



## **Network Camera Web Setup Manual**

**Version 1.1**

## Table of Contents

1	Connection and Login .....	1
1.1	Network Connection.....	1
1.2	Log in.....	1
2	Live View .....	3
2.1	Stream Setup .....	3
2.2	Function Menu.....	4
2.3	Live View Display Adjustment .....	5
2.3.1	Image Adjustment .....	5
2.3.2	Original Size .....	6
2.3.3	Full Screen.....	6
2.3.4	Width and Height Ratio .....	6
2.3.5	Fluency Adjustment.....	6
2.3.6	Rules Info .....	6
2.3.7	Zoom and Focus.....	6
2.4	Fisheye Live View .....	8
3	PTZ Control .....	9
3.1	Scan/Tour/Pattern/Pan .....	10
3.2	Preset.....	10
3.3	Go To.....	11
4	Playback .....	12
4.1	Playback .....	12
4.1.1	Play Controls .....	13
4.1.2	Playback File .....	14
4.1.3	Playback Cut.....	16
4.1.4	Record Type .....	16
4.1.5	Progress Bar .....	16
4.1.6	Assistant Function.....	17
4.1.7	Image Playback .....	17
5	Setup .....	18
5.1	Basic Setup.....	18
5.1.1	Image Setup .....	18
5.1.2	Video Setup.....	29
5.1.3	Audio.....	33
5.2	Network Setup .....	34
5.2.1	IP Address Setup .....	34
5.2.2	Connection.....	35
5.2.3	PPPoE .....	36

5.2.4	DDNS Client.....	37
5.2.5	IP Filtering.....	37
5.2.6	SMTP (Email).....	38
5.2.7	UPnP .....	39
5.2.8	SNMP .....	40
5.2.9	Multicast .....	42
5.2.10	802.1x .....	43
5.2.11	QoS.....	43
5.2.12	HTTPs .....	44
5.3	Event Setup.....	53
5.3.1	Video detection .....	53
5.3.2	Audio Detection.....	56
5.3.3	Smart Plan.....	59
5.3.4	Intelligent Video .....	59
5.3.5	Face Detection .....	65
5.3.6	Heat Map .....	66
5.3.7	Alarm.....	69
5.3.8	Abnormality .....	69
5.4	Storage Management .....	72
5.4.1	Schedule.....	72
5.4.2	Destination .....	74
5.4.3	Record control .....	77
5.5	System.....	78
5.5.1	General .....	78
5.5.2	User Admin .....	80
5.5.3	Factory Default .....	83
5.5.4	Import/Export.....	83
5.5.5	Upgrade .....	84
5.6	Information.....	85
5.6.1	Version.....	85
5.6.2	Log.....	85
5.6.3	Online User .....	86

**Note**

The instructions in this manual apply to the following models.

- O6MDP2
- O2P12XH
- O4P30X
- O8VLB3
- O8VLD1
- O4P4X
- O4VLD1
- O4VLB3
- O4VFDM
- O4VFBM
- O4VD1
- O4VB3

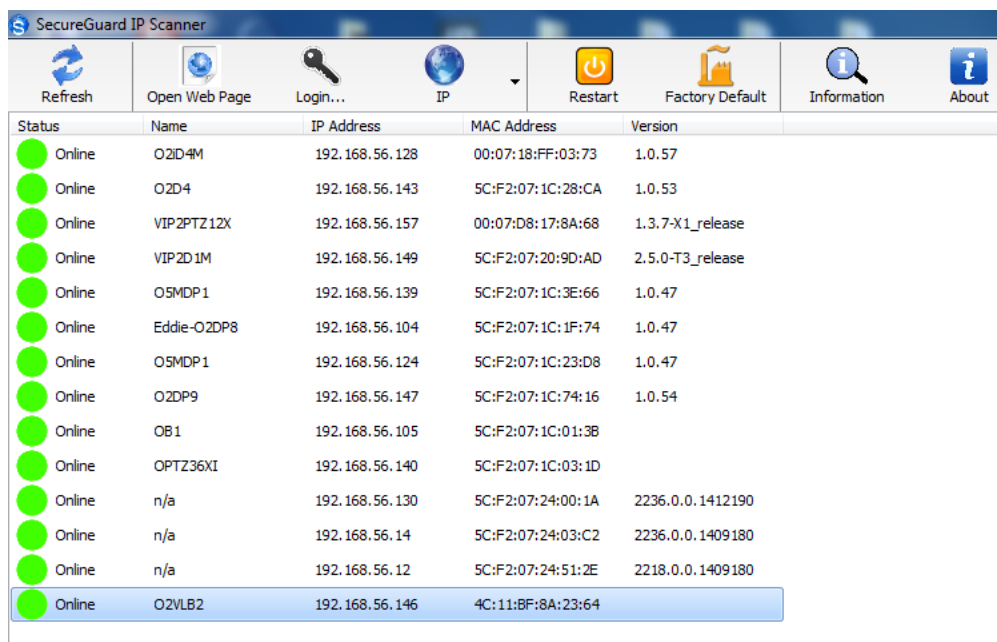
# 1 Connection and Login

## 1.1 Network Connection

Connect the camera to a network and run the IP Scanner tool. IP Scanner can search for the device on the local network. The camera is set to DHCP mode by default.

Open up IP Scanner. In the device list, you can view the IP address, model number, and MAC address of each device. Select the applicable device and double click to open up the web viewer.

See Figure 1- 1.



Status	Name	IP Address	MAC Address	Version
Online	O2ID4M	192.168.56.128	00:07:18:FF:03:73	1.0.57
Online	O2D4	192.168.56.143	5C:F2:07:1C:28:CA	1.0.53
Online	VIP2PTZ12X	192.168.56.157	00:07:D8:17:8A:68	1.3.7-X1_release
Online	VIP2D1M	192.168.56.149	5C:F2:07:20:9D:AD	2.5.0-T3_release
Online	O5MDP1	192.168.56.139	5C:F2:07:1C:3E:66	1.0.47
Online	Eddie-O2DP8	192.168.56.104	5C:F2:07:1C:1F:74	1.0.47
Online	O5MDP1	192.168.56.124	5C:F2:07:1C:23:D8	1.0.47
Online	O2DP9	192.168.56.147	5C:F2:07:1C:74:16	1.0.54
Online	OB1	192.168.56.105	5C:F2:07:1C:01:3B	
Online	OPTZ36XI	192.168.56.140	5C:F2:07:1C:03:1D	
Online	n/a	192.168.56.130	5C:F2:07:24:00:1A	2236.0.0.1412190
Online	n/a	192.168.56.14	5C:F2:07:24:03:C2	2236.0.0.1409180
Online	n/a	192.168.56.12	5C:F2:07:24:51:2E	2218.0.0.1409180
Online	O2VLB2	192.168.56.146	4C:11:BF:8A:23:64	

Figure 1- 1

## 1.2 Log in

Open Internet Explorer and input network camera address in the address bar or double click the device in IP Scanner.

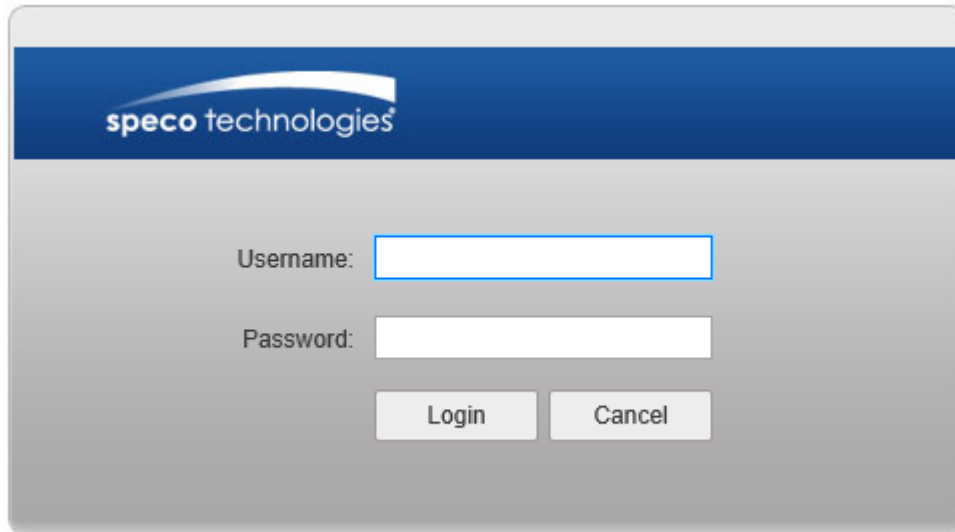
If it's the first time accessing the camera, the browser may request to install the Active-X plug-in. This is required to view live video in the browser. Go ahead and follow the steps to install the plug-in.

The login interface is shown as below. See Figure 1-2.

Please input your user name and password.

Default user name is **admin** and password is **1234**.

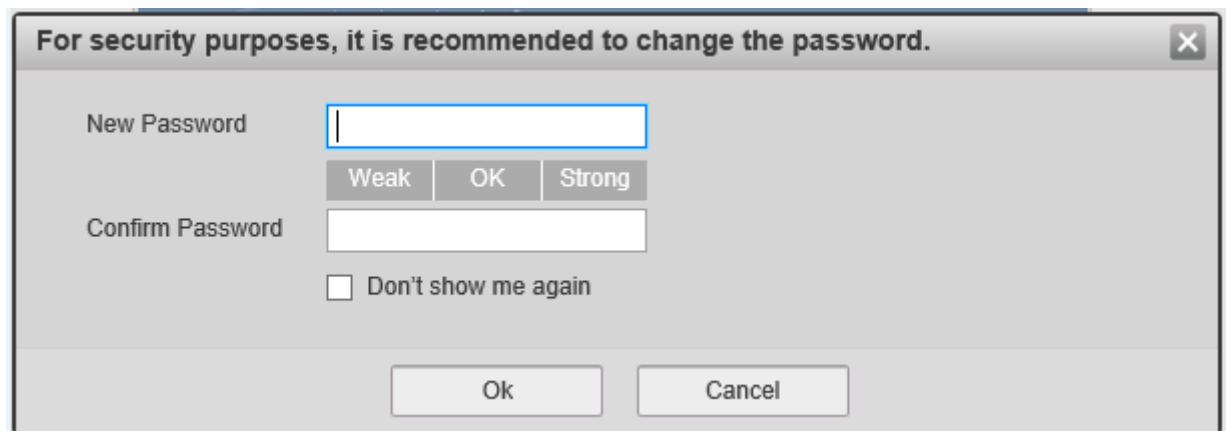
**Note: For security purposes, please change the password after initial login.**



A login dialog box for Speco Technologies. It features a blue header with the Speco Technologies logo. Below the header, there are two input fields: "Username:" and "Password:". At the bottom, there are two buttons: "Login" and "Cancel".

Figure 1-2

There will be a prompt shown to recommend changing the default password. For direct connection installations on Speco's plug and play NVRs with built-in PoE ports, please leave the password as default. For other installations, it is highly recommended to change the password for security purposes.



A password change dialog box with the title "For security purposes, it is recommended to change the password." and a close button (X). It contains two input fields: "New Password" and "Confirm Password". Below the "New Password" field, there are three buttons: "Weak", "OK", and "Strong". At the bottom, there is a checkbox labeled "Don't show me again" and two buttons: "Ok" and "Cancel".

Figure 1-3

## 2 Live View

After logging in, the live view screen will be shown. See Figure 2-1.

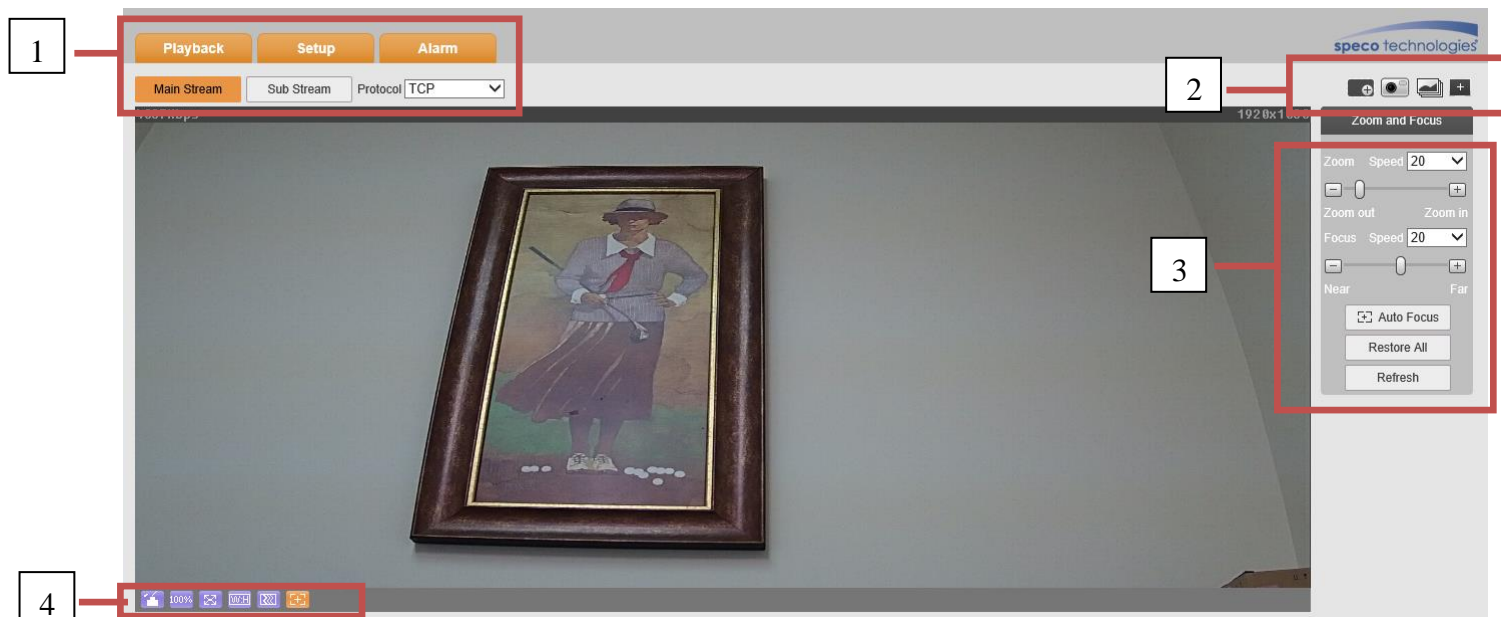


Figure 2-1

There are four sections:

- Section 1: System menu and stream selection
- Section 2: Function menu (snapshot, digital zoom, etc)
- Section 3: PTZ and zoom control menu (optional)
- Section 4: Live view display adjustment controls

### 2.1 Stream Setup

Note: Some models do not have a second sub stream (Sub Stream 2).

The setup interface is shown in Figure 2-2.

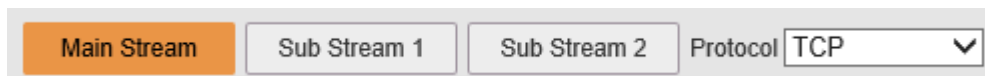


Figure 2-2

Please refer to the following table for detailed information.

Parameter	Function
Main stream	Click it to enable main stream video monitoring and click again to disable it.
Sub Stream 1	Click it to enable Sub Stream1 video monitoring and click again to disable it.
Sub Stream 2	Click it to enable Sub Stream 2 video monitoring and click again to disable it.
Protocol	You can select the streaming protocol from the dropdown list. There are three options: TCP/UDP/Multicast TCP is the default.

## 2.2Function Menu

The function menu interface is shown in Figure 2-3.

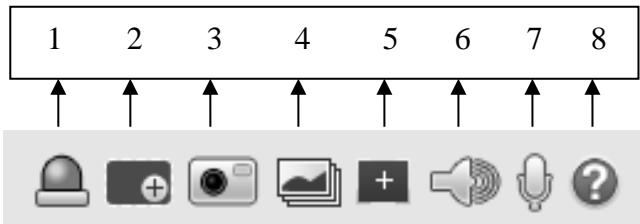


Figure 2-3

Please refer to the following table for detailed information.

	Parameter	Function
1	Relay-out	If there is alarm output, status description is as follows: <ul style="list-style-type: none"><li>● Red: means there is alarm output.</li><li>● Grey: means alarm has finished.</li></ul> Click on the button to force alarm to be on or off.
2	Digital Zoom	<ul style="list-style-type: none"><li>● Click to enable digital zoom.</li><li>● Left-click and drag to define a zone. Within the digitally zoomed image, drag the mouse for digital pan/tilt function. Right-click to return to the original image.</li><li>● Scroll button on the mouse can also be used for digital zoom.</li></ul>
3	Snapshot	Click on the button to take a snapshot. Image will be saved to the path that's defined in setup
4	Triple Snapshot	Click on the button to take 3 snapshots. Images will be taken at one image per second.



5	Easy focus	Displays two parameters for focusing: AF Peak and AF Max. AF Peak: Displays the video definition during the focus process. AF Max: optimal value for video definition. The closer AF Peak and AF Max are to each other, the better the focus effect is.
7	Audio	Toggle audio.
8	Talk	Toggle push to talk.
9	Help	Opens the help window.

2.3Live View Display Adjustment

The interface is shown as in Figure 2-4.

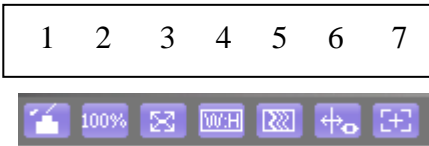


Figure 2-4

2.3.1 Image Adjustment

See Figure 2-5 for image adjustment.

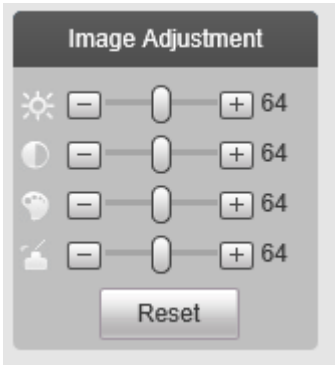






Figure 2-5

Click the button to display/hide the image control interface on the top right pane.

Please refer to the following table for detailed information.

Parameter		Function	
Video setup		Brightness	<b>Note:</b> <ul style="list-style-type: none"><li>● All operations here apply to web live view only.</li><li>● Please go to Setup -&gt; Basic Setup -&gt; Image Setup to adjust the parameters on the camera itself.</li></ul>
		Contrast	
		Hue	
		Saturation	
	Reset	Restore to system default setup.	

### 2.3.2 Original Size

Click this button to display the actual resolution size of the stream.

### 2.3.3 Full Screen

Click to go to full-screen mode. Double click the mouse or press the Esc button on the keyboard to exit full screen.

### 2.3.4 Width and Height Ratio

Click to display in the original ratio or fill the display window.

### 2.3.5 Fluency Adjustment

Depending on the network bandwidth, priority could be given to how the stream is delivered. The fluency mode prioritizes the video quality over time lag. The realtime mode prioritizes real-time streaming over video quality so it will try to minimize network lag as much as possible. Normal mode is balanced and is the default mode.

### 2.3.6 Rules Info

Displays any rule that has been set for analytics.

### 2.3.7 Zoom and Focus

Click to display the interface shown in Figure 2-6. Focus is triggered by zoom and will adjust automatically. The focus can be adjusted manually as well or with the Auto Focus function.

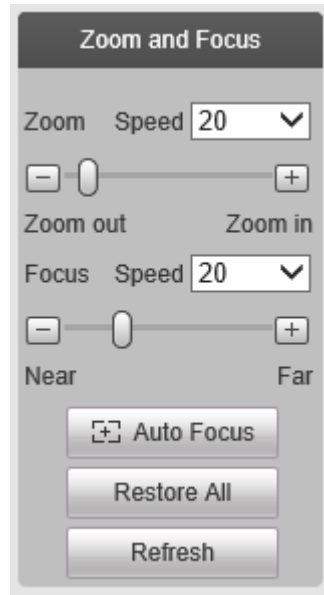


Figure 2-6

Parameter	Function
Zoom	Adjust the focal length of the lens by clicking or long pressing “+”“-” buttons. Speed is used to adjust the length of one step for a single click.
Focus	Adjust the focus by clicking or long pressing “+”、“-” buttons. Speed is used to adjust the length of one step for a single click.
Auto-focus	Click to adjust the focus automatically. Note: Other lens operations are not allowed during this process.
Reset All	Resets the lens to zero position to eliminate any errors of the lens. This is normally used if many zoom adjustments have been done over time and the image quality is not clear.
Refresh	Synchronize the location of the slider bars after hardware zoom focusing.

## 2.4 Fisheye Live View

This section applies to O6MDP2 only. In live view, the interface shown in Figure 2-7 will be shown on the right side of the window.



Figure 2-7

Note: The dewarping modes shown here in live view only affects what's being seen in the web viewer only. To change the actual dewarped mode of the stream itself, it must be first configured in Setup. See [section 5.1.1.7](#).

Live view mode can be used to help set up the desired install and viewing modes. Install modes include ceiling, wall, and ground. Display modes include various dewarped images.

### 3 PTZ Control

See



Figure 3-1 for PTZ controls.


Parameter	Note
PTZ direction	● PTZ supports eight directions: left/right/up/down/upper left/upper right/bottom left/bottom right.
Speed	The higher the value, higher the speed. Applies to pan, tilt, zoom, focus and iris.
 Quick Position	Use mouse to draw a box of interest in the image. The camera will rotate and zoom to the region.



Figure 3-1

PTZ settings interface is shown in Figure 3-2.

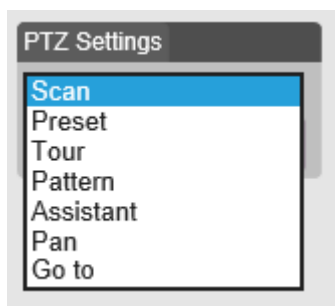


Figure 3-2

### 3.1 Scan/Tour/Pattern/Pan

The interface is shown in Figure 3-3. Enter applicable values for tour and pattern. Click on start to begin the function and stop to end the function.

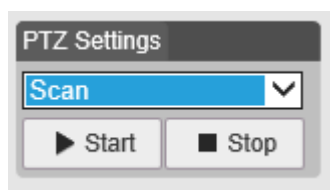


Figure 3-3

### 3.2 Preset

Preset interface is shown in Figure 3-4. Enter the preset value and press Go to.

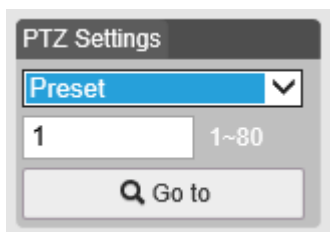
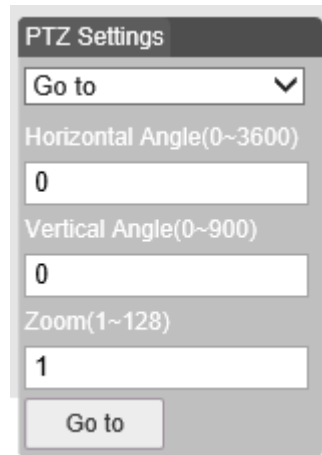


Figure 3-4

### 3.3Go To

Go to interface is shown in Figure 3-5. Enter the horizontal angle, vertical angle, and zoom position to go to that exact position.



The image shows a 'PTZ Settings' dialog box. It has a title bar 'PTZ Settings' with a close button. Below the title bar is a 'Go to' dropdown menu. Underneath are three input fields: 'Horizontal Angle(0~3600)' with the value '0', 'Vertical Angle(0~900)' with the value '0', and 'Zoom(1~128)' with the value '1'. At the bottom is a 'Go to' button.

Field	Value
Go to	Go to
Horizontal Angle(0~3600)	0
Vertical Angle(0~900)	0
Zoom(1~128)	1
Go to	Go to

Figure 3-5



## 4 Playback

Recordings on the SD card can be accessed through the web browser.

Note

Before playback, the SD card must be properly installed and configured. Refer to section 5.4 for detailed instructions.

### 4.1 Playback

The SD card playback interface is shown in Figure 4-1.

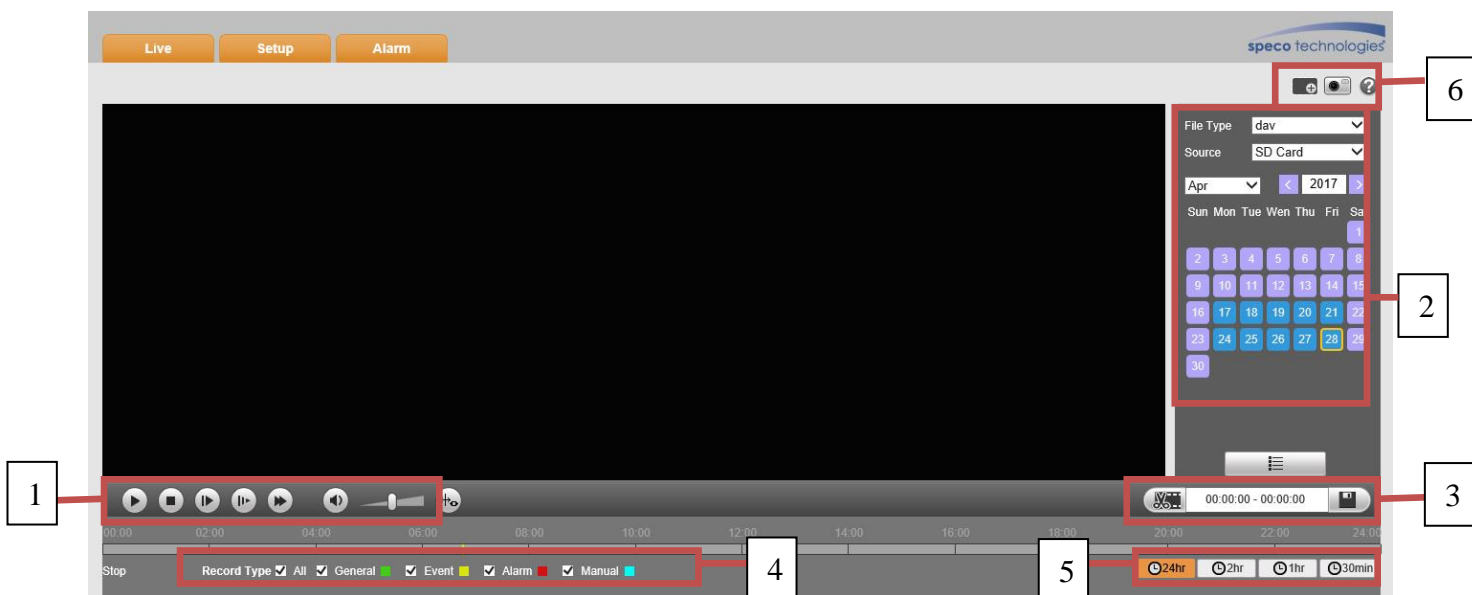


Figure 4-1

There are four sections:

- Section 1: Play controls
- Section 2: Recorded data
- Section 3: Cut function
- Section 4: Recording type
- Section 5: Progress bar
- Section 6: Additional functions

### 4.1.1 Play Controls

The control functions are shown in Figure 4-2 and Figure 4-3.

