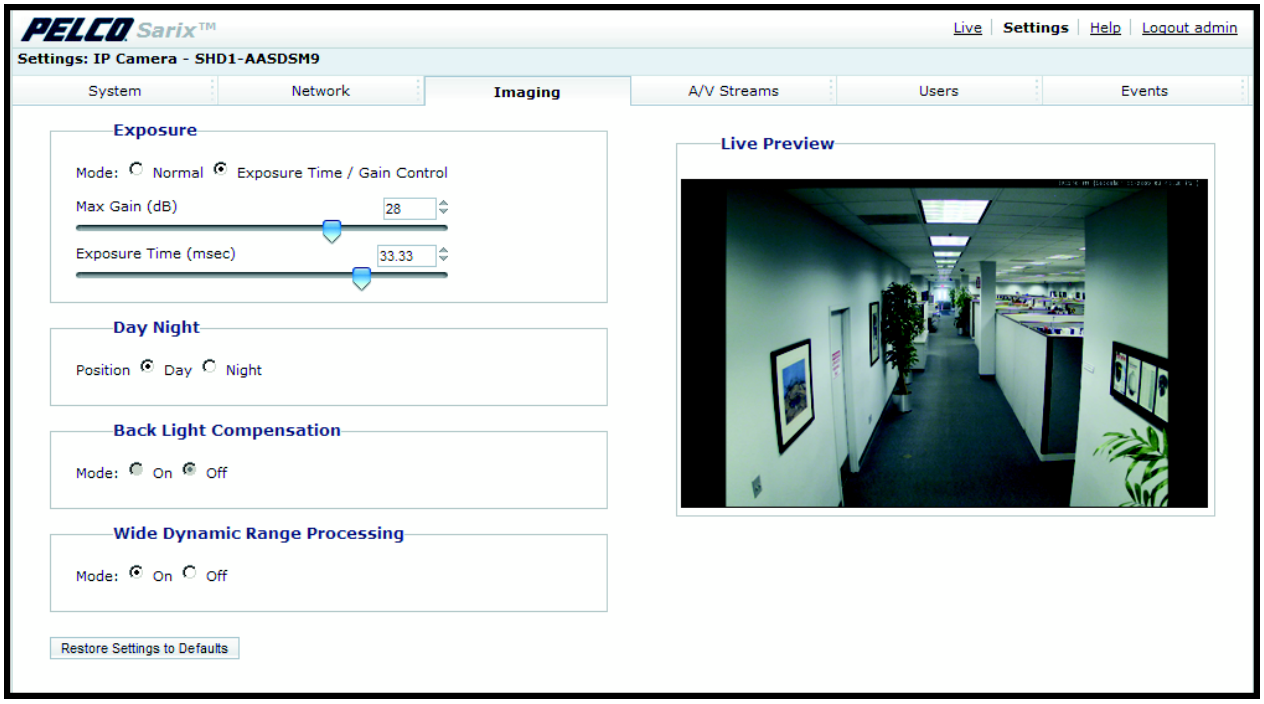


Figure 13. Exposure Time and Gain Control Page

1. Place your mouse pointer over the Imaging tab.
2. Select Exposure from the drop-down menu.
3. Select the Exposure Time/Gain Control mode.
4. Move the Max Gain slider to the desired position. Increasing the gain increases the brightness of the image, but it also increases the amount of noise in the image. The max gain range is 0 to 40 dB; the default setting is 28 dB.
5. Move the Exposure Time slider to the desired position. This setting is the maximum time in milliseconds that the sensor is exposed to the light. Decreasing the maximum exposure time decreases the light sensitivity and reduces motion blurring. Increasing the exposure time increases light sensitivity and also increases motion blurring.

   Available exposure settings include 0.1, 0.25, 0.5, 1, 2, 4, 5.56, 8.33, 10, 16.67, 20, 33.33, 66.67, 125, and 250 msec. The default setting is 33.33 msec.

DAY NIGHT SETTINGS

DAY NIGHT AUTO MODE

The Day Night auto mode setting automatically controls the IR cut filter depending on the Transition Level setting.

The Transition Level setting determines when the device changes from day mode (color) to night mode (black-white). Moving the slider to the left or right changes the transition level to a lighter or darker setting. A lighter Transition Level setting changes modes at a high lux setting. The default setting is 2.

DAY NIGHT MANUAL MODE

The Day Night manual mode sets the IR cut filter to a fixed position depending on the position setting. Available settings include Day and Night.

Day: Sets the IR filter to the day (color) position.

Night: Sets the IR filter to the night (black-white) position.

SELECTING THE WHITE BALANCE MODE

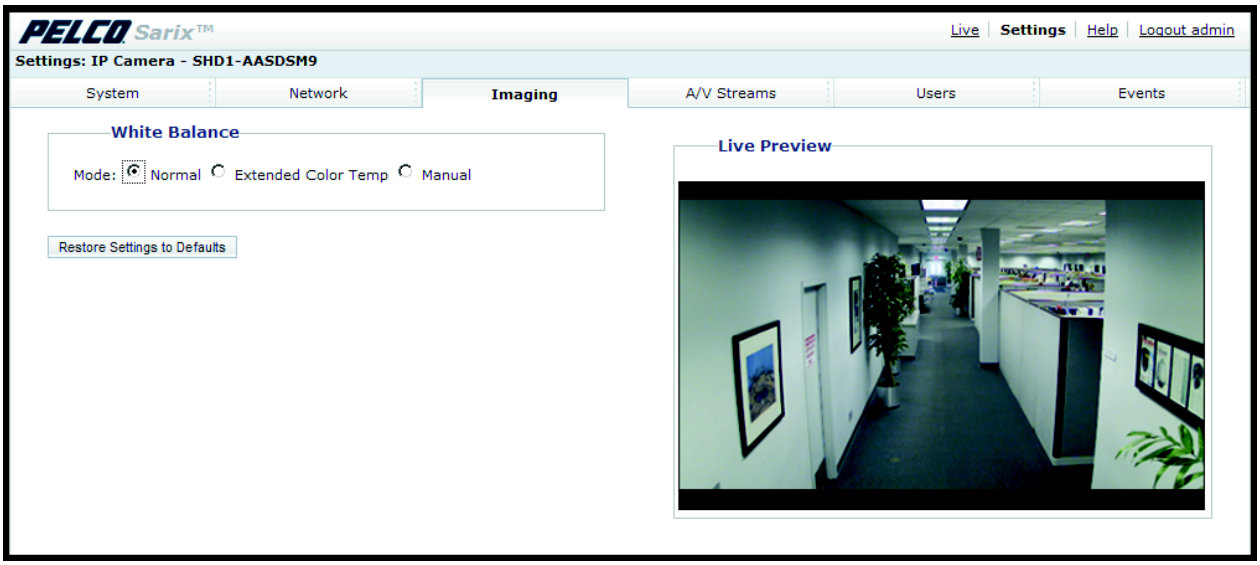


Figure 14. White Balance Page

1. Place your mouse pointer over the Imaging tab.
2. Select White Balance from the drop-down menu.
3. Select one of the following Mode settings:

   Normal: This setting is recommended for most lighting conditions. Normal is the default mode setting.

   Extended Color Temp: This setting maintains color balance in outdoor settings where sodium vapor lighting is widely used, such as parking lots or street lights.

   Manual: This setting is useful when the lighting in the scene does not change (for example, in a mall or casino). Manual mode allows manual adjustment of the image output in the red and blue range. Move the Red Gain or the Blue Gain slider to the right to increase the color level; move a slider to the left to decrease the color level. As you move a slider, you will see the color change on your monitor. The manual range of adjustment for both color levels is 0 to 32. The default setting for Red Gain is 14.75 and the default setting for Blue Gain is 19.375.

4. If required, click the "Restore Settings to Defaults" button to restore the default settings.

TURNING ON WINDOW BLANKING

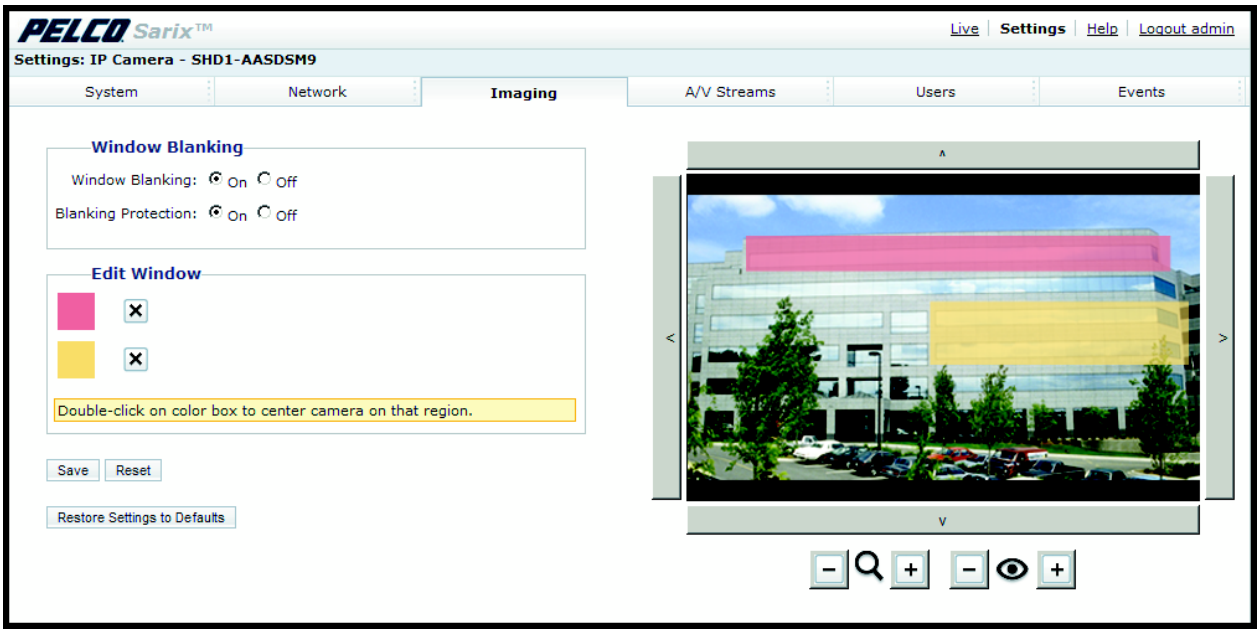


Figure 15. Window Blanking Page

1. Place your mouse pointer over the Imaging tab.
2. Select Window Blanking from the drop-down menu.
3. Select the On option for Window Blanking.
4. Draw a window in the Live Preview area of the page:
   a. Hold down the left mouse button.
   b. Drag the mouse diagonally across the area you want to blank.
   c. A color-coded box appears in the Edit Window section of the page that is the same color as the window drawn in the Live Preview area.

