Network Camera Operation Manual

Model No. K-EW215L03E

K-EF235L03E

Version 1.0.0

Table of Contents

1 Network Connection 1
2 Main Interface Introduction 2
2.1 Log in 2
2.2 Live Interface 6
2.3 Encode Setup 7
2.3.1 Image Adjustment 8
2.4 System Menu 9
2.5 Video Window Function Option 10
3 Setup 11
3.1 Basic 11
3.2 Image adjust 13
3.2.1 Image 13
3.2.2 Conditions 21
3.2.3 Profile Management 26
3.3 Network 27
3.3.1 TCP/IP 27
3.3.2 Connection 30
3.3.3 PPPoE 31
3.3.4 DDNS 32
3.3.5 SMTP (Email) 33
3.3.6 UPnP 35
3.3.7 Bonjour 36
3.3.8 Multicast 37
3.3.9 802.1x 38
3.3.10 QoS 39
3.3.11 HTTPS 40
3.4 Event 48
3.4.1 Video Detection 48
3.4.2 Abnormity 52
3.5 Storage 53
3.5.1 Schedule 53
3.5.2 Destination 57
3.5.3 Record Control 59
3.6 System 61
3.6.1 Account (User mng.) 61
3.6.2 Safety(IP Filter) 64
3.6.3 Default reset 65

3.6.4 Import/Export 66
3.6.5 Auto Maintenance 66
3.6.6 Upgrade 67
3.7 Information 68
3.7.1 Version 68
3.7.2 Log 68
3.7.3 Online User 69
4 Alarm 70
5 Log out 71

Welcome

Thank you for purchasing our network camera!

This operation manual is designed to be a reference tool for your system.

Please open the accessory bag to check the items one by one.

Depending on the model used, the screens shown in the explanations may differ to the actual camera screens.

1 Network Connection

These series network camera products support the Web access and management via PC.
Web includes several modules: monitor channel preview, system configuration, alarm and etc.
Please follow the steps listed below for network connection.

- Make sure the network camera has connected to the network properly.
- Network camera IP address and PC IP address shall be in the same network segment. If there is router, please set the corresponding gateway and subnet mask.
- Use order ping ***.***.***.***(* network camera address) to check connection is OK or not.

2 Main Interface Introduction

2.1 Log in

Open IE and input network camera address in the address bar.
For example, if your camera IP is 192.168.1.108, then please input http:// 192.168.1.108 in IE address bar. See Figure 2-1.

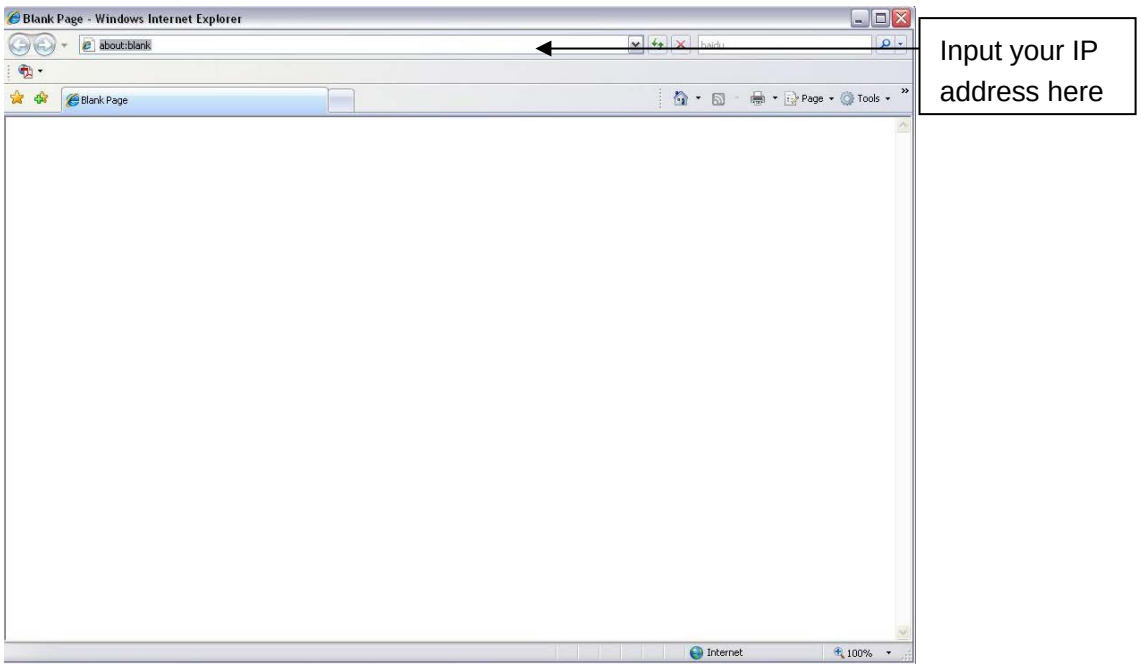


Figure 2-1

The Device Initialization interface is shown as below. See Figure 2-2.
Set the password of admin account.
Password/confirm password: The password ranges from 8 to 32 digitals. It can contain letters, numbers and special characters (excluding “‘”,“””,“;”,“:”,“&”) . The password shall contain at least three categories. Usually we recommend the strong password.

Note: To ensure device safety, please keep the password properly after initialization and change the password regularly.

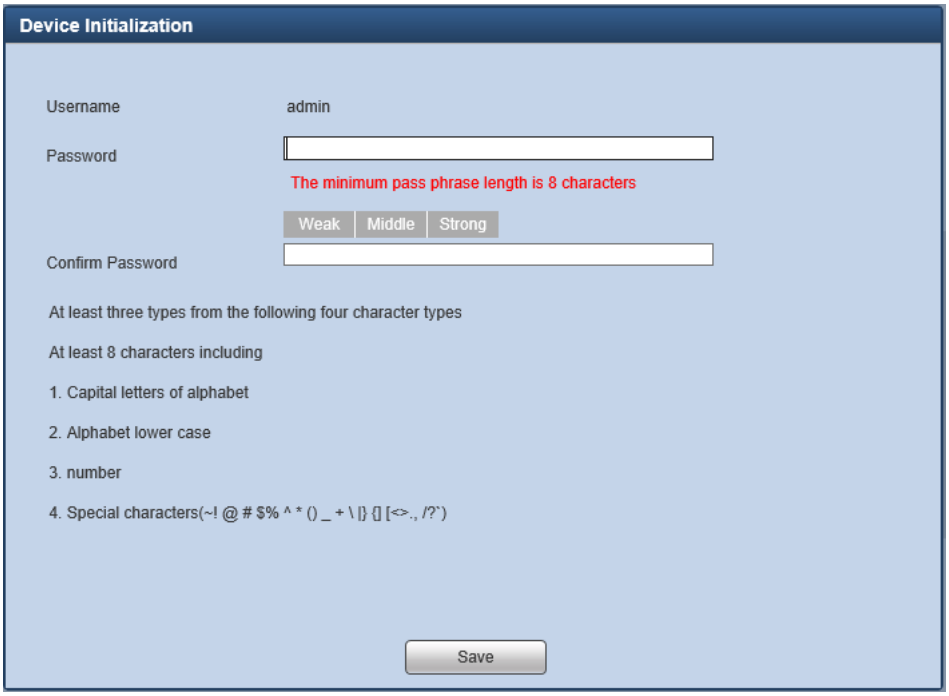

Device Initialization
Username
admin
Password
The minimum pass phrase length is 8 characters
Weak
Middle
Strong
Confirm Password
At least three types from the following four character types
At least 8 characters including
1. Capital letters of alphabet
2. Alphabet lower case
3. number
4. Special characters(~! @ # $% ^ * () _ + \ |} {[[<>., /?`)
Save

Figure 2-2

If it is your first time to login in, you may see the interface shown as in Figure 2-3.

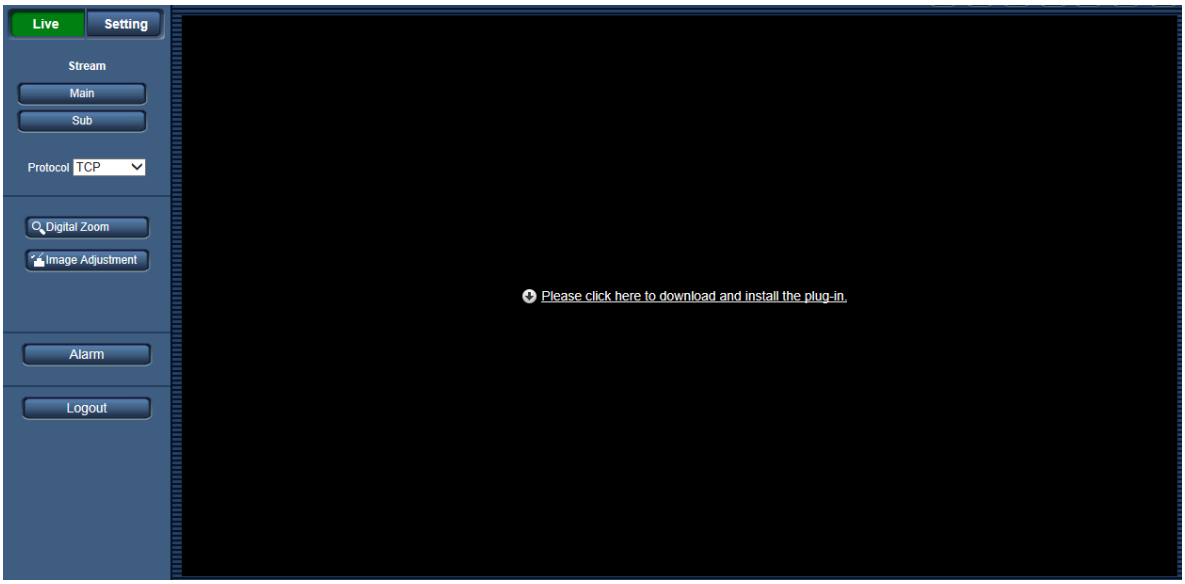


Figure 2-3

Click on “Please click here to download and install the plug-in”. The system pops up warning information to ask you whether run or save this plug-in. See Figure 2-4.

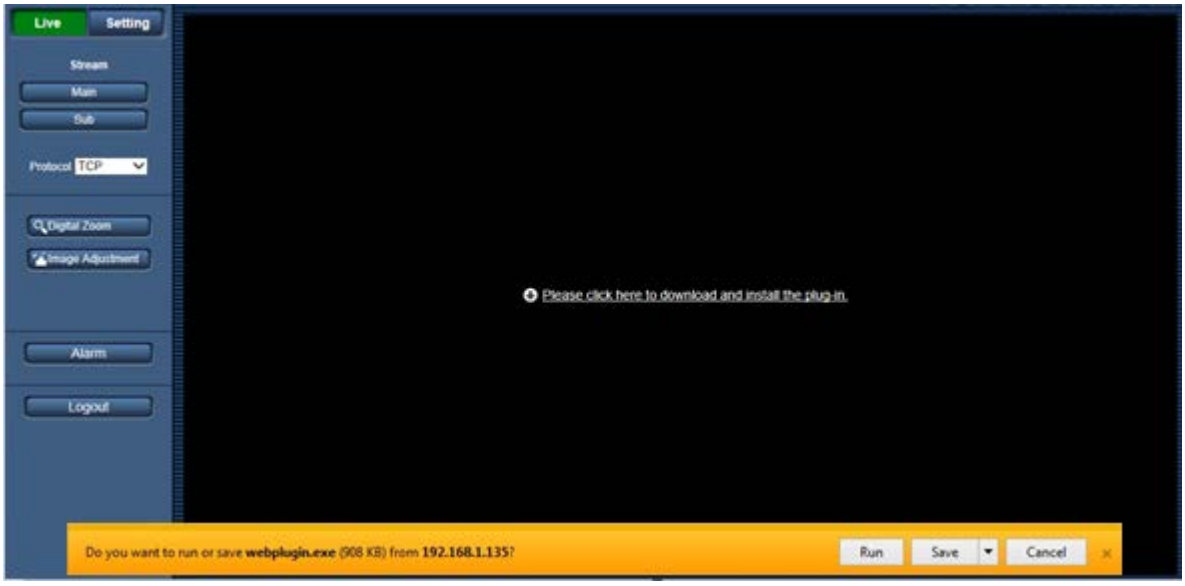


Figure 2-4

You must either run or save the file to local and install it. Follow the following steps. See Figure 2-5.
Note:

The displayed screens are different by the security settings on the PC.

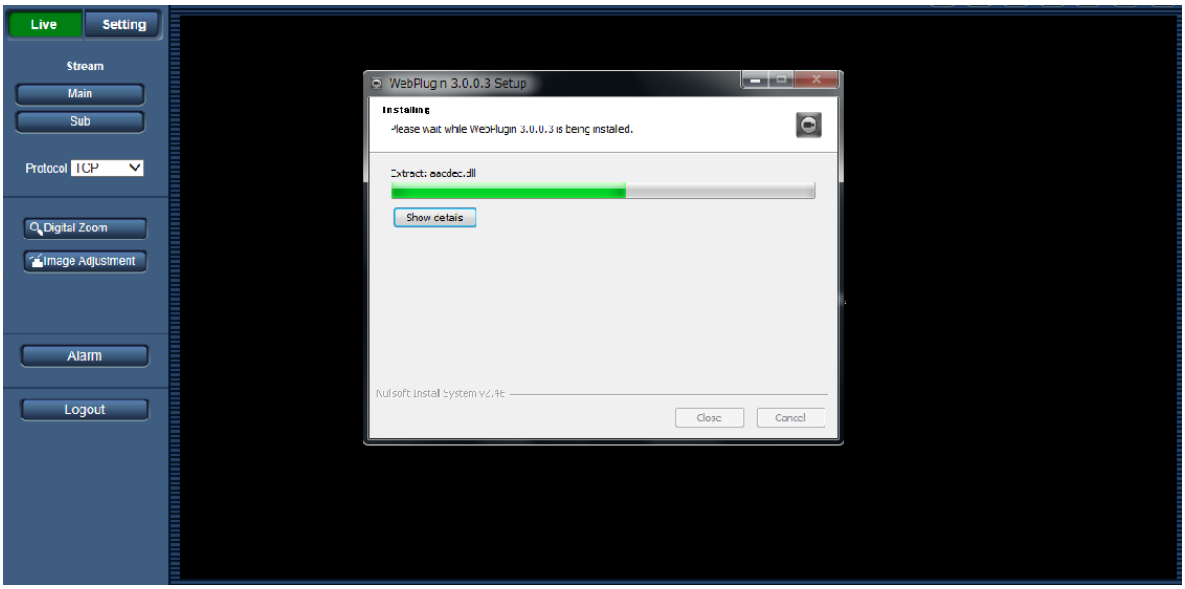


Figure 2-5

When plug-in installation completes, the installation page closes automatically. The web-end will refresh automatically, and then you can view video captured by the camera.

2.2 Live Interface

After you logged in, you can see the live monitor window. See Figure 2-6.

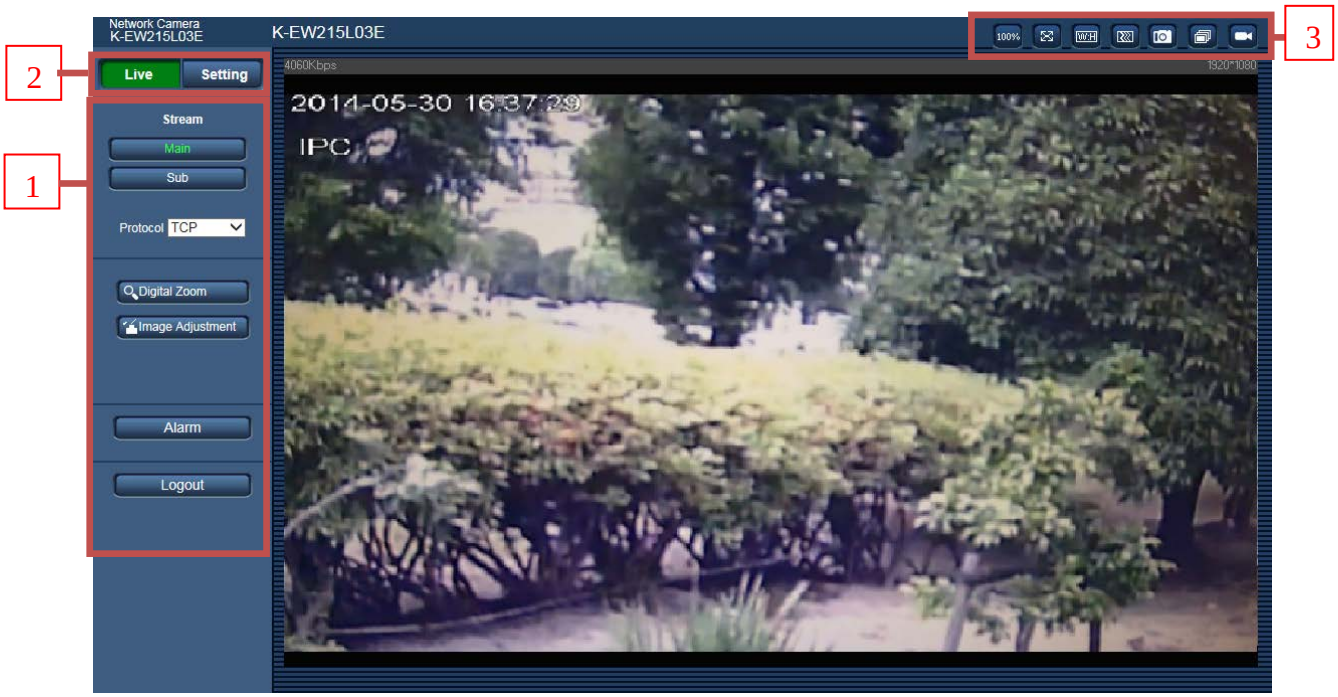


Figure 2-6

There are three sections:

- Section 1: Encode setup bar
- Section 2: System menu
- Section 3: Window function option bar

2.3 Encode Setup

The encode setup interface is shown as in Figure 2-7.

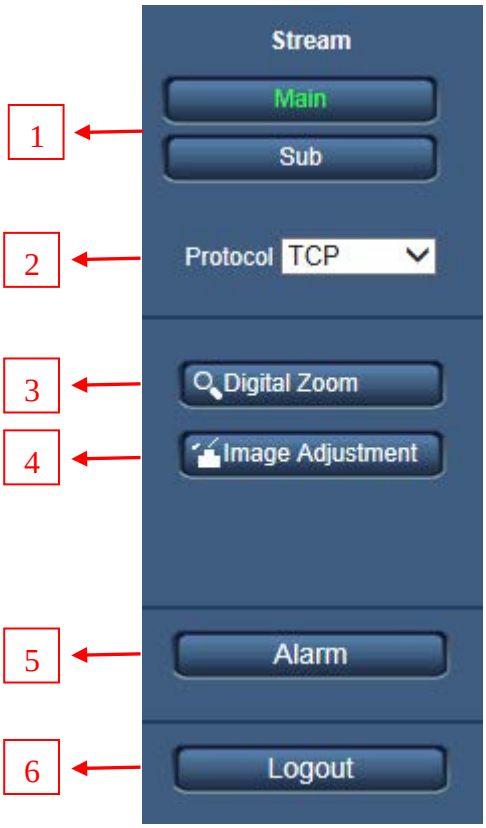


Figure 2-7

Please refer to the following sheet for detailed information.

SN	Parameter	Function
1	Stream	You can switch Stream(Main) and (Sub)
2	Protocol	You can select stream media protocol from the dropdown list. There are three options: TCP/UDP/Multicast
3	Digital Zoom	● When the video is in the original status, click it you can select any zone to zoom in. In the non-original status, you can drag the zoom-in zone in specified range. Right click mouse to restore previous status. ● Click it; you can use the middle button of the mouse to zoom in/out the video size.
4	Image Adjustment	You can adjust image quality.
5	Alarm	It moves to an alarm setting screen.
6	Logout	Click Logout button, system goes back to log in interface.

2.3.1 **Image Adjustment**

Click Image Adjustment button to open picture setup interface. See Figure 2-8. This interface is displayed under a display of Image Adjustment.

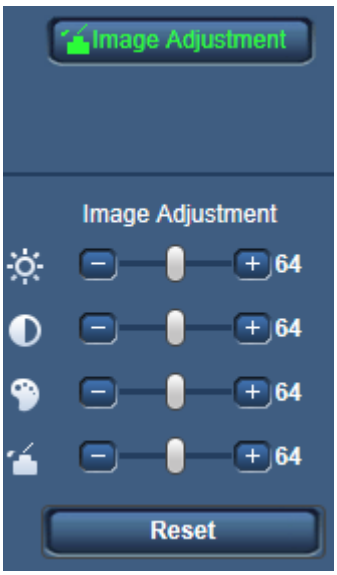


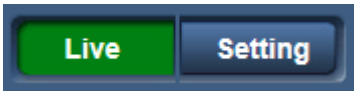
Figure 2-8

Please refer to the following sheet for detailed information.

Parameter		Function	
Video setup		It is to adjust monitor video brightness.	Note: ● All the operations here apply to WEB end only. ● Please go to Setup -> Image -> Image adjust to adjust corresponding items.
		It is to adjust monitor video contrast.	
		It is to adjust monitor video hue.	
		It is to adjust monitor video saturation.	
	Reset	Restore brightness, contrast saturation and hue to system default setup.	

2.4 System Menu

System menu is a click Setup as in Figure 2-9.



Please refer to chapter 3.1 Basic, chapter 3.2 Image, chapter 3.3 Network, chapter 3.4 Event, chapter 3.5 Storage, chapter 3.6 System, and chapter 3.7 Information for detailed information.

Figure 2-9

2.5 Video Window Function Option

The interface is shown as below. See Figure 2-10.

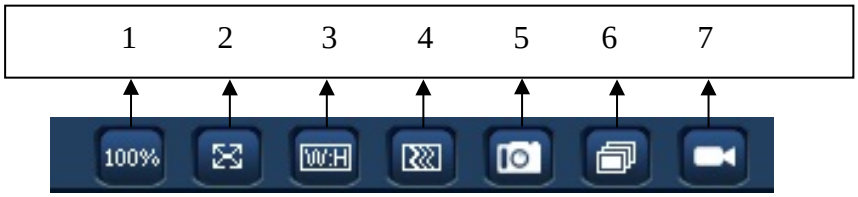


Figure 2-10

Please refer to the following sheet for detailed information.

SN	Parameter	Function
1	Original Size	Click this button to go to original size. It is to display the actual size of the video stream. It depends on the resolution of the bit stream.
2	Full Screen	Click it to go to full-screen mode. Double click the mouse or click the Esc button to exit the full screen.
3	Width and Height ratio	Click it to restore original ratio or suitable window.
4	Fluency Adjustment	There are three levels of fluency for you to select. The default is real-time with minimum delay. You may select fluent mode in case connection is slow.
5	Snapshot	You can snapshot important video by clicking on this button. All images are memorized in system folder: \ picture download (default). You can go to Setup -> Image -> JPEG/H.264 -> Path to modify the local record save path.
6	Triple Snapshot	Click it, system can snap at 1 fps. All images are memorized in system storage folder.
7	Record	For manual record. All records are memorized in Setup -> Image -> JPEG/H.264 -> Path.

