Indoor/Outdoor Mini-Dome IP Camera User Manual

Product: BLK-IPD102

Please read this manual before using your camera, and always follow the instructions for safety and proper use. Save this manual for future reference.
CAUTION

Do not operate this camera in environments where the temperatures or humidity is outside the recommended range. Doing so may cause electric shock and shorten the life of the product.

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SECTION 1: FEATURES

SECTION 1
Features

The SC Black BLK-IPD102 is a professional, premium-grade mini-dome camera designed for outdoor or indoor installation. It features:

- Fixed vandal-proof dome
- Gimbal mount
- Sony® 1/3” Super HAD CCD sensor
- True day/night IR
- Dual streaming mode
- De-interlacing on DSP
- Unicast/multicast support
- H.264/MPEG4/MJPEG 25/30 fps @ D1
- G.711 (µLaw, aLaw)/PCM audio compression
- 2-way mono audio support
- RTSP/ HTTP protocol support
- 10/100 Base-T Ethernet support
- RS485 support
- PoE support
- Video motion detection support
- Video Content Analysis presence, surveillance
- OSD support
- Software development kit (SDK) available
SECTION 2
Installation and Setup

2.1 What’s in the box

Your dome camera includes the following:

- BLK-IPD102 camera
- Extension cable for LAN and power
- DC power adapter with power plugs for different powering sources
- Base seal
- BNC adapter
- 11-pin terminal block
- Hardware installation kit with a hex wrench, 3 screws and wall inserts
- CD mini disk with application software, software manual, and camera manual (this document)

2.2 Tools you need

To install the camera, you will need:

- Phillips #2 screwdriver
- PC with Microsoft® Windows® XP SP3 or newer

Depending on how the camera is mounted, you may also need:

- Hammer
- Drill with bits for drilling mounting holes
- 1-3/8” hole saw

2.3 Find an IP address for your camera

Devices attached to a Local Area Network (LAN) are each assigned a unique address (IP address) that they use when sending messages with each other. No two devices on a single Ethernet network can have the same IP address. Otherwise, conflicts will occur.

Your IP camera is pre-configured with a static IP address, subnet mask, and gateway setting:
IP address: 192.168.0.100  
Subnet mask: 255.255.255.0  
Gateway: 192.168.0.1  

Usually these settings are changed during installation to ones more compliant with the network configuration.

Use the following procedure to determine a compliant IP address to assign to your camera. If connecting your camera to a large enterprise network, consult with your network administrator before attaching the camera to the LAN for network settings to ensure that your camera won’t initially conflict with other devices. Your network administrator should also setup WAN (Internet) access to the camera.

If you encounter a problem and need to contact Supercircuits Support, first complete the chart in step 1 about your computer (PC) and camera network settings, if possible. Support will need this information to provide assistance.

1. At a PC attached to the same LAN that will be shared with your camera, determine the IP address, subnet mask, and default gateway of your PC and record it in Table 1. To find this information, do the following at the Windows desktop:

   a. Hold down the Windows key and press r to open the Run dialog box.

   ![Run Dialog Box](image)

   b. Type cmd in the entry field and click OK to open the DOS command window.

   c. At the command prompt, enter `ipconfig`. The PC will display Ethernet data associated with your Ethernet adapter LAN connection.
Example: Typical use of ipconfig in Windows XP

d. Enter the IP Address, Subnet Mask, and Default Gateway for your PC’s Ethernet adapter into Table 1.

NOTE

The Ethernet adapter data you see by using ipconfig will probably be different from that shown in the example above. If you are using Windows Vista or Windows 7, the IP address is identified as the “IPv4 Address.”

Table 1. PC/Camera network settings

<table>
<thead>
<tr>
<th>Computer (PC)</th>
<th>Camera</th>
</tr>
</thead>
<tbody>
<tr>
<td>IP Address</td>
<td></td>
</tr>
<tr>
<td>Subnet Mask</td>
<td></td>
</tr>
<tr>
<td>Default Gateway</td>
<td></td>
</tr>
</tbody>
</table>

CAUTION

If connecting your camera to an enterprise network, consult with your network administrator for the camera IP address, subnet mask, and default gateway.

