Dual-spectral PT Network Camera
User Manual
V2.0.0



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1. Network Configuration

1.1 About Default

The administrator account by default is admin.
The administrator password by default is admin.
The IPv4 address by default is 192.168.1.123.

1.2 Login to WEB Interface

Step 1 Open the IE browser, enter the IP address of the camera in the address bar and press the [Enter] key. For successful login, the web displays an interface as shown in Figure 1.2-1. For users use cameras from the Company for the first time, it is required to install the web plug-in. Click the "Install Plug-in" button and make download and installation according to the note.

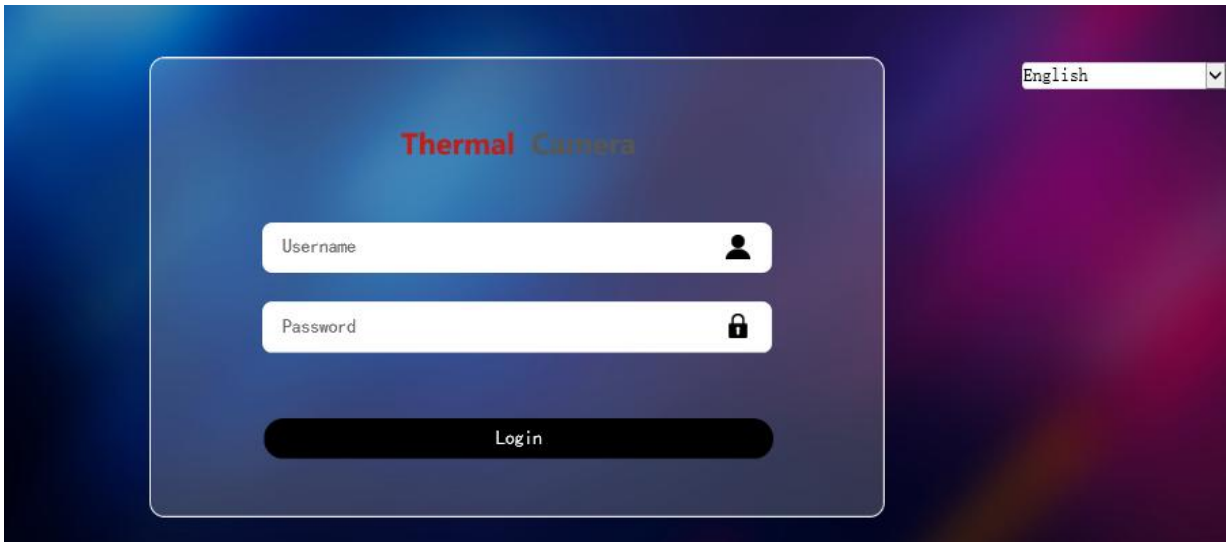


Fig. 1.2-1 WEB Login Interface

Step 2 Enter the Username and Password to enter the web operation interface (the default administrator user name is admin, and the password is admin) for the first-time login. The system will pop up a note box for password modification, as shown in Figure 1.2-2. Please change the administrator password in time and keep it properly.



Fig.1.2-2 Password Modification

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



Fig1.2-3 Schematic Diagram of Web Video Browsing

- The interface and settings are only for reference, and the specific interface shall be subject to actual conditions.

2. Preview

The display interface in browsing is as shown in Figure 2-1.

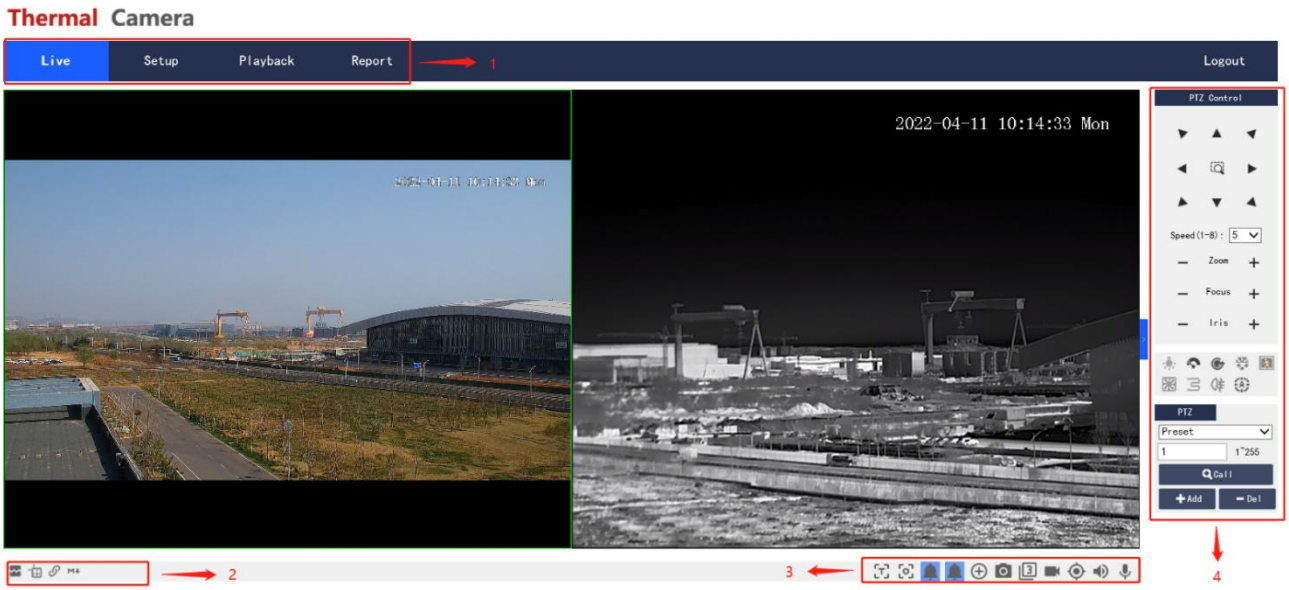


Fig. 2-1 Browse Interface

Refer to Table 2-1 for the description of the interface function bar.

No.	Description
1	System menu bar
2	Video window adjustment bar
3	Video window function-option bar
4	PTZ configuration bar

Table 2-1 Description of Function Bar in Browse Interface

2.1 System Menu

Click each tab to enter the corresponding interface, and the system menu is shown in Figure 2.1-1.



Fig. 2.1-1 System Menu

2.2 Video Window Adjustment

The video window adjustment is as shown in Figure 2.2-1, referring to Table 2.2-1 for the parameter descriptions.

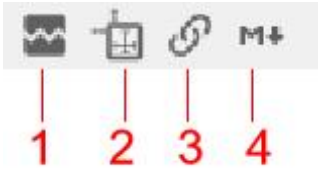


Fig. 2.2-1 Video Window Adjustment

Parameter	Description
1 Fluency adjustment	Click the button to select any of the three fluency levels (real-time, normal, and smooth). The real-time level is set as default.
2 Regulation information	Click the button to enter and preview the intelligent page display rules. Turning-on is set as default.
3 Type of connection	Click the button to select the video surveillance protocol, supporting TCP, UDP and multicast.
4 Type of stream	Click the button to select the main stream or the auxiliary stream.

Table 2.2-1 Description of Video Window Adjustment Parameters

2.3 Video Window Function-options

The video window function-options are as shown in Figure 2.3-1, referring to Table 2.3-1 for the parameter descriptions.

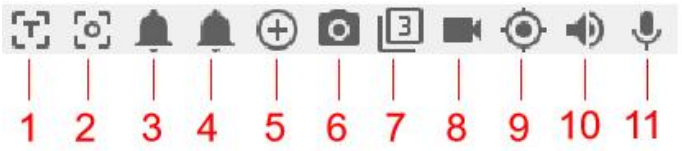


Fig. 2.3-1 Video Window Function-options

Parameter	Description
1 Temperature measurement	Click the button, and click any position of the thermal imaging video to make the thermal imaging measure and display the temperature of the point.
2 Area focusing	Click the button, and drag the mouse to select an area in frame on the browsed picture arbitrarily to enable the device to automatically focus on the selected area.
3 Alarm output 1	Display the state of alarm output 1. The alarm output light turns on when the conditions for triggering the alarm are reached in the event.
4 Alarm output 2	Display the state of alarm output 2. The alarm output light turns on when the conditions for triggering the alarm are reached in the event.
5 Partial zooming	● Click the button, and select any area by frame to zoom when the picture is in the original state. For any picture that is not in the original state, the zoomed area can be dragged within a certain range, which will be resumed to the original state by clicking the right mouse button. ● Click the button, and zoom in and out the picture by scrolling the mouse wheel.
6 Image capture	Click the button to conduct image capture of the video, and save the pictures in the set path.
7 Three consecutive captures	Click the button to conduct three times of consecutive image capture of the video at a frequency of one picture per second, and save the pictures in the set path.
8 Video taking	Click the button to record a video, and click it again to stop recording; save the video taking files in the set path.
9 Manual tracking	Click the button, and drag the left mouse button on the video window to select an area to enable the camera to conduct smart tracking of objects in the area.
10 Voice	Click the button to turn on or turn off the output of surveillance stream audio.
11 Intercom	Click the button to turn on or turn off the voice intercom.

Table 2.3-1 Description of Video Window Function-option Parameters

2.4 PTZ Configuration

The PTZ can be controlled through the PTZ console, and users can also easily call functions such as preset point and linear scanning in the PTZ setting area.

(1)PTZ Control

The PTZ control interface is as shown in Figure 2.4-1, referring to Table 2.4-1 for the parameter descriptions.

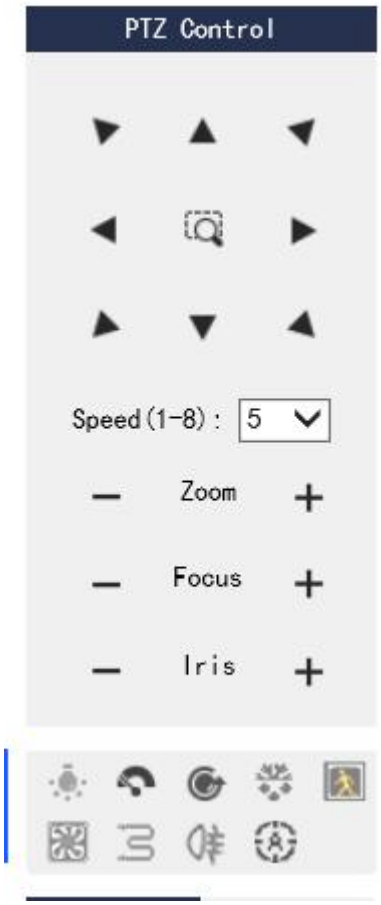


Fig. 2.4-1 PTZ Console Interface

Parameter	Description
1 Arrow keys	Support 8 directions, namely, upward, downward, leftward, rightward, top left, top right, left bottom, and right bottom.
2 Quick positioning	Draw a frame with the mouse on the browsed picture to enable PTZ to rotate and zoom to quickly locate the scene.
3 Step size	It refers to the PTZ rotational speed, and the larger step size means the faster speed.
4 Zoom/focus/iris	Click "+" to increase corresponding parameter value, and click "-" to lessen corresponding parameter value.

Table 2.4-1 Description of PTZ Control Parameters

(2) PTZ Settings

The PTZ configuration interface is as shown in Figure 2.4-2, referring to Table 2.4-2 for the description of PTZ support functions and configuration methods.



Fig. 2.4-2 PTZ Configuration Interface

PTZ Function	Description
Preset	Select the preset point in the drop-down box, enter the preset point value in the input box, and click "View" to enable the webcam to turn to the position targeting the preset point.
Tour	Select the patrol group in the drop-down box, enter the patrol path in the input box, and click "Start" to make the PTZ patrol.
Scan Tour	Select “Scan Tour” in the drop-down box, set speed, gradient, direction, starting point, ending point, click “Start” to make scan tour
Linear scanning	Select linear scanning in the drop-down list and click "Start" to make the PTZ perform linear scanning with the default number 1.
Pattern	Select the patrol path in the drop-down list, enter the patrol path in the input box, and click "Start" to make the PTZ perform pattern patrol.
Miscellaneous function	The future expansion function, supporting special requirements.
Auto Pan	Select Auto Pan in the drop-down list and click "Start" to make the PTZ rotate horizontally.
Absolute PTZ	Input the required horizontal angle, vertical angle and zoom parameters, and click the "Locate" button to accurately locate a certain position ● The horizontal or vertical angle parameter of each unit represents 0.1 degree.

Table 2.4-2 Description of PTZ Configuration Parameters

3 System Settings

3.1 Camera Settings

3.1.1 Conditions

3.1.1.1 Visible light

Image

Set the visible light properties of the camera according to the following configuration steps, so as to achieve the

best presentation effect.

Step 1 Select "Settings > Camera Settings > Conditions", and select "Channel 1" to enter the visible light interface of the system, as shown in Figure 3.1-1.

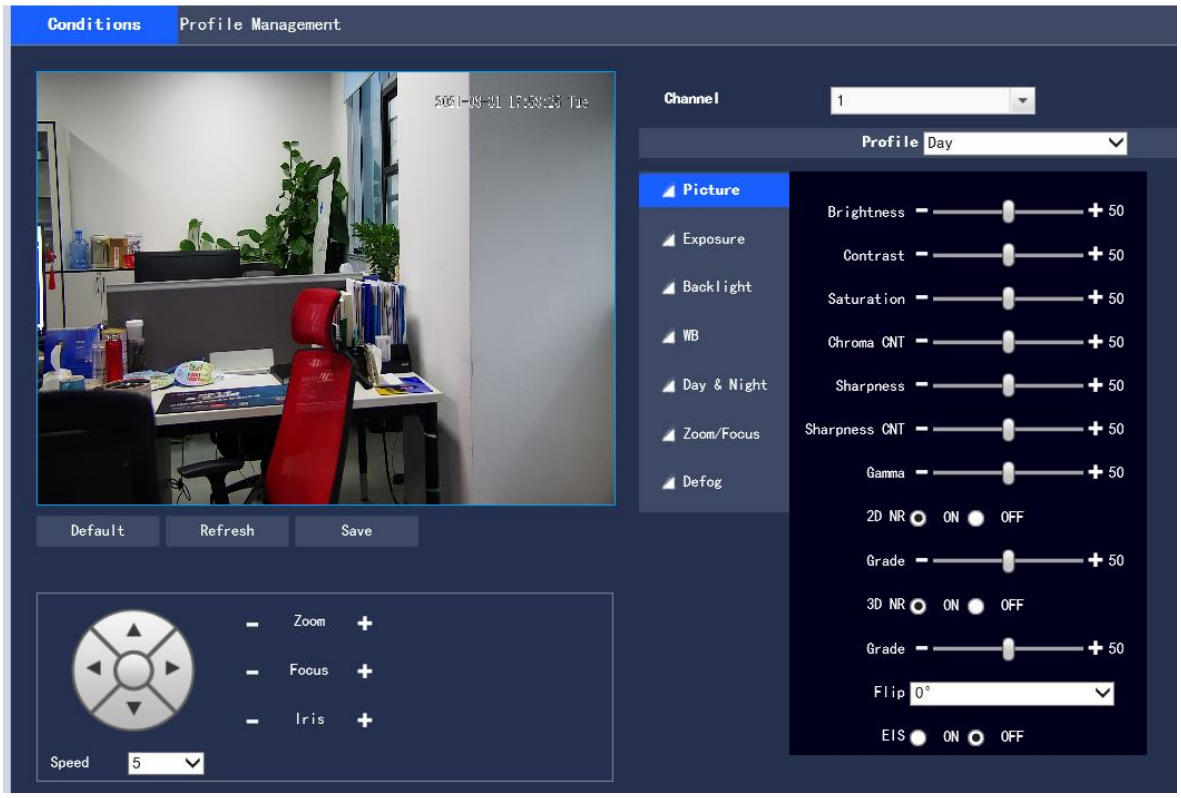


Fig. 3.1-1 Image

Step 2 Configure information of each parameter according to actual needs. For the description of parameters, please refer to Table 3.1-1.

Parameter	Description
Profile	The normal mode, daytime mode or nighttime mode are available. When a mode is selected, the corresponding configuration and effect can be set and viewed.
Brightness	It is for setting the tone of pictures within a range of 0 to 100, and a larger value realizes a brighter picture.
Contrast	It is for setting the contrast of images within a range of 0 to 100, and a greater value realizes a bigger light and shade contrast.
Saturation	It is for setting the color saturation of images within a range of 0 to 100. A higher saturation realizes more vivid presentation, and a lower saturation realizes darker presentation.
Color CNT	It is for setting the degree of suppression of picture colors within a range of 0 to 100, and a larger value realizes more obvious suppression.
Sharpness	It is for adjusting the sharpness of picture edges within a range of 0 to 100, and the larger value realizes a more obvious edge.
Sharpness CNT	It is for adjusting the camera sharpness suppression level within a range of 0 to 100, and a larger value realizes a higher sharpness suppression level.
Gamma	This value changes the brightness of pictures and increase the dynamic display range of pictures through a non-linear adjustment method within a range of 0 to 100, and a larger value realizes a brighter picture.
2D NR	This value is for suppressing noise, and a higher level realizes a lower noise and a more blurred

	picture.
3D NR	This value is for suppressing noise, and a higher level realizes a lower noise and a more blurred picture.
Grade	It is for setting the degree of noise reduction within a range of 0 to 100, and a larger value realizes a greater degree of noise reduction.
Flip	This is a function to change the direction of the video surveillance images with normal and inverted options, and "0" is set as default.
EIS	The Electronic image stabilization function is realized through the picture difference comparison algorithm, which effectively solves the problem of picture jittering during use, and makes the high-definition pictures more stable and clearer. It is set "OFF" as default.

Table 3.1-1 Description of Image Setting Parameters

Step 3 Click "Save" to complete the setting.

Exposure

This function is for adjusting the camera's exposure to the surveillance images. The configuration steps are as follows:

Step 1 Select "Settings > Camera Settings > Conditions > Exposure" to enter the "Exposure" interface of the system, as displayed in Figure 3.1-2, Figure 3.1-3, Figure 3.1-4, Figure 3.1-5 or Figure 3.1-6.

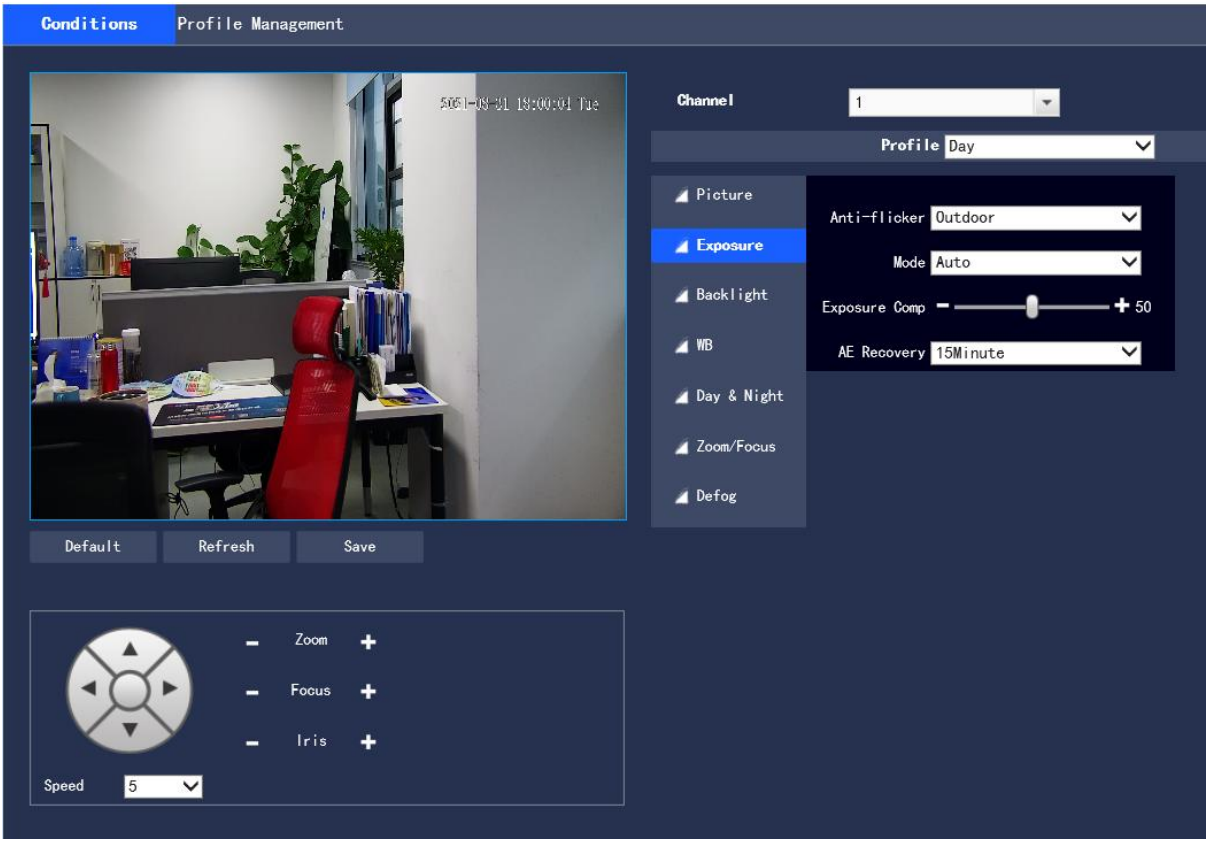


Fig. 3.1-2 Exposure - Auto Mode

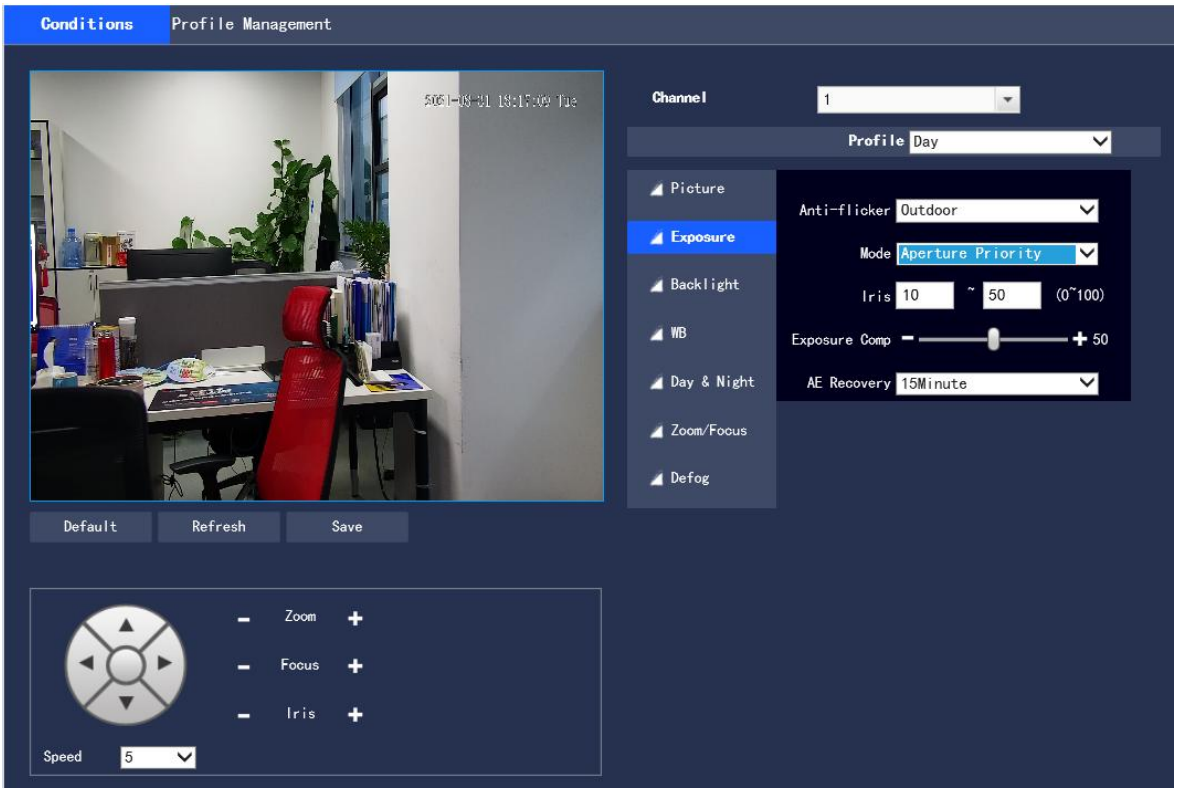


Fig. 3.1-3 Exposure - Iris Priority

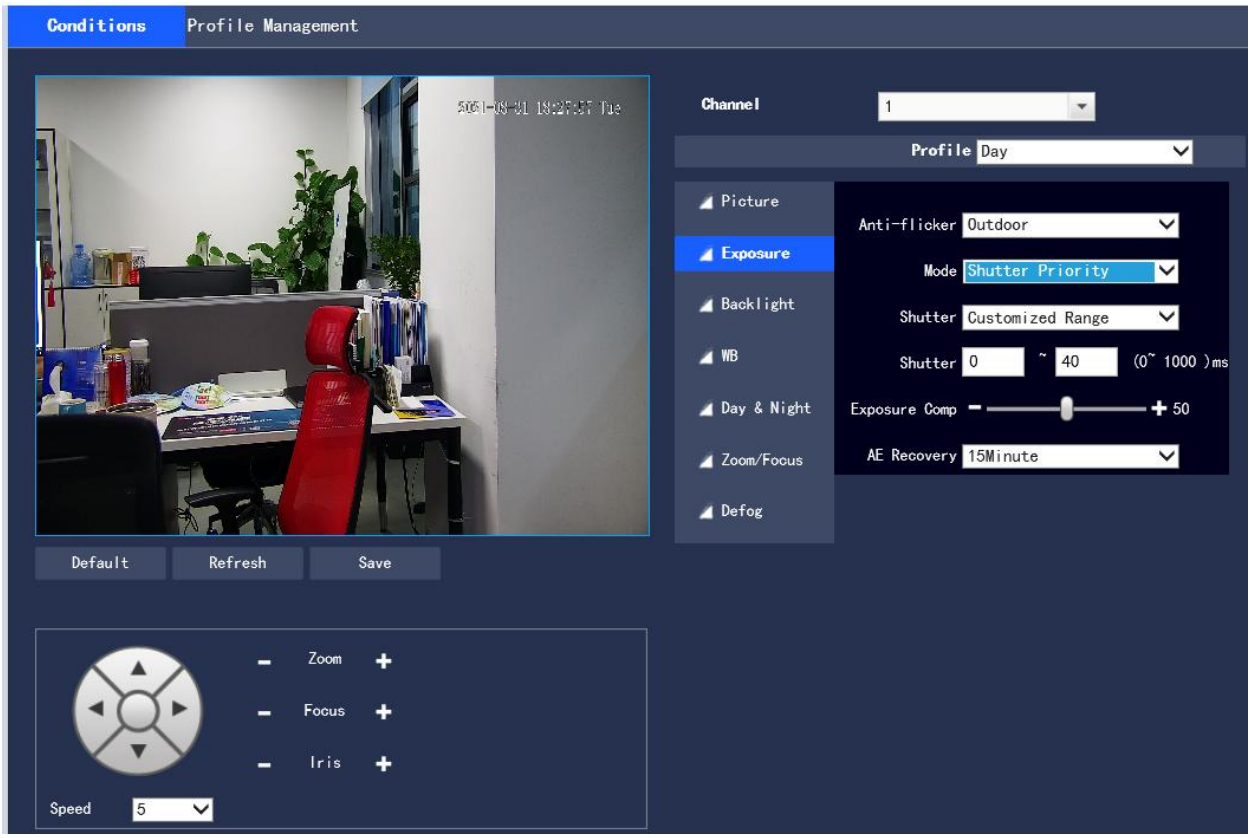


Fig. 3.1-4 Exposure - Shutter Priority

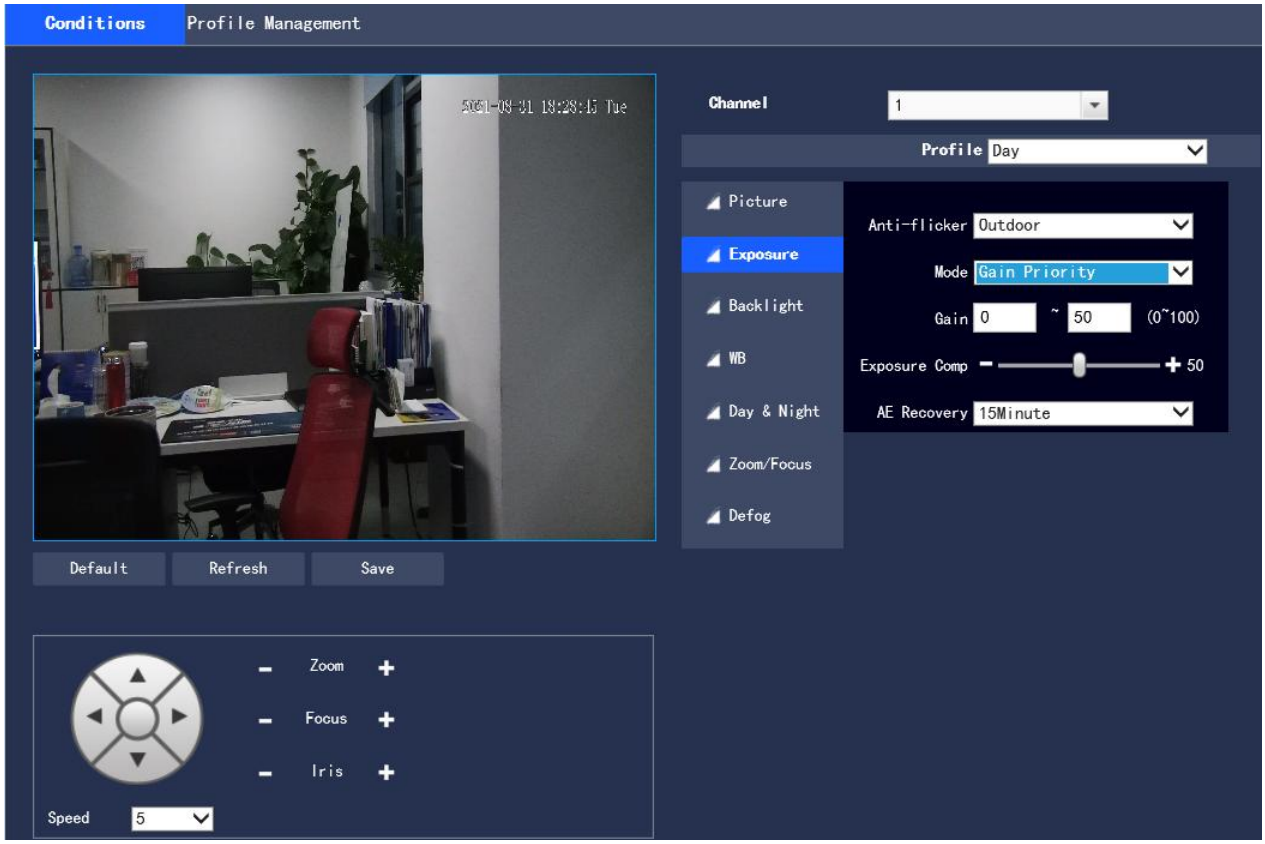


Fig. 3.1-5 Exposure - Gain priority

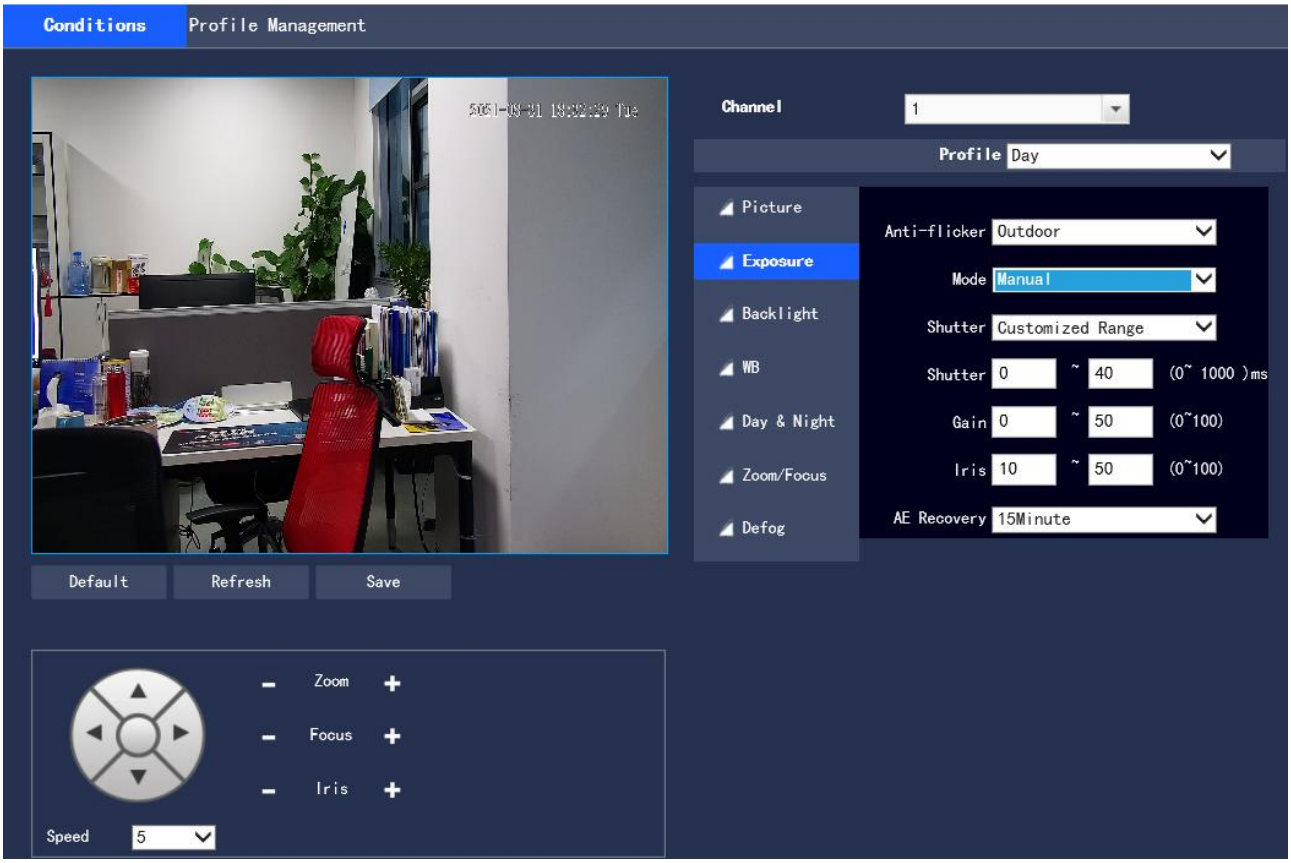


Fig. 3.1-6 Exposure - Manual Mode

Step 2 Configure information of each parameter according to actual needs. For the description of parameters, please refer to Table 3.1-2.

Parameter	Description
Mode	It is for setting the camera's exposure modes that include automatic, manual, aperture priority, shutter priority and gain priority mode, and the "Auto" mode is set as default. ● In the automatic exposure mode, the overall brightness of a picture is automatically adjusted according to different scenes when it is in the normal exposure range. ● In the aperture priority mode, the fixed aperture is the set value, and it is better to automatically achieve the brightness value according to the priority of driving exposure time before driving the gain. ● In the shutter priority mode, the user can customize the shutter range, and the system automatically adjusts the aperture size and the gain according to the brightness of different scenes. ● In the gain priority mode, the gain value and the exposure compensation value can be manually adjusted. ● In the manual exposure mode, the gain value, shutter value and aperture value can be manually adjusted, and long exposure is supported.
Gain range:	It is for setting the gain value of exposure in a range of 0 to 100.
Shutter	It is for adjusting the camera exposure time. A larger shutter value produces a darker picture, otherwise a brighter picture.
Shutter range	It is for setting the camera exposure time in a range of 0 to 1000, and the unit is ms.
Aperture	It is for setting the luminous flux of the camera. A larger aperture value produces a brighter picture, otherwise a darker picture.
Exposure compensation	It is for setting the compensation value of exposure in a range of 0 to 100.
Automatic exposure recovery	This function is for resuming the automatic exposure mode after the period set to the non-automatic exposure mode, which can be set to off or in 5 min, 15 min, 1 hour, and 15 min is set as default.

