



Camera Management

This chapter provides information and instructions for managing the Cisco Video Surveillance 6400E IP Camera, and includes the following topics:

- [Understanding the IP Camera User Interface, page 4-1](#)
- [Adjusting the IP Camera Focus and Zoom, page 4-3](#)
- [Powering the IP Camera On or Off, page 4-4](#)
- [Resetting the IP Camera, page 4-4](#)
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Understanding the IP Camera User Interface

After you log in to the IP camera, you can access the IP camera windows and perform a variety of administrative and user procedures.

The links and activities that you can see and access in the IP camera windows depend on your IP camera privilege level.

- Administrator—Can access all IP camera windows, features, and functions.
- Viewer—Can access the Camera Video & Control window with limited controls, and can access the **Refresh**, **Logout**, **About**, and **Help** links from that window.

IP Camera Window Links

The IP camera user interface includes links that you use to access various windows and perform other activities. [Table 4-1](#) describes each link and lists the IP camera privilege level that you must have to access the link.

Table 4-1 *Links in the IP Camera Windows*

Link	Description	Privilege Level
Refresh	Updates the information in the window that is currently displayed.	Administrator User
Home	Displays the Home window.	Administrator

Table 4-1 *Links in the IP Camera Windows (continued)*

Link	Description	Privilege Level
View Video	Displays the Camera Video & Control window. You may be prompted to install ActiveX controls when trying to access this window for the first time. ActiveX controls are required to view video from the IP camera. Follow the on-screen prompts to install ActiveX controls.	Administrator User
Setup	Provides access to the configuration menus for the IP camera.	Administrator
Logout	Logs you out from the IP camera.	Administrator User
About	Displays a pop-up window with model, version, and copyright information for the IP camera.	Administrator User
Help	Displays reference information for the window that is currently displayed.	Administrator User

IP Camera Windows

The IP camera user interface includes these main windows:

- Home window—Displays the system information that is described in [Table 4-2](#).
- Setup window—Provides access to the IP camera configuration windows.
- Camera Video & Control window—Displays live video from the camera and lets you control a variety of camera and display functions.

Table 4-2 *Home Window Information*

Field	Description
General Information	
ID	Identifier of the IP camera.
Name	Name of the IP camera.
Current Time	Current date and time of the IP camera.
S/N	Serial number of the IP camera.
Firmware	Version of the firmware that is installed on the IP camera.
Codec	Version of the codec that is running on the IP camera.
Part Number	Cisco manufacturing part number of the IP camera.
Top Assembly Revision	Cisco assembly revision number.
Network Status	
MAC Address	MAC address of the IP camera.
Configuration Type	Method by which the IP camera obtains its IP address.
LAN IP	IP address of the LAN to which the IP camera is connected.
Subnet Mask	Subnet mask of the LAN to which the IP camera is connected.

Table 4-2 Home Window Information (continued)

Field	Description
Gateway Address	IP address of the gateway through which the IP camera is connected.
Primary DNS	IP address of the primary DNS server, if configured for the IP camera.
Secondary DNS	IP address of the secondary DNS server, if configured for the IP camera.
IO Port Status	
Input Port 1	Current state of input port 1 on the IP camera.
Output Port 1	Current state of output port 1 on the IP camera.
Stream 1 and Stream 2	
User	IP camera user name of each user who is accessing the primary video stream (Stream 1) or the secondary video stream (Stream 2) through a client PC or a third-party device. By default, users appear in order of start time. To display users in ascending order of any information in any corresponding column, click the column heading. Click a column heading again to reverse the display order.
IP Address	IP address of the client device.
Start Time	Time and date that the client accessed the video stream for this session.
Elapsed Time	Length of time that the client has been accessing the video stream.

Adjusting the IP Camera Focus and Zoom

To adjust the IP camera focus and zoom, perform the following steps while viewing video from the camera. For information about viewing video, see [“Viewing Live Video” section on page 4-5](#).

