



30X ZOOM IR PTZ DOME CAMERA

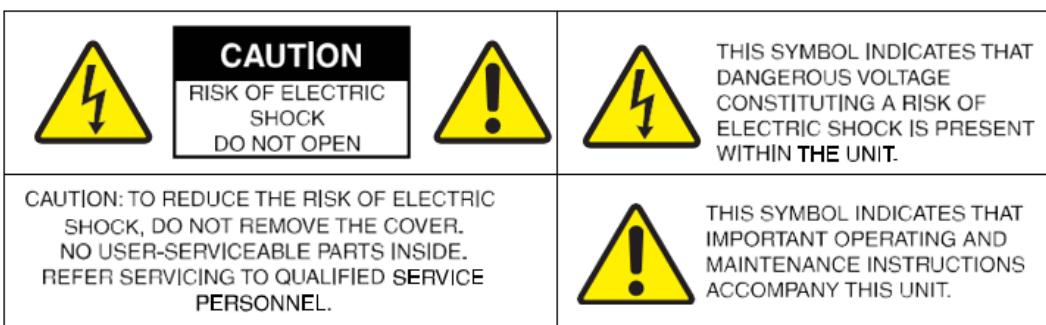
HDZP304DI

USER GUIDE

Revision

Issue	Date	Revision
A	02/2018	New document. Revision A

Cautions and Warnings



CAUTION To ensure compliance with electrical safety standards, CSA Certified/UL Listed LPS or Class 2 power adapters are required. Power over Ethernet (PoE) shall be provided by listed information technology equipment meeting the IEEE 802.3af PoE standard. The PoE is not intended to be connected to exposed (outside plant) networks.

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

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 A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

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 A digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la Classe A 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.

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. **WATER AND MOISTURE** - (*Indoor models only*) Do not use this unit near water or in an

- unprotected outdoor installation, or any area classified as a wet location.
6. **MOUNTING SYSTEM** - Use only with a mounting system recommended by the manufacturer, or sold with the product.
 7. **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.
 8. **ACCESSORIES** - Only use accessories specified by the manufacturer.
 9. **CLEANING** - Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
 10. **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.
 11. **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.
 12. **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 has been exposed to rain or water.
 - 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.
 13. **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

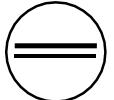
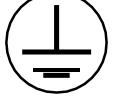
Subject to the terms and conditions listed on the Product warranty, during the warranty period Honeywell will repair or replace, at its sole option, free of charge, any defective products returned prepaid.

In the event you have a problem with any Honeywell product, please call Customer Service at 1.800.323.4576 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 UL compliance logo. This logo indicates that the product has been tested and is listed by UL (formerly Underwriters Laboratories).
	The FCC compliance logo. This logo indicates that the product conforms to Federal Communications Commission compliance standards.
	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 of Honeywell's Performance Series 4MP 30x Zoom IR PTZ network cameras. It contains instructions for accessing, configuring, and operating the cameras.

Overview of Contents

This manual contains the following chapters and appendixes:

- [*Chapter 1, Accessing the Camera*](#), describes how to access the camera remotely from a web browser.
- [*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, PTZ Operation*](#), describes how to set up and operate PTZ functions such as presets, scans, tours, and patterns.
- [*Chapter 4, Playing Back Recorded Video*](#), describes how to play back and export recorded video and snapshots.
- [*Chapter 5, Configuring Video and Audio Settings*](#), describes how to set up video and audio streams.
- [*Chapter 6, Configuring Network Settings*](#), describes how to set up the camera on a network. (For advanced users only.)
- [*Chapter 7, Configuring Event Settings*](#), provides instructions for configuring alarm inputs/outputs; motion detection, audio detection, tampering detection, face detection, and system events; and auto tracking settings.
- [*Chapter 8, Configuring Recording Settings*](#), describes how to set up a recording schedule and how to manage recording and storage settings.
- [*Chapter 9, Configuring System Settings*](#), provides instructions for configuring language and date and time options, managing user accounts and permissions, setting maintenance tasks, upgrading firmware, and resetting a camera to its factory defaults.
- [*Appendix A, Technical Specifications*](#), lists camera specifications.

1 Accessing the Camera

This chapter contains the following sections:

- [Installing the IPC Tool Utility, page 1](#)
- [Discovering Your Camera on the Network, page 1](#)
- [Assigning a New IP Address to Your Camera, page 1](#)
- [Upgrading the Camera's Firmware, page 2](#)
- [Accessing the Camera from a Web Browser, page 2](#)

Installing the IPC Tool Utility

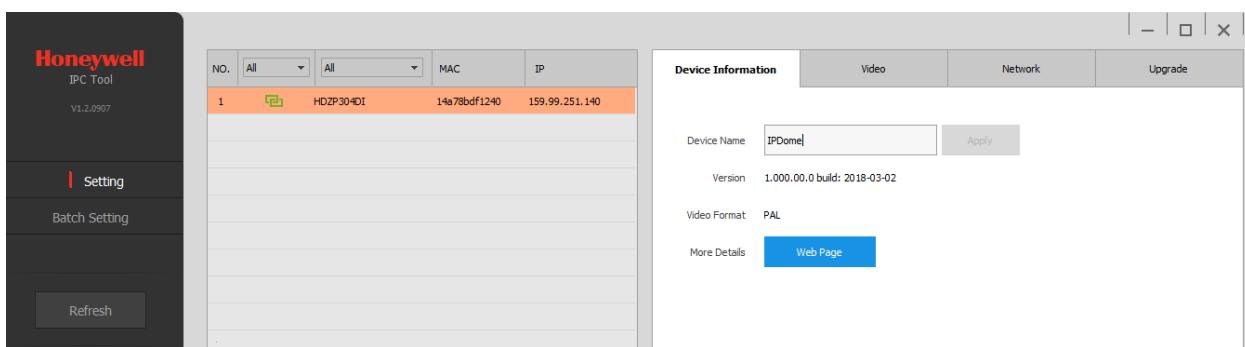
To install the IPC Tool utility and create a desktop shortcut:

1. Insert the included Software and Document disc into your PC's disc drive.
2. Install the IPC Tool utility to your PC. The shortcut  is added to the desktop.

Discovering Your Camera on the Network

To discover your network camera(s), open the IPC Tool utility , enter your user name and password, and then click **Connect**. Cameras that are online have a green connected icon  next to them. Cameras that are offline have a gray X next to them. To refresh the list, click **Refresh**.

Figure 1-1



Assigning a New IP Address to Your Camera

The current IP address of your camera appears in the **IP** column of the devices list. If you want, you can assign a new static IP address to the camera.

To change the IP address of a single camera:

1. Select the camera that you want to configure from the devices list.
2. Click the Network tab.
3. Clear the DHCP check box.
4. Enter the new IP settings in the IP Address, Subnet Mask, and Default Gateway fields.
5. Click **Apply** to apply the settings.

To change the IP addresses of multiple cameras at the same time:

1. In the left-most pane of the IPC Tool utility, click Batch Setting.
2. Select all of the cameras that you want to configure from the devices list.
3. Click the **Network tab**.
4. Do one of the following:
 - To assign dynamic IP addresses, select the **Set all to DHCP** check box, and then click **Apply**.
 - To assign static IP addresses, enter the settings in **IP Range**, **Subnet Mask**, and **Default Gateway** fields, and then click **Apply**.

Upgrading the Camera's Firmware

Before you begin using your camera, make sure you have the latest firmware installed. You can upgrade a single camera or multiple cameras at the same time.

To upgrade a single camera:

1. Select the camera that you want to upgrade from the devices list.
2. Click the **Upgrade** tab.
3. Click **Browse**, navigate to the directory that contains the firmware file (.bin), select the file, and then click Open. The firmware file appears in the Target File field.
4. Click **Upgrade**. When the upgrade is complete, the camera will reboot.

To upgrade multiple cameras at the same time:

1. In the left-most pane of the IPC Tool utility, click **Batch Setting**.
2. Select all of the cameras that you want to upgrade from the devices list.
3. Click the **Upgrade** tab.
4. Click **Browse**, navigate to the directory that contains the firmware file (.bin), select the file, and then click Open. The firmware file appears in the Target File field.
5. Click **Upgrade**. When the upgrade is complete, the cameras will reboot.

Accessing the Camera from a Web Browser

To access the camera from a web browser:

1. Select the camera that you want to access from the devices list. The camera must be online .
2. On the **Device** Information tab, click **Web Page**. The web client opens in your default browser.

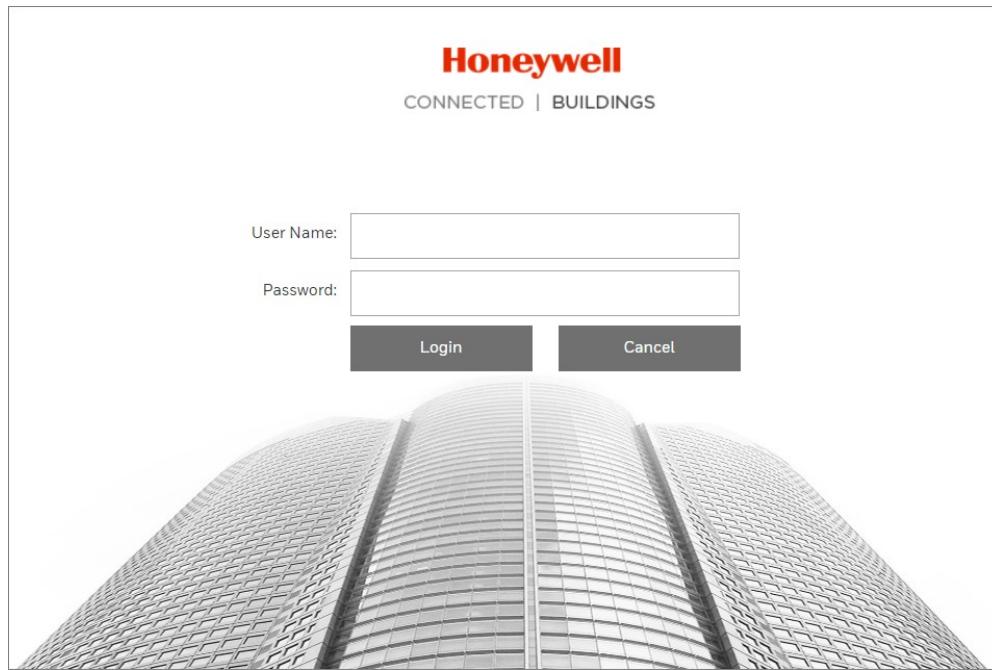
2 Logging In and Viewing Live Video

This chapter contains the following sections:

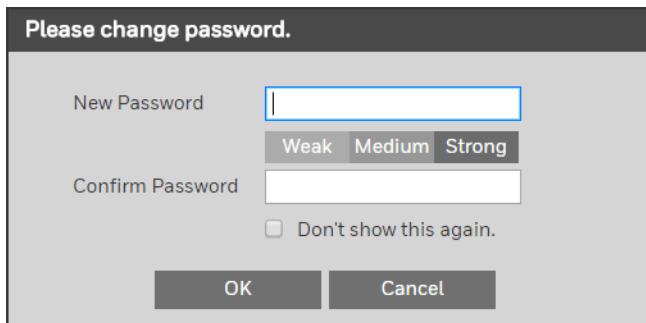
- [Logging In to the Web Client, page 4](#)
- [Overview of the Live Interface, page 5](#)
- [Configuring the Live Interface, page 6](#)
- [Working in the Live Interface, page 7](#)
- [Logging Out of the Web Client, page 8](#)

Logging In to the Web Client

If this is your first time logging in to the web client, on the login page, enter the default user name (**admin**) and password (**1234**), and then click **Login**.



For security purposes, you are required to create a new secure password.

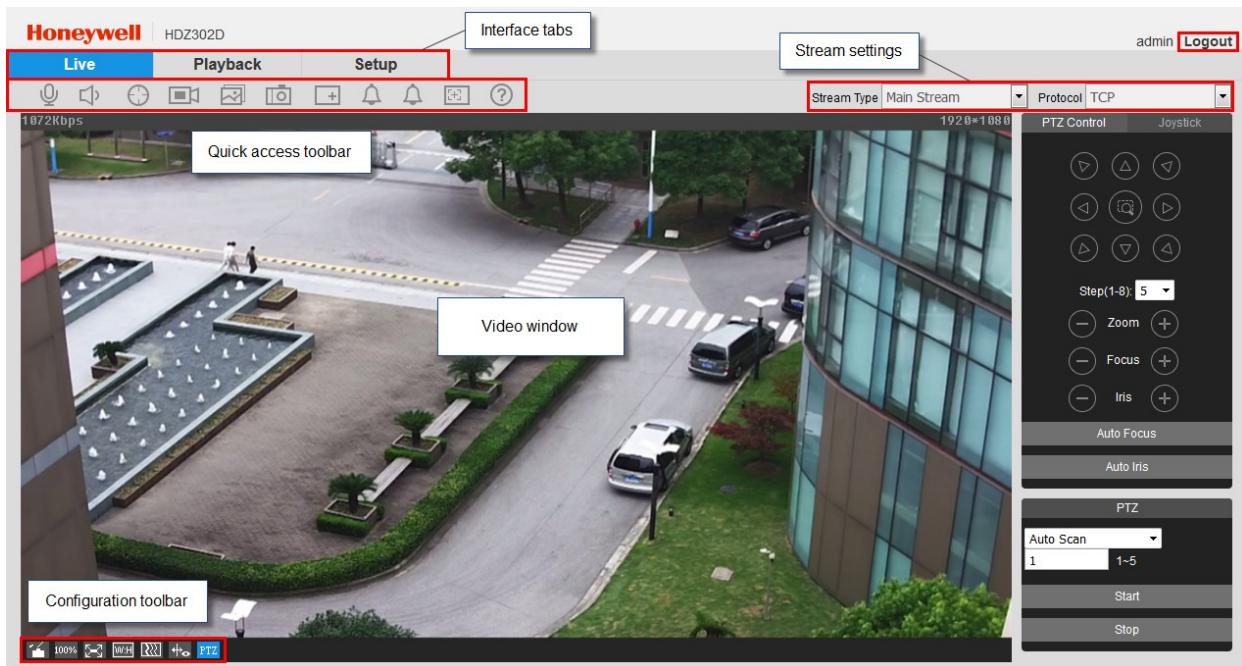


The password must be at least 8 characters long and contain at least one lowercase letter, one number, and one special character. The password cannot be blank.

Overview of the Live Interface

Figure 2-1 shows the layout of the web client's Live interface.

Figure 2-1 Live Interface



Configuring the Live Interface

Note The first time you log into the web client, follow the on-screen instructions to download and install the web browser plug-in.

You can configure the Live interface using the configuration controls located in the lower left corner of the screen, immediately below the video window (*Figure 2-2*).

Figure 2-2 Live Configuration Toolbar



Table 2-1 Live Configuration Controls

Image Adjustment	Opens the Image Adjustment panel. Move the sliders to adjust the image brightness, contrast, hue, or saturation. Click the – and + signs to make fine adjustments. To restore the settings to their default values (64), click Reset . Note These settings only apply to the client end. To change the settings at the camera end, go to Setup → Camera Setup → Conditions → Picture .	
Original Size	Displays the video at actual size (the exact dimensions are determined by the stream resolution).	
Full Screen	Displays the video in full-screen mode. Double-click (or press Esc) to exit full-screen mode.	
Width:Height Ratio	Displays the video in its original size (Original) or fitted to your screen (Adaptive).	
Fluency	Sets the video fluency level (Realtime , Normal , or Fluency). Select a fluency level based on the capabilities of your network. For example, if your connection is slow, selecting Fluency will prioritize smoothness over image quality.	
Rules Info	Tracks movement in the video window when intelligent video surveillance (IVS) is enabled (see <i>Configuring Audio Events</i> on page 73).	
PTZ	Opens the PTZ Control , Joystick , and PTZ function panels.	

