Thank you for purchasing our product. If there are any questions, or requests, please do not hesitate to contact the dealer.

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and other REVO’s trademarks and logos are the property of REVO America. Other trademarks, company names and product names contained in this manual are the property of their respective owners.

Disclaimer

CAUTION!

The default password used for your first login is 123456. To ensure account security, please change the password after your first login. You are recommended to set a strong password (no less than eight characters).

- To the maximum extent permitted by applicable law, the product described, with its hardware, software, firmware and documents, is provided on an “as is” basis.
- Best effort has been made to verify the integrity and correctness of the contents in this manual, but no statement, information, or recommendation in this manual shall constitute formal guarantee of any kind, expressed or implied. We shall not be held responsible for any technical or typographical errors in this manual. The contents of this manual are subject to change without prior notice. Update will be added to the new version of this manual.
- Use of this manual and the subsequent result shall be entirely on the user’s own responsibility. In no event shall we be reliable to you for any special, consequential, incidental, or indirect damages, including, among others, damages for loss of business profits, business interruption, or loss of data or documentation in connection with the use of this product.
- Video and audio surveillance can be regulated by laws that vary from country to country. Check the law in your local region before using this product for surveillance purposes. We shall not be held responsible for any consequences resulting from illegal operations of the device.
- The illustrations in this manual are for reference only and may vary depending on the version or model. The screenshots in this manual may have been customized to meet specific requirements and user preferences. As a result, some of the examples and functions featured may differ from those displayed on your monitor.
- This manual is a guide for multiple product models and so it is not intended for any specific product.
- Due to uncertainties such as physical environment, discrepancy may exist between the actual values and reference values provided in this manual. The ultimate right to interpretation resides in our company.
Environmental Protection

This product has been designed to comply with the requirements on environmental protection. For the proper storage, use and disposal of this product, national laws and regulations must be observed.

Symbols

The symbols in the following table may be found in this manual. Carefully follow the instructions indicated by the symbols to avoid hazardous situations and use the product properly.

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>⚠️ WARNING!</td>
<td>Contains important safety instructions and indicates situations that could cause bodily injury.</td>
</tr>
<tr>
<td>🔵 CAUTION!</td>
<td>Means reader be careful and improper operations may cause damage or malfunction to product.</td>
</tr>
<tr>
<td>📝 NOTE!</td>
<td>Means useful or supplemental information about the use of product.</td>
</tr>
</tbody>
</table>
Contents

1 Network Connection .................................................................................................................. 1

2 Login ........................................................................................................................................ 1
   Preparation ............................................................................................................................... 1
   Logging In to the Web Interface ............................................................................................... 3
   Introduction to the Web Interface ............................................................................................. 4
   Initial Configuration .................................................................................................................. 4

3 Configuring Parameters .......................................................................................................... 5
   Local Parameters ...................................................................................................................... 5
   Network Configuration ............................................................................................................. 6
      Ethernet ................................................................................................................................. 6
      Port ...................................................................................................................................... 8
      FTP ...................................................................................................................................... 9
      E-Mail .................................................................................................................................. 9
      Port Mapping ......................................................................................................................... 10
      DNS ..................................................................................................................................... 11
      DDNS ................................................................................................................................... 11
   Image Configuration ............................................................................................................... 12
      Image Adjustment .................................................................................................................. 12
      OSD Setting ........................................................................................................................... 21
      Privacy Mask .......................................................................................................................... 22
   Audio and Video Configuration ............................................................................................... 23
      Video Configuration ............................................................................................................... 23
      Snapshot ................................................................................................................................. 24
      ROI ...................................................................................................................................... 25
      Media Stream Configuration ................................................................................................. 25
   Common Alarm Configuration .................................................................................................. 27
      Configuring Motion Detection Alarm .................................................................................... 27
      Configuring Tampering Alarm ............................................................................................... 30
   System Maintenance ............................................................................................................... 30
      Security ................................................................................................................................ 31
      Setting the System Time ......................................................................................................... 33
      Upgrading the Device ............................................................................................................. 34
      Restarting the System .............................................................................................................. 34
      Importing and Exporting System Configuration File ............................................................. 35
      Collecting Diagnosis Information ......................................................................................... 35

4 Live View ................................................................................................................................... 36
   Live View Toolbar ...................................................................................................................... 36
   Viewing Certain Area of Images ............................................................................................... 37
   Using Digital Zoom ................................................................................................................... 37

Appendix B FAQ .......................................................................................................................... 38
1 Network Connection

Before accessing a network camera (also known as IP Camera or IPC) from a PC, you need to connect the network camera to the PC directly with a network cable or via a switch or router.

![Network Cable Connection](image)

Use a Shielded Twisted Pair (STP) cable to connect the network interfaces of the network camera and the PC.

![Network Cable Connection](image)

Use Shielded Twisted Pair (STP) cables to connect the network interfaces of the camera and the switch or router.

2 Login

Preparation

After you have completed the installation in accordance with the quick guide, connect the camera to power to start it. After the camera is started, you can access the camera from a PC client installed with a web browser or the client software REVO Ultra Remote. Internet Explorer (IE) is a recommended web browser. For more information about REVO Ultra Remote, refer to the REVO Ultra Remote User Manual.

The following takes IE on a Microsoft Windows 7 operating system as an example.

Check before login

- The camera is operating correctly.
- The network connection between the PC and the camera is normal.
- The PC is installed with Internet Explorer 10.0 or higher.
- (Optional) The resolution is set to 1440 x 900.
Add the IP address as a trusted site

1. Click on "Tools" drop-down menu.
2. Choose "Internet Options".
3. Select the "Trusted sites" tab.
4. Click on the "Sites" button.
5. Add the IP address (http://192.168.1.13).
6. Clear the check box for "Require server verification (https) for all sites in this zone".
7. Click "OK".
NOTE!
The IP address 192.168.1.13 in this example is the default IP address. Please replace it with the actual address of your camera if it has been changed.

(Optional) Modify user access control settings
Before you access the camera, follow the steps to set User Account Control Settings to Never notify.

Logging In to the Web Interface
The default static IP address of the camera is 192.168.1.13, and the default subnet mask is 255.255.255.0. DHCP is turned on by default. If a DHCP server is used in the network, the IP address of your camera may be assigned dynamically, and you need to use the correct IP address to log in. Use the REVO Ultra Remote client to view the dynamic IP address of your camera.
The following takes IE as an example to describe the login procedure.
1. Browse to the login page by entering the correct IP address of your camera in the address bar.

2. If you log in for the first time, follow system prompts and install the ActiveX. You need to close your browser to complete the installation.