Table 3.1-2 Description of Exposure Setting Parameters

Step 3 Click "Save" to complete the configuration.

Backlight

This function is for adjusting the backlight compensation mode of surveillance pictures. The configuration steps are as follows:

Step 1 Select "Settings > Camera Settings > Conditions > Backlight" to enter the "Backlight" interface of the system, as shown in Figure 3.1-7.

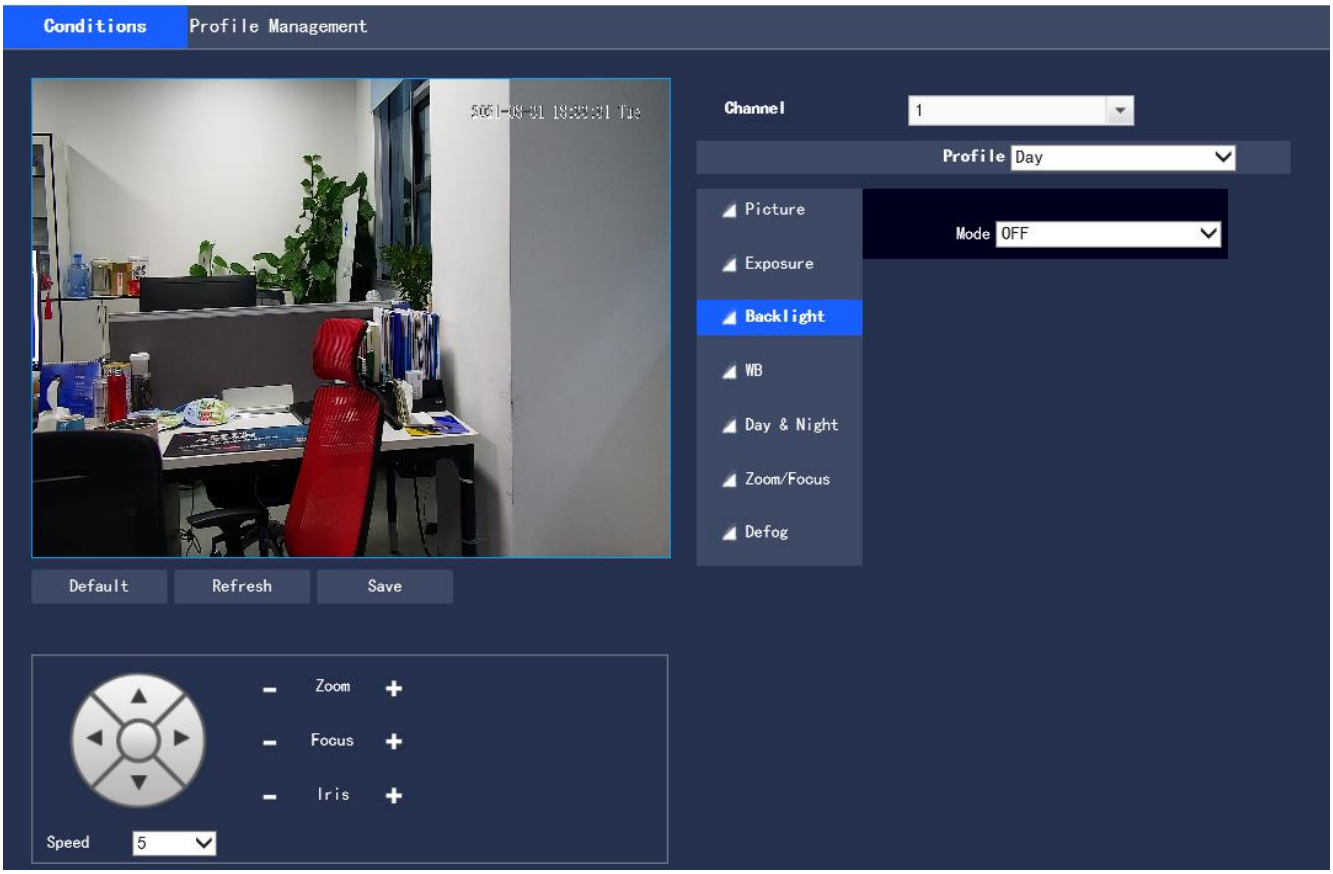


Fig. 3.1-7 Backlight Setting

Step 2 Select the backlight mode to view the turnoff mode, backlight compensation, highlight compensation and WDR in the drop-down box. The turnoff mode is set as default.

● Backlight compensation: this function can prevent the dark part of a subject shot in a backlighting environment from appearing too dark.

● Strong light inhibition: this function can weaken the part with high light, and capture details of faces and license plates in a dark environment or other extreme light conditions. It is suitable for areas such as toll stations, and entrances and exits of parking lots.

● WDR: this function can suppress over-bright areas, and compensate for over-dark areas to make the overall picture a clearer state.

Step 3 Click "Save" to complete the configuration.

White balance

The white balance refers to the revivification of white objects by the camera. By setting of the white balance mode, white objects in a picture can always appear white in different environments. The configuration steps are as follows:

Step 1 Select "Settings > Camera Settings > Conditions > WB" to enter the "White Balance" interface of the system, as shown in Figure 3.1-8.

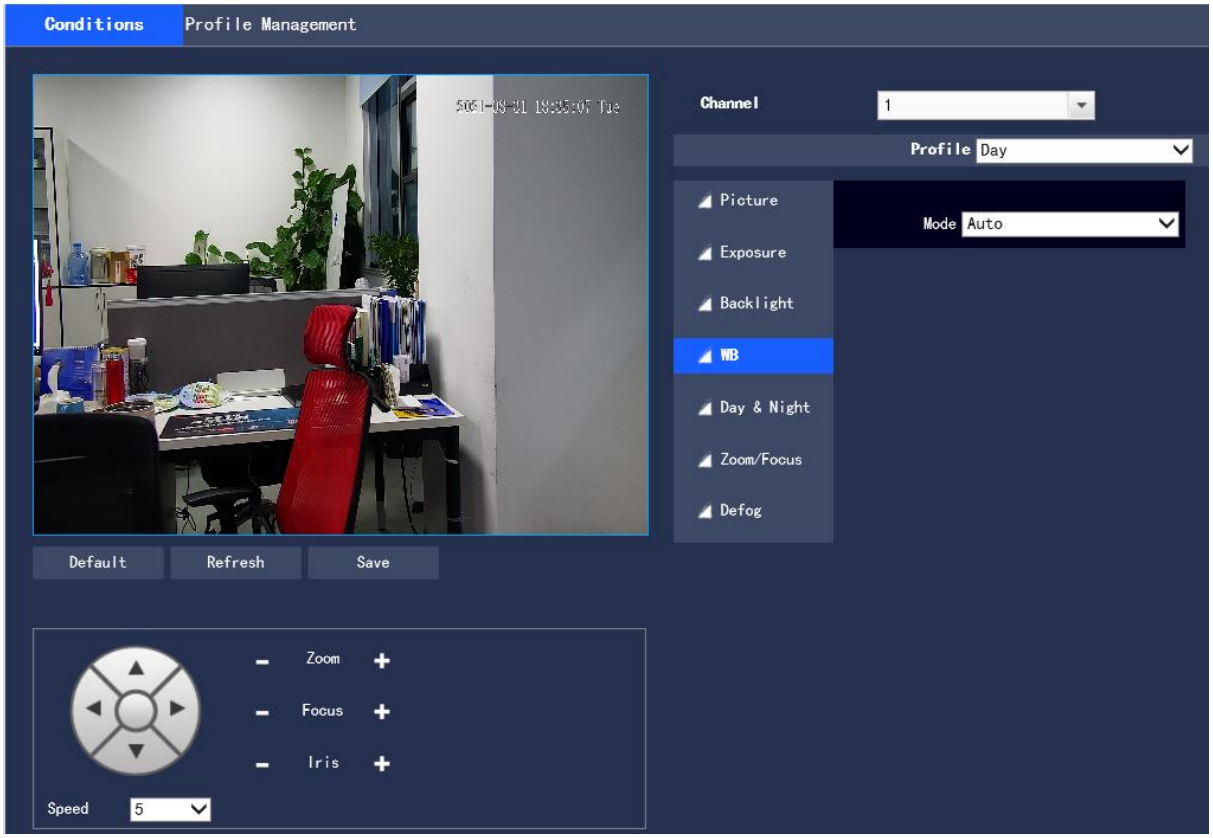


Fig. 3.1-8 White Balance Interface

Step 2 Select the white balance mode

Auto, indoor, outdoor, tracking, manual, sodium lamp, natural light or street light options. The "Auto" mode is set as default.

Step 3 Click "Save" to complete the configuration.

Day & night mode

This function is for setting the conversion between the color mode and the black and white mode, which effectively ensures that the camera can still record clear pictures in a dimly-lit environment. The configuration steps are as follows:

Step 1 Select "Settings > Camera Settings > Conditions > Day & Night " to enter the "Day & Night Mode" interface, as shown in Figure 3.1-9.

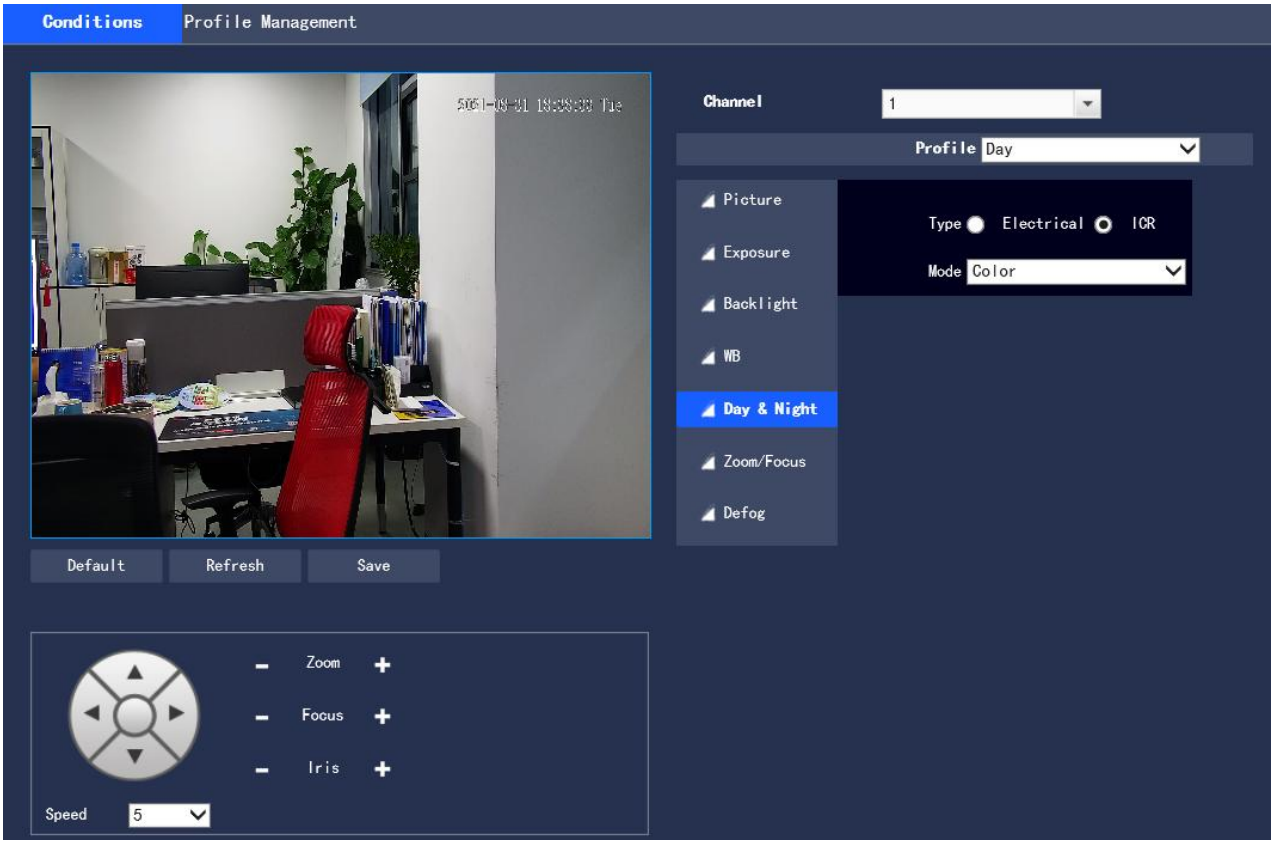


Fig. 3.1-9 Day & Night Mode

Step 2 Configure information of each parameter according to actual needs. For the description of parameters, please refer to Table 3.1-3.

Parameter	Description
Type	The day/night switching mode contains the electronic and ICR options, and ICR is set as default . ● ICR: mechanical switching from color to black, and realizing day/night switching with a light filter. ● Electronic: realizing day/night switching by means of image processing.
Mode	It is for setting the picture to the color mode or the black and white mode (not affected by the selected configuration file), and the "Automatic" mode is set as default. ● Color: enable the camera to only output color picture. ● Black and white: enable the camera to only output black and white pictures. ● Auto: Output color or black and white pictures according to the environment self-adaption.
Sensitivity	It is for adjusting the sensitivity of color/black and white switching, with such three options as low, medium and high level and the medium level is set as default. The sensitivity can be set only when the day & night mode is set to automatic.
Latency	It is for adjusting the delay value of color/black and white switching in a range of 2s to 10s. The sensitivity can be set only when the day & night mode is set to automatic.

Table 3.1-3 Description of Day & Night Mode Setting Parameters

Step 3 Click "Save" to complete the configuration.

Zoom/focus

Zoom/focus refers to stretching the lens and performing automatic focus. The configuration steps are as follows:

Step 1 Select "Settings > Camera Settings > Conditions > Zoom/Focus" to enter the "Zoom/Focus" interface, as shown in Figure 3.1-10.

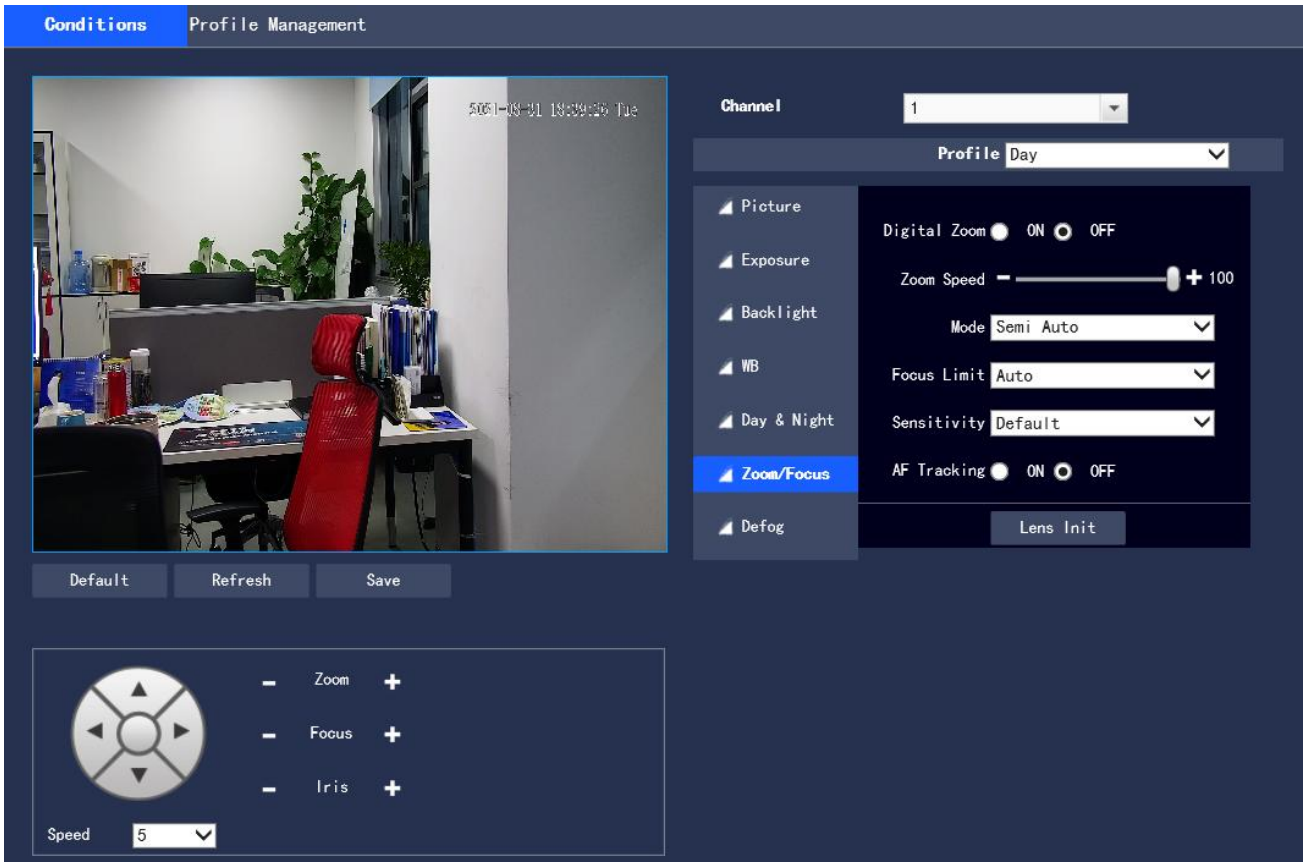


Fig. 3.1-10 Zoom/Focus Interface

Step 2 Configure information of each parameter according to actual needs. Please refer to Table 3.1-4.

Parameter	Description
Digital Zoom	It is for setting the digital zoom function, and "OFF" is set as default.
Zoom Speed	It is for setting the zoom speed of the camera, and a larger value realizes a faster zoom speed. It is set 100 as default.
Mode	It is the trigger mode of focus control, which contains semi-automatic, automatic, manual, fast semi-automatic or fast automatic options. ● Semi-automatic: detection of such operations as zoom and ICR switching will trigger focus automatically. ● Automatic: detection of such operations as scene changing, zoom and ICR switching will trigger focus automatically. ● Manual: the focus position is actively adjusted by the user without automatic trigger by any device. ● Fast semi-automatic: detection of such operations as zoom and ICR switching will trigger focus automatically, and the focus speed will be faster. ● Fast automatic: detection of such operations as scene changing, zoom and ICR switching will trigger focus automatically, and the focus speed will be faster.
Focus Limit	It is for setting the closest length of focusing to focus on the scene beyond the length; furthermore, the automatic option will automatically select the appropriate closest length according to the different zoom values.
Sensitivity	It is for setting the focus's stability or anti-interference ability. A lower value realizes higher stability, and a higher value realizes higher anti-interference ability.
AF Tracking	This function enables the picture relatively clear during the zoom process, and if the function is turned off, the zoom speed will be higher during the zoom process.

Lens Init	You can click this button to perform a lens initialization automatically, when the device lens will perform a stretching action to calibrate the zoom and focus of the lens.

Table 3.1-4 Description of Zoom/Focus Parameter Settings

Step 3 Click "Save" to complete the configuration.

Defog

The picture quality of the device will be lower in a foggy or haze environment, and the defog mode can automatically correct pictures, or enable adjustment of picture definition by manually select the intensity according to the haze concentration. The configuration steps are as follows:

Step 1 Select "Settings > Camera Settings > Conditions > Defog " to enter the "Defog" interface. The function is set OFF as default, which can be set to the auto or manual mode, as shown in Figure 3.1-12 or Figure 3.1-13.

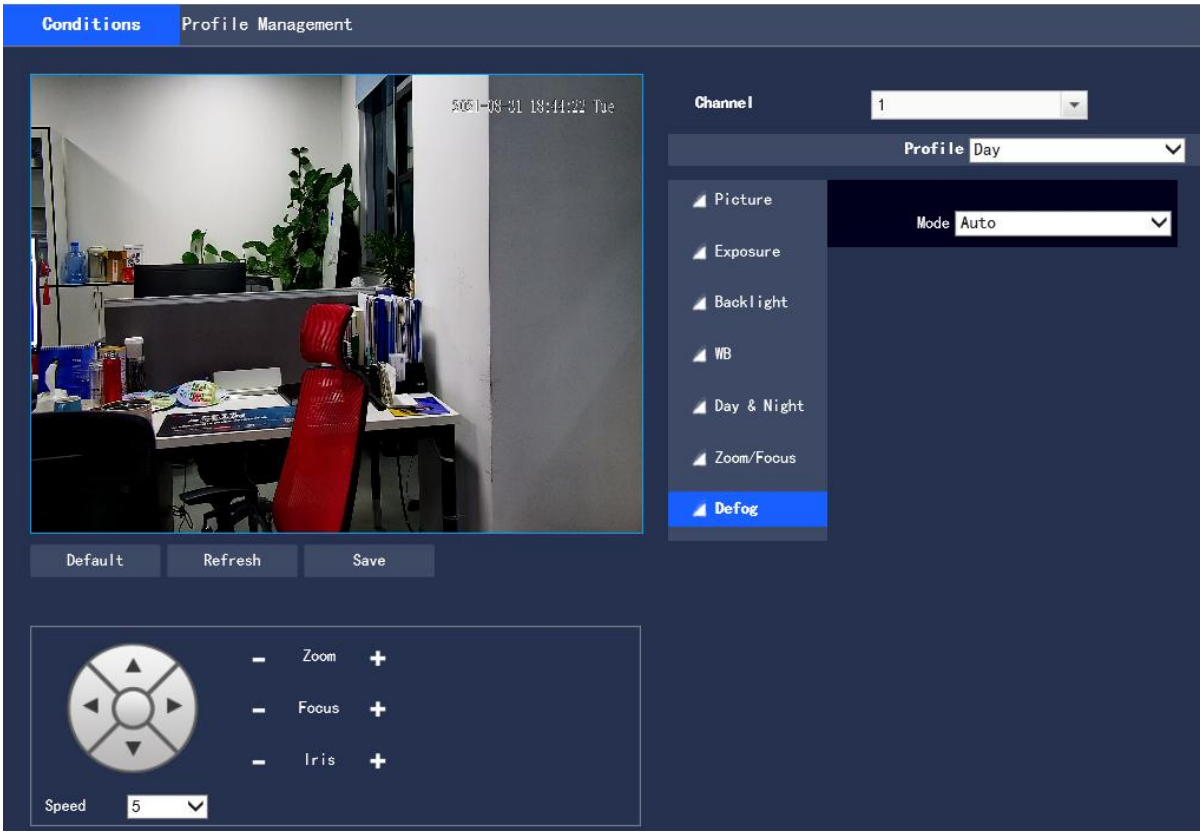


Fig. 3.1-12 Defog Settings (Automatic)

Step 2 Configure information of each parameter according to actual needs, referring to the follows for the description of parameters.

Mode: it is for setting the defog mode of the camera with the auto, manual and off modes, off by default.

Intensity: it can be configured when the defog mode is set to manual, which contains low, middle and high levels, middle by default

Step 3 Click "Save" to complete the configuration.

3.1.1.2 Thermal imaging

Image

This function is for setting the thermal picture properties to achieve the best presentation effect. The configuration steps are as follows:

Step 1 Select "Settings > Camera Settings > Conditions"

Step 2 Select channel "2" to enter the "Thermal Imaging" interface, as shown in Figure 3.1-14.

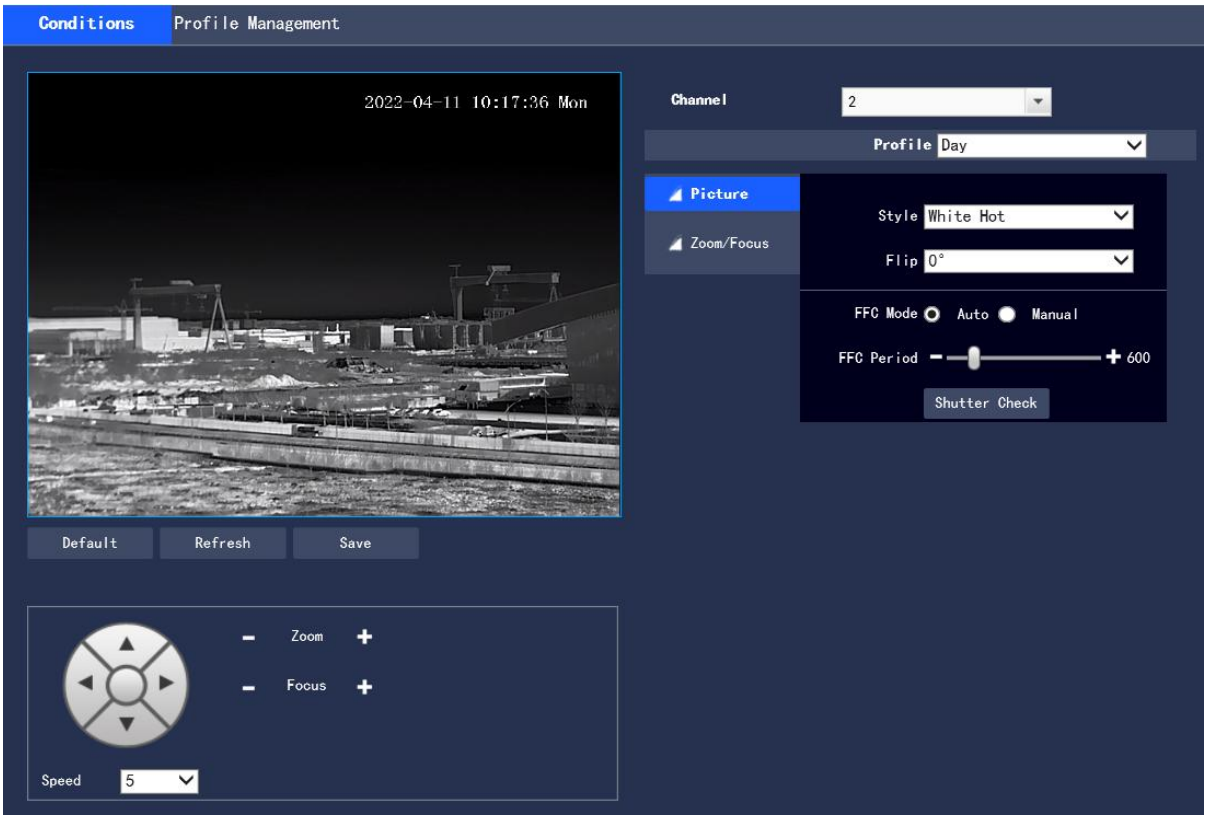


Fig.3.1-14 Image

Step 3 Configure information of each parameter according to actual needs. For the description of parameters, please refer to Table 3.1-5.

Parameter	Description
Profile	The normal mode, daytime mode or nighttime mode are available. When a mode is selected, the corresponding configuration and effect can be set and viewed.
Style	It is for setting the picture palette, with such options as white-hot, black-hot, iron, rainbow 1, rainbow 2, lava, sky, medium gray, ashes red, purple orange, special, warning red, icefire, bluish red, special 2, gradient red, gradient green, gradient blue, warning green, warning blue.
DirectZoom	This function supports magnification configuration of 1~8 times.
Flip	This is a function to change the direction of the video surveillance images with normal and inverted options, and "normal" is set as default.
FFC Mode	It is provided with the automatic and manual options, and the "Automatic" option is set as default.

Table 3.1-5 Description of Image Setting Parameters

Step 4 Click "Save" to complete the setting.

Zoom/Focus

This function is for setting the thermal imaging zoom/focus to achieve the best presentation effect. The configuration steps are as follows:

Step 1 Select "Settings > Camera Settings > Conditions"

Step 2 Select channel "2" to enter the "Thermal Imaging" interface, and select "Zoom/Focus", as shown in Figure 3.1-15.

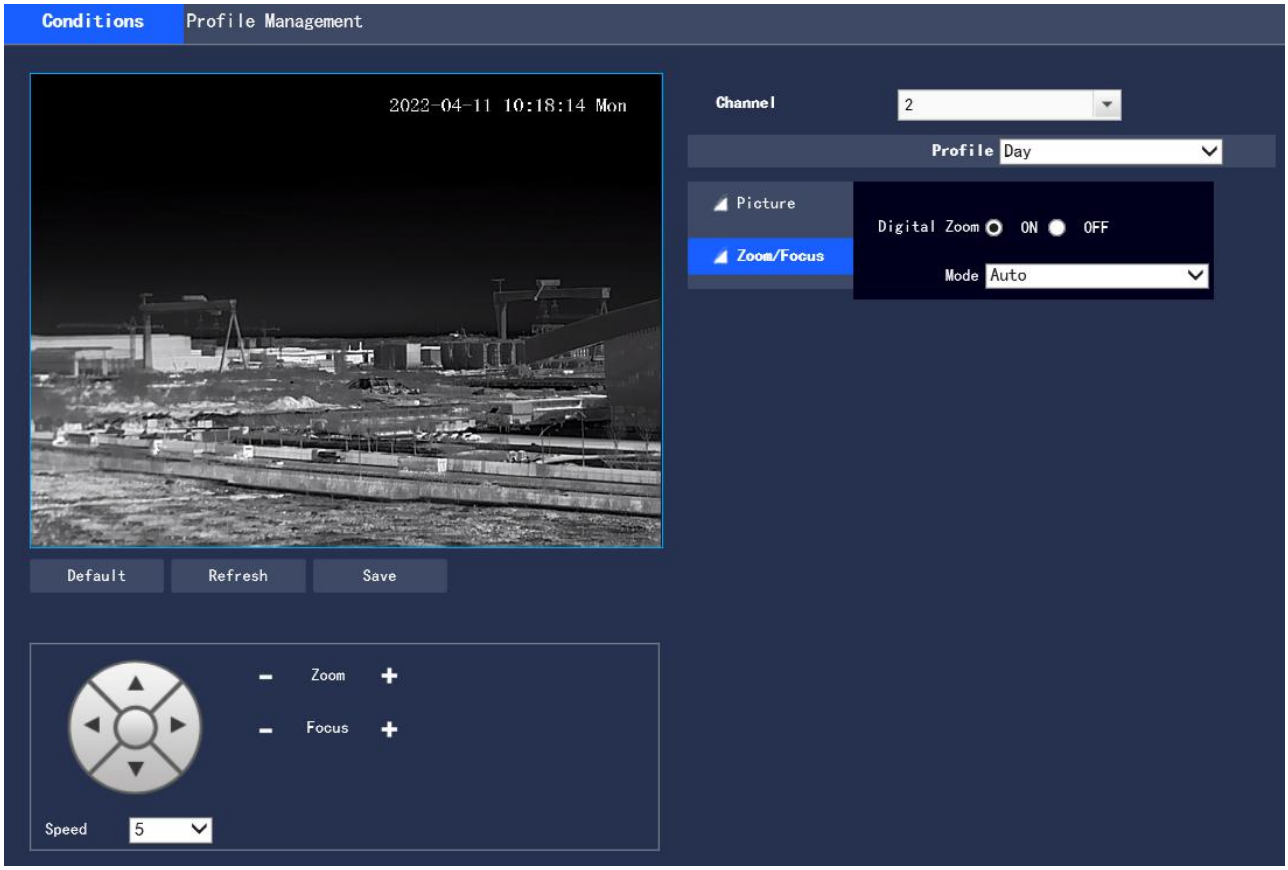


Fig. 3.1-15 Zoom/Focus

Step 3 Select the "Zoom/Focus" mode to view the manual and automatic options in the drop-down box, and the "Auto" option is set as default.

- Manual: the focus position is actively adjusted by the user without automatic trigger by any device.
- Auto: this option triggers focus automatically.

Step 4 Click "Save" to complete the setting.

3.1.1.3 Configuration file management

There are two channels, with Channel 1 for the visible light configuration file, and Channel 2 for the thermal picture configuration file. Channel 1 is set as default.

The configuration file management can select either of such three types as "Normal", "Full Time" and "Schedule".

● When the "Normal" type is selected, the visible light video conducts surveillance according to the normal configuration of the camera, as shown in Figure 3.1-15.

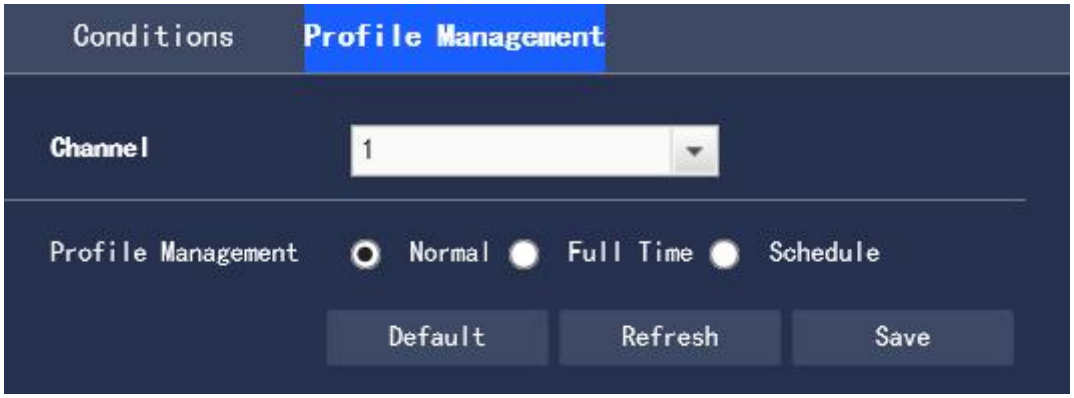


Fig. 3.1-15 Configuration File Management - Normal Type

● When the "Full Time" type is selected, there are "Day" or "Night" options, and the corresponding visible light camera property configuration file is day or night, as shown in the Figure 3.1-16.

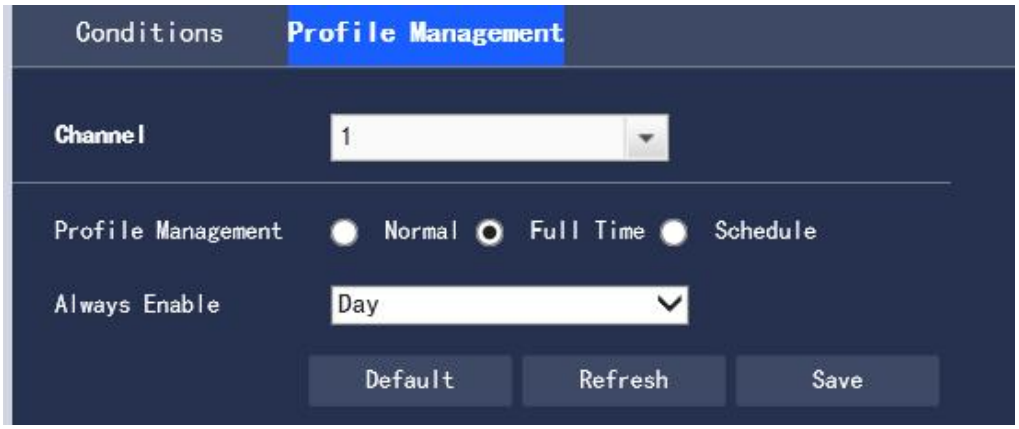


Fig. 3.1-16 Configuration File Management - Full Time

● When the "Schedule" type is selected, you can choose a period of time for day configuration and another period of time for night configuration. The configuration interface is as shown in Figure 3.1-17. For example, you can set 7:00～17:00 for day configuration, and 17:00～7:00 for night configuration.

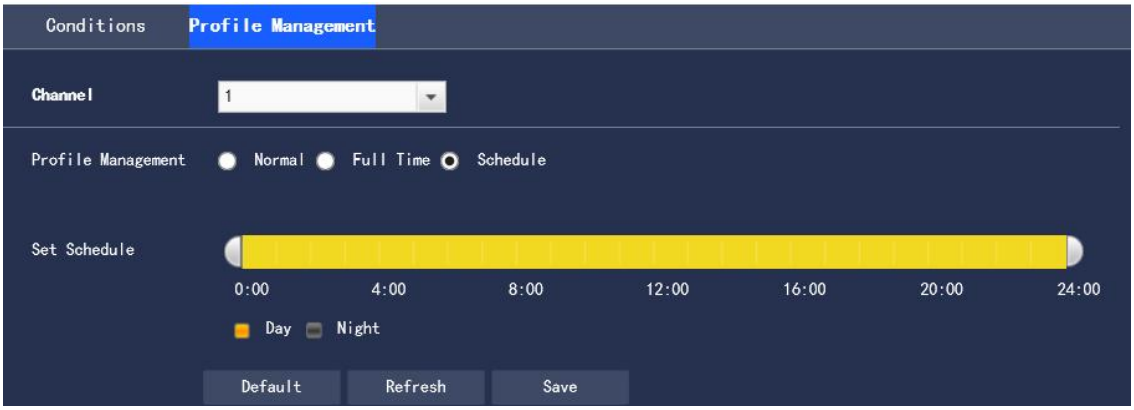


Fig. 3.1-17 Configuration File Management - Schedule Type

Click "Save" to complete the configuration.

