Web Browser for Pelco IP Cameras

IP110 Camclosure® Series
IP3701H Series

Contents

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.

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

Welcome

This manual explains how to interface with the IP camera using a standard Web browser (for example Microsoft® Internet Explorer®).

The IP camera can also be used with an Endura® system as an Endura Enabled™ device or a third-party system with Pelco's API interface. If you are using one of these systems refer to the following:

NOTES:

- Only use a cable modem router or a switch with a DHCP server when installing the Pelco IP camera on a network. Refer to the installation manual shipped with the Pelco IP camera for installation instructions.

- Do not use a HUB in the network setup of the camera.

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

- For optimum image quality and bandwidth efficiency, use the IP camera as an Endura Enabled device or with an approved Pelco API interface.

- If the camera is part of an Endura system, the graphical user interface will automatically discover the device and display it as a camera within the system manager. Refer to the documentation for the Endura System Manager.

- For a list of compatible API interfaces go to www.pelco.com/ipcam.

- Network and processor bandwidth limitations may 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) of the Web-interface video streams to compensate for network/processor limitations.

GETTING STARTED

You will need to install your IP camera before using this manual (refer to the installation manual supplied with the IP camera). Once installed, apply power to the system. The camera will start a configuration sequence.

The following is the configuration process for the IP camera:

- The green LED flashes five times per second for approximately two minutes, or until the server recognizes the camera.

- If the camera is not connected to a DHCP server, the green LED will flash for approximately four minutes before the camera switches to Automated Private IP Addressing mode.

IP ADDRESS SETTINGS

The network automatically assigns an IP address to the camera. The following scenarios describe how a DHCP or static network assigns IP settings:

- **DHCP network:** If the camera is connected to a DHCP network, the server will automatically assign an IP address to the camera. DHCP is the default setting for the camera.

- **Static IP network:** The camera will automatically cycle through the IP address range 169.254.200.0 through 169.254.200.255, on netmask 255.255.0.0. The first available address located will be assigned to the IP camera.

  If the network cannot find an open address in the default range, manually set the IP address. To manually set the IP address refer to "How to Change the Network Settings" on page 13.

NOTES:

- Contact your network administrator to avoid any network conflicts before setting/changing the IP address of the camera.

- If you do not know the IP address of the IP camera, install the Pelco Device Utility software available on the CD shipped with the product. The utility will locate the assigned name, IP address, and MAC address for the device.

- The Device Utility software is also available at www.pelco.com/software/downloads/.

Using a Web Browser

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

- PC (Pentium® 4 microprocessor, 1.6 GHz) with Windows® 98, Windows 2000, Windows XP (or higher) or Mac® OS X 10.3.9 (or higher)

- RAM: 512 Mbyte

- Ethernet Card: 100 Mbit

- Internet Explorer 5.5 (or higher) or Firefox® 1.5 (or higher)

- Screen resolution of 1024 x 768 pixels or higher, 16- or 32-bit pixel color resolution

ACCESSING THE CAMERA

To access the IP camera do the following:

1. Open the Web browser.

2. Enter the IP address of the IP camera in the browser's address bar. The Login screen opens.

3. Enter **admin** (all lowercase) in the User ID and Password fields (admin is the default setting for these fields).

Figure 1. Login Screen

4. Click Login In.

NOTE: For security purposes, be sure to change the password after you log on for the first time. Refer to "How to Modify a User Profile" on page 15.

IP Camera Main Menu

HOME SCREEN

The following features are available from the Home screen:

- **Live stream view:** Live video displays in the center of the screen.

- **Image rate setting:** The image rate can be set to Auto, 15, 10, 5, 2, or 1 ips; the default setting is Auto.

- **Change screen view:** Live video can be displayed in normal screen mode, full screen mode, or scalable screen mode.

- **Capture a screen view:** Captures and saves a screen image as a JPEG file.

- **Access to menu screens** (based on user permissions).

