

SV-4K34IP



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User Manual

Revision History

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Apr-2020	1.1	Modify the description	AEG
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1 Network Configuration

1.1 Network Connection

There are two ways to connect a computer to a zoom camera module:

Figure 1.1-1 Schematic diagram of direct connection via network cable

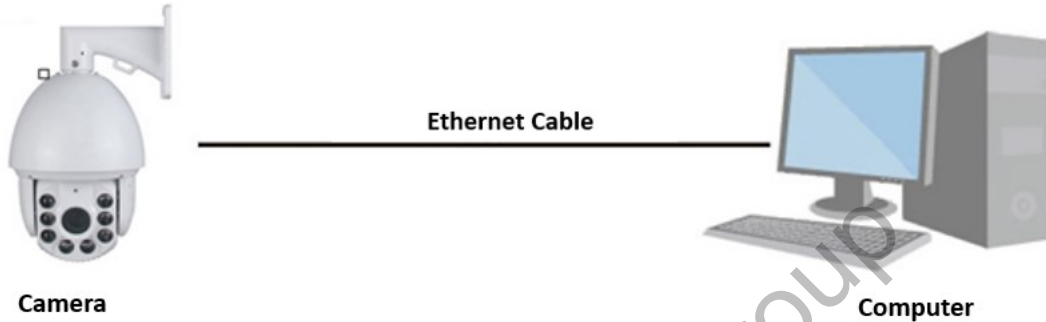
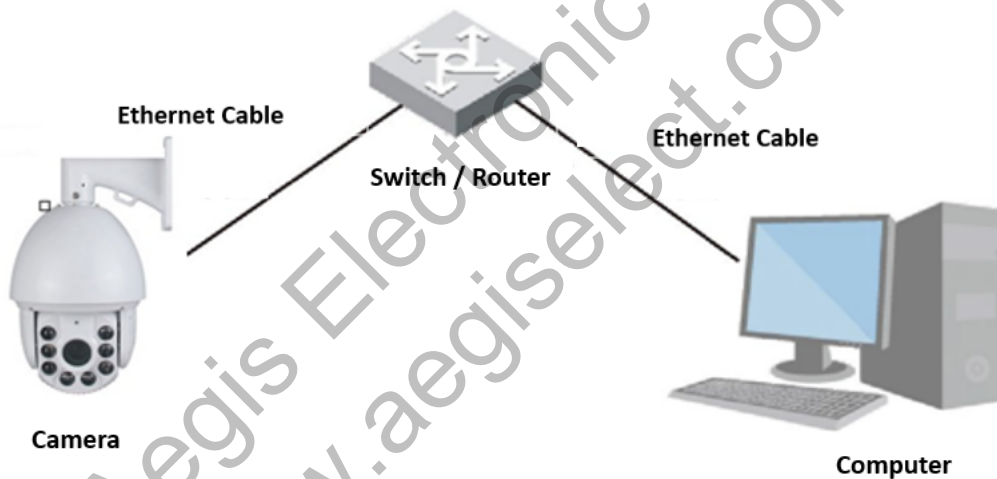


Figure 1.1-2 Diagram of connection via switch or router



- The above illustrations are for reference only.
- For convenience, the Network Dome Camera and Network PTZ Camera will be referred to as Camera.
- All the movement factory are unified IP address (Default **192.168.1.108**), in order to make the camera can be successfully accessed to the network, need to be based on the actual network environment, reasonable planning of the available IP network segments.
- The features listed in this document are all features, which may vary slightly depending on the device model.

1.2 Login WEB Interface

Step1 Open **Internet Explorer**, enter the default IP address of Camera in the address bar and click **[Enter]** button, as show in Figure 1.2-1.

Figure 1.2-1 Web Login



Camera

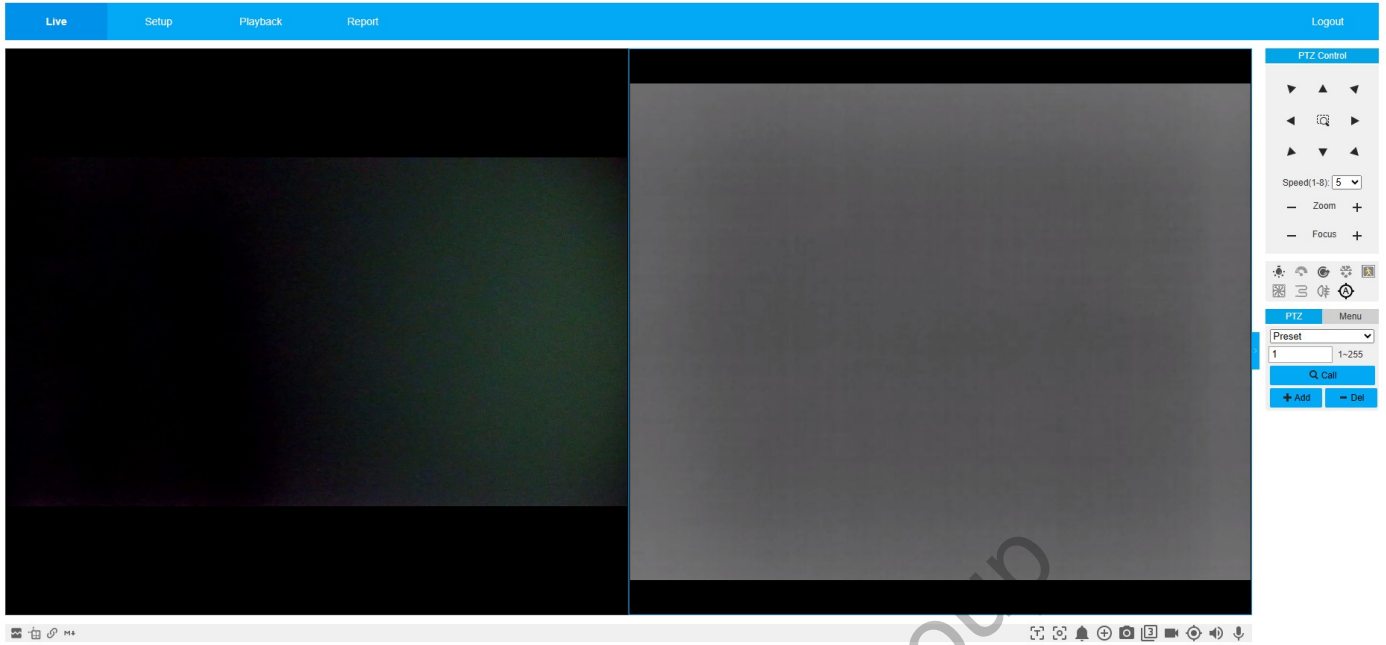
Step2 Enter the username and password to enter the web operation interface (the factory default administrator username is *admin* and the password is *admin*).

The first time log in, the system will pop up a prompt box to change the password, as shown in Figure 1.2-2, please change the administrator password in time and keep it safe.

Figure 1.2-2 Change Password

After the login is successful, the web will display the interface as shown in Figure 1.2-3.

Figure 1.2-3 Web Video Browsing Interface Diagram



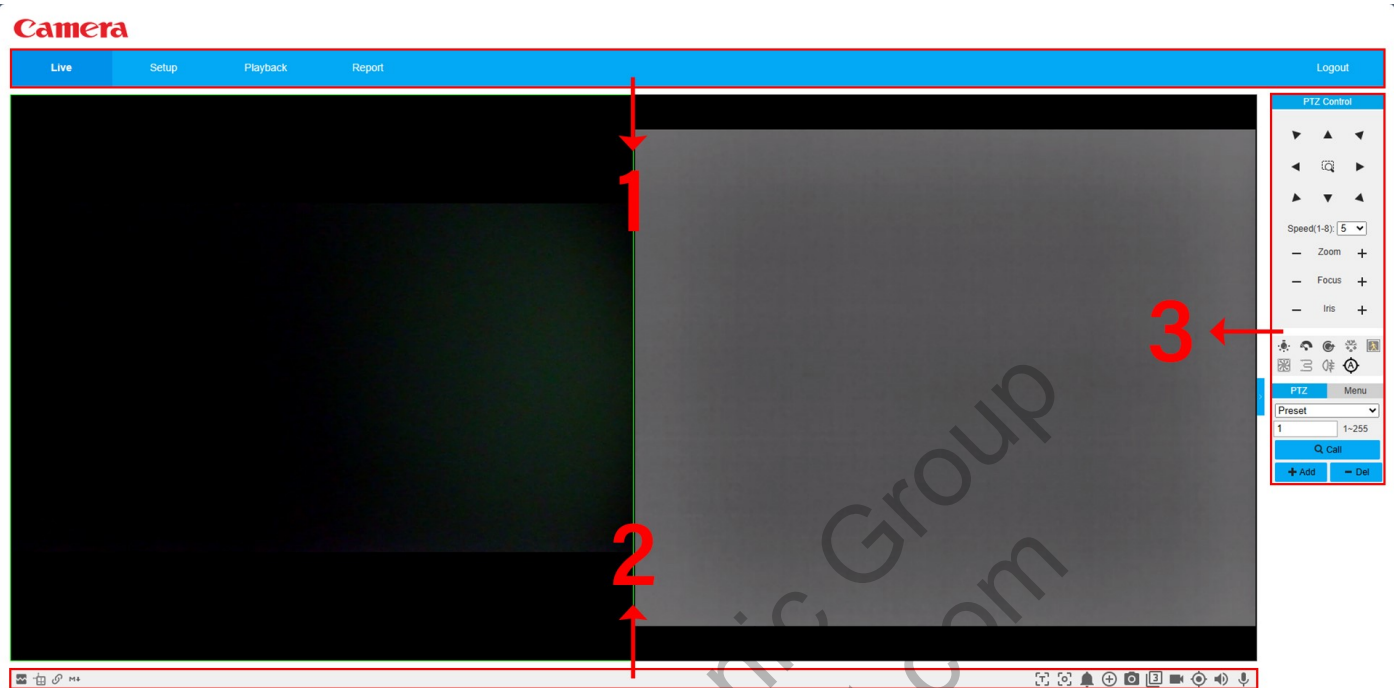
- The interface and settings are for reference only, the specific interface is based on the actual situation.

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2 Preview

The browse displays the screen, as shown in Figure 2.1

Figure 2.1 Browser interface



Please refer to Table 2-1 for a description of the function bar of the interface

Table 2-1 Explanation of Browser Interface Function Bar

No.	Description
1	System menu bar
2	Preview function bar
3	PTZ configuration bar

2.1 System Menu Bar

Stand-alone each tab can enter the corresponding interface, the system menu shown in Figure 2.1-1

Figure 2.1-1 System Menu



2.2 Preview function bar

The video window function option bar is shown in Figure 2.2-1, please refer to Table 2.2-1 for the parameter description table; the specific parameters please prevail in kind.

Figure 2.2-1 Video Window Function Options Bar

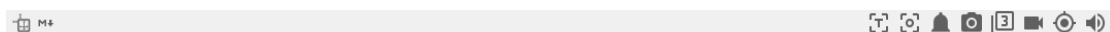
















Table 2.2-1 Video Window Function Options Parameter Description

Function	Description
↔↕	Window aspect ratio; used to control the aspect ratio of the display window, there are three parameters can be selected.

	Video streaming smoothness adjustment, there are three parameters to choose from.
	Intelligent rule information set in the window overlay (please make sure the rule parameters have been set).
	Network transmission protocol type, support TCP port, UDP port and RTP (RTP, please make sure the multicast parameter has been set correctly).
	Stream type used to switch video
	Spot temperature measurement in the thermal image window.
	You can select an area in the viewport and the camera will only focus on that area again.
	Click on the button to zoom in on any selected area; you can also zoom in with the mouse wheel; right-click to restore the original window size.
	When the camera generates an alarm, the button will be highlighted for prompts.
	Enables the camera to perform a frame grabbing action.
	The camera can be set to perform three capture actions with an interval of 1 second.
	Enables the camera to record video
	You can select an area in the viewport and the camera will track the selected target.
	The camera will activate the audio function
	The camera will activate the zoom function for visible and thermal images.

2.3 PTZ Configuration Bar

You can control the PTZ through the PTZ console, and you can also make simple calls in the PTZ setup area for preset points, linear scanning, and other functions.

PTZ Control

The PTZ control interface is shown in Figure 2.3-1, please refer to Table 2.3-1 for function descriptions.

Figure 2.3-1 PTZ Control Menu

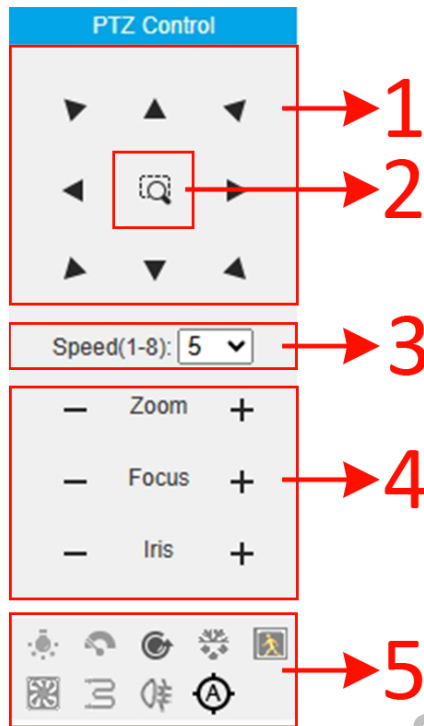


Table 2.3-1 PTZ Control Description

No.	Function	Description
1	Direction	There are a total of 8 directional controls: respectively up, down, left, right, top left, top right, bottom left, bottom right, to control the Pan & Tilt.
2	Quick Positioning	Quick positioning function, use the mouse to draw a box in the browsing screen, the gimbal will rotate and zoom to quickly locate the scene.
3	Speed	It refers to the rotation speed of the gimbal, the larger the step size, the faster the speed.
4	Zoom/Focus/Iris	Click "+" to increase the corresponding parameter value, click "-" to decrease the corresponding parameter value.
5	Function Key	9 quick function keys: fill light, wiper, lens initialisation, defrost, thermal imaging, fan, heating, defogging, focus at once.

PTZ Setting

The PTZ setup interface is shown in Figure 2.3-2. Please refer to Table 2.3-2 for descriptions of PTZ support functions and setup methods.

Figure 2.3-2 PTZ Setting

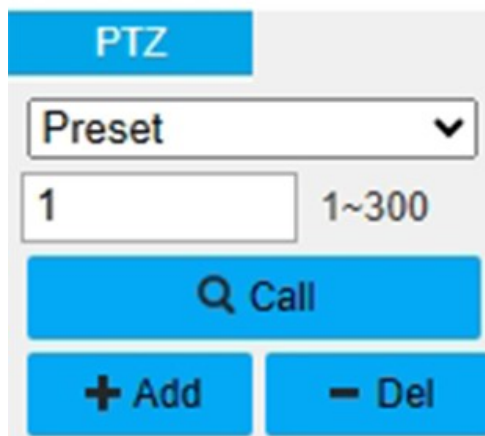


Table 2.3-2 PTZ Setting Functions Description

PTZ Function	Description
Preset Points	Select the preset point in the drop-down box, enter the value of the preset point in the input box, click "View", the camera will go to the position for which the preset point is set.
Cruise group	Select the cruise group in the drop-down list, enter the cruise path in the input box, click "Start" to make the gimbal cruise.
Linear Scan	Select Linear Scan in the drop-down list, click "Start", you can make the gimbal carry out linear scanning, the default number is 1.
Cruise Track	Select the route in the drop-down list, input the route in the input box, click "Start", then the gimbal can cruise.
Auxiliary Functions	Reserve extended function to support special needs
Horizontal Rotation	Select Horizontal Rotation in the drop-down list, click "Start" to rotate the gimbal horizontally.
Precise Positioning	Input the desired horizontal angle, vertical angle and zoom parameters, click the "Position" button to precisely locate to a certain position. <ul style="list-style-type: none"> • Each unit of horizontal and vertical angle parameter represents 0.1 degree.

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3 System Setup

3.1 Camera Setup

3.1.1 Camera Conditions

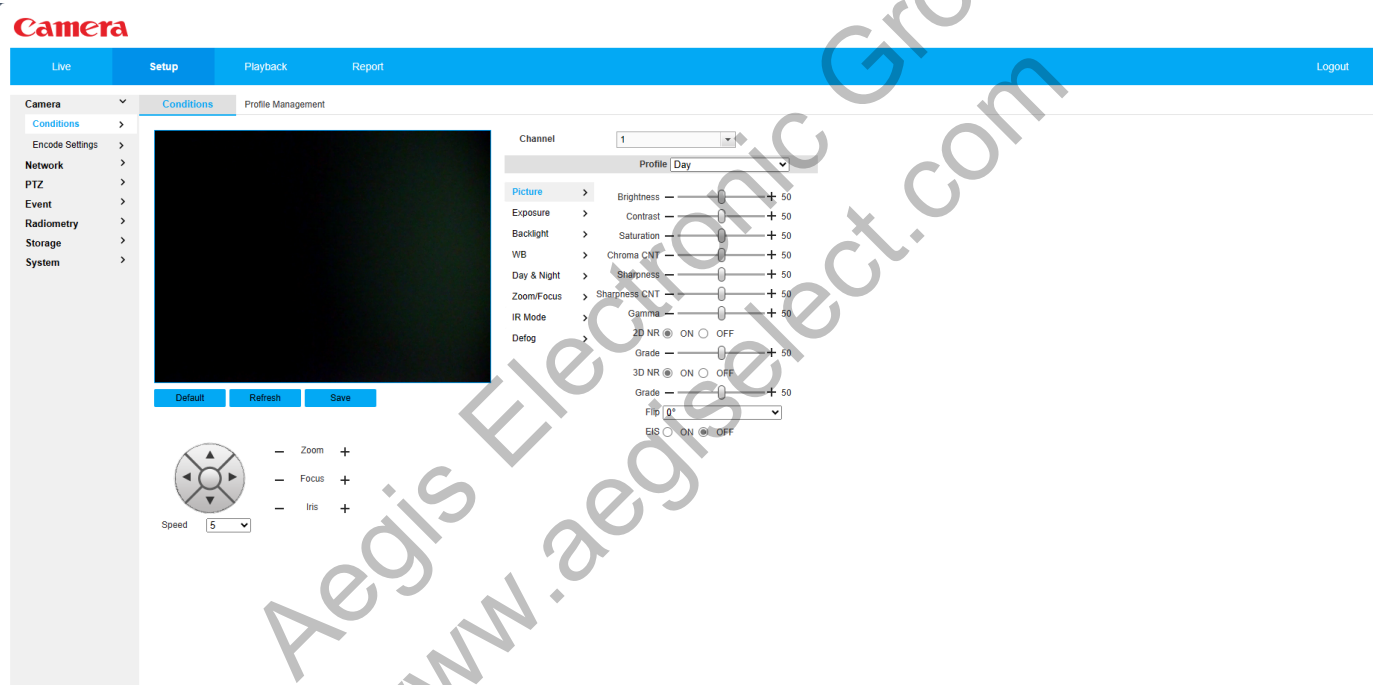
3.1.1.1 Optical Zoom Camera

Picture

Set the camera properties to achieve the best rendering effect, the configuration steps are as follows:

Step1 Select “Setup > Camera > Conditions > Picture”. The system displays the interface of “Picture”, which is shown in Figure 3.1.1.1-1.

Figure 3.1.1.1-1 Picture



Step2 Config parameter info according to the actual needs; see Table 3.1.1.1-1 for more details.

Table 3.1.1.1-1 Picture Parameter Description

Parameter	Description
Profile	This is used to set Normal, Day or Night mode. This is used to set any Conditions parameter for each mode.
Brightness	This is used to set the brightness of the image, the higher the value, the brighter the image. (Range: 0 to100)
Contrast	This is used to set the image contrast, the bigger the value is, the bigger the image bright contrast becomes. (Range: 0 to 100)
Saturation	This is used to set the colour saturation of the image, the higher the saturation, the more vivid the performance; the lower the saturation, the darker it is. (Range: 0 to 100)
Chroma CNT	This is used to set the degree of image colour suppression, the higher the value, the more obvious the suppression. (Range: 0 to100)
Sharpness	This is used to adjust the sharpness of the image edges, the higher the value the more pronounced the edges. (Range: 0 to 100)
Sharpness CNT	Adjusts the camera sharpness rejection level, the higher the value, the stronger the

	sharpness rejection level. (Range: 0 to 100)
Gamma	This is used to change the brightness of the image in a non-linear way to improve the dynamic display range of the image, the higher the value, the brighter the image. (Range: 0 to 100)
2D NR	This value is used to suppress noise, the higher the level the less noise there is and the image is blurrier than before.
3D NR	This value is used to suppress noise, the higher the level the less noise there is and the image is blurrier than before.
Grade	Set the degree of noise reduction, the higher the value, the greater the degree of noise reduction. (Range: 0 to 100)
Viewpoint	The function can be used to change the direction of video surveillance image. This is used to select normal and flip. (Default: Normal)
EIS	The Electronic Image Stabilisation function is implemented by the image difference comparison algorithm, which suppresses image shake during use and makes images more stable and more clearly. (Default: OFF)

Step3 Click “Save” to complete the configuration.

Exposure

This function is used to adjust the degree of exposure of the camera to the monitoring screen, and the configuration steps are as follows:

Step1 Select “Setup > Camera > Conditions > Exposure”.

The system displays “Exposure” interface, which is shown from Figure 3.1.1.1-2 to Figure 3.1.1.1-6.

Figure 3.1.1.1-2 Exposure – Auto

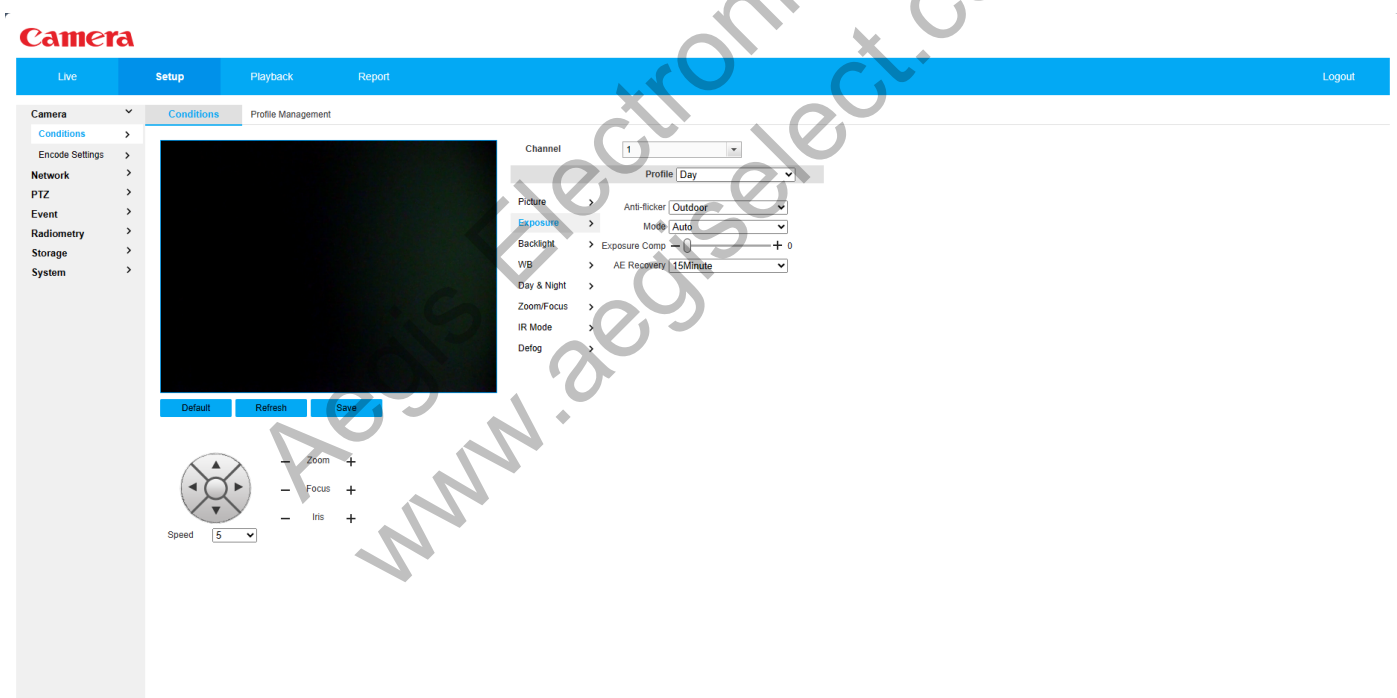


Figure 3.1.1.1-3 Exposure-Aperture Priority

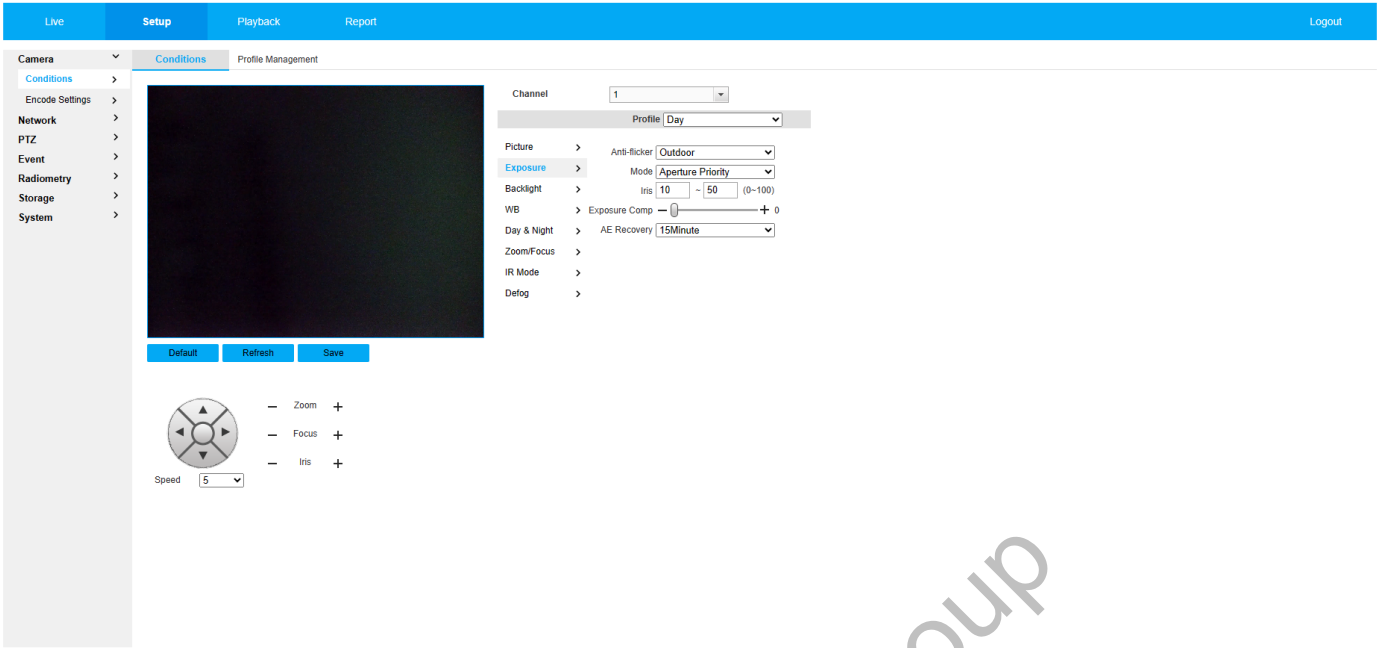


Figure 3.1.1.1-3 Exposure-Shutter Priority



Figure 3.1.1.1-5 Exposure-Gain Priority

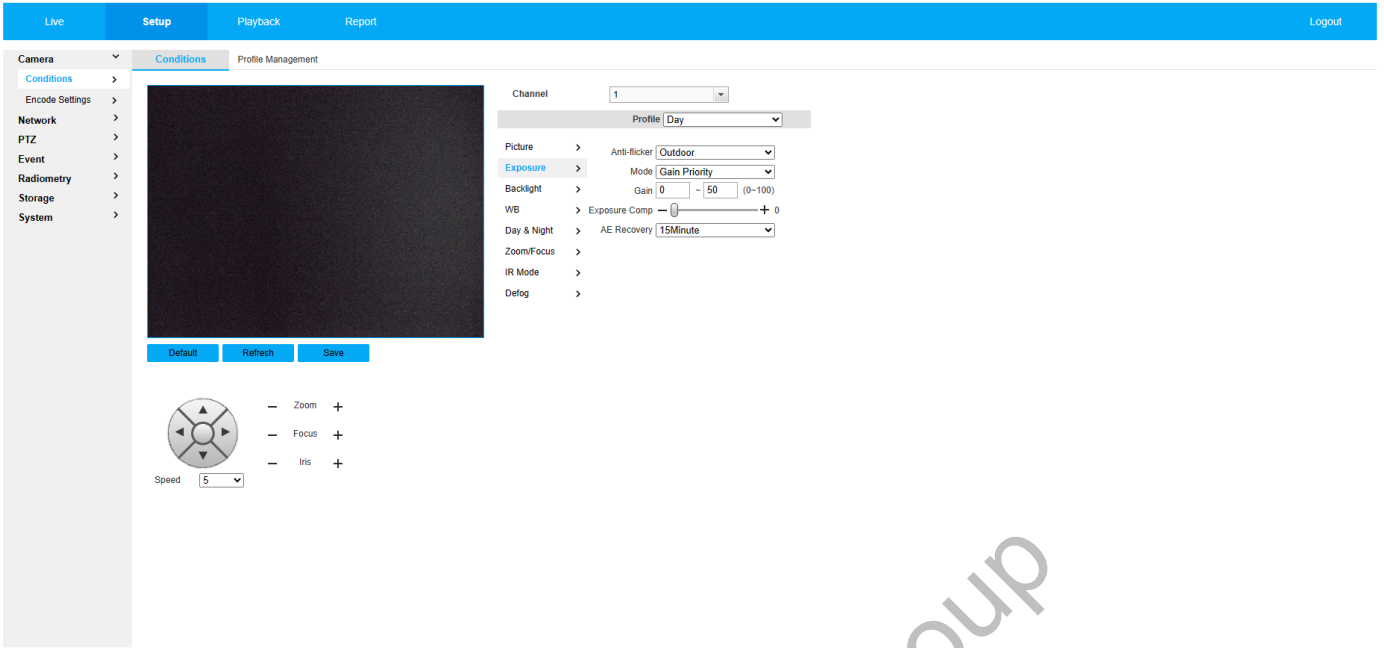
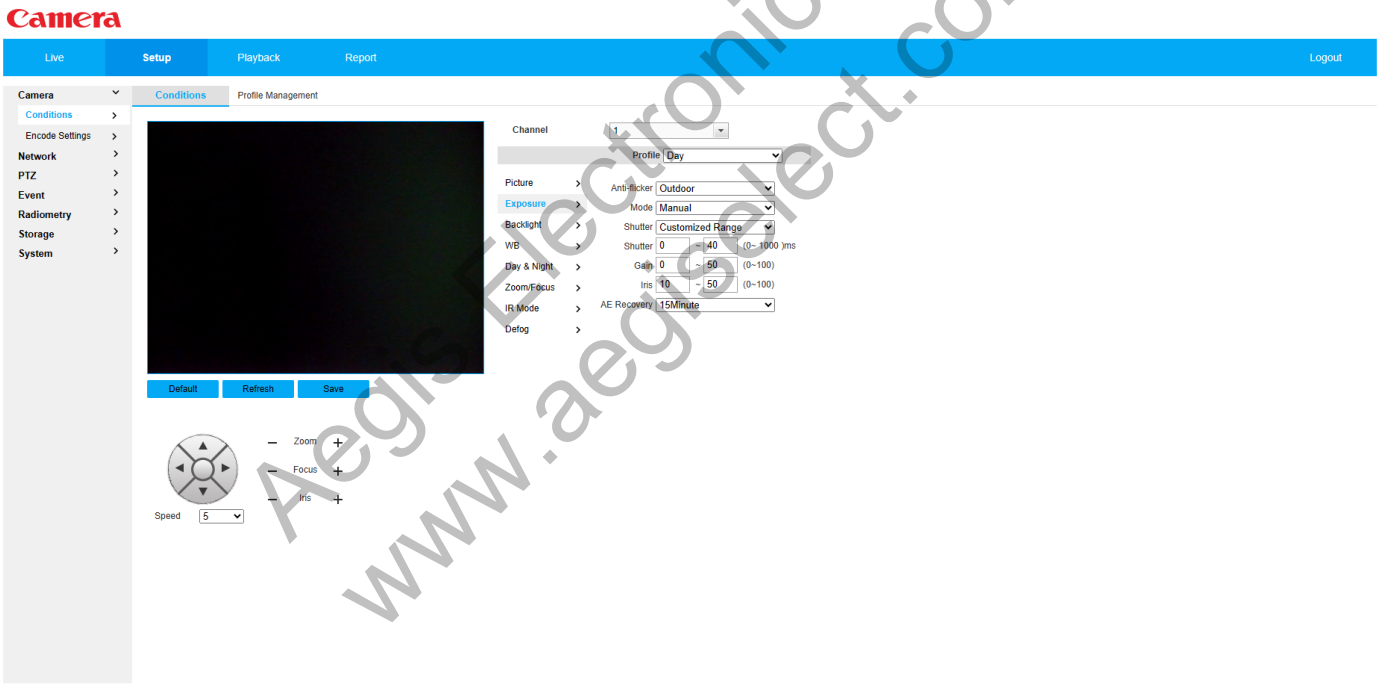


Figure 3.1.1.1-6 Exposure-Manual



Step2 Configure parameter info according to actual needs, see Table 3.1.1.1-2:

Table 3.1.1.1-2: Exposure Setting Parameter Description

Parameter	Description
-----------	-------------

Mode	<p>This is used to set the camera exposure mode. Including: auto/aperture priority/shutter priority/gain priority manual/. The default is automatic mode:</p> <ul style="list-style-type: none"> •Automatic: within the normal exposure range, the overall brightness of the image will be automatically adjusted according to the brightness of different scenes. •Aperture priority: the fixed aperture is the set value, and the optimal brightness drive gain mode can be automatically realized according to the priority drive exposure time. •Shutter priority: within the normal exposure range, the overall brightness of the image can be automatically adjusted according to the adjustment of the shutter range of the brightness of different scenes. If the image brightness is still not suitable, and the gain has reached the upper and lower limits of the range, the user can automatically adjust the gain value again to make the image normal. •Gain priority: This is used to manually adjust gain value and exposure compensation value. •Manual: This is used to manually adjust gain value and shutter value; it supports long time exposure.
Gain Range	Set the gain value of exposure. (Range: 0 to50)
Shutter	Adjust shutter time. The bigger the value, the darker the image; otherwise it will become brighter.
Shutter Range	Set the camera exposure time. (Range:0~1000 Unit: ms)
Aperture	Set the camera flux. The larger the aperture value, the brighter the image, and vice versa, the darker it is.
Exposure Compensation	Set the exposure compensation value. (Range: 0 to 100)
Automatic exposure recovery	After setting to non-automatic exposure mode, automatic exposure can be resumed after a set period of time; it can be set to off, 5 minutes, 15 minutes, 1 hour, default 15 minutes.

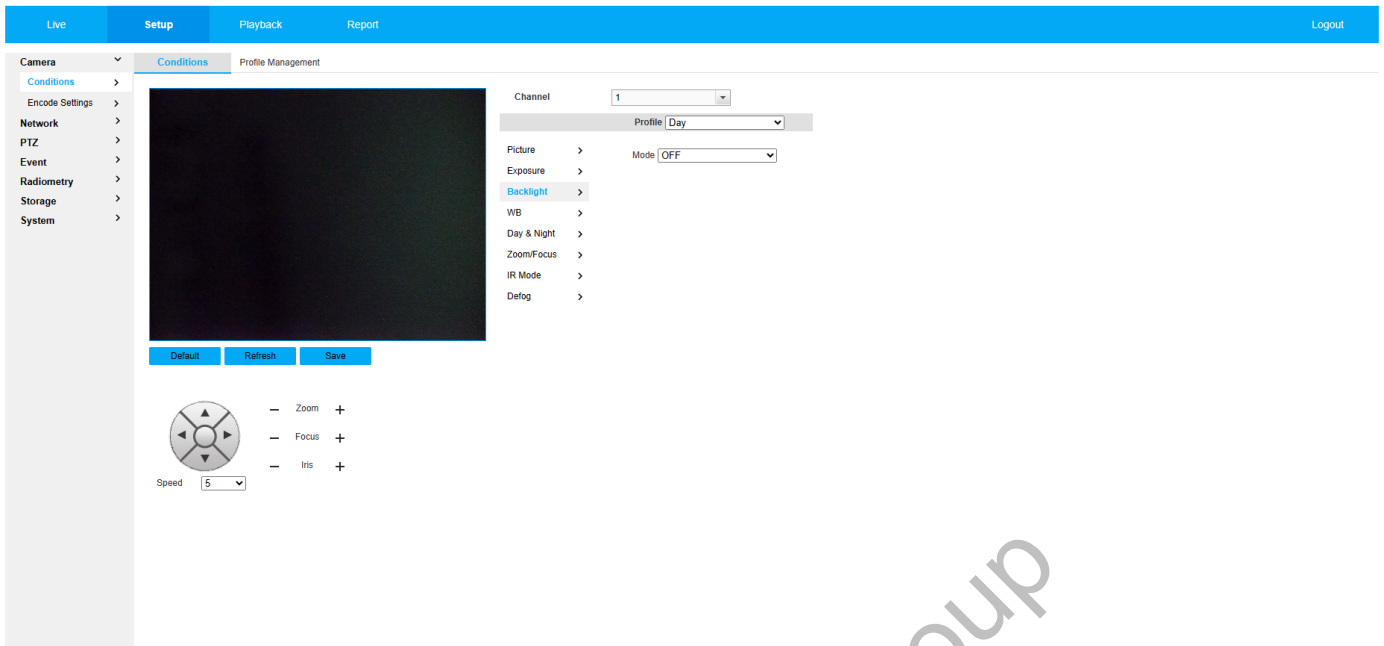
Step3 Click “Save” to complete the configuration.

Backlight

The function is used to adjust the backlight compensation mode of the monitoring image. The config steps are shown as follows:

Step1 Select “Setup > Camera > Condition > Backlight” and the system will display the interface of “Backlight”, which is shown in Figure 3.1.1.1-7:

Figure 3.1.1.1-7 Backlight Setting



Step2 Set the backlight mode according to the interface. Which includes OFF, BLC, WDR and HLC, default is OFF.

- **BLC**: backlight compensation can make the dark part of the main shooting object clear in the backlighting environment.
- **HLC**: HLC is used to weaken the highlight area, which can be applied in the areas such as toll gate, entrance and exit of parking lot, etc. As for extreme light, this is used to take snapshot upon human face in dark environment and realize quite good effect of license plate details.
- **WDR**: Enable WDR to suppress the over bright area and compensate over dark area, which can make the whole image a quite clear status.

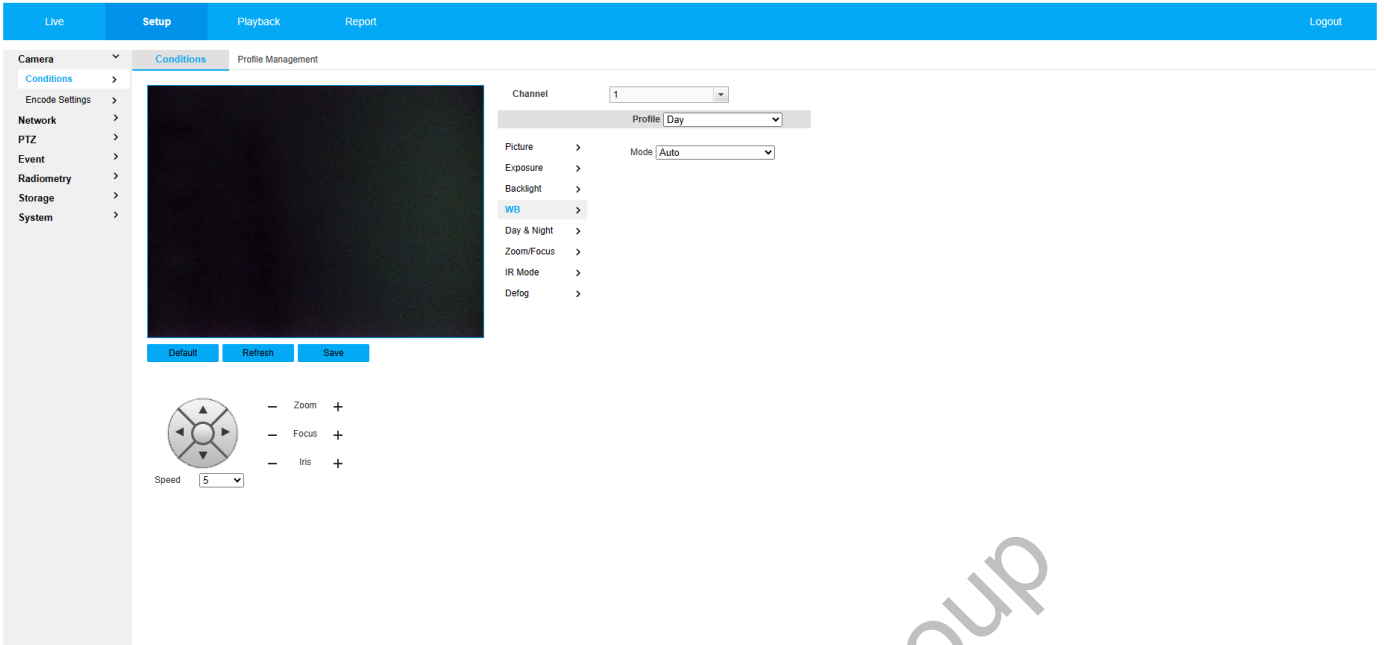
Step3 Click “Save” to complete the configuration.

White Balance (WB)

White balance refers to the camera's reproduction of white objects, after setting the white balance mode, you can make the white objects in the image appear white in different environments, the configuration steps are as follows:

Step1 Select “Setup > Camera > Conditions > WB”, which is shown in Figure 3.1.1.1-8:

Figure 3.1.1.1-8 White Balance



Step2 Select “WB” mode. Options: Auto, Indoor, Outdoor, ATW, Manual, Sodium Lamp, Natural and Street Lamp, One Push. Default: Auto.

Step3 Click “Save” to compel to the configuration.

Day & Night

The function can be used to set the conversion between colour mode and B/W mode, which effectively ensuring that the camera can monitor a clear image even in a dark environment. The config steps are shown as follows:

Step1 Select “Setup > Camera > Conditions > Day & Night”. The system displays the interface of “Day & Night” mode, which is shown in Figure 3.1.1.1-9:

Figure 3.1.1.1-9 Day & Night

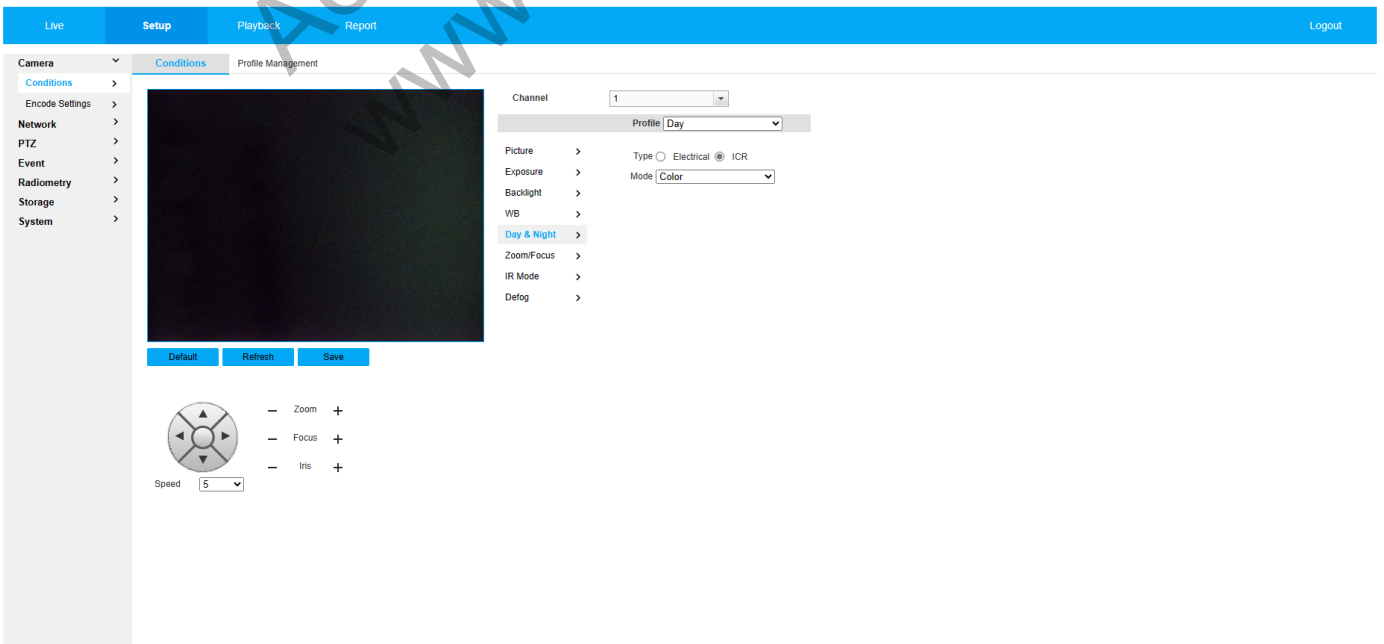


Table 3.1.1.1-3 Day & Night Parameter Description

Parameter	Description
Type	Day/night switch mode can select electrical and ICR, (Default: ICR) <ul style="list-style-type: none"> •ICR: Mechanical day/night switch uses filter for day & night switch. •Electrical: It uses image processing mode for day & night switch.
Mode	This is used to set image colour and B/W mode, which is not influenced by the selection of config profile. It is Auto Mode by default. <ul style="list-style-type: none"> •Colour: The camera will only output colour image. •Black & White: The camera will only output black & white image. •Auto: This is used to select to output colour or black & white image according to the environment adaptation. •Photoresistor: Depending on the brightness of the environment the camera automatically selects the output of colour or black & white image.
Sensitivity	This is used to adjust the sensitivity of switch between colour and Black & White. Select: Low, Middle and High, Default: Middle.
Delay	This is used to adjust the delay value of switch between colour and Black & White. (Range: 2s to 10s)

Step2 Configure parameter info according to the actual needs; refer to Table 3.1.1.1-3 for more details.

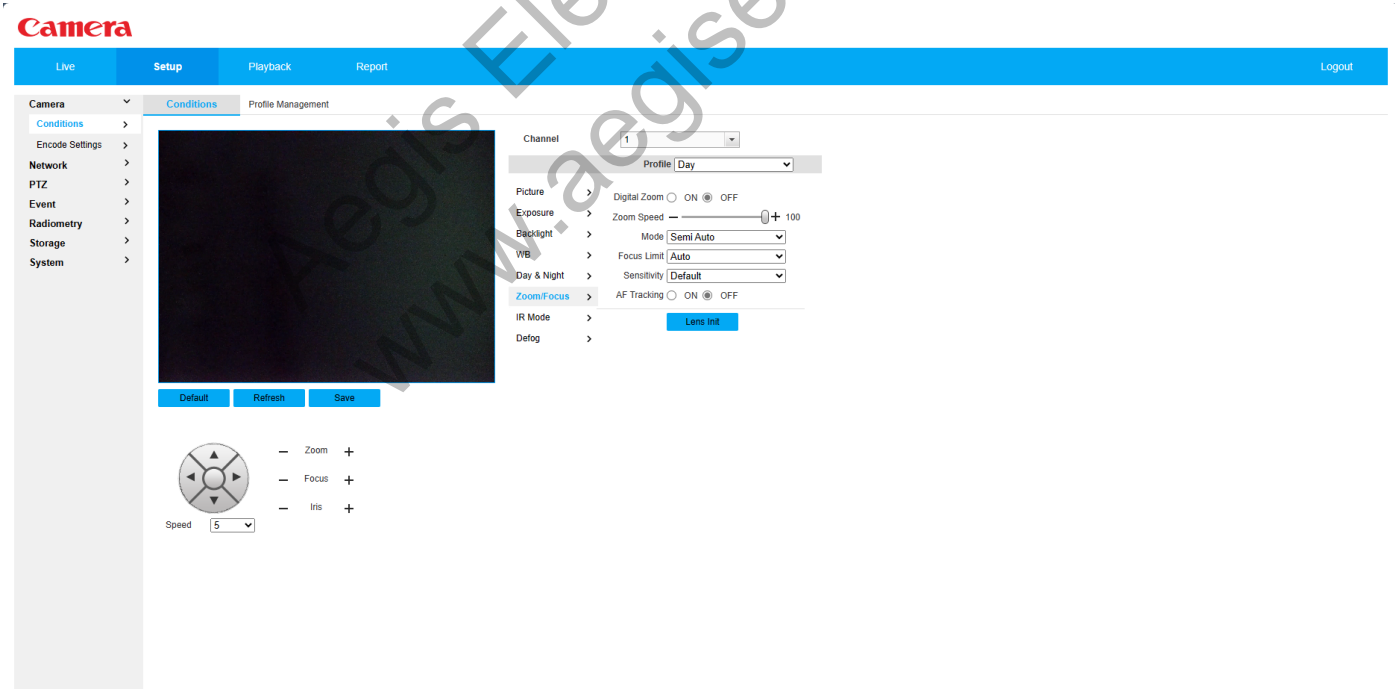
Step3 Click “Save” to complete the configuration.

Zoom Focus

Variable focus means stretching the lens and focusing it automatically, the configuration steps are as follows:

Step1 Select “Setup > Camera > Conditions > Zoom Focus”. The system displays the interface of “Zoom Focus”, which is shown in Figure 3.1.1.1-10:

Figure 3.1.1.1-10 Zoom Focus



Step2 Configure parameter info according to the actual needs; please refer to Table 3.1.1.1-4:

Table 3.1.1.1-4 Zoom Focus Setting Parameter Description

Parameter	Description
Digital Zoom	Set whether to enable the digital zoom function. It is turned off by default.
Zoom Speed	Set camera zoom speed, the bigger the value is, the faster the zoom speed becomes. It

	is 100 by default.
Mode	Control the trigger mode of focus, user can select Auto, Semi Auto, Manual, Fast Semi Auto and Fast Auto. <ul style="list-style-type: none"> •Auto: It will actively trigger focus when detecting scene change and zoom, ICR switch and etc. •Semi Auto: It will actively trigger focus when detecting zoom, ICR switch and etc. •Manual: The users can adjust focus location by themselves; the device won't trigger focus actively. •Fast Semi Auto: The focus speed is faster than Semi Auto. •Fast Auto: The focus speed is faster than Auto.
Focus Limit	Set the nearest distance of focus, and focus on the object beyond the distance, the auto option will make it select proper nearest distance automatically according to the different zoom value.
Sensitivity	Set the steady ability or anti-interference capability of focus, the lower the value is, the steadier it becomes, the higher the value is, the stronger the anti-interference capability becomes.
AF Tracking	The image becomes relatively clear during zoom if the function is enabled. If the function is disabled, then the zoom speed becomes relatively fast during zoom.
Lens Initialization	Click the button and it will implement lens initialization automatically, at this moment, it will realize correction of zoom and focus for the camera.

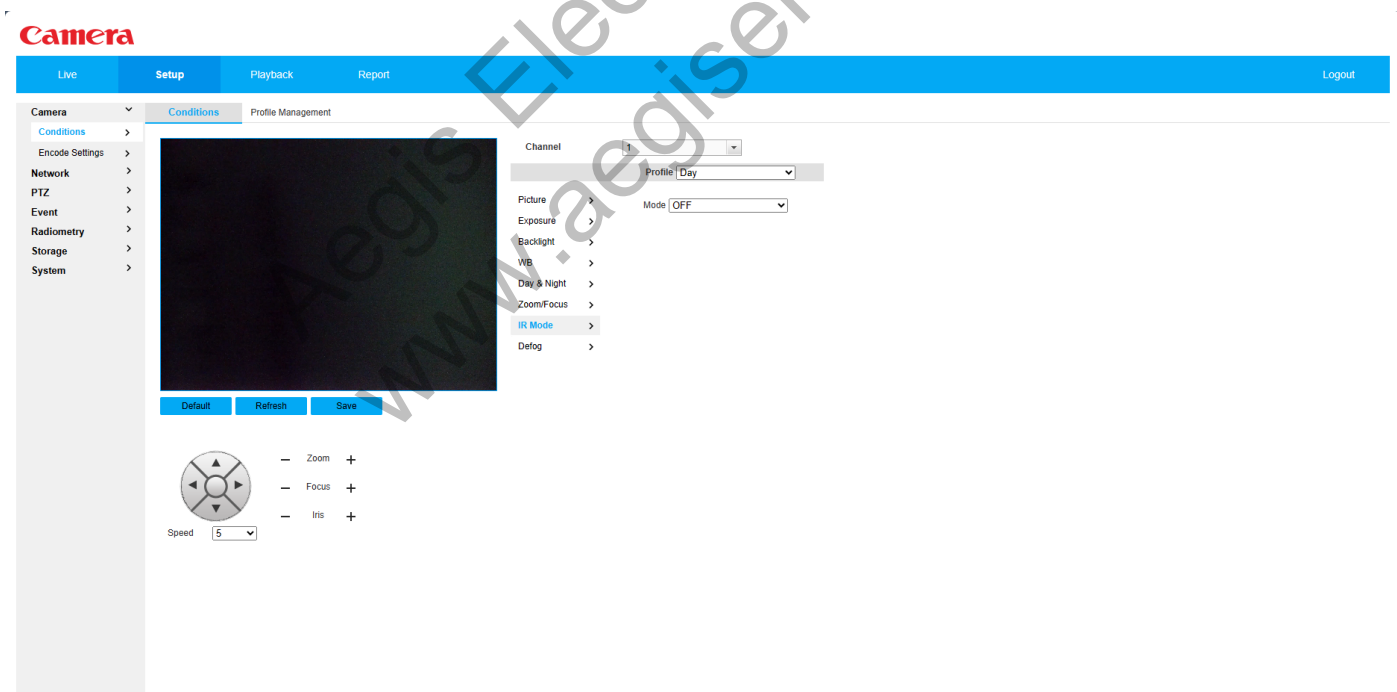
Step3 Click "Save" to complete the configuration.

Fill Light

This function is used to adjust the fill light mode of PTZ, the configuration steps are as follows:

Step1 Choose "Settings > Camera Settings > Camera Properties > Fill Light", and the system will display the Fill Light interface, as shown in Figure 3.1.1.1-11.

Figure 3.1.1.1-11 Fill Light Setting



Step2 Select fill light mode, there are Manual, Magnification Priority and Off in the mode drop-down box, the default is Magnification Priority.

Step3 Click "Save" to complete the configuration.

Defog

The image quality may become weak if the camera is in the environment with fog or haze, the image can

realize auto correction in the auto mode. User can also select different intensity manually according to the fog concentration, which is to adjust the image definition, the configuration steps are as follows:

Step1 Select “Setup > Camera > Conditions > Defog”. The system displays the interface of “Defog”, which is shown in Figure 3.1.1.1-12 or Figure 3.1.1.1-13:

Figure 3.1-12 Defog Setting (automatic)

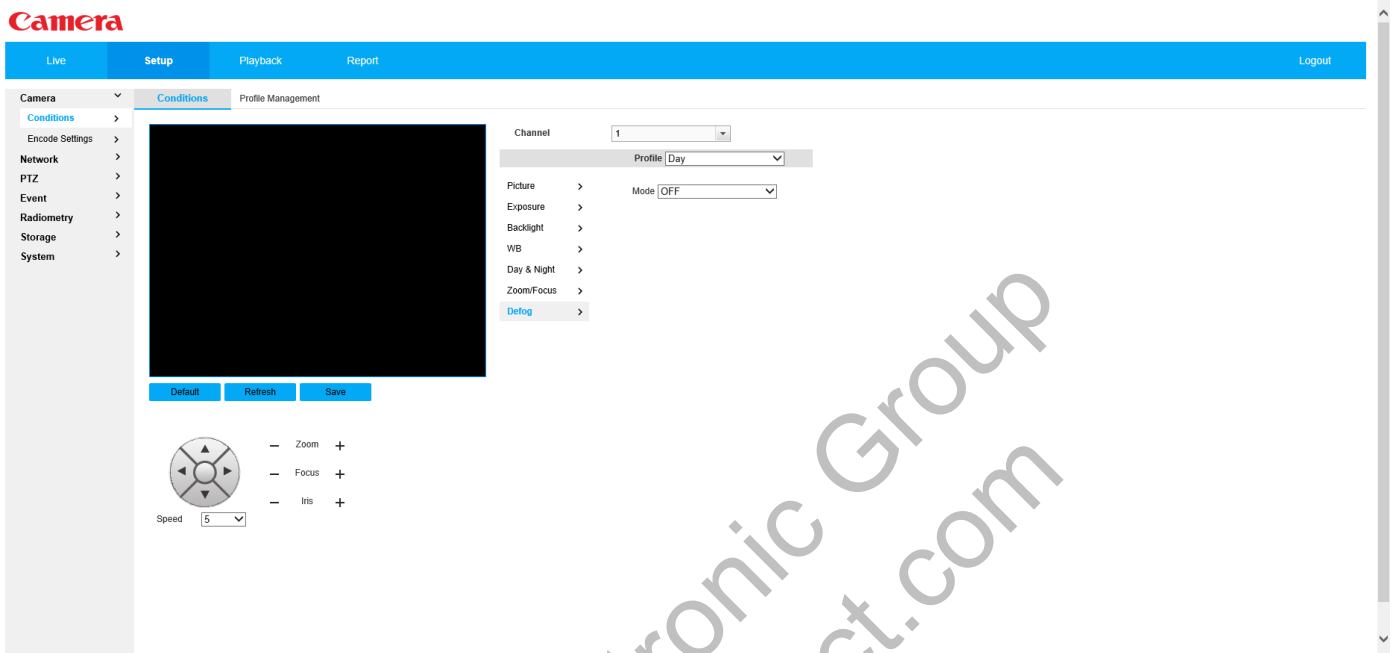
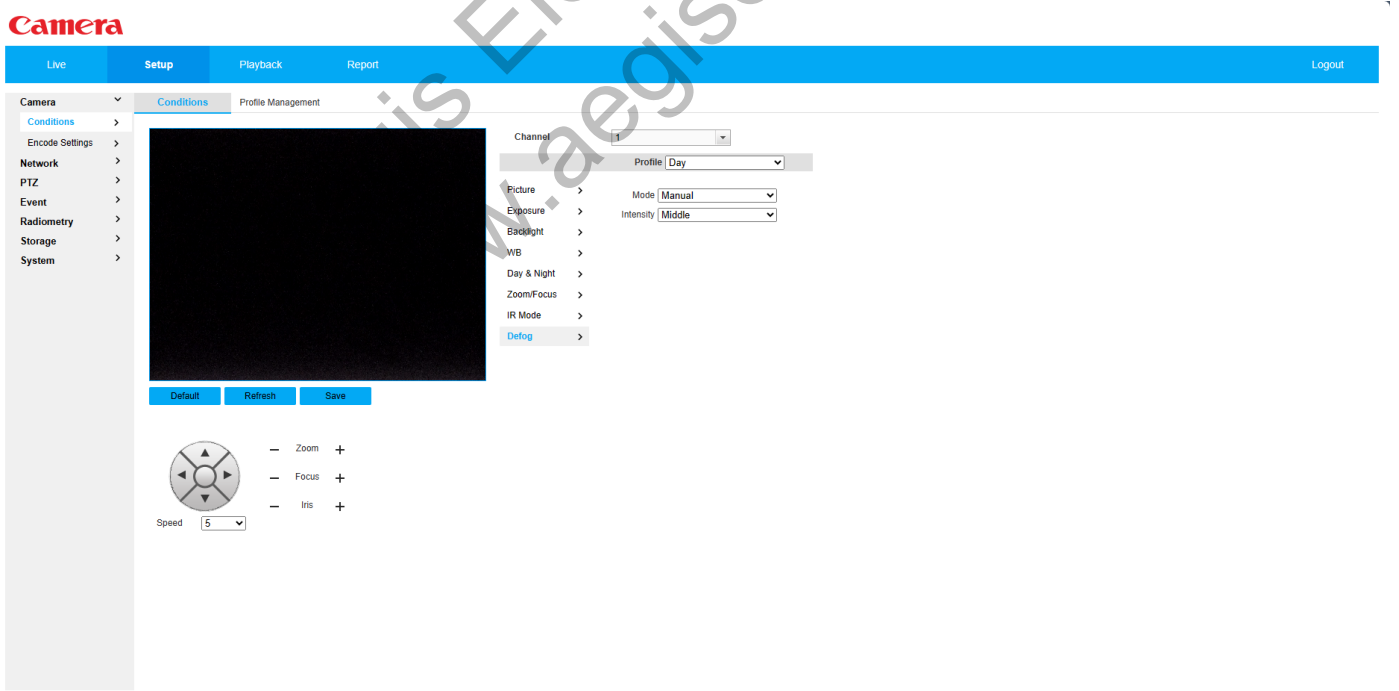


Figure 3.1-13 Defog Setting (manual)



Step2 According to the actual need to configure the parameter information, the parameter description is as follows:

- Mode: Used to set the camera's fog transmission mode, selectable automatic, manual and off, the default is off.
- Intensity: Configure the intensity when the fog transmission mode is manual, low, medium or high, the

default is medium.