3.1.2 Encoding settings

It is for setting the camera in such aspects as the video stream, snapshot stream, video overlay, ROI and audio.
● Channel 1 is the visible light setting, and Channel 2 is the thermal picture setting. The following part is described as settings of Channel 1.

3.1.2.1 Video stream

It is for setting the video stream of the surveillance pictures. The configuration steps are as follows:
Step 1 Select "Settings > Camera Settings > Encoding Settings > Video" to enter the "Video stream" interface of

the system. Channel 1 is the visible light video stream, and Channel 2 is the thermal picture video stream, as shown in Figure 3.1-18.

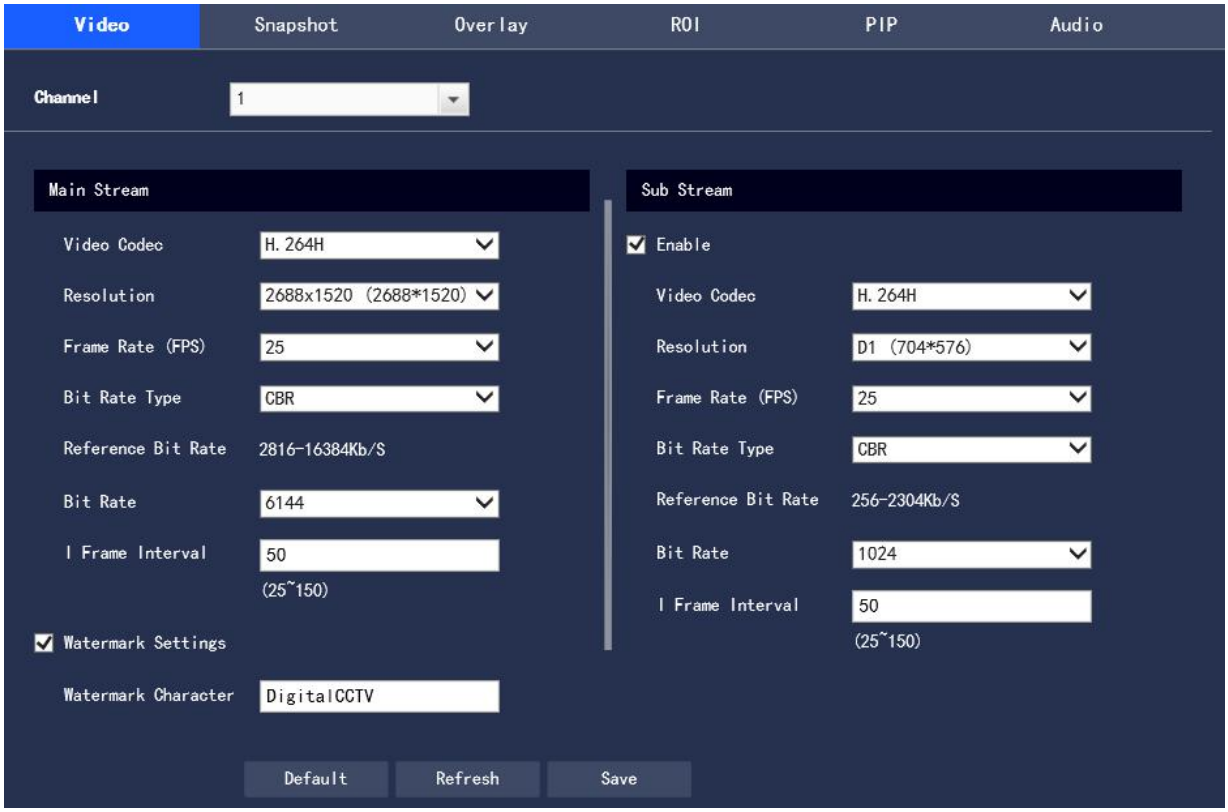


Fig. 3.1-18 Video Streaming Setting

● The code stream configuration interface of different devices may be different, please refer to the actual interface for details.

● The default value corresponding to different code streams may be different, please refer to the actual interface for details.

Step 2 Configure information of each parameter according to actual needs. For the description of parameters, please refer to Table 3.1-6.

Parameter	Description
Video Codec	There are such options as H.264, H.264H, H.264B, H.265, and MJPEG.
Resolution	There are a variety of resolution types, each of which corresponds to a different stream value recommended.
Frame Rate (FPS)	The range is 1 frame/sec ~ 25 frames/sec, and the frame rate will vary with different device models and resolutions.
Bit Rate Type	It covers the fixed stream and the variable stream. ● The picture quality can only be set in the variable stream mode, rather than the fixed stream mode. ● In the MJPEG encoding mode, the stream control method can only be the fixed stream.
Reference Bit Rate	It recommends the user a reasonable range of stream value according to the resolution and frame rate configured by the user.
Bit Rate	● In the variable stream mode, this value is the upper limit of stream and in the fixed stream mode, this value is a fixed value. ● Refer to "Reference Bit Rate" for the best reference range.
I Frame Interval	It refers to the number of P frames between two I frames. The range changes with the frame rate, which is up to 150. It is recommended to set it to 2 times the frame rate.

Watermark Settings	By verifying the watermark characters, the user can check whether the video has been tampered. This function is enabled after the enable item is selected. The watermark character "DigitalCCTV" is set as the default. The watermark characters can only be numbers, letters, underlines, and strikethroughs, which is up to 128 characters.
Sub Stream Enable	Check the enable check box to control sub stream enabling/disabled. Enabling is set as default.

Table 3.1-6 Description of Video Stream Parameter Settings

Step 3 Click "Save" to complete the configuration.

3.1.2.2 Picture stream

It is for setting the stream information of the Image capture by the surveillance, and the configuration steps are as follows:

Step 1 Select "Settings > Camera Settings > Encoding Settings > Snapshot" to enter the "Snapshot" interface of the system, as shown in Figure 3.1-19.



Fig. 3.1-19 Picture Stream Setting

Step 2 Configure information of each parameter according to actual needs. For the description of parameters, please refer to Table 3.1-7.

Parameter	Description
Snapshot Type	It covers normal image capture and triggered image capture. ● Normal image capture refers to such operations within the scope set in the timetable. ● Triggered image capture refers to such operations after triggering dynamic detection, video mask, and local alarm.
Image Size	Keep the resolution same to that of the selected image capture stream (main stream or sub stream).
Quality	Set the quality of image capture in such six levels as worst, worse, poor, good, better, best.
Interval	Set the frequency of image capture, from 1 second/sheet to 7 second/sheet or customized.

Table 3.1-7 Description of Picture Stream Parameter Settings

Step 3 Click "Save" to complete the configuration.

3.1.2.3 Video overlay

It is for setting the information overlaid on the surveillance video pictures, and the configuration steps are as follows:

Step 1 Select "Settings > Camera Settings > Encoding Settings > Overlay" to enter the "Audio Overlay" interface of the system.

Step 2 Configure the video overlay information according to actual needs. The configuration interface is as shown in Figure 3.1-20 to Figure 3.1-28, referring to Table 3.1-8 for the parameter descriptions.

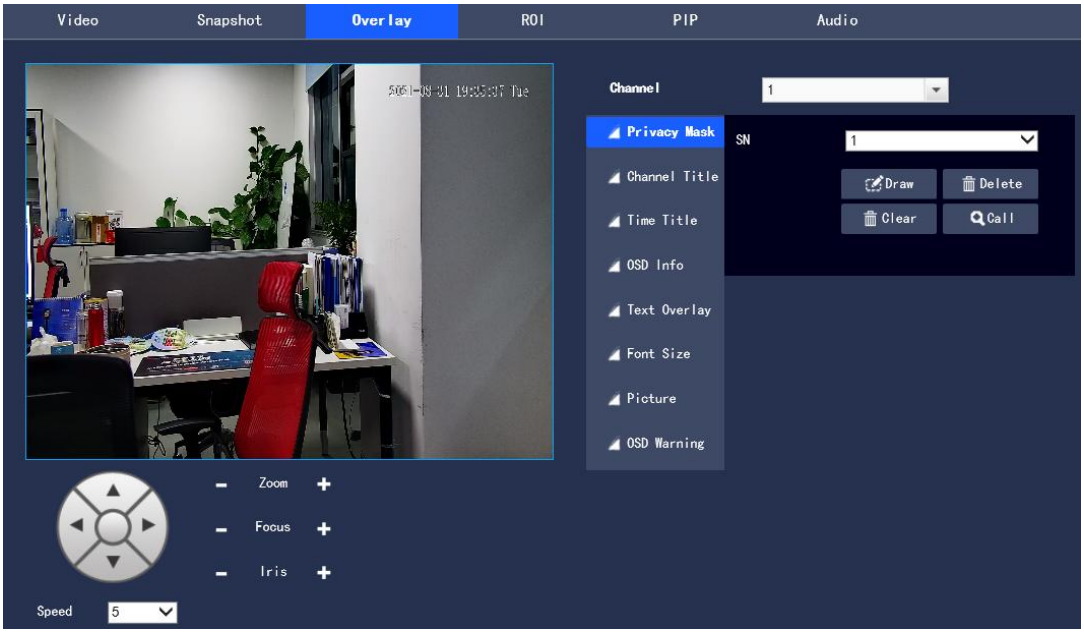


Fig. 3.1-20 Video Overlay - Privacy Mask

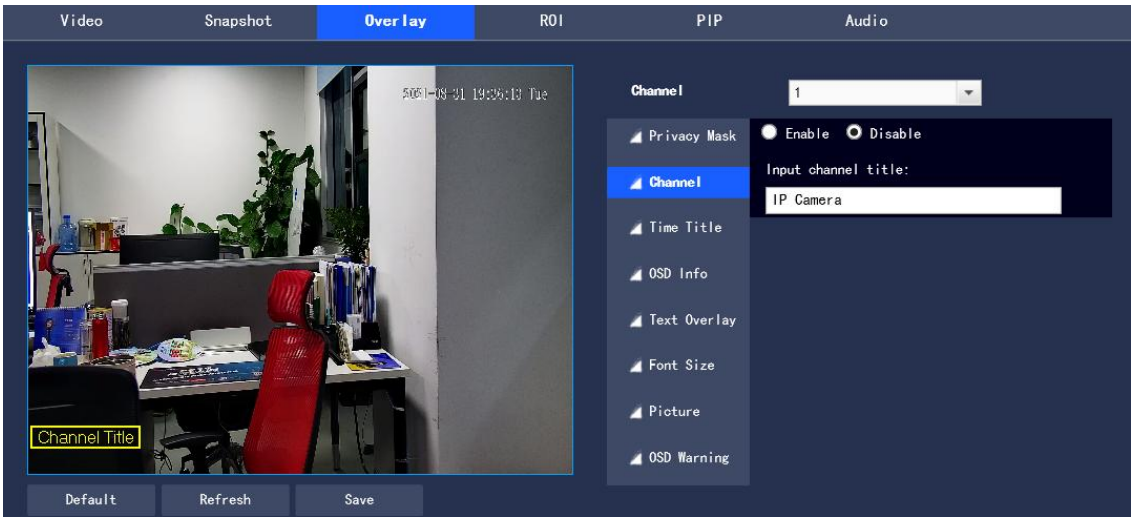


Fig. 3.1-21 Video Overlay - Channel Title

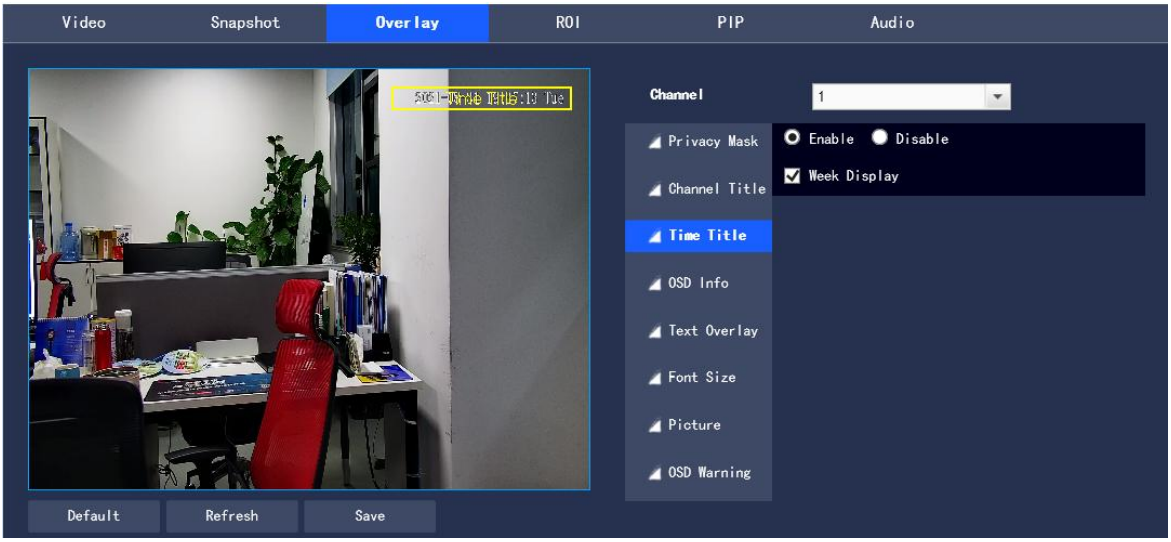


Fig. 3.1-22 Video Overlay - Time Title

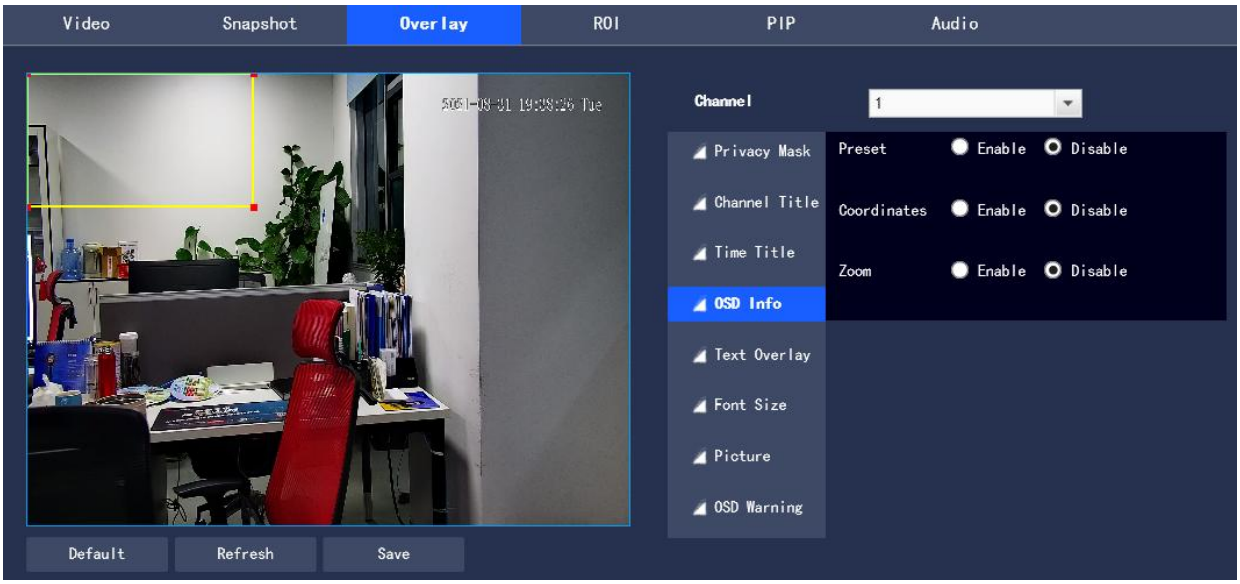


Fig. 3.1-23 Video Overlay - OSD Information

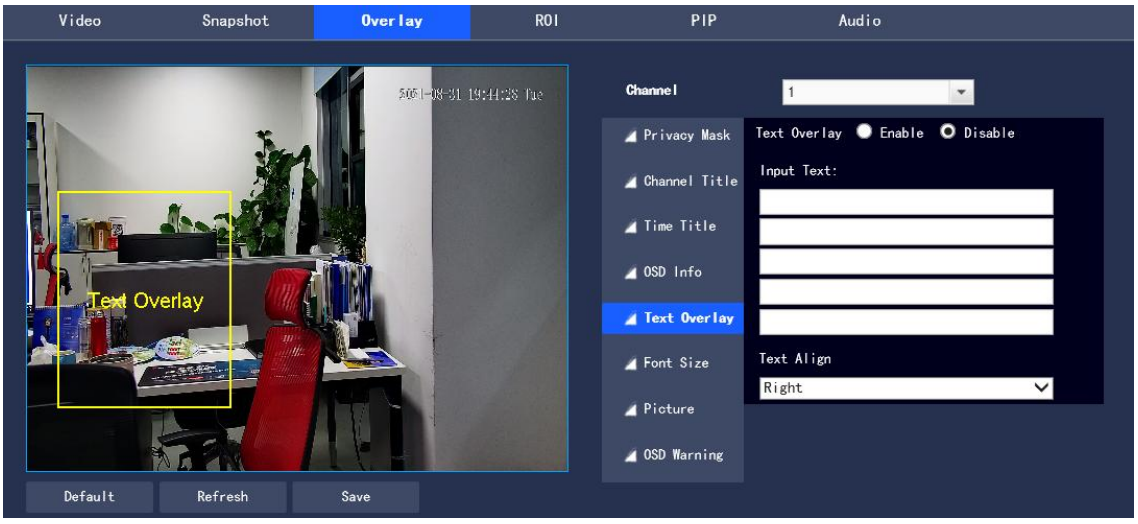


Fig. 3.1-24 Video Overlay - Geographic Location

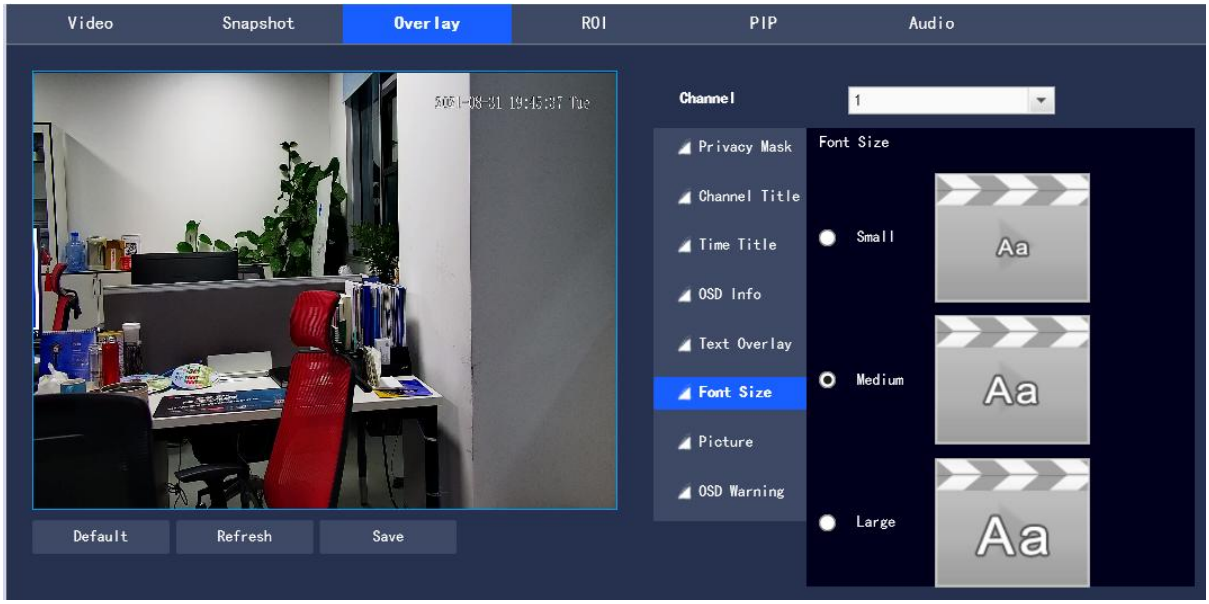


Fig. 3.1-25 Video Overlay - Font Size

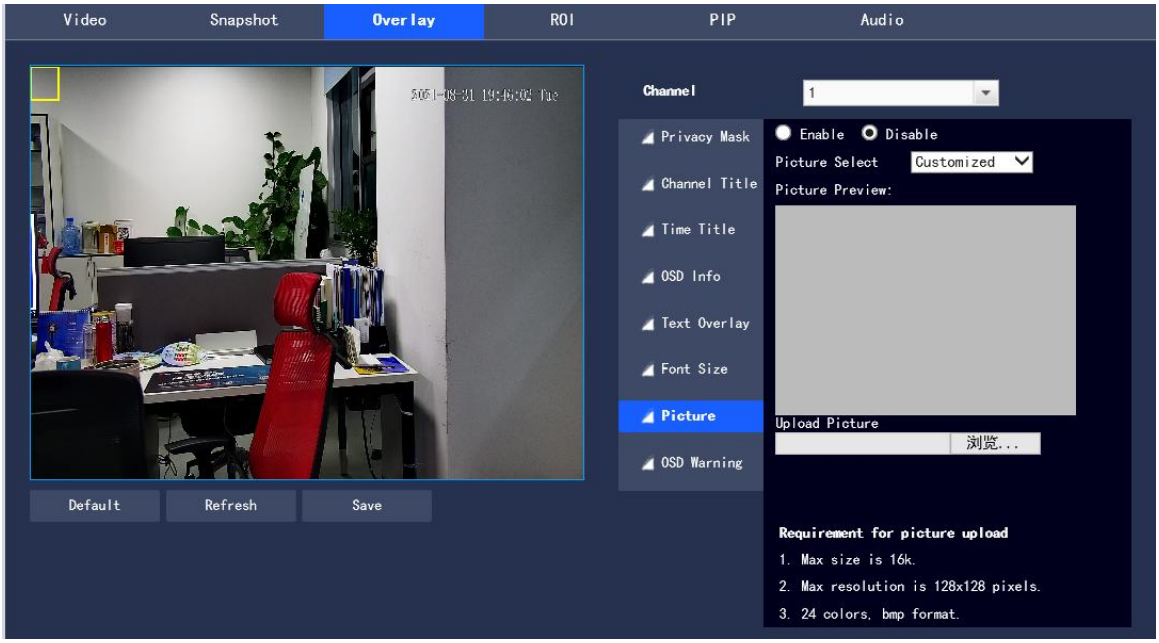


Fig. 3.1-26 Video Overlay - Picture Overlay

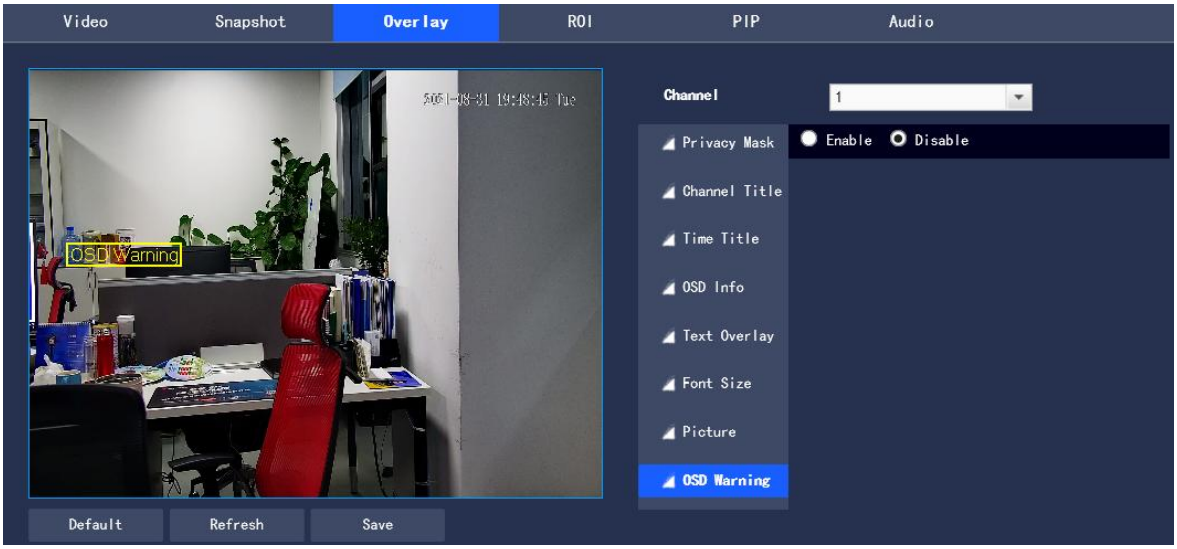


Figure 3.1-27 Video Overlay-OSD Warning

Parameter	Description
Privacy Mask	Privacy Mask refers to setting a certain shielding area within the monitoring screen for privacy protection ● Click "Draw" to draw the privacy mask in the preview picture ● Click "Delete" to delete the corresponding privacy mask ● Click "Clear" to remove all privacy masks
Channel Title	Set to enable or disable Channel Title in the monitoring screen, and adjust its position by dragging the "Channel Title" box
Time Title	Set to enable or disable Time Title in the monitoring screen, whether to tick the Week Display box, and adjust the position by dragging the "Time Title" box
OSD Info	Set to enable or disable Preset point, PTZ Coordinates, and Zoom in the monitoring screen; adjust its position in the monitoring screen by dragging the "OSD Info" box;
Text Overlay	Set to enable or disable Text Overlay in the monitoring screen and adjust the position of the time title by dragging the “Text Overlay” box; support left and right alignment
Font Size	Set the font size in Video Overlay; support the sizes of "Small", "Medium" and "Large", with "Medium" as default
Picture	Set to enable or disable Overlay Picture in the video screen. Click to upload pictures, and the local picture can be superimposed on the video surveillance window. Adjust the position of the superimposed pictures by dragging the yellow box Note: The geographic/road information of OSD Info and Picture cannot be enabled at the same time
OSD Warning	Set to enable or disable OSD Warning in the monitoring screen

Table 3.1-8 Video Overlay Parameter Setup Description

Step 3 Click "Save" to complete the configuration.

3.1.2.4 ROI

To set the key monitoring region as ROI, it can set the image quality of this region. The configuration steps are as follows:

Step 1 Select " Settings > Camera Settings > Encoding Settings > ROI"

The system displays the "ROI" interface as shown in Figure 3.1-29

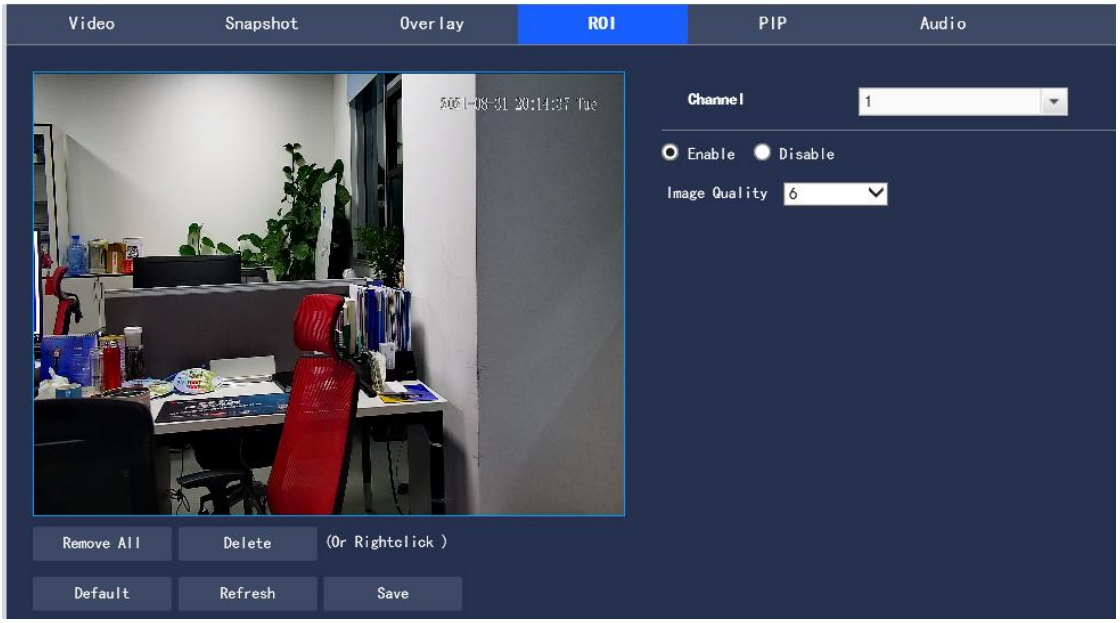


Figure 3.1-29 ROI Setup

Step 2 Select "Enable" to turn on the ROI function

Step 3 Press and hold the left mouse button to select the region in the monitoring screen, up to 4 regions selected at a time

- Click "Delete" or press the right mouse button to delete the selected region
- Click "Clear" to remove all selected regions

Step 4 Set Image Quality of corresponding ROI

Step 5 Click "Save" to make the configuration effective

3.1.2.5 PIP

To set the PIP mode, the configuration steps are as follows:

Step 1 Select "Settings > Camera Settings > Encoding Settings > PIP"

The system displays the "PIP" interface as shown in Figure 3.1-30

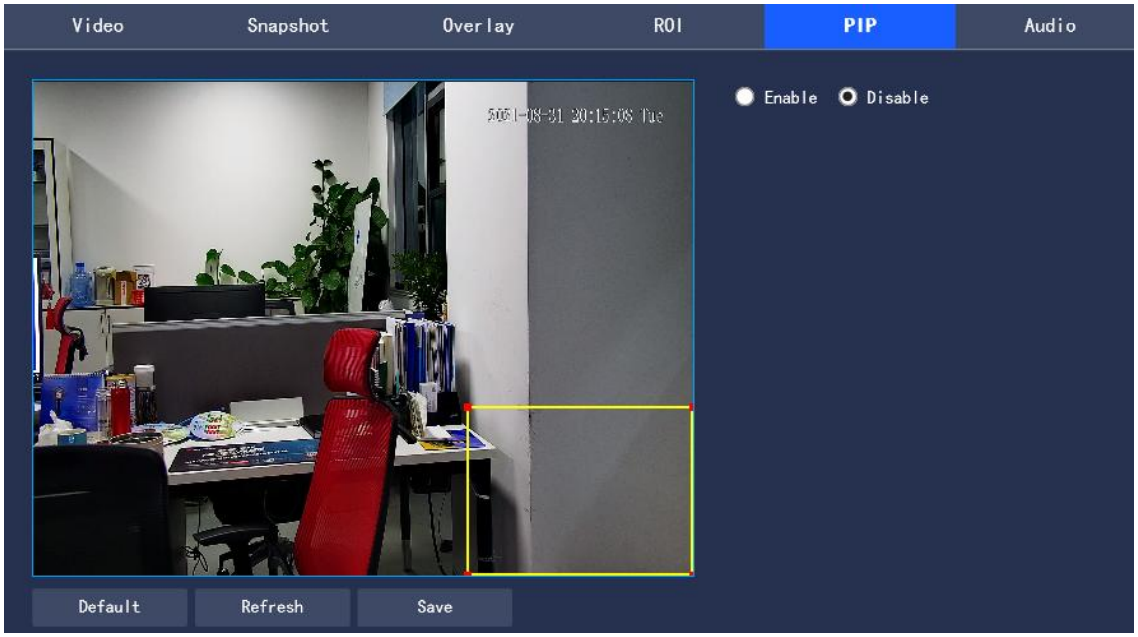


Figure 3.1-30 PIP

Step 2 Select "Enable" to turn on the PIP function

Step 3 Adjust the position and size of the thermal imaging region in the visible light monitoring screen

Step 4 Click "Save" to make the configuration effective

3.1.2.6 Audio

To set the audio parameters of the device, The configuration steps are as follows:

Step 1 Select "Settings > Camera Settings > Encoding Settings > Audio". The system displays the "Audio" interface as shown in Figure 3.1-31

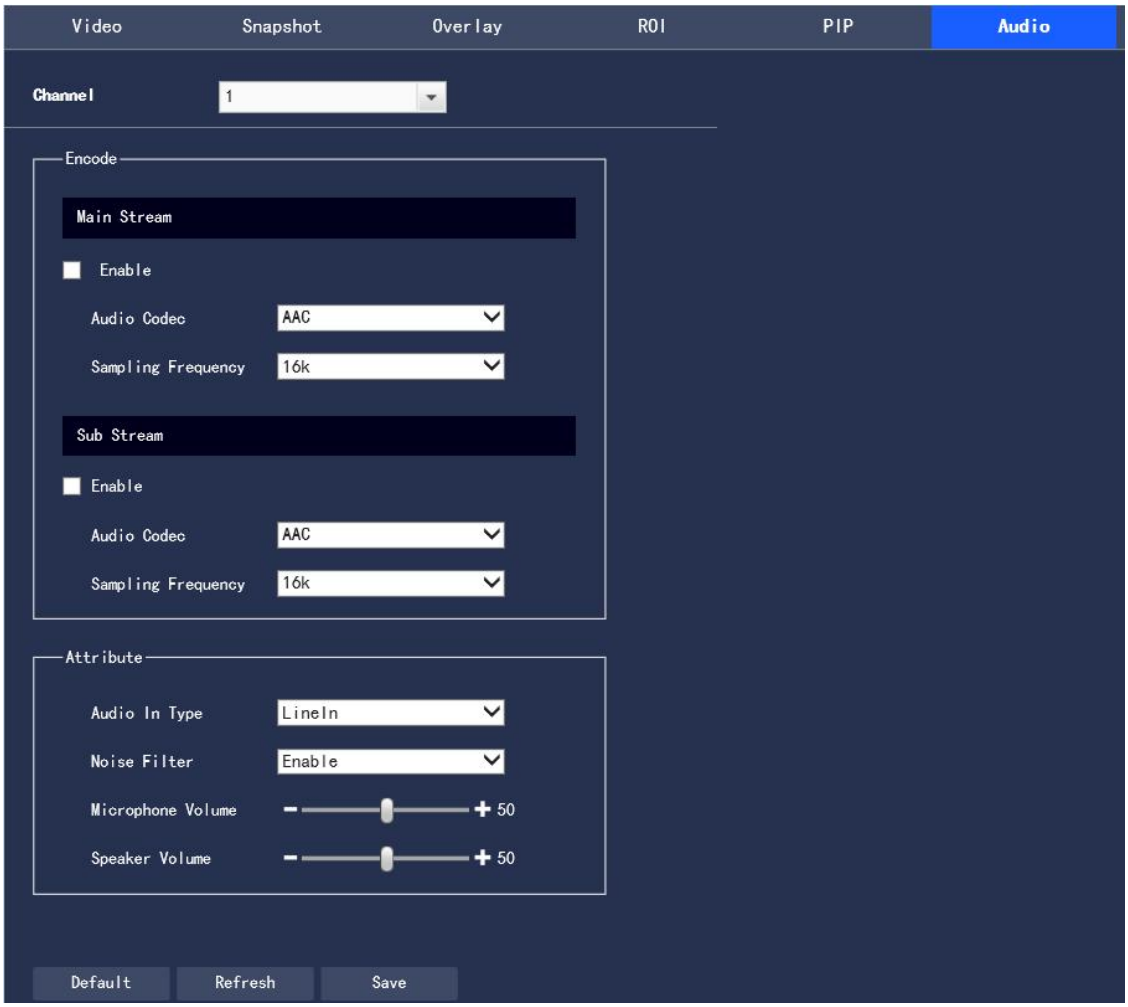


Figure 3.1-31 Audio Setup

Step 2 To configure each parameter information according to actual needs, refer to Table 3.1-9 for parameter description.

