IM Series
Network Dome Camera

Sarix™ Technology

C2973M-B (1/10)

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LEGAL NOTICE

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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.

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This equipment has been tested and found to comply with the limits of a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However there is no guarantee that the interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

You may also find helpful the following booklet, prepared by the FCC: "How to Identify and Resolve Radio-TV Interference Problems." This booklet is available from the U.S. Government Printing Office, Washington D.C. 20402.

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 B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B 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.

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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 IM Series is a mini fixed network dome camera with a built-in, Web-based viewer for live streaming to a standard Web browser (Microsoft® Internet Explorer® or Mozilla® Firefox®). The camera features open architecture connectivity for third-party applications and is also Endura Enabled™ and compatible with Digital Sentry® to record, manage, configure, and view multiple live streams. Some models are also compatible with DX8100 and DVR5100 video recorders.

The network camera supports up to three compression formats and many resolutions. The two standard compression formats include H.264 and MJPEG. MPEG-4 is also available with IMS0 models. The dual streams can be configured for a variety of resolutions, frame rates, and bit rates.

Both 0.5 and 1.3 megapixel (MPx) color camera models are available. The camera uses a 1/3-inch imager and is shipped with a 2.8~10 mm varifocal megapixel lens installed.

The camera also includes built-in Power over Ethernet (PoE), which supplies power to the camera through the network.

This manual explains how to interface with the camera using Internet Explorer® or Firefox.

COMPATIBLE SYSTEMS

The camera can also be used with an Endura® system as an Endura Enabled device, Digital Sentry, or a third-party system with Pelco's application programing interface (API). For detailed instructions on configuring the camera using one of these systems, refer to the manual shipped with the system.

For a list of compatible API partners, go to *xdn.pelco.com* and register as a new user by following the on-screen instructions.

MODELS

IMS0C10-1   Sarix IM Series, network fixed dome camera, 0.5 megapixel standard definition color, 2.8~10 mm varifocal megapixel lens, white trim ring, clear bubble

IM10C10-1   Sarix IM Series, network fixed dome camera, 1.3 megapixel standard definition color, 2.8~10 mm varifocal megapixel lens, white trim ring, clear bubble

IM10C10-B1   Sarix IM Series, network fixed dome camera, 1.3 megapixel standard definition color, 2.8~10 mm varifocal megapixel lens, black trim ring, clear bubble

Getting Started

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

NOTES:

- Pelco recommends connecting the camera 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 camera.
- To ensure secure access to the network camera, place the camera behind a firewall when it is connected to a network.

PARTS LIST

Remove all of the contents from the shipping box.

Qty	Description
1	Back box and camera module
1	Surface mount ring
1	Lower dome (includes trim ring and bubble)
1	Dome liner
1	Adapter ring
1	4-pin audio connector (IM10 Series models only)
2	Screws, #8 x 1.5-inch, Phillips pan head, self tapping
2	Screws, #8 x 2.5-inch, Phillips pan head, self tapping
2	Screws, #10 x 1.5-inch, Phillips pan head, self tapping
2	Screws, 8-32 x 1-inch, Phillips flat head
1	Quick Start Guide
1	Resource disc
3	MAC address labels (extra)

Installation tools and the following parts are needed but not supplied:

Qty	Description
1	Service cable (IX-SC)
1	Mounting hardware

Product Overview
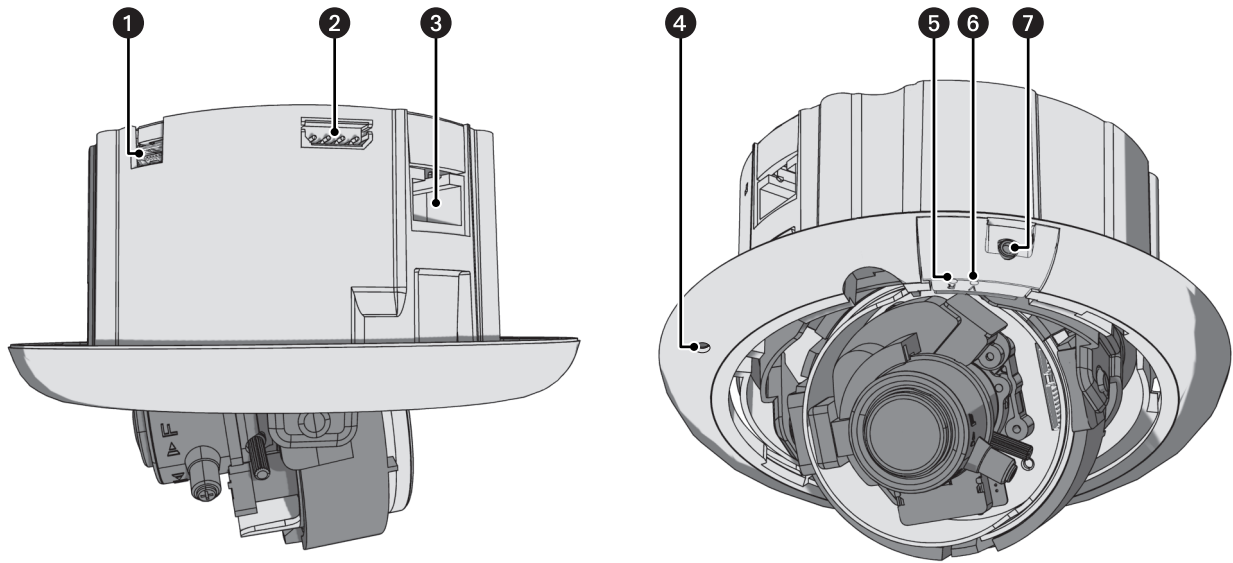
Figure 1. Camera Connections and Features

❶ Accessory Port: For use with compatible Pelco accessories.

NOTE: A right-angle mini USB connector must be used to connect Pelco accessories to the accessory port.

❷ Audio Connector: Supplies line-in audio from a user-supplied microphone. Audio functionality is only available for IM10 Series models, and it can be enabled or disabled using the Web browser.

❸ RJ-45 Network Port: Connects the camera to the IP network. Also supplies power to the camera through the network using PoE.

❹ Microphone: Supplies built-in, line-in audio to a PC. Audio functionality is only available for IM10 Series models, and it can be enabled or disabled using the Web browser.

❺ Reset Button (R): 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.

NOTE: The lower dome must be removed to access this button.

❻ NTSC/PAL Button (V): Toggles the service port between NTSC and PAL formats. This button is recessed. Using a small tool, such as a paper clip, press and release the NTSC/PAL button to toggle between NTSC and PAL formats when using the service port. The default setting is NTSC.

NOTE: The lower dome must be removed to access this button.

❼ Service Port: Outputs analog video. Use this port at the installation site to set up the field of view and to focus the camera. When a service cable is connected to the camera, video to the IP stream is disabled.

PRODUCT LABEL

The product label lists the model number, date code, serial number, and Media Access Control (MAC) address. This information might be required for setup. The product label is located on the top of the back box.

Installation

You can install the IM Series network dome camera using one of the following installation methods:

- Install in a suspended ceiling or a fixed ceiling/wall (refer to *In-Ceiling Installation*).
- Mount to the surface of a ceiling/wall (refer to *Surface Installation* on page 14).

ORIENTING THE CAMERA

Before attaching the dome camera to the mounting surface, be sure to properly orient the camera to ensure that the video is right-side-up when viewed. The lens connectors should be on the right side of the lens when you are looking directly at the camera (refer to Figure 2).

NOTE: Improper camera orientation can also be corrected using the Web interface (refer to *Configuring the Orientation of the Scene* on page 39).
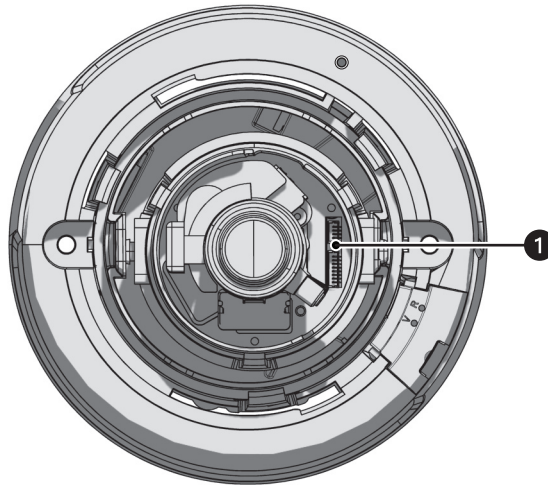
Figure 2. Orienting the Camera

1 Lens Connectors

IN-CEILING INSTALLATION

FIXED CEILING OR WALL

1. Cut a 4-inch (10.16 cm) diameter hole in the ceiling/wall.

2. Pull all wiring through the hole and connect the wiring to the side of the back box:
   a. Connect the network cable to the RJ-45 network port on the side of the camera. Refer to *Cat5 Cable* on page 21 for wiring connections.
   b. Connect the necessary wiring for audio (refer to *Audio Wiring* on page 22).

3. Apply power to the camera.

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

4. Insert the back box into the hole in the ceiling/wall. Be sure to angle the back box during this step to ensure that the wiring is inserted into the hole first and is not bent or damaged.

5. Use 3/16-inch toggle bolts (not supplied) to attach the back box to the mounting surface.
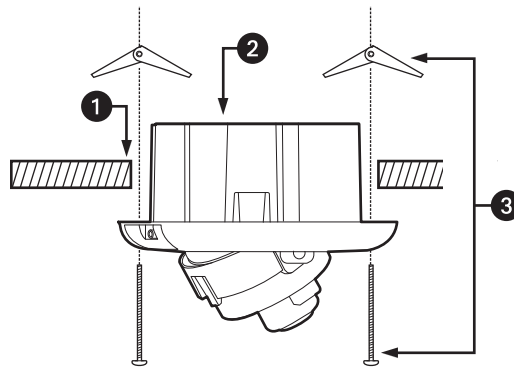
Figure 3. Fixed Ceiling or Wall Installation

❶ Ceiling/Wall

❷ Back Box

❸ 3/16-inch Toggle Bolts (not supplied)

6. Position the camera as needed (refer to *Positioning the Camera* on page 17).

7. Focus the lens (refer to *Adjusting the Focus* on page 18).

8. Install the plastic liner and lower dome (refer to *Installing the Dome Liner and Lower Dome* on page 19).

SUSPENDED CEILING

1. Remove the ceiling tile from the ceiling.

2. Cut a 3.75-inch (9.53 cm) diameter hole in the ceiling tile.

3. Place the adapter ring (supplied) or the surface mount ring on the inside of the ceiling tile.

4. Perform one of the following options:
   - Attach the back box to the ceiling tile and adapter ring with two #8 x 1.50-inch Phillips pan head self-tapping screws (supplied; refer to Figure 4).
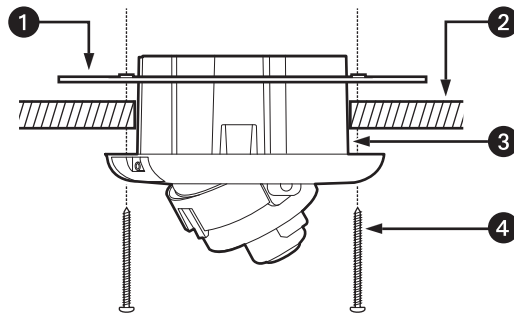
Figure 4. Suspended Ceiling Installation, Adapter Ring

❶ Adapter Ring

❷ Ceiling Tile

❸ Back Box

❹ #8 x 1.50-inch Phillips Pan Head
Self-Tapping Screws (supplied)

- Attach the back box to the ceiling tile and surface mount ring with two #10 x 1.50-inch Phillips pan head self tapping screws (supplied; refer to Figure 5).

Figure 5. Suspended Ceiling Installation, Surface Mount Ring

❶ Surface Mount Ring

❷ Ceiling Tile

❸ Back Box

❹ #10 x 1.50-inch Phillips Pan Head
Self-Tapping Screws (supplied)

5. Replace the ceiling tile.

6. Remove an adjacent ceiling tile and connect the wiring to the side of the back box:

   a. Connect the network cable to the RJ-45 network port on the side of the back box. Refer to *Cat5 Cable* on page 21 for wiring connections.