Step3 Click “Save” to complete configuration.

Heat Haze

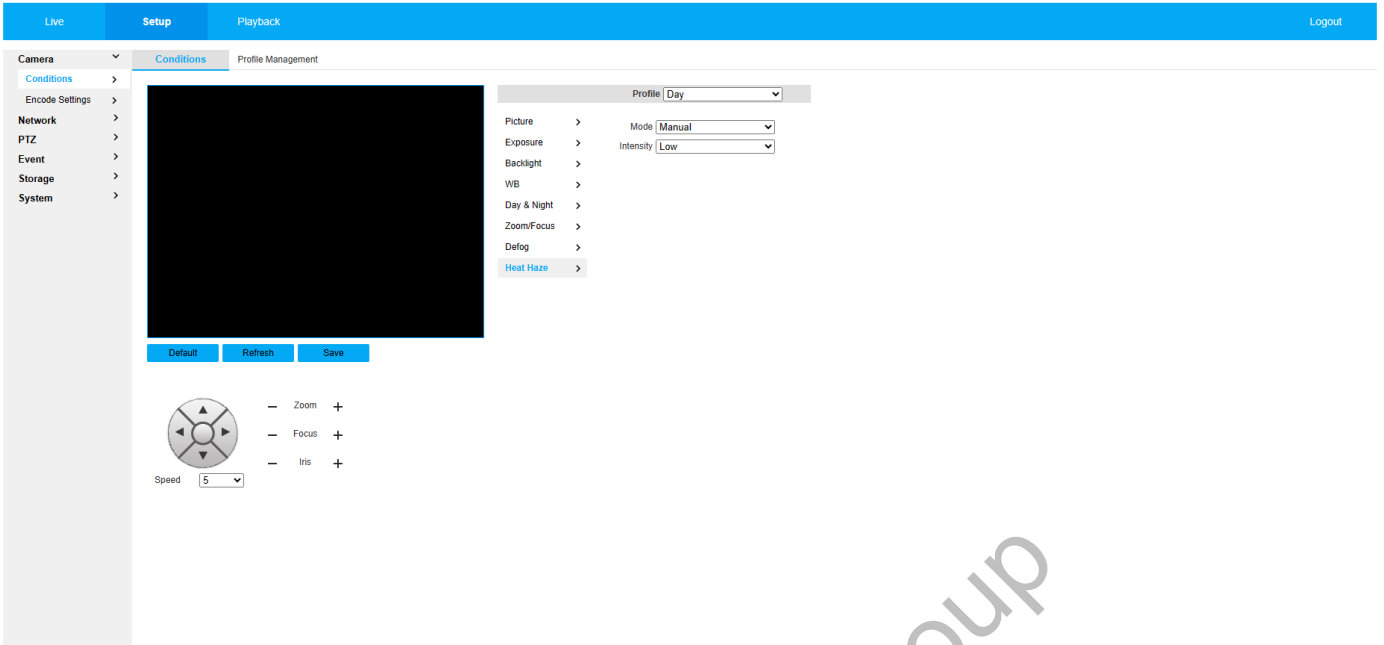
If the camera is in an environment with a temperature gap, the image imaging may produce heat wave phenomenon, at this time, you can use the automatic mode under Heat haze to correct the image, the user can also manually select different intensities according to the Heat haze concentration to adjust the image clarity, the configuration steps are as follows:

Step1 Select “Setup > Camera > Conditions > Heat haze”. The system displays the interface of “Heat haze”, which is shown in Figure 3.1.1.1-14 or Figure 3.1.1.1-15:

Figure 3.1-14 Heat haze Setting (automatic)



Figure 3.1-15 Heat haze Setting (manual)



Step2 According to the actual need to configure the parameter information, the parameter description is as follows:

- Mode: Used to set the camera's Heat haze mode, selectable automatic, manual and off, the default is off.
- Intensity: Configure the intensity when the Heat haze mode is manual, low, medium or high, the default is medium.

Step3 Click "Save" to complete configuration.

3.1.1.2 Thermal

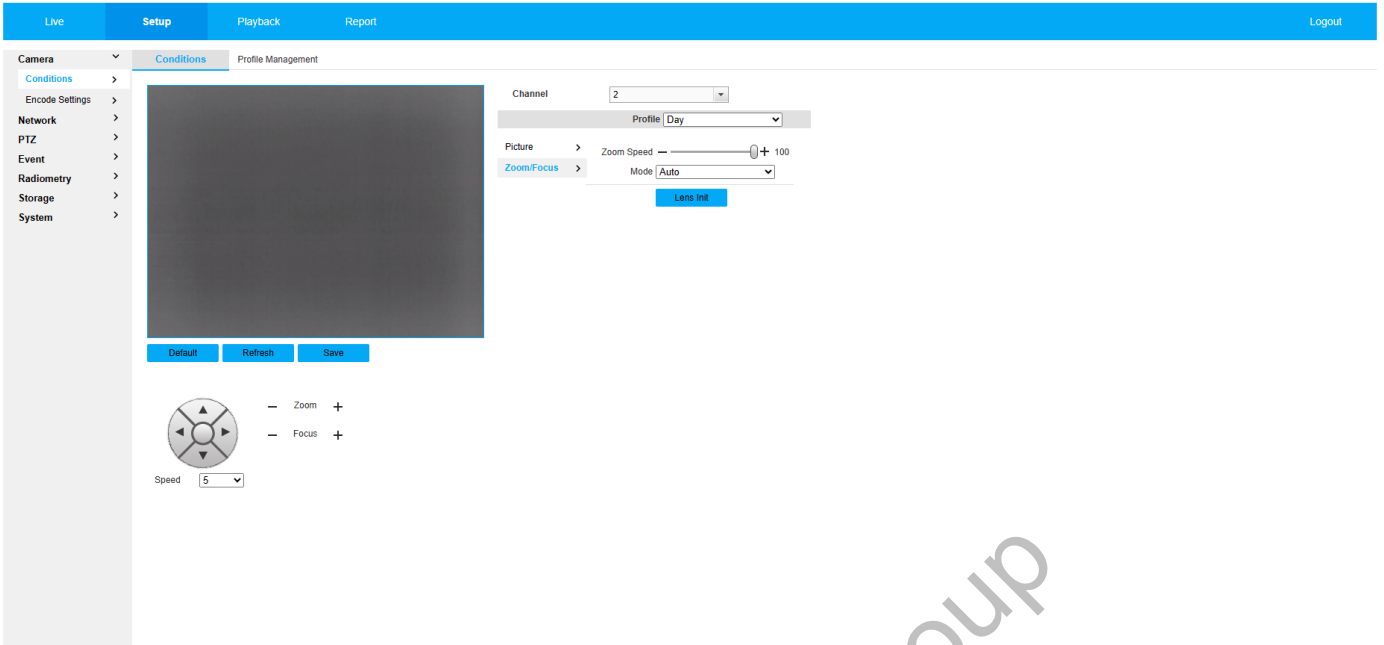
Picture

To set up the thermal zoom focus for optimal rendering, the configuration steps are as follows:

Step1 Select " Setup > Camera > Conditions ".

Step2 Select channel "2", and the system will display the "Zoom Focus" interface, as shown in Figure 3.1.1.2-1.

Figure 3.1.1.2-1 Thermal imaging zoom focus settings



Step3 Click "Save" to complete the configuration.

- Manual: The user actively adjusts the focus position, the device will not actively trigger the focus.
- Automatic: Thermal image is zoomed, and the focus will be triggered actively.

Step4 Click "Save" to complete the setting.

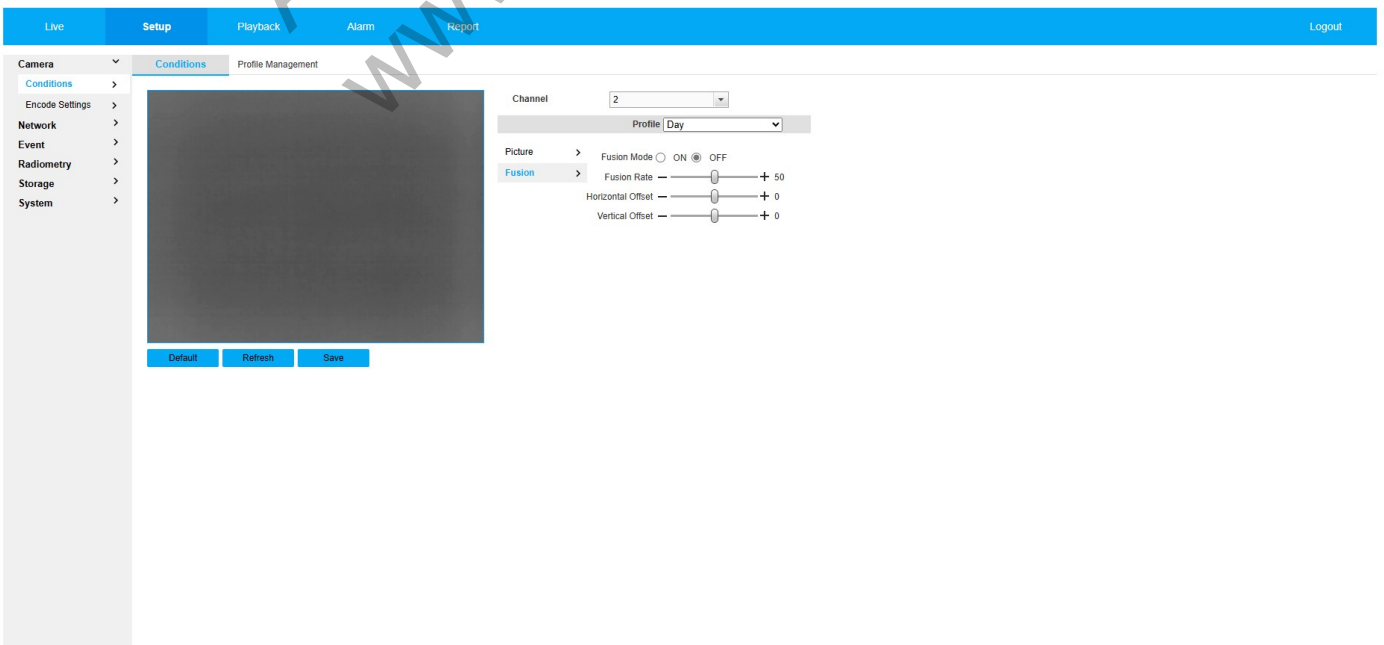
Fusion

The following steps are required to configure the dual-optical fusion output of thermal images and visible light to optimise the presentation of the target:

Step1 Select " Setup > Camera > Conditions ".

Step2 Select channel "2", the system will display "Zoom Focus" interface, select "Fusion" as shown in Figure 3.1.1.2-3.

Figure 3.1.1.2-3 Fusion Thermal Imaging Dual Optical



Step3 Configure the parameter information according to the actual needs, please refer to Table 3.1.1.2-2 for the parameter description.

Table 3.1.1.2-1 Thermal Imaging Dual Optical Fusion Setting Parameter Description

Parameter	Description
Fusion Mode	Enables you to select whether to enable dual-light fusion.
Image Fusion Ratio	Allows you to set the fusion ratio of visible light, the larger the ratio, the more fusion.
Horizontal Offset	Changes the horizontal field of view of the fused image.
Vertical Offset	Changes the vertical field of view of the fused image.

3.1.1.3 Configuration File Management

Channel can choose channel 1 and channel 2; channel 1 for the visible light profile, channel 2 for the thermal image profile, the default is channel 1 profile management can choose "ordinary", "full-time" and "switch by time". The default is channel 1 profile management, you can choose "Normal", "Full-time" and "Switch by time".

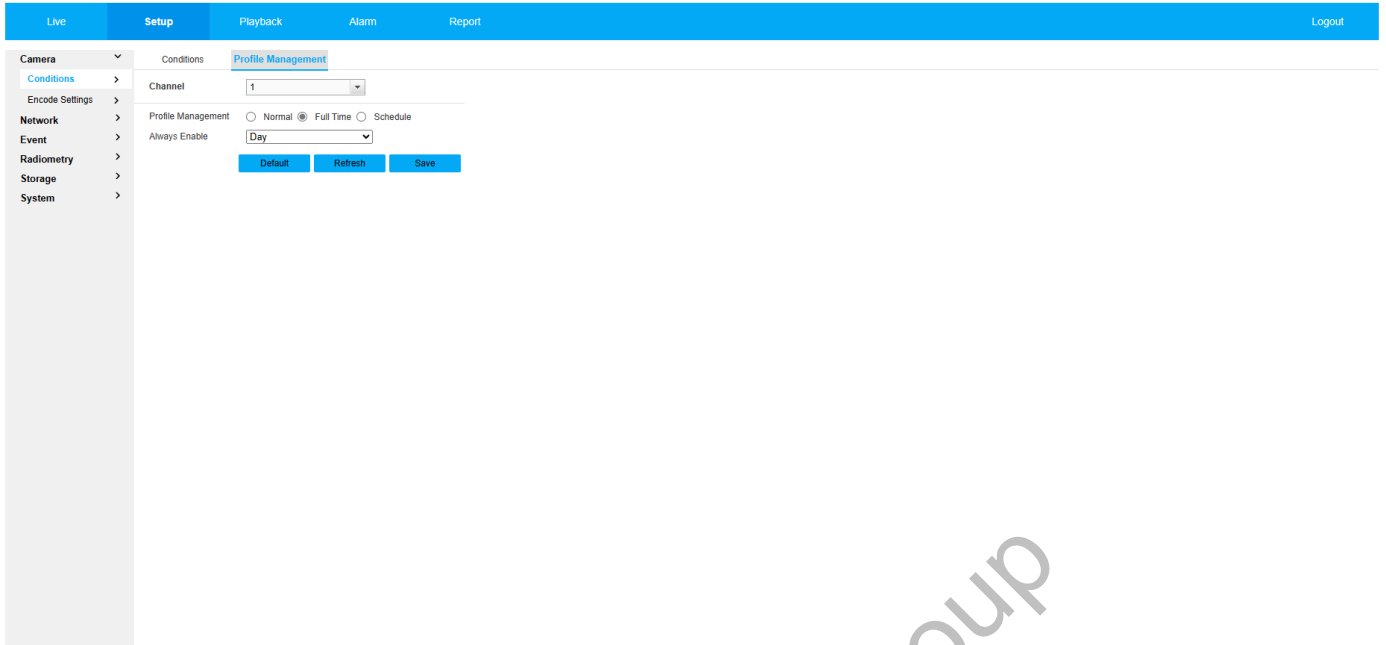
- When "Normal" is selected, the visible video is monitored according to the normal configuration in the camera, as shown in Figure 3.1.1.3-1.

Figure 3.1.1.3-1 Profile Management – Normal



- When you select "Full-time", you can select "Day" or "Night", corresponding to the visible camera attribute profile for day or night, as shown in Figure 3.1.1.3-2.

Figure 3.1.1.3-2 Profile Management - Full-time



● When you select "Switch by Time", you can select a period of time for daytime configuration and another period of time for nighttime configuration, and the configuration interface is shown in Figure 3.1.1.3-3; for example, you can set 7:00 to 17:00 as daytime configuration, and 17:00 to 7:00 the next day as nighttime configuration.

Figure 3.1.1.3-3 Configuration File Management - Switching by Time



Click "Save" to complete the configuration.

3.1.2 Encode Setting

This is used to set video stream, snapshot stream, video overlay, ROI and path.

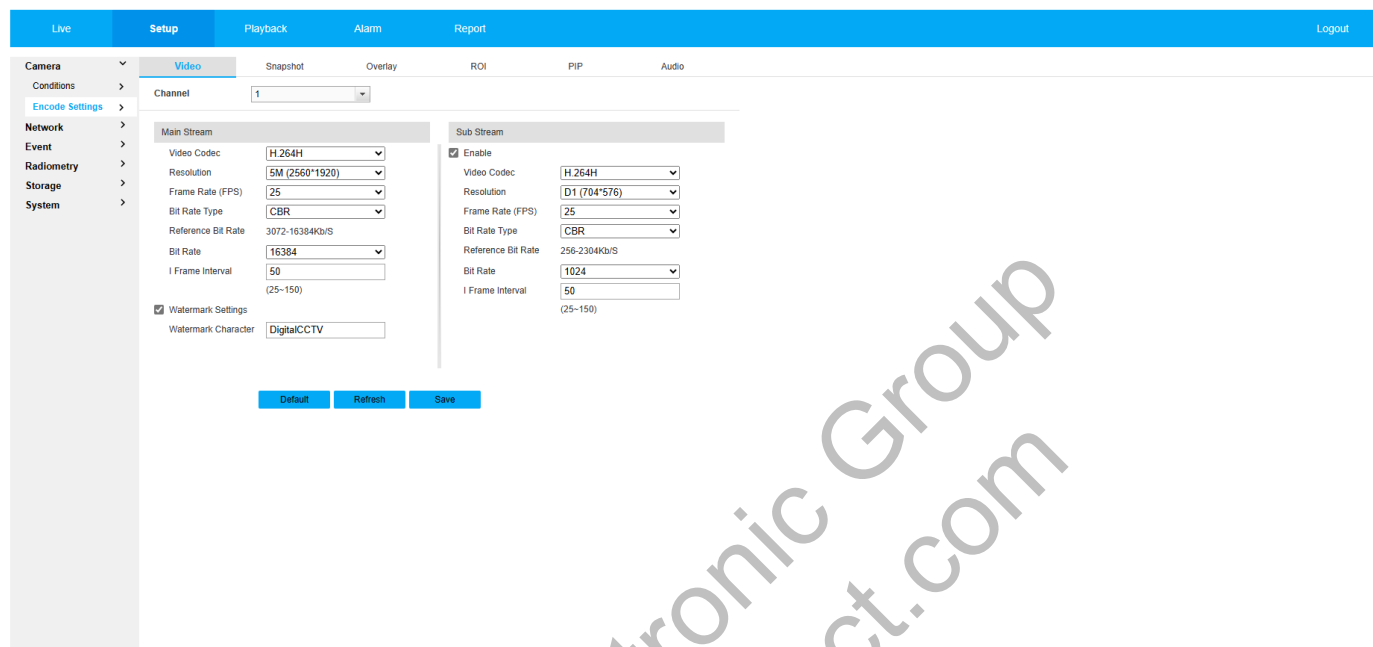
Note: Channel 1 is a visible light setting, channel 2 is a thermal image setting, and the following are all illustrated with channel 1 settings.

3.1.2.1 Video Stream

To set video stream of the monitoring image. The config steps are shown as follows:

Step1 Select “Setup > Camera > Encode Settings > Video”. The system displays the interface of “Video stream”, which is shown in Figure 3.1.2.1-1:

Figure 3.1.2.1-1 Video Stream



Note:

- Different device video may have different config interface, please refer to the actual interface for more details.
- Different video streams may be corresponding to different default value, please refer to the actual interface for more details.

Step2 Configure parameter info according to the actual needs, please refer to Table 3.1.2.1-1 for more details.

Table 3.1.2.1-1 Video Stream Parameter

Parameter	Description
Coding Mode	There are 5 options: H.264, H.264B, H.264H, H.265, MJPGE.
Resolution	For each resolution, the recommended bit stream value is different.
Frame Rate (FPS)	The frame rate may vary due to different resolutions(1f/s-50f/s).
Stream Control	There are two options: VBR and CBR. <ul style="list-style-type: none"> • Please note, user can only set video quality in VBR mode. • In MJPEG encode mode, only CBR is available.
Reference Stream Value	Recommend a reasonable bit rate value range according to the resolution and frame rate user have set.
Code Stream	<ul style="list-style-type: none"> • In VBR, the bit rate here is the max value; In CBR, the value is fixed. • Refer to “Reference Stream Value”, bit rate value can provide best reference range.
I Frame Interval	Here user can set the P frame amount between two I frames, the range varies according to the frame rate, the max is 150, it is recommended to set twice as big as the frame rate.
Watermark Settings	By calibrating watermark, to see if video is modified. Select Watermark function. Default: Digital CCTV . Watermark character can only be number, letter, _ , - within 128 characters.
<input checked="" type="checkbox"/> Enable	Check the box to Enable/Disable the Sub stream, default is Enable.

Step3 Click “Save” to complete the configuration.

3.1.2.2 Snapshot Stream

This is used to set the stream information of the snapshot. The configuration steps are as follows:

Step1 Select “Setup > Camera > Encode Settings > Snapshot” and the system will display the interface of “Snapshot”, which is shown in Figure 3.1.2.2-1

Figure 3.1.2.2-1 Snapshot Stream Setting



Step2 Config parameter info according to the actual needs; please refer to Table 3.1.2.2-1 for more details.

Table 3.1.2.2-1 Snapshot Parameter Description

Parameter	Description
Snapshot Type	It includes Normal and Trigger. <ul style="list-style-type: none"> •Normal Snapshot will be triggered automatically in schedule time. •Trigger Snapshot will be triggered after triggering motion detection, video blocking, local alarm.
Image Size	Maintain the same resolution as the selected capture stream.
Image Quality	Set the image quality of the captured image, there are six levels to choose from: worst, worse, poor, good, better, best.
Capture Speed	Set the frequency of capturing images, from 1 sec/picture to 7 sec/picture or customised.

Step3 Click “Save” to complete the configuration.

3.1.2.3 Video Overlay

Set the information to be superimposed on the surveillance image. The config steps are shown as follows:

Step1 Select “Setup > Camera > Encode Settings > Overlay” and the system will display the interface of “Overlay”.

Step2 Configure the video overlay information according to actual needs. The configuration interface is shown from Figure.3.1.2.3-1to Figure 3.1.2.3-7. Refer to Table 3.1.2.3-1 for more details.

Figure 3.1.2.3-1 Video Overlay - Channel Title

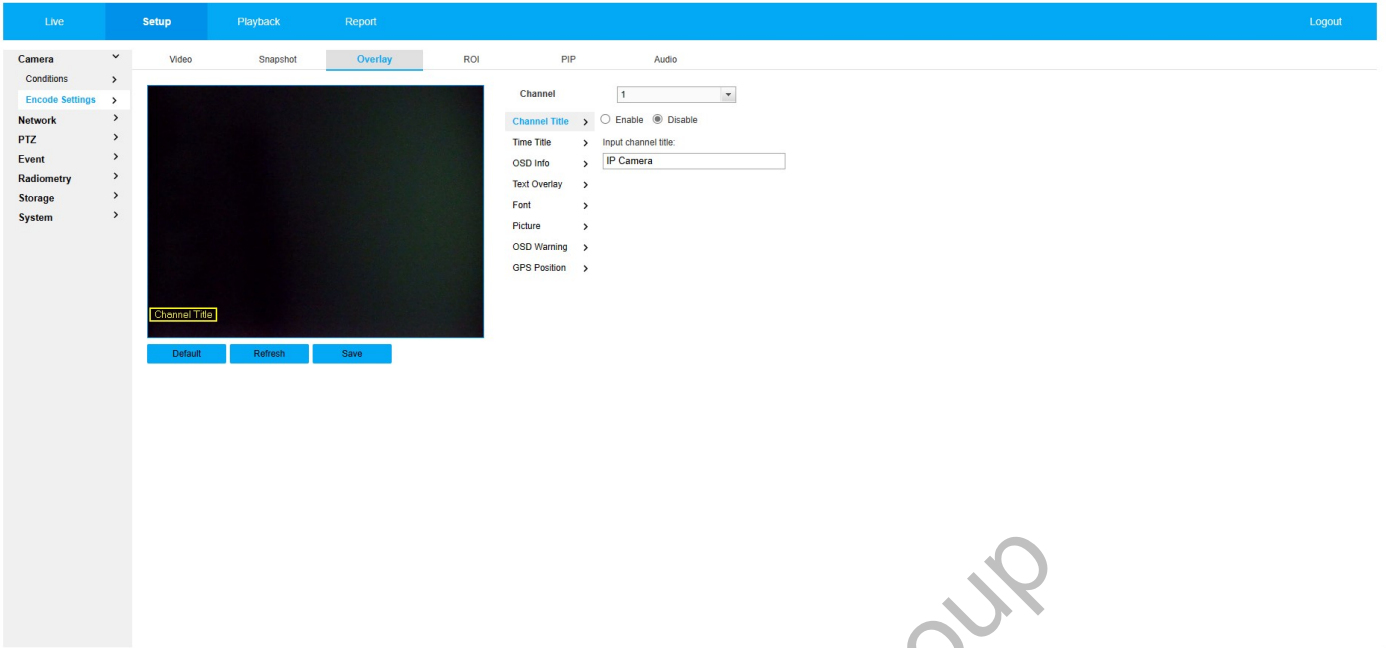


Figure 3.1.1.2.3-2 Video Overlay - Time Title

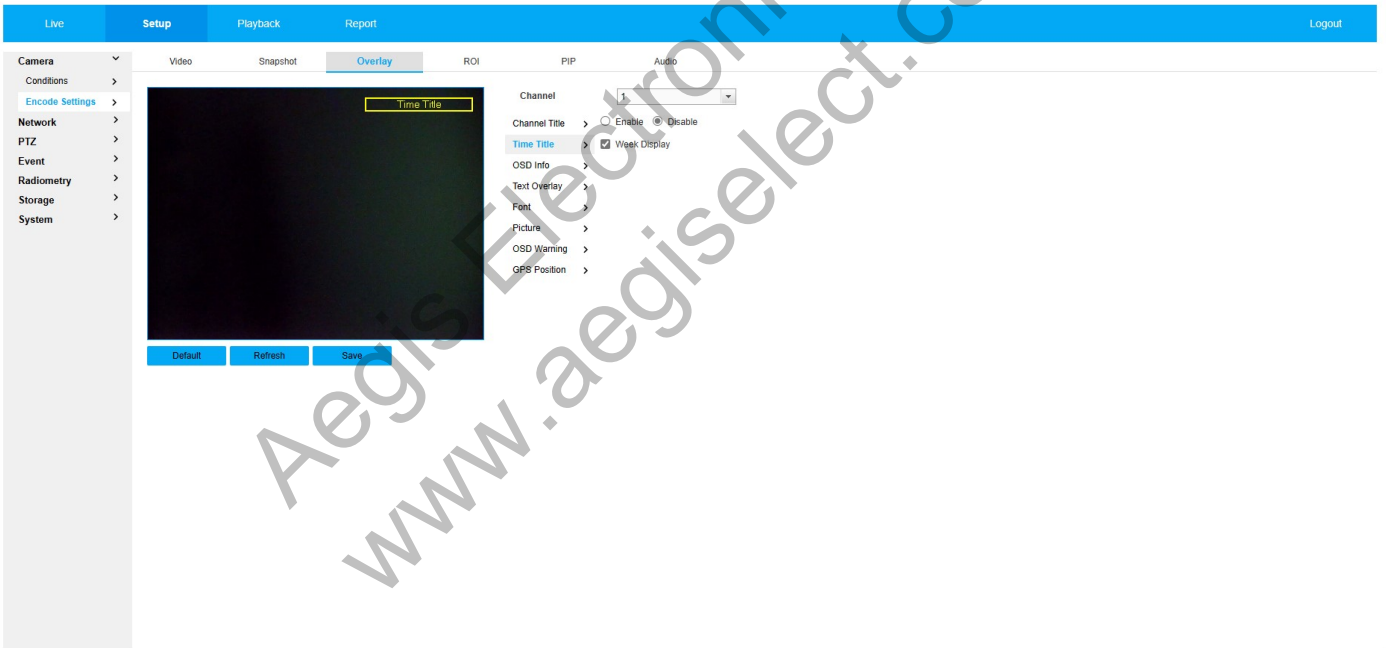


Figure 3.1.2.3-3 Video Overlay - OSD Information

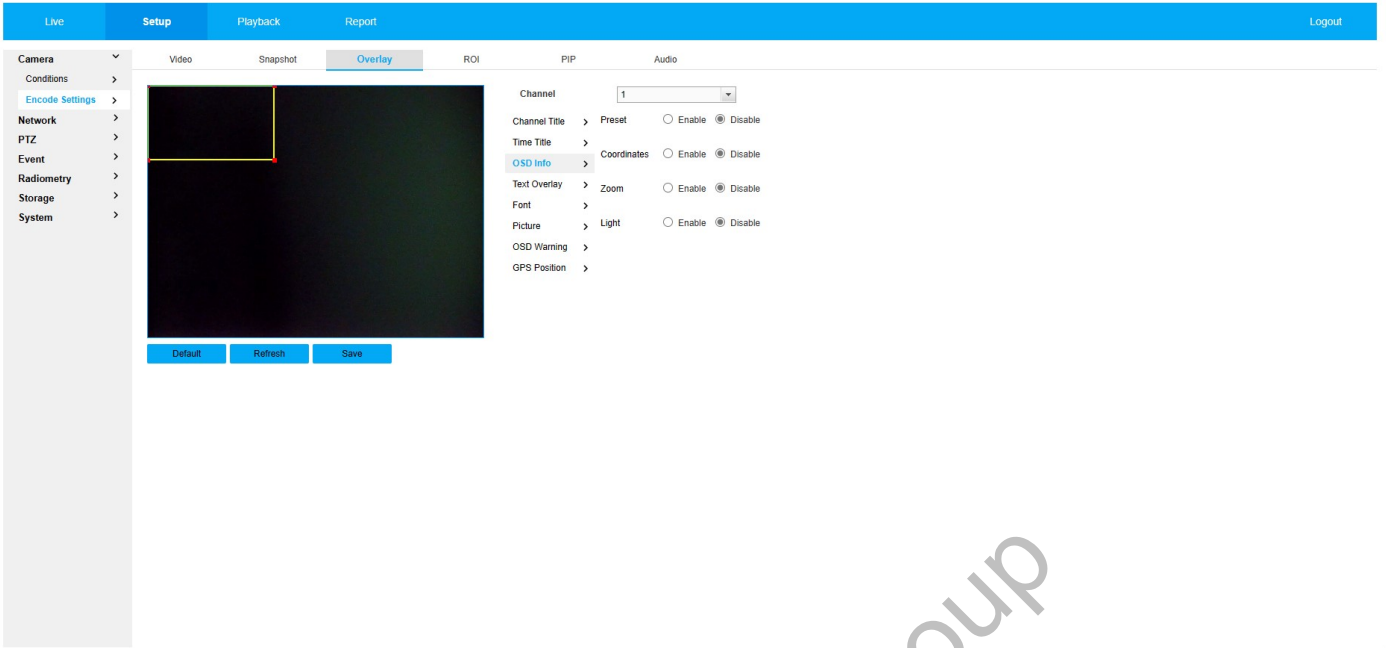


Figure 3.1.2.3-4 Video Overlay –Geographic Location

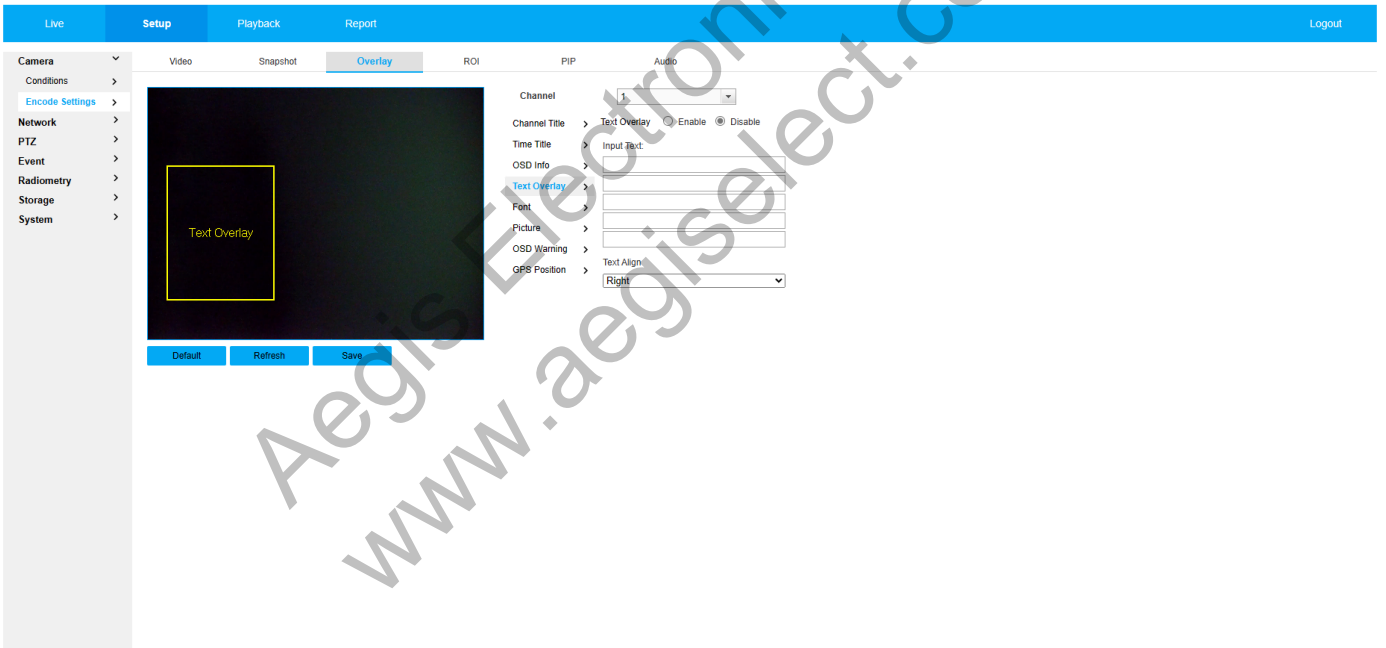


Figure 3.1.2.3-5 Overlay – Font Size

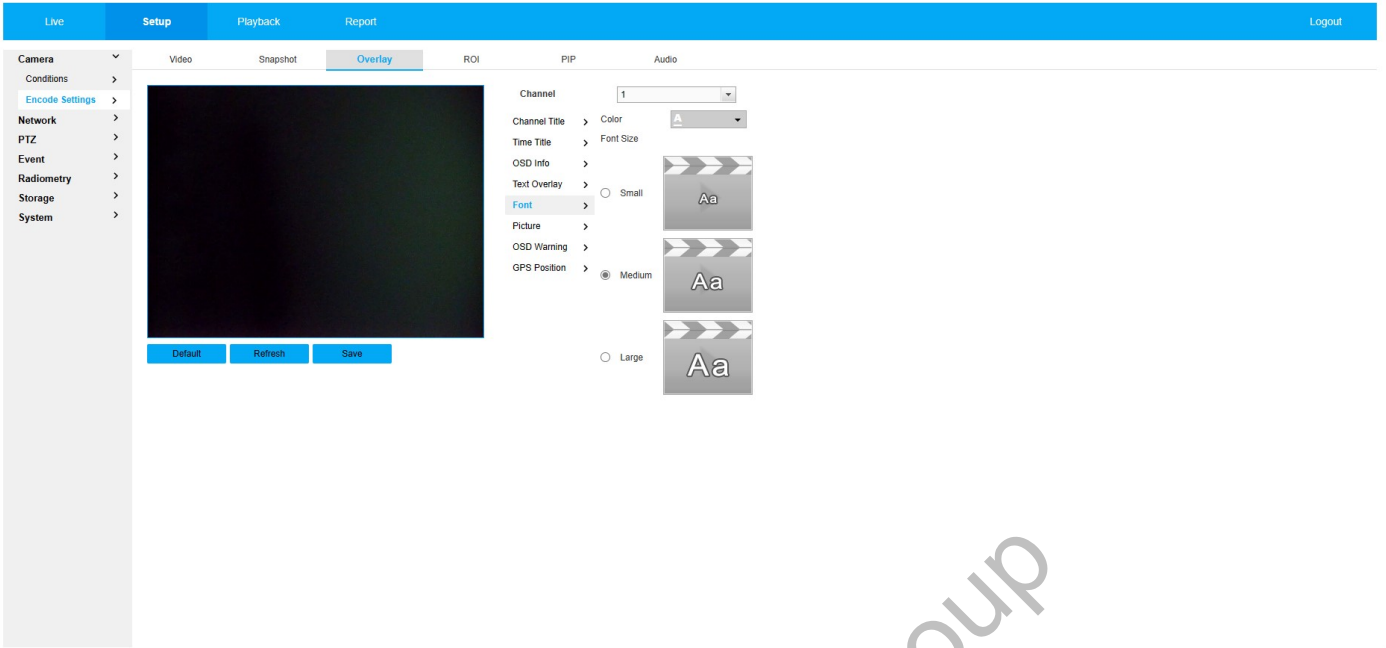


Figure 3.1.2.3-6 Overlay – Image Overlay

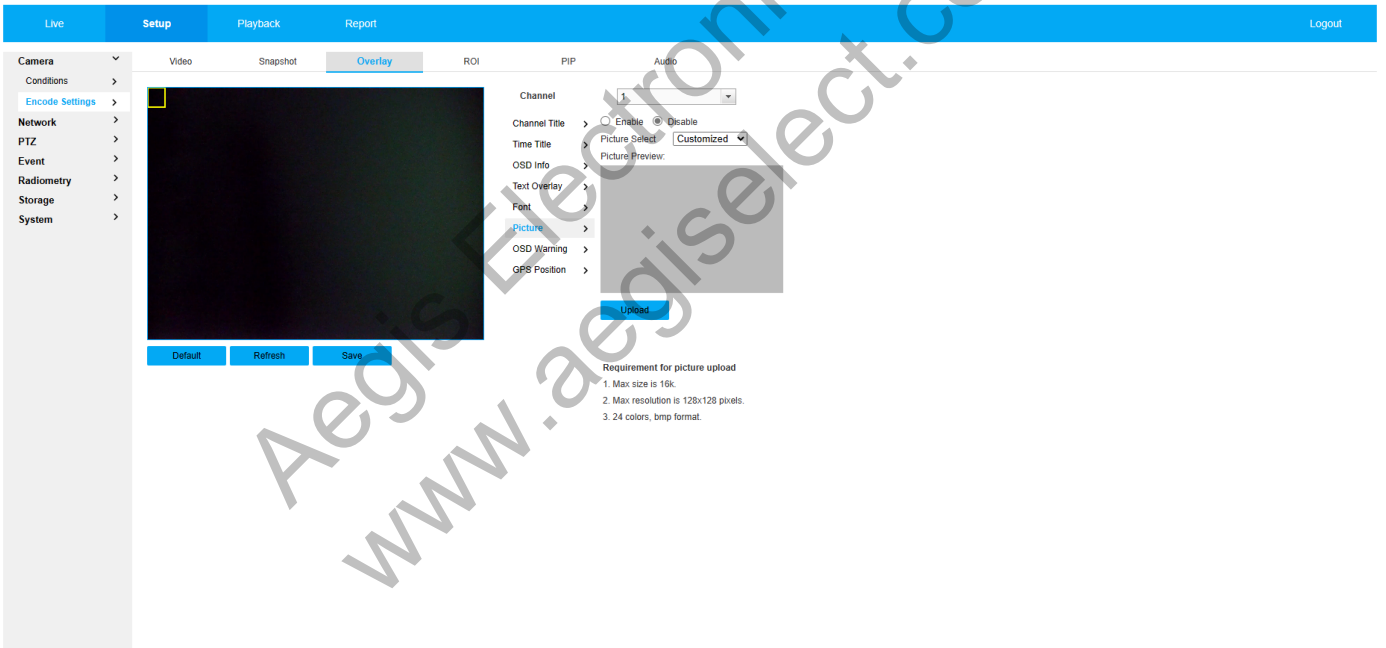


Figure 3.1.2.3-7 Video Overlay – OSD Warning

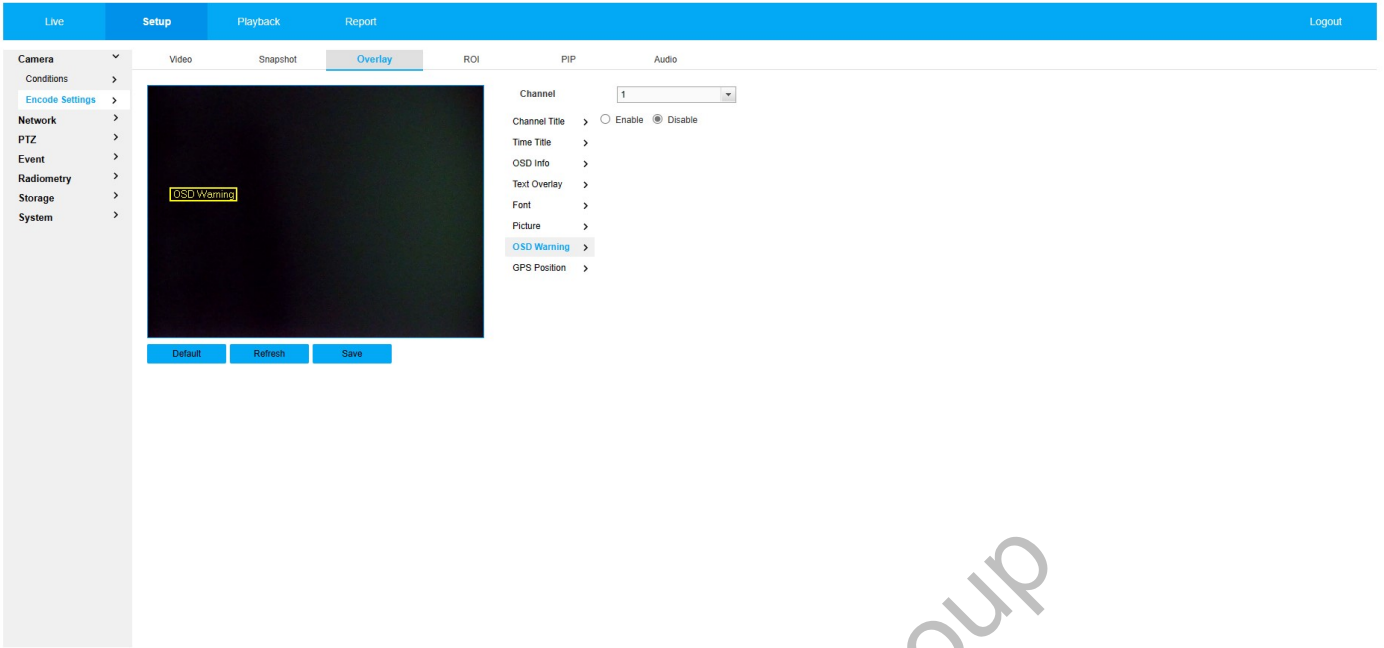


Figure 3.1.2.3-8 Video Overlay – GPS Position

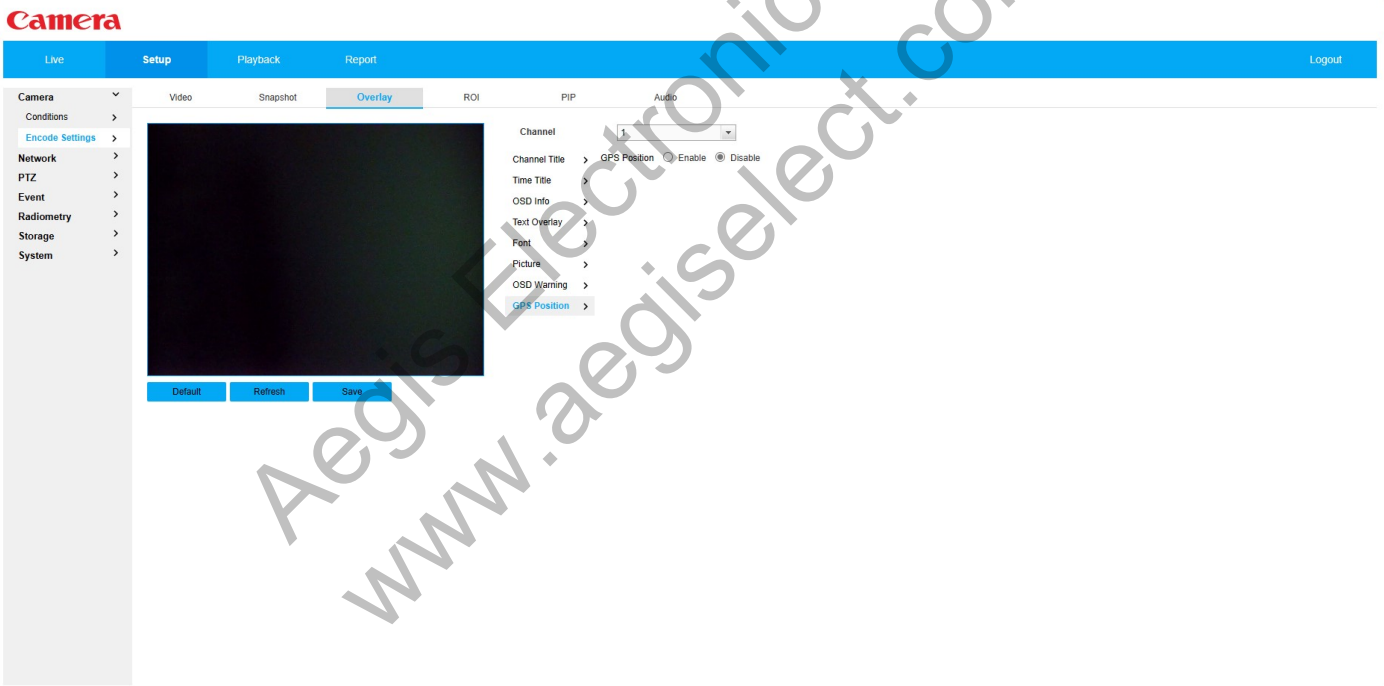


Table 3.1.2.3-1 Video Overlay Parameter Setting Description

Parameter	Description
Channel Title	Set whether to display the channel title in the monitor screen, and you can adjust the position of the channel title by dragging the "Channel Title" box.
Time Title	Set whether to display the time in the monitor screen, you can choose whether to display the day of the week, and you can adjust the position of the time title by dragging the "Time Title" box.
OSD Information	Set whether to display preset points, PTZ coordinates and zoom on the monitor screen; you can adjust the position of OSD information on the monitor screen by dragging the "OSD Information" box; the alignment mode includes left alignment and

	right alignment.
Geo Location	Set whether to display the geo location in the monitor screen, and you can adjust the position of the time title by dragging the "Geo Location" box; the alignment mode includes left alignment and right alignment.
Font	Set the size of video overlay font; you can choose "Small", "Medium" and "Large", the default is "Medium".
Image Overlay	Set whether to display the overlay image in the video screen. Click Upload Picture to overlay the local picture into the video monitor window. You can adjust the position of the superimposed picture by dragging the yellow box. Note: Geographic/road information in OSD information and picture overlay cannot be enabled at the same time.
Abnormal Overlay	Set whether to display abnormal information in the monitoring screen.
GPS Overlay	Sets whether to display GPS overlay information on the monitor screen. Note: Only special camera models support this feature.

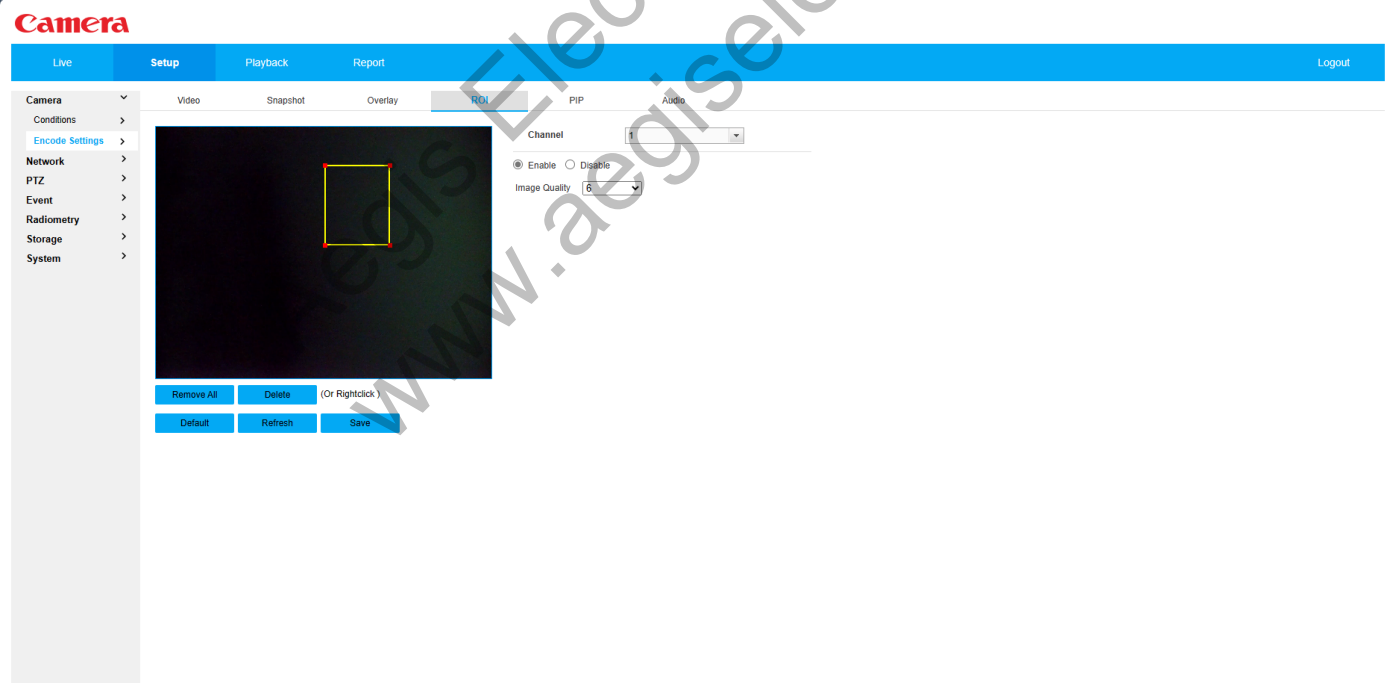
Step3 Click "Save" to complete the configuration.

3.1.2.4 ROI

User can set the key monitoring area as the ROI and set image quality upon the area. The config steps are shown as follows.

Step1 Select "Setup > Camera > Encode > ROI". The system will display the interface of "ROI", which is shown in Figure 3.1.2.4-1:

Figure 3.1.2.4-1 ROI Config



Step2 Select "Enable" to enable ROI function.

Step3 Press the left mouse button and draw area on the monitoring image. Up to 4 areas can be set in this mode.

- Click "Delete" or press right mouse button to delete corresponding area.
- Click "Remove all" to remove all the areas.

Step4 Set the image quality of the corresponding ROI.

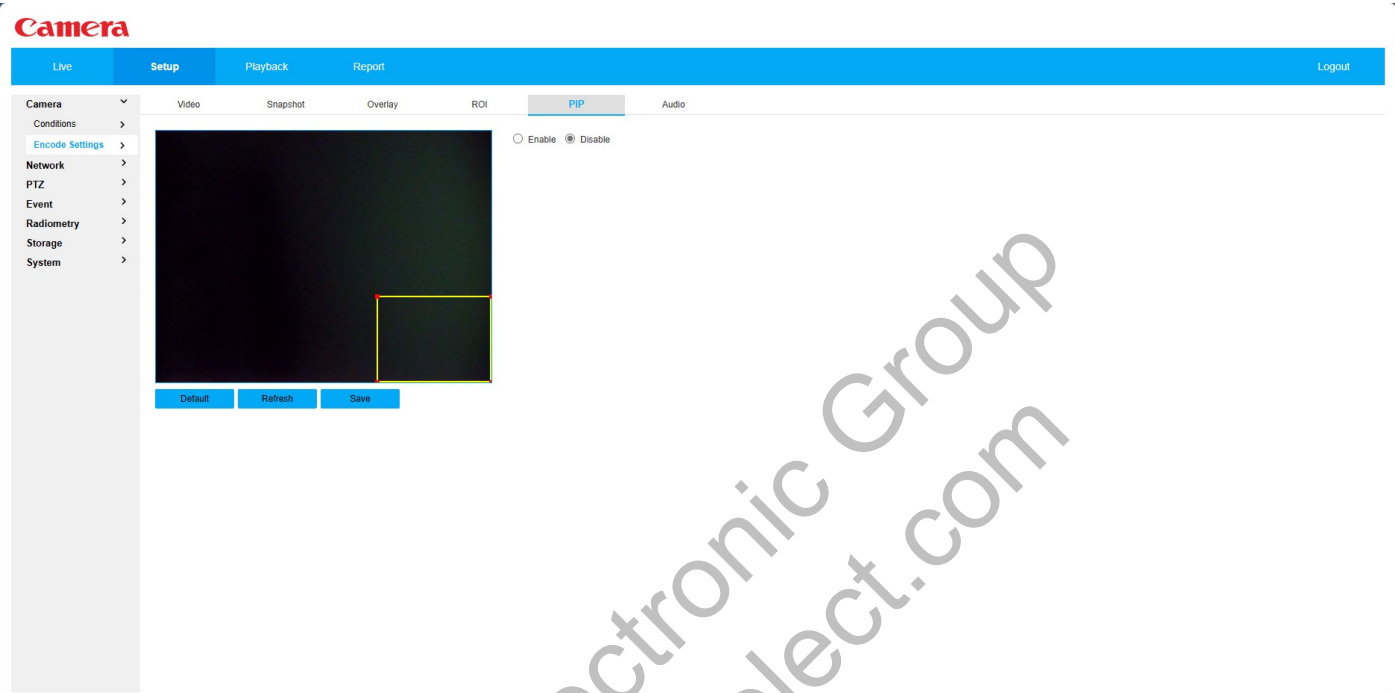
Step5 Click “Save” to complete the configuration.

3.1.2.5 Picture-in-Picture

To set the Picture-in-Picture mode, follow the steps below to configure it:

Step1 Select "Settings > Camera Settings > Code Settings > Picture-in-Picture" to display the Picture-in-Picture interface, as shown in Figure 3.1.2.5-1.

Figure 3.1.2.5-1 Picture-in-Picture



Step2 Select "Enable" to enable the Picture-in-Picture function.

Step3 Adjust the position and size of the thermal image area in the visible light monitor screen.