Parameter	Description
Audio Enable	Select the audio channel number to be enabled, and the code stream transmitted by the network is a composite audio and video stream, otherwise only video images are included
Audio Codec	Audio Codec includes ACC and MPEG2-Layer2, with ACC as default
Sampling Frequency	Sampling Frequency supports 8K and 16K, with 16K as default
Audio InType	Set the audio in such types as LineIn or Mic, with LineIn as default
Noise Filter	Set to enable or disable the Noise Filter function, with Enable as default
Microphone Volume	Adjust the volume of the microphone within the range of 0～100
Speaker Volume	Adjust the volume of the speaker within the range of 0～100

Table 3.1-9 Audio Parameter Setup Description

Step 3 Click "Save" to complete the setting.

3.2 Network Setup

3.2.1 General Setup

3.2.1.1TCP/IP

Configure the IP address and DNS server of the camera to ensure its interconnection with other devices in the network

Note: Please confirm the correct connection of the camera to the network before setting the network parameters

- Without a routing device in the network, please assign an IP address in the same network segment
- With a routing device in the network, the corresponding gateway and subnet mask should be set

Step 1 In the system menu, select "Settings > Network Settings > General Settings > TCP/IP". The system displays the "TCP/IP" interface as shown in the Figure 3.2-1.

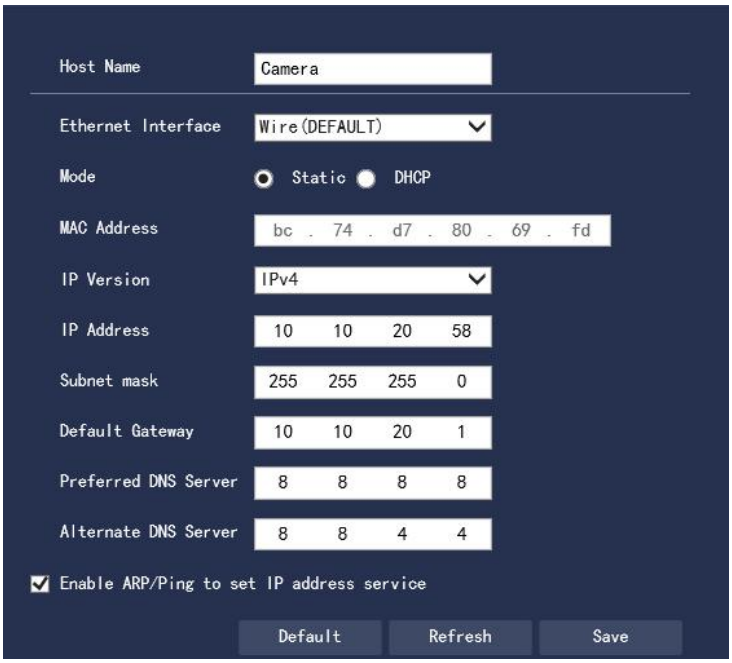


Figure 3.2-1 TCP/IP Configuration

Step 2 To configure TCP/IP parameters, refer to Table 3.2-1 for detailed parameter description

Parameter	Description
Host Name	Set the name for the current host device within the maximum length of 15 characters
Ethernet Interface	Select the network interface card (NIC) to be configured, with Wire as default Note: When the device has multiple NICs, the default one can be changed. To reset the default NIC, it should restart the device
Mode	Static and DHCP modes are available. When the DHCP mode is selected, IP address is automatically filled and the IP/mask/gateway cannot be changed; when the Static mode is selected, the IP/mask/gateway needs to be manually set
MAC Address	Display the address of device MAC
IP Version	Two address formats of IPv4 and IPv6 are available. Currently, both IP addresses are supported and can be accessed

IP Address	Enter the corresponding number to change the IP address
Subnet Mask	Make settings according to the actual situation. The numeric subnet prefix supports to enter 1～255, and identifies a specific network link, usually including a hierarchical structure Note: The device will check the validity of all IPv6 addresses, and the IP address and the default gateway must be in the same network segment, that is, to pass the inspection, the length of the subnet prefix must be the same
Default Gateway	Make settings according to the actual situation, and it must be in the same network segment as IP Address
Preferred DNS Server	DNS Server IP address
Alternate DNS Server	Alternate IP address of DNS Server
Enable ARP/Ping to set IP address service	If the MAC address is known, the device IP address can be modified and set through the ARP/Ping command When it is enabled by default, during the device restarting, the device IP can be set through a ping packet of a specific length within 2 minutes. After 2 minutes, the service will be turned off, or turned off immediately after the successful IP setting; if it is disabled, the IP setting through the ping packet is impossible

Table 3.2-1 TCP/IP Parameter Description

Step 3 Click "Save" to complete the setting.

3.2.1.2 DDNS

DDNS (Dynamic Domain Name Server) is used when the IP address of the device changes frequently, to dynamically update the relationship between the domain name and the IP address on the DNS server to ensure the device access of users through the domain name

Note: Before configuration, please confirm whether the device supports the domain name server type, and log in to the website of the DDNS server provider on the WAN PC to register the domain name and other information

If DDNS type is selected as other types, the interface is shown in Figure 3.2-2. Please Set DDNS parameters by referring to Table 3.2-2



Figure 3.2-2 DDNS Interface

Parameter	Description
Server Type	The address corresponding to the name of the DDNS server provider is as follows:

Server Address	● The address of CN99 DDNS is: members.3322.org ● The address of NO-IP DDNS is: dynupdate.no-ip.com ● The address of Dynans DDNS is: members.dyndns.org
Domain Name	The registered domain name by users on the website of the DDNS server provider
Username	Enter the username and password obtained from the DDNS service provider. The user has to get registered (including username and password) on the website of the DDNS server provider
Password	
Update Period	Specify the time interval for regularly initiating update requests after the DDNS update is started, in unit of minutes

Table 3.2-2 DDNS Parameter Description

1. After setting, click "Save"

2. Enter the domain name in the PC web browser and press [Enter]; if the device web interface can be displayed, it is successful; if not, the configuration fails

3.2.1.3 PPPoE

By enabling the PPPoE (Point-to-Point Protocol over Ethernet) dial-up mode to establish a network connection, the device will obtain a dynamic IP address for the WAN. Before enabling, please obtain the PPPoE username and password provided by the ISP (Internet Service Provider)

Step 1 Select "Settings > Network Settings > General Settings > PPPoE". The system displays the "PPPoE Setup" interface as shown in Figure 3.2-3.



Figure 3.2-3 PPPoE Interface

Step 2 Select "Enable" and enter the PPPoE Username and Password.

Step 3 Click "Save" to complete the PPPoE configuration. When the system prompts "Save successfully" and displays the obtained public network IP address in real time, users are allowed to access the device through this IP.

3.2.1.4 Connection

The maximum number of connection ports for the device and the value of each port can be configured on this interface

Step 1 Select "Settings > Network Settings > General Settings > Connection". The system displays the "Connection" interface as shown in Figure 3.2-4



Figure 3.2-4 Connection

Step 2 To Configure the value of each port for the device, refer to Table 3.2-3 for detailed parameter description.

Parameter	Description
Max Connection	The maximum number of WEB logins for the user of the same device and the setting range is 1～20 with 20 as default
TCP Port	The setting of the TCP protocol communication service port is subject to users' actual needs, with "37777" as default
UDP Port	The setting of the user data packet protocol port is subject to users' actual needs, with "37778" as default
HTTP Port	The setting of the HTTP communication port is subject to users' actual needs, with "80" as default
RTSP Port	The RTSP default port number is 554, and if it is the default value, leave it blank. The following format is available when users use VLC to play the real-time monitoring Real-time monitoring stream URL format. To request the real-time monitoring stream RTSP streaming media service, the requested channel number and stream type should be specified in the URL. If authentication information is required, the username and password should also be provided. rtsp://username:password@ip:port/cam/realmonitor?channel=1&subtype=0 Username: User name, such as admin. Password: Password, such as admin. IP: Device IP, such as 192.168.1.122. Port: Port number, the default is 554, and if it is the default value, leave it blank. Channel: Channel number, starting with 1. If it is channel 2, then channel=2. Subtype: Stream type, the main stream is 0 (that is, subtype=0), and the sub stream is 1 (that is, subtype=1). For example, to request the channel 2 sub stream of a certain device, the URL is as follows: rtsp://admin:admin@192.168.1.123:554/cam/realmonitor?channel=2&subtype=1 If authentication is not required, it is no need to specify the username and password, just to use the following format: rtsp://ip:port/cam/realmonitor?channel=1&subtype=0
Enable HTTPs	HTTPs communication service control. When it selects to "Enable HTTPs", https://ip:port can be adopted to log in to the device;

	the https://ip can be used to log in at the default port. Default enable is off
HTTPs Port	The setting of the HTTPs communication port is subject to users' actual needs, with as "443" by default

Table 3.2-3 Connection Parameter Description

Step 3 Click "Save" to complete the setting.

3.2.1.5 RTSP

Dual Channels Streaming:
Visible Light: rtsp://192.168.1.108:554/cam/realmonitor? channel=1&subtype=0&unicast=true
Thermal Imaging: rtsp://192.168.1.108:554/cam/realmonitor? channel=2&subtype=0&unicast=true
The main stream is subtype=0, and the sub stream is subtype=1

3.2.1.6 UPnP

Through the UPnP protocol to establish a mapping relationship between the private network and the external network, users on the external network can access the internal network device by visiting the external IP address. The internal port is a network camera port, while the external port is a router port. The user can access the network camera when accessing the external port. When the router is not used for UPnP, please turn off the UPnP function to avoid affecting the use of other functions

When the UPnP is enabled, the network camera supports the UPnP protocol. In the Windows XP or Windows Vista operating system, if the system UPnP is enabled, the network camera is automatically detected in Windows Network Neighborhood

Refer to the following steps to install the UPnP network service in Windows operating systems:

Step 1 Open Control Panel and select "Add or Remove Programs"

Step 2 Click "Add/Remove Windows Components".

Step 3 Select "Network Service" in the wizard and click "Details"

Step 4 Select "Internet Gateway Device Discovery and Control Client" and "UPnP User Interface", confirm and install

The UPnP configuration steps are as follows:

Step 1 Select "Settings > Network Settings > General Settings > UPnP". The system displays the "UPnP" interface as shown in Figure 3.2-5

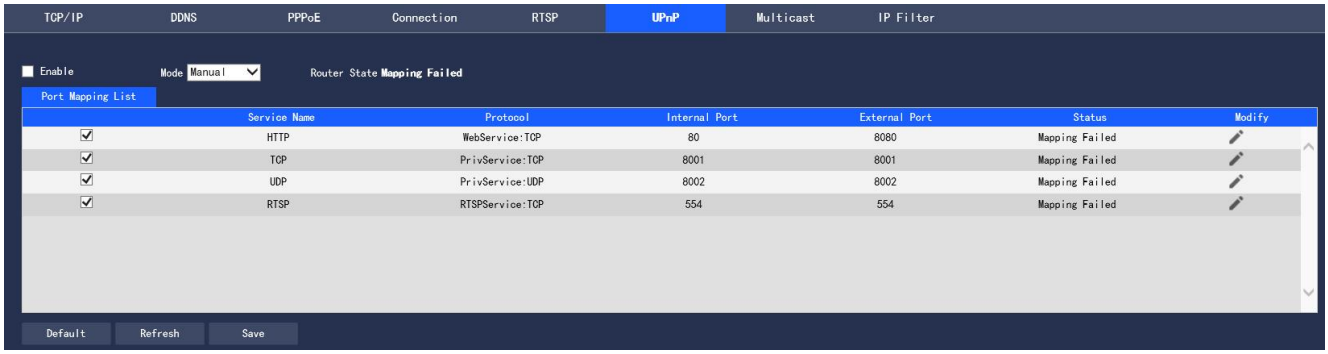


Figure 3.2-5 UPnP

Step 2 Select the check box to enable the UPnP function

Step 3 Select Mode

UPnP supports two mapping modes: automatic and manual modes. The manual mapping mode allows

users to modify external ports, while as the automatic mapping mode selects unoccupied ports to automatically complete port mapping, there is no need for users to change the mapping

Step 4 Click "Save" to make the configuration effective

3.2.1.7 Multicast

To preview the video screen through the network access device, if it exceeds the device access limit, the video screen cannot be previewed. At this time, it can be solved by setting the multicast IP to the device and using the multicast protocol access.

Step 1 Select "Settings > Network Settings > General Settings > Multicast". The system displays the "Multicast" interface as shown in Figure 3.2-6

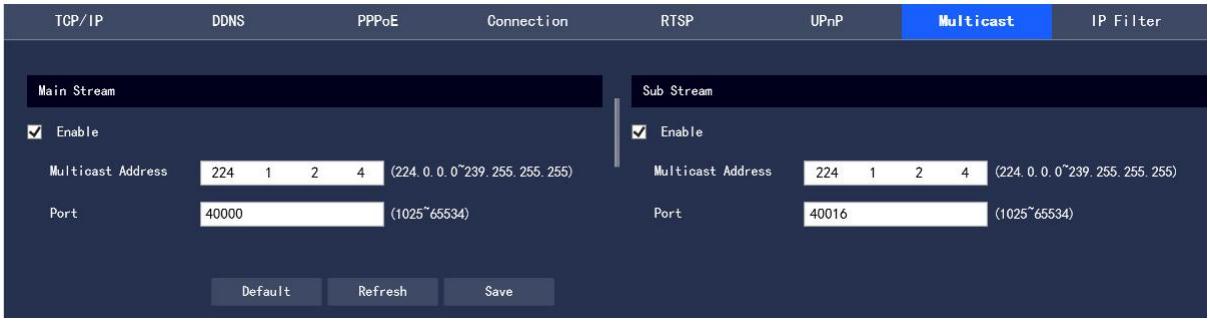


Figure 3.2-6 Multicast

Step 2 Select "Enable" to enable the multicast function

Step 3 Enter the multicast address and port

The multicast IP address range is restricted as shown in the figure, without restrictions for the multicast port number

Step 4 Click "Save" to complete the configuration

3.2.1.7 IP Filter

The user can set the users allowed to access the device through IP Filter

● Trusted Sites: add IP/MAC of users allowed to log in to the device. If Trusted Sites is enabled, only the users whose IP/MAC is in the list are allowed to log in to this device; if not, there is no restriction on users to access this device

● Users are not allowed to add the device IP/MAC to Trusted Sites

The MAC verification will take effect when the IP of the device and the PC are in the same LAN

Step 1 Select "Settings > Network Settings > General Settings > IP Filter". The system displays the "IP Filter" interface as shown in Figure 3.2-7



Figure 3.2-7 IP Filter Interface

Step 2 Select the corresponding check box to enable the Trusted Sites

Step 3 Click "Add IP/MAC", and configure the IP address information in the pop-up dialog box, by reference to Table 3.2-4

Parameter	Description
IP Address	Enter the host IP address to be added
IP Network Segment	Enter the start address and end address of the network segment to be added
IPv4	The IP address is in IPv4 format, such as 192.108.1.120
IPv6	The IP address is in IPv6 format, such as aa:aa:aa:aa:aa:aa:aa:aa
MAC	Enter the host MAC address to be added

Table 3.2-4 IP Filter Parameter Description

Step 4 Click "Save" to make the configuration effective; to use the IP host in Trusted Sites to log in to the device web interface, it can log in to the device successfully

3.2.2 Advanced Setup

3.2.2.1 SNMP

SNMP (Simple Network Management Protocol) provides the network management system with a framework for the underlying network management; SNMP functions can be controlled in the network service settings; through the relevant software tools, after successful connection to the device, the relevant device configuration information can be obtained

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

● Install SNMP equipment monitoring and management tools, such as MIB Builder and MG-SOFT MIB Browser

● Obtain two MIB files corresponding to the current version from technical support

Step 1 Select "Settings > Network Settings > Advanced Settings > SNMP". The system displays the "SNMP" interface as shown in Figure 3.2-8 and 3.2-9

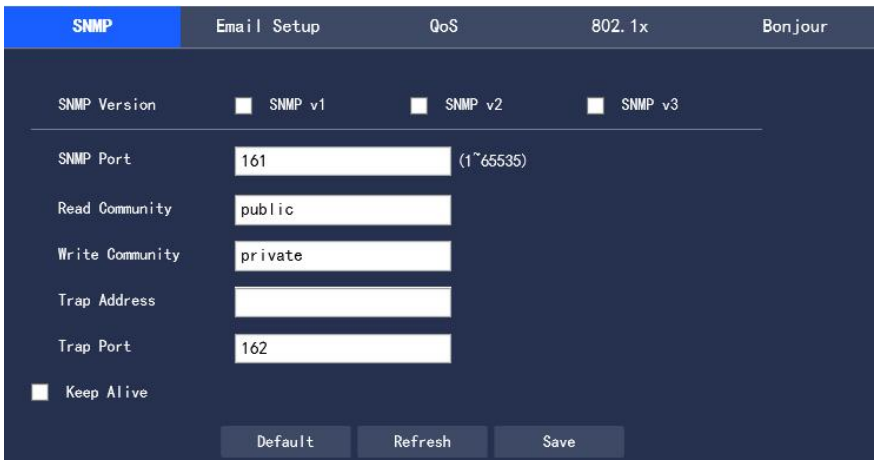


Figure 3.2-8 SNMP (1)

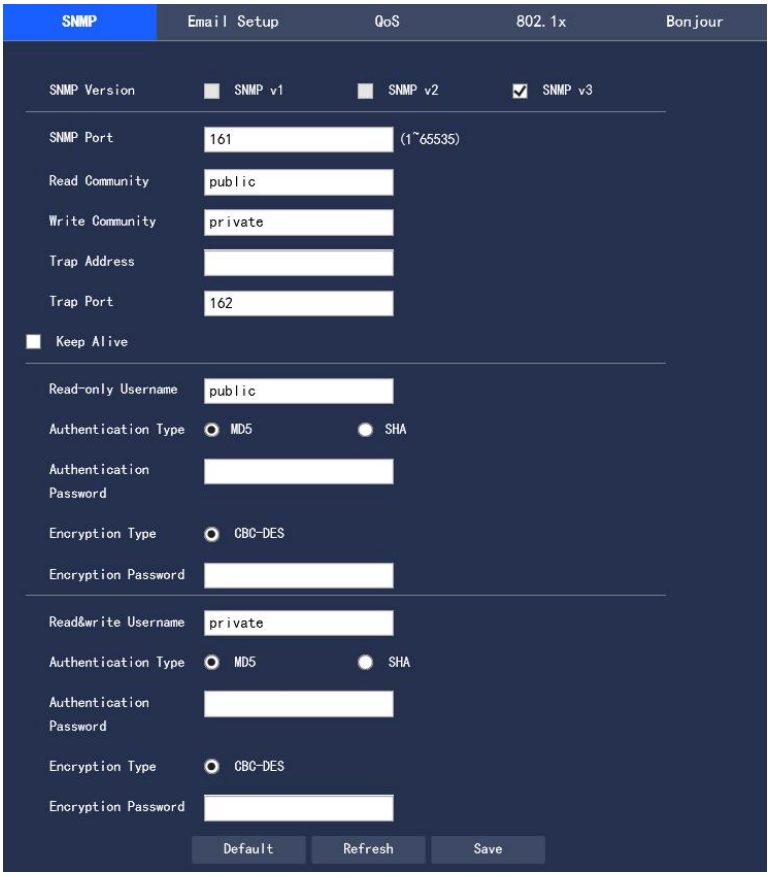


Figure 3.2-9 SNMP (2)

Step 2 To configure each parameter information according to actual needs, refer to Table 3.2-5 for parameter description

Parameter	Description
SNMP Version	● For SNMP v1, the device can only process the information in v1 version ● For SNMP v2, the device can only process information in v2 version ● for SNMP v3, it supports the settings of the account, password and authentication type. When the server is going to access the device, the corresponding account, password and authentication type must be set for security verification, and the v1 and v2 versions are not subject to selection.
SNMP Port	The agent listening port on the device. The range is 1～65535 with 161 as default
Community	It is a string, as a clear text password between the management process and the agent process, and defines the authentication, access control, and escrow relationship between an agent and a group of managers. It should ensure consistency between the device and the agent
Read Community	With the specified name, read-only access to all SNMP-supported objects. The default configuration is: public
Write Community	With the specified name, read/write access to all SNMP-supported objects. The default configuration is: private
Trap	SNMP Trap refers to an SNMP agent sending information to the administrator, and an agent notifying important events or status changes of the management station.
Trap Address	The destination address for the agent on the device to send the Trap message
Trap Port	The destination port for the agent on the device to send the Trap message. The range is 1～65535 with 162 as default
Read-only Username	The default is public ● The name consists of numbers, letters, and underscores only

Read&write Username	The default is private ● The name consists of numbers, letters, and underscores only
Authentication Type	The MD5 or SHA type is available with MD5 as default
Authentication Password	The password length is no less than 8 digits
Encryption Type	The default is CBC-DES
Encryption Password	The password length is no less than 8 digits

Table 3.2-5 SNMP Parameter Setup Description

Step 3 Click "Save" to make the configuration effective

3.2.2.2 Email Setup

By setting Email Setup, when alarms, video detections, or abnormal events occur, an e-mail will be sent immediately.

When alarms, video detection, and abnormal events are triggered, an email will be sent to the recipient's server through SMTP Server. The recipient logs in to the receiving server to receive the email.

Step 1 Select "Settings > Network Settings > Advanced Settings > Email Setup. The system displays the Email Setup interface as shown in Figure 3.2-10

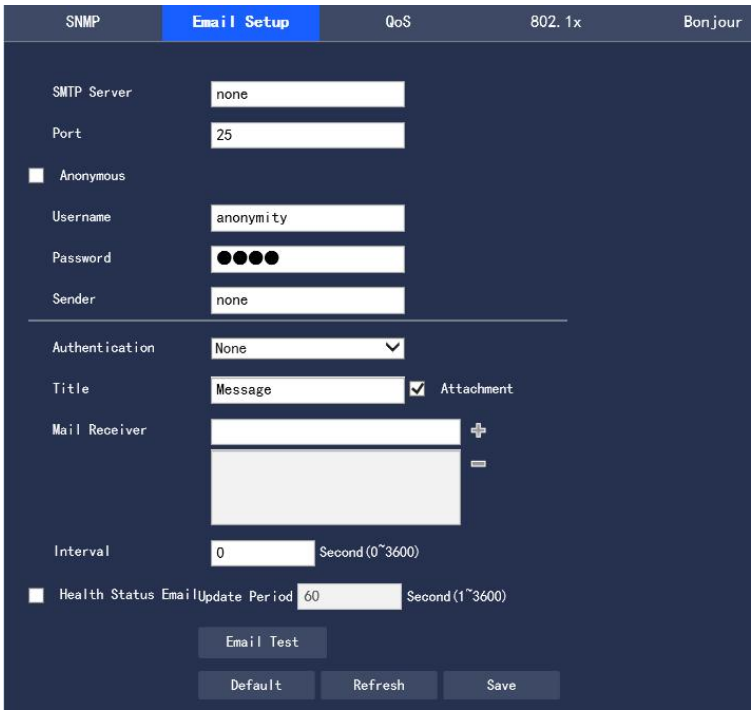


Figure 3.2-10 Email Setup

Step 2 To configure each parameter information according to actual needs, refer to Table 3.2-6 for parameter description

Parameter	Description
SMTP Server	The IP address of the outgoing SMTP mail server

Port	The port number of the outgoing SMTP mail server, with 25 as default
Anonymous	For servers that support the anonymous mail, it supports the anonymous login automatically without entering the username, password and sender information
Username	Username of the email-sending mailbox
Password	Password of the email-sending mailbox
Sender	Address of the email-sending mailbox
Authentication	It supports SSL, TLS or none
Attachment	If Attachment is selected, an email with a Image capture picture can be sent
Title	The email title is subject to customization
Mail Receiver	Enter the recipient address of the outgoing mail, and up to three mail receivers are allowed
Interval	The value range of interval for email sending is 0 ～ 3600 seconds, and "0" means sending email without intervals; If Interval is enabled, when the email is triggered by alarms, video detections, and abnormal events, the mail will be sent according not to the immediate alarm signal trigger, but to the interval of the previous mails for the same type of events. It is mainly applied in the phenomenon of over pressure on the mail server for a large number of emails generated from frequent abnormal events
Health Status Email	Health Status Email can use the test information sent by the system to determine whether the email link is successful. If Health Status Email is enabled with the setting of Interval for sending emails, then the system will send the email test information according to the set interval
Email Test	Test whether the email sending and receiving functions is normal. If the configuration is correct, the mailbox will receive the test email; before the test, the mail configuration information should be saved

Table 3.2-6 Email Setup Parameter Description

Step 3 Click "Save" to complete the setting.

3.2.2.3 Qos

QoS (Quality of Service) is a security mechanism for the network, a kind of technology used to solve such problems as network delay and congestion; for network services, QoS includes transmission bandwidth, transmission delay, data packet loss rate; in the network, the QoS can be improved through such measures as the guarantee of the transmission bandwidth, the reduction in the transmission delay and the data packet loss rate as well as the delay jitter.

For DSCP (Differentiated Services Code Point), there are 64 priority levels (0～63), identifying the different priorities of the packet. 0 is the lowest priority and 63 is the highest priority. Different outgoing queues are selected according to the packet priority, and the bandwidth resources occupied by different outgoing queues have different discard ratios when congested, so as to achieve the service quality goal

Step 1 Select "Settings > Network Settings > Advanced Settings > QoS". The system displays the "QoS" interface as shown in Figure 3.2-11



Figure 3.2-11 QoS Interface

Step 2 To set Realtime Monitor and Command, please refer to Table 3.2-7 for parameter description

Parameter	Description
Realtime Monitor	The value range of the data packet for network video surveillance is 0～63
Command	The value range of the non-monitoring data packets such as device configuration and query is 0～63

Table 3.2-7 QoS Parameter Setup Description

Step 3 Click "Save" to complete the configuration.

3.2.2.4 802.1x

802.1x is called port based network access control protocol. It supports users to manually select the authentication type to control whether the device connected to the LAN can access the LAN, and can well support the network authentication, billing, security and management requirements

Step 1 Select "Settings > Network Settings > Advanced Settings > 802.1x". The system displays the "802.1x" interface as shown in Figure 3.2-12



Figure 3.2-12 802.1x

Step 2 Select "Enable" to turn on the 802.1x function

Step 3 Select the Authentication type, and set Username and Password. Please refer to Table 3.2-8 for the parameter description

Parameter	Description
Authentication	PEAP(protected EAP protocol
Username	The user name for authentication needs to be a name that is recognized and authorized on the server side
Password	The set Password should be corresponding to Username

Table 3.2-8 802.1x Parameter Setup Description

3.2.2.5 Bonjour

Bonjour, also known as zero-configuration networking, can automatically discover computers, devices, and services on an IP network. Bonjour uses industry standard IP protocol to allow devices to automatically discover each other without the need to enter IP addresses or configure DNS servers

After the Bonjour function is enabled, the network camera will be automatically detected in Bonjour-supported operating systems and clients. When the network camera is automatically detected by Bonjour, the "Server Name" configured by the user will be displayed

Step 1 Select "Settings > Network Settings > Advanced Settings > Bonjour". The system displays the "Bonjour" interface as shown in Figure 3.2-13



Figure 3.2-13 Bonjour

Step 2 Select "Enable" and set Server Name

Step 3 Click "Save" to make the configuration effective

3.2.3 Platform Setup

3.2.3.1 GB 28181(1)

GB28181 refers to the "Security and protection video monitoring network system technical specification for information transport, switch and control" (GB/T 28181-2011), industry abbreviation: SIP national standard. This specification specifies in the security and protection video monitoring network system (hereinafter referred to as the "network system") the information transmission, exchange and control interconnection structure and communication protocol structure, basic requirements and security requirements for transmission, exchange and control, as well as control, transmission process, protocol interfaces and other technical requirements.

Step 1 Select "Settings > Network Settings > Platform Setup > GB 28181(1)". The system displays the "GB 28181" interface as shown in Figure 3.2-14

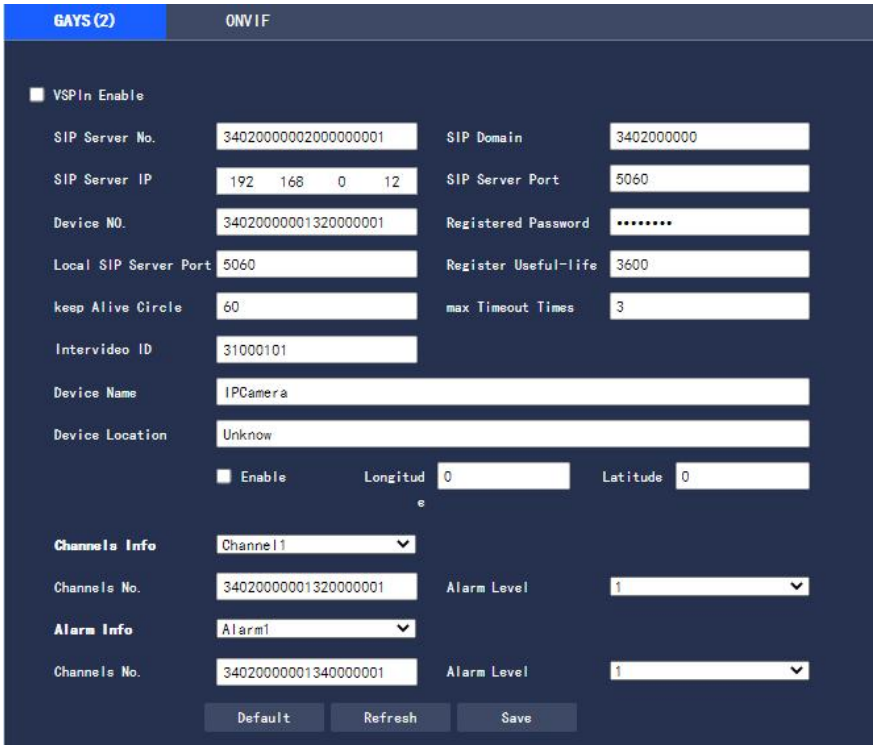


Figure 3.2-14 Platform Access-GB 28181

Step 2 To configure each parameter information according to actual needs, refer to Table 3.2-9 for parameter description

Parameter	Description
SIP Server No.	28181 Server platform number
SIP domain	28181 Server platform domain number
SIP Server IP	28181 Server IP
SIP Server Port	28181 Server Port
Keep Alive Circle	Keep-alive time between the device and 28181 Server
Timeout Times	Count the number of timeouts between the device and 28181 Server. Once this number is exceeded, the device actively disconnects the communication with 28181 Server
Intervideo ID	It indicates how the device communicates with 28181 Server, generally with the value agreed between the device side and the server side

Table 3.2-9 Platform Access-GB 28181 Parameter Setup Description

Step 3 Click "Save" to complete the configuration.

3.2.3.2 ONVIF

The ONVIF (Open Network Video Interface Forum) standard aims to implement a network video framework protocol, making network video products (including the camera front end and the video taking equipment) produced by different vendors fully interoperable.

Step 1 Select "Settings > Network Settings > Platform Settings > ONVIF". The system displays the "ONVIF" interface as shown in Figure 3.2-15

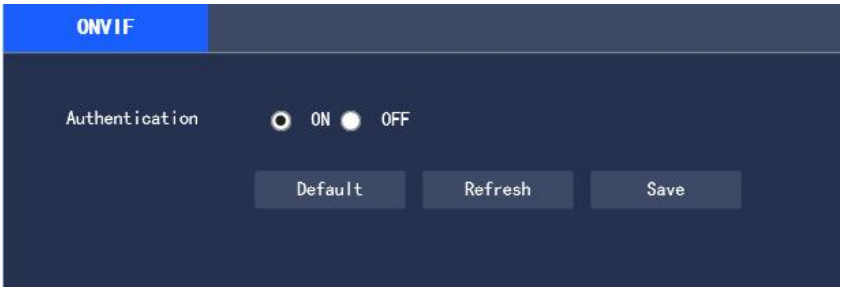


Figure 3.2-15 ONVIF

Step 2 Set "Authentication" to "On"

Step 3 Click "Save" to complete the setting

3.3 PTZ Setup

3.3.1 Protocol

3.3.1.1 PTZ Setup

Step 1 Select "Settings > PTZ Settings > Protocol > PTZ Settings". The system displays the "Protocol" interface as shown in Figure 3.3-1

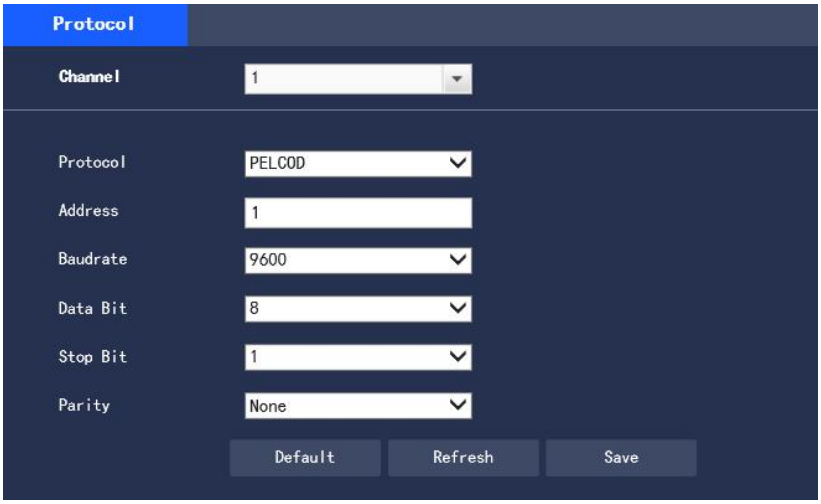


Figure 3.3-1 PTZ Settings

Step 2 To configure each parameter information according to actual needs, please refer to Table 3.3-1 for parameter description

Parameter	Description
Protocol	It supports PELCOD and PELCOP protocols
Address	The corresponding device address should be set
Baudrate	Select the baudrate for the device
Data Bit	The default value is 8
Stop Bit	The default value is 1
Parity	The default value is none

Table 3.3-1 PTZ Settings Parameter Description

3.3.2 Function

Select "Settings > PTZ Settings > Function". The system displays the "Function" interface

By default, it displays the visible light image, where you can click to switch the image to the visible image.

In the thermal imaging image, you can click to switch the image to the visible light image.