      NOTE: If you are installing the dome using the surface mount ring, do not use network cables with over-molded RJ-45 connectors. These connectors will not fit inside the surface mount ring.

   b. Connect the necessary wiring for audio (refer to *Audio Wiring* on page 22).

7. Apply power to the camera.

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

8. Position the camera as needed (refer to *Positioning the Camera* on page 17).

9. Focus the lens (refer to *Adjusting the Focus* on page 18).

10. Install the plastic liner and lower dome (refer to *Installing the Dome Liner and Lower Dome* on page 19).

4S DEEP ELECTRICAL BOX

1. Attach the adapter ring (supplied) to a 4S deep electrical box with two 8-32 x 1.00-inch Phillips flat head screws (supplied; refer to Figure 6).
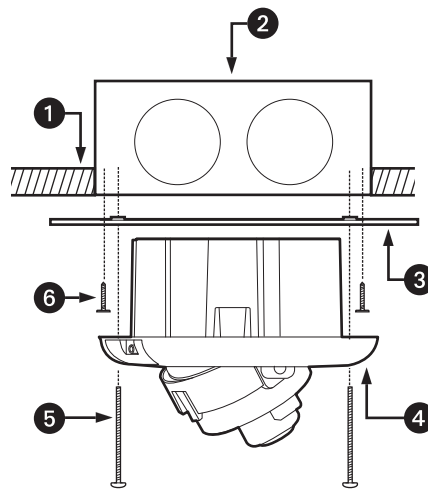
Figure 6. 4S Deep Electrical Box Installation

❶ Ceiling/Wall

❷ 4S Deep Electrical Box

❸ Adapter Ring

❹ Back Box

❺ #8 x 2.5-inch Phillips Pan Head Self-Tapping Screws (supplied)

❻ 8-32 x 1.00-inch Phillips Flat Head Screws (supplied)

2. Connect the wiring to the side of the back box:

   a. Connect the network cable to the RJ-45 network port on the side of the back box. Refer to *Cat5 Cable* on page 21 for wiring connections.

   b. Connect the necessary wiring for audio (refer to *Audio Wiring* on page 22).

3. Apply power to the camera.

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

4. Insert the back box into the hole in the adapter plate. Be sure to angle the back box during this step to ensure that the wiring is inserted into the hole first and is not bent or damaged.

5. Attach the back box to the adapter plate with two #8 x 2.5-inch Phillips pan head self-tapping screws (supplied; refer to Figure 6 on page 13).

6. Position the camera as needed (refer to *Positioning the Camera* on page 17).

7. Focus the lens (refer to *Adjusting the Focus* on page 18).

8. Install the plastic liner and lower dome (refer to *Installing the Dome Liner and Lower Dome* on page 19).
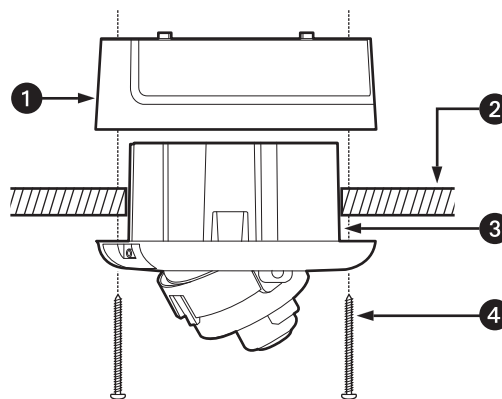
SURFACE INSTALLATION

CEILING OR WALL

1. Pull the video and power wires through the ceiling/wall.

2. Connect the wiring to the side of the back box:

   a. Connect the network cable to the RJ-45 network port on the side of the back box. Refer to *Cat5 Cable* on page 21 for wiring connections.

      NOTE: Do not use network cables with over-molded RJ-45 connectors. These connectors will not fit inside the surface mount ring.

   b. Connect the necessary wiring for audio (refer to *Audio Wiring* on page 22).

   c. Be sure to route all wiring around the inside edge of the surface mount ring.
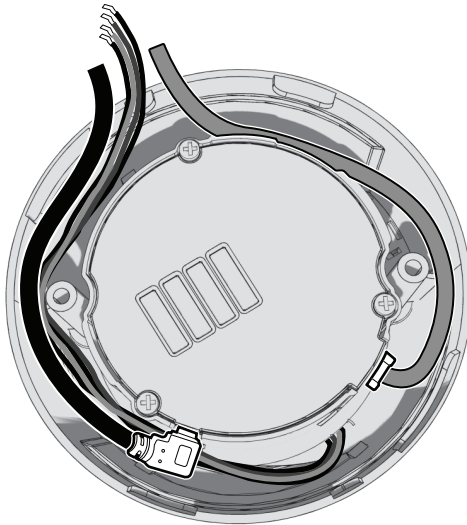
Figure 7. Routing Wiring for Surface Installations

3. Apply power to the camera.

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

4. Use 6-32 toggle bolts (not supplied) to attach the surface mount ring and back box to the mounting surface (refer to Figure 8).
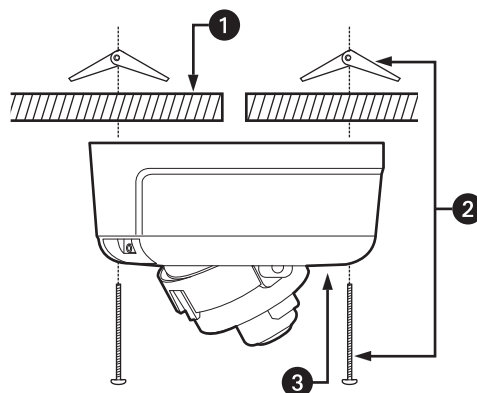
Figure 8. Ceiling or Wall Installation

1 Wall/Ceiling

2 6-32 Toggle Bolts (not supplied)

3 Back Box

NOTE: For a concrete ceiling or wall installation, use 8-32 mounting hardware (not supplied; refer to Figure 9).
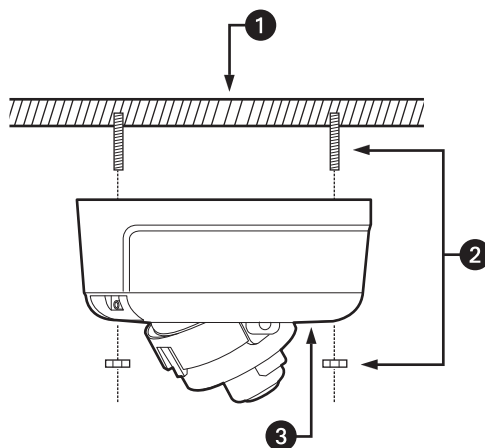
Figure 9. Concrete Ceiling or Wall Installation

1 Wall/Ceiling

2 8-32 Mounting Hardware (not supplied)

3 Back Box

5. Position the camera as needed (refer to *Positioning the Camera* on page 17).

6. Focus the lens (refer to *Adjusting the Focus* on page 18).

7. Install the plastic liner and lower dome (refer to *Installing the Dome Liner and Lower Dome* on page 19).

4S STANDARD ELECTRICAL BOX

1. Attach the adapter ring to the 4S standard electrical box with two 8-32 x 1.00-inch Phillips flat-head screws (supplied; refer to Figure 10).
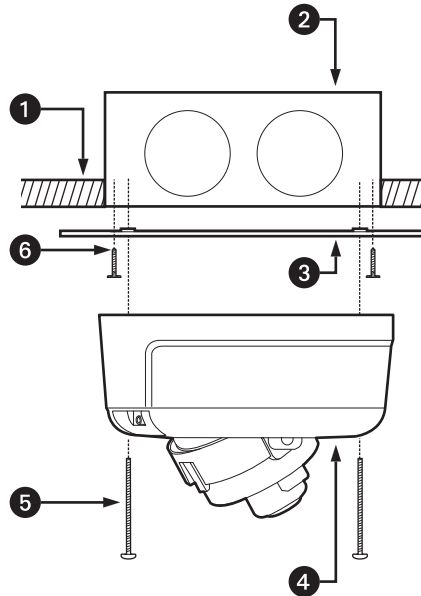
Figure 10. 4S Standard Electrical Box Installation

❶ Ceiling/Wall

❷ 4S Standard Electrical Box

❸ Adapter Ring

❹ Back Box

❺ #8 x 2.50-inch Phillips Pan-Head
Self-Tapping Screws (supplied)

❻ 8-32 x 1.00-inch Phillips Flat-Head
Screws (supplied)

2. Connect the wiring to the side of the back box:
   a. Connect the network cable to the RJ-45 network port on the side of the back box. Refer to *Cat5 Cable* on page 21 for wiring connections.

   NOTE: Do not use network cables with over-molded RJ-45 connectors. These connectors will not fit inside the surface mount ring.

   b. Connect the necessary wiring for audio (refer to *Audio Wiring* on page 22).

3. Apply power to the camera.

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

4. Attach the surface mount ring and back box to the adapter plate with two #8 x 2.50-inch Phillips pan-head self-tapping screws (supplied; refer to Figure 10).

5. Position the camera as needed (refer to *Positioning the Camera* on page 17).

6. Focus the lens (refer to *Adjusting the Focus* on page 18).

7. Install the plastic liner and lower dome (refer to *Installing the Dome Liner and Lower Dome* on page 19).

POSITIONING THE CAMERA

1. View the camera image using the service port.

2. Manually rotate and tilt the camera module to position the camera. Do not over-rotate the module.

⚠ **WARNING:** Excessively turning the module in one direction could result in damage to the wiring.
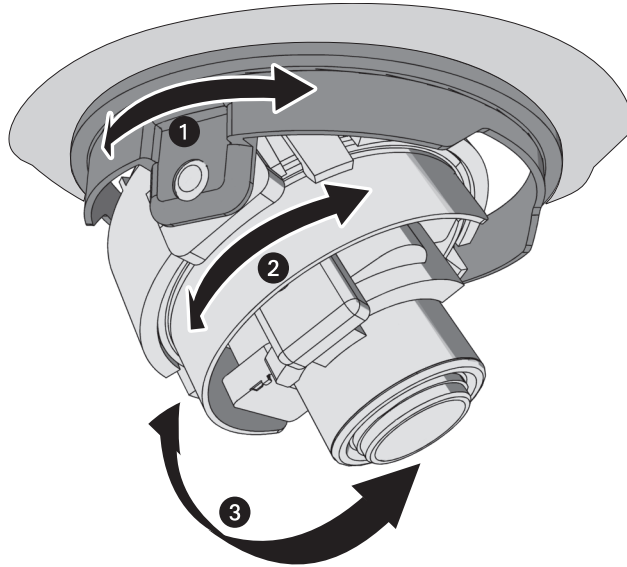
Figure 11. Adjusting Pan and Tilt

❶ Pan 355°

❷ Rotate 220°

❸ Tilt 180°

3. Adjust the field of view:
   a. Loosen the zoom locking screw.
   b. Turn the zoom adjustment ring clockwise or counterclockwise to adjust the field of view.
   c. Tighten the zoom locking screw.

ADJUSTING THE FOCUS

FOCUSING IMS0 SERIES MODELS

1. View the camera image using the service port.

2. Loosen the focus locking screw.

3. Turn the focus locking screw clockwise or counterclockwise to adjust the focus.

4. When the optimal focus is reached, tighten the focus locking screw.

FOCUSING IM10 SERIES MODELS

1. View the camera image using the service port or a Web browser.

2. Manually adjust the zoom and focus of the lens to the desired field of view.

3. The focus can be adjusted further using the settings in the Web interface (refer to *Configuring Auto Focus Settings* on page 44).

INSTALLING THE DOME LINER AND LOWER DOME

1. Align the dome liner with the camera module and snap it into place.
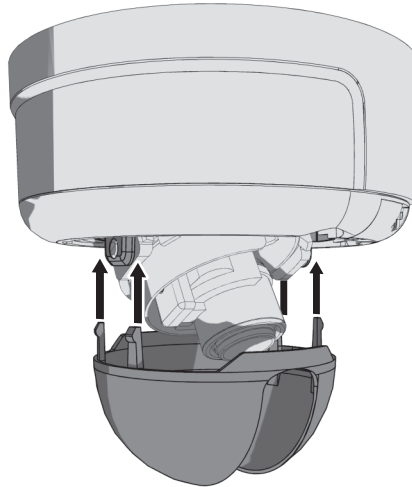
Figure 12. Installing the Dome Liner

2. Align the lower dome with the camera module, press it into place, and then turn it 45-degrees to conceal the service port, reset button, and NTSC/PAL button.
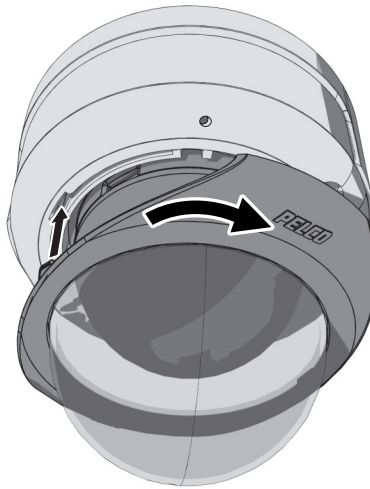
Figure 13. Installing the Lower Dome

SERVICE CABLE

The dome camera includes a service port that outputs camera video. Use it at the installation site to set up the field of view and to focus the camera.