Working in the Live Interface

The toolbar in the upper left corner of the screen, immediately above the video window, provides quick access to commonly used controls ([Figure 2-3](#)).

Figure 2-3 Quick Access Toolbar



Table 2-2 Quick Access Controls

	Talk	Click to enable or disable bidirectional talk (audio must also be enabled).
	Audio	Click to enable or disable the audio input stream.
	Manual Track	Click it and then left click the mouse and drag the mouse in the video window to select any zone, you can enable the speed dome to track the object in the specified area.
	Record	Click to start or stop recording video. The icon appears red when video is being recorded, gray when video is not being recorded. The recorded video is saved to the location specified in Setup → Storage Setup → Destination → Path → Live Record .
	Triple Snapshot	Click to take three snapshots in quick succession (1 per second). The snapshots are saved to the location specified in Setup → Storage Setup → Destination → Path → Live Snapshot .
	Snapshot	Click to take a snapshot of the current video. The snapshot is saved to the location specified in Setup > Storage Setup > Destination > Path > Live Snapshot .
	Digital Zoom	When this function is enabled, you can drag over an area of the video to enlarge that area. Right-click to return to the previous magnification.
	Alarm Output	Click to generate or cancel an alarm output. The icon appears red when the alarm is active, gray when the alarm is inactive.
	Regional Focus	Click to enable regional focus. Select an area of the video to focus in on by dragging over the area with your mouse. The area will come into sharper focus automatically.
	Help	Displays online help for the Live interface.

Setting Up Live Video Streaming

In the upper right 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 → Compression Setup → Video** page (see [Configuring Streaming Settings](#) on page 45).

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 of the Web Client

To log out of the web client, in the upper right corner of the screen, click **Logout**.

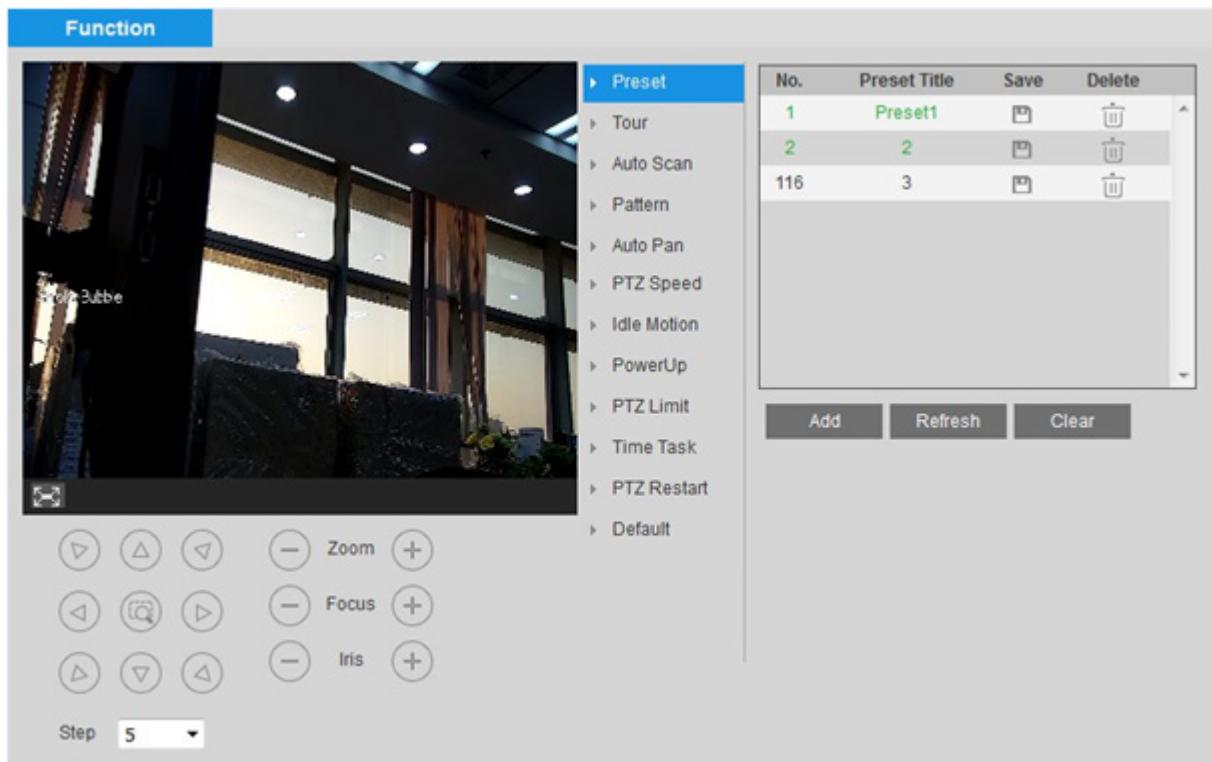
3 PTZ Operation

This chapter contains the following sections:

- [Configuring PTZ Functions, page 9](#)
- [Operating PTZ Controls, page 15](#)

Configuring PTZ Functions

You can configure PTZ functions on the **Setup → PTZ → Function** page.



Configuring Presets

To add a preset:

1. Position the PTZ dome for the preset using the pan, tilt, and zoom controls below the preview window. By default, Step is set at 5. Select a lower value for more precise positioning.



- In the **Preset** section, click **Add**. A preset is added to the list.

No.	Preset Title	Save	Delete
1	Preset1		
2	2		
116	3		

- Click the **Save** button to save the preset.
- To add another preset, repeat steps 2 to 4 above. You can add up to 80 presets.

To rename a preset:

- In the Preset section, double-click the name of the preset to make it editable, type the new name, and then press Enter.

No.	Preset Title	Save	Delete
1	Preset1		
2	2		
116	3		

To remove a preset:

- In the **Preset** section, click the **Delete** button of the preset that you want to remove.

To remove all presets:

- In the **Preset** section, click **Clear**.

Configuring Tours

To add a tour:

- In the Tour section, below the first frame, click **Add**. A tour is added to the list.

Tour No.	Tour Name	Delete
1	None	

- Below the second frame, click **Add**. By default, Preset 1 is added to the list.

Tour No.	Tour Name	Delete
1	None	

No.	Preset	Duration(s)	Delete
1	1	10	

Add	Save	Refresh
-----	------	---------

3. To change the preset, double-click the number in the Preset column, click the down arrow to expand the list, and then select a new preset from the list.



4. To change the duration time, double-click the number in the Duration column. Type a new duration time (in seconds), and then press Enter.

No.	Preset	Duration(s)	Delete
1	1 : 1	10	

To add another preset to the tour, repeat steps 1 to 4. A tour must contain at least two different presets.

1. Click **Save** to save the tour.
2. To preview the tour, click **Start**.

To rename a tour:

- In the **Tour** section, double-click the name of the tour to make it editable, type the new name, and then press Enter.

Tour No.	Tour Name	Delete
1	None	

To remove a tour:

- In the **Tour** section, click the **Delete** button of the tour that you want to remove.

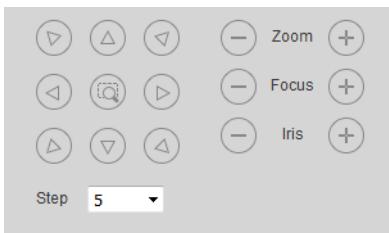
Configuring Scans

To set up a scan:

1. In the **Auto Scan** section, select the scan number that you want to configure from the **Scan No.** list. You can configure up to 5 scans.
2. Set the scan speed by dragging the **Speed** slider left or right or by clicking the – and + signs.
3. Click **Setup**.



4. Using the pan controls below the preview window, position the camera at the left limit stop, and then click **Set Left Limit**.



5. Position the camera at the right limit stop, and then click **Set Right Limit**.
6. To preview the scan, click **Start**. To stop the scan, click **Stop**.

Configuring Patterns

To set up a pattern:

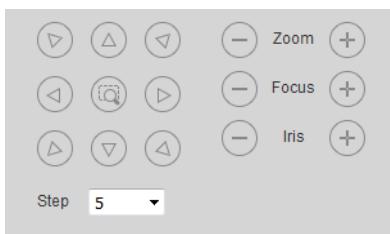
1. In the Pattern section, select the pattern number that you want to configure from the Pattern No. list. You can configure up to 5 patterns.



2. Click **Setup**.



3. Click **Start Record** to start recording.
4. Using the controls below the preview window, move the camera and adjust the zoom, focus, and iris as desired.



5. Click **Stop Record** to stop recording.
6. To preview the pattern, click **Start**. To stop the pattern, click **Stop**.

Configuring Auto Pan

To set up autopan (360-degree continuous rotation):

1. In the **Auto Pan** section, set the rotation speed by dragging the **Pan Speed** slider left or right or by clicking the – and + signs.
2. To start autopan, click **Start**. To stop autopan, click **Stop**.



Configuring PTZ Speed

To set the PTZ speed, next to **PTZ Speed**, click **Low**, **Medium**, or **High**.

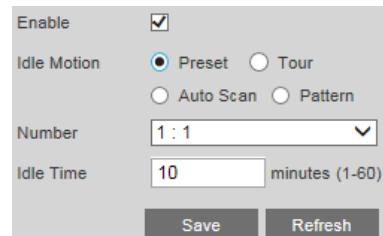


Configuring Idle Motion

When idle motion is enabled, the camera performs a specified action (preset, tour, scan, or pattern) when the camera is idle (receives no control inputs) for a specified period of time.

To enable idle motion:

1. In the **Idle Motion** area, select the **Enable** check box.
2. Next to **Idle Motion**, select the action that you want the camera to perform when it is idle for the specified time. Click **Preset**, **Tour**, **Auto Scan**, or **Pattern**.
3. If **Preset** or **Auto Scan** is selected, in the **Number** box, select the number of the preset or scan.
4. In the **Idle Time** box, enter the time that the camera must be idle before the specified action is performed. Enter a value between **1** and **60** minutes.
5. Click **Save** to apply the settings.

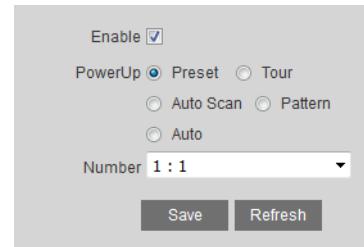


Configuring PowerUp Settings

You can set up the camera to perform a specific action when it is powered up.

To enable PowerUp settings:

1. In the PowerUp area, select the Enable check box.
2. Next to **PowerUp**, select the action that you want the camera to perform when it is powered up. Click Preset, Tour, Scan, Pattern, or Auto. If Auto is selected, the camera will go to its last position before it was powered down.
3. If **Preset** or **Scan** is selected, in the Number box, select the number of the preset or scan.
4. Click **Save** to apply the settings.

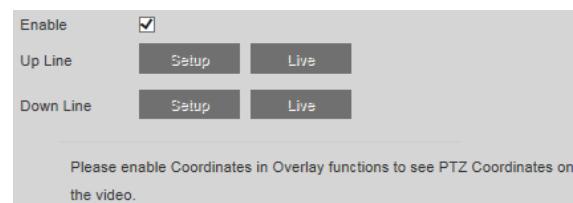


Configuring PTZ Limits

You can set upper and lower PTZ limits for the camera.

To set PTZ limits:

1. Using the PTZ controls below the preview window, move the camera to the upper tilt limit and then, next to **Up Line**, click **Setup**.
2. Move the camera to the lower tilt limit and then, next to **Down Line**, click **Setup**.
3. Select the **Enable** check box to enable the tilt limit function.



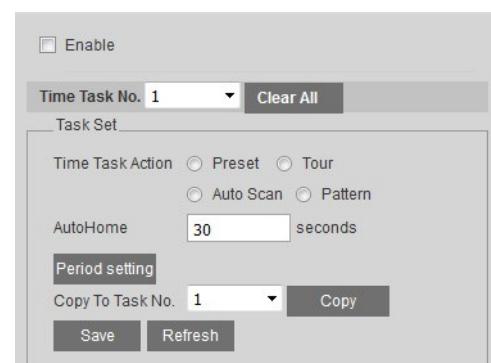
After the function is enabled, click **Live** to go to the upper or lower tilt limit.

Configuring Time Tasks

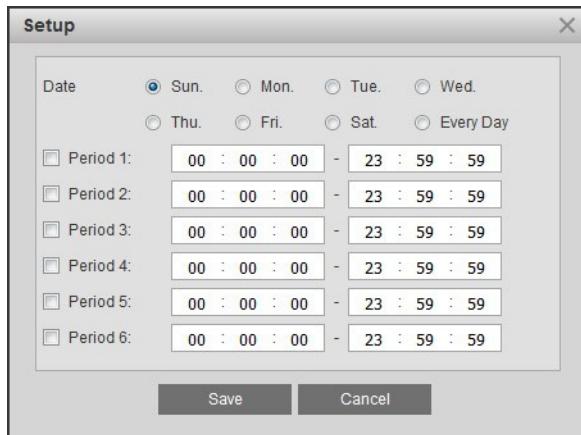
You can set up the camera to perform specific actions only within a specified period.

To set up a time task:

1. In the Time Task area, select the **Enable** check box.
2. Select the time task that you want to configure from the **Time Task No.** list. You can configure up to 4 time tasks.
3. Next to **Time Task Action**, select the action that you want the camera to perform during the specified period. Click **Preset**, **Tour**, **Auto Scan**, or **Pattern**.
4. If **Preset** or **Auto Scan** is selected, in the **taskActionNum** box, select the number of the preset or scan.



5. Set **AutoHome** to a value between **0** and **3600** seconds. This is the waiting period after a time task is interrupted (by manually calling the camera), after which the time task resumes.
6. Click **Period Setting**. The **Setup** window opens.



7. Set the days and times when you want the time task function to be active, and then click **Save**.
8. Click **Save** to apply your settings.

To delete all time tasks:

- Click **Clear All**.

Restarting the PTZ

To restart the PTZ dome, in the **PTZ Restart** area, click **PTZ Restart**.

Restoring Defaults

To restore all PTZ functions to their factory default settings, in the **Default** area, click **Default**.

Operating PTZ Controls

You can access PTZ controls and functions on the right side of the **Live** interface window.



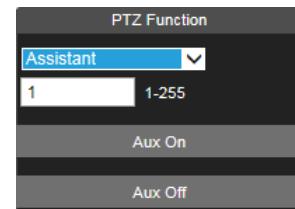
The **PTZ Control** panel consists of direction arrows, the rapid positioning button (in the center), the PTZ speed setting, and buttons for adjusting zoom, focus, and iris settings.

A virtual joystick is also available in case you prefer to use that instead of the direction arrows.

Using the **PTZ Function** panel, you can access predefined functions such as autoscan, preset, tour, pattern, and autopan. Two additional functions are **Assistant** and **Positioning**. **Assistant** lets you activate an auxiliary command. **Positioning** lets you send the camera to a specific position.

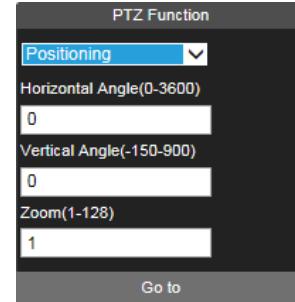
To use Assistant:

1. Select **Assistant** from the drop-down list.
2. Enter the number of the auxiliary command that you want to send to the camera.
3. Click **Aux On** to start the command.
4. Click **Aux Off** to stop the command.



To use Positioning:

1. Select **Positioning** from the drop-down list.
2. Enter the **Horizontal Angle** and **Vertical Angle** that you want the camera to go to (where 1 unit of angle = 0.1 degree).
3. Click **Go to**.



