Honeywell
THE POWER OF CONNECTED | Performance Series

PERFORMANCE SERIES IP CAMERA

H4W4PER2
H4W4PER3
HBD2PER1
HBW4PER1
HBW4PER2
HED2PER3
HEW4PER3

USER GUIDE

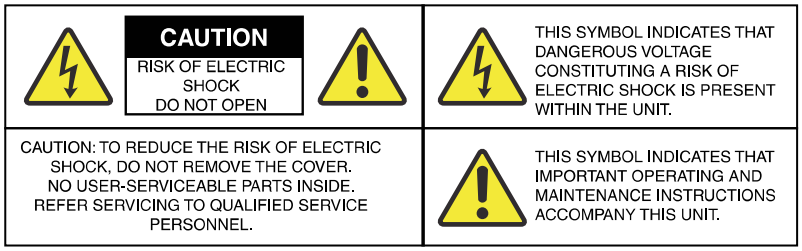
Document 800-23288 – Rev A – 07/2017

User Guide

Revisions

Issue	Date	Revisions
A	07/2017	New document.

Cautions and Warnings



CAUTION To ensure compliance with electrical safety standards, CSA Certified/UL Listed Class 2 power adapters are required.

CAUTION To comply with EN50130-4 requirements, a UPS should be employed when powering on the camera from 24 V AC.

CAUTION When installing the camera, cables must not be left bare.

CAUTION Installation and servicing should be performed only by qualified and experienced technicians to conform to all local codes and to maintain your warranty.

Regulatory Statements

FCC Compliance Statement

Information to the User: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Note Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Canadian Compliance Statement

This Class B digital apparatus complies with Canadian ICES-003.
Cet appareil numérique de la Classe B est conforme à la norme NMB-003 du Canada.

Manufacturer's Declaration of Conformity

North America

The equipment supplied with this guide conforms to UL 60950-1 and CSA C22.2 No. 60950-1.

Europe

The manufacturer declares that the equipment supplied is compliant with the European Parliament and Council Directive on the Restrictions of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (2011/65/EU), General Product Safety Directive (2001/95/EC), and the essential requirements the EMC directive 2014/30/EU, conforming to the requirements of standards EN 55032 for emissions, EN 50130-4 for immunity, and EN 60950-1 for electrical equipment safety.

Manufacturer's Name and Address

Honeywell Security (China) Co., Ltd.
Building 21, 22, 28, Section 2, Huaide Cuigang Industrial Estate
Fuyong, Bao'an District, Shenzhen, China

Waste Electrical and Electronic Equipment (WEEE)

Correct Disposal of this Product (applicable in the European Union and other European countries with separate collection systems).

This product should be disposed of, at the end of its useful life, as per applicable local laws, regulations, and procedures.

Safety Instructions

Before installing or operating the unit, read and follow all instructions. After installation, retain the safety and operating instructions for future reference.

1. **HEED WARNINGS** - Adhere to all warnings on the unit and in the operating instructions.
2. **INSTALLATION**
   - Install in accordance with the manufacturer's instructions.
   - Installation and servicing should be performed only by qualified and experienced technicians to conform to all local codes and to maintain your warranty.
   - Do not install the unit in an extremely hot or humid location, or in a place subject to dust or mechanical vibration. The unit is not designed to be waterproof. Exposure to rain or water may damage the unit.
   - Any wall or ceiling mounting of the product should follow the manufacturer's instructions and use a mounting kit approved or recommended by the manufacturer.
3. **POWER SOURCES** - This product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supplied to your facility, consult your product dealer or local power company.
4. **HEAT** - Situate away from items that produce heat or are heat sources such as radiators, heat registers, stoves, or other products (including amplifiers).
5. **MOUNTING SYSTEM –** Use only with a mounting system recommended by the manufacturer, or sold with the product.
6. **ATTACHMENTS** - Do not use attachments not recommended by the product manufacturer as they may result in the risk of fire, electric shock, or injury to persons.
7. **ACCESSORIES** - Only use accessories specified by the manufacturer.
8. **CLEANING** - Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
9. **SERVICING** - Do not attempt to service this unit yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
10. **REPLACEMENT PARTS** - When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock or other hazards. Using replacement parts or accessories other than the original manufacturers may invalidate the warranty.
11. **DAMAGE REQUIRING SERVICE** - Unplug the unit from the outlet and refer servicing to qualified service personnel under the following conditions:
    - When the power supply cord or plug is damaged.
    - If liquid has been spilled, or objects have fallen into the unit.
    - If the unit does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the unit to its normal operation.
    - If the unit has been dropped or the enclosure has been damaged.
    - When the unit exhibits a distinct change in performance, this indicates a need for service.
12. **SAFETY CHECK** - Upon completion of any service or repairs to this unit, ask the service technician to perform safety checks to determine that the unit is in proper operating condition.

Warranty and Service

Subject to the terms and conditions listed on the Product warranty, during the warranty period Honeywell will repair or replace, at its sole option, free of charge, any defective products returned prepaid.

In the event you have a problem with any Honeywell product, please call Customer Service at +44 (0) 1928 754 028 for assistance or to request a **Return Merchandise Authorization (RMA)** number.

Be sure to have the model number, serial number, and the nature of the problem available for the technical service representative.

Prior authorization must be obtained for all returns, exchanges, or credits. **Items shipped to Honeywell without a clearly identified Return Merchandise Authorization (RMA) number may be refused.**

List of Symbols

The following table contains a list of symbols that may appear on the camera:

Symbol	Explanation
	The WEEE symbol. This symbol indicates that when the end-user wishes to discard this product, it must be sent to separate collection facilities for recovery and recycling. By separating this product from other household-type waste, the volume of waste sent to incinerators or landfills will be reduced, and thus natural resources will be conserved.
	The direct current symbol. This symbol indicates that the power input/output for the product is direct current.
	The alternating current symbol. This symbol indicates that the power input/output for the product is alternating current.
	The RCM compliance logo. This logo indicates that the product conforms with Australian RCM guidelines.
	The CE compliance logo. This logo indicates that the product conforms to the relevant guidelines/standards for the European Union harmonization legislation.
	The caution symbol. This symbol indicates important information.
	The protective earth (ground) symbol. This symbol indicates that the marked terminal is intended for connection to the protective earth/grounding conductor.

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About This Document

This manual is intended for system installers, administrators, and users. It contains instructions for accessing, configuring, and operating Honeywell's 2 MP and 4 MP Performance Series IP cameras.

Overview of Contents

This document contains the following chapters:

- *Chapter 1, Getting Started with the ConfigTool*, describes how to install the Config Tool to access the camera remotely from a web browser. It also describes how to update your camera's firmware.
- *Chapter 2, Logging In and Viewing Live Video*, describes how to log in to the camera and how to use the Live interface.
- *Chapter 3, Playing Back Recorded Video (H4W4PER2/HBW4PER2)*, describes how to play back and export recorded video and snapshots.
- *Chapter 4, Configuring Camera Settings*, describes how to set up camera and streaming properties.
- *Chapter 5, Configuring Network Settings*, describes options for setting up the camera on a network. (For advanced users only.)
- *Chapter 6, Configuring Recording Settings*, describes how to set up a recording schedule and how to manage recording and storage settings.
- *Chapter 7, Configuring Events and Alarms*, describes how to configure video and system event settings and alarms.
- *Chapter 8, Configuring System Settings*, describes how to set the system language and date and time, manage useraccounts and permissions, set up maintenance tasks, upgrade the camera's firmware, and reset the camera to its factory settings.

Related Documents

For information about installing Performance Series IP cameras, please refer to the following related documents:

Name	Doc Number
H4W4PER2 WDR 4 MP IR Rugged Dome Camera Quick Installation Guide	800-23282
H4W4PER3 WDR 4 MP IR Rugged Dome Camera Quick Installation Guide	800-23289
HBD2PER1 TDN 1080p IR Bullet Camera Quick Installation Guide	800-23283
HBW4PER1 WDR 4 MP IR Bullet Camera Quick Installation Guide	800-23347
HBW4PER2 WDR 4 MP IR Bullet Camera Quick Installation Guide	800-23290
HED2PER3 TDN 1080p IR Ball Camera Quick Installation Guide	800-23281
HED4PER3 WDR 4 MP IR Ball Camera Quick Installation Guide	800-23345
Performance Series IP Cameras Certificate Installation Guide	800-23406

To access a PDF version of these documents, visit the Performance Series IP product page at http://www.honeywellvideo.com/products/video-systems/cameras/ip.

1

Getting Started with the ConfigTool

This chapter contains the following sections:

- *Installing the ConfigTool IP Utility, page 15*
- *Discovering Your Device on the Network, page 15*
- *Assigning a New IP Address to Your Device, page 16*
- *Upgrading the Device's Firmware, page 17*
- *Opening a Web Client, page 18*

Note There are two IP config tools available for your use: Honeywell ConfigTool and Honeywell IPC Tool. To use the Honeywell ConfigTool, refer to the steps below. To use the Honeywell IPC Tool, refer to the guide contained on the CD.

Installing the ConfigTool IP Utility

Before you can start using your camera, you must install the ConfigTool IP utility on your PC.

1. Insert the software CD that came with your camera into your PC's disk drive.
2. Open the **Honeywell Config Tool** folder, and then double-click **Honeywell ConfigTool.exe**.
3. Click **Next** on the ConfigTool welcome screen.
4. Read the User License Agreement. If you agree, select **I agree**.
5. If you want, you can change the installation directory (by default, ConfigTool will be installed in C:\Program Files). To proceed with the installation, click **Install**.
6. If the installation is successful, the message `Installation is complete!` appears. Click **Enjoy Now** to open ConfigTool.

Discovering Your Device on the Network

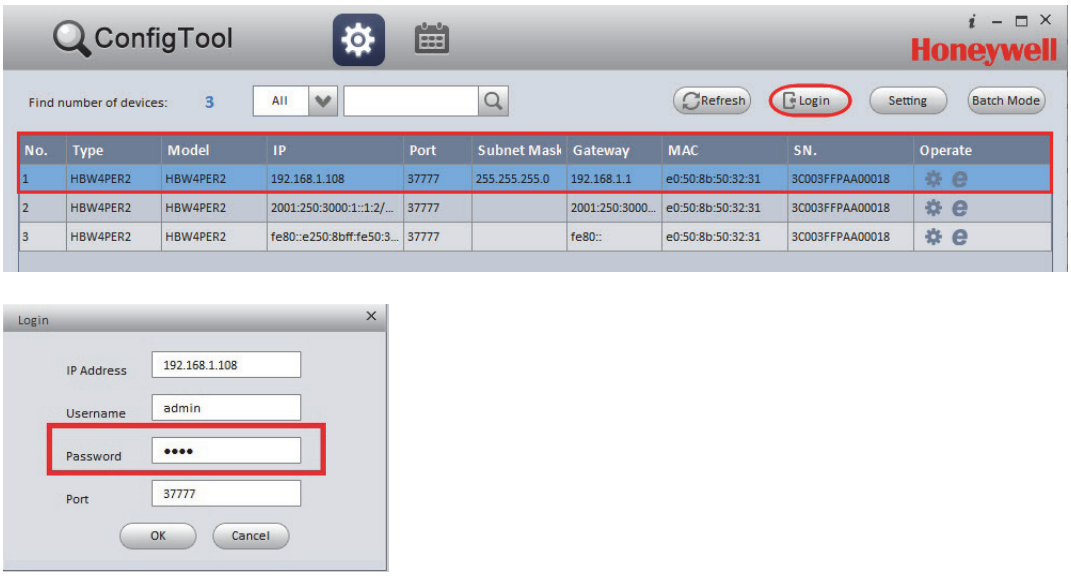
Use ConfigTool to discover your IP device(s) on the network. To discover your device(s), open ConfigTool. All of the connected IP devices on the network are listed. To refresh the list, click **Refresh**.

Assigning a New IP Address to Your Device

The current IP address of your device appears in the **IP** column of the ConfigTool main interface. If required, you can assign a new static IP address to the device.

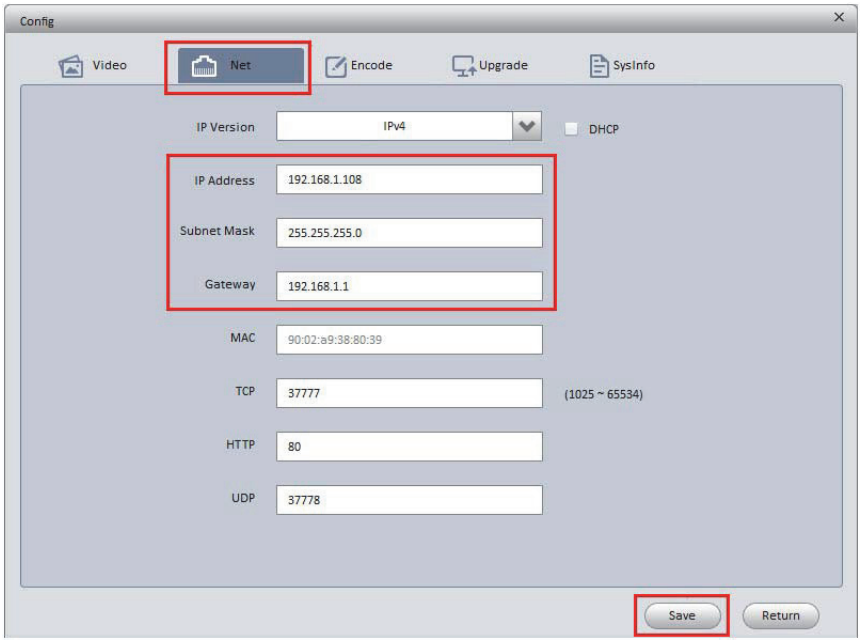
1. From the list of devices in ConfigTool, select the device that you want to assign a new IP address to.
2. Click **Login**. Enter the login user name and password for the device, and click **OK**.

Figure 1-1 Log In to a Device



3. Click the **Net** tab on the **Config** screen (see *Figure 1-2*). Enter the new IP settings in the **IP Address, Subnet Mask**, and **Gateway** fields, and click **Save**.

Figure 1-2 Network Settings



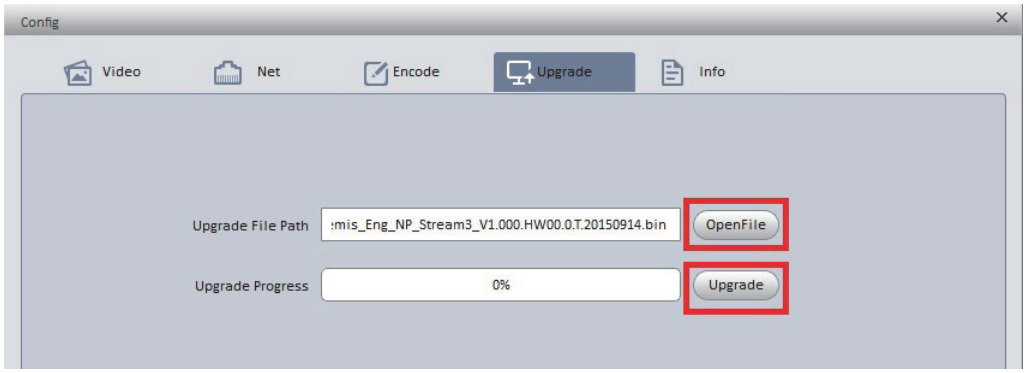
Upgrading the Device's Firmware

Before using the camera, make sure that the latest firmware is installed. You can upgrade a single device or multiple devices at the same time.

To upgrade a single device:

1. Select the device to upgrade from the list of devices in ConfigTool.
2. Click **Login**. Enter the login user name and password for the device (the default user name is **admin** and the default password is **1234**), and click **OK**.
3. Click the **Upgrade** tab on the **Config** screen (see *Figure 1-3*).
4. Click **OpenFile**, navigate to the directory that contains the firmware file, and then click **Upgrade**.

Figure 1-3 Upgrade Screen

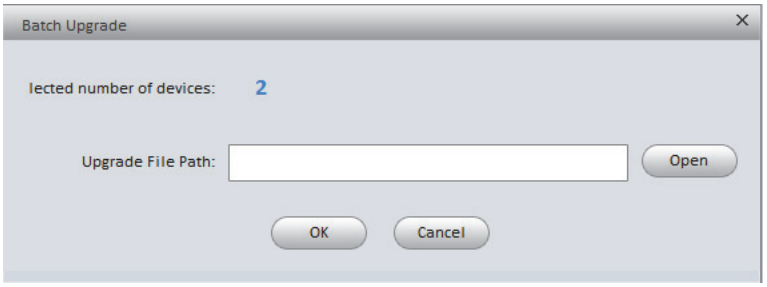


The device will reboot when the upgrade is complete. The message "Device is offline: [device IP address]" appears while a device is rebooting.

To upgrade multiple devices simultaneously:

1. Click **Batch Mode** in ConfigTool.
2. Click to select all of the devices that you want to upgrade from the list of devices, and then click **Start**. Hold **Ctrl** while selecting to select multiple devices.
3. Click **Open** on the **Batch Upgrade** screen (see *Figure 1-4*). Navigate to the directory that contains the firmware file, and click **OK**.

Figure 1-4 Batch Upgrade Dialog Box



The devices will reboot when the upgrade is complete. The message "Device is offline: [device IP address]" appears while a device is rebooting.

Opening a Web Client

You can configure individual camera settings using the web client (see *Chapter 4, Configuring Camera Settings* for more information). To open the web client from ConfigTool, select the device to open a web client for, and then click the Microsoft Internet Explorer icon in the **Operate** column. The web client opens in your browser.

2

Logging In and Viewing Live Video

This chapter contains the following sections:

- *Logging In to the Camera via the Web Client, page 19*
- *Using the Live Interface, page 21*
- *Setting Up Live Video Streaming, page 24*
- *Logging Out, page 24*

Logging In to the Camera via the Web Client

Using the web client, you can monitor live video, play back recorded video, and configure camera settings.