Pelco offers an optional service cable (IX-SC) that connects directly to the service port. To access the service port, you must remove the lower dome (refer to *Installing the Dome Liner and Lower Dome* on page 19). The service cable has a male BNC output for most standard viewers.

NOTE: The ICS-SC and CST150 *are not compatible* with this camera. If you have any questions about service cable compatibility, contact Pelco Product Support at 1-800-289-9100 (USA and Canada) or +1-559-292-1981 (international).

To assemble a service cable for the camera, you will need to purchase the following items from an electronics supply store:

Qty	Description
1	2.5 mm stereo plug (male)
1	CPM 88 miniature coaxial connector
1	RG174/U coaxial cable
1	1/8-inch shrink fit tubing, 1/2-inch long

To assemble the cable:

1. Attach the CPM 88 miniature coaxial connector to one end of the cable. Follow the directions supplied with the miniature coaxial connector.

2. Attach the 2.5 mm stereo plug to the other end of the coaxial cable (refer to Figure 14):
   a. Remove the support sleeve from the plug.
   b. Slip the shrink fit tubing and support sleeve over the end of the cable.
   c. Prepare the cable:
      (1) Strip back the outer jacket 0.318 inch (8.06 mm) from the end of the cable.
      (2) Pull back the coaxial braid shield.
      (3) Strip back the insulating material 0.125 inch (3.18 mm) to expose the center conductor.
   d. Solder the center connector of the cable to the center pin of the plug.
   e. Pull the coaxial braid shield back through the crimp pin and solder it to the top of the crimp pin arm.
   f. Crimp the end of the crimp pin around the cable.
   g. Heat the shrink fit tubing around the center conductor and shoulder pin.
   h. Reassemble the support sleeve and the plug.
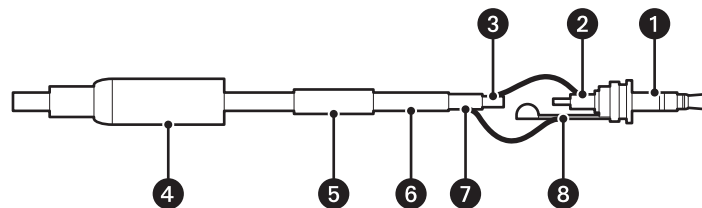
Figure 14. Attaching the 2.5 mm Monaural Headphone Plug

❶	2.5 mm Stereo Plug	❺	Shrink Fit Tubing
❷	Plug Shoulder Pin	❻	Coaxial Cable
❸	Center Conductor	❼	Coaxial Braid Shield
❹	Support Sleeve	❽	Crimp Pin Arm

WIRING

CAT5 CABLE

Connect a Cat5 cable to the RJ-45 network connector. The 8-pin connector 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.

NOTE: The camera will autosense and configure itself to use either a crossover cable or a straight cable.

Refer to Figure 15 for pin descriptions.
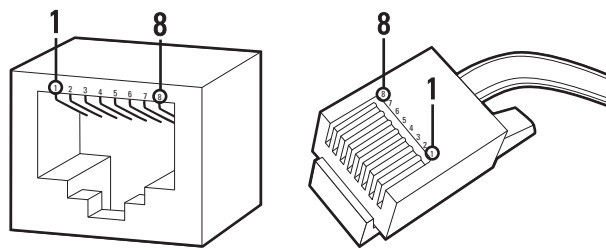
Pin	Function
1	TX+
2	TX–
3	RX+
4	PoE 1-2
5	PoE 1-2
6	RX–
7	PoE 3-4
8	PoE 3-4

Figure 15. Cat5 Cable Pin Descriptions

AUDIO WIRING

If you are not using the built-in microphone, the IM Series also supports line-in audio using standard UTP cable and a 600-ohm impedance matching transformer. Audio functionality is only available for IM10 Series models, and it can be enabled or disabled using the Web browser.
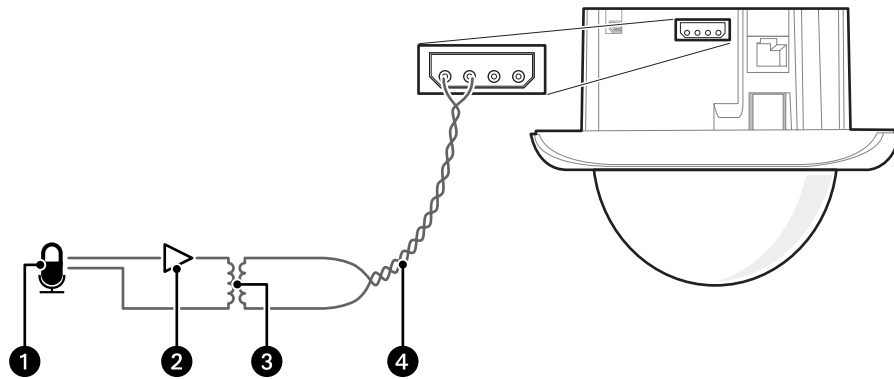
Figure 16. Line-In Audio Wiring

❶ Microphone		❸ 600-ohm Impedance Matching Transformer	
❷ Amplifier		❹ Audio UTP Cable	

Operation

CAMERA CONFIGURATION SEQUENCE

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

NOTE: If the camera 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 topics for more information:

MINIMUM SYSTEM REQUIREMENTS

Network and processor bandwidth limitations might cause the video stream to pause or appear pixilated when an increased number of 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.

The following minimum system requirements are needed to use a Web browser with the IP camera:

Processor: Intel® Pentium® 4 microprocessor, 1.6 GHz

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

Memory: 512 MB 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: QuickTime® 7.6.5 for Windows XP, Windows Vista, or QuickTime 7.6.4 for Mac OS X 10.4 (or later)

NOTE: This product is not compatible with QuickTime version 7.6.4 for Windows XP, Windows Vista. If you have this version installed on your PC, upgrade to QuickTime version 7.6.5.

Refer to the following sections for more information:

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. Enter 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 section for more information:

- *Editing a User* on page 58

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).
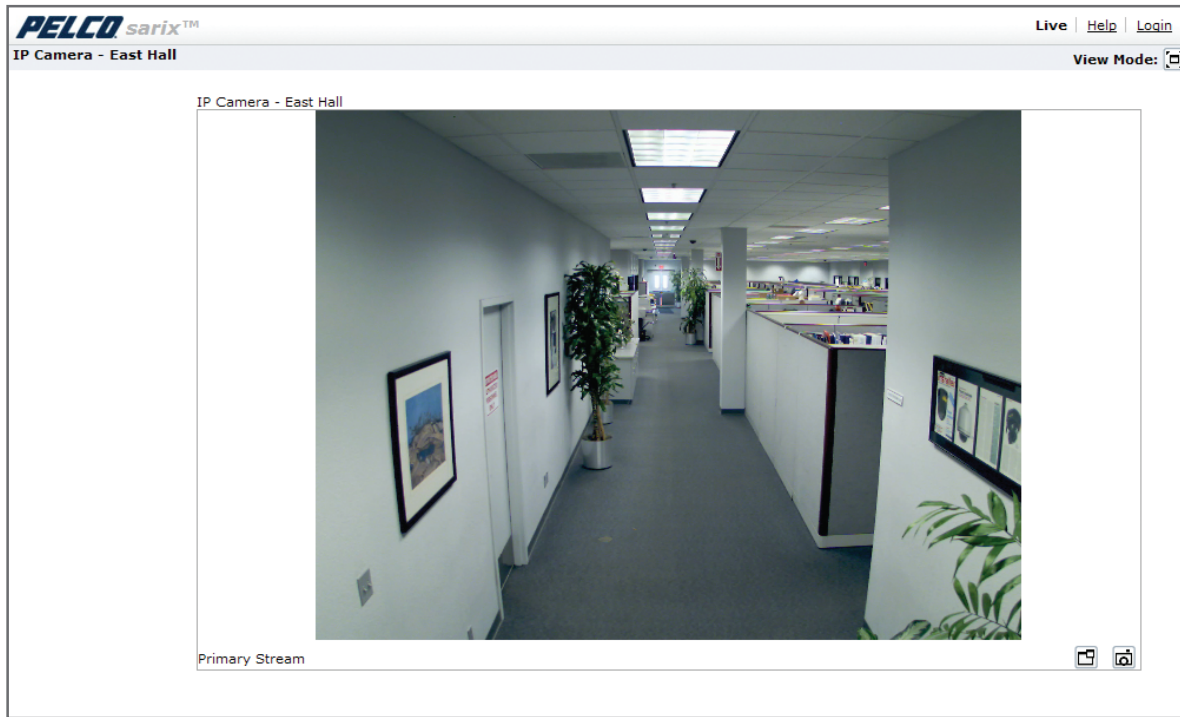
Figure 17. Live Video Page

Refer to the following sections for more information:

- *Live Video Page Icons* on page 26
- *Selecting a Stream* on page 27
- *Taking a Snapshot* on page 29
- *Displaying Video in the Multiscreen View* on page 29

LIVE VIDEO PAGE ICONS

Viewable icons are based on user permissions.

Show Device List: Displays a list of viewable cameras connected to the same virtual local area network (VLAN) as the camera to which you are logged on.

Disable Viewer: Closes the live view window.

1 x 1 Mode: Displays a single video pane.

2 x 2 Mode: Displays 4 video panes in rows of two.

3 x 3 Mode: Displays 9 video panes in rows of three.

4 x 4 Mode: Displays 16 video panes in rows of four.

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.

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.

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

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

   MPEG-4 or H.264 compression: Select the video transmission type from the Transmission drop-down menu. Available settings include Unicast and Multicast.

   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 View button to save the stream settings.

Refer to the following sections for more information:

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 pre-defined 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 VGA 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.

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 MJPEG, the captured image will be the size of the largest MJPEG stream. If you are using MPEG-4 or 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 all pages.

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 through 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 and groups, 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 31
- *Network Tab* on page 33
- *Imaging Tab* on page 38
- *A/V Streams Tab* on page 50
- *Users and Groups Tab* on page 56
- *Events Tab* on page 61

System Tab

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

General Settings

The General Settings page includes programmable 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 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.

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.

CHANGING THE DEVICE NAME

1. Click the System tab.

2. Click the Device Name box and highlight the text.

3. Type a user-friendly name into the Device Name box (2 to 64 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.

4. 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 time settings manually.

Click the System tab.

1. Select General from the drop-down menu.

2. 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.

3. 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.

4. Set the Overlay setting. Select On to overlay the date and time on the video stream, or select Off to turn off this setting.

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. Click the Reboot Camera button to restart the camera. Rebooting the camera does not change the configured camera settings.

RESTORING ALL CAMERA DEFAULTS

This process cannot be undone; all user and custom settings will be lost.

1. Click the System tab.

2. 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 sections for more information:

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), and configure 802.1x port security settings.

General Network Settings

The General Network page includes programmable 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.

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 any combination of alphanumeric characters. A user-friendly name makes it easier to recognize the device on the network.