3.3.2.1 Preset

Preset refers to the Preset point surveillance environment by the camera; the PTZ and camera can be quickly adjusted to this environment by calling preset points; configuration steps are as follows:

Step 1 Select "Settings > PTZ Settings > Function > Preset point". The system displays the "Preset" interface as shown in Figure 3.3-2

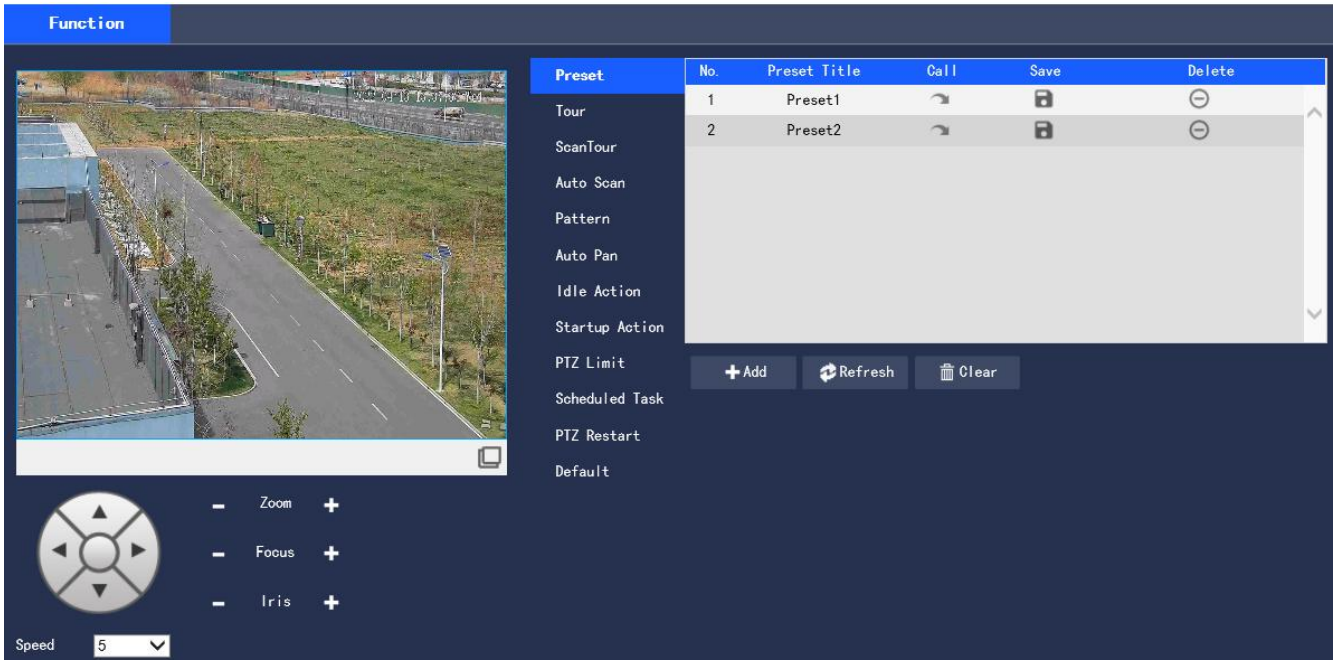


Figure 3.3-2 Preset Settings

Step 2 In the lower left corner of the configuration interface, click arrow keys, − and + to adjust the direction of the PTZ as well as the size of zoom, focus and aperture so as to adjust the camera to a suitable monitoring position

Step 3 Click "Add" to add this position as a preset point in the list, and have it displayed in the list

Step 4 Click to save this preset point

Step 5 Operations related to preset points

- Double click "Preset Title" to modify the title name of the preset point displayed on the monitoring screen
- Click to delete the preset point
- Click "Clear" to remove all preset points

3.3.2.2 Tour

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

Step 1 Select "Settings > PTZ Settings > Function > Tour". The system displays the "Tour" interface as shown in Figure 3.3-3

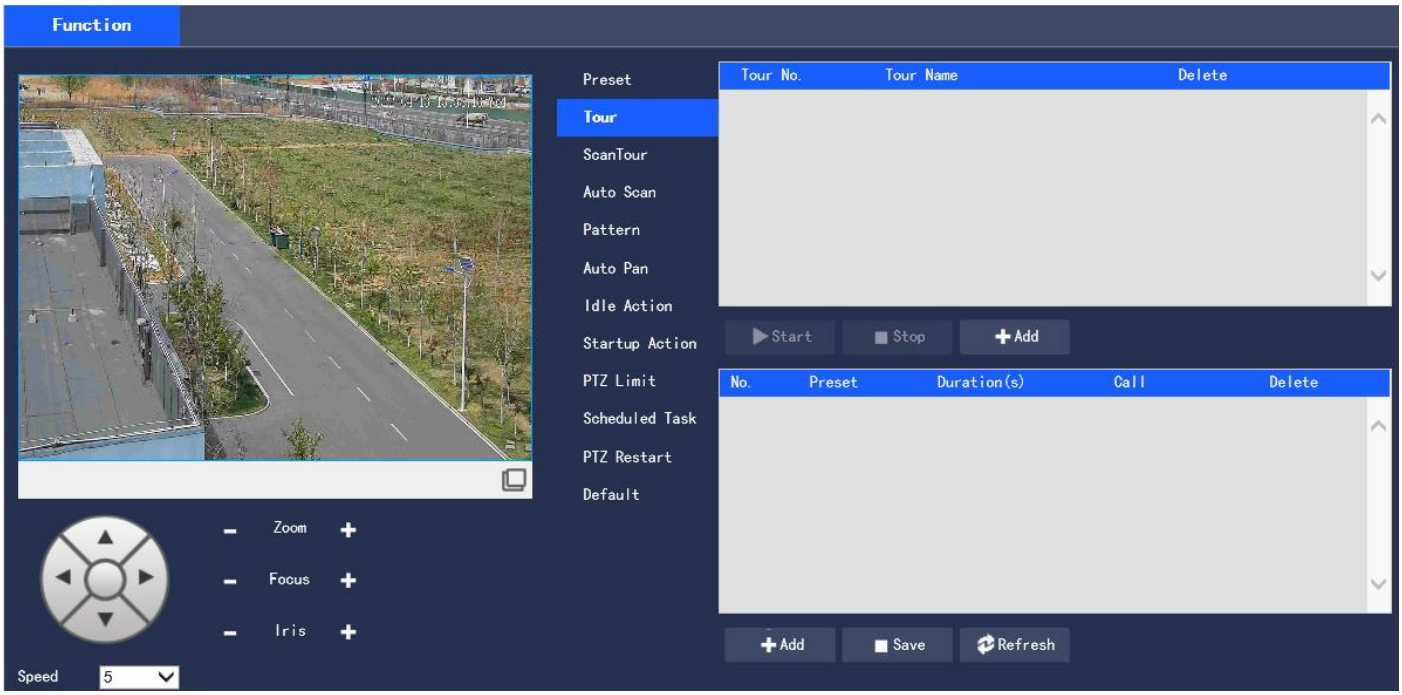


Figure 3.3-3 Tour Settings

Step 2 Click "Add" below the list in the upper right corner of the interface to add a tour route

Step 3 Click "Add" below the list in the lower right corner of the interface to add a number of preset points

Step 4 Operations related to Tour

- Double click "Tour Name" to modify the name of the tour route
- Double click "Duration(s)" to set the stay time of the preset point

Step 5 Click "Start" to launch the tour

Note: If the PTZ is operated during the tour, the camera will stop the tour

Step 6 Click "Stop" to stop the tour

3.3.2.3 Scan Tour

This function can set scan patrol; the configuration steps are as follows: two presets should be set first, the configuration procedures are as follows:

Step 1 Select *Settings* > *PTZ Settings* > *Function* > *Scan Patrol*. The system displays the *Patrol Scan* interface as shown in Figure 3.3-4.

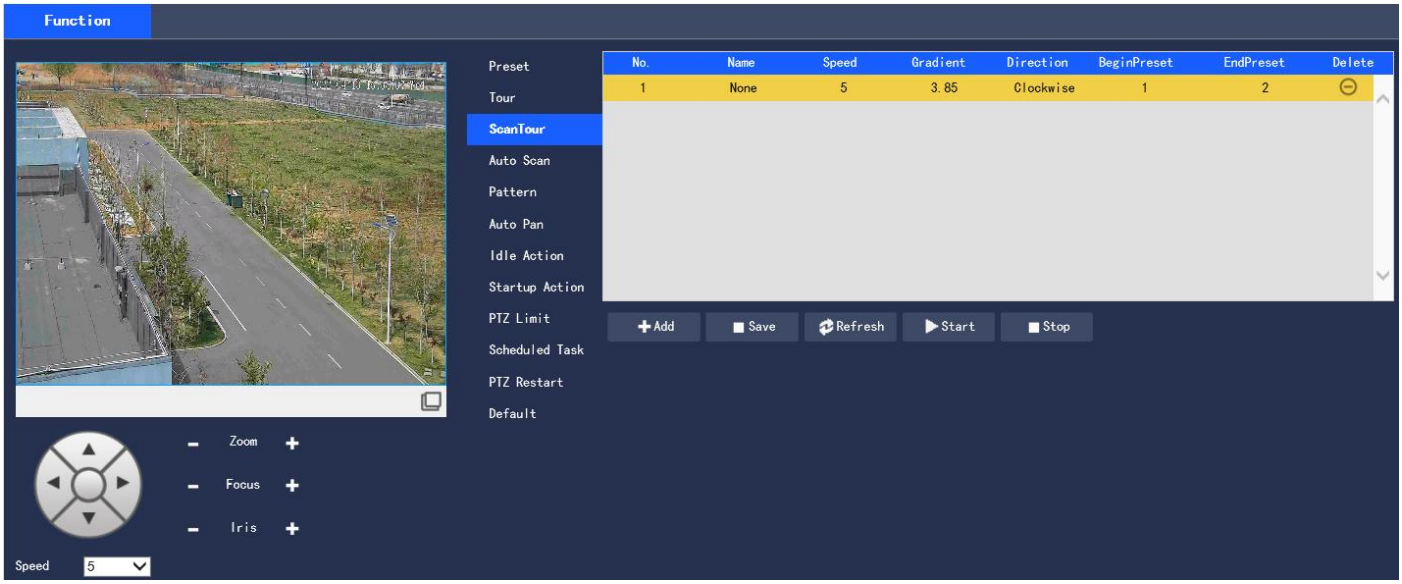


Figure 3.3-4 Scan Patrol Settings

Step 2 Set patrol speed, RAMP value (unit: degree of angle), direction, starting preset and ending preset.

Step 3 Click *Save*.

Step 4 Select the already set scan patrol, click *start* to start scan patrol.

3.3.2.4 Auto Scan

Auto Scan means that the camera scans back and forth at a certain speed in the Horizontal boundary; the configuration steps are as follows:

Step 1 Select "Settings > PTZ Settings > Function > Auto Scan". The system displays the "Auto Scan" interface as shown in Figure 3.3-5

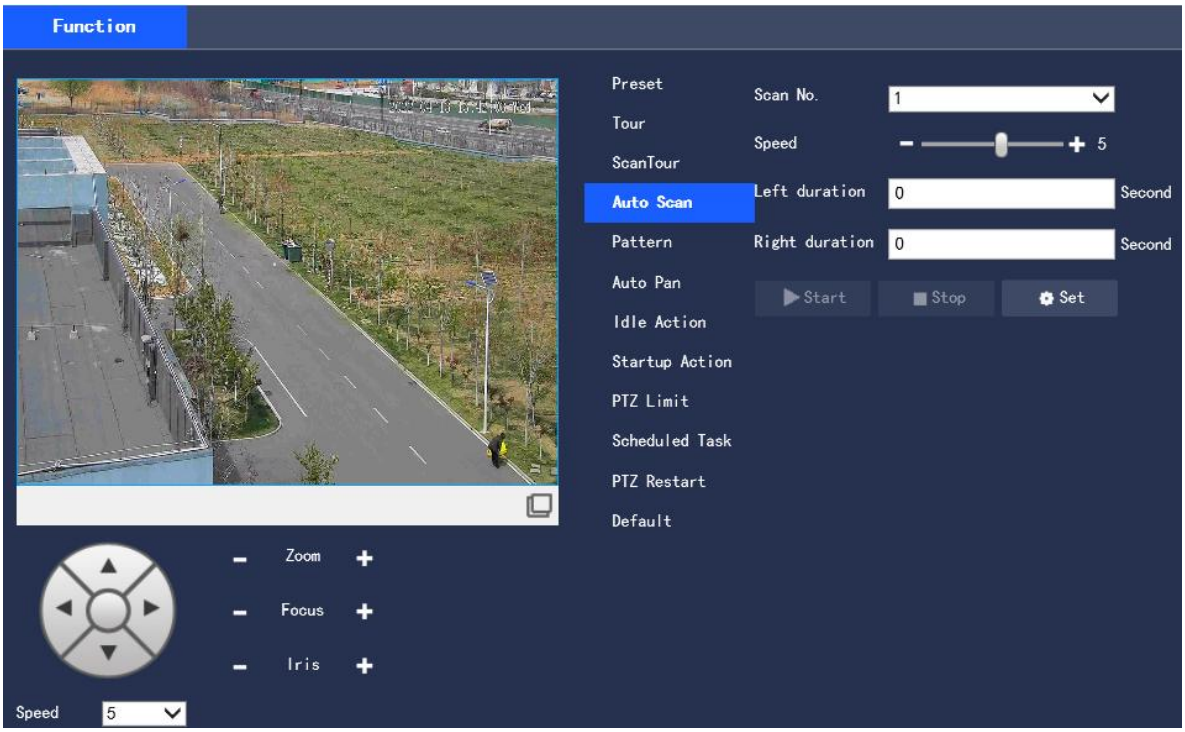


Figure 3.3-5 Auto Scan Settings

Step 2 Select "Scan No."

Step 3 Drag the progress bar to set the speed for Auto Scan

Step 4 Click "Set" and adjust the camera direction to a suitable position

Step 5 Click "Left Boundary" or "Right Boundary" to set this position as the left or right boundary of the camera

Step 6 Click "Start" to launch the auto scan

Step 7 Click "Stop" to stop the auto scan

3.3.2.4 Pattern

Pattern can continuously record users' horizontal/vertical movement, zoom, preset point calling and other operations on the camera; after recording and saving, it is possible to call the pattern route directly. The configuration steps are as follows:

Step 1 Select "Settings > PTZ Settings > Function > Pattern". The system displays the "Pattern" interface as shown in Figure 3.3-6

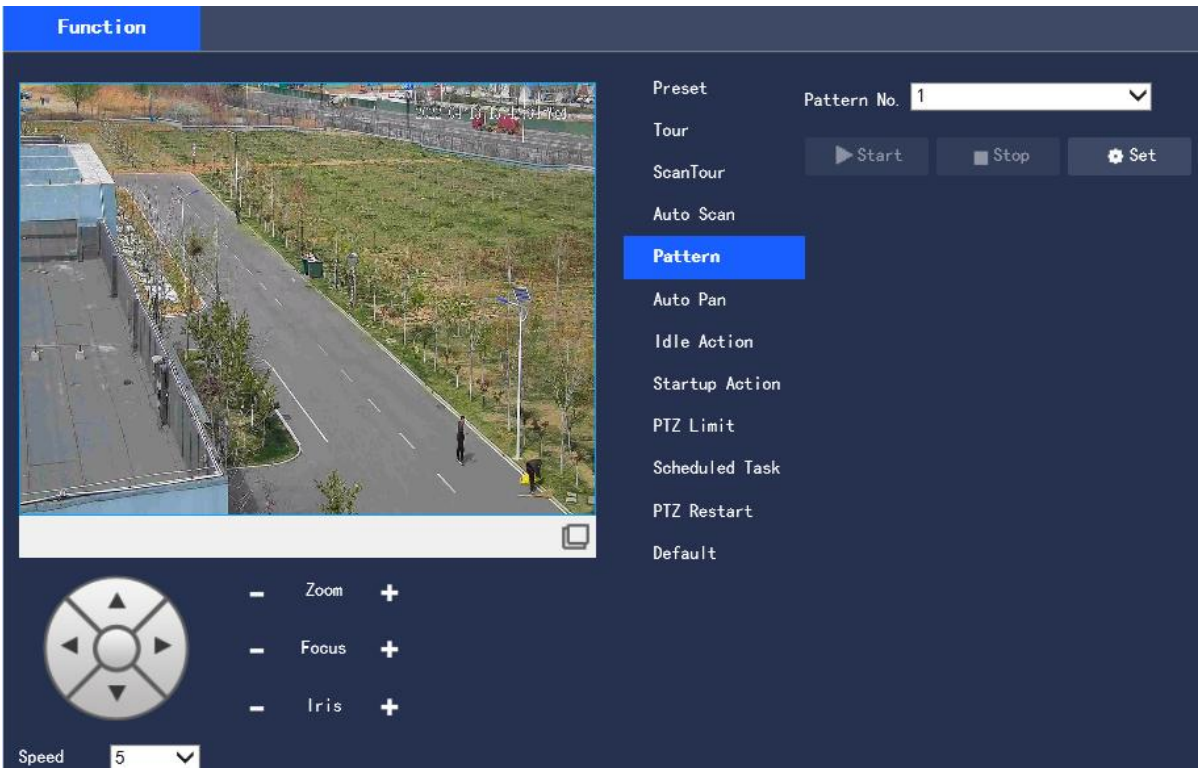


Figure 3.3-6 Pattern Settings

Step 2 Select "Pattern No."

Step 3 Click "Set" and click "Start Recording" to operate the camera as required

Step 4 Click "Stop Recording" to complete the recording

Step 5 Click "Start" and the camera starts to pattern

Step 6 Click "Stop" to stop pattern

3.3.2.5 Auto Pan

Horizontal rotation means that the camera makes a horizontal 360° continuous rotation at a certain speed. The configuration steps are as follows:

Step 1 Select "Settings > PTZ Settings > Function > Auto Pan". The system displays the "Auto Pan" interface as shown in Figure 3.3-7.

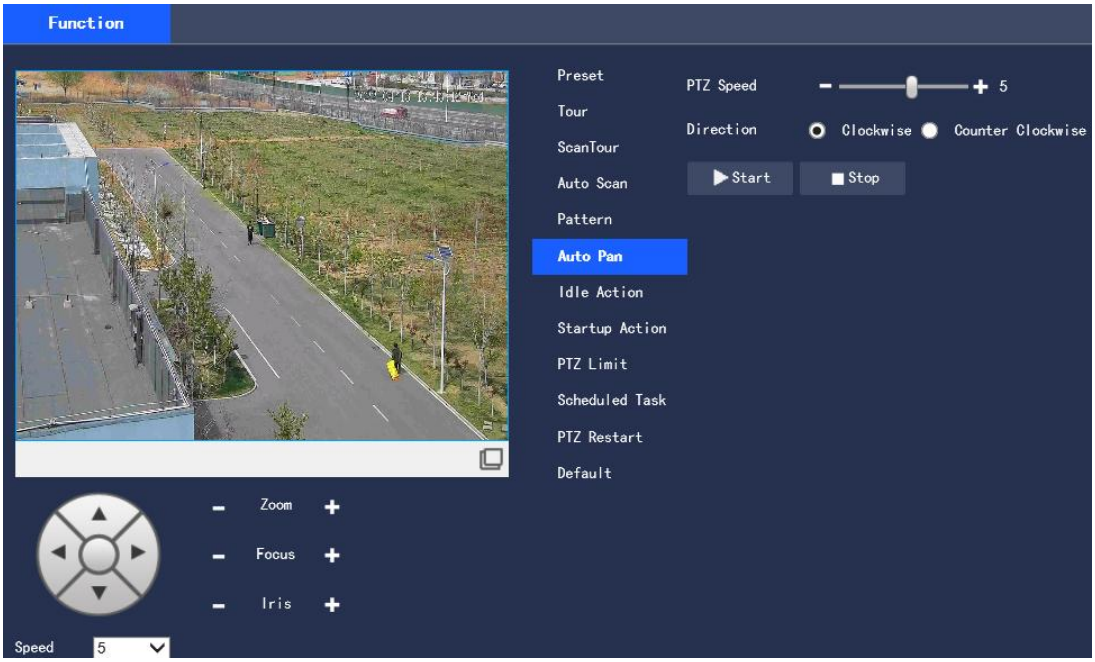


Figure 3.3-7 Auto Pan Settings

Step 2 Drag the progress bar to set " PTZ Speed"

Step 3 Select Clockwise or Counter Clockwise

Step 4 Click "Start" and the camera will start to rotate horizontally at the set speed.

Step 5 Click "Stop" to stop the horizontal rotation.

3.3.2.6 Idle Action

Idle Action means that the camera performs the preset action when not receiving any valid commands within the set time; the configuration steps are as follows:

Step 1 Select "Settings > PTZ Settings > Function > Idle Action". The system displays the "Idle Actions" interface as shown in Figure 3.3-8

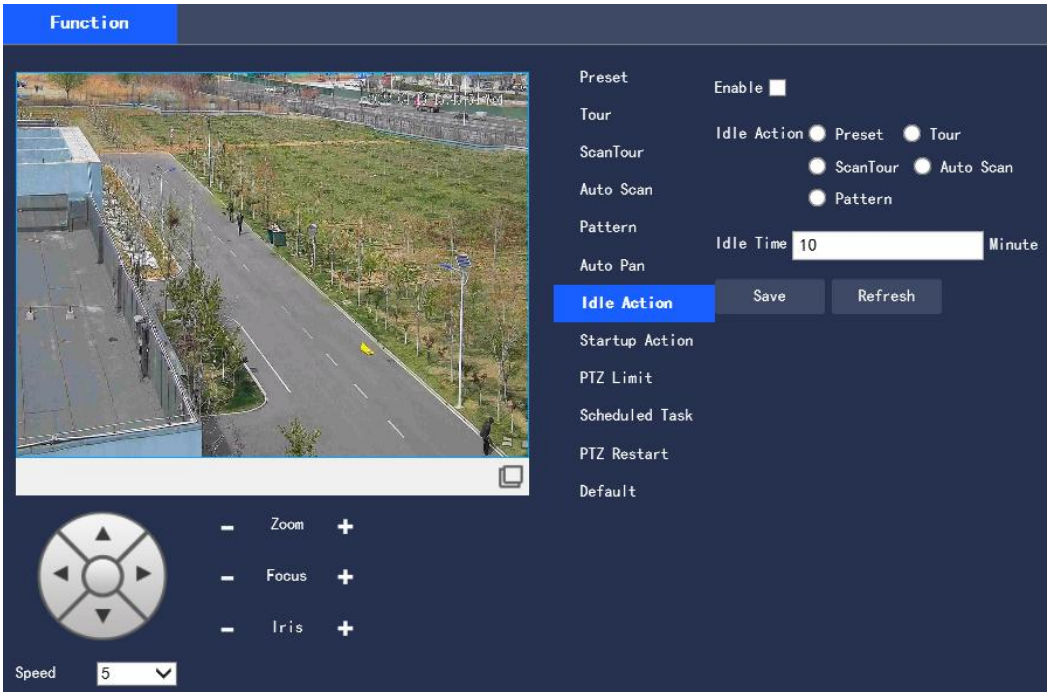


Figure 3.3-8 Idle Action Settings

Step 2 Select "Enable" to enable the Idle Action function

Step 3 Select the Idle Action type, with Preset Point, Tour, Auto Scan and Pattern available

Step 4 Select the action type number

Step 5 Set Idle Time for performing the selected action

Step 6 Click "Save" to complete the configuration

3.3.2.7 Startup Action

Startup Action refers to the action that runs automatically after the camera startup; the configuration steps are as follows:

Step 1 Select "Settings > PTZ Settings > Function > Startup Action". The system displays the "Startup Action" interface as shown in Figure 3.3-9

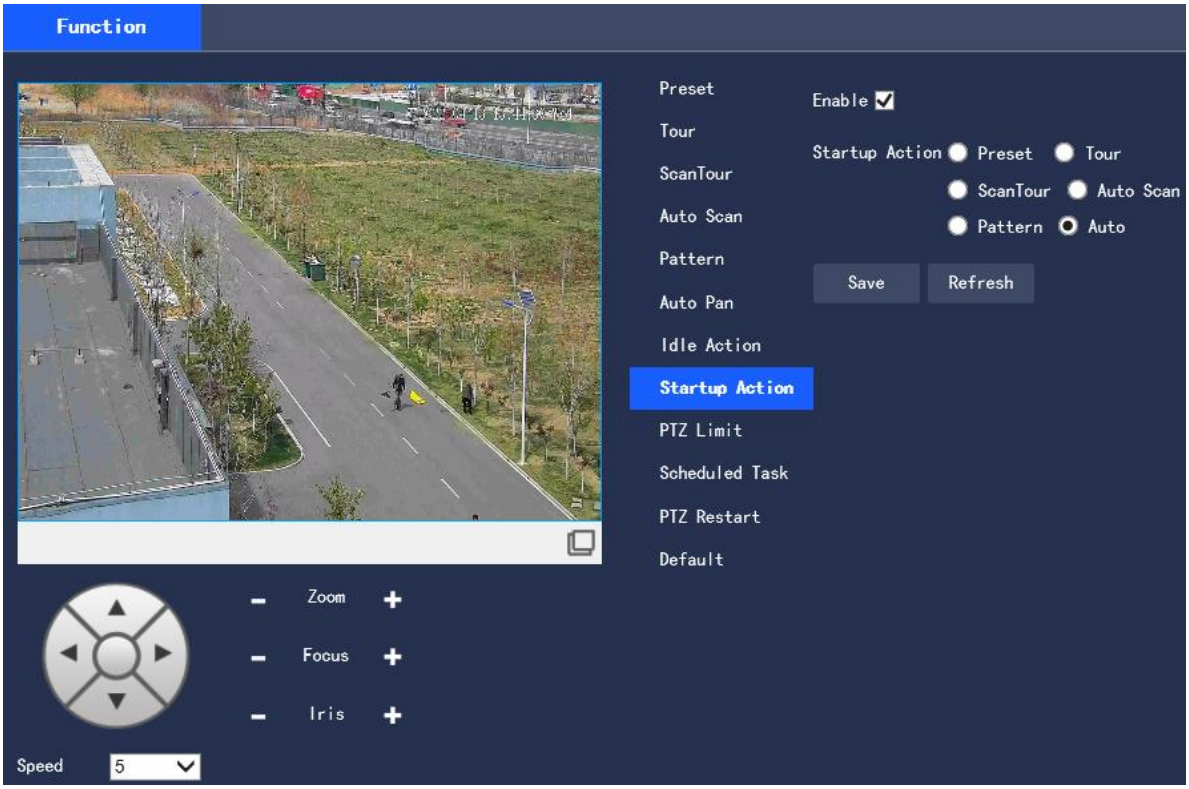


Figure 3.3-9 Startup Action Settings

Step 2 Select "Enable" to enable the Startup Action function

Step 3 Select the Startup Action type, with Preset Point, Tour, Auto Scan, Pattern and Auto available

Step 4 Select the action type number

Step 5 Click "Save" to complete the configuration

3.3.2.8 PTZ Limit

The PTZ Limit function is used to restrict the camera PTZ movement area so that the camera can only move within the set area; the configuration steps are as follows:

Step 1 Select "Settings > PTZ Settings > Function > PTZ Limit". The system displays the "PTZ Limit" interface as shown in Figure 3.3-10

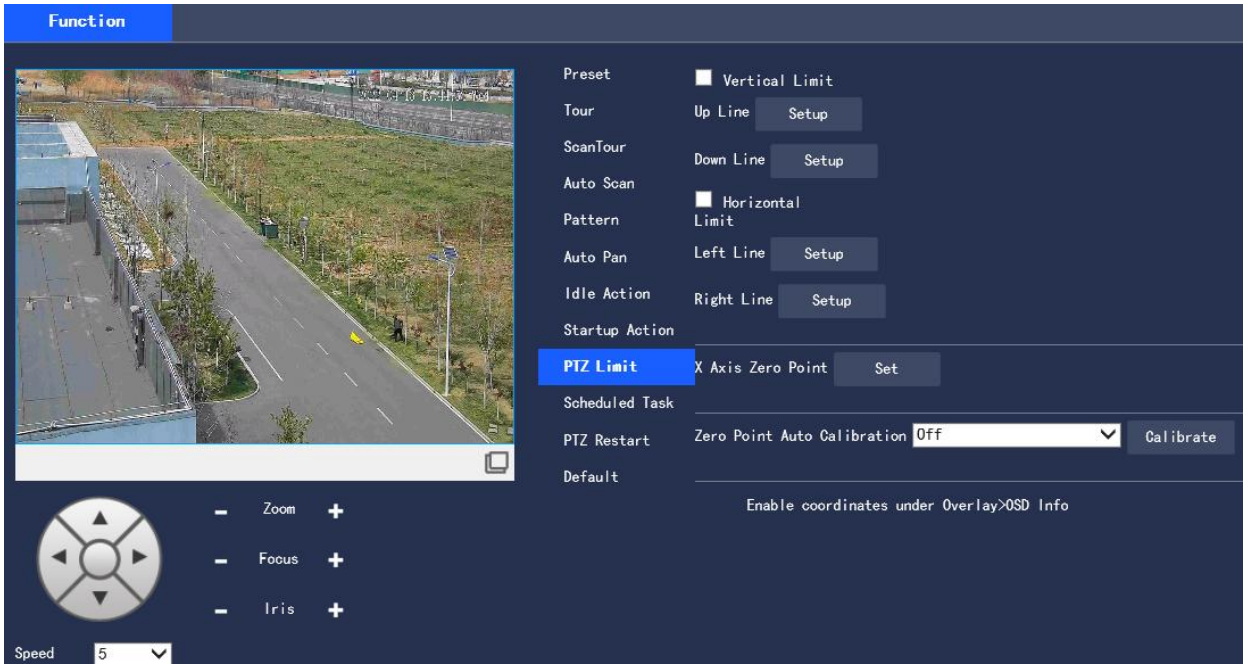


Figure 3.3-10 PTZ Limit Settings

Step 2 Adjust the camera direction to a suitable position

Step 3 Click the setting on the right side of "Up/Down Line" and "Left/Right" to set this position as the Horizontal borders or the Vertical borders for the camera

Step 4 Tick the "Vertical Limit" or "Horizontal Limit" box and turn on the enable

3.3.2.9 Scheduled Task

Preset Task is to perform related running actions within the set time period; the configuration steps are as follows:

Step 1 Select "Settings > PTZ Settings > Function > Scheduled Task". The system displays the "Scheduled Task" interface as shown in Figure 3.3-11

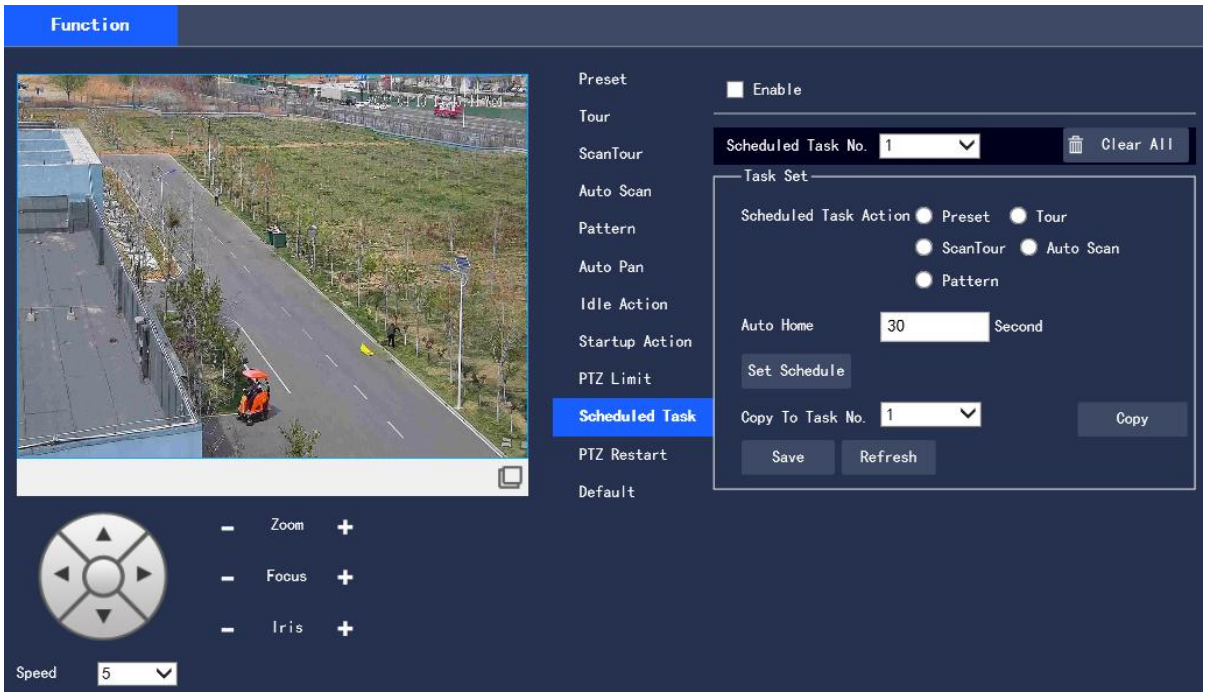


Figure 3.3-11 Scheduled Task Settings

Step 2 Select "Enable" to enable the Scheduled Task function

Step 3 Set Preset Task No.

● Click "Clear All" to delete the already set Preset Tasks

Step 4 Select the task action type, with Preset point, Tour, Auto Scan, and Pattern available

Step 5 Select the action type number

Step 6 Set the Automatic Home time

● Automatic Home time refers to the time required to automatically resume the preset task when the PTZ is manually called to interrupt the preset task.

Step 7 Click "Set Schedule" to set the time period for performing the preset task

Step 8 Click "Copy" and select "Task No.", and the settings can be copied to the task of the selected number

Step 9 Click "Save" to complete the configuration

3.3.2.10 PTZ Restart

This function can restart the PTZ; the configuration steps are as follows:

Step 1 Select "Settings > PTZ Settings > Function > PTZ Restart". The system displays the "PTZ Restart" interface as shown in Figure 3.3-12

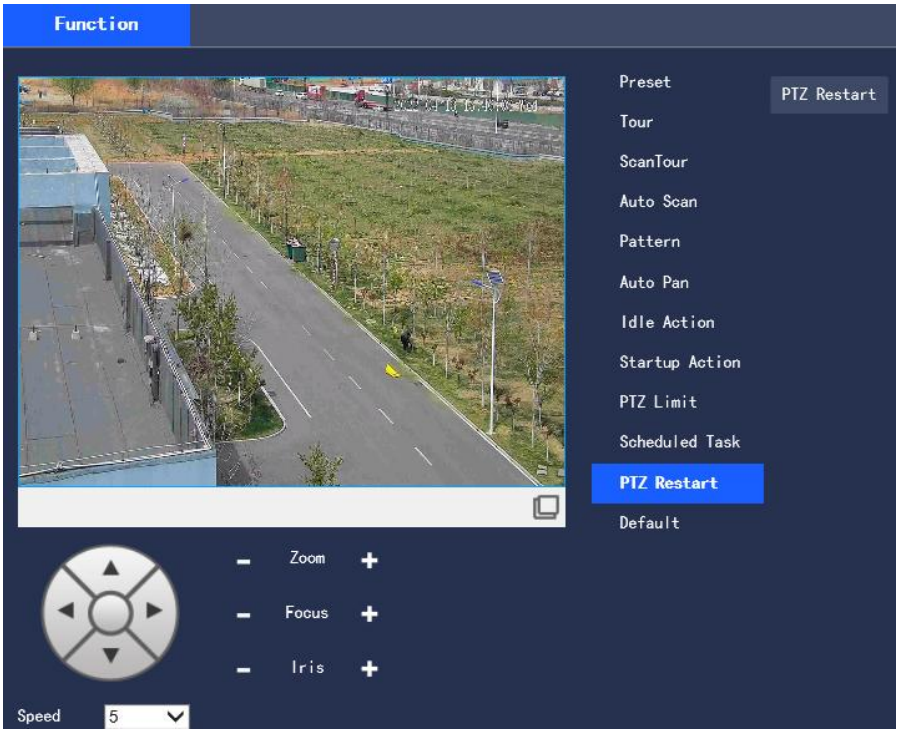


Figure 3.3-12 PTZ Restart Settings

Step 2 Click "PTZ Restart" and the system restarts the PTZ

3.3.2.11 Restore Default

This function can restore the PTZ default settings; the configuration steps are as follows:

Step 1 Select "Settings > PTZ Settings > Function > Default". The system displays the " Default" interface as shown in Figure 3.3-13

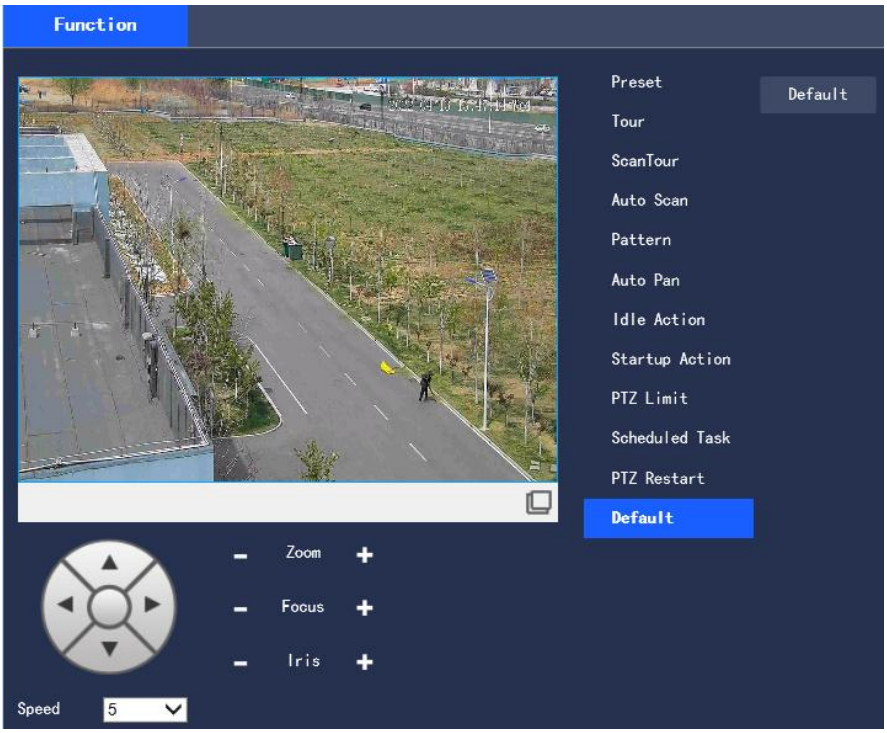


Figure 3.3-13 Restore Default Settings

Step 2 Click " Default" to restore the PTZ Restore default settings.