4 Playing Back Recorded Video

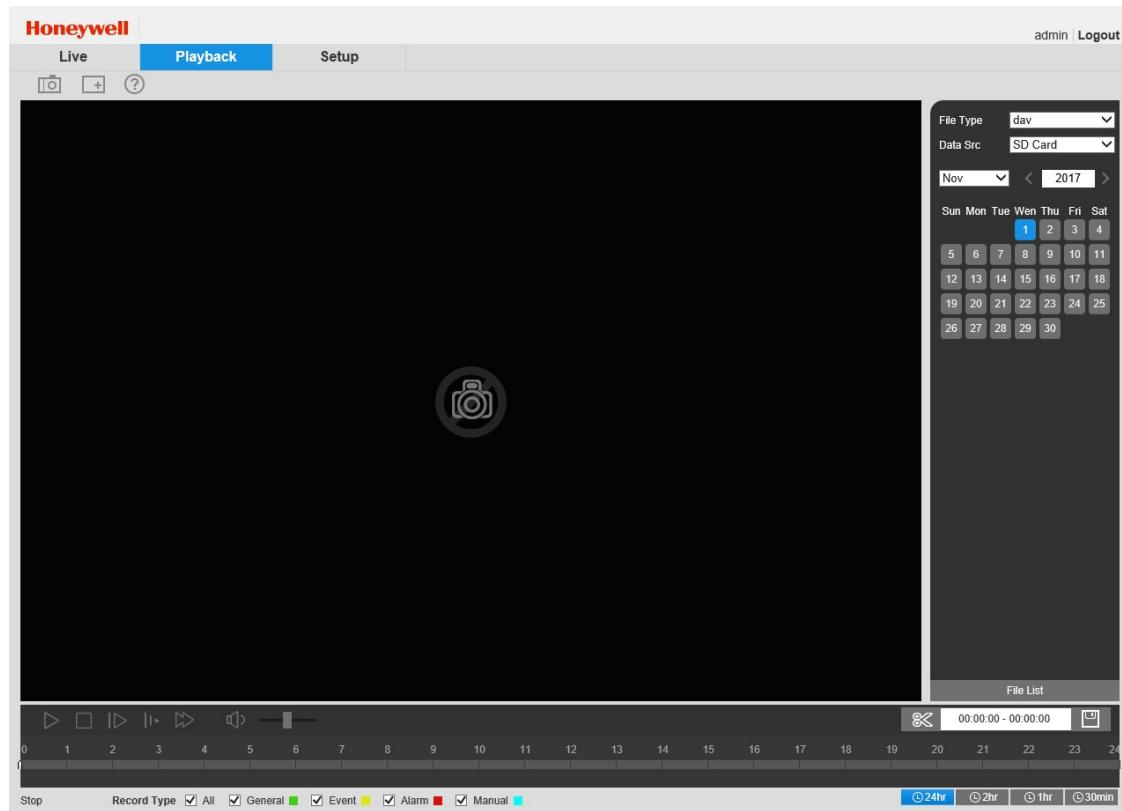
This chapter contains the following sections:

- [Overview of the Playback Interface, page 17](#)
- [Playing Back Recorded Video, page 19](#)
- [Downloading Recorded Video, page 20](#)
- [Viewing Snapshots, page 21](#)

Overview of the Playback Interface

Figure 4-1 shows the layout of the web client's Playback interface.

Figure 4-1 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 37.

Figure 4-2 Playback Toolbar



Table 4-1 Playback Controls

	Play/Pause	Click to play recorded video.
	Pause	Click to pause playback.
	Stop	Click to stop playback.
	Next Frame	Click to advance to the next frame when playback is paused.
	Slow Play	Click to slow down playback.
	Fast Play	Click to speed up playback.
	Volume	Click to enable sound.
	Mute	Click to disable sound.
	Volume Level	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 38.

Figure 4-3 Video Clip Area



Table 4-2 Video Clip Controls

 Clip	Click to start/stop clipping video.
 Download	Click to download the video clip that you have created to a local drive on your PC.

Timeline

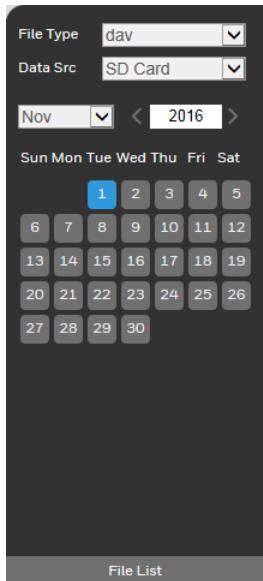
The timeline is located below the playback and video clip controls.

Figure 4-4 Timeline Area**Table 4-3 Timeline Controls**

Record Type	General	Displays video saved during normally scheduled recording in the timeline.
	Event	Displays video saved during a motion detection 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	Displays 24 hours of video in the timeline.
	2hr	Displays 2 hours of video in the timeline.
	1hr	Displays 1 hour of video in the timeline.
	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 Setup → Destination** (see *Configuring Storage Settings* on page 80).
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.

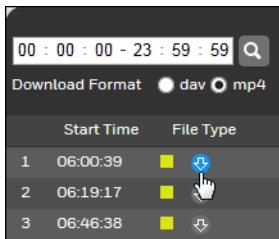
Downloading Recorded Video

There are two ways to download recorded video: you can download a complete video file (the maximum length is specified in **Setup → Storage Setup → 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**.

- From the file list, click the download button  of the file that you want to download.



The button changes to  and the file is saved to the location specified in **Setup → Compression Setup → Path → Playback Download**.

To create and export a video clip:

- Open a video file in the playback window.
- Pause the video at the time when you want to start the clip.
- In the video clip area, click the **Select Start Time** button .
- Resume playing the video.
- Pause the video at the time when you want to stop the clip.
- Click the **Select Stop Time** button .
- Stop the video, and then click the **Download** 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 > Compression Setup > 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 → Compression Setup → Path → Playback Snapshot**.

To view a snapshot that you have saved manually during live monitoring, go the directory specified in **Setup → Compression Setup → 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 → Compression Setup → 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:

- From the **File Type** list, select jpg.
- From the **Data Src** list, select the location where the snapshot files are stored.
- 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.

5 Configuring Video and Audio Settings

This chapter contains the following sections:

- [Configuring Video Settings, page 23](#)
- [Configuring Audio Settings, page 34](#)

Configuring Video Settings

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

Configuring Camera Settings

You can click the Profile box, select the camera profile that you want to configure settings for: Normal, Day, or Night. Configure camera properties on the **Setup → Camera Setup → Properties** page.

Profile

Picture

In the **Picture** area, you can set the picture style and adjust the picture settings.

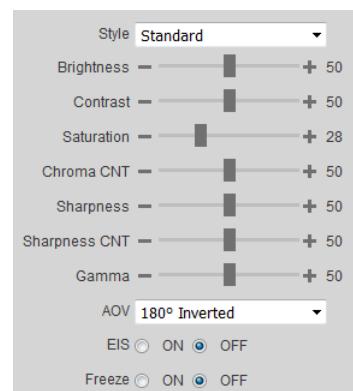
In the **Style** list, select **Soft**, **Standard**, or **Vivid**.

Adjust the brightness, contrast, saturation, sharpness, chroma control, sharpness, and sharpness control, and gamma levels by dragging the slider left or right to decrease or increase the value. Click the – and + signs to make fine adjustments.

To flip the image, set **AOV** to **180° Inverted**.

If the camera is mounted on a pole or in an environment subject to vibration, you can set **EIS** (Electronic Image Stabilization) to **ON** to improve image stability.

To freeze the image when the camera goes to a preset, set **Freeze** to **ON**. Click **Save** to apply the settings.

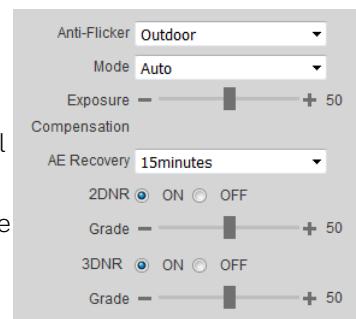


Exposure

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, Iris Priority, Shutter Priority, Gain Priority, or Manual.

- | | |
|-------------------------|--|
| Auto | Exposure is adjusted automatically. |
| Iris Priority | The shutter speed and gain are adjusted automatically for the specified iris value. |
| Shutter Priority | The iris and gain are adjusted automatically for the specified shutter speed. |
| Gain Priority | The shutter speed and iris are adjusted automatically for the specified gain value. |
| Manual | Manually adjust the gain level, shutter speed, and iris setting to achieve the correct exposure. |

Drag the Exposure Compensation slider left or right to darken or brighten the video image. Click the – and + signs to make fine adjustments.

To cause the camera to resume auto exposure mode after a specified period of time, set AE Recovery to 5minutes, 15minutes, 1Hour, or 2Hour. To disable the auto exposure recovery function, select OFF.

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

Click Save to apply the settings.

Backlight

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

Set Backlight 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 WDR level. Click the – and + signs to make fine adjustments. |

Click **Save** to apply the settings.

White Balance (WB)

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

In the WB area, you can set the white balance mode to Auto, Manual, ATW, Outdoor, Indoor, Sodium Lamp, Natural, or Street Lamp

Auto	White balance is adjusted automatically.
Manual	White balance is adjusted by moving the Red and Blue gain sliders. Click the + and – signs to make fine adjustments.
ATW	White balance is adjusted automatically for changes in the color temperature.
Outdoor	White balance is optimized for outdoor lighting conditions.
Indoor	White balance is optimized for indoor lighting conditions.
Sodium Lamp	White balance is optimized for sodium vapor lighting (such as yellow-orange street lamps).
Natural	White balance is optimized for natural lighting
Street Lamp	White balance is optimized for street lamp lighting

Click **Save** to apply the settings.

D&N Mode

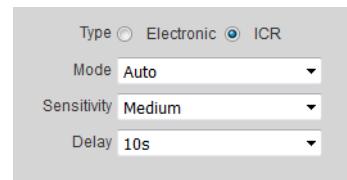
In the D&N Mode area, you can set the day and night type, mode, sensitivity, and delay time.

Set **Type** to **Electronic** or **ICR**.

Electronic Digital day/night.

ICR True day/night (removable IR cut filter).

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, Medium, or High.

Delay defines the delay time before switching between modes. Select a value between 2s and 10s.

Click **Save** to apply the settings.

Focus & Zoom

In the Focus & Zoom area, you can set the zoom and focus settings.

Set Digital Zoom to **ON** or **OFF**.

Drag the Zoom Speed slider left or right to decrease or increase the optical zoom speed. Click the – and + signs to make fine adjustments.

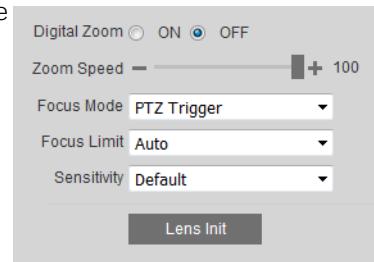
Set Focus Mode to Auto, PTZ Trigger, Manual, or ZoomTrigger.

Auto Focus is adjusted automatically when the scene changes.

PTZ Trigger Focus is adjusted automatically after pan/tilt/zoom functions.

Manual Focus is adjusted manually by the user.

ZoomTrigger Focus is adjusted automatically after zoom functions only.



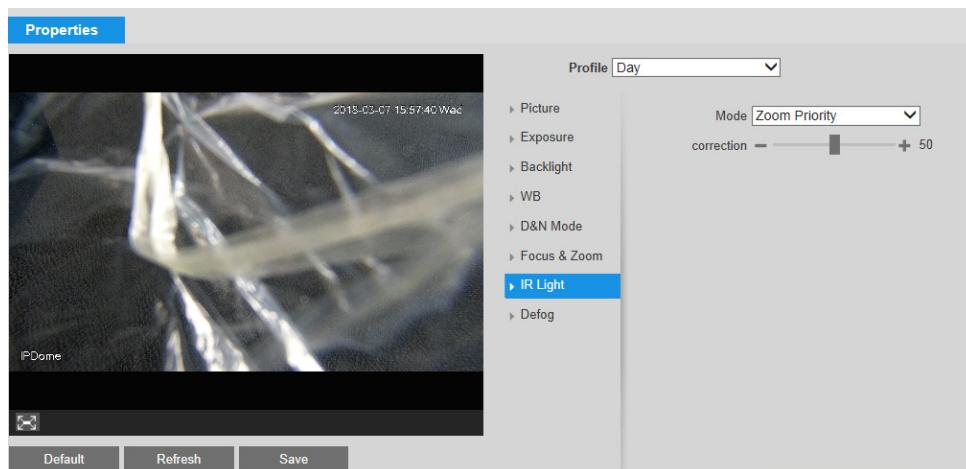
Set Focus Limit to Auto or to a value between 10cm and 200m+. In Auto mode, the camera will automatically adjust the focus limit based on the zoom ratio. Otherwise, the camera will only focus on objects beyond the specified distance. For example, if the focus limit is set to 5m, the camera will only focus on objects farther than 5 meters away.

Set Sensitivity to High, Default, or Low. The higher the value, the more quickly the objects in the scene will come into focus.

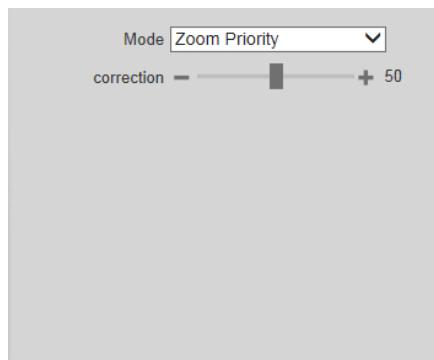
If the lens sticks or fails to hold a sharp focus, click **Lens** Init to initialize (reset) the lens. Click Save to apply the settings.

IR Light

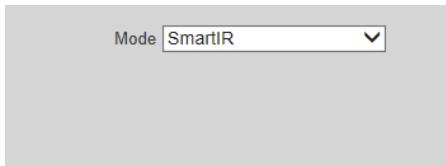
It is used to set the mode of IR light, you can select Zoom Priority, SmartIR and Manual.



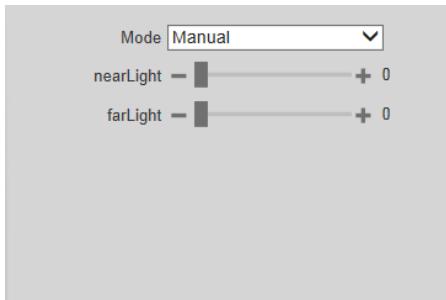
Zoom Priority: It can auto adjust the brightness of IR light according to the actual zoom rate.



SmartIR: The device can control IR light brightness according to the actual zoom rate and overexposure.



Manual: It is to set the brightness value of IR light manually.



Defog

To enable the defog function, set Mode to OFF, Manual, or Auto.

Auto

The defog function is enabled automatically when the scene is obscured by fog or haze.

Manual

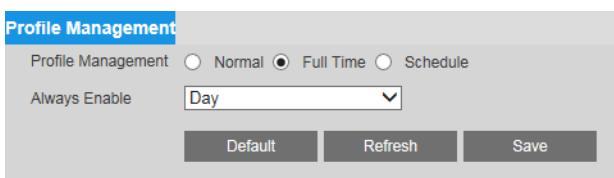
The defog function is always enabled.



If Mode is set to Manual, set Intensity to Low, Medium, or High. 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 Setup → Profile Management** page.



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

Normal

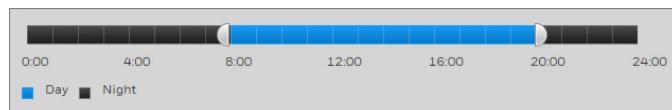
The Normal profile is always enabled.

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 Streaming Settings

You can configure video streaming properties on the Setup > Compression Setup > 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.