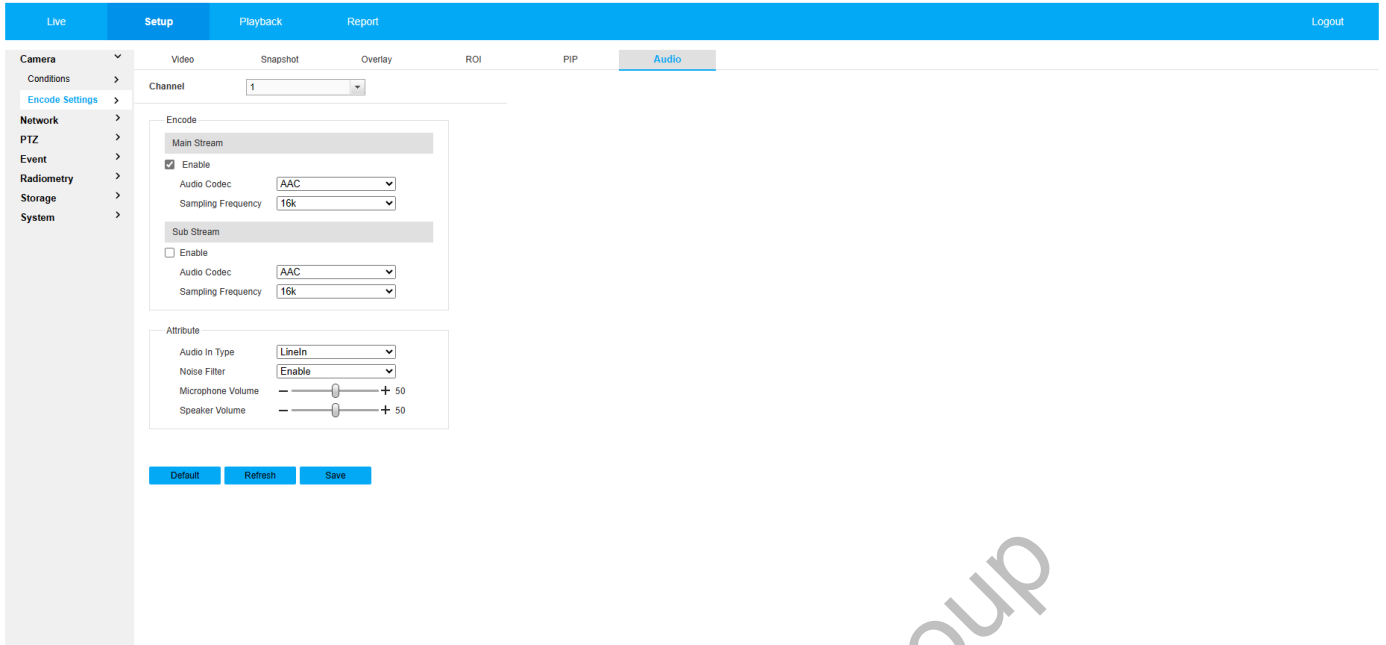
Step4 Click “Save” to make the configuration take effect.

3.1.2.6 Audio

Used to set the audio parameters of the device. The config steps are shown as follows:

Step1 Select “Setup > Camera > Encode > Audio”. The system will display the interface of “Audio”, which is shown in Figure 3.1.2.6-1:

Figure 3.1.2.6-1 Audio Config



Step2 Please configure info of each parameter according to the actual needs, refer to Table 3.1.2.6-1 for more details.

Table 3.1.2.6-1 Audio Parameter Description

Parameter	Description
Audio Enable	Check the Enable box to enable the Audio. The stream is A/V composite stream; otherwise it only contains video.
Encode Mode	The encode mode includes AAC and MPEG2-Layer2. The default is AAC.
Sampling Frequency	It includes 8k and 16k. It is 16K by default.
Audio in Type	Set audio input type, Line In and Mic, it is Line In by default.
Noise Filter	Set whether to enable the noise filtering function, it is enabled by default.
Microphone Volume	Adjust the volume of the microphone. (Range: from 0 to 100)
Speaker Volume	Adjust the volume of the speaker. (Range: from 0 to 100)

Step3 Click "Save" to complete the configuration.

3.2 Network setting

3.2.1 General Setting

3.2.1.1 TCP/IP

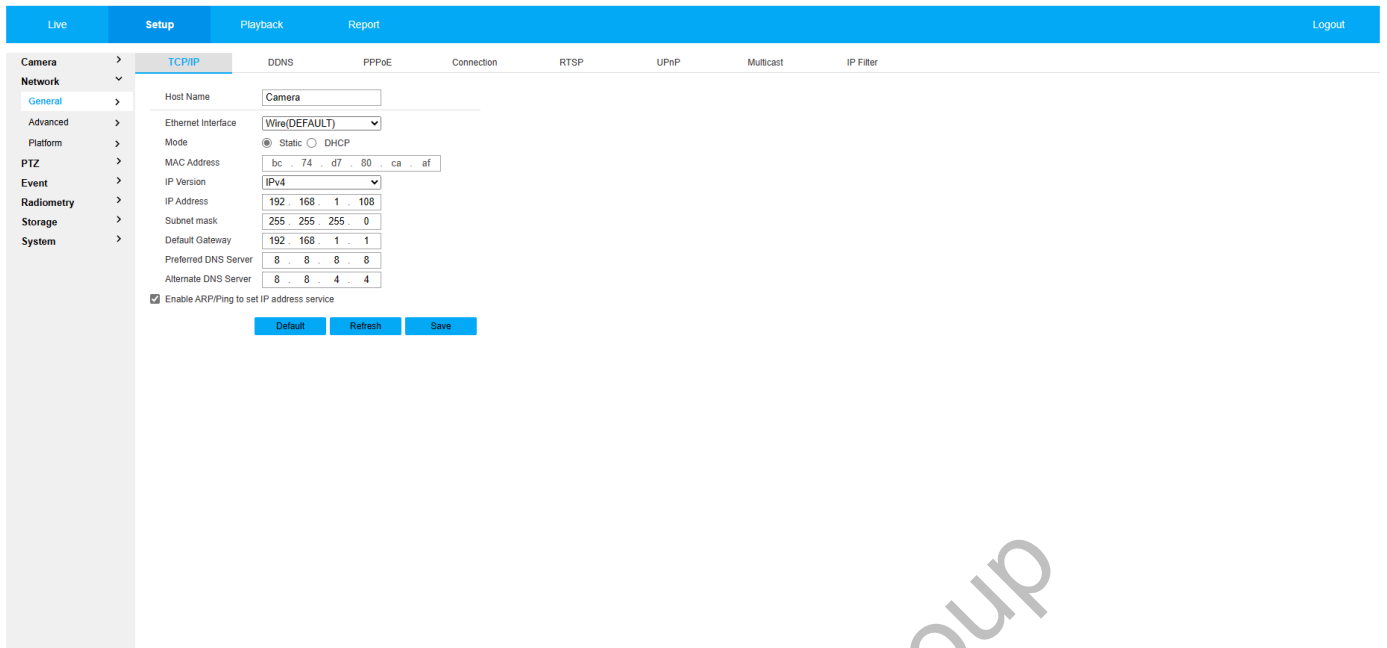
User needs to configure the IP address and DNS server of the camera to ensure that communicate with other devices in the network.

Note: Please confirm the intelligent speed dome has connected to network correctly before setting network parameters.

- Please distribute IP address of the same network segment if there is no router in the network.
- It needs to set corresponding gateway and subnet mask if there is router in the network.

Step1 Select "Setup > Network > General > TCP/IP". The system displays the interface of "TCP/IP", which is shown in Figure 3.2.1.1-1:

Figure 3.2.1.1-1 TCP/IP Config



Step2 Configure TCP/IP parameter, refer to Table 3.2.1.1-1.

Table 3.2.1.1-1 TCP/IP Parameter Description

Parameter	Description
Host Name	Set the name of the current host device. It supports up to 15 characters.
Ethernet Card	Please select the Ethernet port. Default is wired. Note: The device needs to reboot to activate the new setup once user modify the default setup.
Mode	There are two modes: Static Mode and the DHCP Mode. Select DHCP mode, it auto searches IP, and user cannot set IP/subnet mask / gateway. Select Static Mode, user must manually set IP/subnet mask/gateway.
Mac Address	Display device Mac address.
IP Version	Select IP version. IPV4 or IPV6. User can access the IP address of these two versions.
IP Address	Input the corresponding number to modify the IP address.
Subnet mask	It has to set according to the actual situation, the prefix of subnet is number, input from 1 to 255, the prefix of subnet identifies a specific network link, and usually it includes a layering structure. Note: The device will check the legitimacy of all IPv6 addresses. The IP address and the default gateway must be in the same network segment, i.e., the subnet prefixes must have the same length field to pass the test.
Default gateway	Make sure it has to be in the same segment with IP address according to the actual situation.
Preferred DNS	DNS server IP address.
Alternate DNS	Alternate IP address of DNS server.
Enable ARP/Ping to set device IP address service.	Check, user can use ARP/Ping command to modify or set the device IP address if user know the device MAC address. When enabled by default, ping packet can set device IP via specific length within 2 minutes during device reboot, the service is off 2 minutes later, the service will be closed immediately after setting IP successfully. Ping packet can't set IP if it is not enabled.

Step3 Click "Save" to complete the configuration.

3.2.1.2 DDNS

DDNS (Dynamic Domain Name Server) can be used to update the relationship between domain name on the DNS server and IP address dynamically in the situation where the device IP address changes frequently, which is to guarantee the users to visit device via domain name.

Note: Please confirm the DNS Type is supported by the device, log in the website of DDNS service provider to register domain name and other info.

User can check info of all the connected devices after they successfully registered in DDNS website and logged in.

Step1 Select “Setup > Network > General > DDNS”. The system will display the interface of “DDNS”, which is shown in Figure 3.2.1.2-1:

Figure 3.2.1.2-1 DDNS Config



Step2 Configuration parameters, for details, refer to Table 3.2.1.2-1 DDNS Parameter Description.

Table 3.2.1.2-1 DDNS Parameter Description

Parameter	Description
Server Type	DDNS server Type and IP address, corresponding to the following:
Server Address	<ul style="list-style-type: none"> •CN99 DDNS Server address: members.3322.org •NO-IP DDNS Server address: dynupdate.no-ip.com •Dyndns DDNS Server address: members.dyndns.org
Domain Name	It is the domain name that the users register on the website of DDNS server provider.
Username	Input the username and password which are acquired from DDNS server provider. User need to register account on the website of DDNS server provider. (Include username and password)
Password	
Interval Time	After the specified DDNS update is enabled, the update request interval will be initiated periodically, in minutes.

Step3 Click “Save” after filling in the interface.

Step4 Input domain name in the PC browser and press “Enter” button.

It means successful config if it displays the device WEB interface, and it means config failure if it doesn't display.

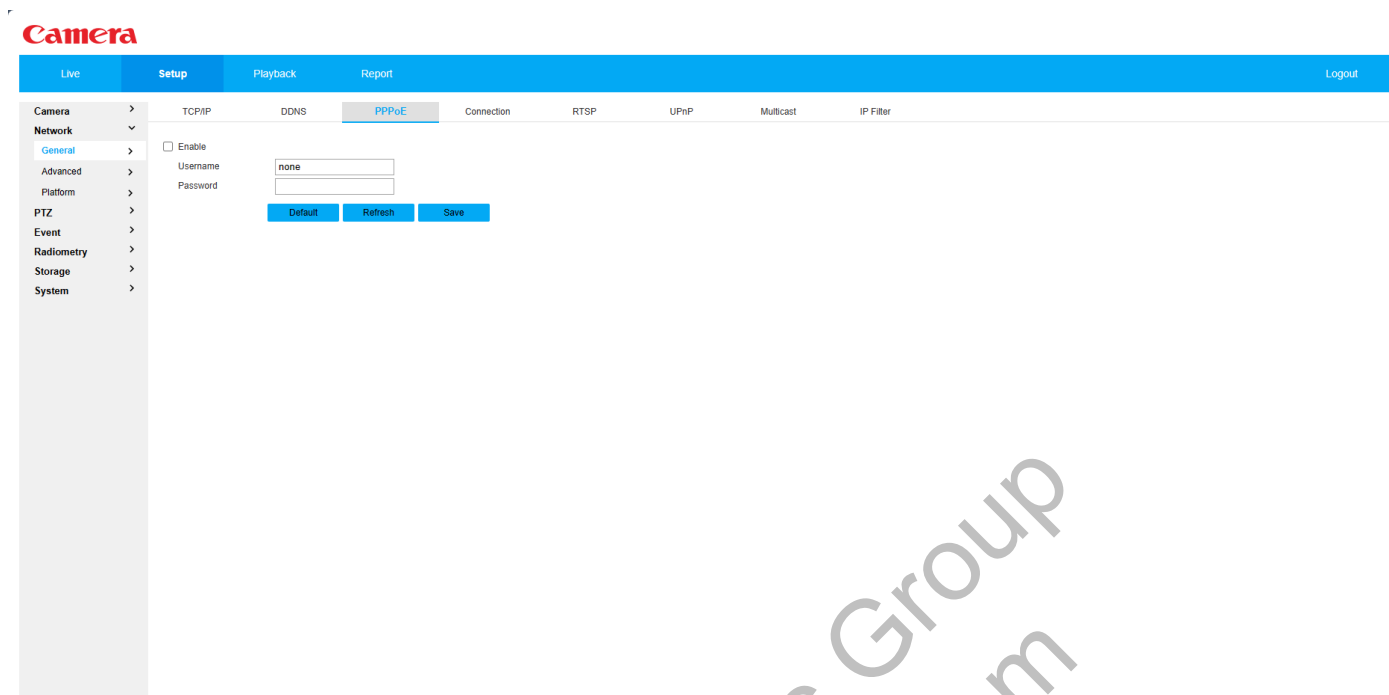
3.2.1.3 PPPoE Setting

This is used to set up network connection via enabling PPPoE (Point-to-Point Protocol over Ethernet) dial mode; the device will acquire a dynamic IP address of WAN. Please gain the PPPoE username and password provided by ISP (Internet service provider).

Step1 Select “Setup > Network > General > PPPoE”. The system will display the interface of “PPPoE”,

which is shown in Figure 3.2.1.3-1:

Figure 3.2.1.3-1 PPPoE Interface



Step2 Check “Enable” and input PPPoE username and password.

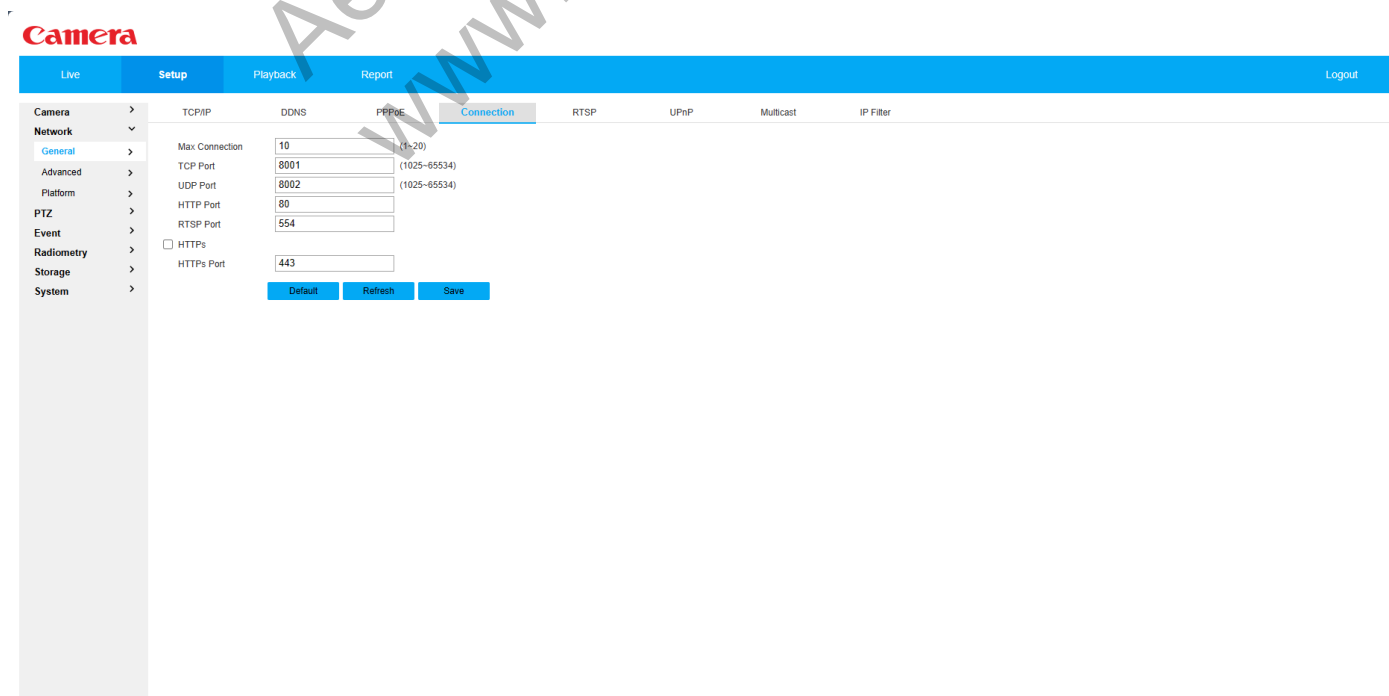
Step3 Click “Save” to complete PPPoE configuration. The system will prompt that it has been successfully saved and real-time display the acquired IP address of WAN, users can visit the device via the IP address.

3.2.1.4 Connection

User can configure the device with max connection port and each port value on this interface.

Step1 Select “Setup > Network > General > Connection”. The system will display the interface of “Connection”, which is shown in Figure 3.2.1.4-1:

Figure 3.2.1.4-1 Connection



Step2 Configure each port value of the device; refer to Table 3.2.1.4-1 for more details:

Table 3.2.1.4-1 Connection Parameter Description

Parameter	Description
Max connection	It is the largest Web connection for the same device (Range: 1 to 20). The default number of connections is 20.
TCP Port	TCP port, user can input the actual port number if necessary (Port range is 1025~65534). The default value is 8001.
UDP Port	UPD port, user can input the actual port number if necessary (Port range is 1025~65534). The default value is 8002.
HTTP Port	HTTP port, user can input the actual port number if necessary. The default value is 80.
RTSP Port	<ul style="list-style-type: none"> The default RTSP port is 554. Please leave blank if use default. User uses VLC can play the following formats. Real-time monitoring URL format, please require real-time RTSP media server, require channel no., bit stream type in URL. User may need username and password. <p>URL format: rtsp://username:password@ip:port/cam/realmonitor?channel=1&subtype=0 Username: admin. Password: admin. IP: device IP address: 192.168.1.122 Port: Default is 554, user can leave it in blank if it is the default value. Channel: Channel number, from 1. If it is the 2nd channel, channel=2. Subtype: Stream Type, Mainstream is 0 (subtype=0), Sub stream is 1(subtype=1). For example: Need access mainstream of channel1, the URL is: rtsp://admin:admin@192.168.1.122:554/cam/realmonitor?channel=1&subtype=0 If no need verify the username and password, then use URL as below: rtsp://ip:port/cam/realmonitor?channel=1&subtype=0</p>
Enable HTTPs	Check HTTPs enable, login as https://ip:port . Protect data. Default port is https://ip . It is disabled by default.
HTTPs Port	HTTPs ports, user can input the actual port number if necessary. The default value is 443.

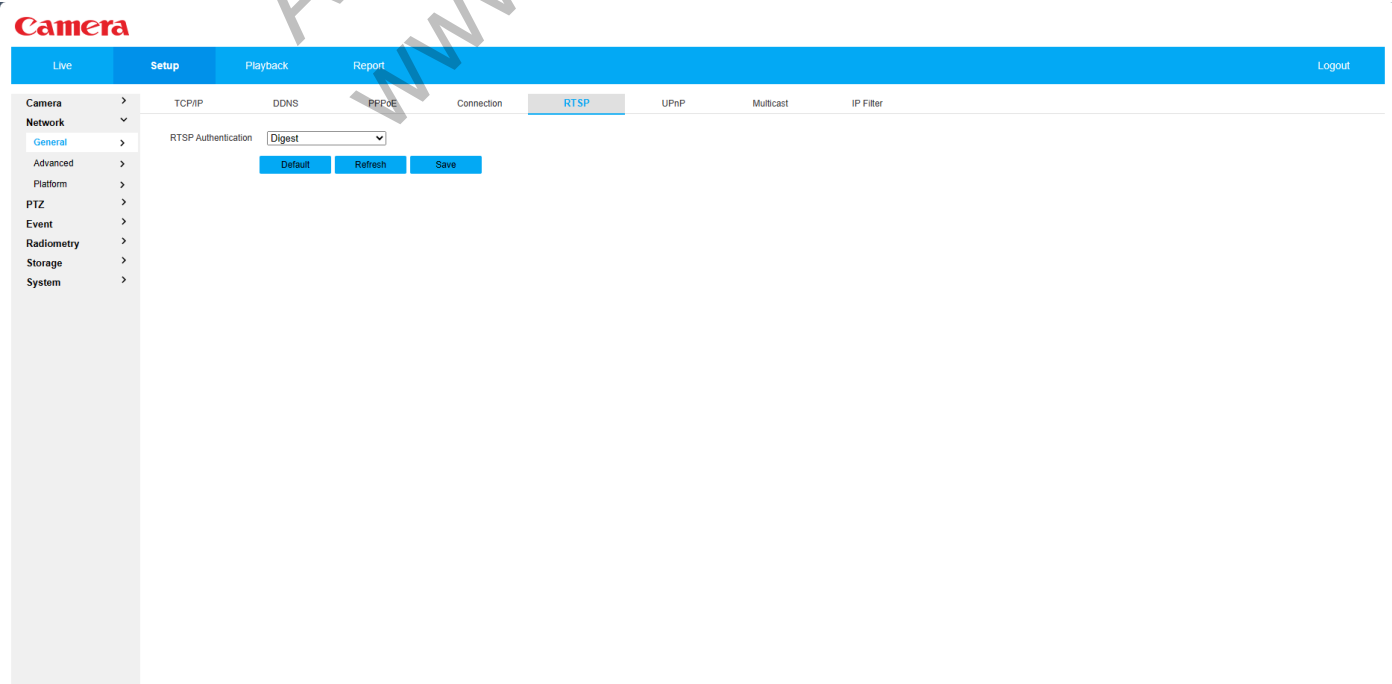
Step3 Click "Save" to complete the configuration.

3.2.1.5 RTSP

RTSP (Real Time Streaming Protocol) ensures the security of streaming media transmission.

Step1 Select "Settings > Network Settings > General Settings > RTSP", the system will display the "RTSP" interface, as shown in Figure 3.2.1.5-1.

Figure 3.2.1.5-1 RTSP



Step2 Select the RTSP authentication method, it is Digest by default.

Step3 Click “Save” to complete the configuration.

3.2.1.6 UPnP

The UPnP protocol establishes a mapping relationship between the private network and the external network, so that users from the external network can access the devices on the internal network by accessing the IP address of the external network. The internal port is the IP camera port and the external port is the router port, so users can access the IP camera when they access the external port. When you do not use the router for UPnP, please turn off the UPnP function to avoid affecting other functions.

Start UPnP, the network camera supports UPnP protocol. Under Windows XP or Windows Vista, if UPnP is enabled on the system, the IP camera will be automatically detected in the Windows Internet Neighbourhood.

To install the UPnP network service under Windows system, please refer to the following steps:

Step1 Open control panel, and select “Add or Remove Programs”.

Step2 Click the “Add/Remove Windows Components”

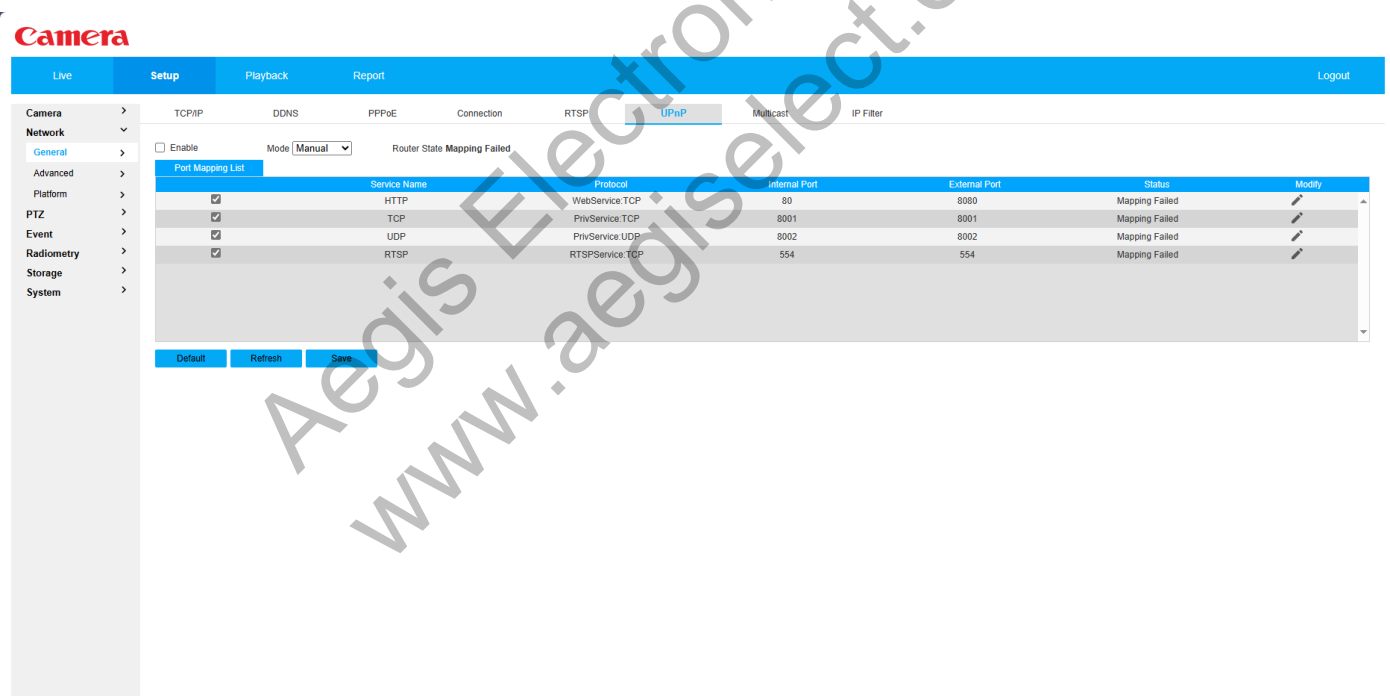
Step3 Select the “Network Services” from the Wizard and Click the Details button.

Step4 Check the “Internet Gateway Device Discovery and Control client” and “UPnP User Interface”.

Please click “OK” to begin installation. The operation steps of UPnP config is shown as follows:

- **Step1** Select “Setup > Network > General > UPnP”. The system will display the interface of “UPnP”, which is shown in Figure 3.2.1.6-1:

Figure 3.2.1.6-1 UPnP



- **Step2** Check the box and enable UPnP function.

- **Step3** Selection mode

There are two mapping modes for UPnP which are Auto and Manual. As for manual mapping mode, it allows user to modify external port; as for auto mapping mode, it completes port mapping automatically without occupying the port, and users don't need to modify mapping.

- **Step4** Click “Save” to complete the configuration.

3.2.1.7 Multicast

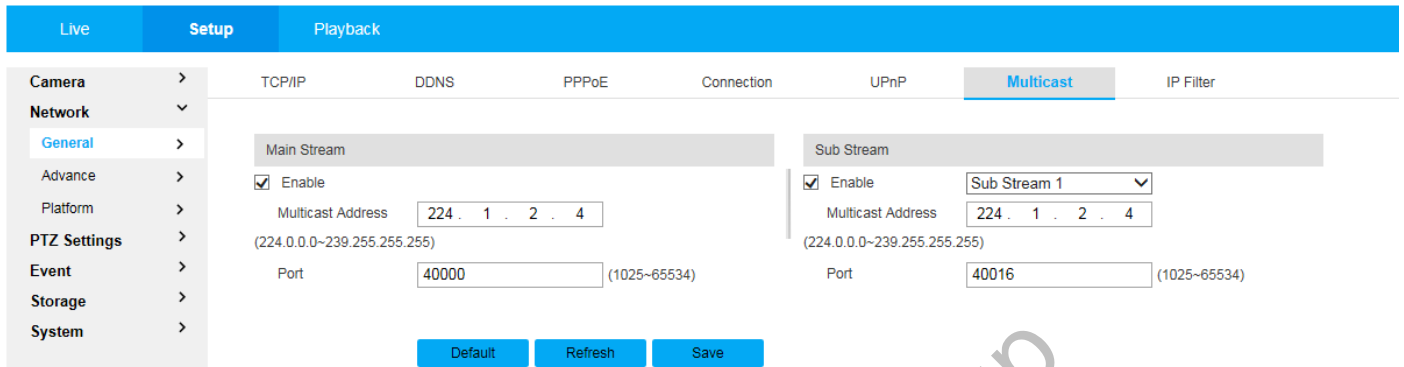
If you access the device through the network to preview the video screen, and if the access limit of the device

is exceeded, you will not be able to preview the video screen.

This can be solved by setting multicast IP on the device and using multicast protocol access.

Step1 Select “Setup > Network > General > Multicast”. The system will display the interface of “Multicast”, which is shown in Figure 3.2.1.7-1:

Figure 3.2.1.7-1 Multicast

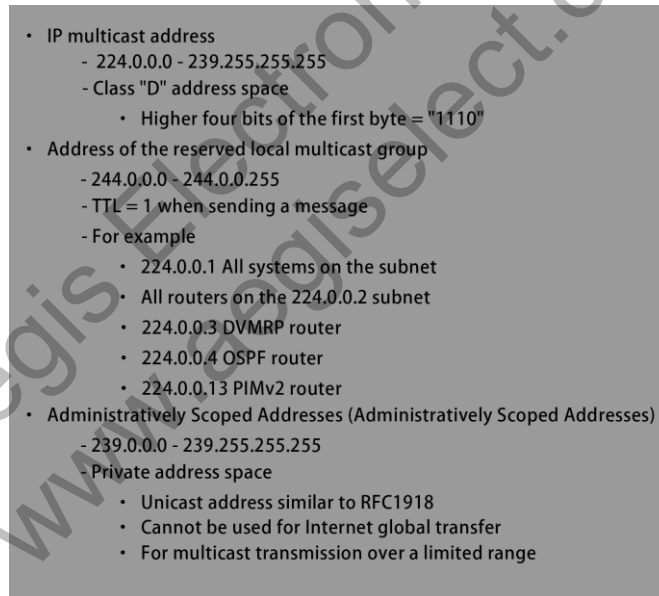


Step2 Check “Enable” to enable multicast.

Step3 Input multicast address and port.

There is no restriction on the multicast port number, and the multicast IP address range is restricted as shown in Figure 3.2.1.7-2 below.

Figure 3.2.1.7-2 Multicast IP address restriction range



Except for the above addresses that have a specific meaning all other addresses can be used.

Step4 Click “Save” to complete the configuration.

3.2.1.8 IP Filter

Users can be set up to be allowed access to the device through IP privileges.

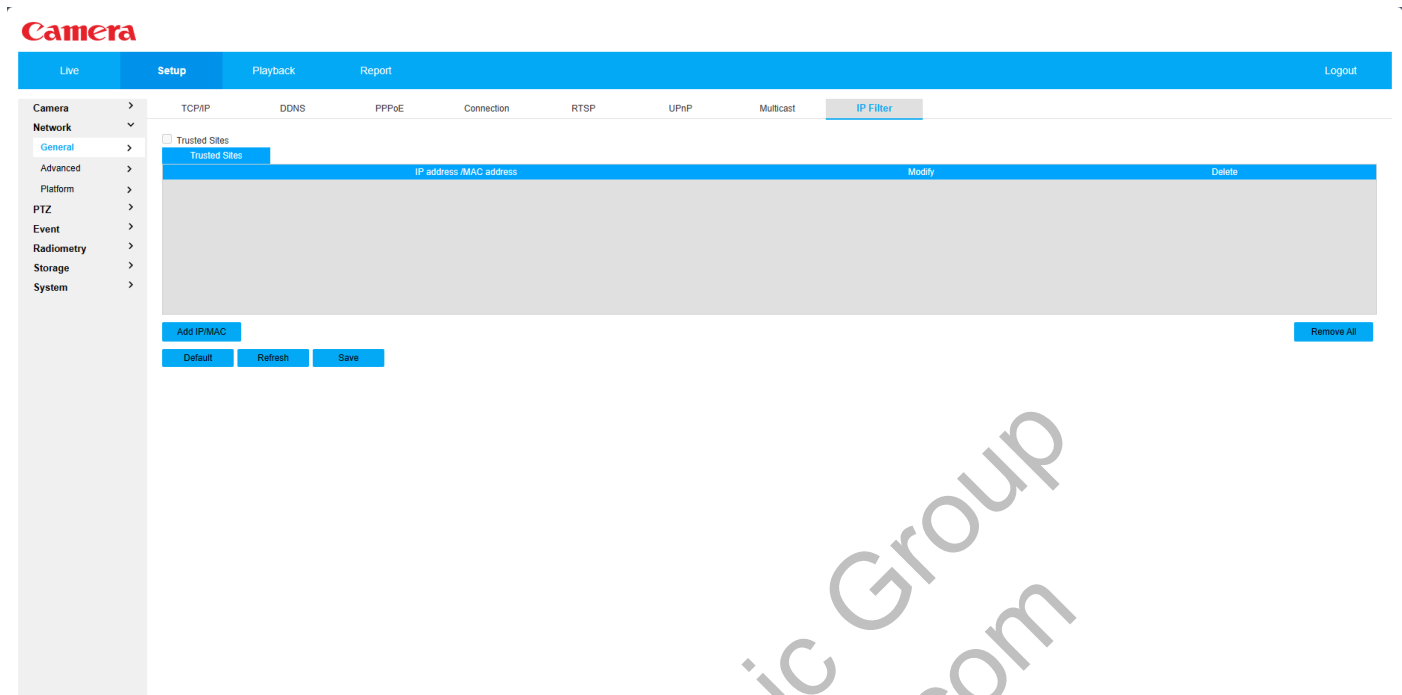
- **White List:** Add the IP/MAC of the user who can log in to the device; if the user selects the whitelist, only the IP/MAC of the user in the list can log in to the device; if the whitelist is not selected, there is no restriction on the users who can access the device.
- Users are not allowed to set the device IP/MAC as whitelist.

MAC verification can be valid only when the device IP and PC’s IP are in the same LAN.

Step1 Select “Setup > Network > General > IP Filter”. The system will display the interface of “IP Filter”,

which is shown in Figure 3.2.1.8-1:

Figure 3.2.1.8-1 IP Filter



Step 2 Check corresponding check box to enable white list.

Step 3 Click “Add IP/MAC”, and configure IP address info according to Table 3.2.1.8-1:

Table 3.2.1.8-1 IP Filter Description

Parameter	Description
IP Address	Input the IP address of host which is to be added.
IP Segment	Input the start address and end address of the segment which is to be added.
IPv4	IP address adopts IPv4 format, such as 192.108.1.120
IPv6	IP address adopts IPv6 format, such as aa:aa:aa:aa:aa:aa:aa:aa
MAC	Input the MAC address of host which is to be added.

Step 4 Click “Save” to complete the configuration; Use the IP host in the whitelist to log in device WEB interface, which can realize successful device login.

3.2.2 Advanced

3.2.2.1 SNMP

The SNMP (Simple Network Management Protocol) provides framework of bottom-layer network management for network management system. This function control SNMP function in the network service setting. This is used to gain the relevant config info after connecting to device via relevant software tool.

The following conditions must be met to use the SNMP function:

- Install SNMP device monitoring and management tool, such as MIB Builder and MG-SOFT MIB Browser.
- Get two MIB documents which are corresponding to the current version from technical personnel.

Step 1 Select “Setup > Network > Advance > UPnP”.

The system will display the interface of “SNMP”, which is shown in Figure 3.2.2.1-1 and Figure 3.2.2.1-2:

Figure3.2.2.1-1 SNMP (1)

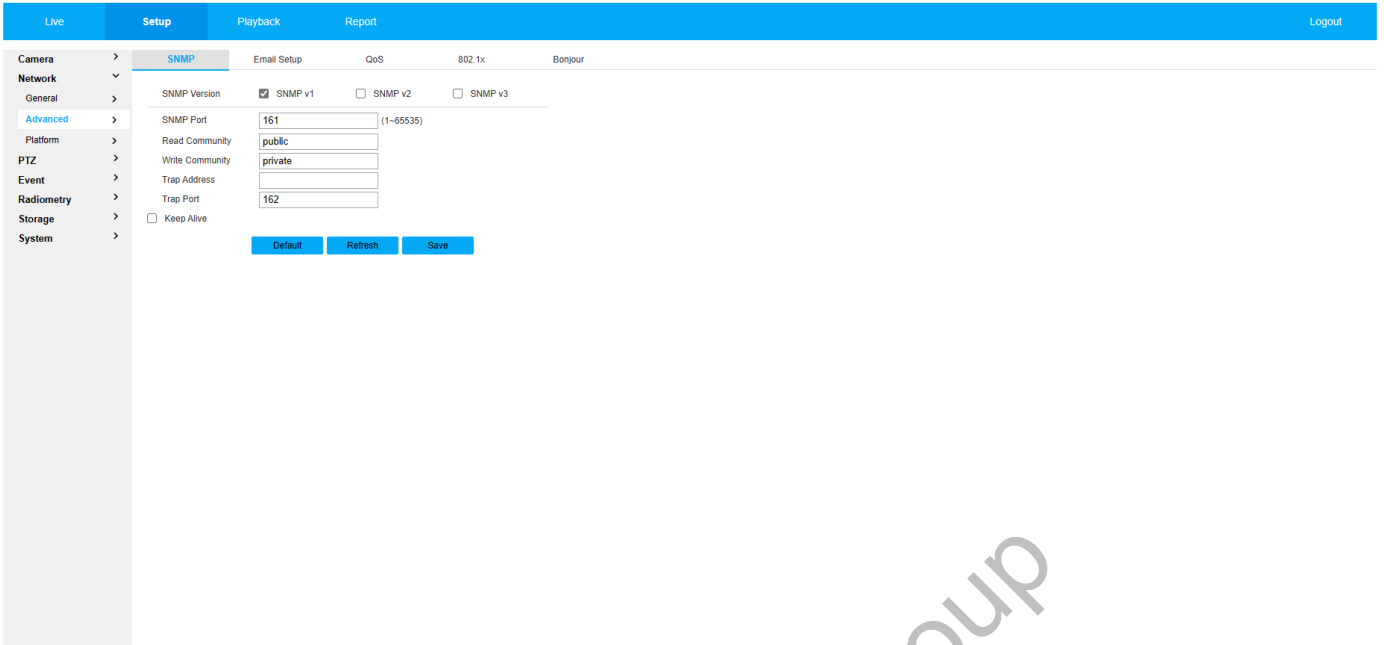
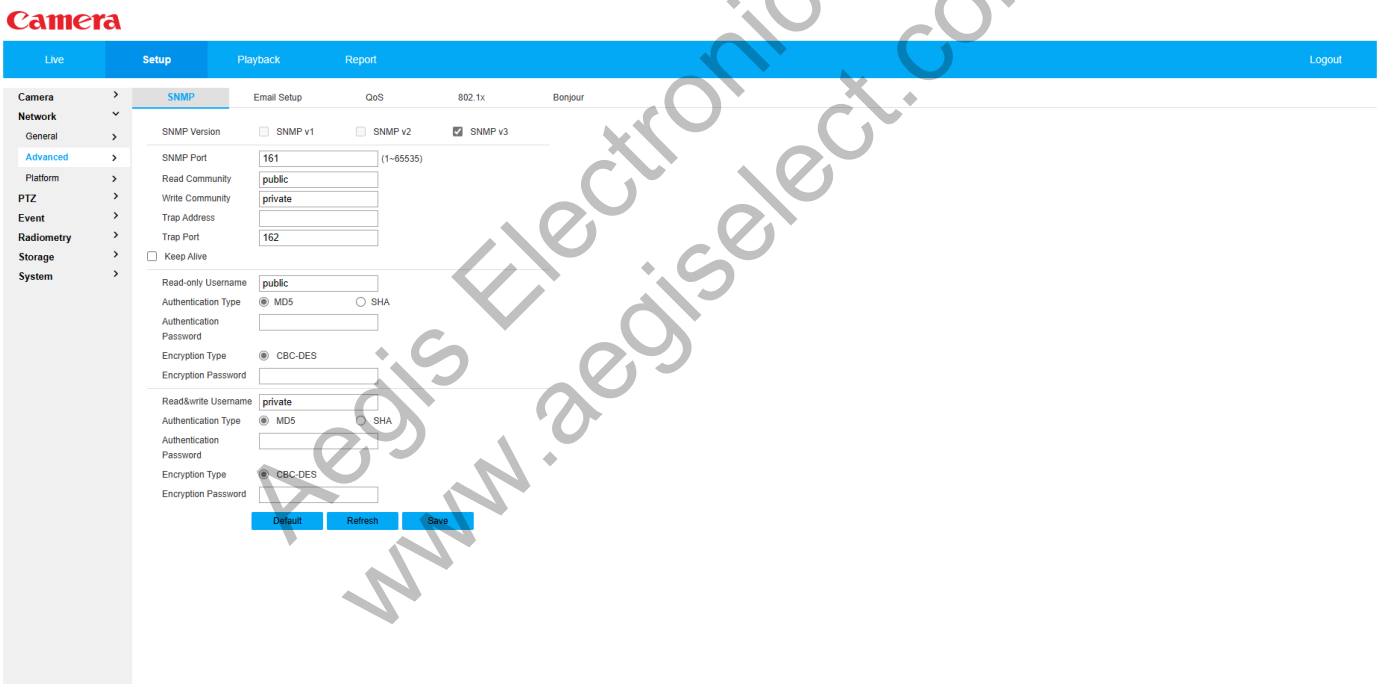


Figure 3.2.2.1-2 SNMP (2)



Step2 Configure info of each parameter according to the actual needs. Table 3.2.2.1-1:

Table 3.2.2.1-1 SNMP Parameter Description

Parameter	Description
SNMP Version	<ul style="list-style-type: none"> ● Check SNMP v1, device can only process v1 info. ● Check SNMP v2, device can only process v2 info. ● Check SNMP v3, can set username, password and encryption method. Server calibrate corresponding username, password and encryption method too access device and v1/v2 are unavailable.
SNMP Port	The listening port of the proxy program of the device. It is a UDP port not a TCP port. The value ranges from 1 to 65535. The default value is 161

Community	It is a string used as a command between the management and the agent to define the authentication of the agent and the manager.
Read community	Read-only access to all SNMP targets, default: public. Note: Only number, letter, _, and – supported.
Write community	Read/write access to all SNMP targets, default: private. Note: Only number, letter, _, and – supported.
Trap	SNMP trap is a proxy message sent to admin as important event notice or status change.
Trap Address	The destination address of the Trap information from the proxy program of the device.
Trap Port	Port which send Trap message, default is 162, range 1~65535.
Read-only Username	Default is public. ● Name only can be number, letter and underline.
Read/Write Username	Default is private. ● Name only can be number, letter and underline.
Authentication	User may select MD5 or SHA, default is MD5.
Authentication Password	Password not less than 8 characters.
Encryption	Default is CBC-DES.
Encryption Password	Password not less than 8 characters.

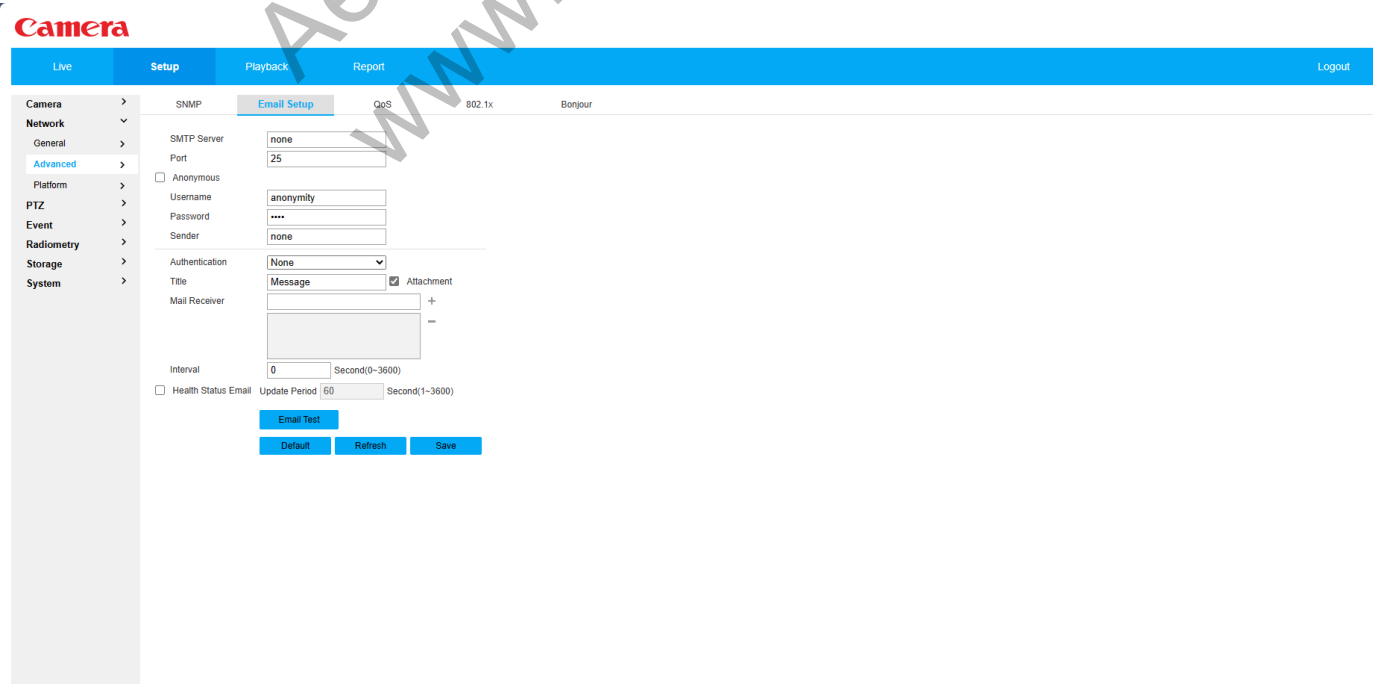
Step3 Click “Save” to complete the configuration.

3.2.2.2 SMTP (Email)

By setting SMPT, it will send email immediately when alarm, video detection and abnormality happen. When alarm, video detection and abnormality trigger, this device send email to the server of the receiver via SMPT server. The receiver can receive the email when logging in the server.

Step1 Select “Setup > Network > Advance > SMPT”. The system will display the interface of “SMPT”, which is shown in Figure 3.2.2.2-1.

Figure 3.2.2.2-1 SMTP (Email)



Step2 Configure info of each parameter according to the actual needs. Table 3.2.2.2-1:

Table 3.2.2.2-1 SMTP Parameter Description

Parameter	Description
SMTP Server	Conform to SMTP protocol; send the IP address of email server.
Port	Conform to SMTP protocol; send the port number of email server, it is 25 by default.
Anonymity	For the server supports the anonymity function. User can auto login anonymously. User do not need to input the user name, password and the sender information.
User Name	The username of the sender email account.
Password	The password of sender email account.
Sender	Sender email address.
Authentication (Encryption mode)	User can select SSL, TLS or none.
Attachment	System can send out the email of the snapshot picture once user check the box here.
Title	Email title, and this title can be customized.
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. When the alarm, motion detection or the abnormality event activates the email, system sends out the email according to the interval user specified here. This function is very useful when there are too many emails activated by the abnormality events, which may result in heavy load for the email server.
Enable Health Mail	Please check the box here to enable this function.
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.

Step3 Click “Save” to complete the configuration.

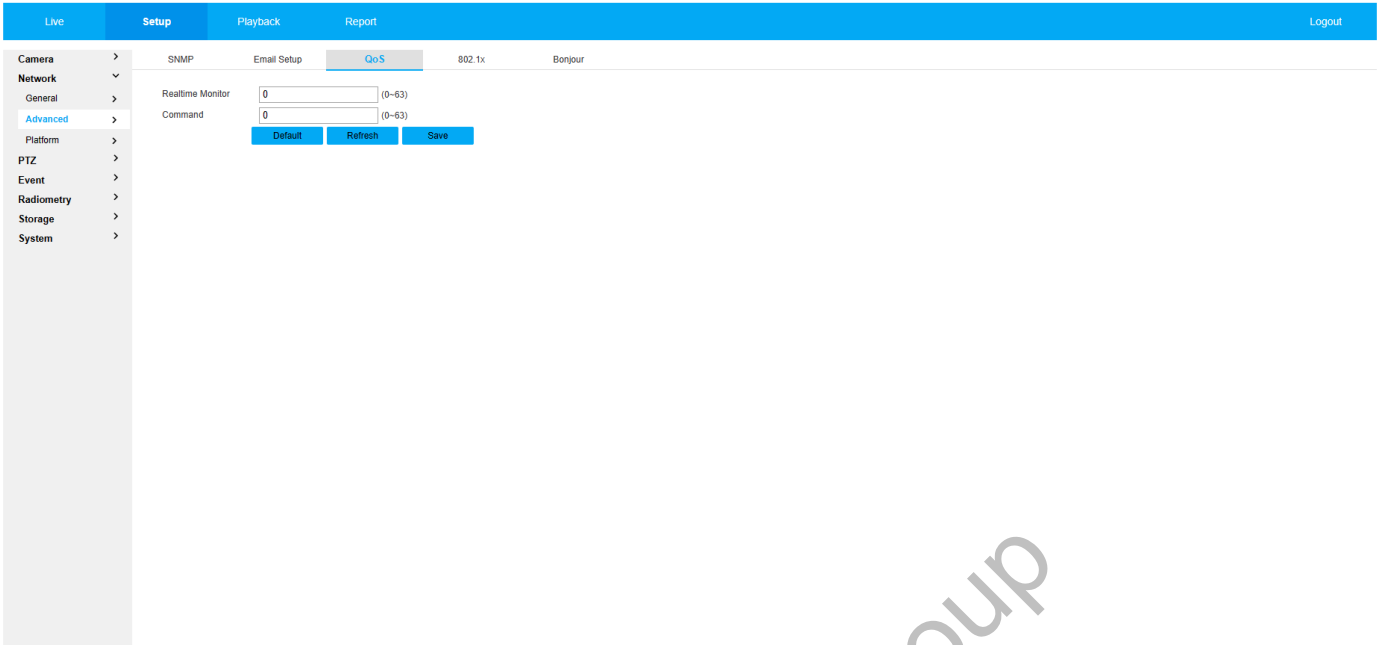
3.2.2.3 QoS

QoS (Quality of Service) is a security mechanism of the network, and is a technology used to solve problems such as network delay and congestion; for network services, the quality of service includes transmission bandwidth, transmission delay, and data delay. Packet loss rate, etc.; in the network, the quality of service can be improved by ensuring the transmission bandwidth, reducing the transmission delay, reducing the data packet loss rate and delay jitter, etc.

For DSCP (Differentiated Services Code Point) there are 64 priority levels (0 to 63), which identify the different priority of the package, 0 is the lowest priority, and 63 is the highest priority. Different queues are selected according to the priority of the package, and different the bandwidth resources occupied by the queue are different in the discard ratio when congested, so as to achieve the goal of service quality.

Step1 Select “Setup > Network > Advance > QoS”. The system will display the interface of “QoS”, which is shown in Figure 3.2.2.3-1:

Figure 3.2.2.3-1 QoS



Step2 Set real time monitor and operation command. Please Refer to Table 3.2.2.3-1 for parameter descriptions.

Table 3.2.2.3-1 QoS Parameter Description

Parameter	Description
Realtime monitor	Data packet of network video monitoring, the value ranges from 0 to 63.
Command	Configure or inquire non-monitoring data packet for the device, the value ranges from 0 to 63.

Step3 Click “Save” to complete the configuration.

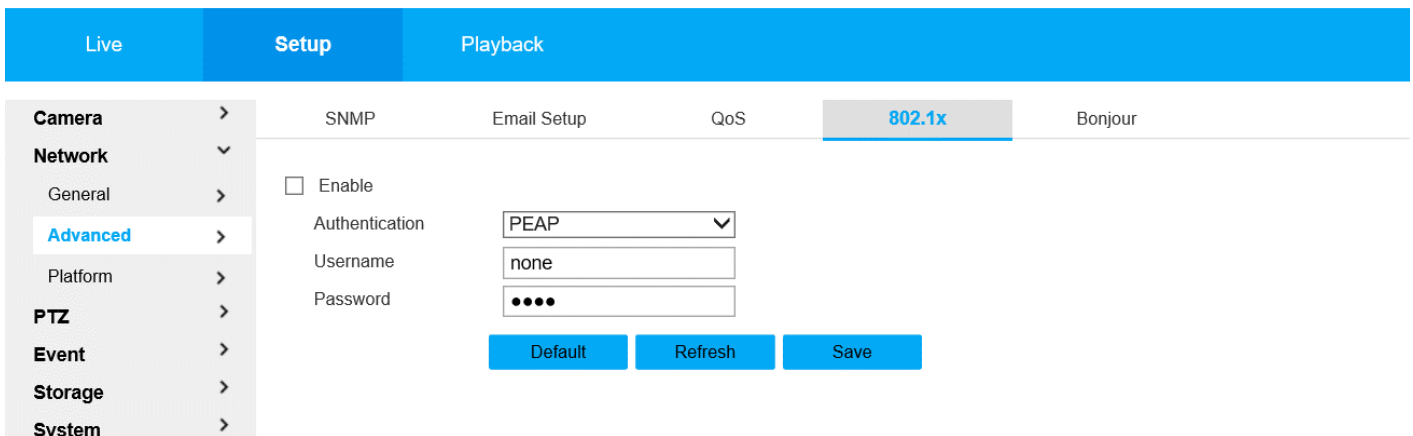
3.2.2.4 802.1x

802.1x (the port was based on network access control protocol) supports manual selection of authentication method to control if device connected to LAN can join the LAN. It well supports authentication, charging, safety and management requirement of network.

Step1 Select “Setup > Network > Advance > 802.1x”.

The system will display the interface of “802.1x”, which is shown in Figure 3.2.2.4-1:

Figure 3.2.2.4-1 802.1x



Step2 Check “Enable” to enable 802.1x.

Step3 Select authentication mode, set username and password. Please refer to Table 3.2.2.4-1 for detailed information.

Table 3.2.2.4-1 802.1x Parameter Description

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

3.2.2.5 Bonjour

Bonjour is also called a zero-configuration network, which can automatically discover computers, devices, and services on an IP network. This function uses industry standard IP protocols, allowing devices to automatically discover each other without entering IP addresses or configure DNS servers.

After enabling the Bonjour function, the network camera will be automatically detected in the operating system and clients that support Bonjour. When it automatically detects the IP camera, the "server name" configured by the user is displayed

Step1 Select "Setup > Network > Advance > Bonjour". The system will display the interface of "Bonjour", which is shown in Figure 3.2.2.5-1:

Figure 3.2.2.5-1 Bonjour



Step2 Check "Enable" to set server name.

Step3 Click "Save" to complete the configuration.

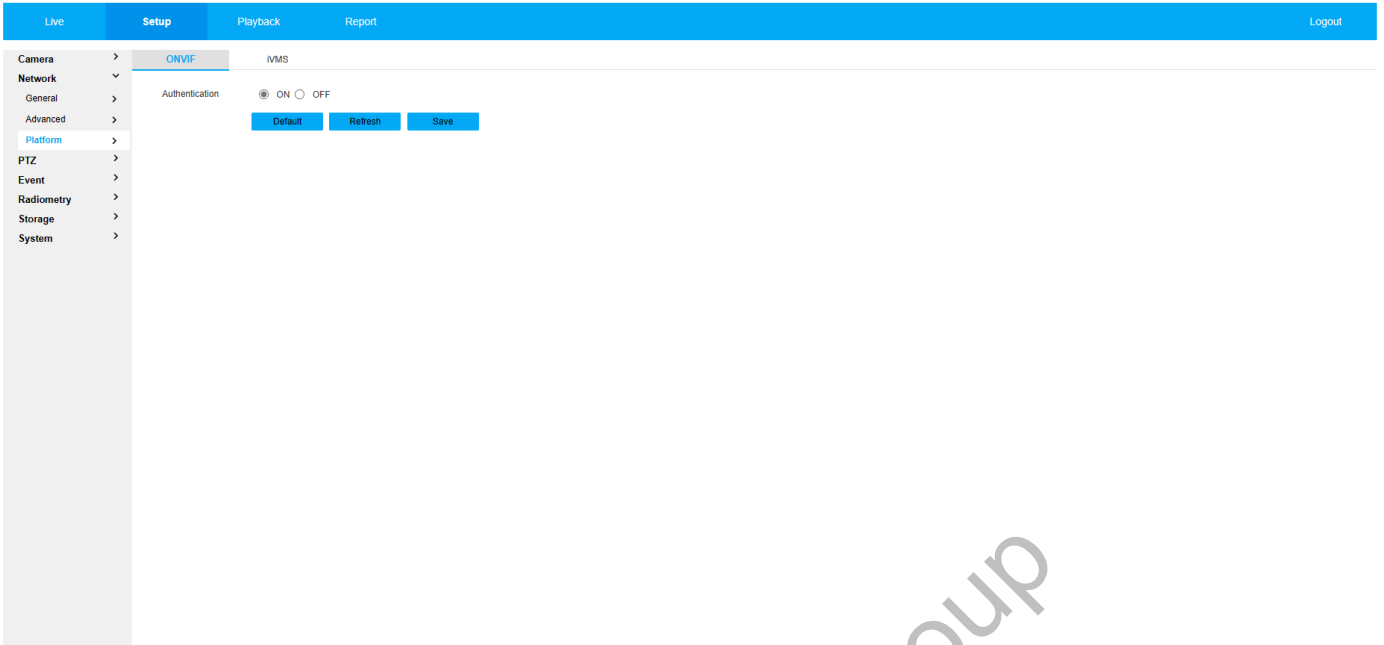
3.2.3 Platform Setting

3.2.3.1 ONVIF

ONVIF (Open Network Video Interface Forum) describes network video model, port, data type and data switch modes. ONVIF standard targets to create a network video frame protocol that communicates network video products from different manufacturers.

Step1 Select "Setup > Network > Platform > ONVIF". The system will display the interface of "ONVIF", which is shown in Figure 3.2.3.1-1:

Figure 3.2.3.1-1 ONVIF



Step2 Set “Authentication” as “Enable”.

Step3 Click “Save” to complete the configuration.

3.2.3.2 iVMS

iVMS (Integrated Voice-Messaging System) standard targets to create a network video frame protocol that communicates network video products from different manufacturers.

Step1 Select “Setup > Network > Platform > iVMS-4200”. The system will display the interface of “iVMS-4200”, which is shown in Figure 3.2.3.2-1:

Figure 3.2.3.2-1 iVMS



3.3 PTZ Settings

3.3.1 PTZ Protocol

3.3.1.1 PTZ Settings

Step1 Select “Setup > PTZ > Protocol > Protocol”. The system will display the interface of “PTZ Protocol”, which is shown in Figure 3.3.1.1-1:



Figure 3.3.1.1-1 PTZ

Step2 Configure info of each parameter according to the actual needs; refer to Table 3.3.1.1-1 for more details:

Table 3.3.1.1-1 PTZ Parameter Description

Parameter	Description
Protocol	Set PTZ protocol, support PELCOD, PELCOP.
Address	Set corresponding device address. Note: Make sure the address is the same as that of the device, otherwise it will fail to control the device.
Baudrate	Select the baud rate used by the device.
Data Bit	It is 8 by default.
Stop Bit	It is 1 by default.
Parity	It is none by default.