3.4 Event Management

3.4.1 General Events

3.4.1.1 Motion Detection

Step 1 Select "Settings > Event Management > General Events > Motion Detection". The system displays the "Motion Detection" interface as shown in Figure 3.4-1

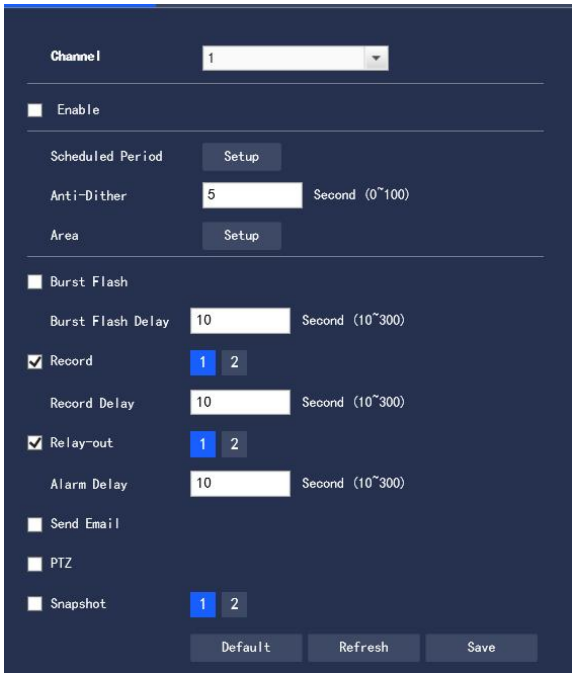


Figure 3.4-1 Video Detection-Motion Detection Settings

Step 2 Select "ON" and to configure each parameter information according to actual needs, refer to Table 3.4-1 for parameter description

Parameter	Description
Anti-Dither	It means that the Motion detection time is recorded only once in this anti-dither period, in unit of second with the value range of 0 ～100
Burst Flash	When an alarm occurs, the system is linked the burst flash. Please refer to "3.4.5.2 Burst Flash" for the burst flash configuration
Burst Flash Delay	When the alarm is over, the burst flash will be extended for a period of time before stopping.
Record	After being selected, when a local alarm occurs, the system will automatically record the alarm (it must set the alarm video taking period in "Storage Management > Schedule", while selecting automatic video taking in the recording control interface)
Record Delay	It indicates that when the alarm is over, the alarm video taking will continue for a period of time before stopping, in unit of second with the value range of 10～300
Relay-out	Connect the alarm device (such as lights, sirens) to the Alarm Output, select the check box and set the Alarm Output device, and start the alarm linkage output port. When an alarm occurs, the system can link the corresponding Alarm Output device.
Alarm Delay	When the alarm is over, the alarm will be extended for a period of time before stopping.
Send Email	When an alarm occurs, an email will be sent to notify the user who can set his own email address in "3.2.2.2 Email Setup"
PTZ	Tick the box and set the linkage operation and corresponding serial No. When an alarm occurs, the system will link and go to the selected Preset point, start Tour or Pattern Before enabling this function, the PTZ setting is required.
Snapshot	When an alarm occurs, the system will automatically take an Image capture of the alarm

Table 3.4-1 Video Detection Parameter Setup Description

● Scheduled Period

Click "Setup" to set Scheduled Period in the interface as shown in Figure 3.4-2

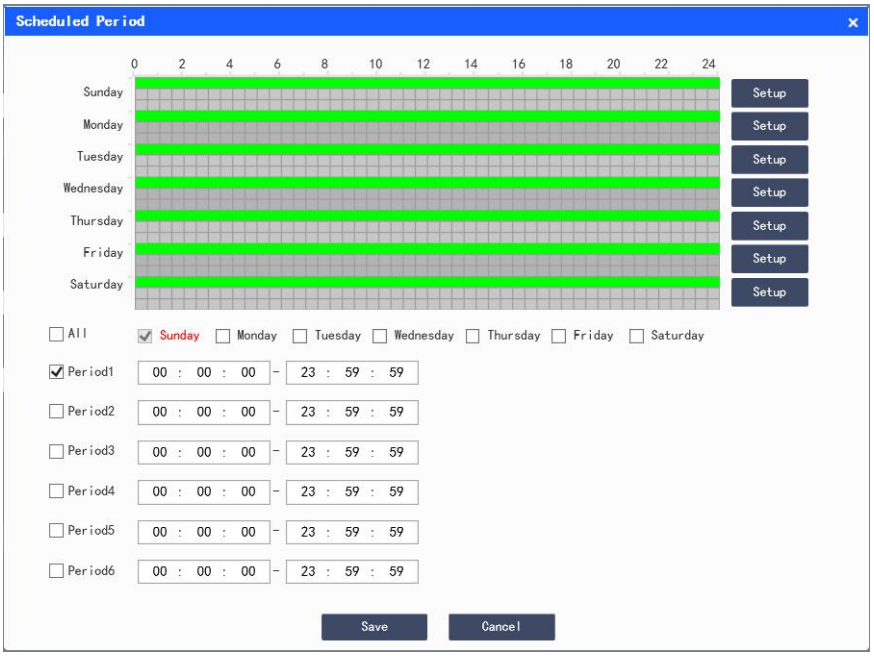


Figure 3.4-2 Scheduled Period Setup

Set the alarm time period, and the alarm event will be activated only within the set time period

There are 6 time periods available for setting every day. Select the check box in front of the time period, and the set time will be valid

Select the day of the week (the default is Sunday; if "All" is ticked, it means that the setting will be applied to the entire week; or it supports to tick the box in front of the days to make separate settings for certain days)

After setting, click "Save" to return to the "Motion Detection" interface

● Setup Area

Click "Setup" to set the Area in the interface as shown in Figure 3.4-3. Please refer to Table 3.4-2 for parameter description.

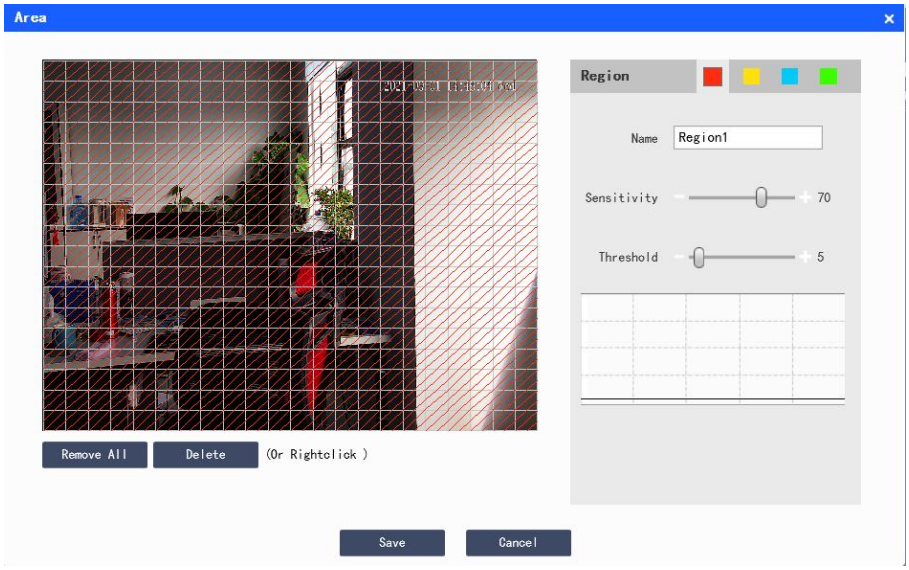


Figure 3.4-3 Area Setup

Parameter	Description
Name	The default names are Region1, Region2, Region3, Region4, which can be customized
Sensitivity	Sensitivity to brightness changes; for the same brightness change, the higher the sensitivity, the easier it is to generate motion detection events The settings of sensitivity can vary for each area, with the value range of 0～100, and the

	recommended value is 30～70
Threshold	The relationship between the detection object and the area, the smaller the threshold value is, the easier it is to trigger the motion detection The settings of mutation thresholds can vary for each area, with the value range of 0～100, and the recommended value is 1～10
Waveform Graph	The red line indicates that the motion detection is triggered, while the green line indicates that the motion check is not triggered
Remove All	Empty all detection areas
Delete	Delete the detection area of the selected color block
Name	The default names are Region1, Region2, Region3, Region4, which can be customized
Sensitivity	Sensitivity to brightness changes; for the same brightness change, the higher the sensitivity, the easier it is to generate motion detection events The settings of sensitivity can vary for each area, with the value range of 0～100, and the recommended value is 30～70
Threshold	The relationship between the detection object and the area, the smaller the threshold value is, the easier it is to trigger the motion detection The settings of mutation thresholds can vary for each area, with the value range of 0～100, and the recommended value is 1～10
Waveform Graph	The red line indicates that the motion detection is triggered, while the green line indicates that the motion check is not triggered
Remove All	Empty all detection areas
Delete	Delete the detection area of the selected color block

Table 3.4-2 Area Setup Parameter Description

Step 3 Click "Save" to complete the configuration.

3.4.1.2 Video Block

Step 1 Select "Settings > Event Management > General Events > Video Block". The system displays the "Video Block" interface as shown in Figure 3.4-4.

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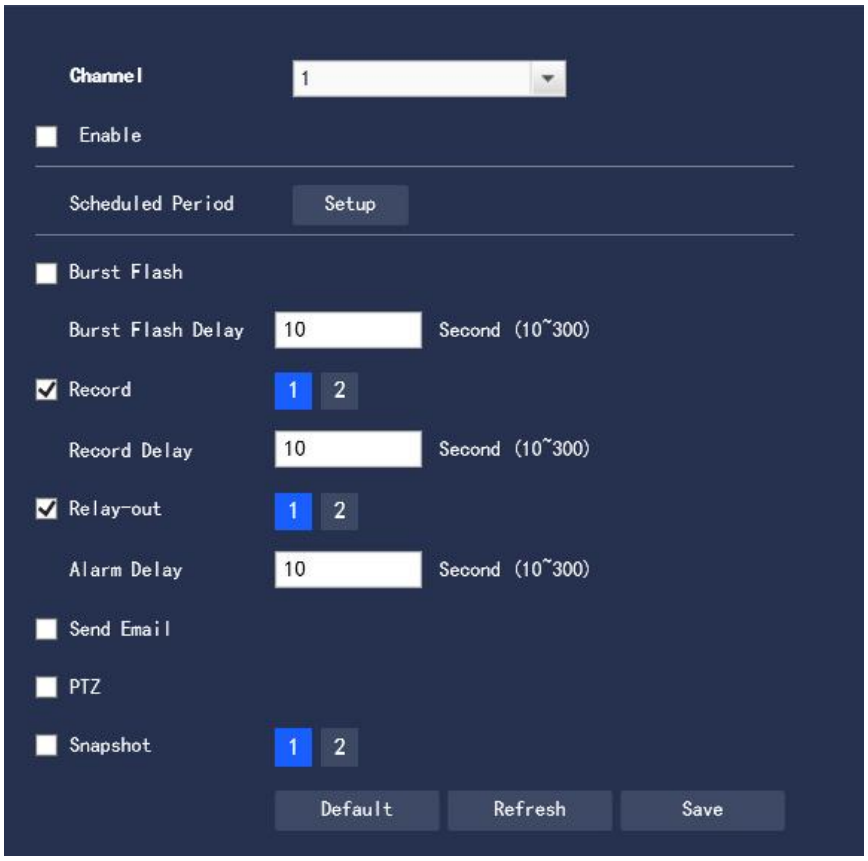


Figure 3.4-4 Video Detection-Video Block Settings

Step 2 Select "Enable", and configure each parameter information according to actual needs (please refer to "3.4.1.1 Motion Detection" for parameter configuration)

Step 3 Click "Save" to complete the configuration.

3.4.1.3 Scene Change

Step 1 Select "Settings > Event Management > General Events > Scene Change". The system displays the "Scene Change" interface as shown in Figure 3.4-5.

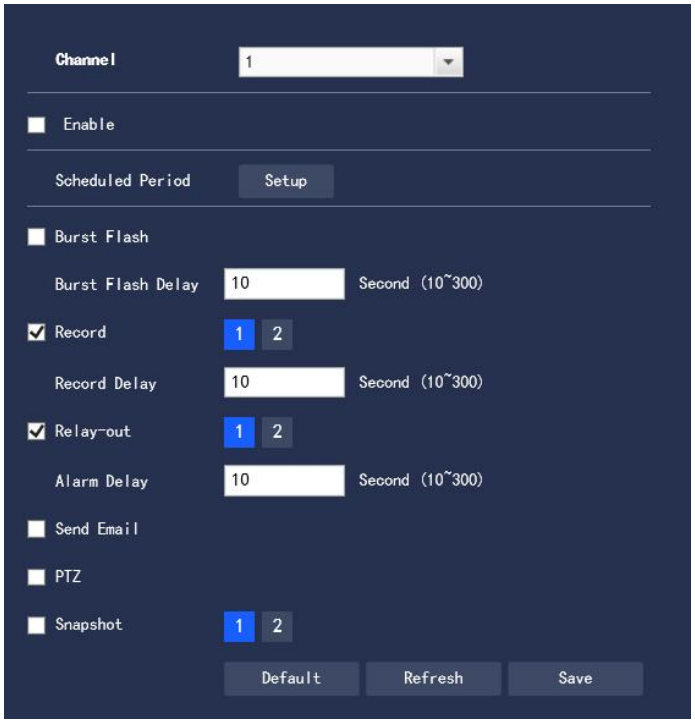


Figure 3.4-5 Video Detection-Scene Change Settings

Step 2 Select "Enable", and configure each parameter information according to actual needs (please refer to "3.4.1.1 Motion Detection" for parameter configuration)

Step 3 Click "Save" to complete the configuration.

3.4.1.4 Audio Detection

The configuration steps are as follows:

Step 1 Select "Settings > Event Management > General Events > Audio Detection". The system displays the "Audio Detection" interface as shown in Figure 3.4-6

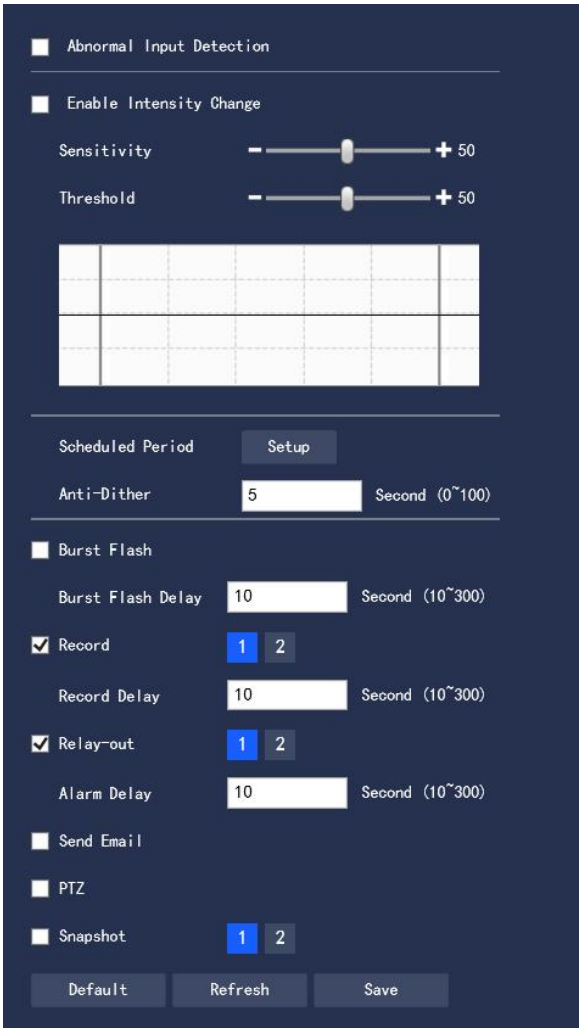


Figure 3.4-6 Audio Detection

Step 2 To configure each parameter information according to actual needs, please refer to Table 3.4-3 for parameter description

Table 3.4-3 Audio Detection Parameter Setup Description

Parameter	Description
Abnormal Input Detection	Select "Abnormal Input Detection" and an alarm will be generated when an abnormal audio input is detected
Enable Intensity Change	Select to "Enable Intensity Change" and an alarm will be generated when it detects that the audio sound intensity has a sudden change and exceeds the threshold
Sensitivity	The value range is 1～100. The smaller the value, the more the input sound volume changes over the continuous environment volume before it can be judged as the audio abnormality; the user needs to make tests and adjustments according to the actual environment
Threshold	The value range is 1～100. It is used to set the intensity of the filtered environment sound. The larger the environment noise, the higher the value, and the user needs to make tests and adjustments according to the actual environment

Note: Refer to "3.4.1.1 Motion Detection" for other parameter description

Step 3 Click "Save" to complete the configuration.

3.4.1.5 SD Card Abnormality

When the SD card is abnormal, an alarm event will be generated. The configuration steps are as follows:

Step 1 Select "Settings > Event Management > General Events > SD Card Abnormality". The system displays the "SD Card Abnormality" interface as shown in Figure 3.4-7.



Figure 3.4-7 No SD Card

Step 2 To configure each parameter information according to actual needs, please refer to Table 3.4-4 for parameter description

Parameter	Description
Enable	Select to enable the SD card abnormality alarm function
Space capacity of SD Card	It can set Capacity Limit and when the remaining capacity is below this limit, it will trigger an alarm

Table 3.4-4 SD Card Abnormality Settings Parameter Description

Please refer to "3.4.1.1 Motion Detection" for other parameter descriptions

Step 3 Click "Save" to complete the configuration.

3.4.1.6 Network Abnormality

When the network abnormality occurs, an alarm event will be generated. The configuration steps are as follows:

Step 1 Select "Settings > Event Management > General Events > Network Abnormality". The system displays the "Network Abnormality" interface as shown in Figure 3.4-8 and Figure 3.4-9.

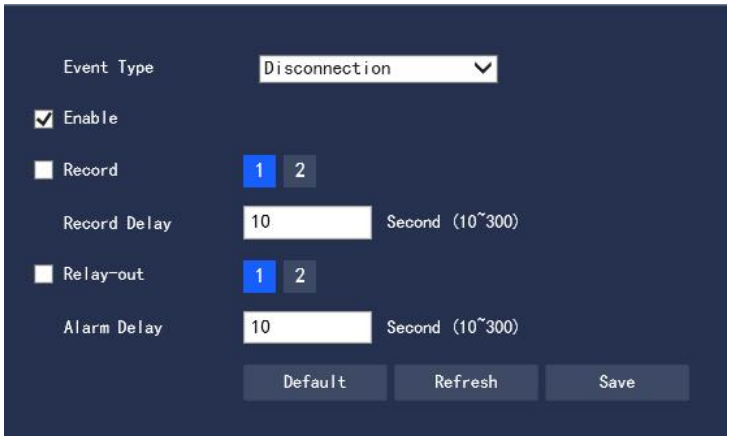


Figure 3.4-8 Network Disconnection

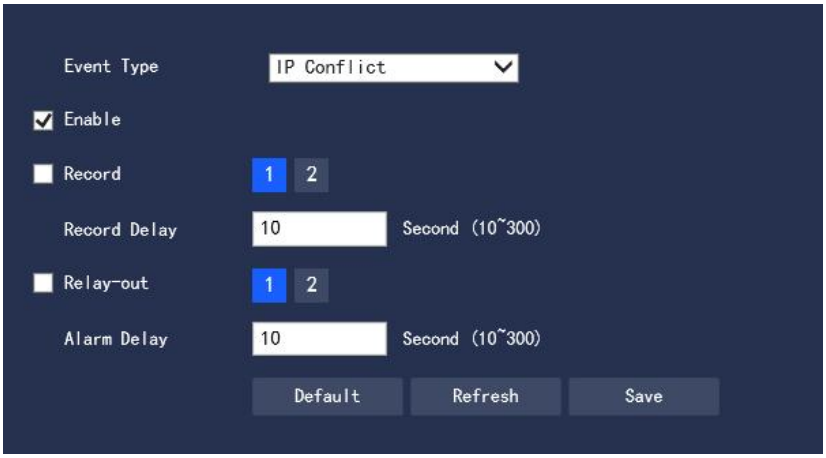


Figure 3.4-9 IP Conflict

Step 2 To configure each parameter information according to actual needs. Please refer to Table 3.4-5 for parameter description

Parameter	Description
Enable	Select to enable the network abnormality alarm function

Table 3.4-5 Network Abnormality Setting Parameter Description

Please refer to "3.4.1.1 Motion Detection" for other parameter descriptions

Step 3 Click "Save" to complete the configuration.

3.4.1.7 Unauthorized Access

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

Step 1 Select "Settings > Event Management > General Events > Unauthorized Access". The system displays the "Unauthorized Access" interface as shown in Figure 3.4-10



Figure 3.4-10 Unauthorized Access

Step 2 To configure each parameter information according to actual needs. Refer to Table 3.4-6 for parameter description

Parameter	Description
Enable	Select to make settings of the unauthorized access alarm
Login error	Entering the wrong password this time is when the unauthorized access alarm is triggered and the account is locked

Table 3.4-6 Unauthorized Access Setup Parameter Description

Please refer to "3.4.1.1 Motion Detection" for other parameter descriptions

Step 3 Click "Save" to complete the configuration.

3.4.2 Smart Plan

The intelligent functions associated with the preset points should be selected by users first. The setting of each preset point can vary in intelligent functions; only by selecting the specific intelligent function can the corresponding setting take effect.

Note: Preset points need to be set in advance. Please refer to "3.3.2.1 Preset" for the setting method.

Step 1 Select "Settings > Event Management > General Events > Smart Plan". The system displays the "Smart Plan" interface as shown in Figure 3.4-11.

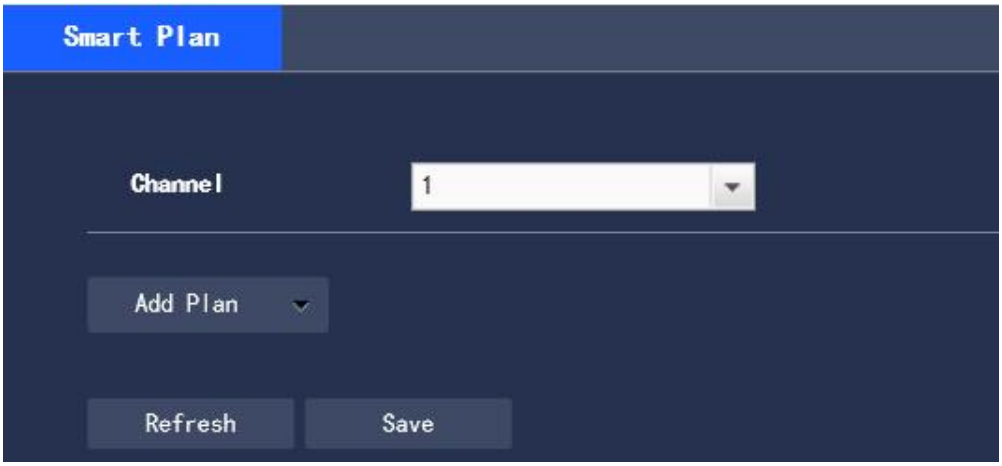


Figure 3.4-11 Smart Plan

Step 2 Turn on the corresponding smart functions according to actual needs

● Enable the general behavior analysis, face detection or license plate recognition functions

1. Select the preset point in "Add Plan", and the system will display the plan corresponding to the preset point

2. Click General behavior analysis to turn on the corresponding intelligent function

Step 3 The selected intelligent function will be highlighted, and can be canceled by clicking it

3.4.3 General Behavior Analysis

Basic requirements for scene selection

● The target size is no more than 10% of the screen

● The target size ≥ 10 pixels × 10 pixels; the remaining object size ≥ 15 pixels × 15 pixels (CIF image); the height and width of the target is no more than 1/3 of the image height and width; the recommended target height is about 1/10 of the image height

● It ensures at least that the target appears within the sight for more than 2 consecutive seconds, and the movement distance is wider the width of the target itself, and is not less than 15 pixels (CIF image)

● Where conditions permit, the complexity of monitoring and analyzing scenes should be reduced to the minimum; for scenes with dense targets and frequent light changes, it is not recommended to turn on the General Behavior Analysis function (visible channel)

● Great efforts should be made to avoid such areas as glass, ground reflections and water surface; branches, shadows, and mosquito interference areas; backlit scenes and direct light (thermal channel)

● Avoid targets with ultra-high temperature such as sun(thermal channel)

Note: Preset points need to be set in advance. Please refer to "3.3.2.1 Preset" for the setting method.

3.4.3.1 IP Rule

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

Step 1 Select ""Settings > Event Management > General Behavior Analysis > IVS". The system displays the "IVS" interface as shown in Figure 3.4-14

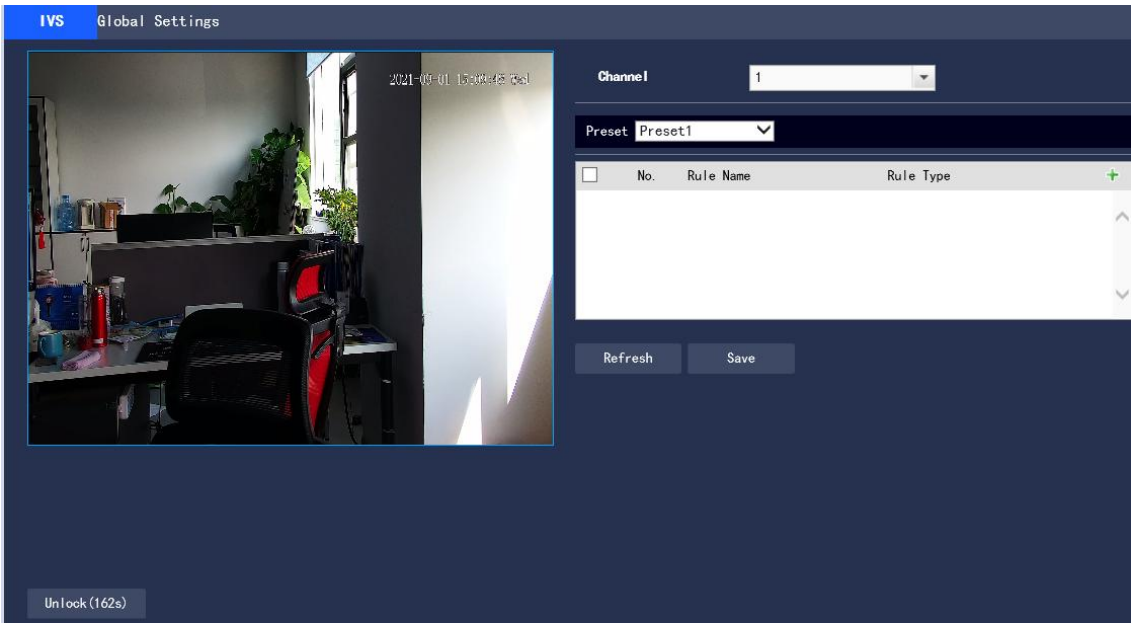


Figure 3.4-14 Add Smart Rule

Step 2 Select the preset point that needs to be configured with smart rules

Step 3 Click to add smart rules

- Double click "Rule Type" to modify the type of the rule
- On entering the IP Rule interface, the lock function will be automatically turned on, and the lock time is 180s. Within the 180s, except for unlocking manually, no other methods can control the camera. Click "Unlock" to remove the control

Step 4 Click "Save" to complete the configuration

3.4.3.1.1 Tripwire Intrusion

An alarm will be triggered when the target crosses the warning line following the set direction of movement. As it takes some time and space from the appearance of the target to the confirmation, it must leave certain space on both sides of the warning line, and do not set it near obstructions, while setting the warning line.

Application Scenarios: suitable only for scenarios with sparse targets and without mutual obstruction between the targets, such as the perimeter protection in unattended areas

Step 1 If the rule type is selected as "Tripwire Intrusion", the configuration interface is as shown in Figure 3.4-15

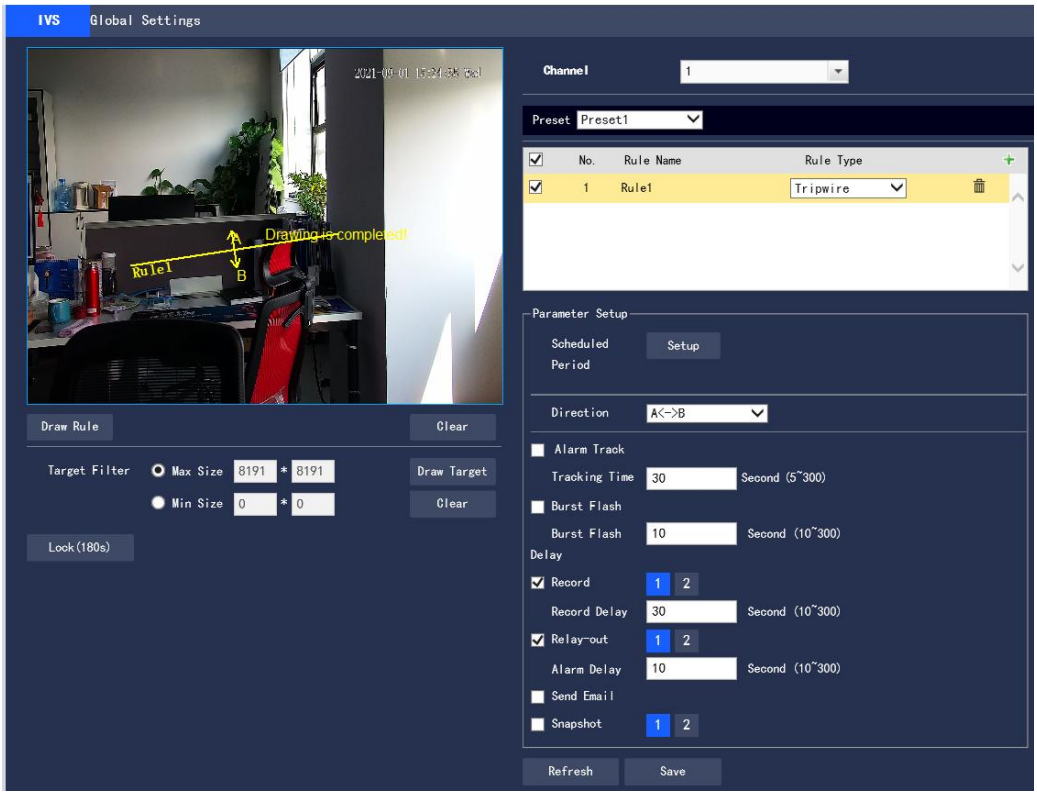


Figure 3.4-15 Tripwire Intrusion Settings

Step 2 Click "Draw Rule" to draw rules in the monitoring screen

Step 3 Configure the parameter information according to actual needs. Please refer to Table 3.4-7 for parameter description.