3 Setup

3.1 Basic

The basic interface includes the local host setup and the date/time setup.
The date and time interface is shown as in Figure 3-1.

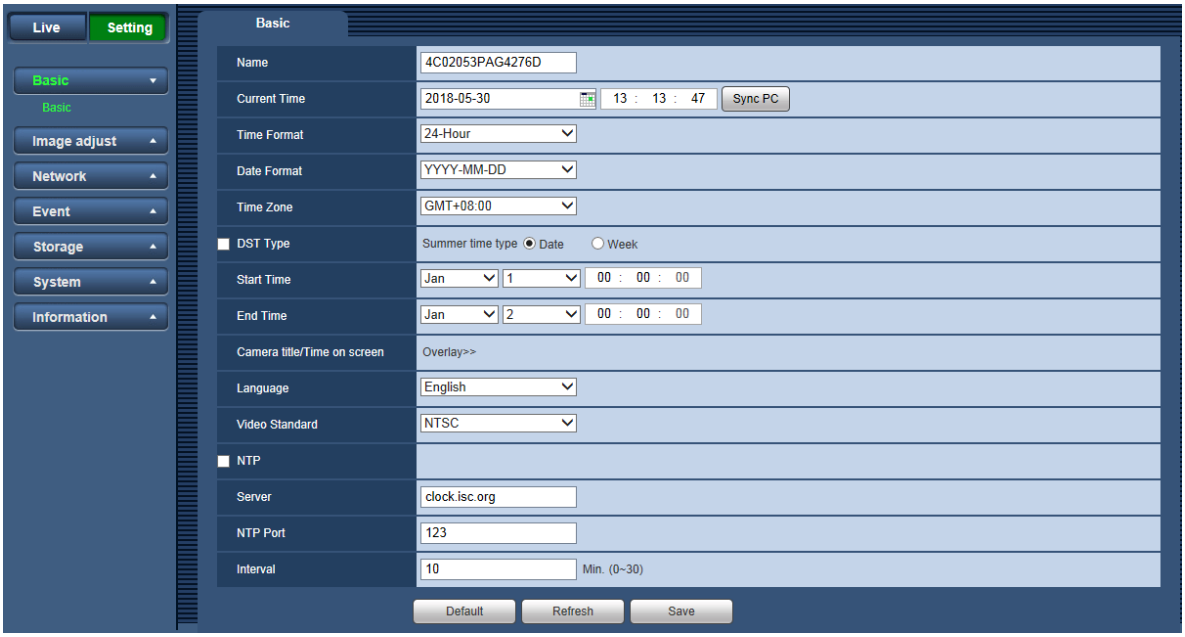


Figure 3-1

Please refer to the following sheet for detailed information.

Parameter	Function
Name	It is to set device name.
Current time	Set date and time. Click “Sync PC” to set PC time to camera.
Time format	There are two options: 24-H and 12-H.
Date format	Here you can select date format from the dropdown list.
Time zone	The time zone of the device.
DST Type	Here you can set daylight saving time begin time and end time. You can set according to the date format or according to the week format.

Camera title/Time on screen	Link “Overlay” (Image adjust -> Image -> Overlay)
Language	You can select the language from the dropdown list.
Video Standard	This is to display video standard such as NTSC.
NTP Setup	You can check the box to enable NTP function.
NTP Server	You can set the time server address.
NTP Port	It is to set the time server port.
Update period	It is to set the sync periods between the device and the time server.

3.2 Image adjust

3.2.1 Image

3.2.1.1 Image

The video bit stream interface is shown as below. See Figure 3-2.

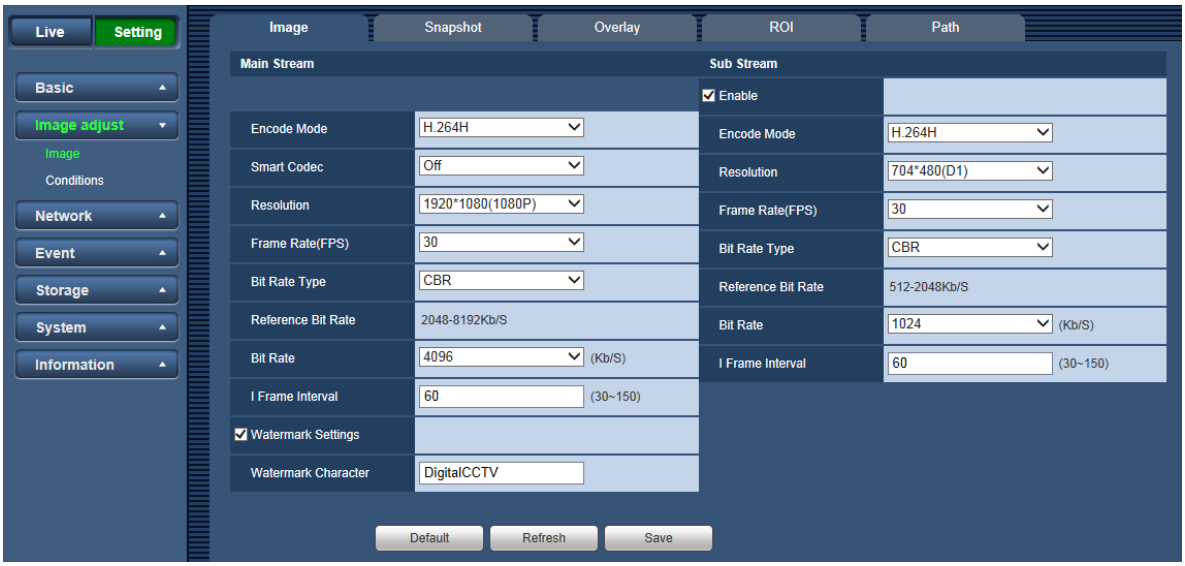


Figure 3-2

Please refer to the following sheet for detailed information.

Parameter		Function
Main Stream	Encode Mode	There are four options: H.264 (main profile standard), H.264H (high profile standard), H.264B (baseline standard) encode and H.265 encode. ● H.264： Main Profile encode mode. ● H.264H : High Profile encode mode. ● H.264B： Baseline Profile encode mode ● H.265 : Main Profile Encode Mode
	Smart Codec	Enable smart codec to improve video compressibility and save storage space. Note: After smart codec is enabled, the device would stop supporting ROI and smart event detection, and the actual interface shall prevail.

Parameter		Function
	Resolution	There are multiple resolutions. You can select from the dropdown list. ● For each resolution, the recommended bit stream value is different.
	Frame rate(FPS)	NTSC: 1-30fps. The frame rate may vary due to different resolutions.
	Bite Rate Type	There are two options: VBR and CBR. Please note, you can set video quality in VBR mode.
	Reference Bit Rate	Reference bit rate value according to the resolution and frame rate you have set.
	Bit Rate	● In VBR, the bit rate here is the max value. In CBR, it is a fixed value. See reference bit stream for recommended value.
	I Frame interval	Here you can set the P frame amount between two I frames. The value ranges from 1 to 150. Default value is 60. ● Recommended value is frame rate.
	Watermark Settings / Watermark Character	This function allows you to verify the video is tampered or not. Here you can select watermark bit stream, watermark mode and watermark character. Default character is DigitalCCTV. The max length is 85-digit. The character can only include number, character and underline.
	Enable	Please check the box here to enable Sub stream function. This function is enabled by default.
Sub Stream	Compression	There are five options: H.264 (main profile standard, H.264H (high profile standard), H.264B (baseline standard) encode, H.265 encode and MJPEG encode. ● H.264 ： Main Profile encode mode. ● H.264H : High Profile encode mode. ● H.264B ： Baseline Profile encode mode ● H.265 : Main Profile Encode Mode ● MJPEG: In this encode mode, the video needs to large bit stream to guarantee the video definition. You can use the max bit stream value in the recommend bit to get the better video output effect.

Parameter		Function
	Resolution	There are multiple resolutions. You can select from the dropdown list. For each resolution, the recommended bit stream value is different.
	Frame rate(FPS)	NTSC: 1-30fps. PAL: 1-25fps ● The frame rate may vary due to different resolutions.
	Bit Rate Type	There are two options: VBR and CBR. Please note, you can set video quality in VBR mode.
	Reference Bit Rate	Reference bit rate value according to the resolution and frame rate you have set.
	Bit Rate	● In CBR, the bit rate here is the max value. In dynamic video, system needs to low frame rate or video quality to guarantee the value. ● The value is null in VBR mode. Please refer to recommend bit rate for the detailed information.
	I Frame interval	Here you can set the P frame amount between two I frames. The value ranges from 30 to 150. Default value is 60. Recommended value is frame rate.

3.2.1.2 Snapshot

The snapshot interface is shown as in Figure 3-3.

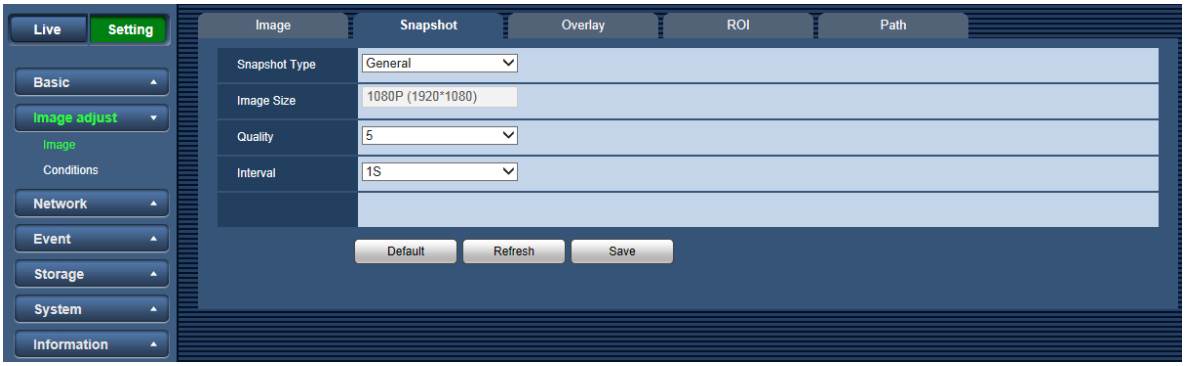


Figure 3-3

Please refer to the following sheet for detailed information.

Parameter	Function
Snapshot Type	There are two modes: general (schedule) and Event (activation).
Image capture size	It is the same with the resolution of the Main stream.
Quality	It is to set the image quality. There are six levels.
Interval	It is to set snapshot frequency. The value ranges from 1s to 7s.

3.2.1.3 Overlay

The video overlay interface is shown as in Figure 3-4, 3-5, 3-6, 3-7.

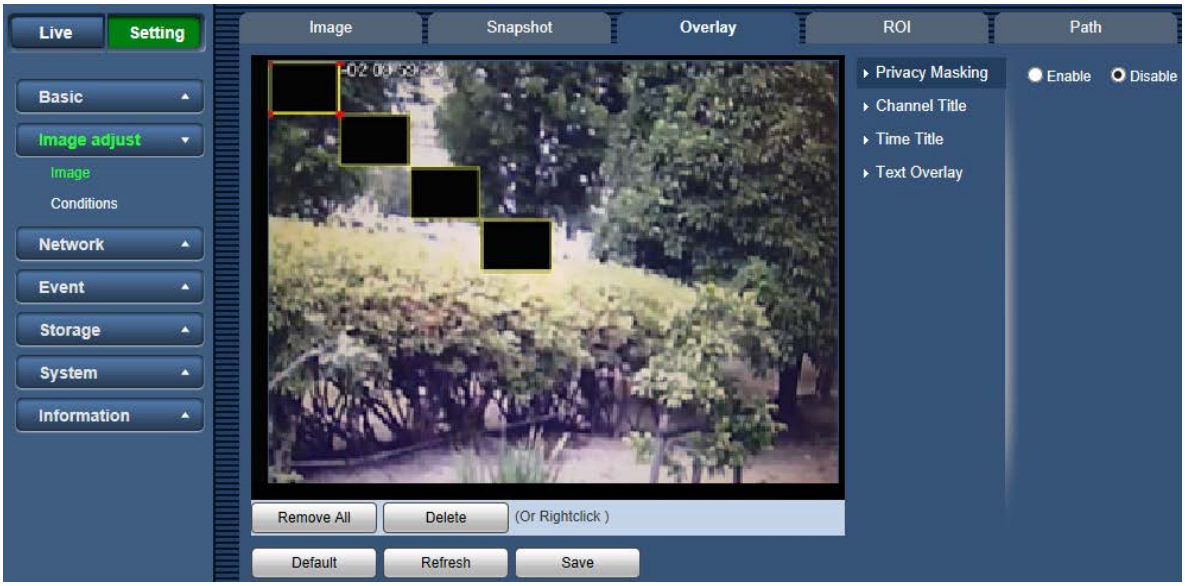


Figure 3-4

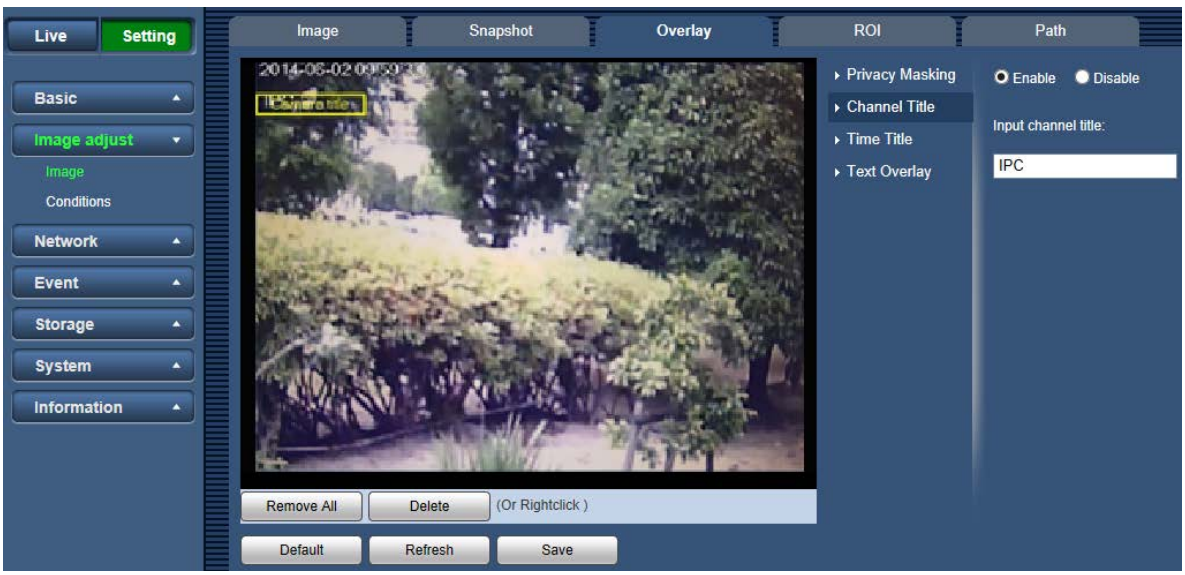


Figure 3-5

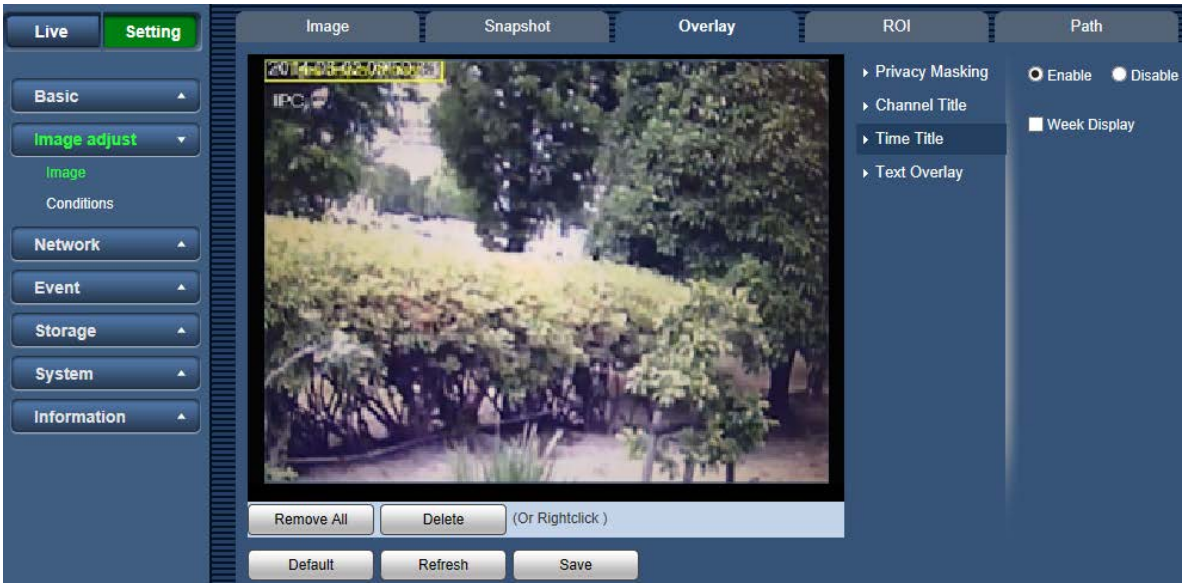


Figure 3-6

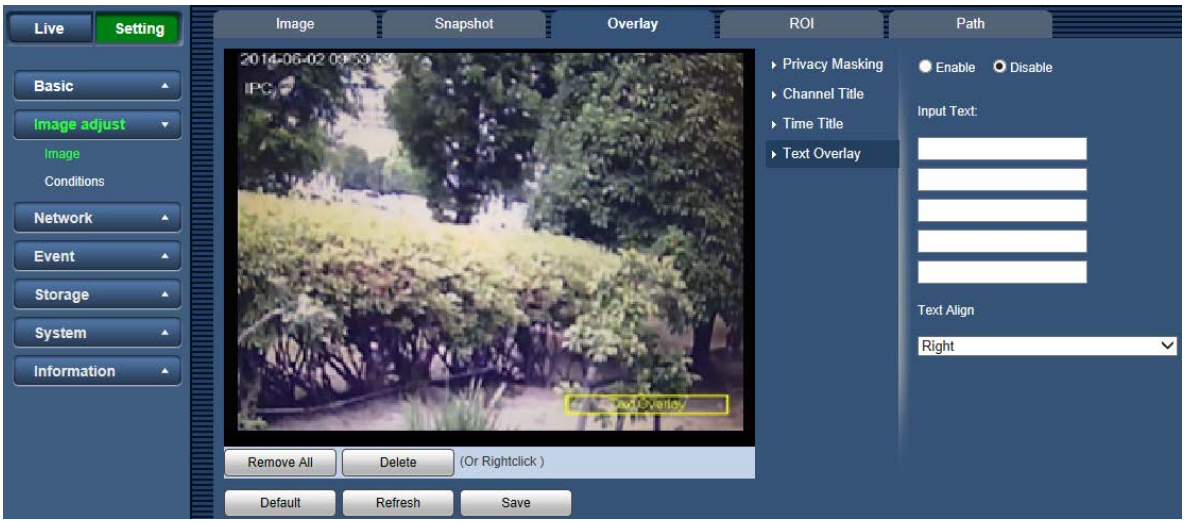


Figure 3-7

Please refer to the following sheet for detailed information.

Parameter	Function
Privacy Masking	● Here you can privacy mask the specified video in the monitor video. ● System max supports 4 privacy mask zones. See Figure 3-4
Channel title	● You can enable this function so that system overlays channel information in video window. ● You can use the mouse to drag the channel tile position. See Figure 3-5
Time Title	● You can enable this function so that system overlays time information in video window. ● You can use the mouse to drag the time tile position. See Figure 3-6
Test Overlay	● You can enable this function so that system overlays location information in video window. ● To change text alignment, you can select by dropdown list. See Figure 3-7

3.2.1.4 ROI

The ROI function can change the data size of images before sending them by performing operations such as increasing the resolution of important monitoring areas in the image and reducing the resolution of other areas. See Figure 3-8.

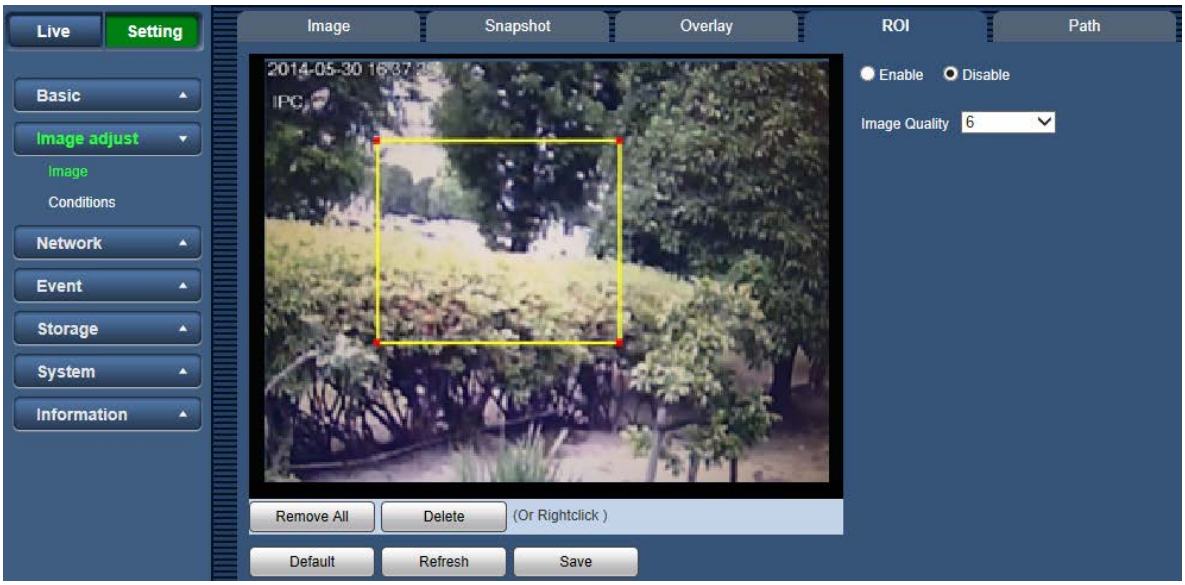


Figure 3-8

Parameters	Note
Enable	Check “Enable”, then it will display the ROI in the video monitoring window; Check “Disable”, then it won’t display.
Image Quality	● Set the image quality of ROI, ranging from 1～6(best), default is 6(best). ● Able to set area block, max 4 areas.

3.2.1.5 Path

The storage path interface is shown as in Figure 3-9.

Here you can set snap image saved path and the record storage path.

- The default monitor image path is C:\Users\Admin\WebDownload\LiveSnapshot.
- The default monitor record path is C:\ Users \Admin\WebDownload\LiveRecord.

Note:

Admin is locally logged in PC account.

Please click the Save button to save current setup.