- **Configure camera settings:** Adjust brightness, saturation, hue, and contrast.
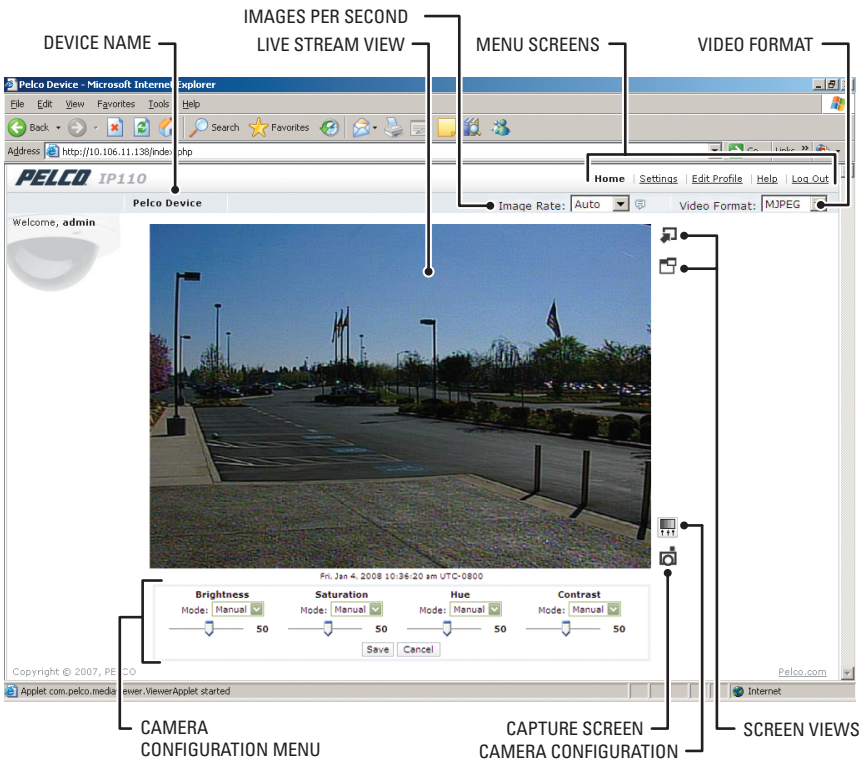
Figure 2. Home Screen

CHANGING THE VIDEO FORMAT

NOTE: MPEG-4 video is only available when using Microsoft Internet Explorer.

To change the video format, do the following:

1. Open the Video Format drop-down box by clicking the down arrow.
2. Select a video format from the drop-down box.

   NOTE: When setting the video format to MPEG-4 for the first time, you will need to install the ActiveX® control. Follow the instructions displayed on your screen.

3. The video in the live video pane is updated. The Image Rate drop-down box or the Quality drop-down box is displayed to the left, depending on the selected video format.

CHANGING THE IMAGE RATE/QUALITY

Depending on the video format selected, the drop-down box to the left changes from Image Rate to Quality. If MJPEG is selected, the Image Rate drop-down box is displayed. If MPEG-4 is selected, the Quality drop-down box is displayed.

MJPEG Image Rate

The available MJPEG image rate settings are 15 ips, 10 ips, 5 ips, 2 ips, 1 ips, or Auto. The default MJPEG image rate is Auto. The Auto setting allows the system to maintain the highest image rate possible for the number of users logged on to the device. When set to Auto, the image rate will decrease as the number of users increases.

To change the image rate, do the following:

1. Open the Image Rate drop-down box by clicking the down arrow.
2. Select an image rate from the drop-down box.

The selected image rate is now listed in the Image Rate box.

NOTES:
- The maximum frame rate of 15 ips may not be obtainable due to network bandwidth, network latency, or processor limitations. The ips setting will slow to accommodate the network speed and avoid frame corruption.
- If you are not using the Auto image rate setting, network and processor bandwidth limitations may cause the video stream to pause or slow when an increased number of web-interface users connect to the camera. Decrease the ips of the web-interface video streams to compensate for network/processor limitations.