Table 3.4-7 Tripwire Intrusion Parameter Description

Parameter	Description
Scheduled Period	Click "Settings" and the "Scheduled Period" setup interface will pop up. Settings can be made through entering the time value or pressing and holding the left mouse button while dragging the progress bar directly on the setup interface There are 6 time periods available for setting every day. Select the check box in front of the time period, and the set time period is valid Select the day of the week (the default is Sunday; if "All" is ticked, it means that the setting

	will be applied to the entire week; or it supports to tick the check box in front of the days to make separate settings for certain days) After completing the settings, click "Save" to return to the IVS setup page, and click "Save" to complete the time period setting for Tripwire
Direction	Set the direction of Tripwire Intrusion, with A→B, B→A, and A↔B available
Alarm Track	If it is ticked, the trigger of the smart rule by the target will cause linkage tracking
Tracking Time	Set linkage tracking time
Burst Flash	When an alarm occurs, the system is linked the burst flash. Please refer to "3.4.5.2 Burst Flash" for the burst flash configuration
Burst Flash Delay	When the alarm is over, the burst flash will continue for a period of time before stopping, in unit of seconds, and the value range is 10～300
Record	After being selected, when a local alarm occurs, the system will automatically record the alarm. Meanwhile, it should set the time period for alarm video taking in "Settings > Storage Management> Schedule", while selecting automatic video taking in the recording control interface.
Record Delay	When the alarm is over, the alarm video taking will continue for a period of time before stopping
Relay-out	Connect the alarm device (such as lights, sirens) to the Alarm Output, select the check box and set the Alarm Output device, and start the alarm linkage output port. When an alarm occurs, the system can link the corresponding Alarm Output device.
Alarm Delay	When the alarm is over, the Alarm Output will be extended for a period of time before stopping.
Send Email	After being selected, 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 > Email Setup"
Snapshot	After being selected, when an alarm occurs, the system will automatically take an alarm Image capture, while the alarm Image capture time period should be set in "Setup > Storage Management> Schedule"

Step 4 Click "Save" to complete the configuration

3.4.3.1.2 Virtual Fence

The Virtual Fence alarm is equivalent to multiple targets triggering two warning lines one after another. The fence setting requirements are as follows:

● Not support transparent fences, such as iron fences

● Not support too short walls (the height is lower than that of a normal person)

Virtual Fence is divided into Upstairs Line or Downstairs Line

● The criteria for Upwards Line are: The target rectangle intersects with the warning line at the bottom -> The bottom of the target rectangle separates from the warning line at the bottom

-> The center of the target rectangle crosses the top warning line -> Alarm

● The criteria for Downwards Line are: The center of the target rectangle crosses the top warning line -> The bottom of the target rectangle leaves the bottom warning line

-> The target rectangle intersects with the warning line at the bottom -> Alarm

The configuration steps are as follows:

Step 1 If the rule type is selected as "Virtual Fence", the configuration interface is as shown in Figure 3.4-16

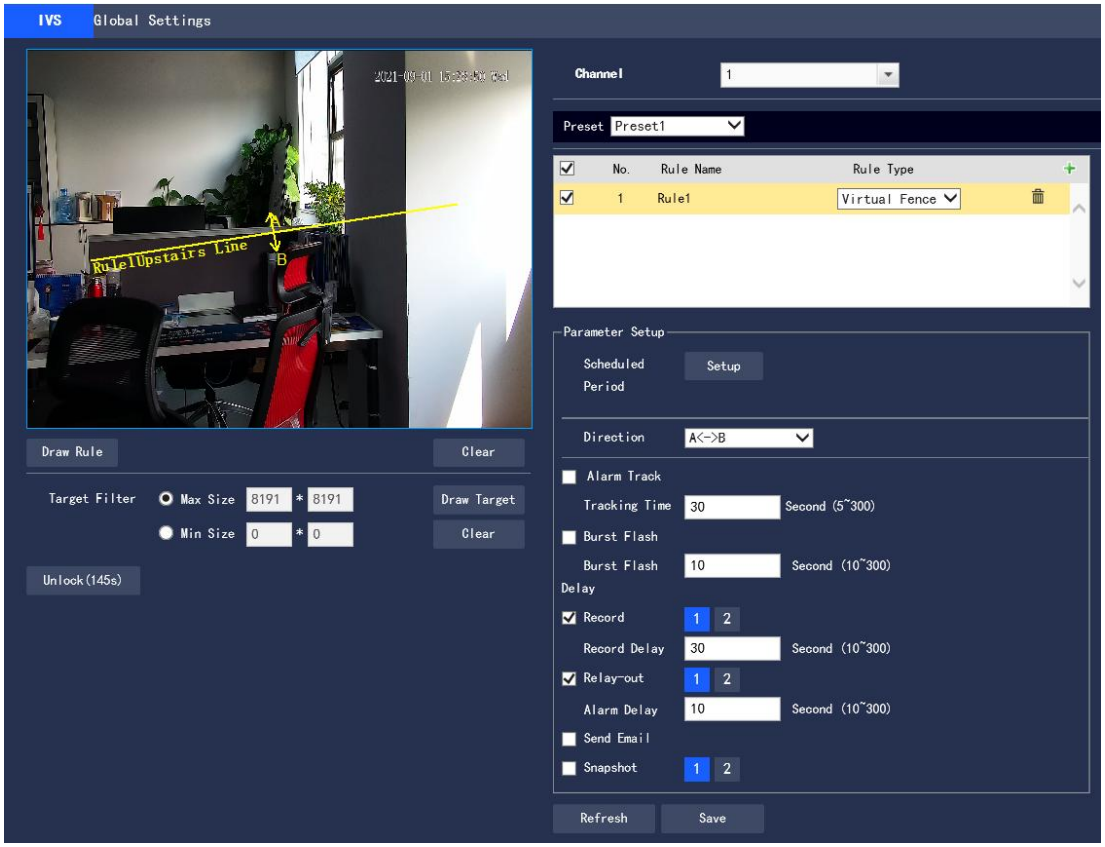


Figure 3.4-16 Virtual Fence Setup

Step 2 Click "Draw Rule" to draw rules in the monitoring screen

Step 3 Configure the parameter information according to actual needs. Refer to Table 3.4-8 for parameter description

Parameter	Description
Direction	Set Direction for Virtual Fence, with A→B, B→A, and A↔B available

Table 3.4-8 Virtual Fence Parameter Description

Please refer to "3.4.3.1.1 Tripwire" for other parameter descriptions

Step 4 Click "Save" to complete the configuration

3.4.3.1.3 Regional Intrusion

Regional intrusion includes the Cross and Appear functions

● The Cross function means that the target will alarm when entering or leaving the area

● The Appear function means that in the set alarm area, at a given time, when a specified number of targets appear, an alarm will be issued. This function is simply to count the number of targets in the detection area, regardless of whether they are the same target

● For the reporting interval of the Appear function, the system will detect whether there is occurrence of the same things within the interval after triggering the first alarm. If the same event does not occur within this period of time, the alarm counter will be cleared

Similar to the warning line, to detect entry/exit events, it must leave certain space around the area line for the target movement

Application Scenarios: suitable only for scenarios with sparse targets and without mutual obstruction between the targets, such as the perimeter protection in unattended areas

The configuration steps are as follows:

Step 1 If the rule type is selected as "Intrusion", the configuration interface is as shown in Figure 3.4-17

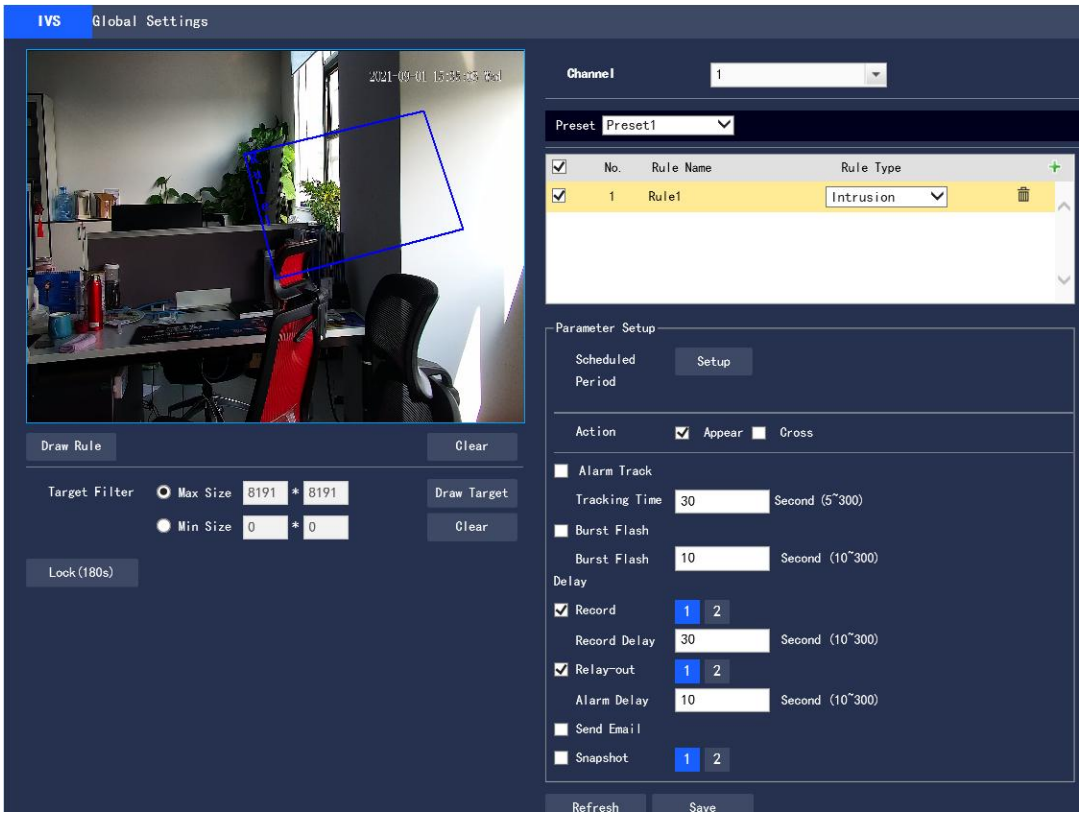


Figure 3.4-17 Regional Intrusion Setup

Step 2 Click "Draw Rule" to draw rules in the monitoring screen

Step 3 Configure the parameter information according to actual needs. Please refer to Table 3.4-9 for parameter description

Parameter	Description
Action	Set Action for regional intrusion, with Appear or Cross available
Direction	Set the direction of Cross from entry and exit

Table 3.4-9 Regional Intrusion Parameter Description

Please refer to "3.4.3.1.1 Tripwire" for other parameter descriptions

Step 4 Click "Save" to complete the configuration

3.4.3.1.4 Abandoned Object

Abandoned Object means that when the selected target in the monitoring screen stays in the screen for more than the set time, an alarm will be triggered

Pedestrians or vehicles staying for too long will also be judged as an abandoned object and trigger the alarm. In order to filter such alarms, generally the abandoned object is smaller in size than people and vehicles. Therefore, people and vehicles can be filtered by the setting in Target Filter; in addition, the alarm time can be appropriately extended to avoid legacy time false positive caused by short stays of people

Application Scenarios: suitable for scenarios with sparse targets, no obvious and frequent light changes (visible channel); for scenarios with a high target density and frequent occlusion, underreporting will increase; for scenarios with a lot of people staying, false positives will increase; the detection area is required to have a texture as simple as possible, and it is not suitable for areas with too complex textures.

The configuration steps are as follows:

Step 1 If the rule type is selected as "Abandoned Object", the configuration interface is as shown in Figure 3.4-18

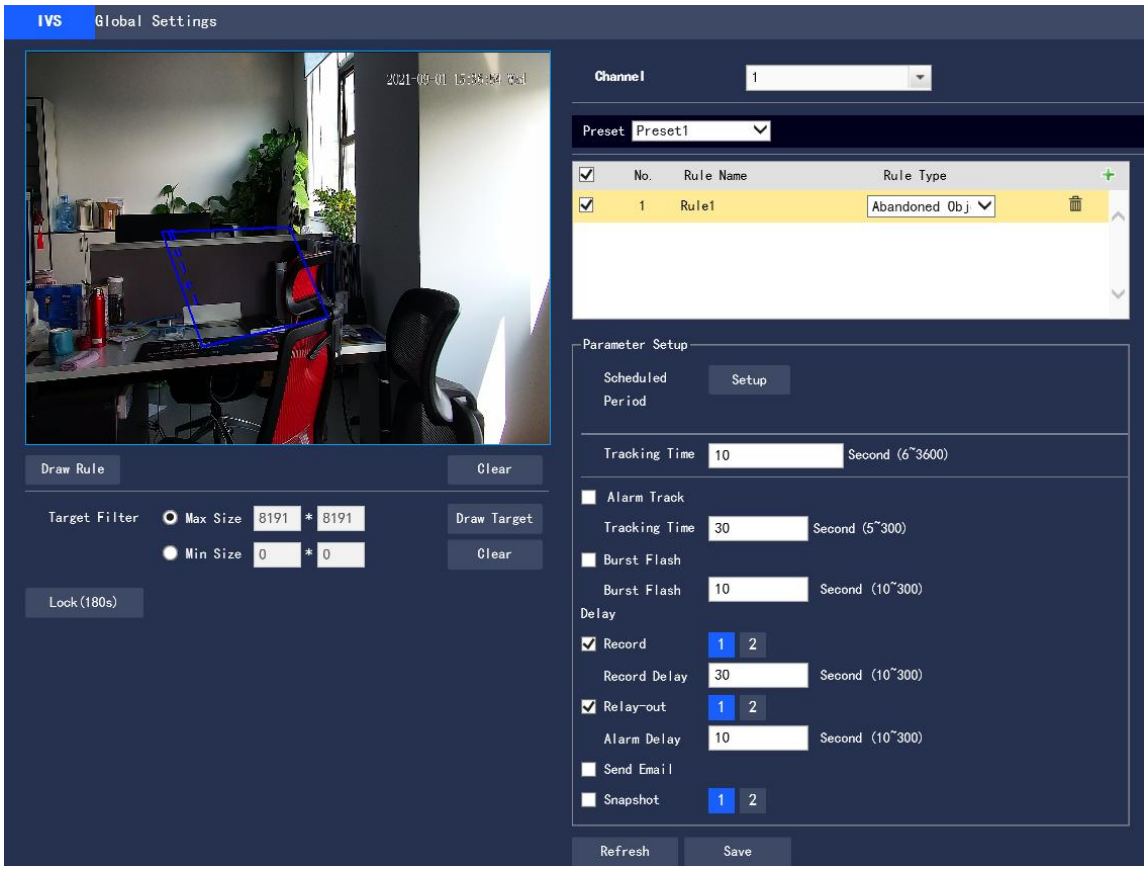


Figure 3.4-18 Abandoned Object Setup

Step 2 Click "Draw Rule" to draw rules in the monitoring screen

Step 3 Configure the parameter information according to actual needs. Please refer to Table 3.4-10 for parameter description

Parameter	Description
Tracking Time	Set the shortest time from leaving the object to triggering the alarm

Table 3.4-10 Abandoned Object Parameter Description

Please refer to "3.4.3.1.1 Tripwire" for other parameter descriptions

Step 4 Click "Save" to complete the configuration

3.4.3.1.5 Fast-Moving

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

Application Scenarios: suitable for scenarios with sparse targets and no obvious occlusion. The camera should be installed above the monitoring area as directly as possible, and the optical axis direction should be as vertical as possible to the movement direction of the target

The configuration steps are as follows:

Step 1 If the rule type is selected as "Fast-Moving", the configuration interface is as shown in Figure 3.4-19

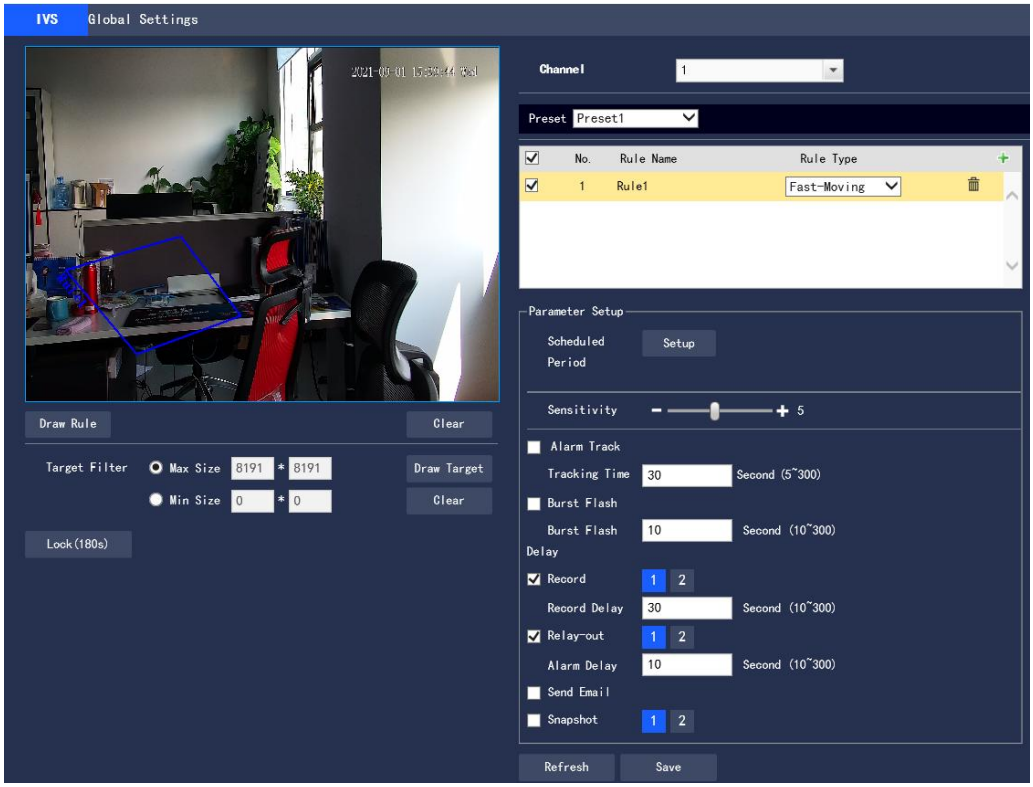


Figure 3.4-19 Fast-Moving Setup

Step 2 Click "Draw Rule" to draw rules in the monitoring screen

Step 3 Configure the parameter information according to actual needs. Please refer to Table 3.4-11 for parameter description

Parameter	Description
Sensitivity	Set Sensitivity for alarm triggering, with the value range of 1～10, and the default is 5

Table 3.4-11 Fast-Moving Parameter Description

Please refer to "3.4.3.1.1 Tripwire" for other parameter descriptions

Step 4 Click "Save" to complete the configuration

3.4.3.1.6 Parking detection

The system will judge whether the target is static based on the track information. When the static time exceeds the set time, an alarm will be triggered

The configuration steps are as follows:

Step 1 If the rule type is selected as "Parking Detection", the configuration interface is as shown in Figure 3.4-20

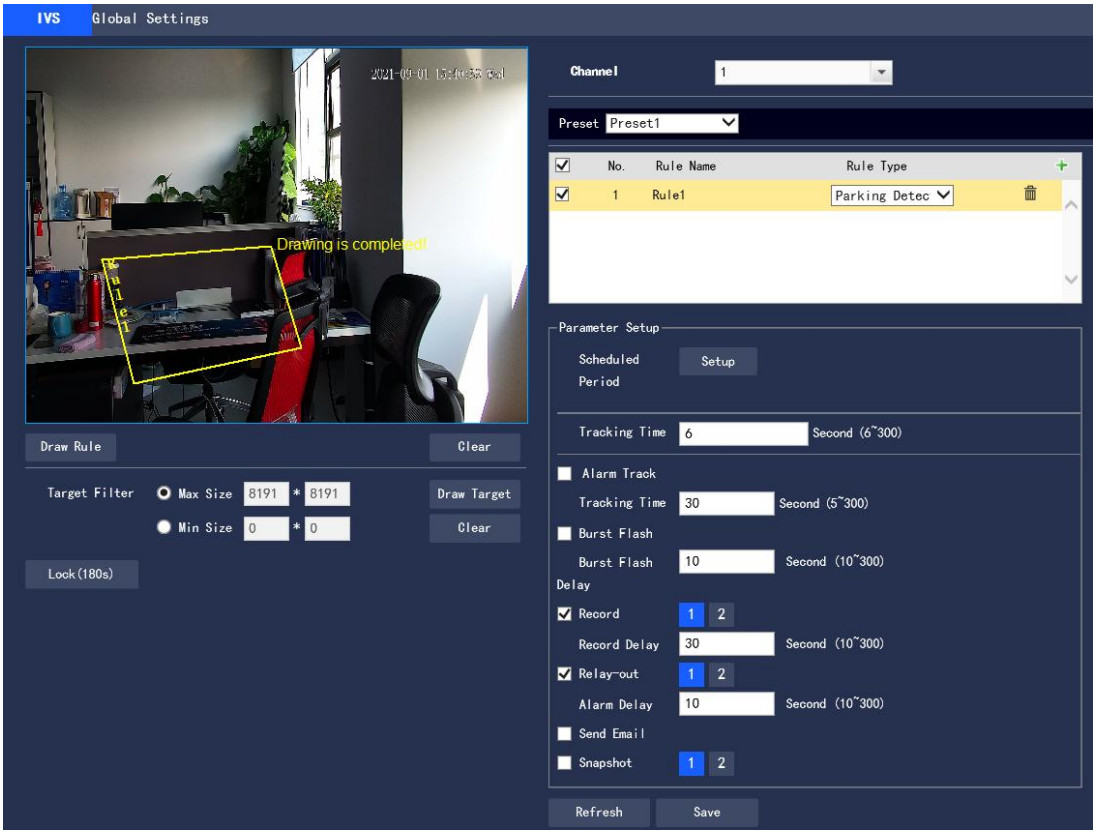


Figure 3.4-20 Parking Detection Setup

Step 2 Click "Draw Rule" to draw rules in the monitoring screen

Step 3 Configure the parameter information according to actual needs. Please refer to Table 3.4-12 for parameter description

Parameter	Description
Tracking Time	Set the shortest time from leaving the object to triggering the alarm

Table 3.4-12 Parking Detection Parameter Description

Please refer to "3.4.3.1.1 Tripwire" for other parameter descriptions

Step 4 Click "Save" to complete the configuration

3.4.3.1.7 Crowd Detection

Crowd Detection is mainly aimed at outdoor squares, government gates, station entrances and other areas. When there is an event of crowd gathering and staying or excessive crowd density, an alarm will be triggered

False positives will occur in the continuous shaking of the camera, leaves and shades, the frequent opening and closing of the retractable doors of the park, the dense traffic or the flow of people

Application Scenarios: middle and far scenarios

Unsuitable scenarios: low installation height, a large proportion of the screen occupied by a single person, or serious occlusion of the target

The configuration steps are as follows:

Step 1 If the rule type is selected as "Crowd Detection", the configuration interface is as shown in Figure 3.4-21

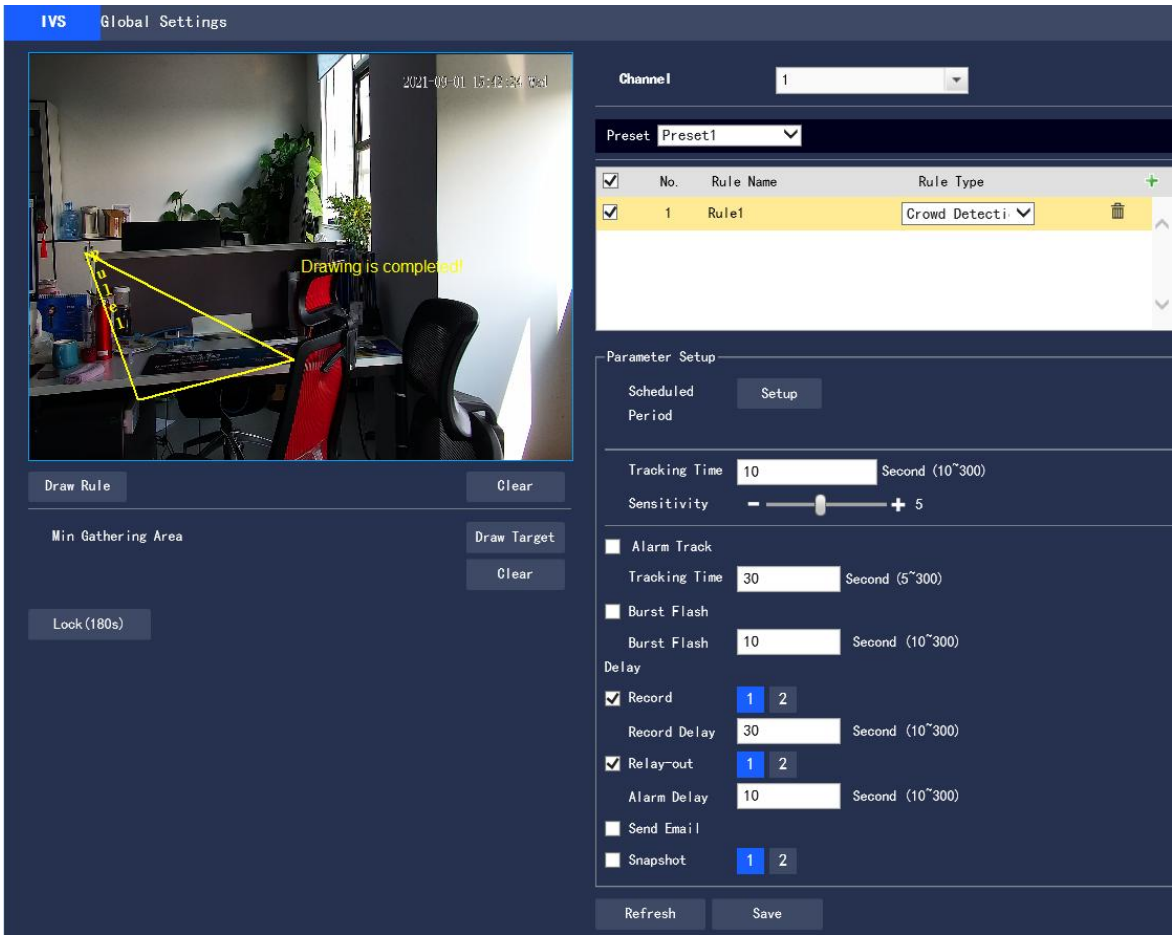


Figure 3.4-21 Crowd Detection Setup

Step 2 Click "Draw Rule" to draw rules in the monitoring screen

Step 3 Configure the parameter information according to actual needs. Please refer to Table 3.4-13 for parameter description

Parameter	Description
Tracking Time	Set the minimum time between the target appearance in the area and the trigger of the alarm
Sensitivity	Set Sensitivity for alarm triggering, with the value range of 1～10, and the default is 5
Min Gathering Area	Click "Draw Target" to draw the smallest gathering area model in the screen; when the number of people in the designated area is greater than this model scale and their stay exceeds the set Tacking Time, an alarm will be triggered; click "Clear" to delete the drawn smallest gathering area model

Table 3.4-13 Crowd Detection Parameter Description

Please refer to "3.4.3.1.1 Tripwire" for other parameter descriptions.

Step 4 Click "Save" to complete the configuration.

3.4.3.1.8 Missing Object

Missing Object refers to the triggering of an alarm when the selected target in the original scene is taken away for more than a certain period of time

The system will make statistics on the stationary area in the foreground area, and distinguish between Missing Object and Abandoned Object according to the similarity between the foreground and the background. If the time set by the user is exceeded, an alarm will be triggered

Application Scenarios: suitable for scenarios with sparse targets, no obvious and frequent light changes; for scenarios with a high target density and frequent occlusion, underreporting will increase; for scenarios with a lot of people

staying, false positives will increase; the detection area is required to have a texture as simple as possible, and it is not suitable for areas with too complex textures

The configuration steps are as follows:

Step 1 If the rule type is selected as "Missing Object", the configuration interface is as shown in Figure 3.4-22

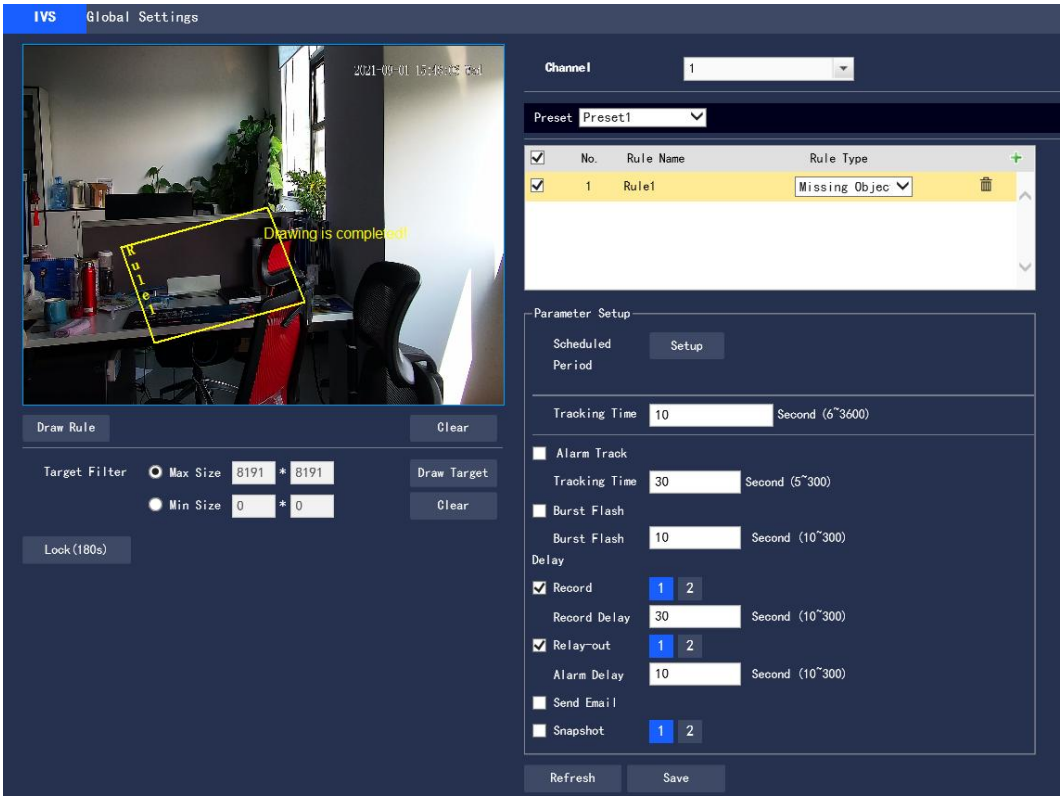


Figure 3.4-22 Missing Object Setup

Step 2 Click "Draw Rule" to draw rules in the monitoring screen

Step 3 Configure the parameter information according to actual needs. Please refer to Table 3.4-14 for parameter description

Parameter	Description
Tracking Time	Set the shortest time between the disappearance of the object and the triggering of the alarm

Table 3.4-14 Missing Object Parameter Description

Please refer to "3.4.3.1.1 Tripwire" for other parameter descriptions

Step 4 Click "Save" to complete the configuration

3.4.3.1.9 Loitering Detection

When the target has a trajectory in the set area and its stay exceeds the set time, an alarm will be generated; for a stationary target, the wandering is invalid

The configuration steps are as follows:

Step 1 If the rule type is selected as "Loitering Detection", the configuration interface is as shown in Figure 3.4-23

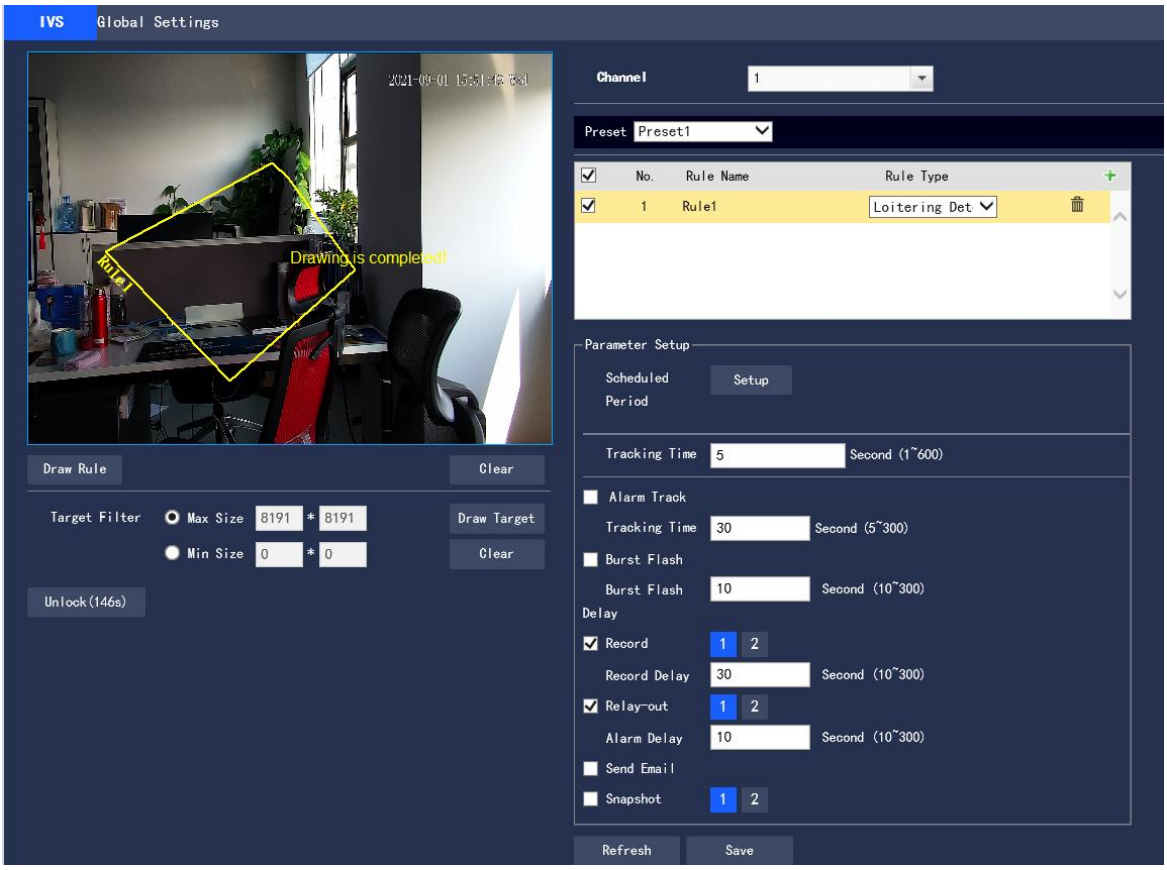


Figure 3.4-23 Wandering Setup

Step 2 Click "Draw Rule" to draw rules in the monitoring screen

Step 3 Configure the parameter information according to actual needs. Please refer to Table 3.4-15 for parameter description

Parameter	Description
Tracking Time	Set the shortest time between the disappearance of the object and the triggering of the alarm

Table 3.4-15 Wandering Parameter Description

Please refer to "3.4.3.1.1 Tripwire" for other parameter descriptions

Step 4 Click "Save" to complete the configuration

3.4.3.2 Global Settings

Purpose and Principle of Depth-of-Field Calibration

According to 1 plane line and 3 height lines calibrated by the user, and the corresponding distance in the actual environment, it can estimate the internal parameters of the camera (including internal geometric characteristics and optical characteristics) and external parameters (the camera's three-dimensional position and direction relative to the actual environment coordinate system), and then determine the correspondence between the two-dimensional image obtained by the camera and the three-dimensional real object

Methods and Notes for Depth-of-field Calibration Configuration

● Usage scenarios:

It should choose as many mid and far scenarios with a camera installation height of more than 3 meters as possible, while not supporting scenarios where the angle is too flat or ceiling-mounted

It supports calibration only on the horizontal plane, but not on vertical walls or inclined planes.

It does not support scenarios with distorted images, such as ultra-wide-angle cameras and fish-eye cameras

● Calibration settings. The drawn calibration area should be in the same horizontal plane

The configuration steps are as follows:

Step 1 Select "Settings > Event Management > General Behavior Analysis > Global Settings". The system displays the "Global Settings" interface as shown in Figure 3.4-24.

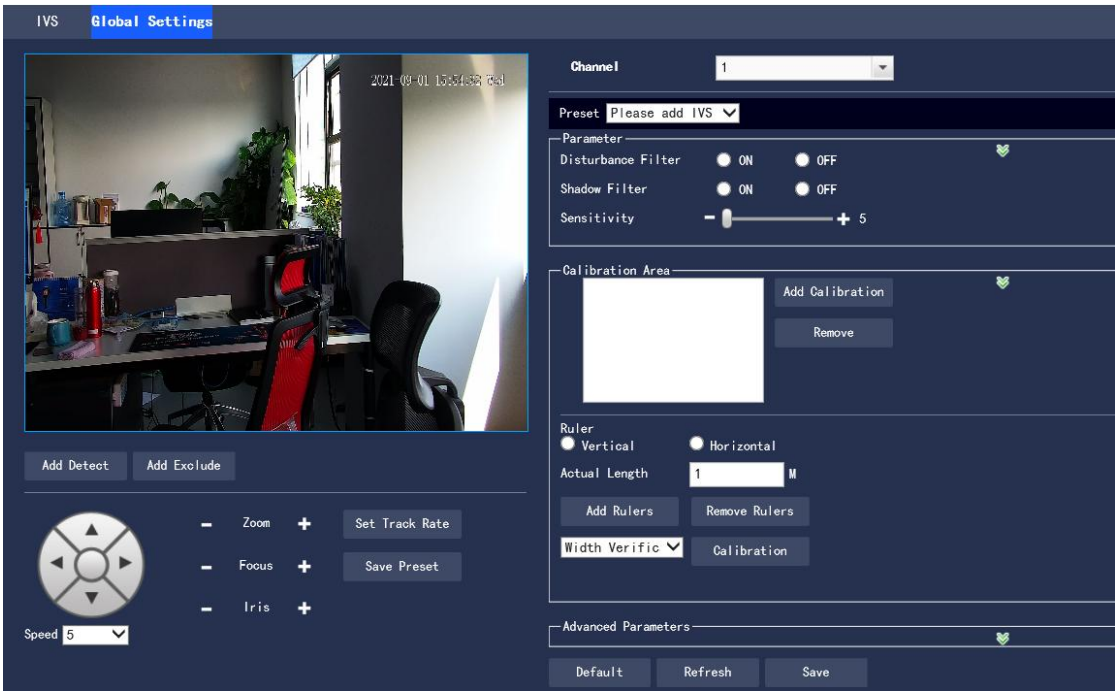


Figure 3.4-24 Global Settings Setup

Step 2 Select Preset point for the Global Settings function

● This preset point has been configured with a smart plan. Please refer to "3.4.2 Smart Plan" for details on the smart plan configuration method

Step 3 Click "Add Calibration" and draw the calibration area in the monitoring screen

Step 4 Select to draw "Vertical" or "Horizontal" rulers according to actual needs

● Vertical ruler settings: the bottom of the three vertical rulers should be on the same horizontal plane, and it should select the reference objects with three fixed heights distributed in a triangle as a vertical ruler, such as a vehicle stopped on the roadside, or a street light pole; the best way is to arrange a dedicated person to select three standing positions in the monitoring scene, and then make drawings separately

● Horizontal ruler settings: similarly, it also selects a reference object with a known length on the ground, such as an indicator on the road, or use a tape to measure the actual length

Step 5 Set the length of the ruler to be drawn in the actual environment

Step 6 Click "Add Rulers" and draw a ruler in the monitoring screen

Step 7 Select the calibration type, and click "Calibration" and drawing a line in the monitoring screen can display its corresponding actual length

● After the ruler setting is finished, verification tools should be applied to verify the set parameters. If it is found that the calibration error is significantly different from the actual one the settings need to be fine-tuned or reset until the error requirements are met

Step 8 Configure the parameter information according to actual needs. Please refer to Table 3.4-16 for parameter description

Parameter	Description
Disturbance Filter	On by default, and suppress random disturbance to some extent
Shadow Filter	Off by default. For scenes with shadows, turning on this function can make the target

	frame only contain the target itself (excluding shadows), and multiple shadow-attached targets can be detected separately, providing a more accurate initial target position for tracking. The negative effect of this function is that a part of the target similar to the shadow will be misjudged as the shadow and then removed
Sensitivity	The value range is 1～10, and the default is 5. The larger the value is, the easier it is to trigger low-contrast targets and small targets, the greater the pseudo detection rate, the higher the false detection rate
Add Detect	Click this button to draw the detection area, and the camera will perform detection in this area
Add Exclude	Click this button to draw an exclusion zone, and the area within this zone will be excluded from the detection range
Set Track Rate	Click this button to set the current rate as the track rate
Save Preset	Click this button to save the settings of this preset point
Effective Target Overlap Rate	The value range is 0～100, and the default value is 0. The larger the value, the easier the detection frame will appear, the lower the missed detection rate, and the higher the false detection rate
Effective Target Movement Distance	The value range is 0～100, and the default value is 10. The smaller the value, the earlier the detection, while the larger the value, the higher the missed detection rate and the lower the false detection rate
Effective Target Movement Time	The value range is 0～100, and the default value is 10. The smaller the value, the earlier the detection, while the larger the value, the higher the missed detection rate and the lower the false detection rate

Table 3.4-16 Global Settings Parameter Description

Step 9 Click "Save" to complete the configuration

3.4.4 Fire alarm

After setting the fire alarm rules for the thermal imaging, when the system judges that it is a fire, it will generate an alarm and link the set action.

