Cisco Video Surveillance 6050 IP Camera
Installation Guide
Preface

Overview

This document, *Cisco Video Surveillance 6050 IP Camera Installation Guide*, provides information about installing and deploying the Cisco Video Surveillance 6050 High-Definition IP Camera.

Organization

This manual is organized as follows:

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<td>Provides an overview of the IP camera and its features.</td>
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<td>Chapter 2, “Camera Installation”</td>
<td>Provides instructions for physically installing the IP camera.</td>
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<td>Chapter 3, “Performing the Initial Setup of the IP Camera”</td>
<td>Provides instructions for performing the initial network setup of the IP camera.</td>
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<td>Chapter 4, “Camera Management”</td>
<td>Provides instructions for accessing and understanding the IP camera user interface, adjusting its focus and zoom, powering the IP camera on and off, and resetting the IP camera.</td>
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</tbody>
</table>

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Overview

This chapter describes the Cisco Video Surveillance 6050 High-Definition IP Camera, and includes the following topics:

- Introduction, page 1-1
- Package Contents, page 1-1
- IP Camera Physical Details, page 1-2
- M12 Connector Pinouts, page 1-3

Introduction

The Cisco Video Surveillance 6050 IP camera is a ruggedized, outdoor, high-definition video endpoint with industry-leading image quality and processing power. This vibration resistant camera is ideal for use in transportation applications such as buses, trains, and other moving vehicles. The IK10- and IP67-rated housing combined with a low profile also make this camera suitable for discreet placement in harsh environments. Video can be streamed at a full 1080p resolution at 30 frames per second (fps) while optimizing network usage with either H.264 or MJPEG compression. With its open, standards-based design, the camera provides an ideal platform for integration and operation as an independent device or as part of a Cisco video surveillance network.

Package Contents

The Cisco Video Surveillance IP Camera package includes the following items:

- Cisco Video Surveillance 6050 IP Camera (1)
- Installation template and alignment sticker (1)
- Waterproof connector for M12 cable (1)
- Screws (M4 x 25)
- Screw anchors (3)
- T10 Screwdriver
- Ground wire (1)
- Washer for ground wire (1)
- Screw for ground wire (1)
IP Camera Physical Details

Figure 1-1 and the table that follows describe the physical features of the 6050 IP camera.
M12 Connector Pinouts

Figure 1-2 and the table that follows describe the pinouts of the M12 connector. You will need this information if you use the waterproof connector when you install the IP camera.

1 Recessed Reset button.
   This button reboots the IP camera or resets it to a default state. You can use a pin or paper clip to depress it. It can be used any time that the IP camera is on and can have various effects, as described in the “Resetting the IP Camera” section on page 4-7.

2 Status LEDs.
   The power LED glows red when the IP camera is powered on. The Network LED blinks green when the IP camera is connected to a network.

3 Lens.

4 Screw holes.

5 SD/SDHC card slot.

<table>
<thead>
<tr>
<th>Pin</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>TX+</td>
</tr>
<tr>
<td>2</td>
<td>TX–</td>
</tr>
<tr>
<td>3</td>
<td>RX+</td>
</tr>
<tr>
<td>4</td>
<td>RX–</td>
</tr>
<tr>
<td>5</td>
<td>V+</td>
</tr>
<tr>
<td>6</td>
<td>V+</td>
</tr>
</tbody>
</table>
### M12 Connector Pinouts

<table>
<thead>
<tr>
<th>Pin</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>V–</td>
</tr>
<tr>
<td>8</td>
<td>V–</td>
</tr>
</tbody>
</table>
Camera Installation

This chapter provides information and instructions for installing the Cisco Video Surveillance 6050 IP Camera.

The IP camera requires a network cable and a connection to a standard 10/100BaseT router or switch. To power the IP camera with Power over Ethernet (PoE), a switch must be 802.3af compliant.

This chapter includes the following topics:

- Warnings Before Installation, page 2-1
- Installing the IP Camera, page 2-2

Warnings Before Installation

- Power off the IP camera if smoke or unusual odors are detected.
  Contact your Cisco representative if these situations occur.