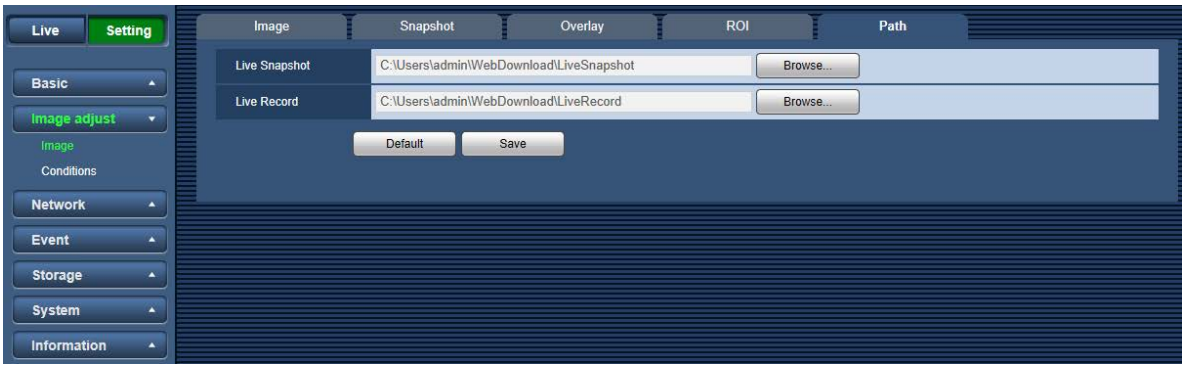


Figure 3-9

3.2.2 **Conditions**

Here you can view device property information. Slight differences may be found due to different network camera series. The setups become valid immediately after you set. See Figure 3-10.

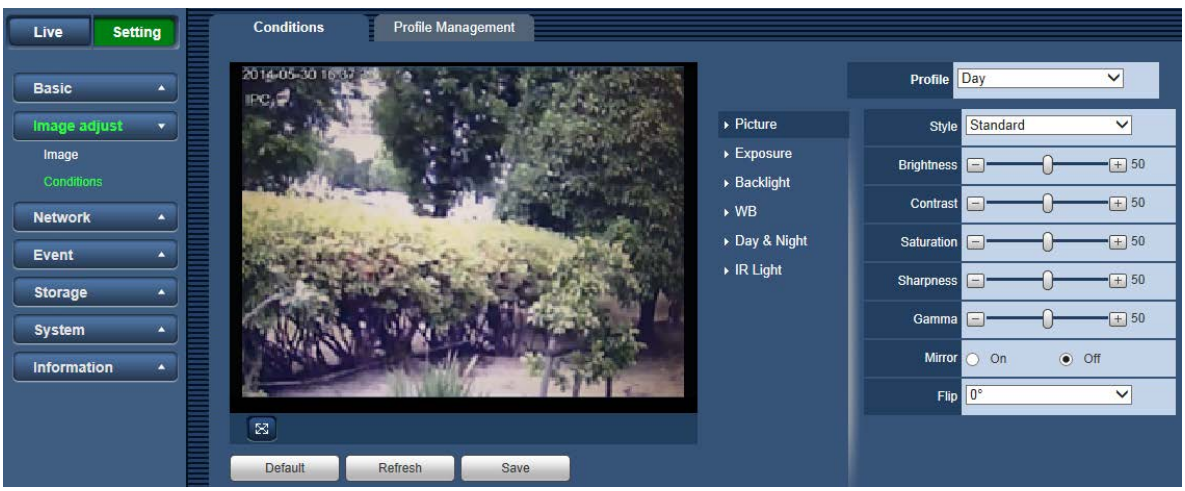


Figure 3-10

Please refer to the following sheet for detailed information.

Parameter	Function
Profile	You may select normal, day and night mode.
Style	Select picture style from soft, standard and vivid.

Picture/Brightness	It is to adjust monitor window bright. You can adjust this value if the video is too dark or too bright. The larger the number, the bright the video is. When you input the value here, the bright section and the dark section of the video will be adjusted accordingly. Please note the video may become hazy if the value is too high. The value ranges from 0 to 100. The recommended value ranges from 40 to 60. The default value is 50.
Picture/Contrast	It is to adjust monitor window contrast. The larger the number, the higher the contrast is. You can use this function when the whole video bright is OK but the contrast is not proper. Please note the video may become hazy if the value is too low. If this value is too high, the dark section may lack brightness while the bright section may over exposure. The value ranges from 0 to 100. The recommended value ranges from 40 to 60. The default value is 50.
Picture/Saturation	It is to adjust monitor window saturation. The larger the number, the strong the color is. This value has no effect on the general brightness of the whole video. The video color may become too strong if the value is too high. For the grey part of the video, the distortion may occur if the white balance is not accurate. Please note the video may not be attractive if the value is too low. The value ranges from 0 to 100. The recommended value ranges from 40 to 60. The default value is 50.
Picture/Sharpness	The value here is to adjust the edge of the video. The larger the value is, the clear the edge is and vice versa. Please note there is noise if the value here is too high. The value ranges from 0 to 100. The recommended value ranges from 40 to 60. The default value is 50.
Picture/Gamma	The value here is to adjust the gamma value of the video. The value ranges from 0 to 100. The recommended value ranges from 40 to 60. The default value is 50.
Picture/Mirror	Select On, and the picture would display with left and right side reversed.
Picture/Flip	Changes the display direction of the picture, see the options below. ● 0°: Normal display ● 90°: The picture rotates 90° clockwise. ● 180°: The picture rotates 90° counterclockwise. ● 270°: The picture would be upside down.

Exposure/Anti-flicker	● Outdoor: In this mode, you can switch exposure mode to get the effect under the corresponding exposure mode. ● 50Hz: When the current is 50Hz, system can auto adjust the exposure according to the environment brightness in case there is any strip. ● 60Hz: When the current is 60Hz, system can auto adjust the exposure according to the environment brightness in case there is any strip.
Exposure/Mode	Device exposure modes, the options are: Note: ● When the “Anti-flicker” is set to “Outdoor”, you can select “gain priority” or “shutter priority” as the exposure mode. ● Exposure modes of different devices might vary, and the actual product shall prevail. ● Auto: adjusts the image brightness according to the actual condition automatically. ● Gain Priority: When the exposure range is normal, the system prefers the configured gain range when auto adjusting according to the ambient lighting condition. If the image brightness is not enough and the gain has reached upper or lower limit, the system adjusts shutter value automatically to ensure the image at ideal brightness. You can configure gain range to adjust gain level when using gain priority mode. ● Shutter priority: When the exposure range is normal, the system prefers the configured shutter range when auto adjusting according to the ambient lighting condition. If the image brightness is not enough and the shutter value has reached upper or lower limit, the system adjusts gain value automatically to ensure the image at ideal brightness. ● Manual: Configure gain and shutter value manually to adjust image brightness.
Exposure/3D NR	Works with multi-frame (no less than 2 frames) images and reduces noise by using the interframe information between previous and latter frames.
Exposure/Grade	This configuration is available only when the 3D NR is enabled. The higher the NR level is, the better the result will be.

Backlight/Mode	Off: The system adjusts image brightness according to ambient lighting condition automatically to ensure image clarity. BLC: You can select default mode or customized mode. ● When in “default” mode, the system adjusts exposure according to ambient lighting condition automatically to ensure the clarity of the darkest area. ● When in “customized” mode, the system auto adjusts exposure only to the set area according to ambient lighting condition to ensure the image of the set area at ideal brightness. HLC: The system constrains bright areas and reduces halo size to dim the overall brightness. WDR: The system dims bright areas and compensates dark areas to ensure the clarity of all the area. Note: There might be a few seconds of video loss when the device is switching to WDR mode from other mode.
WB/Mode	● Auto: The system compensates WB according to color temperature to ensure color precision. ● Natural: The system auto compensates WB to environments without artificial light to ensure color precision. ● Street Lamp: The system compensates WB to outdoor night scene to ensure color precision. ● Outdoor: The system auto compensates WB to most outdoor environments with natural or artificial light to ensure color precision. ● Manual: Configure red and blue gain manually; the system auto compensates WB according to color temperature. ● Regional Custom: The system compensates WB only to the set area according to color temperature to ensure color precision.

Day&Night/Mode	You can select device display mode, from color or black-and-white mode, and the options are: Note: Day & Night configuration is independent from “Profile Management” configuration. ● Color: The system displays color image. ● Auto: The system switches between color and black-and-white display according to the actual condition. ● Black-and-white: The system displays Black-and-white image.
Day&Night/Sensitivity	This configuration is available only when the Day & Night mode set as “Auto”. You can configure camera sensitivity in switching between color and black-and-white mode.
Day&Night/Delay	This configuration is available only when the Day & Night mode set as “Auto”. You can configure the delay when camera switching between color and black-and-white mode. The lower the value is, the faster the camera switches between color and black-and-white mode.
IR Light/Mode	● Manual: Adjust the brightness of IR light manually, and then the system will supply IR light to the image accordingly. ● SmartIR: The system adjusts the IR light intensity according to the ambient lighting condition. ● Off: IR Light off

3.2.3 **Profile Management**

The profile management interface is shown as in Figure 3-11.

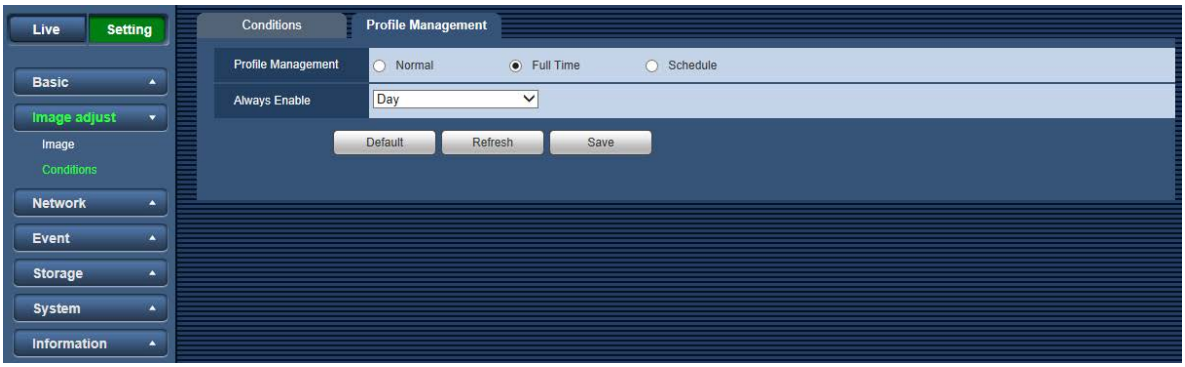


Figure 3-11

Profile management has three modes: normal, full time and schedule. If you select normal, the video will be configured as normal. If you select full time, you must select either day or night, and the video will be configured accordingly. If you select schedule, you can decide detained time interval.

Important

- The setup becomes immediately after you set.

3.3 Network

3.3.1 TCP/IP

The TCP/IP and EZREMOTE interface is shown as in Figure 3-12.

You can use Mobile EMS to scan the QR code to login.

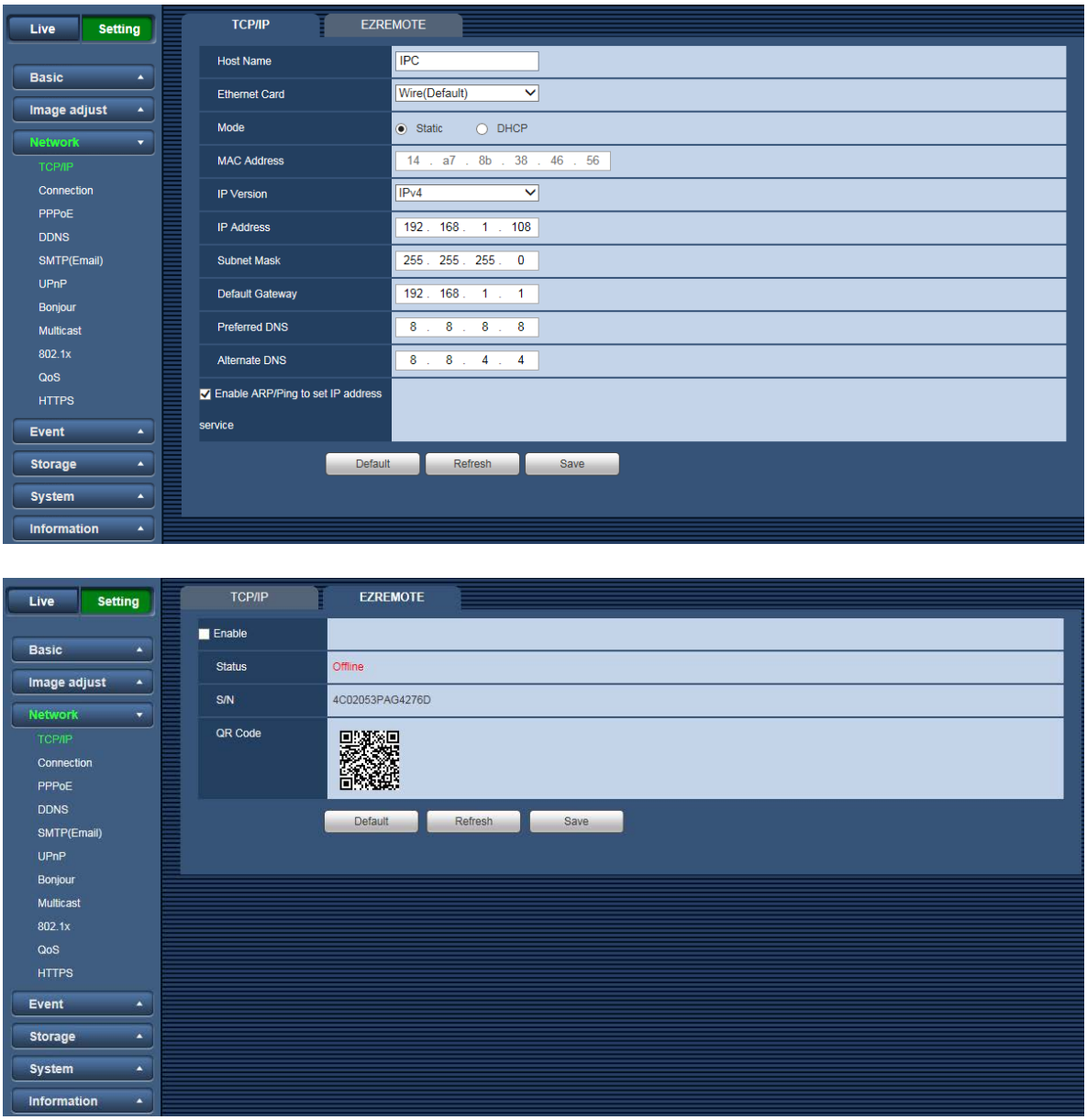


Figure 3-12

Please refer to the following sheet for detailed information.

<table>
<tr><th>Parameter</th><th colspan="2">Description</th></tr>
<tr><td>Host Name</td><td colspan="2">Enter host name, 15 characters most.</td></tr>
<tr><td>Ethernet Card</td><td colspan="2">Select the Ethernet Card you need to configure, the default one is Wire.</td></tr>
<tr><td>Mode</td><td colspan="2">● Static
Configure IP address, Subnet Mask and Gateway manually, and then click “Save”, the log in interface with the configured IP address is displayed.
● DHCP
Acquires IP address automatically. When DHCP is enabled, the IP address, Subnet Mask and Gateway are not available for configure. You can view the current IP address whether the DHCP takes effect or not.</td></tr>
<tr><td>MAC address</td><td colspan="2">Displays host MAC address</td></tr>
<tr><td>IP Version</td><td colspan="2">Select IPv4 or IPv6</td></tr>
<tr><td>IP address</td><td colspan="2" rowspan="2">Enter the “IP address” and “Subnet Mask” you need.
NOTE
The system would run validity test for all the IPv4 and IPv6 addresses, to pass the test, please make sure a certain part of the subnet prefix in the IP address and default gateway are the same.</td></tr>
<tr><td>Subnet Mask</td></tr>
<tr><td>default gateway</td><td>Configure as needed, the default gateway must be in the same network segment with the IP address.</td><td rowspan="3">NOTE
IPv6 has no address and default gateway. Enter 128 digits in preferred DNS and alternate DNS.</td></tr>
<tr><td>preferred DNS</td><td>IP address of the preferred DNS</td></tr>
<tr><td>alternate DNS</td><td>IP address of the alternate DNS</td></tr>
</table>

<table>
<tr><th>Parameter</th><th>Description</th></tr>
<tr><td>Enable ARP/Ping to set IP address service.</td><td>
Select the check box, get the device MAC address, and then you can modify and configure the device IP address with ARP/ping command. This is enabled by default. During reboot, you will have no more than 2 minutes to configure the device IP address with a ping packet with certain length, the server will be turned off in 2 minutes, or it will be turned off immediately after IP address configuration. If this is not enabled, the IP address cannot be configured with ping packet.
A demonstration of configuring IP address with ARP/Ping.
1. Keep the IPC you need to configure and the PC within the same local network, and then get a usable IP address.
2. Get the MAC address of the IPC from device label.
3. Open command editor on the PC and enter the following command.
<table>
<tr><td>Windows syntax</td></tr>
<tr><td>arp –s <IP Address> <MAC>
ping –l 480 –t <IP Address></td></tr>
<tr><td>Windows example</td></tr>
<tr><td>arp -s 192.168.0.125 11-40-8c-18-10-11
ping -l 480 -t 192.168.0.125</td></tr>
<tr><td>UNIX/Linux/Mac syntax</td></tr>
<tr><td>arp –s <IP Address> <MAC>
ping –s 480 <IP Address></td></tr>
<tr><td>UNIX/Linux/Mac example</td></tr>
<tr><td>arp -s 192.168.0.125 11-40-8c-18-10-11
ping -s 480 192.168.0.125</td></tr>
</table>
4. Reboot IPC through power or network.
5. Check the PC command line, if there are information such as “Reply from 192.168.0.125…” are displayed, the configuration is succeed. Turn it off then.
6. Enter http://(IP address) in the browser address bar to log in.
</td></tr>
</table>

3.3.2 **Connection**

3.3.2.1 Connection

The connection interface is shown as in Figure 3-13.

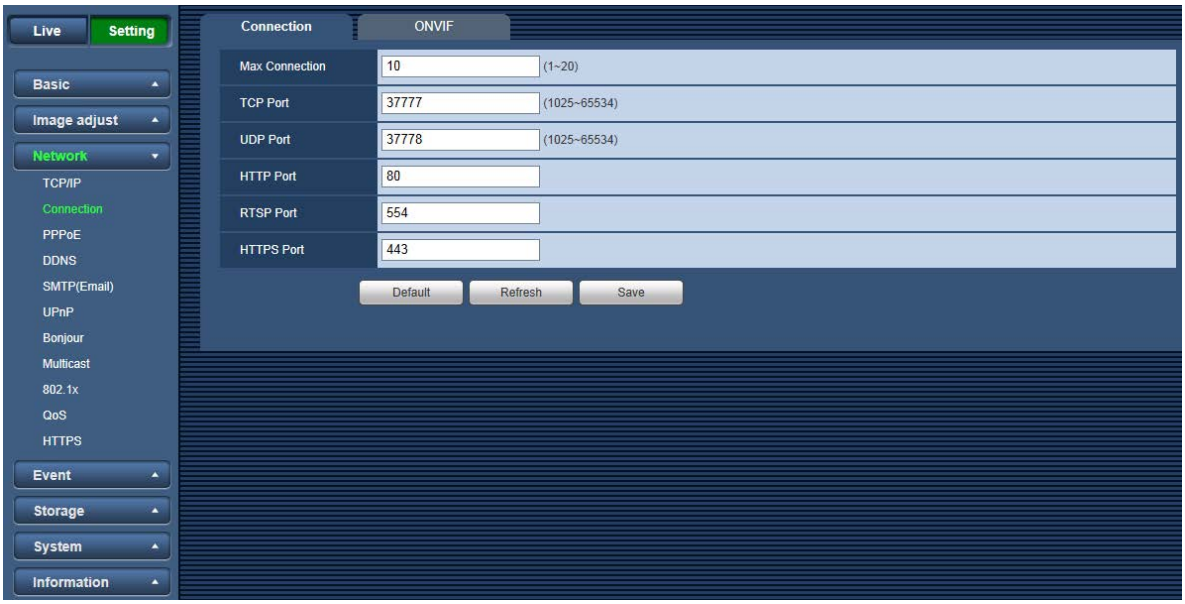


Figure 3-13

Please refer to the following sheet for detailed information.

Parameter	Function
Max Connection	It is the max Web connection for the same device. The value ranges from 1 to 20. The max connection amount is 20.
TCP Port	The default value is 37777. You can input the actual port number if necessary.
UDP Port	The default value is 37778. You can input the actual port number if necessary.
HTTP Port	The default value is 80. You can input the actual port number if necessary.
RTSP Port	The default value is 554. RTSP stream query format is: Main stream: rtsp://username:password@ip:port/cam/realmonitor?channel=1&subtype=0 Sub stream: rtsp://username:password@ip:port/cam/realmonitor?channel=1&subtype=1 You need to input the following four items manually. username/password/IP and port. The IP is device IP and the port default value is 554. You can leave it in blank if it is the default value.

HTTPs Port	The default value is 443. You can input the actual port number if necessary.

3.3.2.2 ONVIF

ONVIF（Open Network Video Interface Forum），this standard describes network video mode, interface, data type and data interaction mode. ONVIF Standard's aim is to achieve a network video frame agreement and makes the network video products (including video front-end, video equipment, etc.) from different manufacturers completely compatible.

3.3.3 **PPPoE**

The PPPoE interface is shown as in Figure 3-14.

Input the PPPoE user name and password you get from the IPS (internet service provider) and enable PPPoE function. Please save current setup and then reboot the device to get the setup activated.

Device connects to the internet via PPPoE after reboot. You can get the IP address in the WAN from the IP address column. When PPPoE is on, please disable UPnP to avoid influence on dial-up.

Please note, you need to go to the IP address item to via the device current device information. You can access the client-end via this address.

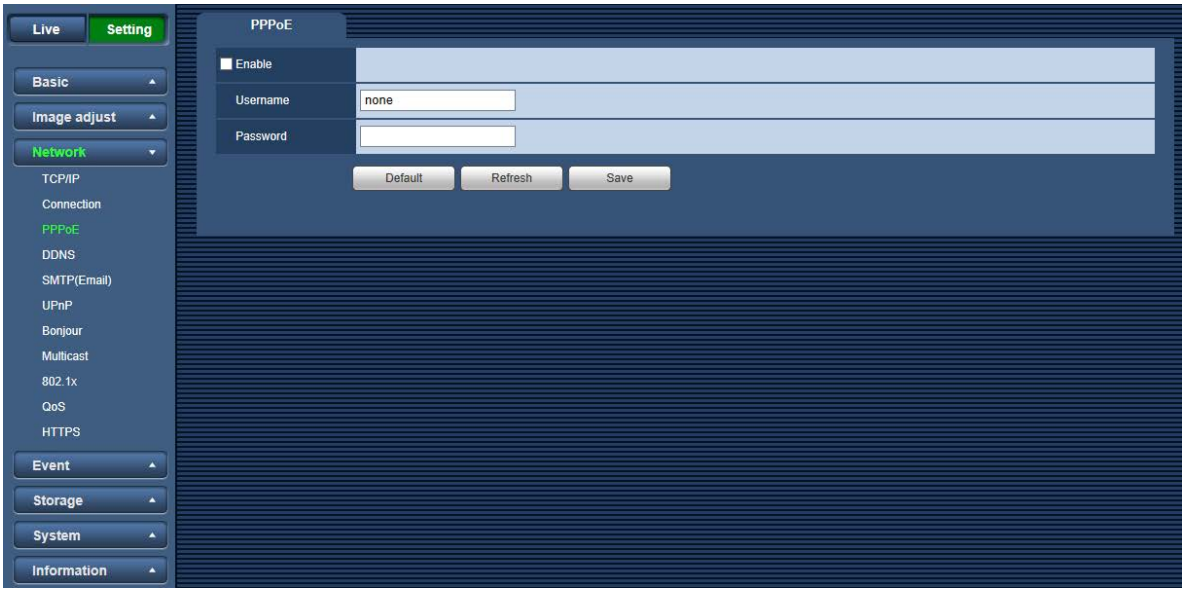


Figure 3-14

3.3.4 **DDNS**

The DDNS interface is shown as in Figure 3-15.

