



by **Schneider** Electric

**INSTALLATION/OPERATION**

## Esprit® SE IP Series Positioning System



**C1327M-A (5/13)**



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# Important Notices

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## LEGAL NOTICE

SOME PELCO EQUIPMENT CONTAINS, AND THE SOFTWARE ENABLES, AUDIO/VISUAL AND RECORDING CAPABILITIES, THE IMPROPER USE OF WHICH 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 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. USE OF THIS EQUIPMENT AND/OR SOFTWARE FOR ILLEGAL SURVEILLANCE OR MONITORING SHALL BE DEEMED UNAUTHORIZED USE IN VIOLATION OF THE END USER SOFTWARE AGREEMENT AND RESULT IN THE IMMEDIATE TERMINATION OF YOUR LICENSE RIGHTS THEREUNDER.

## REGULATORY NOTICES

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

### RADIO AND TELEVISION INTERFERENCE

This equipment has been tested and found to comply with the limits of a Class 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.

## OPEN SOURCE SOFTWARE NOTICE

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

The exact terms of GPL, LGPL, and some other licenses are provided to you with this product. Please refer to the exact terms of the GPL and LGPL at <http://www.fsf.org> (Free Software Foundation) or <http://www.opensource.org> (Open Source Initiative) regarding your rights under said license. You may obtain a complete corresponding machine-readable copy of the source code of such software under the GPL or LGPL by sending your request to [digitalsupport@pelco.com](mailto: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.

# Description

The Esprit® SE IP Series positioning system features a built-in, Web-based viewer for live video streaming to a standard Web browser (for example, Microsoft® Internet Explorer® or Mozilla® Firefox®).

The system features open architecture connectivity to third-party software. Pelco offers an application programming interface (API) and software development kit (SDK) that enables third-party systems to interface with Pelco's IP systems. The Esprit SE IP Series is also compatible with Endura®, DX Series, and Digital Sentry® systems to record, manage, configure, and view multiple live streams.

## System Model Numbers

Enclosure Type	Format	Pedestal Mount		Wall Mount	
		24 VAC	120/230 VAC	24 VAC	120/230 VAC
Enclosure with integrated optics package (IOP)	NTSC	ES40E36-2N	ES40E36-5N	ES40E36-2W	ES40E36-5W
	PAL	ES40E36-2N-X	ES40E36-5N-X	ES40E36-2W-X	ES40E36-5W-X
Enclosure with wiper and integrated optics package (IOP)	NTSC	ES41E36-2N	ES41E36-5N	ES41E36-2W	ES41E36-5W
	PAL	ES40E36-2N-X	ES40E36-5N-X	ES40E36-2W-X	ES40E36-5W-X
Enclosure with pressurized integrated optics cartridge (IOC)	NTSC	ES41EP36-2N	ES41EP36-5N	ES41EP36-2W	ES41EP36-5W
	PAL	ES40EP36-2N-X	ES40EP36-5N-X	ES40EP36-2W-X	ES40EP36-5W-X
Enclosure with wiper and pressurized integrated optics cartridge (IOC)	NTSC	ES41EP36-2N	ES41EP36-5N	ES41EP36-2W	ES41EP36-5W
	PAL	ES41EP36-2N-X	ES41EP36-5N-X	ES41EP36-2W-X	ES41EP36-5W-X

## SUPPLIED PARTS LIST

### Qty Description

- 1 Tube of Loctite® thread compound
- 1 RJ-45 female-to-female coupler
- 3 10-32 x 1/2-inch flathead screws
- 2 Clamp connectors
- 3 1/4-20 nuts and washers

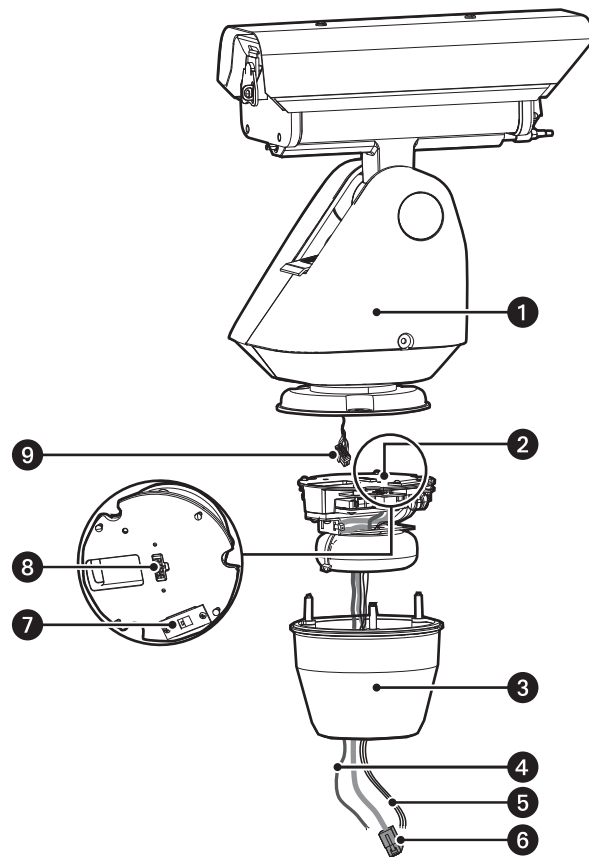
## INSTALLATION TOOLS AND PARTS NOT SUPPLIED

### Qty Description

- 1 Network cable
- 1 Phillips screwdriver
- 1 Standard flat head screwdriver
- 1 Esprit SE IP mount
- 1 Mounting hardware

# Product Overview

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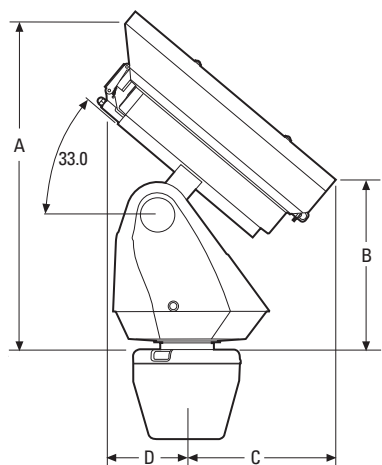


Name	Description
1 Pan/Tile Assembly	Includes a receiver, driver, and enclosure with an integrated optics package (IOP) or a pressurized integrated optics cartridge (IOC)
2 Power Module	Models available with input voltage of 24 VAC or with a selectable power source of 120/230 VAC
3 Power Module Bowl	Protects the transformer and wiring
4 Aux 2 Wires	Connects one relay that can be used to control an external circuit
5 Network Port	Connects the system to the IP network
6 Power Wires	Supplies power to the system
7 Male System Connector	Connects the power supply to the pan/tilt
8 120/230 Voltage Selector	<i>(Models with 120/230 VAC only)</i> Selects the appropriate power voltage for the installation
9 Female System Connector	Connects the pan/tilt assembly to the power module

# Installation

## OVERHEAD CLEARANCE PROVISIONS

When installing the Esprit SE IP system, allow for sufficient clearance between the top of the unit and overhead obstructions. This will prevent interference when the enclosure is driven to its maximum elevation of 33 degrees.