MPEG-4 Image Quality

The following are the available MPEG-4 image quality settings:

- **HIGH-Multicast (default):** 30 ips, 4CIF resolution video stream that can be sent to many users.

- **LOW-Multicast:** 30 ips, CIF resolution video stream that can be sent to many users.

- **HIGH-Unicast:** 30 ips, 4CIF resolution video stream that can be sent to as many as five users.

- **LOW-Unicast:** 30 ips, CIF resolution video stream that can be sent to as many as five users.

To change the image quality, do the following:

1. Open the Quality drop-down box by clicking the down arrow.

2. Select an image quality from the drop-down box.

The video in the live video pane is updated and the selected image quality is now listed in the Quality box.

NOTES:
- Setting the image quality to LOW may improve latency. If you are experiencing issues with latency, try using one of the LOW settings.

- If your computer is on a different subnet than the camera to which you wish to connect, you must use a unicast setting. Multicast video streams are not allowed to pass through subnets.

SCREEN MODES

Live stream video can be viewed in normal screen mode, full screen mode, or scalable screen mode.

Full Screen Mode

To open the browser in full screen mode click the full screen mode icon ![icon]. The image is scaled to the full resolution of the browser. Although the main menu is hidden, the camera icon is available to capture screen images. To return to normal screen mode, click the normal screen mode icon ![icon].

Scalable Stream Mode

To scale the live stream video into an independent scalable window, click the scalable stream mode icon ![icon]. The main menu is not available when using this mode. This screen mode allows viewing while other applications are running.

The camera icon ![icon] is available in this mode to capture screen images, but all other functions are not accessible.

HOW TO CAPTURE A STILL IMAGE

1. Click the camera icon ![icon]. The File Download dialog box opens and a message appears, "Do you want to open or save this file?"

2. Select one of the following:

   - Click Open, the captured screen image is displayed in the browser.
   - Click Save to save the image as a JPEG on your computer.
   - Click Print to print the image.
   - Click "Send Image as E-mail" to send the image as an e-mail attachment.

NOTE: To capture a still image your computer must have Internet Explorer version 7.0 or Firefox version 1.5 (or later). This function is not available if you are using the IP camera with Internet Explorer version 5.5 or 6.0.

CONFIGURING CAMERA SETTINGS

The Camera Configuration Menu allows you to adjust the camera's brightness, saturation, hue, and contrast. Each of these functions can be set to Auto or Manual.

NOTE: The Camera Configuration Menu can only be accessed by a user with both Modify General Settings and View Live Video permissions.

To change the camera settings, do the following:

1. Click the Camera Configuration Menu button. The Camera Configuration Menu appears below the live video pane.

2. Open the Mode drop-down box for each setting by clicking the down arrow.

3. Select either Manual or Auto.

   • If you selected Manual, move the slider left or right to change the setting. The number displayed to the right of the slider displays the setting level.
   • If you selected Auto, the slider disappears. The camera adjusts the settings automatically.

4. After changing the settings, click Save to save the changes, or click Cancel to restore the previously saved settings.

SETTINGS SCREEN

Use the Settings screen to set the name and language of the IP camera; configure network settings; and add, change, or delete users and roles (permissions).