   NOTE: Up to eight blanked windows can be defined.
5. If necessary, use the PTZ controls to reposition the camera to an alternate view.
6. If necessary, select the On option for Blanking Protection.

   NOTE: Blanking protection limits the PTZ speed to ensure that blanked parts of the scene will not be visible when the camera moves.
7. To resize the window, click and drag one or more of the points until the window is the desired shape and size.
8. Click the Save button to save the settings, or click the Reset button to clear all of the information you entered without saving it.

RESTORING WINDOW BLANKING DEFAULTS

1. Place your mouse pointer over the Imaging tab.
2. Select Window Blanking from the drop-down menu.
3. Click the "Restore Settings to Defaults" button. All defined windows are deleted, and the Window Blanking and Blanking Protection settings are restored to the default Off position.

CREATING A PRESET

1. Place your mouse pointer over the Imaging tab.
2. Select Presets from the drop-down menu.
3. Click the New Preset button.
4. Type a name in the Preset Name field.
5. Select the Focus Lock mode:

   On: A focus setting for the camera is saved with the predetermined viewing area and is used whenever the preset is selected. Choosing this mode ensures that the camera will use the expected focal point any time the preset is selected.

   Off: The preset does not retain any of the focus settings. Choosing this mode means that the camera will use any current focus setting when the preset is selected.

⚠ **WARNING:** If an operator has changed the focus of the camera before the preset is selected, it is possible that the camera will be out of focus when the camera displays the preset position later. Turn on the Focus Lock mode to avoid this problem.

6. Position the camera using the pan and tilt controls.
7. If necessary, adjust the zoom and focus.
8. Click the Save button to save the settings, or click the Reset button to clear all of the information you entered without saving it.

DELETING A PRESET

1. Place your mouse pointer over the Imaging tab.
2. Select Presets from the drop-down menu.
3. Select the preset that you want to delete from the New Preset list.
4. Click the Delete Preset button.

CREATING A PRESET TOUR

1. Place your mouse pointer over the Imaging tab.
2. Select Preset Tours from the drop-down menu.
3. Click the New Tour button.
4. Type a name in the Tour Name field.
5. Select a preset from the list at the bottom of the page and drag it to the “Tour workspace” area.
6. If necessary, click either of the refresh buttons to review the available presets.
7. Set the dwell time for the preset. Dwell time can be set in minutes and seconds. Dwell time is the length of time (in minutes or seconds) before the system will move to the next preset of the tour.
8. Use the “Transition preview” pane to review the tour. Click the Next button to see additional presets. The Next button is located beneath the lower-right corner of the “Transition preview” pane.
9. Select another preset from the list and drag it to the right or left of an existing preset in the “Tour workspace” area. The border to either side of the existing preset changes to yellow to indicate that you can add a preset at that location.
10. Continue adding presets to the tour. Be sure to add the dwell time for each additional preset. Any preset can be added to the tour, and the same preset can be added several times.
11. Click the Save button to save the settings, or click the Reset button to clear all of the information you entered without saving it.

DELETING A PRESET FROM A TOUR

1. Place your mouse pointer over the Imaging tab.
2. Select Preset Tours from the drop-down menu.
3. Select a tour in the New Tour list
4. In the “Tour workspace” area, locate the preset thumbnail you want to delete from the tour.
5. Click the Delete button “X” next to the name of the preset.
6. Click the Save button to save the settings, or click the Reset button to clear all of the information you entered without saving it.

DELETING A PRESET TOUR

1. Place your mouse pointer over the Imaging tab.
2. Select Presets from the drop-down menu.
3. Select the preset that you want to delete from the New Preset list.
4. Click the Delete Preset button.

A/V Streams Tab

Use the A/V Streams tab to configure the video and audio streams for the camera. The A/V Streams tab includes a Video Presets page, a Video Configuration page, and an Audio Configuration page.

Video Presets

The Video Preset page includes three fully-configured video presets, which include primary and secondary video stream settings for easy setup. These presets may also be used as a starting point for a custom video configuration. These preset configurations vary depending on camera model.

Video Configuration

The Video Configuration page allows you to customize the compression, resolution, image rate, and bit rate of the video streams. The default names for the streams are Primary Stream and Secondary Stream. Although each stream can be configured independently, the settings of one stream can limit the options available to the other stream, depending on the processing power used.

NOTE: Always configure the primary stream before the secondary stream. The primary stream should always be the most resource-intensive of the streams.

Refer to the following sections for more information:

- *Selecting a Video Preset Configuration* on page 41
- *Configuring a Custom Video Stream Configuration* on page 42
- *Compression Standards* on page 42
- *Image Rate* on page 43
- *Image Rate* on page 43
- *Bit Rate* on page 43
- *I-Frame Interval* on page 43
- *Quality of Service for Differentiated Services Code Point* on page 43
- *Endura Signing* on page 43

SELECTING A VIDEO PRESET CONFIGURATION

1. Place your mouse pointer over the A/V Streams tab.
2. Select the Video Presets option from the drop-down menu.
3. Click the button next to the desired video preset stream configuration: High, Medium, or Low.
4. Click the Save button to save the settings, or click the Reset button to clear your selection without saving it.

CONFIGURING A CUSTOM VIDEO STREAM CONFIGURATION

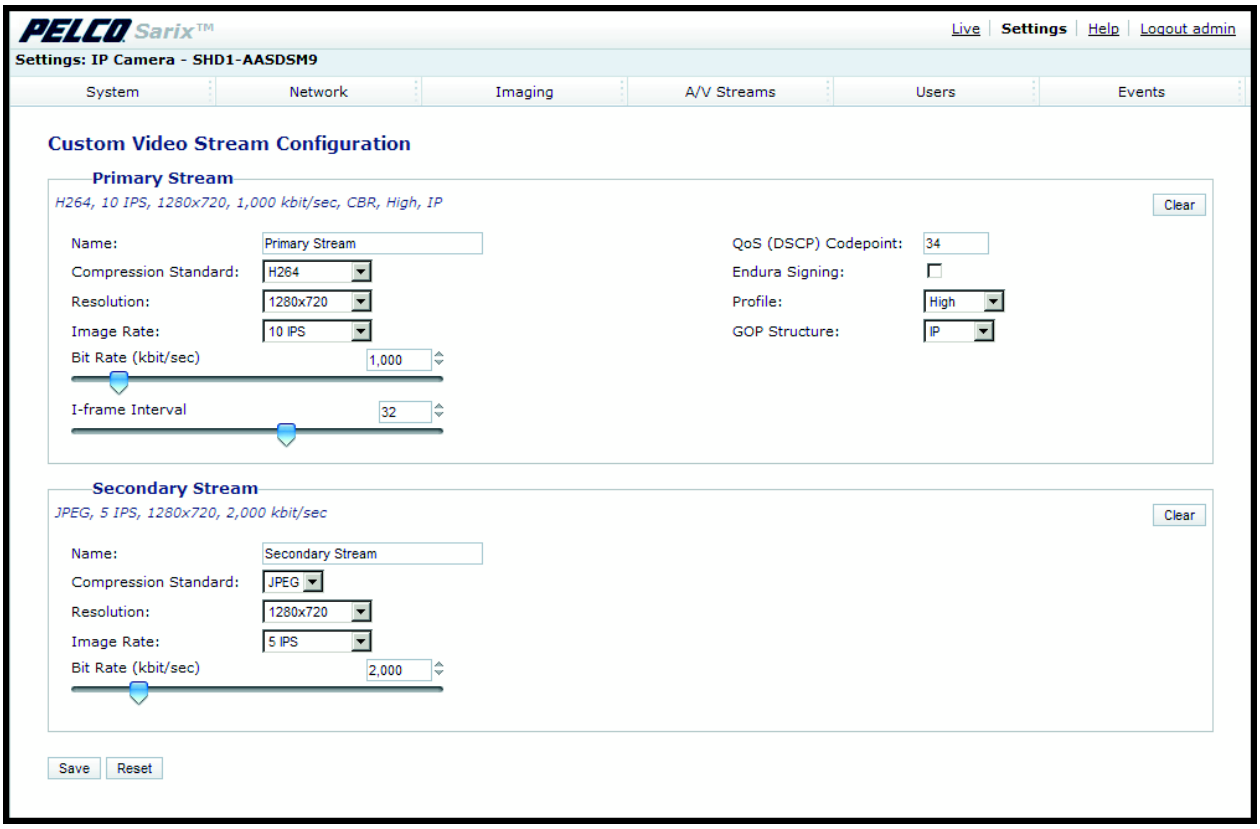


Figure 16. Custom Video Stream Configuration Page

1. Place your mouse pointer over the A/V Streams tab.
2. Select Video Configuration from the drop-down menu.
3. Click both of the Clear buttons to delete the primary and secondary streams settings.
4. *Optional:* In the Primary Stream section, type a user-friendly name in the Name box (2 to 64 characters). A user-friendly name makes it easier to recognize the stream (for example, Live and Recording).
5. Configure the Compression Standard, Resolution, Image Rate, and Bit Rate settings for the primary stream.

   NOTE: The compression standard, resolution, image rate, and bit rate settings are dependent on each other. You must first decide the priority setting before you configure a stream. For example, if you want an image rate of 30 ips, set the image rate before you configure the other settings.
6. Repeat steps 3 to 5 for the Secondary stream.
7. Click the Save button to save the settings, or click the Reset button to clear all of the information you entered without saving it.

COMPRESSION STANDARDS

JPEG: A commonly used video compression scheme, also known as MJPEG. JPEG has the least impact on the camera's processor, but it requires the most bandwidth.

MPEG-4 (available only with 0.5 megapixel model): A full-motion video standard used by most DVD recorders. MPEG-4 is less processor-intensive than JPEG, but it uses more bandwidth than H.264.