3.3.2 PTZ Function

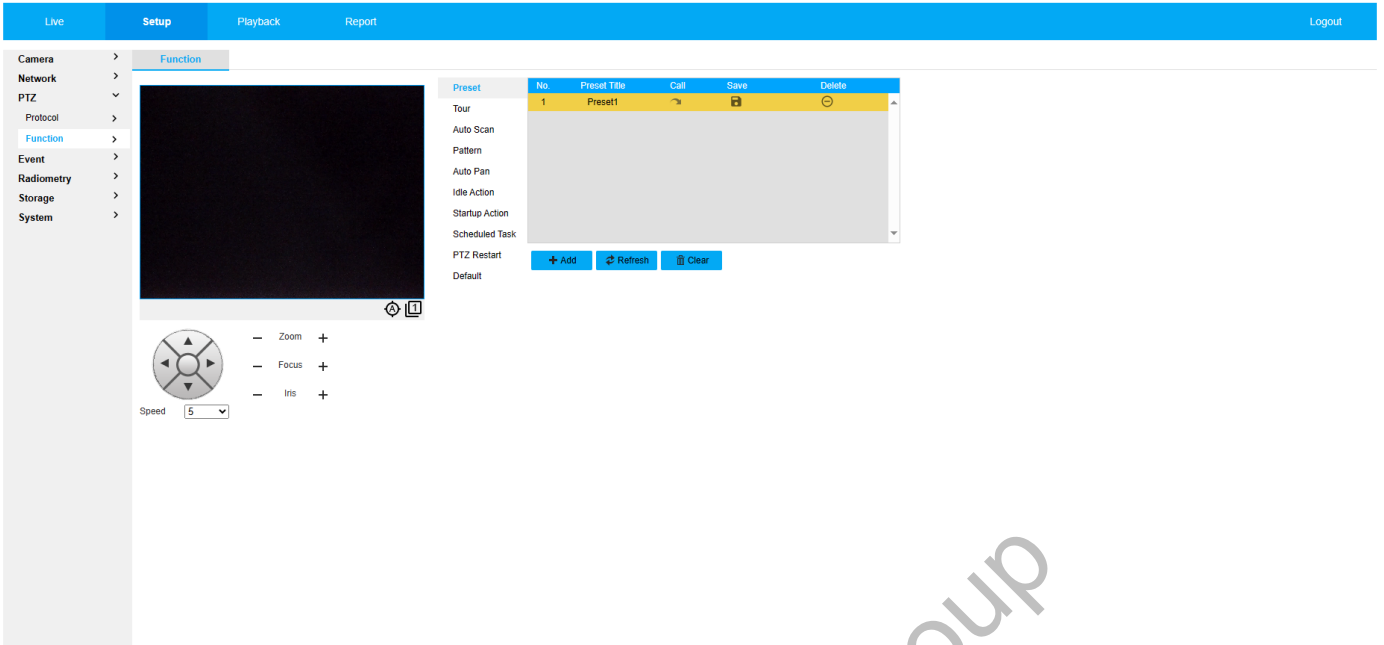
Select “Setup > PTZ Settings > Function” to display the PTZ Functions screen. By default, a visible image is displayed. In the visible image, you can click  to switch the image to the visible image. In the thermal image, you can click  to switch the image to the visible image.

3.3.2.1 Preset

Preset means the current environment in which the camera is located, users can adjust the PTZ and camera to the environment quickly via calling preset.

Step1 Select “Setup > PTZ Settings > Function > Preset”. The system will display the interface of “Preset”, which is shown in Figure 3.3.2.1-1:

Figure 3.3.2.1-1 Preset Settings



Step2 In the lower left corner of the config interface, click direction button, and to adjust PTZ direction, zoom, focus and iris size, adjust the camera to a proper monitoring location.

Step3 Click “Add”, it will add the location as preset in the list, and it will be displayed in the preset list.

Step4 Click save button to save the preset.

Step5 Perform related operations according to presets.

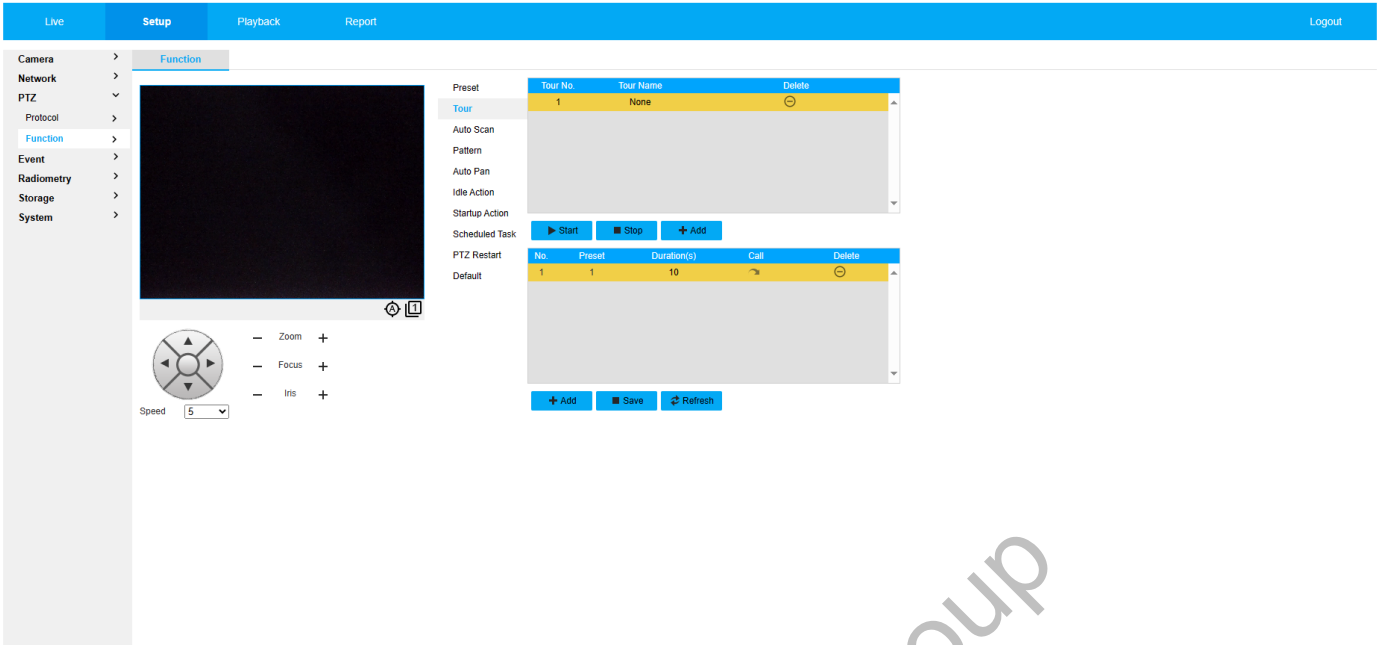
- Double click “**Preset title**” to modify the title to be displayed on the monitoring screen for the preset.
- Click to delete the preset.
- Click “Clear” to remove all the preset.

3.3.2.2 Tour

Tour means that the camera moves sequentially according to the set preset points; the configuration steps are as follows:

Step1 Select “Setup > PTZ Settings > Function > Tour”. The system will display the interface of “Tour”, which is shown in Figure 3.3.2.2-1:

Figure3.3.2.2-1 Tour Settings



Step2 Click “Add” which is located on the upper right corner of the interface, then it will add tour path.

Step3 Click “Add” which is located on the lower right corner, and then it will add several presets.

Step4 Implement relevant operation upon the tour. Click “Save” to save the Tour.

- Double click “**Tour Name**” to modify the name of the tour.
- Double click “**Duration**” to set duration for each preset.

Step5 Click “Start” to start tour.

Note: The device will stop tour if PTZ is operated during tour.

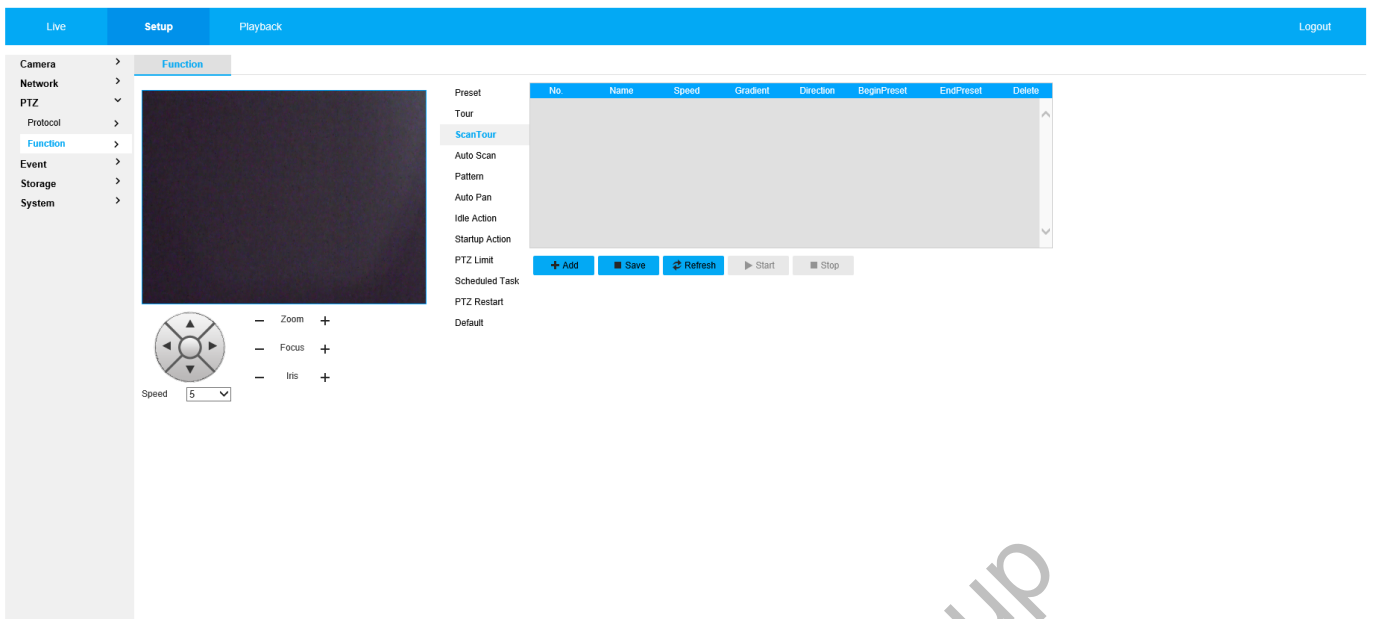
Step6 Click “Stop” to stop tour.

3.3.2.3 Scan Tour

After setting two preset points (boundaries), the PTZ will scan between the two points in apple peeling mode; the configuration steps are as follows:

Step1 Select “Setup > PTZ Settings > Function > Scan Tour”. The system will display the interface of “Scan Tour”, which is shown in Figure 3.3.2.3-1:

Figure 3.3.2.3-1 Scan Tour



Step2 Click "Add" at the bottom of the list in the upper right corner of the interface to add a scanning cruise number.

Step3 Set the start preset point and end preset point of the scanning cruise.

Step4 Perform related operations on the scanning cruise:

- Double-click "Name" to change the name of the scanning cruise.
- Double-click "Speed" to set the speed during the scanning cruise.
- Double-click "Gradient" to set the vertical progression angle.
- Double-click "Direction" to set the start direction of the scanning cruise.

Step5 Click "Start" to start scan.

Note: If you operate the pan-tilt head during the scanning cruise, the camera will stop the scanning cruise.

Step6 Click "Stop" to stop scan.

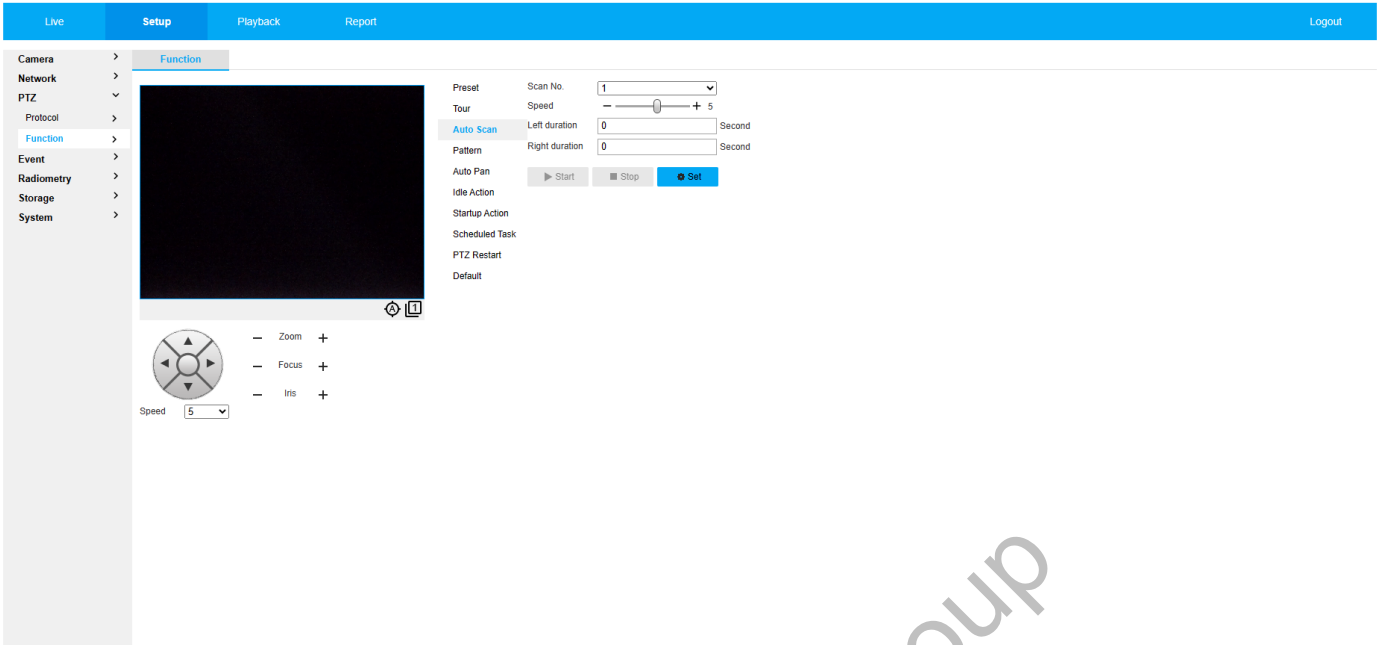
3.3.2.4 Auto Scan

Auto Scan means the camera scans back and forth at a certain speed within the left and right boundaries; the configuration steps are as follows:

Step1 Select "Setup > PTZ Settings > Function > Auto Scan".

The system will display the interface of "Auto Scan", which is shown in Figure 3.3.2.4-1:

Figure 3.3.2.4-1 Auto Scan



Step2 Select "Line Scan Number".

Step3 Drag the progress bar to set the speed.

Step4 Click "Set" and adjust the camera direction to the appropriate position.

Step5 Click "Set Left Border" or "Set Right Border" to set the position as the left or right border of the camera.

Step6 Click "Start" to begin the scanning.

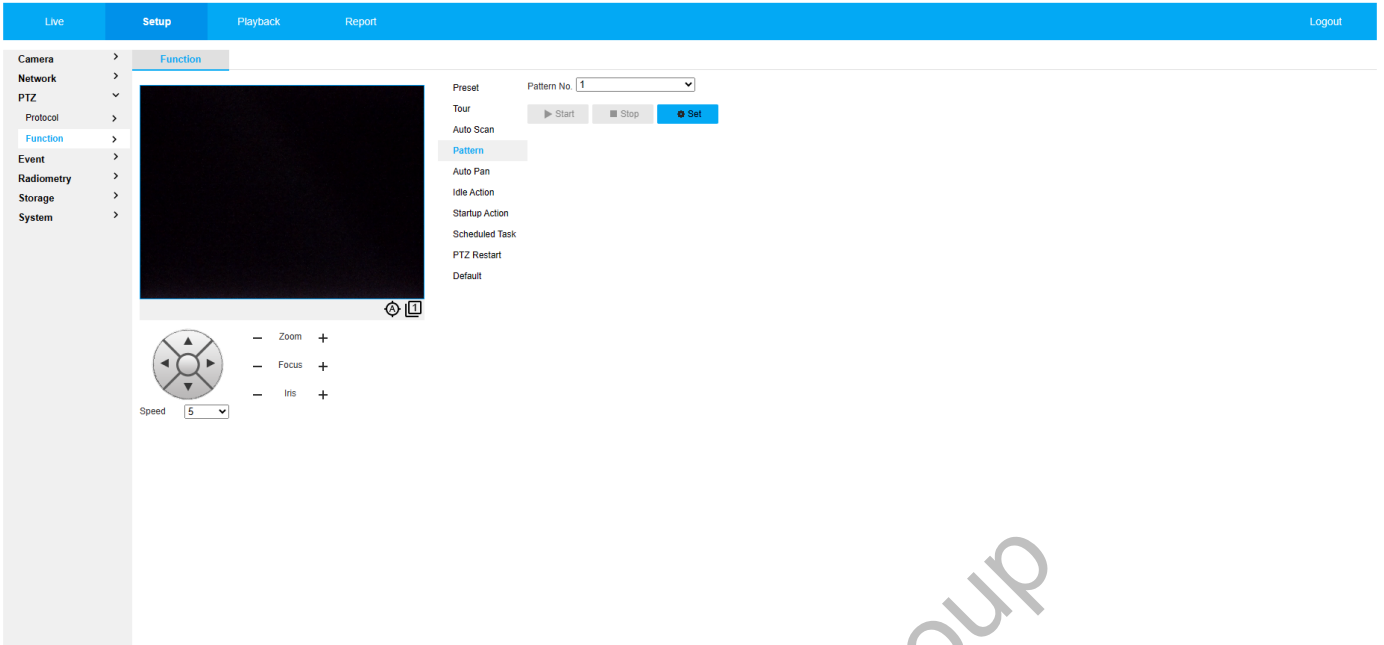
Step7 Click "Stop" to stop the scanning.

3.3.2.5 Pattern

Patrol can continuously record the user's horizontal/vertical movement of the camera, zoom, preset point call and other operations; after recording and saving, you can directly call the patrol route. The configuration steps are as follows:

Step1 Select "Setup > PTZ Settings > Function > Patrol", the system displays the "Patrol" interface, as shown in Figure 3.3.2.5-1.

Figure 3.3.2.5-1 Pattern



Step2 Select **Pattern No.**

Step3 Click “Set” and click “Start”, operate the PTZ according to the actual needs.

Step4 Click “Stop” to complete recording.

Step5 Click “Start” to start pattern.

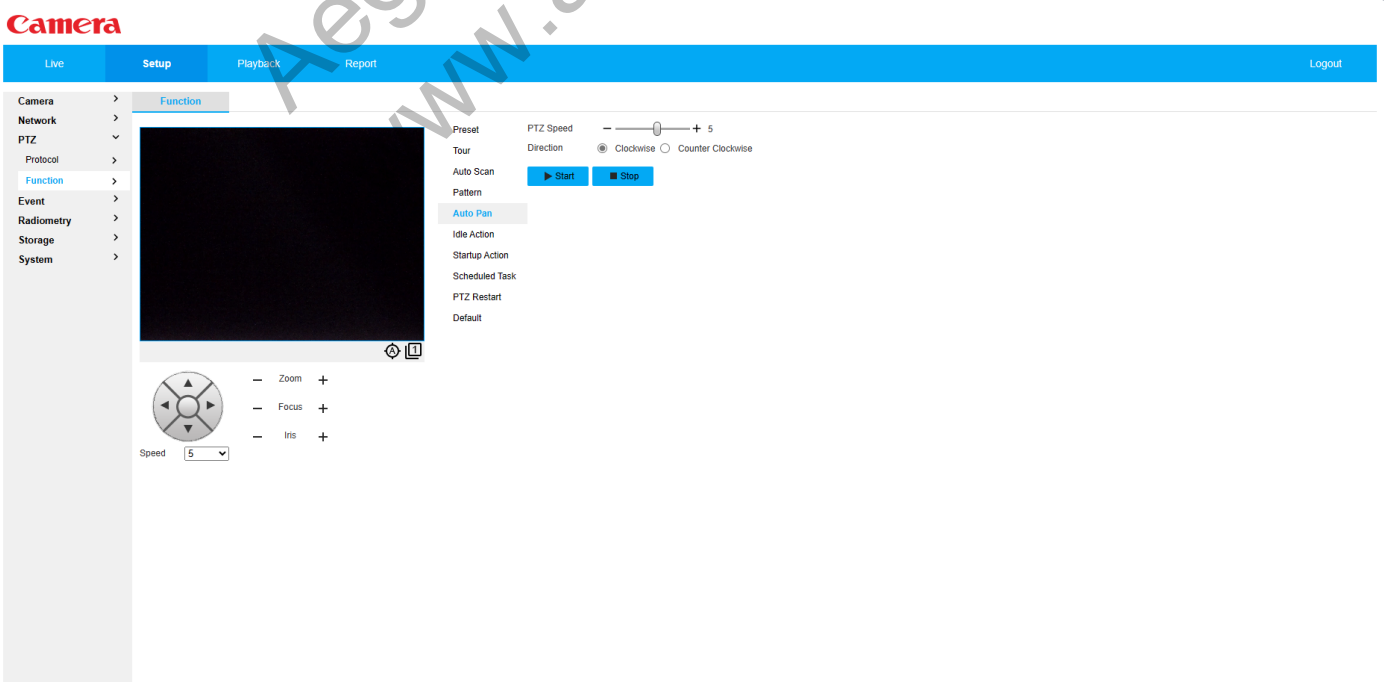
Step6 Click “Stop” to stop pattern.

3.3.2.6 Auto Pan

The PTZ rotates 360° horizontally and continuously at a certain speed.

Step1 Select “Setup > PTZ Settings > Function > Pan”. The system will display the interface of “Pan”, which is shown in Figure 3.3.2.6-1:

Figure 3.3.2.6-1 Auto Pan



Step2 Drag speed bar and set “Pan Speed”.

Step3 Set direction: Clockwise, Counter Clockwise.

Step4 Click “Start” to make the PTZ rotate horizontally with the speed user just set.

Step5 Click “Stop” to stop pan.

3.3.2.7 Idle Action

Idle action means the device implementing the behaviour which is set in advance when it is not receiving any valid command within the set time.

Note: It needs to set preset, tour, auto scan and pattern in advance.

Step1 Select “Setup > PTZ > Function > Idle Action”.

The system will display the interface of “Idle Motion”, which is shown in Figure 3.3.2.7-1:

Figure 3.3.2.7-1 Idel Action



Step2 Check “Enable” to enable idle motion function.

Step3 Select types of idle motion, which are preset, tour, scan or pattern.

Step4 Select the number of idle actions.

Step5 Set the idle time of the selected motion.

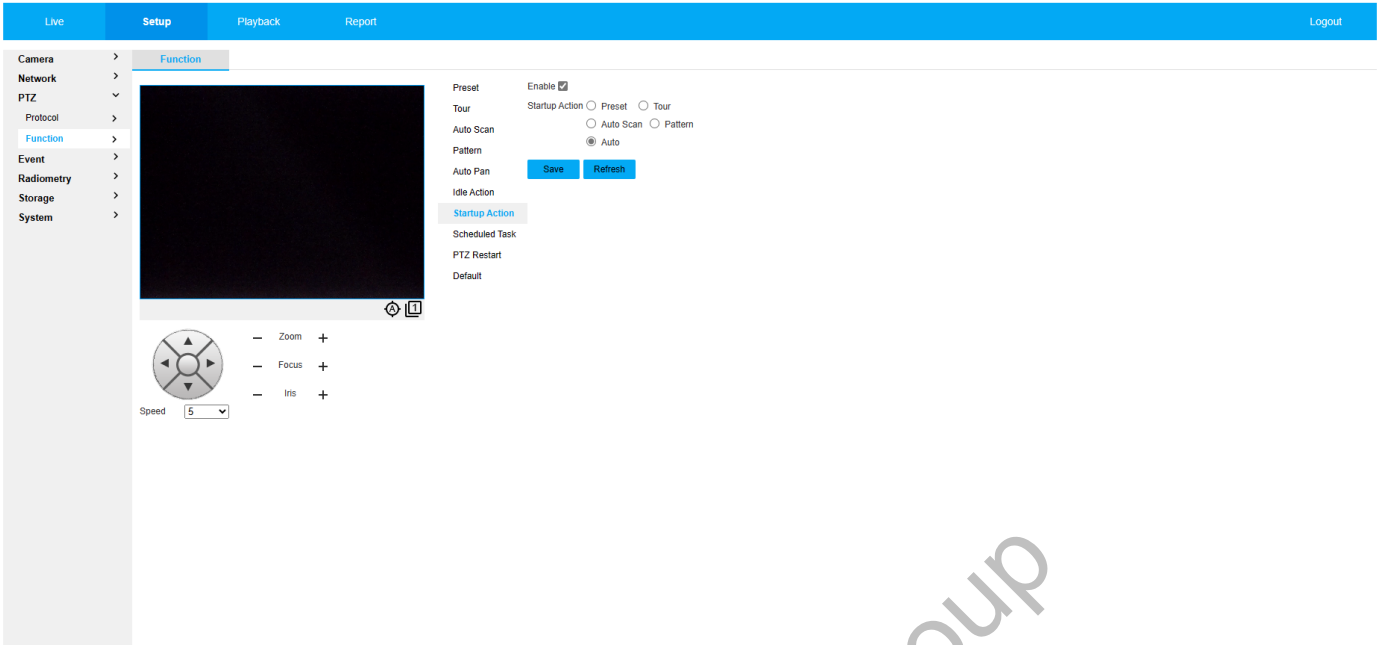
Step6 Click “Save” to complete the configuration.

3.3.2.8 Startup Action

Startup Action refers to the action that runs automatically when the camera is started; the configuration steps are as follows:

Step1 Select “Setup > PTZ > Function >Startup Action”. The system will display the interface of “Startup Action”, which is shown in Figure 3.3.2.8-1:

Figure 3.3.2.8-1 Startup Action



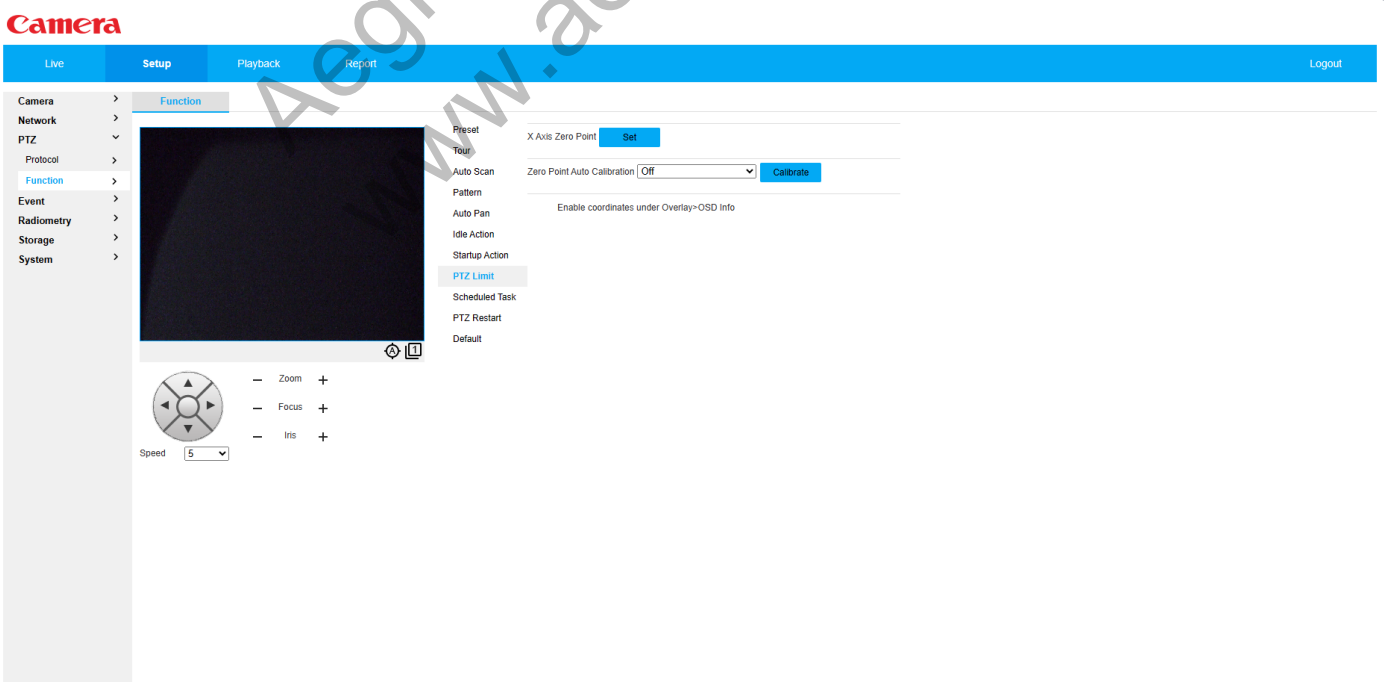
- Step2** Check “Enable” to enable Startup Action function.
- Step3** Select types of Startup Action, which are preset, tour, Auto scan, pattern or Auto.
- Step4** Select the number of startup action.
- Step5** Click “Save” to complete the configuration.

3.3.2.9 PTZ Limit

PTZ limit function is used to set the movement area of the device, which makes the device move within area.

- Step1** Select “Setup > PTZ > Function > PTZ Limit”, which is shown in Figure 3.3.2.9-1:

Figure 3.3.2.9-1 PTZ Limit



- Step2** Adjust the direction of the camera to a suitable position..
- Step3** Click the setting on the right side of "Upper and Lower Boundary, Left and Right Boundary" to set

the position as the left and right boundaries or upper and lower boundaries of the camera.

Step4 Check the "Vertical Limit" or "Horizontal Limit" Enable to enable it.

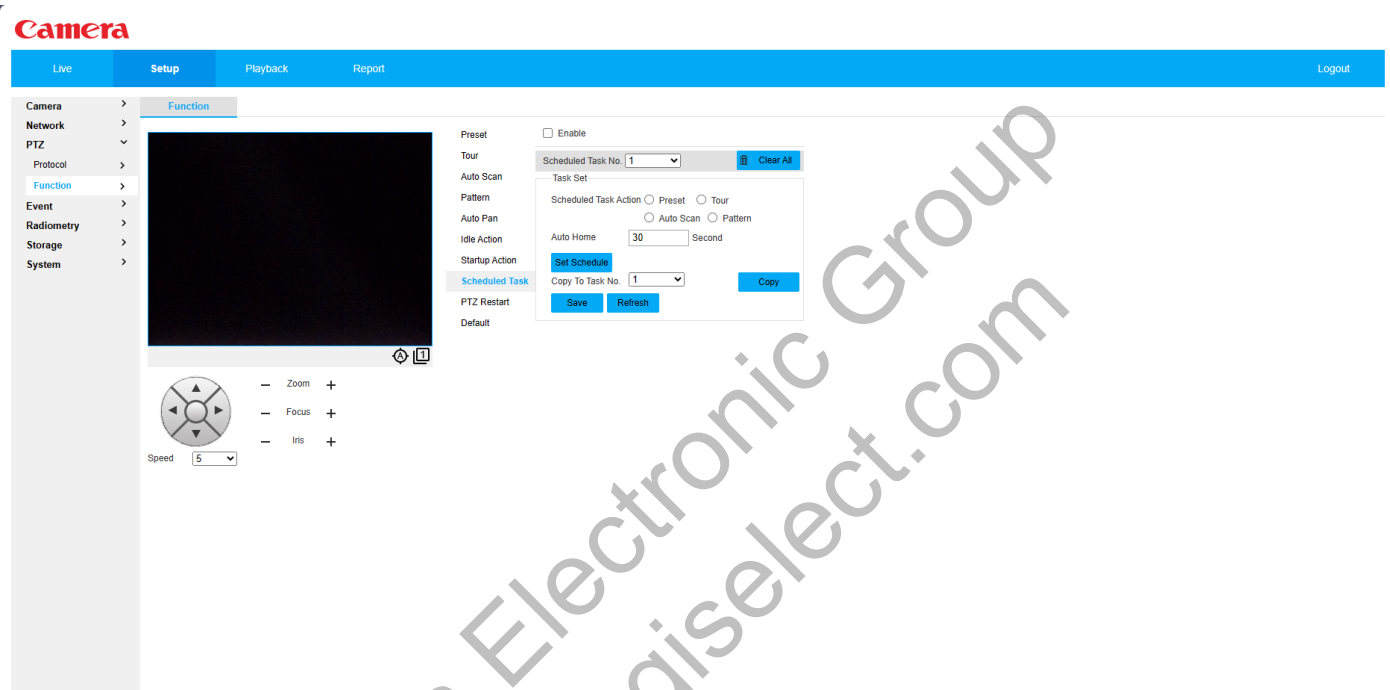
Note: Home position auto-calibration: The PTZ carries out home position auto-calibration, you can choose to turn it off or every day, the default is off.

3.3.2.10 Scheduled Task

Time task is to implement relevant movements within the set period, the configuration steps are as follows:

Step1 Select "Setup > PTZ Settings > Function > Time Task". The system will display the interface of "Time Task", which is shown in Figure 3.3.2.10-1:

Figure 3.3.2.10-1 Scheduled Task



Step2 Check "Enable" to enable the function of scheduled task.

Step3 Set the number of scheduled tasks.

- Click "Clear all" to delete all the time tasks which have been set.

Step4 Select time take action, user can select preset, tour, auto scan or pattern.

Step5 Select action number.

Step6 Set the time of auto home.

- Auto home time means the time it needs to take to auto recover time task when manually calling PTZ and interrupting time task.

Step7 Click "Set Schedule" to set the period of implementing time task.

Step8 Click "Copy" and select task number, then user can copy it to the task whose number has been selected.

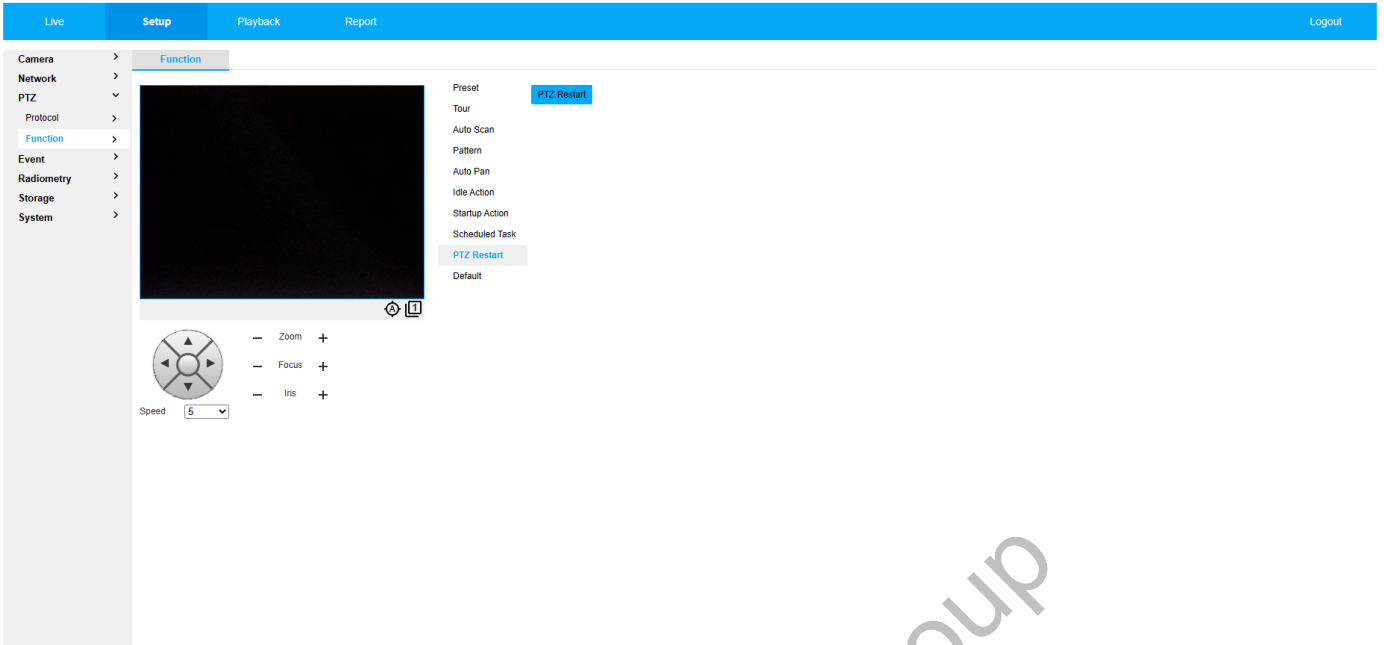
Step9 Click "Save" to complete the configuration.

3.3.2.11 PTZ Restart

PTZ Restart is used to restart the PTZ, the configuration steps are as follows:

Step1 Select "Setup > PTZ > Function > PTZ Restart". The system will display the interface of "PTZ Restart", which is shown in Figure 3.3.2.11-1:

Figure 3.3.2.11-1 PTZ Restart



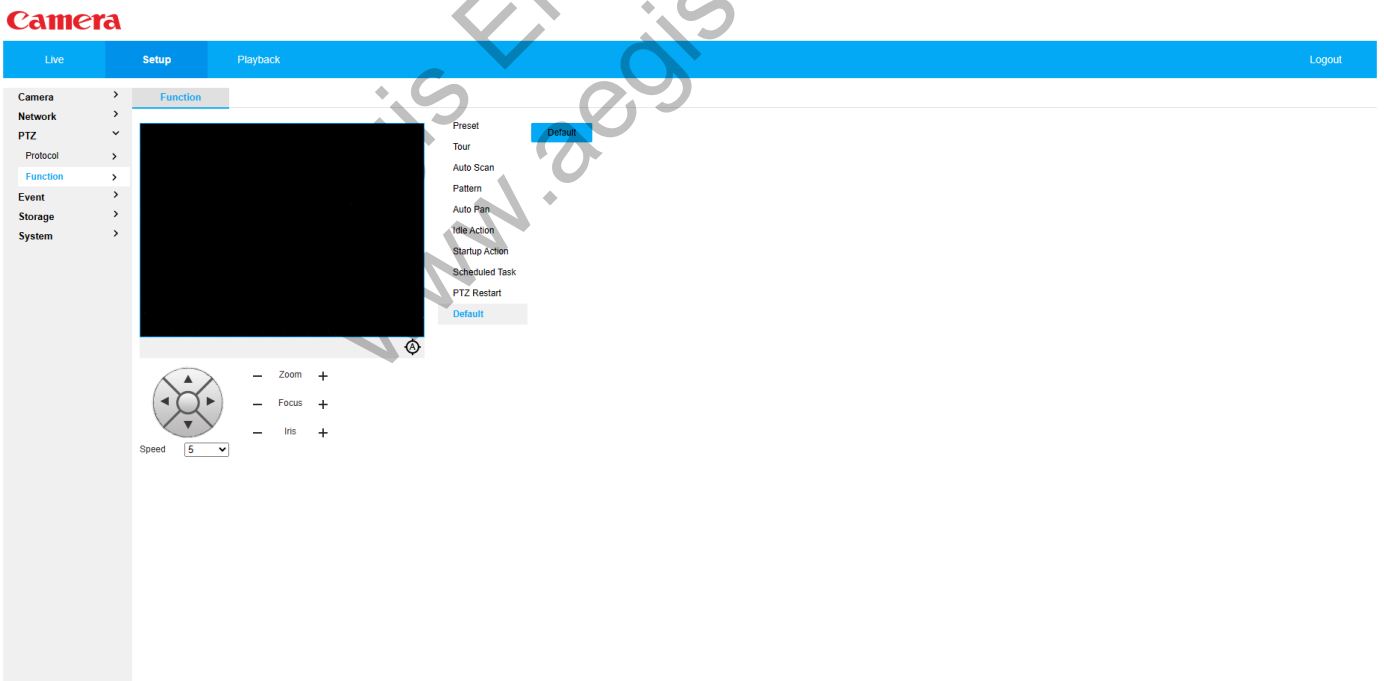
Step2 Click “PTZ Restart” and the system will restart PTZ.

3.3.2.11 Default

The function can recover default settings of the PTZ. The config steps are shown as follows:

Step1 Select “Setup > PTZ > Function > Default”. The system will display the interface of “Default”, which is shown in Figure 3.3.2.12-1:

Figure 3.3.2.12-1 Default



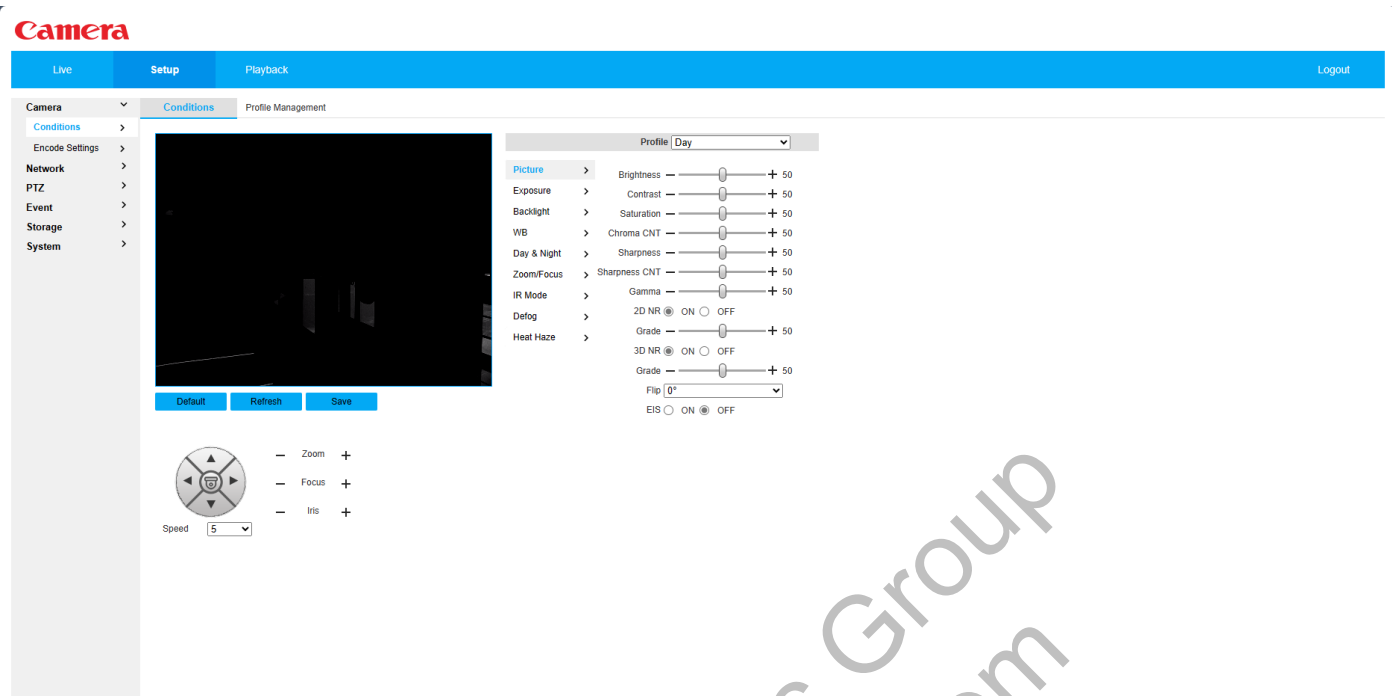
Step2 Click “Defalut” to recover all the default settings.

3.3.2.12 Laser holder adjustment

This function enables spot position adjustment of the laser with motorized adjustment bracket; the configuration steps are as follows:

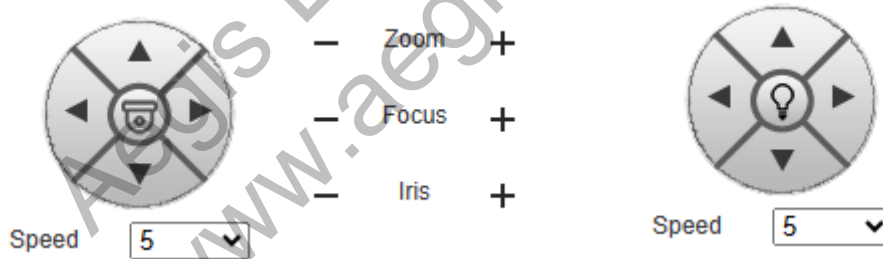
Step1 Select "Settings", the system displays the "Settings" interface, as shown in Figure 3.3.2.13-1.

Figure 3.3.2.13-1 Setting screen



Step2 In the lower left corner you can see the orientation adjustment buttons of the head, the pattern in the middle is the logo of the head, we click on the logo, the logo of the head becomes the logo of the light, at this time, the four directional adjustment buttons are not controlling the head, but controlling the motorized adjustable bracket of the laser; as shown in Figure 3.3.2.13-2.

Figure 3.3.2.13-2 Direction Control Toggle Button



Step2 Click the direction button, the laser motorized adjustment bracket will directly move in the corresponding direction; until the laser spot position is in the field of view of the appropriate state.

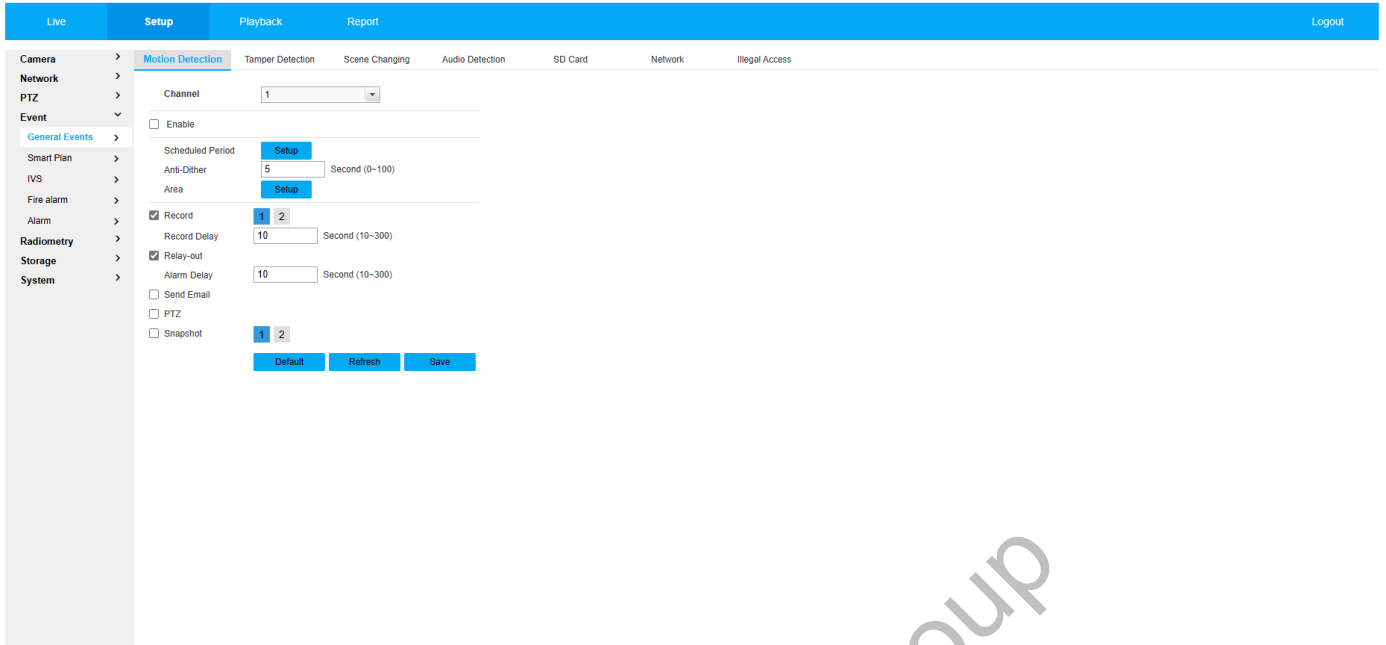
3.4 Event Settings

3.4.1 General Event

3.4.1.1 Motion Detection

Step1 Select "Setup > Event > General Event > Motion Detection". The system will display the interface of "Motion Detect", which is shown in Figure 3.4.1.1-1:

Figure 3.4.1.1-1 Motion Detection



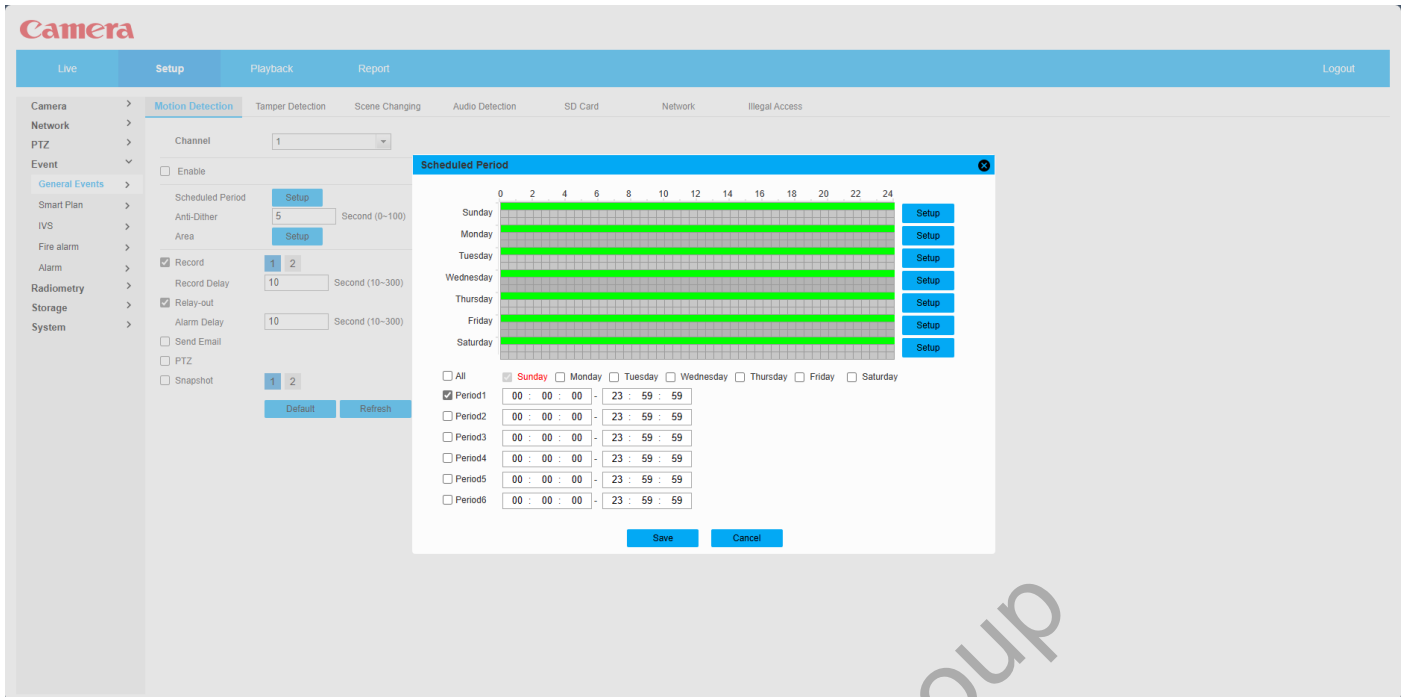
Step2 Click “Enable” and configure info of each parameter according to the table 3.4.1.1-1:

Table 3.4.1.1-1 Motion Detection Parameter Description

Parameter	Description
De-jittering	It means that only one dynamic detection time is recorded in the de-jittering time period, the time unit is second, the value range is 0~100.
Flashing Lights	When an alarm occurs, the system will link the strobe light, refer to "3.4.5.2 Strobe Light" for strobe light configuration.
Burst light time-lapse	When the alarm is over, the strobe light will stop for a longer period of time.
Video	When selected, the system will automatically record the alarm when a local alarm occurs (set the alarm recording time period in "Storage Management > Time Table", and select Auto Recording in the recording control interface).
Video Delay	It means that when the alarm ends, the alarm recording will be extended for a period of time to stop, the time unit is second, the value range is 10-300.
Alarm Output	Docking alarm devices (e.g. light, siren, etc.) in the alarm output port, select the check box and set the alarm output device to activate the alarm linkage output port, so that when the alarm occurs, the system can link the corresponding alarm output device.
Alarm delay	When the alarm ends, the alarm extends for a period of time to stop.
Send Email	When the alarm occurs, the system will send an email to notify the user at the same time, and the user can set his/her email address in "3.2.2.2 SMTP (Email)".
PTZ	Select the check box and set the linkage operation and corresponding serial number, when the alarm occurs, the system will linkage to the selected preset point, start the cruise group or cruise track. Before opening this function, you need to set the PTZ
Capture	When an alarm occurs, the system will automatically capture the alarm.

- Set Working Period:
Click “Setup”, and it will display the interface of working period in Figure 3.4.1.1-2.

Figure 3.4.1.1-2 Working Period Setting.



Set alarm period, alarm events can be enabled within a set time range. There are totally six periods to set every day, click the check box in front of the period, and then the period can be valid. Select week number (default is Sunday, if users select the whole week, it means setting can be applied to the whole week; users can also select the check box in front of the day to make separate setting for some days). Click “Save” button after setup, return to motion detect page.

- Set Area

Click “Setup” and user can set area in the interface shown in Figure 3.4.1.1-3. Check detail in Table 3.4.1.1-2

Figure 3.4.1.1-3 Area Setting

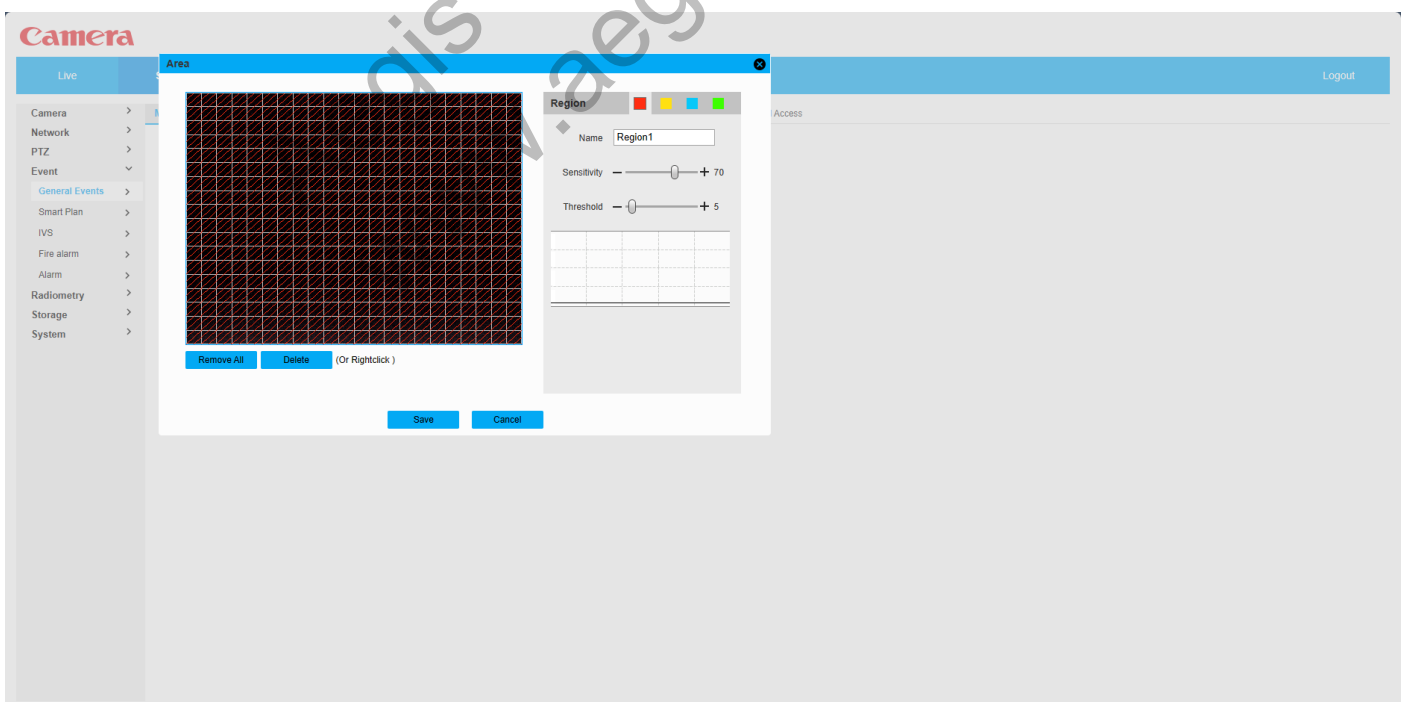


Table 3.4.1.1-2 Area Setting Description

Parameter	Description
-----------	-------------

Name	Default area name includes Region 1, Region 2, Region 3, Region 4 and custom.
Sensitivity	It is sensitivity of brightness as motion detection is more possible to be trigger with high sensitivity. User can set up to four areas. The range is 0~100. The recommended value is 30~70.
Area threshold	It is used to check the target object area related to the detection area. The lower the area threshold, the easier it is to trigger motion detection. User can set up to four areas. (Range:0~100. Recommended value:1~10)
Waveform	Red means motion detection is triggered. Green means motion detection is not triggered.
Remove All	Clear all areas.
Delete	Delete selected area.

Step3 Click “Save” to complete the configuration.