2. At your PC, find an IP address on your network that is not in use:

   a. Write down the EXACT IP address of your PC up to the third/last period. Using the example shown above, this expression is: 192.168.1.
b. After the third period, include any number between 1 and 256 that is different from the one in your PC’s IP address, 168. As a first try, let’s choose 200, which will form the IP address 192.168.1.200.

c. Next, use the ping command in the DOS window to see if this IP address is in use on your network. The format of the ping command is:

```
ping <IP address>
```

To test this IP address, enter `ping 192.168.1.200`. Any reply received from the ping indicates that a device on the network is already using this IP address and you can connect to it.

```
C:\>ping 192.168.1.200
Pinging 192.168.1.200 with 32 bytes of data:
Reply from 192.168.1.200: bytes=32 time<1ms TTL=64
Reply from 192.168.1.200: bytes=32 time<1ms TTL=64
Reply from 192.168.1.200: bytes=32 time<1ms TTL=64
Reply from 192.168.1.200: bytes=32 time<1ms TTL=64
Ping statistics for 192.168.1.200:
  Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
  Approximate round trip times in milli-seconds:
    Minimum = 1ms, Maximum = 1ms, Average = 1ms
C:\>
```

In the example shown above, the message “Reply from 192.168.1.200: ..” indicates that your PC can reach the device with that IP address, and that address is in use.

d. Since the ping test of the IP address we tried showed the address was in use, try another number between 1 and 256. For example, let’s ping 192.168.1.201. At the DOS prompt, enter: `ping 192.168.1.201`

```
C:\>ping 192.168.1.201
Pinging 192.168.1.201 with 32 bytes of data:
Request timed out.
Request timed out.
Request timed out.
Request timed out.
```

```
Ping statistics for 192.168.1.201:
  Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
C:\>
```
In this test, the message “Request timed out” indicates that your PC cannot reach the device with that IP address, and that address is probably not in use. Enter this number into Table 1. If this test indicated that this IP address is in use, try other IP addresses using the steps above until an unused address is found.

### 2.4 Check LAN for default IP address compatibility

Because all SC Black cameras and encoders are factory configured with the static IP address 192.168.0.100, check the LAN before connecting your camera to ensure that network conflicts won’t occur.

At a Microsoft Windows computer attached to the LAN subnet where the camera will be connected, open a Command Prompt window and enter:

`ping 192.168.0.100`

![Ping Command Output](image)

The “Request timed out” response indicates that the IP address is not in use and the camera can be connected without causing errors.

### 2.5 Install IPAdmin Tool

The IPAdmin Tool, included on the CD mini disk, will discover cameras installed on your network and enable you to perform the initial network setup for each camera. After a camera is setup on the network, the Microsoft® Internet Explorer web browser can be used to see video from the camera, set the camera’s password, date, and time, finalize camera hardware adjustments, and configure the camera for functional requirements.

The IPAdminTool can be loaded on a Microsoft Windows XP, Vista or Windows 7 operating system. To use this utility for the initial setup of your camera, your computer must be connected to the same network subnet as your camera.
To install the IPAdmin Tool, do the following:

1. Insert the CD mini disk provided with your camera into your computer’s CD ROM drive and open the CD in a Windows Explorer window.

2. Establish a directory on your computer hard drive for the IPAdmin Tool application.

3. Copy the files IPAdminTool.exe and IPAdminTool.dll to your new directory.

2.6 Mount the camera

1. Separate the camera dome from the camera base housing by loosening the three captive screws with the hex wrench provided.

2. Determine where the camera will be mounted and record the Media Access Control (MAC) address of the camera. The MAC address can be found on the label on the base of the camera. Record the information in the following table.

<table>
<thead>
<tr>
<th>Location:</th>
<th>MAC address:</th>
</tr>
</thead>
</table>

3. Using the base as a template, mark the location of the three mounting screw holes.
4. Drill mounting screw holes into the mounting surface:
   - If the mounting surface is a soft material, such as a drywall, drill and install drywall inserts for the mounting screws.

   OR

   - If the mounting surface is a very soft material, such as ceiling tile, place a wood block behind the tile and drill holes for mounting screws long enough to secure the base to the block.

   OR

   - If mounting the camera on a hard surface, such as wood, drill the mounting screw holes into the surface before attaching the camera.

5. Determine the extension cable routing. If the cable is to be routed through the hole in the bottom of the base, perform the following steps. If the cable will be routed through the conduit port in the side of the base and routed to a nearby junction box, skip to step 9.