The screenshot shows the 'Video' configuration page with two main sections: 'Main Stream' and 'Sub Stream'.
Main Stream:
 - Format: H.264H
 - Smart Codec: OFF
 - Resolution: 2592x1520 (2592x1520)
 - Frame Rate: 25
 - Bit Rate Type: CBR
 - Reference Bit Rate: 2816-6192Kb/S
 - Bit Rate: 6144 (Kb/S)
 - I-Frame Interval: 50 (1-150)
 - SVC: 1(off)
 - Watermark Settings checked
 - Watermark Text: DigitalCCTV
Sub Stream:
 - Enable checked (Sub Stream 1 selected)
 - Format: H.264H
 - Resolution: D1 (704x576)
 - Frame Rate: 25
 - Bit Rate Type: CBR
 - Reference Bit Rate: 256-2304Kb/S
 - Bit Rate: 1024 (Kb/S)
 - I-Frame Interval: 50 (1-150)
 - SVC: 1(off)
 Buttons at the bottom: Default, Refresh, Save

For each record type (General, Motion, Alarm), you can configure the encoding format, resolution, frame rate, bit rate, and I-frame interval settings. You can also apply a custom watermark to the main stream.

Format

In the Format box, select H.264B, H.264, H.264H, MJPEG, or H.265.

- H.264** Main Profile. Uses less bandwidth than Baseline Profile at the same quality.
- H.264B** Baseline Profile. Uses up to 50% less bandwidth than MPEG4 and up to 80% less than MJPEG. Higher compression and lower quality than H.264.
- 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. Used together with H.264, Smart Codec can lead to storage savings of up to 60 percent and bandwidth savings of up to 40 percent over H.264 alone.

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) and 6 (highest).

In the Bit Rate box, select a bit rate from the list using the Reference Bit Rate as a guide.

I-Frame Interval

In the I-Frame Interval box, enter a value between 1 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 → Compression Setup → Snapshot** page.

Setting	Value
Snapshot Type	General
Image Size	2592x1520 (2592x1520)
Quality	5
Interval	1s

Snapshot Type

Set the Snapshot Type to General or Event.

- General** Snapshots are taken according to a user-defined schedule.
- Event** Snapshots are taken when an alarm, motion detection, camera tampering, audio, face detection, 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 29).

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 setting between 1 and 16 seconds.

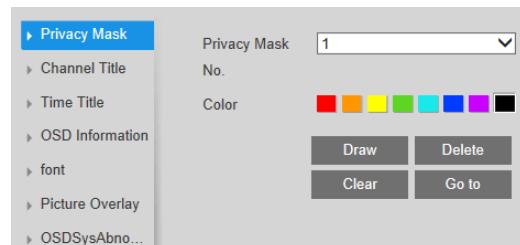
Click **Save** to apply the settings.

Configuring Privacy Masks

You can configure privacy mask properties on the **Setup → Compression Setup → Overlay → Privacy Mask** page

Select the number of the privacy mask that you want to configure from the **Privacy Mask No.** list. By default, privacy masks are black. To change the color, click the desired **Color** swatch.

Position the camera using the controls below the preview window.



To draw a privacy mask, click **Draw**, and then, in the preview window, drag your mouse over the portion of the scene that you want to conceal. You can add up to 24 privacy masks.

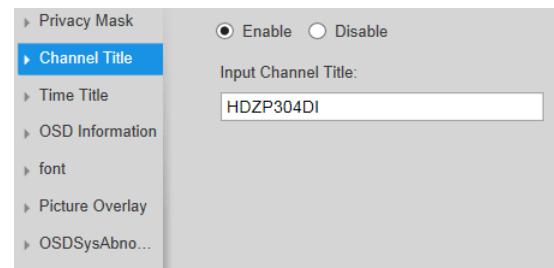
To delete a privacy mask, click **Delete**. To delete all of the privacy masks, click **Clear**.

To send the camera to a privacy mask, select the **Privacy Mask No.**, and then click **Go to**.

Configuring the Channel Title

You can configure the channel title properties on the **Setup > Compression Setup → Overlay → Channel Title** page.

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**.

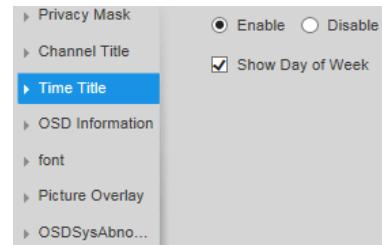
To hide the channel title, click **Disable**, and then click **Save**.

Configuring the Time Title

You can configure the time title properties on the **Setup → Compression Setup → Overlay → Time Title** page.

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

To display the day of week, select the **Show Day of Week** 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 OSD Text Overlays

You can configure other text overlays on the **Setup → Compression Setup → Overlay → OSD Information** page.

To display preset, temperature, zoom magnification, and/or direction information, click the corresponding **Enable** button(s).

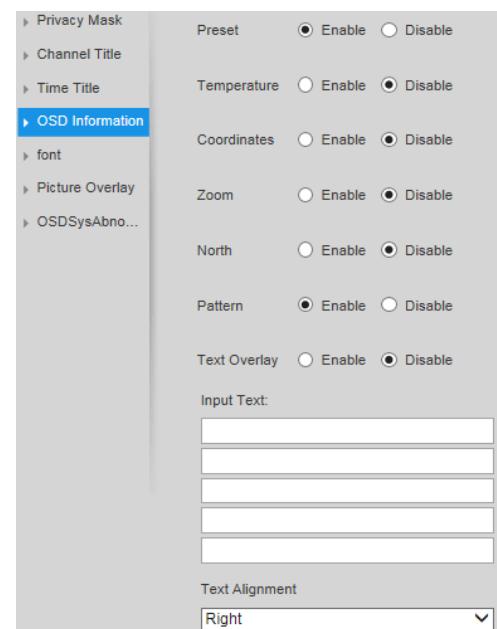
The PTZ coordinates and pattern are displayed by default. To hide these overlays, click **Disable**.

To display custom text, next to **Text Overlay**, click **Enable**, and then enter the desired text in the **Input Text** field.

Set Text Alignment to Left or Right.

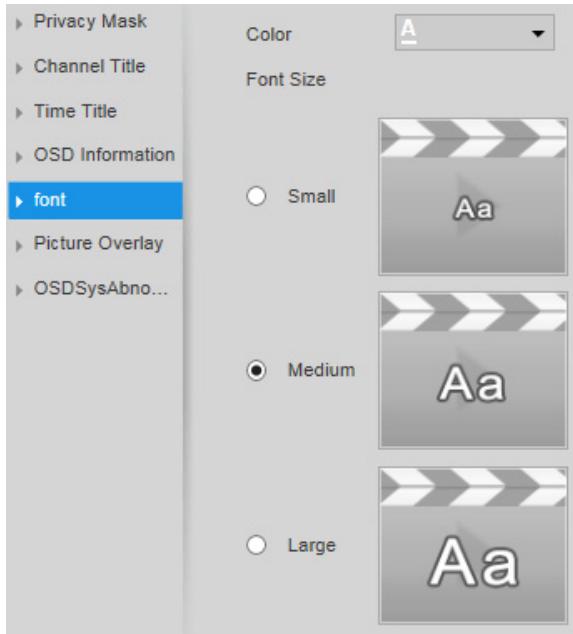
To move the text overlay, drag the yellow **OSD Information** box to the desired location in the preview window.

Click **Save** to apply the settings.



Configuring Font

You can configure font of channel title, time title, OSD info, it can set color, size and row height.

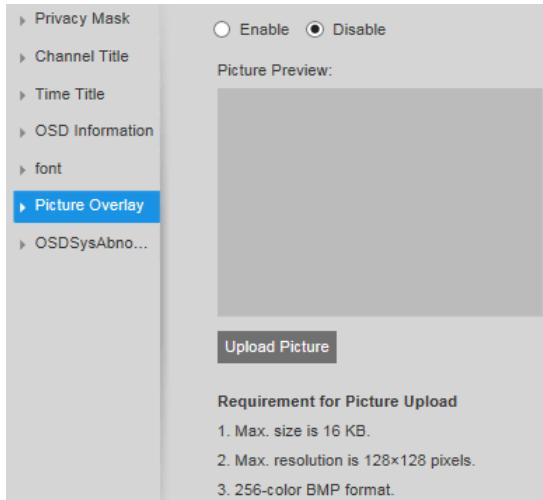


Configuring Picture Overlays

You can configure picture overlay properties on the **Setup → Compression Setup → Overlay → Picture Overlay** page.

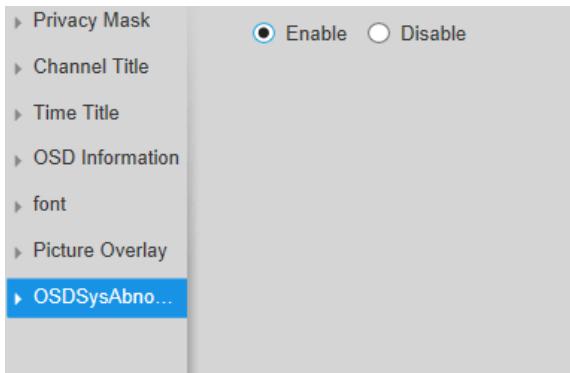
To display a picture overlay, click **Enable**, click **Upload Picture**, upload the picture, and then click **Save**. The file must be in BMP format, less than 16 KB, and no more than 128×128 pixels.

To move the picture overlay, drag the yellow frame to the desired location in the preview window, and then click **Save**.



Configuring OSDSysAbnormal

You can configure picture overlay properties on the **Setup → Compression Setup → Overlay → OSDSysAbnormal** page. It is to set if it will display abnormality in the monitoring picture.



Configuring Regions of Interest

You can configure regions of interest (ROI) on the Setup > Compression Setup > 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 8 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.

Configuring Path

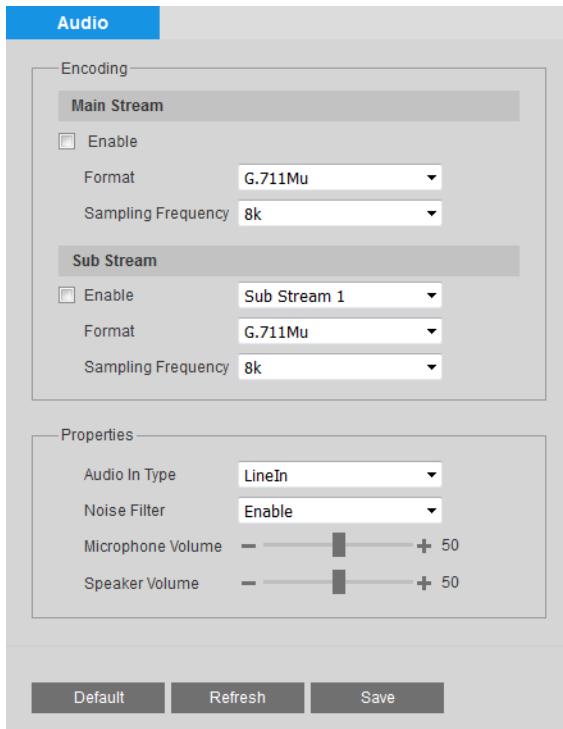
The storage path is activated with snapshot and record in the live interface, which can set the storage path of monitoring snapshot and monitoring record respectively.

The storage path is activated with snapshot, download and clip in the playback interface, which can set the storage path of playback snapshot, record download and playback clip respectively.



Configuring Audio Settings

You can configure audio settings for Main Stream, Sub Stream 1, and Sub Stream 2 profiles on the **Setup → Audio Setup → Audio** page.



To enable audio for the stream, select the **Enable** check box, select the format (**G.711A**, **G.711Mu**, **G.726**, **AAC**, **MPEG2-Layer2**, **G.722.1**, **G.729**), and then select a sampling frequency (**8** or **16 kHz**).

In the **Properties** area, select the audio input type (**LineIn**, **Microphone**), enable or disable noise filtering, and adjust the microphone and/or speaker volumes by moving the sliders. Click the + and - signs to make fine adjustments.

Click **Save** to apply the settings.

6 Configuring Network Settings

This chapter contains the following sections:

- [Configuring TCP/IP, page 35](#)
- [Configuring Network Connections, page 37](#)
- [Configuring ONVIF, page 38](#)
- [Configuring RTSP, page 38](#)
- [Configuring PPPoE Settings, page 39](#)
- [Configuring DDNS Settings, page 39](#)
- [Configuring Email Settings, page 40](#)
- [Configuring UPnP Port Mapping, page 41](#)
- [Configuring SNMP Settings, page 42](#)
- [Configuring Bonjour, page 43](#)
- [Configuring Multicast Settings, page 43](#)
- [Configuring 802.1X Settings, page 43](#)
- [Configuring QoS Settings, page 44](#)
- [Working with Certificates, page 44](#)

Configuring TCP/IP

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

TCP/IP	
Hostname	HDZP304DI
Ethernet Card	Wire(Default)
Mode	<input checked="" type="radio"/> Static <input type="radio"/> DHCP
MAC Address	14 . a7 . 8b . df . 12 . 40
IP Version	IPv4
IP Address	159 . 99 . 251 . 140
Subnet Mask	255 . 255 . 255 . 0
Default Gateway	159 . 99 . 251 . 1
Preferred DNS Server	199 . 63 . 219 . 166
Alternate DNS Server	165 . 195 . 30 . 99
<input checked="" type="checkbox"/> Enable ARP/Ping	
<input type="button" value="Default"/> <input type="button" value="Refresh"/> <input type="button" value="Save"/>	

IPv4 Address Configuration

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

In the Hostname 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.

The screenshot shows the TCP/IP configuration page with the following settings:

- Hostname:** HDZP304DI
- Ethernet Card:** Wire(Default)
- Mode:** Static (selected)
- MAC Address:** 00 . 1f . 55 . 2d . 07 . 16
- IP Version:** IPv6 (highlighted with a red box)
- Link Address:** fe80::021f:55ff:fe2d:0716%64
- IP Address:** 2001:250:3000:1::1:2 / 112
- Default Gateway:** 2001:250:3000:1::1:1
- Preferred DNS Server:** 2001:da8:2000:2017::33
- Alternate DNS Server:** 2001:da8:2000:2193::33
- Enable ARP/Ping

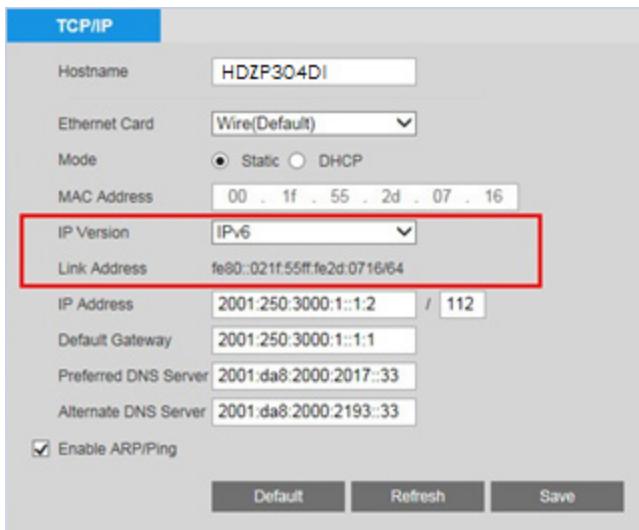
Buttons at the bottom: Default, Refresh, Save.

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** check box, and then click **Save**.