Before You Begin

Before logging in to the web client, ensure that the following conditions are met:

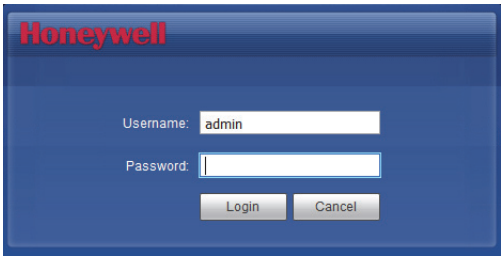
- The camera is properly connected to the network.
- The camera's IP address and the PC's IP address are in the same network segment. If there is a router, set the corresponding gateway and subnet mask.
- A network connection has been established. To verify the connection, ping the camera's IP address. (Enter "ping *[IP address]*").

Logging In to the Camera

1. Open **Internet Explorer**, enter the camera's IP address in the address bar, and then press **Enter**. For example, if your camera's IP address is **192.168.1.108**, you would type **http://192.168.1.108**.
2. On the login screen, enter the admin user name and password, and then click **Login**.

   The default user name is **admin** (case-sensitive) and the default password is **1234**.

Figure 2-1 Login Window

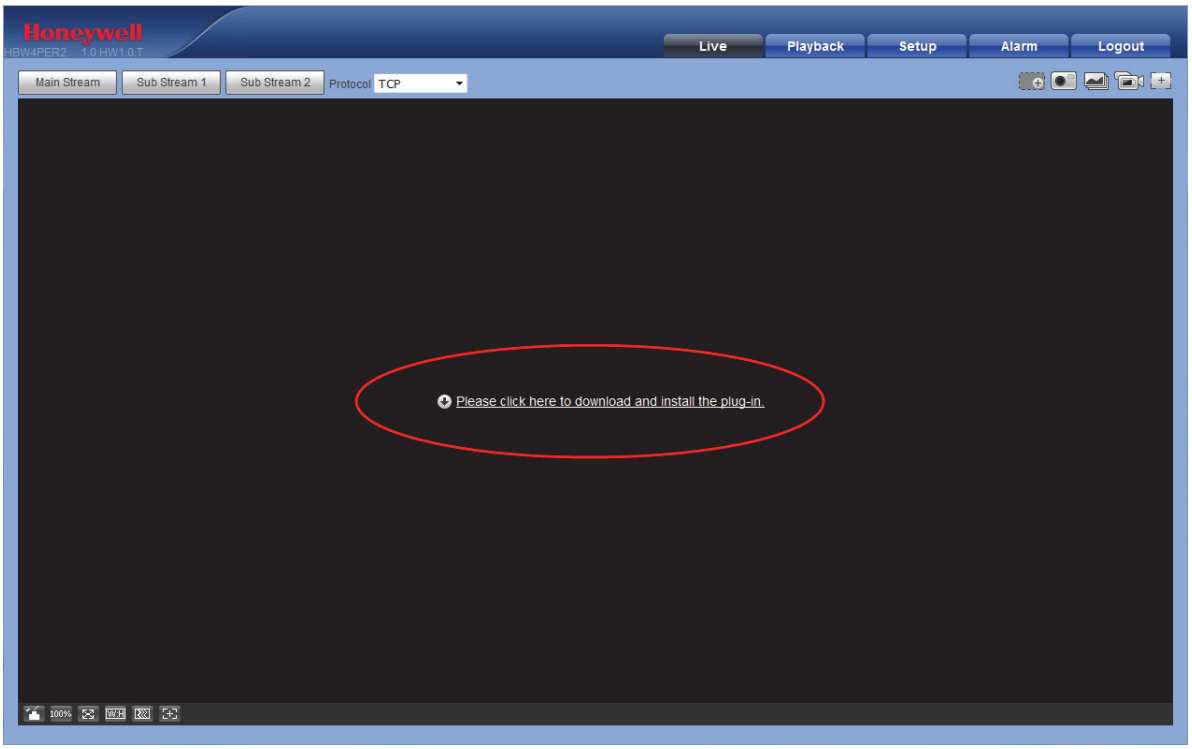


3. At the prompt, create a strong password at least 8 characters in length, consisting of both uppercase and lowercase letters, at least one number, and at least one special character.

Installing the Browser Plug-In

The first time you log into the web client, you will be prompted to download and install a browser plug-in (see *Figure 2-2*). Follow the on-screen instructions to install the plug-in.

Figure 2-2 First-time Login Message



When the installation is complete, the web client automatically refreshes and the Live interface opens (*Figure 2-3*).

Using the Live Interface

Figure 2-3 shows the layout of the web client's Live interface.

Figure 2-3 Live Interface

1 Menu tabs

2 Stream and protocol settings

3 Live interface controls toolbar

4 Live interface configuration toolbar

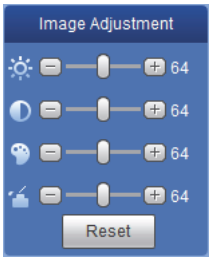
Configuring the Live Interface

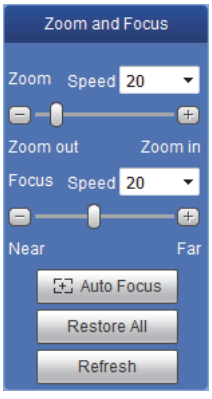
You can configure the Live interface using the toolbar located in the lower left corner of the screen (*Figure 2-4*).

Figure 2-4 Live Interface Configuration Toolbar

Table 2-1 Live Interface Configuration Tools

	Image Adjustment	Opens the **Image Adjustment** panel. Drag the sliders to adjust the image brightness, contrast, hue, and saturation. Click the **–** and **+** signs to make fine adjustments. To restore the settings to their default values, click **Reset**. **Note** These settings only apply to the client end. To change the settings at the camera end, go to **Setup > Camera > Conditions**.
100%	**Original Size**	Displays video in its original size (determined by the stream resolution).
	Full Screen	Displays video in full-screen mode. Double-click the mouse or press Esc to exit full-screen mode.
W:H	**Width:Height Ratio**	Displays video in its original size (**Original**) or fitted to your screen (**Adaptive**). Click to toggle between the two.
	Fluency	Sets the video fluency level (**Realtime**, **Normal**, **Fluency**). Select a fluency level based on your network connection. For example, if your connection is slow, selecting **Fluency** will prioritize smoothness over image quality.
	Zoom and Focus	Opens the **Zoom and Focus** panel. Drag the sliders to adjust the zoom and focus settings. Click the **–** and **+** signs to make fine adjustments. The **Step** number determines the magnitude of the adjustment. To set the focus automatically, click **Auto Focus**. To restore the default zoom and focus settings, click **Restore All**. To focus on a specific region, click **Regional Focus**, and then drag your mouse over the area in the video window.





Working in the Live Interface

The toolbar in the upper right corner of the screen provides quick access to commonly used live monitoring controls (*Figure 2-5*). You can zoom in on a specific area, take a snapshot, or start recording live video.

Figure 2-5 Live Interface Controls Toolbar

Table 2-2 Live Interface Controls

Icon	Control	Description
	**Digital Zoom**	While viewing live video, click  and hold down the left mouse button to zoom in on a specific area. Right-click the mouse to return to the previous magnification.
	**Snapshot**	Click to take a snapshot of the live stream. The snapshot is saved to the location specified in **Setup > Camera > Video > Path > Live Snapshot**.
	**Triple Snap**	Click to take three snapshots of the live stream in quick succession (one per second). The snapshots are saved to the location specified in **Setup > Camera > Video > Path > Live Snapshot**.
	**Record**	Click to start or stop recording the live stream. The recorded video is saved to the location specified in **Setup > Camera > Video > Path > Live Record**.
	**Easy Focus**	Displays the current video definition (AF Peak) and target video definition (AF Max). For auto focus to work, the AF Peak and AF Max values must be close together. If the values are far apart, the camera must be re-aimed or focused manually.

Setting Up Live Video Streaming

In the upper left corner of the screen, immediately above the video window, you can set the stream type and protocol for live video streaming.

Setting the Stream Type

To set the stream type, in the **Stream Type** list, select **Main Stream**, **Sub Stream 1**, or **Sub Stream 2**.

Main Stream	Delivers high definition video for real-time monitoring, recording, and storage. Uses the most bandwidth.
Sub Stream 1	Delivers low/standard definition video, typically for remote monitoring in lower network bandwidth environments.
Sub Stream 2	Delivers low, standard, or high definition video.

The properties for each stream type are configured on the **Setup > Camera > Video > Video** page.

Setting the Stream Protocol

To set the stream protocol, in the **Protocol** list, select **TCP**, **UDP**, or **Multicast**.

TCP	Provides most reliable data transmission. Higher latency and bandwidth use than UDP.
UDP	Provides fastest data transmission. Lower latency and bandwidth use than TCP but allows some data loss (such as dropped frames).
Multicast	Provides the most efficient use of bandwidth if large numbers of clients are viewing the video simultaneously.

Logging Out

To log out of the camera, in the upper right corner of the screen, click the **Logout** tab.

3

Playing Back Recorded Video (H4W4PER2/HBW4PER2)

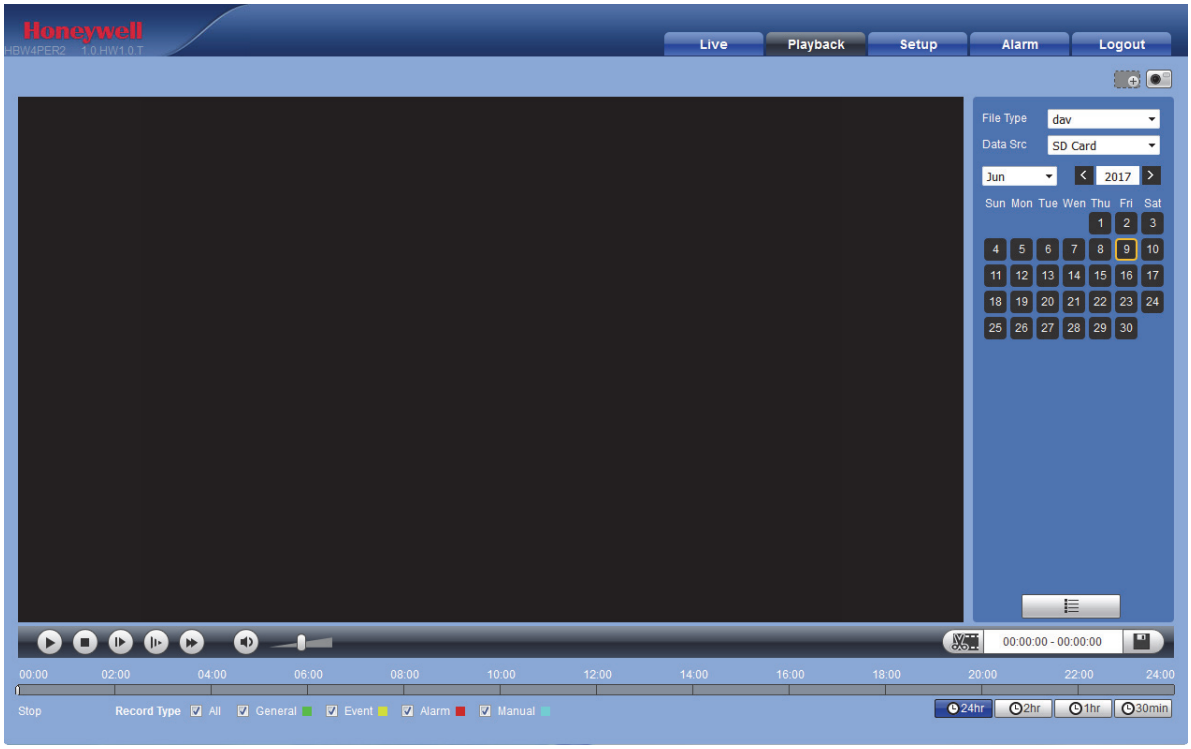
This chapter contains the following sections:

- *Overview of the Playback Interface, page 25*
- *Playing Back Recorded Video, page 27*
- *Downloading Recorded Video, page 28*
- *Viewing Snapshots, page 29*

Overview of the Playback Interface

Figure 3-1 shows the layout of the web client's Playback interface.

Figure 3-1 Playback Interface



Playback Controls

The playback controls are located in the lower left corner of the screen, immediately below the video window. For instructions on how to play back video, see *Playing Back Recorded Video* on page 27.

Figure 3-2 Playback Toolbar

Table 3-1 Playback Controls

	**Play/Pause**	Click to play/pause recorded video.
	**Stop**	Click to stop playback.
	**Next Frame**	Click to advance to the next frame when playback is paused.
	**Slow**	Click to slow down playback.
	**Fast**	Click to speed up playback.
	**Sound**	Click to enable/disable sound.
	**Volume**	Drag the slider to adjust the sound volume.

Video Clip Controls

The video clip controls are located in the lower right corner of the screen, immediately below the file list button. For instructions on how to create and export a video clip, see *Downloading Recorded Video* on page 28.

Figure 3-3 Video Clip Area

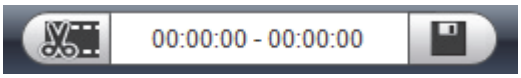


Table 3-2 Video Clip Controls

	**Start Clip**	Click to start clipping video.
	**Stop Clip**	Click to stop clipping video.
	**Save Clip**	Click to download the video clip that you have created to a local drive on your PC.

Timeline

The timeline is located below the playback and video clip controls.

Figure 3-4 Timeline Area

Table 3-3 Timeline Controls

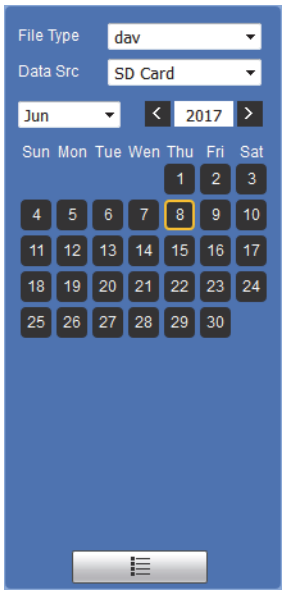
Record Type	**General**	Displays video saved during normally scheduled recording in the timeline.
	Event	Displays video saved during a video or system event in the timeline.
	Alarm	Displays video saved during an alarm event in the timeline.
	Manual	Displays video saved manually during live monitoring in the timeline.
24hr	**24hr**	Displays 24 hours of video in the timeline.
2hr	**2hr**	Displays 2 hours of video in the timeline.
1hr	**1hr**	Displays 1 hour of video in the timeline.
30min	**30min**	Displays 30 minutes of video in the timeline.

Playing Back Recorded Video

To play back recorded video:

1. From the **File Type** list, select **dav**.
2. From the **Data Src** list, select the location where the video files are stored.

   The storage location is configured in **Setup > Storage > Destination**.
3. Locate the file that you want to play back.
   a. Above the calendar, select the month and year that you want to search.
   b. On the calendar, click the date that you want to search. Recordings for the selected date appear in the timeline (color coded according to recording type).
   c. Below the calendar, click the **File List** button to narrow your search by time period and/or by download format.



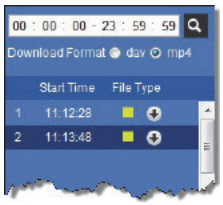
4. Play the file using one of the following methods:
   - In the file list, double-click the file that you want to play.
   - In the timeline, click a colored bar at the time that you want to start playing from (click 30min to zoom in on the timeline), and then click the **Play** button.

Downloading Recorded Video

There are two ways to download recorded video: you can download a complete video file (the maximum length is specified in **Setup > Storage > Record Control**) or you can create and export a video clip that you have created.

To download a video file:

1. From the **File Type** list, select **dav**.
2. From the **Data Src** list, select the location where the video files are stored.
3. On the calendar, click the date that the video was recorded.
4. Click **File List** to display the list of video files for that date.
5. Set the **Download Format** to **dav** or **mp4**.
6. Select the file that you want to download, and then click the download button.



The file is saved to the location specified in **Setup > Camera > Video > Path > Playback Download**.

To create and export a video clip:

1. Open a video file in the playback window.
2. Pause the video at the time when you want to start the clip.
3. In the video clip area, click the **Start Clip** button .
4. Resume playing the video.
5. Pause the video at the time when you want to stop the clip.
6. Click the **Stop Clip** button .
7. Stop the video, and then click the **Save Clip** button .

Note You cannot download the clip while the video file is still open in the web client.

The clip is saved to the location specified in **Setup > Camera > Video > Path > Video Clips**.

Viewing Snapshots

You can take snapshots of video during playback by clicking the **Snapshot** button  . The snapshot is saved to the location specified in **Setup > Camera > Video > Path > Playback Snapshot**.

To view a snapshot that you have saved manually during live monitoring, go the directory specified in **Setup > Camera > Video > Path > Live Snapshot** and double-click the file to open it.

To view a snapshot that you have saved manually during playback, go the directory specified in **Setup > Camera > Video > Path > Playback Snapshot** and double-click the file to open it.

If you have configured the system to take snapshots on a schedule, or during motion detection or alarm events, you can view and download them.

To view or download a system-generated snapshot:

1. From the **File Type** list, select **jpg**.
2. From the **Data Src** list, select the location where the snapshot files are stored.
3. On the calendar, click the date that the snapshot was taken.
4. Click **File List** to display the list of snapshots for that date.
5. Double-click the snapshot file that you want to view. The file opens in the video window.
6. To download the file, click the download button. The file opens in a new browser window. Right-click the image and then click **Save picture as** or **Save image as** to save the snapshot to a local directory.