H.264: A new version of MPEG-4 compression used in high-definition video players such as Blu-ray™ and HD-DVD. H.264 is the most processor-intensive, but it requires the least amount of bandwidth.

IMAGE RATE

The image rate is the number of images per second (ips) available for the video stream configuration. Available image rates depend upon the model of the device that you are using.

NOTE: The maximum image rate setting might not be obtainable due to the compression standard and the resolution of the stream.

Refer to the following section for more information:

- *Specifications* on page 66

BIT RATE

The bit rate is the quality of the video stream (rendered in kilobits per second). The higher the value, the higher the video quality and bandwidth required.

NOTE: When you change any of the video stream configuration settings, the camera automatically adjusts the bit rate. If you manually reduce the bit rate lower than the camera's automatic setting, the image quality might be reduced and the stream selection options might be limited.

I-FRAME INTERVAL

The I-frame interval configures the number of partial frames that occur between full frames in the video stream. For example, in a scene where a door opens and a person walks through, only the movements of the door and the person are stored by the video encoder. The stationary background that occurs in the previous partial frames is not encoded, because no changes occurred in that part of the scene. The stationary background is only encoded in the full frames. Partial frames improve video compression rates by reducing the size of the video. As the I-frame interval increases, the number of partial frames increases between full frames. Higher values are only recommended on networks with high reliability. This setting is only available with H.264.

QUALITY OF SERVICE FOR DIFFERENTIATED SERVICES CODE POINT

Quality of Service (QoS) for Differentiated Services Code Point (DSCP) is a code that allows the network to prioritize the transmission of different types of data. This setting is only available with H.264.

NOTES:

- If you are not familiar with DSCP, contact your network administrator before changing this setting.
- Your network must be configured to use QoS. If you are unsure if your network is QoS-aware, contact your network administrator.

ENDURA SIGNING

Enabling the Endura Signing feature allows an Endura® system to authenticate video from an Endura recorded stream. This setting is only available with H.264.

Users Tab

Use the Users tab to create and manage user accounts and to change the way the camera manages the users settings.

General Settings

Use the General Settings page to set the public user access level. This access level is a predefined set of user permissions that allows the camera to be accessed without logging on. Available permission levels depend upon the model of the device that you are using.

The General Settings page also allows you to change the way the camera manages users and groups settings. These settings can be managed on a camera-to-camera basis or by using a centralized server to apply changes to multiple cameras.

Users

User accounts are created to limit the permissions of individuals who are logged onto the camera. The Users page also includes four predefined access level settings that include Administrator, Manager, Operator, and Viewer permissions.

Refer to the following sections for more information.

- *Selecting the Users and Groups Settings* on page 45
- *Creating a New User* on page 45
- *Editing a User* on page 45
- *Deleting a User* on page 46

SELECTING THE USERS AND GROUPS SETTINGS

1. Place your mouse pointer over the Users tab.
2. Select General Settings from the drop-down menu.
3. Select a Public User Access level setting.
4. Select one of the following User and Group Management modes:

   Local Mode: The camera manages its users and groups locally. Any changes to users and groups affect only the camera that you are accessing. Standalone is the default setting.

   Remote Mode: The camera uses a centralized Lightweight Directory Access Protocol (LDAP) or Active Directory server to manage users and groups. In this mode, the Users and Groups page is disabled and all management is done on the central server.

   ⚠ **WARNING:** Remote Mode settings are advanced controls. Consult your network administrator to obtain the required information to configure remote settings.

5. Click the Save button to save the settings, or click the Reset button to clear all of the information you entered without saving it.

CREATING A NEW USER

1. Place your mouse pointer over the Users tab.
2. Select Users from the drop-down menu.
3. Select the Access Level for the user.

   Admins: Permissions include access to all camera settings.

   Managers: Permissions include access to all settings except this user cannot modify user permissions or restore factory default settings.

   Operators: Permissions include view video and PTZ functions.

   Viewers: Permissions include view video.

4. Click in the Username box and type a user name (2 to 23 alphanumeric characters). User names are not case-sensitive and are saved in lowercase characters.
5. Click in the Password box and type a password (4 to 16 alphanumeric characters). Passwords are case-sensitive.
6. Click in the Retype Password box and retype your password.
7. Click the Save button to save the settings and create a new user (the new user profile appears in the box on the left side of the page), or click the Reset button to clear all of the information you entered without saving it.

EDITING A USER

1. Place your mouse pointer over the Users tab.
2. Select Users from the drop-down menu.
3. Click the user profile that you want to edit from the box on the left side of the page.
4. If required, select a different Access Level for the user.
5. Double-click in each of the text boxes to highlight the text. Type the new information in each text box.

   NOTE: The Username cannot be modified; this text box is read-only.

6. Click the Save button to save the settings, or click the Reset button to clear all of the information you entered without saving it.

DELETING A USER

1. Place your mouse pointer over the Users tab.
2. Select Users from the drop-down menu.
3. Click the user profile that you want to delete from the defined users section located in the box on the left side of the page.
4. Click the Delete User button. A dialog box appears with the message "Are you sure you want to delete this user?"
5. Click OK. The user profile is deleted from the defined user profiles section.

NOTE: The "admin" user cannot be deleted.

Events Tab

Use the Events tab to configure camera events and the AutoTracking behavior.

Events are activated by user-defined event sources that tell the device how to react when an event occurs. Event handlers are the actions that the device takes when an event occurs. For example, a system source can be configured to send email to an operator if the system shuts down and restarts.

Sources

The camera supports an input alarm source, an analytic source, a system source, a timer source, and a park action source. The Alarm source is the camera input for an external signaling device, such as a door contact or motion detector. The Analytics source triggers when any configured behavior is detected. The System source is activated when the camera restarts. The Timer source is a user-defined event that activates an event after a specified amount of time. The Park Action source activates a user-defined event if the device is inactive for a specified period of time.

Handlers

The device supports Send Email, Upload JPEG To FTP Server, Go To Preset, Open/Close Relay, and Run Tour handlers. The Send Email handler sends an email to a defined email address when an event is activated. The Upload JPEG To FTP Server handler saves a JPEG of the activated event to a defined FTP server. The Go To Preset handler moves the device to a user-defined preset. The Open/Close Relay handler sends a signal to an external device when an alarm or relay is triggered. The Run Tour handler starts a user-defined preset tour.

NOTE: The Pelco Alarm accessory must be connected to the device's accessory port for Open/Close Relay to work.

Analytic Configuration

Pelco analytics can be configured and enabled using a standard Web browser. The device is preloaded with user-configurable behaviors and is capable of running several behaviors at the same time. The number of behaviors is limited to the available processing power of the device. Available processing power is determined by the settings for compression standards, resolution, image rate, bit rate, and analytic configuration.

Pelco analytics are also compatible with Endura® or a third-party system that supports alarms using Pelco's API. Refer to the specific product documentation for instructions on how to configure and enable Pelco analytics.

NOTE: Analytic alerts can be seen in the event stream, but alarms are only transmitted through Pelco's API.

Pelco analytics include the following behaviors:

Abandoned Object: Detects objects placed in a defined zone and triggers an alarm if the object remains in the zone longer than the user-defined time allows.

Adaptive Motion: Detects and tracks objects that enter a scene and then triggers an alarm when the objects enter a user-defined zone. The objects are monitored until they exit the scene.

AutoTracking: Detects and tracks movement in the camera's field of view. When the AutoTracking behavior is configured, the system will automatically pan and tilt to follow a moving object until the object stops or disappears from the monitored area.

Camera Sabotage: Detects contrast changes in the field of view. An alarm is triggered if the lens is obstructed with spray paint, a cloth, or covered with a lens cap. Any unauthorized repositioning of the camera also triggers an alarm.

Directional Motion: Generates an alarm in a high traffic area when a person or object moves in a specified direction. For example, a camera is pointed at an exit door. If someone tries to enter through the exit door, an alarm triggers.

Loitering Detection: Identifies when people or vehicles remain in a defined zone longer than the user-defined time allows. This behavior is effective for real-time notification of suspicious behavior around ATMs, stairwells, and school grounds.

Object Counting: Counts the number of objects that enter a defined zone or cross a defined trip wire. This behavior can be used to count people at a store entrance/exit or inside a store where the traffic is light.

Object Removal: Triggers an alarm if an object is removed from a user-defined zone. This behavior is ideal for customers who want to detect the removal of high-value objects, such as a painting from a wall or a statue from a pedestal.

Stopped Vehicle: Detects vehicles stopped near a sensitive area longer than the user-defined time allows. This behavior is ideal for parking enforcement, suspicious parking, traffic lane breakdowns, and vehicles waiting at gates.

SOURCES

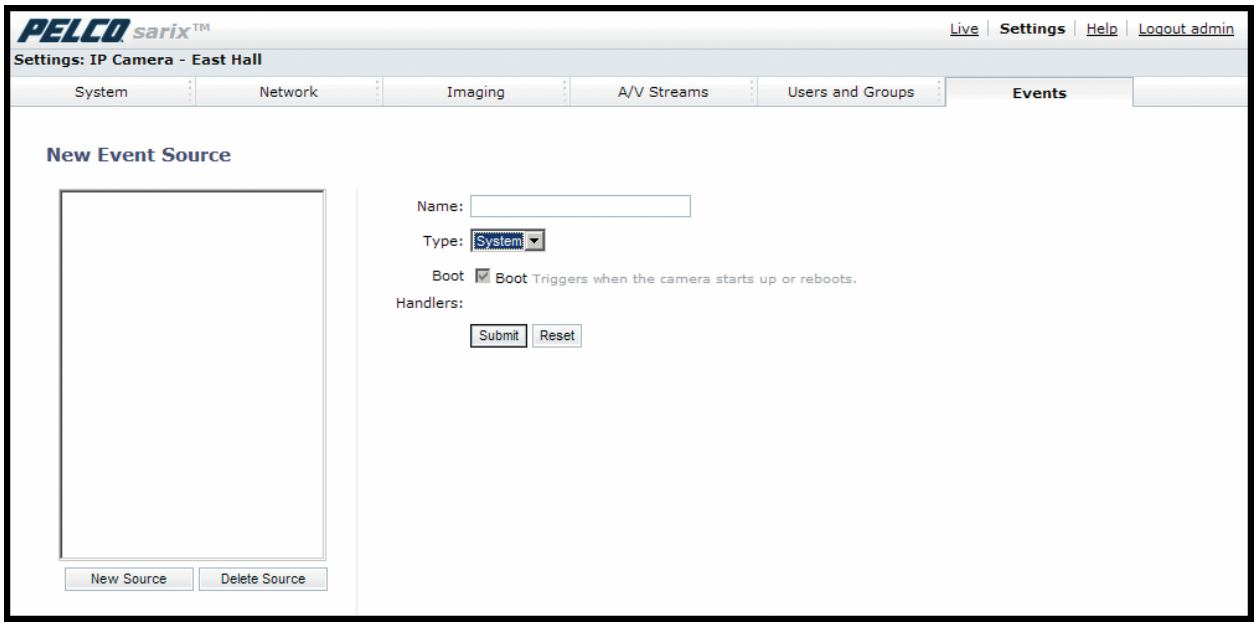


Figure 17. New Event Source Page

An event is a preconfigured camera function that is activated automatically by an event source. The camera supports the following types of event sources:

Alarm: If the Pelco Alarm accessory is connected to the dome's accessory port, the dome can support four alarm sources. The sources are inputs for external signaling devices, such as door contacts or motion detectors.