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
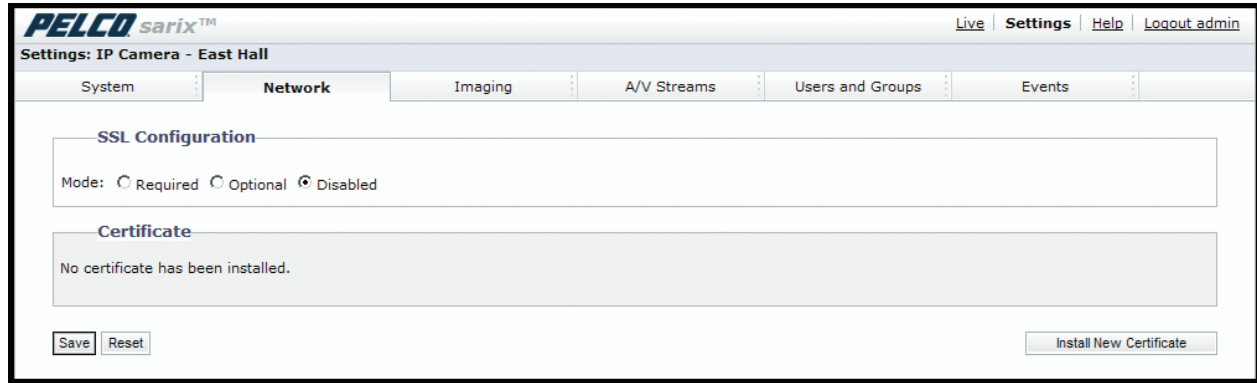
Figure 18. SSL Configuration Page

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.

   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 36
- *Generating a Self-Signed Certificate* on page 36

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

Figure 19. SSH Settings Page

1. Place your mouse pointer over the Network tab.

2. Select SSH from the drop-down menu.

3. Select the Enabled check box.

NOTE: The username is always root and cannot be changed. The username and password are required when accessing the camera through a third-party SSH client.

4. Click in the Password box and type a password (4 to 16 alphanumeric characters). Passwords are case-sensitive.

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. Connect the PC to a 802.1x secured switch with like authentication protocols.

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.

Imaging Tab

Use the Imaging tab to change the camera's general image settings, adjust the camera exposure, program the focus mechanism, adjust the tone map settings to increase scene detail, tune the white balance settings for scenes with fluctuating lighting conditions, or define window blanking privacy areas.

General Imaging Settings

General imaging settings include adjustments for camera orientation and digital processing. The Orientation settings reconfigure the image 180 degrees horizontally and 180 degrees vertically. Use these settings when installing the camera in an inverted position. If the orientation is not adjusted, the image will display upside down and mirrored.

Digital processing settings can be set to Auto or Manual to adjust the camera's sharpness, saturation, and contrast. When set to Auto, the camera continually delivers the best possible image by automatically adjusting the digital processing settings based on the scene. Auto is the default setting. Manual digital processing is recommended only for indoor applications that have a single, unchanging primary light source.

Exposure Settings

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. The camera features Auto and Manual exposure settings. Auto exposure automatically sets the amount of light detected by the camera sensor based on settings for light control, exposure compensation, and the day and night exposure times. Manual exposure sets the amount of light detected by the camera sensor based on a user-defined setting. Manual exposure is recommended only for indoor applications that have a single, unchanging primary light source. Auto is the default setting.

Focus Settings

Only avialable with the IM10 model.Focus sets the back focus to the center focal point of the scene. The camera can be configured to back focus automatically or manually. Auto focus automatically back focuses the camera on the subject in the center of the scene. Manual focus turns off the auto focus mechanism and locks the camera at a user-specified position. The manual focus setting is recommended only for indoor applications that have a single, unchanging primary light source. The Focus page also includes Full Range Auto-Focus, Quick Auto-Focus, and a Factory Defaults.

Tone Map Settings

Tone map balances the brightest and darkest sections of a scene to produce an image with more balanced lighting and more detail. This is accomplished, in part, when the device maps the 10-bit input sensor data (0 to 1023 bits) into 8-bit output RGB values (0 to 255 bits).

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 camera can handle up to four blanked windows as long as the total blanked area does not exceed 50 percent of the field of view.

Refer to the following sections for more information:

- *Configuring the Orientation of the Scene* on page 39

- *Changing the Digital Processing Settings* on page 40

- *Selecting Auto Exposure Settings* on page 41

- *Selecting Manual Exposure Settings* on page 43

- *Configuring Auto Focus Settings* on page 44

- *Configuring Auto Focus Settings* on page 44

- *Configuring Manual Focus Settings* on page 45

- *Setting Tone Map Options* on page 46

- *Selecting Auto White Balance Settings* on page 47

- *Selecting Manual White Balance Settings* on page 48

- *Turning On Window Blanking* on page 49

- *Turing Off Window blanking* on page 49

- *Deleting a Window Blanking Area* on page 49

CONFIGURING THE ORIENTATION OF THE SCENE
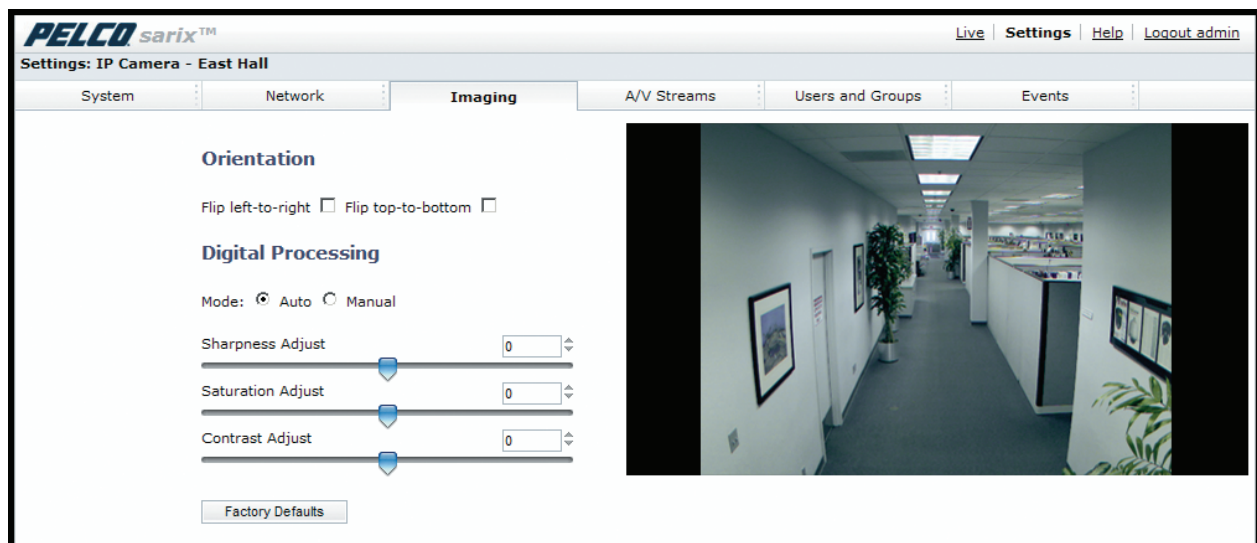
Figure 20. Orientation Page

1. Place your mouse pointer over the Imaging tab.

2. Select General from the drop-down menu.

3. Select one of the following options:
   - Click the "Flip left-to-right" box to rotate the camera image 180 degrees horizontally.
   - Click the "Flip top-to-bottom" box to rotate the camera image 180 degrees vertically.

CHANGING THE DIGITAL PROCESSING SETTINGS

Figure 21. Digital Processing Page

1. Place your mouse pointer over the Imaging tab.
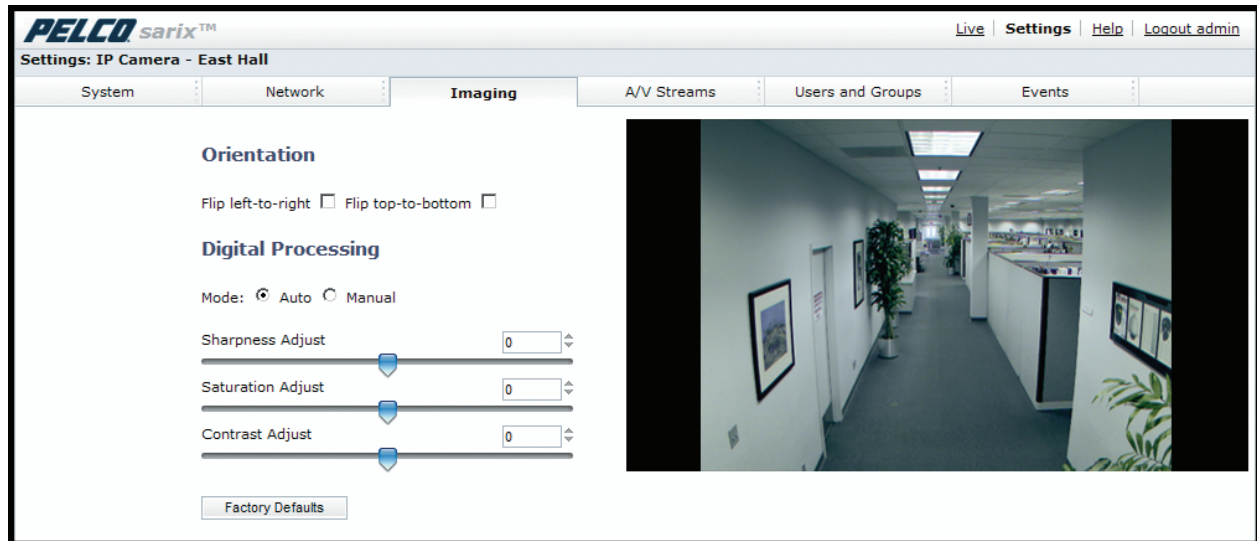
2. Select General from the drop-down menu.

3. Select the mode: Manual or Auto. Auto is the default.

4. Move the slider to the left or right to change the following settings:

   Sharpness: 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 auto range of adjustment is −100 to 100; the auto default setting is 0 (zero). The manual range of adjustment is 0 to 100; the manual default setting is 50.

   Saturation: 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 auto range of adjustment is −100 to 100; the auto default setting is 0 (zero). The manual range of adjustment is 0 to 100; the manual default setting is 50.

   Contrast: 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 auto range of adjustment is −100 to 100; the auto default setting is 0 (zero). The manual range of adjustment is 0 to 100; the manual default setting is 50.

SELECTING AUTO EXPOSURE SETTINGS
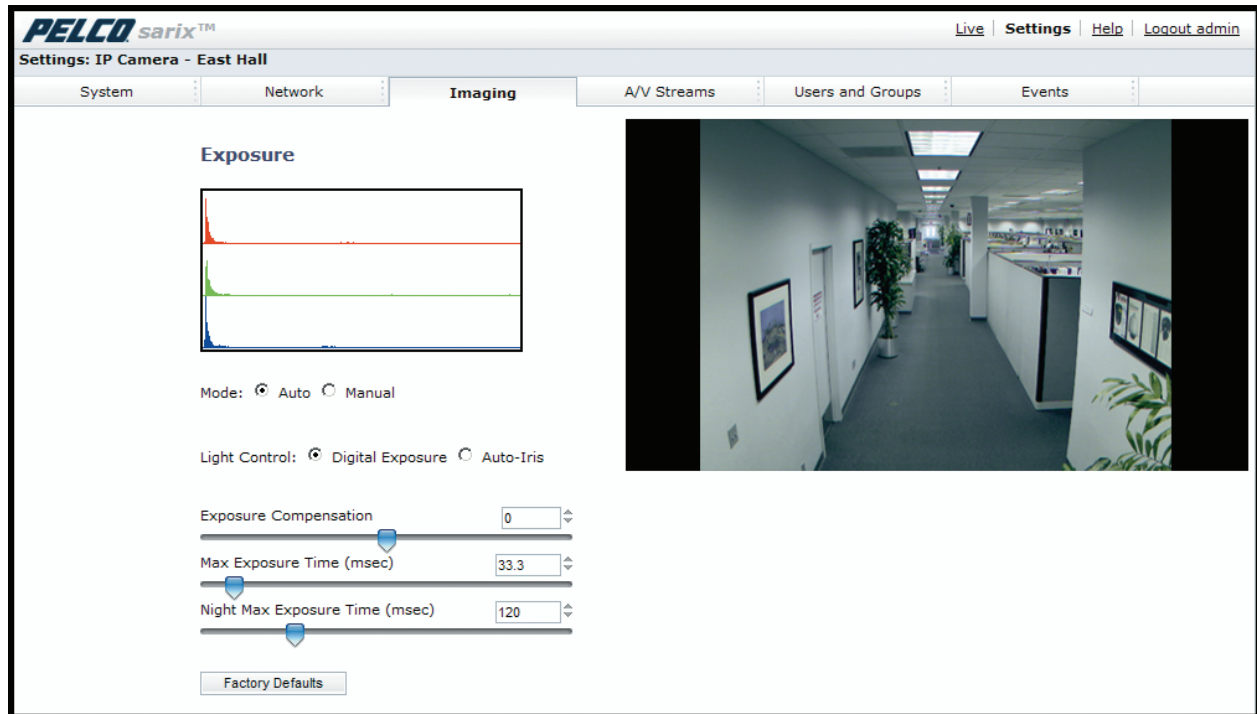
Figure 22. Auto Exposure Page

1. Place your mouse pointer over the Imaging tab.

2. Select Exposure from the drop-down menu.

3. Select the Auto mode.

4. Select the Light Control method: Digital Exposure or Auto-Iris Exposure.

   Digital Exposure: This setting automatically adjusts the sensor exposure time depending on the light level at the scene. For very bright scenes, the exposure time is very short and, as the scene becomes less bright, the exposure time is increased until the maximum exposure time is reached. Digital Exposure is the default setting and provides the best image quality for the majority of scenes.