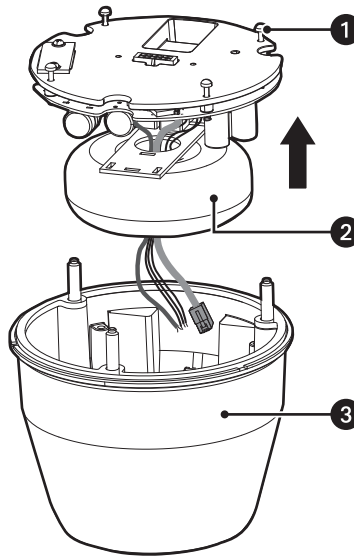
**Figure 1. Clearance for Overhead Obstruction**

	Without Wiper	With Wiper
<b>A</b>	42.5 cm (16.6 inches)	42.9 cm (16.9 inches)
<b>B</b>	23.9 cm (9.4 inches)	24.6 cm (9.7 inches)
<b>C</b>	18.1 cm (7.1 inches)	19.2 cm (7.6 inches)
<b>D</b>	10.7 cm (4.2 inches)	11.7 cm (4.6 inches)



## INSTALLING THE POWER MODULE

1. Remove the transformer from the base of the power module by loosening the four Phillips captive screws and lifting the module.



**Figure 2.** Removing the Transformer Module

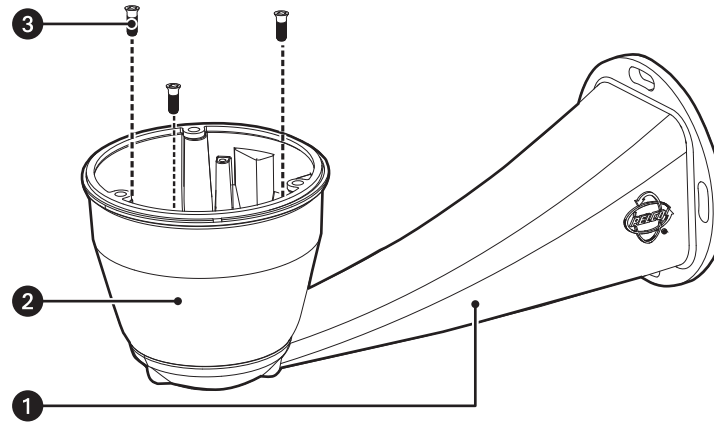
- ① Phillips Captive Screws
- ② Transformer
- ③ Base

2. Attach the base of the system to an Esprit SE IP mount:
  - a. Apply a drop of Loctite® thread compound (supplied) to each of the three mounting holes and 10-32 x 1/2-inch flathead screws (supplied).

 **WARNING:** Failure to apply Loctite to the mounting holes may increase the risk of damage to the unit.

- b. Align the mounting holes on the base with the holes on the mount.

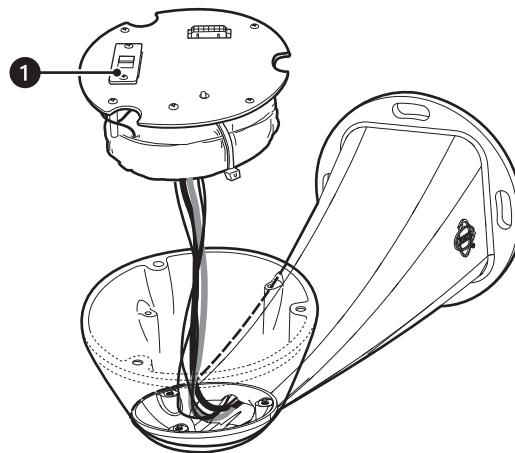
- c. Attach the base of the system to the mount using the three flathead screws and washers (supplied).



**Figure 3. Attaching the Base to a Mount**

- ❶ 10-32 x 1/2-inch Flathead Screws
- ❷ Base
- ❸ Mount

3. Make all cable and wire connections, and then route the wires and network cable through the center of the Esprit SE IP mount.
4. Reinstall the transformer module into the base. The transformer module can be positioned in the mount base in only one orientation.
5. **Models with 120/230 VAC only:** Set the 120/230 voltage selector switch on the transformer to the appropriate voltage.



**Figure 4. Reinstalling the Transformer Module**

- ❶ Voltage Selector Switch

6. Install the Esprit SE IP mount; refer to the installation manual supplied with the mount for instructions.

## CONNECTING THE NETWORK CABLE AND WIRES

1. Attach the supplied RJ-45 female-to-female coupler to the network cable attached to the power module.
2. Connect the other end of the coupler to a network cable (not supplied).
3. Connect the power wires using the two supplied clamp connectors.

**Table A.** 24 VAC Wiring

Wire	Description
White wire	Input (AC Line)
White wire	AC Neutral
Green wire	Ground

**Table B.** 120/230 VAC Wiring

Wire	Description
Black wire	Input (AC Line)
White wire	AC Neutral
Green wire	Ground

4. *(Optional)* Connect the wiring for AUX2.