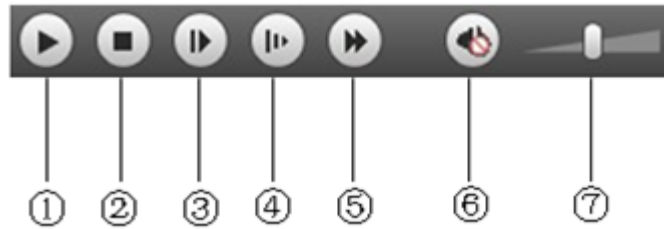


Figure 4-2

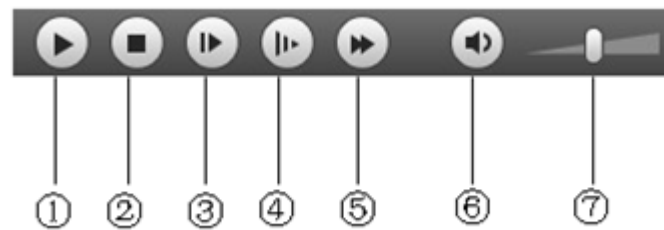


Figure 4-3

Parameter	Function
① Play	Press to start playing
② Stop	Press to stop playing
③ Play by frame	Press to go to the next frame. Note: Recording will be paused while this function is in use.
④ Slow	Press to slow play
⑤ Fast Forward	Press to fast forward
⑥ Audio mute	Toggle audio mute
⑦ Volume	Adjust audio volume

4.1.2 Playback File

In the calendar, dates highlighted blue have recorded data. See Figure 4-4.

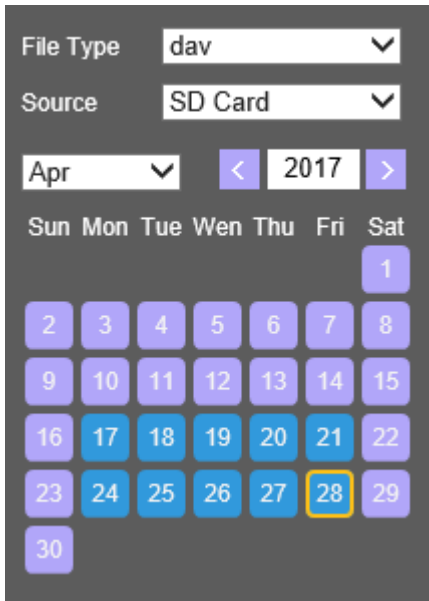


Figure 4-4

Parameter	Function
File Type	<ul style="list-style-type: none"><li>• Select “dav” for video playback.</li><li>• Select “jpg” for picture playback.</li></ul>
Data Source	Default is SD card.

Step 1. Click on a date highlighted in blue. The time bar will display recorded data. Green represents continuous recording, yellow represents motion recording, red represents sensor recording, and blue represents manual recording.

Step 2. Click on a specific time to start playback from that time. See Figure 4-5.

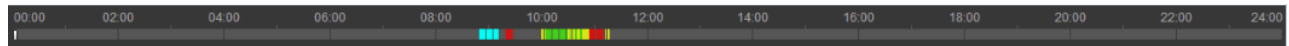



Figure 4-5

Step 3. Click on file list button  to list all available files for the selected date.

Step 4. Double click on a file in the list to start playback for this file. The file size, start time and end time will be displayed.

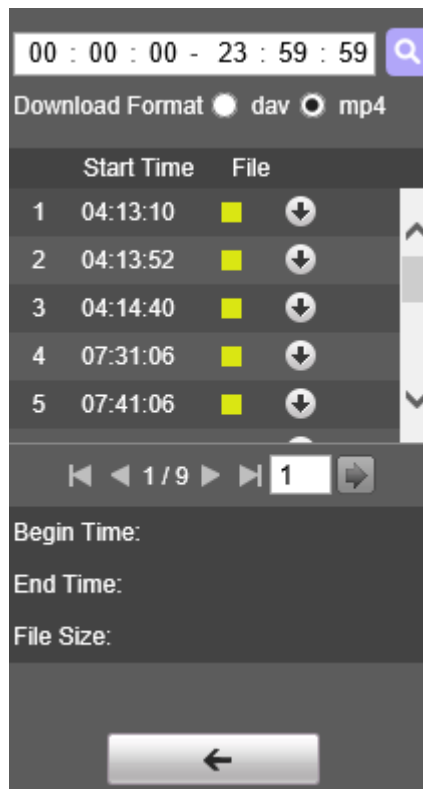





Figure 4-6


Parameter	Function
 Search	Search for recordings within the specified start time and end time for the date.
Download Format	Two formats are available for download: dav and mp4.
 Download	<ul style="list-style-type: none"> <li>● Click to download to the specified path. Path can be specified in Setup-&gt;Basic Setup-&gt;Video Setup-&gt;Path.</li> <li>● The system does not support download and playback at the same time.</li> </ul>
 Back	Click to go back to the calendar interface.

### 4.1.3 Playback Cut

Note:

Playback cut function will automatically pause playback as cut and playback cannot be performed at the same time.

Step 1. Click on a time on the time bar.

Step 2. Click on the cut icon  to set the selected time as the start time.

Step 3. Click on another time for the end time.

Step 4. Click on the cut icon  to set the end time.

Step 5. Click on the Save button to save the file. See Figure 4-7.



Figure 4-7

### 4.1.4 Record Type

Only the selected recording type will be shown on the time bar. See Figure 4-8.







Figure 4-8

### 4.1.5 Progress Bar



Figure 4-9



Parameter	Function
	Changes the time bar to show a period of 24 hours
	Changes the time bar to show a period of the past 2 hours
	Changes the time bar to show a period of the past 1 hour
	Changes the time bar to show a period of the past 30 minutes

4.1.6 Assistant Function

Video playback assistant function is shown in Figure 4-10.



Figure 4-10

Parameter	Function
 Digital Zoom	<ul style="list-style-type: none"><li>• Enable first and then click and drag on any area to digitally zoom in. Right mouse click to restore to the original size.</li><li>• Mouse scroll button can also be used.</li></ul>
 Snapshot	Click to save a snapshot for the video currently in playback.

4.1.7 Image Playback

See Figure 4-11 for the image playback interface. Under the file type dropdown menu, select “jpg” to switch to the interface.

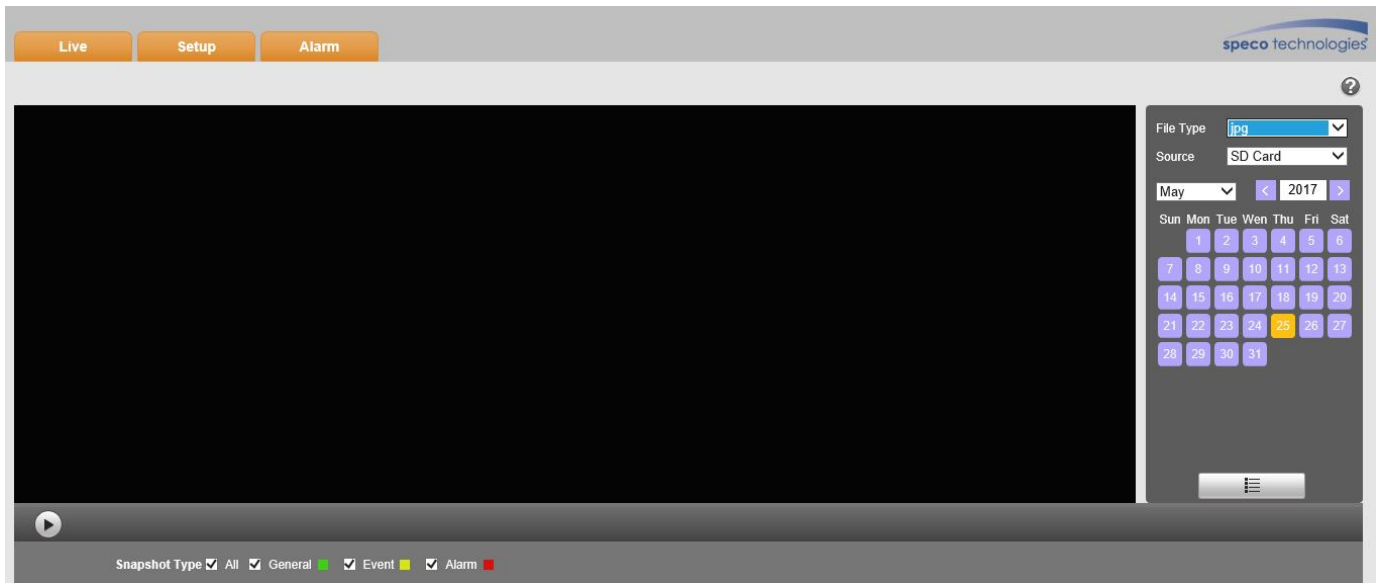


Figure 4-11

## 5 Setup

To configure camera settings, from the live view screen, click on the “Setup” button at the top left.

### 5.1 Basic Setup

#### 5.1.1 Image Setup

**Note:**

Available options may vary depending on the camera model.

##### 5.1.1.1 Picture

**Step 1**

Select “Basic Setup > Image Setup > Picture” as shown in Figure 5-1.

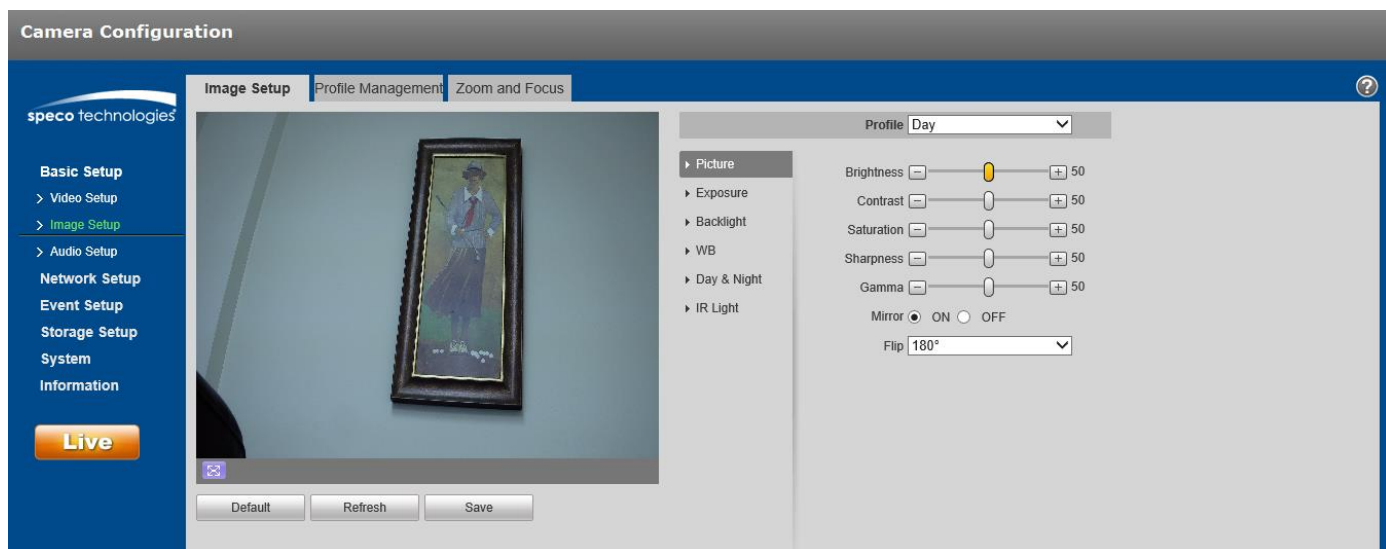


Figure 5-1

**Step 2**

Set picture parameters; please refer to the following table for more details.

Parameter	Note
Brightness	Adjusts the image brightness. The image may become blurry if the value is set too high.
Contrast	Adjusts the image contrast. Dark areas become darker and bright areas become overexposed if the value is set too high. The image may become blurry if the value is set too low.

Parameter	Note
Saturation	Adjusts the color saturation. The color becomes darker when the value is increased. If the value is set too low, the image will look black and white. This does not affect the overall brightness of the image.
Sharpness	Adjusts the sharpness level of the edge on the image. Increasing the sharpness will also increase image noise.
Gamma	Changes the image brightness and improve the dynamic display range of the image.
Mirror	Flips the image horizontally.
Flip	<p>Changes the display direction of the image.</p> <ul style="list-style-type: none"> <li>90°: Rotates the image clockwise 90°</li> <li>270°: Rotates the image counter-clockwise 90°</li> <li>180: Flips the image vertically.</li> </ul> <p><b>Note:</b> Set the main stream resolution to 1920x1080 to use the flip function.</p>

### Step 3

Click “Save” to save the settings.

## 5.1.1.2 Exposure

### Step 1

Select “Basic Setup > Image Setup > Exposure” as shown in Figure 5-2.

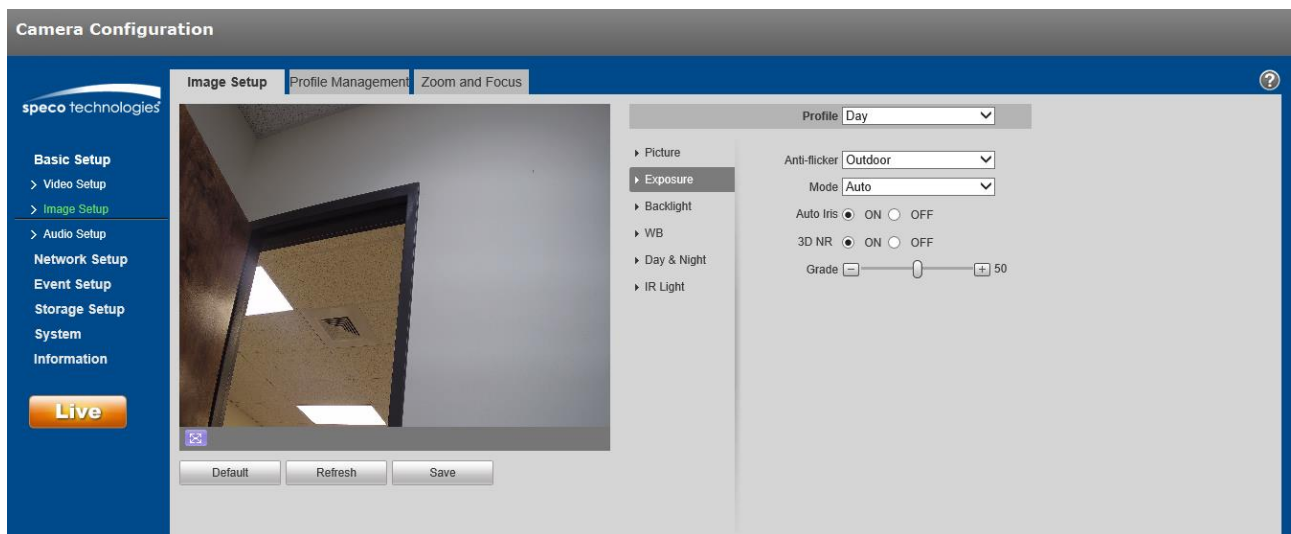


Figure 5-2



## Step 2

Set exposure parameters; please refer to the following table for more details.

Parameter	Note
Anti-flicker	<ul style="list-style-type: none"><li>● Outdoor</li><li>● 50Hz</li><li>● 60Hz (used in the United States)</li></ul>
Mode	<p>Camera exposure mode</p> <p><b>Note:</b></p> <ul style="list-style-type: none"><li>● When “Anti-flicker” is set to “Outdoor”, the “exposure mode” can be set as “gain priority” or “shutter priority” mode.</li></ul> <p>The options are:</p> <ul style="list-style-type: none"><li>● Auto: image brightness is adjusted automatically according to the environment.</li><li>● Gain priority: The device can adjust automatically according to the gain range set during normal exposure range in different scenes.</li><li>● Shutter priority: The device can adjust automatically according to the shutter range set during normal exposure range in different scenes.</li><li>● Manual: Set the gain value and shutter value manually.</li></ul>
Auto Iris	<ul style="list-style-type: none"><li>● The lens iris can auto adjust the size according to the environment after auto iris is enabled, then the image brightness will change accordingly.</li><li>● The iris value reaches the max when disabling auto iris, the lens iris will not change according to the environment brightness.</li></ul>
3D NR	Multiple frames are processed and then noise is reduced by using the interframe information between the previous and the latter frame.
Grade	<p>This can be applied when 3D NR is enabled.</p> <p>Increase the value for a bigger effect.</p>

## Step 3

Click “Save” to save the settings.

### 5.1.1.3 Backlight

Backlight mode options are BLC, WDR and HLC.

- BLC: compensates for high backlight areas behind a subject to make the subject more visible.
- WDR: balances washed out image with a large dynamic range. Typically used for lobbies, where the camera is pointing towards the door.
- HLC: reduces exposure from bright light sources such as headlights. This can be applied in areas such as toll gates, entrance and exit of the parking lots, etc.

#### Step 1

Select “Basic Setup > Image Setup > Backlight”, which will display the interface shown in Figure 5-3.

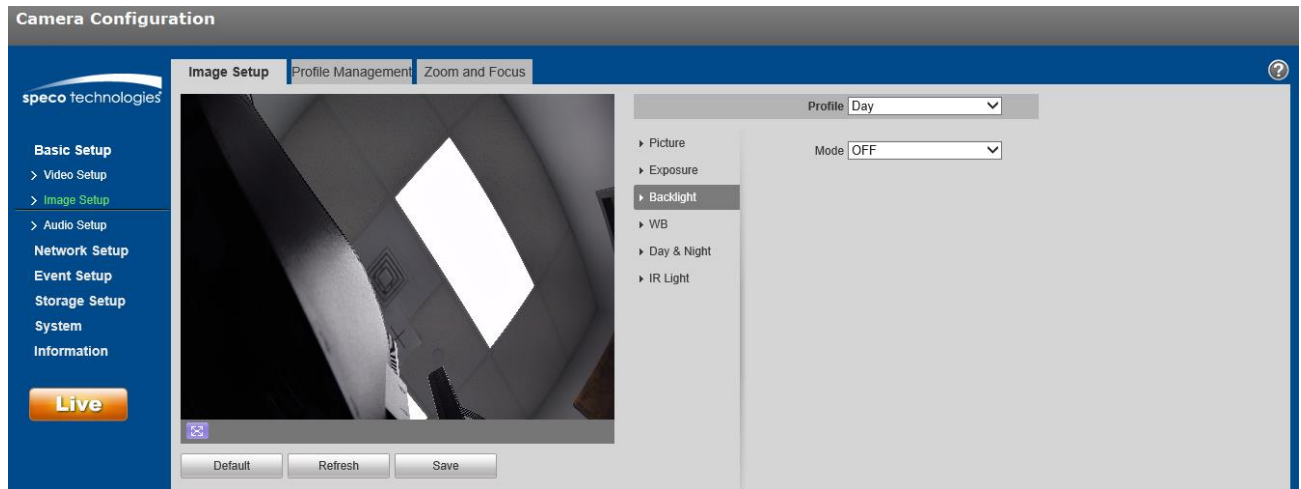


Figure 5-3

#### Step 2

Set the backlight parameter.

- BLC can be set to default mode or customized mode.
  - ◆ When “Default” mode is selected, the system adjusts automatically to the environment, to make the darkest part of the image to be seen.
  - ◆ When “Customized” mode is selected, a custom area in the image can be selected, to compensate for that area.
- When set to “WDR”, the system will lower the brightness of the area with high brightness and enhance the brightness of the area with low brightness. This is very helpful in situations such as the camera in a lobby pointing towards the entrance, where there is a lot of light coming in.

#### Note:

There may be video loss of a few seconds when the camera is switched from non WDR mode to WDR mode.

- When set to “HLC”, the system will reduce the high brightness areas and decrease the size of the halo area.

#### Step 3

Click “Save” to save the settings.

#### 5.1.1.4 WB

WB (white balance) is used to adjust colors in the image so that objects that appear white in person are shown as white in the camera.

##### Step 1

Select “Basic Setup > Image Setup > WB”, which will display the interface shown in Figure 5-4.

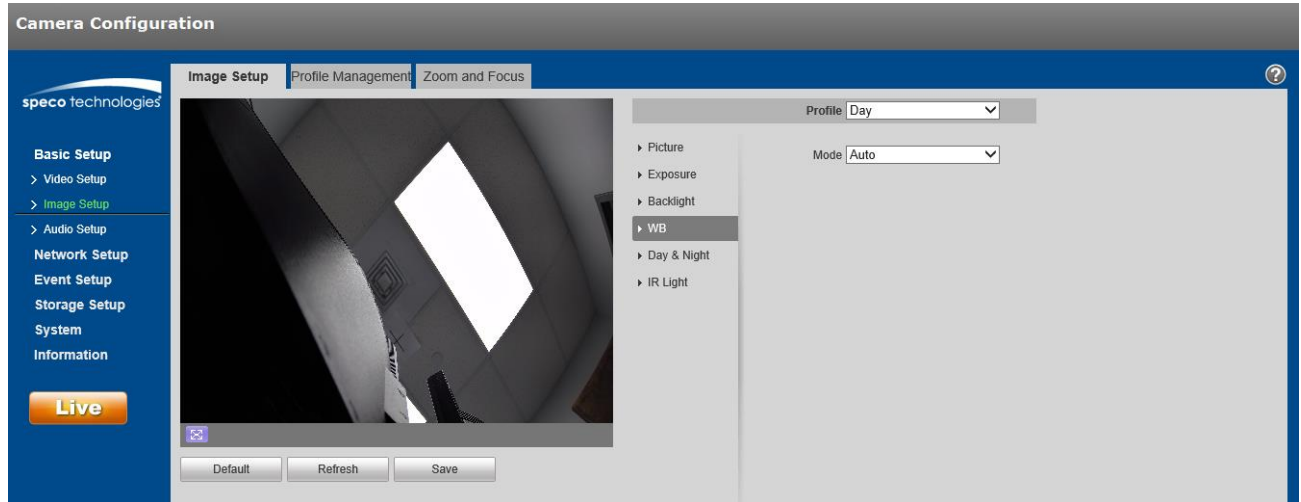


Figure 5-4

##### Step 2

Set the mode.

- When set to “Auto”, the system will compensate automatically for the white balance depending on the environment.
- When set to “Natural”, the system will compensate based on natural light settings.
- When set to “Street Lamp”, the system will compensate based on an outdoor scene at night.
- When set to “Outdoor”, the system will compensate based on most outdoor scenes with natural light and artificial light.
- When set to “Manual”, red gain and blue gain values can be set manually.
- When set to “Regional Custom”, a custom area can be defined in the image, which the system can then compensate for the different color temperatures of the images in the area.

##### Step 3

Click “Save” to save the settings.

### 5.1.1.5 Day & Night

This is to set up color and monochrome switching.

#### Step 1

Select “Basic Setup > Image Setup > Day & Night”, shown in Figure 5-5.

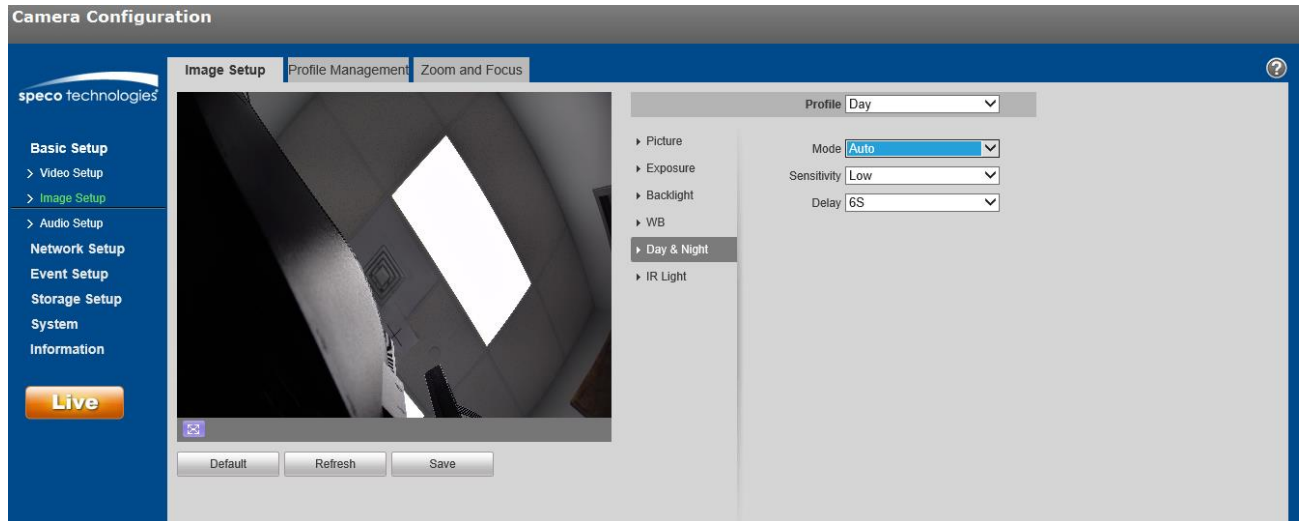


Figure 5-5

#### Step 2

To set the day & night parameters, refer to the following table for more details.

Parameter	Note
Mode	<ul style="list-style-type: none"><li>● Color: The camera image is always displayed in color.</li><li>● Auto: The camera switch automatically between color and black &amp; white, depending on the light level.</li><li>● Black &amp; white: The camera image is always displayed in black &amp; white.</li></ul>
Sensitivity	The parameter can be set when the “Day/Night Mode” is set to “Auto”. Higher sensitivity means that the mode will switch back and forth from color and black and white more easily.
Delay	The parameter can be set when the “Day/Night Mode” is set to “Auto”. This is to set a delay for switching between modes. This may be helpful in situations such as light flickering.

#### Step 3

Click “Save” to save the settings.

#### 5.1.1.6 IR Light

IR LEDs can be controlled in this section.

##### Step 1

Select “Basic Setup > Image Setup > IR Light”, shown in Figure 5-6.

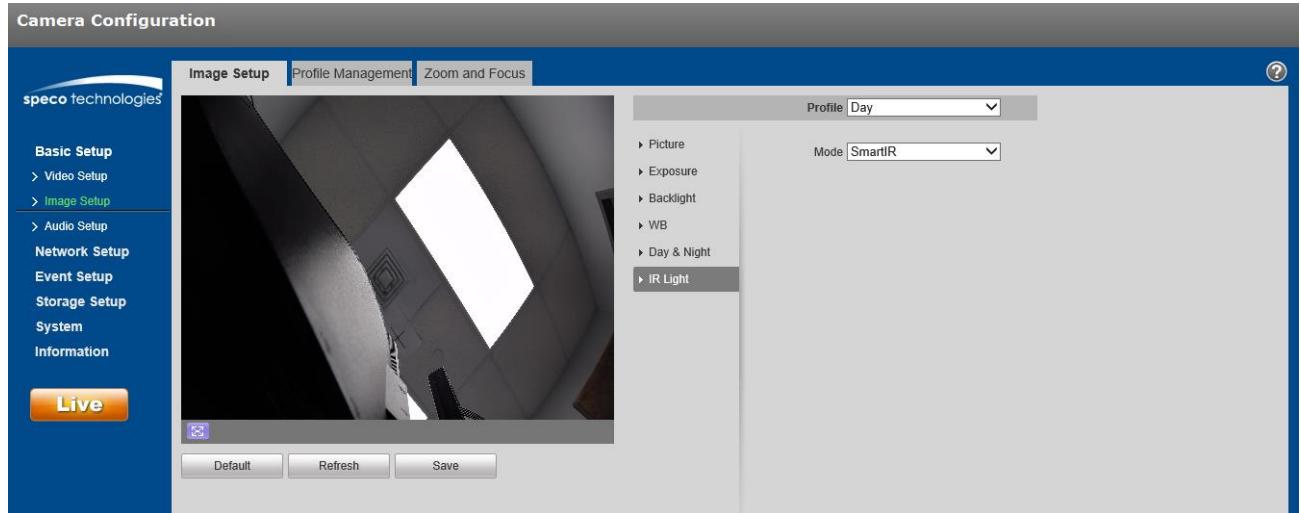


Figure 5-6

##### Step 2

Set the mode.