   Auto-Iris Exposure: This setting automatically adjusts the lens iris depending on the light level at the scene. For this setting, the sensor exposure time is fixed. Select Auto-Iris if the video shows flickering or rolling bands due to 50 Hz or 60 Hz lighting. Most lighting situations do not require this setting.

5. Select the Exposure Optimization setting: Normal or Action. These are optimizations of the Digital Exposure control.

   Normal: This setting is for very bright scenes and exposure time is very short. As the scene becomes less bright, the exposure time is increased until the maximum exposure time is reached. Normal is the default setting.

   Action: This setting operates similar to Normal except the short exposure times are used for both bright and mid-level lighting. This minimizes the blur in video caused by moving objects. For very low light scenes, Action optimization operates the same as Normal, increasing the exposure time until the maximum exposure time is reached.

6. Set the Exposure Compensation setting. Move the slider bar to the right to brighten the video, or move it to the left to darken the video. The exposure compensation range is -100 to 100; the default setting is 0 (zero).

7. Set the Max Exposure Time and Night Max Exposure Time.

    Max Exposure Time: This setting controls the maximum time in milliseconds that an image is exposed during daytime conditions. Decreasing Max Exposure Time reduces the blur caused by fast moving objects as the light dims, but it also reduces the light sensitivity of the camera. The exposure range is 1 to 500 msec; the default setting is 33.3 msec.

    Night Max Exposure Time: 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. The exposure range is 1 to 500 msec; the default setting is 120 msec.

SELECTING MANUAL EXPOSURE SETTINGS
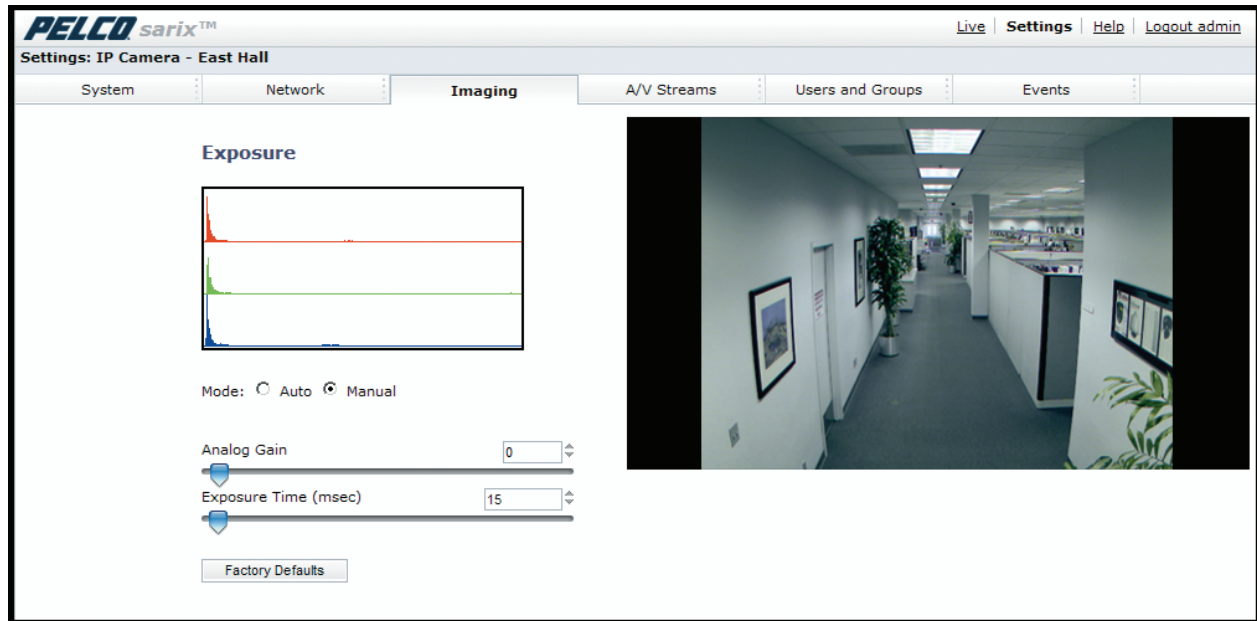
Figure 23. Manual Exposure Page

1. Place your mouse pointer over the Imaging tab.

2. Select Exposure from the drop-down menu.

3. Select the Manual mode.

4. Move the Analog 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 analog gain range is 1.00 to 15.75; the default setting is 1.00.

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. The exposure time range is 0.01 to 1000 msec; the default setting is 33 msec.

CONFIGURING AUTO FOCUS SETTINGS

(ONLY AVAILABLE WITH THE IM10 MODEL)
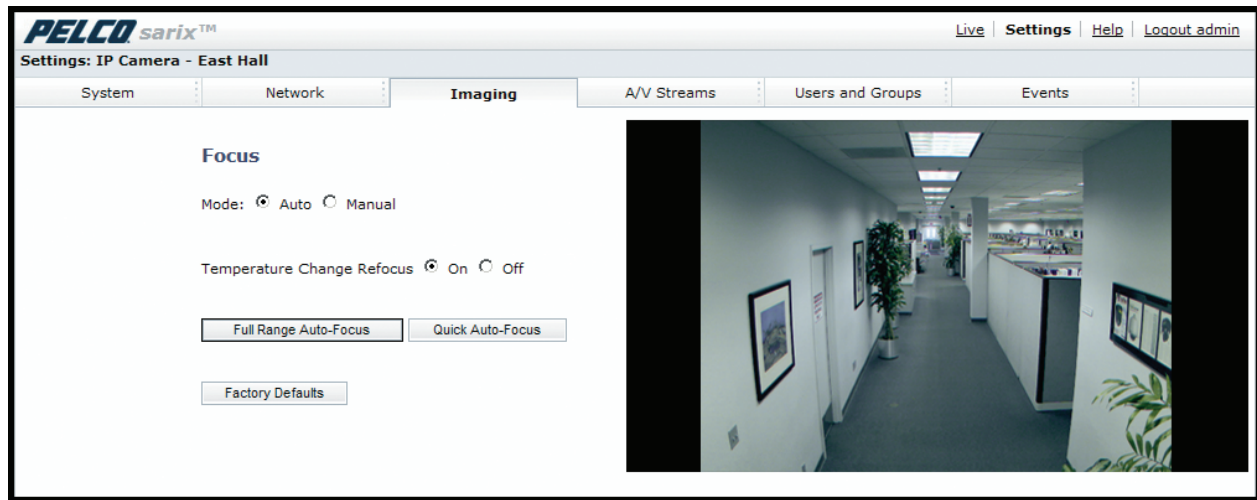

Figure 24. Auto Focus Page

1. Place your mouse pointer over the Imaging tab.

2. Select Focus from the drop-down menu.

3. Select the Auto mode.

4. Set the Temperature Change Refocus setting. The camera is programmed to run a quick automatic focus sequence when the internal temperature sensor of the camera detects an environmental temperature change of 41°F (5°C). This focus sequence adjusts the center focal point of the scene to maintain optimal focus. The default setting is On; select Off to turn off this setting.

5. If required, use one of the following buttons to adjust the focus:

   Full Range Auto-Focus: The camera starts a full-range search to find the optimal focal point for the scene.

   Quick Auto-Focus: The camera searches for the optimal focal point in a limited range.

   Factory Defaults: The camera resets the auto focus to the factory default setting.

CONFIGURING MANUAL FOCUS SETTINGS

(ONLY AVAILABLE WITH THE IM10 MODEL)
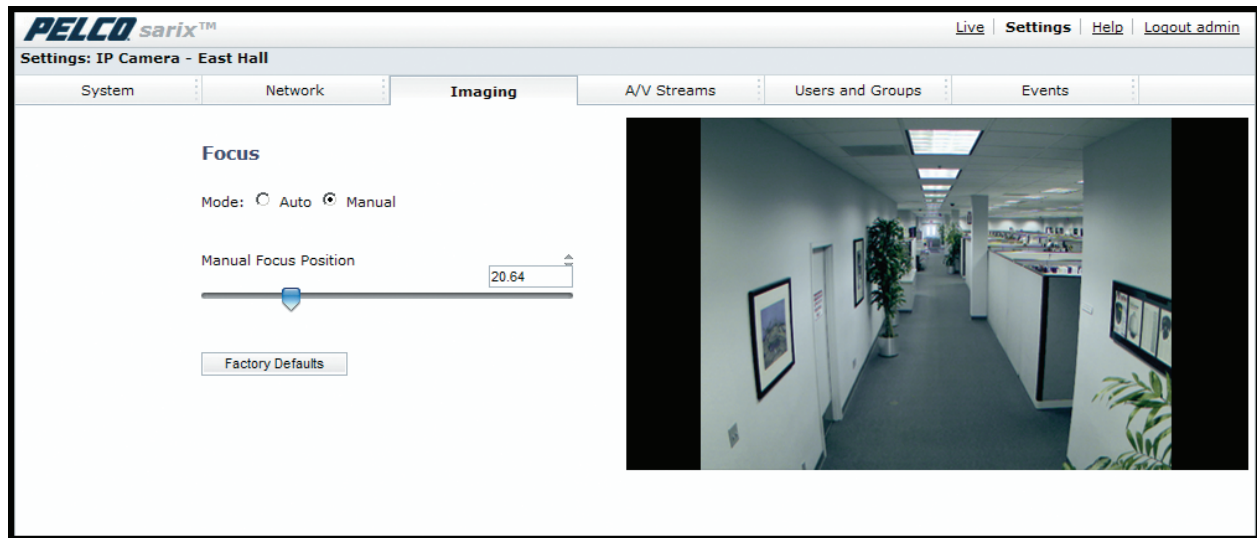
Figure 25. Manual Focus Page

NOTE: It is recommended to set the focus to Manual when using analytics. If the focus is set to Auto, significant background changes will occur when the camera automatically adjusts to different points within a scene resulting in frequently changing image sharpness. This may cause problems with scene recognition, which will suspend analytics operation or cause false alarms.