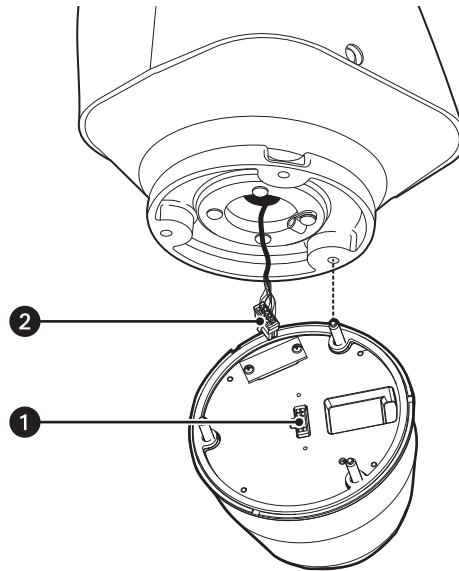
**Table C.** AUX2 Wiring

Wire	Description
Red wire	Auxiliary
Black wire	Ground

5. Turn on the power. If the LED turns red, turn off the power, and proceed with installation.

## INSTALLING THE PAN AND TILT MODULE

1. Connect the male system connector, located on the bottom of the pan/tilt, to the female system connector, located on the transformer module.
2. Align the screw hole of the pan/tilt with the screw hole of the power module.
3. Attach the pan/tilt to the base with three 1/4-20 nuts and washers (supplied).



**Figure 5.** Installing the Pan/Tilt Module

- 1 Male System Connector
- 2 Female System Connector

# Operation

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## MINIMUM SYSTEM REQUIREMENTS

**Processor:** Intel® Pentium® 4 microprocessor, 1.6 GHz

**Processor:** Intel® Core™ i3 Processor, 2.4 GHz

**Operating system:** Microsoft® Windows® XP, Windows Vista®, Windows 7® or Mac® OS X 10.4 (or later)

**Memory:** 512 MB RAM

**Memory:** 2 GB RAM

**Network interface card:** 100 megabits (or greater)

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

**Web browser:** Internet Explorer® 8.0 (or later) or Mozilla® Firefox® 3.5 (or later); Internet Explorer 8.0 (or later) is recommended for configuring analytics

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

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

**Media player:** Pelco Media Player or QuickTime® 7.7.2 for Windows or QuickTime 7.7.2 for Mac OS X

### NOTES:

- Pelco Media Player is recommended for control, smoothness, and reduced latency as compared to QuickTime.
- This product is not compatible with QuickTime version 7.6.4 for Windows XP or Windows Vista. If you have this version installed on your PC, you will need to upgrade to QuickTime version 7.6.5.
- This product is not compatible with QuickTime version 7.6.9. If you have this version installed on your PC, you will need to upgrade to QuickTime version 7.7.2.
- Network and processor bandwidth limitations might cause the video stream to pause or appear pixelated when additional Web-interface users connect to the camera. Decrease the images per second (ips), resolution, compression, or bit rate settings of the Web interface video streams to compensate for network or processor limitations. Decrease the images per second (ips) setting of the Web interface video streams or select a different video configuration (High, Medium, or Low) to compensate for network or processor limitations.

## ACCESSING THE IP DEVICE

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 opens.
4. Type your user name and password.

**NOTE:** If you are logging on to the camera as the administrator for the first time, the default user name 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.

# Live Video Page

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

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

## LIVE VIDEO PAGE ICONS

Viewable icons are based on user permissions.



**Select Stream:** Selects the viewable video stream that displays in live view (Primary, Secondary, QuickView, or Event) and selects unicast or multicast and throttle 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 icon 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 saves it as a JPEG file.



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



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

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

## PTZ CONTROLS

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



**Home:** Click the button to go to the home preset.



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



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



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



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



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



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



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



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



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



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

## KEYBOARD SHORTCUTS

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

**Table D. Keyboard Shortcuts**

Keyboard Shortcut	Function
<b>SHIFT + S</b>	Displays details about the live video such as image rate, resolution, and bit rate.
<b>SHIFT + T</b>	Displays the current date and time.

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

## SELECTING A STREAM

1. Click the Select Stream button.

2. Select one of the following streams 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. Configure the display settings for the selected stream. Available display settings are determined by the video compression of the selected stream:

**MPEG-4 or H.264 compression:** For the Primary Stream or Secondary Stream, select Unicast and Multicast from the Transmission drop-down menu.

- For the Primary or Secondary Stream, the video compression is H.264. You can also select Unicast or Multicast from the Transmission drop-down menu.

**JPEG compression:** For the Secondary Stream or QuickView Stream, select Images Per Second (IPS) from the Throttle drop-down menu.

- For the QuickView Stream, the video compression is JPEG.

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

## 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 configuration preset or they can be customized using the video configuration settings.

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

A video preset is a predefined video configuration that offers a good balance between video performance and bandwidth usage. For easy stream configuration, use the Video Streams tab.

To customize the Primary Stream or Secondary Stream, select the Settings page and then use the Video Configuration page located in the drop-down menu of the A/V Streams tab. Configurable settings include the stream name, compression, resolution, image rate, bit rate, and I-frame interval of the video streams. The default names for the streams are Primary Stream and Secondary Stream; however, if these stream names are changed, the new names replace the default names (Primary Stream and Secondary Stream) on the Select Stream page.

## QUICKVIEW STREAM

The QuickView Stream is a predefined JPEG video stream with a lower resolution. This low resolution, low frame rate stream is available when the settings are being configured.

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.

## 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.

The camera supports a maximum of 6 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 snapshot is shown in the window. Right-click with the mouse to save the picture to a folder.
3. Specify the file name and type and click Save.
4. A dialog box opens, allowing you to open or save the file.
5. 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 at the location you specify.

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

**NOTE:** If you are using JPEG, the captured image is 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 a low resolution image.

## SETTINGS PAGE

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

Depending on user permissions, the Settings page allows you to manage camera system and network settings, control the camera imaging and video streams, and set up users.

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

## ACCESSING THE DEVICE 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 your mouse pointer over a tab to display a list of submenus.

# System Tab

Use the System tab to change general system settings, configure the time settings, set up the text overlay for the live view, configure backup and restore, and display system information.

## General System Settings

The general system settings page includes configurable fields for the device name, time settings, 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 video by displaying overlays such as the device name, or the date and time at the top or bottom of the video stream.

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

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

You can also use the general system settings page to generate a system log, reboot the camera, or restore the camera's factory default settings.

## Licensing

The Licensing page provides an interface to add specialized features to your Sarix® device. Refer to license-specific documentation for more information about installing licenses and the effects that a license might have on your device.

## Backup and Restore Settings

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

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

## Information Settings

The information settings page includes read-only fields for the firmware version, hardware version, model number, and serial number of the camera. This information is typically required by Pelco Product Support for troubleshooting purposes.

## CHANGING THE DEVICE NAME

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

## CONFIGURING DHCP TIME SERVER SETTINGS

The Auto setting allows the device to discover and synchronize with a network time server over IPv4 or IPv6. If a network time server is not available for discovery on the network, select the Manual time server setting.