The DDNS is to set to connect the various servers so that you can access the system via the server. Please go to the corresponding service website to apply a domain name and then access the system via the domain. It works even your IP address has changed.

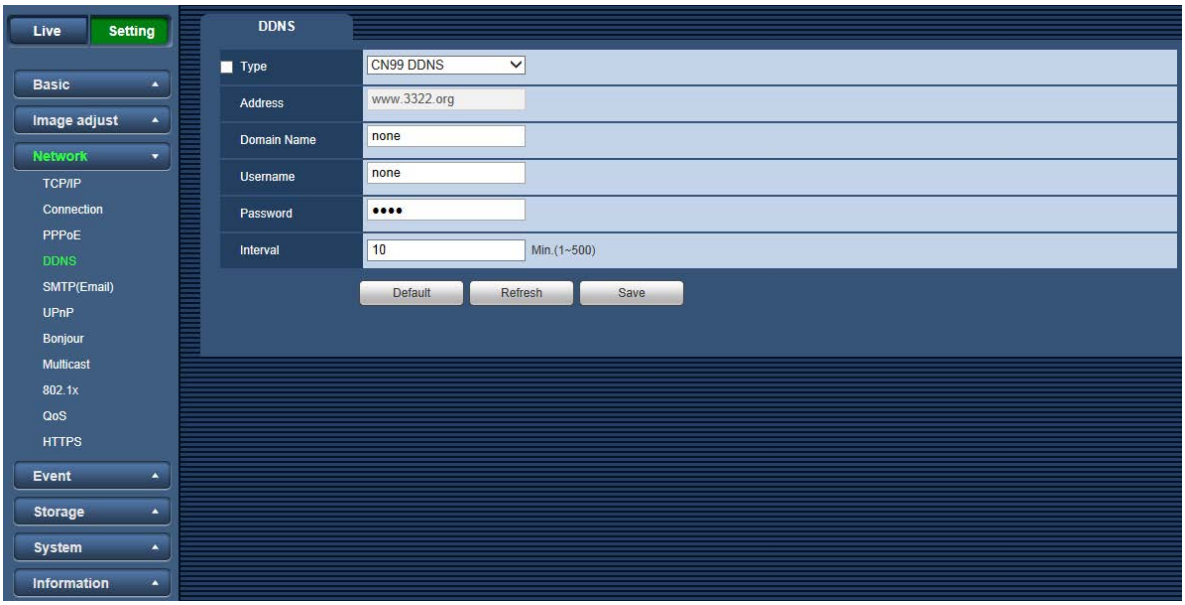


Figure 3-15

Please refer to the following sheet for detailed information.

Parameter	Function
Type	You can select DDNS protocol from the dropdown list and then enable DDNS function. The QUICK DDNS protocol means you use your self-defined private protocol to realize DDNS function.
Address	DDNS server IP address CN99 DDNS Server address: www.3322.org NO-IP DDNS Server address: dynupdate.no-ip.com Dyndns DDNS Server address: members.dyndns.org
Domain name	Your self-defined host name.
Username	The user name you input to log in the server.
Password	The password you input to log in the server.

Parameter	Function
Access interval	● Device sends out alive signal to the server regularly. ● You can set interval value between the device and DDNS server here.

3.3.5 **SMTP (Email)**

The SMTP interface is shown as in Figure 3-16.

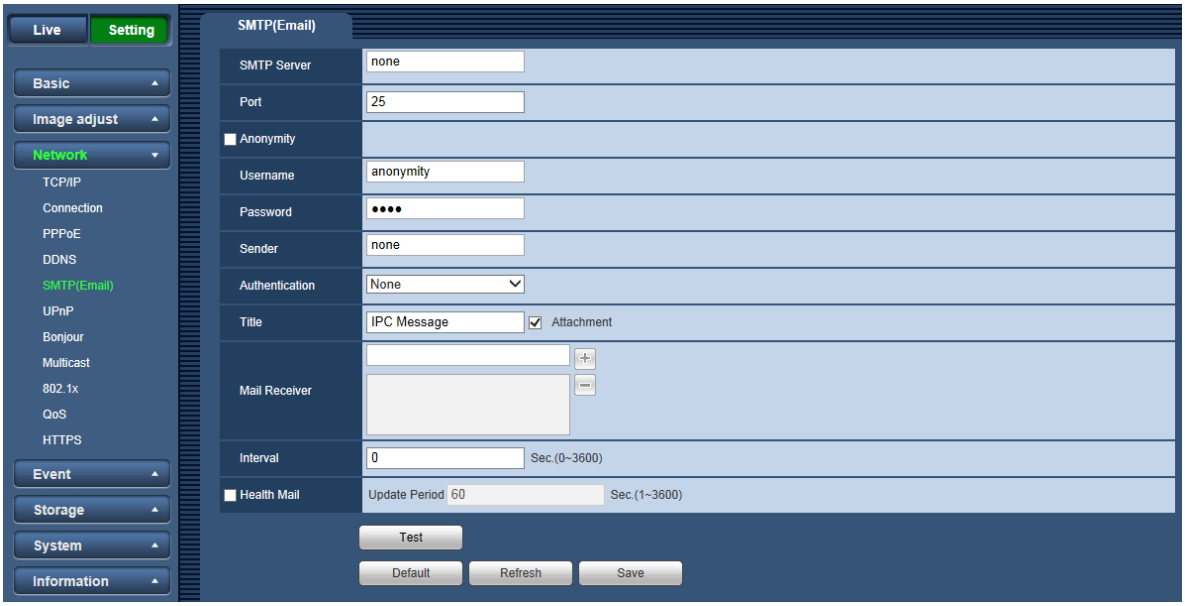


Figure 3-16

Please refer to the following sheet for detailed information.

Parameter	Function
SMTP Server	Input server address and then enable this function.
Port	Default value is 25. You can modify it if necessary.
Anonymity	For the server supports the anonymity function. You can auto login anonymously. You do not need to input the user name, password and the sender information.
Username	The user name of the sender email account.
Password	The password of sender email account.
Sender	Sender email address.
Authentication (Encryption mode)	You can select SSL, TLS or None.

Parameter	Function
Title (Subject)	Input email subject here.
Attachment	System can send out the email of the snapshot picture once you check the box here.
Mail Receiver	Input receiver email address here. Max three addresses.
Interval	The send interval ranges from 0 to 3600 seconds. 0 means there is no interval. Please note system will not send out the email immediately when the alarm occurs. When the alarm, VMD or the abnormity event activates the email, system sends out the email according to the interval you specified here. This function is very useful when there are too many emails activated by the abnormity events, which may result in heavy load for the email server.
Health Mail	Please check the box here to enable this function.
Update Period (interval)	This function allows the system to send out the test email to check the connection is OK or not. Please check the box to enable this function and then set the corresponding interval. System can send out the email regularly as you set here.
Email Test	The system will automatically sent out an email once to test the connection is OK or not .Before the email test, please save the email setup information.

3.3.6 **UPnP**

It allows you to establish the mapping relationship between the LAN and the public network.

Here you can also add, modify or remove UPnP item. For UPnP on different routers, you must disable UPnP function. See Figure 3-17.

In the Windows OS, From Start->Control Panel->Add or remove programs. Click the “Add/Remove Windows Components” and then select the “Network Services” from the Windows Components Wizard. Click the Details button and then check the “Internet Gateway Device Discovery and Control client” and “UPnP User Interface”. Please click OK to begin installation.

Enable UPnP from the Web. If your UPnP is enabled in the Windows OS, the network camera can auto detect it via the “My Network Places”.

Under manual mode, you can modify external port. Under auto mode, select idle port for auto port mapping without user modification.

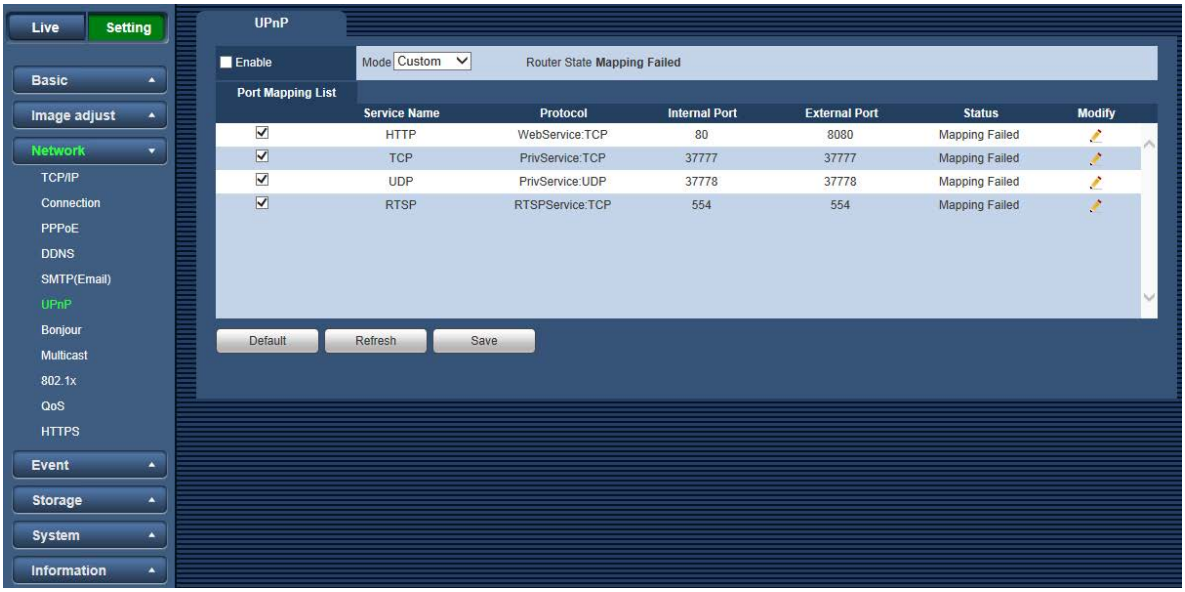


Figure 3-17

3.3.7 **Bonjour**

The Bonjour interface is shown as below. See Figure 3-18.

Bonjour is based on the multicast DNS service from the Apple. The Bonjour device can automatically broadcast its service information and listen to the service information from other device.

You can use the browse of the Bonjour service in the same LAN to search the network camera device and then access if you do not know the network camera information such as IP address.

You can view the server name when the network camera is detected by the Bonjour. Please note the safari browse support this function. Click the “Display All Bookmarks: and open the Bonjour, system can auto detect the network camera of the Bonjour function in the LAN.

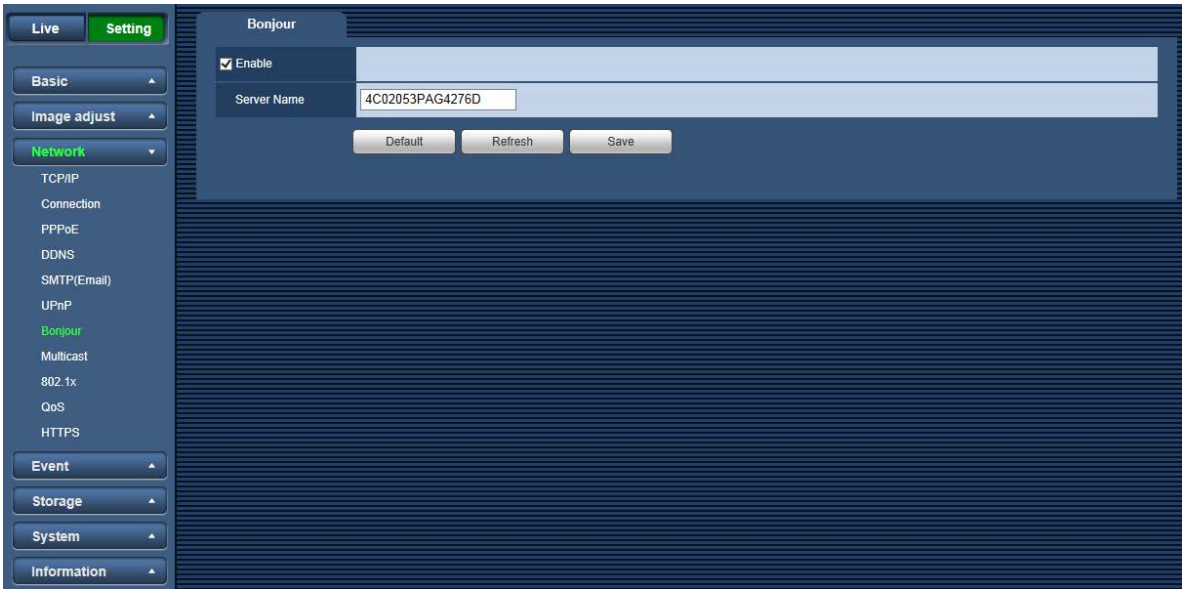


Figure 3-18

3.3.8 **Multicast**

The multicast interface is shown as in Figure 3-19.

Multicast is a transmission mode of data packet. When there is multiple-host to receive the same data packet, multiple-cast is the best option to reduce the broad width and the CPU load. The source host can just send out one data to transit. This function also depends on the relationship of the group member and group of the outer.

Here you can set multicast address and port. You also need to go to Live interface to set the protocol as Multicast.

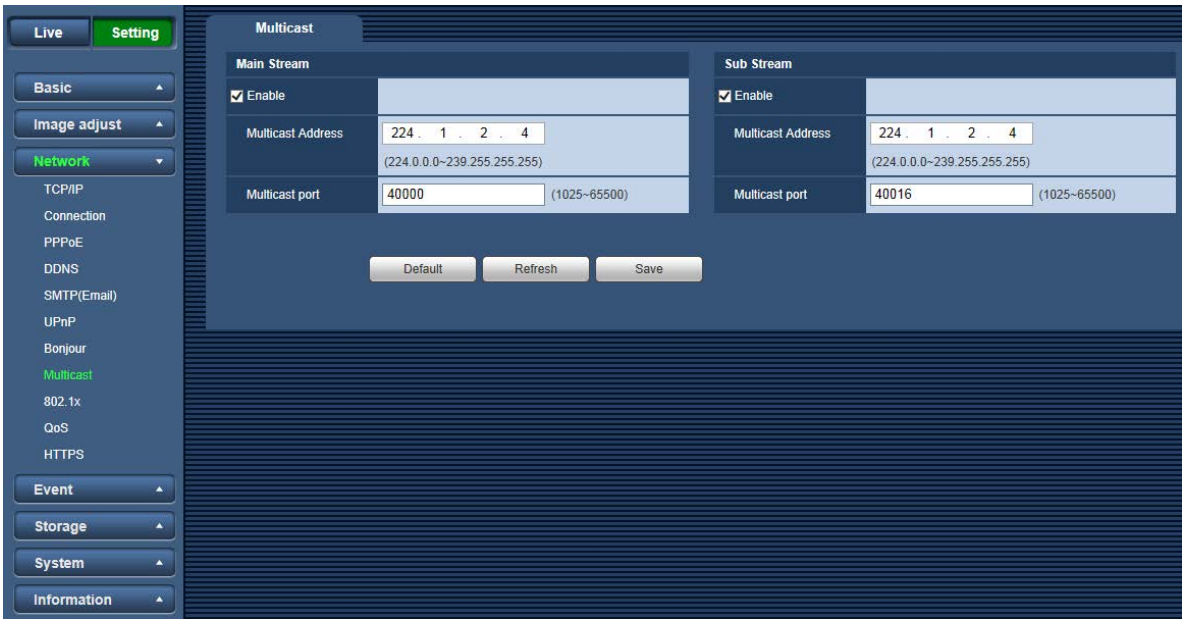


Figure 3-19

Please refer to the following sheet for detailed information.

Parameter	Function
Enable	Select to enable multicast function. Stream(1) and Stream(2) cannot be used at the same time.
Multicast Address	The range of multicast address of Stream(1) and Stream(2) is 224.0.0.0 - 239.255.255.255.
Multicast Port	Multicast port. The range is 1025 - 65500.

3.3.9 **802.1x**

802.1X works standing for local and metropolitan area networks and port based network access control protocol. It supports manual operation of the client to choose means of authenticating by which to control it to access to the Local Area Networks or not. It supports the ability to authenticate, to calculate fee, to ensure security and to maintain requirements. See Figure 3-20.

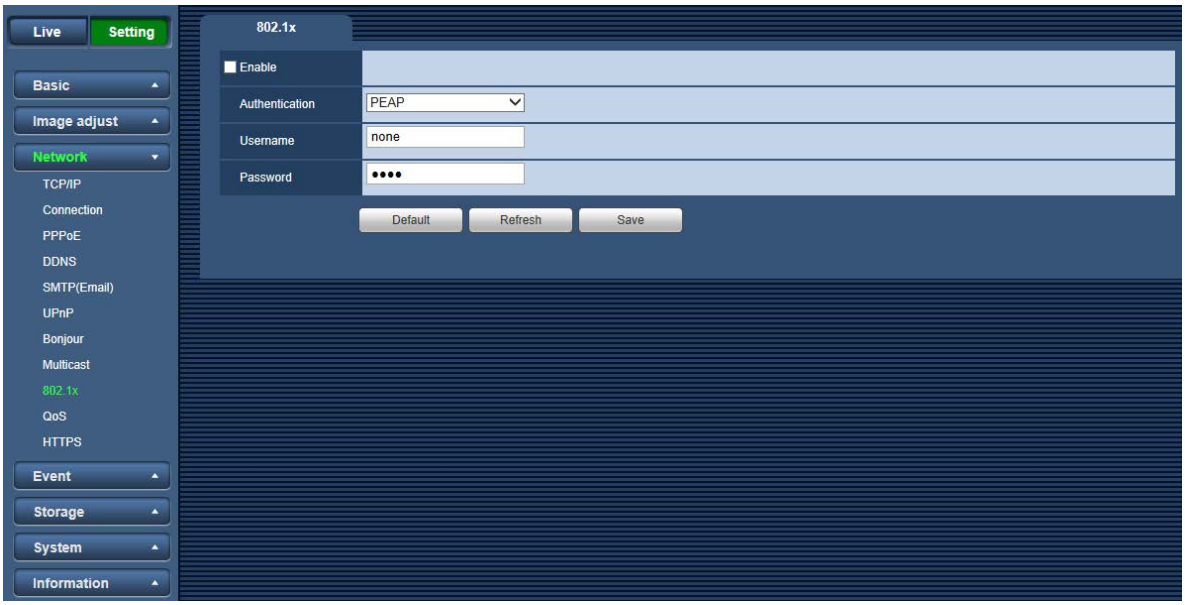


Figure 3-20

Please refer to the following sheet for detailed information.

Parameter	Function
Authentication	PEAP (protected EAP protocol).
Username	It needs the username to login, which is authenticated by the server.
Password	Please input password here.

3.3.10 **QoS**

The QoS interface is shown as below. See Figure 3-21.

QoS (Quality of Service) is network security mechanism. It is a technology to fix the network delay and jam problem and etc. For the network service, the quality of service includes the transmission bandwidth, delay, the packet loss and etc. We can guarantee the transmission bandwidth, lower the delay, reduce the loss of the data packet and anti-dither to enhance the quality.

We can set the DSCP (Differentiated Services Code Point) of the IP to distinguish the data packet so that the router or the hub can provide different services for various data packets. It can select the different queues according to the priority of the packets and select the bandwidth of the each queue. It can also discard at the different ratio when the broad bandwidth is jam.

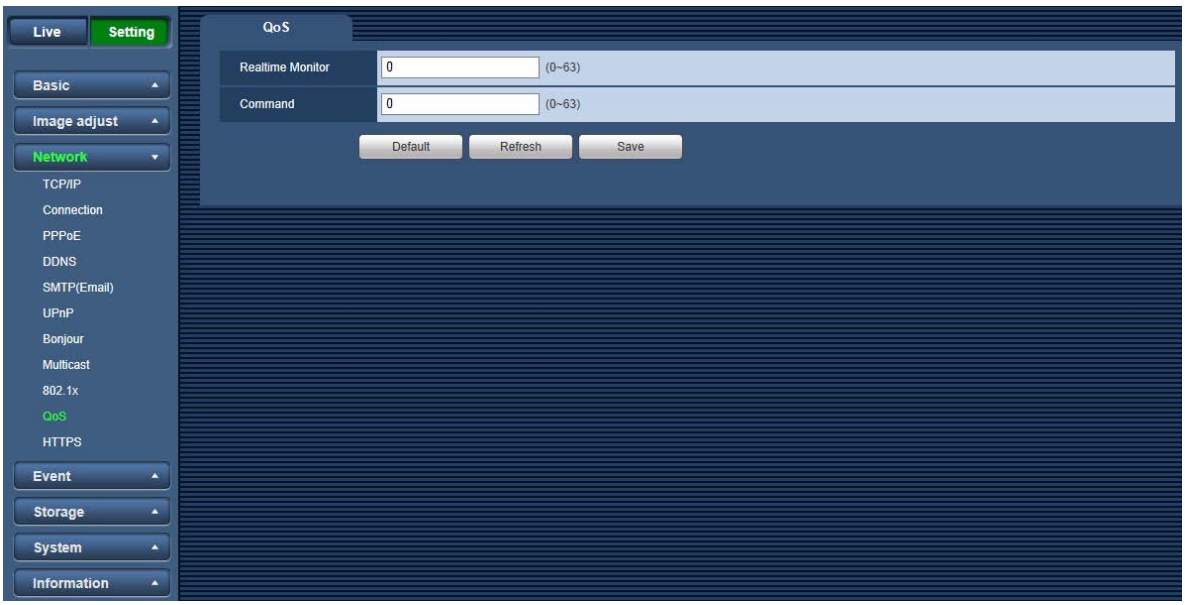


Figure 3-21

Please refer to the following sheet for detailed information.

Parameter	Function
Realtime Monitor	The value ranges from 0 to 63. The router or the switcher can provide different service for various data packets.
Command	The value ranges from 0 to 63. The router or the switcher can provide different service for various data packets.

3.3.11 **HTTPS**

Create certificate or upload the authenticated certificate, and then you can connect through HTTPS with your PC. The HTTPS can protect page authenticity on all types of websites; secure accounts; and keep user communications, identity, and web browsing private.

Step1 Create certificate or upload the authenticated certificate.

If you select “Create certificate”, follow the steps below.

1) Select “setting > Network > HTTPS”.

The **HTTPS** interface is displayed, see Figure 3-22.