- 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
```

- 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 Network Connections

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

	ONVIF	RTSP
Max Connections	10 (1-20)	
TCP Port	37777 (1025-65534)	
UDP Port	37778 (1025-65534)	
HTTP Port	80	
RTSP Port	554	
HTTPS Port	443	

Default **Refresh** **Save**

By default, the maximum number of simultaneous connections the camera will support is set to 10. To change this setting, in the Max Connections 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 Setup > Connection > ONVIF page.

Port	ONVIF	RTSP
Login Authentication	<input checked="" type="radio"/> ON <input type="radio"/> OFF	
HTTPS Setting	<input checked="" type="checkbox"/>	

Default **Refresh** **Save**

ONVIF login authentication is enabled by default. To disable it, select OFF, and then click Save.

Note You can enable HTTPS by selecting the **HTTPS Setting** check box, and then clicking **Save**. If your headend only supports ONVIF HTTP, you can disable HTTPS by clearing the **HTTPS Setting** check box and then clicking **Save**. A warning message will appear indicating that your connection is no longer secure.

Configuring RTSP

RTSP Over TLS is used to encrypt video stream transmit between browser and device or device and headend.

You can enable or disable RTSP Over TLS on the **Setup → Network Setup → Connection → RTSP** page.

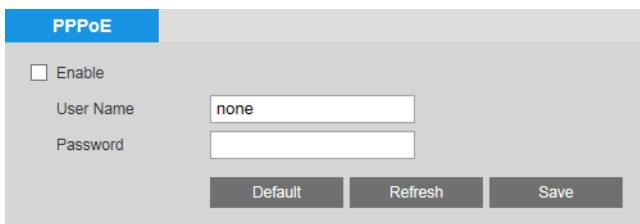
RTSP Over TLS is disabled by default. To enable it, click **ON**, and then click **Save**.

Note: **RTSP Over TLS** is effective only for **TCP** protocol at present.



Configuring PPPoE Settings

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

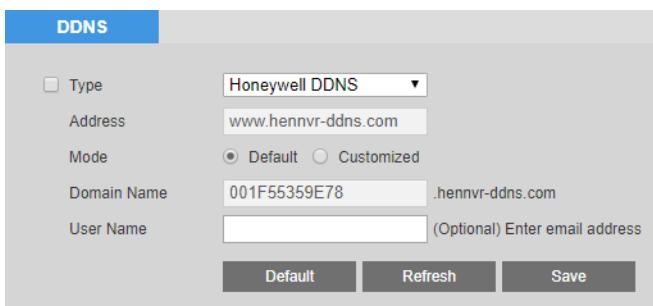


To enable PPPoE:

1. Select the **Enable** check box.
2. In the **User Name** 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 Setup > 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 **Type** check box, then select your DDNS service from the drop-down list (for example, Honeywell DDNS).
3. In the **Domain Name** field, enter the domain name (hostname) that you registered with the DDNS service (for example, *mycamera.dyndns.org*).
4. In the **User Name** and **Password** fields, enter the user name and password of the account that you registered in step 1.
5. 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 **Default** or **Customized**. If you enter the domain name manually, click **Test** to verify that the domain name is registered.

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

Configuring Email Settings

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

The screenshot shows the 'SMTP (Email)' configuration page. It contains the following fields:

- SMTP Server:** none
- Port:** 25
- Anonymous:**
- User Name:** anonymity
- Password:** ****
- Sender:** none
- Authentication:** None
- Title:** IPC Message
- Attachment:**
- Mail Receiver:** (List box with + and - buttons)
- Interval:** 0 seconds(0-3600)
- Send Health Messages:**
- Interval:** 60 seconds(1-3600)

At the bottom are three buttons: **Email Test**, **Default**, **Refresh**, and **Save**.

To set up email notifications:

1. In the **SMTP Server** and **Port** fields, enter the SMTP server and port information.
2. In the **User Name** and **Password** fields, enter the sender's email user name and password. Alternatively, if the server supports anonymous login, you can select the **Anonymous** check box to log in without a user name and password.

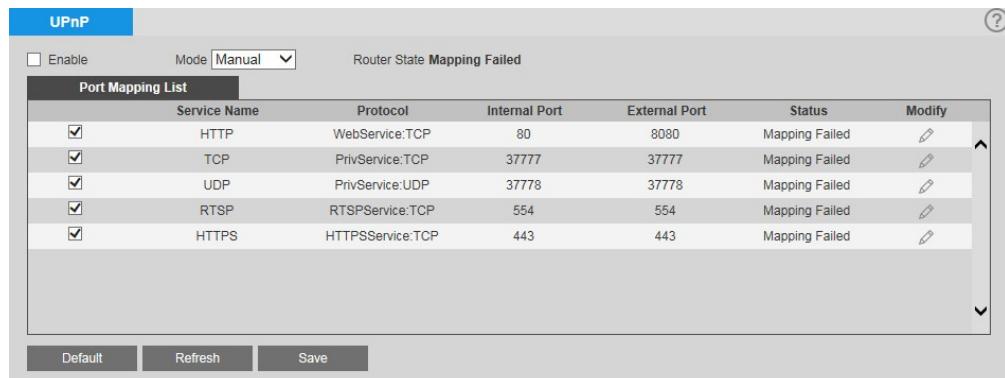
3. In the **Sender** field, enter the sender's email address.
4. From the **Authentication** list, select an encryption mode (**SSL** or **TLS**) or select **None**.
5. In the **Title** field, enter the text that you want to appear in the subject line of the email.
6. Select the **Attachment** check 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 (60minutes).

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 **Send Health Messages** check box, and specify the **Interval**.
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 Setup > 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.

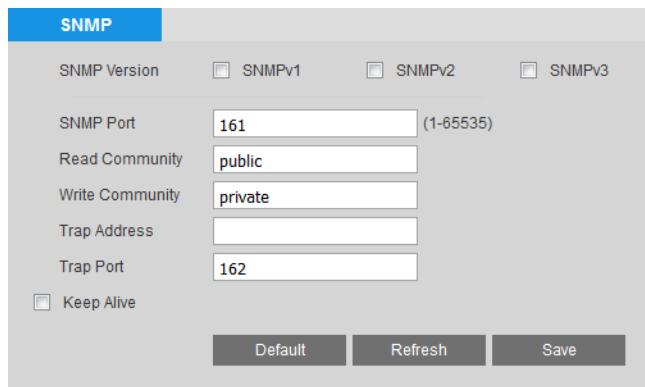
4. Click **OK** to begin the installation.

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 SNMP Settings

You can configure Simple Network Management Protocol (SNMP) settings on the **Setup → Network Setup → SNMP** page.



SNMP is a protocol for collecting, organizing, and exchanging management information between managed devices on a network.

To enable SNMP:

1. Next to SNMP Version, select the SNMP version(s) that you want to use. For best security, use SNMPv3. You can select SNMPv1 only, SNMPv2 only, both SNMPv1 and SNMPv2, or SNMPv3 only.

Note If you select SNMPv1 or SNMPv2, a warning message will appear.

2. By default, the **SNMP Port** is 161. To change the port, enter a number in the range 1–65535.
3. In the Trap Address field, enter the IP address of the SNMP server where trap notifications will be sent.
4. By default, the **Trap Port** is 162. To change the port, enter a number in the range 1–65535.
5. If SNMPv3 is selected, for both read-only and read-write, enter a user name, select an authentication method (MD5 or SHA), and create authentication and encryption passwords (must be at least 8 characters long).
6. Click **Save** to apply the settings.

Configuring Bonjour

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

Bonjour

Enable

Server Name

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 Setup > Multicast page.

Multicast

Main Stream	Sub Stream
<input checked="" type="checkbox"/> Enable	<input checked="" type="checkbox"/> Enable
Multicast Address 224 . 1 . 2 . 4 (224.0.0.0-239.255.255.255)	Sub Stream 1 Multicast Address 224 . 1 . 2 . 4 (224.0.0.0-239.255.255.255)
Port 40000 (1025-65534)	Port 40016 (1025-65534)

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:

- 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.
- 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 Setup > 802.1X page.

The screenshot shows the '802.1x' configuration page. At the top is a blue header bar with the title '802.1x'. Below it is a form with the following fields:
 Enable
 Authentication: PEAP (dropdown menu)
 User Name: none
 Password: (redacted)
 Buttons at the bottom: Default, Refresh, Save

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 **User Name** 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 Setup → QoS** page.

The screenshot shows the 'QoS' configuration page. At the top is a blue header bar with the title 'QoS'. Below it is a form with the following fields:
 Realtime Monitor: 0 (0-63)
 Command: 0 (0-63)
 Buttons at the bottom: Default, Refresh, Save

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

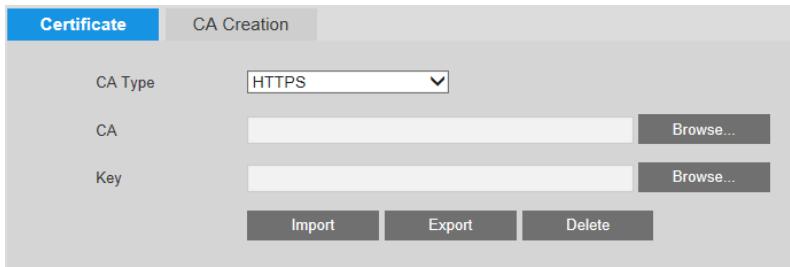
To enable QoS:

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).

Click **Save** to apply the settings.

Working with Certificates

You can configure certificate settings on the **Setup → Network Setup → 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**.

CA Creation

User can fill in certificate information he wants, and the certificate request file is provided to the certificate issuing authority for signing then import to camera.

1. Navigate to **Setup → Network Setup → CA Creation** page
2. Enter the required information in the Certificate Request fields and then click Export.

Country	<input type="text"/>
Province	<input type="text"/>
Location	<input type="text"/>
Organization	<input type="text"/>
Organization Unit	<input type="text"/>
Common Name	<input type="text"/>
<input type="button" value="Export"/> <input type="button" value="Reset"/>	

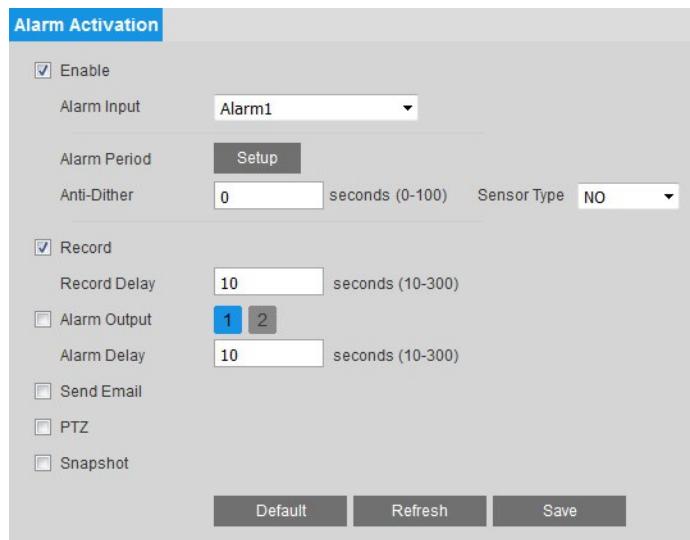
7 Configuring Event Settings

This chapter contains the following sections:

- [Configuring Alarm Events, page 47](#)
- [Configuring System Events, page 49](#)
- [Configuring Motion Detection Events, page 51](#)
- [Configuring Camera Tampering Events, page 53](#)
- [Configuring Audio Events, page 54](#)
- [Configuring Smart Plan Settings, page 56](#)
- [Configuring Auto Tracking Settings, page 57](#)
- [Configuring Face Detection Events, page 58](#)

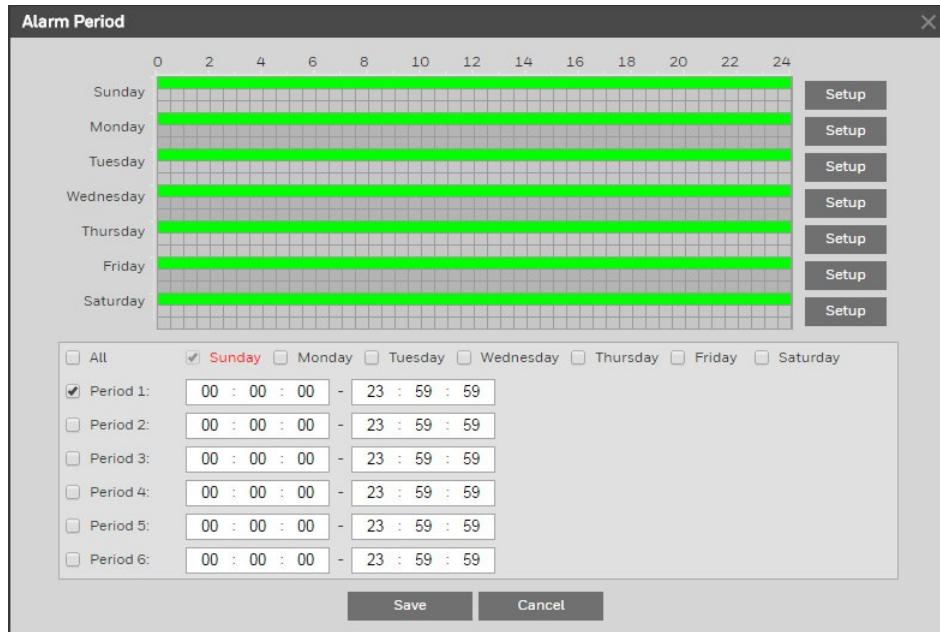
Configuring Alarm Events

You can configure alarm event settings on the Setup > Alarm > Alarm page.



To enable the alarm function:

1. Select the **Enable** check box.
2. From the **Alarm Input** list, select the alarm input that you want to configure (Alarm1 or Alarm2).
3. Next to **Alarm Period**, click **Setup**. The **Alarm Period** window opens.



4. Set the days and times when you want the alarm function to be active, and then click **Save**.
5. 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 alarm event within this period.
6. Set **Sensor Type** to **NO** (normally open) or **NC** (normally closed), depending on the alarm input type.
7. To start recording video when an alarm event is detected, select the **Record** check box.
8. In the **Record Delay** field, enter the number of seconds that the system will continue to record video after an alarm event has ended. Enter a value between **10** and **300**.
9. To generate an alarm output when an alarm event is detected, select the **Alarm Output** check box and select the alarm output(s) to be activated.
10. In the **Alarm Delay** field, enter the number of seconds that the system will continue to generate an alarm output after an alarm event has ended. Enter a value between **10** and **300**.
11. 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 Setup → SMTP (Email)**. See [Configuring Email Settings](#) on page 40.