1. Place your mouse pointer over the System tab.
2. Select General Settings from the drop-down menu.
3. Select Auto for the Time Server.
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.

## CONFIGURING MANUAL TIME SERVER SETTINGS

1. Place your mouse pointer over the System tab.
2. Select General Settings from the drop-down menu.
3. Select Manual for the Time Server.
4. Type the IP address or hostname of the time server in the Time Server box.
5. Configure the Time Zone by selecting the continent and 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 automatically changes the time on the associated dates.

6. You can also specify time using an offset from Greenwich Mean Time (GMT) if you do not make a selection from the Time Zone drop-down menu.
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.

## CUSTOMIZING THE APPEARANCE OF THE TEXT OVERLAY

1. Place your mouse pointer over the System tab.
2. Select General Settings from the drop-down menu.
3. Set the Text Overlay settings:

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

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

**Pan/Tilt Overlay:** Select Show to display the pan, tilt, zoom, and direction position when moving the PTZ in the live view overlay. The default setting is Hide.

4. Select the display position for the overlay from the Position drop-down menu. Selections include Top Right, Top Center, Top Left, Bottom Right, Bottom Center, and Bottom Left.
5. If an overlay is set to Show, view the format of the overlay in the Overlay Format area.
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.

## GENERATING A SYSTEM LOG

1. Place your mouse pointer over the System tab.
2. Select General Settings from the drop-down menu.
3. Click the Generate System Log button.
4. A dialog box opens, allowing you to open or save the file.
5. Save the file to create a system log that can be used by Pelco Product Support for troubleshooting. Contact Pelco Product Support at 1-800-289-9100 (USA and Canada) or +1-559-292-1981 (international).

## REBOOTING THE CAMERA

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

## RESTORING ALL CAMERA DEFAULTS

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

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

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

## DOWNLOADING A FULL BACKUP OF CAMERA SETTINGS

1. Place your mouse pointer over the System tab.
2. Select Backup and Restore from the drop-down menu.
3. Click the Download Now button. A file download dialog box opens.
4. Click Save and specify where you want to save the file.
5. Click OK to save the backup file, or click Cancel to stop the operation.

## UPLOADING A BACKUP FILE TO RESTORE CAMERA SETTINGS

1. Place your mouse pointer over the System tab.
2. Select Backup and Restore from the drop-down menu.
3. Click the Browse button. A file upload dialog box opens.
4. Select the file you want to upload.
5. Click the Open button.
6. Click the "Upload and Restore" button.

**NOTE:** Restoring a backup file restarts the camera.

7. Click OK to restore the backup file, or click Cancel to stop the operation.

# Network Tab

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

## General Network Settings

The general network settings page includes configurable and read-only fields for IPv4 and IPv6 network communication settings. The port settings determine the ports over which the camera communicates using HTTP, HTTPS, and RTSP protocols. The hardware address is read-only.

The general network settings page includes configurable and read-only fields for IPv4 and IPv6 network communication settings. Available settings include the hardware address, host name, IPv4 settings, and IPv6 settings. The hardware address is read-only.

IPv4 settings must be configured for the device. You can enable or disable the IPv4 DHCP setting from the general network settings page. If DHCP is set to On, the IP address, subnet mask, gateway, and DNS server settings are automatically assigned to the device and are read-only text. If DHCP is set to Off, these settings must be manually configured. The default camera setting for DHCP is On.

## SSL Settings

The SSL settings page includes SSL configuration modes and certificate generation. 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

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

## 802.1x Settings

The 802.1x settings page enables or disables 802.1x port security, which authenticates devices that want to establish a point-to-point access through a wired or wireless port using Extensible Authentication Protocol (EAP) protocols. 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 asks the device for authentication. The device replies with its credentials. If the credentials are accepted, the network switch opens the port for normal use. If authentication fails, the device is prevented from accessing information on the port.

## SNMP Settings

The SNMP setting page includes SNMP configuration settings. SNMP is an application layer protocol used to manage TCP/IP-based networks from a single workstation or several workstations. The camera supports SNMP v2c and v3 and can be configured to send traps.

## CHANGING THE HOSTNAME

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

## CONFIGURING THE HTTP PORT

**NOTE:** The HTTP port number must remain at the default setting of 80 when connecting to a Pelco video management system (VMS). If you are connecting to a Pelco VMS, do not change the HTTP port setting.

1. Place your mouse pointer over the Network tab.
2. Select General from the drop-down menu.
3. Click the HTTP Port box and highlight the text.
4. Type a new port number for HTTP communications. The default setting is 80.

**NOTE:** Contact your network administrator before changing port settings to ensure they do not conflict with your network infrastructure.

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.

## CONFIGURING THE HTTPS PORT

**NOTE:** Before configuring the HTTPS port, set the SSL configuration mode to either Optional or Required and install a security certificate.

1. Place your mouse pointer over the Network tab.
2. Select General from the drop-down menu.
3. Click the HTTPS Port box and highlight the text.
4. Type a new port number for HTTPS communications. The default setting is 443.

**NOTE:** Contact your network administrator before changing port settings to ensure they do not conflict with your network infrastructure.

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.

## CONFIGURING THE RTSP PORT

**NOTE:** The camera uses the RTSP protocol to communicate with a video management system (VMS). Do not change the RTSP port unless you are sure your VMS does not use the default RTSP port.

1. Place your mouse pointer over the Network tab.
2. Select General from the drop-down menu.
3. Click the RTSP Port box and highlight the text.
4. Type a new port number for RTSP communications. The default setting is 554.

**NOTE:** Contact your network administrator before changing port settings to ensure they do not conflict with your network infrastructure.

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 DHCP 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 On 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 automatically looks for other cameras on the auto IP address system and assigns IP addresses in sequential order as required. For example, if three cameras are connected to a network without a DHCP server, the first camera is assigned address 192.168.0.20, the second camera is assigned address 192.168.0.21, and the third camera is assigned address 192.168.0.22.

## CONFIGURING A STATIC IPV4 ADDRESS

 **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 Off 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 to which the camera is connected (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 host names 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.

## CONFIGURING IPV6 ADDRESS SETTINGS

Your Sarix device supports IPv6 network configurations in conjunction with IPv4 configurations; the device does not support IPv6-only network applications and will accept up to sixteen IPv6 addresses, three IPv6 DNS servers, and three IPv6 gateways.