Procedure

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- Step 1** Login to the IP camera.
The Home window appears.
- Step 2** Click the **View Video** link.
The Camera Video & Control window appears.
- Step 3** Verify that the field of view is correctly set.
- Step 4** Click the **Focus/Zoom** toggle button located below the video pane.
- Step 5** The focus and zoom controls appear.
- Step 6** While watching the video pane, perform the following steps:
- Move the **Zoom** slider until you achieve the desired zoom level.
 - Move the **Focus** slider until the video image is at its sharpest.

- Step 7** (Optional) Click **Auto Focus** to have the IP camera automatically adjust its focus. To automatically adjust the focus to a particular region in the field of view, check the **Specify Region** check box and draw or select a region before clicking Auto Focus.

Powering the IP Camera On or Off

The IP camera does not include an on/off switch. You power it on or off by connecting it to or disconnecting it from a power source. When you power off the IP camera, configuration settings are retained.

To power on the IP camera, take either of these actions:

- Use an STP (shielded twisted pair) Category 5 or higher network cable to connect the IP camera to a network switch that provides 802.3af compliant PoE.
- Use an optional 12 VDC or 24VAC power adapter to connect the IP camera to a wall outlet

To power off the IP camera, take either of these actions:

- If the IP camera is receiving PoE, disconnect the network cable
- If the IP camera is receiving power through the power adapter, unplug the adapter from the wall or disconnect it from the camera

Resetting the IP Camera

You reset the IP camera by pressing the Reset button on the IP Camera (see [Figure 1-1 on page 1-3](#)). There are various reset types, as described in [Table 4-3](#).

You also can also perform these reset operations from the Maintenance Settings window as described in the *Cisco Video Surveillance 6000 Series IP Camera Configuration Guide*.

Table 4-3 **Resetting the IP Camera**

Reset Type	Procedure	Remarks
Reboot.	Press and immediately release the Reset button.	This action is equivalent to powering the IP camera down and then powering it up. Settings that are configured for the IP camera are retained.
Factory reset.	Press and hold the button for at least 15 seconds.	Sets all IP camera options to their default values. After you perform this procedure, follow the steps in Chapter 3 , “Performing the Initial Setup of the IP Camera.”

Viewing Live Video

After you install and set up the Cisco Video Surveillance IP Camera, you can connect to the IP camera through Internet Explorer and access the Camera Video & Control window to view live video.

The Camera Video & Control window also provides for controlling the video display, configuring preset positions, and controlling certain IP camera functions. Available controls depend on the privilege level of the user.



To view live video, log in to the IP camera, then click **View Video** in the IP camera Main window menu bar. The Camera Video & Control window appears. This window displays live video from the camera and lets you control a variety of camera and display functions.

The controls that you see in the Camera Video & Control window depend on your IP camera privilege level and the configurations settings for the IP camera. Users with the Administrator privilege can access all controls. Users with the Viewer privilege do not have access to the following controls:

- Video image controls
- Motion detection controls

Table 4-4 describes the controls in the Camera Video & Control window.

Table 4-4 Camera Video & Control Window Controls

Control	Description
Video Control	
Video Codec drop-down list 	Choose the codec for video transmission (H.264 or MJPEG).
Video Resolution display 	Displays the resolution for video transmission. The resolutions in this depends on the video standard that you selected.
Viewer	
Video viewer drop-down list 	Choose the viewer to use for video. Options are: <ul style="list-style-type: none"> • ActiveX—Available only if you are using accessing the IP camera through Microsoft Internet Explorer. Allows you to configure several IP camera options, such as motion detection and privacy zone. • QuickTime—Allows viewing of H.264 streams only. Does not allow you to configure several IP camera options, such as motion detection and privacy zone. • VLC —Allows viewing of H.264 and MJPEG streams. Does not allow you to configure several IP camera options, such as motion detection and privacy zone. The default video viewer value is ActiveX.