NOTE!
- To manually load the ActiveX, type http://IP address/ActiveX/Setup.exe in the address bar and press Enter.
- The default password is used for your first login. To ensure account security, please change the password after your first login. You are recommended to set a strong password (no less than eight characters).
- The camera protects itself from illegal access by limiting the number of failed login attempts. If login fails six times consecutively, the camera locks automatically for ten minutes.
3. Enter the username and password, and then click Login. For the first login, use the default username “admin” and password “admin”or“123456”.
   - If you log in with Live View selected, live video will be displayed when you are logged in. Otherwise, you need to start live video manually in the live view window.
   - If you log in with Save Password selected, you do not need to enter the password each time when you log in. To ensure security, you are not advised to select Save Password.
   - To clear the Username and Password text boxes and the Save Password check box, click Reset.

**Introduction to the Web Interface**

By default the live view window is displayed when you are logged in to the Web interface. The following shows an example.

![Web Interface Example](image)

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Menu</td>
</tr>
<tr>
<td>2</td>
<td>Live view window</td>
</tr>
<tr>
<td>3</td>
<td>Live view toolbar</td>
</tr>
</tbody>
</table>

**Initial Configuration**

After you log in to the device, please perform the following initial configuration.

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. <strong>Ethernet.</strong></td>
<td>Reconfigure the device IP and network parameters based on the actual networking.</td>
</tr>
<tr>
<td>2. Log out and log in again to the Web using the new IP address.</td>
<td>-</td>
</tr>
<tr>
<td>3. <strong>Set the system time.</strong></td>
<td>Set the system time based on the actual situation.</td>
</tr>
</tbody>
</table>
### Item | Description
--- | ---
4. **(Optional) Set the management server.** | Set the management server based on the actual networking.
5. **(Optional) Set the server for storing photos.** | Set the server for storing photos based on the actual networking.
6. **Set OSD.** | Set the information displayed on the screen as needed, for example, time.
7. **(Optional) Manage users.** | Change the default password and add common users as needed.

You can watch the live video after finishing the initial configuration. Please configure other parameters as needed.

---

**NOTE!**
- The displayed live view interface, parameters displayed and value ranges may vary with models. Please see the actual Web interface for details.
- The parameters that are grayed out cannot be modified. For the actual settings, see the Web interface.
- It is recommended that you change the password when you are logged in the first time. For details about how to change a password, see Security.

---

### 3 Configuring Parameters

#### Local Parameters

Set local parameters for your PC.

---

**NOTE!**

The local parameters may vary with models. Please see the actual Web interface for details.

1. Select **Setup > Common > Local Settings.**
2. Modify the settings as required. The following table describes some major parameters.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Video</td>
<td></td>
</tr>
<tr>
<td>Processing Mode</td>
<td>• Real-Time Priority: Recommended if the network is in good condition.</td>
</tr>
<tr>
<td></td>
<td>• Fluency Priority: Recommended if you want short time lag for live video.</td>
</tr>
<tr>
<td></td>
<td>• Ultra-low Latency: Recommended if you want the minimum time lag for live video.</td>
</tr>
<tr>
<td>Protocol</td>
<td>Set the protocol used to transmit media streams to be decoded by the PC.</td>
</tr>
<tr>
<td>Recording</td>
<td></td>
</tr>
<tr>
<td>Subsection Size</td>
<td>• Subsection By Time: Duration of recorded video for each recording file on the computer. For example, 2 minutes.</td>
</tr>
<tr>
<td>(MB)</td>
<td>• Subsection By Size: Size of each recording file stored on the computer. For example, 5M.</td>
</tr>
<tr>
<td>When Storage Full</td>
<td>• Overwrite: When the assigned storage space on the computer is used up, the camera deletes the existing recording files to make room for the new recording file.</td>
</tr>
<tr>
<td></td>
<td>• Full Stop: When the assigned storage space on the computer is full, recording stops automatically.</td>
</tr>
</tbody>
</table>

3. Click **Save**.

**Network Configuration**

**Ethernet**

Modify communication settings such as the IP address for the camera so that the camera can communicate with other devices.

**NOTE!**

• After you have changed the IP address, you need to use the new IP address to log in.
• The configurations of DNS (Domain Name System) server are applicable when the device is accessed by domain name.
**Static Address**

1. Click **Setup > Network > Network**.

2. Select **Static** from the **Obtain IP Address** drop-down list.

3. Enter the IP address, subnet mask, and default gateway address. Make sure that the IP address of the camera is unique in the network.

4. Click **Save**.

**PPPoE**

---

**NOTE!**

This function is not supported by some models. Please see the actual model for details.

---

If the camera is connected to the network through Point to Point over Ethernet (PPPoE), you need to select PPPoE as the IP obtainment mode.

1. Click **Setup > Network > Network**.

2. Select **PPPoE** from the **Obtain IP Address** drop-down list.

3. Enter the username and password provided by your internet Service Provider (ISP).

4. Click **Save**.
DHCP

The Dynamic Host Configuration Protocol (DHCP) is enabled by default when the camera is delivered. If a DHCP server is deployed in the network, the camera can automatically obtain an IP address from the DHCP server.

To manually configure DHCP, follow the steps below:

1. Click Setup > Network > Network.

   ![DHCP Configuration Menu]

2. Select DHCP from the Obtain IP Address drop-down list.
3. Click Save.

IPv6

1. Click Setup > Network > Network.

   ![IPv6 Configuration Menu]

2. By default the IPv6 mode is set to Manual.
3. Enter the IPv6 address, set the prefix length and default gateway. The IP address must be unique on the network.
4. Click Save.

Port

**NOTE!**

This function is not supported by some models. Please see the actual model for details.

1. Click Setup > Network > Port.

   ![Port Configuration Menu]

2. Configure relevant port numbers.
3. Click Save.
FTP

All snapshots (except face detection) are saved through the general FTP service. After the configuration of FTP, you will be able to upload snapshots from network cameras to the specified FTP server.

**General**

1. Click **Setup > Storage > FTP**. Go to **General** tab.

   ![FTP Server Parameters](image)

   **Server Parameters**
   - **Server IP**: 192.168.0.150
   - **Port No.**: 21
   - **Username**: 
   - **Password**: 

   **Snapshot Image**
   - **Save To**: \[Date-YYYY]\[Date-MM]\[Date-DD]\[Hour(s)]
   - **Root Directory**: Date-YYYY, Date-MM, Date-DD, Hour(s)
   - **File Name**: [Date-YYYY]-[Date-MM]-[Date-DD].jpg

   ![Snapshot Image](image)

   **Naming Element**
   - **No.** | **Name** |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Date-YYYY</td>
</tr>
<tr>
<td>2</td>
<td>Date-MM</td>
</tr>
<tr>
<td>3</td>
<td>Date-DD</td>
</tr>
<tr>
<td>4</td>
<td>None</td>
</tr>
</tbody>
</table>

2. Set the IP address and port for the FTP server, username and password used to upload images to the FTP server, select **Upload Images**, **Overwrite Storage** and set **Overwrite At** (threshold for overwriting images). Some camera models support FTP test. You may test FTP after completing FTP settings correctly.

3. Set the path for saving snapshots on the FTP server and the file name format. For example, set path as Date-YYYY\Date-MM\Date-DD\Hour(s), and set file name as Date-YYYY-Date-MM-Date-DD.jpg.