There are two configuration modes for IPv6 address assignments:

**Auto:** Enables automatic configuration using router advertisement. Additional configuration can be provided over DHCPv6 (if available on your network). Selecting Auto mode still allows you to manually configure additional IPv6 addresses, DNS servers, and gateways.

**Manual Only:** Provides a link-local IPv6 address for the device and allows you to assign up to 16 static IPv6 addresses to the device.

1. Place your mouse pointer over the Network tab.
2. Select General from the drop-down menu.
3. Select On for IPv6.
4. Select a Configuration Mode from the drop-down box. Selecting Auto allows the device to configure the remaining IPv6 settings automatically, rendering the remaining steps optional.
5. *(Optional)* Provide static, unicast addresses in the Manual IP Addresses box. Each address requires a prefix, and it must be input using the format *prefix/IPv6Address*. Manual IP addresses without prefix information will be rejected.
6. *(Optional)* Provide the addresses of DNS servers that are not configured automatically in the Manual DNS Servers box.

7. *(Optional)* Provide the addresses of gateways that are not configured automatically in the Manual Gateways box.

**NOTES:**

- The device will not accept multicast, localhost, or undefined IPv6 addresses.
- Link-local addresses are not supported for DNS.
- Manually specified DNS servers supersede automatically discovered DNS servers.
- Manually specified DNS servers are not validated by the device; verify any manually specified DNS servers before saving IPv6 settings.
- Manually specified gateways must be on the same network as the device's IPv6 addresses. Behavior for a gateway that is not on the same network as the device's IPv6 addresses is undefined.
- Some video management systems (VMS), including Pelco VMS systems, do not support connections to cameras and encoders over IPv6.



## SELECTING THE SECURE SOCKETS LAYER MODE

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

**Disabled:** Turns off access to the Web client through SSL. Sensitive data is not encrypted during transmission. The default setting is disabled.

**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.

**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.

**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 is redirected to the secure URL automatically.

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

## 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 New Certificate button located at the bottom of the SSL Configuration page. The Select Certificate Install Method buttons appear on the page.
4. Select Generate Certificate Request, and then click Next. The Generate Certificate Signing 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. You will receive a signed certificate.
7. Click Choose File and browse to locate the certificate on your computer.
8. Click Open once you locate and select the certificate.
9. Click Upload Certificate to upload the signed certificate to the device.
10. After the certificate is uploaded, select the desired mode.
11. Click the Save button to save the settings, or click the Reset button to clear all of the information you entered without saving it.

**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 New Certificate button located at the bottom of the SSL Configuration page. The Select Certificate Install Method buttons appear on the page.
4. Select Generate Self-signed Certificate and then click Next. The Generate Self-signed Certificate form opens.
5. Fill in all of the fields, and then click the Generate Certificate button.
6. After the certificate is uploaded to the device, select the desired mode.
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.

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

## ENABLING SECURE SHELL

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

**NOTE:** The default user name is "root" and cannot be changed. The user name and password are required when accessing the camera through a third-party SSH client.

5. Click 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 SETTING



**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 On for the 802.1x port security. The default setting for 802.1x port security is Off.
4. Select the Extensible Authentication Protocol (EAP) method from the Protocol drop-down menu. Supported EAP methods include EAP-MD5, EAP-TLS, EAP-TTLS, EAP-PEAP, and EAP-FAST.
5. Type the information required for the selected 802.1x EAP method.
6. Connect the PC to a 802.1x secured switch that has the same EAP method.
7. Click the Save button to save the settings, or click the Reset button to clear all of the information you entered without saving it.

## SELECTING SNMP SETTINGS



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

1. Place your mouse pointer over the Network tab.
2. Select SNMP from the drop-down menu.
3. Select the SNMP version to configure: SNMP V2c or SNMP V3. The default setting is No SNMP Server, which disables the SNMP configuration.

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

### CONFIGURING SNMP V2C

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

**Address:** Type the host name or IP address of the trap server.

**Community String:** Type the community name for the trap server.

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

### CONFIGURING SNMP V3

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

# Camera Configuration Tab

Use the Camera Configuration tab to configure general camera settings, access the main menu of the camera system, or configure presets and patterns using a Web browser.

## General

The General Settings page allows you to easily adjust the video properties of the image without accessing the main menu of the camera system. Change the brightness, saturation, hue, or contrast of the image by moving a slider bar to the right or left. As you move the slider, you will see the changes to the image in the preview pane of the Web browser.

All changes to the image are stored in the built-in memory of the camera system.

## OSD

All camera system menus can be accessed through the Web browser using the On-Screen Display (OSD) page. The viewed camera system menus are displayed in the preview pane of the Web browser. Use the keys on your keyboard to navigate through the camera system menus. For detailed information about the menu selections available for the camera system, refer to the Installation/Operation manual supplied with the camera system.

## Presets/Patterns

Use the Presets/Patterns page to easily configure presets and patterns without accessing the camera system menus. You can configure up to 80 preset positions and up to fifteen patterns using the Web browser. The system also includes fixed preset commands that cannot be configured. These fixed presets include:

Preset	Function
34	Directs the unit to the factory-determined zero reference point.
86	Turns the wiper on/off. <b>NOTE:</b> To clear preset 86, select another preset number, and then select preset 86 again. For example, if the wiper is on, select preset 70, and then select preset 86 to turn off the wiper.
96	<i>(PTZ models only)</i> Stops system scanning.
97	<i>(PTZ models only)</i> Starts random scan operation.
98	<i>(PTZ models only)</i> Starts frame scan operation.
99	<i>(PTZ models only)</i> Starts auto scan operation.

All configured presets and patterns are stored in the built-in memory of the camera system.

## ADJUSTING THE VIDEO PROPERTIES

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

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

**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 range of adjustment is –100 to 100; the default setting is 0 (zero).

**Hue:** Controls the red and blue hue in the camera image. Move the slider to the right to increase the red hue; move the slider to the left to increase the blue hue. The range of adjustment is –100 to 100; the default setting is 0 (zero).

**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 default setting is 0 (zero).

## USING OSD TO ACCESS CAMERA MENUS

1. Place your mouse pointer over the Camera Configuration tab.
2. Select OSD from the drop-down menu.
3. Use the arrow keys on your keyboard to navigate through the menus.
4. Press the Enter key on your keyboard to make a menu selection.