- Refer to the data sheet for the operating temperature.

- Keep the IP camera away from water. If the IP camera becomes wet, power it off immediately.
  Contact your Cisco representative if this situation occurs.

- Do not place the IP camera on unsteady surfaces.
Installing the IP Camera

Warning
Installation of the equipment must comply with local and national electrical codes. Statement 1074

Warning
This product must be connected to a power-over-ethernet (PoE) IEEE 802.3af compliant power source or an IEC60950 compliant limited power source. Statement 353

Note
This equipment is only to be connected to PoE networks without routing to outside plants.

For PoE input connection, use only UL listed I.T.E. with PoE output.

Installing the IP Camera

This section describes how to install the IP camera on a ceiling or wall.

Before you begin

- Use the screwdriver for tamper-proof screws that is provided with the IP camera to detach the dome cover from the camera base as shown in Figure 2-1.
**Figure 2-1** Detaching the Dome Cover from the IP Camera

1. Tamper-proof screw.
2. Dome cover.
3. Plastic cover.

- (Optional) Insert your microSD/SDHC card, if needed. See Figure 1-1 on page 1-2.
- If the device (PoE enabled switch or PoE power injector) to which you are connecting the IP camera does not have a port for an M12 connection, obtain an M12 to RJ45 adapter. You can then connect an STP (shielded twisted pair) Category 5 or higher network cable from this adapter to your device. The M12 to RJ45 adapter is available for purchase from Cisco (Cisco part number CIVS-6KA-M12RJ45).

To install the IP camera, follow these steps:

**Procedure**

**Step 1** Attach the included alignment sticker to the ceiling or wall.

**Step 2** Using the three circle marks on the alignment sticker, drill three pilot holes into the ceiling or wall, then put the included screw anchors into the holes.

   Use a hammer to drive the anchors into the holes, if needed.

**Step 3** Route the cable from the IP camera through the camera base and then through ceiling or wall, drill a cable hole as shown in the following figure, then feed the cable through the hole.
Chapter 2      Camera Installation

Installing the IP Camera

**Step 4**  Attach the camera base to the ceiling or wall by using the screwdriver for tamper-proof screws to fasten three screws through the camera base and into the anchors, as shown in the following figure.

**Step 5**  Secure one end of the provided ground wire to the screw hole in the camera base as shown in the following figure, then route the wire and attach its other end to a junction box or a grounded conduit.
Step 6  Use one of the following methods to connect the IP camera to power.

- To connect the IP camera if you are powering it with PoE through a PoE-enabled switch, connect the IP camera to the switch as shown in the following figure.
  
  Use an M12 to RJ45 adapter and an Ethernet cable if the switch to which you are connecting the IP camera does not have a port for an M12 connection.
  
  Use the provided waterproof connector for the M12 cable or the waterproof adapter that is provided with the M12 to RJ45 adapter if you need an IP67 connection. (See the “M12 Connector Pinouts” section on page 1-3 for pinout information.)

- To connect the IP camera if you are powering it with PoE through a non-PoE switch, connect the IP camera to the switch through a PoE power injector as shown in the following figure.
  
  Use an M12 to RJ45 adapter and an Ethernet cable if the power injector to which you are connecting the IP camera does not have a port for an M12 connection.
  
  Use the provided waterproof connector for the M12 cable or the waterproof adapter that is provided with the M12 to RJ45 adapter if you need an IP67 connection. (See the “M12 Connector Pinouts” section on page 1-3 for pinout information.)
What to do next

- After you install the IP camera, follow the instructions in Chapter 3, “Performing the Initial Setup of the IP Camera” to access the IP camera through your network.

- After completing the initial setup, adjust the focus and zoom and complete the installation of the IP camera. For more information, see the “Adjusting the IP Camera Viewing Angle and Focus and Completing the Installation” section on page 4-3.
Performing the Initial Setup of the IP Camera

After you install the IP camera as described in the Chapter 2, “Camera Installation,” or after you perform a factory reset procedure, you must access the IP camera and make initial configuration settings. These settings include administrator and root passwords, and whether the IP camera can be accessed through an HTTP connection in addition to the default HTTPS (HTTP secure) connection.