6. While holding the camera in its mounting position, align the mounting screw holes in the base with the holes drilled for the mounting screws. Mark the location of hole for the extension cable routing.

7. Drill a 1-3/8” hole through the mounting surface for the extension cable.

8. If you are routing interface cables through conduit attached to the bottom of the base, do the following:
   a. Unplug the extension cable from the camera electronics and remove it from the camera.
   b. Install a conduit fitting onto the bottom of the base.
   c. Install a junction box close enough to the camera for the extension cable LAN and power connectors to be in the box. Attach the conduit for the junction box to the conduit fitting on the bottom of the camera base.

9. Place the base seal over the base, aligning the holes for the mounting screws. Attach the camera and seal to the surface with three screws. Skip to step 15.

10. Unplug the extension cable from the camera electronics and remove it from the camera.
11. Remove the conduit port plug on the side of the base and install it in the cable port in the bottom of the base.

12. Install a conduit fitting onto the side of the base.

13. Place the base seal over the base, aligning the holes for the mounting screws in the base with those in the seal. Attach the base and seal to the mounting surface with three screws.

14. Install a junction box with conduit close enough to the camera for the extension cable LAN and power connectors to be in the box. When installing the junction box, attach the conduit to the fitting on the side of the camera base.

15. Route the extension cable Molex® connector end into the camera and re-attach it to the electronics.

16. Remove the protective cover on the camera lens.

2.7 Connections

Connections to the camera for audio in and out (microphone and speaker), D/I sensor, alarm, video out BNC, and RS-485 control are made through the 11-pin terminal block.
The 11-pin terminal block may be detached from the camera. Install the block in the location shown above.

### 2.7.1 Audio in/out connections

The camera includes an interface for a mono audio input (from a microphone) and a mono audio output (to a speaker). The audio output is a low level signal that requires an amplified speaker (see Specifications). The configuration of the audio wiring (Aout, Ain) is shown in the diagram below.

To connect a speaker and/or microphone to the camera:

1. Route speaker and/or microphone wiring through the cable channel and into the camera base housing.
2. Strip 1/4” of insulation from the wires and insert them into the terminal block in the locations shown connector terminal figure above. The common (ground) leads to the microphone and speaker share the same terminal block pin.

2.7.2 Sensor in (DI) connection

The camera provides one channel for sensor input that can be connected to either a voltage type or relay type sensor. For voltage type sensors, the camera allows a maximum input of 24 V DC, with a 1 V DC threshold (see Specifications). The configuration of the sensor input wiring is illustrated in the diagrams below.

Do not exceed the maximum input voltage or the relay switching rate. Refer to the specifications in this manual for more information.

Voltage type sensor wiring schematic
To connect a sensor to the camera:

1. Route sensor wiring through the cable channel and into the camera base housing.

2. Strip 1/4" of insulation from the sensor wires and insert them into the terminal block in the DI pin locations shown above. The pin marked “C” in the terminal block is the common (COM) pin.

### 2.7.3 Alarm out (DO) connection

The camera supports one alarm out connection to relay type device. It provides up to 24 V AC @ 500 mA or 12 V DC @ 1 A. The configuration of the relay type alarm wiring is illustrated in the diagram below.

---

**CAUTION**

Do not exceed the maximum relay rating. Refer to the specifications in this manual for more information.
To connect an alarm reporting device to the camera:

1. Route alarm out wiring through the cable channel and into the camera base housing.

2. Strip 1/4” of insulation from the wires and insert them into the terminal block in the DO pin locations shown above. The pin marked “C” in the terminal block is the common (COM) pin.

2.7.4 RS-485 device connection

The camera provides one RS-485 interface connection. The wiring signal polarity to the terminal block is shown in the schematic below.

To connect an RS-485 device wiring to the camera:

1. Route RS-485 device wiring through the cable channel and into the camera base housing.
2. Strip 1/4” of insulation from the wires and insert them into the terminal block. Observe the signal polarity shown in the schematic.

### 2.7.5 Video out connection

The camera provides pins on the terminal block to attach a local video monitor. A cable extension with a BNC connector is included in the packaging with the camera. When needed, attach the video cable to the terminal block as shown in figure below.