3.4.1.2 Tamper Detection

Step1 Select “Setup > Event > General Event > Tamper Detection”. The system will display the interface of “Tamper Detection”, which is shown in Figure 3.4.1.2-1:

Figure 3.4.1.2-1 Tamper Detection



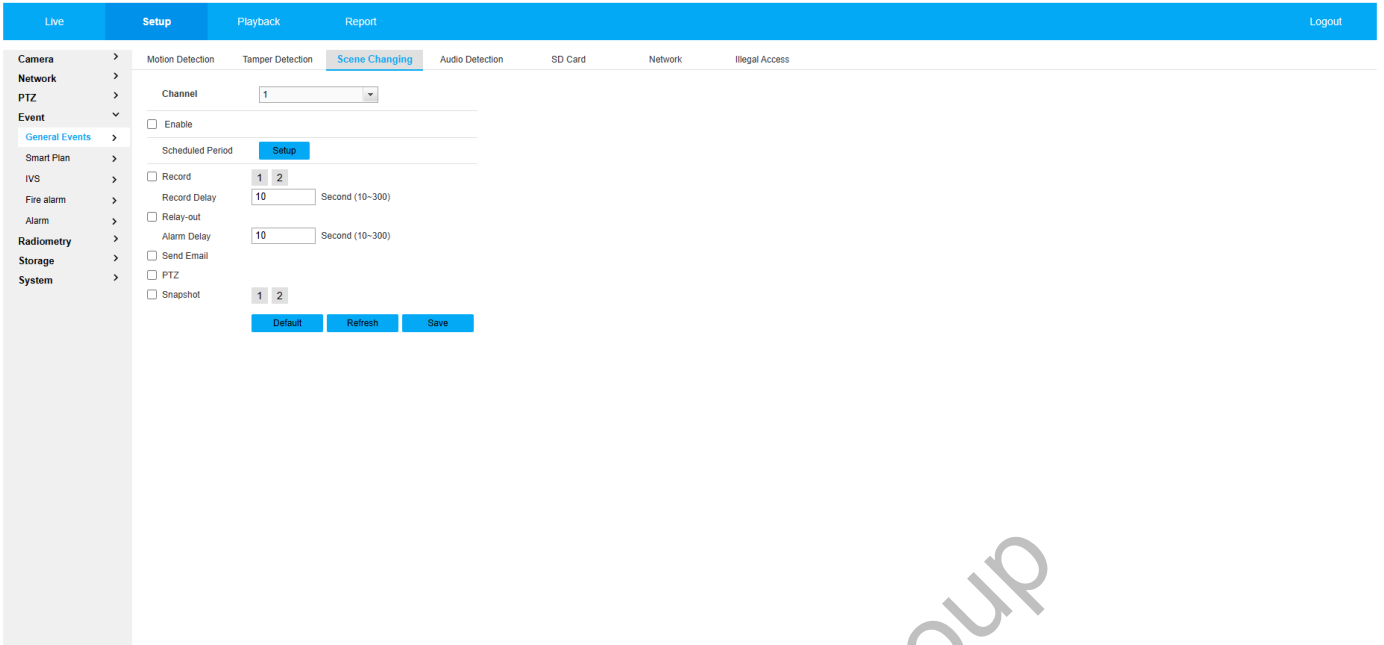
Step2 Select "Start" and configure each parameter according to actual needs (for parameter configuration, please refer to "3.4.1.1 Motion Detection").

Step3 Click “Save” to complete the configuration.

3.4.1.3 Scene Changing

Step1 Select “Setup > Event > General Event > Scene Changing”. The system will display the interface of “Scene Changing”, which is shown in Figure 3.4.1.3-1:

Figure 3.4.1.3-1 Scene Changing



Step2 Select "Start" and configure each parameter according to actual needs (for parameter configuration, please refer to "3.4.1.1 Motion Detection").

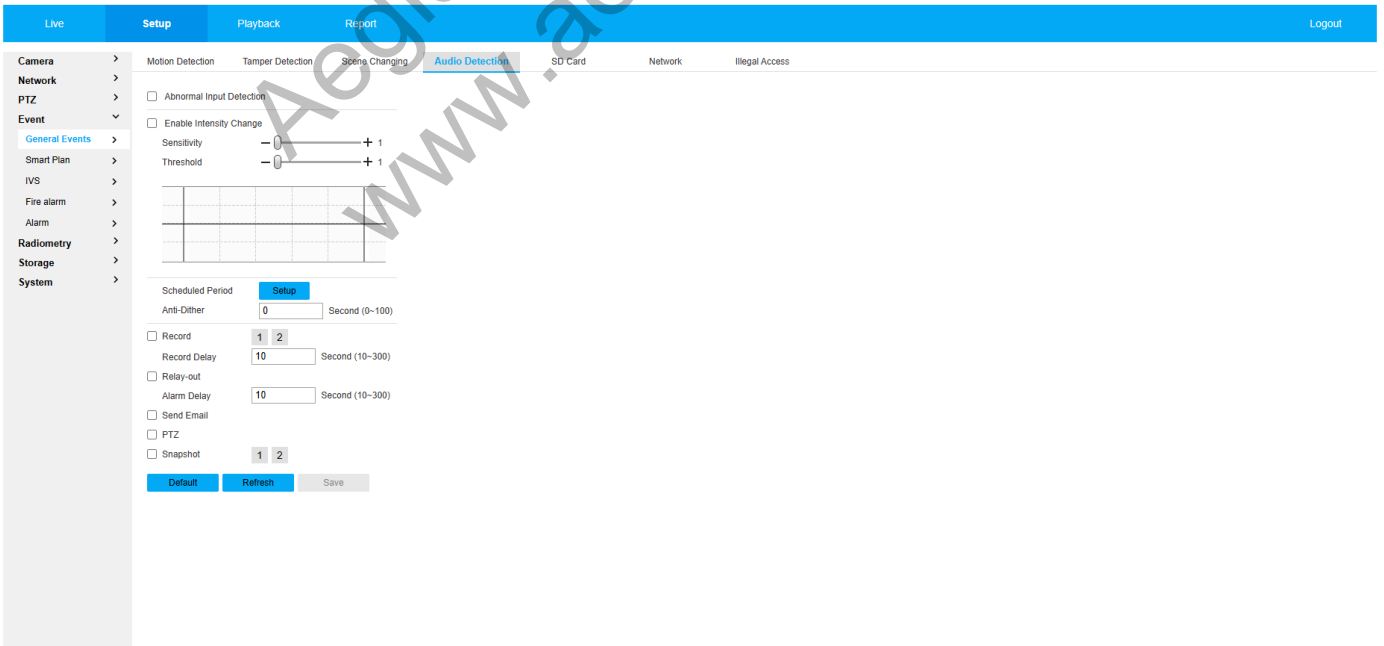
Step3 Click "Save" to complete the configuration.

3.4.1.4 Audio Detection

The config steps are shown as follows:

Step1 Select "Setup > Event > General Event > Audio Detection". The system will display the interface of "Audio Detection", which is shown in Figure 3.4.1.4-1:

Figure 3.4.1.4-1 Audio Detection



Step2 Configure info of each parameter according to the actual needs; please refer to the following Table 3.4.1.4-1 for more details.

Table 3.4.1.4-1 Audio Detection Description

Parameter	Description
Enable Input Abnormal	Check “Enable Input Abnormal” and it will activate alarm when detecting audio input abnormal.
Enable Intensity Change	Check “Enable Intensity Change” and it will activate alarm when detecting audio intensity change surpass threshold.
Sensitivity	Levels range from 1 to 100 and adjustable, the smaller the value, it means the input sound volume change surpassing continuous environment volume and be judged as audio abnormal, users can adjust according to the actual environment testing.
Threshold	Levels range from 1 to 100 and adjustable, which is used to set filtered environment sound intensity. If the environment noise is bigger, users need to set the value higher. Besides, users can adjust it according to the actual environment testing.

Note: Please refer to “3.4.1.1 Motion Detection” for description of other parameters.

Step3 Click “Save” to complete the configuration.

3.4.1.5 SD Card Event

An alarm event is generated when an abnormal SD card condition occurs. The configuration steps are as follows:

Step1 Select “Setup > Event > General Event > SD Card”. The system will display the interface of “SD Card”, The system displays the "SD Card Exception" screen, which is shown from Figure 3.4.1.5-1:

Figure 3.4.1.5-1 SD Card Event



Figure 3.4.1.5-2 SD Card Error

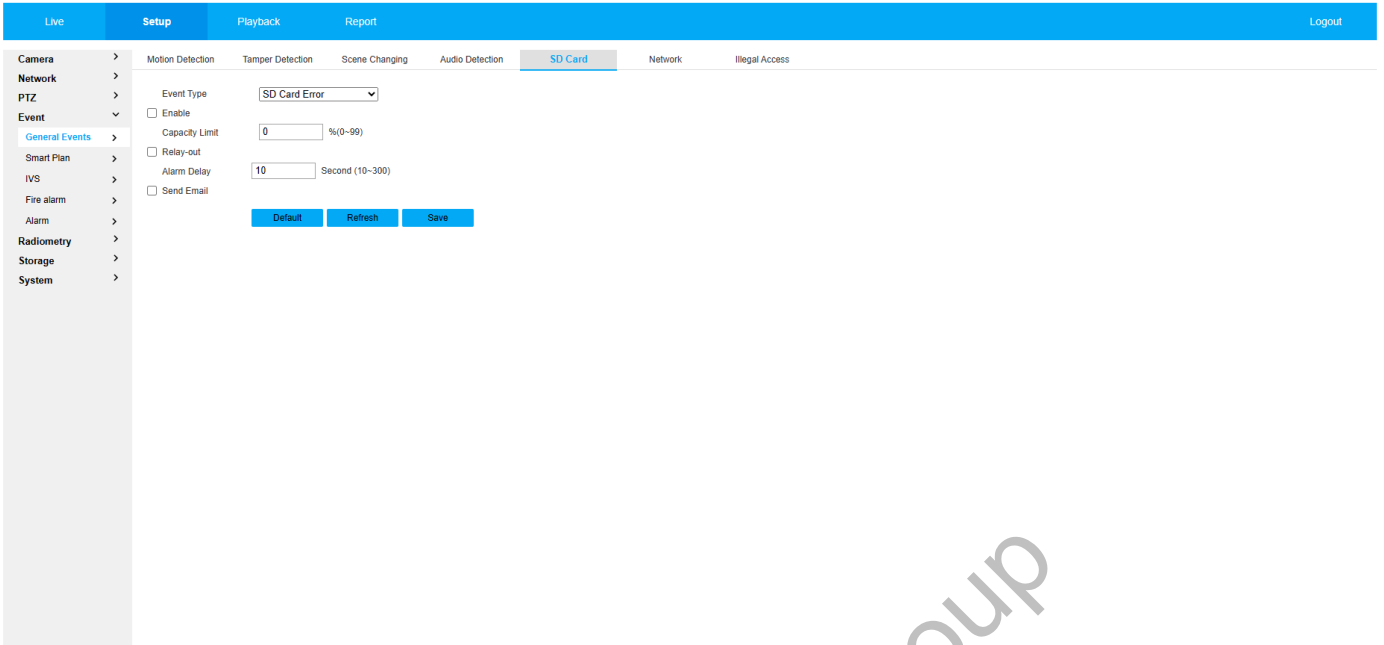


Figure 3.4.1.5-3 Capacity Warning



Step2 Configure info of each parameter according to the actual needs; refer to Table 3.4.1.5-1 for more details.

Table 3.4.1.5-1 SD Card Abnormal Description

Parameter	Description
Enable	Check to alarm when SD card is abnormal
SD Card Capacity	User can set SD card capacity percentage which is left. When SD card space left is smaller than this, alarm occurs.

Note: Please refer to “3.4.1.1 Motion Detection” for description of other parameters.

Step3 Click “Save” to complete the configuration.

3.4.1.6 Network Anomaly

An alarm is triggered when the network is abnormal. The configuration steps are as follows:

Step1 Select “Setup > Event > General Event > Network”. The system will display the interface of “Network”, which is shown in Figure 3.4.1.6-1 Figure 3.4.1.6-2.

Figure 3.4.1.6-1 Network Disconnection

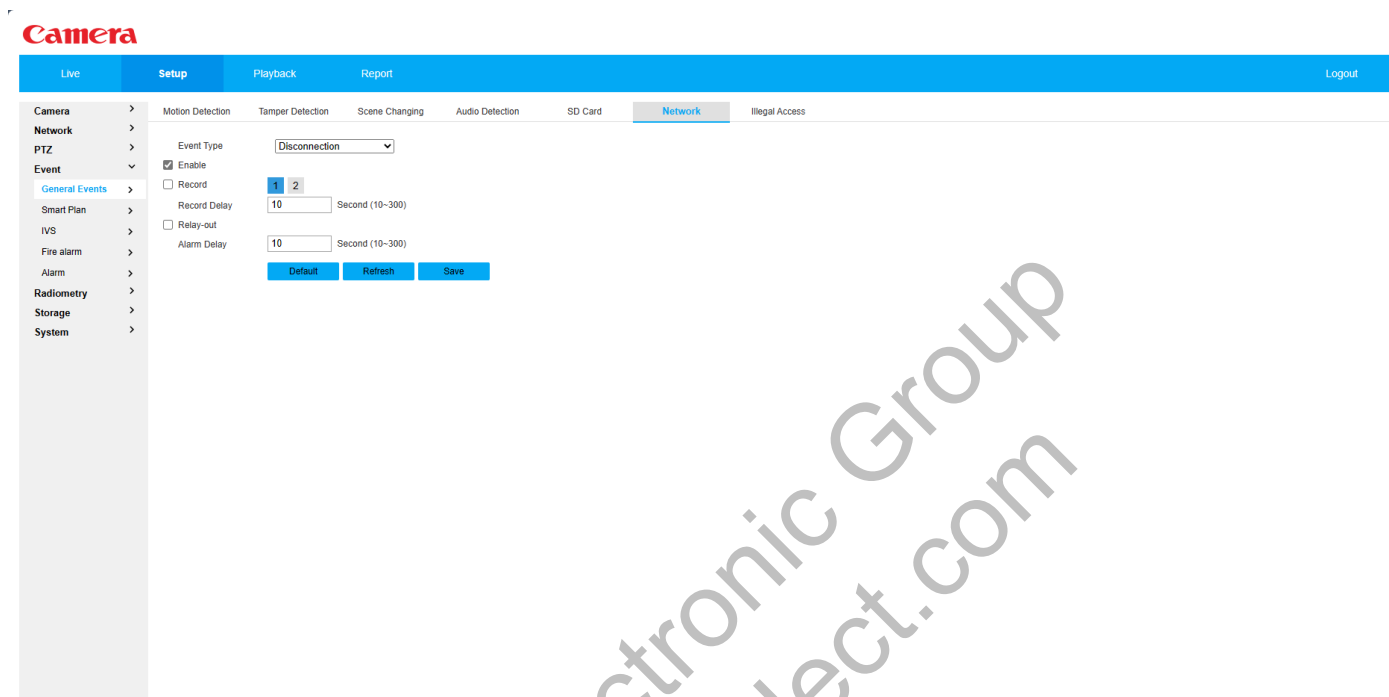
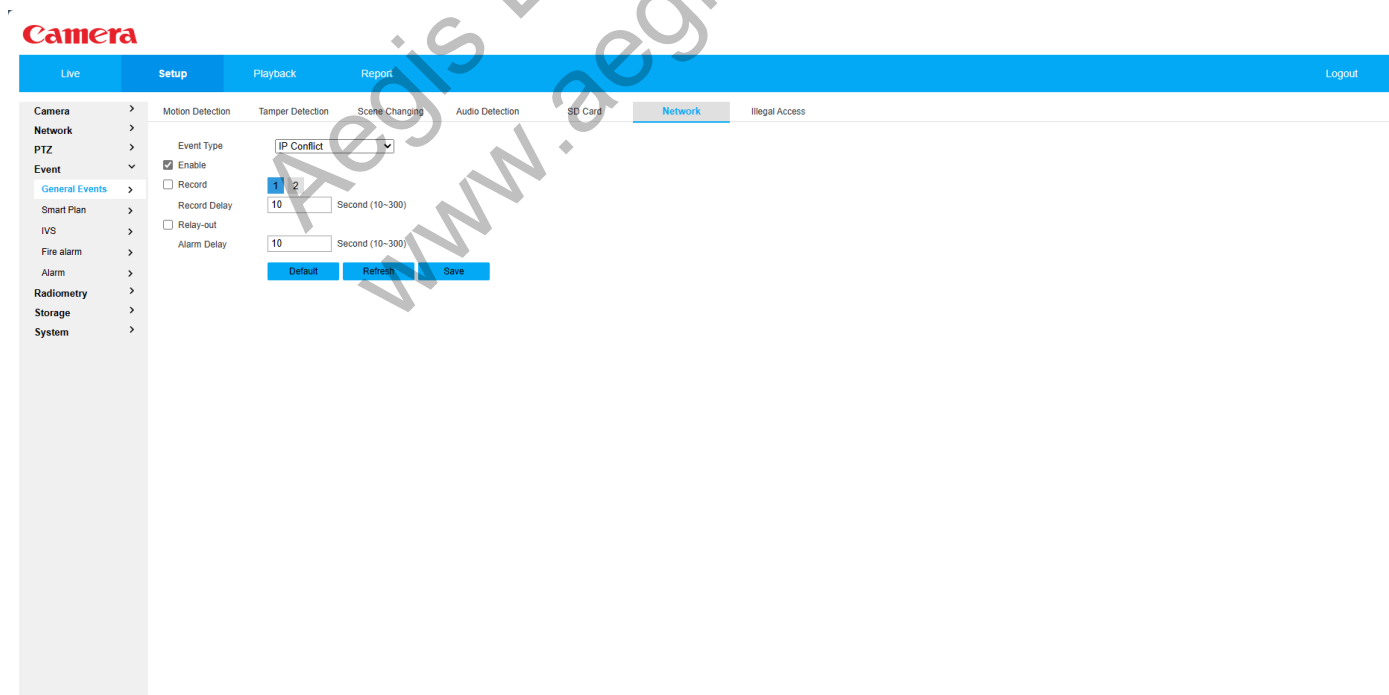


Figure 3.4.1.6-2 IP Conflict



Step2 Configure info of each parameter according to the actual needs; refer to Table 3.4.1.6-1 for more details.

Table 3.4.1.6-1 Network Abnormal Description

Parameter	Description
Enable	Click it to enable network abnormality alarm.

Note: Please refer to “3.4.1.1 Motion Detection” for description of other parameters.

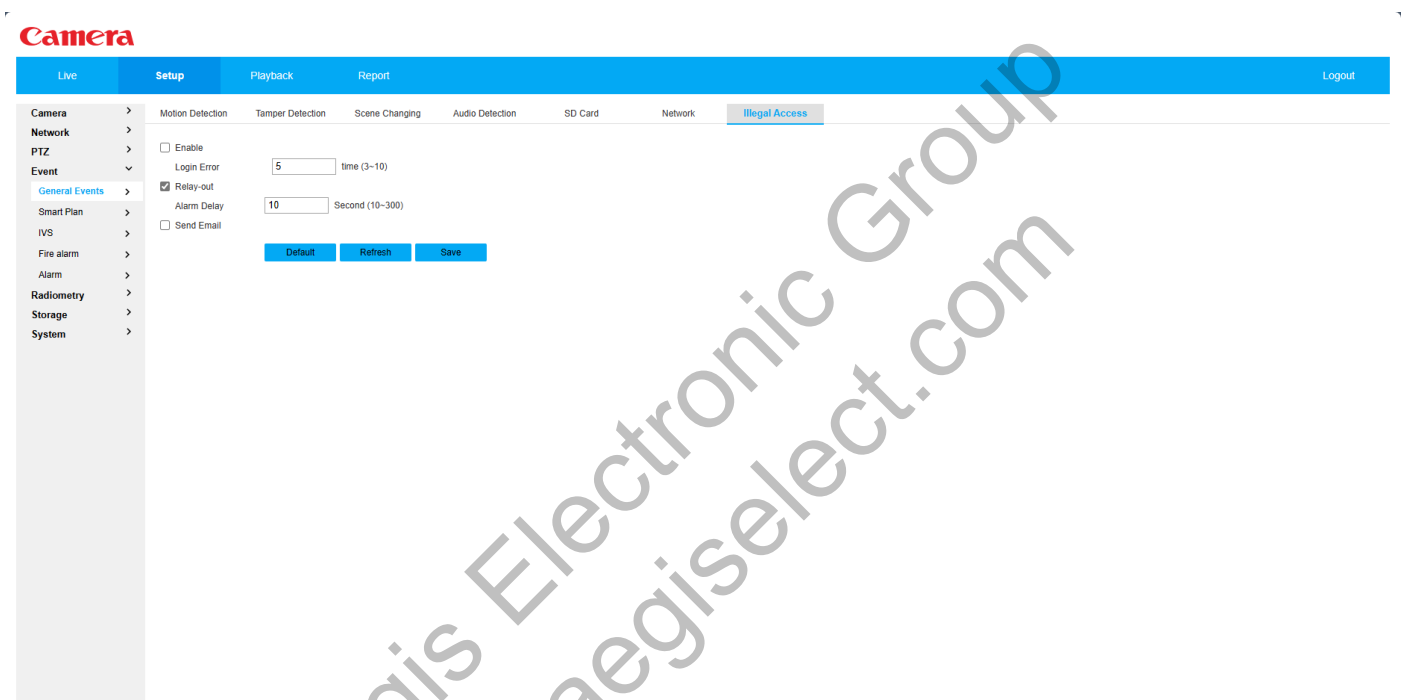
Step3 Click “Save” to complete the configuration.

3.4.1.7 Illegal Access

When the login password error reaches a certain number of times, it will generate illegal access alarm, The configuration steps are as follows:

Step1 Select “Setup > Event > General Event > Illegal Access”. The system will display the interface of “Illegal Access”, which is shown in Figure 3.4.1.7-1:

Figure 3.4.1.7-1 Illegal Access



Step2 Configure info of each parameter according to the actual needs; refer to Table 3.4.1.7-1 for more details.

Table 3.4-8 Illegal Access Description

Parameter	Description
Enable	Click it to enable illegal access alarm.
Login error	It will trigger alarm of illegal access after entering wrong password for some certain times, and the account will be locked.

Note: Please refer to “3.4.1.1 Motion Detection” for description of other parameters.

Step3 Click “Save” to complete the configuration.

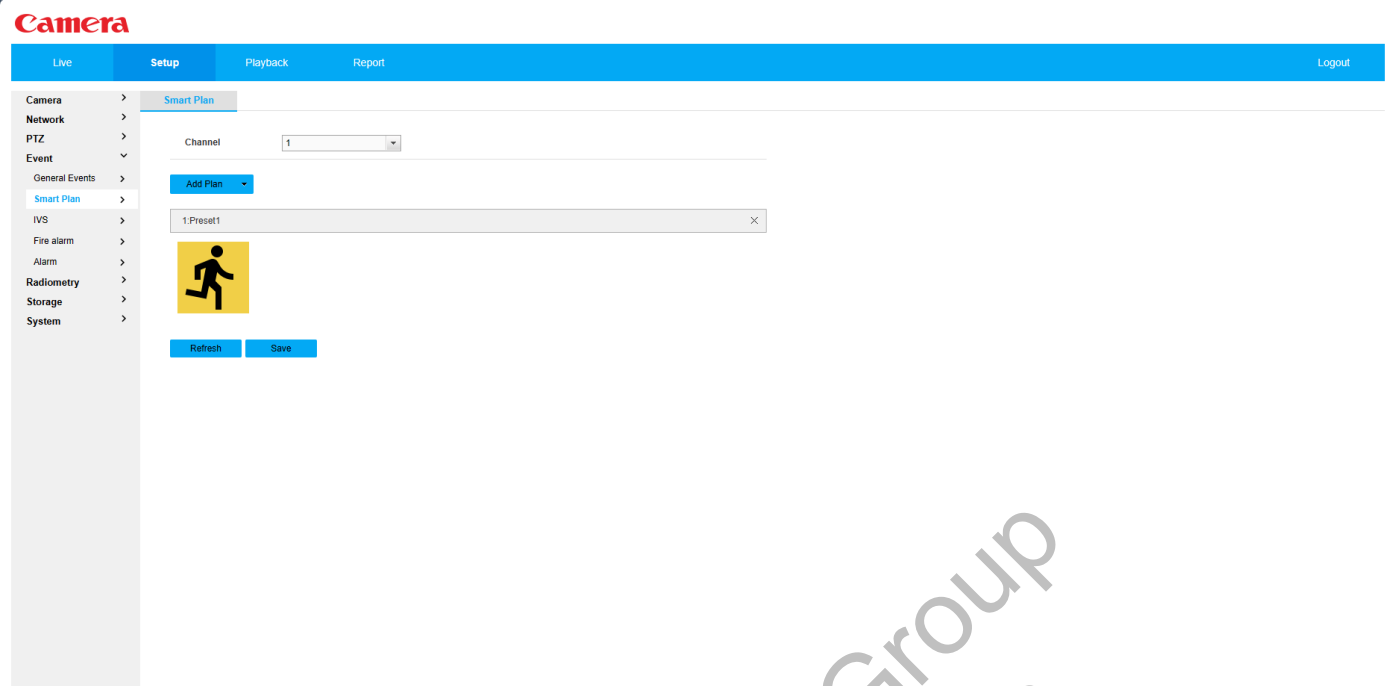
3.4.2 Smart Plan

Each preset can set different intelligent function, the corresponding setting can be valid only when it selects exact intelligent function.

Note: It needs to set preset in advance, please refer to “3.3.2.1 Preset ” for setting method.

Step1 Select “Setup > Event > Smart Plan”. The system will display the interface of “Smart Plan”, which is shown in Figure 3.4.2-1

Figure 3.4.2-1 Smart Plan



Step2 Enable the smart plan function:

- Select a preset point in "Add Scenario", and the system displays the scenario corresponding to the preset point.
- Click the corresponding intelligent analysis function to open the intelligent function.

Note: Smart plan function is for reference only, and the specific interface is subject to the actual situation.

Step3 The selected smart function will be highlighted, and the selected smart function can be cancelled by clicking the selected smart function.

3.4.3 IVS

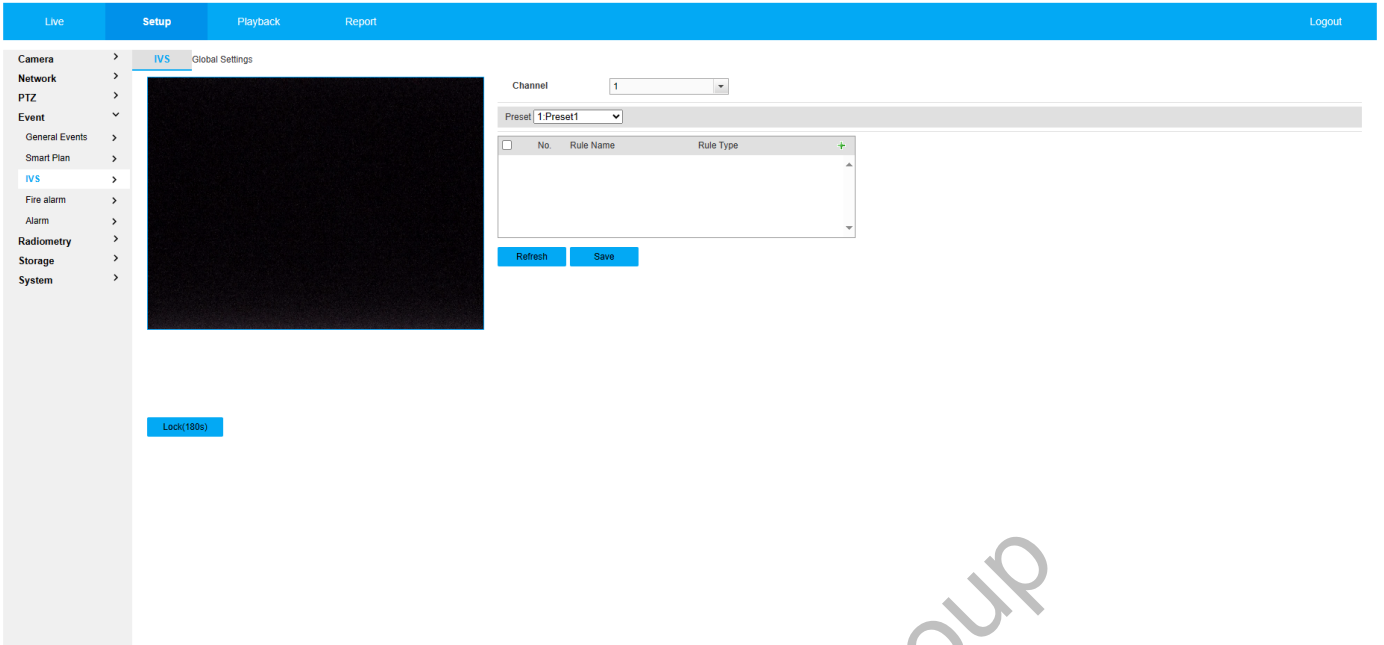
Intelligent Video Surveillance (IVS) supports the identification of smoking and dialling analysis, and detects an event that triggers a setting in the target area, which can generate a corresponding alarm.

3.4.3.1 IVS Rule


Setting IVS rules, The configuration steps are as follows:

Step1 Select "Setup > Event > IVS". The system will display the interface of "Rule Config", which is shown in Figure 3.4.3.1-1:

Figure 3.4.3.1-1 IVS Rule



Step2 Select the preset which needs to be configured with intelligent rules.

Step3 Click  to add intelligent rules.

- Click “Rule Type” to modify the type of rules.
- Click “Rule Name” to modify the name of rules

Step4 Click “Save” to complete the configuration.

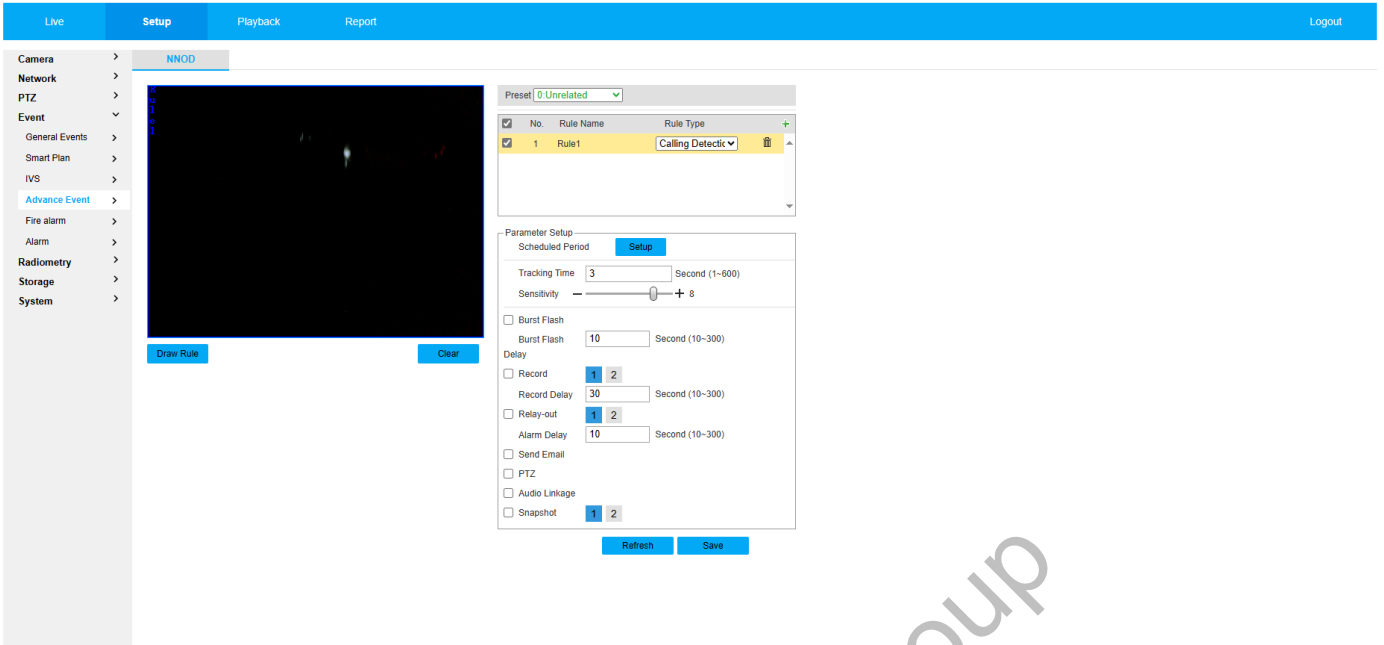
3.4.3.1.1 Calling Detection

The alarm will be triggered when the target action appears in the set arming area and meets the set minimum trigger time. It takes a certain amount of time and space from the appearance of the action to being confirmed, so when drawing the rules, draw the area around the area to not be set near the shelter.

Applicable scenes: suitable for petrol stations, factories, research institutes and other places where wireless communication is prohibited and the communication band is sensitive.

Step1 Select rule type as “Calling Detection” and the config interface is shown in Figure 3.4.3.1.1-1 :

Figure 3.4.3.1.1-1 Calling Detection



Step2 Click “Draw Rule” and draw rules in the monitoring image.

Step3 Configure parameter info according to the actual needs. Please refer to table 3.4.3.1.1-1 for more details.

Table 3.4.3.1.1-1 Calling Detection Description

Parameter	Description
Scheduled Period	Click “Setup” to pop out setting interface of “Scheduled Period”. can enter the time value or hold down the left mouse button, directly drag and drop on the setting interface for setting. There are six time slots for setting every day, select the check box in front of the time slots, the set time slots will be effective. Select the number of days of the week (the default selection of Sunday, if you select the whole week, it means that the settings will be applied to the entire week, you can also select the check box in front of the number of days of the week, a few days for individual settings). Click “Save” to return to the Rule Configuration page and click “Save” to complete the tripwire intrusion time period settings.
Minimum Duration	Set the time from when the call is detected to when the alarm is triggered.
Sensitivity	Set the sensitivity at which the call can be detected.
Burst Flash	When an alarm occurs, the system is linked to the strobe light, strobe light configuration refer to "3.4.6.2 Strobe light".
Burst Flash Delay	When the end of the alarm, the strobe light to extend a period of time to stop, the extension time unit is s, the value range of 10 ~ 300.
Record	If selected, the system will automatically record the alarm when a local alarm occurs, and the time period for alarm recording should be set in "Settings > Storage Management > Schedule", and the automatic recording should be selected in the video control interface.
Record delay	When the alarm ends, the alarm recording will be stopped for a longer period of time.
Alarm Output	Docking alarm devices (e.g., lights, sirens, etc.) at the alarm output port, selecting the check box and setting the alarm output device to activate the alarm linkage output port, so that when an alarm occurs, the system can link the corresponding alarm output device.
Alarm delay	When the alarm ends, the alarm output will be stopped for an extended period of time.
Send Email	After selecting the checkbox, an email will be sent to notify the user when an alarm occurs, and the user can set the email address in "Settings > Network Settings > SMTP (Email)".
PTZ	When the alarm is triggered, the PTZ can be linked to carry out the corresponding action, PTZ configuration can refer to "3.3.2 PTZ Function".

Audio Linkage	When alarm is triggered, audio can be linked to alarm.
Snapshot	If selected, the system will automatically capture the alarm when an alarm occurs, and the time period for capturing the alarm should be set in "Settings > Storage Management > Time Table".

Step4 Click "Save" to complete the configuration.

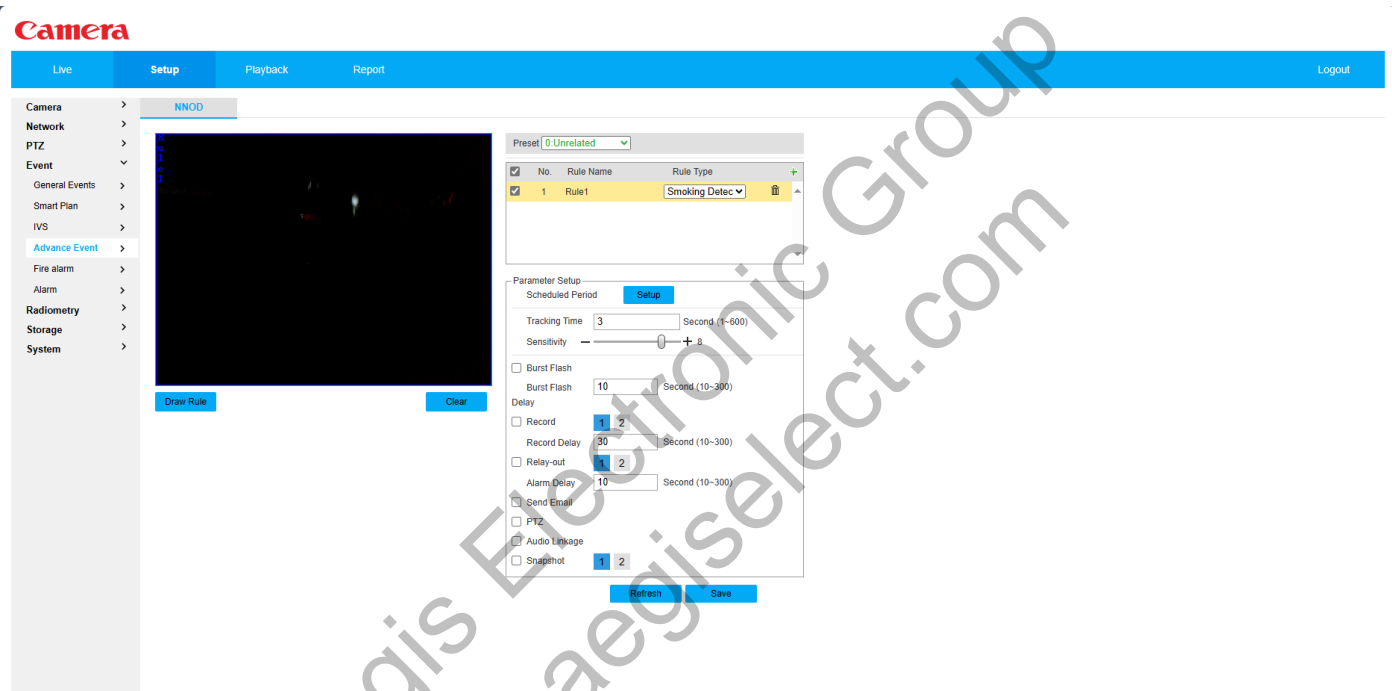
3.4.3.1.2 Smoking Detection

The alarm will be triggered when the target action appears in the set arming area and meets the set minimum trigger time. It takes some time and space from the appearance of the action to be confirmed, so when drawing the rules, draw the area around the area to not be set near the shelter.

Scenario: Suitable for companies, petrol stations, factories, forest fire prevention, storage warehouses and other places where open fire is prohibited.

Step1 Select "Smoking" as the rule type, and configure the interface as shown in Figure 3.4.3.1.2-1.

Figure 3.4.3.1.2-1 Smoking Detection



Step2 Click "Draw Rule" to draw a rule on the monitor screen.

Step3 Configure each parameter according to the actual needs. Refer to "[3.4.3.1.1 Calling Detection](#)" for the parameter descriptions.

3.4.4 Generic Behavioural Analysis

Basic requirements for scene selection:

- Target size not to exceed 10% of the frame.
- Target size ≥ 10 pixels \times 10 pixels; remnant target size ≥ 15 pixels \times 15 pixels (CIF image); target height and width not more than 1/3 image height and width; recommended target height is about 1/10 of the screen height.
- At least ensure that the target appears continuously in the field of view for more than 2 seconds, moves more than the target's own width, and is not less than 15 pixels (CIF image).
- As far as conditions allow, try to reduce the complexity of the surveillance analysis scene; it is not recommended to use the generic behaviour analysis function in scenes with dense targets and frequent light changes.
- Avoid areas such as glass, ground reflections and water surfaces as much as possible; avoid tree branches,

shadows and mosquito interference areas as much as possible; try to avoid backlit scenes and avoid direct light.

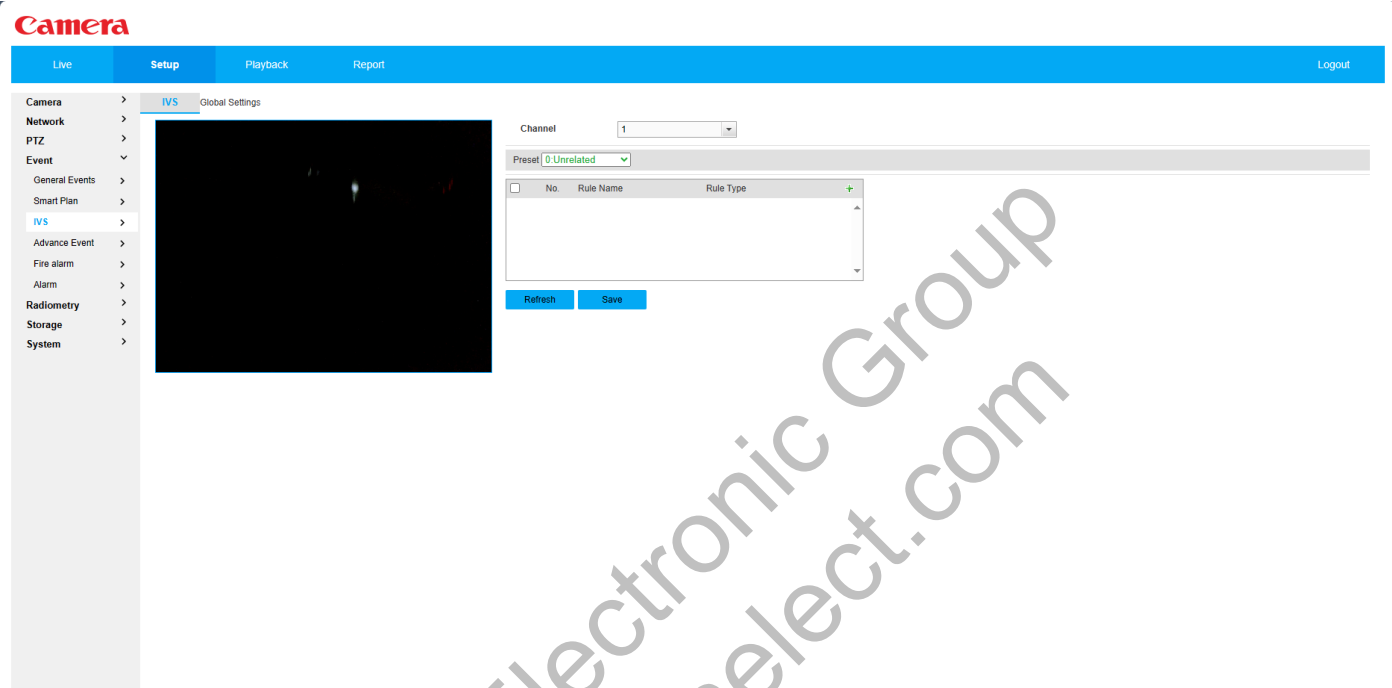
Note: You need to set the preset points in advance, refer to "3.3.2.1 Preset Points" for the setting method.

3.4.4.1 IVS Setting

Set up smart rules. The configuration steps are as follows:

Step1 Select "Settings > Event Management > General Behaviour Analysis > Rule Configuration", and the system displays the "Rule Configuration" interface, as shown in Figure 3.4-14:

Figure 3.4-14 Add Rules



Step2 Select the preset point where you need to configure the smart rule.

Step3 Click **+** to add a smart rule:

- Click "Rule Type" to modify the type of the rules.
- When enter the Rule Configuration screen, the locking function will be enabled automatically and the locking time will be 180 s. During this time, the camera cannot be controlled by any other means except the manual mode. Click "Unlock" to release the control.

Step4 Click "Save" to complete the configuration.

3.4.4.1.1 Tripwire

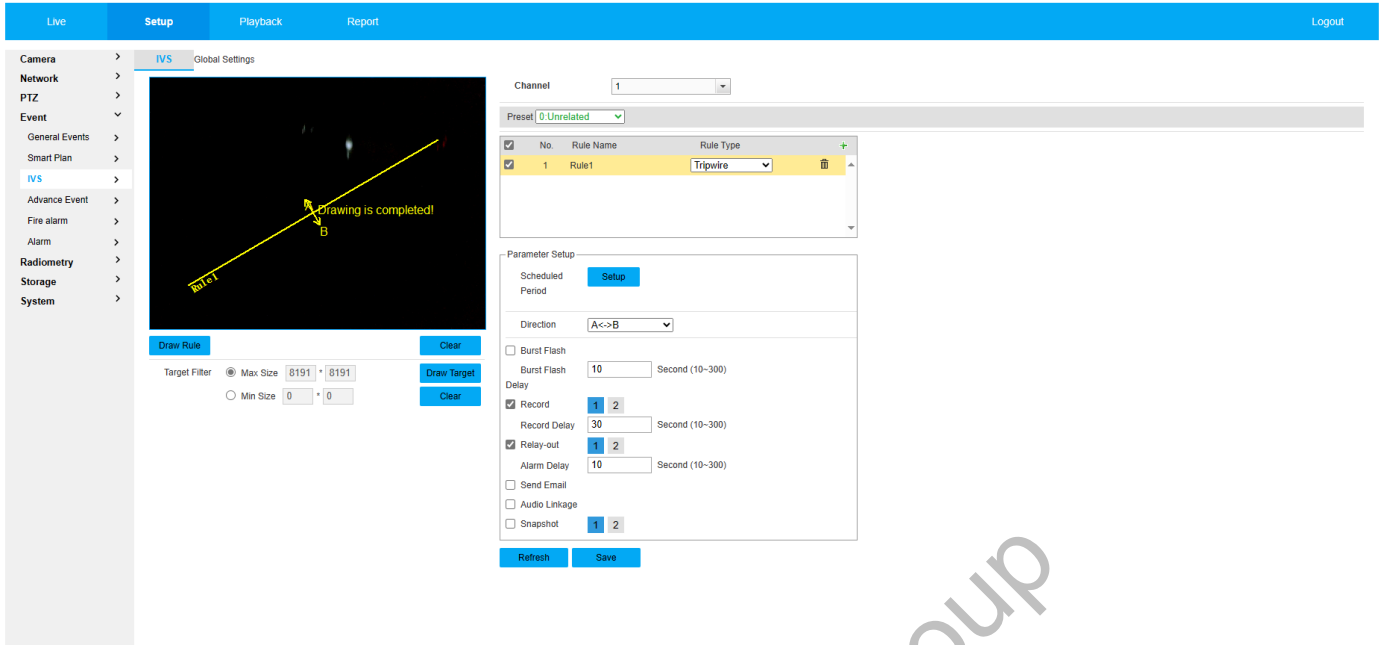
The alarm will be triggered when the target crosses the cordon according to the set direction of movement, and it takes a certain amount of time and space from the appearance of the target to its confirmation, so when the cordon is set up, there should be a certain amount of space on both sides of the cordon, and it should not be set up near the obstructions.

Scenario: Only suitable for sparse targets, no cover between targets, such as unmanned areas of the perimeter prevention.

Note: The column of objects is "human and vehicle" identification function; the parameters of this column are only effective in tripwire intrusion and regional intrusion.

Step1 Select the rule type as "Tripwire" and the configuration interface is shown in Figure 3.4.4.1.1-1.

Figure 3.4.4.1.1-1 Tripwire



Step2 Click "Draw Rule" to draw rules in the monitoring image.

Step3 Configure parameter info according to the actual needs. Please refer to Table 3.4.4.1.1-1 for more details.

Table 3.4.4.1.1-1 Intrusion Parameter Description

Parameter	Description
Scheduled Period	Click "Setup" to pop out setting interface of "Scheduled Period". can enter the time value or hold down the left mouse button, directly drag and drop on the setting interface for setting. There are six time slots for setting every day, select the check box in front of the time slots, the set time slots will be effective. Select the number of days of the week (the default selection of Sunday, if you select the whole week, it means that the settings will be applied to the entire week, you can also select the check box in front of the number of days of the week, a few days for individual settings). Click "Save" to return to the Rule Configuration page and click "Save" to complete the tripwire intrusion time period settings.
Object	Pedestrians, vehicles (collectively, including but not limited to: large trucks, buses, cars, tricycles, motorbikes, electric vehicles) Note: This function is only supported by some cameras.
Direction	Set the direction of tripwire intrusion, optional A→B, B→A, A↔B
Linkage Tracking	Select, then the target triggers the intelligent rules to cause linkage tracking
Tracking Time	Set the time of linkage tracking
Burst Flash	When an alarm occurs, the system is linked to the strobe light, strobe light configuration refer to "3.4.6.2 Strobe light".
Burst Flash Delay	When the end of the alarm, the strobe light to extend a period of time to stop, the extension time unit is s, the value range of 10 ~ 300.
Record	If selected, the system will automatically record the alarm when a local alarm occurs, and the time period for alarm recording should be set in "Settings > Storage Management > Schedule", and the automatic recording should be selected in the video control interface.
Record delay	When the alarm ends, the alarm recording will be stopped for a longer period of time.
Alarm Output	Docking alarm devices (e.g., lights, sirens, etc.) at the alarm output port, selecting the check box and setting the alarm output device to activate the alarm linkage output port, so that when an alarm occurs, the system can link the corresponding alarm output device.
Alarm delay	When the alarm ends, the alarm output will be stopped for an extended period of time.
Send Email	After selecting the checkbox, an email will be sent to notify the user when an alarm

	occurs, and the user can set the email address in "Settings > Network Settings > SMTP (Email)".
Audio Linkage	When alarm is triggered, audio can be linked to alarm.
Snapshot	If selected, the system will automatically capture the alarm when an alarm occurs, and the time period for capturing the alarm should be set in "Settings > Storage Management > Time Table".

Step4 Click "Save" to complete the configuration.

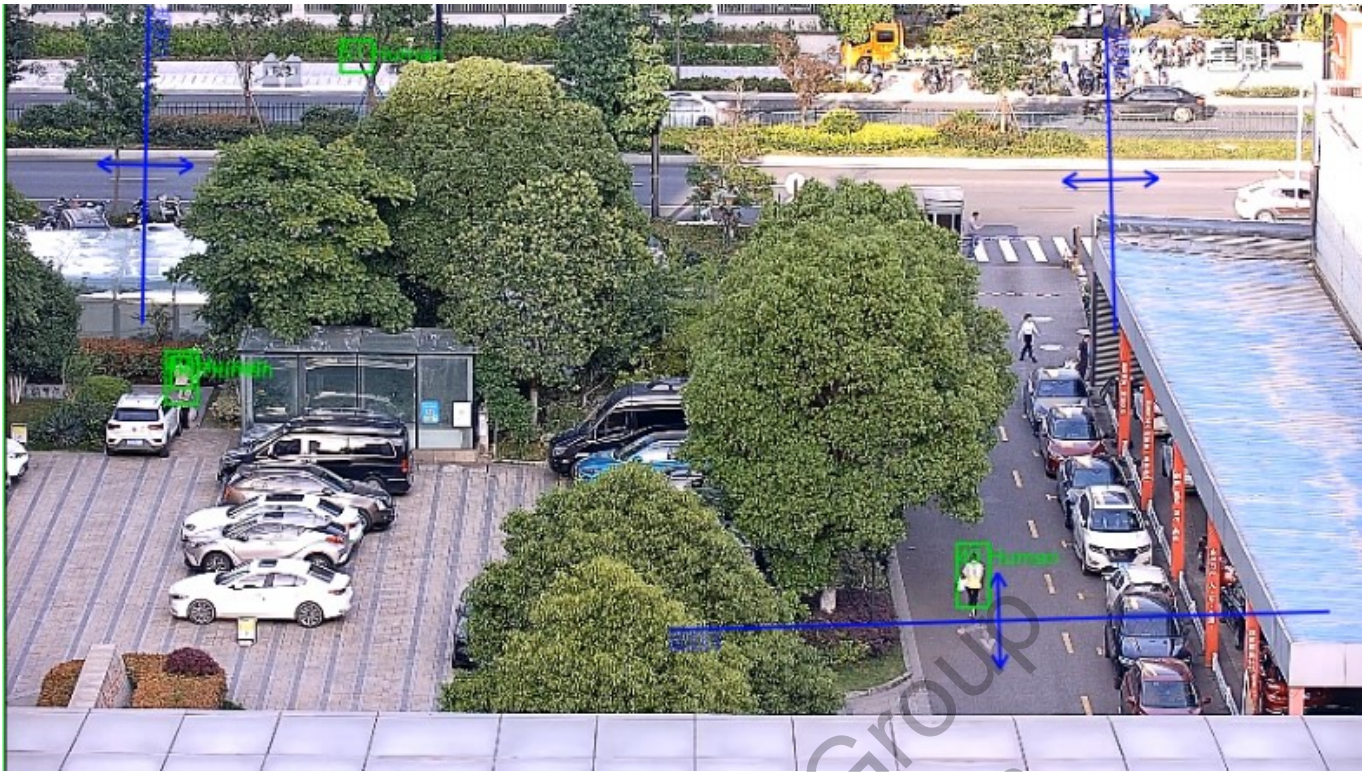
Human-vehicle recognition function description

This function currently does not support WEB plug-ins, if the host computer before the installation of our WEB plug-ins, please uninstall first, our new cameras are supported without plug-in preview.

After setting up the parameters in the general behaviour analysis, please open the preview interface, you can observe the rules set up at this time, the camera will not be immediately triggered to classify the alarm, you need to wait for the AI loading, when the screen appears in the yellow boxed objects, that is, the camera has been prepared, at this time to observe the first set up the intelligent rules are triggered, and triggered for the triggered object is not for "human, car" mark and number.

Figure 3.4.4.1.1-2 Human-vehicle trigger recognition interface





3.4.4.1.2 Virtual Fence

Virtual Fence alarm is equivalent to two alarm lines triggered successively by multiple targets. The fence setting requirements are as follows:

- Transparent fences, such as iron fences, are not supported.
- Do not support too short fences (height lower than normal human height).

Crossing the fence is classified as going over the fence upwards or downwards:

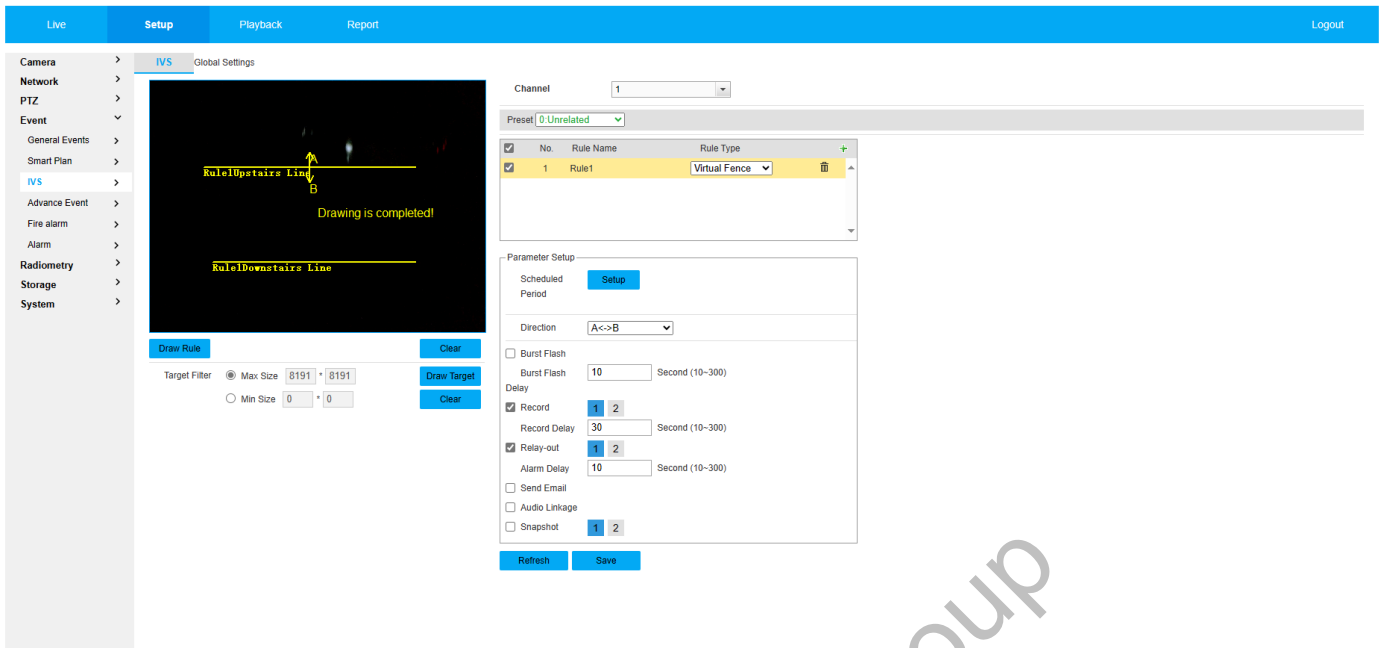
- The judgement criterion for upward over the fence is: the target rectangle box intersects with the bottom cordon line -> the bottom of the target rectangle box is out of the bottom cordon line -> the bottom of the target rectangle box is out of the bottom cordon line.

- The judgement criteria for flipping down the fence are: the centre of the target rectangle box crosses the top cordon -> the bottom of the target rectangle box breaks away from the bottom Alarm -> the centre of the target rectangle crosses the bottom alarm line -> alarm.

The configuration steps are as follows:

Step1 Select the rule type as "Virtual Fence" and configure the interface as shown in Figure 3.4.4.1.2-1.

Figure 3.4.4.1.2-1 Virtual Fence



Step2 Click "Draw Rule" to draw a rule on the monitor screen.

Step3 Configure each parameter according to the actual needs. For the parameter descriptions, see Table 3.4.4.1.2-1.

Table 3.4.4.1.2-1 Virtual Fence Parameter Description

Parameter	Description
Direction	Set the direction of crossing the fence, you can choose A→B, B→A, A↔B.

Note: Refer to "3.4.4.1.1 Tripwire" for a description of the remaining parameter items.

Step4 Click "Save" to complete the configuration.

3.4.4.1.3 Intrusion

Intrusion includes traversing an area and in-area functions:

- Traversing an area means that an alarm is generated when a target enters or leaves the area.
- The in-area function means that an alarm is raised when a specified number of targets appear in a set alarm area at a given time. The in-area function only counts the number of targets in the detection area without considering whether they are the same target or not.