1. Place your mouse pointer over the Imaging tab.

2. Select Focus from the drop-down menu.

3. Select the Manual mode.

4. Set the Manual Focus Position. The focus range is 0 to 100.

5. If required, click the Factory Defaults button to reset the focus to the factory default setting.

SETTING TONE MAP OPTIONS
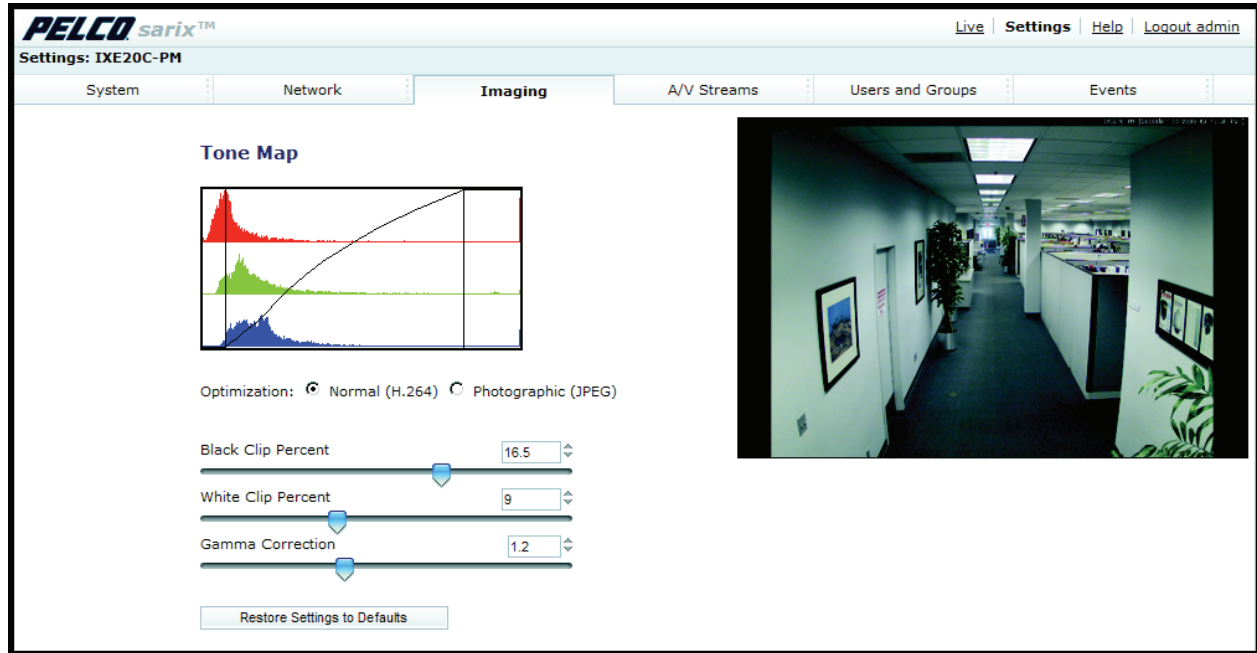
Figure 26. Tone Map Page

1. Place your mouse pointer over the Imaging tab.

2. Select Tone Map from the drop-down menu.

3. Select the Optimization setting:

   Normal (H.264): If the compression standard for the primary stream is H.264, set Optimization to Normal (H.264). This is the default setting.

   Photographic (JPEG): If the compression standard for the primary stream is JPEG, set Optimization to Photographic (JPEG).

4. Move the Tone Map sliders to adjust the following image settings:

   Black Clip Percent: Adjusts the percent of pixels set to black. Move the slider to the right to darken the scene by increasing the number of pixels that are mapped to absolute black. The black clip percent range is 0 to 25; the default setting is 0.5.

   White Clip Percent: Adjusts the percent of pixels set to white. Move the slider to the right to lighten the scene by increasing the number of pixels that are mapped to absolute white. The white clip range is 0 to 25; the default setting is 0.5.

   Gamma Correction: Adjusts the details in the light and dark areas of the scene. Move the slider to the left to expose more detail in the light areas of the scene; move the slider to the right to expose more detail in the dark areas of the scene. The gamma corrector range is 0.1 to 3.0; the default setting is 2.2.

5. If required, click the Factory Defaults button to reset the Tone Map to the factory default setting.

SELECTING AUTO WHITE BALANCE SETTINGS
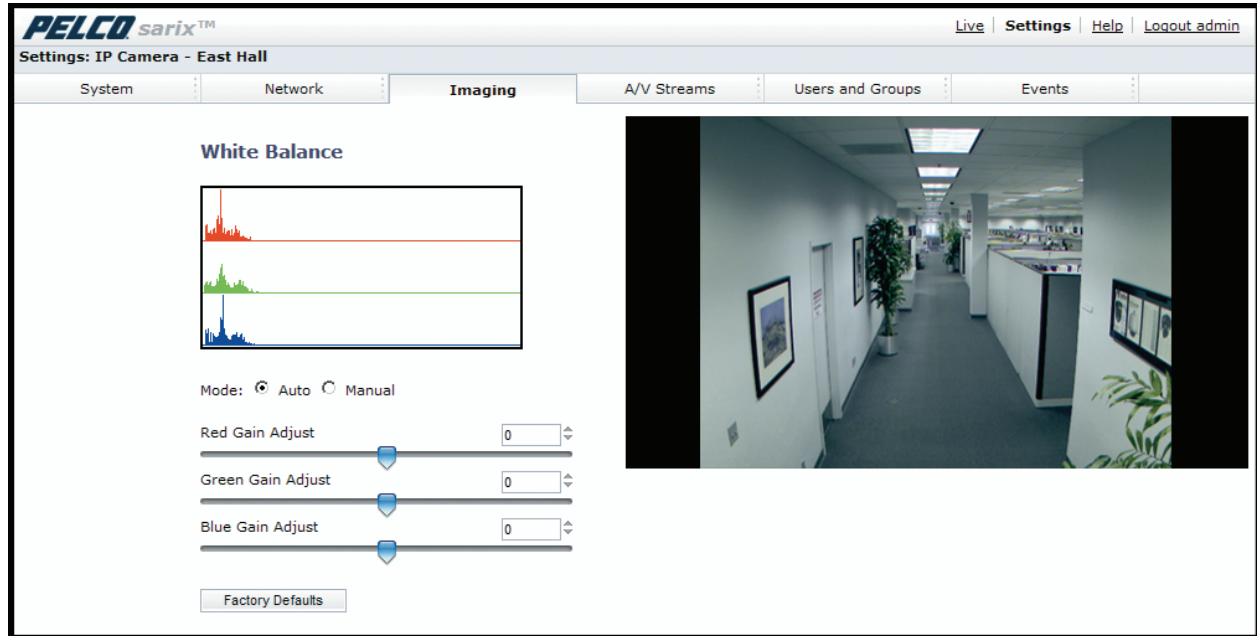
Figure 27. Auto White Balance Page

1. Place your mouse pointer over the Imaging tab.

2. Select White Balance from the drop-down menu.

3. Select the Auto mode.

4. Move the sliders to adjust the following settings in Auto mode:

    Red Gain Adjust: Adjusts the image output in the red range. Move the slider to the right to increase the red level; move the slider to the left to decrease the red level. As you move the slider, you will see the color change on your monitor. The auto range of adjustment is −1.0 to 1.0; the default setting is 0 (zero).

    Green Gain Adjust: Adjusts the image output in the green range. Move the slider to the right to increase the green level; move the slider to the left to decrease the green level. As you move the slider, you will see the color change on your monitor. The auto range of adjustment is −1.0 to 1.0; the default setting is 0 (zero).

    Blue Gain Adjust: Adjusts the image output in the blue range. Move the slider to the right to increase the blue level; move the slider to the left to decrease the blue level. As you move the slider, you will see the color change on your monitor. The auto range of adjustment is −1.0 to 1.0; the default setting is 0 (zero).

5. If required, click the Factory Defaults button to reset the white balance to the factory default setting.

SELECTING MANUAL WHITE BALANCE SETTINGS

Figure 28. Manual White Balance Page

NOTE: Manual white balance is recommended only for indoor applications that have a single, unchanging primary light source.

1. Place your mouse pointer over the Imaging tab.

2. Select White Balance from the drop-down menu.

3. Select the Manual mode.

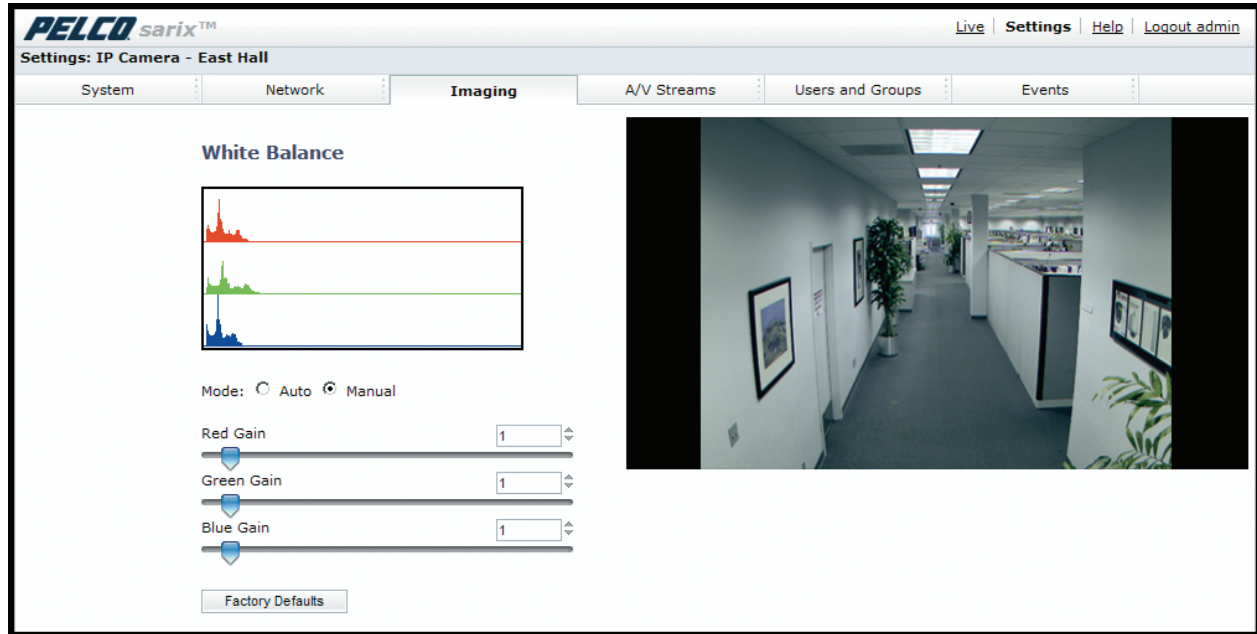4. Move the sliders to adjust the following settings in Manual mode:

   Red Gain: Adjusts the image output in the red range. Move the slider to the right to increase the red level; move the slider to the left to decrease the red level. As you move the slider, you will see the color change on your monitor. The manual range of adjustment is 0 to 32; the default setting is 1.

   Green Gain: Adjusts the image output in the green range. Move the slider to the right to increase the green level; move the slider to the left to decrease the green level. As you move the slider, you will see the color change on your monitor. The manual range of adjustment is 0 to 32; the default setting is 1.

   Blue Gain: Adjusts the image output in the blue range. Move the slider to the right to increase the blue level; move the slider to the left to decrease the blue level. As you move the slider, you will see the color change on your monitor. The manual range of adjustment is 0 to 32; the default setting is 1.
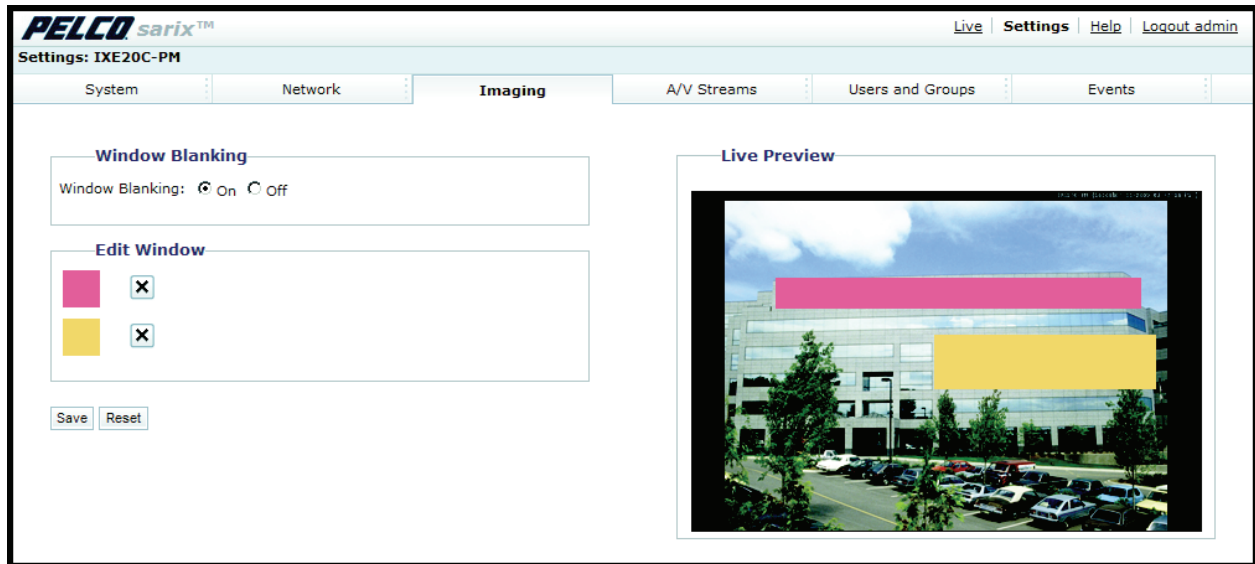
5. If required, click the Factory Defaults button to reset the white balance to the factory default setting.