To make these configuration settings, you connect to the IP camera from any PC that is on the same network as the IP camera. The PC must meet these requirements:

- Operating system—Microsoft Windows 7 (32-bit and 64-bit)
- Browser—Internet Explorer 8.0 (32-bit only)

In addition, you must know the IP address and default login credentials of the IP camera. By default, when the IP camera powers on, it attempts to obtain an IP address from a DHCP server in your network. If the camera cannot obtain an IP address through DHCP within 90 seconds, it uses a default IP address of 192.168.0.100. The default login credentials (Username/Password) are admin/admin.

To connect to the IP camera for the first time and make initial configuration settings, perform the following steps. You can change these configuration settings in the future as described in the Cisco Video Surveillance 6000 Series IP Camera Configuration Guide.

Before you Begin
The Microsoft .NET Framework version 2.0 or later must be installed on the PC that you use to connect to the IP camera. You can download the .NET Framework from the Microsoft website.

Procedure

Step 1
Start Internet Explorer, enter HTTPS://ip_address in the address field, and press Enter.
Replace ip_address with the IP address that the IP camera obtained through DHCP or, if the camera was unable to obtain this IP address, enter 192.168.0.100.
The Login window appears.

Step 2
Enter the default login credentials:
- Username: admin
- Password: admin
The Initialization window appears.
Step 3 In the Password and Confirm Password fields of the admin row, enter a password for the IP camera administrator.
You must enter the same password in both fields. The password is case sensitive and must contain at least eight characters, which can be letters, numbers, and special characters, but no spaces. Special characters are: ! # $ % & ' ( ) * + , . : ; < = > ? @ \ ^ _ ` { | } ~.

Step 4 In the Password and Confirm Password fields of the Root row, enter a password that is used when accessing the IP camera through a Secure Shell (SSH) connection.
You must enter the same password in both fields. The password is case sensitive and must contain at least eight characters, which can be letters, numbers, and special characters, but no spaces. Special characters are: ! # $ % & ' ( ) * + , . : ; < = > ? @ \ ^ _ ` { | } ~.
You use the root password if you need to troubleshoot the IP camera through a SSH connection with the assistance of the Cisco Technical Assistance Center.

Step 5 In the Access Protocols area, check the Enable HTTP check box if you want to allow both HTTP and HTTPS connections to the IP camera.
By default, only the Enable HTTPS check box is checked, which allows only HTTPS (secure) connections to the IP camera.

Step 6 Click Apply.
The IP camera reboots and the Login window appears.

Step 7 After the IP camera reboots, start Internet Explorer and, in the Address field, enter the following:

```
protocol://ip_address
```
where:
- `protocol` is HTTPS or HTTP. (You can use HTTP only if you enabled it in Step 5.)
- `ip_address` is the IP address that you used in Step 1.

Step 8 If you are prompted to install ActiveX controls, which are required to view video from the IP camera, follow the on-screen prompts to do so.
The Home window appears.
Camera Management

This chapter provides information and instructions for managing the Cisco Video Surveillance 6050 IP Camera, and includes the following topics:

- Understanding the IP Camera User Interface, page 4-1
- Adjusting the IP Camera Viewing Angle and Focus and Completing the Installation, page 4-3
- Powering the IP Camera On or Off, page 4-7
- Resetting the IP Camera, page 4-7
- Viewing Live Video, page 4-7

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>
<thead>
<tr>
<th>Link</th>
<th>Description</th>
<th>Privilege Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Refresh</td>
<td>Updates the information in the window that is currently displayed.</td>
<td>Administrator, User</td>
</tr>
<tr>
<td>Home</td>
<td>Displays the Home window.</td>
<td>Administrator</td>
</tr>
</tbody>
</table>
Table 4-1  Links in the IP Camera Windows (continued)