4. Click **Save**.

**E-Mail**

After the configuration of E-mail, when alarms are triggered, you will be able to send messages to the specified E-mail address.

1. Click **Setup > Network > E-mail**.
2. Configure relevant parameters of the sender and the recipient. Some camera models support Email test. You may test email after setting the recipient address. The following table describes some major parameters.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>TLS/SSL</td>
<td>When enabled, the e-mail will be encrypted using TLS (Transport Layer Security) or Secure Socket Layer (SSL) to protect privacy. First it tries to send through an SSL connection. If the SMTP server supports SSL, the e-mail will be sent through the SSL connection; otherwise, it tries to send using STARTTLS.</td>
</tr>
<tr>
<td>Attach Image</td>
<td>When enabled, the e-mail will contain 3 instant snapshots as attachment according to the Capture Interval.</td>
</tr>
<tr>
<td>Username/Password</td>
<td>Username and password of the registration email address. The password allows the following special characters \ : * ? ’ ” &lt; &gt;</td>
</tr>
</tbody>
</table>

3. Click **Save**.

**Port Mapping**

1. Click **Setup > Network > Port**. Go to **Port Mapping** tab.
2. Enable **Port Mapping** and select mapping type. If **Manual** is selected, then external ports must be configured (external IP is obtained automatically by the camera). If the configured port is occupied, then the **Status** will show Inactive.

3. Click **Save**.

**DNS**

1. Click **Setup > Network > DNS**.

<table>
<thead>
<tr>
<th>Preferred DNS Server</th>
<th>8.8.8.8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alternate DNS Server</td>
<td>8.8.4.4</td>
</tr>
</tbody>
</table>

2. Set DNS server addresses.

3. Click **Save**.

**DDNS**

**NOTE!**
This function is not supported by some models. Please see the actual model for details.

1. Click **Setup > Network > DDNS**.

<table>
<thead>
<tr>
<th>DDNS Service</th>
<th>On</th>
<th>Off</th>
</tr>
</thead>
<tbody>
<tr>
<td>DDNS Type</td>
<td>DynDNS, NO-IP, EZDDNS</td>
<td></td>
</tr>
<tr>
<td>Server Address</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Domain Name</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Username</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Password</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Confirm</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. Enable **DDNS Service**.

3. Select a DDNS type: DynDNS, NO-IP, or EZDDNS.

4. Complete other settings including server address, domain name, username and password.

5. Click **Save**.
SNMP

SNMPv3 is recommended when a camera needs to transfer configuration with the central server. Both the camera and the central server should support SNMPv3.

**NOTE!**

- Two options are available: SNMPv3 (default) and SNMPv2.
- If you choose SNMPv2, an onscreen message will remind you of potential risks and ask if you want to continue.

1. Click Setup > Network > SNMP

![SNMP Configuration](image)

2. Select SNMPv3 and complete settings.
3. Click Save.

On the SNMPv2 setting page, Read-Only Community Name is used for two-way authentication between a camera and the central server. The default name is public, and you may change it as needed. If you change the Read-Only Community Name, you should change it into the same one on the central server, or the two-way authentication will not be completed.

![Read Community](image)

Image Configuration

Image Adjustment

**NOTE!**

- The image parameters displayed and value ranges allowed may vary with camera model. For the actual parameters and value ranges of your camera, see the Web interface. You may move the sliders to adjust settings or enter values in the text boxes directly.
- Clicking Default will restore all the default image settings.

Setting the Scene

Set image parameters to achieve the desired image effects based on live video in different scenes.
Click **Setup > Image > Image.**

The scene management page for some models is displayed as follows, you can select the desired scene in the drop-down list.

![Scene Management Page](image)

The scene management page of some models is displayed as follows, you can take the following steps to configure the scene.

1. **Click Scenes.**
2. **Select a scene,** and then set scene switching parameters. The following table describes some major parameters.

<table>
<thead>
<tr>
<th>Column</th>
<th>Description</th>
</tr>
</thead>
</table>
| **Current**    | Indicates the scene that is being used. **Note:**  
|                | ● Select an option button to switch to the scene and display the corresponding image parameters for the scene.  
|                | ● The camera switches the current scene automatically when **Enable Auto Switching** is selected.  |
| **Scene Name** | Name of the current scene. The device provides several preset scene modes. When you select a scene, the corresponding image parameters are displayed. You can adjust image settings according to actual needs.  
|                | ● Common: recommended for outdoor scenes.  
|                | ● Indoor: recommended for indoor scenes.  
|                | ● High Sensitivity: recommended for low light environment.  
|                | ● Highlight Compensation: can suppress strong light such as headlights on roads and spotlight in parks. Recommended for capturing vehicle license plates.  
|                | ● WDR: recommended for scenes with high-contrast lighting, such as window, corridor, front door or other scenes that are bright outside but dim inside.  
|                | ● Custom: set a scene name as needed.  
|                | ● Face: Capture faces in motion in complicated scenes.  |
| **Auto Switching** | Indicates whether to add a scene to the auto-switching list.  
| **Note:**      | If **Auto Switching** is selected, the system switches to a scene automatically when the condition for switching to the scene is met. By default the auto-switching list includes the default scene.  |
14

Click to set conditions for auto-switching, including schedule, illumination, and current elevation (angle between the PTZ and the horizontal direction). It means that auto-switching is triggered only when illumination and the current elevation during the set time period meet the set conditions. A condition is invalid if both the start and end values are set to 0.

3. Select a scene and then click to set it as the default scene.
4. If auto-switching is enabled, the camera can switch to the scene automatically when the condition for switching to a non-default scene is met. Otherwise, the camera remains in the default scene. When auto-switching is not enabled, the camera remains in the current scene.

NOTE!
- If Auto Switching is enabled (scene settings will be unavailable), the device will switch between the set scenes. If not, the device will stay at the current scene. The device will stay at default scenes unless the non-default scenes are triggered.
- If multiple non-default scenes are triggered, then the device will switch to the scene with the minimum number (starts from 1 to 5).

### Image Enhancement

NOTE!
This function may vary with models. Please see actual Web interface for details.

1. Click Setup > Image > Image and then click Image Enhancement.

2. Use the sliders to change the settings. You may also enter values directly. The following table describes some major parameters.