4

Configuring Camera Settings

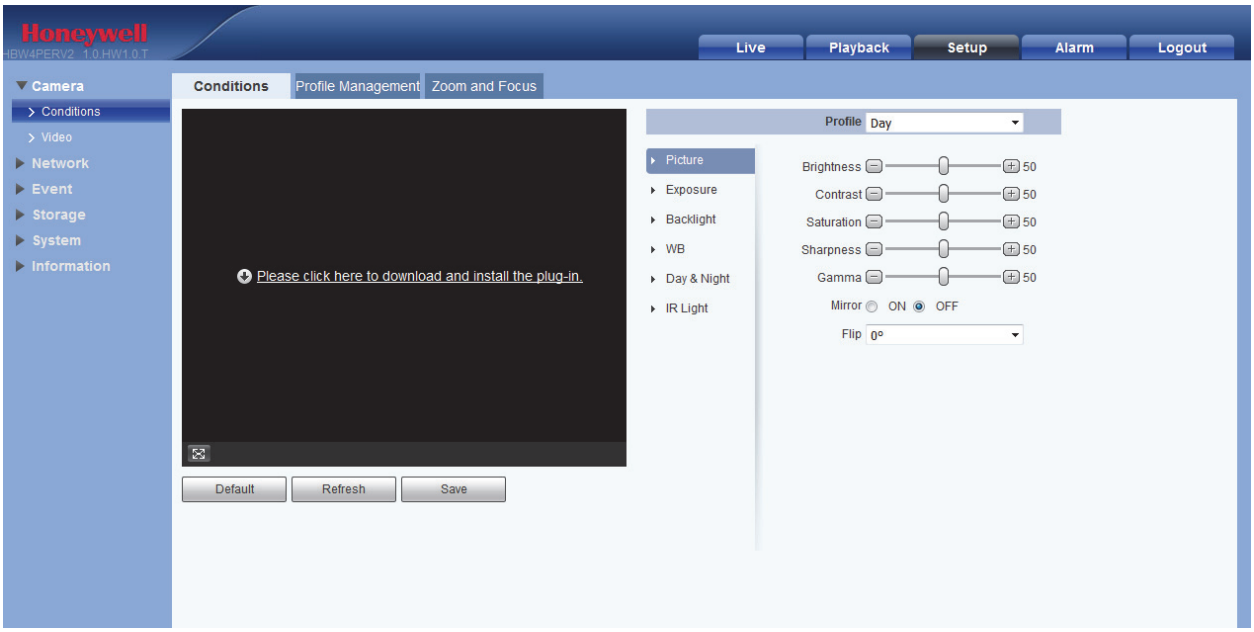
This chapters contains the following sections:

- *Configuring Camera Properties, page 31*
- *Managing Profiles, page 34*
- *Configuring Zoom and Focus Settings, page 35*
- *Configuring Streaming Settings, page 36*
- *Configuring Snapshot Settings, page 37*
- *Configuring Overlays, page 38*
- *Configuring Regions of Interest, page 40*

Configuring Camera Properties

This section describes how to configure camera properties (picture, exposure, lighting compensation, white balance, day and night, IR light, and defog) and video streaming properties (format, resolution, frame rate, bit rate, and I-frame interval).

You can configure camera properties on the **Setup > Camera > Conditions** page.

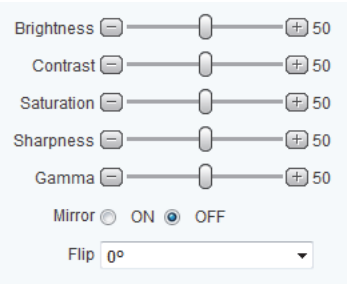


Profile

In the **Profile** box, select the camera profile that you want to configure settings for: **Normal**, **Day**, or **Night**.

Picture

In the **Picture** area, you can manually adjust the image brightness, contrast, saturation, sharpness, and gamma levels.



Drag the slider left or right to decrease or increase the value.

Click the **–** and **+** signs to make fine adjustments.

Brightness	Adjusts the black level of the image.
Contrast	Adjusts the white level of the image.
Saturation	Adjusts the intensity of the image colors.
Sharpness	Adjusts the edge sharpness of image elements. Keep in mind that increasing sharpness in a moving image will create more noise, resulting in a larger bit stream and saved file size.
Gamma	Adjusts the amount of gamma correction applied to the image. Use fine adjustments to accent darker areas of the image.

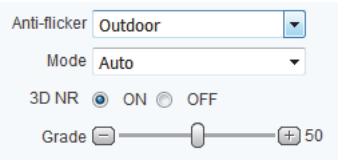
You can also change the image orientation:

- To reverse the image, set **Mirror** to **ON**.
- To rotate the image 90 degrees, 180 degrees, or 270 degrees, set **Flip** to **90°**, **180°**, or **270°** respectively.

Click **Save** to apply the settings.

Exposure

In the **Exposure** area, you can set the anti-flicker mode, exposure mode, auto iris, and digital noise reduction level.



Set **Anti-Flicker** to **Outdoor**, **50Hz**, or **60Hz**.

Outdoor	Minimizes flicker in outdoor applications. Works with auto, low noise, low motion blur, and manual exposure modes
50Hz	Minimizes flicker in indoor applications where the AC frequency is 50 Hz (generally PAL regions). Works with auto and manual exposure modes.
60Hz	Minimizes flicker in indoor applications where the AC frequency is 60 Hz (generally NTSC regions). Works with auto and manual exposure modes.

Set **Mode** to **Auto**, **Gain Priority**, **Shutter Priority**, or **Manual**.

Auto	Exposure settings change automatically with changes in the scene's lighting.
Gain Priority	The shutter speed and iris are adjusted automatically for the specified gain value.
Shutter Priority	The iris and gain are adjusted automatically for the specified shutter speed.
Manual	Maximum shutter speed and maximum gain for normal light conditions are set by the user.

3DNR (3D noise reduction) is enabled by default. Drag the **Grade** slider left or right to decrease or increase the level of digital noise reduction applied to the image. To disable 3D noise reduction, set **3DNR** to **OFF**.

Click **Save** to apply the settings.

Lighting Compensation

In the **Backlight** area, you can apply backlight compensation (BLC), highlight compensation (HLC), or wide dynamic range (WDR) adjustment to the image.

Set **Mode** to **OFF**, **BLC**, **HLC**, or **WDR**.

BLC	Corrects the exposure of strongly backlit scenes. To apply BLC to the entire scene, click **Default**. To apply BLC to a specific area of the scene, click **Customized**. A yellow rectangle appears in the preview window. To move it, drag the center of the frame. To resize it, drag one of the corner handles.
HLC	Masks strong light sources in the scene. Drag the slider to adjust the HLC level. Click the – and + signs to make fine adjustments.
WDR	Corrects the exposure of overexposed and underexposed areas of the scene. Drag the slider to adjust the DWDR level. Click the – and + signs to make fine adjustments.

Click **Save** to apply the settings.

White Balance

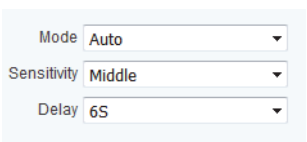
White balance compensates for the different color temperatures of different light sources, ensuring consistent colors- in the image.

In the **WB** area, set **Mode** to **Auto**, **Natural**, **Street Lamp**, **Outdoor**, **Manual** or **Regional Custom**.

Auto	White balance is adjusted automatically.
Natural	White balance is optimized for natural lighting.
Street Lamp	White balance is optimized for yellow-tinted lighting.
Outdoor	White balance is optimized for outdoor environments.
Manual	Red gain and blue gain values are set by the user.
Regional Custom	White balance is applied to a user-defined area within the scene.

Click **Save** to apply the settings.

Day and Night



In the **Day & Night** area, you can set the day and night mode, sensitivity, and delay time.

By default, the camera automatically outputs color video or black-and-white video depending on the amount of light in the scene. To output *only* color video, set **Mode** to **Color**. To output *only* black-and-white video, set **Mode** to **Black & White**.

Sensitivity controls the sensitivity to lighting changes that cause the camera to switch between day (color) and night (black-and-white) mode. Select **Low**, **Middle**, or **High**.

Delay defines the delay time before switching between modes. Select a value between **2S** and **10S** (2–10 seconds).

Click **Save** to apply the settings.

IR Light

In the **IR Light** area, you can set the infrared (IR) LED mode.

Set **Mode** to **Manual**, **Smart IR**, or **OFF**.

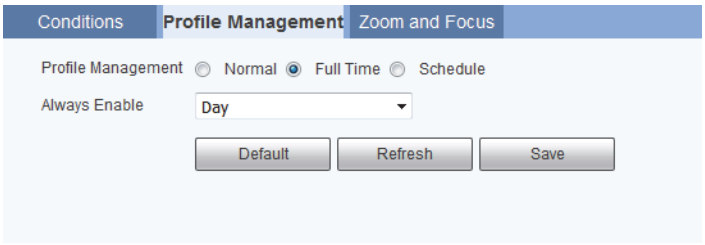
Manual	IR brightness is set by the user.
Smart IR	IR settings are adjusted automatically to prevent overexposure or underexposure.

If **Mode** is set to **Manual**, set the **Intensity** level. Drag the slider left or right to decrease or increase the brightness of the IR LEDs. Click the **–** and **+** signs to make fine adjustments.

Click **Save** to apply the settings.

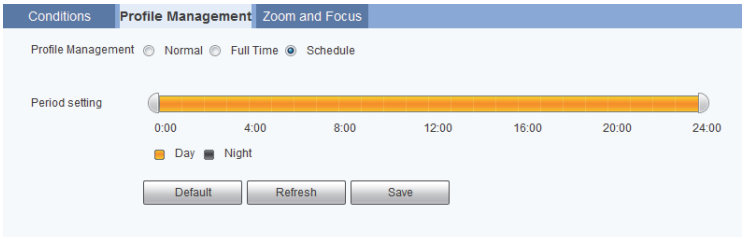
Managing Profiles

After you have configured the camera properties for each profile (Normal, Day, Night), you can set the profile(s) that you want the system to use on the **Setup > Camera > Conditions > Profile Management** page.



Next to **Profile Management**, select **Normal**, **Full Time**, or **Schedule**. By default, the system has the **Day** profile always enabled.

Normal	The Normal profile is always enabled.
Full Time	The Day profile or Night profile is always enabled, depending on your selection.
Schedule	The system switches between the Day profile and Night profile. Drag the sliders on the left and right sides of the timeline to set the Night-to-Day and Day-to-Night switching times.

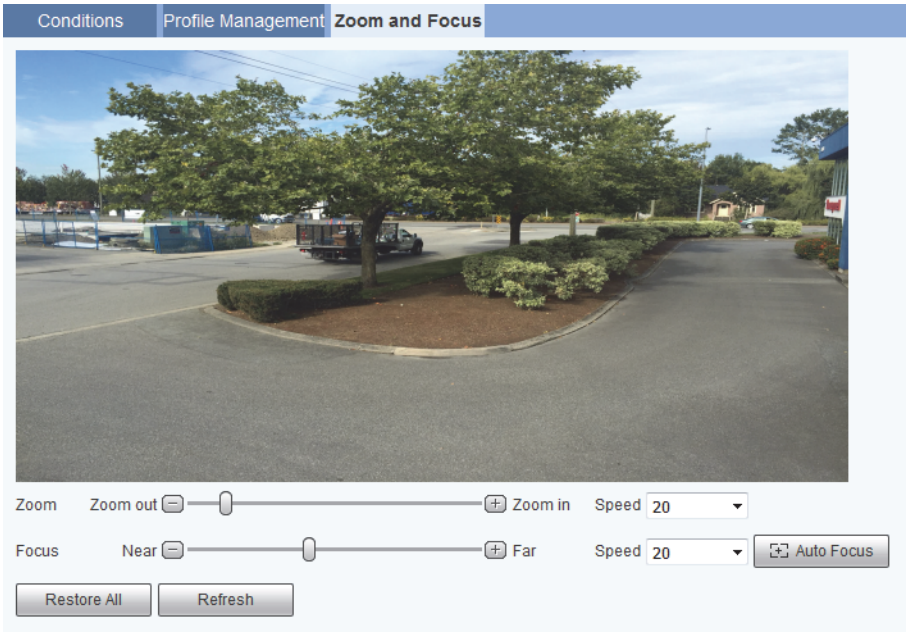


Click **Save** to apply the settings.

Configuring Zoom and Focus Settings

Note This section only applies to **H4W4PER2** and **HBW4PER2**.

You can configure zoom and focus on the **Setup > Camera > Conditions > Zoom and Focus** page.



To adjust the zoom magnification, drag the slider right or left. Click the **+** and **–** signs to make fine adjustments. The **Speed** value determines the magnitude of the adjustment.

To adjust the focus manually, drag the slider right or left. Click the **+** and **–** signs to make fine adjustments. The **Speed** value determines the magnitude of the adjustment.

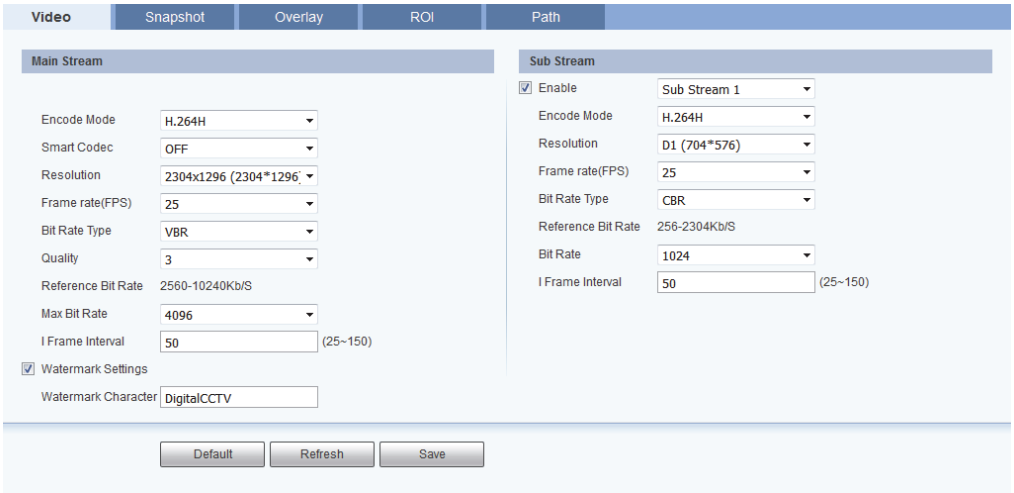
To set the focus automatically, click **Auto Focus**.

To restore the default zoom and focus settings, click **Restore All**.

Configuring Streaming Settings

You can configure video streaming properties on the **Setup > Camera > Video > Video** page.

The page is divided into two sections: **Main Stream** and **Sub Stream**. In the **Sub Stream** section, two sub streams are configurable: **Sub Stream 1** and **Sub Stream 2**. To enable a sub stream, select one of the sub streams, and then select the **Enable** check box.



Format

In the **Encode Mode** box, select **H.264H**, **MJPEG**, or **H.265**.

H.264H	High Profile. Uses less bandwidth than Main Profile at the same quality. Lower compression and higher quality than H.264.
MJPEG	Uses the most bandwidth but produces excellent image quality with access to every image in the stream.
H.265	High Efficiency Video Coding. Supports 4K resolution. Twice as efficient as H.264.

Smart Codec

Set **Smart Codec** to **ON** or **OFF**.

By taking reference frames and applying them to refreshed frames, Smart Codec eliminates the need to transmit data for an unchanged image or parts of the image where there is no movement.

Resolution

In the **Resolution** box, select a resolution from the list. The available options differ between the main stream and sub streams.

Frame Rate

In the **Frame Rate (FPS)** box, select a frame rate within the available range (1–30 fps for NTSC cameras; 1–25 fps for PAL cameras).

Bit Rate

In the **Bit Rate Type** box, select **CBR** or **VBR**.

CBR	Constant bit rate. The bit rate remains constant (recommended for low-bandwidth environments). Required if MJPEG compression is used.
VBR	Variable bit rate. The bit rate changes according to the complexity of the scene. Select a **Quality** level between **1** (lowest quality) and **6** (highest quality).

In the **Max Bit Rate** box, select a bit rate from the list or click **Customized** to define a custom bit rate value.

I-Frame Interval

In the **I-Frame Interval** box, enter a value between 25 and 150. The default I-frame interval is two times the frame rate. For example, if the frame rate is 30 fps, the I-frame interval will be 60.

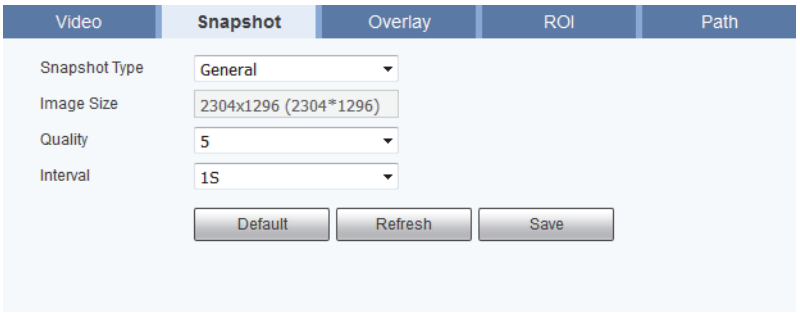
Watermark

To apply a custom watermark to the main stream, select the **Watermark Settings** check box. In the **Watermark Text** box, enter the watermark text. The text cannot have any spaces but underscores (_), and hyphens (-) are acceptable.

Click **Save** to apply the settings.

Configuring Snapshot Settings

You can configure snapshot properties on the **Setup > Camera > Video > Snapshot** page.



Snapshot Type

Set the **Snapshot Type** to **General** or **Event**.

General	Snapshots are taken according to a user-defined schedule.
Event	Snapshots are taken whenever an alarm, motion detection, camera tampering, or system event occurs.

Image Size

The image size is determined by the main stream resolution setting. It is not configurable. (See *Resolution* on page 36).