#### Local video cable connection

### 2.7.6 LAN and power connections

1. Attach the network LAN cable to the RJ-45 connector on the camera extension cable.

2. If the camera is not powered through the Ethernet (PoE), attach the power plug appropriate for your powering source to the power adapter, and attach the DC12V adapter to the power connector on the camera extension cable. Plug the power adapter into a power source.
SECTION 2: INSTALLATION AND SETUP

2.8 Configure the camera IP address

1. Open the directory where you installed IPAdmin Tool. Double click the file IPAdminTool.exe to start the application. When the IPAdmin Tool starts, it will discover all of the IP cameras it supports that exist on the network. The discovery process may take a few minutes.

2. In the Product list, find the entry with the same MAC address as the camera you installed. If the camera is not shown, click Refresh repeatedly to update the list.

3. Right click on the entry for your camera and select IP Address.

4. In the IP Setup window:
   a. Select the Static option if it is not selected. This option is required if video from the camera will be recorded by a network DVR, or if you want to view video from the camera across a WAN (Internet).
SECTION 2: INSTALLATION AND SETUP

b. Enter the IP address for your camera from Table 1 into the IP Address field.

c. Enter the subnet mask for your computer from Table 1 into the Subnet Mask field.

d. Click SETUP. A Login window will open.

5. In the Login window, enter the ID and PW (password) for your camera and click Login. The default administrator values for the ID and PW are root and pass. After entering ID and PW, the IP Setup window closes.

6. In the IPAdmin Tool window, click Refresh and verify that the entry representing the camera now shows the new IP address.

2.9 Setup the camera Basic Configuration

In this procedure, use the Internet Explorer (IE) browser to setup the camera administrator and user passwords, date, and time.

1. Open the IE browser.

2. In the URL field (Internet address), enter the IP address for your camera in the format:

   http://<IP address>/

   where <IP address> is the IP address of your camera. Following the example earlier in this guide, the entry would be: http://192.168.1.201

3. If prompted to install an ActiveX control such as AxAll.cab (publisher Cap Co), follow screen prompts to install the software.
IE prompt to install ActiveX control

Typical initial camera view

NOTE
If, after logging into your camera, you cannot see live video and the message: “Can not Create XMLDOMDocument Install MSXML4.0” appears, download and install the MS XML 4.0 library. This library can be found at:

4. In the camera window, click the SETUP link in the upper right corner of the window. Enter the User name and Password for the camera, and click OK. The default administrator values are root and pass. The Basic Configuration window will open.
5. In the Basic Configuration menu, click **Date & Time**.

   ![Basic Configuration Menu](Image)

   In the Date & Time Setting options:

   a. Select the Time Zone you prefer.

   ![Date & Time Setting](Image)

   *When the system gets started, the system time is synchronized with NTP server. But if you do not have your DNS or not available to access the internet, the system time synchronizes with RTC.*
b. Select the synchronization method, or Set Manually bullet and enter the appropriate information.

c. Select the Sync Source and Interval you prefer.

d. Click Apply.

6. In the Basic Configuration menu, click Users.

7. In the User List, click root, and then click Modify and follow the prompts. Setup the administrator user with a new password and click OK.

8. In the Users menu, click Apply, then click OK to restart the webserver (if you wish to do so at this time).
9. Click **Add** to include other administrators, operators or viewers to the user list. Follow the screen prompts to complete the entries.

10. Click **VIEW** in the upper right corner of the window to return to the camera live view.

### 2.10 Aim, focus, and image quality adjustment

#### 2.10.1 Aim

The camera mount allows the camera to be rotated on three axis to set the horizon alignment, horizontal direction, and up/down position of the video frame.

1. Gently lift the lens shroud off the camera assembly to remove it from the camera.

2. While observing video from the camera, set the horizon alignment by rotating camera module bracket on its horizontal axis (direction the lens is pointed).

3. Set the horizontal direction of the video frame by rotating camera assembly on its vertical axis.

4. Set the up-down position of the video frame by point the lens up or down.

5. If necessary, make additional adjustments to these settings to perfect the frame of the video.

#### 2.10.2 Focus adjustment

Camera focus adjustment is performed by rotating the camera lens. A set screw locks the lens in position.