TURNING ON WINDOW BLANKING

Figure 29. 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 four blanked windows can be defined, but the blanked area cannot exceed 50 percent of the field of view.

5. To resize the window, click and drag one or more of the points until the window is the desired shape and size.

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.

TURING OFF WINDOW BLANKING

1. Place your mouse pointer over the Imaging tab.

2. Select Window Blanking from the drop-down menu.

3. Select the Off option for Window Blanking.

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.
1.

DELETING A WINDOW BLANKING AREA

1. Place your mouse pointer over the Imaging tab.

2. Select Window Blanking from the drop-down menu.

3. In the Edit Window area of the page, click the check box next to the window blanking area you want to delete.

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.

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.

Audio Configuration

The Audio Configuration page allows you to setup the internal audio device or an external audio device. The default setting for Audio is disabled, which means that no audio is transmitted from the camera. When enabled, audio is transmitted from the camera to the PC. Based on your system configuration, images and audio may not be synchronized.

Not all camera models are equipped with an internal audio device. Refer to the specifications for your camera model for information.

NOTE: Improper use of audio/visual recording equipment may subject you to civil and criminal penalties. Applicable laws regarding the use of such capabilities vary between jurisdictions and may require, among other things, express written consent from the recorded subjects. You are solely responsible for insuring strict compliance with such laws and for strict adherence to any/all rights of privacy and personalty.

Refer to the following sections for more information:

- *Selecting a Video Preset Configuration* on page 51
- *Configuring a Custom Video Stream Configuration* on page 52
- *Compression Standards* on page 52
- *Available Camera Resolution* on page 53
- *Image Rate* on page 53
- *Bit Rate* on page 53
- *I-Frame Interval* on page 53
- *Quality of Service for Differentiated Services Code Point* on page 54
- *Endura Signing* on page 54
- *Advance Sharpening* on page 54

SELECTING A VIDEO PRESET CONFIGURATION
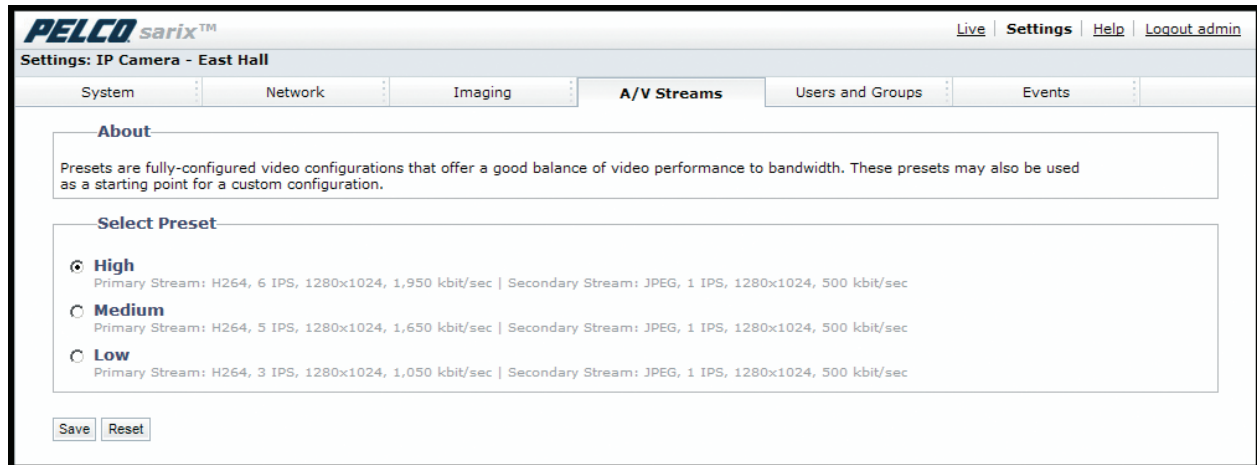
Figure 30. Select Video Preset Configuration Page

1. Place your mouse pointer over the A/V Streams tab.

2. Select the Video Preset option from the drop-down menu.

3. Click the button next to the video preset stream configuration (High, Medium, or Low) that you want to select.

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 31. 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 through 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.

H264: 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.

AVAILABLE CAMERA RESOLUTION

Refer to the following table for the resolution capabilities of your camera model

Table A. Available Camera Resolution

Camera Model	0.5 Megapixel	1.3 Megapixel
Available Resolutions	—	1280 x 1024
	—	1280 x 960
	—	1280 x 720
	800 x 600	800 x 600
	704 x 576	—
	704 x 480	—
	640 x 512	640 x 512
	640 x 480	640 x 480
	640 x352	640 x 352
	480 x 368	480 x 368
	480 x 272	480 x 272
	352 x 240	—
	352 x 288	—
	320 x 256	320 x 256
	320 x 240	320 x 240
	320 x 176	320 x 176

IMAGE RATE

The image rate is the number of images per second (ips) available for the video stream configuration. Available image rates are 30, 25, 24, 15, 12.5, 12, 10, 8, 7.5, 6, 5, 4, 3, 2.5, 2, and 1.

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

Refer to the following section for more information:

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 and MPEG-4 compression standards.

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 and MPEG-4 compression standards.

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 and MPEG-4 compression standards.

ADVANCE SHARPENING

The Advance Sharpening setting enhances picture detail by sharpening the edges in the picture. When this mode is enabled, there is a trade-off between image quality and the resources required for processing power. The maximum camera resolution and image rate will not be available, but the edges of the image seem sharper. Only use this setting if you cannot achieve the sharpness level you want by adjusting the digital processing settings of the camera. The default setting for Advanced Sharpening is Off.

SELECTING THE AUDIO CONFIGURATION SETTINGS

To use audio with the camera you must have an audio device connected to the accessory port located on the back of the camera. Once the device is connected, audio can only be enabled through the primary stream.

Audio and video may not be synced when viewing and listening to the primary stream through a Web browser. You may experience a three-second delay in video when viewing the primary stream with audio.

NOTE: Improper use of audio/visual recording equipment may subject you to civil and criminal penalties. Applicable laws regarding the use of such capabilities vary between jurisdictions and may require, among other things, express written consent from the recorded subjects. You are solely responsible for insuring strict compliance with such laws and for strict adherence to any/all rights of privacy and personality.

Figure 32. Audio Configuration Page

1. Place your mouse pointer over the A/V Streams tab.

2. Select the Audio Configuration option from the drop-down menu.

3. Select the Enabled option in the Audio section.

4. Select the audio device setting from the Audio Device drop-down box.

    USB Line In: Enables audio from a microphone connected to the USB accessory port.

    Native Line In: *(Only available with specific Sarix™ technology products that have built-in audio. Refer to the specifications for your product model for information.)* Enables audio from a microphone connected to the audio-in connector.

    Native Microphone In: *(Only available with specific Sarix technology products that have built-in audio. Refer to the specifications for your product model for information.)* Enables audio from the internal microphone.

5. Select the encoding method from the Encoding drop-down box.

6. Set the sensitivity of the input level by moving the Input Level slider. Move the slider to the right to increase the sensitivity level; move it to the left to decrease the sensitivity level. For example, if the camera is installed in a noisy environment or the connected microphone has a built-in line amplifier, set the sensitivity to a low setting. The setting range is 0 to 100.

    NOTE: *Do not use* the mute button on an audio device, as it will override the audio software settings. To mute the audio device, select the Mute option located on the Audio Configuration page.

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.

Users and Groups Tab

Use the Users and Groups tab to create and manage user accounts, group permissions, and to change the way the camera manages the users and groups settings.

Users

User accounts can be created and added to groups to limit the permissions given to individuals logged on to the camera. Use the features on the Users page to create, modify, or delete user accounts.

NOTE: The only defined user that cannot be deleted is admin; however, the administrator password can be changed. For security purposes, it is important that you change your password after you log on to the device for the first time.

Figure 33. User Page

Groups

Groups can be created to assign permissions to users within each group. Use the features on the Groups page to create, modify, and delete groups and permissions. Multiple permissions can be assigned to each group.

Figure 34. Group Page

Refer to the following sections for more information.

- *Creating a New User* on page 58

- *Editing a User* on page 58

- *Deleting a Group* on page 59

- *Creating a New Group* on page 59

- *Editing a Group* on page 59

- *Deleting a Group* on page 59

- *General Settings for Users and Groups* on page 60

CREATING A NEW USER

1. Place your mouse pointer over the Users and Groups tab.

2. Select Users from the drop-down menu.

3. 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.

4. Click in the Password box and type a password (4 to 16 alphanumeric characters). Passwords are case-sensitive.

5. Click in the Retype Password box and retype your password.

6. Click in the First Name box and type the user's first name (1 to 32 alphanumeric characters).

7. Click in the Last Name box and type the user's last name (1 to 32 alphanumeric characters).

8. Click in the Email box and type the user's email address.

9. Select the appropriate check boxes to choose the groups you want to assign to the user. The Users page includes default accounts for the following groups:

    Select All: Selects all group definitions.

    Administrators: This is the only defined group that cannot be deleted. This group has access to all permissions.

    Managers: This defined group can be modified or deleted. This group has access to all permissions except the restore factory defaults, and API access permissions.

    Public: This defined group can be modified or deleted. The default permissions for this group are single stream view, stream selection, and API access.

    Operators: This defined group can be modified or deleted. The default permissions for this group are single stream view, stream selection, and multistream view.

    Viewers: This defined group can be modified or deleted. The default permissions for this group are single stream view and multistream view.

10. 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. 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 and Groups 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. 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.

5. Select or clear the appropriate check boxes from the groups list.

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 and Groups 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 the user?"

5. Click OK. The user profile is deleted from the defined user profiles section.

NOTE: The "admin" user cannot be deleted.

CREATING A NEW GROUP

1. Place your mouse pointer over the Users and Groups tab.

2. Select Groups from the drop-down menu.

3. Click in the Group Name box and type a name for the group you are creating (2 to 23 alphanumeric characters).

4. Click in the Description box and type a description for the group you are creating (2 to 23 alphanumeric characters).

5. Select the appropriate check boxes to choose the permissions you want to assign to this group.

6. Click the Save button to save the settings and create a new group; the new group profile appears in the box on the left side of the page. Click the Reset button to clear all of the information you entered without saving it.

EDITING A GROUP

1. Place your mouse pointer over the Users and Groups tab.

2. Select Groups from the drop-down menu.

3. Click the group profile that you want to edit from the box on the left side of the page.

4. Double-click in each of the text boxes to highlight the text. Type the new information in each text box.

5. Select or clear the appropriate check boxes from the groups list.

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 GROUP

1. Place your mouse pointer over the Users and Groups tab.

2. Select Groups from the drop-down menu.

3. Click the group profile that you want to delete from the defined group section located in the box on the left side of the page.

4. Click the Delete Group button. A dialog box appears with the message "Are you sure you want to delete the group?"

5. Click OK. The group profile is deleted from the defined group profile section.

NOTES:

• If a user has only one group assigned and that group is deleted, the user will lose all permissions. An administrator will have to assign a new group to that user to establish permissions.

• The Administrators and Public groups cannot be deleted.

GENERAL SETTINGS FOR USERS AND GROUPS

The general settings for user and groups allow you to change the way the camera manages the 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.
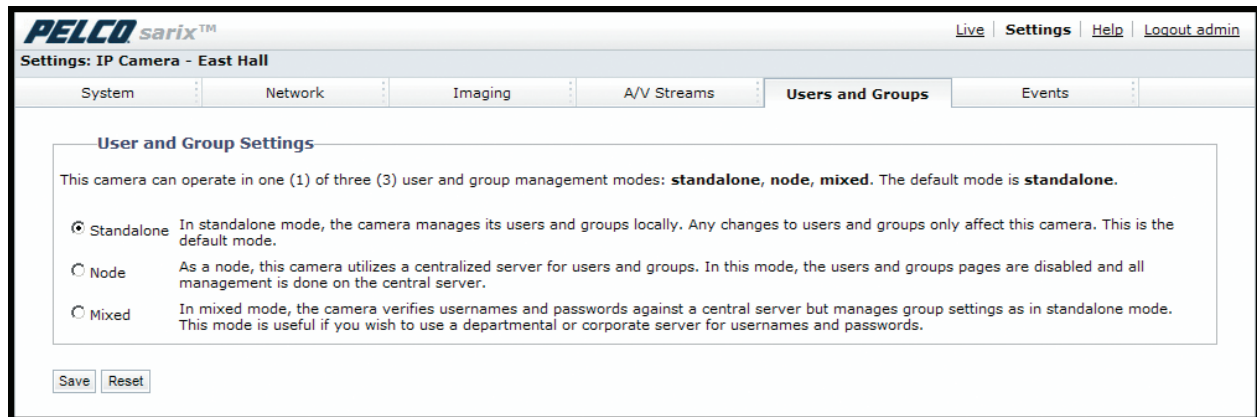

Figure 35. User and Group Settings Page

The available general settings for users and groups are as follows:

Standalone: 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.