GENERAL TAB

Use the General tab to change the device name to a user-friendly name. The General tab also displays the firmware version loaded on the IP camera.
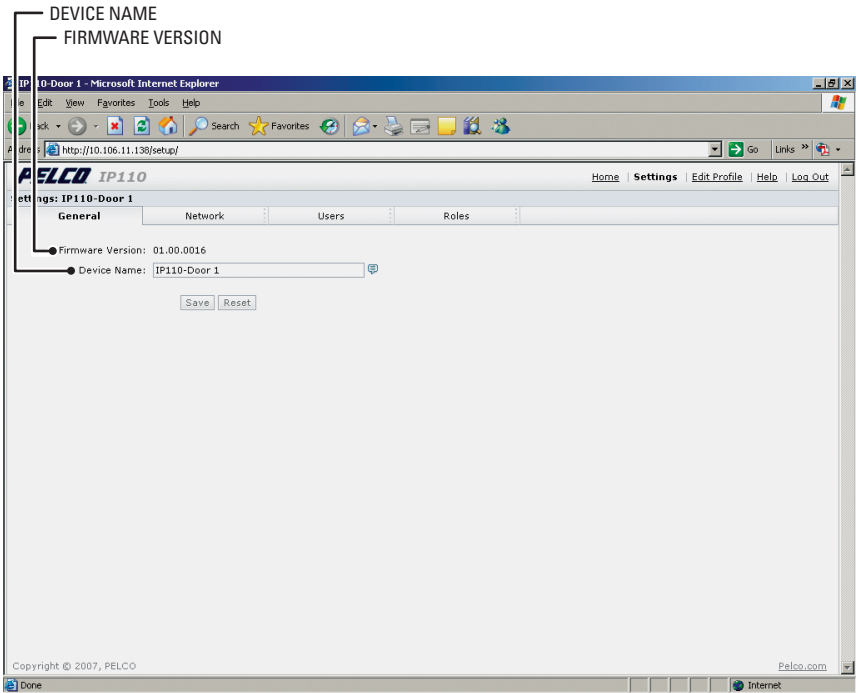

Figure 3. General Tab

Change the Device Name

The default name for the IP camera is Pelco Device. To change the device name do the following:

1. Double-click in the Device Name text box to highlight the text.

2. Type a user-friendly name into the Device Name text box (maximum 36 characters). A friendly name makes it easier to recognize the device on the network. For example, Front Door, Lobby, or Parking Lot.

3. Click Save to save the device name, or click Cancel to revert to the previous device name.

NETWORK TAB

Use the Network tab to change network settings including the host name, turn on/off the DHCP (Dynamic Host Configuration Protocol) setting, or set a static IP address.

Figure 4. Network Tab

How to Change the Network Settings

1. Click Settings in the main menu. The IP camera settings menu opens.

2. Click the Network tab.

3. Go to DHCP and select Off to turn off the Dynamic Host Configuration Protocol.

4. Change the following network settings as required:

   • **IP Address:** The address of the device connected to the network.
   • **Subnet Mask:** Determines the network segment packet the IP protocol uses.
   • **Gateway:** Converts packets from one protocol to another.
   • **DNS Server Address:** The address of the dedicated server that provides the name for the IP network. The server assigns names for Web sites and network resources into numeric IP addresses.

5. Click Save to save the new network settings.

NOTE: Contact your network administrator to avoid any network conflicts before changing network settings.

USERS TAB

The Users tab allows the administrator to create, modify, or delete user accounts (which can contain one or more roles). The Users tab includes default accounts for the following:

• **Administrator:** This is the only defined user that cannot be deleted. But the administrator password can be changed. For security purposes you should change the password after you log on for the first time.

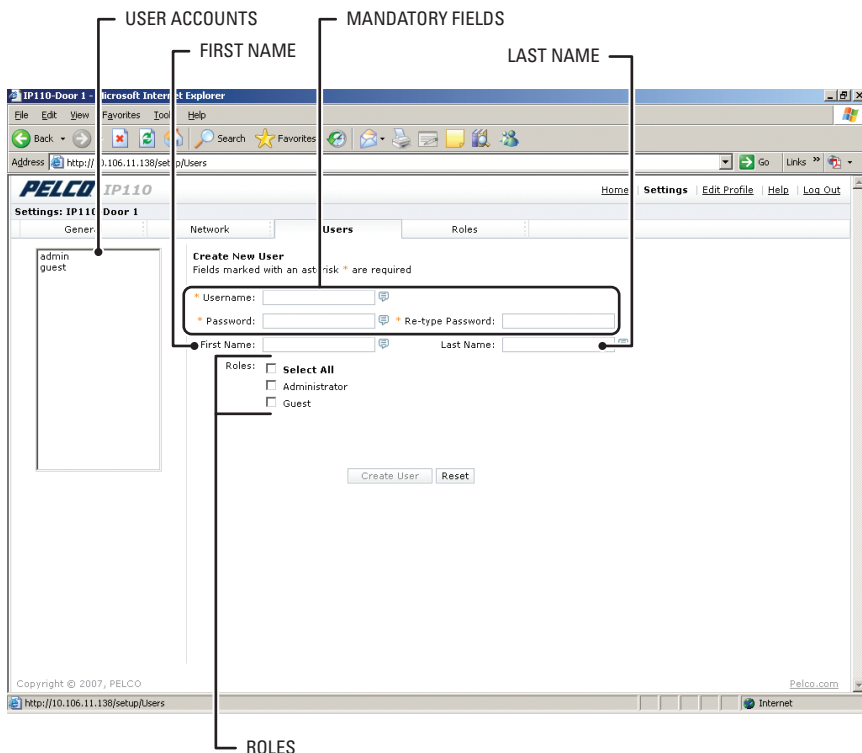• **Guest:** This defined user can be modified or deleted.