## CONFIGURING A PRESET

1. Place your mouse pointer over the Camera Configuration tab.
2. Select Presets/Patterns from the drop-down menu.
3. Select a preset number from the Preset drop-down menu.

**NOTE:** Do not assign an existing preset number to a new preset or you will override the previously configured preset.

4. Using the control buttons, move the camera to the desired location of the live video pane.
5. Click the Set button. The preset with the number you assigned is now configured to the location displayed in the live video pane.

## CONFIGURING HOME PRESET

1. Place your mouse pointer over the Camera Configuration tab.
2. Select Presets/Patterns from the drop-down menu.
3. Using the control buttons, move the camera to the desired location of the live video pane.
4. Click the Home button. The home preset is now configured to the location displayed in the live video pane.

## SELECTING A CONFIGURED PRESET

Configured presets can be selected from the Live View page or the Preset/Patterns page.

### LIVE VIEW PAGE

Select a preset number from the Preset drop-down menu. The camera moves to the preset location and displays it in the live video pane.

### PRESET/PATTERN PAGE

1. Place your mouse pointer over the Camera Configuration tab.
2. Select a preset number from the Preset drop-down menu.
3. Click the Go button. The camera moves to the preset location and displays it in the live video pane.

## CONFIGURING A PATTERN

1. Place your mouse pointer over the Camera Configuration tab.
2. Select Presets/Patterns from the drop-down menu.
3. Select a pattern number from the Pattern drop-down menu.  
**NOTE:** Do not assign an existing pattern number to a new pattern or you will override the previously configured pattern.
4. Click Start.
5. Using the pan, tilt, and zoom control buttons, move the camera to a desired series of locations.
6. Click End to save the pattern settings.

## SELECTING A CONFIGURED PATTERN

Configured patterns can be selected from the Live View page or the Presets/Patterns page.

### LIVE VIEW PAGE

Select a pattern number from the Pattern drop-down menu. The camera runs the selected pattern.

### PRESETS/PATTERNS PAGE

1. Place your mouse pointer over the Camera Configuration tab.
2. Select a pattern number from the Pattern drop-down menu.
3. Click Run. The pattern is displayed in the live video pane.

# A/V Streams Tab

## Video Presets Settings

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

## Video Configuration Settings

The video configuration settings page allows you to customize the compression, resolution, image rate, bit rate, and I-frame interval 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.

## SELECTING A VIDEO PRESET CONFIGURATION

1. Place your mouse pointer over the A/V Streams tab.
2. Select Video Presets from the drop-down menu.
3. Click the button next to the desired video preset stream configuration.
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

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, Bit Rate, and I-frame Interval settings for the primary stream.

**NOTE:** The compression standard, resolution, image rate, bit rate, and I-frame interval 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. Configure QoS (DSCP) Codepoint, Endura Signing, Profile, and GOP Structure.
7. Repeat steps 3 to 5 for the Secondary stream.
8. Click the Save button to save the settings, or click the Reset button to clear all of the information you entered without saving it.

## COMPRESSION STANDARDS

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

**MJPEG:** Another video compression scheme, motion JPEG, in which video is compressed into JPEG images. When bandwidth is low, image resolution is given priority.

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

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

## IMAGE RATE

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

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

## BIT RATE

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

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

## I-FRAME INTERVAL

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

## QUALITY OF SERVICE FOR DIFFERENTIATED SERVICES CODE POINT

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

### NOTES:

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

## ENDURA SIGNING

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

## ADVANCED SHARPENING

The Advanced 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.



# Users Tab

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

## General Users Settings

The general users settings page sets the public user access level. This access level is a predefined set of user permissions that allows the camera to be accessed without logging on. Available permissions depend on the model of the camera that you are using.

The general users settings page sets the open or closed authentication mode. With open authentication, users can view video and use the camera API without validating user credentials. With closed authentication, users must log on to the camera with a user name and password.

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

## Users Settings

The users settings page defines the access levels assigned to individuals logged on to the camera. Use this page to create, modify, or delete user accounts for Administrators, Managers, Operators, and Viewers. User accounts are created to limit permissions.

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## SELECTING THE USERS AND GROUPS SETTINGS

1. Place your mouse pointer over the Users tab.
2. Select General Settings from the drop-down menu.
3. Select a Public Access Level setting by reviewing the descriptions on the page.
4. Select one of the following Authentication modes:

**Open Authentication:** Allows users to view video and use the camera API without validating user credentials. When Open Authentication is selected, you can select "Require password for PTZ control" to limit PTZ control to authenticated users.

**Closed Authentication:** Requires users to possess valid credentials to view video and access the camera API. Before selecting Closed Authentication, ensure that your video management system supports Closed Authentication mode.

5. Select one of the following User and Group Management modes to manage permissions of users and groups:

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

**Remote Mode:** The camera authenticates and manages users through a Lightweight Directory Access Protocol (LDAP) server supported by Microsoft® Active Directory®. This allows administrators to tie cameras and group permissions into existing single sign-on services (SSO). Selecting Remote Mode disables Local Mode and all management is done on the server.



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

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.

## ENABLING REMOTE MODE

1. Place your mouse pointer over the Users tab.
2. Select General Settings from the drop-down menu.
3. Select Remote Mode. The default setting is Local Mode.
4. Type the IP address or host name of the LDAP server in the LDAP Server box.
5. Type the port over which the camera communicates with the LDAP server in the LDAP Port box. The default port for LDAP communications is 389.
6. Type the distinguished name (DN) that is the basis for LDAP searches in the Base DN box.
7. Provide the template to format the user name (provided when the user logs on to the camera) for searches in the LDAP directory in the Bind DN Template box.
8. Provide the LDAP search query for users found in the base DN in the Search Template box. The search must match an entry in the LDAP user record to the bind name (user name).
9. Type the Group Mappings for each of the camera's four user groups:
  - a. Type the common name (CN) and DN for the group of users to whom you want to grant admin access in the Admins box.
  - b. Type the CN and DN for the group of users to whom you want to grant manager access in the Managers box.
  - c. Type the CN and DN for the group of users to whom you want to grant operator access in the Operators box.
  - d. Type the CN and DN for the group of users to whom you want to grant viewer access in the Viewers box.
10. Type the credentials of a user who can be authenticated through the LDAP server in the User and Password boxes.