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brightness</td>
<td>Set the degree of brightness of images.</td>
</tr>
<tr>
<td></td>
<td><img src="image" alt="Low brightness" /> <img src="image" alt="High brightness" /></td>
</tr>
</tbody>
</table>

Saturation The amount of a hue contained in a color.
<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low saturation</td>
<td><img src="image1.png" alt="Low saturation Image" /></td>
</tr>
<tr>
<td>High saturation</td>
<td><img src="image2.png" alt="High saturation Image" /></td>
</tr>
<tr>
<td>Low contrast</td>
<td><img src="image3.png" alt="Low contrast Image" /></td>
</tr>
<tr>
<td>High contrast</td>
<td><img src="image4.png" alt="High contrast Image" /></td>
</tr>
<tr>
<td>Contrast</td>
<td>Set the degree of difference between the blackest pixel and the whitest pixel.</td>
</tr>
<tr>
<td>Low sharpness</td>
<td><img src="image5.png" alt="Low sharpness Image" /></td>
</tr>
<tr>
<td>High sharpness</td>
<td><img src="image6.png" alt="High sharpness Image" /></td>
</tr>
<tr>
<td>Sharpness</td>
<td>Contrasting boundaries of objects in an image.</td>
</tr>
<tr>
<td>2D Noise Reduction</td>
<td>Reduce the noise of images. The function may cause image blurring.</td>
</tr>
<tr>
<td>3D Noise Reduction</td>
<td>Reduce the noise of images. The function may cause motion blur (or ghosting in some applications).</td>
</tr>
<tr>
<td>Rotation of the image</td>
<td><img src="image7.png" alt="Rotation of the image Image" /></td>
</tr>
<tr>
<td>Normal</td>
<td><img src="image8.png" alt="Normal Image" /></td>
</tr>
<tr>
<td>Flip Vertical</td>
<td><img src="image9.png" alt="Flip Vertical Image" /></td>
</tr>
</tbody>
</table>
### Exposure

3. To restore default settings in this area, click **Default**.

**NOTE!**

- This function may vary with models. Please see actual Web interface for details.
- The default settings are scene-adaptive. Use default settings unless modification is necessary.

1. Click **Setup > Image > Image** and then click **Exposure**.

2. Set the parameters as required. The following table describes some major parameters.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
</table>
| Exposure Mode | Select the correct exposure mode to achieve the desired exposure effect.  
  - Automatic: The camera automatically adjusts exposure according to the environment. |
<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Parameter</strong></td>
<td><strong>Description</strong></td>
</tr>
<tr>
<td>Custom</td>
<td>The user sets exposure as needed.</td>
</tr>
<tr>
<td>Indoor 50Hz</td>
<td>Reduce stripes by limiting shutter frequency.</td>
</tr>
<tr>
<td>Indoor 60Hz</td>
<td>Reduce stripes by limiting shutter frequency.</td>
</tr>
<tr>
<td>Manual</td>
<td>Finetune image quality by setting shutter, gain and iris manually.</td>
</tr>
<tr>
<td>Low Motion Blur</td>
<td>Control the minimum shutter to reduce motion blur in faces captured in motion.</td>
</tr>
<tr>
<td>Shutter (s)</td>
<td>Shutter is used to control the light that comes into the lens. A fast shutter speed is ideal for scenes in quick motion. A slow shutter speed is ideal for scenes that change slowly.</td>
</tr>
<tr>
<td></td>
<td><strong>Note:</strong></td>
</tr>
<tr>
<td></td>
<td>• You can set a shutter speed when <strong>Exposure Mode</strong> is set to <strong>Manual</strong> or <strong>Shutter Priority</strong>.</td>
</tr>
<tr>
<td></td>
<td>• If <strong>Slow Shutter</strong> is set to <strong>Off</strong>, the reciprocal of the shutter speed must be greater than the frame rate.</td>
</tr>
<tr>
<td>Gain (dB)</td>
<td>Control image signals so that the camera outputs standard video signals according to the light condition.</td>
</tr>
<tr>
<td></td>
<td><strong>Note:</strong></td>
</tr>
<tr>
<td></td>
<td>• You can set this parameter only when <strong>Exposure Mode</strong> is set to <strong>Manual</strong> or <strong>Gain Priority</strong>.</td>
</tr>
<tr>
<td>Slow Shutter</td>
<td>Improves image brightness in low light conditions.</td>
</tr>
<tr>
<td></td>
<td><strong>Note:</strong></td>
</tr>
<tr>
<td></td>
<td>• You can set this parameter only when <strong>Exposure Mode</strong> is not set to <strong>Shutter Priority</strong> and when <strong>Image Stabilizer</strong> is disabled.</td>
</tr>
<tr>
<td>Slowest Shutter</td>
<td>Set the slowest shutter speed that the camera can use during exposure.</td>
</tr>
<tr>
<td></td>
<td><strong>Note:</strong></td>
</tr>
<tr>
<td></td>
<td>• You can set this parameter only when <strong>Slow Shutter</strong> is set to <strong>On</strong>.</td>
</tr>
<tr>
<td>Compensation</td>
<td>Adjust the compensation value as required to achieve the desired effects.</td>
</tr>
<tr>
<td></td>
<td><strong>Note:</strong></td>
</tr>
<tr>
<td></td>
<td>• You can set this parameter only when <strong>Exposure Mode</strong> is not set to <strong>Manual</strong>.</td>
</tr>
<tr>
<td>Metering Control</td>
<td>Set the way the camera measures the intensity of light.</td>
</tr>
<tr>
<td></td>
<td>• Center-Weighted Average Metering: Measure light mainly in the central part of images.</td>
</tr>
<tr>
<td></td>
<td>• Evaluative Metering: Measure light in the customized area of images.</td>
</tr>
<tr>
<td></td>
<td>• Highlight compensation: Ignore the brightness of the overexposed area of images. But selecting this setting will decrease the overall brightness of the image.</td>
</tr>
<tr>
<td></td>
<td>• Face Metering: Adjust image quality in poor lighting conditions by controlling the brightness of captured face in Face scene.</td>
</tr>
<tr>
<td></td>
<td><strong>Note:</strong></td>
</tr>
<tr>
<td></td>
<td>• You can set this parameter only when <strong>Exposure Mode</strong> is not set to <strong>Manual</strong>.</td>
</tr>
<tr>
<td>Day/Night Mode</td>
<td>Automatic: The camera outputs the optimum images according to the light condition. In this mode, the camera can switch between night mode and day mode automatically. Day/Night Sensitivity</td>
</tr>
<tr>
<td></td>
<td>Night: The camera provides high-quality black and white images using the existing light</td>
</tr>
<tr>
<td></td>
<td>Day: The camera provides high-quality color images using the existing light.</td>
</tr>
<tr>
<td>Day/Night Sensitivity</td>
<td>Light threshold for switching between day mode and night mode. A higher sensitivity means that the camera is more sensitive to the change of light and becomes more easily to switch between day mode and night mode.</td>
</tr>
<tr>
<td></td>
<td><strong>Note:</strong></td>
</tr>
<tr>
<td></td>
<td>• You can set this parameter only when <strong>Day/Night Mode</strong> is set to <strong>Automatic</strong>.</td>
</tr>
<tr>
<td>Day/Night Switching(s)</td>
<td>Set the length of time before the camera switches between day mode and night mode after the conditions for switching are met.</td>
</tr>
</tbody>
</table>
### Smart Illumination

**NOTE!**

This function may vary with models. Please see actual Web interface for details.

1. **Click Setup > Image > Image** and then click **Smart Illumination**.