Analytics: An analytic source will activate a user-defined event handler when an analytic alert is detected.

Park Action: A park action source activates a user-defined event handler if the device is inactive for a specified period of time.

System: A system source activates a user-defined event handler when the camera restarts.

Timer: A timer source activates a user-defined event handler after a specified amount of time.

CREATING AN ALARM EVENT SOURCE

1. Place your mouse pointer over the Events tab.
2. Select Sources from the drop-down menu.
3. Click in the Name box and type a user-friendly name (2 to 23 alphanumeric characters).
4. Select Alarm from the Type drop-down menu.
5. Select either GPIO or the serial number of the alarm device from the Alarm Bank drop-down menu.
6. Select the alarm you want to trigger when an event occurs from the Alarm drop-down menu.
7. Move the Dwell Time slider to set the amount of time in seconds that the alarm is active. The dwell time range is 0.1 to 200 seconds; the default setting is 0.1.
8. Select either normal or reversed from the Polarity drop-down menu.
9. Select either true or false from the Supervised drop-down menu.
10. Click the Submit button to save the settings, or click the Reset button to clear all of the information you entered without saving it.

CREATING AN ANALYTIC EVENT SOURCE

1. Place your mouse pointer over the Events tab.
2. Select Sources from the drop-down menu.
3. Click in the Name box and type a user-friendly name (2 to 23 alphanumeric characters).
4. Select Analytics from the Type drop-down menu.
5. Click the Submit button to save the settings, or click the Reset button to clear all of the information you entered without saving it.

CREATING A PARK ACTION EVENT SOURCE

1. Place your mouse pointer over the Events tab.
2. Select Sources from the drop-down menu.
3. Click in the Name box and type a user-friendly name (2 to 23 alphanumeric characters).
4. Select "Park Action" in the Type drop-down menu.
5. Configure the Dwell Time (the amount of inactivity before the event handler starts):
   a. Click in the Dwell Time box and type a numeric value.
   b. Select the time interval from the drop-down menu. Time intervals include seconds, minutes, hours, or days. The default setting is seconds.
6. Click the Submit button to save the settings, or click the Reset button to clear all of the information you entered without saving it.

CREATING A SYSTEM EVENT SOURCE

1. Place your mouse pointer over the Events tab.
2. Select Sources from the drop-down menu.
3. Click in the Name box and type a user-friendly name (2 to 23 alphanumeric characters).
4. Select System from the Type drop-down menu.
5. Select the Boot check box to activate an event when the camera reboots.
6. Click the Submit button to save the settings, or click the Reset button to clear all of the information you entered without saving it.

CREATING A TIMER EVENT SOURCE

1. Place you mouse over the Events tab.
2. Select Sources from the drop-down menu.
3. Click in the Name box and type a user-friendly name (2 to 23 alphanumeric characters).
4. Select Timer from the Type drop-down menu.
5. Click in the Frequency box and type a number. Select seconds, minutes, hours, or days from the Frequency drop-down menu.
6. Click the Submit button to save the settings, or click the Reset button to clear all of the information you entered without saving it.

EDITING AN EVENT SOURCE

1. Place your mouse pointer over the Events tab.
2. Select Sources from the drop-down menu.
3. Click the source profile that you want to delete from the defined source box located on the left side of the page.
4. Make any necessary changes to the available fields.
5. Click the Submit button to save the settings, or click the Reset button to clear all of the information you entered without saving it.

DELETING AN EVENT SOURCE

1. Place your mouse pointer over the Events tab.
2. Select Sources from the drop-down menu.
3. Click the source profile that you want to delete from the defined source box located on the left side of the page.
4. Click the Delete Source button. A dialog box appears with the message “Are you sure you want to delete the source?”
5. Click OK. The source profile is deleted from the defined source box.

HANDLERS

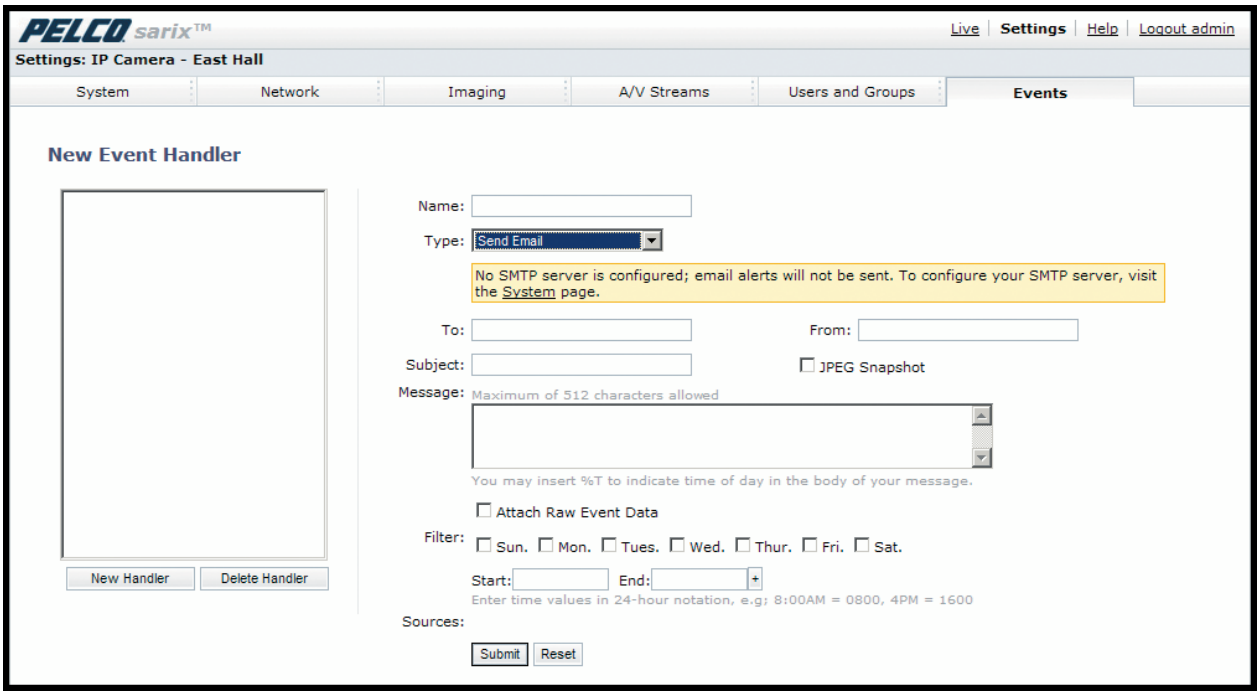


Figure 18. New Event Handler Page

Event handlers are the actions that the camera takes when an event occurs. The camera supports the following event handlers:

Send Email: Sends an email to a defined email address when an event is activated. The Simple Mail Transfer Protocol (SMTP) server must be configured to accept the camera's IP address.

Upload JPEG to FTP Server: Saves a JPEG of the activated event to a defined FTP server.

Goto Preset: Moves a device to a selected preset position.

Run Tour: Starts a selected preset tour.

CREATING AN EVENT HANDLER: SEND EMAIL

NOTE: To use email notification, the camera must be connected to a local area network (LAN) that maintains an SMTP mail server. Consult your network administrator for information on configuring email notification on your local network.

1. Configure the SMTP server to send email.
2. Place your mouse pointer over the Events tab.
3. Select Handler from the drop-down menu.
4. Click in the Name box and type a user-friendly name (2 to 23 alphanumeric characters).
5. Select Send Email from the Type drop-down menu.
6. Click in the text boxes (To, From, Subject, and Message), and then type the necessary information in each text box.
7. Select the JPEG Snapshot box if you want to send a JPEG as an attachment.
8. Select the Attach Raw Event Data box if you want the email to include extra data about the event. For example, select this box if the event is triggered by an alarm and you want to receive data about the state, time, or type of alarm.
9. If you do not want the handler activated every time an event occurs, set filters for the handler.
   a. Select the day(s) of the week on which you want emails to be sent.
   b. Type times in the Start and End boxes for the days you have selected. Use time values in 24-hour notation (for example, use 0800 for 8:00 a.m., 1600 for 4:00 p.m.).
10. Select one or more event sources to send an email when those event sources are activated.
11. Click the Submit button to save the settings, or click the Reset button to clear all of the information you entered without saving it.

Refer to the following sections for more information:

- *System Tab* on page 24
- *Example Handler Filter Setup* on page 54

CREATING AN EVENT HANDLER: UPLOAD JPEG TO FTP SERVER

1. Place your mouse pointer over the Events tab.
2. Select Handlers from the drop-down menu.
3. Click in the Name box and type a user-friendly name (2 to 23 alphanumeric characters).
4. Select "Upload JPEG to FTP Server" in the Type drop-down menu.
5. Click in the Server box and type the server address (1 to 32 alphanumeric characters).
6. Click in the Username box and type the user's name (1 to 32 alphanumeric characters).
7. Click in the Password box and type a password (4 to 16 alphanumeric characters).
8. Click in the Base Path box and type the base path (1 to 32 alphanumeric characters).
9. The JPEG files uploaded to the FTP server will be given file names that correspond to the date and time of the event. Select a time standard from the "File name" drop-down menu.
10. If you do not want the handler activated every time an event occurs, set filters for the handler.
    a. Select the day(s) of the week on which you want JPEGs saved to the FTP server.
    b. Type times in the Start and End boxes for the days you have selected. Use time values in 24-hour notation (for example, use 0800 for 8:00 a.m., 1600 for 4:00 p.m.).
11. Select one or more sources to save a JPEG to the FTP server when those event sources are activated.
12. Click the Submit button to save the settings, or click the Reset button to clear all of the information you entered without saving it.