12. To initiate a predefined preset, tour, or pattern when an alarm event is detected, select the **PTZ** check box and select the desired action from the Activation list.
13. To take a snapshot when an alarm 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 Setup → SMTP (Email)**.

See [Configuring Email Settings](#) on page 40.

14. 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 > Alarm > Event 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:

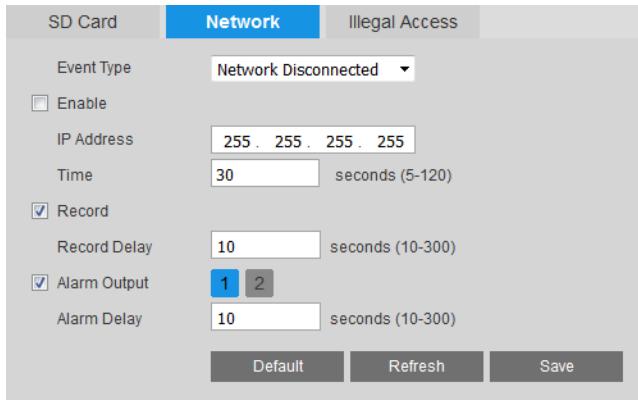
1. On the **SD Card** tab, select the event type that you want to configure from the Event Type list (No SD Card, SD Card Error, or Capacity Warning).
2. Select the **Enable** check box.
3. To generate an alarm output when the event is detected, select the **Alarm Output** check box and select the alarm output(s) to be activated.
4. In the **Alarm Delay** field, enter the number of seconds that the system will continue to generate an alarm output after the event has ended. Enter a value between 10 and 300.
5. To send an email notification when the event is detected, select the Send Email check box. Email settings must be configured in **Setup → Network Setup → SMTP (Email)**. See [Configuring Email Settings](#) on page 40.
6. Click **Save** to apply the settings.

Configuring Network Event Settings

There are two types of network events:

- Network Disconnected: 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 (Network Disconnected or IP Conflict).
2. Select the **Enable** check box.
3. In the **IP Address** field, enter the IP address of the headend, and in the Time field, enter the countdown time. If no connection is established with the IP address within the specified time, the system will detect a network disconnection event.
4. To start recording video when the 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 the event has ended. Enter a value between **10** and **300**.
6. To generate an alarm output when the event is detected, select the **Alarm Output** check box and select the alarm output(s) to be activated.
7. In the **Alarm Delay** field, enter the number of seconds that the system will continue to generate an alarm output after the event has ended. Enter a value between **10** and **300**.
8. 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.



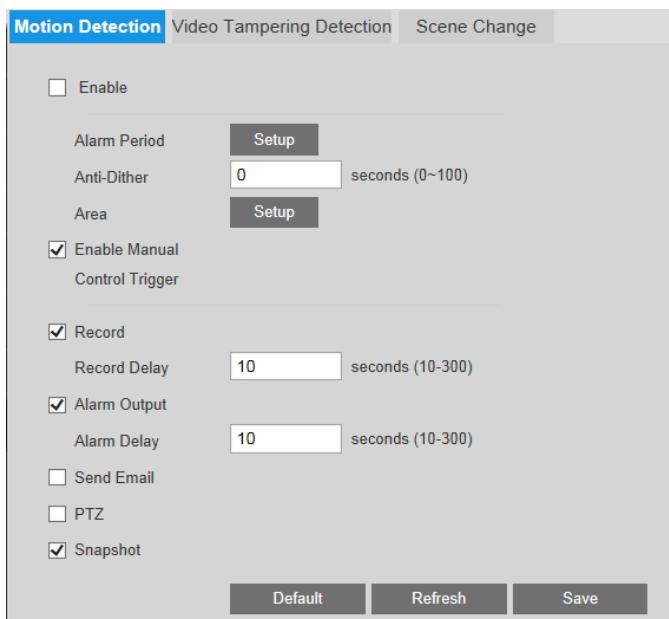
To enable illegal access detection:

1. On the **Illegal Access** tab, select the **Enable** check box.
2. In the **Failed Login Attempts** 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 generate an alarm output when the event is detected, select the **Alarm Output** check box and select the alarm output(s) to be activated.
4. In the **Alarm Delay** field, enter the number of seconds that the system will continue to generate an alarm output after the event has ended. Enter a value between 10 and 300.
5. 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 Setup → SMTP (Email)**. See [Configuring Email Settings](#) on page 40.

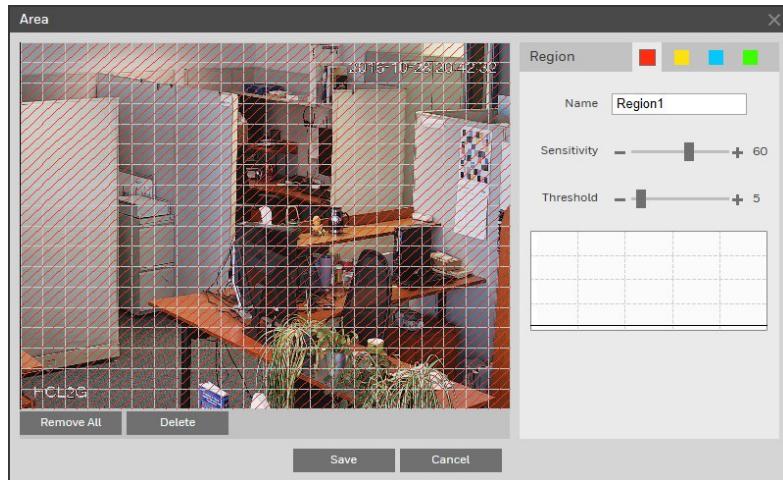
Configuring Motion Detection Events

You can configure motion detection event settings on the **Setup → IVS Analysis → Video Detection → Motion Detection** page.



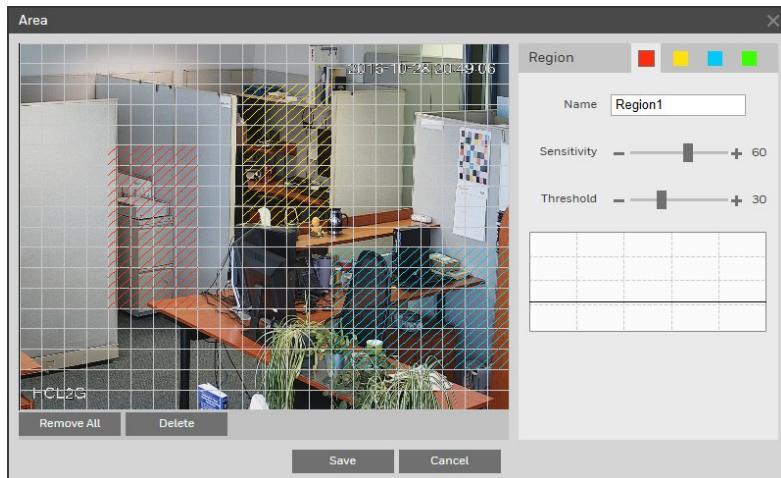
To enable motion detection:

1. Select the **Enable** check box.
2. Next to **Alarm Period**, click **Setup**. The **Alarm Period** window opens.
3. Set the days and times when you want the alarm function to be active, and 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.

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 generate an alarm output when motion is detected, select the **Alarm Output** check box and select the alarm output(s) to be activated.
- 9. In the **Alarm Delay** field, enter the number of seconds that the system will continue to generate an alarm output after the event has ended. Enter a value between **10** and **300**.

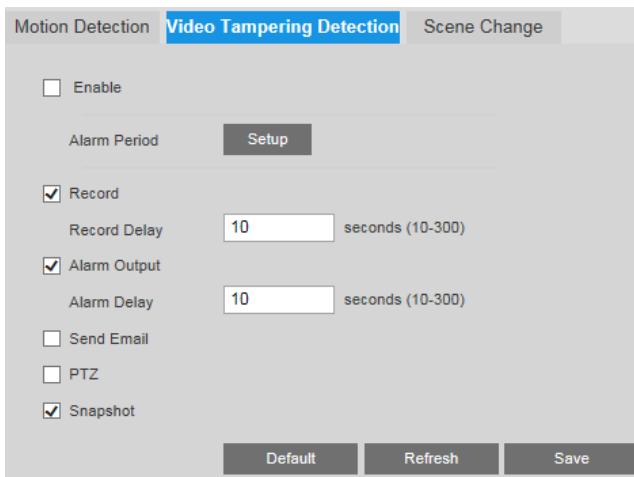
10. To send an email notification when motion is detected, select the **Send Email** check box. Email settings must be configured in **Setup → Network Setup → SMTP (Email)**. See [Configuring Email Settings](#) on page 40.
11. To initiate a predefined preset, tour, or pattern when motion is detected, select the **PTZ** check box and select the desired action from the Activation list.
12. 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 Setup > SMTP(Email)**. See [Configuring Email Settings](#) on page 40.

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

Configuring Camera Tampering Events

You can configure camera tampering event settings on the **Setup → IVS Analysis → Video Detection → Video Tampering** page.



To enable camera tampering detection:

1. Select the **Enable Tamper Detect** and/or the **Enable Defocus Detect** check box(es).
2. Next to **Alarm Period**, click **Setup**. The **Alarm Period** window opens.
3. Set the days and times when you want the alarm function to be active, and then click **Save**.
4. To start recording video when a camera 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 camera tampering event has ended. Enter a value between **10** and **300**.
6. To generate an alarm output when a camera tampering event is detected, select the **Alarm Output** check box and select the alarm output(s) to be activated.
7. In the **Alarm Delay** field, enter the number of seconds that the system will continue to generate an alarm output after a camera tampering event has ended. Enter a value between **10** and **300**.

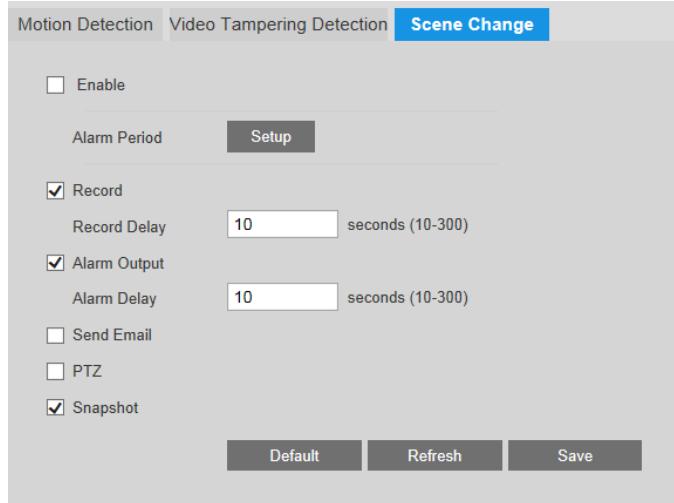
8. To send an email notification when a camera tampering event is detected, select the **Send Email** check box. Email settings must be configured in **Setup → Network Setup → SMTP (Email)**. See [Configuring Email Settings](#) on page 40.
9. To initiate a predefined preset, tour, or pattern when a camera tampering event is detected, select the **PTZ** check box and select the desired action from the **Activation** list.
10. To take a snapshot when a camera 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 Setup > SMTP(Email)**.
See [Configuring Email Settings](#) on page 40.

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

Configuring Scene Change

You can configure scene change settings on the **Setup → IVS Analysis → Video Detection → Scene Change** page.

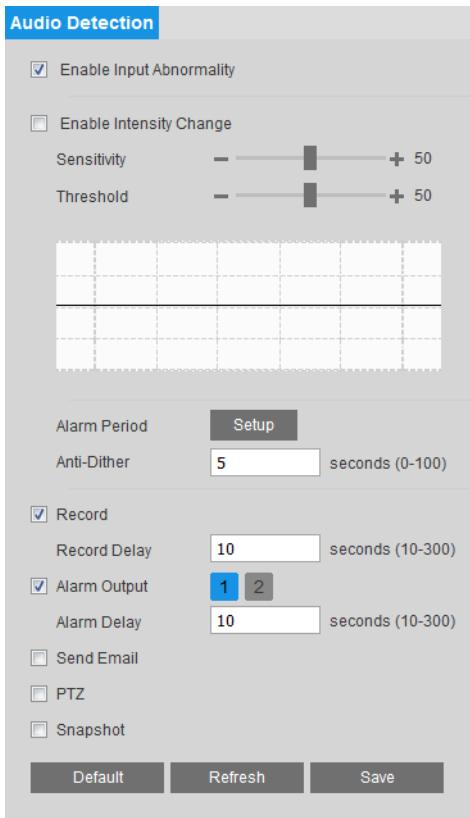


To enable camera tampering detection:

1. Click “Enable” and then configure parameter info according to the actual requirements.
2. Please refer to “Motion Detection” for more details about parameter config.
3. Click “Save” to complete configuration.

Configuring Audio Events

You can configure audio event settings on the **Setup > IVS Analysis > Audio Detection** page.



To enable audio event detection:

1. To detect faults in the audio input, select the **Enable Input Abnormality** check box.
2. To detect unusual changes in the audio input:
 - a. Select the **Enable Intensity Change** check box.
 - b. Drag the Sensitivity and Threshold sliders to the desired values. Click the – and + signs to make fine adjustments. Sensitivity controls changes to the audio input volume. Threshold controls the amount of change allowed in the audio environment before an audio detection event is triggered.
3. Next to **Alarm Period**, click **Setup**. The **Alarm Period** window opens.
4. Set the days and times when you want the alarm function to be active, and then click **Save**.
5. 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 audio event within this period.
6. To start recording video when an audio event 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 an audio event has ended. Enter a value between **10** and **300**.
8. To generate an alarm output when an audio event is detected, select the **Alarm Output** check box and select the alarm output(s) to be activated.
9. In the **Alarm Delay** field, enter the number of seconds that the system will continue to generate an alarm output after an audio event has ended. Enter a value between **10** and **300**.

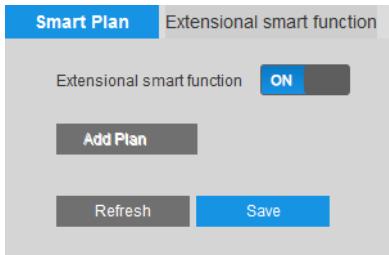
10. To send an email notification when an audio event is detected, select the **Send Email** check box. Email settings must be configured in **Setup → Network Setup → SMTP (Email)**. See [Configuring Email Settings](#) on page 40.
11. To initiate a predefined preset, tour, or pattern when an audio event is detected, select the **PTZ** check box and select the desired action from the **Activation** list.
12. To take a snapshot when an audio 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 Setup → SMTP (Email)**.
See [Configuring Email Settings](#) on page 40.

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

Configuring Smart Plan Settings

You can add auto tracking or face detection to a configured preset on the **Setup → IVS Analysis → Smart Plan** page. You must already have configured presets in **Setup → PTZ → Function → Preset**. See [Configuring Presets](#) on page 9.



To add a smart plan to a preset:

1. Set Extensional smart function to **OFF**.
2. Click **Add Plan** and then select a preset from the list.
3. Click the icon for auto tracking or face detection to add the function to the preset.

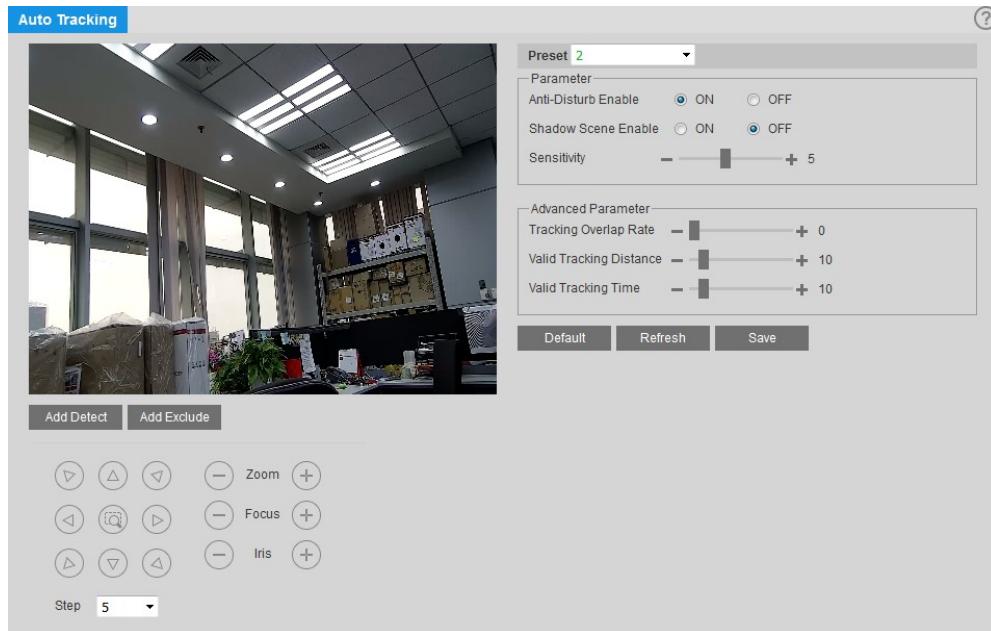
Note You must click the currently selected icon to deselect it before making a new selection.



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

Configuring Auto Tracking Settings

You can configure auto tracking settings on the **Setup → IVS Analysis → Auto Tracking** page.



Note