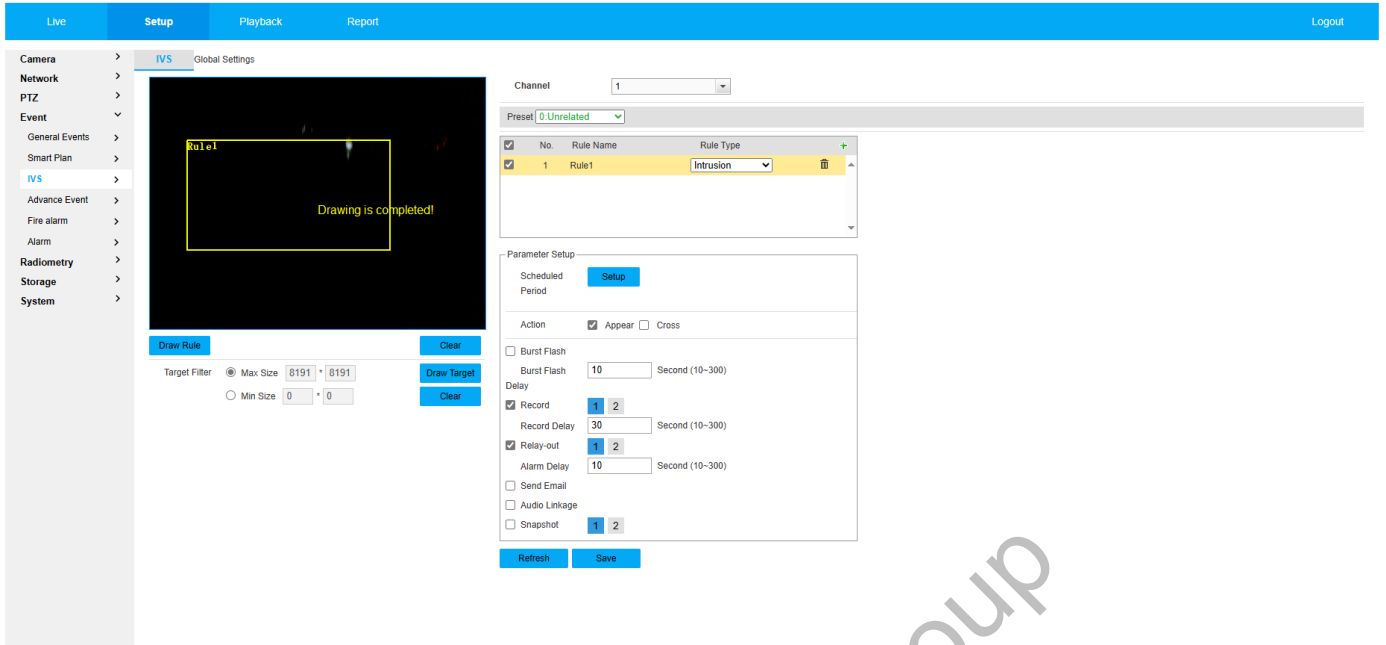
● For the reporting interval of the in-area function, after the first alarm is triggered, the system will detect whether there is still the same event occurring within the interval period, if there is no same event occurring within this period, the alarm counter will be cleared similar to the cordon line, and if you want to detect the entry/exit event, the periphery of the area line should be left with a certain amount of space for the target's movement.

Applicable Scenarios: Only suitable for sparse targets, no cover between the targets each other, such as unattended areas of the perimeter prevention.

The configuration steps are as follows:

Step1 Select the rule type as "Intrusion", and the configuration interface is shown in Figure 3.4.4.1.3-1.

Figure 3.4.4.1.3-1 Intrusion



Step2 Click "Draw Rule" to draw a rule on the monitor screen.

Step3 Configure each parameter according to the actual needs. For the parameter descriptions, see Table 3.4.4.1.3-1.

Table 3.4.4.1.3-1 Intrusion

Parameter	Description
Action	Set the action of intrusion, you can choose to appear or traverse the area.
Direction	Setting the direction of traversing the area, you can choose to enter, leave or enter.

Note: Refer to "[3.4.4.1.1 Tripwire](#)" for a description of the remaining parameter items.

Step4 Click "Save" to complete the configuration.

3.4.4.1.4 Abandoned Object

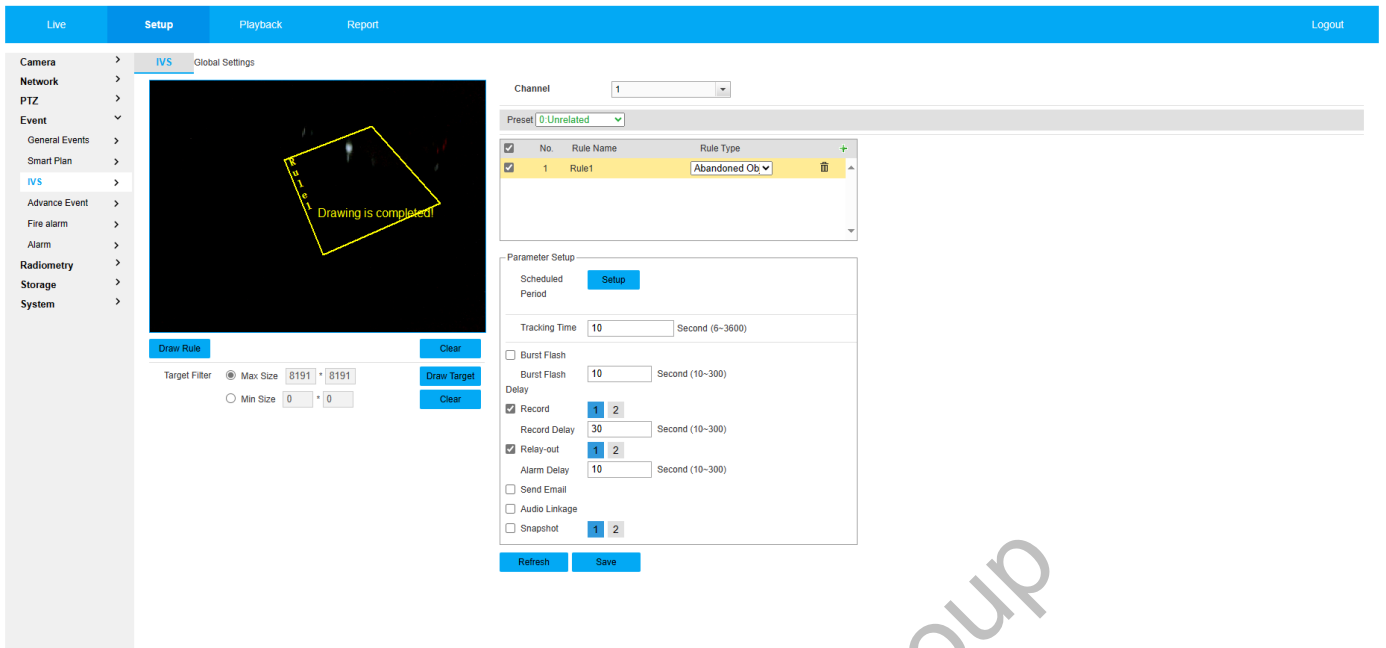
Objects left behind refers to the selected target in the monitoring scene will trigger the alarm when it stays in the screen longer than the set time Pedestrian or vehicle stays too long will also be judged as left behind alarm. In order to filter out this kind of alarm, generally the leftover objects are smaller than people and vehicles, so you can set the size filter to filter out people and vehicles; in addition, you can also extend the alarm time appropriately to avoid people staying for a short period of time, which will lead to misreporting as leftover time.

Applicable scenarios: applicable to the target sparse, no obvious and frequent light changes in the scene; for high target density, frequent blocking scenes will increase the leakage of the alarm for the personnel to stay in more scenes, false alarms will increase; detection of the region, the requirements of the texture as simple as possible, does not apply to the texture is too complex region.

The config steps are shown as follows:

Step1 Select rule type as "Abandoned Object" and the config interface is shown in Figure 3.4.4.1.4-1:

Figure 3.4.4.1.4-1 Abandoned Object



Step2 Click “Draw Rule” to draw rules in the monitoring image.

Step3 Configure parameter info according to the actual needs. Please refer to Table 3.4.4.1.4-1 for more details.

Table 3.4.4.1.4-1 Abandoned Object

Parameter	Description
Duration	Set the shortest time from object abandoned to trigger alarm.

Note: Refer to "[3.4.4.1.1 Tripwire](#)" for a description of the remaining parameter items.

Step4 Click “Save” to complete the configuration.

3.4.4.1.5 Fast-Moving

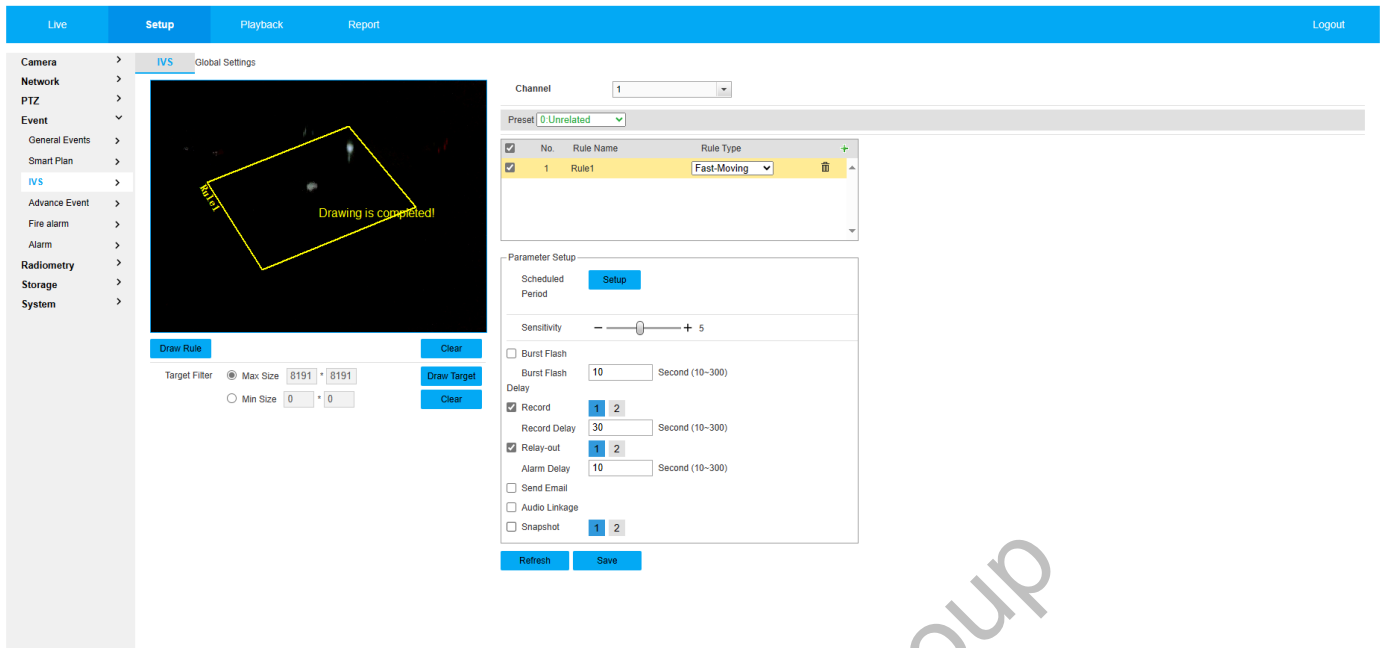
This function must be configured with depth-of-field calibration first, and the actual movement speed of the target is calculated according to the depth-of-field calibration, and if the movement speed exceeds the set alarm speed, the alarm will be triggered (the triggering speed is linked to the sensitivity, and the sensitivity of 1~10 corresponds to the actual speed of 10m/s~1m/s).

Applicable scenes: Applicable to scenes with sparse targets and no obvious cover. The camera should be installed above the monitoring area as much as possible, and the direction of the optical axis should be perpendicular to the direction of the target's movement as much as possible.

The config steps are shown as follows:

Step1 This is used to select rule type as “Fast-Moving” and the config interface is shown in Figure 3.4.4.1.5-1:

Figure 3.4.4.1.5-1 Fast-Moving



Step2 Click “Draw Rule” to draw rules in the monitoring image.

Step3 Configure parameter info according to the actual needs. Please refer to Table 3.4.4.1.5-1 for more details.

Table 3.4.4.1.5-1 Fast-Moving

Parameter	Description
Sensitivity	Set the trigger sensitivity, the value range is from 1 to 10, default is 5.

Note: Refer to "[3.4.4.1.1 Tripwire](#)" for a description of the remaining parameter items.

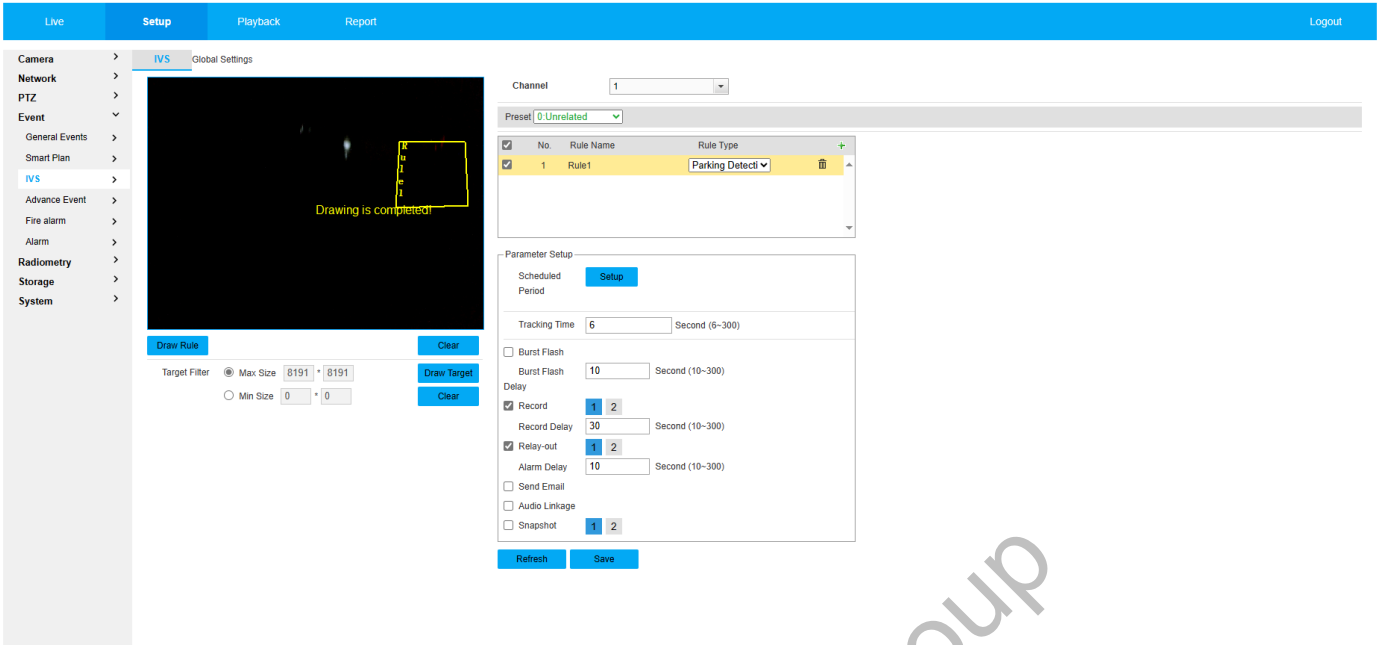
Step4 Click “Save” to complete the configuration.

3.4.4.1.6 Parking Detection

The system determines whether the target is stationary or not, according to the tracking information. When the rest time exceeds the set time, trigger alarm. The config steps are shown as follows:

Step1 Select rule type as “Parking Detection” and the config interface is shown in Figure 3.4.4.1.6-1:

Figure 3.4.4.1.6-1 Parking Detection



- Step2** Click “Draw Rule” to draw rules in the monitoring image.
- Step3** Configure parameter info according to the actual needs. Please refer to Table 3.4.4.1.6-1 for more details.

Table 3.4.4.1.6-1 Parking Detection

Parameter	Description
Duration	Set the shortest time from parking vehicle to trigger alarm.

Note: Refer to "3.4.4.1.1 Tripwire" for a description of the remaining parameter items.

- Step4** Click “Save” to complete the configuration.

3.4.4.1.7 Crowd Gathering Estimation

Crowd Gathering is mainly for outdoor plaza, government gate, station entrance and other areas. When the crowd is in detention or the crowd density is too large, trigger alarm.

It will trigger false alarm for these scenes: continuous camera shaking, leaves and tree shaking, crowd vehicle flow or human flow.

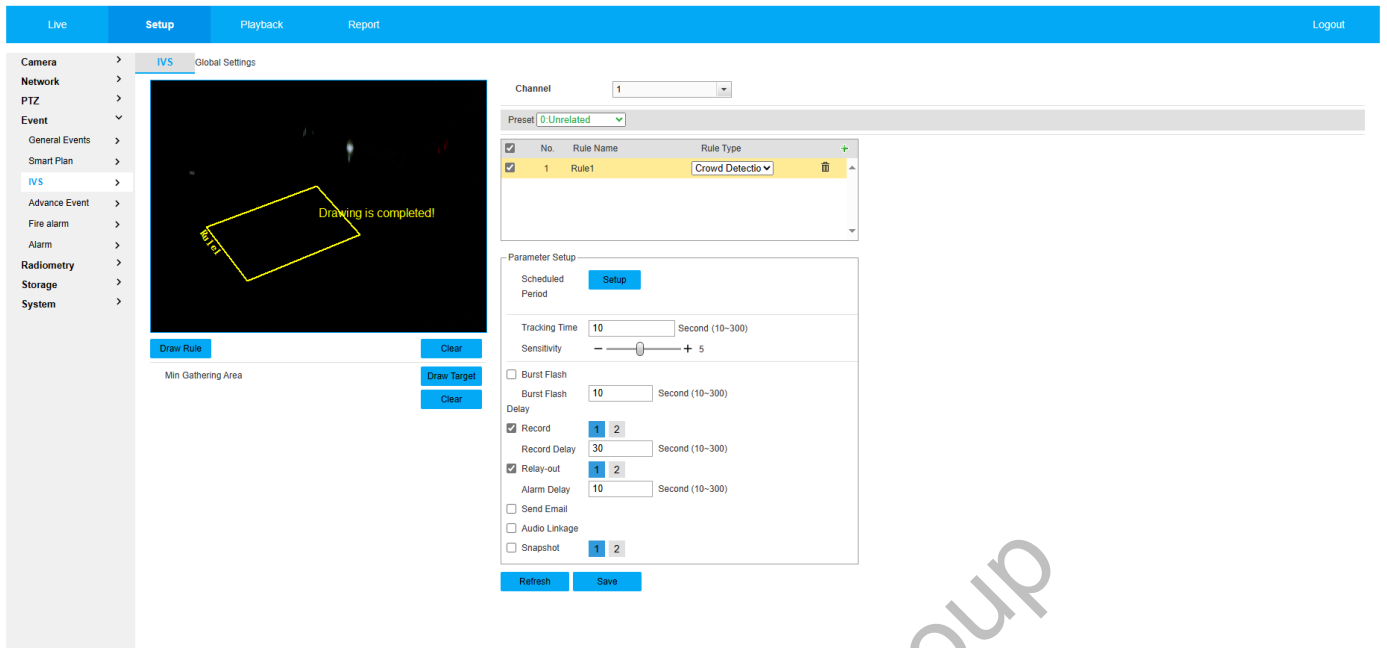
Application scene: Middle and distant scene.

Not-Application scene: Camera is mounted too low, the proportion of a single person is too large or the target is severely blocked.

The config steps are shown as follows:

- Step1** Select rule type as “Crowd Gathering Estimation” and the config interface is shown in Figure 3.4.4.1.7-1:

Figure 3.4.4.1.7-1 Crowd Gathering Estimation



Step2 Click “Draw Rule” to draw rules in the monitoring image.

Step3 Configure parameter info according to the actual needs. Please refer to Table 3.4.4.1.7-1 for more details.

Table 3.4.4.1.7-1 Crowd Gathering Estimation

Parameter	Description
Duration	Set the shortest time from crowd gathering to trigger alarm.
Sensitivity	Set the trigger sensitivity, the value range is from 1 to 10, default is 5.
Min Gathering Area	Click “Draw Target” to set the Crowd Gathering area model. When the Crowd Gathering area is larger than the area model, and longer than keep time, trigger alarm. Click “Clear” to clear all area model.

Note: Refer to "3.4.4.1.1 Tripwire" for a description of the remaining parameter items.

Step4 Click “Save” to complete the configuration.

3.4.4.1.8 Missing Object

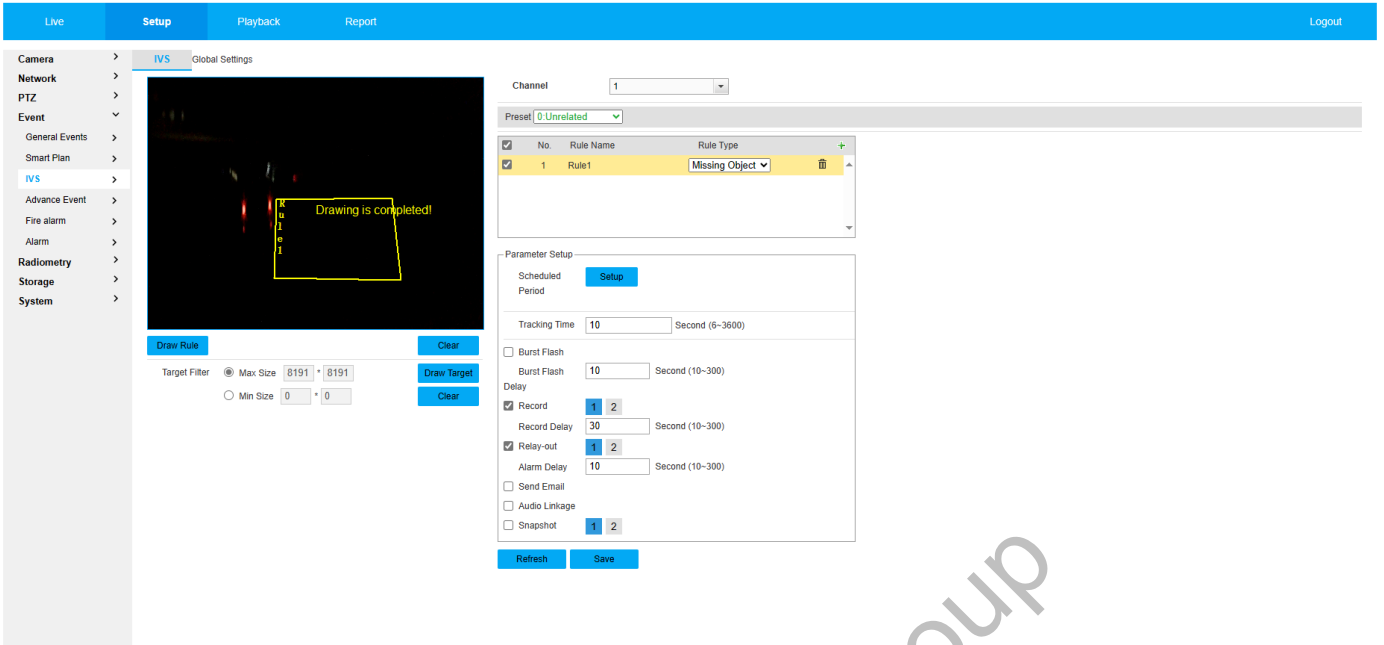
It means it will trigger alarm after the target in the scene is taken and exceeds a certain period of time. The system will make statistics for the still areas in the foreground area, and distinguish whether it is missing object or abandoned object according to the similarity between foreground and background, it will trigger alarm when it exceeds the time set by users.

Application scene: It is suitable for scenes where the target is sparse and the light changes are not obvious and frequent. For scenes with high target density and frequent blocking, alarm leakage will increase; for scenes with a large number of people, false alarms will increase. For the detection field, the requirements are simple, but this function cannot be applied to complex fields.

The config steps are shown as follows:

Step1 Select rule type as “Missing Object” and the config interface is shown in Figure 3.4.4.1.8-1:

Figure 3.4.4.1.8-1 Missing Object



Step2 Click “Draw Rule” to draw rules in the monitoring image.

Step3 Configure parameter info according to the actual needs. Please refer to Table3.4.4.1.8-1 for more details.

Table 3.4.4.1.8-1 Missing Object Parameter Description

Parameter	Description
Duration	Set the shortest time from object disappears to trigger alarm.

Note: Refer to "3.4.4.1.1 Tripwire" for a description of the remaining parameter items.

Step4 Click “Save” to complete the configuration.

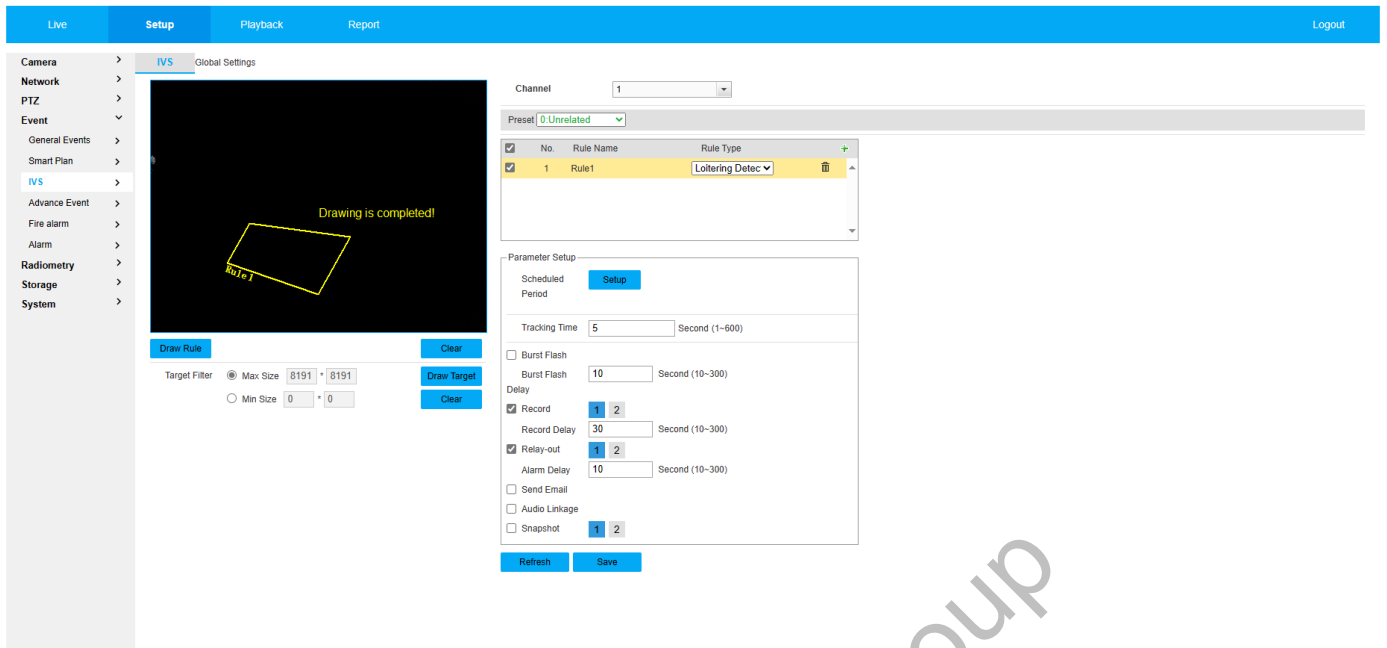
3.4.4.1.9 Loitering Detection

When the target is moving in the set area and exceeds the Keep time, it will trigger alarm. For stationary targets, loitering detection is ineffective.

The config steps are shown as follows:

Step1 Select rule type as “Loitering Detection” and the config interface is shown in Figure 3.4.4.1.9-1:

Figure 3.4.4.1.9-1 Loitering Detection



Step2 Click “Draw Rule” to draw rules in the monitoring image.

Step3 Configure parameter info according to the actual needs. Please refer to Table 3.4.4.1.9-1 for more details.

Table 3.4.4.1.9-1 Loitering Detection Parameter Description

Parameter	Description
Keep Time	Set the shortest time from object disappears to trigger alarm.

Note: Refer to "3.4.4.1.1 Tripwire" for a description of the remaining parameter items.

Step4 Click “Save” to complete the configuration.

3.4.4.2 Global Settings

The purpose and principle of the calibration of depth of field:

According to the calibrated of 1 horizontal line and 3 vertical lines, and the actual distance in the corresponding actual environment, to estimate the Internal Parameters (Geometric properties and Optical properties) and External Parameters (The 3D position and direction of the camera relative to the actual environmental coordinate system.) of the camera, and then determine the corresponding relationship between the 2D images obtained by the camera and the 3D real objects.

The configuration method and notice of the calibration of depth of field:

- Application Scene: it is better to choose the scene that camera is installed more than 3m above. It doesn't support the scene which angle is too flat and ceiling mount installing.

Only support calibrate on horizontal plane, which cannot support on vertical wall or Inclined plane.

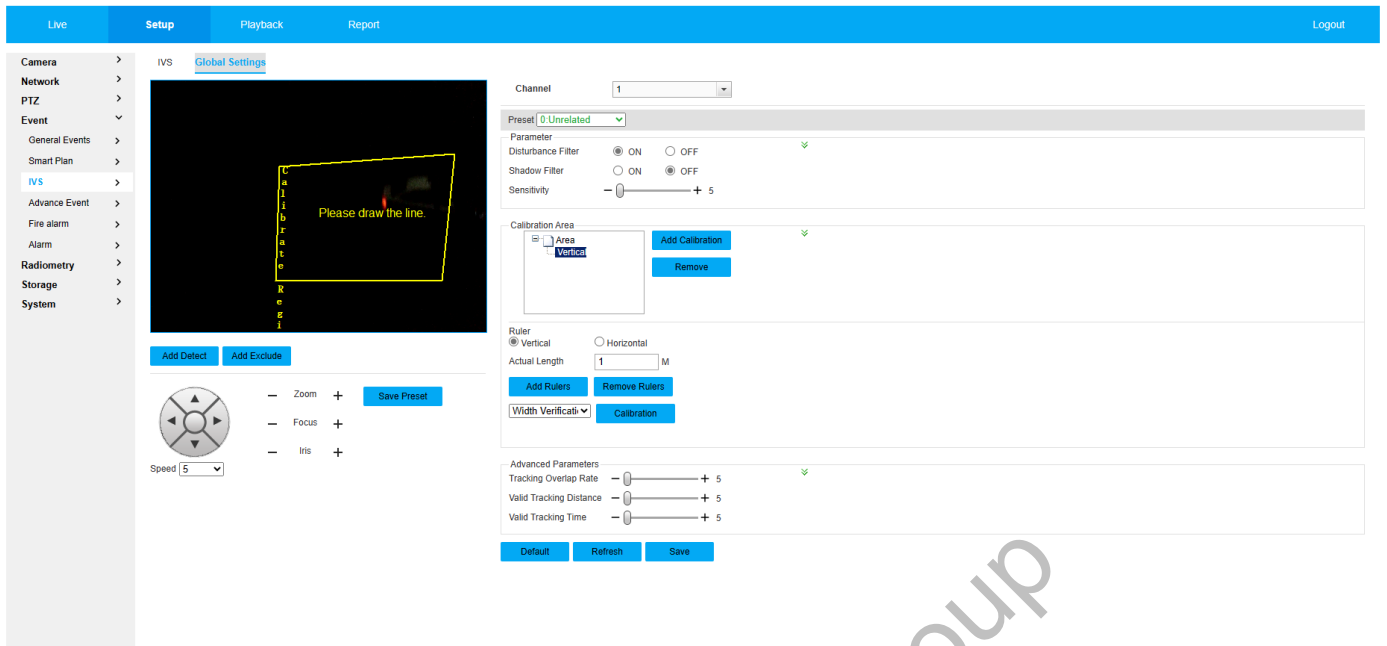
Can not support the special scene, super wide angle camera and fisheye camera scene.

- Calibration Area Setting, the area must be in the same horizontal plane.

The config steps are shown as follows:

Step1 Select “Setup > Event > IVS > Global Setup”. The system will display the interface of “Global Setup”, which is shown in Figure3.4.4.2-1:

Figure 3.4.4.2-1 Global Settings



- Step2** Select the preset number user want to set to global setup.
 - The preset should be set the smart plan, the smart plan configuration reference to “3.4.2 Smart Plan”.
- Step3** Click “Add Detect” to add detect area, drag to draw the area in the video.
- Step4** Configure the " Vertical" and " Horizontal " Ruler info according to the actual needs.
 - **Vertical Ruler:** drag to draw 3 vertical lines, which must be on the same horizontal plane. Should select 3 fixed height reference materials as vertical rule (triangular distribution).
 - **Horizontal Ruler:** drag to draw 1 horizontal line on the same horizontal plane, select the reference materials which known length.
- Step5** Set the "Actual Length" of the Ruler in the actual environment.
- Step6** Click “Add Rulers”, then drag to draw the rulers in the video.
- Step7** Select the Verification type: Weight Verification and Height Verification, then click “Calibration”, drag-to-draw a line in the video, it will show the actual length beside the line.
 - When the ruler is completed, it need to verify the ruler with verification method. If the calibration error is too large, it need to adjust the rulers again, until the error is acceptable.
- Step8** Configure parameter info according to the actual needs. Please refer to Table 3.4.4.2-1 for more details.

Table3.4.4.2-1 Global Setup

Parameter	Description
Anti-Disturb Filter	Check <input checked="" type="radio"/> ON , it will filter some random disturbance
Shadow Scene Filter	Default is <input checked="" type="radio"/> OFF . For Shadow scene, enable it, which can filter the shadow, help to detect the object. But if the object is very similar to the shadow, it will also be filtered.
Sensitivity	Rang value from 1 to 10, default is 5. The higher value is, more sensitive, the smaller object will trigger alarm, and also, the false detection rate is higher too.
Add Detect	Click it to drag-to-draw the detect area. The camera will detect in the set area.
Add Excluded	Click it to drag-to-draw excluded area. The object in excluded area will not trigger alarm.
Save Preset	Click it to save the preset.
Tracking Overlap Rate	The range of value from 0 to 100, the default value is 0. The higher value is, the lower Leakage rate is, the higher false detection rate is.

Valid Tracking Distance	The range of value from 0 to 100, the default value is 10. The lower value is, the earlier detection is. The higher value is, the higher Leakage rate is, the higher false detection rate is.
Valid Tracking Time	The range of value from 0 to 100, the default value is 10. The lower value is, the earlier detection is. The higher value is, the higher Leakage rate is, the higher false detection rate is.

Step9 Click "Save" to complete the configuration.

3.4.5 Fire Alarm

3.4.5.1 Visible Fire&Smoke Detection

Set the Fire&Smoke Detection rules for Visible images, when the system determines that it is a Fire&Smoke, it will generate an alarm and link the set actions.

Step1 Select "Setup > Event > Fire Alarm". The system displays the Visible Imaging Fire&Smoke Alarm interface, as shown in Figure 3.4.5.1-1

Figure 3.4.5.1-1 Visible Fire&Smoke Detection Alarm

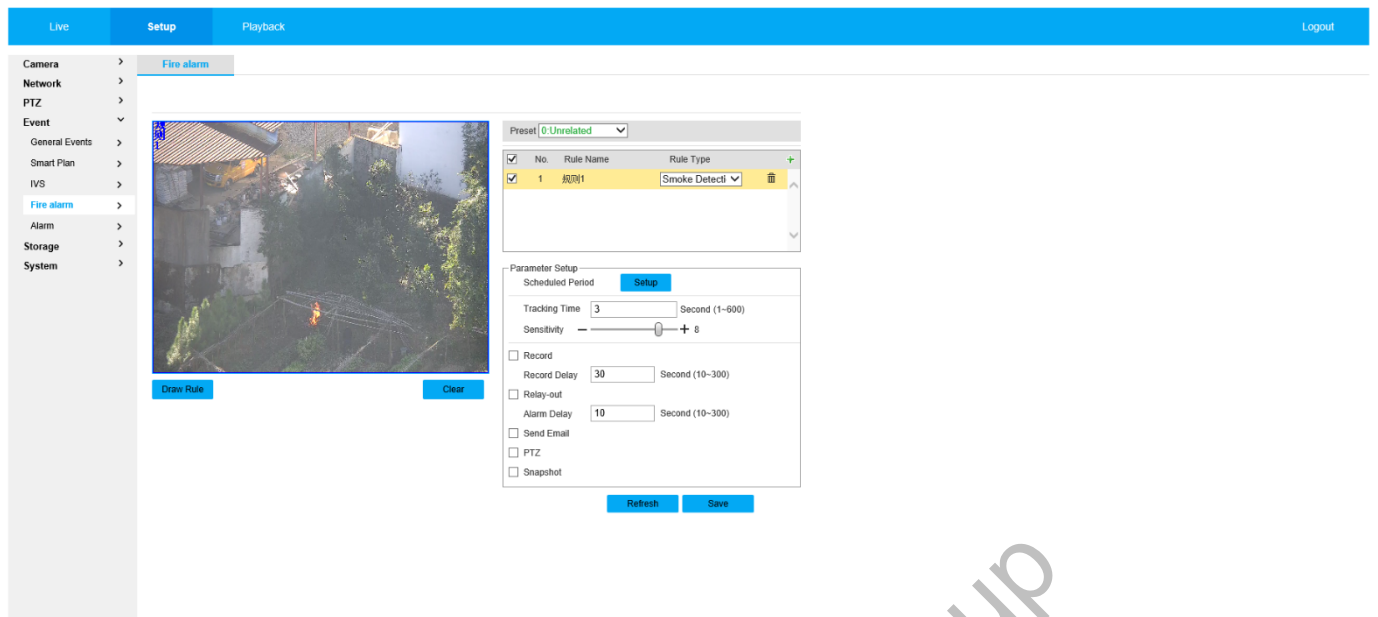


Step2 Select preset points:

Default is preset point 0, i.e. no associated preset point, all scenes can use this configuration, if you want to set the Fire&Smoke Detection of a scene individually, you can set the preset point in advance for setting, the Fire&Smoke function associated with the preset point needs to be selected by the user first, and each preset point can be set up with different fire alarm settings, the setup method is referred to as "[3.3.2.1 Preset point](#)"

Step3 Click "+" and set rules:

Select "Fire Detection" or "Smoke Detection" to enable the alarm function. Monitor the configuration screen and set the corresponding rules.



Step4 Set the "Fire Detection" or "Smoke Detection" parameters, please refer to Table 3.4.5.1-1 for detailed parameter description.

Table 3.4.5.1-1 Fire Alarm

Parameter	Description
Tracking Time	In order to prevent false alarms, it is necessary to set the minimum duration of triggering the alarm, when the "flame" or "pyrotechnic" continues to be monitored for a set period of time, the alarm will be triggered; it is necessary to set it reasonably according to the on-site environment.
Scheduled Period	Set the time period for alarm, and the alarm event will be activated only within the set time range. <ol style="list-style-type: none"> Click "Setup", the system pops up the " Scheduled Period " dialogue box. Set the alarm time period: <ul style="list-style-type: none"> By holding down the left mouse button, you can drag and drop the setting interface directly. Click "Setup" corresponding to the number of days of the week, select the check box in front of the time period at the bottom of the interface, and input the time value, there are six time periods for setting every day. Click "Save" to complete the Scheduled Period settings.
Sensitivity	Setting the sensitivity at which "fire" or "smoke" can be recognized needs to be set appropriately according to the on-site environment.
Linkage Tracking	Linkage tracking is fire point centring, where the PTZ device is linked to centre when a fire point is detected. Fire point centring can be used with cruise and idle actions.
Tracking Recovery Time	After the PTZ device is centred on the fire point, the PTZ will not be centred on the "fire" or "smoke" point after the centred time reaches the set tracking recovery time.
Burst Flash	When an alarm occurs, the system will link the strobe light, refer to "3.4.6.2 Burst Flash " for strobe light configuration.
Burst Flash Delay	When the alarm ends, the burst light will stop for a longer period of time.
Record	Select the check box and set the video channel number, when the alarm occurs, the corresponding channel will automatically record the alarm.
Record Delay	When an alarm occurs, the system recording also needs to meet the following two conditions: <ul style="list-style-type: none"> has been turned on motion detection recording has been set up for automatic recording
Alarm Out	When the alarm ends, the alarm recording is extended for a period of time to stop. Docking alarm devices (e.g. light, siren, etc.) at the alarm output port, selecting the check box and setting the alarm output device, activating the alarm linkage output port, so that when an alarm occurs, the system can link the corresponding alarm output device.
Alarm Delay	When the alarm ends, the alarm extends for a period of time to stop.

Send Email	Select the check box, when the alarm occurs, the system sends email to notify the user. Before enabling this function, you need to set Email
PTZ	Select the check box and set the linkage operation and the corresponding serial number, when the alarm occurs, the system will linkage turn to the selected preset point, start the cruise group or cruise track. Before opening this function, you need to set the PTZ
Snapshot	Select the check box and set the capture channel number, when the alarm occurs, the corresponding channel will automatically capture the picture.

Note: The method of using the "fire" or "smoke" point centring linkage: open the Auto Scan, when the "fire" or "smoke" point is detected during the scanning cruise, the PTZ will carry out the linkage centring, after the linkage tracking is finished, wait for the idle action to be triggered, and then the PTZ will return to the position before the linkage tracking to continue the scanning cruise.

Refer to "3.3.2.3 Auto Scan" for auto scan configuration.

Refer to "3.3.2.7 Idle Action" for idle action configuration.

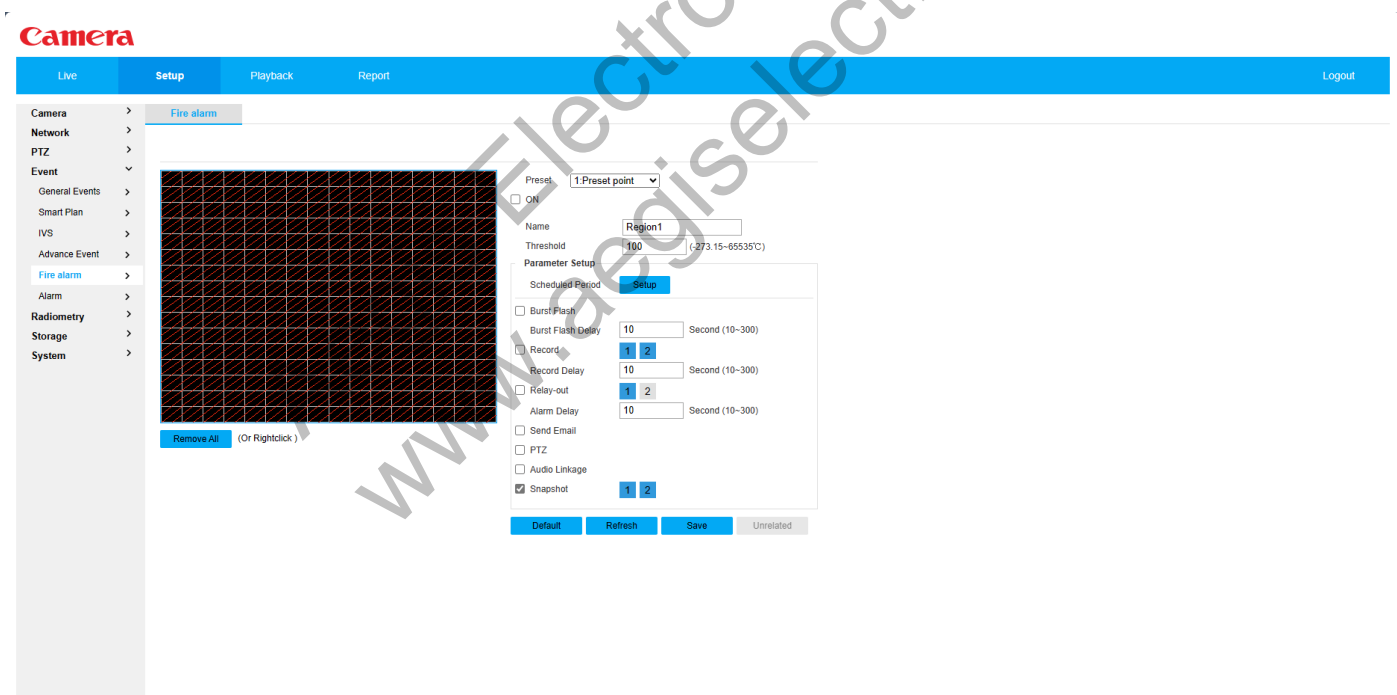
Step5 Click "Save" to complete the configuration

3.4.5.2 thermal Fire Alarm

Set the fire warning rules for thermal images, when the system determines that it is a fire, it will generate an alarm and link the set actions.

Step1 Select "Setup > Event > Fire Alarm". The system displays the Thermal Imaging Fire Alarm interface, as shown in Figure 3.4.5.2-1.

Figure 3.4.5.2-1 Fire Alarm



Step2 Select preset points:

Default is preset point 0, i.e. no associated preset point, all scenes can use this configuration, if you want to set the fire warning of a scene individually, you can set the preset point in advance for setting, the fire warning function associated with the preset point needs to be selected by the user first, and each preset point can be set up with different fire alarm settings, the setup method is referred to as "3.3.2.1 Preset point"

Step3 Click "Enable" and set rules:

Select "Enable" to enable the fire alarm function. Monitor the configuration screen and set the corresponding rules.

Step4 Set the fire warning parameters, please refer to Table 3.4.5.2-1 for detailed parameter description.

Table 3.4.5.2-1 Fire Alarm

Parameter	Description
Scheduled Period	Set the time period for alarm, and the alarm event will be activated only within the set time range. 4. Click "Setup", the system pops up the " Scheduled Period " dialogue box. 5. Set the alarm time period: ● By holding down the left mouse button, you can drag and drop the setting interface directly. ● Click "Setup" corresponding to the number of days of the week, select the check box in front of the time period at the bottom of the interface, and input the time value, there are six time periods for setting every day. 6. Click "Save" to complete the Scheduled Period settings.
Linkage Tracking	Linkage tracking is fire point centring, where the PTZ device is linked to centre when a fire point is detected. Fire point centring can be used with cruise and idle actions.
Tracking Recovery Time	After the PTZ device is centred on the fire point, the PTZ will not be centred on the fire point after the centred time reaches the set tracking recovery time.
Burst Flash	When an alarm occurs, the system will link the strobe light, refer to "3.4.6.2 Burst Flash " for strobe light configuration.
Burst Flash Delay	When the alarm ends, the burst light will stop for a longer period of time.
Record	Select the check box and set the video channel number, when the alarm occurs, the corresponding channel will automatically record the alarm.
Record Delay	When an alarm occurs, the system recording also needs to meet the following two conditions: ● has been turned on motion detection recording ● has been set up for automatic recording
Alarm Out	When the alarm ends, the alarm recording is extended for a period of time to stop. Docking alarm devices (e.g. light, siren, etc.) at the alarm output port, selecting the check box and setting the alarm output device, activating the alarm linkage output port, so that when an alarm occurs, the system can link the corresponding alarm output device.
Alarm Delay	When the alarm ends, the alarm extends for a period of time to stop.
Send Email	Select the check box, when the alarm occurs, the system sends email to notify the user. Before enabling this function, you need to set Email
PTZ	Select the check box and set the linkage operation and the corresponding serial number, when the alarm occurs, the system will linkage turn to the selected preset point, start the cruise group or cruise track. Before opening this function, you need to set the PTZ
Snapshot	Select the check box and set the capture channel number, when the alarm occurs, the corresponding channel will automatically capture the picture.

Note: The method of using the fire point centring linkage: open the Auto Scan, when the fire point is detected during the scanning cruise, the PTZ will carry out the linkage centring, after the linkage tracking is finished, wait for the idle action to be triggered, and then the PTZ will return to the position before the linkage tracking to continue the scanning cruise.

Refer to "3.3.2.3 Auto Scan " for auto scan configuration.

Refer to "3.3.2.7 Idle Action" for idle action configuration.

Step5 Click "Save" to complete the configuration

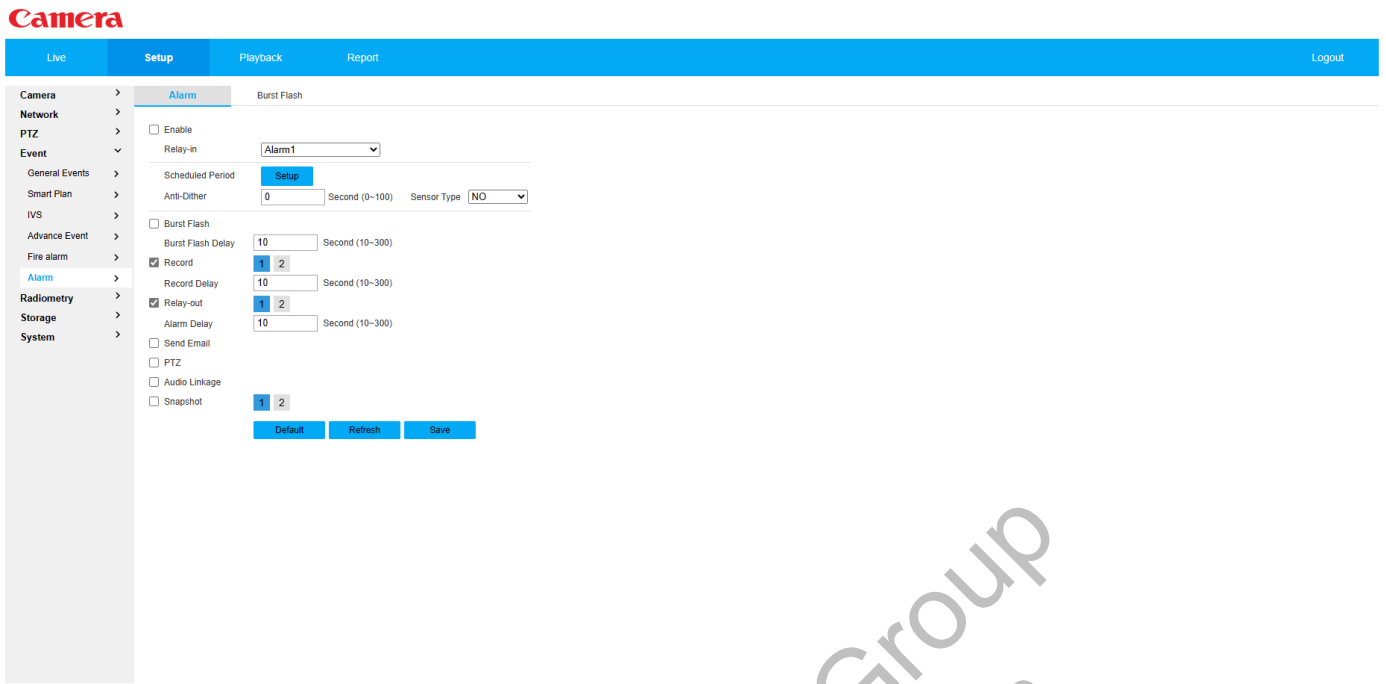
6.4.6 Alarm Setting

3.4.6.1 Alarm

Set the enabling conditions of the alarm event, the configuration steps are as follows:

Step1 Set " Setup > Event > Alarm > Alarm ", the system displays the "Alarm " interface, as shown in Figure 3.4.6.1-1:

Figure 3.4.6.1-1 Alarm



Step2 Configure info of each parameter according to the actual needs; please refer to Table3.4.6.1-1 for details.

Table 3.4.6.1-1 Alarm Detection

Parameter	Description
Enable	Select, carry out alarm linkage
Sensor Type	NO\NC: NO→NC: open the alarm; NC→NO: close the alarm

Note: Please refer to “3.4.1.1 Motion Detection” for description of other parameters.

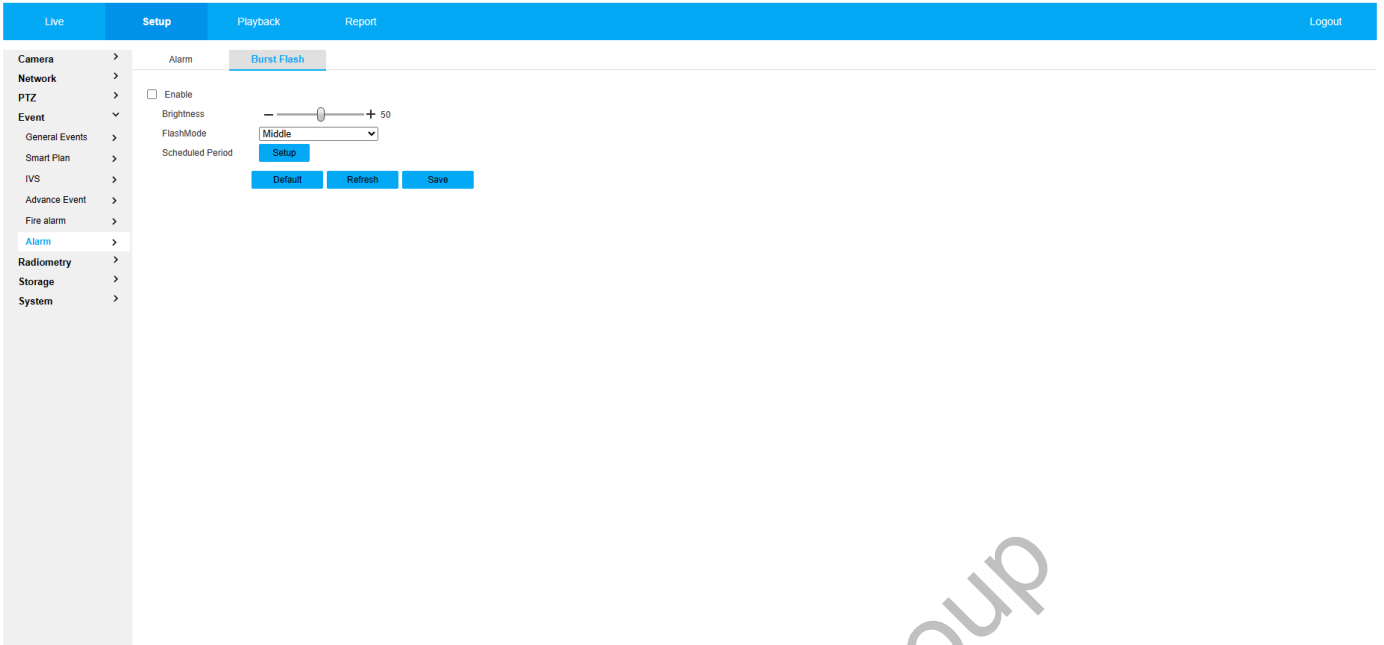
Step3 Click “Save” to complete the configuration.

3.4.6.2 Burst Flash

Configure the conditions to enable the burst light as follows:

Step1 Set "Setup > Event > Alarm > Burst Light", and the system displays the "Burst Light" interface, as shown in Figure 3.4.6.2-1.

Figure 3.4.6.2-1 Burst Light



Step2 Configure the information of each parameter according to the actual need, please refer to Table 3.4.6.2-1 for the parameter description.

Table 3.4.6.2-1 Burst Flash

Parameter	Description
Enable	Select to start the burst light.
Brightness	Set the brightness of the burst lights, the larger the value, the brighter the burst lights; value range of 0 to 100.
Flashing mode	The flash mode has a medium-speed, high-speed, low-speed, normal light, the default is medium-speed.

Note: Please refer to “3.4.1.1 Motion Detection” for description of other parameters.

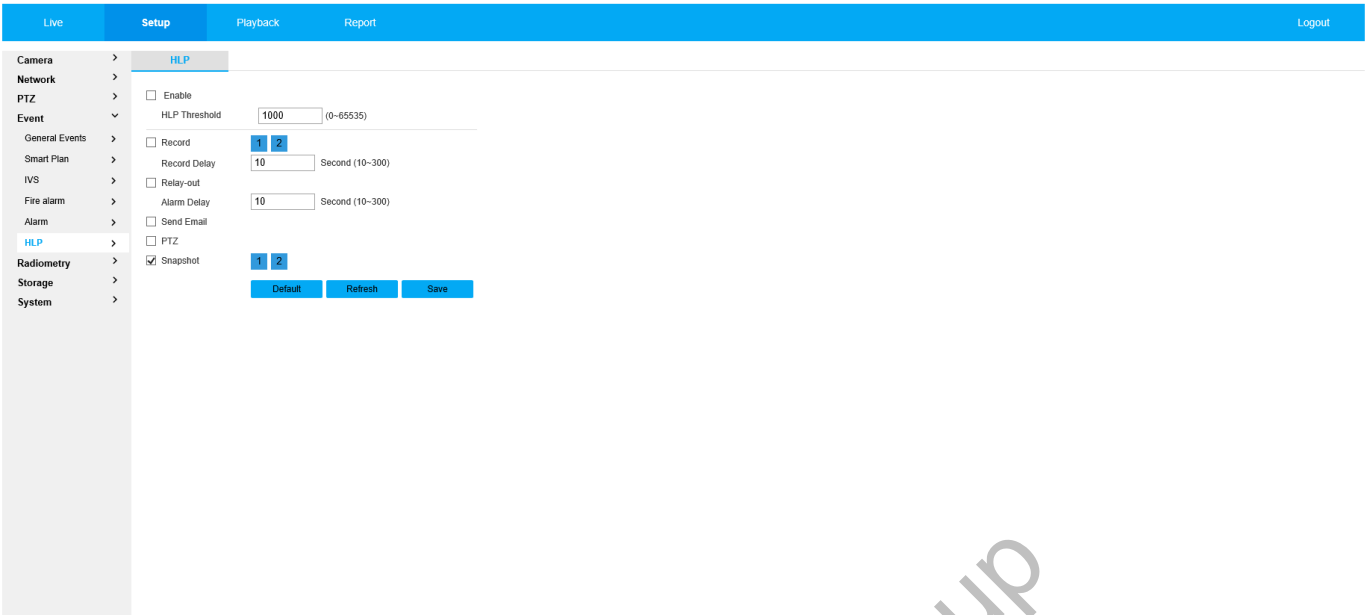
Step3 Click “Save” to complete the configuration.

3.4.7 Highlight Protection

Set up glare protection for thermal imaging to actively protect the detector from damage when direct light is detected, and to generate an alarm and link the set actions.

Step1 Select “Setup > Event> Highlight Protection”. The system displays the Strong Light Protection interface, as shown in Figure 3.4.7-1.

Figure 3.4.7-1 Highlight Protection



Step2 Set the strong light protection parameters, please refer to Table 3.4.7-1 for detailed parameter description.

Table 3.4.7-1 Highlight Protection

Parameter	Description
Enable	Select to enable glare protection
Protection Threshold	Threshold for triggering glare protection, value range is 0 to 65535.

Note: Please refer to “3.4.1.1 Motion Detection” for description of other parameters.

Step3 Click “Save” to complete the configuration.