- When set to “Manual”, the brightness of the IR LEDs can be set manually.
- When set to “Smart IR”, the system will adjust the LED brightness according to the actual scene.
- When set to “Off”, IR LEDs will not operate even in darkness.

##### Step 3

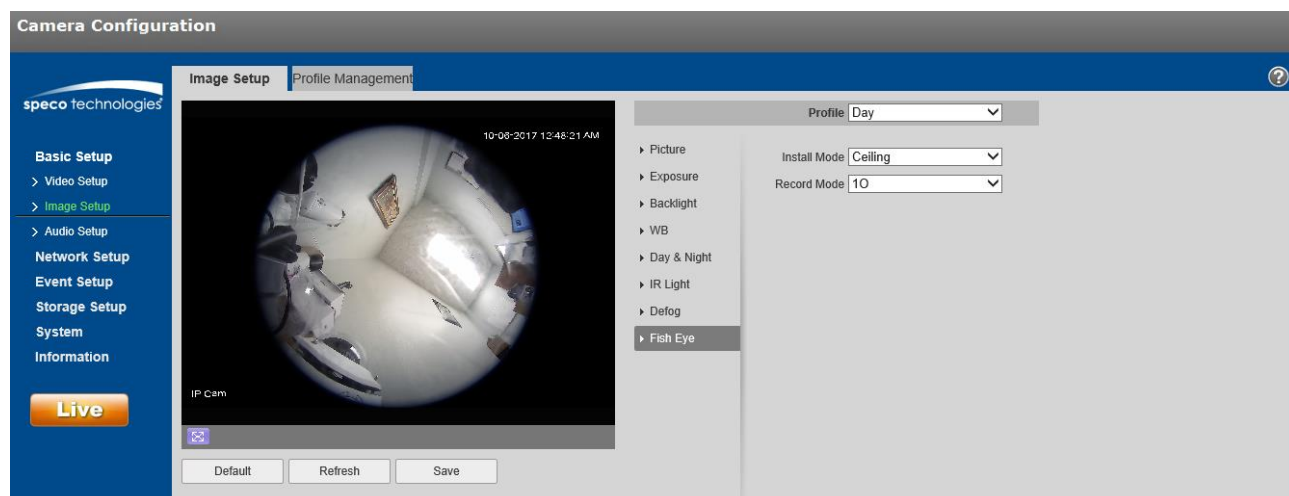
Click “Save” to save the settings.

#### 5.1.1.7 Fisheye Setup

SecureGuard® VMS and the N32NX NVR is able to dewarp the fisheye view from the O6MDP2 IP camera model. For other recording options, the camera itself can be configured to send out a dewarped image in the stream itself.

##### Step 1

Select “Basic Setup > Image Setup > Fisheye”. See Figure 5-7.



## Step 2

Select the desired parameters. Description are listed in the table below

Parameter	Function
Installation Mode	<p>Three installation modes are available: Ceiling, wall, and ground.</p> <p>The orientation of the image will vary depending on the mode.</p>
Record Mode	<p>When a specific record mode is set, the output stream will be the dewarped image on the mode that was set. This is helpful for situations where a recorder does not have the ability to dewarp the image.</p> <p>After setting the mode, click Save to change to that view. Available record modes will vary according to the different installation modes.</p> <ul style="list-style-type: none"> <li>● 1O: Original fisheye image. Note: Any option other than "1O" will cause the fisheye viewing option to be hidden in live view.</li> <li>● 1P: 360°rectangular panoramic image.</li> <li>● 2P: Available for "Ceiling" or "Ground". Displays two 180°rectangular images.</li> <li>● 1O+3R: original image + 3 independent sub images. All images support digital zoom and pan, which can be done in live view.</li> <li>● 1R: 1 independent sub image.</li> <li>● 2R: 2 independent sub images.</li> <li>● 4R: 4 independent sub images.</li> </ul>

### 5.1.1.8 Profile Management

Image settings can be set to different values depending on the profile that's being used.

#### Step 1

Select “Basic Setup > Image Setup > Profile Management” to display the “Profile Management” tab.

#### Step 2

Set the profile.

- When set to “Normal”, the system will monitor according to the normal configuration.

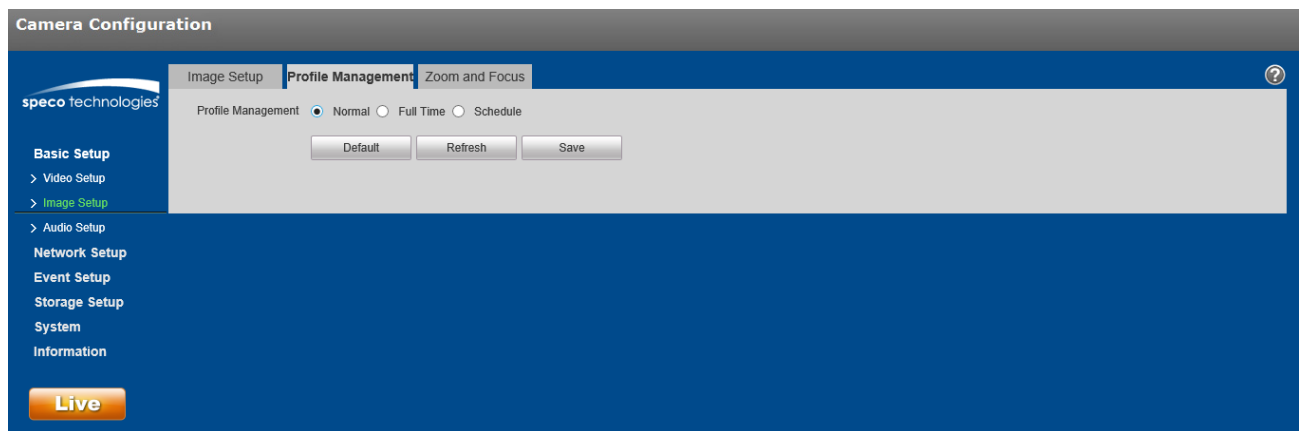


Figure 5-8

- When set to “Full Time”, the profile can be set to always use the Day configuration or the Night configuration.

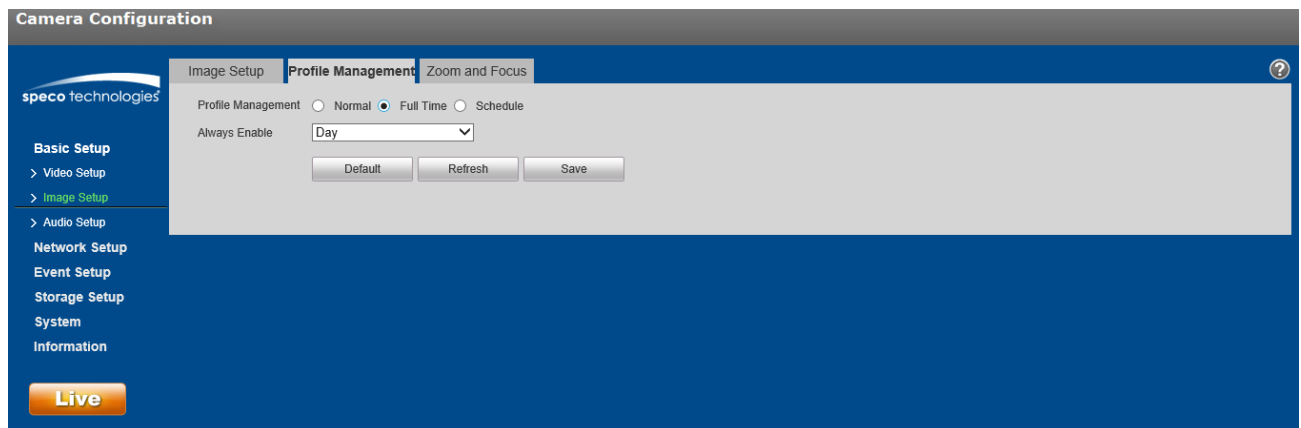


Figure 5-9

- When set to “Schedule”, a specified period of the day can be used for the Day configuration and the rest of the day for the Night configuration. Click and slide the bar to set the time period.

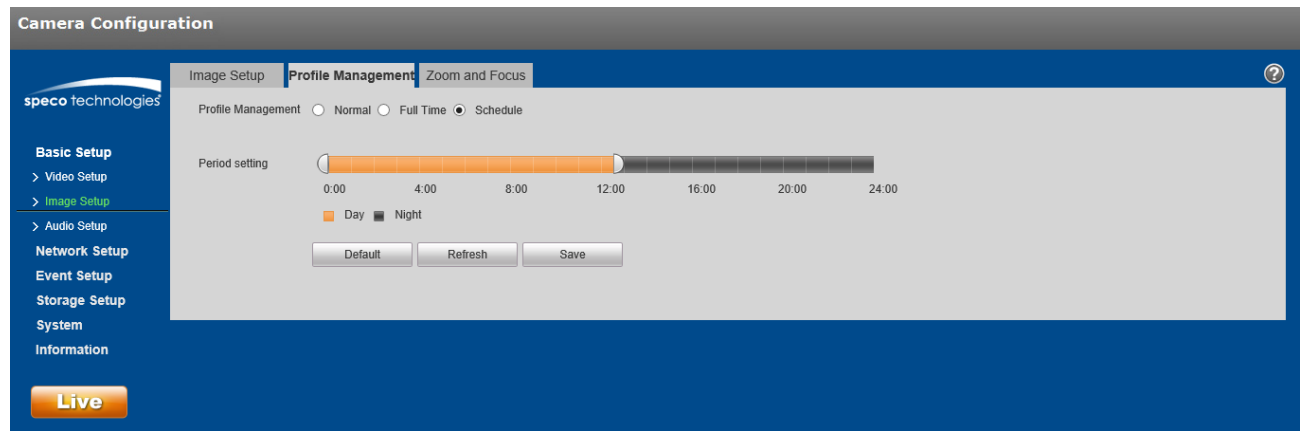


Figure 5-10

### Step 3

Click “Save” save the settings.

### Note:

Click “Default” to restore the device to the default settings. Click “Refresh” to check the latest configuration of the device.

### 5.1.1.9 Zoom and Focus

### Note:

This applies to only models with motorized lens.

### Step 1

Select “Basic Setup > Image Setup > Zoom and Focus”, shown in Figure 5-11.



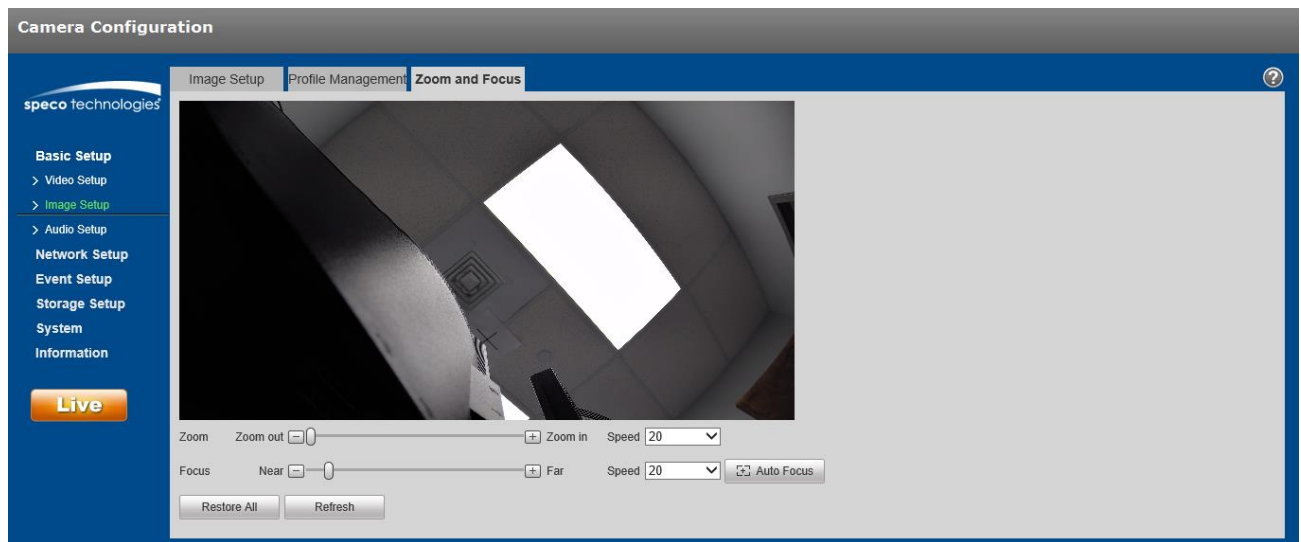


Figure 5-11

## Step 2

The focal length can be set by pressing “+”, “-” for Zoom or dragging the slider bar. Adjust the speed as desired.

## Step 3

Focus can be adjusted manually, by pressing “+”, “-” or dragging the slider block.

### Note:

- Click “Auto Focus” to adjust the focus automatically after a manual adjustment.
- If the image fails to focus after a few times of adjustment, click “Restore All” to reset the lens and remove the accumulative errors of the lens.

5.1.2 Video Setup

5.1.2.1 Video

Step 1

Select “Basic Setup > Video Setup > Video” shown in Figure 5-12.

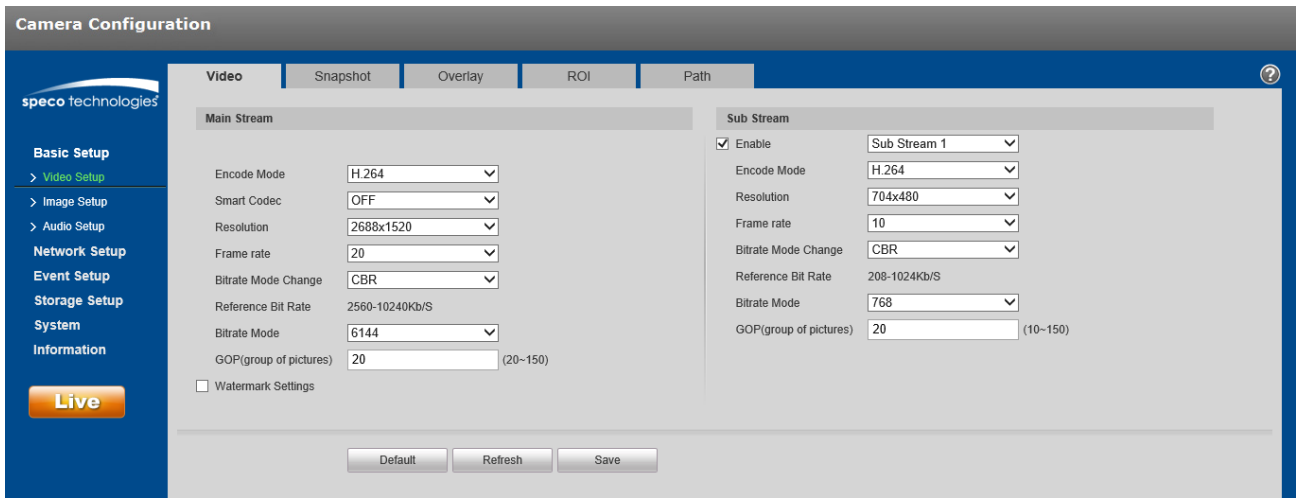


Figure 5-12

Step 2

Refer to the following table for more details on setting the video stream parameters.

Parameter	Function
Sub Stream Enable	Select “Enable” to enable the sub stream. Depending on the model, there may be a second sub stream available.
Encode mode	Select the compression to be used.  Options are H.264, MJPEG, and H.265 (depending on the model)
Resolution	Multiple resolution options are available for each stream. Resolution is the equivalent to the size of the image. Higher minimum bit rate is required for higher resolutions.
Frame Rate	Select the applicable frame rate for each stream, measure in fps (frames per second).
Bit Rate Mode	CBR (constant) means that bitrate will be kept at a constant value even with various changes in the scene. VBR (variable) means that bitrate will be adjusted according to the scene changes.

Parameter	Function
Reference Bit Rate	Recommended bit rate range based on the resolution.
Bit Rate	Set the bit rate value. Note that higher bit rate provides a better image quality, but also results in more storage usage.
SVC (scalable video coding)	SVC can dynamically adjust the stream based on the network conditions. Can be turned on or off depending on the client being used.
GOP (group of pictures)	Determines how many P frames are allowed in between two I frames. I frame is the beginning frame of a unique scene. A GOP value of frame rate x 2 or lower is recommended.
Watermark Settings	Check to enable watermarking on the video.
Watermark Character	Enter the watermark text to be used for verification.

### Step 3

Click “Save” to save the settings.

#### 5.1.2.2 Snapshot

The snapshot interface is shown as in Figure 5-13.

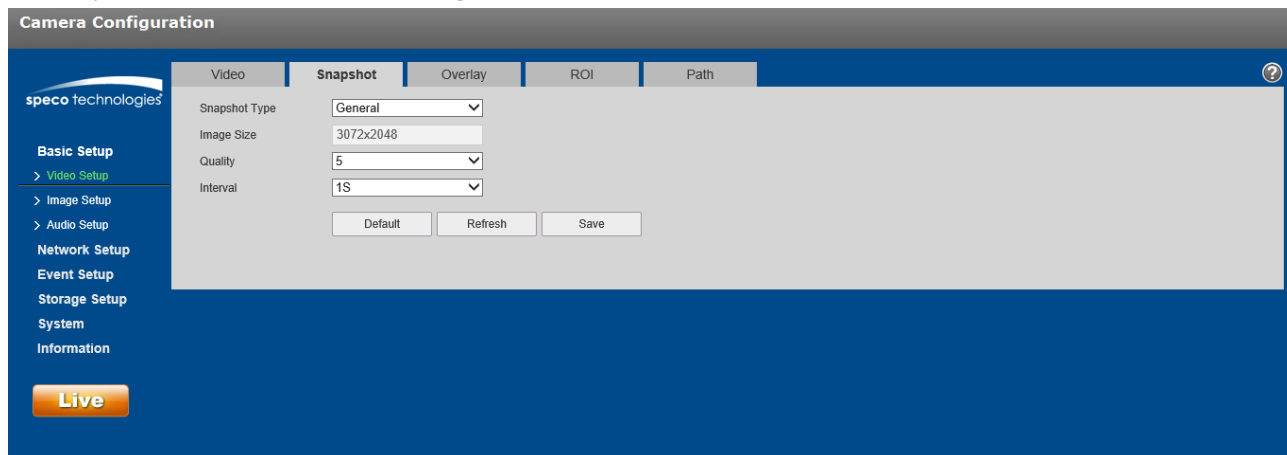


Figure 5-13

Please refer to the following sheet for detailed information.

Parameter	Function
Snapshot type	There are two modes: General (schedule-based) and Event (alarm-based).
Image size	Same resolution as the main stream resolution.

Quality	Sets the image quality, with 6 being the highest quality.
Interval	Interval of how many seconds between snapshots.

### 5.1.2.3 Video Overlay

Figure 5-14 shows the OSD options.

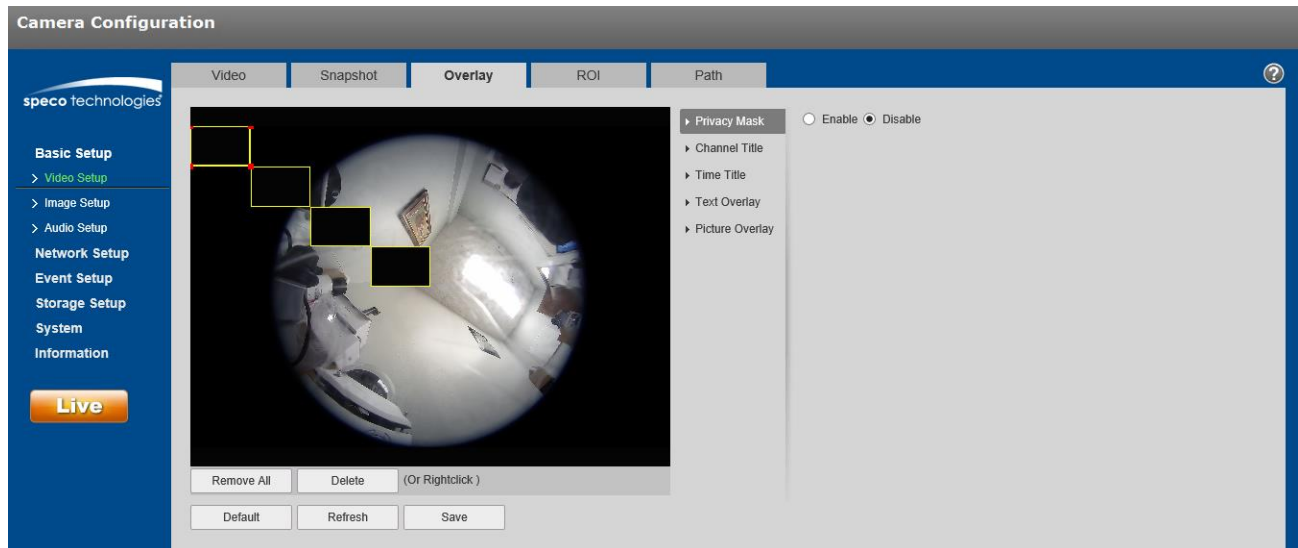


Figure 5-14

Please refer to the following sheet for detailed information.

Parameter	Function
Privacy Masking	<ul style="list-style-type: none"> <li>● Up to 4 privacy mask zones can be defined.</li> <li>● Privacy mask blocks out the image in the defined areas.</li> </ul>
Time Title	<ul style="list-style-type: none"> <li>● Time information can be shown in the video if enabled.</li> <li>● The position can be changed by dragging it with the mouse</li> </ul>
Channel Title	<ul style="list-style-type: none"> <li>● This shows the nickname of the device/channel on the screen.</li> <li>● Position can be changed with the mouse.</li> </ul>
Text Overlay	<ul style="list-style-type: none"> <li>● User-defined text can be displayed.</li> <li>● Position can be changed with the mouse.</li> </ul>
Picture Overlay	<ul style="list-style-type: none"> <li>● An image can be set as an overlay onto the stream.</li> <li>● Requirements for picture uploading are listed in the section.</li> </ul> <p><b>Note:</b> Text overlay and picture overlay cannot be used at the same time.</p>

### 5.1.2.4 ROI (Region of Interest)

Check “Enable” and use the mouse to define the desired region. Click “Save” to save the settings. See Figure 5-15.

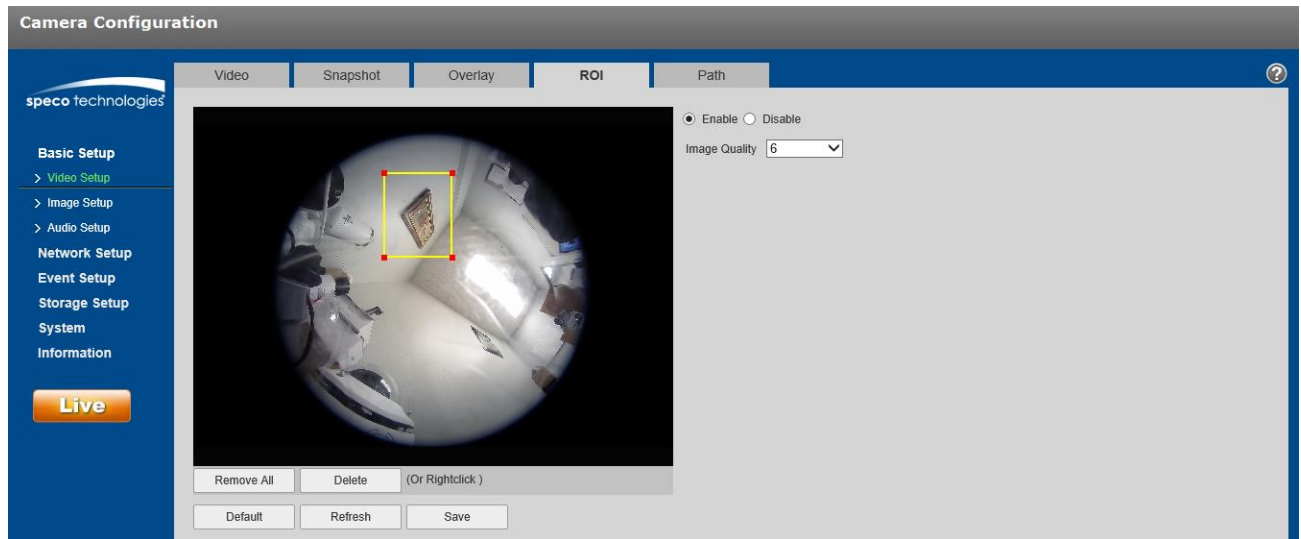


Figure 5-15

#### 5.1.2.5 Path

**Error! Reference source not found.**16 shows the interface for setting up storage paths for snapshots and recordings.

There are 4 types of save paths:

- Live view snapshot
- Playback snapshot
- Playback clip download
- Playback video cut download (within playback, a clip with a specific time period can be defined to be downloaded)

Click the Save button to save the setup.

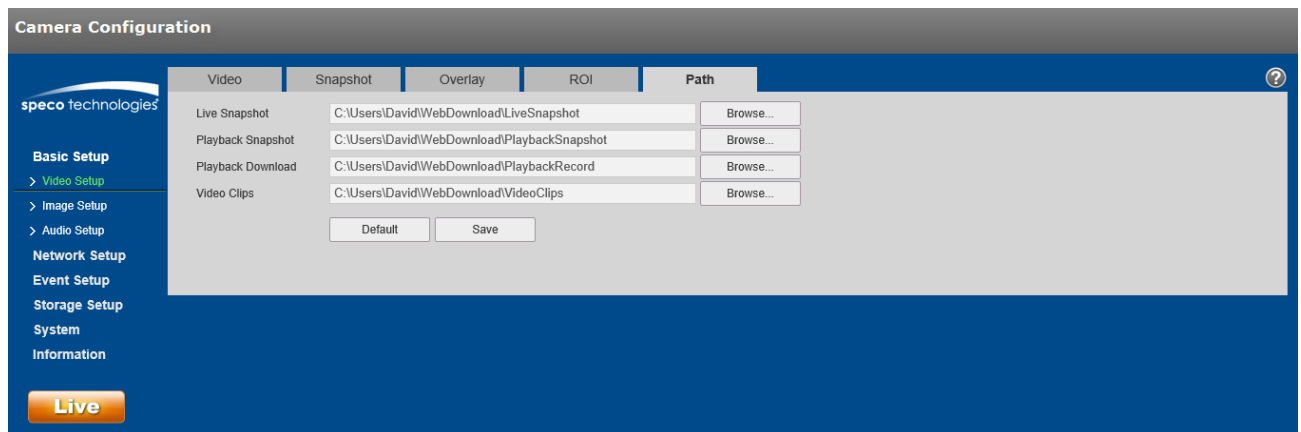


Figure 5-16

### 5.1.3 Audio

**Applies only to models with audio capability.**

The audio interface is shown in Figure 5-17.