Before setting up auto tracking, you must first save a preset and then add a smart plan to the preset.

To set up auto tracking:

- Select a preset for auto tracking from the **Preset** list.

2. In the **Parameter** area, set **Anti-Disturb Enable** to **ON** or **OFF**. When enabled, anti-disturb reduces false alarms from movement in the scene (such as leaves moving in the wind).
3. Set **Shadow Scene Enable** to **ON** or **OFF**. When enabled, shadow scene reduces false alarms from shadows in the scene.
4. Move the **Sensitivity** slider to set the desired detection sensitivity.
5. In the **Advanced Parameter** area, set the **Tracking Overlap Rate**, **Valid Tracking Distance**, and **Valid Tracking Time**.

Tracking Overlap Rate Calculates the overlap between an object's current position and its starting position. The higher the setting, the more sensitive the tracking detection will be.

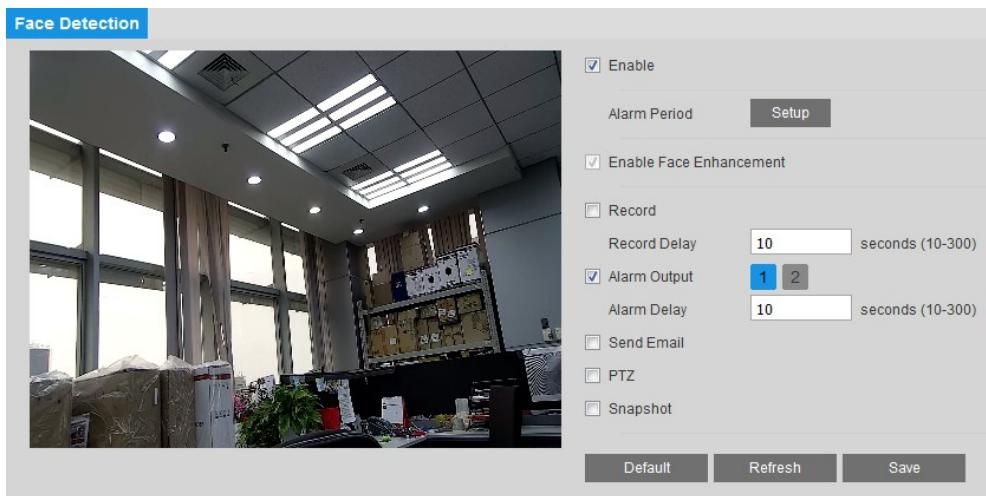
Valid Tracking Distance Auto tracking only detects objects within the Valid Tracking Distance. The lower the setting, the more sensitive the tracking detection will be.

Valid Tracking Time Auto tracking stops when the Valid Tracking Time elapses (**1** = **0.1** seconds; **20** = **2** seconds).

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

Configuring Face Detection Events

You can configure face detection event settings on the **Setup → IVS Analysis → Face Detection** page.



To enable face detection:

1. Select the **Enable** check box.
2. Next to **Alarm Period**, click **Setup**. The **Alarm Period** window opens.
3. Set the days and times when you want the alarm function to be active, and then click **Save**.
4. To enable face enhancement, select the **Enable Face Enhancement** check box.
5. To start recording video when an event is detected, select the **Record** check box.

6. 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**.
7. To generate an alarm output when an event is detected, select the **Alarm Output** check box and select the alarm output(s) to be activated.
8. In the **Alarm Delay** field, enter the number of seconds that the system will continue to generate an alarm output after the event has ended. Enter a value between **10** and **300**.
9. To send an email notification when an event is detected, select the **Send Email** check box. Email settings must be configured in **Setup > Network Setup > SMTP (Email)**. See [Configuring Email Settings](#) on page 40.
10. To initiate a predefined preset, tour, or pattern when an event is detected, select the **PTZ** check box and select the desired action from the **Activation** list.
11. To take a snapshot when an 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 Setup > SMTP(Email)**.

See [Configuring Email Settings](#) on page 40.

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

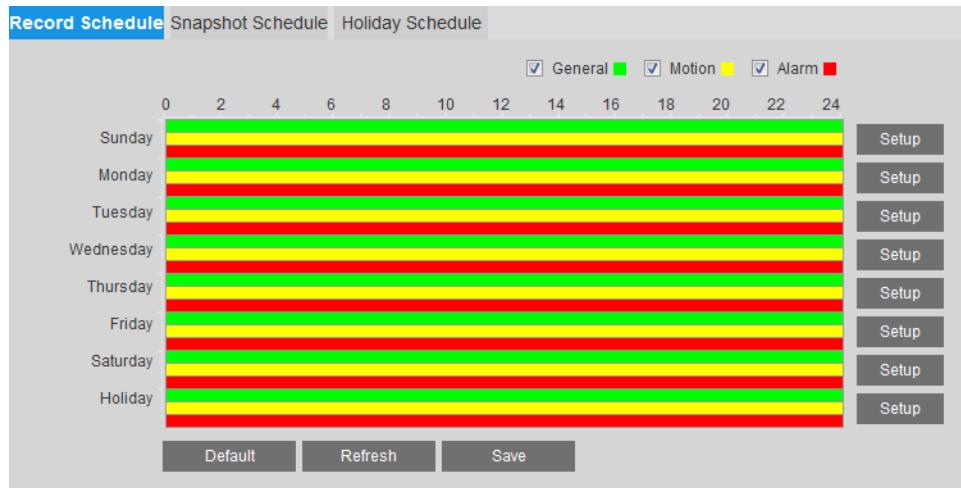
8 Configuring Recording Settings

This chapter contains the following sections:

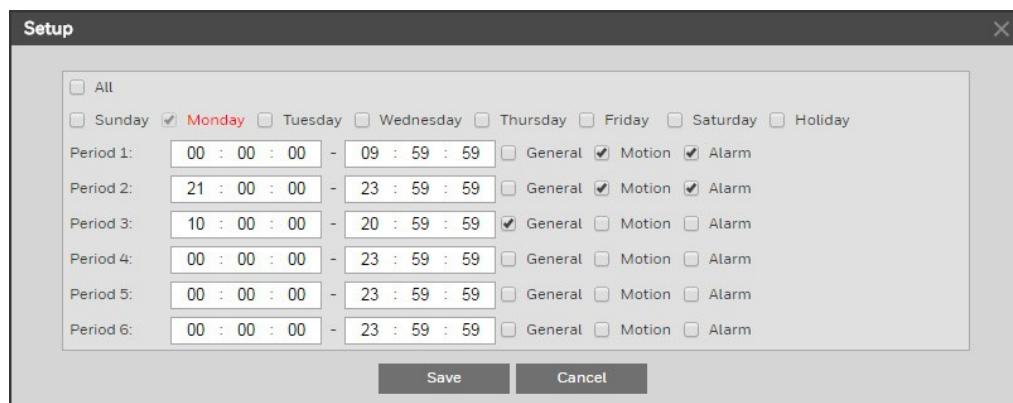
- [Configuring Recording Schedules, page 60](#)
- [Configuring Storage Settings, page 61](#)
- [Configuring Recording Settings, page 63](#)

Configuring Recording Schedules

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

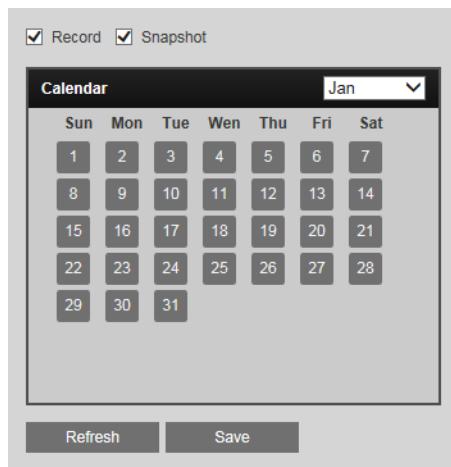


On the Record Schedule tab, click the Setup buttons to configure weekend, weekday, and holiday settings, for general video recording as well as motion detection and alarm recording.



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.



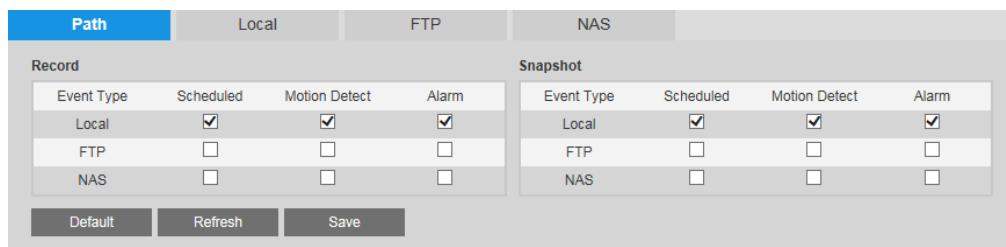
On the selected dates, the video recording/snapshot schedule will follow the holiday settings you configured in the Record Schedule and Snapshot Schedule tabs. Click Save to apply the settings.

Configuring Storage Settings

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



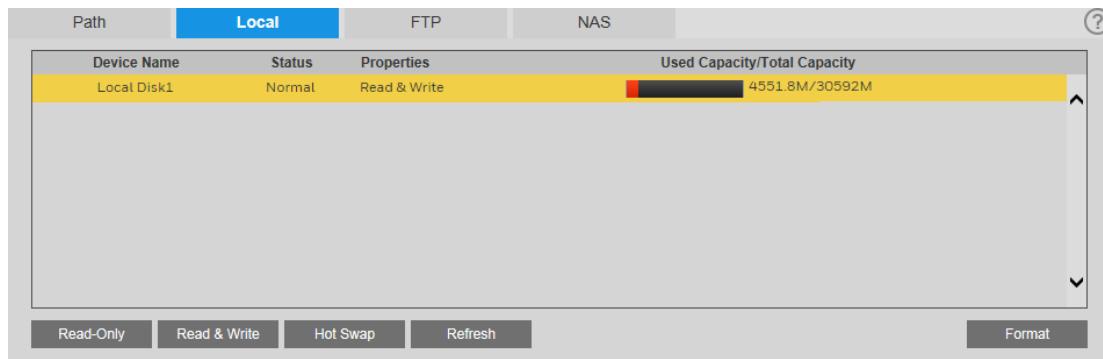
Select which recorded events you want to save and where you want to save them, then click **Save** to apply the settings.

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.

<input type="checkbox"/> Enable	
Server Address	0.0.0.0
Port	21 (0-65535)
User Name	anonymity
Password	
Remote Directory	share
<input type="checkbox"/> Panic Save (Local)	

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 Panic Save (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.

Path	Local	FTP	NAS
<input type="checkbox"/> Enable			
Server Address	<input type="text" value="0.0.0.0"/>		
Remote Directory	<input type="text"/>		
	<input type="button" value="Default"/>	<input type="button" value="Refresh"/>	<input type="button" value="Save"/>

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 Setup → Record Control** page.

Record Control	
Record Length	<input type="text" value="8"/> minutes (1-120)
Pre-Event Record	<input type="text" value="5"/> seconds (0-5)
Disk Full	<input type="button" value="Overwrite"/>
Record Mode	<input checked="" type="radio"/> Auto <input type="radio"/> Manual <input type="radio"/> Off
Record Stream	<input type="button" value="Main Stream"/>
	<input type="button" value="Default"/> <input type="button" value="Refresh"/> <input type="button" value="Save"/>

By default, recorded video files are **8** minutes or **30** minutes long (depending on your camera model). To change this setting, enter a time between **1** and **120** minutes in the **Record Length** 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.

9 Configuring System Settings

This chapter contains the following sections:

- [Configuring General System Settings, page 65](#)
- [Configuring Date and Time Settings, page 65](#)
- [Configuring Account Settings, page 67](#)
- [Filtering IP/MAC Addresses, page 71](#)
- [Resetting the Camera, page 73](#)
- [Backing Up/Restoring a Configuration, page 73](#)
- [Configuring Maintenance Settings, page 74](#)
- [Upgrading the Firmware, page 74](#)
- [Viewing Version Information, page 75](#)
- [Managing Logs, page 75](#)
- [Viewing Online Users, page 77](#)

Configuring General System Settings

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

The screenshot shows a configuration page with the following fields:

Device Name	HDZP304DI
Language	English
Video Standard	PAL
Max log quantity	1024 (1-1024)

At the bottom are three buttons: Default, Refresh, and Save.

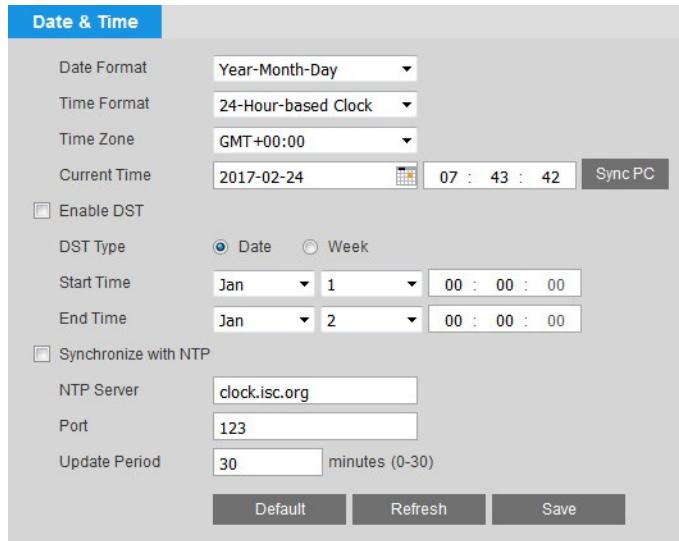
To change the device name, in the **Device Name** field, enter a new name, and then click **Save**. To change the interface language, select a language from the **Language** list, and then click **Save**.

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 Setup → 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_Standard or 12_Hour_Standard 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 Setup → Account** page.

The screenshot shows the 'Account' configuration page. At the top, there is a navigation bar with tabs: 'User Name' (selected), 'Group', 'Modify', and 'Delete'. Below the navigation bar is a table with columns: No., User Name, Group Name, Remark, Modify, and Delete. There is one entry: No. 1, User Name 'admin', Group Name 'admin', Remark 'admin's account', Modify icon, and Delete icon. Below the table is a section titled 'Authority List' with a grid of permissions:

Live	Playback	Record Control	Backup	PTZ
User Management	Alarm	Log Search	Clear Log	Upgrade
Auto Maintain	General	Video/Audio	Schedule/Destination	Network
Event	Video Detection	PTZ Settings	Restore Defaults	Camera Properties
IVS				

At the bottom left is a 'Add User' button.

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.

The screenshot shows the 'Add Group' dialog box. It has fields for 'Group' and 'Remark', and a 'Authority List' section. The 'Authority List' section includes a checkbox for 'All' and a list of individual permissions: Live, Playback, Record Control, and Backup. At the bottom are 'Save' and 'Cancel' buttons.

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 9-1).

Table 9-1 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 Setup → Record Control .
Backup	The user can save and export video clips in the Playback interface.
PTZ	The user can access the PTZ controls in the Live interface.
User Management	The user can access the settings in Setup → System Setup → Account .
Alarm	The user can access the settings in Setup → Alarm Setup → Alarm .
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 Setup → Upgrade .
Auto Maintain	The user can access the settings in Setup → System Setup → Auto Maintain .
General	The user can access the settings in Setup → System Setup → General .
Video/Audio	The user can access the settings in Setup > Compression Setup → Video and in Setup → Audio Setup .
Schedule/Destination	The user can access the settings in Setup → Storage Setup → Schedule and in Setup → Storage Setup → Destination .
Network	The user can access the settings in Setup → Network Setup .
Event	The user can access the settings in Setup → Alarm Setup → Event .
Video Detection	The user can access the settings in Setup → Video Analytics → Video Detect .
PTZ Settings	The user can access the settings in Setup → PTZ → Function .
Restore Defaults	The user can access the settings in Setup → System Setup → Default and in Setup → System Setup → Import/Export .
Camera Properties	The user can access the settings in Setup → Camera Setup → Properties .
IVS	The user can access the settings in Setup → Video Analytics → IVS Analysis .

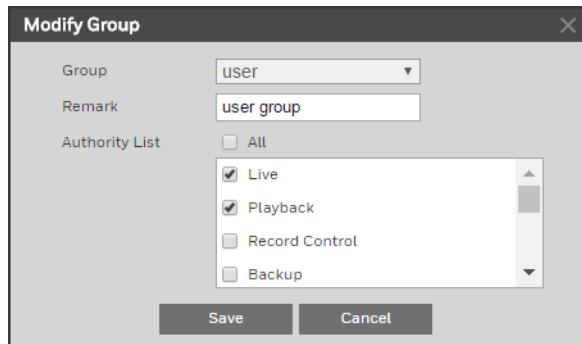
5. Click **Save** to apply the settings. The group is added to the list.

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 9-1](#)), 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