2. Select the correct IR control mode and set the parameters. The following table describes some major parameters.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Lighting Type</strong></td>
<td>- <strong>Infrared</strong>: The camera uses infrared light illumination.</td>
</tr>
<tr>
<td></td>
<td>- <strong>White Light</strong>: The camera uses white light illumination.</td>
</tr>
<tr>
<td></td>
<td><strong>Note</strong>: When <strong>Control Mode</strong> is set to <strong>Manual</strong>, camera can set illumination level from 0~1000.</td>
</tr>
<tr>
<td><strong>Control Mode</strong></td>
<td>- <strong>Global Mode</strong>: The camera adjusts IR illumination and exposure to achieve balanced image effects. Some areas might be overexposed if you select this option. This option is recommended if monitored range and image brightness are your first priority.</td>
</tr>
<tr>
<td></td>
<td>- <strong>Overexposure Restrain</strong>: The camera adjusts IR illumination and exposure to avoid regional overexposure. Some areas might be dark if you select this option. This option is recommended if clarity of the central part of the image and overexposure control are your first priority.</td>
</tr>
<tr>
<td></td>
<td>- <strong>Road</strong>: This mode offers strong illumination in whole and is recommended for monitoring wide-ranging scenes, for example, road.</td>
</tr>
<tr>
<td></td>
<td>- <strong>Park</strong>: This mode offers uniform light and is recommended for monitoring small range scenes with many obstacles, for example, industrial parks.</td>
</tr>
<tr>
<td></td>
<td>- <strong>Manual</strong>: This mode allows you to manually control the intensity of IR illumination.</td>
</tr>
<tr>
<td></td>
<td>- <strong>Indoor</strong>: This mode is recommended for application in indoor scenes.</td>
</tr>
</tbody>
</table>
Set the intensity level of the IR light. The greater the value, the higher the intensity. 0 means that the IR light is turned off.

- **Near-illumination Level**: You are recommended to set this parameter first for a wide-angle scene.
- **Mid-illumination Level**: You are recommended to set this parameter first if the scene requires an intermediate focal length.
- **Far-illumination Level**: You are recommended to set this parameter first if the scene requires a telephoto view.

**Note:**
You can set this parameter only when **Control Mode** is set to **Manual**.

3. To restore the default settings, click **Default**.

### Focus

**NOTE!**
This function may vary with models. Please see actual models for details.

1. Click **Setup > Image > Image** and then click **Focus**.

![Focus settings](image)

2. Select the focus mode as required.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
</table>
| **Focus Mode** | • Auto Focus: The camera focuses automatically according to the current light condition.  
                   • Manual Focus: Manually adjust camera focus as required.  
                   • One-Click Focus: The camera is triggered to focus once when rotating, zooming or going to a preset.  
                   • One-Click Focus (IR): In a low light condition such as during night hours or in a dark house, this focus mode achieves better effects with the IR light turned on. |
| **Scene** | • Normal: Used for common scenes, such as road and industrial park.  
              • Long Distance: Used for long-distance monitoring on a road. For example, when the camera is installed over 30 meters high to monitor a distant road intersection. |

3. To restore the default settings, click **Default**.

### White Balance

White balance is the process of offsetting unnatural color cast in images under different color temperatures so as to output images that best suit human eyes.

**NOTE!**
This function may vary with models. Please see the actual Web interface for details.

1. Click **Setup > Image > Image** and then click **White Balance**.
2. Select a white balance mode as required. The following table describes some major parameters.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>White Balance</td>
<td>Adjust the red or blue offset of the image:</td>
</tr>
<tr>
<td></td>
<td>- Auto/Auto2: The camera adjusts the red and blue offset automatically according to the light condition (the color tends to be blue). If the images are still unnaturally red or blue in Auto mode, please try Auto2.</td>
</tr>
<tr>
<td></td>
<td>- Fine Tune: Allow you to adjust the red and blue offset manually.</td>
</tr>
<tr>
<td></td>
<td>- Outdoor: Suitable for outdoor environment with a relatively greater color temperature range.</td>
</tr>
<tr>
<td></td>
<td>- Locked: Lock the current color temperature without change.</td>
</tr>
<tr>
<td></td>
<td>- Sodium Lamp: The camera adjusts red and blue offset automatically according to the light condition (the color tends to be red).</td>
</tr>
<tr>
<td>Red Offset</td>
<td>Adjust the red offset manually.</td>
</tr>
<tr>
<td></td>
<td><strong>Note:</strong> You can set this parameter only when <strong>White Balance</strong> is set to <strong>Fine Tune</strong>.</td>
</tr>
<tr>
<td>Blue Offset</td>
<td>Adjust the blue offset manually.</td>
</tr>
<tr>
<td></td>
<td><strong>Note:</strong> You can set this parameter only when <strong>White Balance</strong> is set to <strong>Fine Tune</strong>.</td>
</tr>
</tbody>
</table>

3. To restore the default settings, click **Default**.

**Advanced**

Use the defog function to adjust the clarity of images captured in fog or haze conditions.

1. Click **Setup > Image > Image** and then click **Advanced**.

   ![Advanced Settings](image)

   **NOTE!**
   - You can set this parameter only when WDR is turned off.
   - Only some camera models support optical defog. When **Defog** is set to **On**, defog intensity level 6-9 represent optical defog, and images change from color to black/white when defog intensity is set from level 5 to 6; if **Defog** is set to **Auto** and defog intensity level is somewhere between 6-9, images do not automatically change to black/white in light fog conditions; the camera automatically switches to optical defog only in heavy fog conditions.

2. Enable the defog function and then select a level for the scene. Level 9 achieves the maximum defog effects, and level 1 achieves the minimum.
3. To restore the default settings, click Default.

**OSD Setting**

On Screen Display (OSD) is the text displayed on the screen with video images and may include time and other customized contents.

**NOTE!**

This function may vary with models. Please see the actual Web interface for details.

1. Click **Setup > Image > OSD.**

2. Select the position and content of the OSD.
   - Position: Click the desired box in the **Live View** area. After the cursor shape is changed, click and hold the button to move the box to the desired position. To set the position precisely, use the X and Y coordinates under **Overlay Area.**
   - Overlay OSD Content: The drop-down list provides **Time,** **Preset** and **Serial Info.** You may also select **Custom** and enter the content you want.
   - After you have set the position and OSD content, the ✔ symbol appears in the **Status** column, which means that the OSD is set successfully. You may set multiple lines of contents for each area and use ▲ and ▼ to adjust the sequence of display.

3. After you have completed the settings, a message appears to indicate the successful settings.
You may right-click in the preview window and then choose to view in full screen mode or at an aspect ratio. You may also double-click the preview window to enter or exit full screen mode.

To cancel OSD for an area, clear the OSD content in the Overlay OSD Content column or select None in the Position column.

The following shows an example time OSD.

Privacy Mask

On certain occasions, you may need to set a mask area on the camera image to protect privacy, for example, the keyboard of an ATM machine. When PTZ changes its position or zooms, the Privacy Mask will be adjusted accordingly to protect the area all along.

NOTE!

