Overview

This chapter provides an overview of the Cisco 4000E Series Video Surveillance High-Definition IP Cameras and their features. These IP cameras include:

- CIVS-IPC-4300E—High-definition digital camera that is suitable for a wide range of video surveillance applications
- CIVS-IPC-4500E—Identical features to the CIVS-IPC-4300E model with the addition of digital signal processor (DSP) capabilities that are used for the Cisco video analytics feature

Note

The CIVS-IPC-4300E model is not designed to be upgraded with a DSP.

This chapter includes these topics:

- IP Camera Features, page 1-1
- IP Camera Physical Details, page 1-3
- DC Auto Iris Lens Connector Pinouts, page 1-6
- Package Contents, page 1-6

IP Camera Features

The Cisco Video Surveillance IP Camera offers a feature-rich digital camera solution for a video surveillance system. The camera provides high-definition (HD) video and simultaneous H.264 and MJPEG compression, streaming up to 30 frames per second (fps) at 1080p (1920 x 1080) resolution, and 60 fps at 720p (1280 x 720) resolution. Contact closures and two-way audio allow integration with microphones, speakers, and access control systems.

In addition, the IP camera provides networking and security capabilities, including multicast support, hardware-based Advanced Encryption Standard (AES), and hardware-based Data Encryption Standard/Triple Data Encryption Standard (DES/3DES) encryption. The camera can be powered through an external power supply or by integrated Power over Ethernet (PoE).

The IP camera includes the following key features:

- **H.264 and MJPEG compression**—The IP camera can generate H.264 and MJPEG streams simultaneously.
- **Progressive scan video**—The IP camera captures each frame at its entire resolution using progressive scan rather than interlaced video capture, which captures each field of video.
- **Analog video output**—Supports analog video at 720p or lower resolution for installation purposes.
- **Video analytics** (CIVS-IPC-4500E only)—Provides an intuitive interface and tools for video analysis.
- **Medianet**—The IP camera supports the Auto Smartports feature of the Media Services Interface (MSI). MSI enables a camera to participate as an endpoint in the Cisco medianet architecture when connected to a medianet enabled switch.
- **Local Storage**—Supports up to 8 GB of USB flash storage of video data when the camera loses network connectivity.
- **Day/night switch support**—An IR-cut filter provides increased sensitivity in low-light conditions.
- **Two-way audio communication**—Audio can be encoded with the video. With the internal or optional external microphone and optional external speaker, you can communicate with people at the IP camera location while you are in a remote location and viewing images from the IP camera.
- **Multi-protocol support**—Supports these protocols: DHCP, FTP, HTTP, HTTPS, NTP, RTP, RTSP, SMTP, SNMP v2 and v3, SSL/TLS, and TCP/IP.
- **Web-based management**—You perform ongoing administration and management of the IP camera through web-based configuration menus.
- **Motion detection**—The IP camera can detect motion in user-designated fields of view by analyzing changes in pixels and generate an alert if motion is detected.
- **Flexible scheduling**—You can configure the IP camera to respond to events that occur within a designated schedule.
- **Syslog support**—The IP camera can send log data to a Syslog server.
- **IP address filter**—You can designate IP addresses that can access the IP camera and IP addresses that cannot access the IP camera.
- **User-definable HTTP/HTTPS port number**—Allows you to define the port that is used to connect to the camera through the Internet.
- **DHCP support**—The IP camera can automatically obtain its IP addresses in a network in which DHCP is enabled.
- **Network Time Protocol (NTP) support**—Allows the IP camera to calibrate its internal clock with a local or Internet time server.
- **Support for C and CS mount lenses**—The IP camera supports a variety of C and CS mount lenses.
- **PTZ support**—The IP camera supports Pelco D protocol, which enables PTZ functions when used with a supported motorized zoom lens, external pan/tilt mount, and control device.
- **Power options**—The IP camera can be powered with 12 volts DC or 24 volts AC, which is provided through an optional external power adapter, or through PoE (802.3af), which is provided through a supported switch.
- **Camera access control**—You can control access to IP camera configuration windows and live video by configuring various user types and log in credentials.
The IP camera includes a reset button, built-in microphone, status LEDs, several ports for connecting external devices, and two threaded mounting holes, one on the bottom and one on the top.