Table 4-4 Camera Video & Control Window Controls (continued)

Control	Description
Image tools	
Hotspot Zoom button 	<p>Click this latch button to enables the digital zoom feature, which provides five-step digital zooming in for the normal (not full screen) video display. Click this button again to disable the digital zoom feature.</p> <p>To perform a digital zoom, engage the Hotspot Zoom button and click the video display. The first five clicks zoom the display. The sixth click returns to unzoomed display.</p>
Hotspot Pan+Tilt button 	Not supported.
Save Snapshot button 	<p>Captures and saves a the current video image as a .gif file or a .jpg file in the location of your choice and with the file name of your choice.</p> <p>When you click this button, the Snapshot window appears. Click Save and follow the on-screen prompts to save the image with the name and in the location that you want.</p>
Flip button 	Rotates the video image by 180 degrees.
Mirror button 	Reverses the video image.
Restore button 	Displays the default video image, which is not rotated and not reversed.
Full Screen button 	<p>Displays the video image in full screen mode.</p> <p>To return to normal display mode, click the full screen image.</p>
Audio Control	
Enable/Disable Speaker toggle button	<p>Click the Disable Speaker button  to mute audio that is sent from the IP camera to the PC that you are using. The button changes to the Enable Speaker button .</p> <p>Click the Enable Speaker button to unmute audio. The button changes to the Disable button.</p>

Table 4-4 Camera Video & Control Window Controls (continued)

Control	Description
Mute/Un-Mute Microphone toggle button	<p>Click the Mute Microphone button  to mute the audio stream that is captured and sent to the IP camera from the internal or external microphone of the PC that you are using. When you click this button, the speaker that is attached to the IP camera does not play audio that is transmitted from your PC.</p> <p>Note If you are simultaneously accessing other IP cameras in different browser sessions on the same PC, clicking this button in one browser session does not mute the audio that the PC sends to the other IP cameras.</p> <p>When you click the Mute Microphone button, it changes to the Un-Mute Microphone button .</p> <p>Click the Un-Mute Microphone button to unmute audio that is sent to the IP camera. The button changes to the Mute Microphone button.</p>
Restore button 	<p>Resets audio controls to their default values.</p>
Speaker Volume slider 	<p>When the speaker is unmuted, drag this slider to adjust the volume at which your PC speakers play the audio from the IP camera, or enter a value from 0 through 100 in the field and press the Enter key.</p> <p>The default value is 50.</p>
Microphone Sensitivity slider 	<p>Drag this slider to adjust the gain of the PC microphone (that is, how sensitive it is to the audio that it picks up and that is sent to the IP camera), or enter a value from 0 through 100 in the field and press the Enter key.</p> <p>The default value is 50.</p>

Camera Settings controls

Note To display these controls click the Expand icon  next to Camera Settings under the video image. The icon changes to the Collapse icon . Click the Collapse icon to hide these controls.

If you make changes to any of the Camera Settings options, click the **Save** button to save the changes.

Picture Adjustments

Brightness slider	<p>To control the brightness of the video image, drag the slider to select a value from 1 through 10. A higher value increases the brightness and a lower value decreases the brightness. For example, if the IP camera is facing a bright light and the video appears too dark, you can increase the brightness.</p> <p>The default value is 5.</p>
Contrast slider	<p>To control contrast of the video image, drag the slider to select a value from 1 through 10. A higher value increases the contrast and a lower value decreases the contrast.</p> <p>The default value is 5.</p>

Table 4-4 Camera Video & Control Window Controls (continued)