Quality

Set the **Quality** to a value between **1** (lowest) and **6** (highest).

Interval

Select a snapshot frequency between 1 snapshot per second (**1S**) and 7 snapshots per second (**7S**), or click **Customized** to define a custom interval between 1 and 50,000 seconds.

Click **Save** to apply the settings.

Configuring Overlays

You can configure privacy masks, channel titles, time titles, and customized text overlays on the **Setup > Camera > Video > Overlay** page.

Configuring Privacy Masks

To enable privacy masking, click **Enable**. Four privacy masks appear in the preview window.

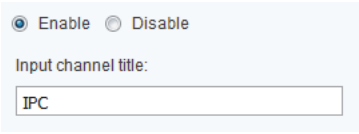
Delete any masks that you don't need. To delete a mask, right-click it or select it and then click **Delete**. To remove all the masks, click **Remove All**.

To move a mask, select it and drag the center of the mask.

To resize a mask, drag one of the corner handles. To draw a new mask, drag your mouse anywhere in the preview window.

Click **Save** to apply the settings.

Configuring the Channel Title



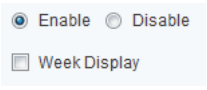
To display the channel title, click **Enable**, and then click **Save**. By default, the channel title appears in the lower left corner of the video image.

To move the channel title, drag the yellow **Channel Title** box to the desired location in the preview window, and then click **Save**.

To modify the channel title, enter the new title in the **Input channel title** field, and then click **Save**.

To hide the channel title, click **Disable**, and then click **Save**.

Configuring the Time Title



To display the channel title, click **Enable**, and then click **Save**. By default, the channel title appears in the upper right corner of the video image.

To display the day of the week, select the **Week Display** check box, and then click **Save**.

To move the time title, drag the yellow **Time Title** box to the desired location in the preview window, and then click **Save**.

To hide the time title, click **Disable**, and then click **Save**.

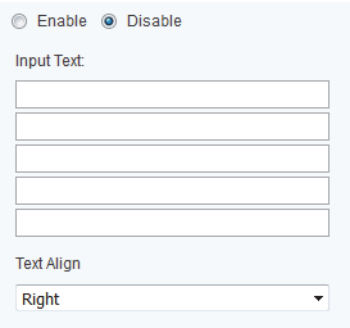
Configuring Customized Text Overlays

To display the text overly, click **Enable**, enter the desired text in the **Input Text** field, and then click **Save**. By default, the text overlay appears in the lower right corner of the video image.

Set **Text Align** to **Left** or **Right**.

To move the text overlay, drag the yellow **Text Overlay** box to the desired location in the preview window, and then click **Save**.

To hide the text overlay, click **Disable**, and then click **Save**.



Configuring Regions of Interest

You can configure regions of interest (ROI) on the **Setup > Camera > > Video > ROI** page.

To enable the ROI function, click **Enable**.

In the preview window, drag your mouse over the portion of the scene that you want to designate as a region of interest, select an **Image Quality** level between **1** (lowest) and **6** (highest), and then click **Save**. You can add up to 4 regions of interest.

To delete a single region of interest, select it, and then click **Delete**. To delete all regions of interest, click **Remove All**.

5

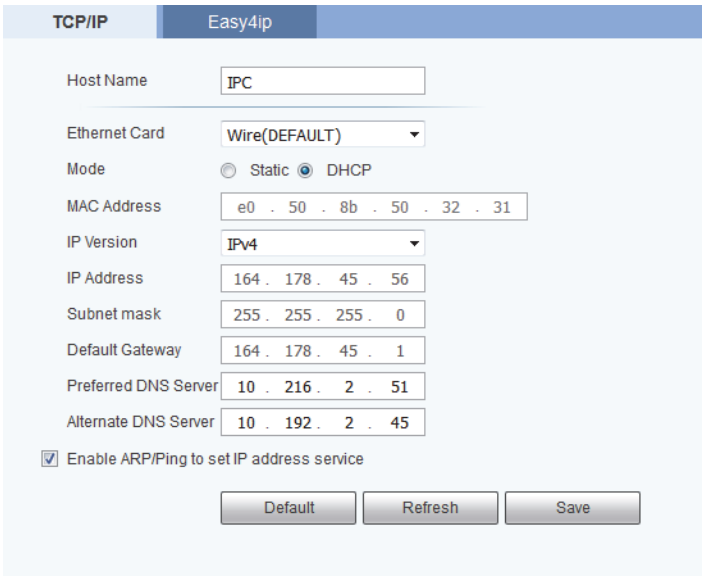
Configuring Network Settings

This chapter contains the following sections:

- *Configuring TCP/IP, page 42*
- *Configuring Network Connections, page 45*
- *Configuring ONVIF, page 45*
- *Configuring PPPoE Settings, page 46*
- *Configuring DDNS Settings, page 46*
- *Filtering IP/MAC Addresses, page 47*
- *Configuring Email Settings, page 49*
- *Configuring UPnP Port Mapping, page 50*
- *Configuring Bonjour, page 51*
- *Configuring Multicast Settings, page 51*
- *Configuring 802.1X Settings, page 52*
- *Configuring QoS Settings, page 52*
- *Working with Certificates, page 53*

Configuring TCP/IP

You can configure TCP/IP settings, including IPv4/IPv6 and ARP/Ping settings, on the **Setup > Network > TCP/IP > TCP/IP** page.



IPv4 Address Configuration

By default, the camera uses IPv4 and obtains IP settings automatically via DHCP.

In the **Host Name** field, enter a nickname for the camera that can be mapped to the IP address and used to identify the camera.

To manually assign IP address settings, set **Mode** to **Static**, and then replace the values in the **IP Address**, **Subnet mask**, and **Default Gateway** fields.

To manually assign DNS server addresses, replace the values in the **Preferred DNS Server** and **Alternate DNS Server** fields.

Click **Save** to apply the settings.

IPv6 Address Configuration

To enable IPv6, set **IP Version** to **IPv6**. Verify that the IP address and default gateway (router) address are in the same network segment. Click **Save** to apply the settings.

ARP/Ping

You can assign an IP address to the camera using the ARP/Ping service.

To enable ARP/Ping to set the IP address:

1. Obtain an unused IP address in the same LAN as your PC.
2. Write down the MAC address of the camera (it is listed on the label).
3. Select the **Enable ARP/Ping to set IP address service** check box, and then click **Save**.

4. Open the **Command Prompt** window on your PC (in Windows 7, click **Start > All Programs > Accessories > Command Prompt**) and type the appropriate commands for your operating system:

Windows syntax
arp –s <IP Address> <MAC> ping –l 480 –t <IP Address>
Windows example
arp -s 192.168.0.125 11-40-8c-18-10-11 ping -l 480 -t 192.168.0.125

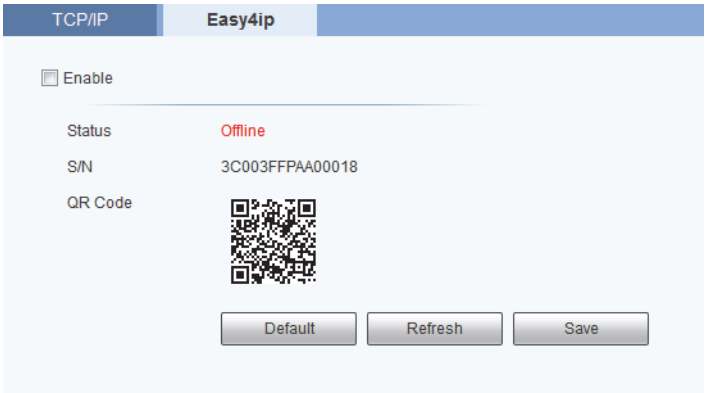
UNIX/Linux/Mac syntax
arp –s <IP Address> <MAC> ping –s 480 <IP Address>
UNIX/Linux/Mac example
arp -s 192.168.0.125 11:40:8c:18:10:11 ping -s 480 192.168.0.125

5. Reboot the camera. If the setup was successful, the Command Prompt window will display “Reply from" and the IP address (for example, "Reply from 192.168.0.125 ...”).

   To verify that the IP address works, open your browser and type in the address bar **http://** followed by the IP address (for example, http://192.168.0.125), then press Enter.

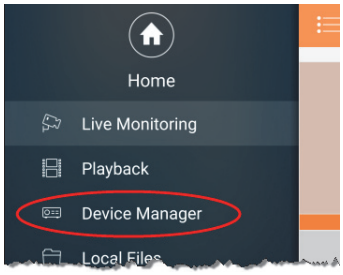
Configuring Easy4ip

You can configure peer-to-peer settings (for connecting remotely via the HonView Touch app) on the **Setup > Network > TCP/IP > Easy4ip** page.

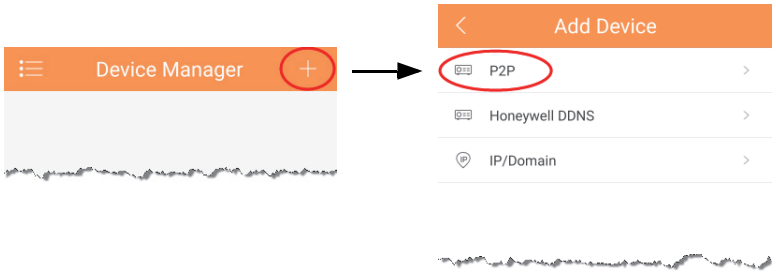


To connect to the camera remotely using the HonView Touch app:

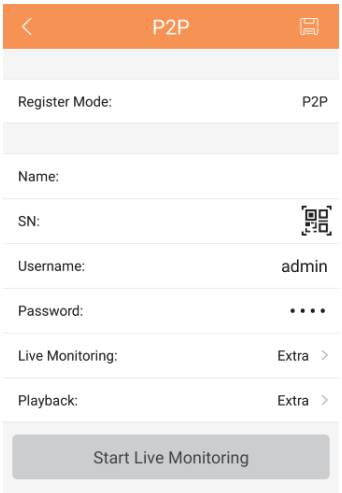
1. Select the **Enable** check box.
2. Download and install the HonView Touch app on your mobile device. The app is available from Apple's App Store and from Google Play.
3. Open the HonView Touch app.
4. Tap to open the main menu, then tap **Device Manager**.



5. On the **Device Manager** screen, tap the plus sign in the upper right corner, and then tap **P2P**.

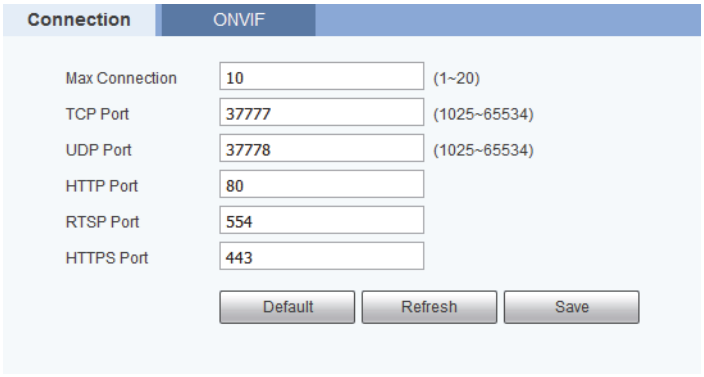


6. Tap the QR code icon on the app's **P2P** screen, then scan the QR code on the camera's **Easy4ip** page.
7. Enter a name for the camera in the app's **Name** field, enter the camera's admin **Username** and **Password**, then tap to save your settings.
8. Tap **Start Live Monitoring** to view live video from the camera.



Configuring Network Connections

You can configure network connections and port settings on the **Setup > Network > Connection** > **Connection** page.



By default, the maximum number of simultaneous connections the camera will support is set to **10**. To change this setting, in the **Max Connection** field, enter a value between **1** and **20**.

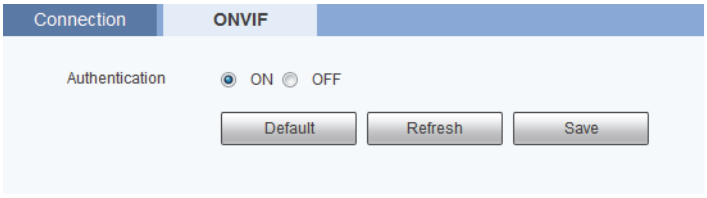
If you want, you can change the TCP, UDP, HTTP, RTSP, and HTTPS port numbers from their defaults.

Click **Save** to apply the settings.

Configuring ONVIF

ONVIF (Open Network Video Interface Forum) is a global standard for the interoperability of IP-based physical security products.

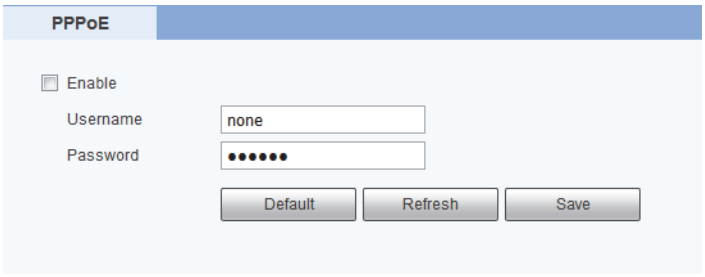
You can enable or disable ONVIF authentication on the **Setup > Network > Connection > ONVIF** page.



ONVIF login authentication is enabled by default. To disable it, next to **Authentication**, click **OFF**, and then click **Save**.

Configuring PPPoE Settings

You can configure Point-to-Point Protocol over Ethernet (PPPoE) settings on the **Setup > Network > PPPoE** page.

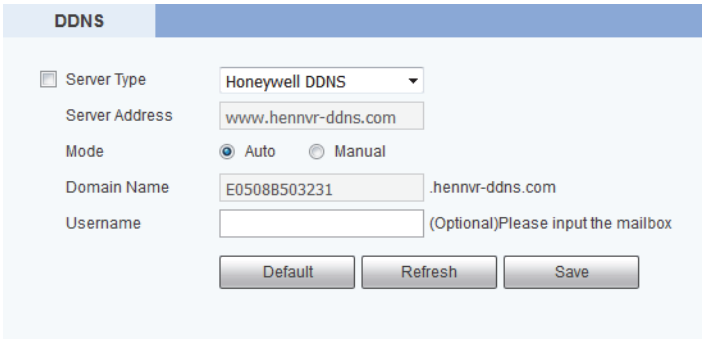


To enable PPPoE:

1. Select the **Enable** check box.
2. In the **Username** and **Password** fields, enter the user name and password that you received from your Internet service provider (ISP).
3. Click **Save** to apply the settings. The camera will connect to the Internet via PPPoE after rebooting.

Configuring DDNS Settings

You can configure Dynamic DNS (DDNS) settings on the **Setup > Network > DDNS** page.



You can use a DDNS service to track and update your camera's dynamic IP address, so that even when the numeric IP address changes the DDNS address always remains the same.

To access your camera using a DDNS service:

1. Register an account with a supported DDNS service, such as DynDNS or Honeywell's free DDNS service (www.hennvr-ddns.com).
2. Select the **Server Type** check box.
3. Select your DDNS service from the **Server Type** drop-down list.
4. In the **Domain Name** field, enter the domain name (hostname) that you registered with the DDNS service (for example, *mycamera*.dyndns.org).
5. In the **Username** and **Password** fields, enter the user name and password of the account that you registered in step 1.

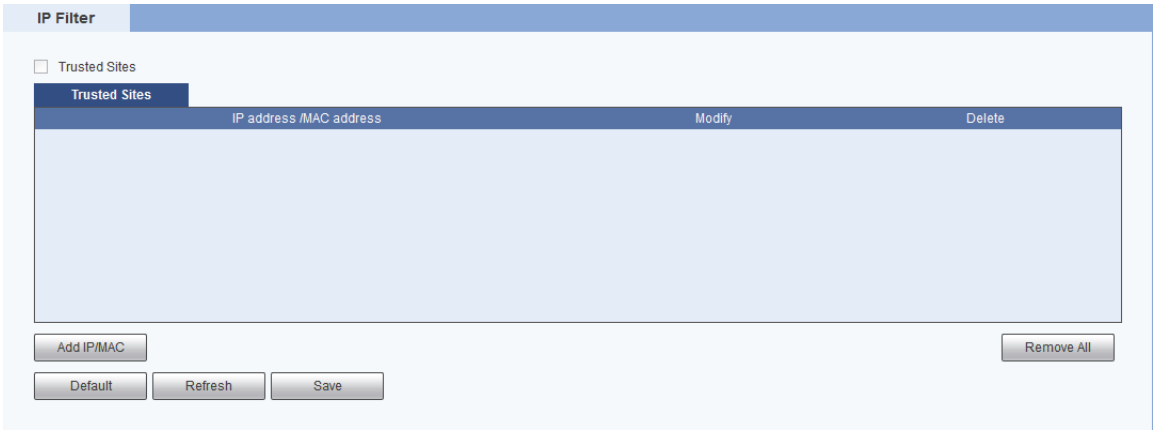
6. If applicable, in the **Update Period** field, enter the interval in minutes between address updates sent to the DDNS server.

Note If you selected Honeywell DDNS as your DDNS service, the domain name is set to the camera's MAC address by default and no user name or password are required. Set **Mode** to **Auto** or **Manual**. If you configure the domain name manually, click **Test** to verify that the domain name is registered.

7. Click **Save** to apply the settings. You can now access the camera by entering the domain name in your browser's address bar.

Filtering IP/MAC Addresses

You can configure IP filter settings on the **Setup > Network > IP Filter** page.

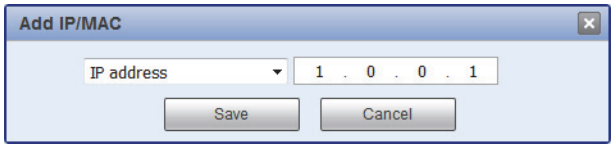


When the IP filter is enabled, remote access to the camera is restricted to specific IP or MAC addresses. You can add or remove addresses from the list at any time. If a user is accessing the camera over a WAN, enter the MAC address of the user's router instead of an IP address.