3.5 Radiometry

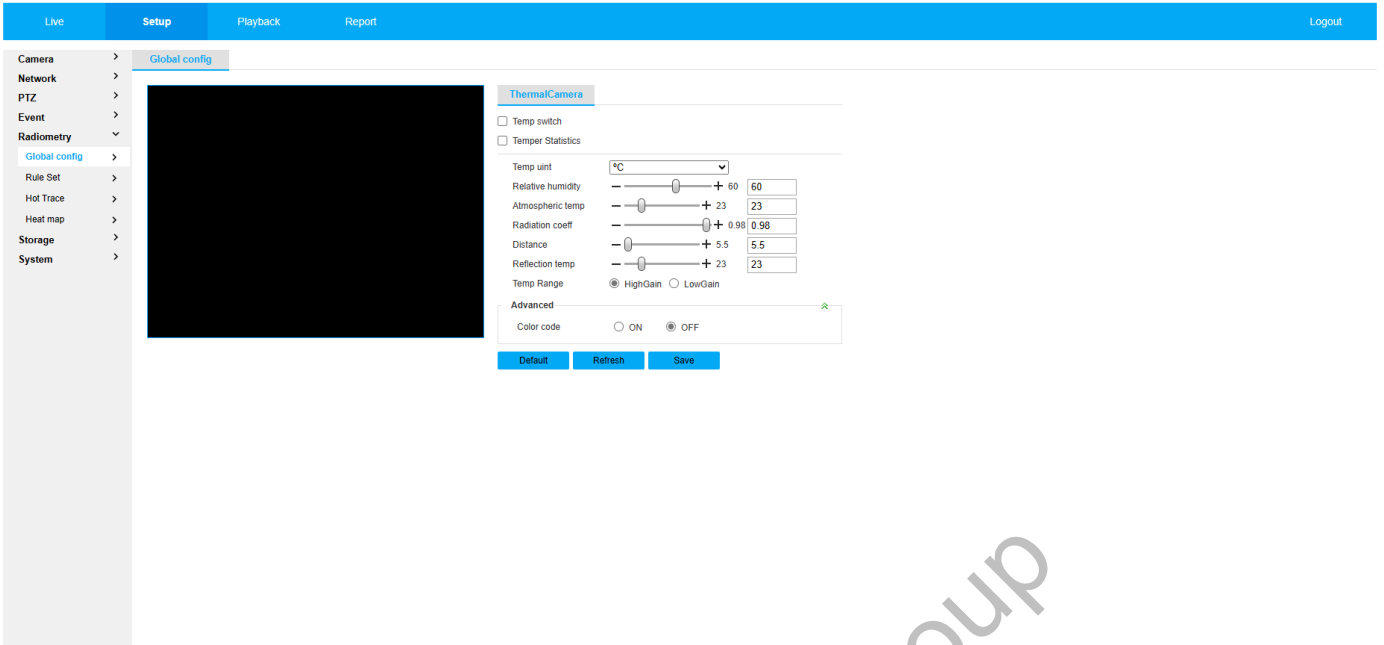
3.5.1 Global Config

Switching temperature measurement and colour-coded bars can be turned on.

When the switch temperature measurement function is turned on, the temperature measurement rules take effect and the set temperature measurement rules are displayed on the monitor screen. When the colour bar function is enabled, the corresponding colour bar is displayed on the right side of the monitoring screen to indicate the colour change between the minimum and maximum temperatures.

Step1 Select "Setup > Radiometry > Global Config". The system displays the "Global Configuration" interface, as shown in Figure 3.5-1.

Figure 3.5-1 Global Config



Step2 Set the global configuration parameters, please refer to Table 3.5-1 for detailed parameter description.

Table 3.5-1 Global Config

Parameter	Description
Switch Temperature Measurement	Select the checkbox to enable switch temperature measurement.
Temperature statistics	Select the check box to enable the temperature statistics function.
Temperature units	Display the unit of temperature, including °C and °F.
Atmospheric temperature	Display the unit of temperature, including °C and °F.
Atmospheric transmittance	Transmittance of the environment, the value range is 0.5 ~ 1
Target radiation coefficient	Set the radiation coefficient of the target, the range of value is 0.5 ~ 1.
Target distance	The distance between the camera and the target, the range of values is 0m ~ 10000m.
Target Reflected Temperature	Temperature of the target. The value range is -50°C ~ +327.7°C.
Temperature range	There are high gain and low gain, the default is high gain.
Colour bar	Enable or disable the colour bar display.

Step3 Click "Save" to complete the configuration.

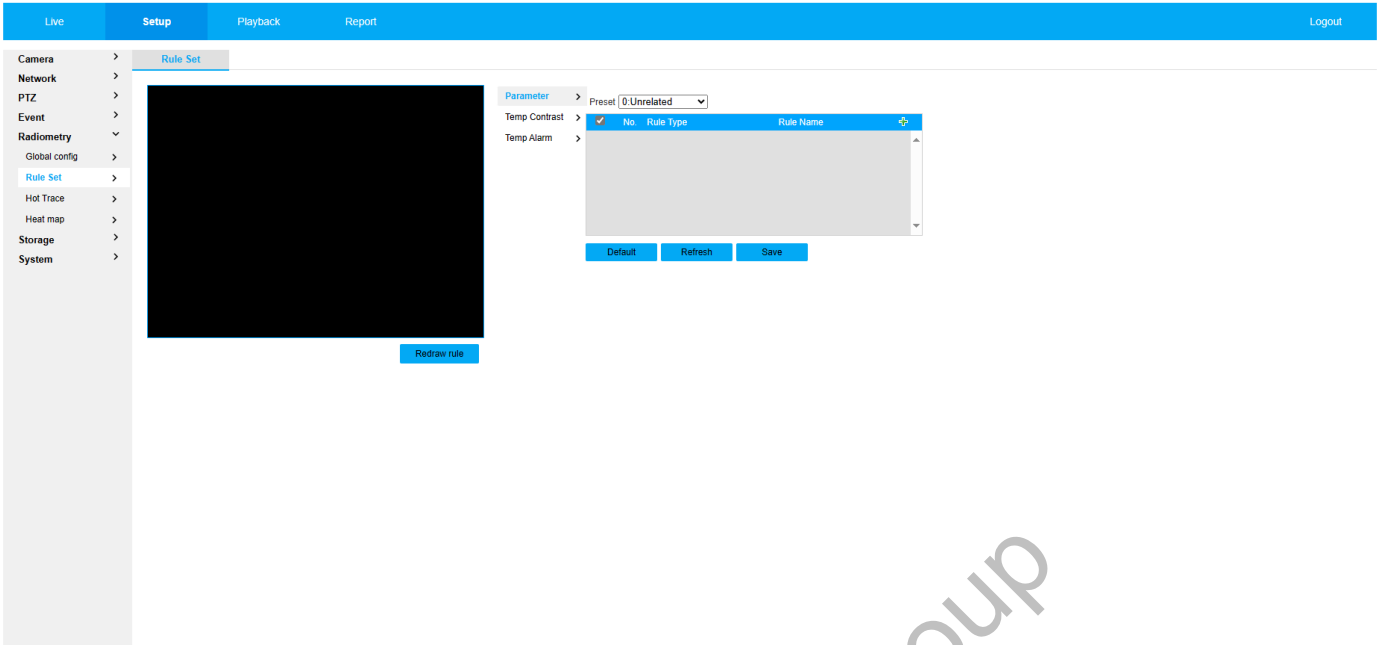
3.5.2 Rule Set

Temperature measurement rules and temperature comparison can be set, when the temperature meets the set alarm conditions linked to the alarm output.

3.5.2.1 Setting Temperature Measurement Rules

Step1 Select "Setup > Radiometry > Rule Set > Parameter"; the system displays the "Parameter" interface, as shown in Figure 3.5.2.1-1.

Figure 3.5.2.1-1 Parameter



Step2 Select preset point:

The default is preset point 0, i.e. there is no associated preset point, all scenes can use this configuration, if you want to add different temperature measurement rules in a scene, you can set preset points in advance, refer to "3.3.2.1 Preset Points" for the setting method.

Note: The preset point rule of temperature measurement rule is different from the preset point rule of fire warning, the preset point rule of temperature measurement rule includes the rule of preset point 0, while the preset point rule of fire warning can be set individually or synchronously with the setting of preset point 0.

Step3 Set the temperature measurement rules and parameters.

1. Click  to add rule. The system displays the Add Rule screen, as shown in Figure 3.5.2.1-2

Figure 3.5.2.1-2 Add Rule



2. Double-click Add Rule to select a measurement and modify the measurement name.

3. Draw the rule.

- When "Point" is selected for "Measurement Item", click Draw Rule at the target position on the monitor screen.
- When "Line", "Rectangle" or "Ellipse" is selected for "Measurement Item", press and hold the mouse. When "Line", "Rectangle" or "Ellipse" is selected for "Measurement Item", press and hold down the left mouse button to draw the rule on the monitor screen
- When "Polygon" is selected as "Measurement Item", press and hold down the left button of the mouse to draw the rule on the monitor screen, and then click the right button to end the drawing.

Note: If you select a rule and click "Redraw Rule", you can delete the rule and redraw it.

4. Select "Enable Local Configuration" and set the local configuration parameters, please refer to Table 3.5.2.1-1 for detailed parameters.

Table 3.5.2.1-1 Local Configuration

Parameter	Description
Target radiation coefficient	The radiation coefficient of the target to be photographed. The range of values is 0.5 to 1
Target radiation coefficient	Distance between the camera and the target. The range is 0 to 10000m.
Target Reflected Temperature	Temperature of the target. The range is -50°C ~ +327.7°C.

5. Select "Alarm Output" and set the alarm output parameters, please refer to Table 3.5.2.1-2 for detailed parameter description.

Table 3.5.2.1-2 Alarm Output

Parameter	Description
Alarm Result	The value of the temperature that triggers the alarm: <ul style="list-style-type: none"> ● When "Point" is selected for "Measurement item", the average temperature and temperature slope are included. ● When "Line", "Rectangle", "Polygon", "Rectangle" or "Line" is selected for "Measurement Item". When "Line", "Rectangle", "Polygon", "Rectangle" or "Ellipse" is selected for "Measurement Item", the maximum temperature, minimum temperature, average temperature, temperature slope and temperature difference are included. <p>Note: Temperature difference refers to the temperature difference between the highest and lowest temperatures in the current temperature measurement rule, and temperature slope refers to the temperature change rate in the current temperature measurement rule.</p>
Alarm Condition	Set alarm conditions, including below, match and above.
Alarm Threshold Temperature	When "Alarm Result" is "Maximum Temperature", "Minimum Temperature", "Average Temperature" or "Temperature Difference", you can set this parameter; the temperature that triggers the alarm. The value range is -40°C ~ +550°C.
Temperature Slope	When "Alarm Result" is set to "Temperature Slope", this parameter can be set; the number of degrees of temperature change per minute. The range of values is from -600°C per minute to 600°C per minute.
Temperature Error	The error of the alarm threshold temperature, as long as the alarm threshold temperature or temperature slope temperature change in the error range are in accordance with the alarm threshold temperature or temperature slope to meet the processing. The value range is -10°C ~ +10°C.
Temperature Duration	Temperature or duration of temperature change. The value range is 0s to 1000s.

Step4 Click "Save" to complete the configuration.

After the setup is complete, you can see the temperature of the temperature measurement rule on the left preview screen.

3.5.2.2 Temp Contrast

Compares the temperatures of selected points, lines or areas and displays the comparison results on the preview screen.

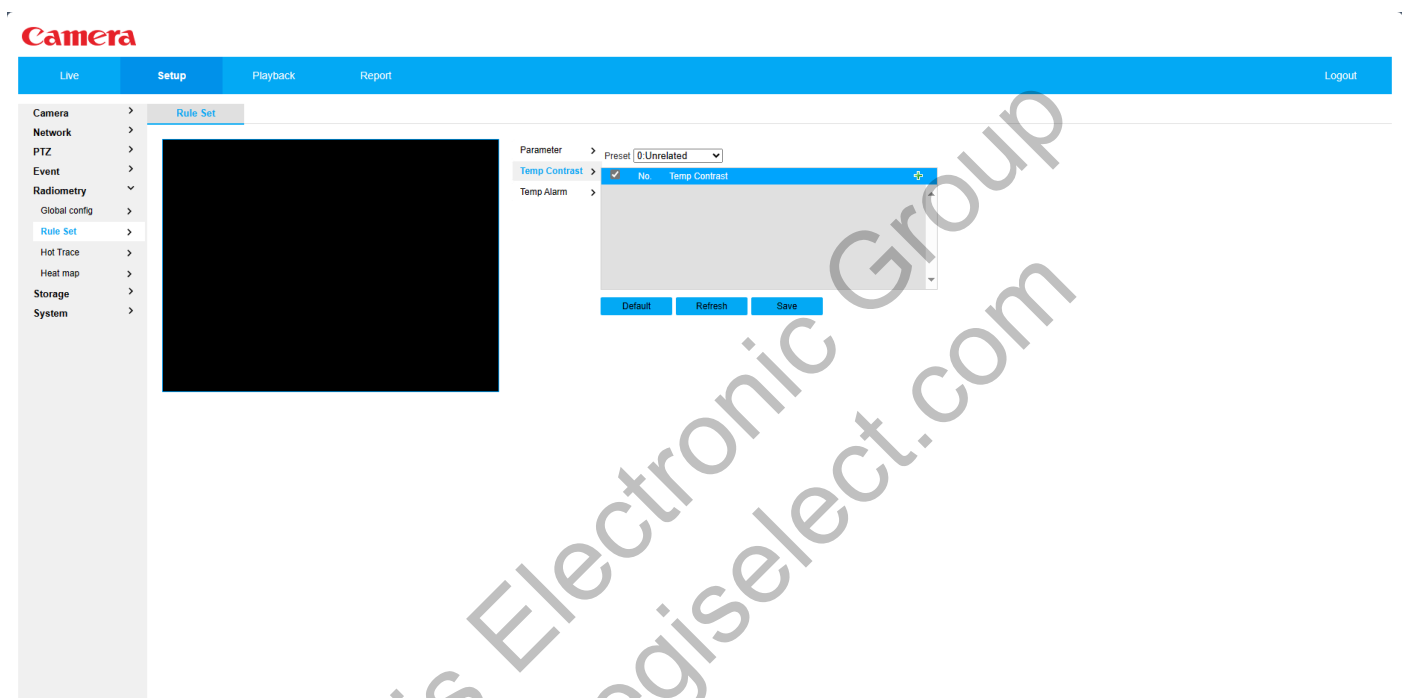
Prerequisite

At least two temperature measurement rules have been set, please refer to "[3.5.2.1 Setting Temperature Measurement Rules](#)" for details.

Step

Step1 Select "Setup > Radiometry > Rule Set > Temp Contrast". The system displays the "T Temp Contrast" interface, as shown in Figure 3.5.2.2-1.

Figure 3.5.2.2-1 Temp Contrast



Step2 Set up a temperature comparison rule.


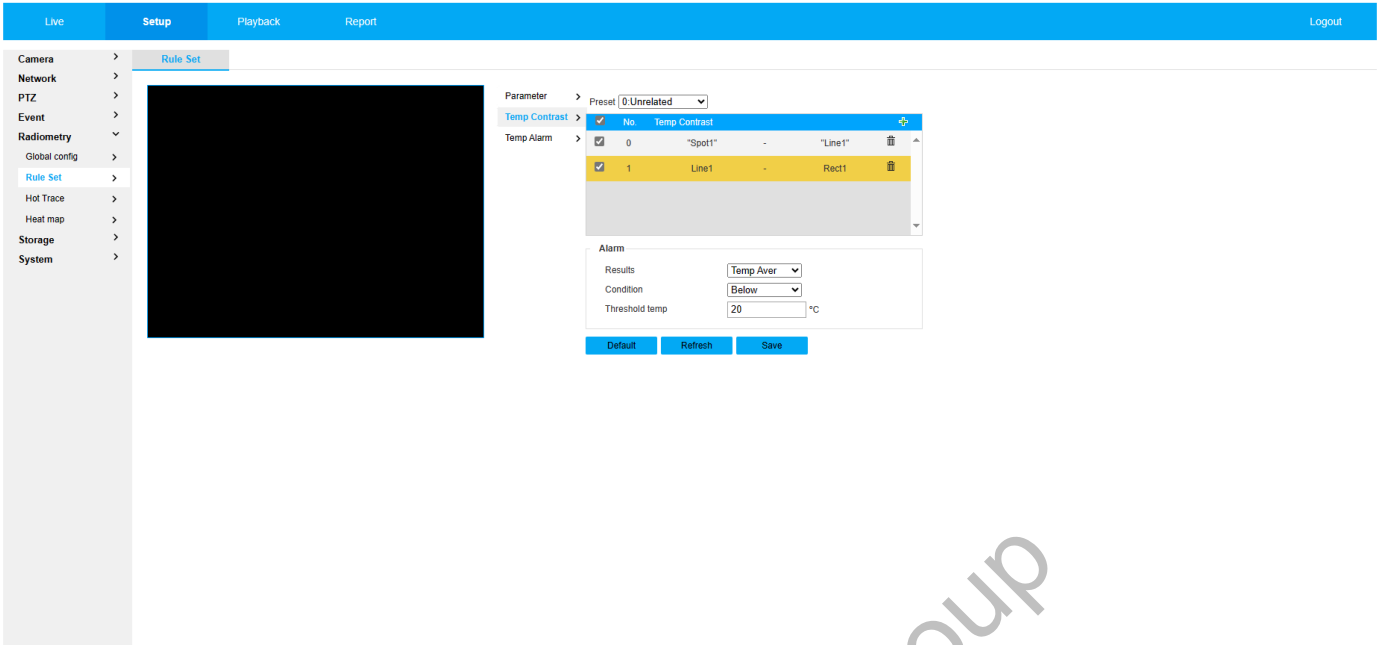
1. Click  to Add Temperature Comparison Rule. The system displays the Add Temperature Comparison Rule screen, as shown in Figure 3.5.2.2-2.

Figure 3.5.2.2-2 Temp Contrast



2. Double click the new temperature comparison rule and select the comparison object.
3. Set the alarm parameters, please refer to Table 3.5.2.2-1 for details.

Table 3.5.2.2-2 Temp Contrast

Parameter	Description
Alarm Result	The way to take the value of the comparison temperature for triggering an alarm. Average temperature: Compare the average temperature of two rules. Maximum temperature: Compare the maximum temperature of the two rules. Minimum temperature: Compare the minimum temperature of two rules. Note: When one of the comparison objects is a "point", the highest and lowest temperatures are the average temperature.
Alarm Condition	Conditions for triggering an alarm, including below, match, and above.
Alarm Threshold Temperature	The temperature at which the alarm is triggered. The range of values is 0°C to 550°C.

Step3 Click "Save" to complete the configuration.

When the settings are complete, you will see the temperature comparison results of the selected objects on the left preview screen.

3.5.2.3 Temp Alarm

When the temperature meets the alarm conditions of the temperature measurement rules, the system generates an alarm and links the set actions.

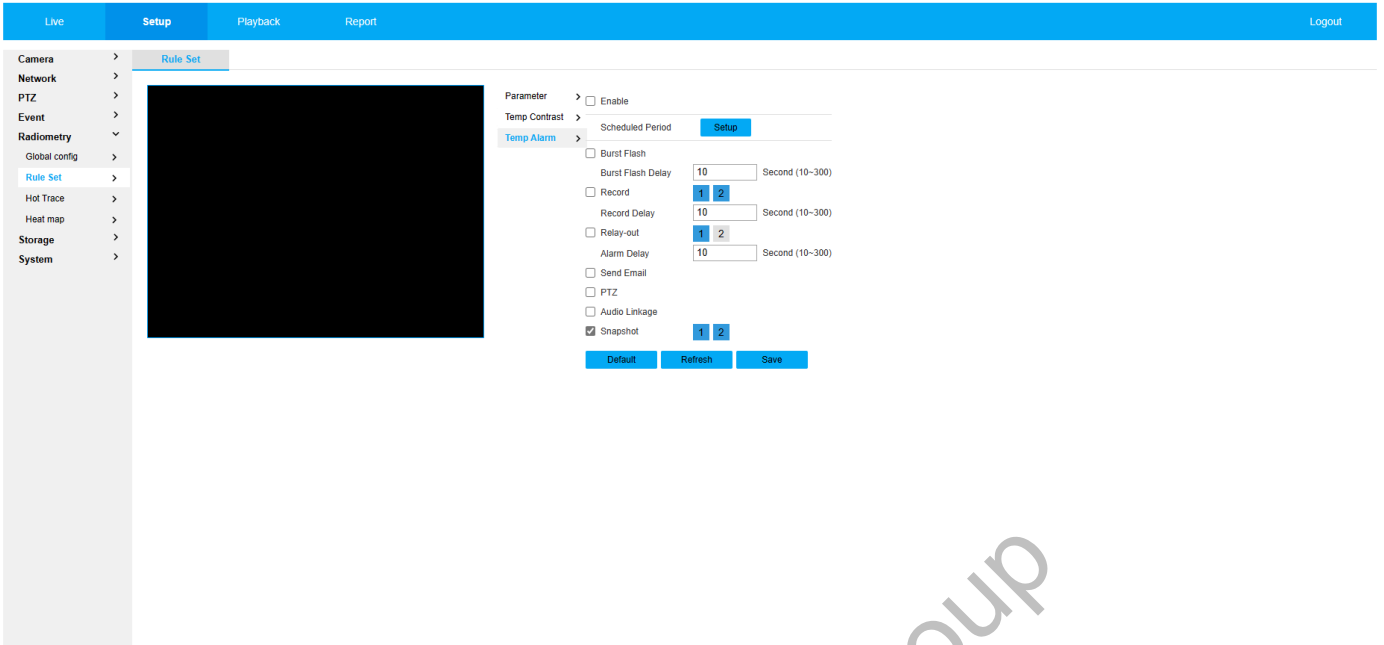
Prerequisite

The setting of temperature measurement rules has been completed, please refer to "3.5.2.1 Setting Temperature Measurement Rules" for details.

Step

Step1 Select "Setup > Radiometry > Rule Set > Temp Alarm". The system displays the "Temp Alarm" interface, as shown in Figure 3.5.2.3-1.

Figure 3.5.2.3-1 Temp Alarm



Step2 Select " Enable" to turn on the temperature alarm.

Step3 Set the temperature alarm parameters, please refer to Table 3.5.2.3-1 for detailed parameter description.

Table 3.5.2.3-1 Temp Alarm

Parameter	Description
Enable	Selection in order to have a temperature alarm.

Note: Please refer to “3.4.1.1 Motion Detection” for description of other parameters.

Step4 Click “Save” to complete the configuration.

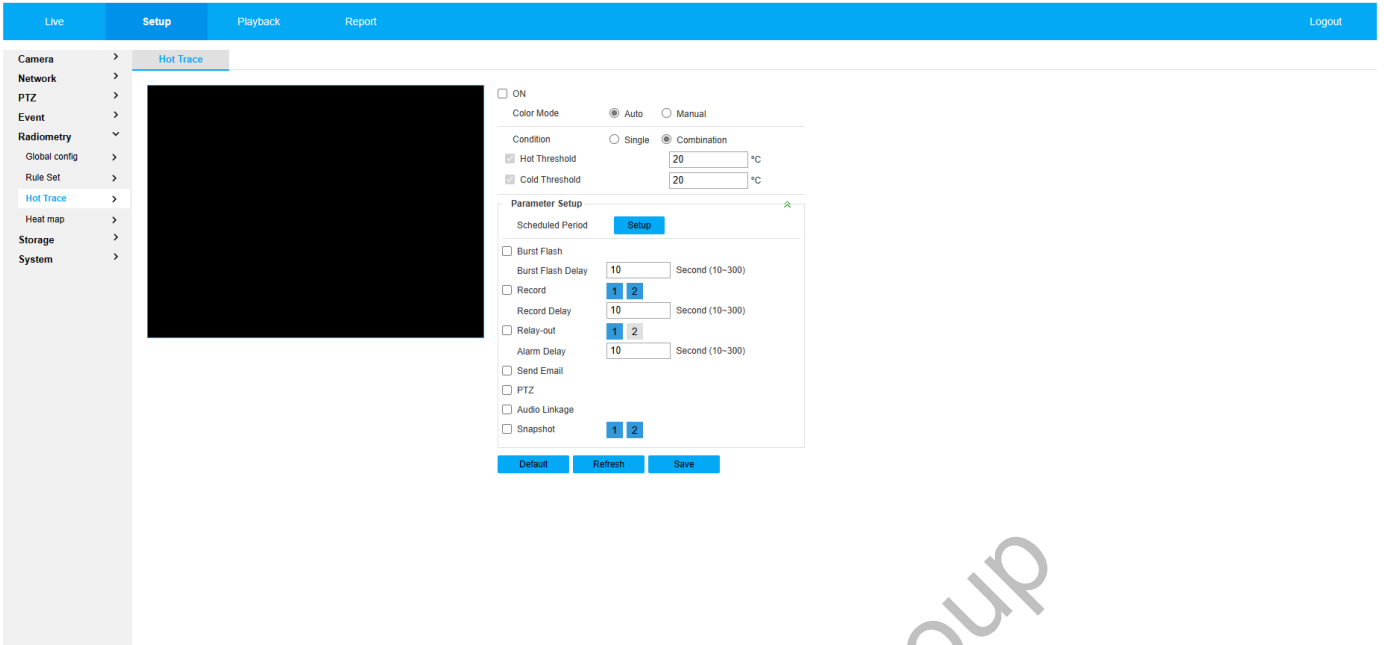
3.5.3 Hot Trace

When the Hot Trace is turned on, the maximum and minimum temperatures in the screen are displayed in different colours in the monitoring screen (the temperature of hot and cold spots is not displayed in the observation-type equipment, only the temperature measurement-type equipment supports this function).

Step1 Select “Setup”> “Radiometry” >” Hot Trace”.

The system displays the "Hot Trace" interface, as shown in Figure 3.5.3-1.

Figure 3.5.3-1 Hot Trace



Step2 Select the “Save” to enable “Hot Trace”.

Step3 Setting Hot Trace parameters, please refer to Table 3.5.3-1 for detailed parameter descriptions.

Table 3.5.3-1 Hot Trace Parameter Description

Parameter	Description
Hotspot colour selection	<p>Cold and hot spots display colours.</p> <p>Auto: Select high temperature point and low temperature point colours according to the current screen.</p> <p>Manual: Customise high temperature colour and low temperature colour.</p>
Alarm condition	<p>Conditions for generating alarms.</p> <p>Single:</p> <p>Select "Maximum temperature higher than", when the maximum temperature is higher than the user set temperature, the system will generate an alarm.</p> <p>Select "Minimum temperature is lower than", when the minimum temperature is lower than the user set temperature, the system will generate an alarm.</p> <p>When both of them are selected at the same time, it means that the system will generate an alarm as long as one of them is satisfied.</p> <p>Combination:</p> <p>The system will generate an alarm only when the highest temperature is higher than the user set temperature and the lowest temperature is lower than the user set temperature.</p>

Note: Please refer to “3.4.1.1 Motion Detection” for description of other parameters.

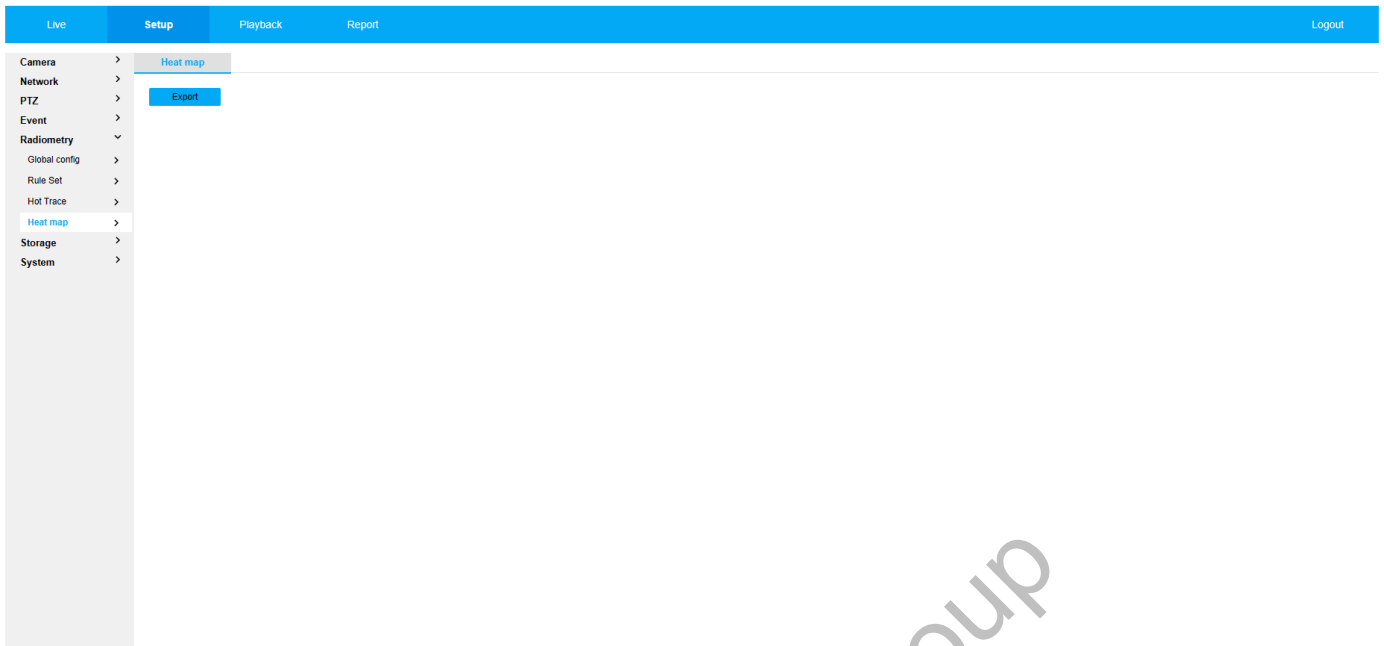
Step4 Click “Save” to complete the configuration.

3.5.4 Heat Map

Grab the temperature value of each pixel point above the thermal image.

Step1 Select “Setup”> “Radiometry” >”Heat Map” interface, as shown in Figure 3.5.4-1.

Figure 3.5.4-1 Heat Map



Step2 Click Export Heat Map to export the heat map file.

3.6 Storage Management

3.6.1 Schedule

Before schedule setup, user must set record mode in record control as auto status.

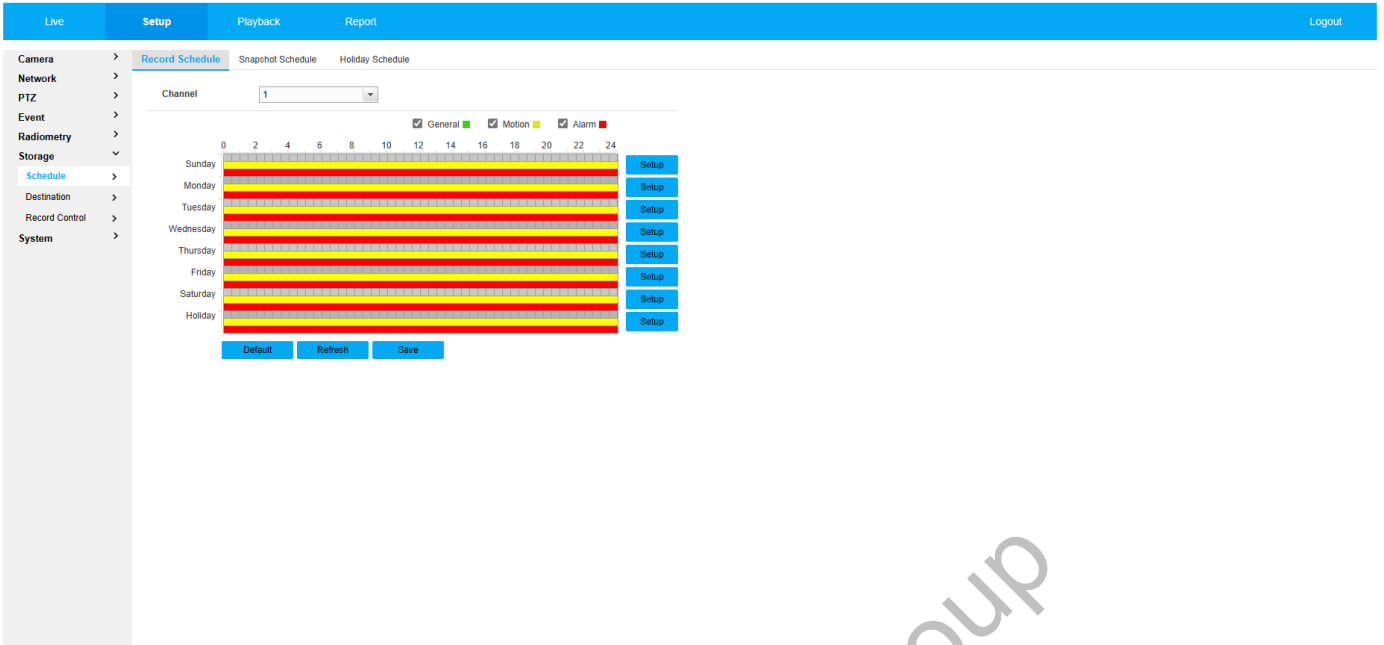
Note: If record mode in record control is off, then device will not record or snapshot according to the schedule.

3.6.1.1 Record Schedule

Step1 Select "Setup > Storage > Schedule > Record Schedule".

The system will display the interface of "Record Schedule", which is shown in Figure 3.6.1.1-1.

Figure 3.6.1.1-1 Record Schedule

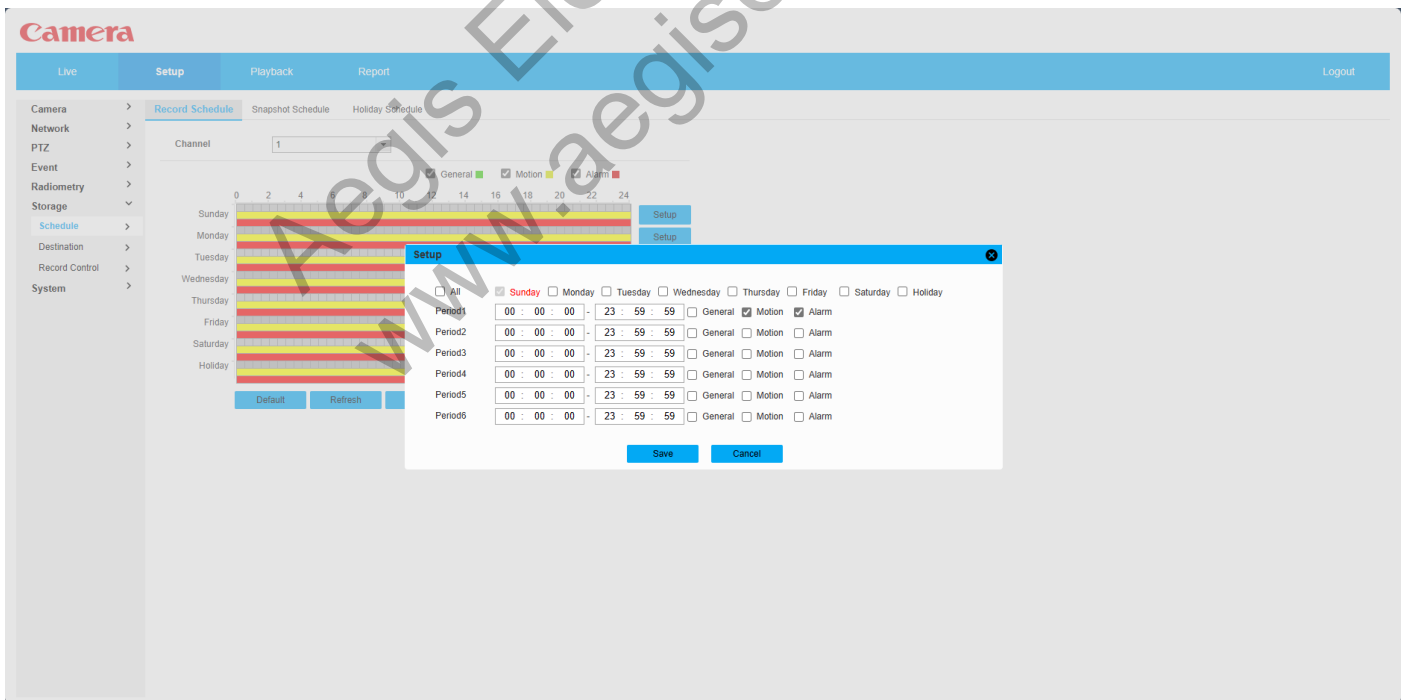


Step2 From Monday to Sunday select record time, click “Setup” on the right. See Figure 3.6.1.1-2 for more details.

- Set period according to actual needs. There are six periods available each day.
- By checking or cancel, user 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.

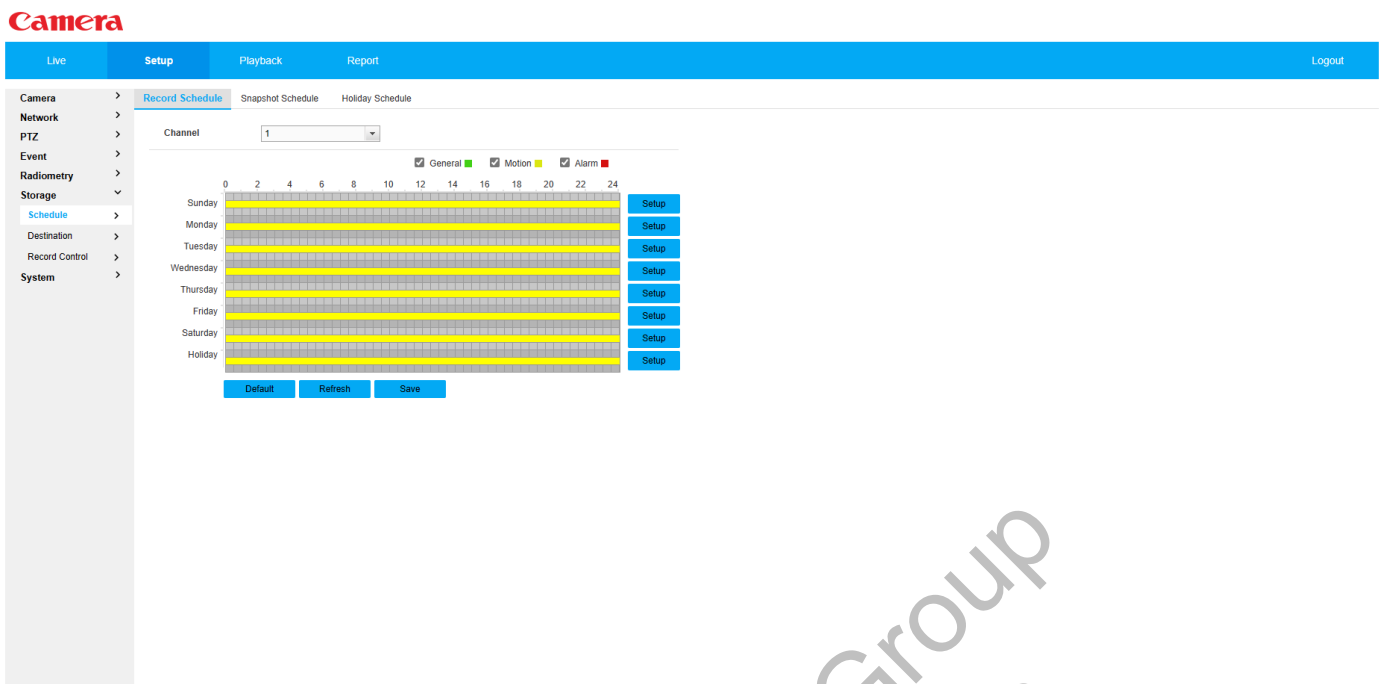
Figure 3.6.1.1-2 Record Schedule Time Setup



Step3 Click“Save“, return to record schedule interface. See Figure 3.6.1.1-3.

- :Green colour stands for the general record.
- :Yellow colour stands for the motion detect record.
- :Red colour stands for the alarm record.

Figure 3.6.1.1-3 Record Schedule Finish



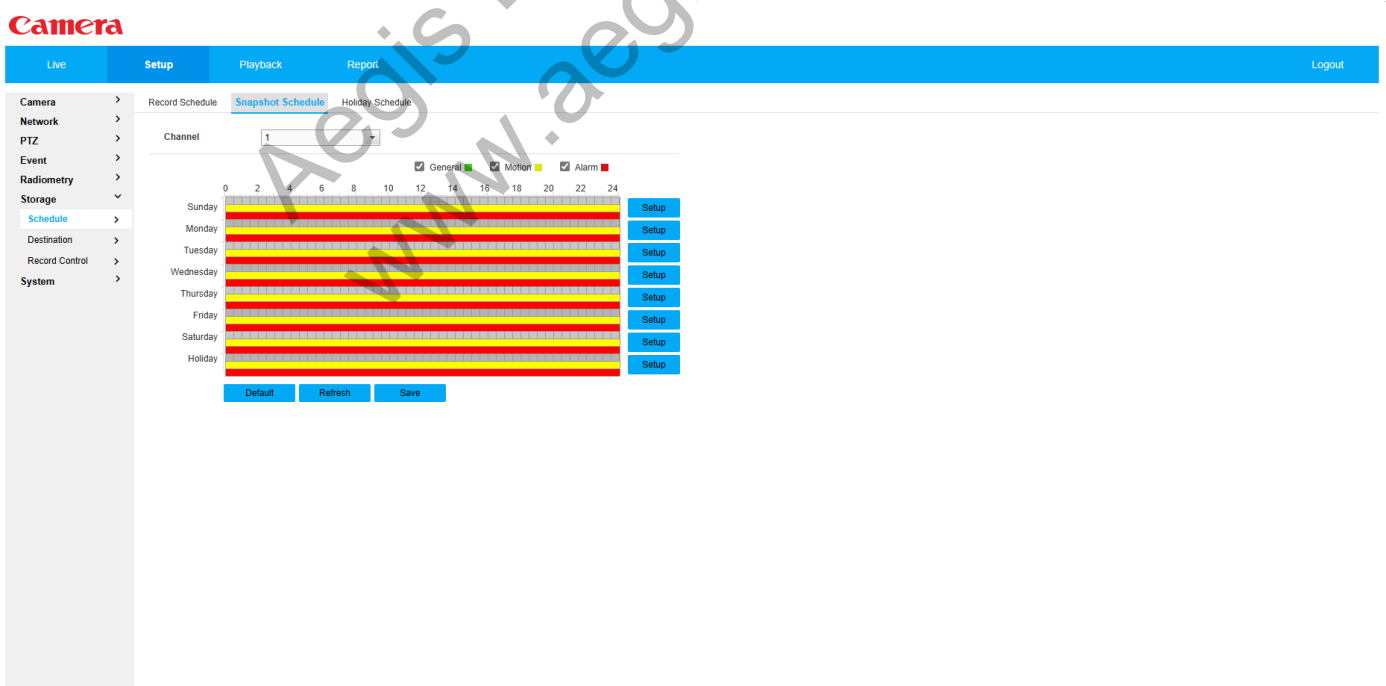
Step4 Click “Save” on the “Record Schedule” interface, the system prompts “Save Succeeded!”, and the record schedule is completed.

3.6.1.2 Snapshot Schedule

Step1 Select “Setup > Storage > Schedule > Snapshot Schedule”.

The system will display the interface of “Snapshot Schedule”, which is shown in Figure 3.6.1.2-1.

Figure 3.6.1.2-1 Snapshot Schedule



Step2 Set the snapshot period according to step 2 and 3 of “3.6.1.1 Record Schedule”.

Step3 Click “Save” and the system will prompt “Save Succeeded!”, then snapshot schedule is completed.

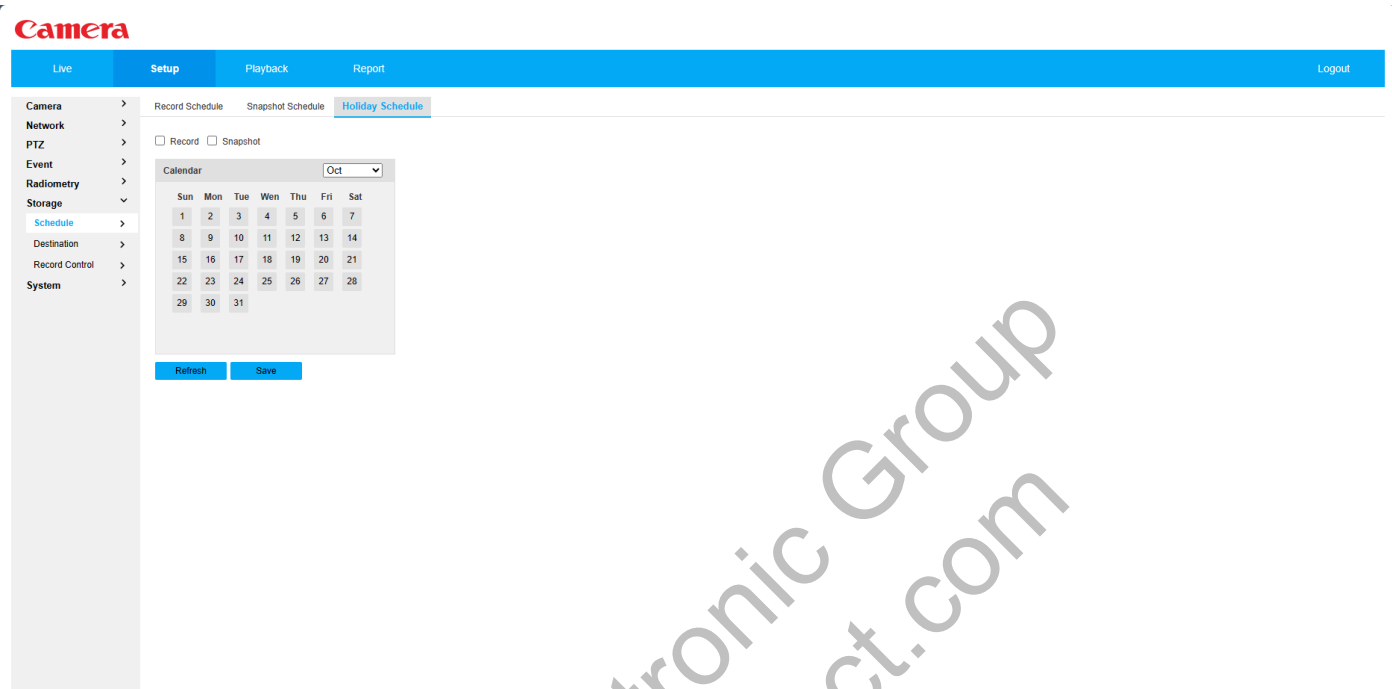
3.6.1.3 Holiday Schedule

Holiday schedule can set specific date as holiday.

Step1 Select “Setup > Storage > Schedule > Holiday Schedule”.

The system will display the interface of “Holiday Schedule”, which is shown in Figure 3.6.1.3-1.

Figure 3.6.1.3-1 Holiday Schedule



Step2 Select date to set as holiday. The selected date will be highlighted in yellow.

Step3 Check “Record/Snapshot”, click “Save”. System prompts it is successfully saved.

Step4 Check “Record Schedule/Snapshot Schedule” interface, click setup next to “Holiday”, and refer to setup of “Monday to Sunday”.

Step5 Complete setup of “Holiday”, then it records/snapshots according to date set in holiday schedule.

3.6.2 Destination

3.6.2.1 Path

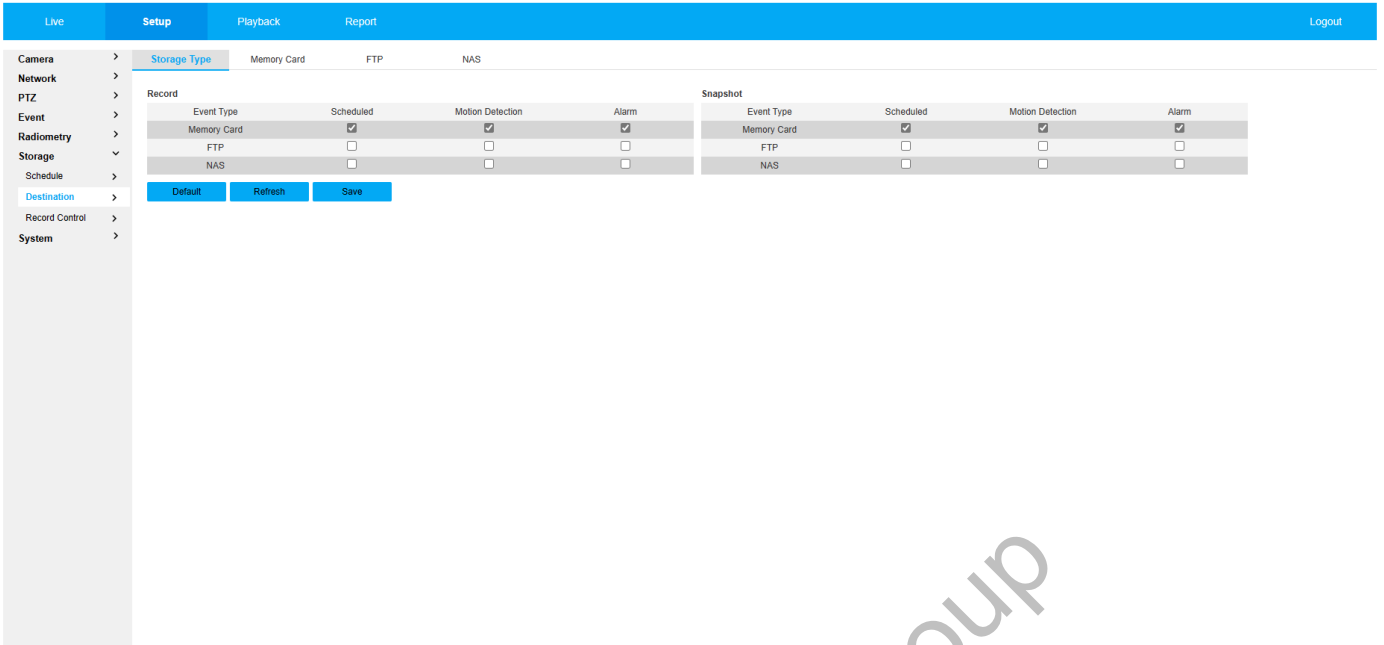
Path can configure storage path of device record and snapshot. There are three options: Local SD Card, FTP and NAS. User can only select one mode. System can save according to the event types. It is corresponding to the three modes (general/motion/alarm) in the schedule interface.

Please check the box to enable the save functions.

Step1 Select “Setup > Storage > Destination > Path”.

The system will display the interface of “Path”, which is shown in Figure 3.6.2.1-1.

Figure 3.6.2.1-1 Path



Step2 Configure info of each parameter according to the actual needs; please refer to Table 3.6.2.1-1for details.

Table 3.6.2.1-1 Path Parameter Description

Parameter	Description
Event Type	It includes: scheduled, motion detect and alarm.
Local	It is saved in the SD card.
FTP	It is saved in the FTP server.
NAS	It is saved in NAS server.

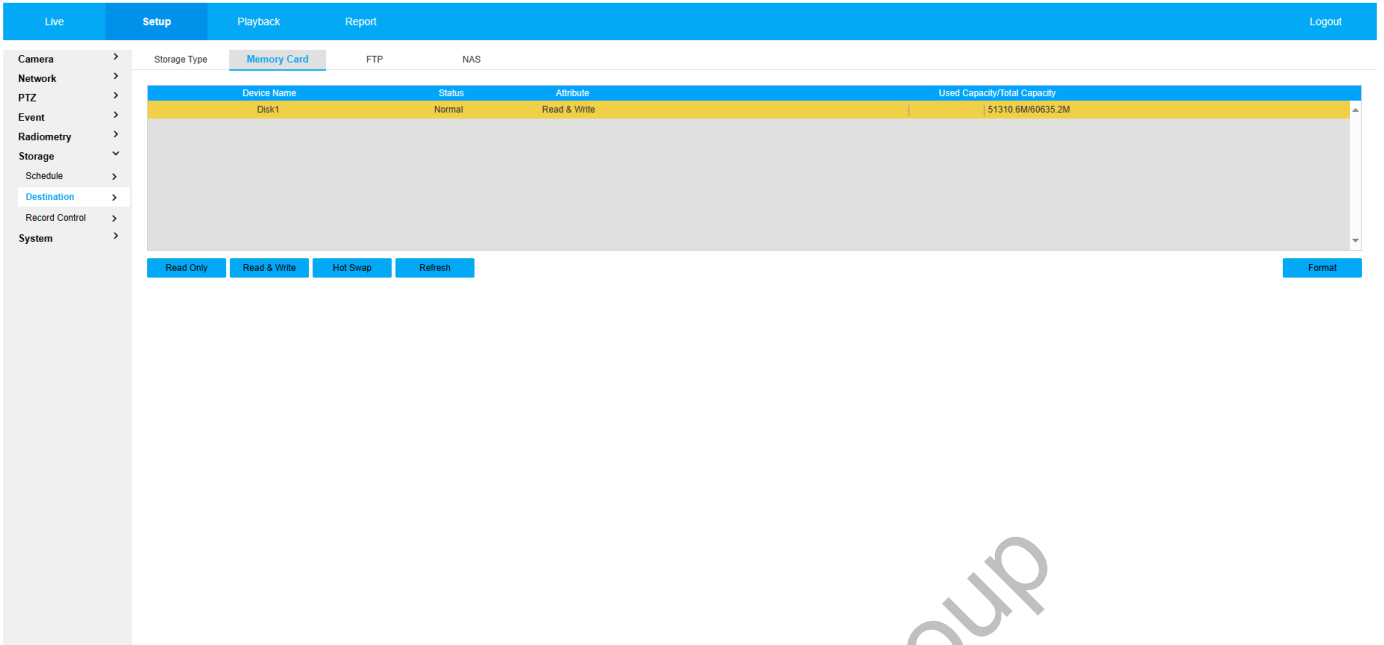
Step3 Click “Save” to complete the configuration.

3.6.2.2 Local

This is used to display kinds of information of local SD card in the local storage list. User can also realize several operations such as read-only, read & write, hot swap and format.

Select “Setup > Storage > Destination > Local”, the system will display the interface of “Local” shown in Figure3.6.2.2-1.

Figure 3.6.2.2-1 Local



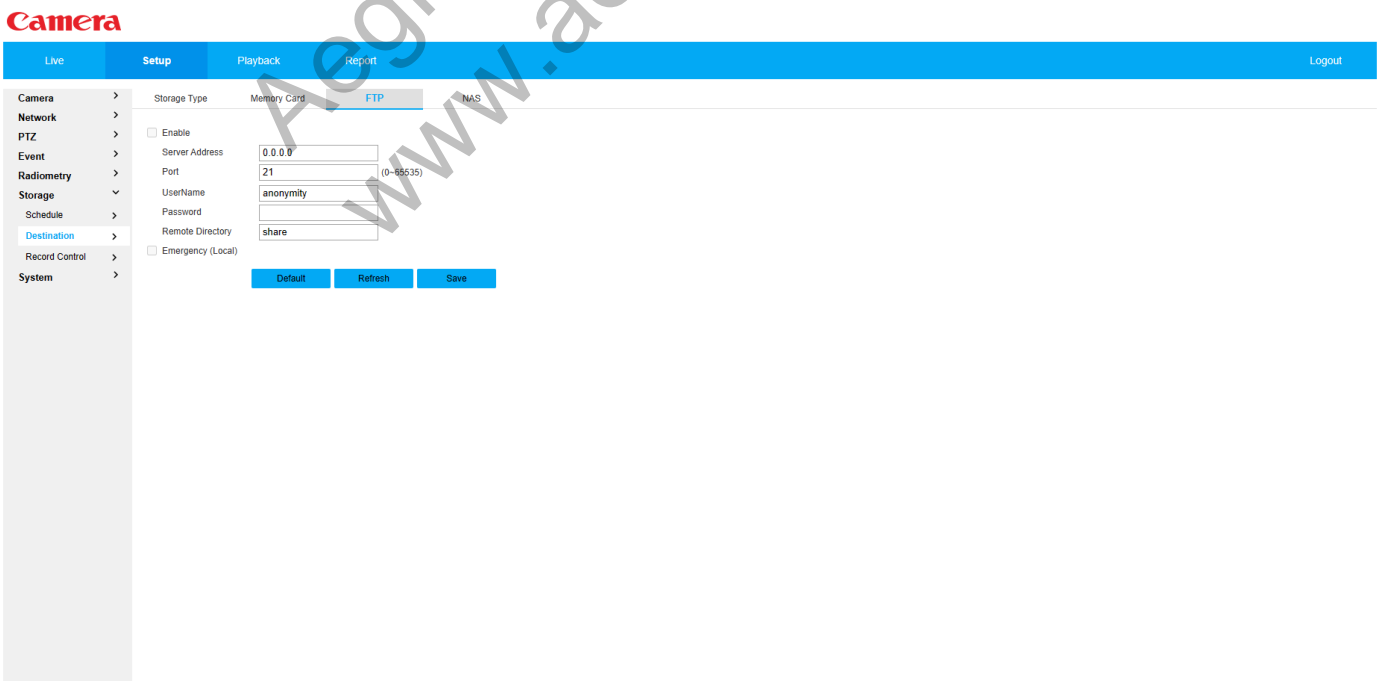
- Click “Read Only” to set the SD card as read only.
- Click “Read & Write” to set the SD card as read & write.
- Click “Hot Swap” to realize hot swap upon the SD card.
- Click “Refresh” to realize formatting upon the SD card.

3.6.2.3 FTP

User need to check the box to enable the FTP function. When network disconnect occurred or there is malfunction, emergency storage can save the record/snapshot to the local SD card.

Step1 Select “Setup > Storage > Destination > FTP”, which is shown in Figure 3.6.2.3-1.

Figure 3.6.2.3-1 FTP



Step2 Configure info of each parameter according to the actual needs; please refer to Table3.6.2.3-1 for details.

Table 3.6.2.3-1FTP Parameter Description

Parameter	Description
Enable FTP	Click it to enable FTP function
Server Address	FTP server address
Port	FTP server port
User name	User name used to log in FTP server.
Password	Password used to log in FTP server.
Remote Directory	Store it to the directory of FTP server.
Emergency (Local)	Click it and it will store to local SD card when FTP storage abnormality occurs.

Step3 Click “Save” to complete the configuration.

3.6.2.4 NAS

When it selects NAS storage mode, NAS function can be enabled. User can store file to NAS server when selecting NAS storage.

Step1 Select “Setup > Storage > Destination > NAS”, the system will display the interface of “NAS” shown in Figure 3.6.2.4-1.