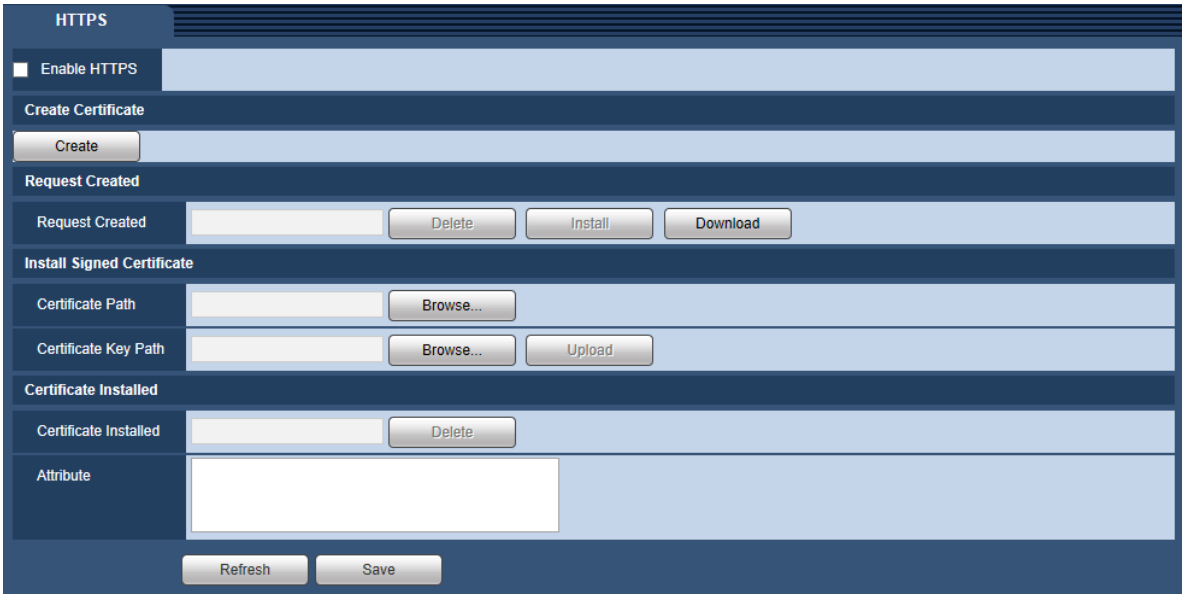


Figure 3-22

2) Click Create.

The HTTPS dialog box is displayed, see Figure 3-23.

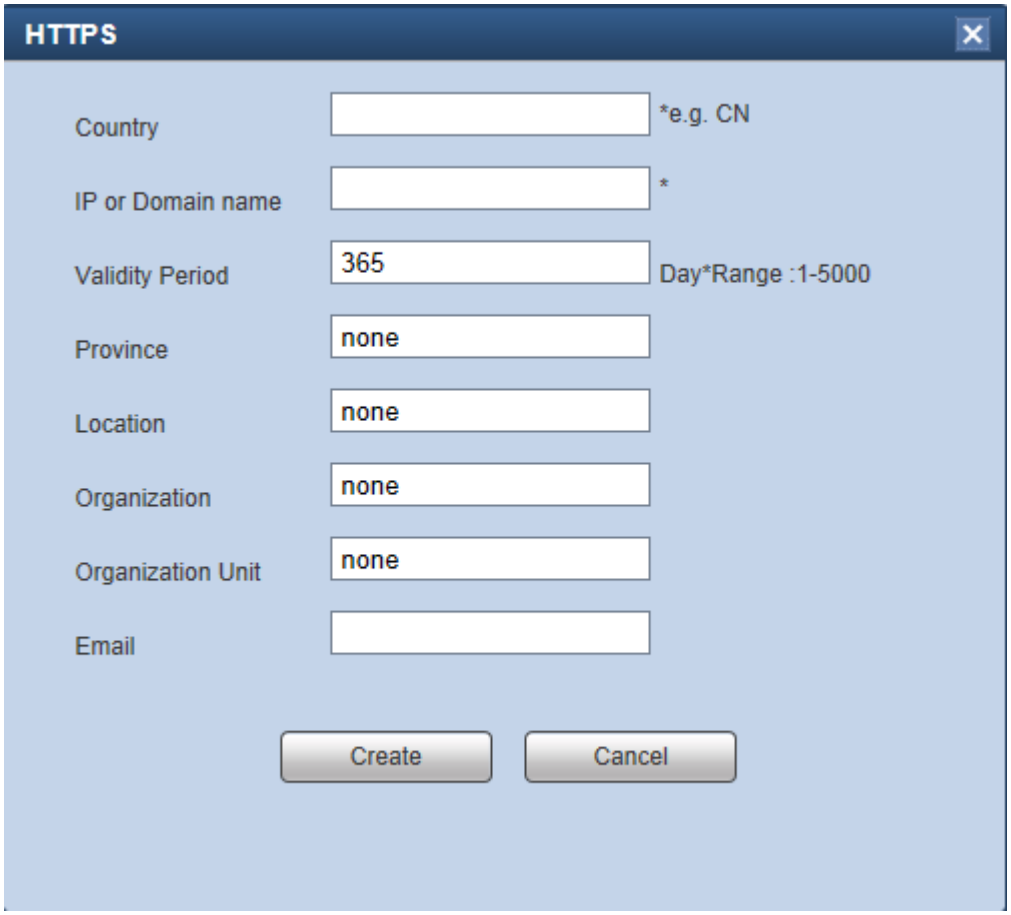


Figure 3-23

3) Enter the required information and then click “Create”.
If the operation is correct, then the “Create successful” prompt is displayed.
Note:
The entered “IP or domain name” must be the same as the IP or domain name of the device.

4) Click “Install”, see Figure 3-24.

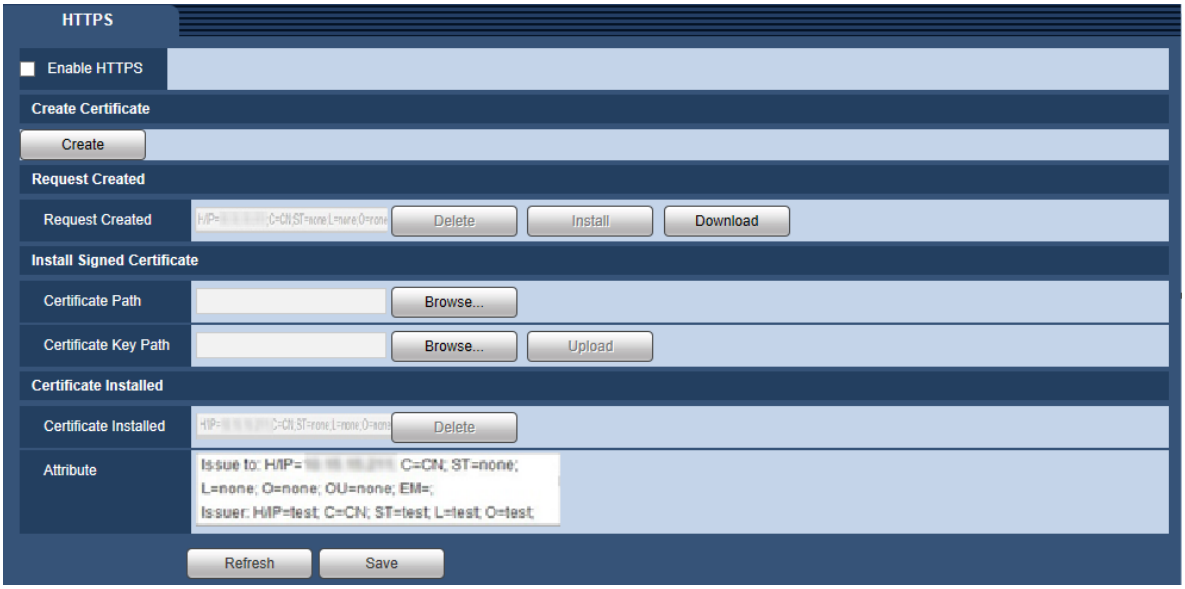


Figure 3-24

5) Click “Download” to download root certificate.
The “Save as” dialog box is displayed, see Figure 3-25.

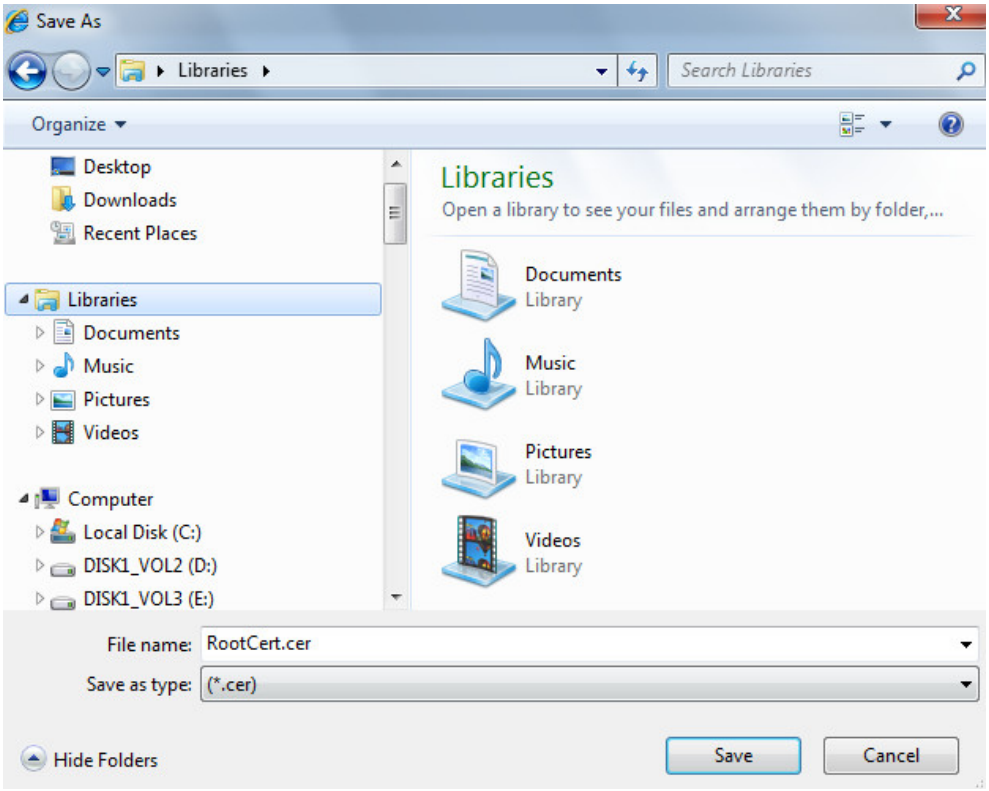


Figure 3-25

6) Select storage path, and then click “save”.
7) Double-click the “RootCert.cer” icon.
   The **Certificate** interface is displayed, see Figure 3-26.

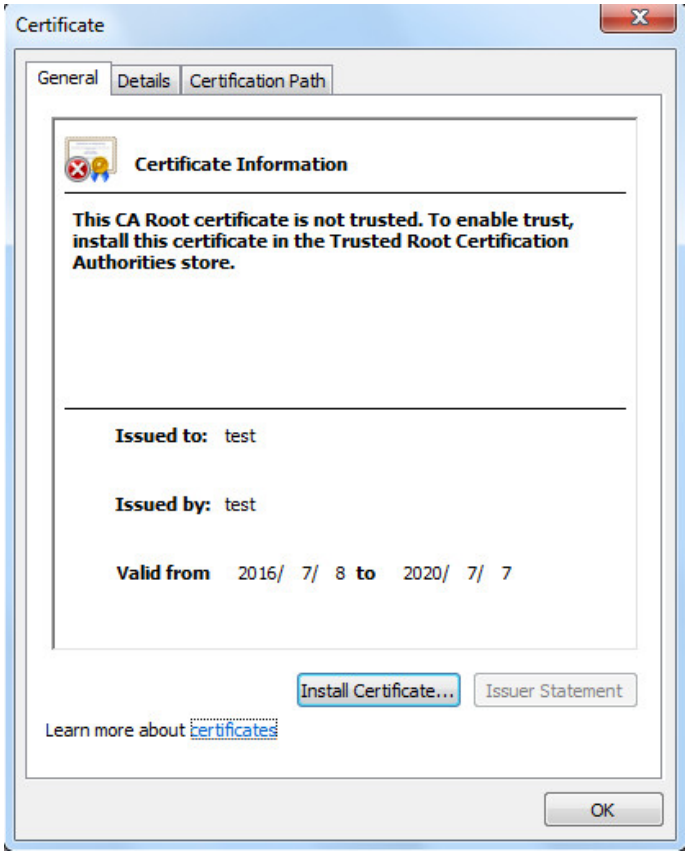


Figure 3-26

8) Click “**Install Certificate**”.
   The **Certificate import wizard** interface is displayed, see Figure 3-27.

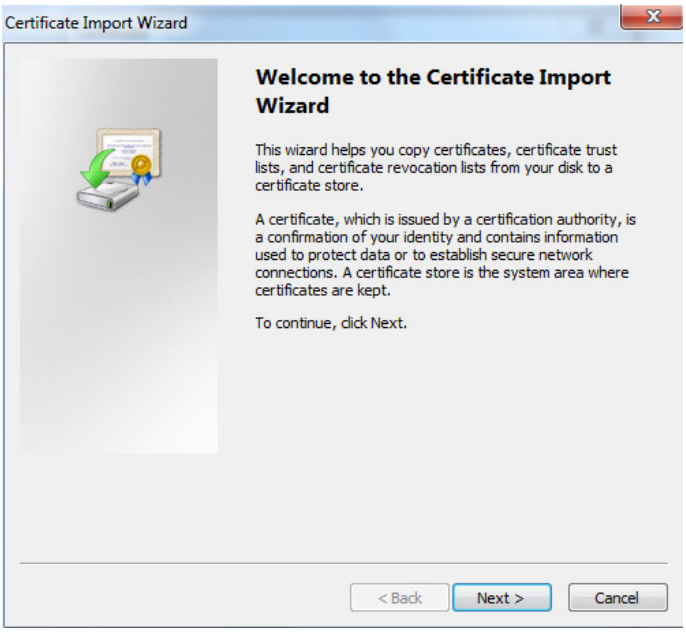


Figure 3-27

9) Click Next.

Select "**Trusted Root Certification Authorities**", see Figure 3-28.

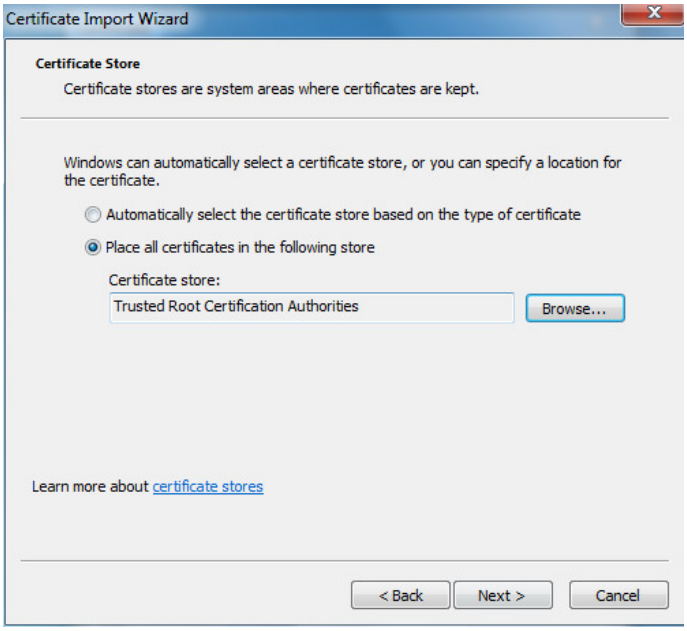


Figure 3-28

10) Click **Next**.

The **Completing the Certificate Import Wizard** interface is displayed, see Figure 3-29.

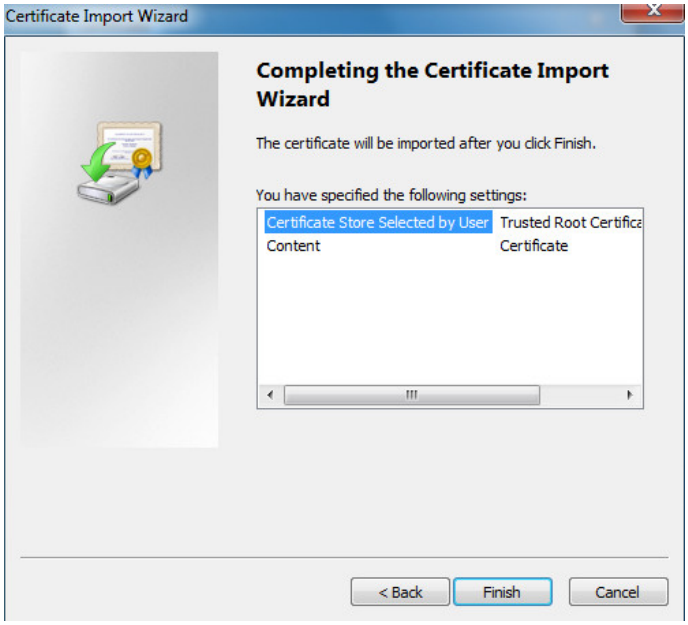


Figure 3-29

11) Click "**Finish**".

The **Security Warning** dialog box is displayed, see Figure 3-30.

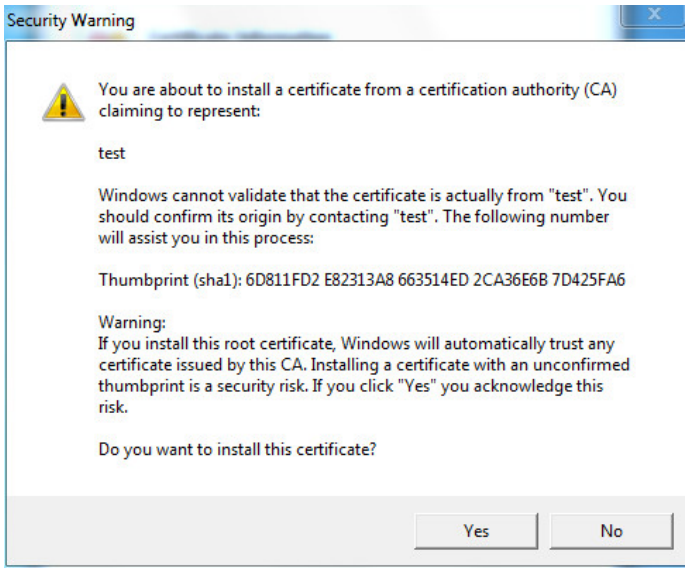


Figure 3-30

12) Click "**Yes**".

Step2 The **The import was successful** dialog box is displayed,
click "**OK**" to finish download, see Figure 3-31.

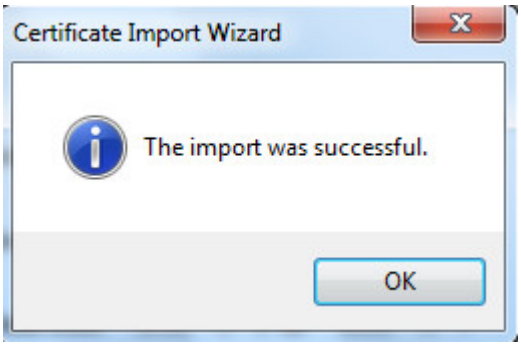


Figure 3-31

If you select "install signed certificate", follow the steps below.

1) Select "**Setting > Network > HTTPS**".
The **HTTPS** interface is displayed, see Figure 3-32.

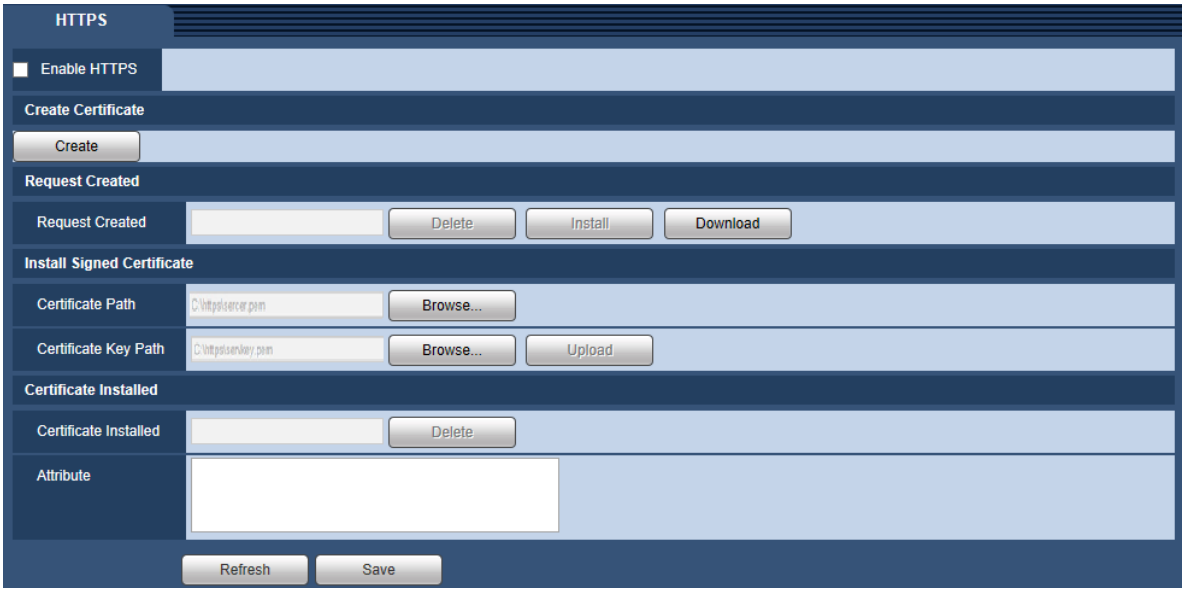


Figure 3-32

2) Click "**Browse**" to upload the signed certificate and certificate key, and then, click "upload".
3) To install the root certificate, see the 5) to 12) in "Create certificate"

Step3 Click "**Enable HTTPS**", and then click "**OK**".
The **Reboot** interface is displayed. See Figure 3-33.

Figure 3-33

Open web browser, and enter https://xx.xx.xx.xx in the address bar, the log in interface is displayed; if certificate is not installed, the certificate error notice is displayed, see Figure 3-34.

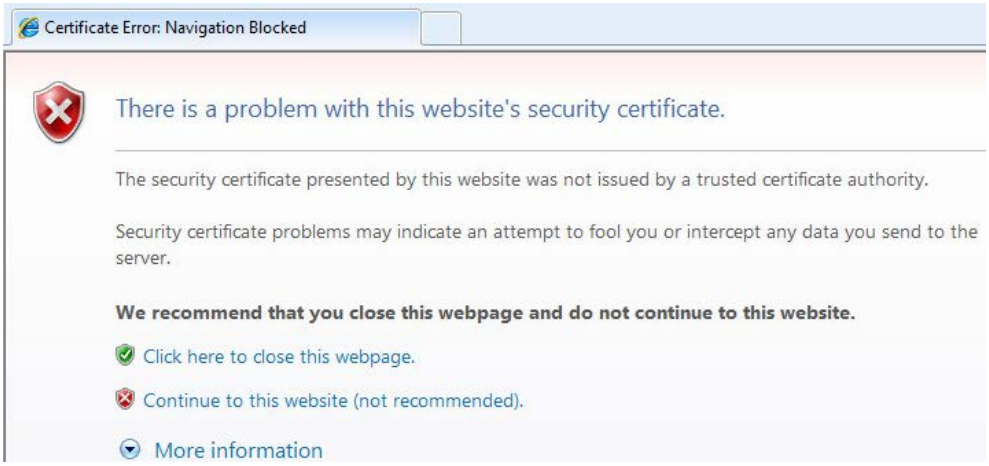


Figure 3-34

Note:

The https://xx.xx.xx.xx is your device IP address or domain name.