Figure 5. Users Tab

How to Add a New User

1. Click Settings in the main menu. The IP camera settings menu opens.

2. Click the Users tab. The "Create a New User" form opens.

3. Complete the form; User name, Password and Role are required. Do not use spaces when entering the user name in the User Name text box.

4. Click the Create User button to save the new user profile.

How to Modify a User Profile

1. Click Settings in the main menu, the IP camera settings menu opens.

2. Click the Users tab. All defined user profiles are listed on the left side of the screen.

3. Click a defined profile. The "Create a New User" form changes to the Editing User form.

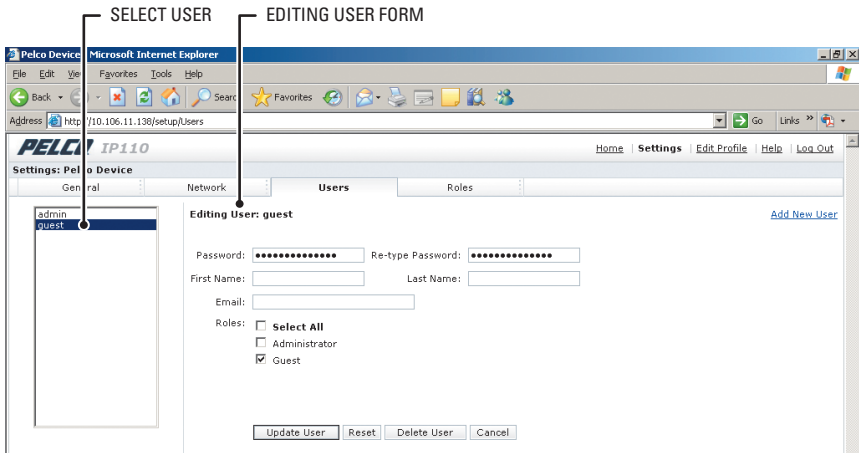4. Edit the form and then click the Update User button to save the new settings.

Figure 6. Edit User Form

How to Delete a User Profile

1. Click Settings in the main menu. The IP camera settings menu opens.

2. Select a User. The Edit User form opens.

3. Click the Delete User button. The Delete User dialog box opens, and a message appears, "Are you sure you want to delete the user?"

4. Select one of the following:

    •   Click OK to delete the user.
    •   Click Cancel to close the dialog box.

ROLES TAB

Use the Roles tab to create, change, or delete roles (permissions). Multiple permissions can be assigned to a role. The following permissions can be assigned to a role:

• **Edit Users Profile:** Gives users permission to edit their own profile. Users cannot edit any other profiles.

• **Modify General Settings:** Gives users access to the General tab in the Settings menu. Users have permission to change the name and language of the device.

• **Modify Network Settings:** Gives users access to the Network tab in the Settings menu. Users have permission to change network settings.

• **Modify Users & Roles:** Gives users access to the Users and Roles tabs in the Settings menu. The users have permission to add, modify, or delete users and roles.