<table>
<thead>
<tr>
<th>Link</th>
<th>Description</th>
<th>Privilege Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>View Video</td>
<td>Displays the Camera Video &amp; 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.</td>
<td>Administrator</td>
</tr>
<tr>
<td></td>
<td></td>
<td>User</td>
</tr>
<tr>
<td>Setup</td>
<td>Provides access to the configuration menus for the IP camera.</td>
<td>Administrator</td>
</tr>
<tr>
<td>Logout</td>
<td>Logs you out from the IP camera.</td>
<td>Administrator</td>
</tr>
<tr>
<td></td>
<td></td>
<td>User</td>
</tr>
<tr>
<td>About</td>
<td>Displays a pop-up window with model, version, and copyright information for the IP camera.</td>
<td>Administrator</td>
</tr>
<tr>
<td></td>
<td></td>
<td>User</td>
</tr>
<tr>
<td>Help</td>
<td>Displays reference information for the window that is currently displayed.</td>
<td>Administrator</td>
</tr>
<tr>
<td></td>
<td></td>
<td>User</td>
</tr>
</tbody>
</table>

**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

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>General Information</strong></td>
<td></td>
</tr>
<tr>
<td>ID</td>
<td>Identifier of the IP camera.</td>
</tr>
<tr>
<td>Name</td>
<td>Name of the IP camera.</td>
</tr>
<tr>
<td>Current Time</td>
<td>Current date and time of the IP camera.</td>
</tr>
<tr>
<td>S/N</td>
<td>Serial number of the IP camera.</td>
</tr>
<tr>
<td>Firmware</td>
<td>Version of the firmware that is installed on the IP camera.</td>
</tr>
<tr>
<td>Part Number</td>
<td>Cisco manufacturing part number of the IP camera.</td>
</tr>
<tr>
<td>Top Assembly Revision</td>
<td>Cisco assembly revision number.</td>
</tr>
<tr>
<td><strong>Network Status</strong></td>
<td></td>
</tr>
<tr>
<td>MAC Address</td>
<td>MAC address of the IP camera.</td>
</tr>
<tr>
<td>Configuration Type</td>
<td>Method by which the IP camera obtains its IP address.</td>
</tr>
<tr>
<td>LAN IP</td>
<td>IP address of the LAN to which the IP camera is connected.</td>
</tr>
<tr>
<td>Subnet Mask</td>
<td>Subnet mask of the LAN to which the IP camera is connected.</td>
</tr>
<tr>
<td>Gateway Address</td>
<td>IP address of the gateway through which the IP camera is connected.</td>
</tr>
</tbody>
</table>
Adjusting the IP Camera Viewing Angle and Focus and Completing the Installation

To adjust the IP camera viewing angle and focus and complete the installation of the IP camera, perform the following steps. For information about viewing video, see “Viewing Live Video” section on page 4-7.

Procedure

**Step 1**
Log in to the IP camera.
The Home window appears.

**Step 2**
While viewing video in the Home window, take these actions to adjust the viewing angle:

a. Loosen the two screws on the sides of the lens module, as shown in the following figure.
   Do not remove the screws.

---

### Table 4-2: Home Window Information (continued)

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary DNS</td>
<td>IP address of the primary DNS server, if configured for the IP camera.</td>
</tr>
<tr>
<td>Secondary DNS</td>
<td>IP address of the secondary DNS server, if configured for the IP camera.</td>
</tr>
<tr>
<td>Stream 1 and Stream 2</td>
<td></td>
</tr>
<tr>
<td>User</td>
<td>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.</td>
</tr>
<tr>
<td>IP Address</td>
<td>IP address of the client device.</td>
</tr>
<tr>
<td>Start Time</td>
<td>Time and date that the client accessed the video stream for this session.</td>
</tr>
<tr>
<td>Elapsed Time</td>
<td>Length of time that the client has been accessing the video stream.</td>
</tr>
</tbody>
</table>
b. Adjust the lens to the desired viewing angle as shown in the following figure.

![Diagram showing adjustment of viewing angle]

90°

Step 3 While viewing video in the Home window, take these actions to fine-tune the camera focus, if needed. The focus of the IP camera is set from 1.0 meter to infinity by default. Fine-tune the IP camera focus if you want the device to focus on objects that are less than 1 meter from it or if its lens has lost focus.

a. Loosen the lens lock screw under the lens module, as shown in the following figure.
b. Manually rotate the lens to fine-tune the focus until the live image is clear.

c. Tighten the lens lock screw.