3.4 Event

3.4.1 Video Detection

3.4.1.1 VMD

The VMD interface is shown as in Figure 3-35.

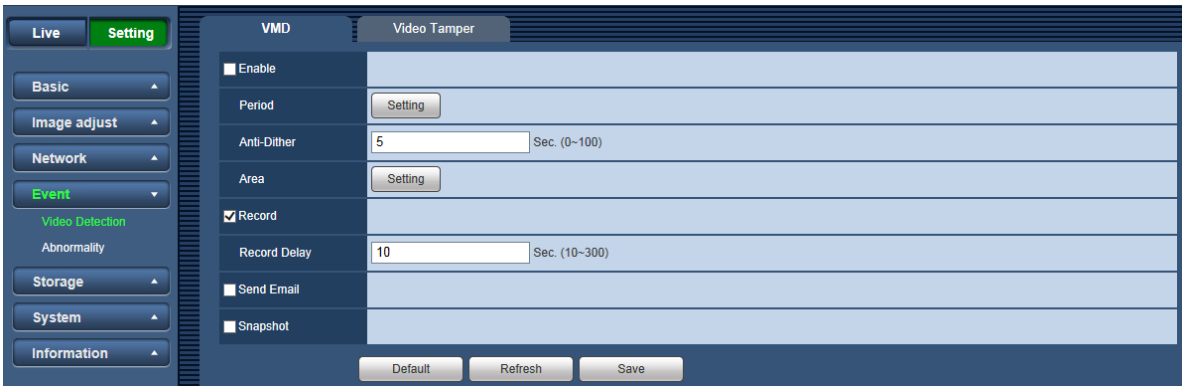


Figure 3-35

Please refer to the following sheet for detailed information.

Parameter	Function
Enable	You need to check the box to enable VMD function.
Period	Here you can set arm/disarm period. Click on set button to open period setup menu.
Anti-Dither	System only memorizes one event during the anti-dither period. The value ranges from 0s to 100s.
Area	Here you can set VMD region and its sensitivity and area. The default covers all regions. You must click on save before enabling your setup.
Record	When record is enabled, you can trigger VMD to activate record.
Record Delay	System can delay the record for specified time after alarm ended. The value ranges from 10s to 300s.
Send Email	If you enabled this function, System can send out email to alert you when alarm occurs and ends.
Snapshot	You need to check the box here so that system can backup VMD snapshot file.

See Figure 3-36.

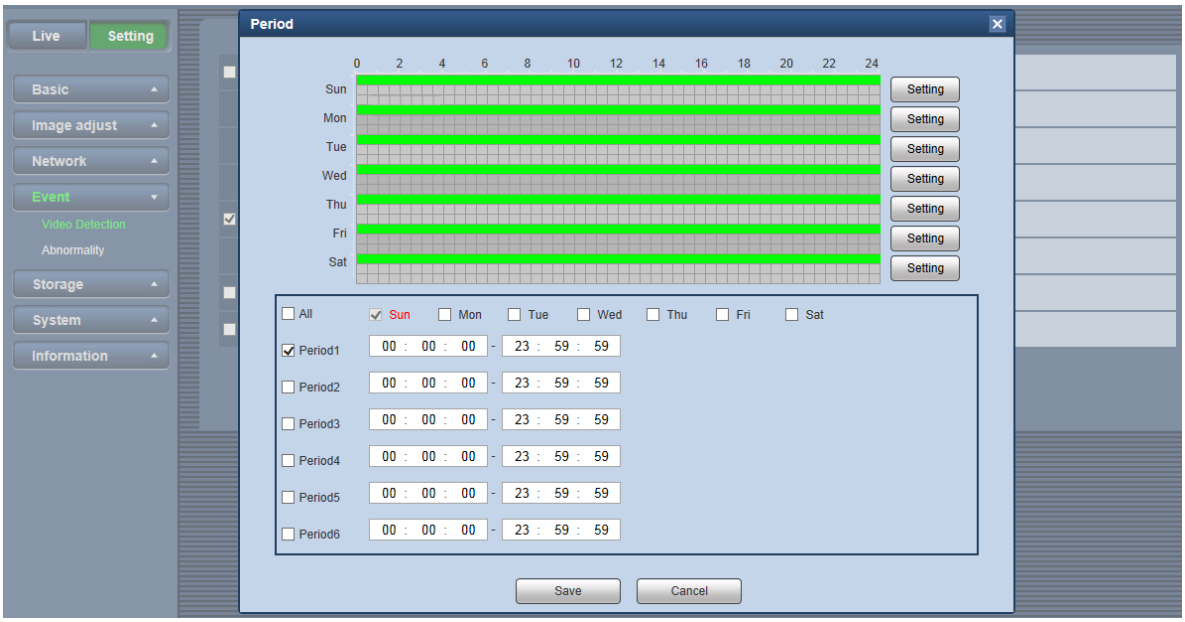


Figure 3-36

See Figure 3-37.

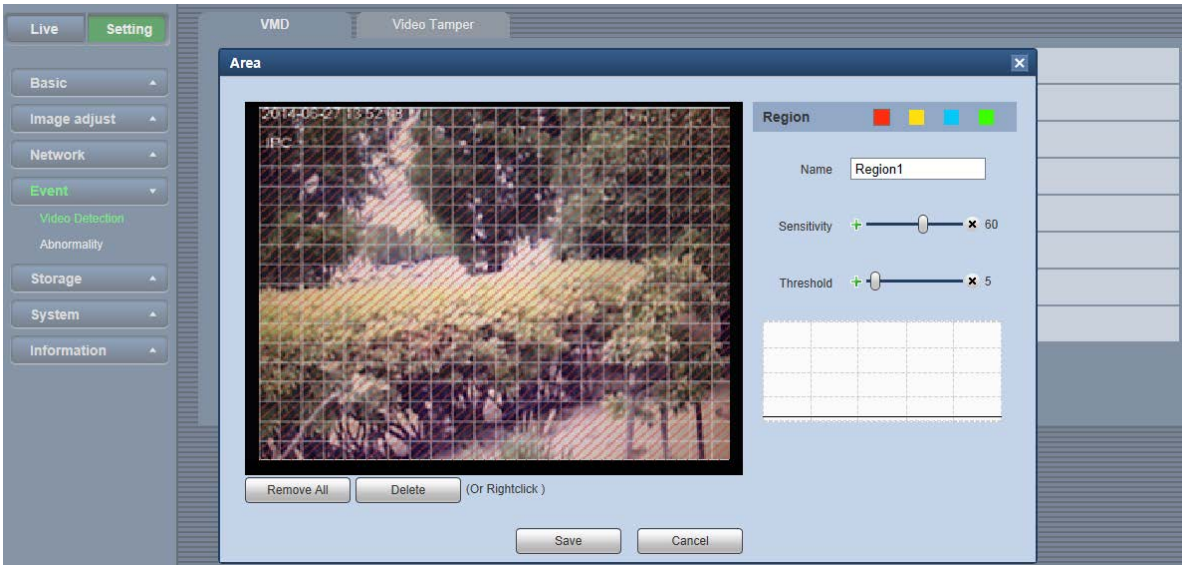


Figure 3-37

Please refer to the following sheet for detailed information.

Different color represents different region, you can set different motion detection areas for each region.

Parameter	Function
Sensitivity	It is sensitivity of brightness as VMD is more possible to be trigger with high sensitivity. You can set up to four areas. The range is 0 - 100. The recommenced value is 30 - 70. The default is 60.
Threshold	It is to check target object area related to detection area. The lower the area threshold, the easier to trigger VMD. You can set up to four areas. The range is 0 - 100. The recommenced value is 10 - 50.
Waveform	Red means motion detect is triggered. Green means motion detect is not triggered.
Remove All	Clear all areas.
Delete	Delete selected area.

3.4.1.2 Tamper

The tampering interface is shown as in Figure 3-38 and Figure 3-39.

Figure 3-38

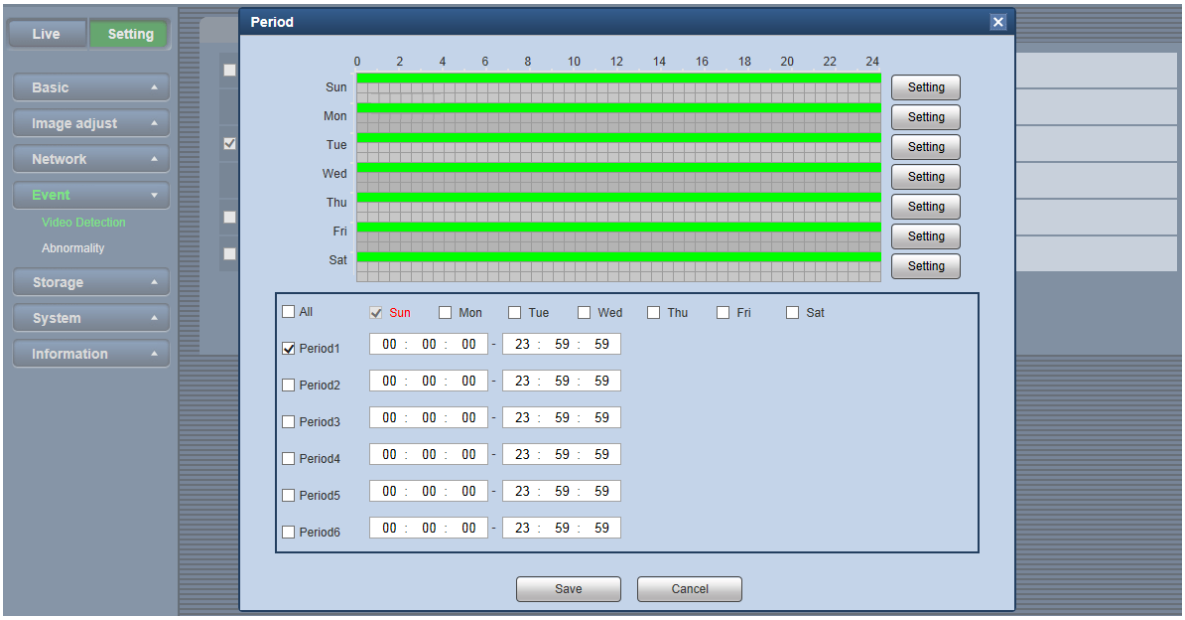


Figure 3-39

Please refer to the following sheet for detailed information.

Parameter	Function
Enable	You need to check the box to enable this function.
Period	● Video masking function becomes activated in the specified periods. ● There are six periods in one day. Please draw a circle to enable corresponding period. ● Select date. If you do not select, current setup applies to today only. You can select all week column to apply to the whole week.
Record	After record is enabled, video masking can activate video.
Record Delay	System can delay the record for specified time after alarm ended. The value ranges from 10s to 300s.
Send Email	If you enabled this function, System can send out email to alert you when alarm occurs.
Snapshot	After snapshot is enabled and alarm happens, the system will automatically snapshot and alarm.

3.4.2 **Abnormity**

Abnormity includes Disconnection, IP Conflict, and Illegal Access.See Figure 3-40, 3-41.

When device is offline or IP conflicts, the abnormal alarm occurs.

Parameter	Function
Event Type	It includes: Disconnection, IP Conflict
Enable	Check to alarm when network is abnormal.

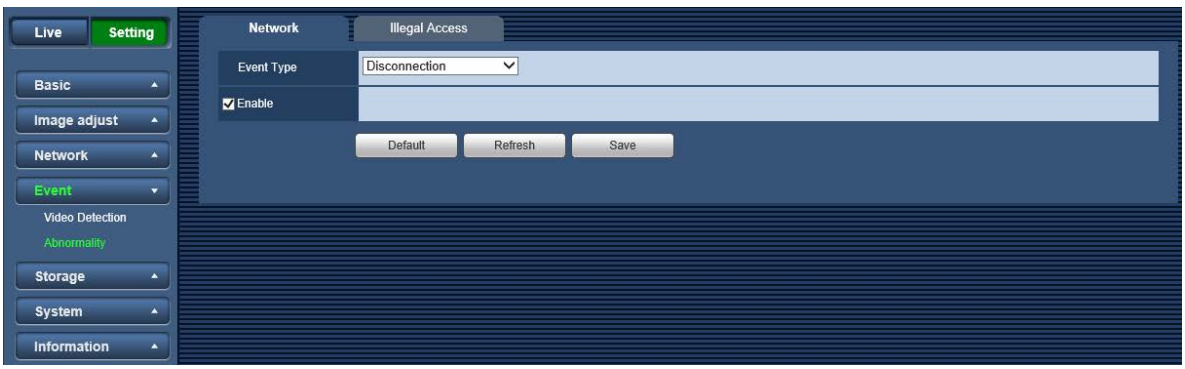


Figure 3-40

When login password keep been wrong for a few times, unauthorized access alarm occurs. This operation is similar to network error. Allow login error times as when it exceeds this limit, user account will be locked.

Figure 3-41

3.5 Storage

3.5.1 Schedule

Before schedule setup, user must set record mode is auto or manual.

Note:

If record mode in record control is off, then device will not snapshot according to schedule.

3.5.1.1 Record Schedule

Record schedule steps:

Step 1. Click on Record Schedule, see Figure 3-42.

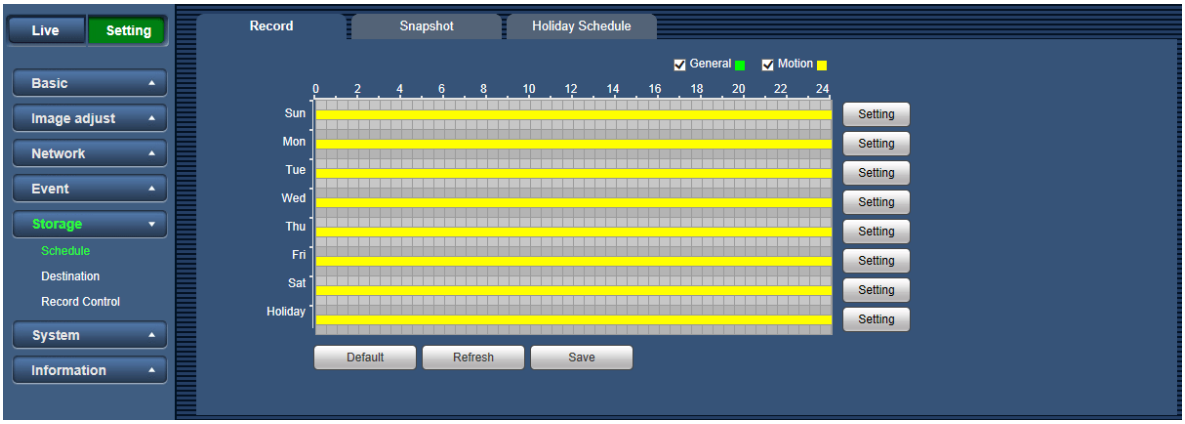


Figure 3-42

Step 2. From Monday to Sunday select record time, click on setup on the right, see Figure 3-43.

- Set period according to actual need. There are six periods available each day.
- By checking or unchecking, you can add or delete three types of record schedule: General, Motion, and Alarm.

Note:

Period setup can be done by dragging in record schedule interface while not releasing left mouse.

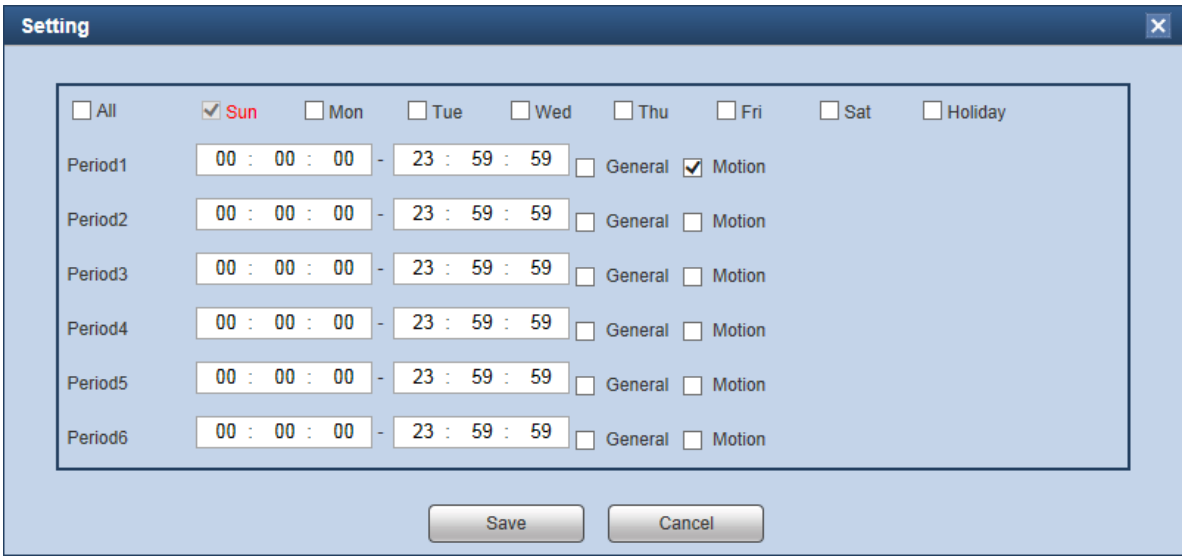


Figure 3-43

Step 3. Click on Save, return to record schedule interface. See Figure 3-44.

- Green color stands for the general record/snapshot.
- Yellow color stands for the motion detect record/snapshot.

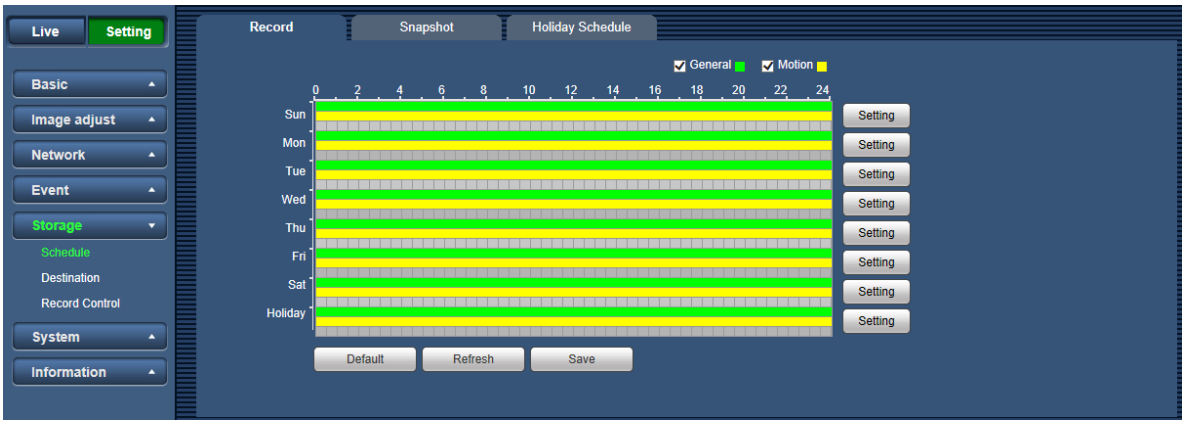


Figure 3-44

Step 4. In record schedule interface, click on Save. System prompts it is successfully saved.

3.5.1.2 Snapshot Schedule

Snapshot setup as:

Step 1. Click on Snapshot Schedule tab, see Figure 3-45.

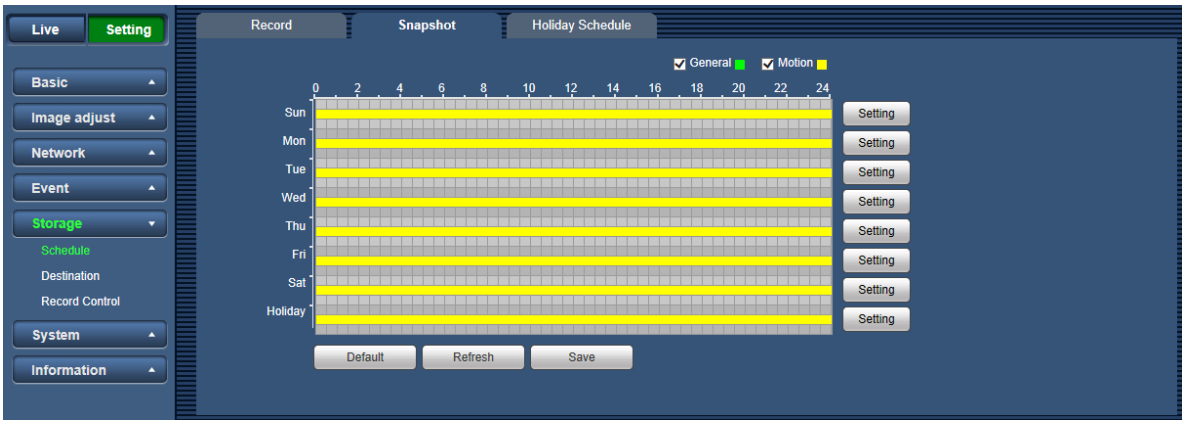


Figure 3-45

Step 2. From Monday to Sunday select snapshot time, click on setup on the right. See Figure 3-46.

- Set snapshot period according to actual need. There are six periods available each day.
- By checking or unchecking, user can add or delete three types of snapshot schedule: General, Motion and Alarm.

Note: Period setup can be done by dragging in snapshot schedule interface while not releasing left mouse.

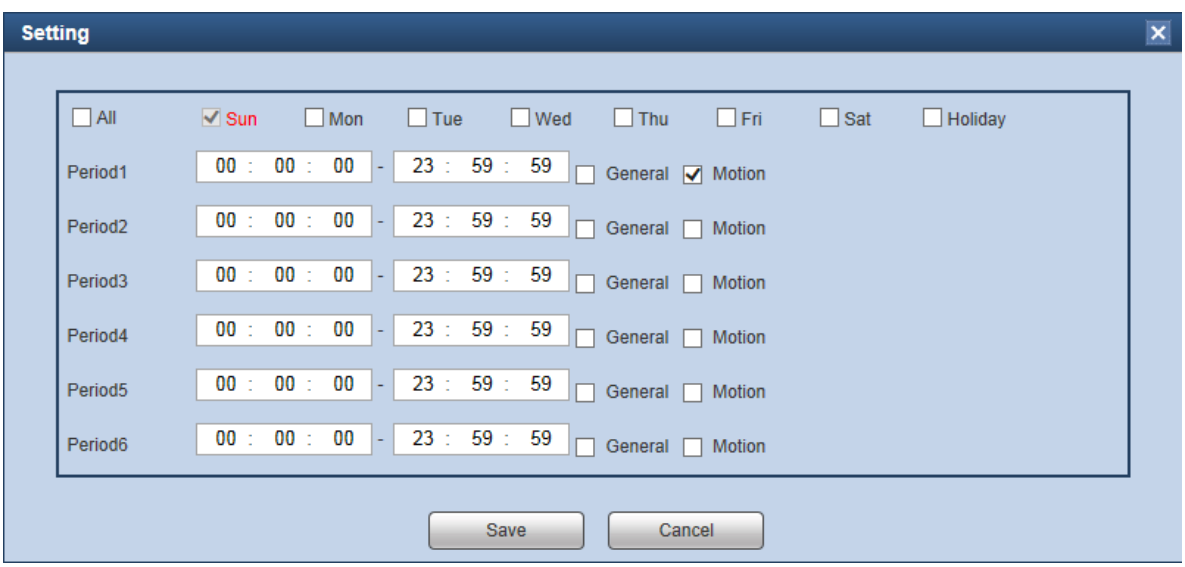


Figure 3-46

Step 3. Click on Save, return to snapshot schedule interface. See Figure 3-47.