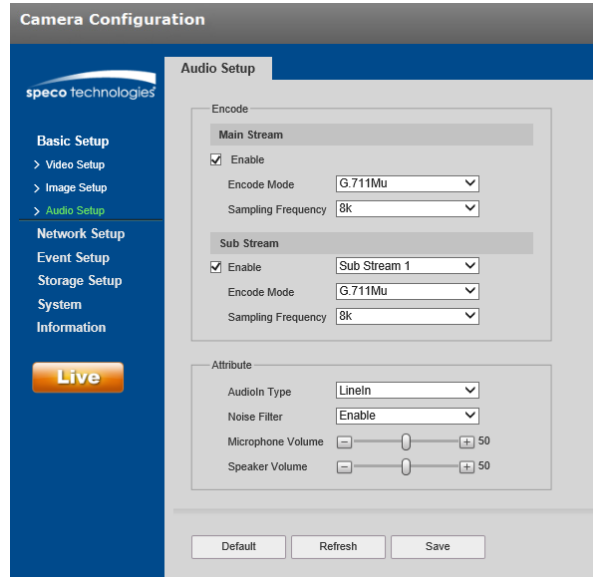


Figure 5-17

Please refer to the following sheet for detailed information.

Parameter	Function
Enable	Audio can be enabled only when the video stream is enabled..
Encode mode	Select the applicable compression between G.711A, G.711Mu, G.726, and AAC. This applies to both the audio input and 2-way audio.
Sampling Frequency	Options are 8k, 16k, 32k, and 48k.
AudiIn Type	Device needs to connect to an external audio input source under Line In mode. It does not need to connect to an external audio input source under Mic mode.
Noise Filter	Enable to filter relevant noise.
Microphone Volume	Adjust the microphone volume from 0~100.
Speaker Volume	Adjust the speaker volume from 0~100.

## 5.2 Network Setup

### 5.2.1 IP Address Setup

For IP address setup, IPv4 and IPv6 are both supported. IPv4 supports static IP and DHCP. IPv6 supports static IP only. If the IP address is modified, the web viewer will automatically jump to the new IP address.

The screenshot shows the 'Camera Configuration' web interface. On the left is a sidebar with the 'speco technologies' logo and a menu under 'Network Setup' including 'IP Address Setup', 'Connection', 'PPPoE', 'DDNS Client', 'IP Filtering', 'SMTP(E-mail)', 'UPnP', 'SNMP', 'Multicast', '802.1x', and 'QoS'. The main content area is titled 'TCP/IP' and contains the following fields:

- Host Name: Speco
- Network Type: Wire(DEFAULT)
- Mode: Radio buttons for Static and DHCP (DHCP is selected)
- MAC Address: 5c . f2 . 07 . 28 . 7d . 26
- IP Version: IPv4
- IP Address: 192 . 168 . 56 . 107
- Subnet mask: 255 . 255 . 255 . 0
- Default Gateway: 192 . 168 . 56 . 1
- Preferred DNS Server: 8 . 8 . 8 . 8
- Alternate DNS Server: 64 . 72 . 64 . 10

At the bottom, there is a checkbox 'Enable ARP/Ping to set IP address service' and three buttons: 'Default', 'Refresh', and 'Save'.

Figure 5-18

Please refer to the following sheet for detailed information.

Parameter	Function
Host Name	Set the device name. Maximum of 15 characters is supported.
Network Type	Default is wired.
Mode	Select between static and DHCP. If setting to static, make sure that the network does have static IP addresses available for use. When using DHCP, make sure that the network has the capability to assign an IP address to the device. Typically, a residential or commercial router will have a built-in DHCP server.
Mac Address	Displays the Mac address of the device.
IP Version	Select IPv4 or IPv6.
IP Address	Can be modified if in static mode.
Subnet Mask	Define the subnet mask. For a typical case, the mask is 255.255.255.0.
Default Gateway	Define the gateway of the network. Example: if the IP address is 192.168.1.150, the gateway will be 192.168.1.1.

Preferred DNS	DNS IP address.
Alternate DNS	Alternate DNS IP address.
Enable ARP/Ping set device IP address service.	<p>This can be used to modify or set the device IP address by utilizing the Mac address.</p> <p>Before the operation, make sure the network camera and the PC are in the same LAN.</p> <p>Refer to the steps listed below.</p> <p><b>Step 1:</b> Set the network camera and the PC to be on the same LAN.</p> <p><b>Step 2:</b> Get the Mac address from the label of the network camera.</p> <p><b>Step 3:</b> Go to the cmd prompt and then enter the following commands.</p> <pre>arp -s &lt;IP Address&gt; &lt;MAC&gt; ping -l 480 -t &lt;IP Address&gt;</pre> <p>Such as: <code>arp -s 192.168.0.125 11-40-8c-18-10-11</code>  <code>ping -l 480 -t 192.168.0.125</code></p> <p><b>Step 4:</b> Reboot the device.</p> <p><b>Step 5:</b> Check if the setup is OK by looking at the output information such as "Reply from 192.168.0.125 ..." from the command output lines.</p> <p><b>Step 6:</b> Open the browser and then enter the IP address to access the camera.</p>

## 5.2.2 Connection

### 5.2.2.1 Connection

The connection interface is shown in Figure 5-19.

The screenshot displays the 'Camera Configuration' web interface. On the left is a navigation menu with the 'speco technologies' logo and a tree structure under 'Network Setup' including 'IP Address Setup', 'Connection' (highlighted), 'PPPoE', 'DDNS Client', 'IP Filtering', 'SMTP(Email)', 'UPnP', 'SNMP', 'Multicast', '802.1x', and 'QoS'. The main content area has two tabs: 'Connection' and 'ONVIF'. The 'Connection' tab is active, showing configuration fields for 'Max Connection' (10), 'TCP Port' (37777), 'UDP Port' (37778), 'HTTP Port' (80), and 'RTSP Port' (554). There is an unchecked checkbox for 'HTTPs' and an 'HTTPs Port' field (443). At the bottom of the tab are 'Default', 'Refresh', and 'Save' buttons. A help icon (?) is in the top right corner of the configuration area.



Figure 5-19

Refer to the following table for more information. Typically, if the device is being installed on an NVR or SecureGuard in the same LAN, these ports can stay at the same values.

Parameter	Function
Max connection	Defines the number of max web connections that are allowed for the device. The value ranges from 1 to 20. Default connection amount is 10.
TCP port	Port range is 1025~65534. The default value is 37777.
UDP port	Port range is 1025~65534. The default value is 37778.
HTTP port	Port range is 1025~65524. The default value is 80.
RTSP port	The default value is 554.
HTTPs Port	HTTPs communication port, range is 1025~65534, default is 443.

Note:

- 0~1024, 37780~37880, 1900, 3800, 5000, 5050, 9999, 37776, 39999, 42323 are all special ports. User cannot modify them.
- Avoid using default values of other ports.

### 5.2.3 PPPoE

The PPPoE interface is shown in Figure 5-20.

Enter the username and password that were provided by the ISP, and click “Enable”. The network camera will automatically establish a network connection if the credentials are correct. The IP address will be automatically modified to the dynamic IP address of the acquired WAN.

**Note:**

Disable UPnP before enabling PPPoE, which can cause a conflict.

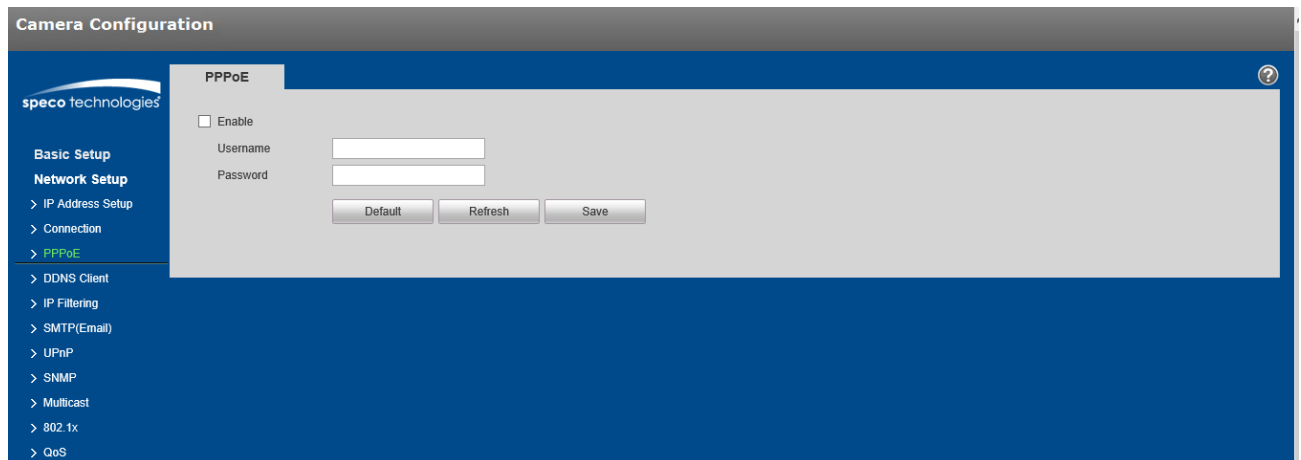


Figure 5-20

#### 5.2.4 DDNS Client

The DDNS interface is shown in Figure 5-21.

Enable DDNS and click “Save”. If the connection is successful, the status will indicate that it is connected.

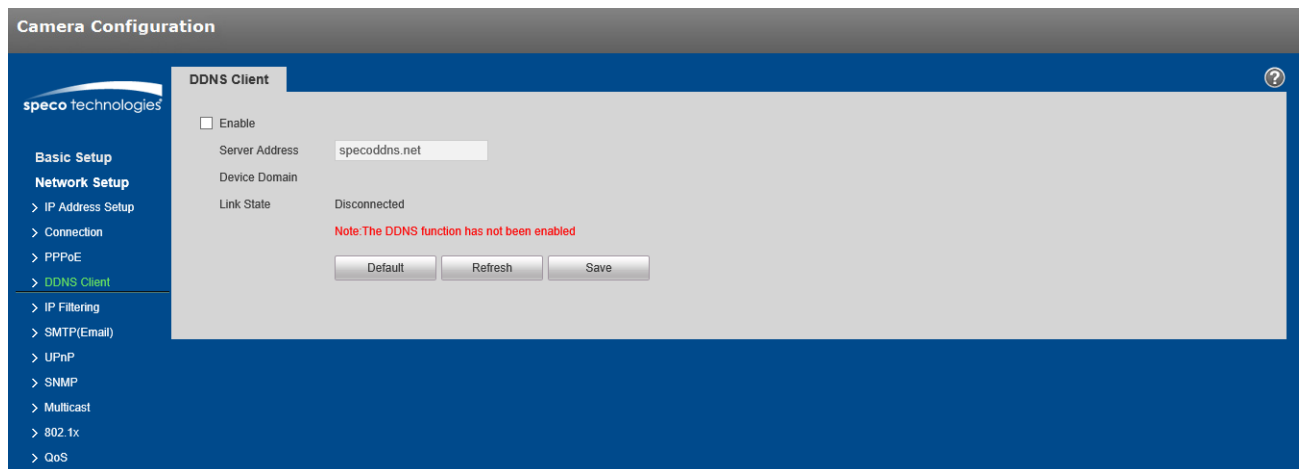


Figure 5-21

#### 5.2.5 IP Filtering

The IP filtering interface is shown in Figure 5-22.

This can be set up so that only specified IP or Mac addresses can access the device.

Individual IP addresses or IP segments can be used.

After adding the IP/Mac addresses, click on Trusted Sites to enable filtering. Click “Save” to save the settings.

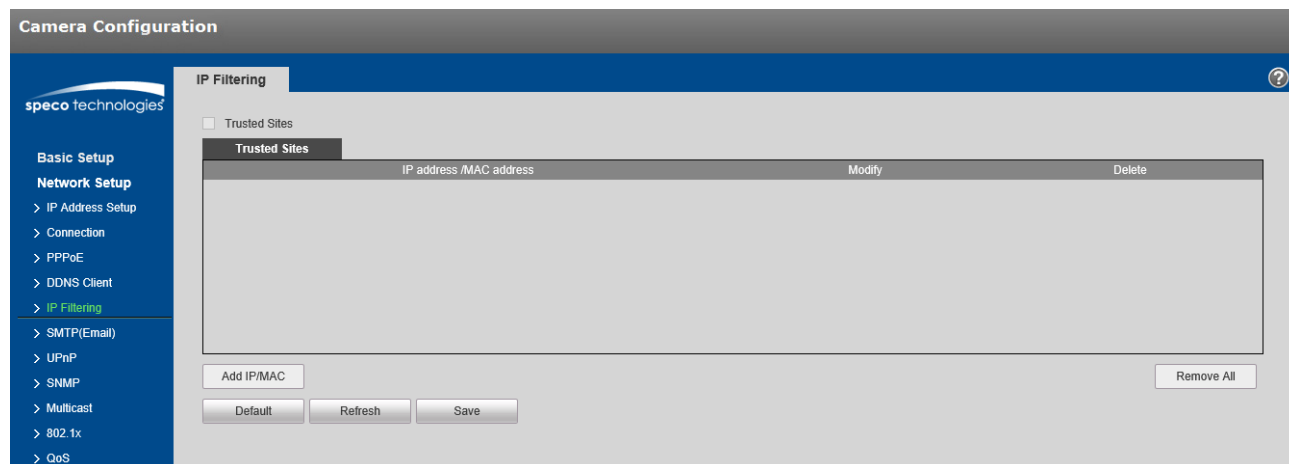


Figure 5-22

## 5.2.6 SMTP (Email)

The email interface is shown in Figure 5-23.

The screenshot shows the 'Camera Configuration' web interface. On the left is a sidebar with the 'speco technologies' logo and a menu with categories: Basic Setup, Network Setup, Event Setup, Storage Setup, System, and Information. Under Network Setup, several options are listed with expand/collapse arrows: IP Address Setup, Connection, PPPoE, DDNS Client, IP Filtering, SMTP (Email) (which is highlighted in green), UPnP, SNMP, Multicast, 802.1x, and QoS. The main panel is titled 'SMTP (Email)' and contains the following fields and controls:

- SMTP Server: A text input field with a red 'Must' label next to it.
- Port: A text input field with the value '25'.
- Anonymity: A checkbox that is currently unchecked.
- Username: A text input field.
- Password: A text input field.
- Sender: A text input field with the value 'none'.
- Authentication: A dropdown menu currently set to 'None'.
- Title: A text input field with the value 'IP Camera event' and a checked 'Attachment' checkbox to its right.
- Mail Receiver: A text input field with a '+' button to its right and a '-' button below it.
- Interval: A text input field with the value '0' and a label 'Second(0~3600)'.
- Health Mail: A checkbox that is currently unchecked.
- Update Period: A text input field with the value '60' and a label 'Second(1~3600)'.
- Buttons: 'Email Test', 'Default', 'Refresh', and 'Save'.

Figure 5-23

Refer to the following table for more information.

Parameter	Function
SMTP Server	Email server, such as smtp.gmail.com, etc.
Port	Default value is 25. Modify as necessary.
Anonymity	For email servers which support anonymous email function. The information of the sender wouldn't be displayed.
User Name	The user name of the sender's email account.
Password	The password of sender's email account.
Sender	Sender's email address.
Authentication (Encryption mode)	Select SSL, TLS or none.
Title (Subject)	Enter email subject.
Attachment	A snapshot of the event can be sent out as an attachment if enabled.
Mail receiver	Enter receiver's email address here. Maximum of three addresses can be entered.

Parameter	Function
Interval	The send interval range is from 0 to 3600 seconds. 0 means there is no interval.
Email test	The system will send out an email once to test the connectivity. Before the email test, make sure to save the email setup information.

### 5.2.7 UPnP

UPnP can be used to allow port forwarding on a router without user intervention. Typically, residential routers have UPnP enabled while commercial routers have it disabled by default. See Figure 5-24 for the interface.

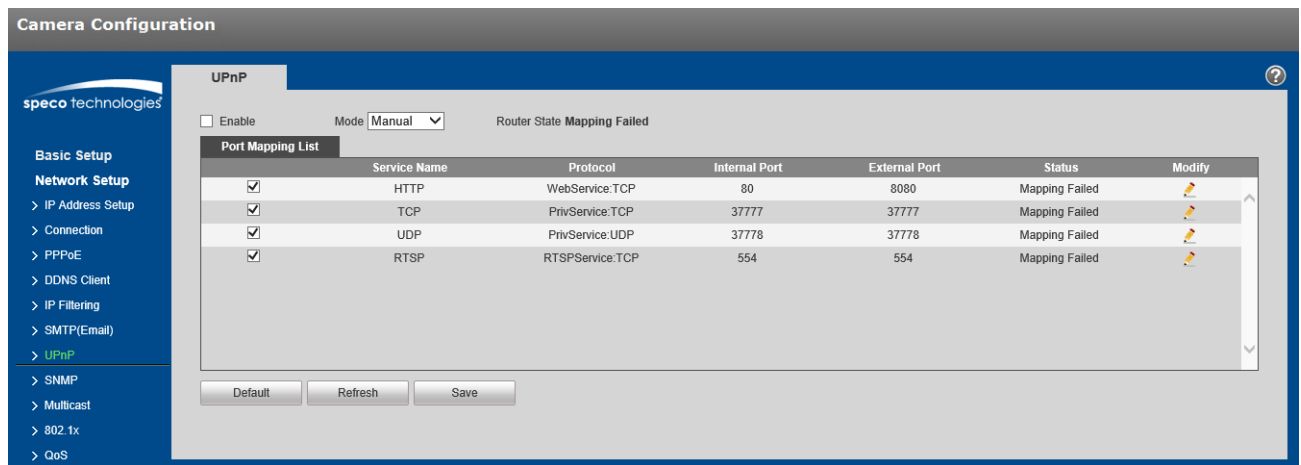


Figure 5-24

## 5.2.8 SNMP

The SNMP interface is shown in Figure 5-25.

Before using SNMP, make sure to install an SNMP management tool and set the parameters. After setup, the device must be restarted to activate the new setup.

The screenshot displays the 'SNMP' configuration page. On the left is a blue sidebar with the 'speco technologies' logo and a navigation menu. The menu includes 'Basic Setup', 'Network Setup' (with sub-items like IP Address Setup, Connection, PPPoE, DDNS Client, IP Filtering, SMTP, UPnP, and SNMP), 'Multicast', '802.1x', 'QoS', 'Event Setup', 'Storage Setup', 'System', and 'Information'. A 'Live' button is at the bottom of the sidebar. The main content area is titled 'SNMP' and contains the following fields and options:

- SNMP Version:** Radio buttons for SNMP v1, SNMP v2, and checked SNMP v3.
- SNMP Port:** Text box with '161' and a range '(1~65535)'.
- Read Community:** Text box with 'public'.
- Write Community:** Text box with 'private'.
- Trap Address:** Empty text box.
- Trap Port:** Text box with '162'.
- Read-only Username:** Text box with 'public'.
- Authentication Type:** Radio buttons for MD5 (selected) and SHA.
- Authentication:** Empty text box.
- Password:** Empty text box.
- Encryption Type:** Radio buttons for CBC-DES (selected).
- Encryption Password:** Empty text box.
- Read&write Username:** Text box with 'private'.
- Authentication Type:** Radio buttons for MD5 (selected) and SHA.
- Authentication:** Empty text box.
- Password:** Empty text box.
- Encryption Type:** Radio buttons for CBC-DES (selected).
- Encryption Password:** Empty text box.

At the bottom of the configuration area are three buttons: 'Default', 'Refresh', and 'Save'.

Figure 5-25

Refer to the following table for more information. The parameters in the first table apply to all versions - v1, v2, and v3.

Parameter	Function
SNMP Version	Check the version to be used. If v3 is checked, the other version cannot be checked until v3 is unchecked.
SNMP port	The value ranges from 1 to 65535. The default port is UDP port 161.

Parameter	Function
Read community	Read-only access to all SNMP targets, default is public. Note: Only number, letter, _ and – are supported.
Write community	Read/write access to all SNMP targets, default is private. Note: Only number, letter, _ and – are supported.
Trap address	The destination address of the Trap information from the proxy program of the device.
Trap Address	Address for where to send Trap message.
Trap Port	Port which sends Trap message, default is 162, range 1~65535.

The parameters below are available when SNMP v3 is enabled.

Parameter	Function
SNMP Version	SNMP v3
Read-only Username	Default is public. Note: Name can consist of numbers, letters and underline.
Read/Write Username	Default is private. Note: Name only can be number, letter and underline.
Authentication	Select MD5 or SHA, default is MD5.
Authentication Password	Password must be not less than 8 characters.
Encryption	CBC-DES
Encryption Password	Password must be not less than 8 characters.

### 5.2.9 Multicast

The multicast interface is shown in Figure 5-26.

Multicast is a transmission mode of data packets. When there are multiple destinations that will receive the same video stream, multicast can be used to reduce bandwidth and CPU load on the device. To set up multicast, make sure that network switches/routers that are being used have multicast support.

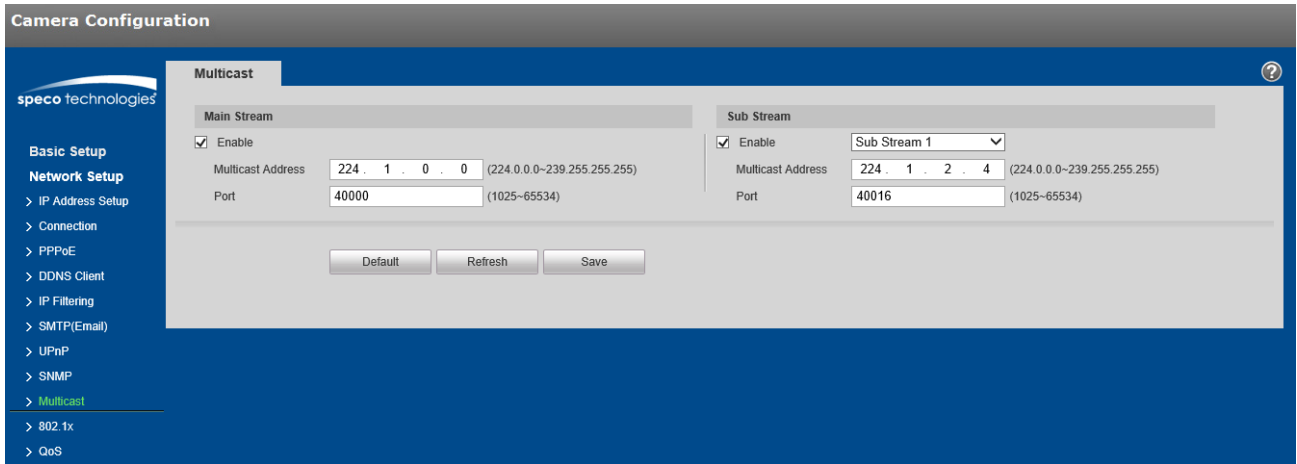


Figure 5-26

Refer to the following table for more information.

Parameter	Function
Enable	Select to enable multicast function. Main stream and sub stream cannot be used at the same time.
Multicast address	Main/sub stream multicast default address is 224.1.2.4 and its range is 224.0.0.0~239.255.255.255.
Port	Multicast port. Main stream is 40000, sub stream1 is 40016, sub stream2 is 40032 and the range is 1025~65534.



### 5.2.10 802.1x

802.1x (port based network access control protocol) provides an authentication method for a device to connect to a LAN.

The screenshot shows the 'Camera Configuration' web interface. On the left is a blue sidebar with the 'speco technologies' logo and a list of configuration categories: Basic Setup, Network Setup, IP Address Setup, Connection, PPPoE, DDNS Client, IP Filtering, SMTP(Email), UPnP, SNMP, Multicast, 802.1x (which is highlighted in green), and QoS. The main content area has a dark blue header with the title '802.1x' and a help icon. Below the header, there is an 'Enable' checkbox, an 'Authentication' dropdown menu currently showing 'PEAP', a 'Username' text input field containing 'none', and a 'Password' text input field filled with four black dots. At the bottom of the form are three buttons: 'Default', 'Refresh', and 'Save'.

Figure 5-27

Refer to the following table for more information.

Parameter	Function
Authentication	PEAP (protected EAP protocol).
Username	Enter the user name, which is authenticated by the server.
Password	Enter the password.

### 5.2.11 QoS

The QoS (quality of service) interface is shown below. See Figure 5-28.

QoS can be set for stream viewing and control for the IP camera. Specific DSCP values (in decimal format) can be set for each, with the values ranging from 0 to 63.

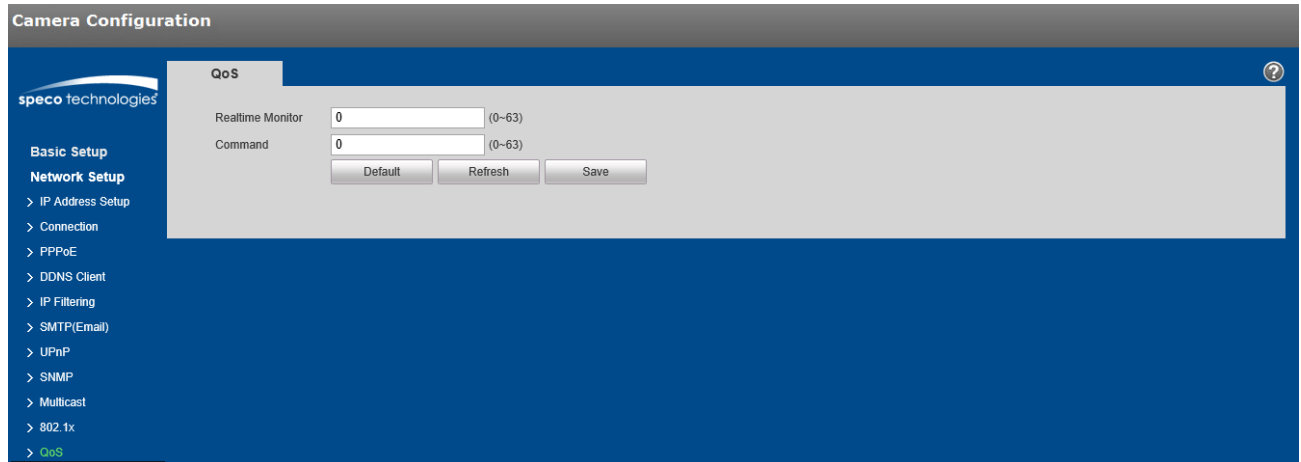


Figure 5-28

### 5.2.12 HTTPs

For devices that have HTTPs capability, a certificate can be created or a signed certificate can be uploaded.