Node: The camera uses a centralized server for users and groups. In this mode, the users and groups pages are disabled and all management is done on the central server. Any changes to users and groups affect all cameras connected to the central server.

Mixed: The camera verifies user names and passwords against a central server but manages the group settings locally. This is useful if you want to use a departmental or corporate server for user names and passwords. In this mode, the settings on the users page are limited, and any changes to user names and passwords are done on the LDAP server. While changes to user names and passwords affect all cameras connected to the LDAP server, group permissions must be managed from each camera individually.

NOTE: The Node and Mixed settings are advanced controls. Consult your network administrator to obtain the required information.

SETTING THE CAMERA TO NODE

1. Place your mouse pointer over the Users and Groups tab.

2. Select General Settings from the drop-down menu.

3. Click the Node option button. The Server box appears.

4. Click in the Server box, and then type the name of the central server.

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.

SETTING THE CAMERA TO MIXED

1. Place your mouse pointer over the Users and Groups tab.

2. Select General Settings from the drop-down menu.

3. Click the Mixed option button. The LDAP Server and Base DN boxes appear.

4. Click in the LDAP Server and Base DN boxes, and type the necessary information in each box.

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.

Events Tab

Use the Events tab to program camera events.

Events are activated by programmed 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 programmed to send email to an operator if the system shuts-down and restarts.

Sources

The camera supports a system source and a timer source. 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.

Handlers

The device supports a Send Email handler and an "Upload JPEG to FTP Server handlers." The Send Email handler sends an email to a defined email address when an event is activated. The "Upload JPEG to FTP Server" saves a JPEG of the activated event to a defined FTP server.

Refer to the following sections for more information:

SOURCES

Figure 36. New Event Source Page

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

System Source: A system source is activated when the camera restarts.

Timer Source: A timer source is a user-defined event. The user can program the timer to activate an event after a specified amount of time.

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.

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 37. 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.

Write JPEG to SD Card: *(This setting is not available with IMSO and IM10 Series domes.)* Saves a JPEG of the activated event to an SD card. An SD card must be installed in the device for this handler to function.

NOTE: The SD card must be formatted as FAT32. Other formats are not compatible with the camera.

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

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 31
- *Example Handler Filter Setup* on page 66

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.

Refer to the following section for more information:

- *Example Handler Filter Setup* on page 66

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.

Help Menu

Online Help documents the basic instructions for configuring the camera. Click the Help hyperlink in the navigation bar to access these instructions.

Log Off Menu

To log off, click the Log Off button in the navigation bar. A login dialog box appears.

Specifications

IMS0 SERIES

Models

IMS0C10-1   Sarix fixed dome network camera, 0.5 megapixel, color, 2.8~10 mm varifocal megapixel lens, white trim ring, clear dome

General

Construction	
Back Box	Cast aluminum and polycarbonate plastic
Trim Ring	Polycarbonate plastic
Bubble	Acrylic plastic
Finish	White
Imaging Device	
16:9 Aspect Ratio	1/3-inch (effective)
4:3 and 5:4 Aspect Ratios	1/4-inch (effective)
Imager Type	CMOS
Imager Readout	Progressive scan
Maximum Resolution	800 x 600
Signal-to-Noise Ratio	50 dB
Auto Iris Lens Type	DC drive
Electronic Shutter Range	1~1/100,000 sec
Wide Dynamic Range	60 dB
White Balance Range	2,000° to 10,000°K
Sensitivity	f/1.2; 2,850°K; SNR >24 dB
Color (33 ms)	0.50 lux
Color SENS (500 ms)	0.12 lux
Dome Attenuation	
Clear	Zero light loss

Electrical

Port	RJ-45 connector for 100Base-TX
	Auto MDI/MDI-X
Cabling Type	Cat5 or better for 100Base-TX
Power Input	PoE (IEEE 802.3af class 3)
Power Consumption	<6 W
Current Consumption	<200 mA maximum
Service Port	External 3-connector, 2.5 mm provides
	NTSC/PAL video output
Accessory Port	Connects Pelco accessories

Mechanical

Pan/Tilt Adjustment	
Pan	355°
Tilt	180°
Rotate	220°

Video

Video Encoding	H.264 base profile, MPEG-4, 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 upon coding, resolution, and stream configuration)

Available Resolutions

Resolution				Maximum IPS		
MPx	Width	Height	Aspect Ratio	MJPEG	H.264 Base Profile	MPEG-4
0.5	800	600	4:3	30	25	N/A
0.4	704	576	4CIF (PAL)	25	25	25
0.3	704	480	4CIF (NTSC)	30	30	30
0.3	640	512	5:4	30	30	30
0.3	640	480	4:3	30	30	30
0.3	640	352	16:9	30	30	30
0.2	480	368	4:3	30	30	30
0.2	480	272	16:9	30	30	30
0.1	352	288	CIF (PAL)	25	25	25
0.1	352	240	CIF (NTSC)	30	30	30
0.1	320	250	5:4	30	30	30
0.1	320	240	4:3	30	30	30
0.1	320	176	16:9	30	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, mDNS (Bonjour), and 802.1x (EAP)
Users	
Unicast	Up to 20 simultaneous users depending on resolution settings (2 guaranteed streams)
Multicast	Unlimited users H.264 or MPEG-4
Security Access	Password protected
Software Interface	Web browser view and setup, up to 16 cameras
Pelco System Integration	Endura 1.5 or later (MPEG-4) or Endura 2.0 or later (H.264); Digital Sentry 4.2 IP bundle 3 or later; DX8100 Series 2.0 or later
Open IP Integration	Pelco IP camera API

Environmental

Operational Temperature	32° to 122°F (0° to 50°C)
Operational Humidity	20% to 80%, noncondensing

Physical

Weight	0.77 lb (0.35 kg)
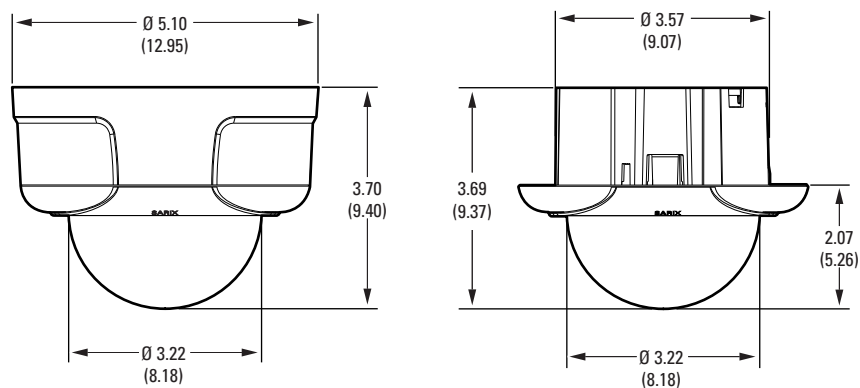
NOTE: VALUES IN PARENTHESES ARE CENTIMETERS; ALL OTHERS ARE INCHES.

IM10 SERIES

Models

IM10C10-1	Sarix fixed dome network camera, 1.3 megapixel, color, 2.8~10 mm varifocal megapixel lens, white trim ring, clear dome
IM10C10-B1	Sarix fixed dome network camera, 1.3 megapixel, color, 2.8~10 mm varifocal megapixel lens, black trim ring, clear dome

General

Construction
  Back Box   Cast aluminum and polycarbonate plastic
  Trim Ring   Polycarbonate plastic
  Bubble   Acrylic plastic

Finish   White/Black

Imaging Device   1/3-inch (effective)

Imager Type   CMOS

Imager Readout   Progressive scan

Maximum Resolution   1280 x 1024

Signal-to-Noise Ratio   50 dB

Auto Iris Lens Type   DC drive

Electronic Shutter Range   1~1/100,000 sec

Wide Dynamic Range   60 dB

White Balance Range   2,000° to 10,000°K
  Sensitivity   f/1.2; 2,850°K; SNR >24 dB
    Color (33 ms)   0.50 lux
    Color SENS (500 ms)   0.12 lux

Dome Attenuation
  Clear   Zero light loss
  Smoked   f/1.0 light loss

Electrical

Port   RJ-45 connector for 100Base-TX
    Auto MDI/MDI-X

Cabling Type   Cat5 or better for 100Base-TX

Power Input   PoE (IEEE 802.3af class 3)

Power Consumption   <6 W

Current Consumption   <200 mA maximum

Service Port   External 3-connector, 2.5 mm provides
    NTSC/PAL video output

Accessory Port   Connects Pelco accessories

Audio
  Streaming   Bidirectional: full or half duplex
  Input/Output   Line level / external microphone input; line level output, 600-ohm differential, 1 Vp-p max signal level; built-in microphone
  Compression   G.711 PCM 8 bit, 8 kHz mono at 64 kbit/s

Mechanical

Pan/Tilt Adjustment
  Pan   355°
  Tilt   180°
  Rotate   220°

Video

Video Encoding   H.264 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
1.3	1280	1024	5:4	20	8
1.2	1280	960	4:3	20	8
0.9	1280	720	16:9	30	11
0.5	800	600	4:3	30	25
0.3	640	512	5:4	30	30
0.3	640	480	4:3	30	30
0.3	640	352	16:9	30	30
0.2	480	368	4:3	30	30
0.2	480	272	16:9	30	30
0.1	320	256	5:4	30	30
0.1	320	240	4:3	30	30
0.1	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, mDNS (Bonjour), 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

Operational Temperature   32° to 122°F (0° to 50°C)
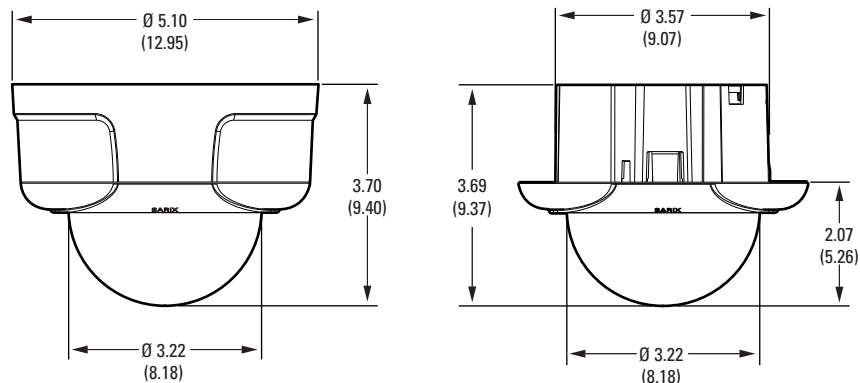
Operational Humidity   20% to 80%, noncondensing

Physical

Weight   0.77 lb (0.35 kg)

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:
  - Pelco-designed fixed network cameras and network dome cameras with Sarix™ technology.
  - Pelco-branded fixed camera models (CCC1390H Series, C10DN Series, C10CH Series, and IP3701H Series)
  - EH1500 Series enclosures
  - Spectra® IV products (including Spectra IV IP)
  - Camclosure® Series (IS, ICS, IP) integrated camera systems
  - DX Series digital 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
- 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®, 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.
  - Intelli-M® eIDC controllers
  - PMCL542F, PMCL547F, and PMCL552F FHD monitors
- One year:
  - Video cassette recorders (VCRs), except video heads. Video heads will be covered for a period of six months.

- 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.

12-08-09

⊠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
C2973M	10/09	Original version.
C2973M-A	10/09	Removed 24 VAC from the *Specifications* section.
C2973M-B	1/10	Added Sarix 1.4 software features to the operation section.

PELCO

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