**Note**

The IP camera casing serves as a heatsink for the internal electronics and may be warm to the touch. This is normal and indicates that the heatsink property of the casing is working as designed.

**Figure 1-1** and the table that follows describe the items on the front of the IP camera.

<table>
<thead>
<tr>
<th>1</th>
<th>Lens opening</th>
<th>The IP camera supports a variety of C and CS mount lenses, which attach here. For best performance, Cisco recommends that you use a DC auto iris lens.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Focus ring</td>
<td>Allows you to adjust the back focus of the IP camera. You must loosen the focus ring hex screw on the bottom of the IP camera before you can rotate the focus ring. For instructions, see the “Adjusting Back Focus on the IP Camera” section on page 2-10.</td>
</tr>
<tr>
<td>3</td>
<td>Microphone</td>
<td>Captures audio. There also is a connection for an optional external microphone on the rear of the IP camera.</td>
</tr>
</tbody>
</table>
Figure 1-2 and the table that follows describe the items on the rear of the IP camera.

**Figure 1-2  Rear of IP Camera**

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Power LED</td>
<td>Lights bright when the IP camera is powering up. Lights dim when the camera is IP operating</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Analog Audio/Video Port</td>
<td>Allows the connection of an optional Y cable or mini cable with BNC connector. You can connect an optional external speaker or microphone to the Y cable, or an optional video monitor to the mini cable with BNC connector. Both cables are included in the optional audio/video cables accessory kit can be purchased from Cisco (Cisco part number CIVS-IPCA-1021=).</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| 3 | PoE LED | Indicates information about PoE as follows:  
  • Lit green—PoE connection is detected  
  • Off—PoE connection is not detected |
| 4 | LAN port | Accepts a standard LAN cable to connect the IP camera to a 10/100BaseT router or switch. |
| 5 | Network Activity LED | Indicates information about the network connections as follows:  
  • Lit amber—LAN connection is detected  
  • Off—LAN connection is not detected  
  • Blinking—Data is being transmitted or received via the LAN connection |
Figure 1-3 and the table that follows describe the item on the side of the IP camera.

Figure 1-3  Side of IP Camera

<table>
<thead>
<tr>
<th></th>
<th>Power input</th>
<th>Provides for the connection of an optional 12 V, 1 amp DC power adapter or 24 VAC power adapter.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td><strong>Caution</strong> Use only the Cisco specified power supply adapter.</td>
</tr>
<tr>
<td>7</td>
<td>Reset button</td>
<td>Recessed button that 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 2-11.</td>
</tr>
<tr>
<td>8</td>
<td>GPIO ports</td>
<td>General purpose input/output (GPIO) terminal block that includes 2 input ports (labeled DI1, DI2), 2 output ports (labeled DO1, DO2), a grounding port (labeled GND), and a 5-pin RS-232 port.</td>
</tr>
<tr>
<td>9</td>
<td>USB port</td>
<td>Supports up to 8 GB of USB flash storage of video data when the camera loses network connectivity.</td>
</tr>
</tbody>
</table>

1 DC auto iris lens connector | Connection for cable from DC auto iris lens
DC Auto Iris Lens Connector Pinouts

Figure 1-4 describes the pinouts of the DC auto iris lens connector on the IP camera.

Figure 1-4  DC Auto Iris Lens Connector Pinouts

<table>
<thead>
<tr>
<th>Pin</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Damp –</td>
</tr>
<tr>
<td>2</td>
<td>Damp +</td>
</tr>
<tr>
<td>3</td>
<td>Drive +</td>
</tr>
<tr>
<td>4</td>
<td>Drive –</td>
</tr>
</tbody>
</table>

Package Contents

The Cisco Video Surveillance IP Camera package includes these items:

- Camera
- Lens opening dust cap
- USB port cover
- Terminal block for power connection
- C mount lens adaptor ring
- 0.9 mm Allen wrench for unlocking and locking the focus ring
- Quick Start Guide