Adding IP/Mac Addresses to the List of Approved Users

To add an IP/MAC address:

1. Click **Add IP/MAC**.
2. In the **Add IP/MAC** window, select **IP Address**, **IP Segment,** or **MAC** from the drop-down list, enter the relevant address, and then click **Save**.



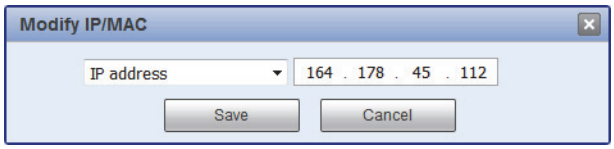
The address is added to the list of trusted sites.

3. Select the **Trusted Sites** check box, and then click **Save** to apply the settings.

Editing IP/Mac Addresses

To edit an IP/MAC address:

1. In the **Trusted Sites** list, click the **Modify** icon of the address that you want to edit.
2. In the **Modify IP/MAC** window, edit the address as needed, and then click **Save**.



Deleting IP/Mac Addresses from the List of Approved Users

To delete a single IP/MAC address:

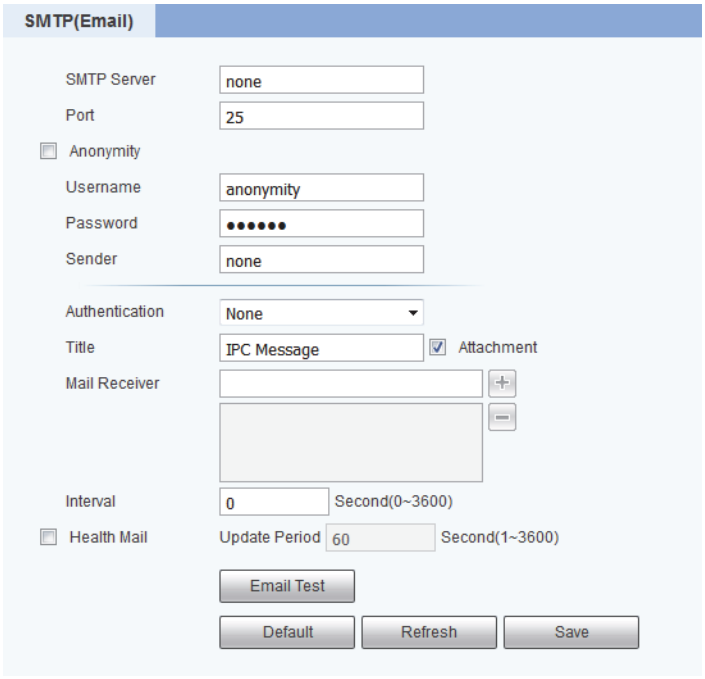
1. In the **Trusted Sites** list, click the **Delete** icon of the address that you want to delete.
2. A confirmation message appears. Click **OK** to continue, and then click **Save** to apply the settings. The address is removed from the list of trusted sites.

To delete multiple IP/MAC addresses:

1. Click **Remove All**.
2. A confirmation message appears. Click **OK** to continue, and then click **Save** to apply the settings. All addresses are removed from the list of trusted sites.

Configuring Email Settings

You can configure email notification settings on the **Setup > Network > SMTP** page.



To set up email notifications:

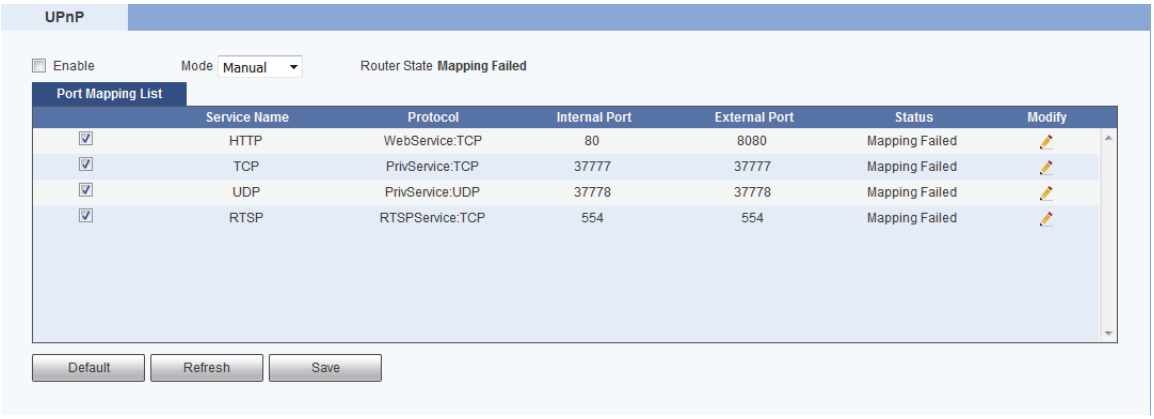
1. In the **SMTP Server** and **Port** fields, enter the SMTP server and port information.
2. In the **Username** and **Password** fields, enter the sender's email user name and password. Alternatively, if the server supports anonymous login, you can select the **Anonymity** check box to log in without a user name and password.
3. In the **Sender** field, enter the sender's email address.
4. From the **Authentication** list, select an encryption mode (**SSL** or **TLS**) or select **None**.
5. In the **Title** field, enter the text that you want to appear in the subject line of the email.
6. Select the **Attachment** check box if you want to enable snapshot attachments.
7. In the **Mail Receiver** field, enter the recipient's email address, and then click the **+** sign to add it to the list. You can enter up to three email addresses. To remove an address from the list, select it, and then click the – sign.
8. In the **Interval** field, specify the interval between email notification messages. Enter a value between **0** (no interval) and **3600** seconds (60 minutes).

> **Note** Setting an interval between email notifications reduces the load on the email server if multiple notifications are triggered simultaneously.

9. To have the system periodically verify that the email notification settings are working, select the **Health Mail** check box, and specify the **Update Period**.
10. Click **Save** to apply the settings.
11. Click **Email Test** to send a test email to verify that the settings are configured properly.

Configuring UPnP Port Mapping

You can configure Universal Plug and Play (UPnP) settings on the **Setup > Network > UPnP** page.



The UPnP protocol is used to detect network devices with clients running Windows.

To enable UPnP, select the **Enable** check box. The camera can now be detected by Windows' built-in network browser (My Network Places in Windows XP; Network in Windows 7).

To enable UPnP in Windows XP:

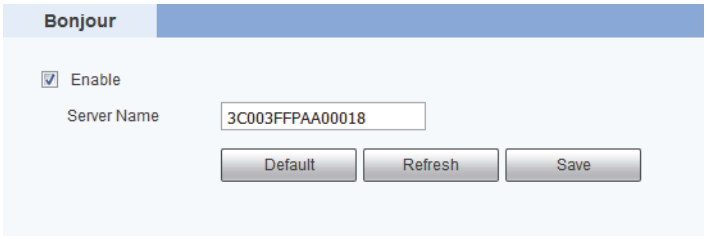
1. Go to **Start > Control Panel > Add or remove programs**.
2. Click **Add or remove programs**, then select **Networking Services** in the Windows Components Wizard.
3. Click **Details**, then select **Internet Gateway Device Discovery** and **Control Client and UPnP User Interface**.
4. Click **OK** to begin the installation.

To enable UPnP in Windows 7:

1. Go to **Start > Control Panel > Network and Internet > Network and Sharing Center**.
2. On the left pane, click **Change advanced sharing settings**.
3. On your current network profile, in the **Network discovery** area, click **Turn on network discovery**, and then click **Save changes**.

Configuring Bonjour

You can configure Bonjour settings on the **Setup > Network > Bonjour** page.



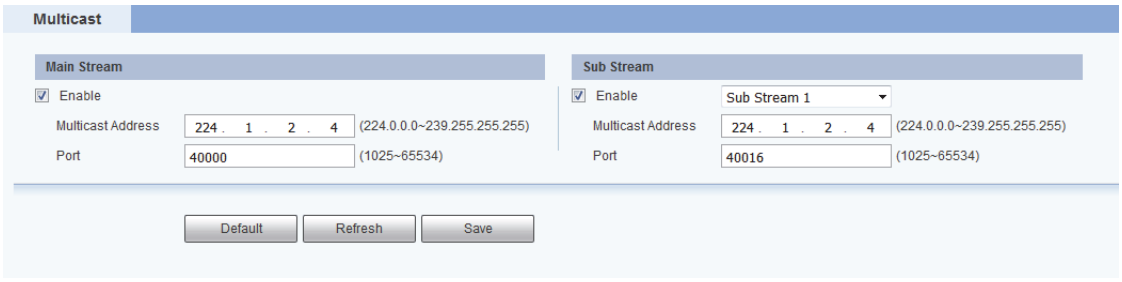
Bonjour is a zero configuration networking application that allows you to create a network in which devices can discover each other without requiring any user configuration.

When this function is enabled, you can discover the camera on a Mac OS computer by opening Safari and going to **Display All Bookmarks > Bonjour**.

Bonjour is enabled by default. To disable it, clear the **Enable** check box, and then click **Save**.

Configuring Multicast Settings

You can configure multicast settings on the **Setup > Network > Multicast** page.



Multicast is a transmission mode for data packets that minimizes bandwidth use and CPU load when multiple computers are receiving the same data packet simultaneously. You can configure multicast for Main Stream, Sub Stream 1, and Sub Stream 2 profiles.

To enable multicast:

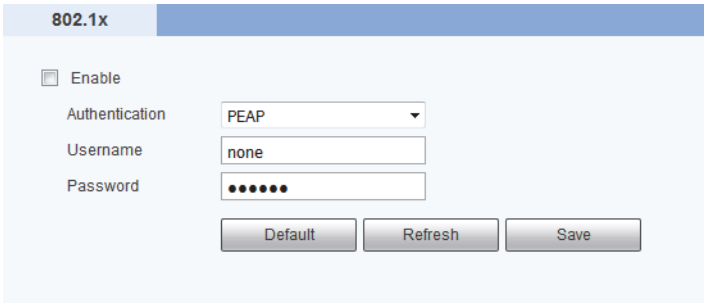
1. For each stream that you want to enable multicast in, select the **Enable** check box, and then enter a multicast address and port, using the suggested ranges as a guide.
2. Click **Save** to apply the settings.

To view video in multicast mode:

- In **Live** view, select **Multicast** from the **Protocol** drop-down list.

Configuring 802.1X Settings

You can configure 802.1X settings on the **Setup > Network > 802.1x** page.



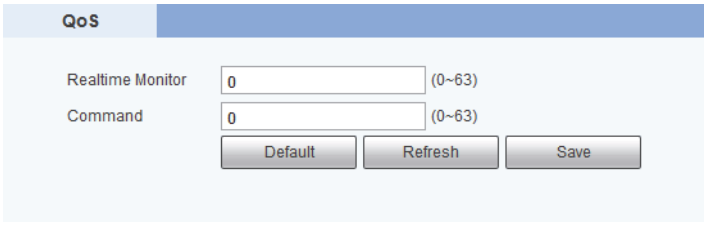
802.1X is a port-based network access control protocol for preventing unauthorized devices from accessing the LAN. You can set up user name and password credentials for the camera so that it is not blocked by the network switch.

To enable 802.1X:

1. Select the **Enable** check box.
2. In the **Username** field, enter the user name that will be used to authenticate the camera.
3. In the **Password** field, enter the password that will be used to authenticate the camera.
4. Click **Save** to apply the settings.

Configuring QoS Settings

You can configure Quality of Service (QoS) settings on the **Setup > Network > QoS** page.



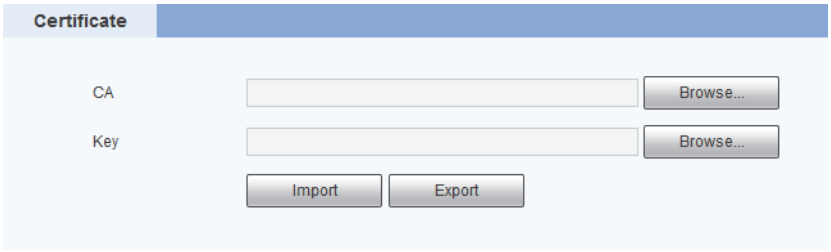
QoS settings control bandwidth use by prioritizing certain data packets over others.

To enable QoS:

1. In the **Realtime Monitor** field, enter a DSCP (Differentiated Services Codepoint) value for live video packets. Select a value between **0** (lowest priority) and **63** (highest priority).
2. In the **Command** field, enter a DSCP (Differentiated Services Codepoint) value for non-video packets. Select a value between **0** (lowest priority) and **63** (highest priority).
3. Click **Save** to apply the settings.

Working with Certificates

You can configure certificate settings on the **Setup > Network > Certificate** page.



To install a Honeywell-signed root certificate:

1. Click **Export**, navigate to the directory where you want to save the certificate (**ca.crt**) on your PC, and then click **Save**.
2. Go to the directory where you saved the certificate and double-click the certificate. The **Certificate** window opens.
3. In the **Certificate** window, on the **General** tab, click **Install Certificate** to open the Certificate Import Wizard.
4. Click **Next** to continue.
5. Click **Place all certificates in the following store**, click **Browse**, click **Trusted Root Certification Authorities**, and then click **OK**.
6. Click **Next**, and then click **Finish** to close the Certificate Import Wizard. A confirmation dialog box appears with the message "The import was successful."
7. Click **OK**, and then click **OK** to close the **Certificate** window.

To import a certificate or private key:

- Next to **CA** or **Key**, click **Browse**, navigate to the location of the certificate or key on your PC, and then click **Import**.

6

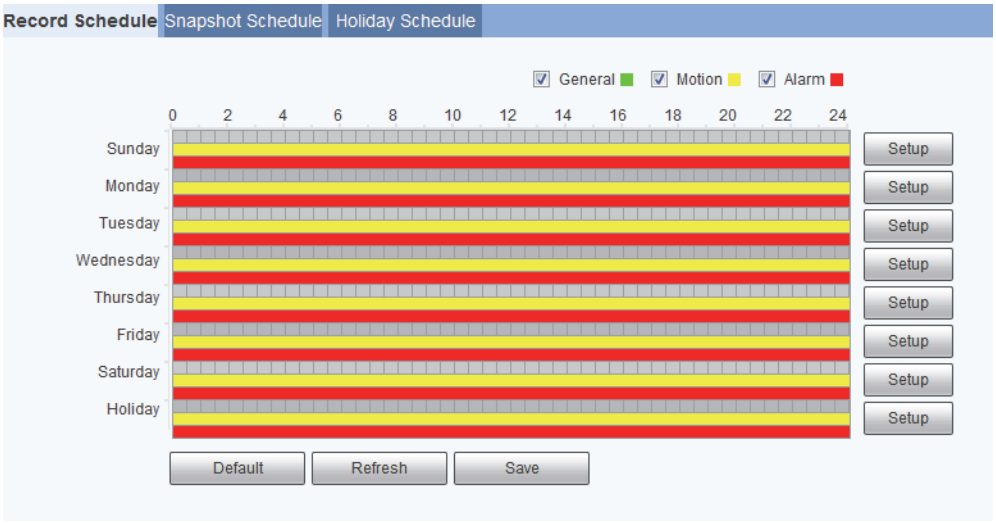
Configuring Recording Settings

This chapter contains the following sections:

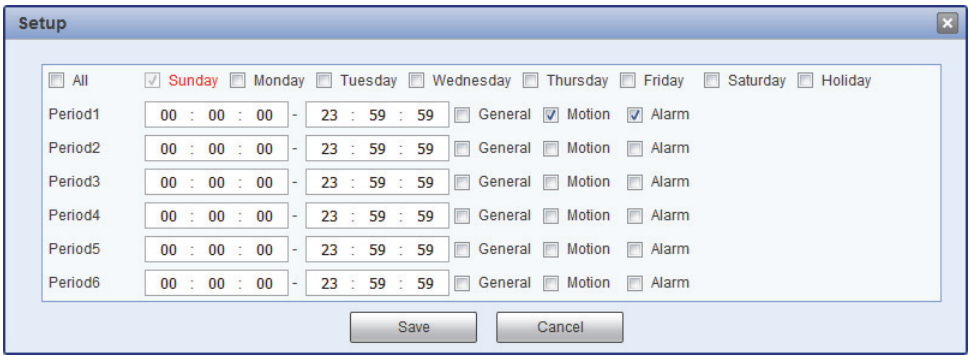
- *Configuring Recording Schedules, page 55*
- *Configuring Storage Settings, page 56*
- *Configuring Recording Settings, page 59*

Configuring Recording Schedules

You can set up both regular and holiday schedules for recording video and saving snapshots on the **Setup > Storage > Schedule** page.



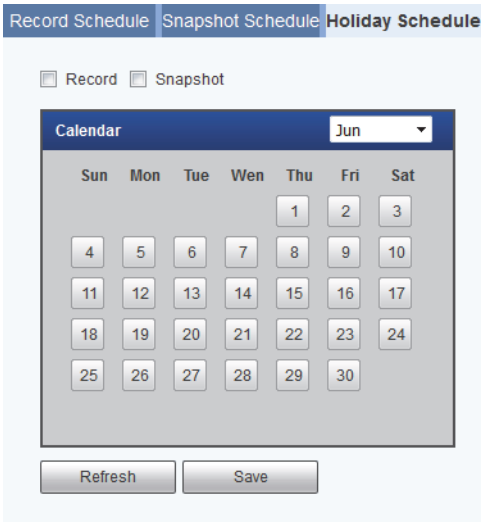
On the **Record Schedule** tab, click the **Setup** buttons to configure weekend, weekday, and holiday settings, for general video recording as well as motion detection and alarm recording.