#### Step 1

Create a certificate or upload a signed certificate.

- To create a certificate, follow the directions below.
1. Select “Network Setup > HTTPs”, shown in Figure 5-29.

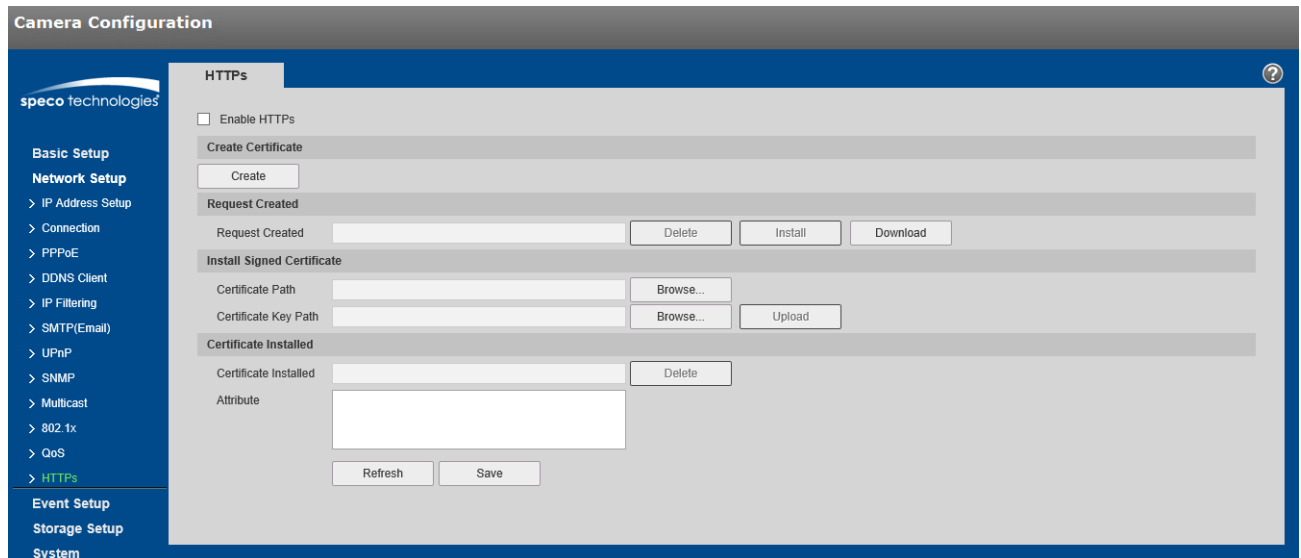


Figure 5-29

2. Click “Create” and a dialog box will pop up, which is shown in Figure 5-30.

The image shows a dialog box titled "HTTPs" with a close button (X) in the top right corner. The dialog contains several input fields for creating a certificate:

- Country:** A text box containing "US". To its right is the text "\*e.g. CN".
- IP or Domain name:** A text box with a blue border and a cursor. To its right is the text "\* Must" in red.
- Validity Period:** A text box containing "365". To its right is the text "Day\*Range :1-5000".
- Province:** A text box containing "none".
- Location:** A text box containing "none".
- Organization:** A text box containing "none".
- Organization Unit:** A text box containing "none".
- Email:** An empty text box.

At the bottom of the dialog, there are two buttons: "Create" and "Cancel".

Figure 5-30

3. Fill in all fields and click "Create". A message will pop up stating that the certificate has been created successfully. Make sure that the IP address or the domain name is the same as that of the device.
4. Click "Install" and the certificate will be installed on the device.
5. Click "Download" and save the file on the PC.

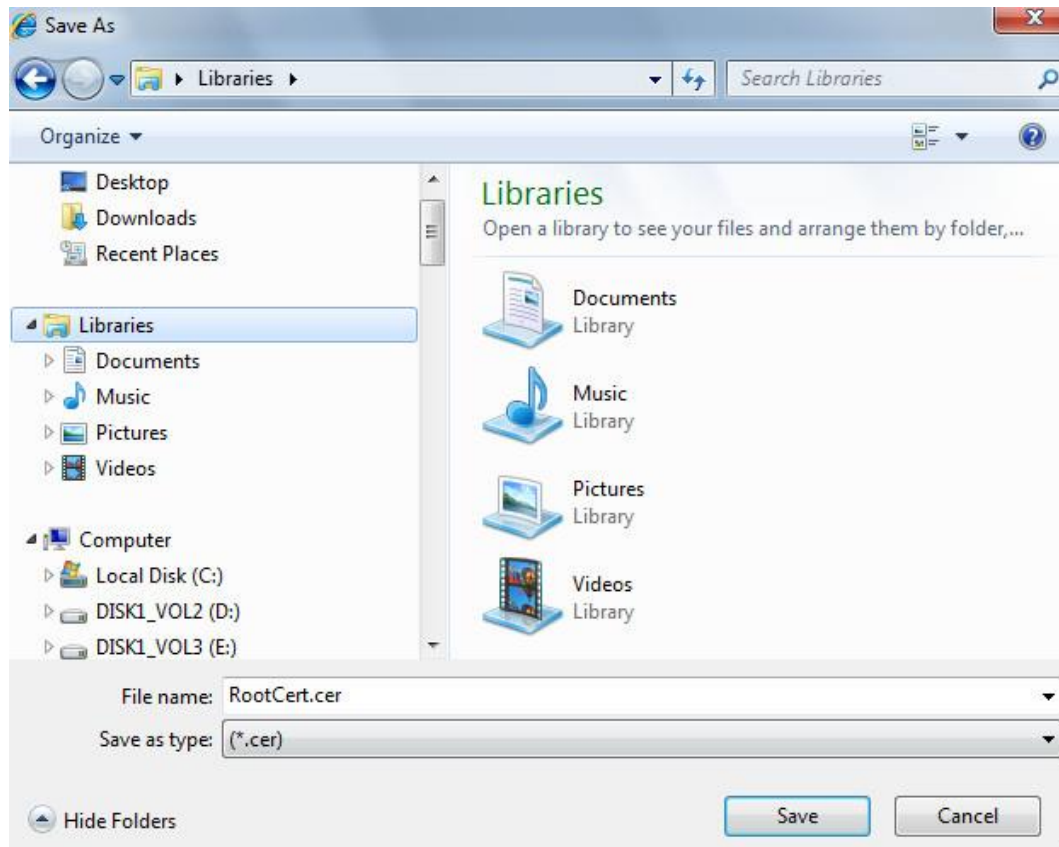


Figure 5-31

6. Double click on the downloaded file. The system will display the shown in Figure 5-32.

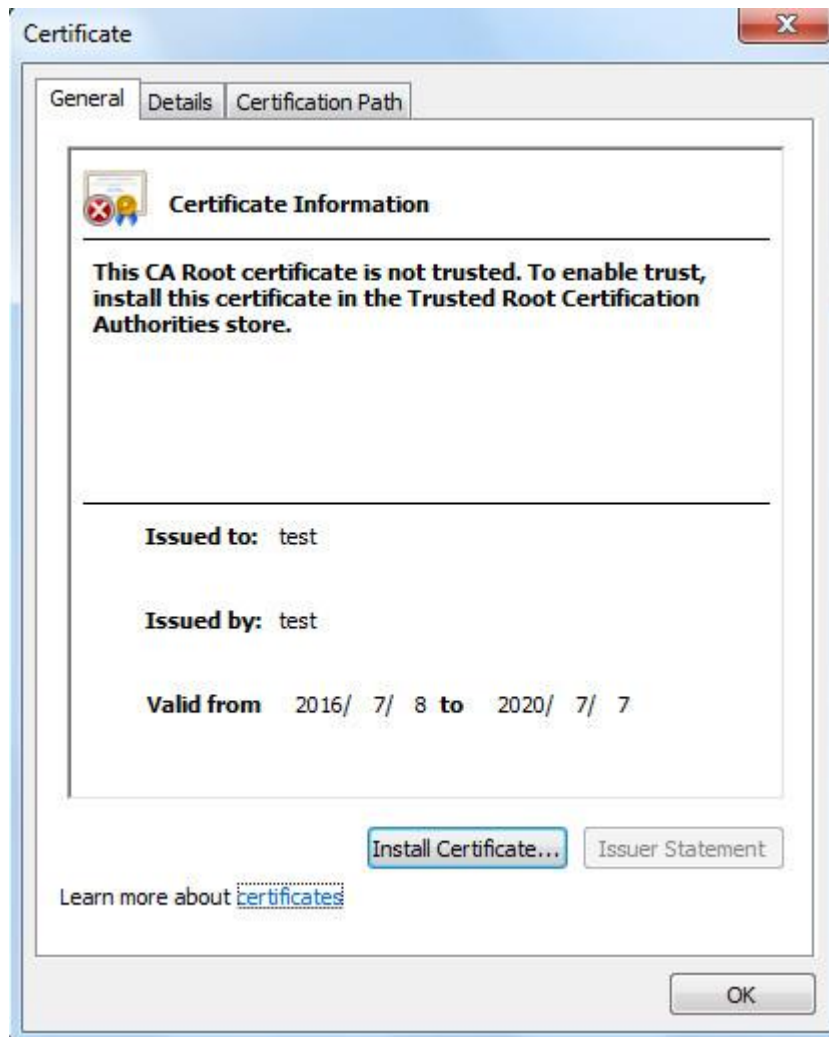


Figure 5-32

7. Click “Install Certificate” and the Certificate Import Wizard will show, shown in Figure 5-33.



Figure 5-33

8. Click "Next" and select "Place all certificates in the following store". Click on Browse and select "Trusted Root Certification Authorities".

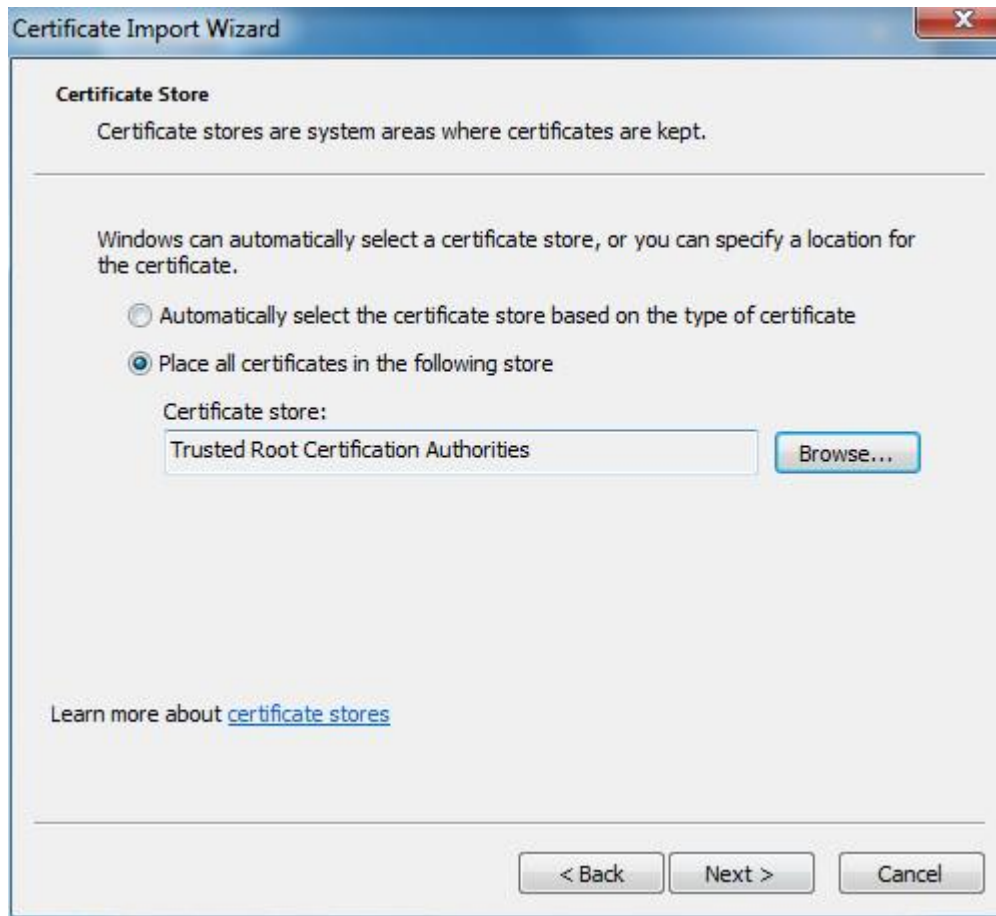


Figure 5-34

9. Click "Next" and "Completing the Certificate Import Wizard" will show, which is shown in Figure 5-35.

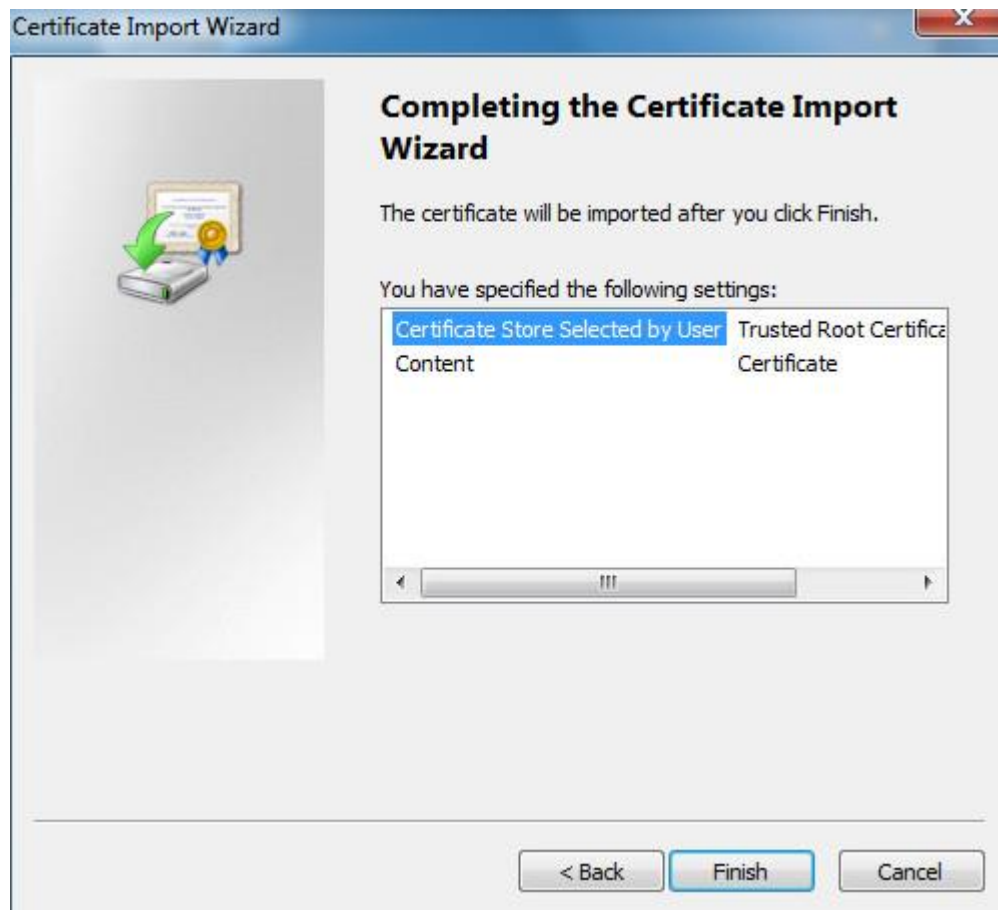


Figure 5-35

10. Click "Finish", and "Security Warning" dialog box will show, which is shown in Figure 5-36.



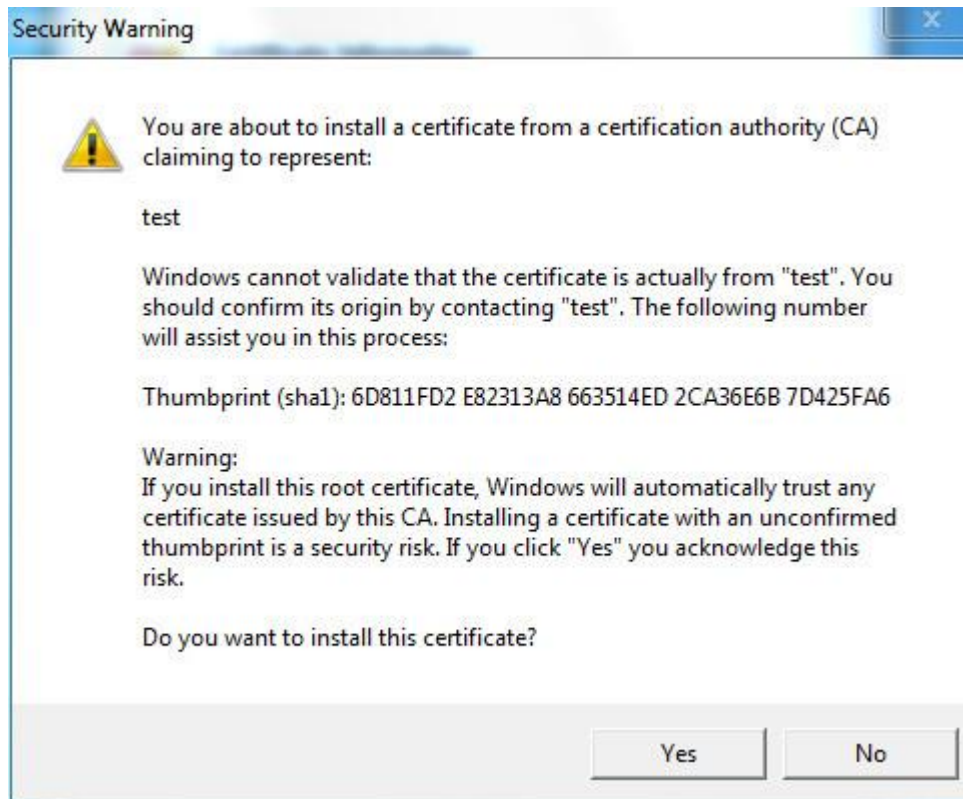


Figure 5-36

11. Click “Yes” and a dialog box will pop up showing that the import was successful. Click “OK” to complete downloading the certificate.



Figure 5-37

- To use the “Install Signed Certificate” option, follow the directions below.
  1. In the HTTPs interface, select the certificate path and the certificate key path and click Upload.
  2. Install the root certificate - refer to steps 6~11 for details.
  3. Check “Enable HTTPs” and click “Save”. The device will reboot.
  4. Use HTTPs to log in by entering the IP address in the browser, starting with **https://**. The browser will show a certificate error if the certificate is not installed, which is shown in Figure 5-38.

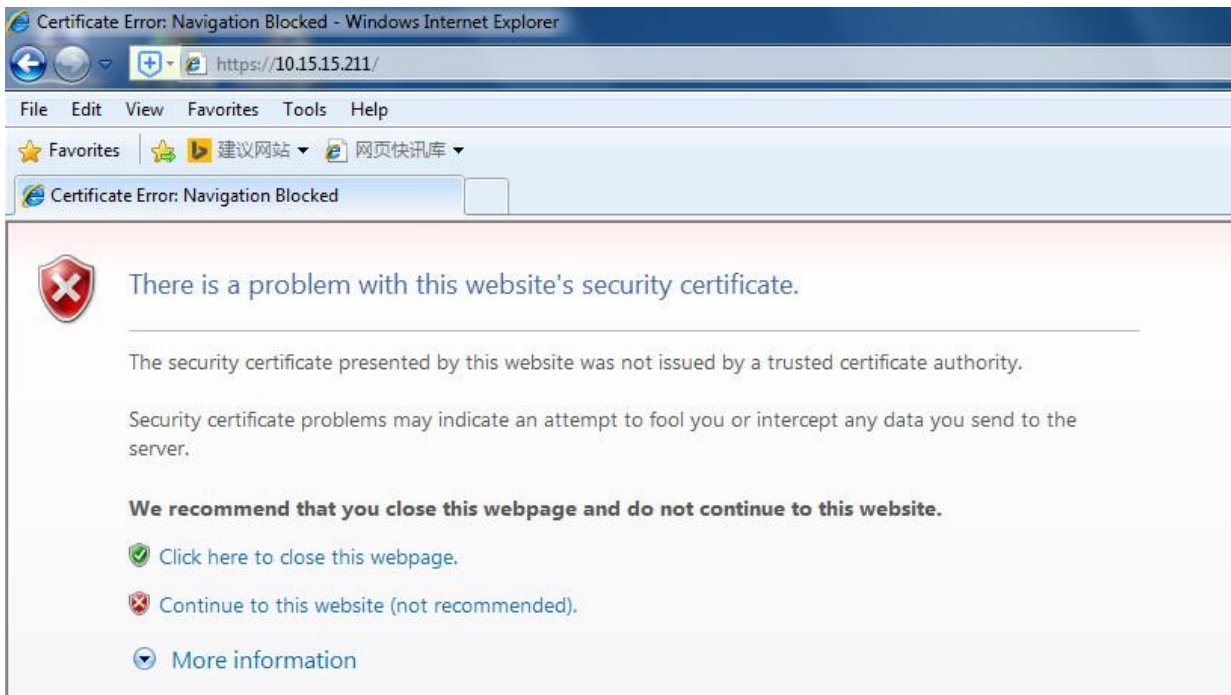


Figure 5-38

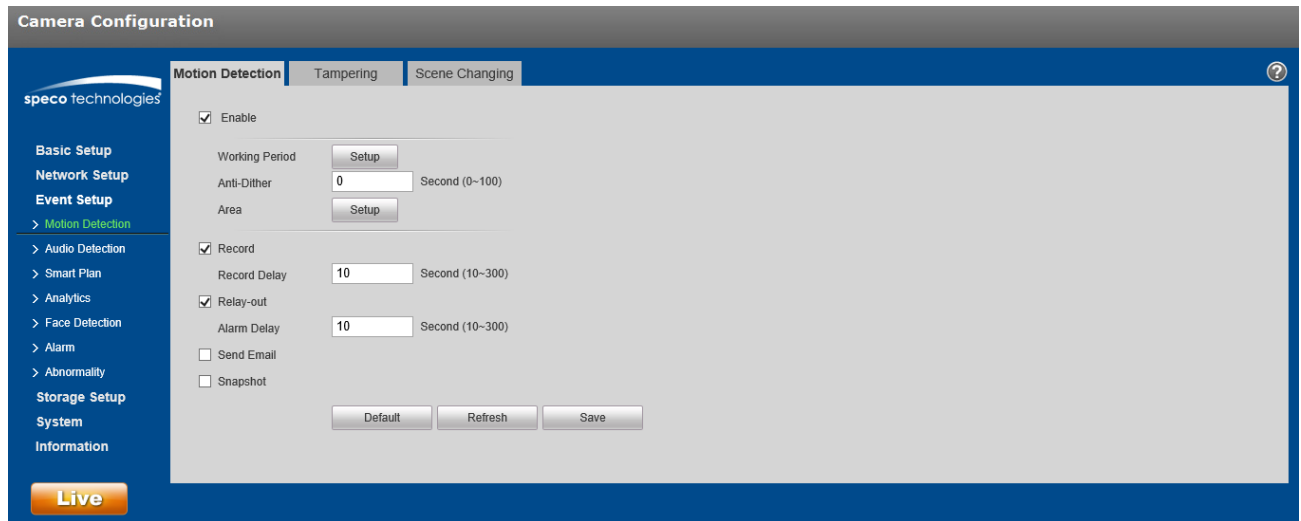
## 5.3 Event Setup

### 5.3.1 Video detection

#### 5.3.1.1 Motion Detection

##### Step 1

Select “Event Setup > Video Detection > Motion Detection” to display the motion detection interface shown in Figure 5-39.



The screenshot shows the 'Camera Configuration' window with the 'Motion Detection' tab selected. The left sidebar contains a navigation menu with options: Basic Setup, Network Setup, Event Setup (highlighted), > Motion Detection (highlighted), > Audio Detection, > Smart Plan, > Analytics, > Face Detection, > Alarm, > Abnormality, Storage Setup, System, and Information. A 'Live' button is at the bottom of the sidebar. The main content area has three tabs: Motion Detection, Tampering, and Scene Changing. Under the Motion Detection tab, there are several settings: 'Enable' is checked; 'Working Period' has a 'Setup' button; 'Anti-Dither' is set to 0 with a range of 0-100; 'Area' has a 'Setup' button; 'Record' is checked with a 'Record Delay' of 10 seconds (range 10-300); 'Relay-out' is checked with an 'Alarm Delay' of 10 seconds (range 10-300); 'Send Email' and 'Snapshot' are unchecked. At the bottom are 'Default', 'Refresh', and 'Save' buttons.

Figure 5-39

##### Step 2

Select “Enable” to enable motion detection.

##### Step 3

Set up motion detection zone.

1. Click “Setup” for Area to show the interface in Figure 5-40.

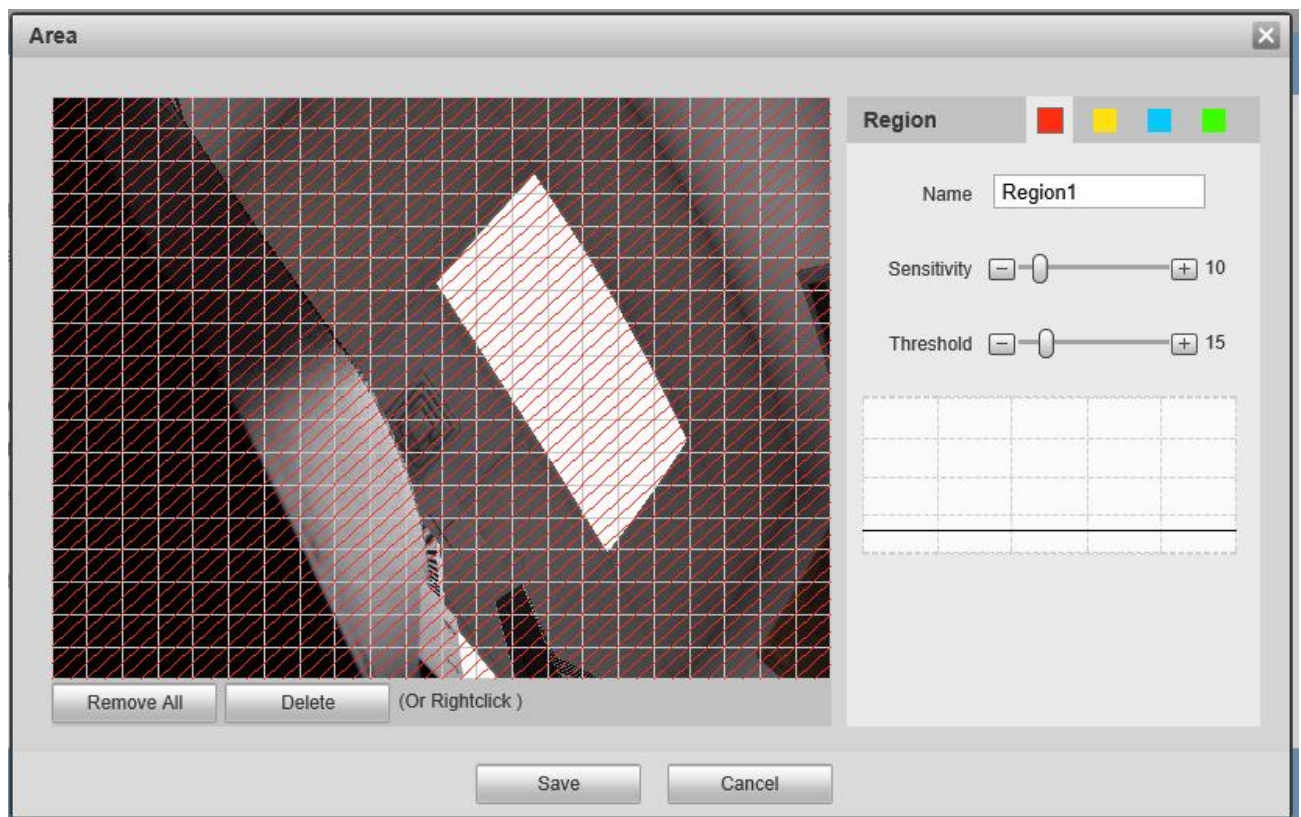


Figure 5-40

2. Up to 4 different zones can be set, with a different set of defined areas, sensitivities, and threshold values. The name field is the nickname for the corresponding zone.
3. Higher sensitivity value means that it is easier to trigger a motion event. The threshold value represents how much of the overall motion detection zone needs to have motion in order for the motion event to trigger. The entire video image is the defined as the motion zone by default.
4. Click "Save" to save the settings.