- Green color stands for the general record/snapshot.
- Yellow color stands for the motion detect record/snapshot.

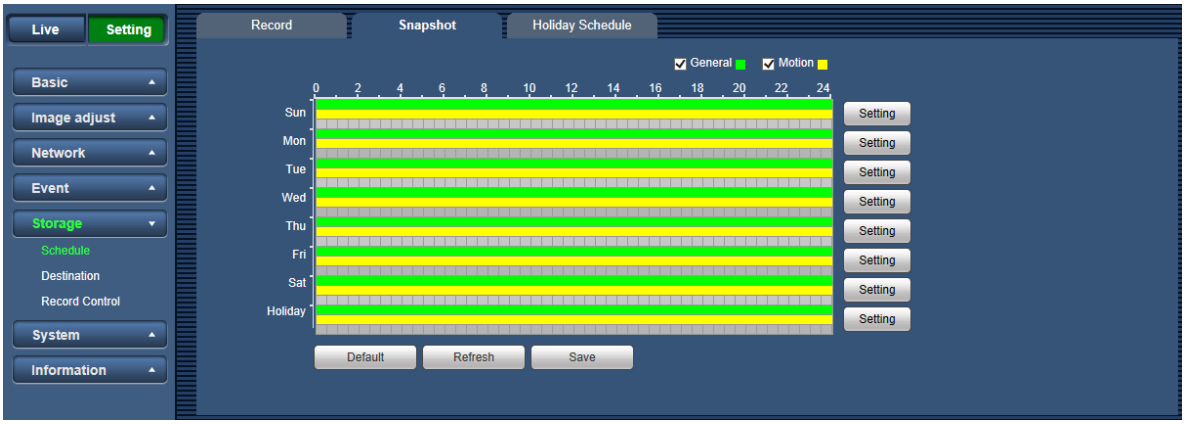


Figure 3-47

Step 4. In snapshot interface, click on Save. System prompts it is successfully saved.

3.5.1.3 Holiday Schedule

Holiday schedule can set specific date as holiday.

Step 1. Click on Holiday Schedule tab, see Figure 3-48.

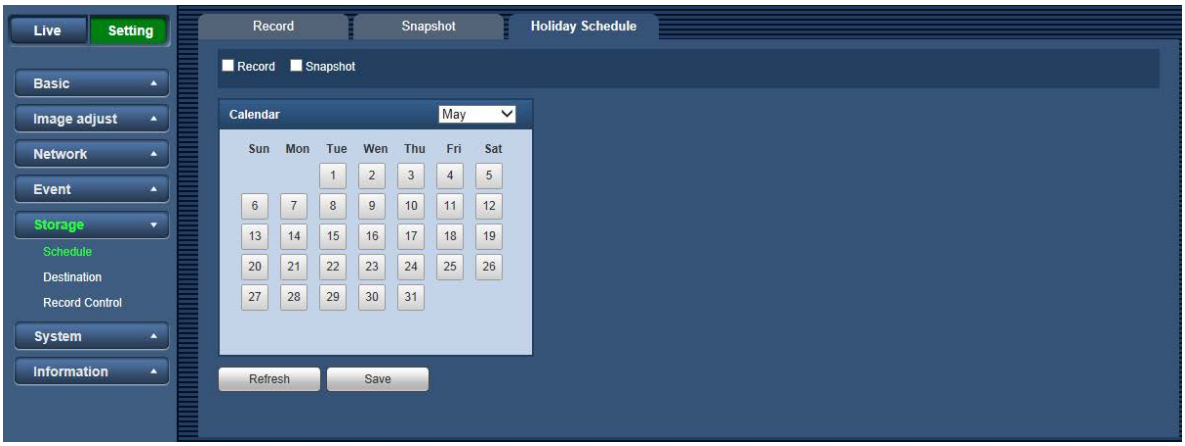


Figure 3-48

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

Step 3. Check Record/Snapshot, click on Save. System prompts it is successfully saved.

Step 4. Check Record Schedule/Snapshot Schedule interface, click on setup next to Holiday, refer to setup of Monday to Sunday.

Step 5. Complete setup of holiday, then it records/snapshots according to date in holiday schedule.

3.5.2 **Destination**

3.5.2.1 Path

The destination interface is shown as in Figure 3-49.

Path can config record and snapshot storage path. There are three options: Local, FTP and NAS. You can only select one mode. System can save according to the event types. It is corresponding to the three modes (General:Scheduled/Motion:Motion) in the Schedule interface. Please check the box to enable the save functions.

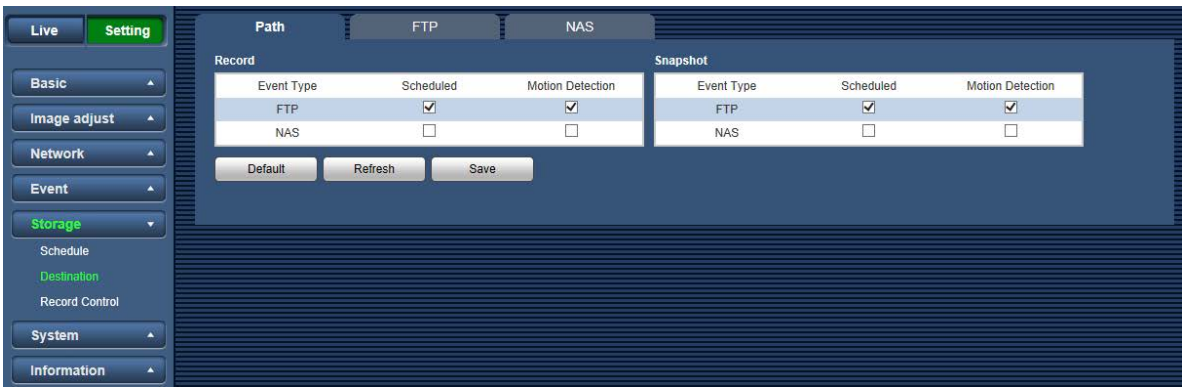


Figure 3-49

Please refer to the following sheet for detailed information.

Parameter	Function
Event Type	It includes: scheduled and motion detect.
FTP	It saved in the FTP server.
NAS	It saved in NAS disk.

3.5.2.2 FTP

The FTP interface is shown as in Figure 3-50.

You need to check the box to enable the FTP function. When network disconnect occurred or there is malfunction.

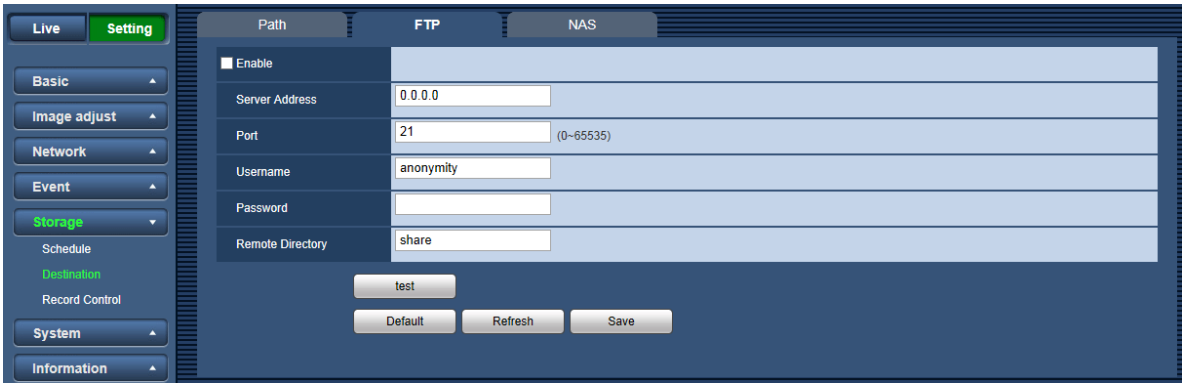


Figure 3-50

3.5.2.3 NAS

You need to check the box to enable the NAS function. Select NAS storage, fill in NAS server address and corresponding store path, then you can store video file or pictorial information in the NAS server. Select NAS storage as to same file to NAS disk. See Figure 3-51.

Figure 3-51

Parameter	Function
Server Address	Set IP address of NAS server.
Remote Directory	Set storage directory, videos and pictures can be stored in to corresponding server directory.

3.5.3 **Record Control**

The record control interface is shown as in Figure 3-52.

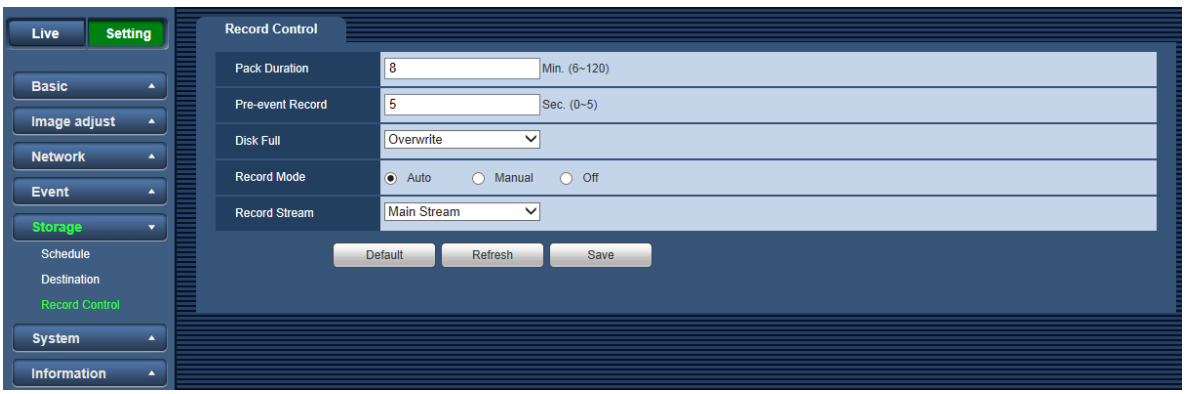


Figure 3-52

Please refer to the following sheet for detailed information.

Parameter	Function
Pack Duration	Here you can select file size. Default setup is 8 minutes. Note: The limitation of file size is 2GB size.
Pre-event Record	Please input pre-event record value here. For example, system can record the four seconds video in the buffer. The record begins from the fifth second. Note: Configure pre-record time, when alarm or motion detection occurs, if there is no record, system will record the preceding n seconds record.
Disk Full	There are two options: stop recording or overwrite the previous files when HDD is full. ● Stop: Current working HDD is overwriting or current HDD is full, it will stop record. ● Overwrite: Current working HDD is full; it will overwrite the previous file.
Record Mode	There are three modes: Auto/Manual/Off.
Record Stream	There are two options: Main Stream and Sub Stream.

3.6 System

3.6.1 Account (User mng.)

Note:

- For the character in the following user name or the user group name, system max supports 15-digits. The valid string includes: character, number, and underline.
- Password can be 0~32 characters in number and letter only. User can modify other user's password.
- The factory default setup includes two levels: user and admin. You can set the corresponding group and then set the rights for the respective user in the specified groups.
- User management adopts group/user modes. The user name and the group name shall be unique. One user shall be included in only one group.
- Currently logged in user cannot change his/her own right.

3.6.1.1 User Name

In this interface you can enable anonymity login, add/remove user and modify user name. See Figure 3-53.

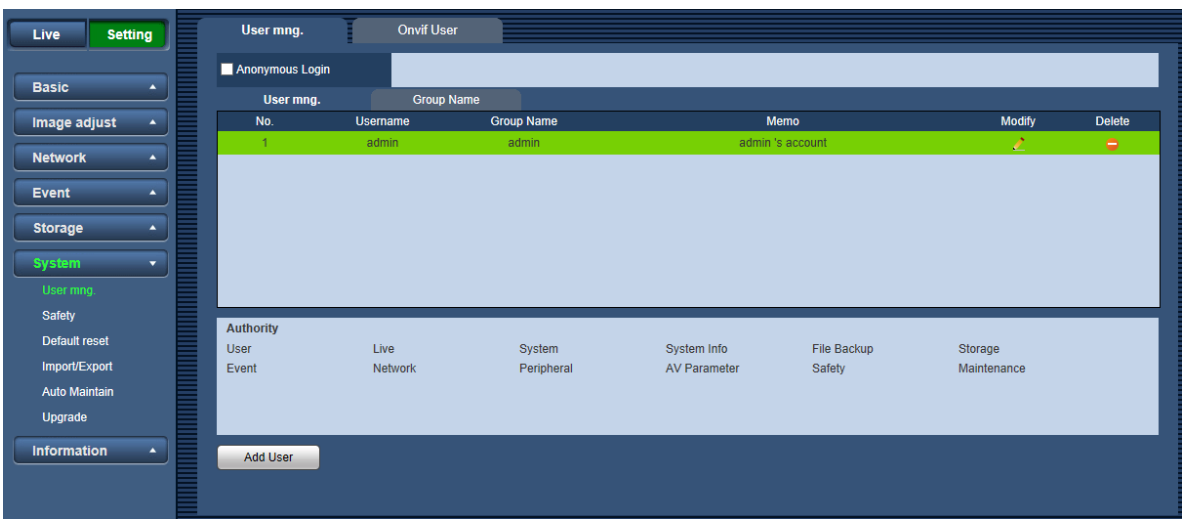


Figure 3-53

Enable anonymity login: Enable anonymity login, and input IP. No username or password is required, you can log in by anonymity (with limited rights). You can click logout to end your session.

Add user: It is to add a name to group and set the user rights. See Figure 3-54.

Here you can input the user name and password and then select one group for current user.

Please note the user rights shall not exceed the group right setup.

For convenient setup, please make sure the general user has the lower rights setup than the admin.

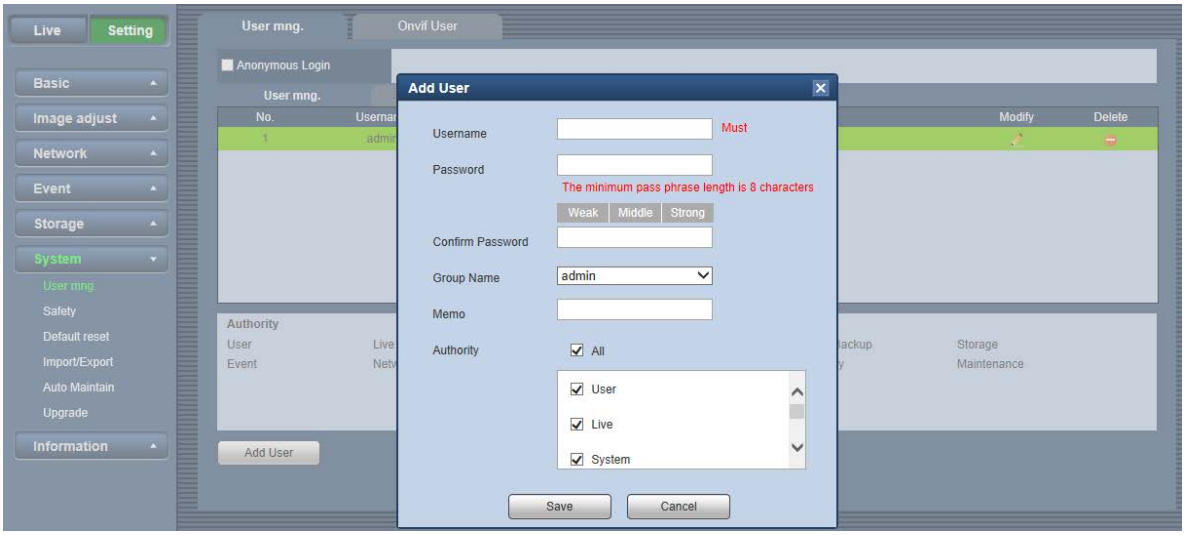


Figure 3-54

Modify user

It is to modify the user property, belonging group, password and rights. See Figure 3-55.

Modify password

It is to modify the user password. You need to input the old password and then input the new password twice to confirm the new setup. Please click the Save button to save.

Please note, the password ranges from 0-digit to 32-digit. It shall include the number and letter only. For the user who has the account rights, he can modify the password of other users.

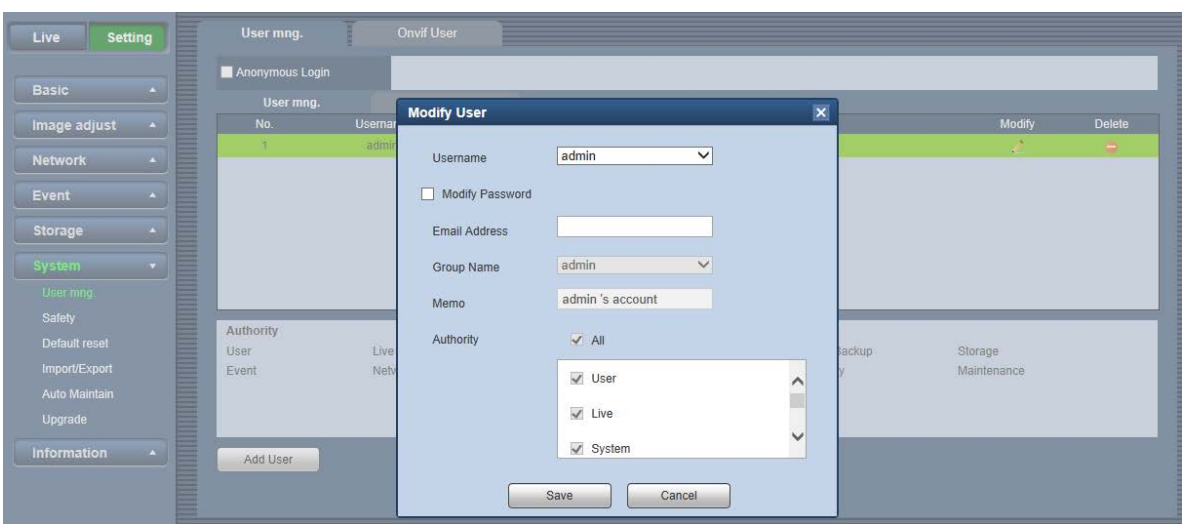


Figure 3-55

3.6.1.2 Group

The group management interface can add/remove group, modify group password and etc. The interface is shown as in Figure 3-56.

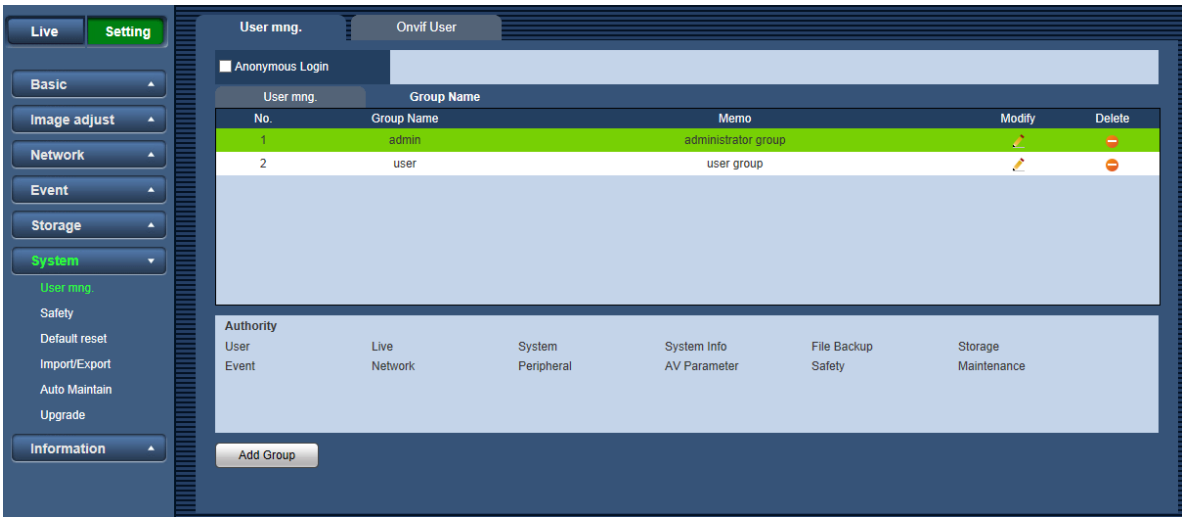


Figure 3-56

Add Group: It is to add group and set its corresponding rights. See Figure 3-57. Please input the group name and then check the box to select the corresponding rights. It includes: preview, playback, record control and etc.

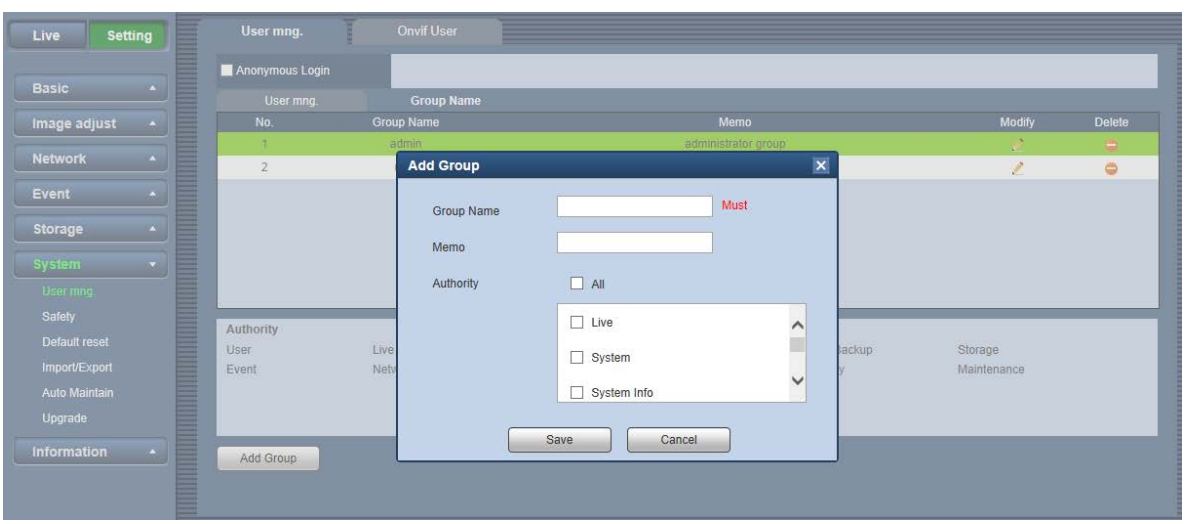


Figure 3-57

Modify group

Click the modify group button, you can see an interface is shown as in Figure 3-58.