You can configure up to 6 different recording periods per day. Click **Save** to apply the settings.

Follow the same procedure to configure the settings on the **Snapshot Schedule** tab.

On the **Holiday Schedule** tab, you can designate holidays by clicking dates on the calendar.



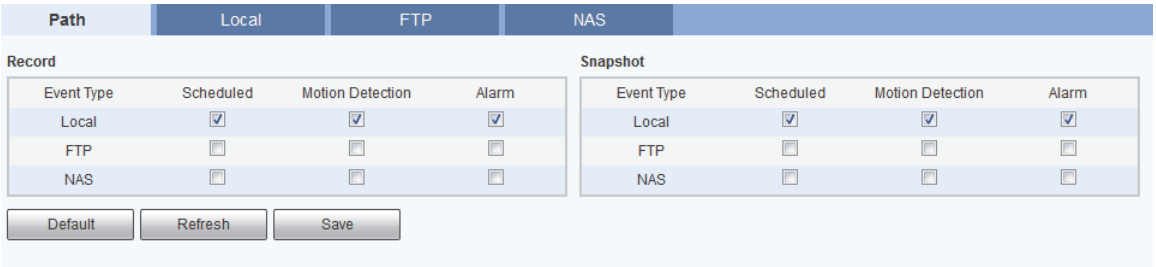
On the selected dates, the video recording/snapshot schedule will follow the holiday settings you configured in the **Record Schedule** and **Snapshot Schedule** tabs. Click **Save** to apply the settings.

Configuring Storage Settings

You can configure recording storage settings on the **Setup > Storage > Destination** page.

Configuring Storage Paths

On the **Path** tab, you can specify where you want recorded video and snapshots—whether scheduled or triggered by a motion detection or alarm event—to be saved: to a local SD card, to an FTP server, or to an NAS disk.

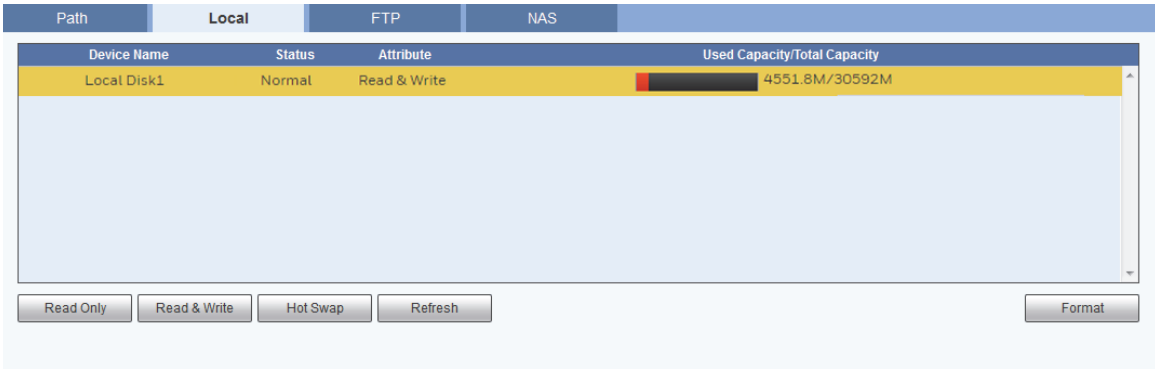


Select which recorded events you want to save and where you want to save them, then click **Save** to apply the settings.

> **Note** Only one network storage option can be used at a time. FTP and NAS cannot be used together.

Configuring the Local SD Card for Storage

If the camera has a microSD card installed, the **Local** tab displays the microSD card details.



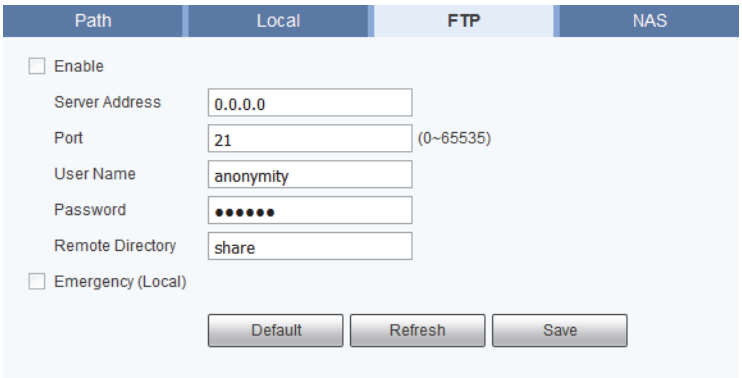
You can set up the installed microSD card for read-only, read-and-write, or hot swap operation by clicking the corresponding button.

- **Read Only**: Data on card can be displayed but not modified.
- **Read & Write**: Data on card can be displayed and modified.
- **Hot Swap**: Card can be inserted or removed without turning off the camera.

If you want to erase all of the data on the microSD card, click **Format**. A confirmation message appears. Click **OK** to continue. The card is formatted and the camera reboots.

Configuring an FTP Server for Storage

On the **FTP** tab, you can enable FTP storage and configure storage settings.



To enable FTP storage:

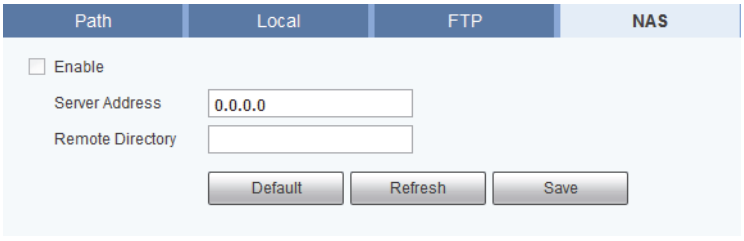
1. Select the **Enable** check box.
2. In the **Server Address** and **Port** fields, enter the address and port number of the FTP server.
3. In the **User Name** and **Password** fields, enter the user name and password of the server.
4. In the **Remote Directory** field, enter the directory on the server where the recorded video/snapshot files will be stored.
5. Click **Save** to apply the settings.

Panic Save

To save recorded video/snapshots to the camera's microSD card when the network connection to the FTP is offline or unavailable, select the **Emergency (Local)** check box, and then click **Save** to apply the setting.

Configuring an NAS Disk for Storage

On the **NAS** tab, you can enable network attached storage and configure storage settings.

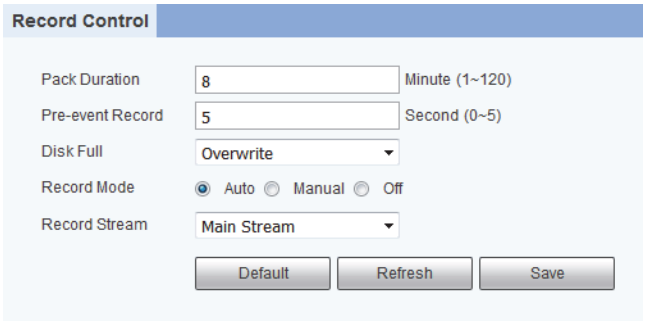


To enable network attached (NAS) storage:

1. Select the **Enable** check box.
2. In the **Server Address** field, enter the address of the NAS server.
3. In the **Remote Directory** field, enter the directory on the server where the recorded video/snapshot files will be stored.
4. Click **Save** to apply the settings.

Configuring Recording Settings

You can configure recording settings on the **Setup > Storage > Record Control** page.



By default, recorded video files are 8 minutes long. To change this setting, enter a time between **1** and **120** minutes in the **Pack Duration** field.

By default, the pre-event record time (the number of seconds the system stores in a buffer) is 5 seconds. To change this setting, enter a time between **0** and **5** seconds in the **Pre-event Record** field.

From the **Disk Full** list, select **Overwrite** or **Stop**.

- **Overwrite**: Recording continues when disk capacity is reached and overwrites previously saved video.
- **Stop**: Recording stops when disk capacity is reached. Nothing is overwritten and no further video is recorded.

Set **Record Mode** to **Auto**, **Manual**, or **Off**.

- **Auto**: Video records continuously.
- **Manual**: Video recording must be initiated by user.
- **Off**: Video recording is disabled.

From the **Record Stream** list, select the stream profile that you want to use for recording video: **Main Stream** or **Sub Stream**.

Click **Save** to apply the settings.

7

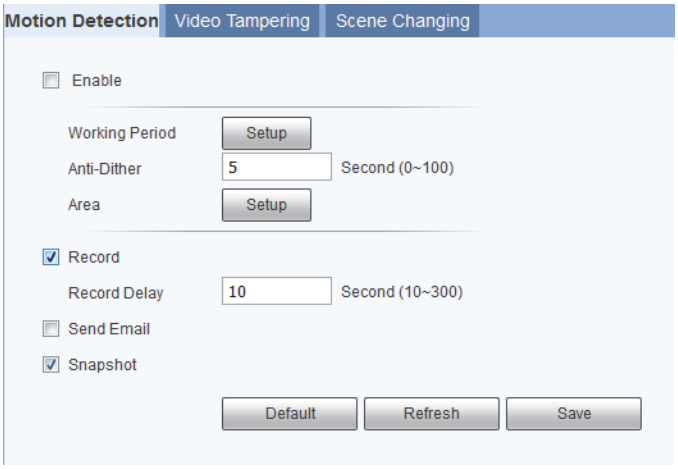
Configuring Events and Alarms

This chapter contains the following sections:

- *Configuring Motion Detection Events, page 61*
- *Configuring Camera Tampering Events, page 64*
- *Configuring Scene Change Events, page 65*
- *Configuring System Events, page 67*
- *Configuring Alarms, page 69*

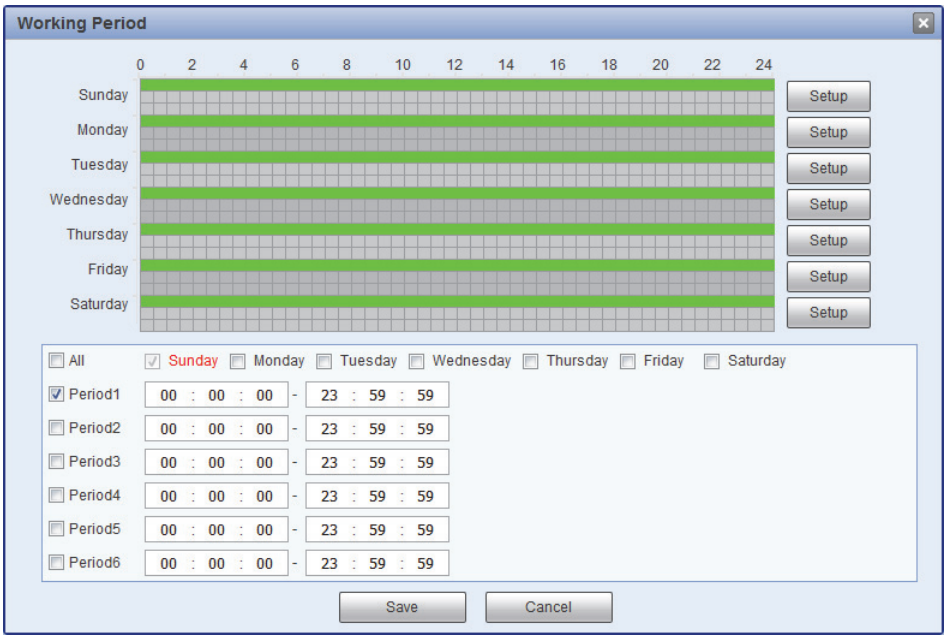
Configuring Motion Detection Events

You can configure motion detection event settings on the **Setup > Event > Video Detection > Motion Detection** page.

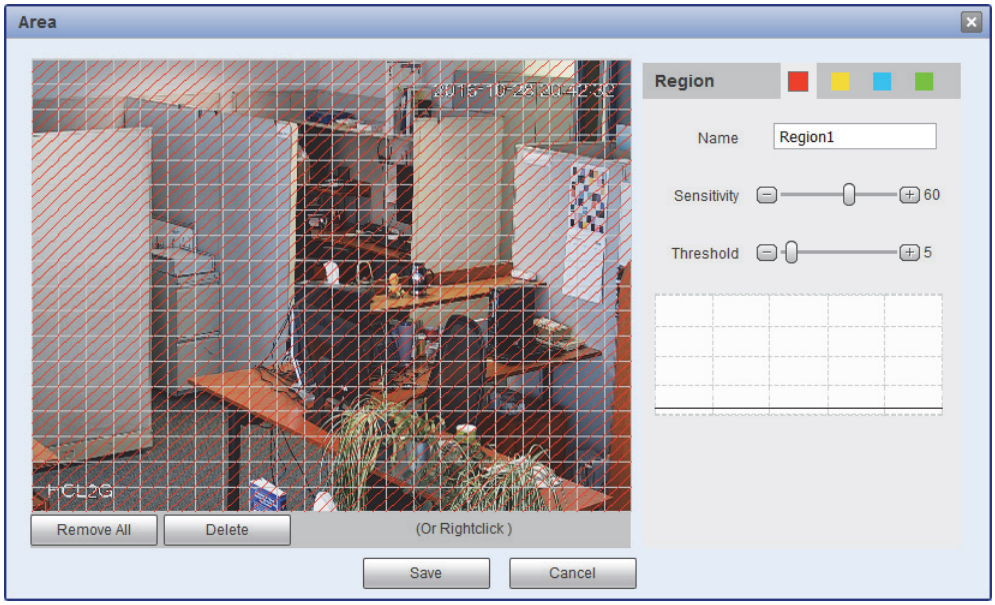


To enable motion detection:

1. Select the **Enable** check box.
2. Next to **Working Period**, click **Setup**. The **Working Period** window opens.



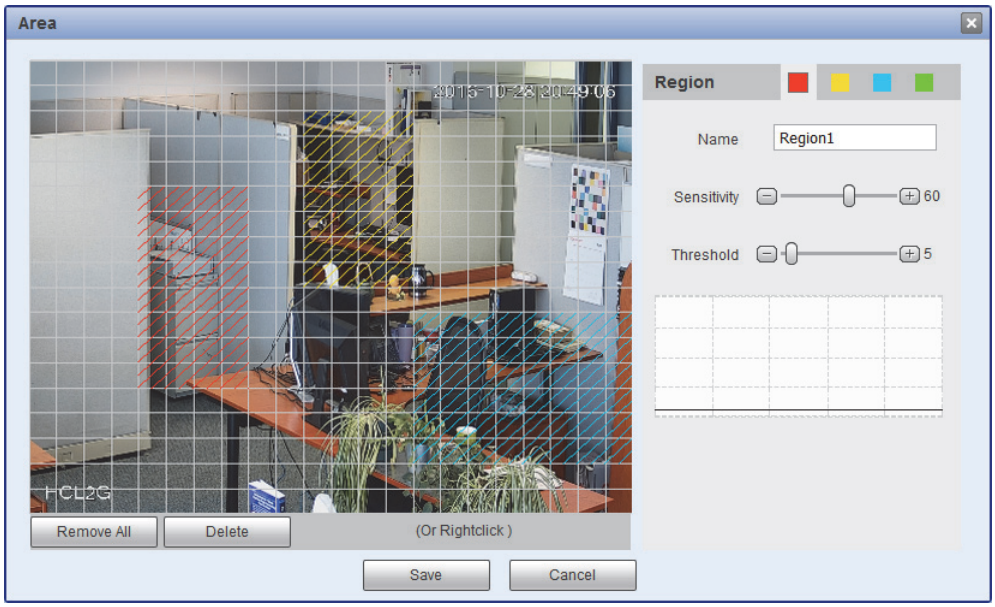
3. Set the days and times when you want the alarm function to be active, then click **Save**.
4. In the **Anti-Dither** field, enter the anti-dither time in seconds. Enter a value between **0** and **100** seconds. The system will only allow one motion detection event within this period.
5. Set up motion detection areas:
   a. Next to **Area**, click **Setup**. The **Area** window opens.



b. By default, the whole video window is configured as a motion detection area. To define a smaller area, drag your mouse over the area(s) that you want to deselect, or click **Remove All**, and then redraw the area(s) with your mouse.

c. You can define up to 4 motion detection profiles (regions), each with different sensitivity and threshold settings. Next to **Region**, click one of the solid color tiles to select a region. Drag the **Sensitivity** and **Threshold** sliders to the desired values. Click the – and + signs to make fine adjustments.

Sensitivity measures the amount of change in a scene that qualifies as motion. Threshold measures the amount of motion in a scene required to trigger a motion detection event.



d. Click **Save** to apply the settings.

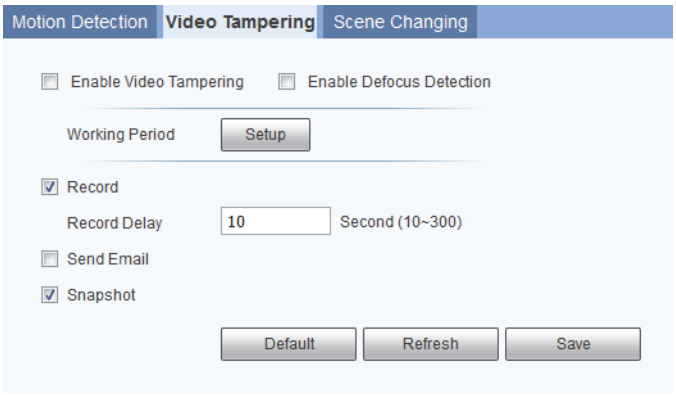
6. To start recording video when motion is detected, ensure that the **Record** check box is selected.
7. In the **Record Delay** field, enter the number of seconds that the system will continue to record video after the event has ended. Enter a value between **10** and **300**.
8. To send an email notification when motion is detected, select the **Send Email** check box. Email settings must be configured in **Setup > Network > SMTP (Email).** See *Configuring Email Settings* on page 49.
9. To take a snapshot when motion is detected, select the **Snapshot** check box.