CREATING AN EVENT HANDLER: OPEN CLOSE RELAY

1. Place your mouse pointer over the Events tab.
2. Select Handlers from the drop-down menu.
3. Click in the Name box and type a user-friendly name (2 to 23 alphanumeric characters).
4. Select Open/Close Relay in the Type drop-down menu.
5. Select either GPIO or the serial number of the relay device from the Relay Bank drop-down menu.
6. Select the relay you want to trigger when an event occurs from the Relay drop-down menu.
7. Move the On Time slider to set the amount of time that the relay will remain open. The time range is 0.1 to 200 seconds; the default setting is 0.1.
8. Move the Off Time slider to set the amount of time that the relay will remain closed. The time range is 0.1 to 200 seconds; the default setting is 0.1.
9. Click in the Pulse Count box and type a number.
10. If you do not want the handler activated every time an event occurs, set filters for the handler.
    a. Select the day(s) of the week on which you want the relay opened/closed.
    b. Type times in the Start and End boxes for the days you have selected. Use time values in 24-hour notation (for example, use 0800 for 8:00 a.m., 1600 for 4:00 p.m.).
11. Select one or more event sources to open/close the relay when those event sources are activated.
12. Click the Submit button to save the settings, or click the Reset button to clear all of the information you entered without saving it.

CREATING AN EVENT HANDLER: GOTO PRESET

NOTE: You must define a preset before you can create a Goto Preset event handler.

1. Place your mouse pointer over the Events tab.
2. Select Handler from the drop-down menu.
3. Click in the Name box and type a user-friendly name (2 to 23 alphanumeric characters).
4. Select "Goto Preset" from the Type drop-down menu.
5. Select a preset from the Preset drop-down menu.
6. Set filters for the handler:
    a. Select the day(s) of the week on which you want to activate the preset.
    b. Type times in the Start and End boxes for the days you have selected. Use time values in 24-hour notation (for example, use 0800 for 8:00 a.m., 1600 for 4:00 p.m.).
    c. If required, click the plus button (+) to add another time range.
7. Click the Submit button to save the settings, or click the Reset button to clear all of the information you entered without saving it.
8. If you do not want the handler activated every time an event occurs, set filters for the handler.
    a. Select the day(s) of the week on which you want emails to be sent.
    b. Type times in the Start and End boxes for the days you have selected. Use time values in 24-hour notation (for example, use 0800 for 8:00 a.m., 1600 for 4:00 p.m.).
9. Select one or more event sources to send an email when those event sources are activated.
10. Click the Submit button to save the settings, or click the Reset button to clear all of the information you entered without saving it.

CREATING AN EVENT HANDLER: RUN A TOUR

NOTE: You must define a preset tour before you can create a Run Tour event handler.

1. Configure the SMTP server to send email.
2. Place your mouse pointer over the Events tab.
3. Select Handlers from the drop-down menu.
4. Click in the Name box and type a user-friendly name (2 to 23 alphanumeric characters).
5. Select Run Tour from the Type drop-down menu.
6. Select a tour from the Tour drop-down menu.
7. Set filters for the handler.
   a. Select the day(s) of the week on which you want to activate the preset.
   b. Type times in the Start and End boxes for the days you have selected. Use time values in 24-hour notation (for example, use 0800 for 8:00 a.m., 1600 for 4:00 p.m.).
   c. If required, click the plus button (+) to add another time range.
8. Click the Submit button to save the settings, or click the Reset button to clear all of the information you entered without saving it.

EDITING AN EVENT HANDLER

1. Place your mouse pointer over the Events tab.
2. Select Handlers from the drop-down menu.
3. Click the handler profile that you want to delete from the defined handler box located on the left side of the page.
4. Make any necessary changes to the available fields.
5. Click the Submit button to save the settings, or click the Reset button to clear all of the information you entered without saving it.

DELETING AN EVENT HANDLER

1. Place your mouse pointer over the Events tab.
2. Select Handlers from the drop-down menu.
3. Click the handler profile that you want to delete from the defined handler box located on the left side of the page.
4. Click the Delete Handler button. A dialog box appears with the message "Are you sure you want to delete the handler?"
5. Click OK. The handler profile is deleted from the defined handler box.

EXAMPLE HANDLER FILTER SETUP

If you do not want a handler activated every time an event occurs, use the filter fields to limit handlers. For example, you only want a handler activated when an event occurs after business hours. Your business is open Monday through Saturday, 8:00 a.m. to 6:00 p.m., and it is closed on Sunday.

1. Create a handler for Monday through Saturday:
   a. Select the day filter fields Monday through Saturday.
   b. Type **0000** in the Start box and **0800** in the End box.
   c. Click the plus button (+) to add another time range. Type **1800** in the second Start box and type **2400** in the second End box.
   d. Select the source(s) that activates the handler.
   e. Click the Submit button to save the handler.
2. Create a second handler for Sunday:
   a. Select Sunday from the day filter fields.

b. Do not set a Start time or End time as this is a 24-hour event.

c. Select the source(s) that activates the handler.

d. Click the Submit button to save the second handler.

ANALYTIC CONFIGURATION

To configure an analytic behavior using a standard Web browser, you must create a profile, select the behavior for the profile, and then create the zones to be monitored by the behavior.

NOTES:

- This section explains how to configure and enable Pelco analytics using a Web browser.
- Analytic alerts can be seen in the event stream, but alarms are only transmitted through Pelco's API.
- For information on how to receive analytic alerts for ObjectVideo Suites, refer to the ObjectVideo Web Console User Guide or the ObjectVideo Web Console User Guide-Abridged. Both are available on the resource disc supplied with the camera.

PROFILES

A profile defines the scene attributes of a behavior including scene type, background movement, and noise sensitivity. When configured properly, a profile will accurately detect behavior violations and decrease the number of triggered false alarms.

Profile Settings

For each behavior, you can create several custom profiles that contain different settings. These settings include:

Name: Assigns a descriptive name to the profile to make it easier to recognize and locate. Consider naming profiles based on their function.

Scene type: Sets the scene type of the profile. Available settings include Indoor and Outdoor.

Background: Defines the background movement of the scene. Available settings include Still or Noisy. If the background is stable, with few moving objects, set the background to Still. If the background is busy, with many moving objects, select Noisy.

Fine tuning: Defines the zone violation sensitivity. Available settings include Conservative, Normal, or Aggressive. Conservative is the least sensitive setting and reduces the amount of triggered false alarms, but it could miss some zone violations. Aggressive is the most sensitive setting and detects all suspect objects, but it could trigger more false alarms. Normal falls between conservative and aggressive sensitivity and provides moderate results.

Sensitivity: Defines the minimum motion an object can move before a behavior is activated. Settings range from 1 (low) to 10 (high). The selected setting identifies any movement lower than the defined setting as noise, and ignores it. The higher the setting, the greater the chance for a false alarm. A lower setting reduces the chance for a false alarm, but it could result in missed violations.

Creating a New Profile

1. Place your mouse pointer over the Events tab.
2. Select Analytic Configuration from the drop-down menu.
3. Click the New button located in the Select Profile section.
4. Type a descriptive name for the profile in the Name box located in the Profile Settings section.

   NOTE: Consider naming profiles based on their function. A more descriptive name makes it easier to recognize and locate a profile.
5. Select the Scene Type, Background, Fine Tuning, and Sensitivity settings from the drop-down menus located in the Profile Settings section.
6. Click the Calibrate Scene button to calibrate the scene.

   NOTE: Set the perspective settings to reflect the camera's angle. This information will make the object sizes you set on the next tab more meaningful and help reduce the number of false alarms.
7. Select the behavior for the profile from the "Select Behaviors" section.
8. Configure the settings for the behavior.
9. Click the Save button to save the profile. The new profile name appears in the Select Profile section.

Revising a Profile

1. Place your mouse pointer over the Events tab.

2. Select Analytic Configuration from the drop-down menu.
3. Select the profile name from the Select Profile section. The settings for the profile appear.
4. Make the required changes to the profile settings.
5. Click the Save button to save the settings, or click the Reset button to clear all of the information you entered without saving it.

Deleting a Profile

1. Place your mouse pointer over the Events tab.
2. Select Analytic Configuration from the drop-down menu.
3. Select the profile name from the Select Profile section.
4. Click the Delete button located in the Select Profile section.
5. A dialog box opens and the following message appears: "Are you sure you want to delete the profile?"
6. Click the OK button to delete the profile.

BEHAVIORS

Behaviors analyze objects within the camera's field of view and are configured to detect and trigger alarms automatically when specific activity is detected. Examples of behaviors include Camera Sabotage, which detects contrast changes in the field of view and triggers an alarm if the lens is obstructed or if the camera is repositioned; Adaptive Motion, which detects and tracks objects that enter a user-defined zone; and Object Counting, which counts the number of objects that enter a defined zone.

Configuring a Behavior

1. Place your mouse pointer over the Events tab.
2. Select Analytic Configuration from the drop-down menu.
3. Select a profile from the Select Profile section.
4. Select the behavior for the profile from the "Select behaviors" section.
5. Check the Activate Behavior box located in the "Settings for [behavior name]" section.

   If the camera has enough resources, the behavior activates and a check mark appears to the left of the selected behavior(s), which is located in the "Select behaviors" section.

   If the camera does not have enough resources, the following message and instructions appear: "The camera does not have enough processing power to activate this behavior. To free up needed resources, turn off one of the other behaviors or reconfigure the video streams."
6. Set up the zones for the behavior.
7. Click the Save button to save the settings, or click the Reset button to clear all of the information you entered without saving it.