1. Find the thumb screw on the side of the camera lens and loosen it.
2. While observing video from the camera, rotate the camera lens until the best focus is achieved.

3. Tighten the lens thumb screw.

4. Replace the lens shroud.

5. Reinstall the camera dome.

2.10.3 Image quality adjustments

Adjustments to the image brightness, contrast, hue, saturation, and sharpness are performed through the web browser:

1. From the VIEW window, click: SETUP > Video & Audio > Video-In

2. Scroll to the bottom of the screen and click the PREVIEW button. Follow the screen instructions to open the camera view in another IE window.

3. While observing the video in the PREVIEW window, adjust the values for brightness, contrast, hue, saturation, sharpness, and/or other parameters on screen. Click Apply to see the effect of the change. Make any necessary adjustments to produce the best video image.
4. Close the PREVIEW window and click **VIEW** to return to the normal viewing window.

### 2.11 Speaker/microphone setup

Verify the functionality of the speaker and microphone setup at the camera, and adjust volume levels.

1. Re-install the camera housing.

2. On the VIEW screen, click: **SETUP > Video & Audio > Audio** to open the Bi-directional Audio Settings menu.

3. In the Bi-directional Audio Settings menu, click the checkboxes to select “Listen to the audio from server with setting below” and “Talk to the speakers of server”.

4. Click **Apply**, and then click **VIEW** to return to the camera view screen.

5. On the VIEW screen, check the **SPK** and **MIC** options to enable the speaker at the camera and the microphone on your computer.
6. At your computer, listen for sounds from the microphone at the camera. If necessary, adjust the volume level in the camera. Click: **SETUP > Video & Audio > Audio** to re-open the Bi-directional Audio Settings menu. In the Listen frame, adjust the volume to the preferred level. Click **Apply**.

7. Use a microphone at your PC to send audio to the speaker at the camera. Verify that your microphone audio is heard at the speaker.

   To adjust the speaker volume go to the Bi-directional Audio Settings menu. In the Talk to frame, adjust the volume to an appropriate level. Click **Apply**.

### 2.12 Cleaning

Clean the camera housing with an approved glass cleaning solution and a lint free cloth.

- Dust can be removed from the unit by wiping it with a soft damp cloth. To remove stains, gently rub the surface with a soft cloth moistened with a mild detergent solution, then rinse and dry it with a soft cloth.
- Remove all foreign particles, such as plastic or rubber materials, attached to the camera housing. These may cause damage to the surface over time.

**CAUTION**

*Do not use benzene, thinner or other chemical products on the camera assembly; these may dissolve the paint and promote damage of the surfaces. Before using any chemical product, read the accompanying instructions carefully.*
### SECTION 3: SPECIFICATIONS