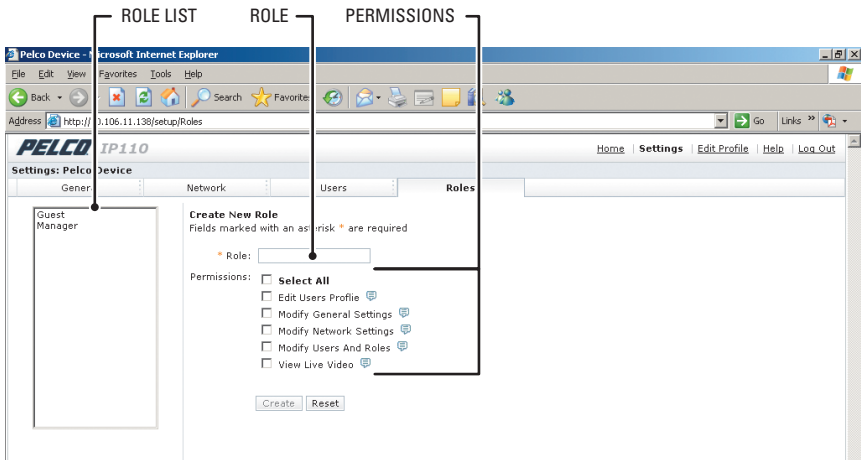• **View Live Video:** Gives users permission to view streaming video.

Figure 7. Role Tab

How to Create a New Role

1. Click Settings in the main menu, the IP camera settings menu opens.

2. Click the Roles tab. The Create a New Role form opens.

3. Enter text in the Role text box.

4. Select the permissions for the role.

5. Click the Create button to save the new role.

How to Modify an Existing Role

1. Click Settings in the main menu. The IP camera settings menu opens.

2. Click the Roles tab. All defined roles are listed on the left side of the screen.

3. Click a defined Role. The "Create a New Role" form changes to the Editing Role form.

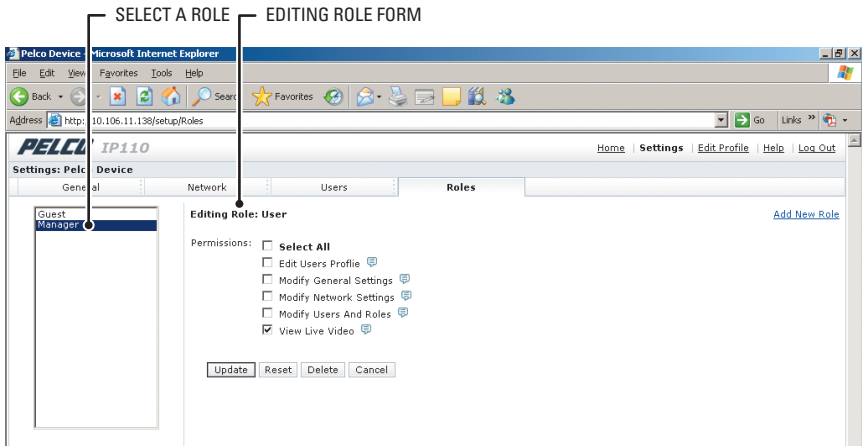4. Edit the form as required, and then click the Update button to save the new settings.

Figure 8. Edit Role Form

How to Delete a Role

1. Click Settings in the main menu. The IP camera settings menu opens.

2. Click the Roles tab. All defined roles are listed on the left side of the screen.

3. Click a defined Role. The "Create a New Role" form changes to the Editing Role form.

4. Click the Delete button. The Delete Role dialog box opens and a message appears, "Are you sure you want to delete the role?"

5. Select one of the following:

    • Click OK to delete the role.
    • Click Cancel to close the dialog box.