- This function may vary with models. Please see the actual Web interface for details.
- Some models support up to 24 privacy masks. The same picture shows up to only 8 privacy masks.

1. Click Setup > Image > Privacy Mask.

2. Click + to add a privacy mask, and click − to delete a mask.
To mask a position: Click the box (with **Mask** displayed on it) to activate the mask. After the cursor shape has changed, drag the box to the intended position.

To mask an area: Use the mouse to draw a box on the area you want to mask.

When privacy mask is configured, the intended area is blocked. The following shows an example.

---

**Audio and Video Configuration**

**Video Configuration**

You can set video parameters that your camera supports and view the current status of BNC output. If available, you may also enable sub-stream and third stream as required.

---

**NOTE!**

- This function may vary with models. Only some camera models support the third stream. To determine if your camera supports this function, see the Web interface.
- After enabling the sub or third stream, modify the parameters as required. The parameters for the sub and third stream have the same meanings as that for the main stream.

---

1. **Click Setup > Video & Audio > Video.**

   ![Video Configuration Settings](image)

   Modify the settings as required. The following table describes some major parameters.
<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Video Compression</td>
<td>Three options: H.265, H.264 and MJPEG.</td>
</tr>
<tr>
<td>Note:</td>
<td>• Image Quality cannot be set when Video Compression is set to H.265 or H.264. When set to MJPEG, only three frame rates are available: 1, 3 and 5; and Bit Rate, I Frame Interval, Smoothing and U-Code cannot be set. • The bit rate changes to the default when you change the setting between H.264 and H.265. The default bit rate for H.265 is half of that for H.264.</td>
</tr>
<tr>
<td>Frame Rate</td>
<td>Frame rate for encoding images. Unit: FPS (frame per second).</td>
</tr>
<tr>
<td>Note:</td>
<td>To ensure image quality, note that the frame rate should not be greater than the reciprocal of shutter speed.</td>
</tr>
<tr>
<td>Bitrate Type</td>
<td>• CBR: Constant Bit Rate, which means that the camera transmits data at a constant data rate.</td>
</tr>
<tr>
<td></td>
<td>• VBR: Variable Bit Rate, which means that the camera adjusts the bit rate dynamically according to image quality.</td>
</tr>
<tr>
<td>Image Quality</td>
<td>When Encoding Mode is VBR, you can move the slider to adjust quality level for images. Moving the slider toward Bit Rate decreases the bit rate and may affect image quality. Moving the slider toward Quality increases the bit rate and improves image quality.</td>
</tr>
</tbody>
</table>

2. Click Save.

Snapshot

1. Click Setup > Video & Audio > Snapshot.

   ![Snapshot Settings](image)

   - **Snapshot**
   - **Resolution**: 1920x1080
   - **Most Large(KB)**: 300

   ![Scheduled Snapshot](image)

   - **Snapshot Interval**: 1
   - **Number to Snapshot**: 2
   - **Snapshot Mode**: Schedule

2. Select On, and then set resolution, most large and schedule as needed. Some parameters are described in the table below.
<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Snapshot Interval</td>
<td>Interval between two snapshots. For example, with Snapshot Interval set to 1 and Number of Snapshot set to 2, the camera will take 2 snapshots (take one first and then take another after 1 second).</td>
</tr>
<tr>
<td>Number to Snapshot</td>
<td>Currently 1, 2, and 3 snapshots are allowed.</td>
</tr>
<tr>
<td>Snapshot Mode</td>
<td><strong>Schedule</strong>: You need to set a snapshot time, e.g., 19:12:00, which means the camera takes a snapshot at 19:12:00. <strong>Repeat</strong>: Allows you to set an interval(unit: sec). For example, according to the settings shown in the figure above, 60 seconds must elapse before the camera takes another two snapshots.</td>
</tr>
</tbody>
</table>

2. Click **Save**.

**ROI**

When Region of Interest (ROI) is enabled, the system ensures image quality for ROI first if the bit rate is insufficient.

**NOTE!**

This function is not supported by some models. Please see the actual model for details.

1. Click **Setup > Video & Audio > ROI**.

2. Click **+**, and then drag the mouse to cover the intended part of the images. To delete, select the area and then click **-**.

**Media Stream Configuration**

**Media Stream**

You can display the established media streams from a camera. You may also set the camera so it transmits code streams by the UDP or TCP protocol to a specified IP address and port number. The settings can be saved and take effect after the camera is restarted.
NOTE!

- This function is not supported by some models. Please see the actual model for details.
- Choosing a transport protocol based on your actual needs and network performance. Generally speaking, TCP enables better image quality than UDP but also causes higher latency.

1. Click **Setup > Video & Audio > Media Stream**.

![Add Media Stream](image)

2. Click +, select a stream type, and then set the IP address and port number of the unicast or multicast group for the decoding device that receives audio and video streams from the camera.
   If you want the device to establish the media stream that has been configured before automatically after the restart, select **Yes** for **Persistent**.

3. To delete a stream, click 

4. Click **Submit** to complete the operations.

**RTSP Multicast Address**

After an RTSP multicast address is configured, the third-party player can request the RTSP multicast media stream from the camera through the RTP protocol.

1. Click **Setup > Video & Audio > Media Stream > RTSP Multicast Address**.

![RTSP Multicast Address](image)
2. Set the multicast address (224.0.0.0 to 239.255.255.255) and port number (0 to 65535).
3. Click Save.

Common Alarm Configuration

You can schedule alarm reporting and set actions that can be triggered by other devices so that alarms and the triggered actions can be handled in time.

Alarm reporting can be scheduled for motion detection alarm, alarm input, alarm output, tampering detection alarm, and audio detection alarm. The supported alarms may vary with device model. For the alarm types that your camera supports, see the Web interface.

Configuring Motion Detection Alarm

Motion detection detects the object motion in a specified rectangular area during a period. You need to set a detection area, sensitivity of detection, object size, and history for the camera to decide whether to report a motion detection alarm when it detects motion.

NOTE!
- This function is not supported by some models. Please see the actual model for details.
- The alarm triggered actions may vary with models. Please see the actual Web interface for details.

Area Detection

1. Click Setup > Events > Common Alarm > Motion Detection. Set Detection Mode to Area.

2. In the Detection Area area, click + to add a new detection area. To delete a detection area, click -.
3. Click and drag the mouse to set a detection area.

4. Set the detection sensitivity, object size, and history for the camera to decide whether to report a motion detection alarm.
   - Moving the slider to the right increases detection sensitivity. When the extent of motion within the detection area exceeds the set object size, the camera reports an alarm.
   - Object size specifies the minimum ratio of the object’s size to the size of the total detection area before an alarm will be reported. That is to say, to detect motion of tiny objects, you need to draw a small box (detection area) in the actual motion area accordingly.
   - Motion detection results are shown in real time. The red lines represent the raised motion detection alarms. The longer a line, the greater the extent of motion. The denser the lines, the greater the frequency of motion.