#### Table 2. Specifications

<table>
<thead>
<tr>
<th>Camera Module</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CCD</strong></td>
<td></td>
</tr>
<tr>
<td>Image Sensor</td>
<td>SONY 1/3” Vertical Double Density Color CCD</td>
</tr>
<tr>
<td>Effective Pixels</td>
<td>768(H) x 494(V)</td>
</tr>
<tr>
<td>Scanning system</td>
<td>2:1 Interlace</td>
</tr>
<tr>
<td><strong>Sync</strong></td>
<td></td>
</tr>
<tr>
<td>Frequency</td>
<td>15.734 KHz (H) 59.94 Hz (V)</td>
</tr>
<tr>
<td><strong>ELECTRICAL</strong></td>
<td></td>
</tr>
<tr>
<td>Resolution</td>
<td>560 TV lines (Color), 600 TV lines (B/W)</td>
</tr>
<tr>
<td>S/N (Y signal)</td>
<td>52 dB (AGC Off)</td>
</tr>
<tr>
<td>Min. Illumination</td>
<td>0.3 Lux/F1.2 (Color), 0.002 Lux (Sense-up)</td>
</tr>
<tr>
<td>Wide Dynamic Range</td>
<td>52 dB (x128)</td>
</tr>
<tr>
<td>Color</td>
<td>ON/AUTO</td>
</tr>
<tr>
<td>AGC Control</td>
<td>OFF/LOW/MIDDLE/HIGH selectable</td>
</tr>
<tr>
<td>White Balance</td>
<td>ATW/AWC/MANUAL (1,800°K~10,500°K)</td>
</tr>
<tr>
<td>Electronic Shutter</td>
<td>AUTO/MANUAL (X256 ~ 1/60 sec ~ 1/120,000 sec) Sense-up and Sense-up Limit is selectable / flickerless</td>
</tr>
<tr>
<td>Sense-Up</td>
<td>OFF/AUTO</td>
</tr>
<tr>
<td>DNR</td>
<td>ON (Level 0~32) / OFF Selectable</td>
</tr>
<tr>
<td>Lens</td>
<td>2.8~10.5 mm F1.2 DC Auto Iris Board Vari-Focal</td>
</tr>
<tr>
<td>Day &amp; Night</td>
<td>IR cut filter</td>
</tr>
<tr>
<td><strong>Video</strong></td>
<td></td>
</tr>
<tr>
<td>Compression Format</td>
<td>H.264, MPEG-4, MJPEG Selectable per Stream</td>
</tr>
<tr>
<td>Number of Streams</td>
<td>Dual Stream, Configurable</td>
</tr>
<tr>
<td>Resolution</td>
<td>D1, CIF, QCIF</td>
</tr>
<tr>
<td>Compression FPS</td>
<td>25/30 fps @ D1</td>
</tr>
<tr>
<td>Deinterlacing</td>
<td>Supported (DSP)</td>
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<tr>
<td>Motion Detection</td>
<td>Supported</td>
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<tr>
<td>OSD</td>
<td>Supported (DSP)</td>
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<tr>
<td>Burnt-in Text (Digital)</td>
<td>Supported (DSP)</td>
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<tr>
<td>Output</td>
<td>1 Loop Out (BNC connector)</td>
</tr>
<tr>
<td>Audio</td>
<td>1/1 channel</td>
</tr>
</tbody>
</table>
SECTION 3: SPECIFICATIONS

<table>
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<th>Compression Format</th>
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</thead>
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<tr>
<td>Function</td>
<td></td>
</tr>
<tr>
<td>Digital Input/output</td>
<td>1/1 channel</td>
</tr>
<tr>
<td>RS-485</td>
<td>Supported</td>
</tr>
<tr>
<td>Network</td>
<td>10/100 Base-T</td>
</tr>
<tr>
<td>Power over Ethernet</td>
<td>Supported</td>
</tr>
<tr>
<td>Protocol</td>
<td>TCP/IP, UDP/IP, HTTP, RTSP, RTCP, RTP/UDP, RTP/TCP, SNTP, mDNS, UPnP, SMTP, SOCK, IGMP, DHCP, FTP, DDNS, SSL v2/v3, IEEE 802.1X, SSH</td>
</tr>
<tr>
<td>SD Slot</td>
<td>Supported — MicroSD (MicroSD card not included)</td>
</tr>
<tr>
<td>Material</td>
<td>Aluminum Die Casting</td>
</tr>
<tr>
<td>Dimensions</td>
<td>Housing : 5.94”dia. x 4.45”h, Dome : 3.94”dia.</td>
</tr>
<tr>
<td>Color</td>
<td>White</td>
</tr>
<tr>
<td>Electrical characteristics</td>
<td></td>
</tr>
<tr>
<td>Video Output</td>
<td>1 Vp-p, 75Ω</td>
</tr>
<tr>
<td>Audio Input</td>
<td>Linein, 1.43 Vp-p (Min 1.35 Vp-p, max 1.49 Vp-p), 39 KΩ</td>
</tr>
<tr>
<td>Audio Output</td>
<td>Lineout, 46 mW Power, 16 Ω</td>
</tr>
<tr>
<td>Sensor(D/I)</td>
<td>TTL level 4.5V threshold, Max 50 mA</td>
</tr>
<tr>
<td>Alarm(D/O)</td>
<td>Max 500 mA@24 V AC or 1A @ 12 V DC</td>
</tr>
<tr>
<td>Power Source (Approx)</td>
<td>12 V DC 300 mA or PoE IEEE 802.3af (Class 0)</td>
</tr>
<tr>
<td>Environmental requirements</td>
<td></td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>32˚F ~ 122˚F (0˚C ~ 50˚C)</td>
</tr>
<tr>
<td>Operating Humidity</td>
<td>Up to 85% RH</td>
</tr>
</tbody>
</table>

Table 3. Video Content Analysis (optional)