#### Step 4

Refer to the table below for more details on the parameters.

Parameter	Function
Working Period	<p>Set up the schedule for when motion alarms will get generated by the device.</p> <p><b>Note:</b> In cases where the IP camera is recording to an NVR, if there is a period of time where motion alarm is disabled in the camera, then even if motion recording is enabled on the NVR, the camera will not send any motion alarms to the NVR during that time period.</p>

Parameter	Function
Anti-dither	The device only generates one alarm during the anti-dither period. The value ranges from 0s to 100s.
Area	Motion zone setup, as described in this section.
Record	If enabled, when a motion alarm occurs, the device will record to the destination that's set under the Storage Setup > Destination section.
Record Delay	System can delay the record for specified time after alarm ended. The value ranges from 10s to 300s.
Relay out	Enable it for a relay out to an alarm device. This applies to only models with a relay output connection.
Alarm Delay	System can delay the alarm output for a specified time after the alarm ends.
Send Email	If enabled, the device can send out an email when a motion alarm occurs. An email address must first be set up in Network Setup.
Snapshot	Enable to generate a snapshot when a motion alarm occurs. The snapshot schedule can be set up in Storage>Schedule.

## Step 5

Click “Save” to save the settings.

## 5.3.1.2 Tampering

## Step 1

Go to the Tampering tab to display the interface of “Video Tampering” which is shown in Figure 5-41.

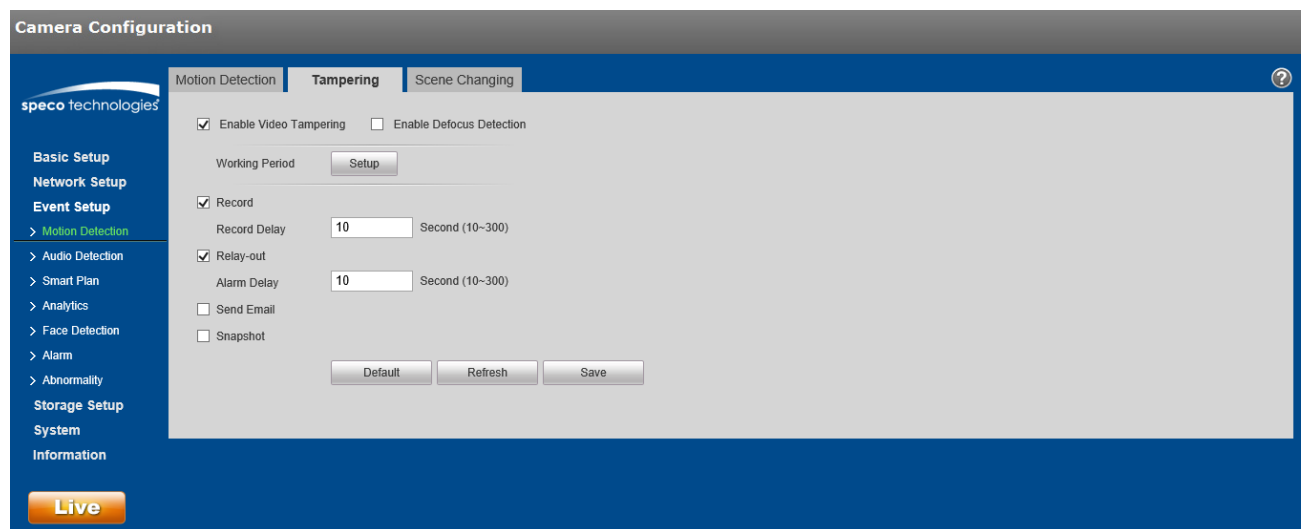


Figure 5-41

## Step 2

Set up the parameters. The parameters for alarm actions are the same as motion detection.

#### Step 3

Click “Save” to save the settings.

### 5.3.1.3 Scene Changing

#### Step 1

Go to the Scene Changing tab to display the interface of “Scene Changing”. Scene Changing will generate an alarm when the scene in the video image changes drastically.

#### Step 2

Check “Enable” to enable the function of scene changing.

#### Step 3

Set up the parameters. The parameters for alarm actions are the same as motion detection.

#### Step 4

Click “Save” to complete the setup of scene changing.

## 5.3.2 Audio Detection

#### Step 1

Select “Event Setup > Audio Detection” to display the interface of “Audio Detection” which is shown in Figure 5-42.

Camera Configuration

speco technologies

Basic Setup

Network Setup

Event Setup

> Motion Detection

> Audio Detection

> Smart Plan

> Analytics

> Face Detection

> Alarm

> Abnormality

Storage Setup

System

Information

Live

Audio Detection

☐ Enable Input Abnormal

☐ Enable Intensity Change

Sensitivity

-

+

50

Threshold

-

+

50

Working Period

Setup

Anti-Dither

5

Second (0~100)

☒ Record

Record Delay

10

Second (10~300)

☒ Relay-out

Alarm Delay

10

Second (10~300)

☐ Send Email

☐ Snapshot

Default

Refresh

Save

Figure 5-42

Step 2

Refer to the table below for more details on the parameters.

Parameter	Function
Enable input abnormal	If enabled, an alarm will be triggered when there is abnormal audio being detected.
Enable intensity change	If enabled, an alarm will be triggered if the volume intensity of the audio exceeds the threshold.
Sensitivity	Sensitivity for abnormal audio volume.
Threshold	Threshold for volume intensity.
Working Period	Set up the schedule for when alarms will get generated by the device.

Parameter	Function
Anti-dither	The device only generates one alarm during the anti-dither period. The value ranges from 0s to 100s.
Record	If enabled, when an alarm occurs, the device will record to the destination that's set under the Storage Setup > Destination section.
Record Delay	System can delay the record for specified time after alarm ended. The value ranges from 10s to 300s.
Relay out	Enable it for a relay out to an alarm device. This applies to only models with a relay output connection.
Alarm Delay	System can delay the alarm output for a specified time after the alarm ends.
Send Email	If enabled, the device can send out an email when an alarm occurs. An email address must first be set up in Network Setup.
Snapshot	Enable to generate a snapshot when an alarm occurs. The snapshot schedule can be set up in Storage>Schedule.

### Step 3

Click "Save" to save the settings.



### 5.3.3 Smart Plan

Specific models may have different types of intelligent video functions. Only one type of analytic function can be utilized at a time, which can be enabled in Smart plan.

#### Step 1

Select “Event Setup > Smart Plan”, as shown in Figure 5-43.



Figure 5-43

#### Step 2

Click “Save” to save the settings.

### 5.3.4 Intelligent Video

Basic requirements of scene selection to take into consideration:

- The total size of the target should not be larger than 10% of the image.
- The target size in the image should be larger than 15x15.
- The difference of the brightness value between the target and the background should not be less than 10 gray levels.
- Target should appear in the image at least 2 seconds continuously. The movement distance has to be bigger than the width of the target itself and no less than 15 pixels.
- It is recommended to not use analytics in areas where lighting changes frequently and surfaces are reflective.

#### 5.3.4.1 Analytics

##### 5.3.4.1.1 Tripwire


An alarm will be triggered when the target crosses the line according to the movement direction that has been set.

There needs to be some time from when the target appears to when the target is confirmed, so there should be some space on both sides of the line.

#### Step 1

Select “Event Setup > Analytics”.

#### Step 2

Click “” to set the rule name and select the rule type as “Tripwire” as shown in Figure 5-44.

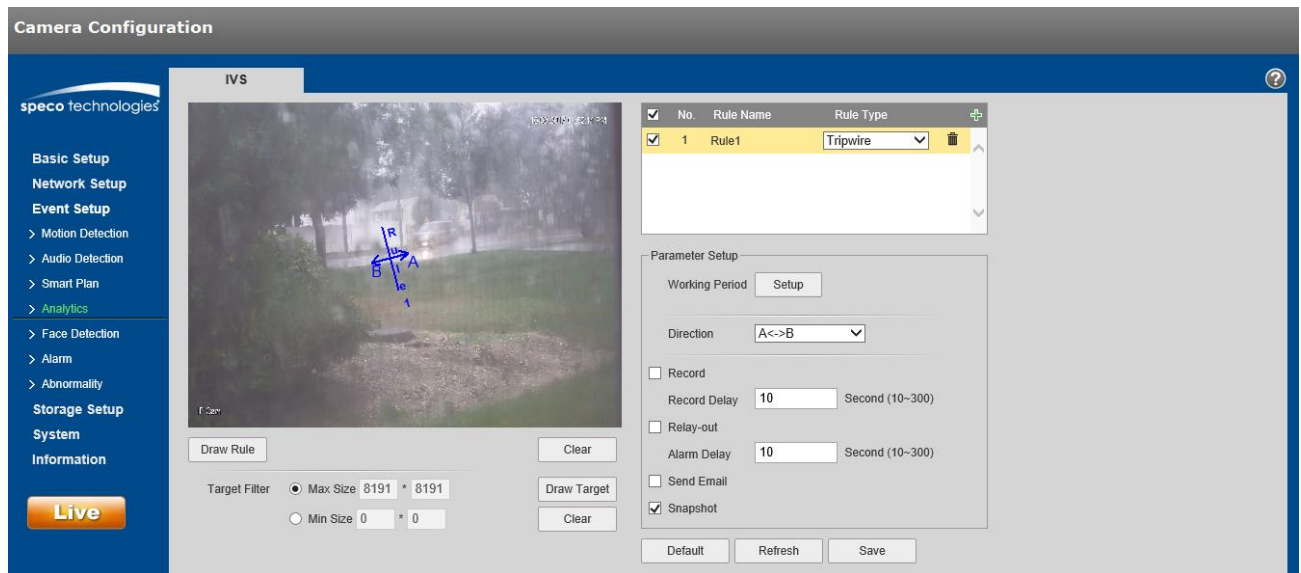


Figure 5-44

#### Step 3

Click “Draw Rule” to draw a line in the scene. Click the right mouse button to complete the setting.

#### Step 4

Click “Draw Target” to set the size of the target in the image.

#### Step 5

Refer to the following table for more details on the parameters.

Parameter	Function
Working Period	Set up the schedule for when alarms will get generated by the device.
Direction	Sets the direction of tripwire. Options are: A->B, B->A, or A<->B.
Record	If enabled, when an alarm occurs, the device will record to the destination that's set under the Storage Setup > Destination section.

Parameter	Function
Record Delay	System can delay the record for specified time after alarm ended. The value ranges from 10s to 300s.
Relay out	Enable it for a relay out to an alarm device. This applies to only models with a relay output connection.
Alarm Delay	System can delay the alarm output for a specified time after the alarm ends.
Send Email	If enabled, the device can send out an email when an alarm occurs. An email address must first be set up in Network Setup.
Snapshot	Enable to generate a snapshot when an alarm occurs. The snapshot schedule can be set up in Storage>Schedule.

## Step 5


Click “Save” to save the settings.

### 5.3.4.2 Intrusion

Intrusion includes these actions: cross and appears.

- Cross means that an alarm will be triggered when the target enters or exits the area.
- Appears means that an alarm will be triggered when the target appears in the area.

## Step 1

In the IVS tab, click “” to set rule name and select the rule type as “Intrusion” as shown in Figure 5-45.

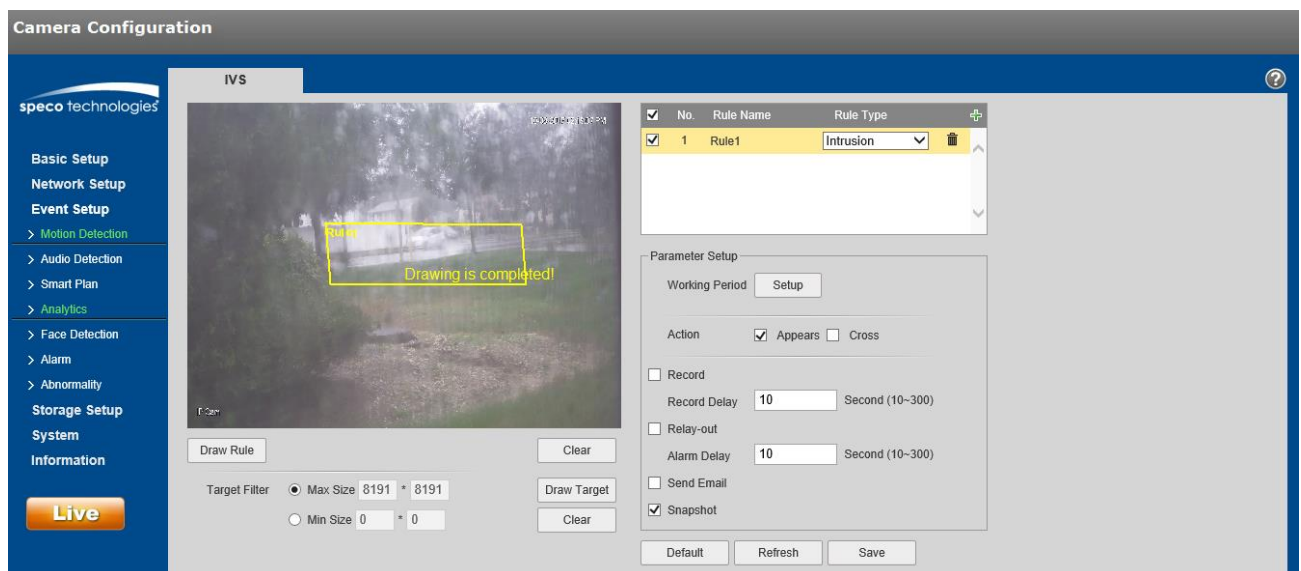


Figure 5-45

## Step 2

Click “Draw Rule” to draw an area in the image.

### Step 3

Click “Draw Target” to set the size of the target in the image.

### Step 4

Refer to the following table for more details on the parameters.

Parameter	Function
Working Period	Set up the schedule for when alarms will get generated by the device.
Action	Select Appears or Cross.
Record	If enabled, when an alarm occurs, the device will record to the destination that’s set under the Storage Setup > Destination section.
Record Delay	System can delay the record for specified time after alarm ended. The value ranges from 10s to 300s.
Relay out	Enable it for a relay out to an alarm device. This applies to only models with a relay output connection.
Alarm Delay	System can delay the alarm output for a specified time after the alarm ends.
Send Email	If enabled, the device can send out an email when an alarm occurs. An email address must first be set up in Network Setup.
Snapshot	Enable to generate a snapshot when an alarm occurs. The snapshot schedule can be set up in Storage>Schedule.

### Step 5


Click “Save” to save the settings.

#### 5.3.4.3 Abandoned Object

Abandoned object means that an alarm will be triggered if an object has been left in the scene for longer than the time limit that has been set.

To avoid false alarms caused by people or vehicles, the size of the object generally should be smaller than people or vehicles.

### Step 1

In the IVS tab, click “” to set the rule name and select the rule type as “Abandoned Object” as shown in Figure 5-46.

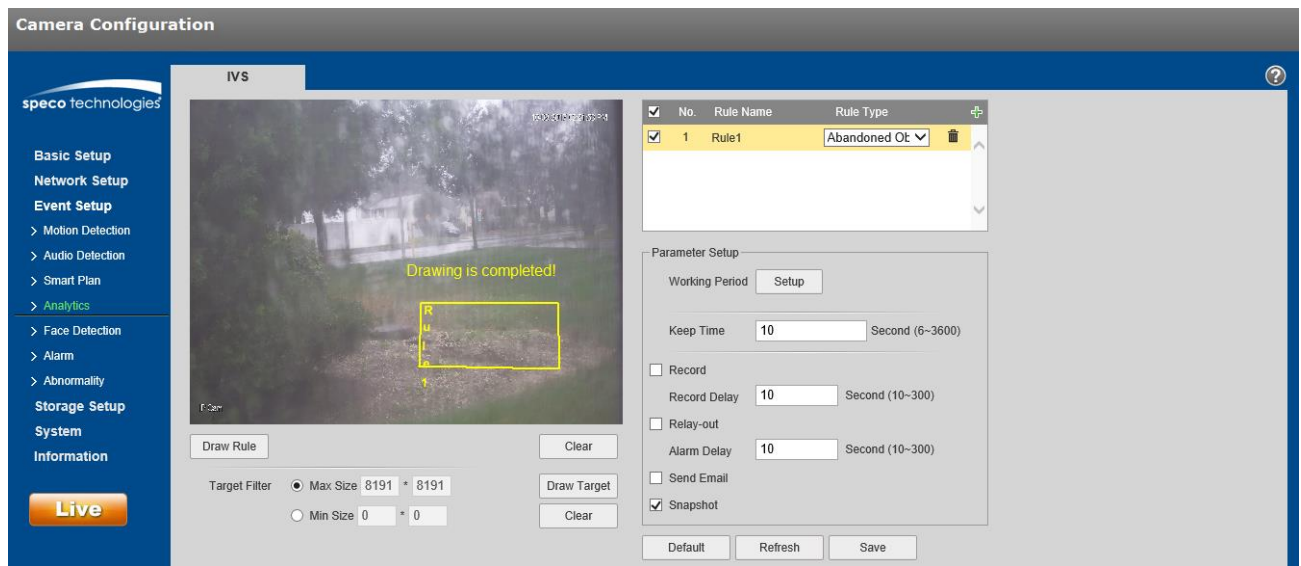


Figure 5-46

**Step 2**

Click “Draw Rule” to draw an area in the image.

**Step 3**

Click “Draw Target” to set the size of the target in the image.

**Step 4**

Refer to the following table for more details on the parameters.

Parameter	Function
Working Period	Set up the schedule for when alarms will get generated by the device.
Keep time	Time limit before alarm is triggered.
Record	If enabled, when an alarm occurs, the device will record to the destination that’s set under the Storage Setup > Destination section.
Record Delay	System can delay the record for specified time after alarm ended. The value ranges from 10s to 300s.
Relay out	Enable it for a relay out to an alarm device. This applies to only models with a relay output connection.
Alarm Delay	System can delay the alarm output for a specified time after the alarm ends.
Send Email	If enabled, the device can send out an email when an alarm occurs. An email address must first be set up in Network Setup.
Snapshot	Enable to generate a snapshot when an alarm occurs. The snapshot schedule can be set up in Storage>Schedule.


## Step 5

Click “Save” to save the settings.

### 5.3.4.4 Missing Object

Missing object means that an alarm will be triggered if an object has been removed from the scene for longer than the time limit that has been set.

## Step 1

In the IVS tab, click “” to set the rule name and select the rule type as “Missing Object”, as shown in Figure 5-47.

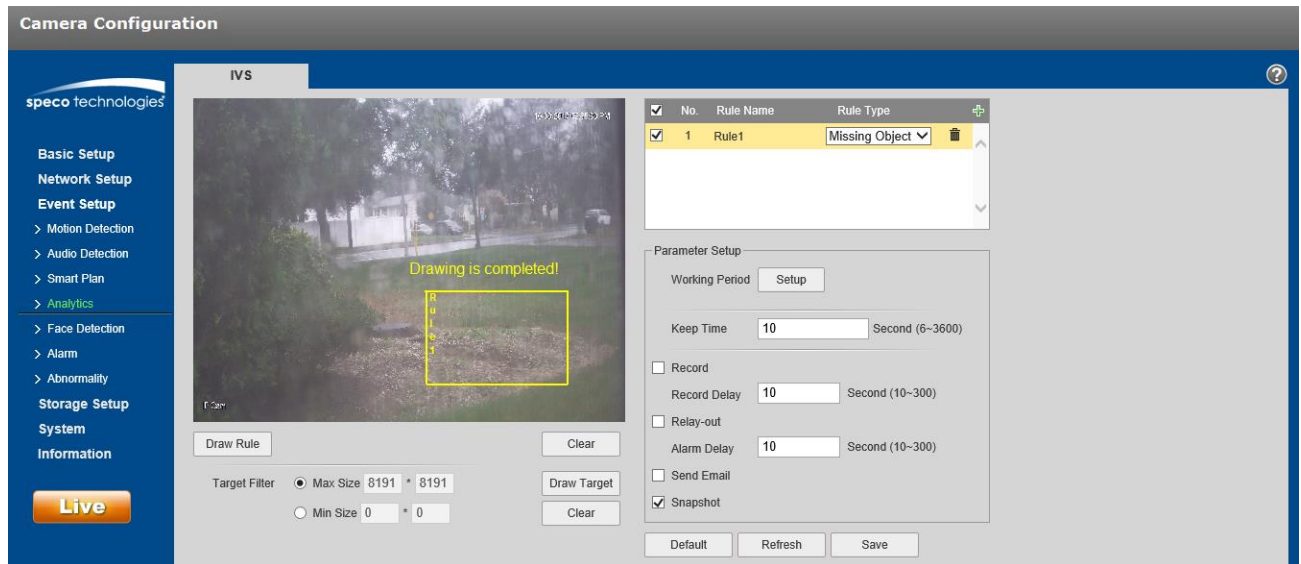


Figure 5-47

## Step 2

Click “Draw Rule” to draw an area in the image.

## Step 3

Click “Draw Target” to set the size of the target in the image.

## Step 4

Refer to the following table for more details on the parameters.

Parameter	Function
Working Period	Set up the schedule for when alarms will get generated by the device.

Parameter	Function
Keep time	Time limit before alarm is triggered.
Record	If enabled, when an alarm occurs, the device will record to the destination that's set under the Storage Setup > Destination section.
Record Delay	System can delay the record for specified time after alarm ended. The value ranges from 10s to 300s.
Relay out	Enable it for a relay out to an alarm device. This applies to only models with a relay output connection.
Alarm Delay	System can delay the alarm output for a specified time after the alarm ends.
Send Email	If enabled, the device can send out an email when an alarm occurs. An email address must first be set up in Network Setup.
Snapshot	Enable to generate a snapshot when an alarm occurs. The snapshot schedule can be set up in Storage>Schedule.

#### Step 5

Click “Save” to save the settings.

### 5.3.5 Face Detection

#### Step 1

Select “Event Setup > Face Detection” to display the “Face Detection” interface, shown in Figure 5-48.

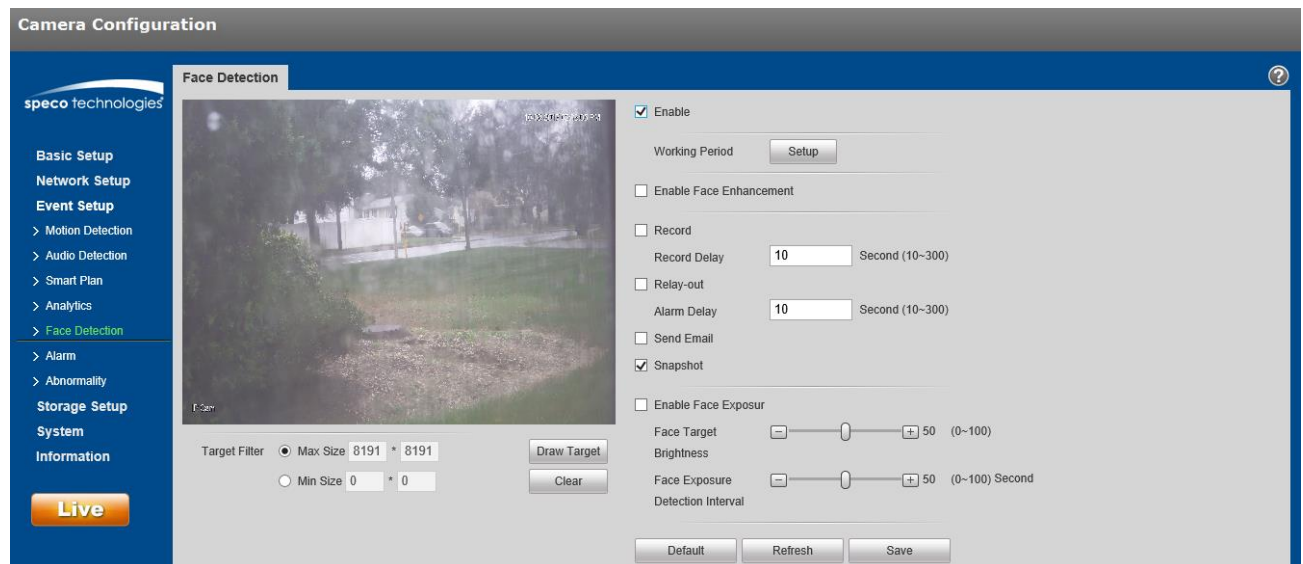


Figure 5-48

#### Step 2

Select “Enable” to enable the face detection function.

### Step 3

Click “Draw Target” to set the size of the target in the image.

### Step 4

Refer to the following table for more details on the parameters.

Parameter	Function
Working Period	Set up the schedule for when alarms will get generated by the device.
Enable Face Enhancement	Select “Enable Face Enhancement” to enhance the face image when the stream quality is very low.
Record	If enabled, when an alarm occurs, the device will record to the destination that’s set under the Storage Setup > Destination section.
Record Delay	System can delay the record for specified time after alarm ended. The value ranges from 10s to 300s.
Relay out	Enable it for a relay out to an alarm device. This applies to only models with a relay output connection.
Alarm Delay	System can delay the alarm output for a specified time after the alarm ends.
Send Email	If enabled, the device can send out an email when an alarm occurs. An email address must first be set up in Network Setup.
Snapshot	Enable to generate a snapshot when an alarm occurs. The snapshot schedule can be set up in Storage>Schedule.

### Step 5

Click “Save” to save the settings.