5. Set the alarm parameters.
   - Suppress Alarm(s): After an alarm is triggered, the same alarm will not be reported within the set time.
   - Clearance Alarm(s): After an alarm is triggered,
     a. If the same alarm is not triggered within the set time, the alarm will be cleared and the same alarm can be reported again.
     b. If the same alarm is triggered within the set time, the alarm will not be cleared until the suppress alarm time expires. Then the same alarm can be reported again.

6. Set actions to be triggered by motion detection alarm and the plan.

The following table describes the triggered actions and how to set a plan.

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Upload to FTP</strong></td>
<td>With <strong>Upload to FTP</strong> selected, the camera will automatically upload snapshots to the specified FTP server when an alarm is triggered. <strong>Note:</strong> Make sure you have completed FTP and Snapshot before using this function.</td>
</tr>
<tr>
<td><strong>Trigger E-mail</strong></td>
<td>With <strong>Trigger E-mail</strong> selected, the camera will automatically send snapshots to the specified E-mail address when an alarm is triggered. <strong>Note:</strong> Make sure you have completed E-Mail before using this function.</td>
</tr>
<tr>
<td><strong>Enable Plan</strong></td>
<td>Select the check box and set the start and end times during which motion detection alarm is effective. You can directly drag the mouse to draw a plan and click <strong>Edit</strong> to edit time periods in the table. The time periods cannot overlap. The camera reports alarms during the specified period(s) only. You can select from Monday to Sunday and set four periods for each day.</td>
</tr>
</tbody>
</table>
7. Click **Save**.

**Grid Detection**

1. Click **Setup > Events > Motion Detection**. Set **Detection Mode** to **Grid**.

   ![Motion Detection](image1.png)

2. Detection area(s) can be irregular on the grid.

3. Set detection sensitivity for the camera to decide whether to report a motion detection alarm (alarm visible on compatible NVR).

4. Set alarm parameters.
   - **Suppress Alarm(s)**: After an alarm is triggered, the same alarm will not be reported within the set time.
   - **Clear Alarm(s)**: After an alarm is triggered,
     - **a.** If the same alarm is not triggered within the set time, the alarm will be cleared and the same alarm can be reported again.
     - **b.** If the same alarm is triggered within the set time, the alarm will not be cleared until the suppress alarm time expires. Then the same alarm can be reported again.

5. Set actions to be triggered by motion detection alarm and the plan. For the detailed steps, see the descriptions of alarm-triggered actions in **Area Detection** in **Configuring Motion Detection Alarm**.

6. Click **Save**.
Configuring Tampering Alarm

Configure tampering alarm so that the camera reports a tampering alarm when the lens is blocked for a certain length of time.

NOTE!

- This function is not supported by some models. Please see the actual model for details.
- The alarm triggered actions may vary with models. Please see the actual Web interface for details.

1. Click **Setup > Events > Common Alarm > Tampering Alarm**.

2. Select **On** for **Tampering Alarm**.

3. Set detection sensitivity and duration for the camera to decide whether to report a tampering alarm.
   Sensitivity is divided into three levels: high-level, mid-level and low-level. Compared with mid-level sensitivity, the camera can detect blocking from a farther location when sensitivity is set to high. The camera reports an alarm when the lens is blocked for a specified length of time.

   Tampering alarm is effective to the whole screen. To disable tampering alarm, clear the **Tampering Alarm** check box.

4. Set actions to be triggered by tampering alarms and the plan. For the detailed steps, see the descriptions of alarm-triggered actions in **Configuring Motion Detection Alarm**.

5. Click **Save**.

System Maintenance

NOTE!

This function is not supported by some models. Please see the actual model for details.
Security

User Management

There are two types of users in the system:

- Administrator: referred to as “admin” in this manual. The default name of the administrator is admin, which cannot be modified. Admin has full permission and can manage all users and devices. Only one admin user is allowed in the system.
- Common user: referred to as “user” in this manual. User only has permission to play live and recorded video. Up to 32 common users are allowed in the system.

You can add a user on the user management interface (under Setup > Security > User).

After the user is added successfully, you can change the password by entering the new password or delete the user by clearing the username.

**NOTE!**

- Only admin can change passwords. Changing the username or password for a user when the user is still logged in will force the user to log out. The user must use the new username or password to log in.
- Only admin can add and delete users. Deleting a user when the user is still logged in will force the user to log out. A deleted user cannot log in.

Setting Secure Data Transmission

Set a secure channel for data transmission to ensure security.

**NOTE!**

This function is not supported by some models. Please see the actual model for details.

1. Click Setup > Network > Port.

2. Enter the port number in the HTTPS Port text box.

3. Click Save.

4. Click Setup > Security > Network Security > HTTPS.

   ![HTTPS Port Settings](image)

5. Select On for HTTPS. You may import a custom SSL certificate as needed.

6. Click Save.

   Next time you log in, enter the address in `https://IP:HTTPS port number` format, for example, `https://192.168.1.13:443` to enter secure channel mode. If you use the default HTTPS port, enter `https://IP`.

Authentication

RTSP (Real Time Streaming Protocol) is an application layer protocol. To transmit and control the audio and video, set RTSP authentication on the Web interface.

1. Click Setup > Security > Network Security > Authentication. HTTP authentication supports Basic mode, which is compatible with Digest mode and displayed as Basic/Digest on the Web.
2. Select an authentication mode and then click Save.

**APR Protection**

This function protects a camera from ARP attacks. The gateway and the MAC address must be set properly before a PC can access the camera from another network; if an incorrect MAC is set, only PCs on the same LAN can access.


2. Select the check box to enable the ARP binding function and set the gateway MAC address.
3. Click Save.

**IP Address Filtering**

Use IP address filtering to allow or forbid access from specified IP address(es).

---

**NOTE!**

This function is not supported by some models. Please see the actual model for details.


2. Select On to enable IP address filtering.
3. Select a filtering mode, and then add IP address(es).
4. Click Save.
NOTE!
- If Filtering Mode is set to Whitelist, then only the added IP address(es) are allowed to access the camera. If Filtering Mode is set to Deny Access, then only the added IP address(es) are not allowed to access the camera.
- Up to 32 IP addresses are allowed. Each IP address can be added once only.
- The first byte of each IP address must be 1-223, and the fourth cannot be 0. For example, the following IP addresses are illegal and cannot be added: 0.0.0.0, 127.0.0.1, 255.255.255.255, 224.0.0.1.

Access Policy

NOTE!
Enabling friendly password does not affect use. If you turn it off and log in with a weak password, a page will pop up, prompting you to change the password. There is no Cancel or Close button on this page. The default password is treated as weak.


   ![Access Policy UI]

2. Select On to enable friendly password and MAC Authentication.
3. Click Save.

Watermark

Use watermark to encrypt custom information with video to prevent unauthorized delete or alteration.

NOTE!
Only some camera models support this function.

1. Click Setup > Security > Watermark.

   ![Watermark UI]

2. Select On to enable watermark, and then input watermark content.
3. Click Save.

Setting the System Time

You can use the following methods to adjust the system time of your device.