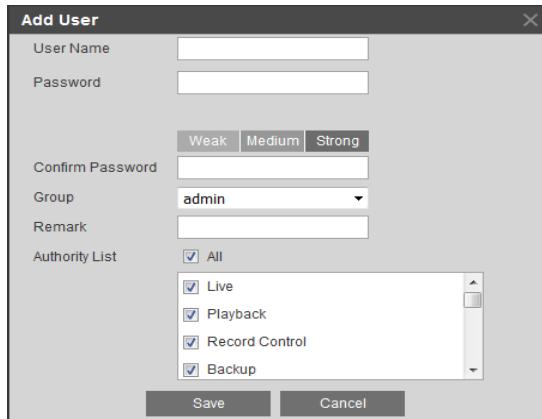
You can create, modify, or delete a user account.

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 9-1](#)).

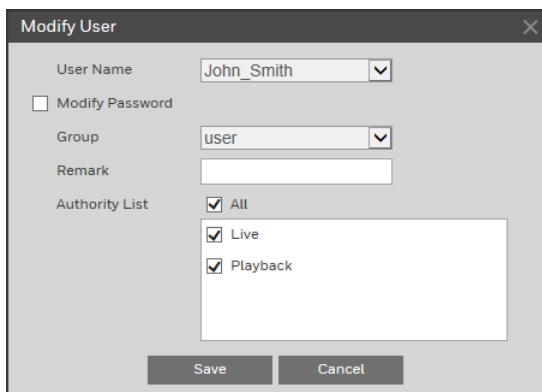
Note Each user is assigned to a group. The individual user's permissions cannot exceed those of the group to which the user belongs. To modify permissions at the group level, see [Modifying a Group](#) on page 69.

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 9-1](#)), 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 69.

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

Deleting a User Account

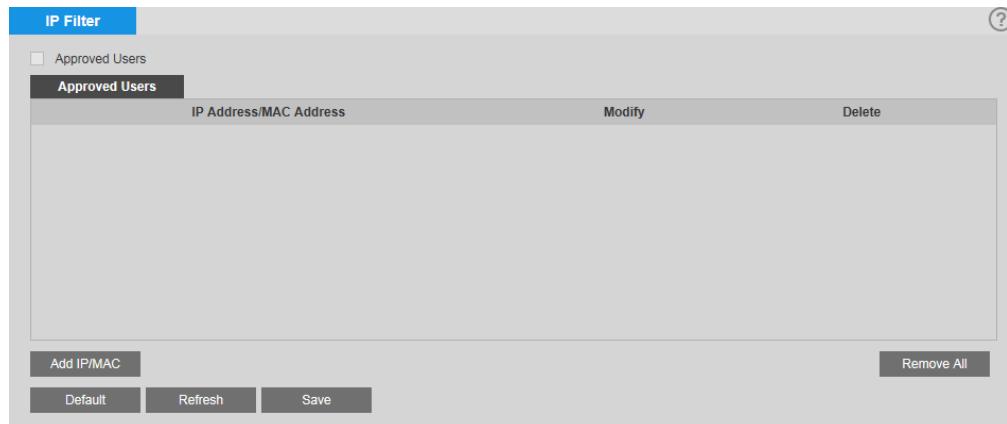
You can delete any user account that you have created (you cannot delete the admin user).

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.

Filtering IP/MAC Addresses

You can configure IP filter settings on the **Setup → System Setup → Safety** page.

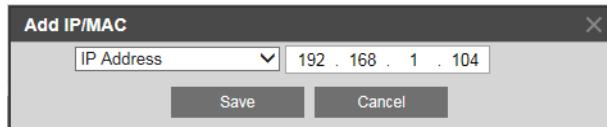


When the IP filter is enabled, remote access to the camera is restricted to specific IP or MAC addresses. You can add or remove addresses from the list at any time. If a user is accessing the camera over a WAN, enter the MAC address of the user's router instead of an IP address.

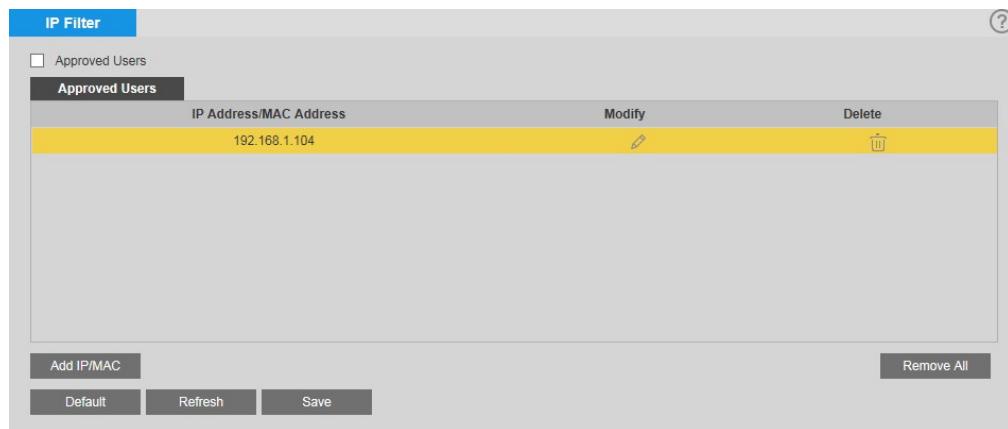
Adding IP/Mac Addresses to the List of Approved Users

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 approved users.

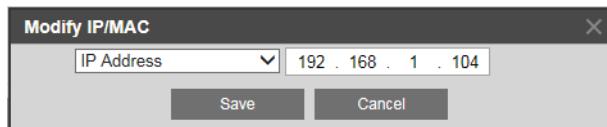


3. Select the **Approved Users** check box, and then click **Save** to apply the settings.

Editing IP/Mac Addresses

To edit an IP/MAC address:

1. In **Address 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:

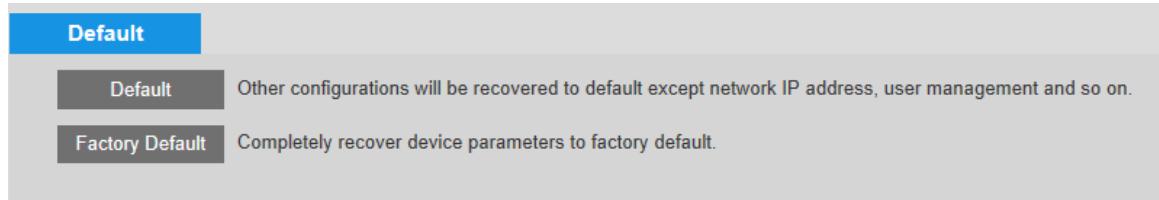
1. In the **Address** List, click the Delete icon of the address that you want to delete.
2. A confirmation message appears. Click **OK** to continue, and then click **Save** to apply the settings. The address is removed from the list of approved users.

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 approved users.

Resetting the Camera

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



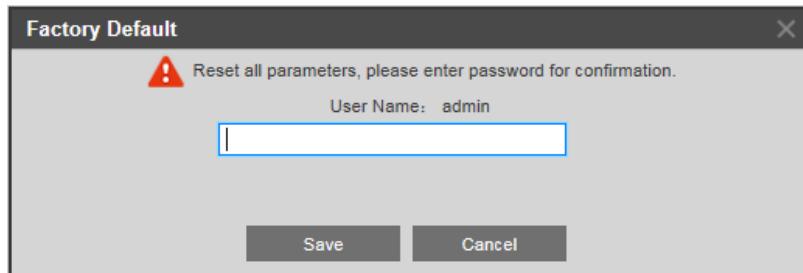
Note Some configuration information, including the IP address, will be lost when the camera reverts to its factory default settings.

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.

To reset the camera to the factory default:

1. Click **Factory Default**.
2. A confirmation message appears.



3. Enter the password and 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 Setup → Import/Export** page.

**To back up a configuration:**

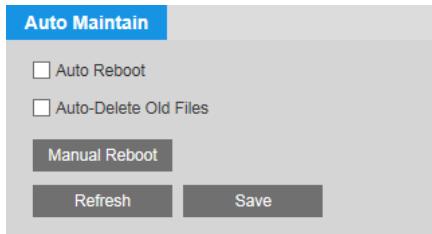
1. Click **Export**. The **Save As** window opens.
2. By default, the backup file is named **DeviceConfig.backup**. Rename the file if you want, navigate to the directory where you want to save the file, and then click **Save**. The file path is displayed under **Backup Path**.

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 Setup > 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 Setup > 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 **Firmware** File field.
3. Click **Upgrade** to install the firmware.
4. Reboot the camera.

Note

If you attempt to install an older version of the firmware, a warning message will appear.

Viewing Version Information

You can view the camera's firmware version, web client version, ONVIF version, PTZ 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.

The screenshot shows the 'Log' page interface. At the top, there are date and time selection fields for 'Start Time' (2017-02-20, 10:45:06) and 'End Time' (2017-02-21, 10:45:06). A dropdown menu for 'All Types' is set to 'All'. Below these, a search bar contains the text 'found 14 log(s) Time 2017-02-20 19:44:31 -- 2017-02-21 10:00:09'. The main area displays a table of logs with columns: No., Log Time, User Name, and Event. The logs show various system events like Logout, Login, Save Configuration, Start, and Abort. At the bottom left, a section titled 'System Log Information' lists Time, User Name, Type, and Content fields, all currently empty. At the bottom right, there are navigation icons for back, forward, and search, along with a page number '1' and a 'Clear' button. A 'Backup' button is located at the bottom left of the main table area.

No.	Log Time	User Name	Event
1	2017-02-21 10:00:09	admin	Logout
2	2017-02-21 09:55:36	admin	Login
3	2017-02-21 09:54:50	System	Save Configuration
4	2017-02-21 09:54:50	System	Save Configuration
5	2017-02-21 09:54:50	System	Save Configuration
6	2017-02-21 09:54:50	System	Save Configuration
7	2017-02-21 09:54:26	System	Start
8	2017-02-21 09:54:26	System	Abort

Viewing Logs

There are six log types: **System**, **Setting**, **Data**, **Event**, **Record**, and **Account**.

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 **System Log Information** box.

The screenshot shows a software interface for managing system logs. At the top, there are two date/time input fields: 'Start Time' (2017-02-20, 10:45:06) and 'End Time' (2017-02-21, 10:45:06). Below these is a dropdown menu labeled 'All Types' set to 'All'. A 'Search' button is to the right. A message indicates 'found 14 log(s) Time 2017-02-20 19:44:31 -- 2017-02-21 10:00:09'. The main area displays a table of logs with columns: No., Log Time, User Name, and Event. The first log entry is highlighted in yellow. Below the table is a red-bordered box titled 'System Log Information' containing the following details:

Time:	2017-02-21 10:00:09
User Name:	admin
Type:	Logout
Content:	Address: 159.99.251.254

At the bottom of the interface are 'Backup' and 'Clear' buttons, and a page navigation section showing '1 / 1'.

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.

No.	User Name	User Local Group	IP Address	User Login Time
1	admin	admin	164.178.45.154	2017-02-22 01:58:24

Refresh

10 Technical Specifications

5-Inch Indoor/Outdoor PTZ Camera

Table A-1 HDZ302D Specifications

Camera	
Video Standard	NTSC/PAL
Image Sensor	1/3-in. CMOS
Number of Pixels (H×V)	2592(H) x 1520(V), 4 MP
Optical Zoom	30x
Digital Zoom	16x
Minimum Illumination	Color: 0.05 Lux at F1.6 0 Lux at F1.6 (IR on)
Focal Length	4.5–135 mm
Max Aperture	F1.6–F4.4
Angle of View	Horizontal: 2.2° to 60°
S/N Ratio	55 dB or more
WDR	120 dB
Exposure Mode	Auto/Iris Priority/Shutter Priority/Gain Priority/Manual
Backlight Compensation	BLC/HLC/WDR
White Balance	Auto/Indoor/Outdoor/ATW/Manual
Day Night	Auto (ICR), Color, B/W
Noise Reduction	Ultra DNR (2D/3D)
Image Rotation	Flip
Electronic Image Stabilization	On/Off
Defog	On/Off
Audio Input/Output	1/1
Alarm Input/Output	2/1
Onboard Storage	Up to 128 GB microSD card, Class 10 (not included)
Operation	
Pan Travel	360° endless
Tilt Travel	-15° to 90°, auto-flip 180°

Manual Pan Speed	Up to 300°/s
Manual Tilt Speed	Up to 200°/s
Presets	300
Preset Speed	Pan: Up to 400°/s Tilt: Up to 300°/s
Tours	8
Auto Pan/Scan	1/1
Pattern	5
Auto Resume after Power Failure	Yes
Privacy Masks	24
Motion Detection	On/Off
Video Analytics	Auto-tracking, face detection
Event	Motion detection, video tampering detection, scene change, audio detection, no SD card, SD card error, SD card capacity warning, network disconnection, IP address conflict, illegal access
Event Notification	Record (SD card and FTP), relay output, email, preset, tour, pattern, snapshot
Languages Supported	English, Japanese and Korean,
Network	
Video Compression	H.265/H.264/MJPEG
Video Resolution	Up to 2592×1520
Main Stream	4 MP, 3 MP at 30 fps or 1080p, 1.3 MP, 720p at 60 fps ¹
Frame Rate	Sub Stream D1, CIF at 30 fps
	Third Stream 1080p, 1.3 MP, 720p at 30 fps
Audio Compression	G.711a, G.711Mu, AAC, G.722, G.726, G.729, MPEG2-L2
Interface	RJ-45, 10/100 Mbps Ethernet
Supported Protocols	IPv4/IPv6, HTTP, HTTPS, SSL, TCP/IP, UDP, UPnP, ICMP, IGMP, SNMP, RTSP, RTP, SMTP, NTP, DHCP, DNS, PPPOE, DDNS, FTP, IP Filter, QoS, Bonjour, 802.1x
Max. Users	20
Supported Web Browsers	Internet Explorer (10.0+), Firefox,

Supported OS	Windows 7, 32-bit/64-bit, Windows 10								
Security	Multiple user access levels with enhanced password policy, IP filtering, IEEE 802.1X, strong digest authentication for access permission, HTTPS, TLS1.2 only, high-strength encrypted algorithm AES-256, SSH/Telnet closed, FTP disabled to reduce surface being attacked.								
General									
Input Voltage	PoE+ (802.3at), 24 VAC±10%								
Power Consumption	Without heater on: 13 W With heater on: 23 W max								
Dimensions	7.32 × 12.17in. (186.0 × 309.0 mm)								
Weight	7.72 lb (3.5 kg)								
Construction	Die-cast aluminum housing with powder coat								
Color	RAL 9003 (White)								
Temperature	–40°F* to 158°F (–40°C* to 70°C)								
Relative Humidity	Less than 90%, non-condensing								
Ingress Protection	IP66								
Regulatory	<table> <tr> <td>Emissions</td><td>EN 55032, FCC Part 15B, AS/NZ CISPR 22:2009 + A1 (2010)</td></tr> <tr> <td>Immunity</td><td>EN 50130-4</td></tr> <tr> <td>Safety</td><td>EN 60950-1, UL Listed to UL/CSA 60950-1,</td></tr> <tr> <td>RoHS</td><td>EN 50581</td></tr> </table>	Emissions	EN 55032, FCC Part 15B, AS/NZ CISPR 22:2009 + A1 (2010)	Immunity	EN 50130-4	Safety	EN 60950-1, UL Listed to UL/CSA 60950-1,	RoHS	EN 50581
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Immunity	EN 50130-4								
Safety	EN 60950-1, UL Listed to UL/CSA 60950-1,								
RoHS	EN 50581								
Accessories									
Accessories	HDZPMA Pole Mount Adapter HDZCMA Corner Mount Adapter HDZGM Gooseneck Mount (Included with Camera with 1.5" MPT Adapter) HDZCM1 PTZ Ceiling Mount HDZJB Junction Box HDZBSPPA 1.5" MPT Mount Adapter								

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