## 5.3.6 Heat Map

### 5.3.6.1 Heat Map

Heat map is the set of heat statistics of a moving object, for which a report can be generated. The color range is from blue to red, where blue means the minimum heat value and red means the maximum heat value.

When heat map is used, mirroring, view angle changes and heat map’s original data will be cleared.

### Step 1

Select “Event Setup > Heat Map > Heat Map” and to display the “Heat Map” interface, shown in Figure 5-49.



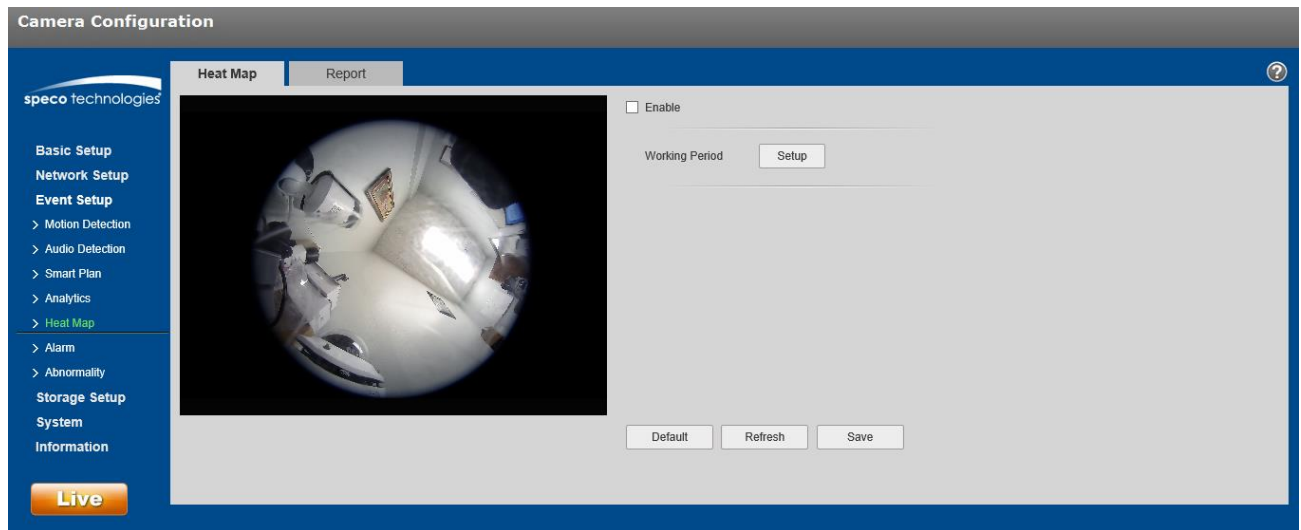


Figure 5-49

Step 2

Select “Enable” to enable the heat map function.

Step 3

Set the schedule, in the same way as motion schedule setup.

Step 4

Click “Save” to save the settings.

### 5.3.6.2 Report

Step 1

Select the Report tab, as shown in Figure 5-50.

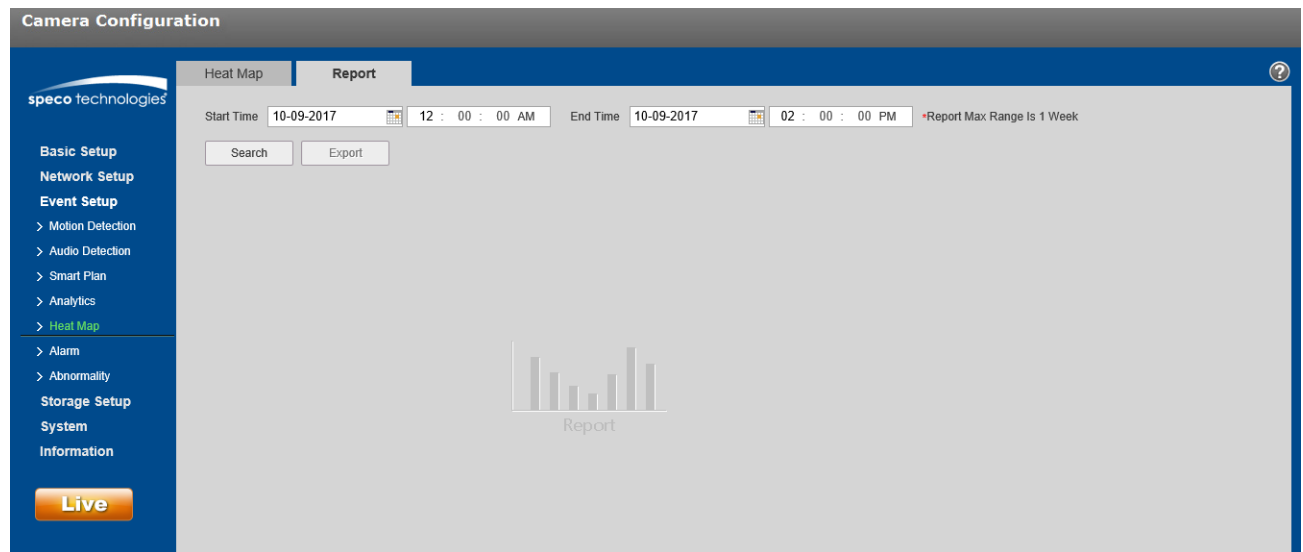


Figure 5-50

### Step 2

Set the begin time and the end time for the report.

### Step 3

Click “Search” to generate the statistics and then click “Export” to export the report.

5.3.7 Alarm

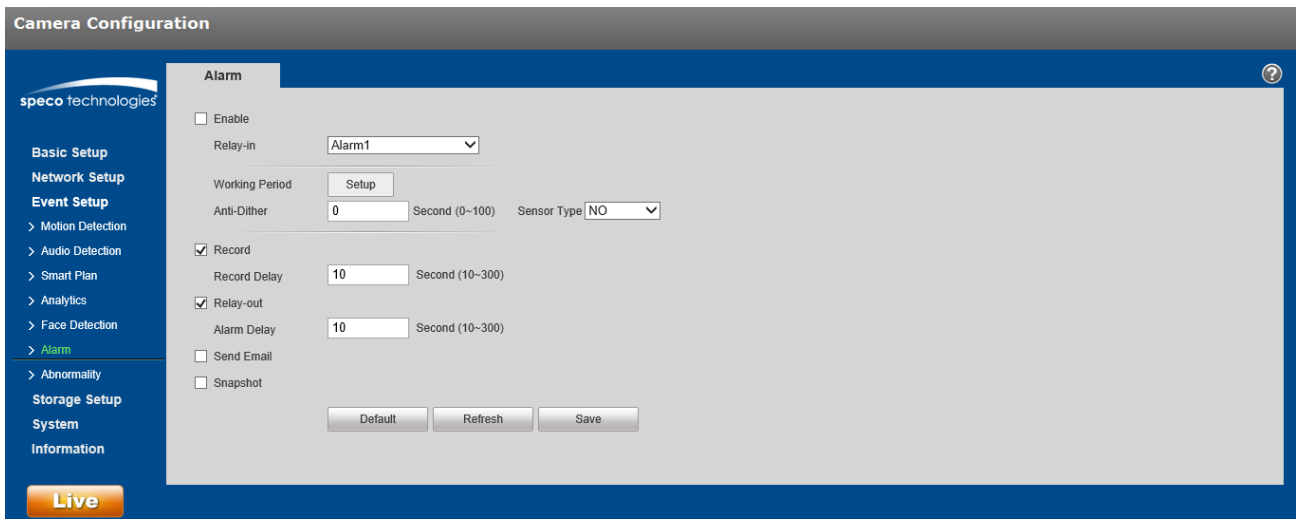


Figure 5-51

Parameter	Function
Enable	Check to enable relay output.
Relay-in	The default is alarm 1. Some models may have alarm 2.
Sensor Type	Select between normally open (NO) and normally closed (NC).

5.3.8 Abnormality

Abnormality includes: No SD Card, Capacity Warning, SD Card Error, Disconnection, IP Conflict and Unauthorized Access.

Note:

Models with an SD card slot have these functions: No SD card, capacity warning, and SD card error.

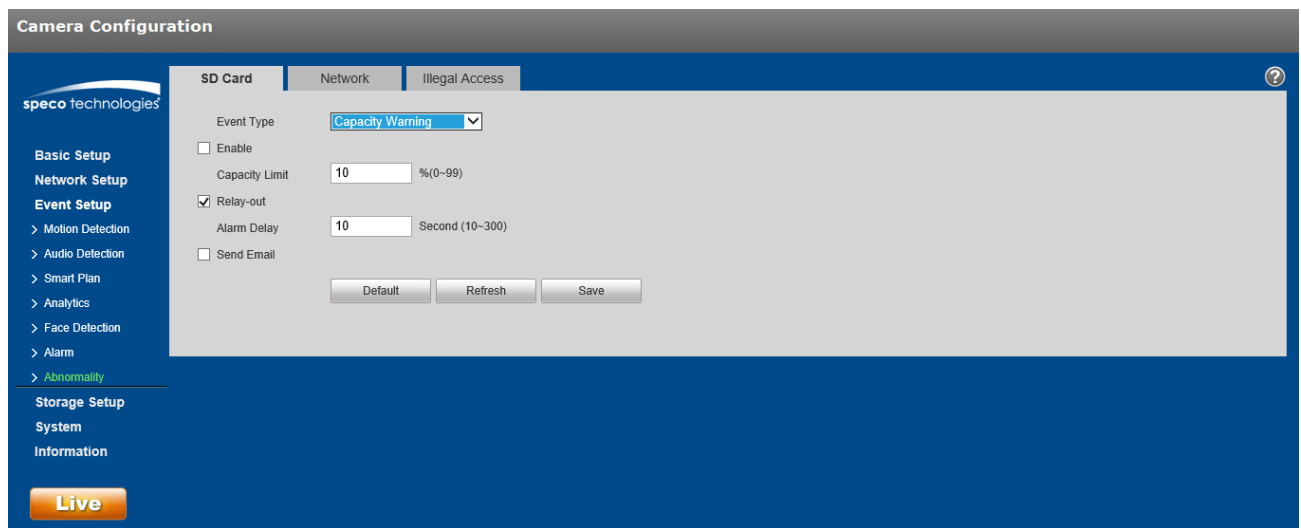


Figure 5-52

Please refer to the following sheet for detailed information.

Parameter	Function
Enable	Check to enable alarm when SD card is abnormal.
Relay out	Enable it for a relay out to an alarm device. This applies to only models with a relay output connection.
Alarm Delay	System can delay the alarm output for a specified time after the alarm ends.
Send email	If enabled, the device can send out an email when an alarm occurs. An email address must first be set up in Network Setup.
SD Card Capacity Limit	An alarm can be generated when the free space of the SD card is less than the capacity set here.

For offline device or IP conflict, the scenario is similar to SD card alarm. See Figure 5-53.

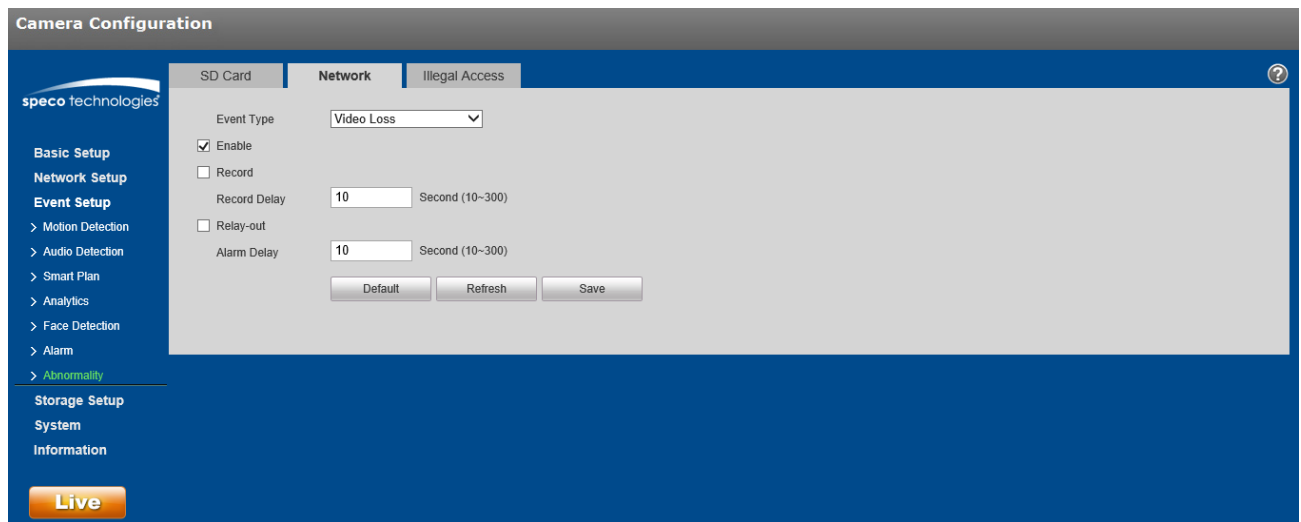


Figure 5-53

For illegal access, when the credentials are entered illegally, an alarm will be generated each time, up to the number of the times that has been set. When the limit is exceeded, the user account will be locked for 30 minutes.

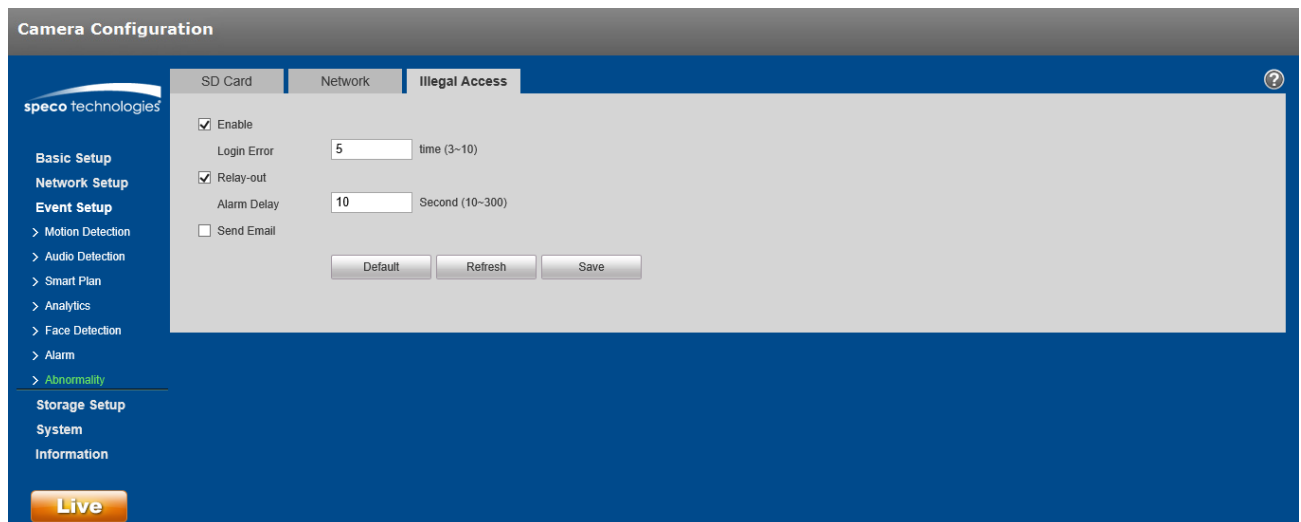


Figure 5-54

## 5.4 Storage Management

### 5.4.1 Schedule

Note:

The record mode found in the Record Control section must be set to Auto or Manual for the device to record according to the set schedule.

#### 5.4.1.1 Record Schedule

Step 1. Click on the Record Schedule tab under “Storage Setup > Schedule”, as shown in Figure 5-55.

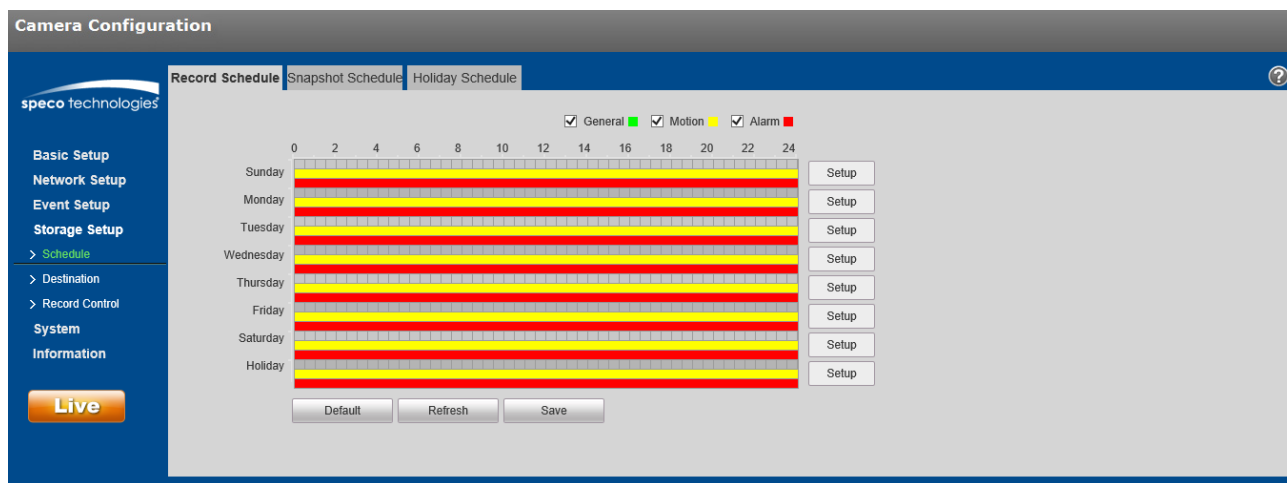


Figure 5-55

Step 2. Click on Setup on the right for the day for the schedule to be set, as shown in Figure 5-56.

- Set the time periods as necessary. Up to six periods can be set for each day. The periods can be copied to each necessary day of the week.
- Three types of recording can be scheduled: General (continuous), Motion, and Alarm.

Note:

The schedule can also be set up by dragging the mouse over a time period in the Record Schedule interface (Figure 5-55).

**Setup**

☐ All
 ☒ **Sunday**
☐ Monday
 ☐ Tuesday
 ☐ Wednesday
 ☐ Thursday
 ☐ Friday
 ☐ Saturday
 ☐ Holiday

Period	Start Time	End Time	General	Motion	Alarm
Period1	00 : 00 : 00	23 : 59 : 59	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Period2	00 : 00 : 00	23 : 59 : 59	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Period3	00 : 00 : 00	23 : 59 : 59	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Period4	00 : 00 : 00	23 : 59 : 59	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Period5	00 : 00 : 00	23 : 59 : 59	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Period6	00 : 00 : 00	23 : 59 : 59	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Figure 5-56

Step 3. Click Save to return to the record schedule interface.

- Green color stands for continuous record/snapshot.
- Yellow color stands for motion detection record/snapshot.
- Red color stands for alarm record/snapshot.

Step 4. Click Save to save the settings.

#### 5.4.1.2 Snapshot Schedule

The Snapshot schedule is set up in the same manner as Record Schedule. The interface is shown in Figure 5-57.

**Camera Configuration**

Record Schedule | **Snapshot Schedule** | Holiday Schedule

☒ General
 ☒ Motion
 ☒ Alarm

Day	0	2	4	6	8	10	12	14	16	18	20	22	24	Setup
Sunday	[Yellow bar]													Setup
Monday	[Red bar]													Setup
Tuesday	[Red bar]													Setup
Wednesday	[Yellow bar]													Setup
Thursday	[Yellow bar]													Setup
Friday	[Red bar]													Setup
Saturday	[Red bar]													Setup
Holiday	[Yellow bar]													Setup

Figure 5-57

### 5.4.1.3 Holiday Schedule

Specific days such as holidays can be set up to have a different schedule.

Step 1. Click on the Holiday Schedule tab, as shown in Figure 5-58.

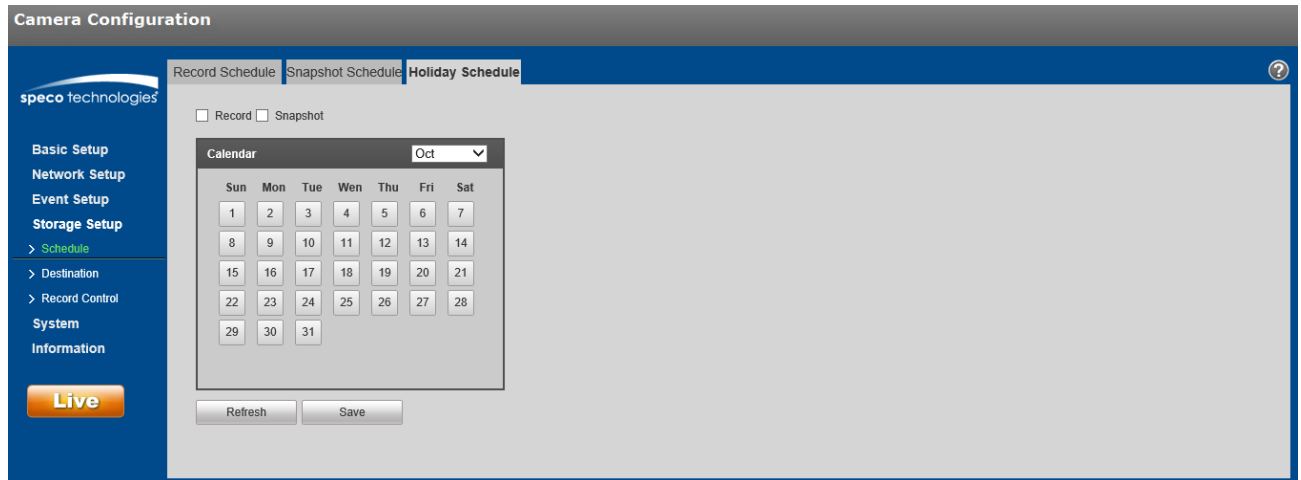


Figure 5-58

Step 2. Select a date to set as a holiday. The selected date will be highlighted in yellow.

Step 3. Check Record and/or Snapshot for the desired recording mode and then click on Save.

Step 4. In the Record Schedule interface or the Snapshot Schedule interface, click on setup next to Holiday and set up the time periods accordingly.

Step 5. Click Save to save the settings.

## 5.4.2 Destination

### 5.4.2.1 Path

The destination interface is shown in Figure 5-59.

Each of the 3 recording modes can be set up under 3 options: Local (SD card), FTP, and NAS. This applies to both record and snapshot. Only one option can be chosen.



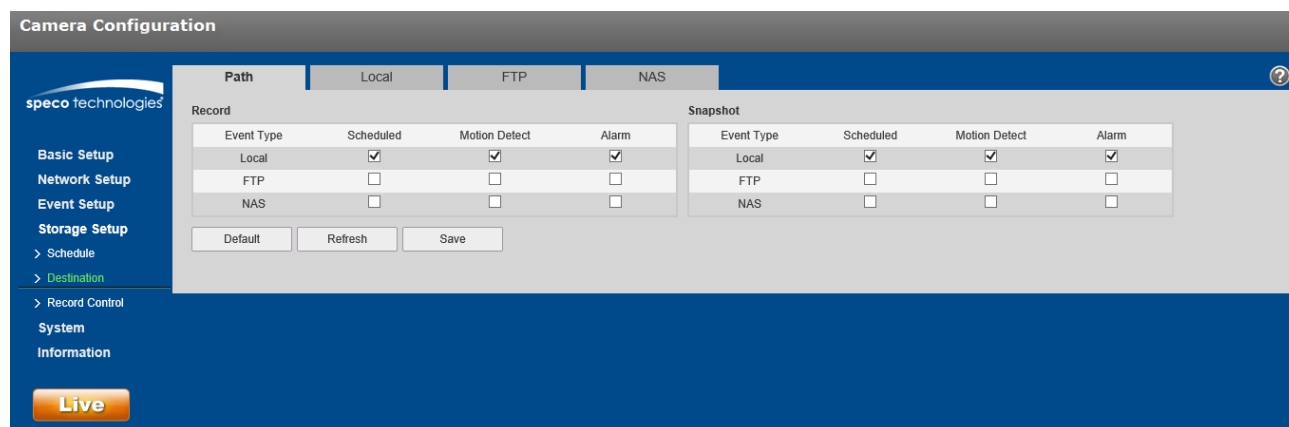


Figure 5-59

#### 5.4.2.2 Local

The local interface is shown in Figure 5-60.

In this interface, information about the Micro SD card is displayed. The card can be also formatted through this interface.

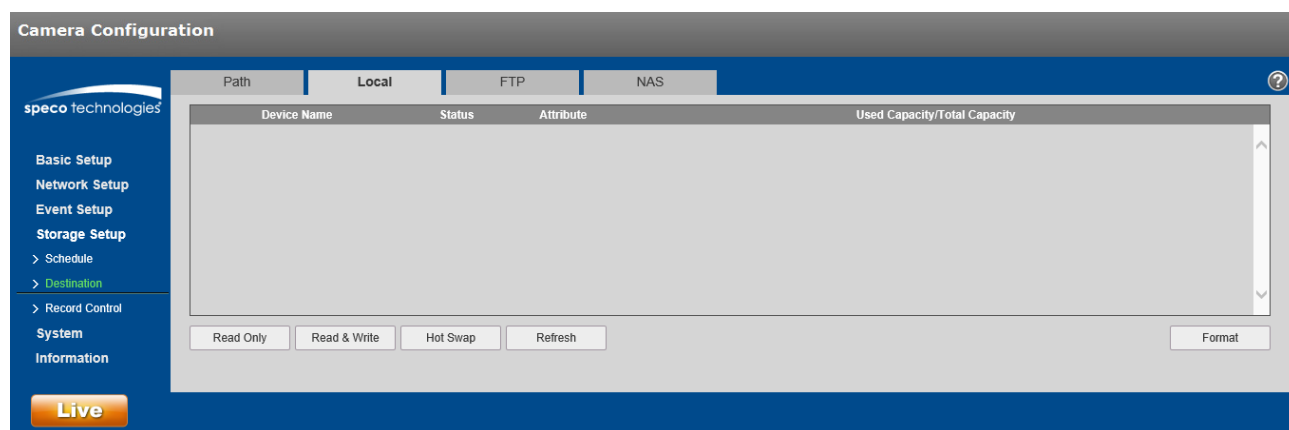


Figure 5-60

#### 5.4.2.3 FTP

The FTP interface is shown in Figure 5-61.

Check the box to enable the FTP function. Enter the applicable FTP connection information. Click the test button to check if the FTP server can be contacted properly.

The screenshot shows the 'Camera Configuration' web interface. On the left is a navigation menu with the 'speco technologies' logo and links for Basic Setup, Network Setup, Event Setup, Storage Setup, Schedule, Destination (highlighted), Record Control, System, and Information. A 'Live' button is at the bottom left. The main area has tabs for Path, Local, FTP, and NAS. The 'FTP' tab is active, displaying a form with an 'Enable' checkbox, 'Server Address' (0.0.0.0), 'Port' (21), 'User Name' (anonymity), 'Password' (empty), 'Remote Directory' (share), and an 'Emergency (Local)' checkbox. 'Default', 'Refresh', and 'Save' buttons are at the bottom of the form.