ZONES

A zone is a defined boundary or area that is monitored by a configured behavior. A zone can be defined by a box, polygon, or line. If a box or polygon is drawn to define the zone, any motion against the alarmed direction will trigger an alarm. If a line is drawn to define the zone, any motion that crosses the line against the alarmed direction will trigger an alarm.

Draw Zone Tools

 **Box:** Tracks objects that move against the alarmed direction in a defined zone.

 **Polygon:** Tracks objects that move against the alarmed direction in a defined zone.

 **Line:** Tracks objects that cross a line (trip wire) against the alarmed direction.

 **Exclude Zone Box Tool:** Ignores objects inside a defined zone.

 **Exclude Zone Polygon Tool:** Ignores objects inside a defined zone.

 **Object Size Filter:** Sets the minimum and maximum object size for a zone.

Drawing a Zone

1. Place your mouse pointer over the Events tab.
2. Select Analytic Configuration from the drop-down menu.
3. Click a behavior located in the "Select behaviors" section.
4. Check the Activate Behavior box located in the "Settings for [behavior name]" section. A check mark appears to the left of the selected behavior(s) located in the "Select behaviors" section.
5. Use the draw tools to define the zone.
6. Set the behavior-specific settings for the zone.
7. To draw another zone, repeat steps 5 and 6.
8. Click the Save button to save the settings, or click the Reset button to clear all of the information you entered without saving it.

Deleting a Zone

1. Place your mouse pointer over the Events tab.
2. Select Analytic Configuration from the drop-down menu.
3. Click the behavior located in the "Select behaviors" section that you want to modify.
4. The settings for the behavior are displayed in the "Settings for [behavior name]" section.
5. In the "Zone list" area of the page, click the check box next to the zone you want to delete.
6. Click the Save button to save the settings, or click the Reset button to clear all of the information you entered without saving it.

ABANDONED OBJECT

The Abandoned Object behavior detects objects placed within a predefined zone and triggers an event or alarm if the object remains in the specified zone longer than the user-defined time allows.

Scene Setup for Abandoned Object

Install the camera in a ceiling or against a wall with the lens pointing at a slight downward angle, above regular motion activities.

The ideal scene selection for Abandoned Object behavior is one with light traffic where people are continually moving, minimal object obstruction, and a clean background. If heavy traffic or a busy background is unavoidable, place the monitoring zone (polygon) in a relatively stable area.

Avoid crowded scenes where people or objects remain in one place for long periods of time.

Selecting Abandoned Object Settings

1. Place your mouse pointer over the Events tab.
2. Select Analytic Configuration from the drop-down menu.
3. Click the profile that you want to use from the Select Profile list.
4. Click Abandoned Object from the Select Behaviors list.
5. Click the Activate Behavior check box to enable Abandoned Object for the selected profile.
6. Use the zone draw tools to draw one or more zones of interest in the video pane.
7. After you have defined the desired zones, adjust the following zone settings:

   Name: A descriptive name makes the zone easier to distinguish when viewing detection messages.

   Enable alarm: Turns on the zone alarm, which displays a log of analytics events in the Event stream on the live video page. Alarms can also trigger an event handler if sources and handlers are configured for analytics.

   Alarm severity: Defines the severity of an alarm to allow the prioritization of alarms.

   Dwell time: Defines the amount of time that an alarm remains activated after the alarm-triggering object exits the zone.

   Delay before alarm: Defines the amount of time an object must remain in the zone before an event or alarm is triggered.
8. Click the "Enable advanced options" box to adjust the following additional setting:

   Sensitivity: Overrides the global Profile sensitivity setting. Defines the motion detection sensitivity, which includes minimum motion sensitivity and minimum motion size. The default setting is 5; settings range from 1 (low) to 10 (high).

   NOTE: When advanced options are enabled with the Abandoned Object behavior, any excluded zones that you have previously created within the scene are disabled. Additional excluded zones can be created, but they will remain exclusive to this behavior within the selected profile.
9. Click the Save button to save the settings, or click the Reset button to clear all of the information you entered without saving it.

ADAPTIVE MOTION

The Adaptive Motion behavior detects and tracks objects that enter a scene, and then it triggers an alarm when the objects enter a user-defined zone. The objects are monitored until they exit the scene.

The Adaptive Motion behavior is designed to work indoors and outdoors to track a few moving objects in uncrowded fields of view. The behavior learns the background scene over time and adjusts to changing conditions like snow, fog, wind, and rain.

Analytics events, including Adaptive Motion, are displayed on the live video page when viewing the Event stream. You must configure both an analytics event source and the appropriate event handlers in order to receive notifications when an Adaptive Motion alarm is triggered.

Scene Setup for Adaptive Motion

Install the camera in a ceiling or against a wall with the lens pointing at a slight downward angle, above regular motion activity.

The ideal scene for Adaptive Motion behavior is one with light traffic and a clean background. If heavy traffic or a busy background is unavoidable, place the user-defined zone in a relatively stable area.

Avoid crowded scenes where people move in all directions or stand in one place for long periods of time.

NOTE: Objects that are very small may not be classified as the correct object type. This could result in false alarms or alarms not being triggered. If objects appear too small in the scene, zoom in on the particular zone of interest or move the camera closer to the zone of interest to increase the relative size of the objects in the scene.

Selecting Adaptive Motion Settings

1. Place your mouse pointer over the Events tab.
2. Select Analytic Configuration from the drop-down menu.
3. Click the profile that you want to use from the Select Profile list.
4. Click Adaptive Motion from the Select Behaviors list.
5. Click the Activate Behavior check box to enable Adaptive Motion for the selected profile.
6. Use the zone draw tools to draw one or more zones of interest in the video pane.
7. After you have defined the desired zones, adjust the following zone settings:

   Name: A descriptive name makes the zone easier to distinguish when viewing detection messages.

   Direction: Detects and tracks moving objects and people that move in a specified direction within the defined zone.

   Enable alarm: Turns on the zone alarm, which displays a log of analytics events in the Event stream on the live video page. Alarms can also trigger an event handler if sources and handlers are configured for analytics.

   Alarm severity: Defines the severity of an alarm to allow the prioritization of alarms.

   Dwell time: Defines the amount of time that an alarm remains activated after the alarm-triggering object exits the zone.
8. Click the Save button to save the settings, or click the Reset button to clear all of the information you entered without saving it.

AUTOTRACKER

The AutoTracker behavior detects and tracks movement in the camera's field of view. When the AutoTracker behavior is configured, the system will automatically pan and tilt to follow the moving object until the object stops or disappears from the monitored area.

Scene Setup for AutoTracker

Install the camera in a ceiling or against a wall with the lens pointing at a slight downward angle, above regular motion activity.

The ideal scene for the AutoTracker behavior is one with light traffic and a clean background. If heavy traffic or a busy background is unavoidable, place the user-defined zone in a relatively stable area.

Avoid crowded scenes where people move in all directions or stand in one place for long periods of time.

NOTE: Objects that are very small may not be classified as the correct object type. This could result in false alarms or alarms not being triggered. If objects appear too small in the scene, zoom in on the particular zone of interest or move the camera closer to the zone of interest to increase the relative size of the objects in the scene.

Selecting AutoTracker Settings

1. Place your mouse pointer over the Events tab.
2. Select Analytic Configuration from the drop-down menu.
3. Click the profile that you want to use from the Select Profile list.
4. Click AutoTracker from the Select Behaviors list.
5. Click the Activate Behavior check box to enable AutoTracker for the selected profile.
6. Adjust the following zone settings:

   Sensitivity: Sets the sensitivity of the motion detected in the scene. Select Auto to automatically set the sensitivity level to the amount of motion the device detects in the scene. Select Manual to manually set the sensitivity to a specific level.

   Dwell Time: Defines the time in seconds that the device pauses if the tracked object stops moving or leaves the scene. When the specified dwell time expires, the camera moves back to the preset location for the selected profile.

   Follow Options: Defines if the object is tracked beyond the field of view or only within the field of view.

Unit: Sets the unit of measurement for the scene.

Camera Placement: Defines the vertical height of the camera relative to the area being monitored.

Optimize Zoom Settings for Objects of this Type: Defines the type of object to be tracked. Settings include person, car, car or person, and custom.

Average Width: Defines the average width of objects to track.

Average Height: Defines the average height of objects to track.

7. Click the Save button to save the settings, or click the Reset button to clear all of the information you entered without saving it.

CAMERA SABOTAGE

The Camera Sabotage behavior detects scene changes or contrast changes in the field of view. An event or alarm is triggered if the lens is obstructed by spray paint, a cloth, or if it is covered with a lens cap. Any unauthorized repositioning of the camera also triggers an event or alarm.

Scene Setup for Camera Sabotage

Install the camera in a high position, looking down on the scene. The field of view should be as large as possible. A small field of view could result in the view being blocked by an adjacent object.

Avoid scenes with a dark, uniform background; low lighting; and large moving objects.

Selecting Camera Sabotage Settings

1. Place your mouse pointer over the Events tab.
2. Select Analytic Configuration from the drop-down menu.
3. Click the profile that you want to use from the Select Profile list.
4. Click Camera Sabotage from the Select Behaviors list.
5. Click the Activate Behavior check box to enable Camera Sabotage for the selected profile.
6. Adjust the following zone settings:

   Delay before alarm: Defines the delay between the time a violation is detected and the actual trigger of an event or alarm. If the violation does not continue past the delay period, an event or alarm does not trigger. If the violation lasts longer than the delay period, an event or alarm is triggered. The default setting is 3 seconds.

   Alarm severity: Defines the severity of an alarm to allow the prioritization of alarms.

7. Click the Save button to save the settings, or click the Reset button to clear all of the information you entered without saving it.

DIRECTIONAL MOTION

The Directional Motion behavior generates an event or alarm when a person or object moves in a specified direction. Typical installations for this behavior include the following examples:

Airport gate: Cameras observe passengers boarding a plane in a terminal. If a person moves in the opposite direction of the normal flow of traffic, an event or alarm triggers.

Traffic flow: An operator wants to observe traffic flow in a tunnel. If a car enters a tunnel through an exit, an alarm alerts the operator to activate the traffic signals to stop all traffic in the tunnel.

Exit doors: A camera is pointed at an exit door. If a person tries to enter through the exit door, an event or alarm triggers.