Note For the snapshot to be attached to the email notification, the **Attachment** check box must be selected in **Setup > Network > SMTP (Email)**. See *Configuring Email Settings* on page 49.

10. Click **Save** to apply the settings.

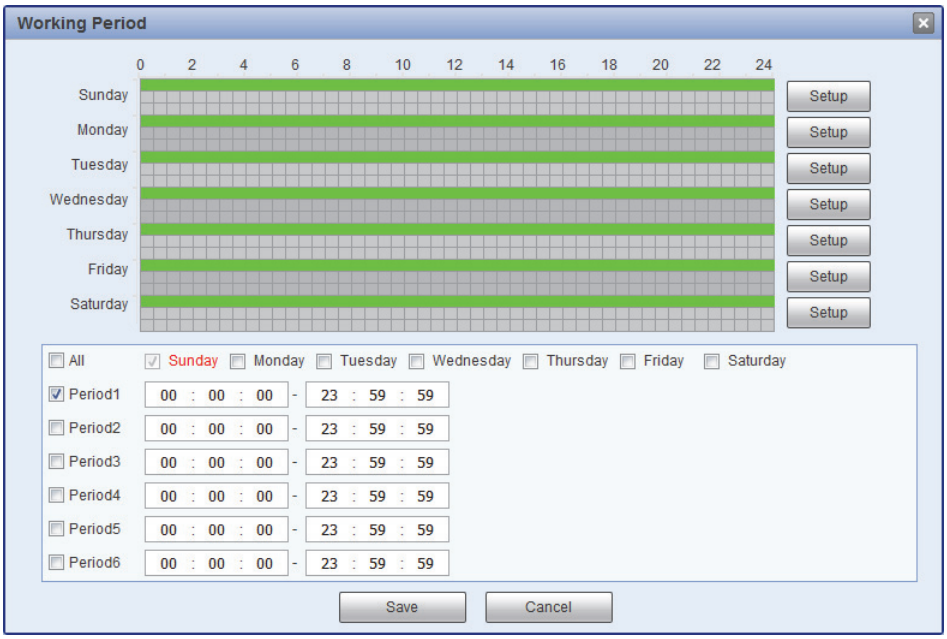
Configuring Camera Tampering Events

You can configure camera tampering event settings on the **Setup > Event > Video Detection > Video Tampering** page.



To enable camera tampering detection:

1. Select the **Enable Video Tampering** and/or the **Enable Defocus Detection** check box(es).
2. Next to **Working Period**, click **Setup**. The **Working Period** window opens.



3. Set the days and times when you want the alarm function to be active, then click **Save**.
4. To start recording video when a tampering event is detected, ensure that the **Record** check box is selected.
5. In the **Record Delay** field, enter the number of seconds that the system will continue to record video after a tampering event has ended. Enter a value between **10** and **300**.
6. To send an email notification when a tampering event is detected, select the **Send Email** check box. Email settings must be configured in **Setup > Network > SMTP (Email).** See *Configuring Email Settings* on page 49.

7. To take a snapshot when a tampering event is detected, select the **Snapshot** check box.

> **Note** For the snapshot to be attached to the email notification, the **Attachment** check box must be selected in **Setup > Network > SMTP (Email)**.
> See *Configuring Email Settings* on page 49.

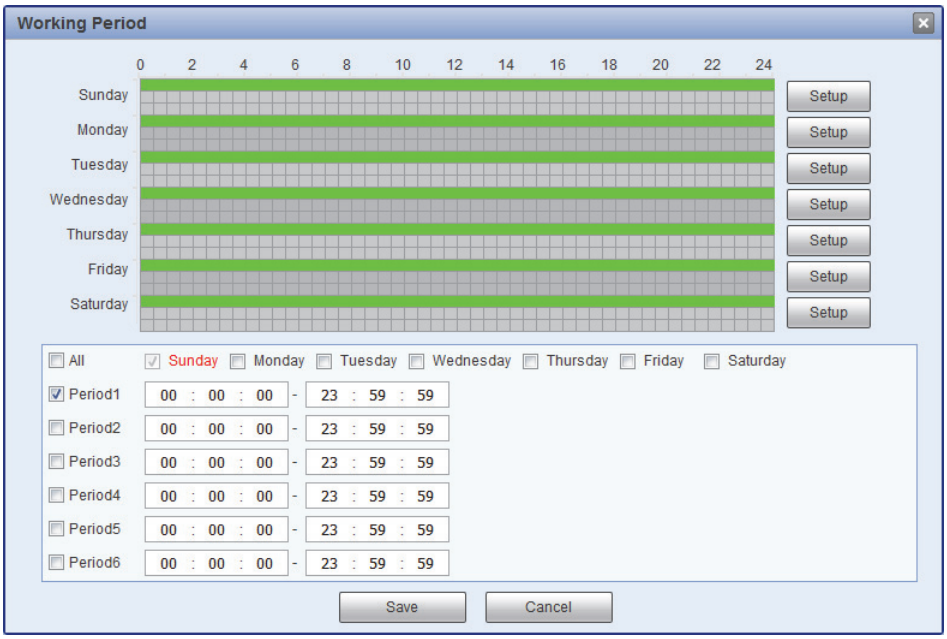
8. Click **Save** to apply the settings.

Configuring Scene Change Events

You can configure scene change event settings on the **Setup > Event > Video Detection > Scene Changing** page.

To enable scene change detection:

1. Select the **Enable** check box.
2. Next to **Working Period**, click **Setup**. The **Working Period** window opens.



3. Set the days and times when you want the alarm function to be active, then click **Save**.
4. To start recording video when a scene change event is detected, select the **Record** check box.
5. In the **Record Delay** field, enter the number of seconds that the system will continue to record video after a scene change event has ended. Enter a value between **10** and **300**.
6. To send an email notification when an alarm event is detected, select the **Send Email** check box. Email settings must be configured in **Setup > Network > SMTP (Email).** See *Configuring Email Settings* on page 49.
7. To take a snapshot when an alarm event is detected, ensure that the **Snapshot** check box is selected.

Note For the snapshot to be attached to the email notification, the **Attachment** check box must be selected in **Setup > Network > SMTP (Email)**.
See *Configuring Email Settings* on page 49.

---

8. Click **Save** to apply the settings.

Configuring System Events

You can configure system event settings (for SD card and network errors and illegal login attempts) on the **Setup > Event > Abnormality** page.

Configuring SD Card Event Settings

There are three types of SD card events:

- **No SD Card**: There is no microSD card installed in the camera.
- **SD Card Error**: The installed microSD card is not working.
- **Capacity Warning**: The installed microSD card is full.

You can configure settings for each type of event.

To enable SD card event detection:

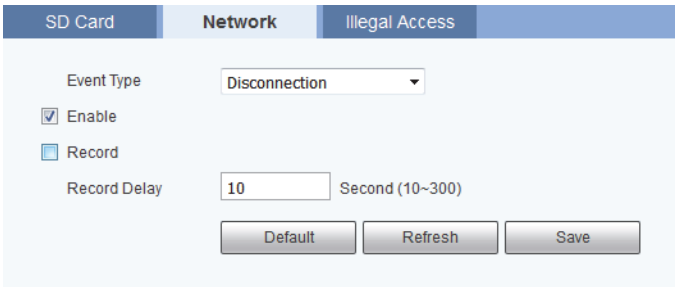
1. On the **SD Card** tab, select the event type that you want to configure from the **Event Type** list (**No SD Card**, **SD Card Error**, or **Capacity Warning**).
2. Select the **Enable** check box.
3. To send an email notification when the event is detected, select the **Send Email** check box. Email settings must be configured in **Setup > Network > SMTP (Email)**. See *Configuring Email Settings* on page 49.
4. Click **Save** to apply the settings.

Configuring Network Event Settings

There are two types of network events:

- **Disconnection**: The camera is offline.
- **IP Conflict**: The camera has the same IP address as another device on the network.

You can configure settings for each type of event.



To enable network event detection:

1. On the **Network** tab, select the event type that you want to configure from the **Event Type** list (**Disconnection** or **IP Conflict**).
2. Select the **Enable** check box.
3. To start recording video when the event is detected, select the **Record** check box.
4. In the **Record Delay** field, enter the number of seconds that the system will continue to record video after the event has ended. Enter a value between **10** and **300**.
5. Click **Save** to apply the settings.

Configuring Illegal Access Event Settings

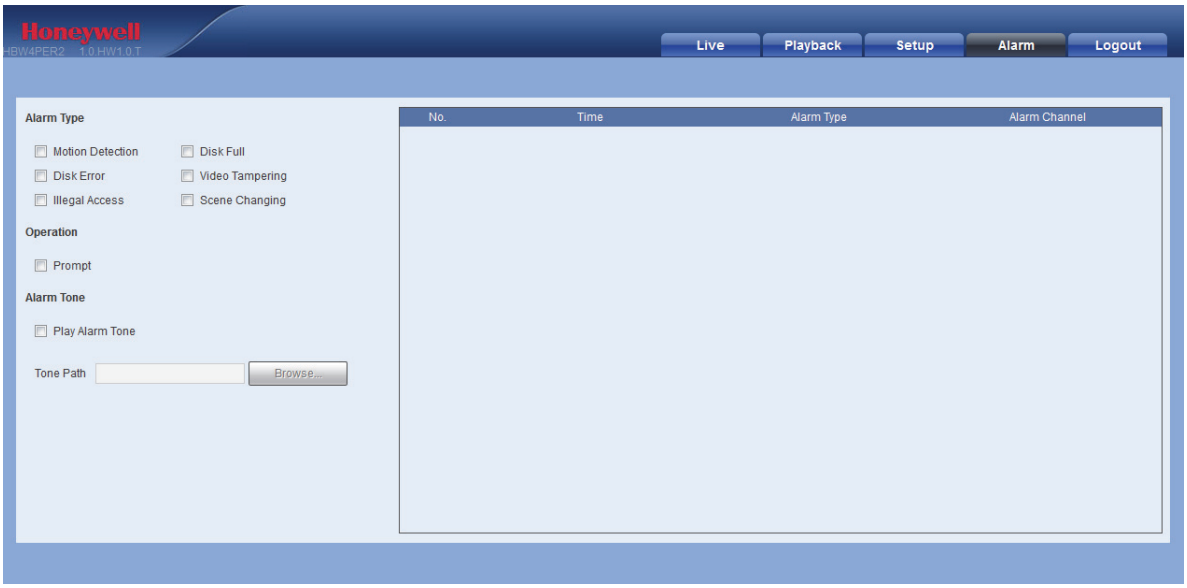
An illegal access event occurs when a specified number of unsuccessful login attempts is exceeded.

To enable illegal access detection:

1. On the **Illegal Access** tab, select the **Enable** check box.
2. In the **Login Error** field, enter the number of unsuccessful login attempts the system will allow before an illegal access event is detected. Enter a value between **3** and **10**.
3. To send an email notification when an illegal access event is detected, select the **Send Email** check box. Email settings must be configured in **Setup > Network > SMTP (Email)**, See *Configuring Email Settings* on page 49.

Configuring Alarms

You can configure alarm settings on the **Alarm** page.



1. Under **Alarm Type**, select the events that you want to generate an alarm for.
2. If you want a confirmation dialog box to appear before an alarm is generated, under **Operation**, select the **Prompt** check box.
3. If you want your PC to play a sound when an alarm occurs:
   a. Under **Alarm Tone**, select the **Play Alarm Tone** check box.
   b. Click **Browse**, navigate to the location of the sound file that you want to play, select the file, then click **OK**. The file path is displayed in the **Tone Path** field.

8

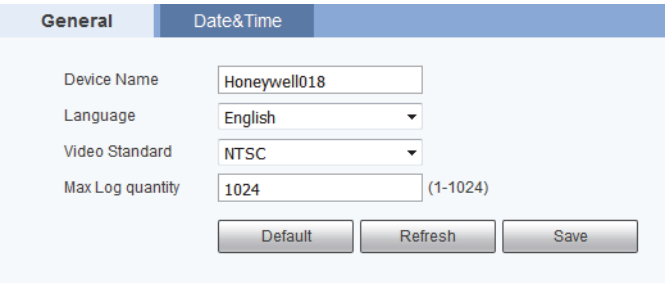
Configuring System Settings

This chapter contains the following sections:

- *Configuring General System Settings, page 71*
- *Configuring Date and Time Settings, page 72*
- *Configuring Account Settings, page 73*
- *Resetting the Camera, page 78*
- *Backing Up/Restoring a Configuration, page 78*
- *Configuring Maintenance Settings, page 79*
- *Upgrading the Firmware, page 79*
- *Viewing Version Information, page 79*
- *Managing Logs, page 80*
- *Viewing Online Users, page 81*

Configuring General System Settings

You can configure the device name, user interface language, video standard, and maximum log quantity settings on the **Setup > System > General > General** page.



To change the device name, in the **Device Name** field, enter a new name, and then click **Save**.

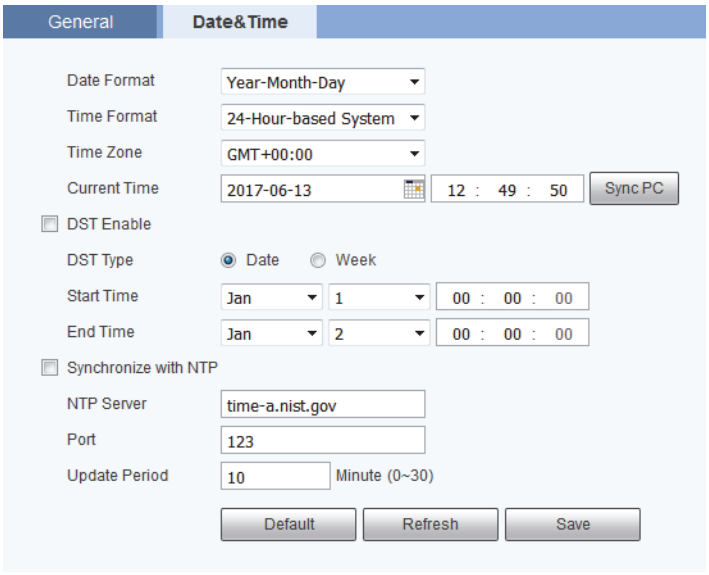
To change the interface language, select a language from the **Language** list, and then click **Save**.

To change the video standard, select **NTSC** or **PAL** from the **Video Standard** list, and then click **Save**.

To change the **Max Log Quantity**, enter a value between **1** and **1024**, and then click **Save**.

Configuring Date and Time Settings

You can configure the date and time settings on the **Setup > System > General > Date & Time** page.



Changing the Date and Time Format

You can change the format of the date and time that appear in the text overlay on the video.

To change the date format, select one of the following formats from the **Date Format** list: **Year-Month-Day**, **Month-Day-Year**, or **Day-Month-Year**. Click **Save** to apply the settings.

To change the time format, select **24-Hour-based System** or **12-Hour-based System** from the **Time Format** list.

Setting the Date and Time

There are three ways you can set the camera's date and time. You can manually enter the date and time, synchronize with your PC's internal clock, or set up the camera to synchronize automatically with a Network Time Protocol (NTP) server at regular intervals.

To manually set the date and time, enter the date and time in the **Current Time** fields, and then click **Save**.

To synchronize the date and time with your PC, click **Sync PC**. If the synchronization is successful, the message "Save succeeded" appears. You must manually click **Sync PC** each time you want the date and time to synchronize with the PC.

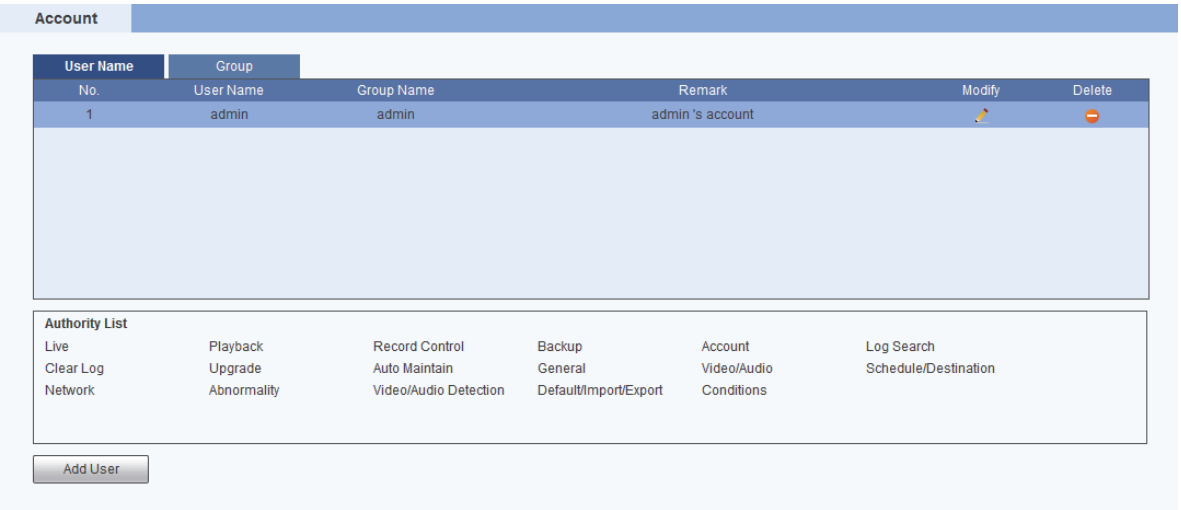
To synchronize the time with an NTP server:

1. From the **Time Zone** list, select your time zone.
2. If you are in an area that observes Daylight Saving Time (DST):
   a. Select the **Enable DST** check box.
   b. Set **DST Type** to **Week**.
   c. Set **Start Time** to **Mar 2nd Sunday 02:00:00 AM**.
   d. Set **End Time** to **Nov 1st Sunday 02:00:00 AM**.