Figure 5-61

#### 5.4.2.4 NAS

Check the box to enable the NAS function. Enter the applicable connection information. See Figure 5-62.

This screenshot is similar to Figure 5-61 but with the 'NAS' tab selected. The 'Enable' checkbox is now checked. The 'Server Address' field remains '0.0.0.0', and the 'Remote Directory' field is empty. The 'Default', 'Refresh', and 'Save' buttons are still present at the bottom of the form.

Figure 5-62

### 5.4.3 Record control

The record control interface is shown in Figure 5-63.

The screenshot shows the 'Camera Configuration' window with the 'Record Control' tab selected. The interface includes a sidebar with navigation options: Basic Setup, Network Setup, Event Setup, Storage Setup, > Schedule, > Destination, > Record Control (highlighted), System, and Information. The main area contains the following settings:

- Pack Duration: 8 Minute (1~120)
- Pre-event Record: 5 Second (0~5)
- Disk Full: Overwrite (dropdown menu)
- Record Mode: ☒ Auto ☐ Manual ☐ Off
- Record Stream: Main Stream (dropdown menu)

At the bottom of the settings area are three buttons: Default, Refresh, and Save. A 'Live' button is located at the bottom left of the window.

Figure 5-63

Refer to the following table for more information.

Parameter	Function
Pack Duration	Refers to the duration of each file that gets saved. Default is 8 minutes.
Pre-record	Refers to the duration of the recording before the actual event that gets saved.
Disk Full	<ul style="list-style-type: none"><li>● Stop: Stops recording if storage is full</li><li>● Overwrite: Starts to overwrite the oldest recordings if storage is full</li></ul>
Record mode	Auto / Manual / Off. "Off" must not be chosen for the schedule to take effect.
Record stream	Choose between main stream and sub stream.

## 5.5 System

### 5.5.1 General

The General interface is shown in Figure 5-64.

The screenshot shows the 'Camera Configuration' web interface. The title bar is 'Camera Configuration'. On the left is a sidebar with the 'speco technologies' logo and a menu: 'Basic Setup', 'Network Setup', 'Event Setup', 'Storage Setup', 'System', '> General' (highlighted), '> User Admin', '> Factory Default', '> Import/Export', '> Auto Maintain', '> Upgrade', and 'Information'. At the bottom of the sidebar is a 'Live' button. The main content area has two tabs: 'General' (active) and 'Date&Time'. Under the 'General' tab, there are four fields: 'Device Name' with the value '80037071548', 'Language' with a dropdown set to 'English', 'Video Standard' with a dropdown set to 'NTSC', and 'TVOut' with a dropdown set to 'ON'. Below these fields are three buttons: 'Default', 'Refresh', and 'Save'. A help icon (?) is in the top right corner of the main area.

Figure 5-64

Parameter	Function
Device Name	Nickname for the device can be set here. By default, the serial number of the device is shown.
Video Standard	Displays the video standard, which is NTSC for North America.
TV Out	Some models will have a TV output option. This can be turned on/off.

The Date & Time interface is shown as in Figure 5-65.

The screenshot shows the 'Camera Configuration' web interface with the 'Date & Time' tab selected. The left sidebar contains navigation links: Basic Setup, Network Setup, Event Setup, Storage Setup, System, General (selected), User Admin, Factory Default, Import/Export, Auto Maintain, Upgrade, and Information. A 'Live' button is visible at the bottom of the sidebar. The main content area displays the following settings:

- Date Format:** Month-Day-Year
- Time Format:** 12-Hour-based System
- Time Zone:** GMT-05:00
- Current Time:** 10-13-2017 03 : 55 : 56 PM (with a 'Sync PC' button)
- DST Enable:** ☒ (checked)
- DST Type:** ☐ Date ☒ Week
- Start Time:** Mar 2nd Sunday 02 : 00 : 00 AM
- End Time:** Nov 1st Sunday 02 : 00 : 00 AM
- Synchronize with NTP:** ☒ (checked)
- NTP Server:** pool.ntp.org
- Port:** 123
- Update Period:** 30 Minute (0-30)

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

Figure 5-65

Please refer to the following sheet for detailed information.

Parameter	Function
Date format	Select the display format of the date from the dropdown list.
Time Format	Select between a 24-hour display and a 12-hour display.
Time zone	Set the time zone of the device.
Current Time	Current time of the device. This can be set manually.
Sync PC	Click this button to save the device time as the PC time.
DST Enable	If the location utilizes Daylight Saving Time (DST), check the Enable box and set up the start and end times for DST.
Synchronize with NTP	Check the box to enable NTP.
NTP server	Set the time server address.
Port	Set the time server port.
Update period	How often the device should synchronize the time with the time server.

## 5.5.2 User Admin

- For user names and user groups, the maximum character length is 31 characters, which can be made up of numbers, letters, underline, hyphen, dot, and @.
- Password can be 0~32 characters in numbers and letters only.
- A specific user can belong to only one group.

### 5.5.2.1 User Name

See Figure 5-66 for the User Name interface.

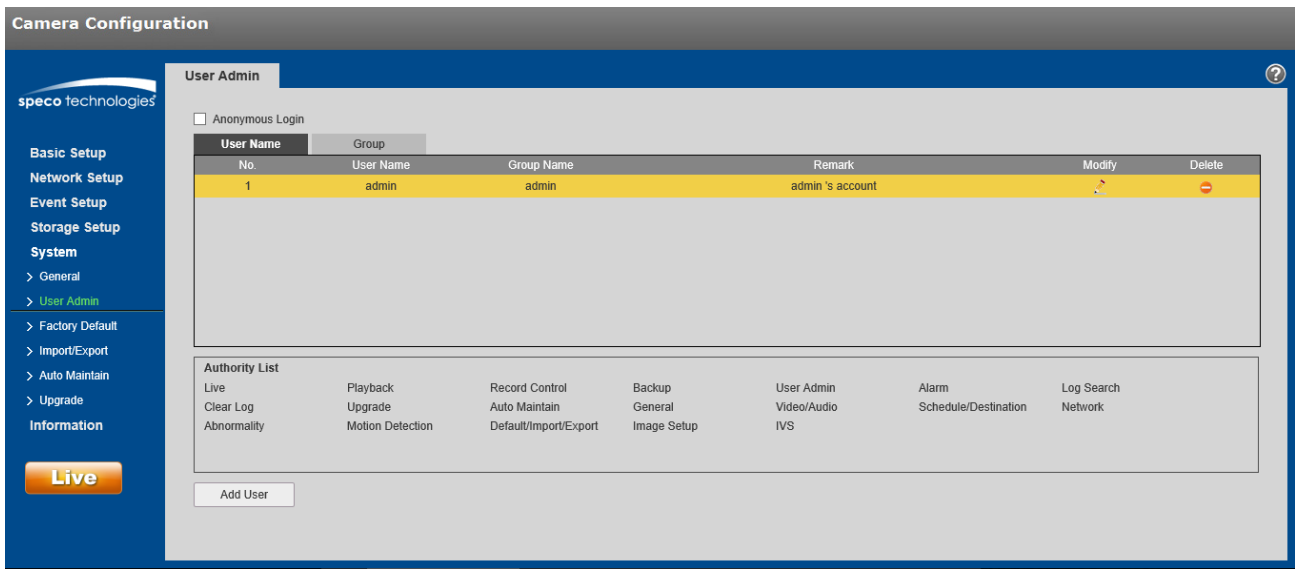
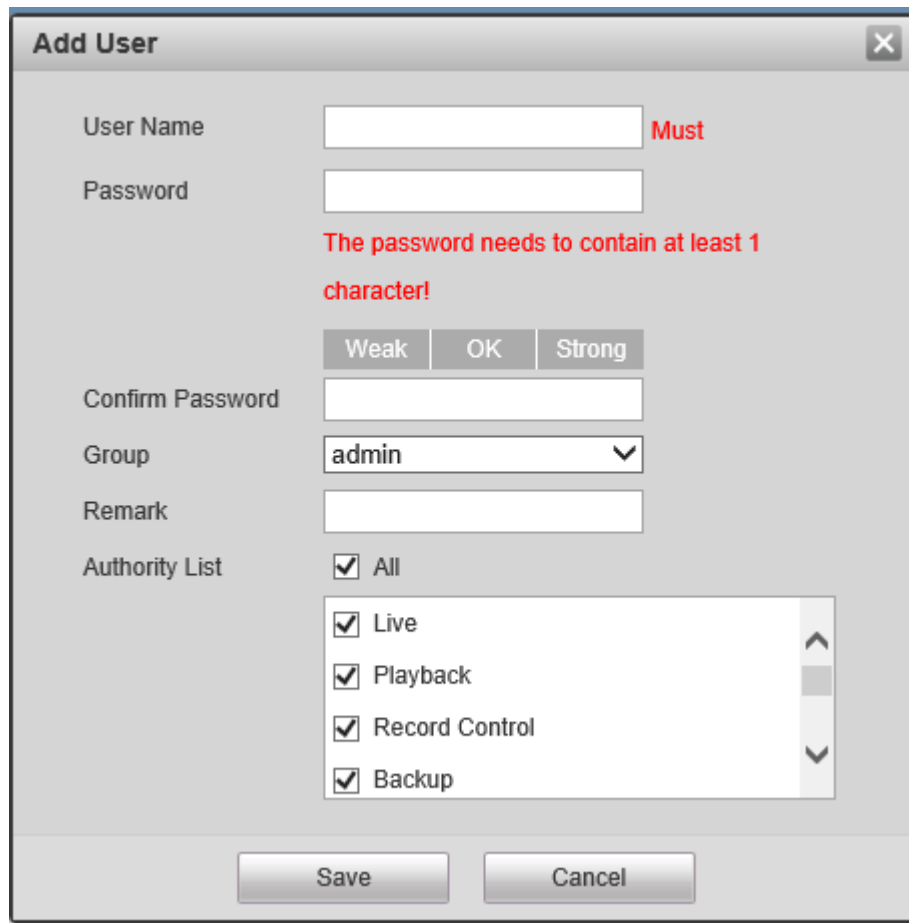


Figure 5-66

**Enable anonymous login:** If enabled, no username and password are required to view the live stream. Click on Logout on the live view page to go back to the login page.

**Add user:** For creating a user and adding the user to a group. User rights can also be set. See Figure 5-67. Note that a user’s rights cannot not exceed the rights of the group.



The image shows a software dialog box titled "Add User" with a close button (X) in the top right corner. The dialog contains several input fields and controls:

- User Name:** A text input field followed by the red text "Must".
- Password:** A text input field.
- Password Hint:** Red text below the password field stating "The password needs to contain at least 1 character!".
- Password Strength:** Three buttons labeled "Weak", "OK", and "Strong".
- Confirm Password:** A text input field.
- Group:** A dropdown menu currently showing "admin".
- Remark:** A text input field.
- Authority List:** A section with a checked checkbox for "All" and a scrollable list of four items, each with a checked checkbox:
  - Live
  - Playback
  - Record Control
  - Backup

At the bottom of the dialog are two buttons: "Save" and "Cancel".

Figure 5-67

#### 5.5.2.2 Group

The group management interface is shown as in Figure 5-68.

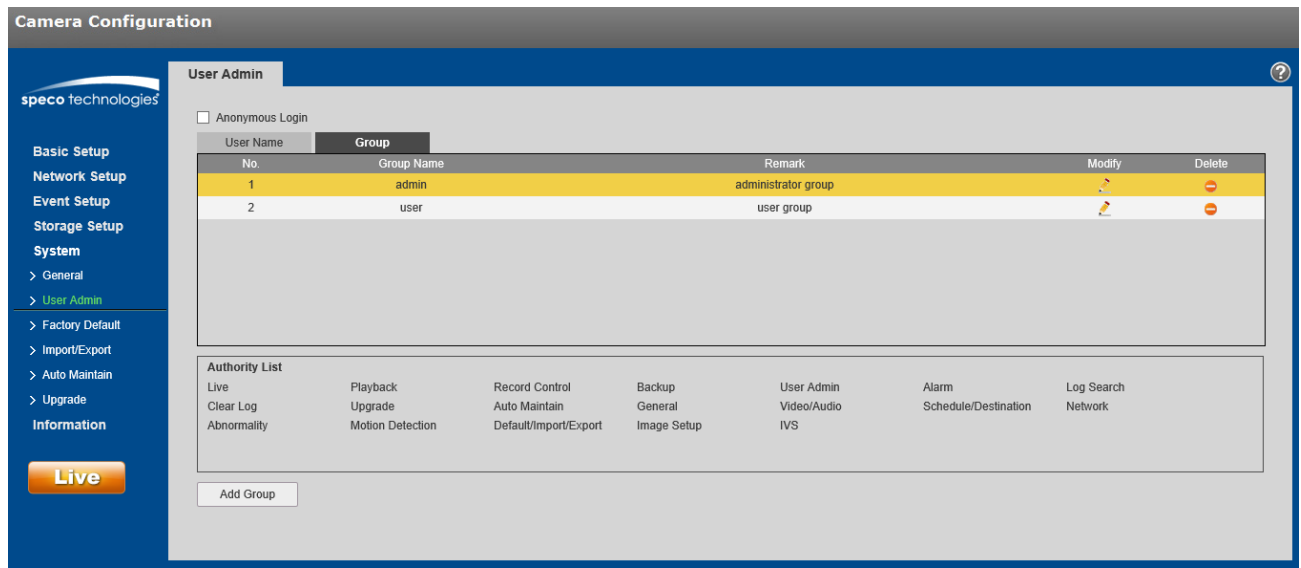


Figure 5-68

**Add group:** See Figure 5-69.

Enter the group name and then check the applicable boxes for the rights of the group.

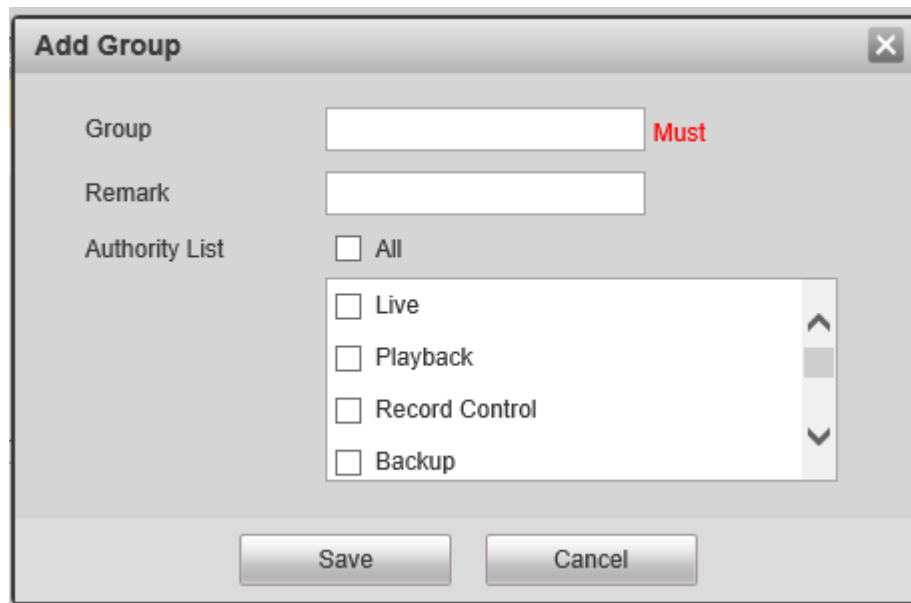


Figure 5-69



### 5.5.3 Factory Default

The factory default interface is shown in Figure 5-70.

The “Default” option resets every setting of the device while the “Keep Network Settings” option retains pertinent network setup information of the device.

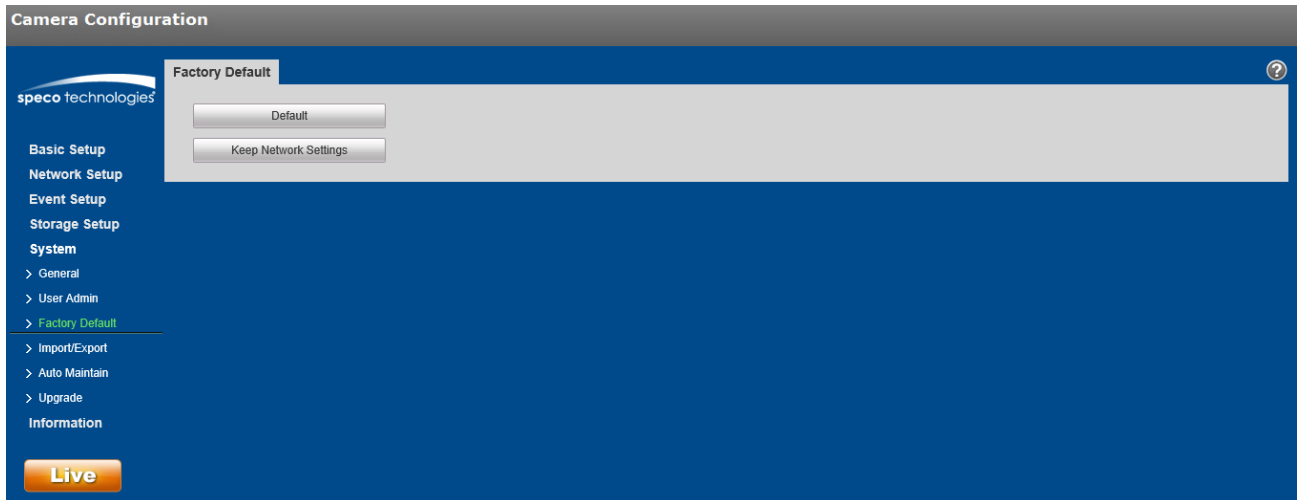


Figure 5-70

### 5.5.4 Import/Export

The interface is shown in Figure 5-71. This can be used to set up multiple devices of the same model with the same system configuration.

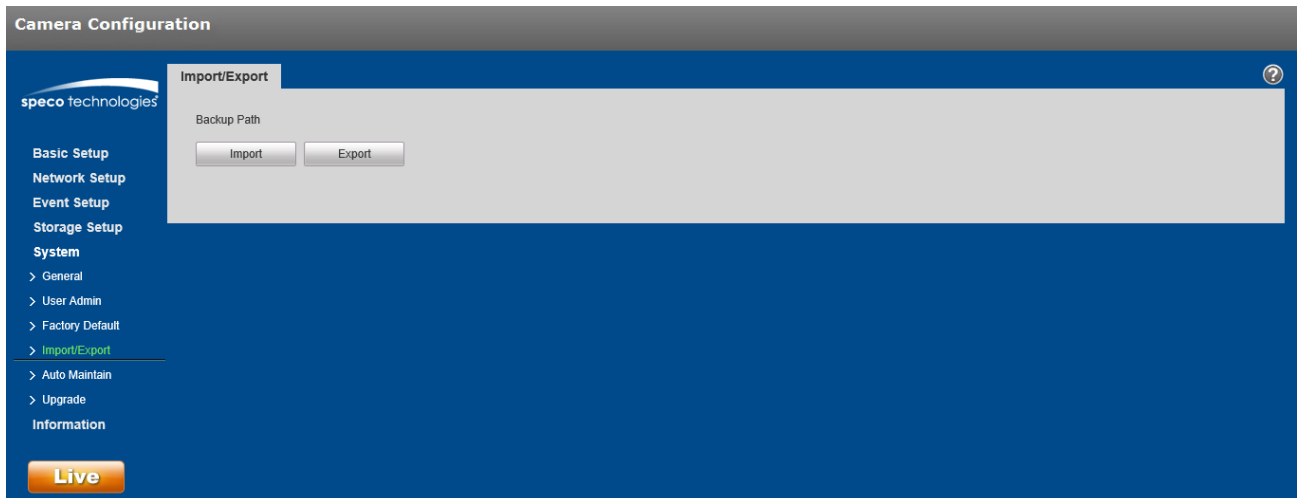


Figure 5-71

Parameter	Function
Import	Import a configuration file to the device.
Export	Export the current configuration of the device to the local PC.

### 5.5.5 Upgrade

The upgrade interface is shown in Figure 5-72. Firmware of the device can be updated here.

Select the applicable firmware file (file extension is “.bin”) and then click the Upgrade button to begin the firmware update.

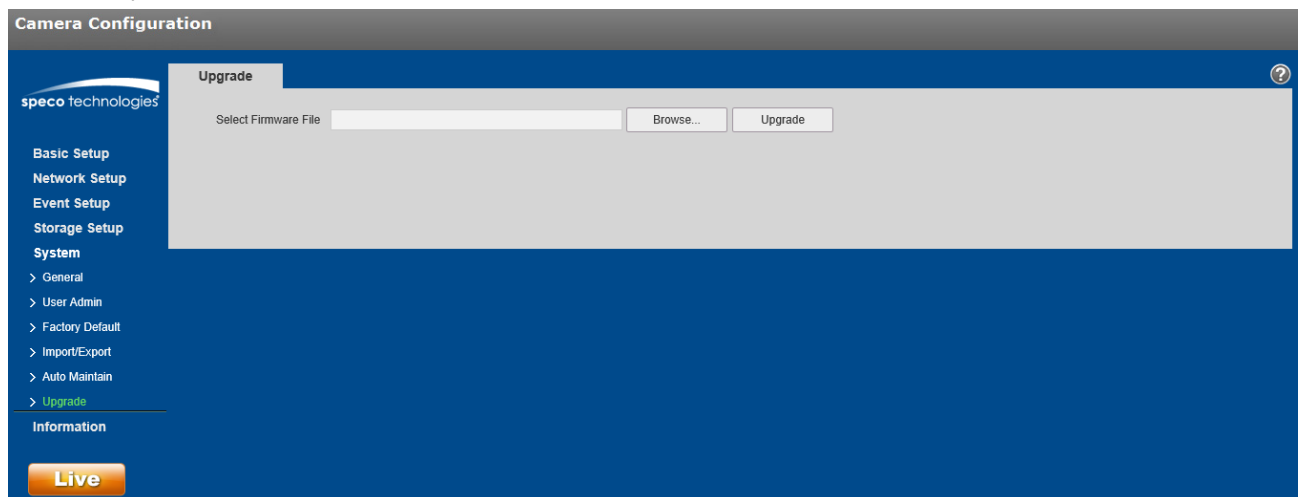


Figure 5-72

# 5.6 Information

## 5.6.1 Version

The version interface is shown in Figure 5-73.

In this section, the model number, firmware version and date, serial number of the device, and tech support contact information are shown.



Figure 5-73

## 5.6.2 Log

See Figure 5-74 for the system log interface.

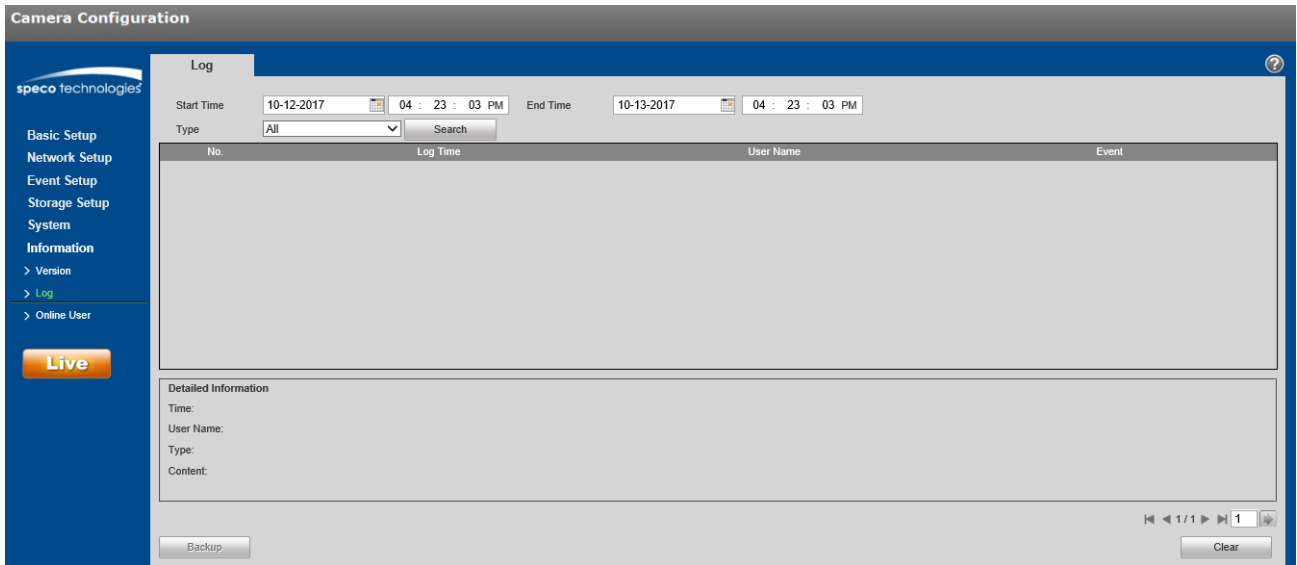


Figure 5-74

Please refer to the following sheet for log parameter information.

Parameter	Function
Start time	Set the start time of the requested log.
End time	Set the end time of the requested log.
Type	Select the type of information to display.
Log information	Select one item to view detailed information about the entry.
Backup	Can be used to back up log files to the PC.

### 5.6.3 Online User

The online user interface is shown in Figure 5-75.

Information about all users who are currently logged into the device is shown.

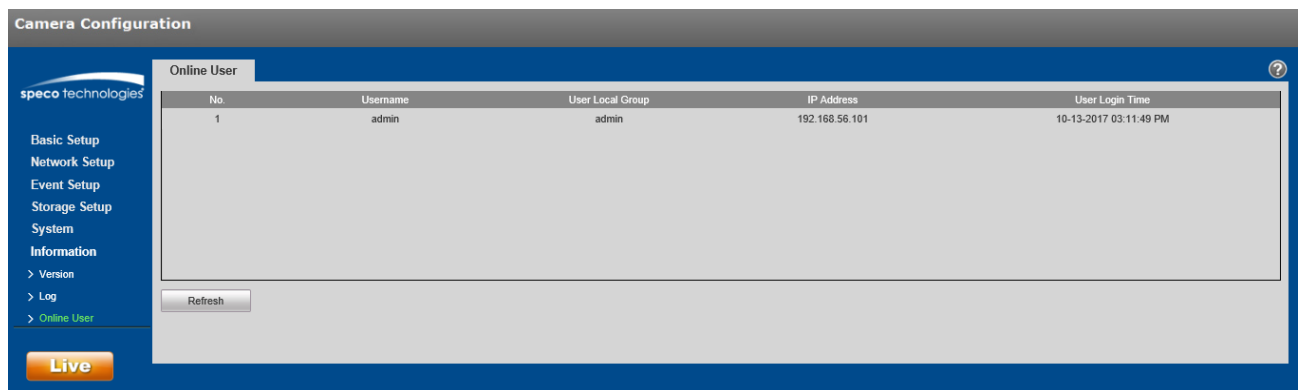


Figure 5-75

**Note:**

- This manual is for reference only. Slight differences may be found in depending on the model.
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- All trademarks and registered trademarks mentioned are the properties of their respective owners.
- If further explanation is needed, please contact Speco Technologies technical support.

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