EDIT PROFILE SCREEN

The Edit Profile screen gives users permission to modify their individual account. They can change/edit the information in the following text boxes:
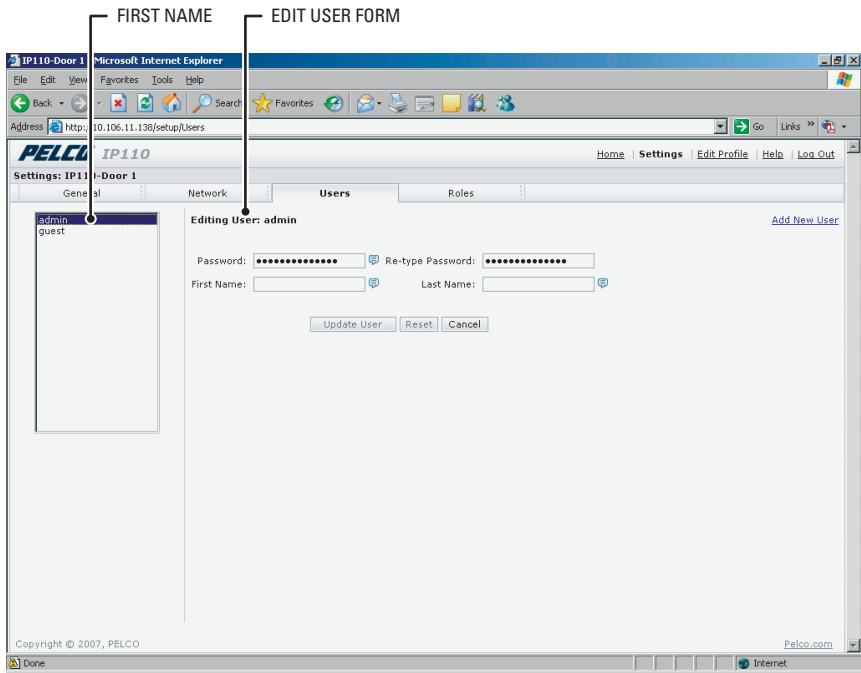
- First Name
- Last Name
- Password

Figure 9. Edit Profile Screen

HELP SCREEN

For help with the system select the Online help menu.

SIGN OUT SCREEN

Use the Sign Out screen to log off and return to the Login screen. Log off from the system to avoid unauthorized access to the unit by someone who does not have a user name and password.

Troubleshooting

Problem	Possible Cause	Suggested Remedy
No video	PoE power issue	• Verify CAT 5 cable connection. • Verify PoE injector power. • Disconnect the Cat5 cable from the PoE and then reconnect the cable. Power is indicated by the LED. The LED will flash (green) five times per second for approximately two minutes if the camera has power.
	Power issue (24 VAC)	• Verify the 24 VAC power supply connection. • Power is indicated by the LED. The LED will flash (green) five times per second for approximately two minutes if the camera has power.
	Network connectivity issues	• Verify network cable connections. • Disconnect the network cable and then reconnect the cable to the camera. Verify the LED is flashing green. • Replace the network cable with a new cable. If the new cable does not work, contact Pelco's Product Support at 1-559-292-1981 or 1-800-289-9100.
	Defective camera	• Use a service connector to verify camera operation. Connect one end of the service connector to the service connector of the camera. Then connect the other end of the service connector to a monitor. • Replace the camera with a new camera. If the new camera does not work, contact Pelco's Product Support at 1-559-292-1981 or 1-800-289-9100.
	Java not installed	Install Java Runtime Environment (JRE™) from the IP camera resource CD shipped with this product. It is also available at www.pelco.com/software/downloads
Image flickering	Flickerless setting	• Verify DIP switch settings. • Verify power supply specifications. • Replace the camera module with a new camera. If the new camera does not work, contact Pelco's Product Support at 1-559-292-1981 or 1-800-289-9100.
Image quality	Image not focused	Adjust the field of view and the focus.
	15 ips quality bad	In some networks with high latency, the maximum frame rate may not be attainable.
	30 ips not available	The IP camera only supports MJPEG up to 15 ips for NTSC camera modules, where applicable. For PAL camera modules, the maximum rate is 12 ips.