3. Select the **Synchronize with NTP** check box.
4. If you want, you can change the **NTP Server** from the default (time-a.nist.gov).
5. In **Update Period** field, enter the interval at which you want the camera's date and time to synchronize with the NTP server. You can enter a value between **0** and **30**.
6. Click **Save** to apply the settings.

Configuring Account Settings

You can manage user accounts and permissions on the **Setup > System > Account** page.



Managing Groups

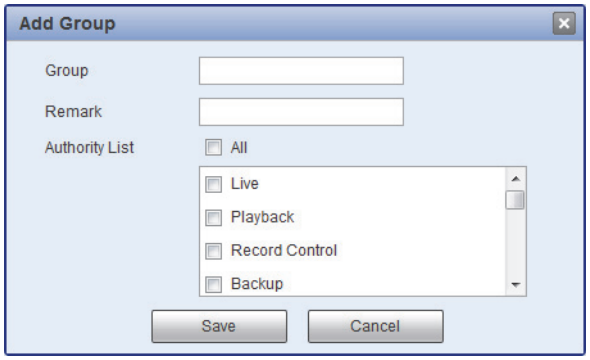
By default, there are two categories or "groups" of users: **admin** and **user**. If you want, you can create additional custom groups.

Creating a Group

You can create a new custom group and assign permissions to it.

To create a group:

1. On the **Group** tab, click **Add Group** to open the **Add Group** window.



2. Enter a name for the group in the **Group** field.
3. If you want, you can enter a brief description in the **Remark** field.
4. From the **Authority List**, select permissions for the group (see *Table 8-1*).

Table 8-1 Permissions

Name	Description
Live	The user can view live video and access all of the controls in the **Live** interface.
Playback	The user can play back recorded video and access all of the controls in the **Playback** interface.
Record Control	The user can access the settings in **Setup** > **Storage** > **Record Control**.
Backup	The user can save and export video clips in the **Playback** interface.
Account	The user can access the settings in **Setup** > **System** > **Account**.
Log Search	The user can search logs in **Setup** > **Information** > **Log**.
Clear Log	The user can clear logs in **Setup** > **Information** > **Log**.
Upgrade	The user can upgrade firmware in **Setup** > **System** > **Upgrade**.
Auto Maintain	The user can access the settings in **Setup** > **System** > **Auto Maintain**.
General	The user can access the settings in **Setup** > **System** > **General**.
Video/Audio	The user can access the settings in **Setup** > **Camera** > **Video**.
Schedule/Destination	The user can access the settings in **Setup** > **Storage** > **Schedule** and in **Setup** > **Storage** > **Destination**.
Network	The user can access the settings in **Setup** > **Network**.
Abnormality	The user can access the settings in **Setup** > **Event** > **Abnormality**.
Video/Audio Detection	The user can access the settings in **Setup** > **Event** > **Video Detection**.
Default/Import/Export	The user can access the settings in **Setup** > **System** > **Default** and in **Setup** > **System** > **Import/Export**.
Conditions	The user can access the settings in **Setup** > **Camera** > **Conditions**.

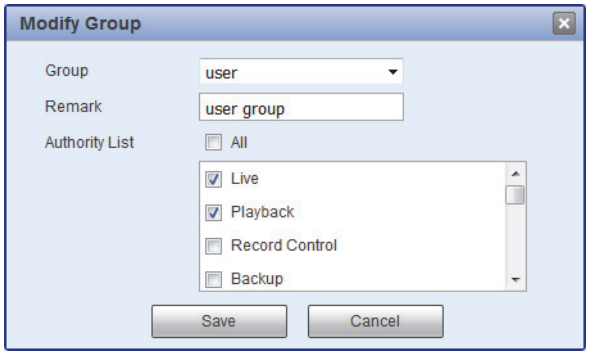
5. Click **Save** to apply the settings. The group is added to the list.

Modifying a Group

You can modify the permissions of the administrator group, user group, and any custom groups that you have created.

To modify a group:

1. On the **Group** tab, select the group that you want to modify (your selection will be highlighted yellow), and then click the **Modify** icon to open the **Modify Group** window.



2. If you want, you can edit the description in the **Remark** field.
3. From the **Authority List**, select or deselect specific permissions for the group (see *Table 8-1*), or select the **All** check box to select/deselect all of the permissions.
4. Click **Save** to apply the settings.

Deleting a Group

You can delete any custom group that you have created (you cannot delete the administrator group or the user group).

To delete a group:

1. On the **Group** tab, select the group that you want to delete (your selection will be highlighted yellow), and then click the **Delete** icon .
2. A confirmation message appears. Click **OK** to continue. The group is removed from the list.

Managing Users

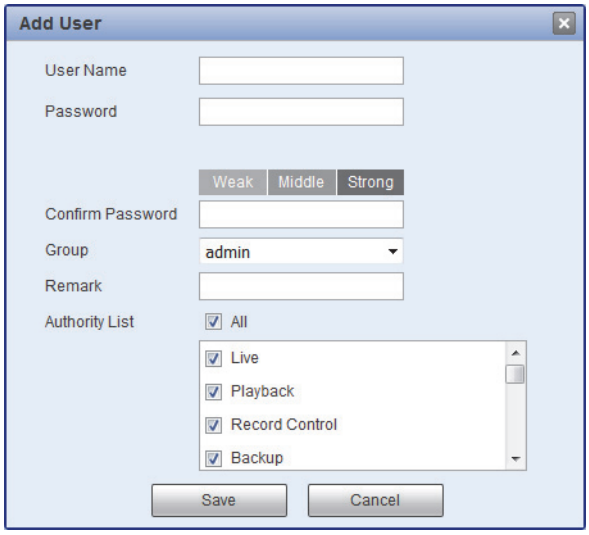
You can create, modify, or delete a user account.

Creating a User Account

You can create a new user account and assign permissions to it.

To create a user account:

1. On the **User Name** tab, click **Add User** to open the **Add User** window.



2. Assign the account a user name and password.
   a. In the **User Name** field, enter a unique user name.
   b. In the **Password** field, enter a password. The password must be at least 8 characters in length and contain a combination of uppercase and lowercase letters, at least one number, and at least one special character.
3. Assign the account to a group (**admin**, **user**, or a custom group that you have created) chosen from the **Group** list.
4. If you want, you can enter a brief description in the **Remark** field.
5. From the **Authority List**, select permissions for the account (see *Table 8-1*).

Note Each user is assigned to a group. The individual user's permissions cannot exceed those of the group to which the user belongs. To modify permissions at the group level, see *Modifying a Group* on page 75.

---

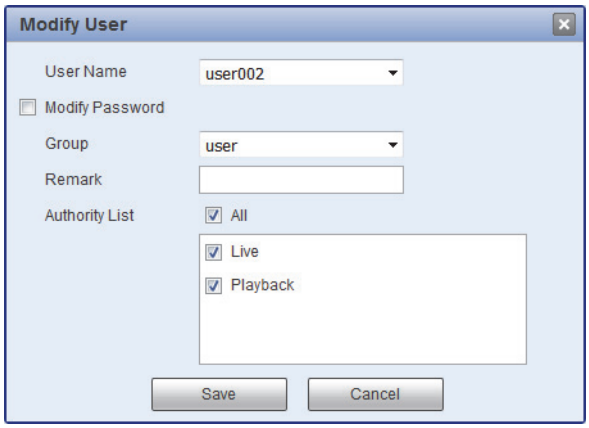
6. Click **Save** to apply the settings. The user account is added to the list.

Modifying a User Account

You can modify the user name, password, and permissions of a user account.

To modify a user account:

1. On the **User Name** tab, select the user account that you want to modify (your selection will be highlighted yellow), and then click the **Modify** icon to open the **Modify User** window.



2. To change the password, select the **Modify Password** check box, enter the **Old Password** and the **New Password** in the corresponding fields, and then re-enter the new password in the **Confirm Password** field.
3. To change the group, select a group from the **Group** list.
4. If you want, you can edit the description in the **Remark** field.
5. From the **Authority List**, select or deselect specific permissions for the account (see *Table 8-1*), or select **All** to select/deselect all of the available permissions.

Note Each user is assigned to a group. The individual user's permissions cannot exceed those of the group to which the user belongs. To modify permissions at the group level, see *Modifying a Group* on page 75.

---

6. Click **Save** to apply the settings.

Deleting a User Account

You can delete any user account that you have created (you cannot delete the admin user).

To delete a user account:

1. On the **User Name** tab, select the user account that you want to delete (your selection will be highlighted yellow), and then click the **Delete** icon .
2. A confirmation message appears. Click **OK** to continue. The user account is removed from the list.

Resetting the Camera

You can reset the camera to its factory default settings on the **Setup > System > Default** page.

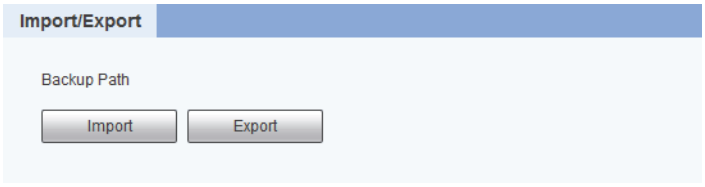
Note	Some configuration information, including the IP address, will be lost when the camera reverts to its factory default settings.

To reset the camera:

1. Click **Default**.
2. A confirmation message appears. Click **OK** to continue. The camera reboots automatically and reverts to its factory default settings.

Backing Up/Restoring a Configuration

You can back up or restore configuration settings on the **Setup > System > Import/Export** page.



To back up a configuration:

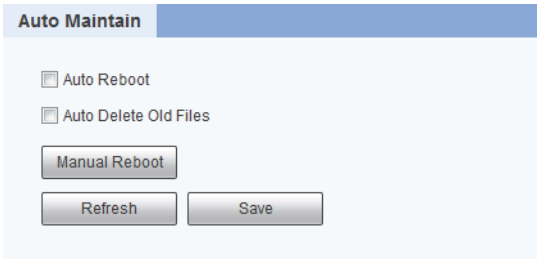
1. Click **Export**. The **Save As** window opens.
2. By default, the backup file is named **DeviceConfig.backup**. Rename the file if you want, navigate to the directory where you want to save the file, and then click **Save**. The file path is displayed under **Backup Path**.

To restore a saved configuration:

1. Click **Import**. The directory displayed under **Backup Path** opens in a new window.
2. Click the backup file (for example, **DeviceConfig.backup**). The configuration settings are applied immediately.

Configuring Maintenance Settings

Two automatic maintenance functions are available on the **Setup > System > Auto Maintain** page. You can set up the camera to reboot daily or weekly and delete old files automatically.

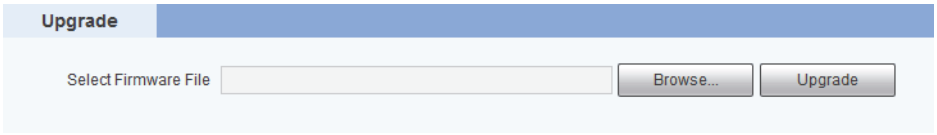


To enable the auto reboot function, select the **Auto Reboot** check box, and then specify the reboot schedule (for example, every Tuesday at 2 a.m.). Click **Save** to apply the settings.

To enable the auto delete function, select the **Auto Delete Old Files** check box, and then specify the age (in days) of the files to be deleted. For example, if you enter **30**, files that are 30 days old and older will be deleted automatically. Click **Save** to apply the settings.

Upgrading the Firmware

You can upgrade the camera firmware on the **Setup > System > Upgrade** page.



Note	Before you begin, you will need to obtain the new firmware and save it to your PC or to an external drive.

To upgrade the firmware:

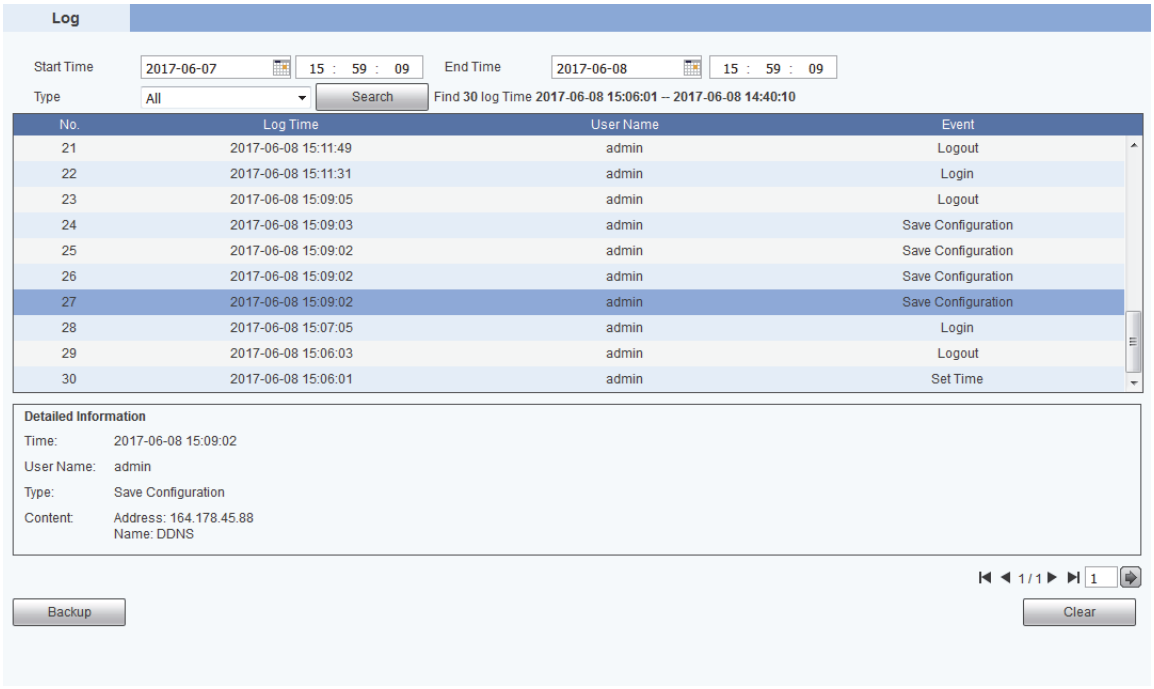
1. Click **Import**.
2. Navigate to the location of the firmware file (.bin), select it, and then click **Open**. The file name appears in the **Select Firmware File** field.
3. Click **Upgrade** to install the firmware.
4. Reboot the camera.

Viewing Version Information

You can view the camera's firmware version, web client version, ONVIF version, and serial number on the **Setup > Information > Version** page.

Managing Logs

You can view, back up, and delete log files on the **Setup > Information > Log** page.

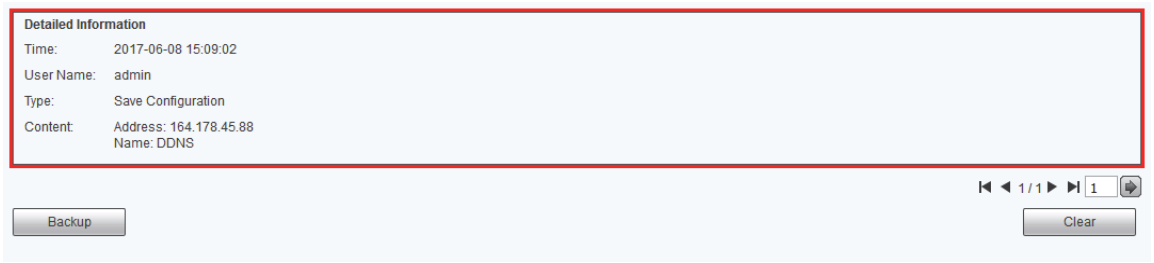


Viewing Logs

There are seven log types: System, Setting, Data, Event, Record, Account, and Clear Log.

To view logs by type:

1. Enter the **Start Time** and **End Time** search parameters.
2. From the **All Types** list, select the log type(s) that you want to retrieve, and then click **Search**. The logs are listed by time, user name, and event (if applicable).
3. To view detailed information about a specific log, click the log. The information is displayed in the **Detailed Information** box.



Backing Up Logs

To back up a log:

1. Click **Backup**. The **Save As** window opens.
2. By default, the backup file is named **LogBackup[*YYYY-MM-DD*].txt**. Rename the file if you want, locate the directory where you want to save the file, and then click **Save**.

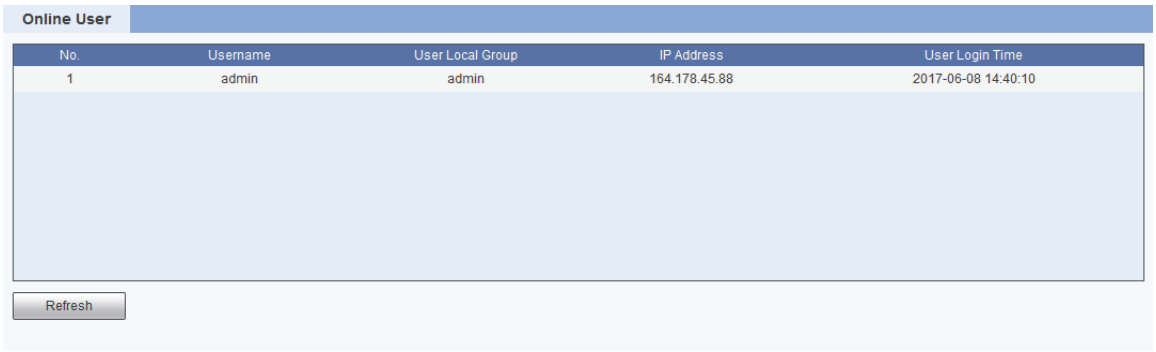
Deleting Logs

To delete all logs:

1. Click **Clear**.
2. A confirmation message appears. Click **OK** to continue. All of the logs that you have not backed up are deleted.

Viewing Online Users

You can see which users are currently online on the **Setup > Information > Online User** page. The users are listed by user name, IP address, and login time. To refresh the list, click **Refresh**.



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