<table>
<thead>
<tr>
<th>VCA Presence</th>
<th>Advanced Tracking Algorithm, Low False Alarm Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Performance</td>
<td></td>
</tr>
<tr>
<td>Easy to Use</td>
<td>Intuitive Web Browser Interface</td>
</tr>
<tr>
<td>Detection Zones</td>
<td>Multi-segment Polygons and Lines</td>
</tr>
<tr>
<td>On-screen Display</td>
<td>Real-time Display of Tracking Data and Events</td>
</tr>
<tr>
<td>Burnt-in Annotation</td>
<td>Stream or Analog video out (Analog video out support can vary depending on the device model, hardware version, and the firmware version)</td>
</tr>
<tr>
<td>VCA Surveillance</td>
<td></td>
</tr>
<tr>
<td>Detection Behavior</td>
<td>Camera Tampering, Direction, Stopping, Loitering, Entering, Exiting, Appear, and Disappear Filters</td>
</tr>
<tr>
<td>3D Behavior</td>
<td>Perspective Corrected Size and Speed Filters</td>
</tr>
<tr>
<td>Statistics</td>
<td>Counting Functions and Other Statistics</td>
</tr>
</tbody>
</table>
### Meta Data
- Binary XML Format

### Image Stabilization

### Electronic Stabilization
- Removes Camera Sway
APPENDIX A  Troubleshooting

A.1 Camera reset

To reset the camera while it is in use:

1. Press and hold the Reset button for 3 seconds.
2. Wait for the camera to reboot.

A.2 Set to factory default settings

The camera network settings can be forced to the initial (factory default) settings:

- IP address – reset to 192.168.0.1
- Subnet mask – reset to 255.255.0.0
- Gateway – reset to 192.168.0.1
- User ID – reset to root
- Password – reset to pass

To force the camera to the factory settings:

1. Disconnect the power (adapter) from the device.
2. While pressing and holding down the reset button, power on the camera.
3. Release the Reset button 5 seconds after applying power.
4. Wait for the camera to reboot.

A.3 Checking your Firmware

Firmware is software embedded in the camera that determines many of its features and functionality. The current firmware version number in your camera can be found by viewing video from the camera in IE, and then clicking SETUP > About > Version. Contact Supercircuits Support for firmware updates.
A.4 Support

If you cannot resolve an issue, please contact the Supercircuits Support at 1.800.335.9777 for assistance. When you contact support, please provide the server reports, log file and a brief description of the problem, if possible.

- To generate a server reports, enter the following into the IE address field:

  https://<IP ADDRESS>/nvc-cgi/admin/param.cgi?action=list
  - and -
  https://<IP ADDRESS>/nvc-cgi/admin/vca.cgi?action=list

  where <IP ADDRESS> is the IP address of your camera. The server report contains important information about the device, as well as a list of the current parameters.

- To generate a log report, use IE to log into the unit. In the View screen, click the following items, entering security information when required:

  SETUP > Maintenance > System Log > LOG LIST

  Click the name of the Log List of interest to open it.
APPENDIX C

Power over Ethernet

The BLK-IPD102 camera supports Power over Ethernet (PoE) in conformance with the IEEE 802.3af standard. IEEE 802.3af allows for two power options for Category 5 cables.

- The PoE module signature and control circuit provides the PoE compatibility signature and power classification required by the Power Sourcing Equipment (PSE) before applying up to 15 W power to the port.
- The high efficiency AC/DC converter operates over a wide input voltage range and provides a regulated low ripple and low noise output. The AC/DC converter also has built-in overload and short-circuit output protection.

C.1 PoE compatibility

With non Power Sourcing Equipment (PSE)

When it is connected with non PSE, use the power adaptor to provide power to the camera.

With power adaptor

Connecting both PSE and power adaptor does not do any harm to the products. Disconnecting power adaptor while it is operating does not stop operation. The product continues to work without rebooting.

C.2 Power classification

The PoE Power Class supported by the IP device is Class 0.

<table>
<thead>
<tr>
<th>Class</th>
<th>Usage</th>
<th>Minimum Power Levels Output at the PSE</th>
<th>Maximum Power Levels at the Powered Device</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Default</td>
<td>15.4 W</td>
<td>0.44 to 12.95 W</td>
</tr>
</tbody>
</table>