**Step 4**

Take these actions to complete the installation:

a. Remove the provided silica gel from its protective bag and use the provided double-sided tape to attach it to the inner side of the dome cover, as shown in the following figure. The silica gel helps remove moisture from inside the camera.

| Note | Replace the silica gel whenever you open the dome cover. |
b. Attach the dome cover to the IP camera and secure the dome screws by using the provided screwdriver, as shown in the following figure.

Make sure to secure the screws tightly to keep out moisture.

c. Make sure that all parts of the IP camera are installed securely.
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, use an STP (shielded twisted pair) Category 5 or higher network cable to connect the IP camera to a switch or power injector that provides 802.3af compliant PoE.

To power off the IP camera, 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 1-2). 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**

<table>
<thead>
<tr>
<th>Reset Type</th>
<th>Procedure</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reboot.</td>
<td>Press and immediately release the Reset button.</td>
<td>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.</td>
</tr>
<tr>
<td>Factory reset.</td>
<td>Press and hold the button for at least 15 seconds.</td>
<td>Sets all IP camera options to their default values. After you perform this procedure, follow the steps in the “Performing the Initial Setup of the IP Camera” section on page 3-1.</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Control</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Video controls</strong></td>
<td></td>
</tr>
<tr>
<td>Video Codec drop-down list</td>
<td>Choose the codec for video transmission (H.264 or MJPEG).</td>
</tr>
<tr>
<td>H.264</td>
<td>You can choose H.264 only if the primary video stream (channel 1) is enabled.</td>
</tr>
<tr>
<td></td>
<td>You can choose MJPEG only if the secondary video stream (channel 2) is enabled.</td>
</tr>
<tr>
<td>Video Resolution drop-down list</td>
<td>Choose the resolution for video transmission. The resolutions in this drop-down list depend on the video standard that you selected.</td>
</tr>
<tr>
<td>1920x1080</td>
<td>The default value for H.264 is 1920 x 1080. The default value for MJPEG is 704 x 480.</td>
</tr>
<tr>
<td></td>
<td>You cannot configure a secondary stream if you configure this resolution for 1920 x 1080.</td>
</tr>
<tr>
<td>Right Arrow toggle button</td>
<td>Click the Right Arrow to display the video image controls. The button changes to the Left Arrow button.</td>
</tr>
<tr>
<td>Left Arrow toggle button</td>
<td>Click the Left Arrow button to hide the video image controls. The button changes to the Right Arrow button.</td>
</tr>
</tbody>
</table>

**Video image controls**

*Note* These controls appear when you click the Right Arrow in the Video Control area.

<table>
<thead>
<tr>
<th>Control</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brightness slider</td>
<td>To control the brightness of the video image, drag the slider, or enter a value from 1 through 10 and press the Enter key. 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. The default value is 5.</td>
</tr>
<tr>
<td>Contrast slider</td>
<td>To control contrast of the video image, drag the slider, or enter a value from 1 through 10 and press the Enter key. A higher value increases the contrast and a lower value decreases the contrast. The default value is 5.</td>
</tr>
</tbody>
</table>
Table 4-4  Camera Video & Control Window Controls (continued)

<table>
<thead>
<tr>
<th>Control</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sharpness slider</td>
<td>To control the sharpness of the video from the IP camera, drag the slider, or enter a value from 1 through 100 and press the <strong>Enter</strong> key. A higher value increases the sharpness and a lower value decreases the sharpness. The default value is 50.</td>
</tr>
<tr>
<td>Saturation slider</td>
<td>To control the saturation of the video from the IP camera, drag the slider, or enter a value from 1 through 100 and press the <strong>Enter</strong> key. 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.</td>
</tr>
<tr>
<td>Restore button</td>
<td>Resets white balance, brightness, contrast, sharpness, saturation, and hue to their default values.</td>
</tr>
</tbody>
</table>