**NOTE:** Remote Mode (LDAP authentication) will not be enabled if you leave these boxes blank or do not provide valid credentials; this ensures that you cannot lock yourself out of the camera with invalid or incorrect LDAP settings.
11. Click the Save button to save the settings, or click the Reset button to clear all of the information you entered without saving it.

## CREATING A NEW USER

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

**Admins:** Permissions include access to all camera settings.

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

**Viewers:** Permissions include view video and use the API.
4. Click the Username box and type a user name (2 to 32 alphanumeric characters). User names are not case-sensitive and are saved in lowercase characters.
5. Click the Password box and type a password (4 to 64 alphanumeric characters). Passwords are case-sensitive.
6. Click the Retype Password box and retype your password.
7. Click the Save button to save the settings and create a new user (the new user profile appears in the Users box on the left side of the page), or click the Reset button to clear all of the information you entered without saving it.

## EDITING A USER

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

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

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

## DELETING A USER

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

**NOTE:** The "admin" user cannot be deleted.

# Events Tab

Use the Events tab to configure camera events and analytics.

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

## Sources Settings

The camera supports an input alarm source, a system source, and a timer source. The Alarm source is the camera input for an external signaling device, such as a door contact or motion detector. 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 Settings

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.

## CREATING A SYSTEM EVENT SOURCE

1. Place your mouse pointer over the Events tab.
2. Select Sources from the drop-down menu.
3. In the New Event Source section of the window, click 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 your mouse pointer over the Events tab.
2. Select Sources from the drop-down menu.
3. In the New Event Source section of the window, click the Name box and type a user-friendly name (2 to 23 alphanumeric characters).
4. Select Timer from the Type drop-down menu.
5. Configure the frequency:
  - a. Click the Frequency box and type a number.
  - b. Select the time interval from the drop-down menu. Time intervals include seconds, minutes, hours, or days. The default setting is seconds.
6. Click the Submit button to save the settings, or click the Reset button to clear all of the information you entered without saving it.

## EDITING AN EVENT SOURCE

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 edit from the Handlers box located on the left side of the page.
4. Make your changes to the available fields in the Edit Event Handler section of the window.
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 Sources box located on the left side of the page.
4. Click the Delete Source button. The source profile is deleted from the Sources box.

## 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. Contact 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 Handlers from the drop-down menu.
4. In the New Event Handler section of the window, click 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 the boxes (To, From, Subject, and Message), and then type the necessary information in each 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.).
  - c. If required, click the plus button (+) to add another time range.
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.

## 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. In the New Event Handler section of the window, click 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 the Server box and type the server address (1 to 32 alphanumeric characters).
6. Click the Username box and type the user's name (1 to 32 alphanumeric characters).
7. Click the Password box and type a password (4 to 16 alphanumeric characters).
8. Click the Base Path box and type the base path (1 to 32 alphanumeric characters). The base path is the path to your root directory.
9. Select a time standard from the "File name" drop-down menu. The JPEG files uploaded to the FTP server are given file names that correspond to the date and time of the event.
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.).
  - c. If required, click the plus button (+) to add another time range.
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.

## 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 edit from the Handlers box located on the left side of the page.
4. Make your changes to the available fields in the Edit Event Handler section of the window.
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 Handlers box located on the left side of the page.
4. Click the Delete Handler button. The handler profile is deleted from the Handlers 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. In the following 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.

# Specifications

## Models

ESIOP36	Integrated optics package with high resolution, day/night camera and lens, 36X, NTSC format
ESIOP36-X	Integrated optics package with high resolution, day/night camera and lens module, 36X, PAL format
IOC-36	Pressurized integrated optics cartridge with high resolution, day/night camera and 36X lens, NTSC format
IOC-36-X	Pressurized integrated optics cartridge with high resolution, day/night camera and 36X lens module, PAL format

## ELECTRICAL

Input Voltage	24, 120, or 230 VAC, 50/60 Hz; switch selectable for 120/230 VAC inputs; reset feature enables when power becomes unstable or interrupted
Power Requirements	Maximum power consumption is 70 VA per system
Heater and Defroster	Thermostatically controlled heater consumes 10 W; cycles on at 5°C (40°F) and off at 16°C (60°F)
Defogger	The window defogger consumes 3 W; cycles on at 21°C (70°F) and off at 29°C (85°F)
Electrical Connections	2 power source connections made at mount location with wire splices and 1 ground wire splice; 1 BNC receptacle and 4 wire splices at mount location for RS-422 D and P protocols; 2 wire splices for open collector auxiliary output
Aux 2	Open collector output with 2-second activation; connected relay must require no more than 32 VDC and 40 mA to energize relay coil; wire length between Esprit SE IP and relay must be less than 30 m (100 ft)

## MECHANICAL

Pan Movement	360° continuous pan rotation
Vertical Tilt	Unobstructed +33° to -83°
Variable Pan/Tilt Speed	
Pan	0.1° to 40°/sec variable-speed operation, 100°/sec turbo
Tilt	0.1° to 20°/sec variable-speed operation
Preset Speeds	
Pan	100°/sec
Tilt	30°/sec
Camera Mounting	Integrated camera sled assembly
Latches	1 link-lock, No. 3 stainless-steel latch; can be secured with padlock (not supplied)

## 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, 1 (dependent upon coding, resolution, and stream configuration)

## Available Resolutions

Resolution			MJPEG		H.264 Base Profile		MPEG-4	
Width	Height	Format	Maximum IPS	Recommended Bit Rate	Maximum IPS	Recommended Bit Rate	Maximum IPS	Recommended Bit Rate
704	480	NTSC	30 ips	5.4 Mbps	30 ips	1.9 Mbps	30 ips	2.0 Mbps
352	240	NTSC	30 ips	1.3 Mbps	30 ips	0.5 Mbps	30 ips	0.6 Mbps
704	576	PAL	25 ips	5.4 Mbps	25 ips	1.9 Mbps	25 ips	2.0 Mbps

Supported Protocols	TCP/IP, UDP/IP (Unicast, Multicast IGMP), UPnP, DNS, DHCP, RTP, RTSP, NTP, IPv4, SNMP, QoS, HTTP, HTTPS, LDAP (client), SSH, SSL, SMTP, FTP, and 802.1x (EAP)
Users	
Unicast	Up to 20 simultaneous users depending on resolution settings (2 guaranteed streams)
Multicast	Unlimited users H.264 or MPEG-4
Security Access	Password protected
Software Interface	Web browser view and setup