Control	Description
Sharpness slider	To control the sharpness of the video from the IP camera, drag the slider to select a value from 1 through 100. A higher value increases the sharpness and a lower value decreases the sharpness. The default value is 50.
Saturation slider	To control the saturation of the video from the IP camera, drag the slider to select a value from 1 through 10. A higher value increases the saturation and a lower value decreases the saturation. High saturation provides a vivid, intense color for a video image. With less saturation, the video image appears more muted and gray. The default value is 50.
Restore button	Resets brightness, contrast, sharpness, and saturation to their default values.
White Balance Mode drop-down menu	Choose one the following white balance modes: <ul style="list-style-type: none"> • Auto—White balance automatically set by camera and suitable for most conditions. • Manual—Choose this option if you want to set the white balance by setting RGain (Red Gain) and BGain (Blue Gain) manually. The default setting is Auto.
Exposure Control	
Exposure level drop-down menu	Choose a value to increase or decrease the exposure level of the video image. The default value is 0.0.
Exposure mode drop-down menu	Choose one of these options: <ul style="list-style-type: none"> • Manual—Choose this option if you want to set Exposure time and Gain control manually. • Auto —Suitable for most conditions. The default setting is Auto.
Flickerless check box	Appears when you choose Manual from the Exposure mode drop-down menu. Flickering can occur when a combination of indoor and outdoor light get to the IP camera, due to a difference in capture frequency and actual indoor lighting frequency. Check this check box to limit the range of exposure time, which prevents flickering.
Exposure time slider	Appears when you choose Manual from the Exposure mode drop-down menu. To control the minimum length of time in seconds that the IP camera keeps its iris open for each frame, drag the left slider box. To control the maximum length of time in seconds that the IP camera keeps its iris open for each frame, drag the right slider box. When capturing video, the IP camera automatically selects the optimum value between the minimum and maximum values that you configure. If the Flickerless check box is not checked, the minimum exposure value is 1/32000 and the maximum value is 1/5. If the Flickerless check box is checked, the minimum exposure value is 1/120 and the maximum value is 1/5.

Table 4-4 Camera Video & Control Window Controls (continued)

Control	Description
Gain control slider	<p>Appears when you choose Manual from the Exposure mode drop-down menu.</p> <p>To control the minimum gain of the IP camera, drag the left slider box. To control the maximum gain, drag the right slider box. A value of 0 does not boost the gain, so the image may appear darker in a darker environment. A higher value increases the exposure of the image, which can cause the image to look brighter, but can also cause the image to appear more noisy.</p> <p>When capturing video, the IP camera automatically selects the optimum value between the minimum and maximum values that you configure.</p>
Iris mode drop down menu	<p>Appears only when you choose Auto from the Exposure mode drop-down menu. Choose one of these options for the IP camera iris:</p> <ul style="list-style-type: none"> • Indoor—Suitable for indoor conditions • Outdoor—Suitable for outdoor conditions
Measurement Window	<p>Choose one of the following options to control how the IP camera calculates exposure:</p> <ul style="list-style-type: none"> • Full View—The entire IP camera image is considered for the exposure calculation. • Custom—Lets you draw up to 4 Inclusion regions and up to 4 Exclusion regions for the exposure calculation. <ul style="list-style-type: none"> To designate regions, right-click the video image, choose Draw Region, then hold down the left mouse button and draw the region, which is indicated by a green rectangle. A region is an Inclusion region by default. To move a region, left-click it and drag its window to the desired area. To resize a region, left-click it and drag a box in the edge or corner of the region. To remove a region, left-click it, then right-click it and choose Delete Region. • BLC—Back Light Compensation causes only the middle part of the IP camera image, indicated by a white dashed rectangle, to be considered for the exposure calculation.

Table 4-4 Camera Video & Control Window Controls (continued)

Control	Description
Region Properties	<p>Appears when you click a custom region that you created.</p> <p>To expand region properties information, click the + icon next to Region Properties. The icon changes to a – icon, which you click to collapse region properties information.</p> <ul style="list-style-type: none"> • Location—X and Y coordinates, respectively, of the top left corner of the selected custom region. To expand location information, click the + icon next to Location. The icon changes to a – icon, which you click to collapse region location information. • Region Type—Type of the region (Inclusion or Exclusion). To change the region type, left-click that region, click Region Type, then choose one of the following values from the drop-down menu that appears on the Region Type line. Alternatively, you can double-click Inclusion or Exclusion to toggle between these values. <ul style="list-style-type: none"> – Inclusion—The region is used to calculate the exposure value – Exclusion—The region is ignored in the exposure value calculation
Advanced Settings	
Enable Low Light Compensation check box	In a low-light environment, check this check box to reduce noise in the video image.
Enable DRX check box	In situations in which there is significant contrast between light and dark parts of an image, check this check box to cause the IP camera to continually adjust the image for optimal appearance.
Sensitivity drop-down menu	<p>Appears when you check the Enable DRX check box.</p> <p>Choose Low or High to specify how quickly the IP camera adjusts the image for optimal appearance.</p>
Strength drop-down menu	<p>Appears when you check the Enable DRX check box.</p> <p>Choose Low, Medium, or High to specify the relative adjustment that the IP camera makes between the light and dark parts of an image.</p>
Gamma Curve	Select a gamma curve value to adjust the monitor gray-scale for video from the IP camera.