Scene Setup for Directional Motion

Install the camera in a ceiling or against a wall with the lens pointing at a slight downward angle, above regular motion activity. The width of the object to be detected should be at least one-tenth of the total width of the scene. To achieve increased accuracy in a crowded scene, set the width of the object to one-sixth of the total width of the scene.

The ideal scene selection for the Directional Motion behavior is light traffic, minimal object obstructions, a clean background, and a scene in which objects or people move in a single direction (for example, a vertical hallway); however, the behavior can be used in settings that do not meet all of these requirements. If heavy traffic or a busy background is unavoidable, place the monitoring zone in a relatively stable area.

Avoid crowded scenes where people move in all directions or stand in one place for long periods of time.

Selecting Directional Motion Settings

1. Place your mouse pointer over the Events tab.
2. Select Analytic Configuration from the drop-down menu.
3. Click the profile that you want to use from the Select Profile list.
4. Click Directional Motion from the Select Behaviors list.
5. Click the Activate Behavior check box to enable Directional Motion for the selected profile.
6. Use the zone draw tools to draw one or more zones of interest in the video pane.
7. After you have defined the desired zones, adjust the following zone settings:

   Name: A descriptive name makes the zone easier to distinguish when viewing detection messages.

   Direction: Detects and tracks moving objects and people that move in a specified direction within the defined zone.

   Zone sensitivity: Determines the amount of movement (both object size and distance traveled in the wrong direction) that must be detected before an alarm is triggered. Zone sensitivity can be set at a lower or higher setting than the global sensitivity setting.

   Enable alarm: Turns on the zone alarm, which displays a log of analytics events in the Event stream on the live video page. Alarms can also trigger an event handler if sources and handlers are configured for analytics.

   Alarm severity: Defines the severity of an alarm to allow the prioritization of alarms.

   Dwell time: Defines the amount of time that an alarm remains activated after the alarm-triggering object exits the zone.
8. Click the "Enable advanced options" box to adjust the following additional settings:

   Sensitivity: Overrides the global Profile sensitivity setting. Defines the motion detection sensitivity, which includes minimum motion sensitivity and minimum motion size. The default setting is 5; settings range from 1 (low) to 10 (high).

   Object speed: Adjusts the speed if the scene tracks moving objects at a slower or faster rate than normal. The default setting is 5; settings range from 1 (low) to 10 (high).
9. Click the Save button to save the settings, or click the Reset button to clear all of the information you entered without saving it.

LOITERING DETECTION

Identifies when people or vehicles remain in a defined zone longer than the user-defined time allows. This behavior is effective for real-time notification of suspicious behavior around ATMs, stairwells, and school grounds.

Scene Setup for Loitering Detection

Install the camera in a ceiling or against a wall with the lens pointing at a slight downward angle, above regular motion activity.

The ideal scene for Loitering Detection behavior is one with light traffic and a clean background. If heavy traffic or a busy background is unavoidable, place the user-defined zone in a relatively stable area.

Avoid crowded scenes where people move in all directions or stand in one place for long periods of time.

Selecting Loitering Detection Settings

1. Place your mouse pointer over the Events tab.
2. Select Analytic Configuration from the drop-down menu.
3. Click the profile that you want to use from the Select Profile list.

4. Click Loitering Detection from the Select Behaviors list.
5. Click the Activate Behavior check box to enable Loitering Detection for the selected profile.
6. Use the zone draw tools to draw one or more zones of interest in the video pane.
7. After you have defined the desired zones, adjust the following zone settings:

   Name: A descriptive name makes the zone easier to distinguish when viewing detection messages.

   Enable alarm: Turns on the zone alarm, which displays a log of analytics events in the Event stream on the live video page. Alarms can also trigger an event handler if sources and handlers are configured for analytics.

   Alarm severity: Defines the severity of an alarm to allow the prioritization of alarms.

   Dwell time: Defines the amount of time that an alarm remains activated after the alarm-triggering object exits the zone.

   Delay before alarm: Defines the amount of time an object must remain in the zone before an event or alarm is triggered.
8. Click the Save button to save the settings, or click the Reset button to clear all of the information you entered without saving it.

OBJECT COUNTING

The Object Counting behavior calculates the number of objects that enter a user-defined zone. This behavior might be used to count people at a store entrance/exit or inside a store where the traffic is light. It might also be used to monitor vehicle traffic on highways, local streets and roads, parking lots, and garages.

Scene Setup for Object Counting

If you plan to detect people, install the camera pointing downward (vertically) above regular motion activity. If you plan to detect vehicles, install the camera pointing downward at a slight angle above regular motion activity.

The ideal scene selection for the Object Counting behavior is one with light traffic, minimal object obstructions, and a clean background. If heavy traffic or a busy background is unavoidable, place the monitoring zone (polygon or line) in a relatively stable area.

A one-directional motion scene (for example, a vertical hallway) is preferable. Avoid crowded scenes where people move in all directions or remain in one place for long periods of time.

Selecting Object Counting Settings

1. Place your mouse pointer over the Events tab.
2. Select Analytic Configuration from the drop-down menu.
3. Click the profile that you want to use from the Select Profile list.
4. Click Object Counting from the Select Behaviors list.
5. Click the Activate Behavior check box to enable Object Counting for the selected profile.
6. Use the zone draw tools to draw one or more zones of interest in the video pane.
7. After you have defined the desired zones, adjust the following zone settings:

   Name: A descriptive name makes the zone easier to distinguish when viewing detection messages.

   Direction: Detects and tracks moving objects and people that move in a specified direction within the defined zone.

   Enable alarm: Turns on the zone alarm, which displays a log of analytics events in the Event stream on the live video page. Alarms can also trigger an event handler if sources and handlers are configured for analytics.

   Alarm severity: Defines the severity of an alarm to allow the prioritization of alarms.

   Dwell time: Defines the amount of time that an alarm remains activated after the alarm-triggering object exits the zone.
8. Click the Save button to save the settings, or click the Reset button to clear all of the information you entered without saving it.

OBJECT REMOVAL

The Object Removal behavior triggers an event or alarm if an object is removed from a user-defined zone. This behavior is ideal for customers who want to detect the removal of high-value objects, such as a painting from a wall or a statue from a pedestal.

Scene Setup for Object Removal

Install the camera in a high position looking down on the scene. The monitored object should occupy a quarter of the camera scene, and the field of view should be as wide as possible.

The ideal scene selection for the Object Removal behavior is a clean background with stable lighting and minimal object obstruction.

Selecting Object Removal Settings

1. Place your mouse pointer over the Events tab.
2. Select Analytic Configuration from the drop-down menu.
3. Click the profile that you want to use from the Select Profile list.
4. Click Object Removal from the Select Behaviors list.
5. Click the Activate Behavior check box to enable Object Removal for the selected profile.
6. Use the zone draw tools to draw one or more zones of interest in the video pane.
7. After you have defined the desired zones, adjust the following zone settings:

   Name: A descriptive name makes the zone easier to distinguish when viewing detection messages.

   Enable alarm: Turns on the zone alarm, which displays a log of analytics events in the Event stream on the live video page. Alarms can also trigger an event handler if sources and handlers are configured for analytics.

   Alarm severity: Defines the severity of an alarm to allow the prioritization of alarms.

   Dwell time: Defines the amount of time that an alarm remains activated after the alarm-triggering object exits the zone.

   Delay before alarm: Defines the amount of time an object must remain in the zone before an event or alarm is triggered.
8. Click the "Enable advanced options" box to adjust the following additional setting:

   Sensitivity: Overrides the global Profile sensitivity setting. Defines the motion detection sensitivity, which includes minimum motion sensitivity and minimum motion size. The default setting is 5; settings range from 1 (low) to 10 (high).
9. Click the Save button to save the settings, or click the Reset button to clear all of the information you entered without saving it.

STOPPED VEHICLE

Detects vehicles stopped near a sensitive area longer than the user-defined time allows. This behavior is ideal for parking enforcement, suspicious parking, traffic lane breakdowns, and vehicles waiting at gates.

Scene Setup for Stopped Vehicle

Install the camera in a ceiling or against a wall with the lens pointing at a slight downward angle, above regular motion activities.

The ideal scene selection for Stopped Vehicle behavior is one with light traffic where vehicles are continually moving, minimal object obstruction, and a clean background. If heavy traffic or a busy background is unavoidable, place the monitoring zone in a relatively stable area.

Avoid crowded scenes where people or objects remain in one place for long periods of time.

Selecting Stopped Vehicle Settings

1. Place your mouse pointer over the Events tab.
2. Select Analytic Configuration from the drop-down menu.

3. Click the profile that you want to use from the Select Profile list.
4. Click Stopped Vehicle from the Select Behaviors list.
5. Click the Activate Behavior check box to enable Stopped Vehicle for the selected profile.
6. Use the zone draw tools to draw one or more zones of interest in the video pane.
7. After you have defined the desired zones, adjust the following zone settings:

   Name: A descriptive name makes the zone easier to distinguish when viewing detection messages.

   Enable alarm: Turns on the zone alarm, which displays a log of analytics events in the Event stream on the live video page. Alarms can also trigger an event handler if sources and handlers are configured for analytics.

   Alarm severity: Defines the severity of an alarm to allow the prioritization of alarms.

   Dwell time: Defines the amount of time that an alarm remains activated after the alarm-triggering object exits the zone.

   Delay before alarm: Defines the amount of time an object must remain in the zone before an event or alarm is triggered.

8. Click the "Enable advanced options" box to adjust the following additional setting:

   Sensitivity: Overrides the global Profile sensitivity setting. Defines the motion detection sensitivity, which includes minimum motion sensitivity and minimum motion size. The default setting is 5; settings range from 1 (low) to 10 (high).

   NOTE: When advanced options are enabled with the Stopped Vehicle behavior, any excluded zones that you have previously created within the scene are disabled. Additional excluded zones can be created, but they will remain exclusive to this behavior within the selected profile.

9. Click the Save button to save the settings, or click the Reset button to clear all of the information you entered without saving it.