Here you can modify group information such as remarks and rights.

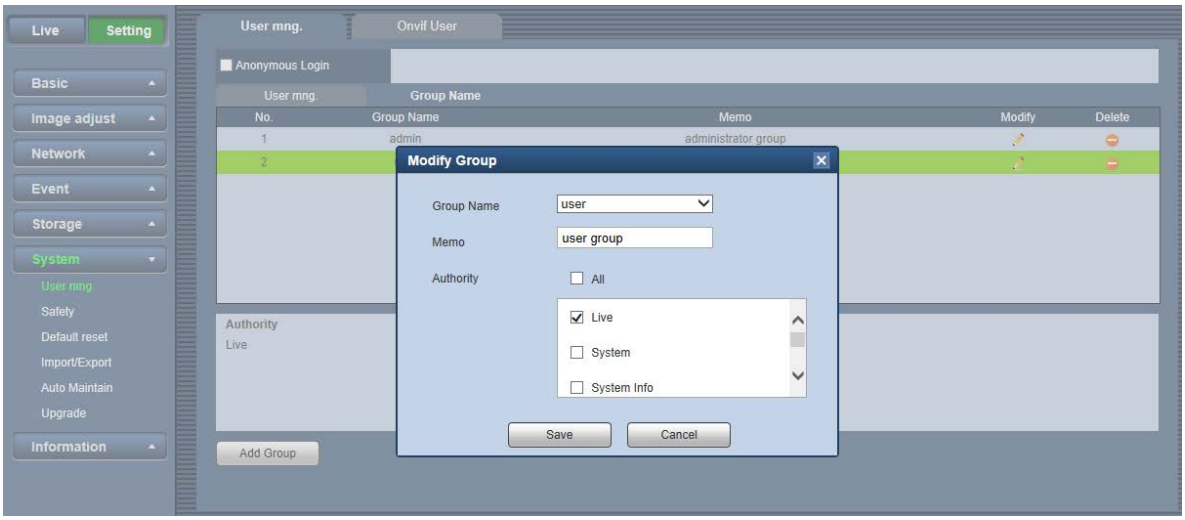


Figure 3-58

3.6.2 Safety(IP Filter)

You can configure IP filter.

Configure the IP hosts (devices with IP address) that are allowed to visit the device, only the hosts in the trusted sites list can log in the web interface. This is to enhance network and data security.

The **IP filter** interface is displayed, see Figure 3-59.

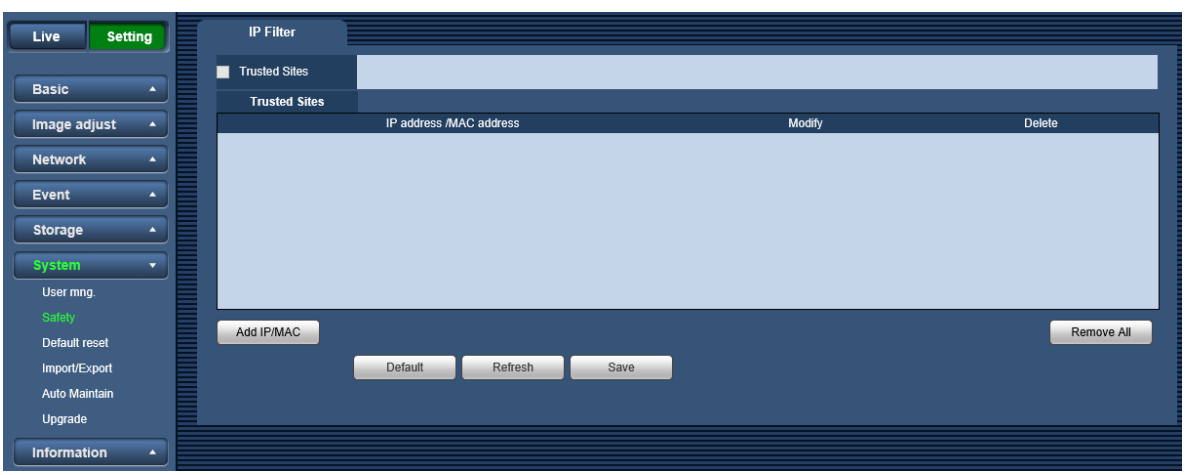


Figure 3-59

Click Add IP/MAC, and then the Add IP/MAC dialog box is displayed, configure the IP address as below table instructed.

Parameter	Description
IP Address	Enter the IP address of the target host. NOTE Support 64 addresses at most.
IP segment	Enter the start IP and end IP of the target IP segment.
MAC	Enter the MAC address of the target host.

Select “Trusted Sites”, and then the Trusted Sites function is enabled.

Click “OK” to finish configuration.

Only the IP hosts in the trusted sites list can log in the web interface.

3.6.3 Default reset

The default reset interface is shown as in Figure 3-60.

Restore the device to default configuration or factory settings.

Please note system cannot restore some information such as network IP address.

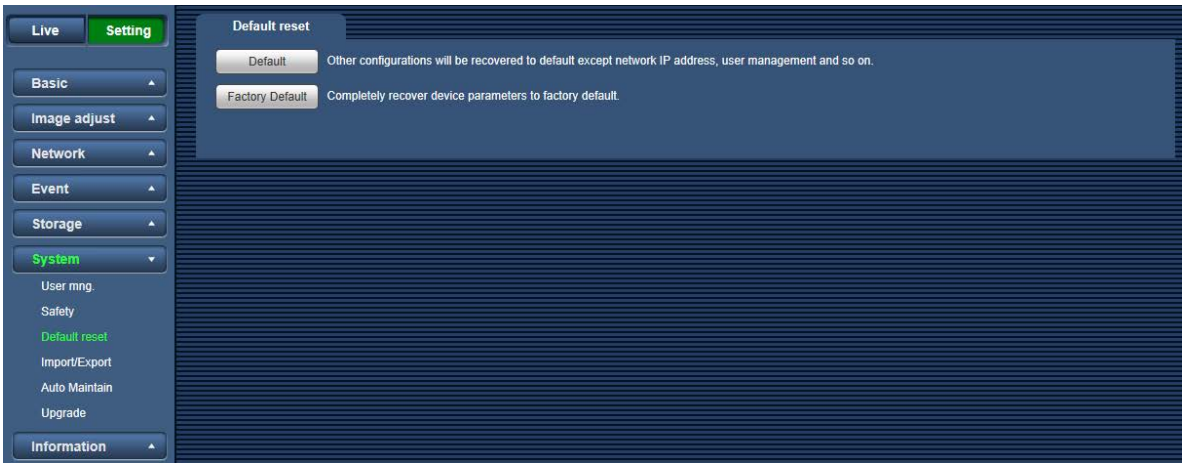


Figure 3-60

Click “Default”, and all the configurations except IP Address and Account are reset.

Click “Factory Default”, and all the configurations are reset.

3.6.4 **Import/Export**

The interface is shown as in Figure 3-61.

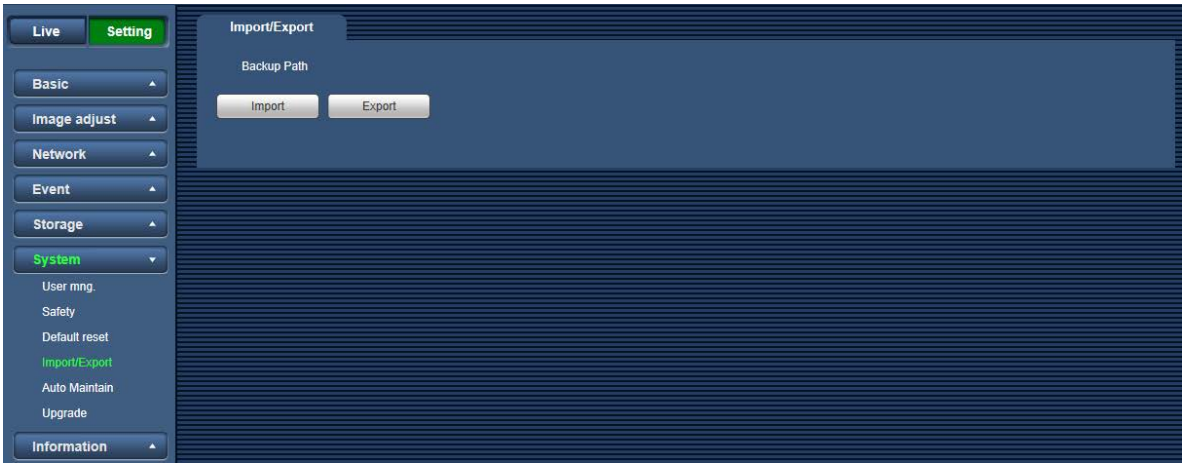


Figure 3-61

Please refer to the following sheet for detailed information.

Parameter	Function
Import	It is to import the local setup files to the system.
Export	It is to export the corresponding system setup to your local PC.

3.6.5 **Auto Maintenance**

The auto maintenance interface is shown as in Figure 3-62.

Here you can select auto reboot and auto delete old files interval from the dropdown list.

If you want to use the auto delete old files function, you need to set the file period.

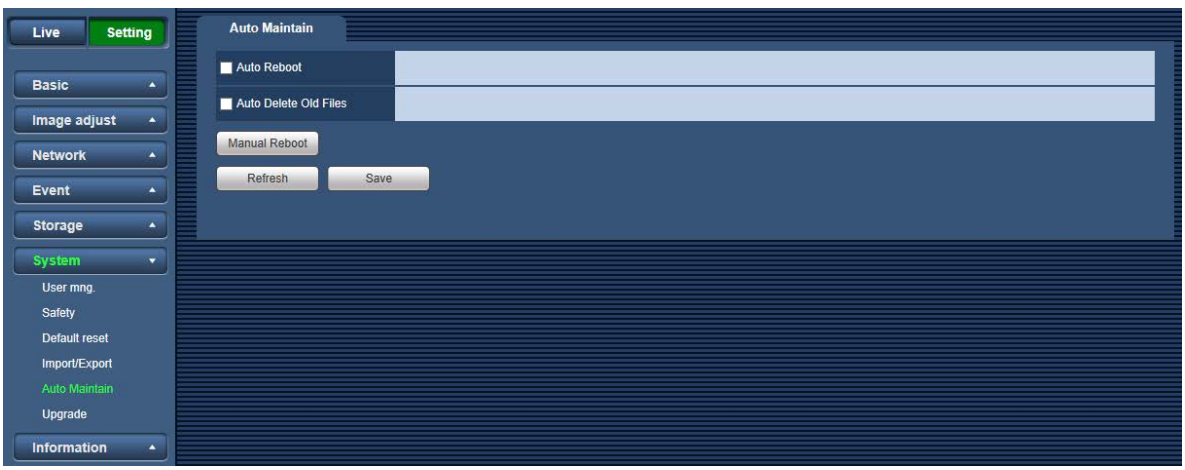


Figure 3-62

Parameter	Function
Auto Reboot	Check it and set auto reboot time.
Auto Delete Old Files	Check it and set period within 1~31 days.

3.6.6 **Upgrade**

The upgrade interface is shown as in Figure 3-63.

Please select the upgrade file and then click the Upgrade button to begin firmware update.

Important

Improper upgrade program may result in device malfunction!

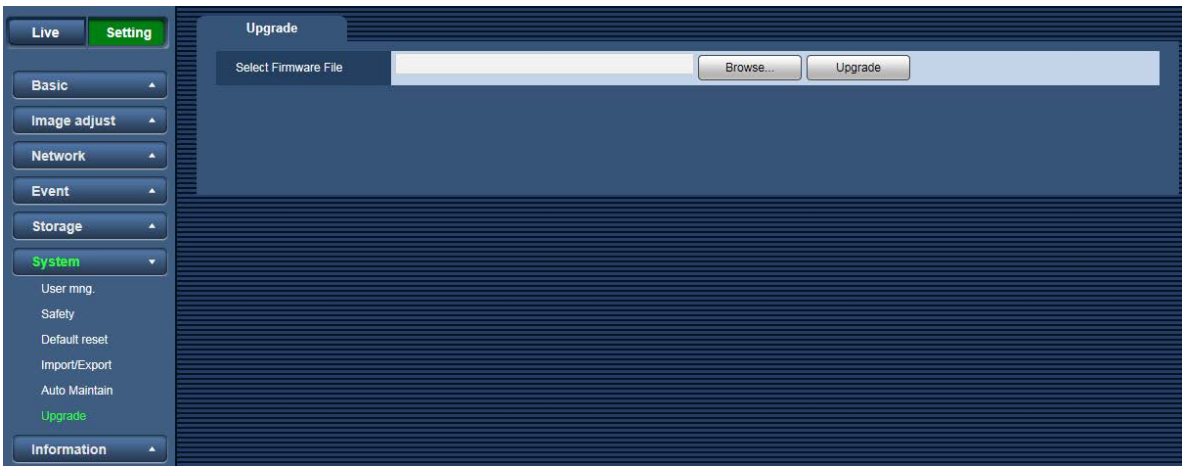


Figure 3-63

3.7 Information

3.7.1 Version

The version interface is shown as in Figure 3-64.

Here you can view system hardware features, software version, release date and etc. Please note the following information is for reference only.

Figure 3-64

3.7.2 Log

Here you can view system log. See Figure 3-65.

Select “Remote Log” tab, and then enter IP address, port and device number to enable remote log management.

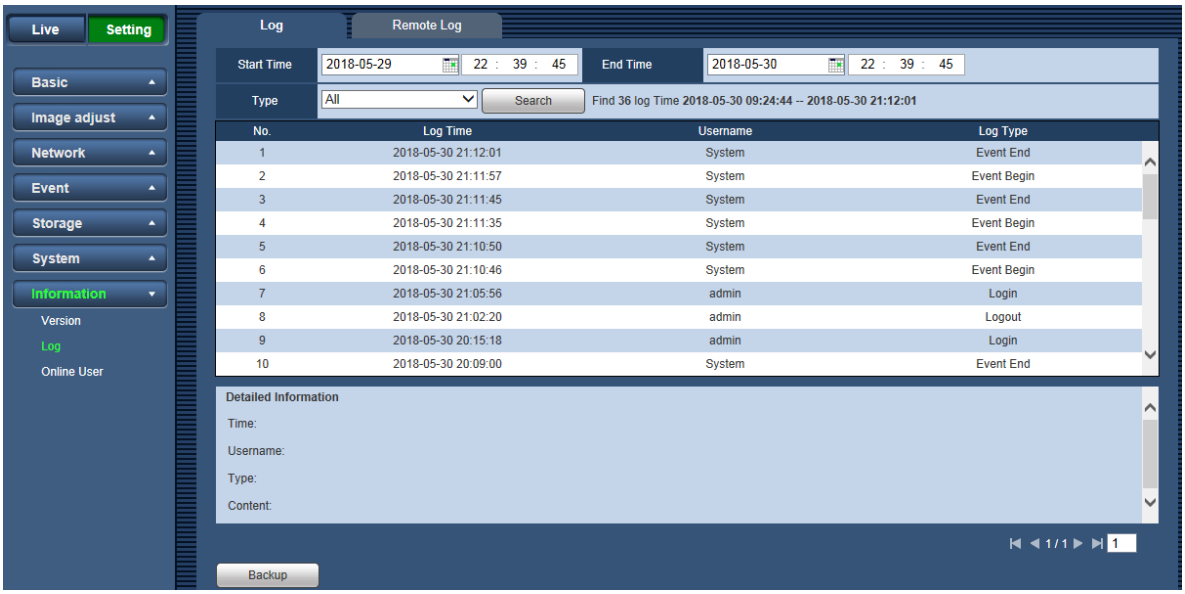


Figure 3-65

Please refer to the following sheet for log parameter information.

Parameter	Function
Type	Log types include: all, system operation, setting operation, data operation, event operation, record operation, account management, clear log.
Start Time	Set the start time of the requested log.
End Time	Set the end time of the requested log.
Search	You can select log type from the drop down list and then click search button to view the list. You can click the stop button to terminate current search operation.
Detailed Information	You can select one item in the list to view the detailed information.
Backup	You can click this button to backup log files to current PC.

3.7.3 **Online User**

The online user interface is shown as in Figure 3-66.

Here you can view current online user, group name, IP address and login time.

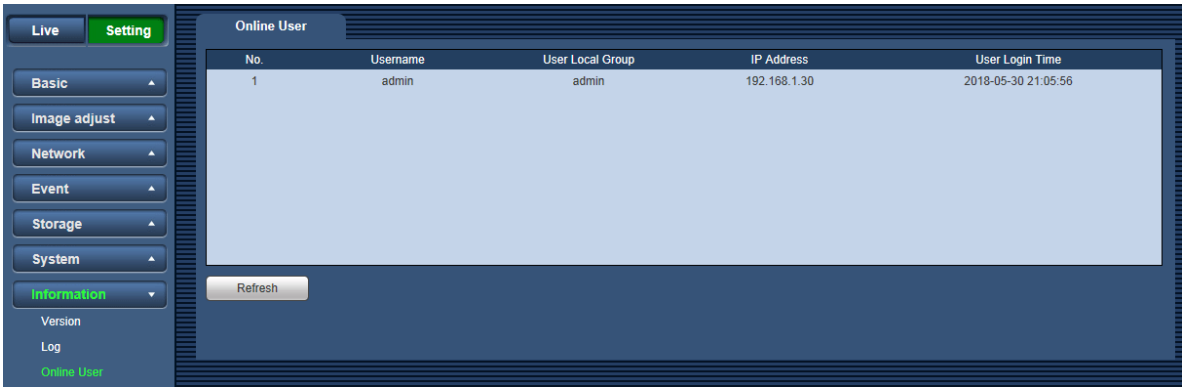


Figure 3-66

4 Alarm

Click alarm function, you can see an interface is shown as in Figure 4-1.
Here you can set device alarm type and alarm sound setup.

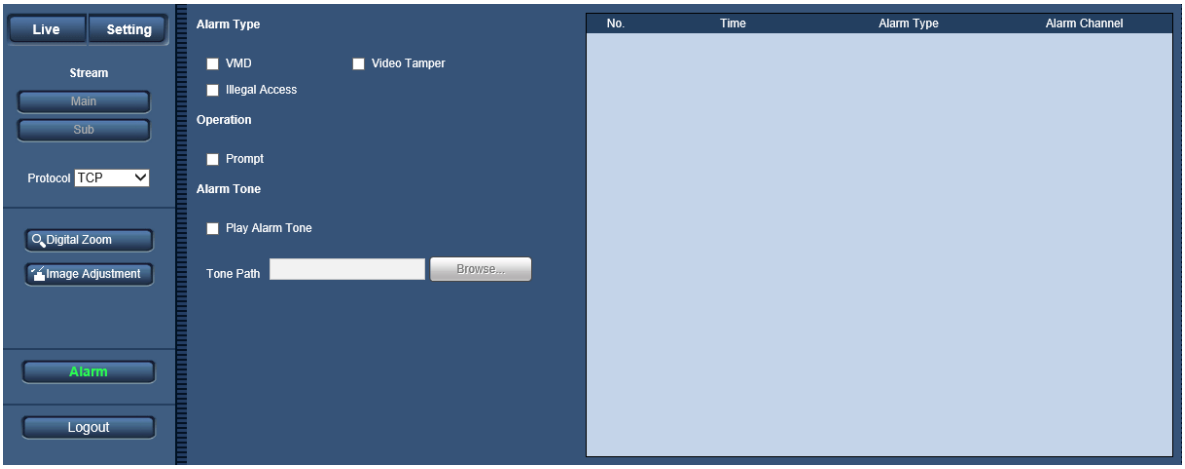


Figure 4-1

Please refer to the following sheet for detailed information.

Type	Parameter	Function
Alarm Type	VMD	System alarms when VMD alarm occurs,
	Video Tamper	System alarms when tampering alarm occurs.
	Illegal Access	System alarms when illegal access occurs,
Operation	Prompt	When alarm is triggered, there will be displayed on the Alarm menu and system automatically records alarm info. The icon disappears when user click on alarm menu bar. Note: If alarm interface is displayed, when alarm is triggered, there will be no image prompt, but alarm record will be in list on the right.
Alarm Tone	Play Alarm Tone	When alarm occurs, system auto generates alarm audio. The audio supports customized setup.
	Tone Path	Here you can specify alarm sound file.

5 Log out

Click log out button, system goes back to log in interface.
See Figure 5-1.

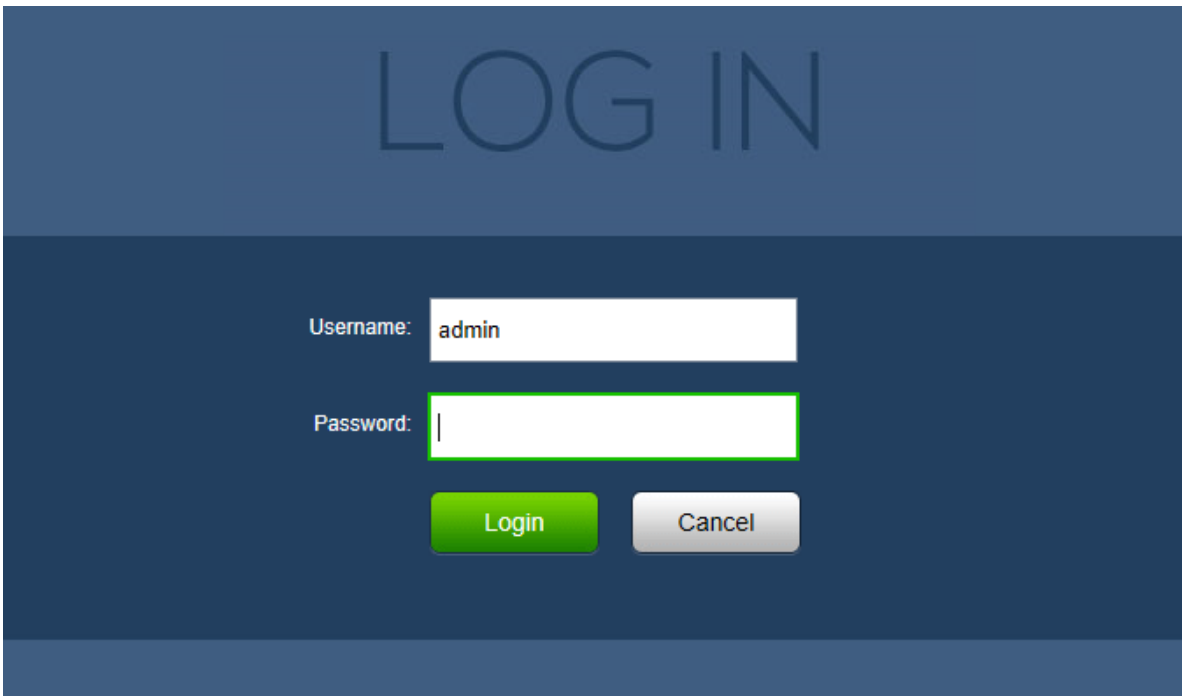


Figure 5-1

Note:

- **This manual is for reference only. Slight difference may be found in user interface.**
- **All the designs and software here are subject to change without prior written notice.**
- **All trademarks and registered trademarks mentioned are the properties of their respective owners.**
- **If there is any uncertainty or controversy, please refer to the final explanation of us.**