**Image tools**

<table>
<thead>
<tr>
<th>Control</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hotspot Zoom button</td>
<td>Click this latch button to enable 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. To perform a digital zoom, engage the <strong>Hotspot Zoom</strong> button and click the video display. The first five clicks zoom the display. The sixth click returns to unzoomed display.</td>
</tr>
<tr>
<td>Hotspot Pan/Tilt button</td>
<td>Click this latch button to enable the hotspot pan/tilt feature, which lets you pan and tilt the IP camera toward a point that you click in the video display. To perform a hotspot pan/tilt action, engage the <strong>Hotspot Pan/Tilt</strong> button, then click the video image at the location toward which you want the IP camera to pan and tilt. This feature require that the IP camera be installed with a pan/tilt mount that supports the Pelco D protocol and that pan and tilt functions are enabled.</td>
</tr>
<tr>
<td>Save Snapshot button</td>
<td>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. When you click this button, the Snapshot window appears. Click <strong>Save</strong> and follow the on-screen prompts to save the image with the name and in the location that you want.</td>
</tr>
<tr>
<td>Flip button</td>
<td>Rotates the video image by 180 degrees.</td>
</tr>
<tr>
<td>Mirror button</td>
<td>Reverses the video image.</td>
</tr>
<tr>
<td>Restore button</td>
<td>Displays the default video image, which is not rotated and not reversed.</td>
</tr>
</tbody>
</table>
### Viewing Live Video

**Full Screen button**

- Displays the video image in full screen mode.
- To return to normal display mode, click the full screen image.

**Motion detection**

<table>
<thead>
<tr>
<th>Control</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up Arrow toggle</td>
<td>Click the Up Arrow to display the motion detection controls. The button</td>
</tr>
<tr>
<td>button</td>
<td>changes to the Down Arrow button.</td>
</tr>
<tr>
<td>Down Arrow toggle</td>
<td>Click the Down Arrow button to hide the motion detection controls. The button</td>
</tr>
<tr>
<td>button</td>
<td>changes to the Up Arrow button.</td>
</tr>
</tbody>
</table>

**Motion detection controls**

- **Note**: These controls appear when you click the Up Arrow in the Motion Detection area and are available only viewing the primary (H.264) stream.

<table>
<thead>
<tr>
<th>Control</th>
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</tr>
</thead>
</table>
| Enable Motion Detection check box| Enables the motion detection feature and displays a grid over the video image. 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. To designate specific areas that the IP camera monitors for activity, select the areas by clicking each grid cell over the area. A red border indicates a selected area. To deselect an area, click it again. You can configure the following levels for areas that the IP camera monitors for activity:  
  - **Sensitivity**—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**—Designates the percentage of pixels that the IP camera must identify as changed in the area before it generates an alert. The camera detects pixel changes at the defined sensitivity level. The default threshold value is 10.  
  To configure sensitivity or threshold, right-click a grid cell that has a red border and then drag the Sensitivity and Threshold sliders to the desired values. Alternatively, enter a value from 1 through 100 for an option and press the Enter key. To reset the sensitivity and threshold to their default values of 50, click Restore. These configuration settings affect the cell that you select. If the cell is part of a group of horizontally or vertically (but not diagonally) adjacent cells, the settings affect all cells in the group. |
### Viewing Live Video

#### Full Screen check box

Becomes available when you click check Enable Motion Detection check box. Check the Full Screen check box to cause the IP camera to examine the entire video field for activity.

You can configure the following items for this video field:

- **Sensitivity**—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**—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 10.

To configure sensitivity or threshold, right-click anywhere in the video field border and then drag the Sensitivity and Threshold sliders to the desired values. Alternatively, enter a value from 1 through 100 for an option and press the `Enter` key. To reset the sensitivity and threshold to their default values of 50, click Restore.

<table>
<thead>
<tr>
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<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Full Screen</strong> check box</td>
<td>Becomes available when you click check Enable Motion Detection check box. Check the Full Screen check box to cause the IP camera to examine the entire video field for activity.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Control</th>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>Restore</strong> button</td>
<td>Deselects all areas in the video field that you have selected for motion detection monitoring.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
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<tbody>
<tr>
<td><strong>Save Settings</strong> button</td>
<td>Save the current motion detection configuration.</td>
</tr>
</tbody>
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