Table 4-4 Camera Video & Control Window Controls (continued)

Control	Description
Motion Detection	
Note	<p>To display these controls click the Expand icon  next to Motion Detection under the video image. The icon changes to the Collapse icon . Click the Collapse icon to hide these controls.</p> <p>If you make changes to any of the Motion Detection options, click the Save button to save the changes.</p>
Enable Motion Detection check box	<p>Enables the motion detection feature.</p> <p>When motion detection is enabled, the IP camera monitors activity in the video field areas that you specify. If activity at a defined level occurs in any of these areas, the IP camera generates an alert and takes the configured actions.</p> <p>To designate regions, right-click the video image, choose Draw Region, then hold down the left mouse button and draw the region, which is indicated by a green rectangle (for an inclusion region) or a red rectangle (for an exclusion region).</p> <p>You can draw up to 4 Inclusion regions and up to 4 Exclusion regions for a total of up to 8 regions.</p> <p>To move a region, left-click it and drag its window to the desired area.</p> <p>To resize a region, left-click it and drag a box in the edge or corner of the region.</p> <p>To remove a region, left-click it, then right-click it and choose Delete Region.</p>
Region Properties	<p>To expand region properties information, click the + icon next to Region Properties. The icon changes to a – icon, which you click to collapse region properties information.</p> <ul style="list-style-type: none"> • IsActive—To indicate whether the IP camera monitors a region for motion detection, left-click that region, click IsActive, then choose True (consider region) or False (do not consider region) from the drop-down menu that appears on the IsActive line. Alternatively, you can double-click True or False to toggle between these values. • Location—X and Y coordinates, respectively, of the top left corner of the selected custom region. To expand location information, click the + icon next to Location. The icon changes to a – icon, which you click to collapse region location information. • Name—Name of the region. By default, the system assigns the name RegionX, where X is a number 1 through 8. To rename a region, click its name (which appears in bold type on this line) and type a unique name of up to 32 characters. • Region Type—Type of the region. To change the region type, left-click that region, click Region Type, then choose one of the following values from the drop-down menu that appears on the Region Type line. Alternatively, you can double-click Inclusion or Exclusion to toggle between these values. <ul style="list-style-type: none"> – Inclusion—The IP camera examines this region for motion – Exclusion—The IP camera ignores motion in this area

Table 4-4 Camera Video & Control Window Controls (continued)