Problem	Possible Cause	Suggested Remedy
No dual streams	Web browser	Not available with Web browser. Only supported by the Endura system or Pelco's API Interface solution.
Cannot record a MJPEG stream	Web browser	Not available with Web browser. Only supported by the Endura system or Pelco's API Interface solution.
MPEG4 not available	Web browser	Not available with Web browser. Only supported by the Endura system or Pelco's API Interface solution.
Camera not discovered	No camera power	Verify the camera is powered correctly with PoE or with 24 VAC. Confirm power consumption with web interface of PoE-capable switch or through blinking (green) LED during camera configuration.
	Network conflict	Verify the camera is physically connected to the same network as the PC running the Device Utility.
Network not working	Faulty cable connection	Verify all cable connections and ensure all plugs are properly plugged in.
	Incorrect serial device configuration	A hub will not work with the available network bandwidth shared across all ports. Use a Fast Ethernet switch, Gigabit Ethernet switch, or a Cable-modem router with an n-Port switch.
	Network connectivity issues	Contact your network administrator.

Specifications

VIDEO

Signal System	NTSC or PAL	
Compression	MPEG-4, MJPEG in Web viewing mode	
Video Streams	3, simultaneous	
Video Resolutions	NTSC	PAL
4CIF	704 x 480	704 x 576
2CIF	704 x 240	704 x 288
CIF	352 x 240	352 x 288
QCIF	176 x 120	176 x 144
Bit Rate Configurable	20 kbps to 2 Mpbs per stream, implements EnduraView™	
Web User Interface	Requires JRE	
Video Access from		
Web Browser	Camera live view up to 10 video sources	
Users	10 simultaneous users, unlimited number of users using multicast	
Minimum Web Browser		
Requirements	PC (Pentium 4 microprocessor, 1.6 GHz) with Windows 98, Windows 2000, Windows XP (or higher) or Mac OS X 10.3.9 (or higher)	
RAM	512 MB	
Ethernet Card	100 Mbit	
Web Browser	Internet Explorer 5.5 (or higher) or Firefox 1.5 (or higher)	
Screen Resolution	1024 x 768 pixels or higher, 16- or 32-bit pixel color resolution	

(Design and product specifications subject to change without notice.)

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 on fiber optic products and TW3000 Series unshielded twisted pair (UTP) transmission products.

• Three years on Spectra® IV products.

• Three years on Genex® Series products (multiplexers, server, and keyboard).

• Three years on DX Series digital video recorders, DVR5100 Series digital video recorders, DigitalSENTRY® Series hardware products, DVX Series digital video recorders, NVR300 Series network video recorders, and Endura® Series distributed network-based video products.

• Three years on Camclosure® and Pelco-branded fixed camera models, except the CC3701H-2, CC3701H-2X, CC3751H-2, CC3651H-2X, MC3651H-2, and MC3651H-2X camera models, which have a five-year warranty.

• Three years on PMCL200/300/400 Series LCD monitors.

• Two years on standard motorized or fixed focal length lenses.

• Two years on Legacy®, CM6700/CM6800/CM9700 Series matrix, and DF5/DF8 Series fixed dome products.

• Two years on Spectra III™, Spectra Mini, Esprit®, ExSite®, and PS20 scanners, including when used in continuous motion applications.

• Two years on Esprit and WW5700 Series window wiper (excluding wiper blades).

• Two years (except lamp and color wheel) on Digital Light Processing (DLP®) displays. The lamp and color wheel will be covered for a period of 90 days. The air filter is not covered under warranty.

• Two years on Intelli-M® eIDC controllers.

• One year (except video heads) on video cassette recorders (VCRs). Video heads will be covered for a period of six months.

• Six months on 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.

1-8-08

REVISION HISTORY

Manual #	Date	Comments
C3433M	3/07	Original version.
C3433M-A	8/07	Revised manual to include all Pelco IP cameras. Removed information on Device Utility software; new manual created for Device Utility software (C3437M).
C3433M-B	3/08	Added MPEG-4 information per CN21185 and CN21186.