Pelco System Integration	Endura 1.5 or later (MPEG-4) or Endura 2.0 or later (H.264); Digital Sentry 7.3 IP bundle 3 or later; DX8100 Series 2.0 or later; DX4700/D4800 Series 1.1 or later; DX4700HD/DX4800HD Series v2.0 or later; and DVR5100 version 1.5.4 or later
Open API	Pelco API or ONVIF v1.02

## CAMERAS

Signal Format	NTSC, PAL
Scanning System	Interlace/Progressive selectable
Image Sensor	1/4-inch EXview HAD™
Effective pixels	
NTSC	768 (H) X 494 (V)
PAL	752 (H) X 582 (V)
Horizontal Resolution	>540 TV lines
Lens	f/1.4 (focal length, 3.3 ~ 119 mm optical)
Zoom	36X optical, 12X digital
Zoom Speed (optical range)	3.2/4.6/6.6 seconds
Horizontal Angle of View	57.2° at 3.3 mm wide zoom; 1.7° at 119 mm telephoto zoom
Focus	Automatic with manual override
Maximum Sensitivity at 35 IRE	
NTSC	0.02 lux at 1/2 sec shutter 0.55 lux at 1/60 sec shutter (color) 0.018 lux at 1/2 sec shutter (color) 0.00018 lux at 1/2 sec shutter (B-W)
PAL	0.02 lux at 1/1.5 sec shutter 0.45 lux at 1/50 sec shutter (color) 0.015 lux at 1/1.5 sec shutter (color) 0.00015 lux at 1/1.5 sec shutter (B-W)
Sync System	AC line lock, phase adjustable using remote control, V-Sync
White Balance	Automatic with manual override
Shutter Speed	Automatic manual
NTSC	1/2 ~ 1/30,000
PAL	1/1.5 ~ 1/30,000
Iris Control	Automatic with manual override
Gain Control	Automatic/OFF
Electronic Image Stabilization	Integrated
Wide Dynamic Range	128X

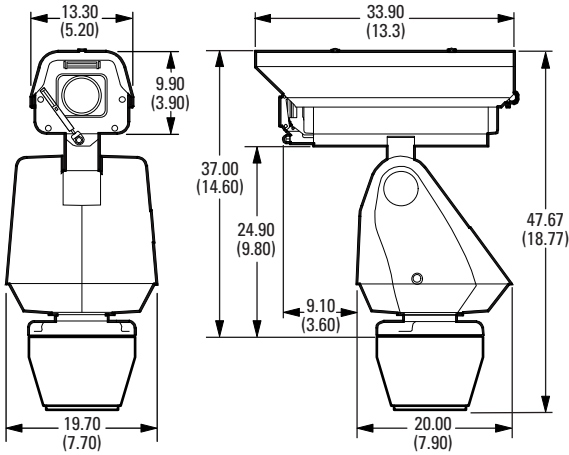
## GENERAL

Construction	
System	Die-cast, extruded and sheet aluminum; stainless steel hardware
EWM Wall Mount	Aluminum
EPA Pedestal Adapter	Aluminum
Finish	
System	Gray polyester powder coat, anodized
EWM Wall Mount	Gray polyester powder coat
EPA Pedestal Adapter	Gray polyester powder coat
Viewing Window	5.84 mm (0.23-inch) thick, optically clear, polycarbonate with proprietary impact resistant UV rated coating
Window Viewing Area	5 cm (2-inch) diameter
Operating Temperature	–45° to 50°C (–50° to 122°F) for sustained system operation or 60°C (140°F) absolute maximum. Within two hours after power-up, the entire unit can de-ice and be operational from a temperature of –25°C (–13°F).
Operating Environment	Will remain operational in 90 mph wind conditions; withstands 130 mph

Weight	With Pedestal Adapter	With Wall Mount
Enclosure w/IOP	9.0 kg (20 lb)	9.9 kg (22 lb)
Enclosure with Wiper and IOP	9.5 kg (21 lb)	10.4 kg (23 lb)



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



## PRODUCT WARRANTY AND RETURN INFORMATION

### WARRANTY

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

Exceptions to this warranty are as noted below:

- Five years:
  - Fiber optic products
  - Unshielded Twisted Pair (UTP) transmission products
  - CC3701H-2, CC3701H-2X, CC3751H-2, CC3651H-2X, MC3651H-2, and MC3651H-2X camera models
- Three years:
  - FD Series and BU Series analog camera models
  - Fixed network cameras and network dome cameras with Sarix® technology
  - Sarix thermal imaging products (TI and ESTI Series)
  - Fixed analog camera models (C20 Series, CCC1390H Series, C10DN Series, and C10CH Series)
  - EH1500 Series enclosures
  - Spectra® IV products (including Spectra IV IP)
  - Spectra HD dome products
  - Camclosure® IS Series integrated camera systems
  - DX Series video recorders (except DX9000 Series which is covered for a period of one year), DVR5100 Series digital video recorders, Digital Sentry® Series hardware products, DVX Series digital video recorders, and NVR300 Series network video recorders
  - Endura® Series distributed network-based video products
  - Genex® Series products (multiplexers, server, and keyboard)
  - PMCL200/300/400 Series LCD monitors
  - PMCL5xxF Series and PMCL5xxNB Series LCD monitors
  - PMCL5xxxBL Series LED monitors
- Two years:
  - Standard varifocal, fixed focal, and motorized zoom lenses
  - DF5/DF8 Series fixed dome products
  - Legacy® Series integrated positioning systems
  - Spectra III™, Spectra Mini, Spectra Mini IP, Esprit®, ExSite®, ExSite IP, and PS20 scanners, including when used in continuous motion applications
  - Esprit Ti and TI2500 Series thermal imaging products
  - Esprit and WW5700 Series window wiper (excluding wiper blades)
  - CM6700/CM6800/CM9700 Series matrix
  - Digital Light Processing (DLP®) displays (except lamp and color wheel). The lamp and color wheel will be covered for a period of 90 days. The air filter is not covered under warranty.

- Six months:
  - All pan and tilts, scanners, or preset lenses used in continuous motion applications (preset scan, tour, and auto scan modes)

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

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

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

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

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

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

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

### RETURNS

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

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

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

Revised 10-9-12

 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
C1327M	9/12	Original version.
C1327M-A	5/13	Added information relevant to the Sarix 1.9 release.

***PELCO***<sup>™</sup>

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