Figure 3.6.2.4-1 NAS



Step2 Configure info of each parameter according to the actual needs; please refer to Table 3.6.2.4-1 for more details.

Table3.6.2.4-1 NAS Parameter Description

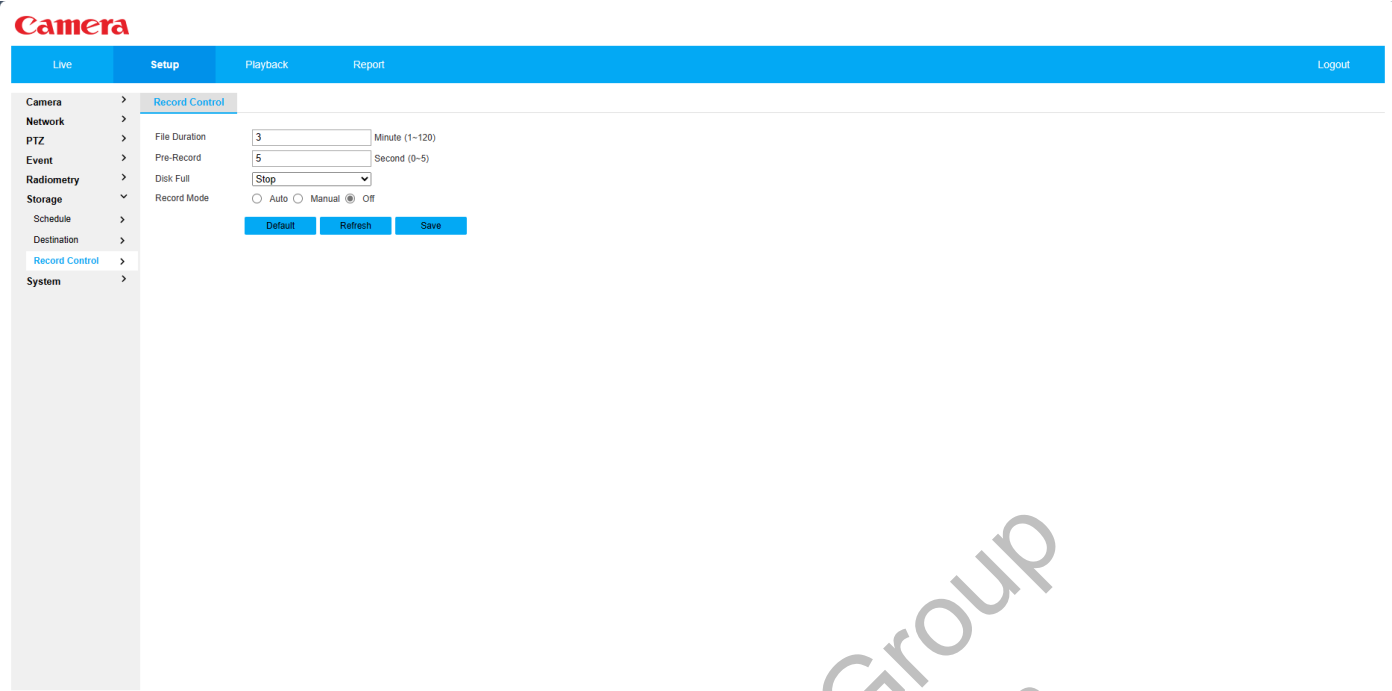
Parameter	Description
Enable NAS	Click it to enable NAS function.
Server Address	NAS server address.
Remote Directory	Store it to the directory of the NAS server.

Step3 Click “Save” to complete the configuration.

3.6.3 Record Control

Step1 Select “Setup > Storage > Record Control”, the system will display the interface of “Record Control” shown in Figure 3.6.3-1.

Figure 3.6.3-1 Record Control



Step2 Configure info of each parameter according to the actual needs; please refer to Table 3.6.3-1for details.

Table 3.6.3-1 Record Control Parameter Description

Parameter	Description
Pack Duration	Set the pack duration of each record file; it is 3 mins by default.
Pre-event Record	Set pre-event record time. For example, when it inputs 5, then the system will read the record video of first 5 seconds of the internal storage and record it into the file. Note: Configure pre-event record time, when alarm record or motion detection record occurs, if there is no record, system will record the preceding n seconds video data into the record file.
Disk Full	There are two options: stop recording or overwrite the previous files when HDD is full. <ul style="list-style-type: none"> •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/close. It starts recording when selecting manual mode, it records within the range of schedule when selecting auto mode.
Record Stream	There are two options: Main Stream and Sub Stream.

Step3 Click “Save” to complete the configuration.

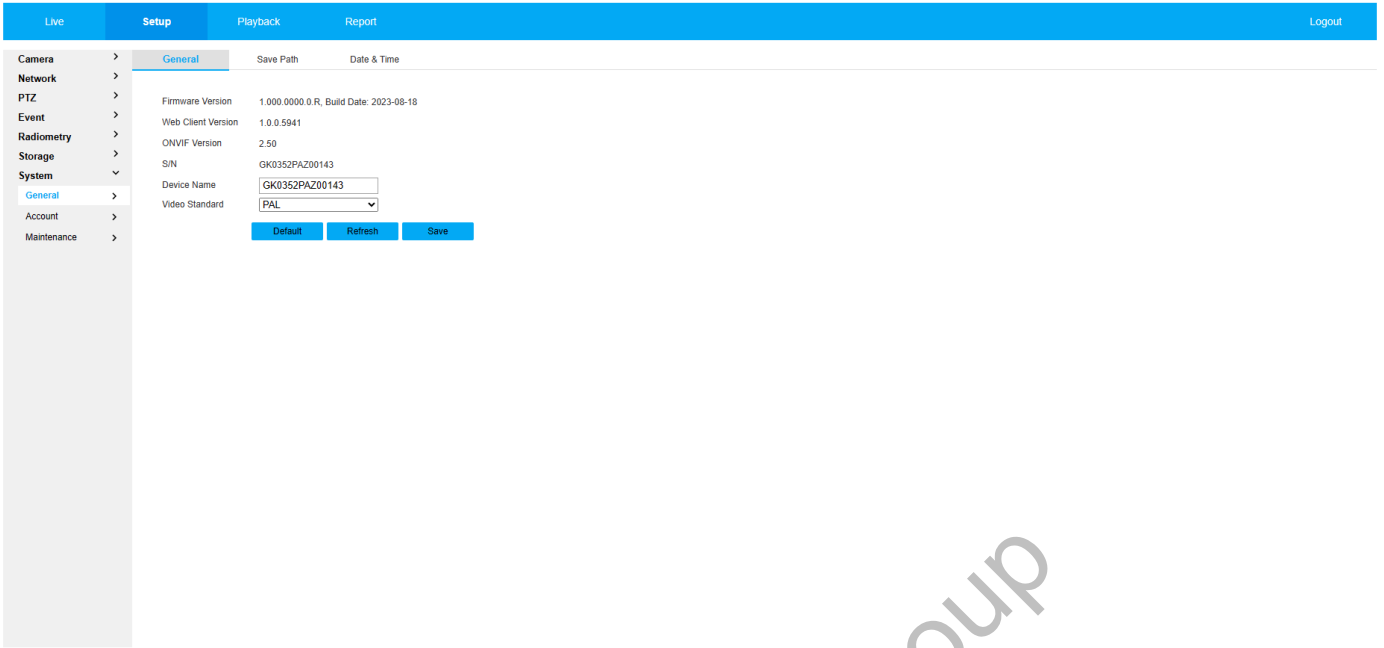
3.7 System

3.7.1 General

3.7.1.1 General

Step1 Select “Setup > System > General > General”, the system will display the interface of “General” in Figure 3.7.1-1.

Figure 3.7.1-1 Local



Step2 Configure info of each parameter according to the actual needs; please refer to Table 3.7.1-1 for more details.

Table 3.7.1-1 General Parameter Description

Parameter	Description
Device Name	To set device name. The default is the same to device serial number.
Video Standard	To display the video format of device, PAL and NTSC, default is PAL.

Step3 Click “Save” to complete the configuration.

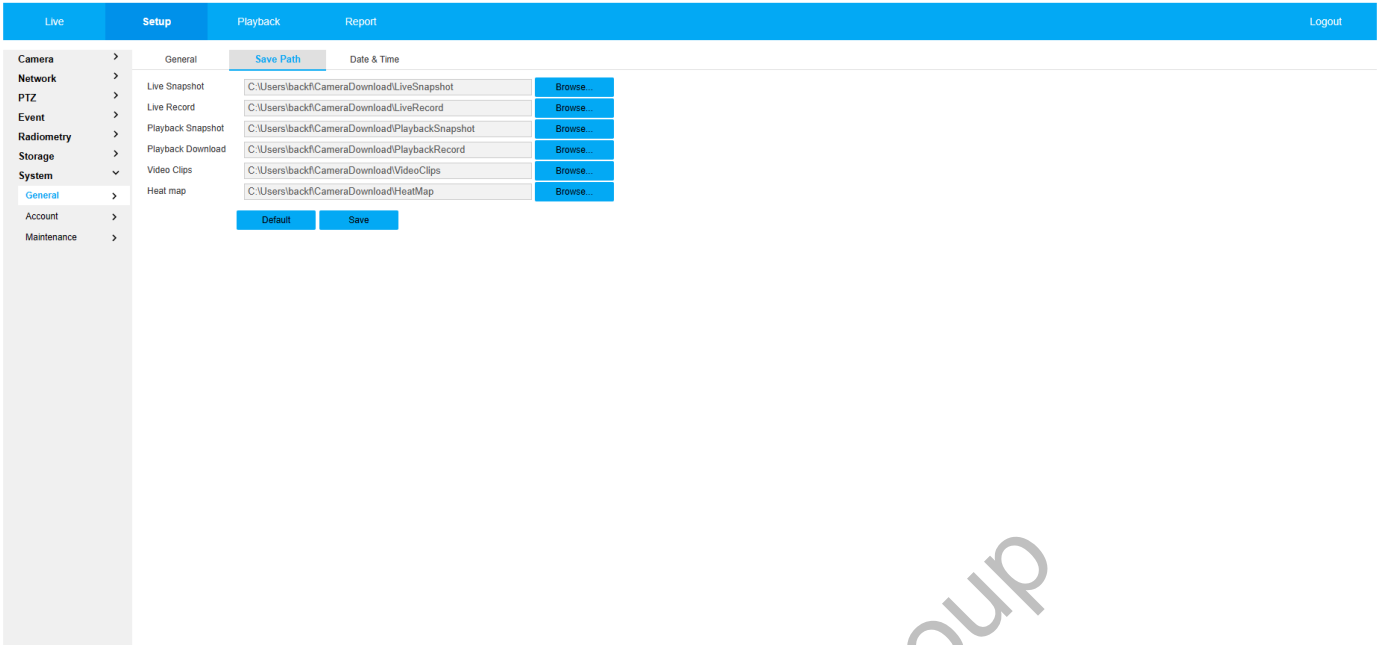
3.7.1.2 Save Path

Under Storage Path, you can set the storage path for Monitor Capture, Monitor Recording, Playback Capture, Video Download, Playback Crop and Heat Map respectively, and the configuration steps are as follows.

Note: No plug-in cameras do not have this option.

Step1 Select “Setup > System > General > Save Path”. The system will display the interface of “Storage Path”, which is shown in Figure 3.7.1.2-1.

Figure 3.7.1.2-1 Save Path



Step2 Set the corresponding storage path.

- The default live snapshot path: *C:\Users\Administrator\CameraDownload\LiveSnapshot*
- The default live record path: *C:\Users\Administrator\CameraDownload\LiveRecord*
- The default playback snapshot path: *C:\Users\Administrator\CameraDownload\PlaybackSnapshot*
- The default playback download path: *C:\Users\Administrator\CameraDownload\PlaybackRecord*
- The default playback clip path: *C:\Users\Administrator\CameraDownload\VideoClips*

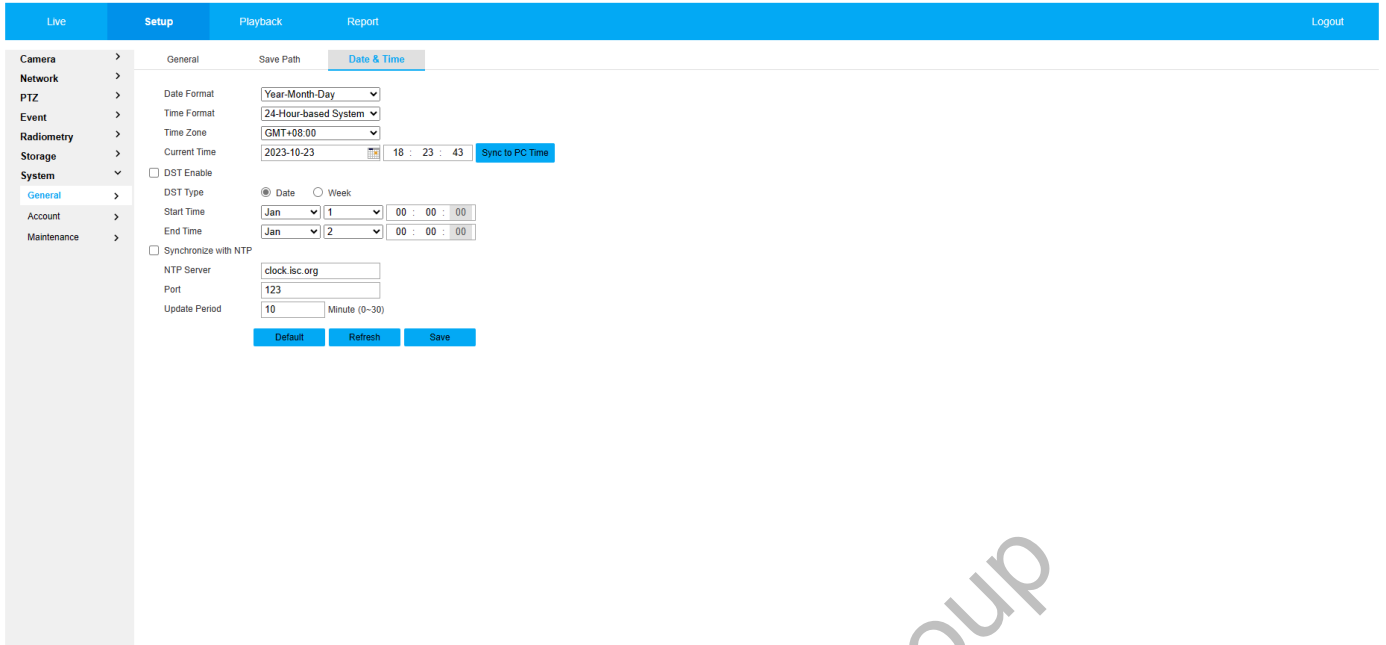
Note: "Administrator" is locally logged in PC account.

Step3 Click "Save" to complete the configuration.

3.7.1.3 Date & Time

Step1 Select "Setup > System > General > Date & Time", the system will display the interface of "Date & Time" shown in Figure 3.7.1.3-1.

Figure 3.7.1.3-1 Date & Time



Step2 Configure info of each parameter according to the actual needs; please refer to Table 3.7.1.3-1 for details.

Table 3.7.1.3-1 Date & Time Parameter Description

Parameter	Description
Date Format	Here user can select date format from the dropdown list.
Time Format	Here user can select the corresponding time format which needs to be displayed.
Time Zone	The time zone of the device.
System Time	To set system time. It becomes valid after user set.
DST	Here user can set begin time and end time of DST. User can set according to the date format or according to the week format.
NTP	User can check the box to enable network time sync function
NTP server	User can set the address of time server.
Port	To set the port of time server.
Update Period	To set the sync interval between the device and the time server.

Step3 Click "Save" to complete the configuration.

3.7.2 Account

3.7.2.1 Account

The user can only realize the account management operation if he has the account management authority.

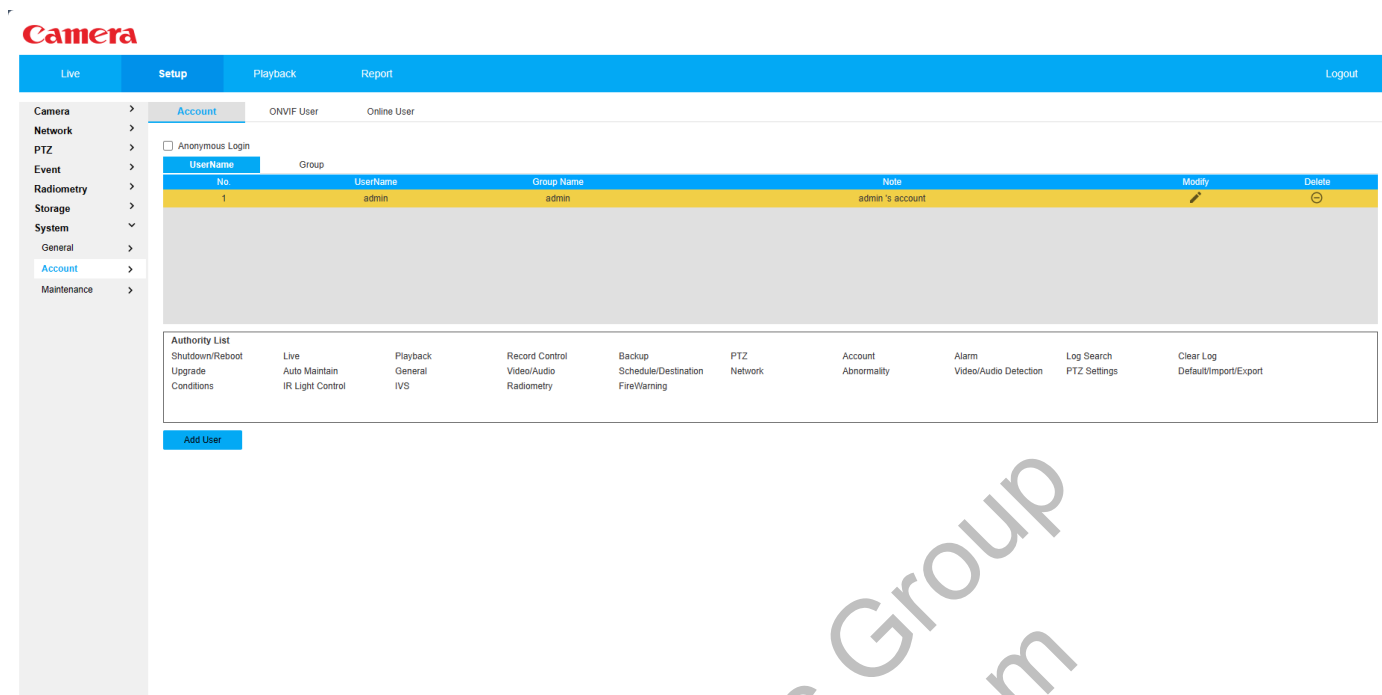
- For the character in the following user name or the user group name, system max supports 15-digits. The valid string includes: character, number, and underline.
- Password can be 0~32 characters in number and letter only. The highest authority user can modify passwords for other users.
- User management adopts group/user modes. The username 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.
- There is one default user admin during initialization. Admin belongs to high right user by default when it is out of factory.

3.7.2.1.1 User Name

User can enable anonymity login, add/remove user and modify user name and etc. in "Setup > System >

Account > Account > User name. See Figure 3.7.2.1.1-1.

Figure 3.7.2.1.1-1 User Name



Anonymous login

Enable “Anonymous Login”, and input IP. No username or password is required, user can log in by anonymity (with limited rights). User can click logout to use other users to log in the device.

Add user

Add users to the group and set user permissions.

Note: The highest right user admin can't be deleted by default.

Step1 Click “Add User” and the system will pop out the interface of “Add User”, which is shown in Figure 3.7.2.1.1-2.

Figure 3.7.2.1.1-2 Add User

Add User

User Name **Must**

Password

The password can't be null!

Confirm Password

Group

Remark

Authority List All


- Live
- Playback
- Record Control
- Backup

Step2 Enter user name and password, select group and check authority list.

- Once the group is selected, then the user right can only be subset of the group which can't surpass the right of the group.
- Users are recommended to make it lower than senior users when defining general users in order to make user management convenient.

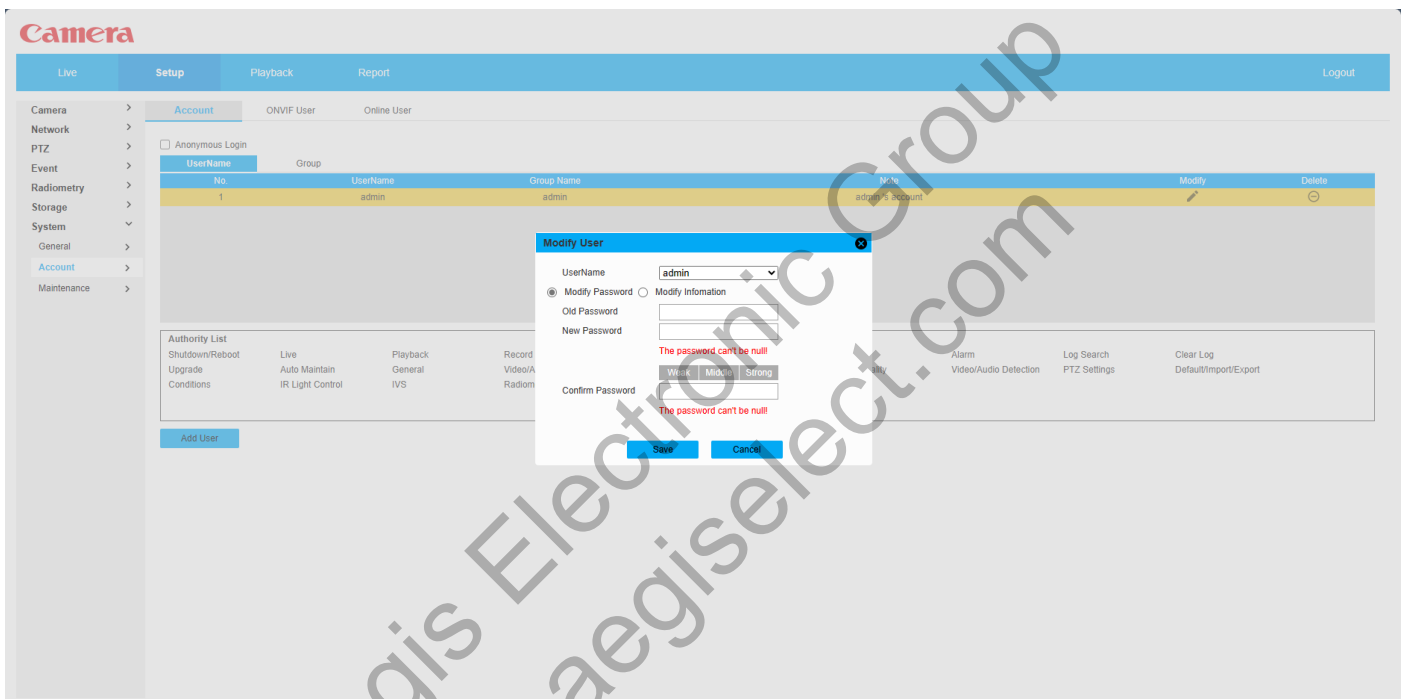
Step3 Click "Save" to complete the configuration.

Modify User

Step1 Click the  icon which is corresponding to the users which needs to be modified.

The system will pop out the interface of "Modify User" which is shown in Figure 3.7.2.1.1-3.

Figure 3.7.2.1.1-3 Modify User



Step2 Modify the user information according to actual needs.

Step3 Click "Save" to complete the configuration.

Modify password

Step1 Select the check box of "Modify Password".

Step2 Input old password, input new password and confirm it.

Step3 Click "Save" to complete the configuration.

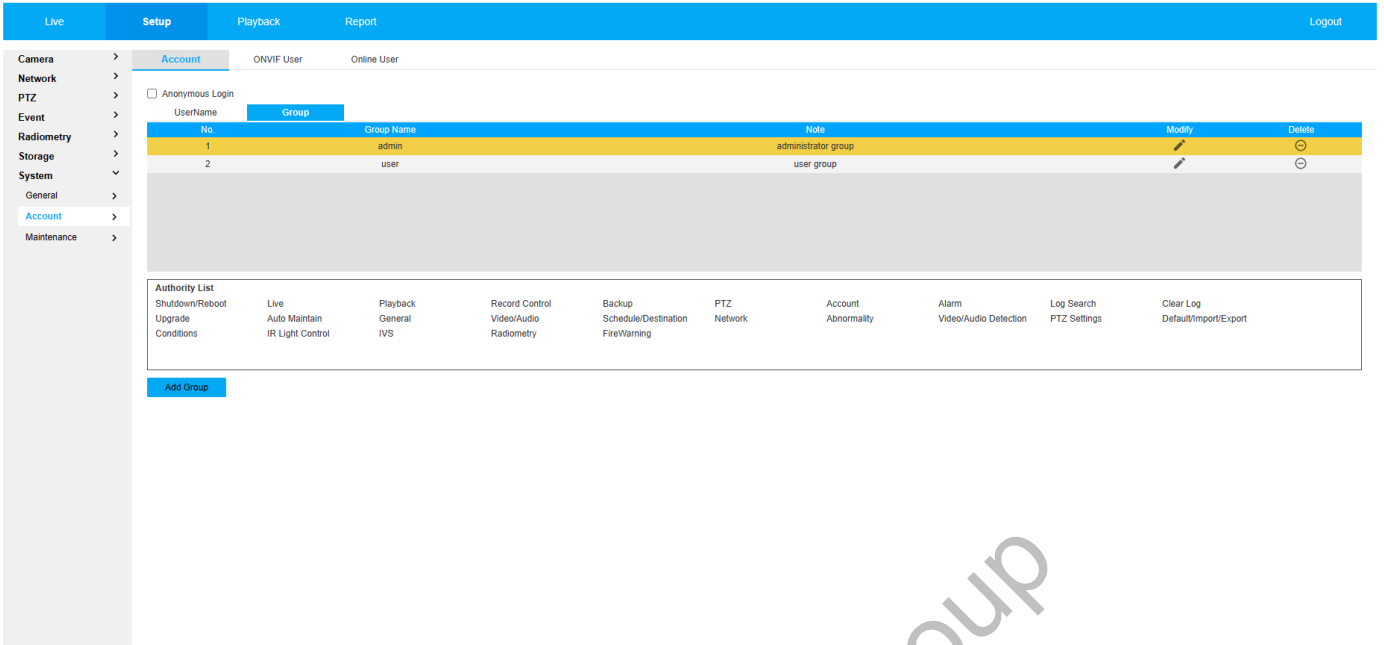
Remove User

Click the  icon of corresponding user which needs to be deleted, and then user can delete the user.

3.7.2.1.2 User Group

User can realize add group, delete group, modify password and other operations in "Setup > System > Account > Account > Group". User can refer to Figure 3.7.2.1.2-1.

Figure 3.7.2.1.2-1 User Group



Note: Add Group, Modify Group, Delete Group : Please refer to “3.7.2.1.1 User “ for more details.

3.7.2.2 ONVIF User

User can check the user info on the current Web in “Setup > System > Account > ONVIF User”, see Figure 3.7.2.2-1 for more details.

Figure 3.7.2.2-1 ONVIF User

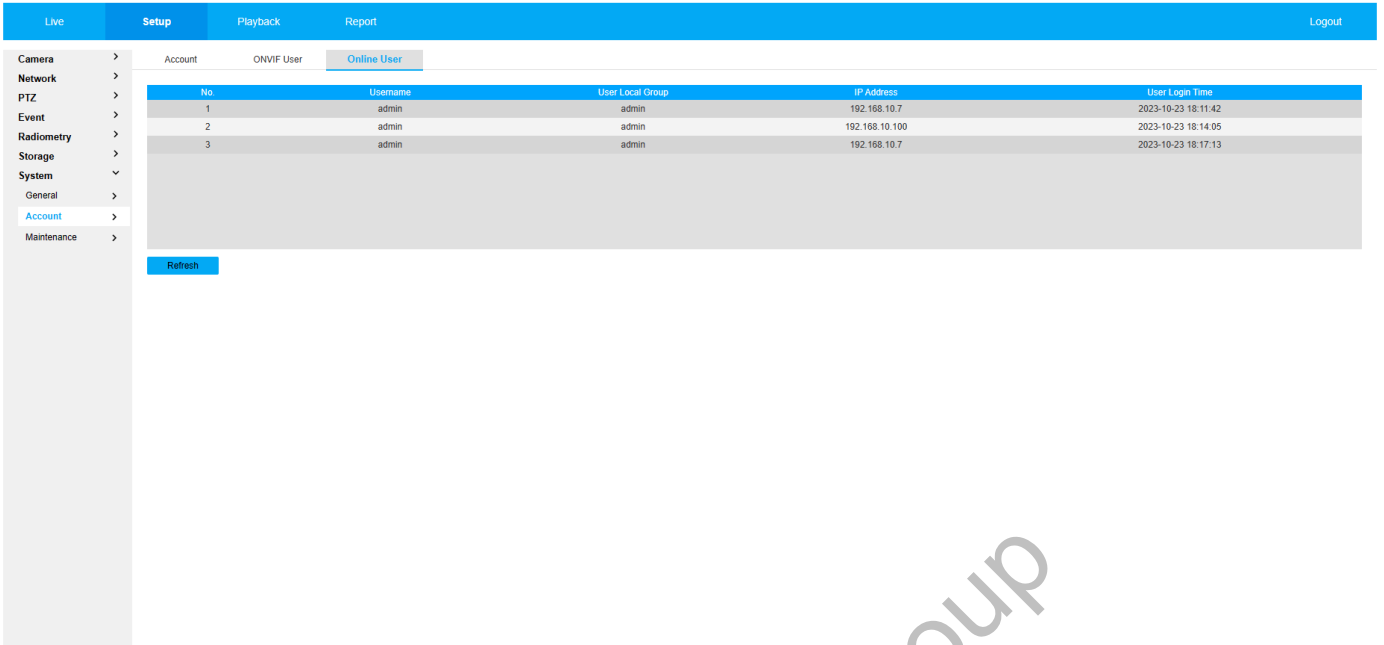


Note: Add Group, Modify Group, Delete Group : Please refer to “3.7.2.1.1 User “ for more details.

3.7.2.3 Online User

User can check the user info on the current WEB in “Setup > System > Account > Online User”, see Figure 3.7.2.3-1 for more details.

Figure 3.7.2.3-1 Online User



3.7.3 Maintenance

3.7.3.1 Wiper

Step1 In "Setup > System> Peripheral > Wiper", users can set the external wiper of the PTZ, as shown in Figure 3.7.3.1-1.

Figure 3.7.3.1-1 Wiper



Step2 Set the wiper mode:

TIMING: User can configure intervals and time periods:

1. Interval Time: The interval from when the wiper starts to when the next wiper starts.
2. Time Period: The time period during which the wipers work.

3. Click “Save” to complete the configuration.

Manual: Turns the wipers on and off manually.

1. Interval: The interval from the start of the wipers to the start of the next wiper.

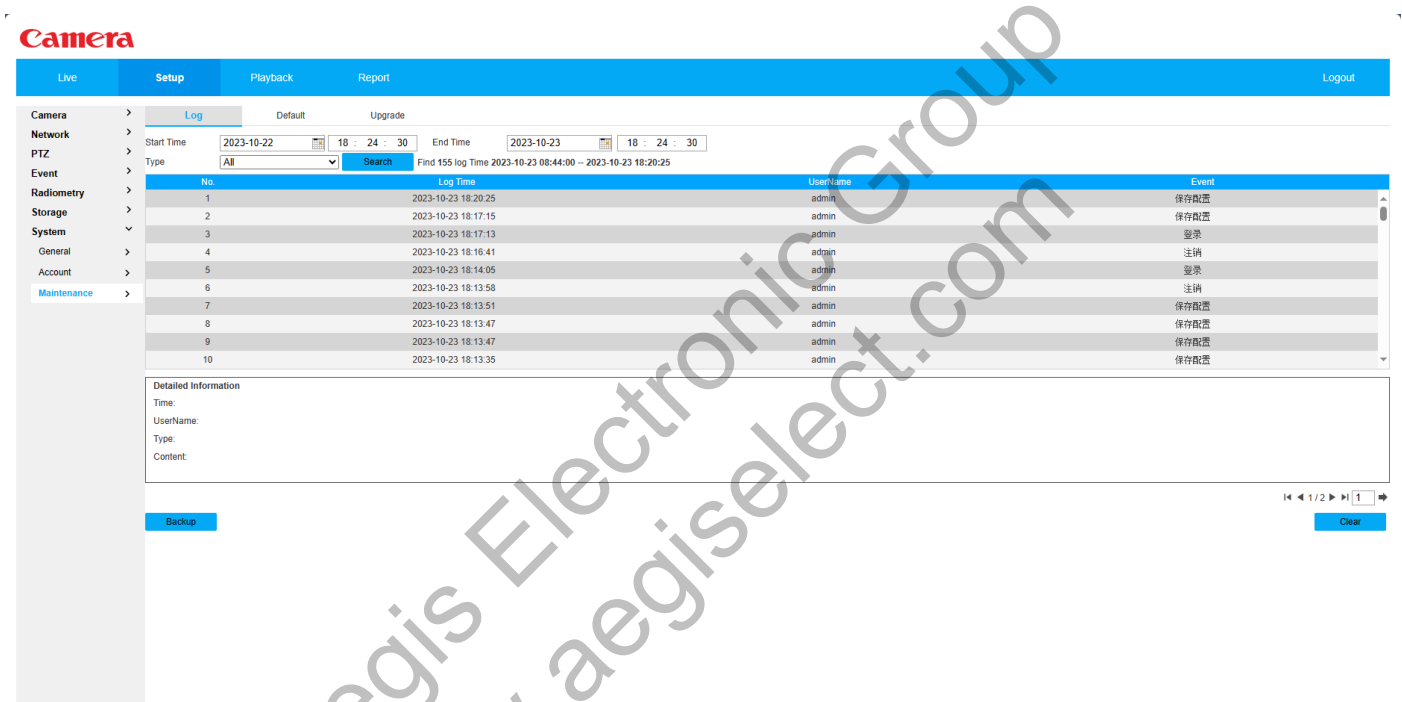
2. Click “Start”, the wiper will start working in the set interval time; click “Stop”, the wiper will stop working; click “Single”, the wiper will work for one round. Click the "Single" button, the wiper will work for one round.

3.7.4 Maintenance

3.7.4.1 Log

In “Setup > System > Maintenance > Log”, user can check the device operation info implemented by users and some system info, see Figure 3.7.4.1-1 for more details.

Figure 3.7.4.1-1 Log



Please refer to Table 3.7.4.1-1 for log parameter information.

Table 3.7.4.1-1 Log Parameter Description

Parameter	Description
Start time	Set the start time of the requested log. (The earliest time is 2000/1/1)
End time	Set the end time of the requested log. (The latest time is 2037/12/31)
Type	Log type consists of system operation, config operation, data management, alarm event, record operation, user management and log clear.
Search	First it needs to set start time and end time of the log to be searched, and select log type, click “Search”, it will display search bars dynamically; click “Stop” to pause log search, and it will display the searched bars and period area.
Log information	Click log record and it will display the detailed info of the log.
Clear	To clear all the log info on the device, but it fails to support classified clearance of log info.
Backup	User can click this button to backup system log files which is searched to current PC.

Specific meaning included by different log types:

- System operation: It includes application program enable, abnormal logout, logout, application program reboot, close/reboot device, system reboot, and system upgrade.

- Config operation: It includes save config, delete config file.
- Data operation; It includes setting hardware type, clearing data, hot swap, FTP status, record mode.
- Event operation (To record the events such as video detection, IVS, alarm, abnormality and etc.): It includes event start and event end.
- Record operation: It includes file access, file access error, and file inquiry.
- User management (To record the user management modification and user login and logout): It includes login, logout, add user, delete user, modify user, add group, delete group, modify group.
- Clear log: To clear log.

3.7.3.2 Default

Go to “Setup > System > Maintain > Default” and click “Default” to restore some device settings back to default. The config interface is shown in Figure 3.7.3.2-1.

Figure 3.7.3.2-1 Default



Import & Export

This is used to realize quick config of several devices via configuring file import and export when the config method of several devices is the same.

Step1 Select “Setup > System > Maintain > Default”. The system will display the interface of “Import & Export”, which is shown in Figure 3.6-10.

Step2 Click “Export” to export the config file “backup” to local.

Step3 Click “Import” on the “Import & Export” interface of the WEB end of the device to be configured, and import the file into the system. So far, the device configuration has been completed.

Auto Reboot

Users can set auto reboot system or auto delete file, it needs to set period and time for auto reboot system, it is 02:00 every Tuesday by default. It needs to set the period of the file if it needs to auto delete old files, and delete the file within the specific period.

Step1 Select “Setup > System > Maintain > Default”. The system will display the interface of “Auto Reboot” in Figure 3.6-10.

Step2 Configure the info of each parameter according to the actual needs; please refer to Table 3.7.3.2-1 for more details.

Table 3.7.3.2-1 Auto Reboot Parameter Description

Parameter	Description
Auto Reboot	Check it and set auto reboot time.
Auto Delete Old Files	Check it and user can customize period, the range of period is from 1 to 31 days.

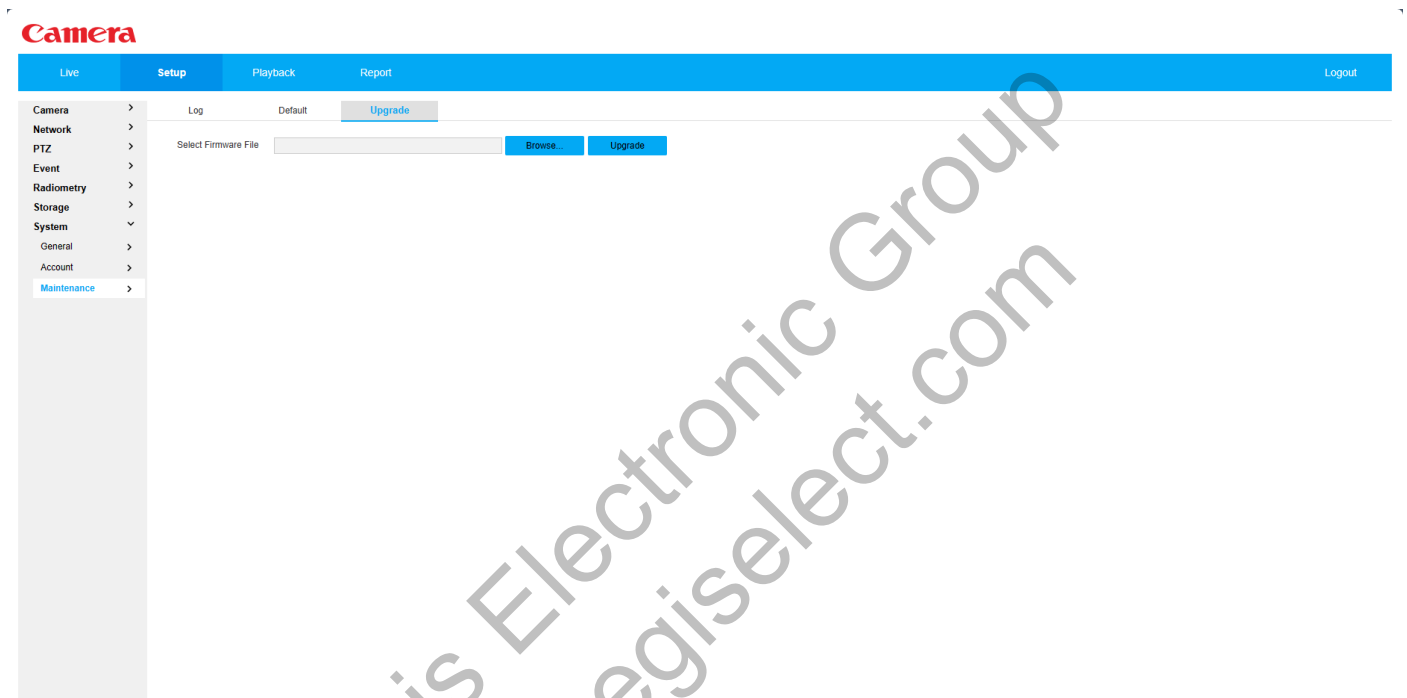
Step3 Click “Save” to complete the configuration.

Note: Some settings will not revert to their default values

3.7.3.3 Upgrade

User can realize upgrade operation in “Setup > System > Maintain > Upgrade”. See Figure 3.7.3.3-1 for more details.

Figure 3.7.3.3-1 Upgrade



Click “Browse” and select upgrade file, click “Upgrade” to realize firmware upgrade. The upgrade file is “*.bin” file.

4 Playback

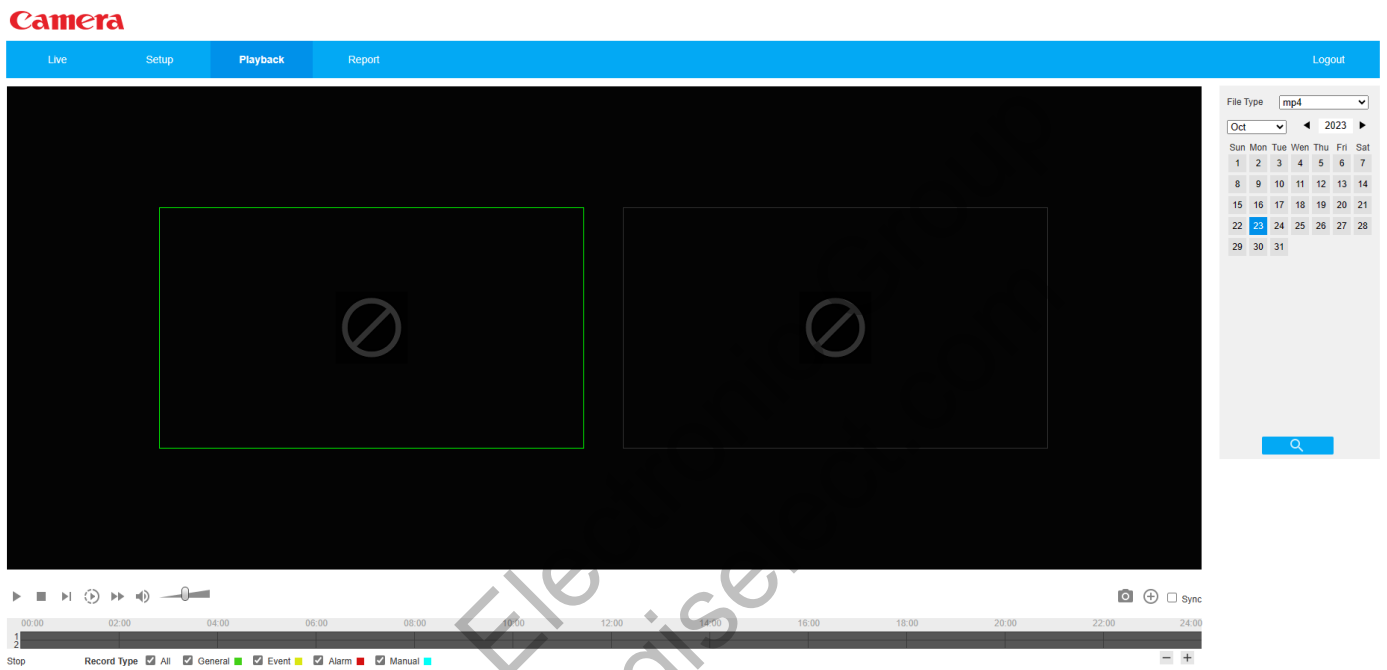
4.1 Video Playback

The saved video or picture can be played back in the "Playback" interface.

Note: Make sure there are videos and pictures stored on the local SD card before performing playback operation.

Click "Playback" item, and the system will display "Playback" interface, which is shown in Figure 4-1.

Figure 4.1 Playback



Select file type as ".mp4" and the system will display the interface which is shown in Figure 4.1-1. Refer to table 4.1-1 for more details about parameters.

Figure 4.1-1 Video Playback

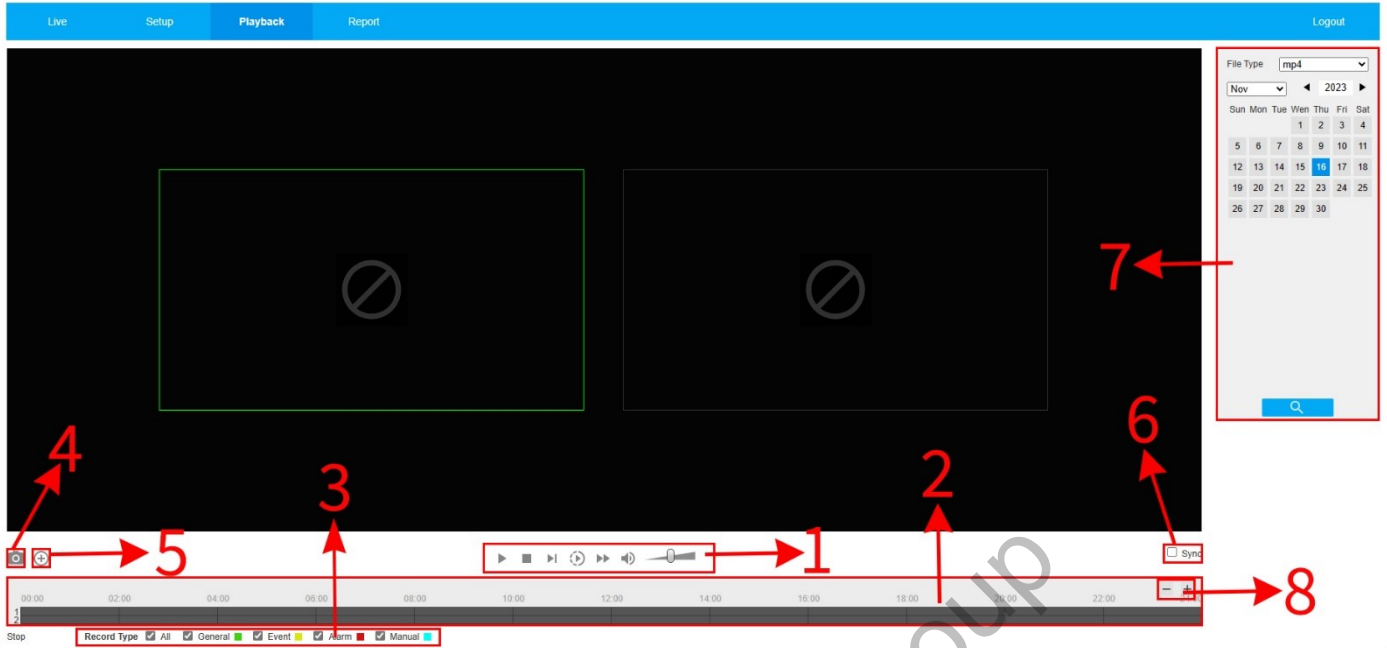


Table 4.1-1 Video Playback Parameter Description

No.	Description
1	Play function column
2	Record Time
3	Record Type column
4	Video Assist Function-Video Screenshot Button
5	Video Assist Function -Video Digital zoom Button
6	Video Assist Function-Synchronize button (if there are 2 channels recording at the same time)
7	Video date selection field
8	Progress Bar Time Format

4.1.1 Play Function

Play function column is shown in Figure 4.1.1-1, refer to Table 4.1.1-1 for more details about parameters.

Figure 4.1.1-1 Play Function Column

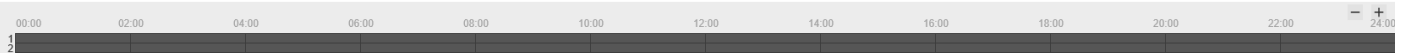


Table 4.1.1-1 Play Function icon Description

Icon	Description
1. Play	When user see this button, it means pausing or not playing record. Click this button and switch to normal play status.
2. Stop	Click this button to stop playing video.
3. Next frame	Click this button to go to next frame. Note: User shall pause playback when user use this function.
4. Slow	Click this button to play slowly.
5. Fast	Click this button to play fast.
6. Mute	When this button displays, it means audio is silent. Click this button to switch back to

	normal.
7. Rules info	Click the button to display intelligent rules after enabling playback video.
8. Volume	Left click mouse to adjust volume.

4.1.2 Record Time



Displays the time and progress of the video recording:

- 1: Indicates the video recording progress of channel 1 for visible light
- 2: Indicates the video recording progress of channel 2 for thermal imaging (supported by some cameras)

4.1.3 Record Type

Check record file type, the only selected file will be displayed in progress bar and file list. See Figure 4.1.3-1.

Figure 4.1.3-1 Record Type

Record Type All General Event Alarm Manual

Click on the date with a blue background, the timeline shows a video file with a colour progress bar; where for ordinary video; for motion detection video; for alarm video; for manual video.

4.1.4 Video Assist Function

4.1.4.1 Video Screenshot Button

The Video Screenshot Button is shown in Figure 4.1.4.1-1, and for parameter descriptions, please refer to Table 4.1.4.1-1.

Figure 4.1.4.1-1 Video Screenshot Button



Table 4.1.4.1-1 Video Screenshot Button

Icon	Description
Snapshot	Click the button to capture the image of the video, the image is saved under the set path.

4.1.4.2 Video Digital zoom

The Video Video Digital zoom button is shown in Figure 4.1.4.2-1. For parameter description, please refer to Table 4.1.4.2-1.

Figure 4.1.4.2-1 Video Digital zoom Function Button



Table 4.1.4.2-1 Parameter description of the Video Digital zoom function button

Icon	Description
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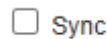
Partial Zoom	<ul style="list-style-type: none"> ● Click this button, when the screen is in the original state, you can select any area to zoom in; when the screen is not in the original state, you can drag the zoomed-in area within a certain range, and restore the original state with the right mouse button alone. ● Click the button, user can scroll the mouse wheel to zoom the size of the browsing screen.
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4.1.4.3 Synchronize button

Tick "Sync" to synchronise the progress of visible light and thermal imaging playback recording, the synchronisation box is shown in Figure 4.1.4.3-1.

Note: This function is only supported by some cameras.

Figure 4.1.3.4-1 Sync



Select the channel:

- Select "Channel 1" to display the playback file of visible light.
- Select "Channel 2" to display the playback file of thermal imaging.

4.1.5 Video date selection field

In calendar, the date with blue shading means the current date having video record or snapshot file. See Figure 4.1.5-1, refer to Table 4.1.5-1 for more details about parameters.

Figure 4.1.7-1 Playback File

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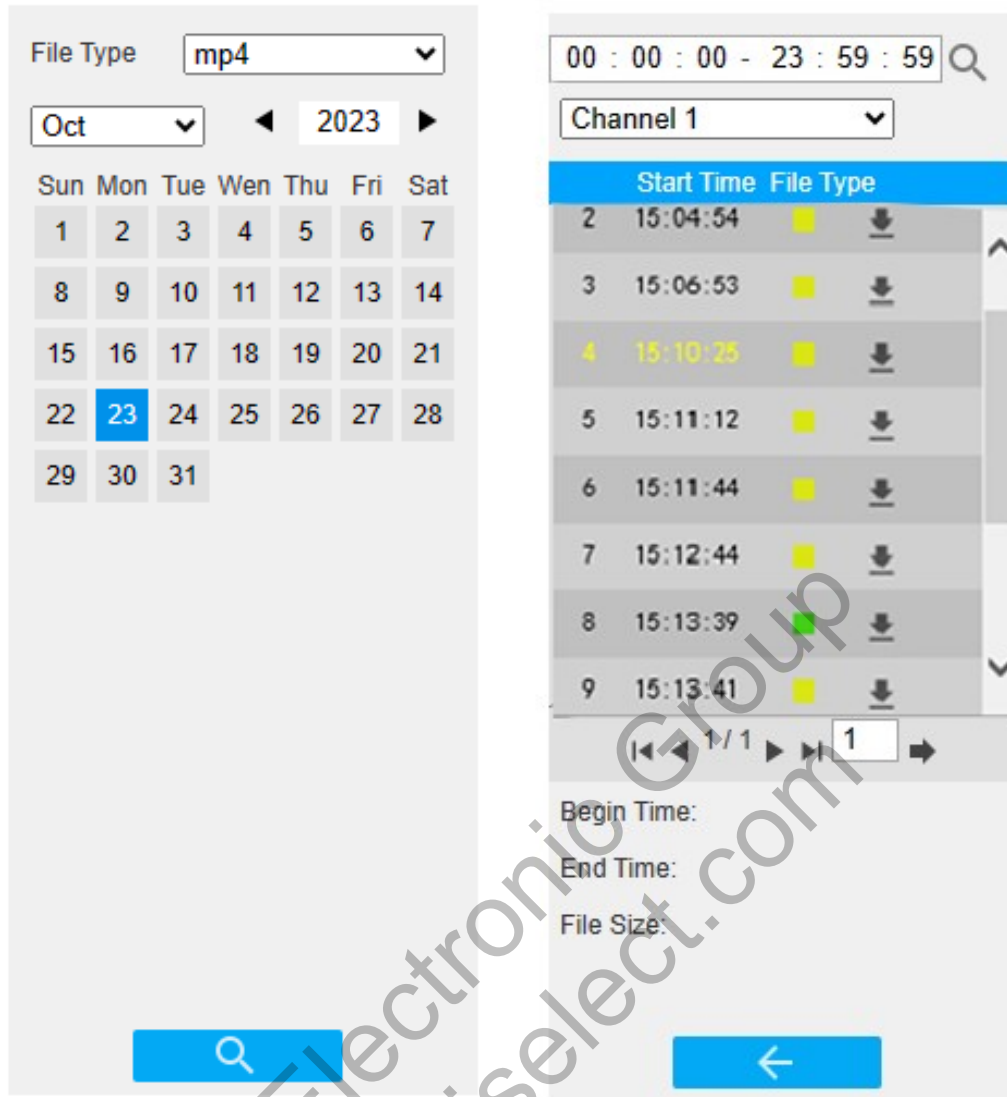





Table 4.1.7-1 Playback File Description

Parameter	Description
File Type	<ul style="list-style-type: none"> ● Select “mp4” and it means record video playback. ● Select “.jpg” and it means picture playback.
Data Source	It is SD card by default.
	Search, it means to search all the video files between the start time and the end time of the selected date.
	Click "Download" to save the video files under the set playback download path.
	Click the button, will return to the calendar page, you can re-select the time for operation.

4.1.6 Progress Bar Time Format

It is shown in Figure 4.1.5-1, click “+” the progress bar time format will switch to show the current playback time's recording files in 2 Hours, 1 Hour, 30 Mins, click “-” will switch back to 24H format.

Figure 4.1.5-1 Progress Bar Time Format



5 View Report

The report function allows you to view the historical temperature data saved in the SD card of the device according to certain rules, such as time periods.

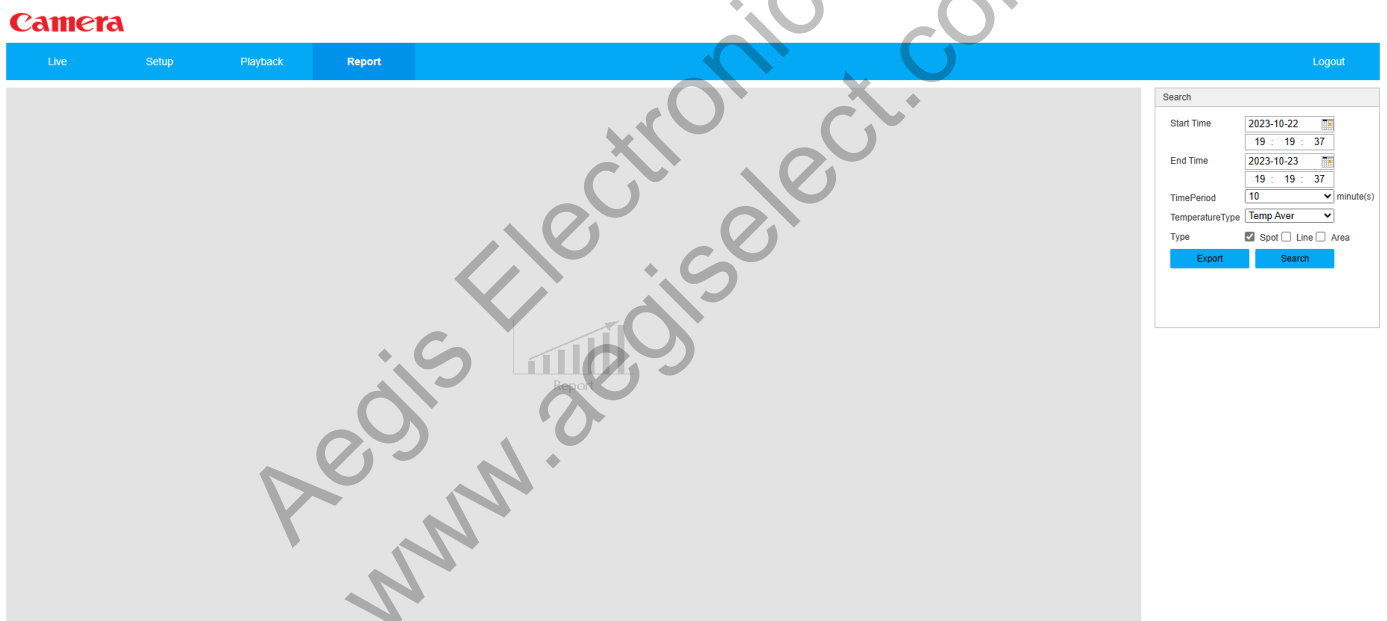
Prerequisites

Temperature measurement rules (including points, lines and areas) have been set; the device has been inserted into the SD card.

Step

Step1 Click "Report" page; the system displays the "Report" interface, as shown in Figure 5-1.

Figure 5-1 Report



Step2 Set the query conditions, click "Search"; the system displays the query temperature data, as shown in Figure 5-2.

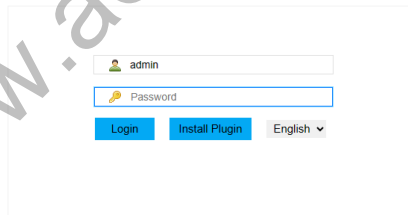
Figure 5-2 Statement Enquiry Result



6 Logout

Click “**Logout**” button, the system returns to the login interface. See Figure 6-1. Re-enter the system to log in again.

Figure 6-1 Logout



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