Manually Setting or Synchronizing the System Time

1. Click Setup > Common > Time, and then click the Time tab.

   ![System Time Configuration]

2. Select a synchronization mode.
3. Set the correct time zone and system time. You may also click **Sync with Computer Time** to synchronize the time settings of your camera with that of your PC.

4. Click **Save**.

### Setting the DST

1. Click **Setup > Common > Time**, and then click the **DST** tab.

   ![DST Tab](image)

2. Select **On** for **DST**, set the start time, end time, and DST bias.

3. Click **Save**.

### Upgrading the Device

If the device is managed by the central management server and you want to upgrade the devices in batch mode, it is recommended to perform the upgrade operation on the central server. For detailed steps, see the user manual for the central management server.

1. Click **Setup > System > Maintenance**.

2. Under **Software Upgrade**, click **Browse** and select the correct upgrade file.

3. Click **Upgrade** and then confirm to start. The camera will restart automatically after the upgrade is completed. Some devices support boot program upgrade. To upgrade, select **Upgrade Boot Program**.

4. You may click **Detect** to check for new versions available to cloud upgrade.

---

**NOTE!**

- You must use the correct upgrade file for your camera. Otherwise, unexpected results may occur.
- The upgrade file is a ZIP file and must include all the necessary files.
- The boot program loads the operating system and then the system starts running. The upgrade boot program function is disabled by default, and only the camera will be upgraded to the latest version. If enabled, both the camera and the boot program are upgraded, and the operating system of the following new versions can be booted properly and the camera can be upgraded conveniently.
- Ensure that the power supply is normal during upgrade. The device will restart after the upgrade is completed.

### Restarting the System

1. Click **Setup > System > Maintenance**.

   ![Device Restart](image)

2. Under **Device Restart**, click **Restart**. The device will restart after you confirm the operation.
CAUTION!
Perform this operation with caution because restarting the system interrupts the ongoing service.

Importing and Exporting System Configuration File

Export the current configurations of the camera and save them to the PC or an external storage medium. You can also quickly restore configurations by importing backup configurations stored on the PC or an external storage medium back to the camera.

CAUTION!

- After you perform the Default operation, all settings are restored to factory defaults, except the following: login password of the system administrator, network settings, and system time.
- Make sure you import the correct configuration file for your camera. Otherwise, unexpected results may occur.
- The camera will restart when the configuration file is imported successfully.

1. Click **Setup > System > Maintenance**.

![Config Management](image)

2. To import configurations that you have backed up, click **Browse** next to the **Import** button and select the configurations you want to import, and then click **Import**. The result will be displayed.

3. To export current system configurations, click **Browse** (next to the **Exporting** field), set the destination and then click **Export**.

4. To restore default configurations, click **Default** and then confirm the operation. The device will restart and restore the default configurations. Clicking **Default** with the check box selected will completely restore the device to factory default settings.

Collecting Diagnosis Information

Diagnosis information includes logs and system configurations. You can export diagnosis information to your PC.

1. Click **Setup > System > Maintenance**.

![Diagnosis Info](image)

2. In the **Diagnosis Info** area, click **Browse** to set the destination and then click **Export**.
NOTE!

- Diagnosis information is exported to the local folder in form of a compressed file. You need to decompress the file using a tool such as WinRAR and then open the file using a text editor.
- By selecting **Collect Image Debugging Info**, you can display video with debugging information at the same time, which makes troubleshooting easier.

4 Live View

Live view means playing live video (real-time audio and video) received from a camera in a window through the Web interface.

If you log in with the **Live View** check box selected, live video appears by default when you are logged in. You may double-click the window to enter or exit full screen mode.

![Live View Example]

Live View Toolbar

NOTE!

The supported live view operations may vary with camera model. For the operations that your camera supports, see the Web interface.

<table>
<thead>
<tr>
<th>Button</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Play/Stop" /></td>
<td>Play/stop live video.</td>
</tr>
</tbody>
</table>
| ![Snapshot](image) | Take a snapshot of the current image displayed on the PC.  
**Note:**  
The path for saving snapshots are set in **System Configuration**. |
| ![Recording](image) | Start/stop local recording.  
**Note:**  
The path for saving local recordings is set in **System Configuration**. |
<p>| <img src="image" alt="Zoom" /> | Start/stop digital zoom. For more details, see <strong>Using Digital Zoom</strong>. |</p>
<table>
<thead>
<tr>
<th>Button</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Proportional Scale" /></td>
<td>Set image display ratio in the window. For example, to display high-definition images at original 16:9, select <strong>Scale</strong>; to display according to window size, select <strong>Stretch</strong>; to display with the original image size, select <strong>Original</strong>.</td>
</tr>
</tbody>
</table>
| ![Reset](image) | Reset the packet loss rate to zero.  
**Note:**  
After you move the mouse cursor on a live view window, this button appears on the floating toolbar. |
| ![Display](image) | Display packet loss rate and bit rate information at the bottom of the window.  
**Note:**  
After you move the mouse cursor on a live view window, this button appears on the floating toolbar.  
Click this button to always display the information. With another click, the information appears only when you move the mouse cursor over the window or place it at the bottom. If the mouse cursor rests on the window for around 3 seconds or leaves the window, the information disappears. |
| ![Image](image) | Click this button to open the image setting page. |
| ![Display in Full Screen](image) | Display in full screen mode. |
| ![Select Stream](image) | Select a live video stream that the camera supports: main stream, sub stream or third stream. |

### Viewing Certain Area of Images

Digital zoom, area focus and 3D positioning allow you to get more details of certain part of images. Digital zoom enlarges an image with loss in image quality, while 3D positioning enlarges an image without.

**Using Digital Zoom**

**NOTE!**

The supported live view operations may vary with camera model. For the operations that your camera supports, see the Web interface.

1. On the **Live View** page, click ![Digital Zoom](image) on the toolbar.
2. Click and hold the mouse button, and then drag from top down (draw a rectangle) to specify an area. To restore the original image size and zoom in on other areas of the image, right-click the mouse.

3. To exit, click \[ \text{exit symbol} \].

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**Appendix B FAQ**

**What to do if no message prompts me to install ActiveX when I log in on a Windows 7 PC the first time**

Answer: Follow these steps to turn off UAC and then log in again:

1. Click the **Start** button, and then click **Control Panel**.
2. In the search box, type `uac`, and then click **Change User Account Control Settings**.
3. Move the slider to the **Never Notify** position, and then click **OK**.
4. After UAC is turned off, log in again.

**What to do if the installation of ActiveX failed**

Answer: If the installation failed, add the IP address of the camera as a trusted site: open **Internet Option** in IE, click the **Security** tab, click **Trusted sites**, and then click **Sites** to add the website.

If you use Windows 7, you need to save the `setup.exe` to your PC first, right-click the file, select **Run as administrator**, and then install it according to instructions.

**What to do if live video fails when I log in for the first time**

Answer: Close the firewall on your PC and then log in to the Web interface again.