Control	Description
Sensitivity slider	Becomes available when you left-click a motion detection region. Designates the relative amount of activity that the IP camera must detect in the area before it generates an alert. A lower value means that more, or faster, activity is required to trigger an alert. A higher value means that less, or slower, activity is required. The default value is 80.
Threshold slider	Becomes available when you left-click a motion detection region. Designates the percentage of pixels that the IP camera must identify as changed in the area before it generates an alert. The camera monitors for pixel changes at the defined sensitivity level. The default threshold value is Low.
Focus/Zoom	
Note To display these controls click the Expand icon  next to Focus/Zoom under the video image. The icon changes to the Collapse icon  . Click the Collapse icon to hide these controls.	
Zoom slider	Drag to the right to increase the zoom level of the video image (tele) and drag to the left to decrease the zoom level (wide). You also can use these buttons to adjust the zoom level: <ul style="list-style-type: none"> • -10—Decreases the zoom level by 10 steps • -1—Decreases the zoom level by 1 step • +1—Increases the zoom level by 1 step • +10—Increases the zoom level by 10 steps
Focus slider	Drag to the right sharpen the focus on objects that are farther away from the camera and drag to the left to sharpen the focus on objects that are nearer. You also can use these buttons to adjust the focus: <ul style="list-style-type: none"> • -10—Decreases the focus by 10 steps • -1—Decreases the focus by 1 step • +1—Increases the focus by 1 step • +10—Increases the focus by 10 step
Auto Focus button	Click to have the IP camera automatically adjust its focus. This adjustment uses larger steps than the full auto focus feature (see the “ Full Auto Focus button ” row in this table), but takes less time to complete than a full auto focus. The auto focus process can take a few minutes to complete, and the Focus/Zoom controls are dimmed during this process. When the process completes, click OK in the dialog box that displays the message “Set Auto Focus successfully.”
Reset button	Click to set the zoom and focus controls to their default values. When the process completes, click OK in the dialog box that displays the message “Settings reset successfully.”

Table 4-4 Camera Video & Control Window Controls (continued)

Control	Description
Specify Region check box	<p>To automatically adjust the focus with priority given to a particular region in the field of view:</p> <ol style="list-style-type: none"> 1. Check the Specify Region check box. 2. Right-click the video image and choose Draw Region. 3. Hold down the left mouse button and draw the region, which is indicated by a green rectangle. <p>To move a region, left-click it and drag its window to the desired area.</p> <p>To resize a region, left-click it and drag a box in the edge or corner of the region.</p> <p>To remove a region, uncheck the Specify Region check box.</p>
Full Auto Focus button	<p>Click to have the IP camera automatically adjust its focus. This adjustment uses smaller steps than the auto focus feature (see the “Auto Focus button” row in this table), but can result in a sharper focus and takes more time to complete than an auto focus.</p> <p>The full auto focus process can take some time, and the Focus/Zoom controls are dimmed during this process. If you see a dialog with the message “Operation still in progress,” click OK. When the process completes, click OK in the dialog box that displays the message “Set Full Auto Focus successfully.”</p>
<p>Privacy Zone</p> <p>Note To display these controls click the Expand icon  next to Privacy Zone under the video image. The icon changes to the Collapse icon . Click the Collapse icon to hide these controls.</p> <p>If you make changes to any of the Privacy Zone options, click the Save button to save the changes.</p>	
Enable Privacy Region check box	<p>Enables the Privacy Zone feature.</p> <p>You can create up to four user-defined masking zones that can be used to provide regions of privacy in the camera field of view. When the Privacy Zone feature is enabled, video within each region is not recorded in the camera, nor sent in the video stream. Instead of the actual video, privacy regions display as solid rectangles that you choose from the Region Color drop-down list.</p> <p>To designate regions, right-click the video image, choose Draw Region, then hold down the left mouse button and draw the region, which is indicated by a green rectangle.</p> <p>To move a region, left-click it and drag its window to the desired area.</p> <p>To resize a region, left-click it and drag a box in the edge or corner of the region.</p> <p>To remove a region, left-click it, then right-click it and choose Delete Region.</p>
Region Color drop-down menu	<p>Choose the color in which the system displays the zones that are defined by privacy regions. You can choose Red, Green, Black, or Blue.</p>

Table 4-4 Camera Video & Control Window Controls (continued)

Control	Description
Privacy Zone properties	<p>To expand region properties information, click the + icon next to Privacy Zone Properties. The icon changes to a – icon, which you click to collapse region properties information.</p> <ul style="list-style-type: none"> • Name—Name of the region. By default, the system assigns the name RegionX, where <i>X</i> is a number 1 through 4. To rename a region, click its name (which appears in bold type on this line) and type a unique name of up to 32 characters . • IsActive—To indicate whether the IP camera displays a region as a privacy mask, left-click that region, click IsActive, then choose True (mask the region) or False (do not mask the region) from the drop-down menu that appears on the IsActive line. Alternatively, you can double-click True or False to toggle between these values.