Specifications

GENERAL

Construction	
Back Box	Aluminum
Dome Drive	Aluminum, thermo plastic
Lower Dome	Acrylic
Light Attenuation	
Smoked	f/0.5 light loss
Clear	Zero light loss
Cable Entry (back box)	
In-Ceiling	0.75-inch conduit fitting
Pendant	Through 1.5-inch NPT pendant mount
Effective Projected Area (EPA)	20.5 square inches (without mount), 47 square inches (with IWM Series mount)

CAMERA

Imaging Device	1/3-inch CCD
Optical Zoom	18X
Maximum Resolution	1280 x 960
Lens	f/1.6 (focal length, 4.7 ~ 84.6 mm optical)
Aspect Ratios	4:3 or 16:9
Sensitivity	f/1.6; 2,850°K; SNR >24dB
Color (33 ms)	1.00 lux
Color (250 ms)	0.125 lux
Mono (33 ms)	0.50 lux
Mono (250 ms)	0.125 lux
Day/Night Capabilities	Yes
IR Cut Filter	Yes
Wide Dynamic Range	60 dB
Iris Control	Auto iris with manual override
Backlight Compensation	Yes

ELECTRICAL

Port	RJ-45 connector for 100Base-TX Auto MDI/MDI-X
Cabling Type	Cat5 or better for 100Base-TX
Input Power	
24 VAC	23 VA nominal (without heater); 73 VA nominal (with heater)
24 VDC	0.7 A nominal (without heater); 3 A nominal (with heater)
PoE	IEEE802.3af (without heater)
Fuse	1.25 A

MECHANICAL (Dome Drive Only)

Variable Speed	0.1° to 400°
Preset Accuracy	±0.1°
Pan Movement	360° continuous pan rotation
Vertical Tilt	+0° to –90°
Manual Pan/Tilt Speeds	
Pan	0.1° to 80°/sec manual operation, 150°/sec Turbo
Tilt	0.1° to 40°/sec manual operation
Preset Speeds	
Pan	400°/sec
Tilt	160°/sec

VIDEO

Video Encoding	H.264 high, main, or base profile and MJPEG
Video Streams	Up to 2 simultaneous streams; the second stream is variable based on the setup of the primary stream.
Frame Rate	Up to 30, 25, 24, 15, 12.5, 12, 10, 8, 7. 5, 6, 5, 4, 3, 2.5, 2, 1 (dependent on the coding, resolution, and stream configuration)

Available Resolutions

Resolution				Maximum IPS	
MPx	**Width**	**Height**	**Aspect Ratio**	**MJPEG**	**H.264 Base Profile**
1.2	1280	960	4:3	20	20
0.92	1280	720	16:9	30	30
0.5	800	608	4:3	20	20
0.3	640	480	4:3	20	20
0.22	640	352	16:9	30	30
0.18	480	368	4:3	20	20
0.13	480	272	16:9	30	30
0.08	320	240	4:3	20	20
0.05	320	176	16:9	30	30

Supported Protocols	TCP/IP, UDP/IP (Unicast, Multicast IGMP), UPnP, DNS, DHCP, RTP, RTSP, NTP, IPv4, SNMP, QOS, HTTP, HTTPS, LDAP (client), SSH, SSL, SMTP, FTP, and 802.1x (EAP)
Users	
Unicast	Up to 20 simultaneous users depending on resolution settings (2 guaranteed streams)
Multicast	Unlimited users H.264
Security Access	Password protected
Software Interface	Web browser view and setup, up to 16 cameras
Pelco System Integration	Endura 2.0 or later, Digital Sentry 4.2 IP bundle 3 or later
Open IP Integration	Pelco IP camera API

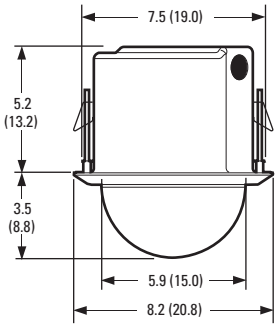
ENVIRONMENTAL

Environment	
In-Ceiling	Indoor
Environmental	In-Ceiling Outdoor
Pendant, Standard, and	
Environmental	Indoor/outdoor
Operating Temperature	
In-Ceiling	32° to 122°F (0° to 50°C)
Standard Pendant	(Assumes no wind chill factor)
Maximum	113°F (45°C) absolute maximum; 95°F (35°C) sustained maximum
Minimum	25°F (–4°C) sustained minimum
Environmental In-Ceiling,	
Environmental Pendant	(Assumes no wind chill factor)
Maximum	140°F (60°C) absolute maximum; 122°F (50°C) sustained maximum
Minimum	–60°F (–51°C) absolute minimum; minimal icing at sustained minimum of –50°F (–45°C); prevents icing at sustained minimum of –22°F (–30°C); de-ices 0.1 inch (2.5 mm) within 3 hours after power-up

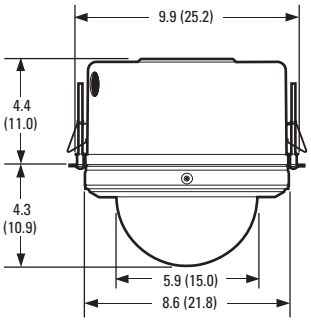
PHYSICAL

Weight (approximate)	
In-Ceiling	5.2 lb (2.4 kg)
Environmental In-Ceiling	6.2 lb (2.8 kg)
Standard Pendant	6.5 lb (3.0 kg)
Environmental Pendant	7.6 lb (3.5 kg)

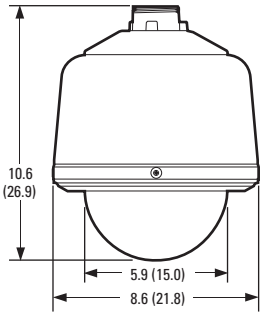
In-Ceiling (Indoor)



Environmental In-Ceiling



Standard and Environmental Pendant



NOTE: VALUES IN PARENTHESES ARE CENTIMETERS; ALL OTHERS ARE INCHES.

PRODUCT WARRANTY AND RETURN INFORMATION

WARRANTY

Pelco will repair or replace, without charge, any merchandise proved defective in material or workmanship **for a period of one year** after the date of shipment.

Exceptions to this warranty are as noted below:

- Five years:
  - Fiber optic products
  - Unshielded Twisted Pair (UTP) transmission products
  - CC3701H-2, CC3701H-2X, CC3751H-2, CC3651H-2X, MC3651H-2, and MC3651H-2X camera models
- Three years:
  - FD Series and BU Series analog camera models
  - Fixed network cameras and network dome cameras with Sarix® technology
  - Sarix thermal imaging products (TI and ESTI Series)
  - Fixed analog camera models (C20 Series, CCC1390H Series, C10DN Series, and C10CH Series)
  - EH1500 Series enclosures
  - Spectra® IV products (including Spectra IV IP)
  - Spectra HD dome products
  - Camclosure® IS Series integrated camera systems
  - DX Series video recorders (except DX9000 Series which is covered for a period of one year), DVR5100 Series digital video recorders, Digital Sentry® Series hardware products, DVX Series digital video recorders, and NVR300 Series network video recorders
  - Endura® Series distributed network-based video products
  - Genex® Series products (multiplexers, server, and keyboard)
  - PMCL200/300/400 Series LCD monitors
  - PMCL5xxF Series and PMCL5xxNB Series LCD monitors
- Two years:
  - Standard varifocal, fixed focal, and motorized zoom lenses
  - DF5/DF8 Series fixed dome products
  - Legacy® Series integrated positioning systems
  - Spectra III™, Spectra Mini, Spectra Mini IP, Esprit®, ExSite®, ExSite IP, and PS20 scanners, including when used in continuous motion applications
  - Esprit Ti and TI2500 Series thermal imaging products
  - Esprit and WW5700 Series window wiper (excluding wiper blades)
  - CM6700/CM6800/CM9700 Series matrix
  - Digital Light Processing (DLP®) displays (except lamp and color wheel). The lamp and color wheel will be covered for a period of 90 days. The air filter is not covered under warranty.
- Six months:
  - All pan and tilts, scanners, or preset lenses used in continuous motion applications (preset scan, tour, and auto scan modes)

Pelco will warrant all replacement parts and repairs for 90 days from the date of Pelco shipment. All goods requiring warranty repair shall be sent freight prepaid to a Pelco designated location. Repairs made necessary by reason of misuse, alteration, normal wear, or accident are not covered under this warranty.

Pelco assumes no risk and shall be subject to no liability for damages or loss resulting from the specific use or application made of the Products. Pelco's liability for any claim, whether based on breach of contract, negligence, infringement of any rights of any party or product liability, relating to the Products shall not exceed the price paid by the Dealer to Pelco for such Products. In no event will Pelco be liable for any special, incidental, or consequential damages (including loss of use, loss of profit, and claims of third parties) however caused, whether by the negligence of Pelco or otherwise.

The above warranty provides the Dealer with specific legal rights. The Dealer may also have additional rights, which are subject to variation from state to state.

If a warranty repair is required, the Dealer must contact Pelco at (800) 289-9100 or (559) 292-1981 to obtain a Repair Authorization number (RA), and provide the following information:

1. Model and serial number
2. Date of shipment, P.O. number, sales order number, or Pelco invoice number
3. Details of the defect or problem

If there is a dispute regarding the warranty of a product that does not fall under the warranty conditions stated above, please include a written explanation with the product when returned.

Method of return shipment shall be the same or equal to the method by which the item was received by Pelco.

RETURNS

To expedite parts returned for repair or credit, please call Pelco at (800) 289-9100 or (559) 292-1981 to obtain an authorization number (CA number if returned for credit, and RA number if returned for repair) and designated return location.

All merchandise returned for credit may be subject to a 20 percent restocking and refurbishing charge.

Goods returned for repair or credit should be clearly identified with the assigned CA or RA number and freight should be prepaid.

Revised 1-12-12

Green The materials used in the manufacture of this document and its components are compliant to the requirements of Directive 2002/95/EC.

This equipment contains electrical or electronic components that must be recycled properly to comply with Directive 2002/96/EC of the European Union regarding the disposal of waste electrical and electronic equipment (WEEE). Contact your local dealer for procedures for recycling this equipment.

REVISION HISTORY

Manual #	Date	Comments
C3470M	9/10	Original version.
C3470M-A	12/10	Added Sarix 1.7 software features to the operation section.
C3470M-B	4/12	Added Sarix 1.8.2 software features to the installantion and operation sections.

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