Step 1 Select "Settings > Event Management> Fire alarm". The system displays the thermal imaging fire alarm interface as shown in Figure 3.4-25.

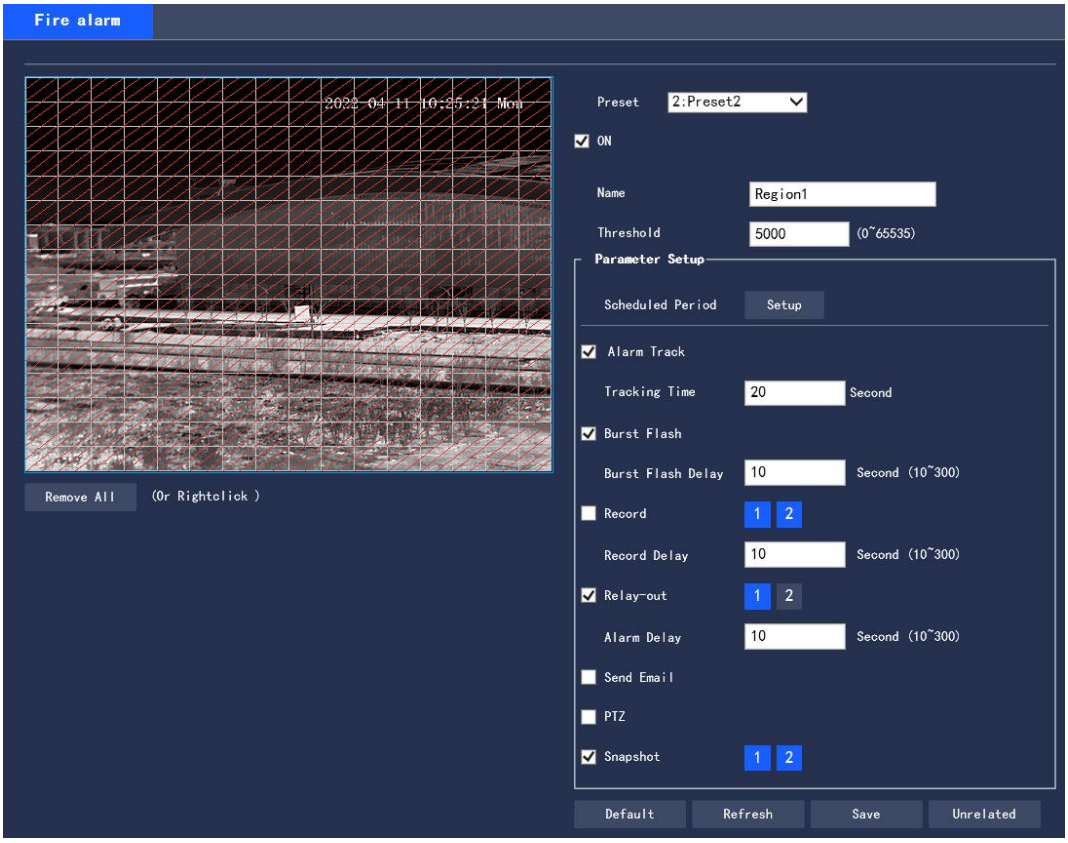


Figure 3.4-25 Fire Alarm

Step 2 Select Preset point

The default is Preset 0：Unrelated. All scenarios can use this configuration. If it needs to set the fire alarm of a particular scenario, the settings can be made by the first setting of preset points. The user has to select the fire alarm function associated with the preset points first, and the fire alarm setting can vary for each preset point. Please refer to "3.3.2.1 Preset" for the setting method.

Step 3 Click "On" and set rules.

1.Select "On" to turn on the fire alarm function.

2.Monitor the configuration screen and set the corresponding rules.

Step 4 To set the fire alarm parameters, please refer to Table 3.4-17 for detailed parameter descriptions.

Parameter	Description
Scheduled Period	Set the alarm time period, and the alarm event will be activated only within the set time range. 1. Click "Setup", and the "Scheduled Period" dialog box will pop up. 2. Set the alarm time period. Method 1: Press and hold the left mouse button and drag the progress bar directly on the setting interface for setting. Method 2: Click "Setup" corresponding to the day of weeks, tick the box in front of the time period at the bottom of the interface, and enter the time value. There are 6 time periods available for setting each day. 3. Click "Save" to complete the Scheduled Period setting.
Burst Flash	When an alarm occurs, the system is linked the burst flash. Please refer to "3.4.5.2 Burst Flash" for the burst flash configuration
Burst Flash Delay	When the alarm is over, the burst flash will be extended for a period of time before stopping.
Record	Tick the box and set the recording channel number. When an alarm occurs, the

	corresponding channel will automatically record the alarm. When an alarm occurs, the following two conditions should be met for the system video recording: Motion detection records enabled Automatic video recording enabled
Record Delay	When the alarm is over, the alarm recording will continue for an extended period of time before stopping.
Relay-out	Connect the alarm device (such as lights, sirens) to the Alarm Output, select the check box and set the Alarm Output device, and start the alarm linkage output port. When an alarm occurs, the system can link the corresponding Alarm Output device.
Alarm Delay	When the alarm is over, the alarm will be extended for a period of time before stopping.
Send Email	Tick the box, and when an alarm occurs, the system will send an email to notify the user. Before enabling this function, the setting of Email is required.
PTZ	Tick the box and set the linkage operation and corresponding serial No. When an alarm occurs, the system will link and go to the selected Preset point, start Tour or Pattern Before enabling this function, the PTZ setting is required.
Snapshot	Tick the box and set the snapshot channel number. When an alarm occurs, the corresponding channel will automatically take a snapshot of the image.

Table 3.4-17 Fire Alarm Parameter

Step 5 Click "Save" to complete the setting.

3.4.5 Alarm Setup

3.4.5.1 Alarm

To set the enabling conditions for the alarm event, the configuration steps are as follows:

Step 1 "Settings > Event Management > Alarm Settings > Alarm ". The system displays the "Alarm Linkage" page as shown in Figure 3.4-26

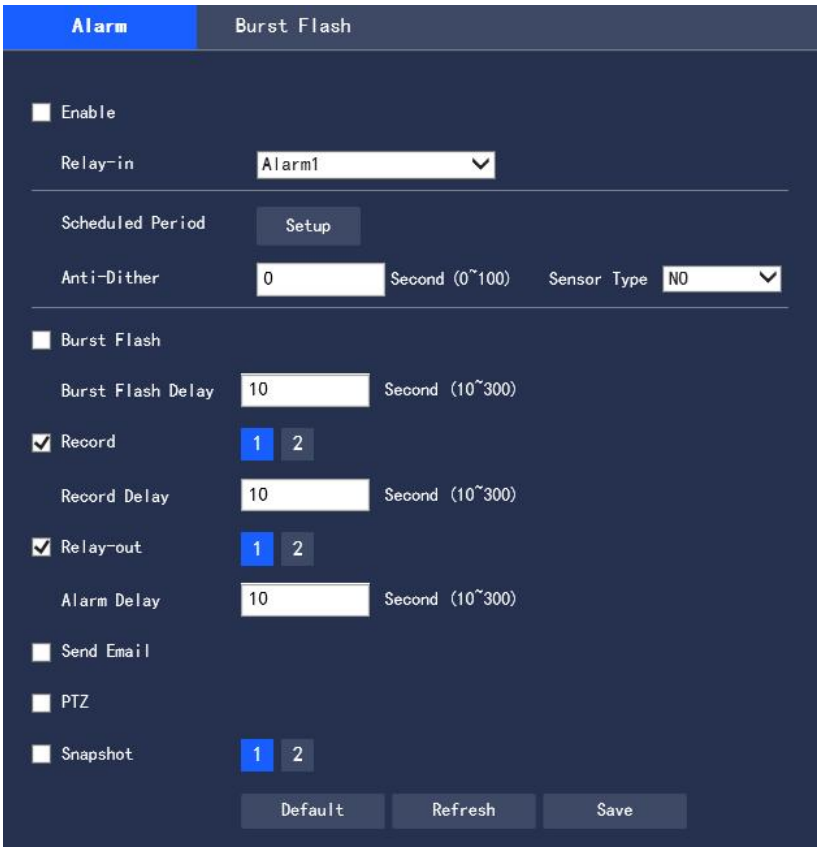


Figure 3.4-26 Alarm Setup

Step 2 Configure each parameter information according to actual needs. Refer to Table 3.4-18 for parameter description

Parameter	Description
Enable	After being selected, the alarm linkage can be enabled
Sensor Type	There are two types: normally open and normally closed; switch from normally open to normally closed to enable alarm; switch from normally closed to normally open to disable the alarm

Table 3.4-18 Alarm Setup Parameter Description

Please refer to "3.4.1.1 Motion Detection" for other parameter descriptions

Step 3 Click "Save" to complete the configuration.

3.4.5.2 Burst Flash

To set the enabling conditions for the burst flash, the configuration steps are as follows:

Step 1 "Settings > Event Management > Alarm Settings > Burst Flash". The system displays the "Burst Flash" page as shown in Figure 3.4-27



Figure 3.4-27 Alarm Setup

Step 2 Configure each parameter information according to actual needs. Refer to Table 3.4-19 for parameter description

Parameter	Description
Enable	After being selected, the Burst Flash function can be enabled
Brightness	Set the brightness of the burst flash. The larger the value, the brighter the burst flash; the value range is 0～100
Flash Mode	The flash mode of the burst flash includes medium, high, low, and on. The default is medium.

Table 3.4-19 Alarm Setup Parameter Description

Please refer to "3.4.1.1 Motion Detection" for other parameter descriptions

Step 3 Click "Save" to complete the configuration.

3.4.6 HLP

After the setting of the thermal imaging HLP, when detecting direct strong light, it will actively protect to prevent the detector from being damaged, while generating an alarm and linking the set action.

Step 1 Select "Setting > Event Management> HLP". The system displays the "HLP" page as shown in Figure 3.4-28.



Figure 3.4-28 HLP

Step 2 Set the HLP parameters. Please refer to Table 3.4-20 for detailed parameter description

Parameter	Description
Enable	After being selected, the HLP function can be enabled
HLP Threshold	The threshold for triggering strong light protection and the value range is 0～65535.

Table 3.4-20 HLP Parameter

Please refer to "3.4.1.1 Motion Detection" for other parameter descriptions

Step 3 Click "Save" to complete the setting.

3.5 Storage Management

3.5.1 Schedule

Before the setup of Schedule, it should make sure that the Record Mode is Auto in Record Control

Note: If Record Mode in Record Control is "Off", the device will not record or capture pictures as set in Schedule

3.6.1.1 Record Schedule

Step 1 Select "Settings > Storage Management > Schedule > Record Schedule". The system displays the "Record Schedule" interface as shown in Figure 3.5-1

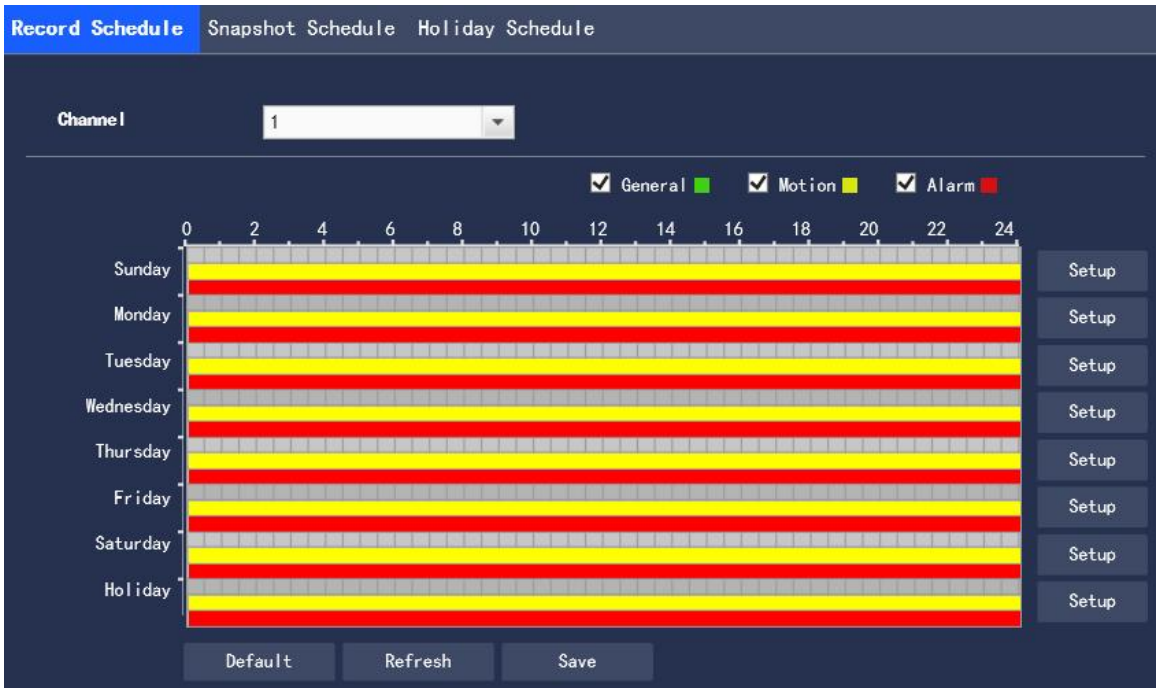


Figure 3.5-1 Record Schedule

Step 2 Select the record time from "Monday to Sunday", click "Setup" on the right and it will display the interface as shown in Figure 3.5-2

- Set the record time period according to your needs, with 6 time periods available every day
- By selecting or canceling, three types of the record schedule can be added or deleted: General, Motion, and Alarm

Note: The time period can also be set by pressing and holding the left mouse button and dragging the progress bar directly on the "Record Schedule" interface

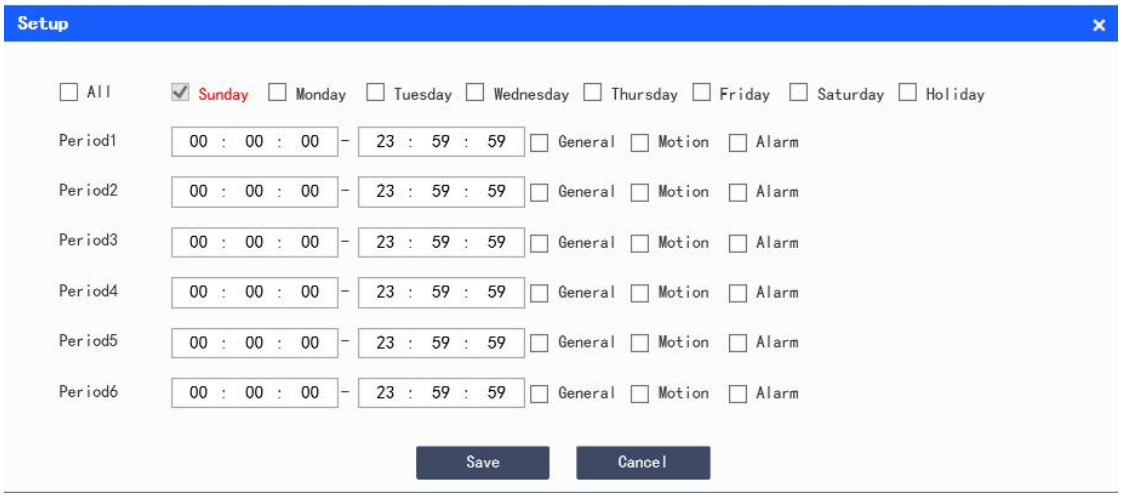


Figure 3.5-2 Record Schedule-Schedule Settings

Step 3 Click "Save" to return to the "Record Schedule" interface as shown in Figure 3.5-3

At this time, the color bar graph intuitively represents the set time zone, where:

Green: General

Yellow: Motion

Red: Alarm

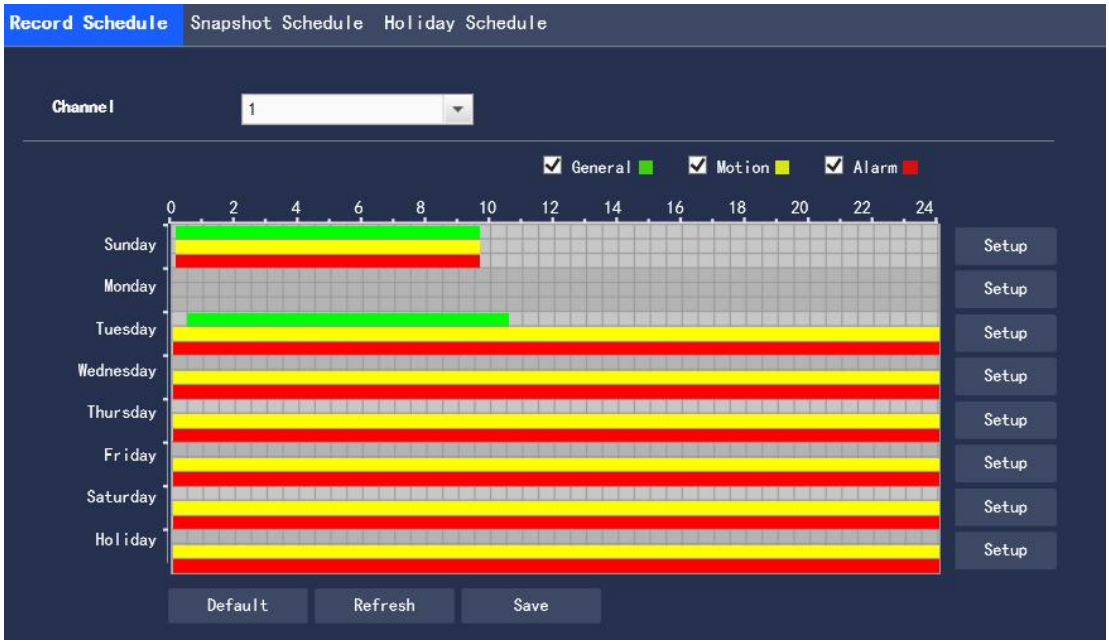


Figure 3.5-3 Record Schedule-Schedule Setup Completed

Step 4 Click "Save" on the "Record Schedule" interface, the system prompts "Save successfully" and the schedule setting is completed

3.5.1.2 Snapshot Schedule

Step 1 Select "Settings > Storage Management > Schedule > Snapshot Schedule". The system displays the "Snapshot Schedule" interface as shown in Figure 3.5-4

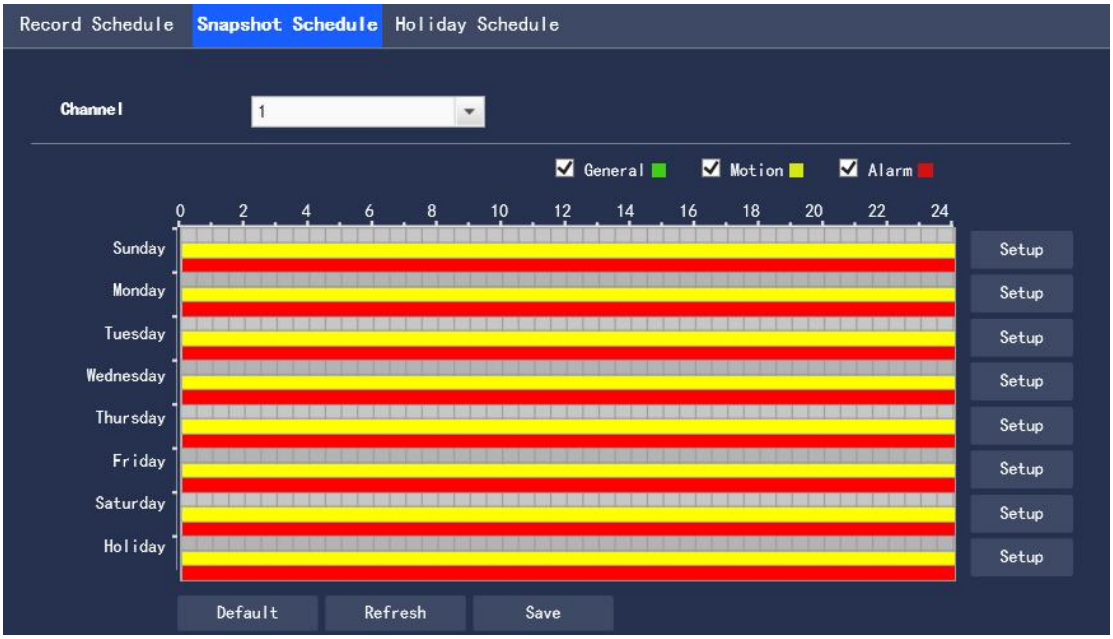


Figure 3.5-4 Snapshot Schedule

Step 2 Refer to steps 2 to 3 of "3.5.1.1 Recording Schedule" to set the time period for snapshot

Step 3 Click "Save", the system prompts "Save successfully", and the schedule setting is completed

3.5.1.3 Holiday Schedule

Holiday schedule can set specific dates as holidays

Step 1 Select “Settings > Storage Management > Schedule > Holiday Schedule”, and the system displays the “Holiday Schedule” interface, as shown in Figure 3.5-5

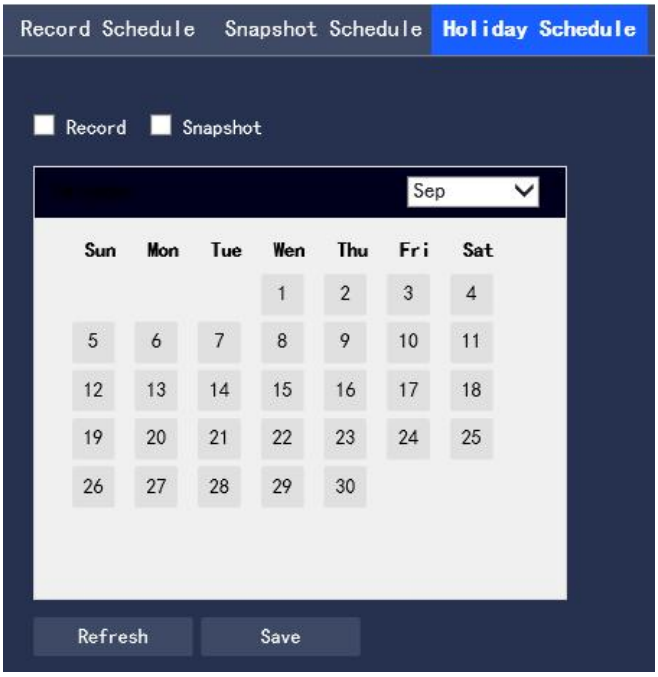


Figure 3.5-5 Holiday Schedule

Step 2 Select the date that you want to set as a holiday, and the selected date is displayed in blue

Step 3 Select “Record/Snapshot”, click “Save”, and system notes “Saved successfully”

Step 4 In the “Record Schedule/Snapshot Schedule” interface, click “Setup” on the right side of “Holiday”. The setting method is the same as “Monday to Sunday”.

Step 5 After setting the period of a day of “Holiday”, you can video taking or Image capture for the holiday period in the date set in the holiday schedule.

3.5.2 Storage

3.5.2.1 Storage Type

You can configure the storage mode of video taking and Image capture of device in the “Storage Type” interface, and store the records and screenshots in a local SD card, FTP and NAS. You can store the records and screenshots according to the event type, corresponding to “General”, “Motion” and “Alarm” in the schedule. You will store corresponding type of video taking and Image capture after checking “General”, “Motion” or “Alarm”.

Step 1 Select “Settings > Storage Management > Storage > Storage Type”, and the system displays the “Storage Type” interface, as shown in Figure 3.5-6

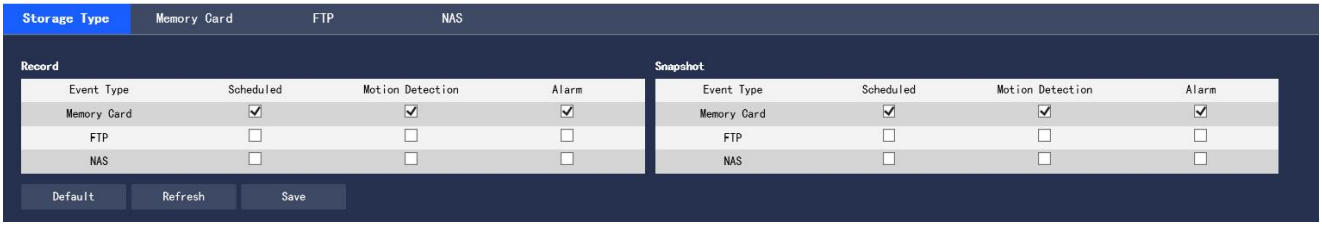


Figure 3.5-6 Storage Type

Step 2 Select the corresponding event type and storage mode according to the actual needs. For the description of parameters, please refer to Table 3.5-1

Parameter	Description
Event Type	Including “Scheduled”, “Motion Detection” and “Alarm”
Memory Card	To store in the SD card
FTP	To store on the FTP server
NAS	To store on the NAS server

Table 3.5-1 Description of Parameters of “Storage Type”

Step 3 Click “Save” to complete the configuration

3.5.2.2 Memory Card

Various information of local SD card is displayed in the “Memory Card” list. You can click “Read Only”, “Read & Write”, “Hot Swap” and “Format” for operations.

Select “Settings > Storage Management > Storage (Table) > Memory Card”, and the system display is shown in Figure 3.5-7

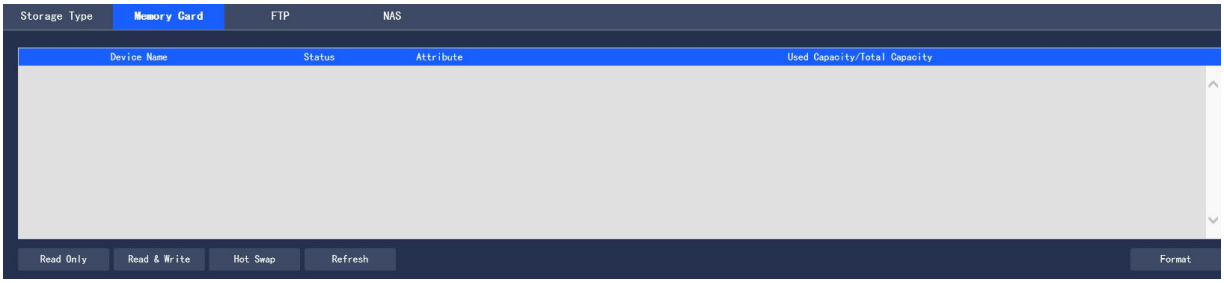


Figure 3.5-7 Memory Card

- Click “Read Only” to set the SD card to read only
- Click “Read & Write” to set the SD card to read/write
- Click “Hot Swap” to hot swap the SD card
- Click “Format” to format the SD card

3.5.2.3 FTP

The FTP function can only be enabled after the FTP storage mode is selected in “Storage Type”. When the network is disconnected or fails, you can store the video taking and Image capture to the local SD card by checking “Emergency (Local)”.

Step 1 Select “Settings > Storage Management > Storage (Table) > FTP”, and the system displays the “FTP” interface, as shown in Figure 3.5-8

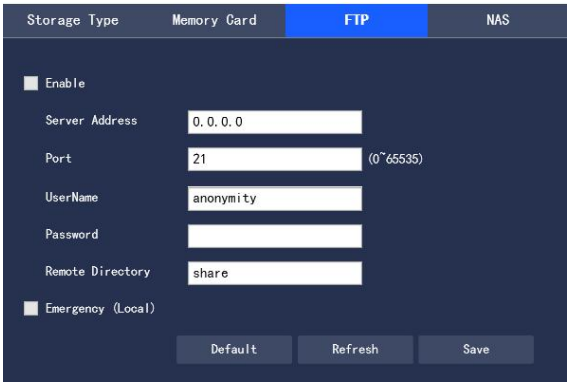


Figure 3.5-8 FTP Interface

Step 2 Configure information of each parameter according to actual needs. For the description of parameters, please refer to Table 3.5-2

Parameter	Description
Enable FTP	Enable the FTP function after you check it
Server Address	Address of FTP server
Port	Port of FTP server
UserName	User name to log in to the FTP server
Password	User name to log in to the FTP server
Remote directory	Directory stored on the FTP server
Emergency storage (Local)	After you check it, the records and snapshots will be stored to the local SD card when an exception occurs in FTP storage.

Table 3.5-2 Description of Parameters of “FTP”

Step 3 Click “Save” to complete the configuration

3.5.2.4 NAS

The NAS function can only be enabled after the NAS storage mode is selected in “Storage Type”. You can store files on the NAS server after checking “Enable”.

Step 1 Select “Settings > Storage Management > Storage > NAS”, and the system displays the “NAS” interface, as shown in Figure 3.5-9.

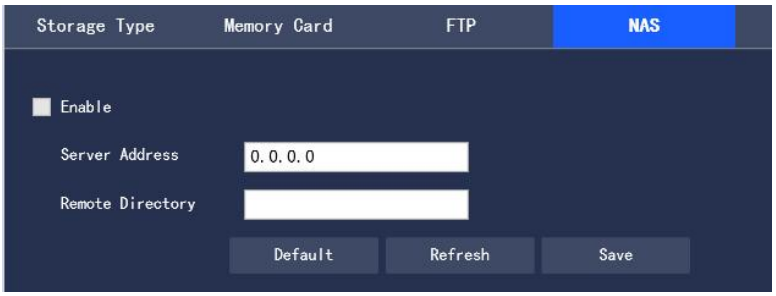


Figure 3.5-9 Settings of “NAS”

Step 2 Configure information of each parameter according to actual needs. For the description of parameters, please refer to Table 3.5-3

Parameter	Description
Enable NAS	Enable the NAS function after you select it

Server Address	Address of NAS server
Remote Directory	Directory stored on the NAS server

Table 3.5-3 Description of Parameters of “NAS”

Step 3 Click “Save” to complete the configuration

3.5.3 Record Control

Step 1 Select “Settings > Storage Management > Record Control”, and the system displays the “Record Control” interface, as shown in Figure 3.5-10



Figure 3.5-10 Record Control

Step 2 Configure information of each parameter according to actual needs. For the description of parameters, please refer to Table 3.5-4

Parameter	Description
File Duration	Set the packaging duration of each Video Taking file, 3 minutes by default
Pre-Record	Set the pre-recording time. For example, when you input “5”, after an alarm occurs, the system will read the video taking of the first 5 seconds in the memory and record it in the file Note: When you configure the pre-recording time, when the system is taking the alarm video taking or dynamic detection, video taking it will also record the video data within n seconds before the recording is started into the record file if no recording is taken before.
Disk Full	You can select “Stop” or “Overwrite” Stop: stop video taking when the working disk is full. Overwrite: overwrite the earliest video taking file when the working disk is full.
Record Mode	You can select “Auto”, “Manual” and “Off” modes. When you select the “Manual” mode, the system will start recording; when you select the “Auto”, the system will record within the scope of the schedule.

Table 3.5-4 Description of Parameters of “Video Taking Control”

Step 3 Click “Save” to complete the configuration.

3.6 System Management

3.6.1 General

3.6.1.1 General

Step 1 Select “Settings > System Management > General > General”, and the system displays the “General” interface, as shown in Figure 3.6-1.

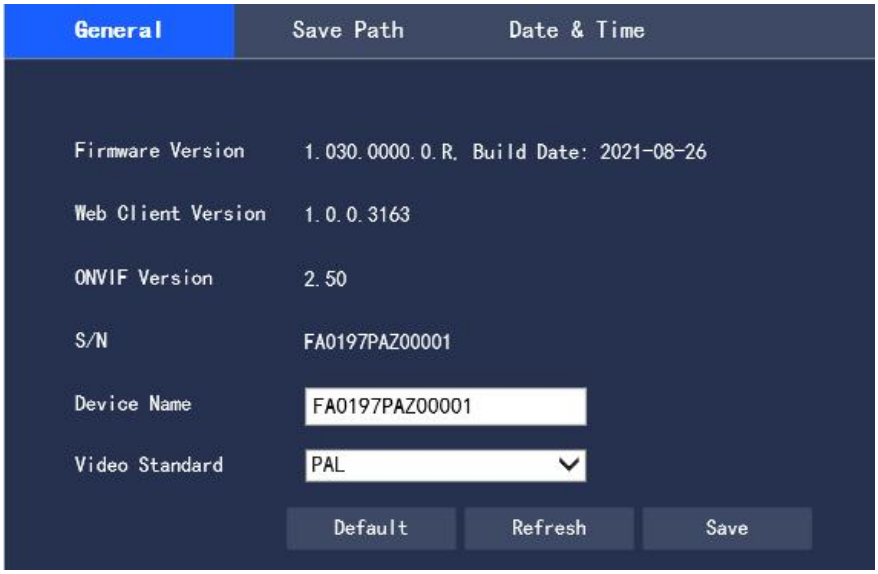


Figure 3.6-1 Settings of “General”

Step 2 Configure information of each parameter according to actual needs. For the description of parameters, please refer to Table 3.6-1.

Parameter	Description
Device Name	Set the name of the device, the serial number of devices by default
Video Standard	The video standard of the display device, 50 Hz and 60 Hz are optional, and 50 Hz by default

Table 3.6-1 Description of Parameters of “General”

Step 3 Click “Save” to complete the configuration.

3.6.1.2 Save Path

In the “Save Path” interface, you can set the storage paths of “Live Snapshot”, “Live Record”, “Playback Snapshot”, “Playback Download”, “Video Clips” and “Heat map” respectively. The configuration steps are as follows:

Step 1 Select “Settings > System Management > General > Save Path”, and the system displays the “Save Path” interface, as shown in Figure 3.6-2

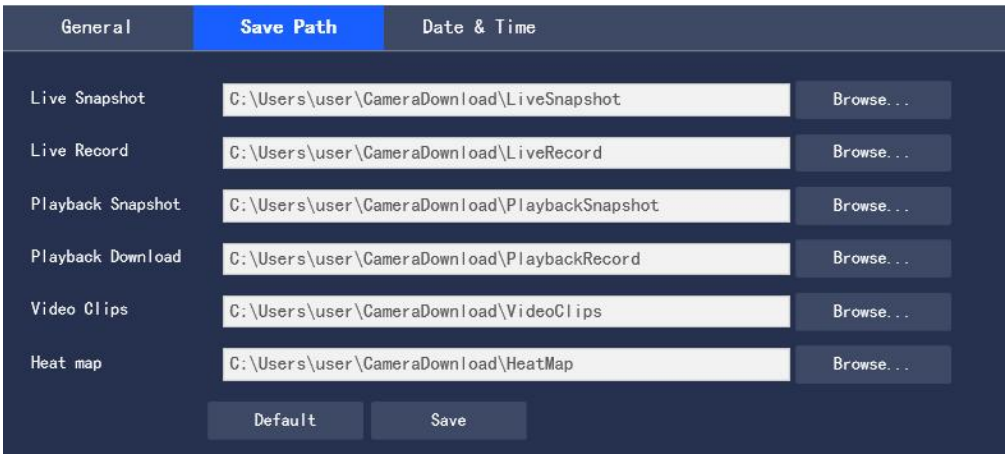


Figure 3.6-2 Settings of “Save Path”

Step 2 Set the storage path of each storage item respectively

- Default path of monitoring “Live Snapshot”: C:\Users\Administrator\CameraDownload\LiveSnapshot
- Default path of “Live Record”: C:\Users\Administrator\CameraDownload\LiveRecord
- Default path of “Playback Snapshot”: C:\Users\Administrator\CameraDownload\PlaybackSnapshot
- Default path of “Playback Download”: C:\Users\Administrator\CameraDownload\PlaybackRecord
- Default path of “Video Clips”: C:\Users\Administrator\CameraDownload\VideoClips
- Default path of “Heat map”: C:\Users\Administrator\CameraDownload\HeatMap

Note: “Administrator” is the login account of PC.

The Image capture and video taking paths of thermal imaging are not displayed in “Save Path”. By default, the suffix of the above paths of the visible light is added with “_Heat”.

Step 3 Click "Save" to complete the configuration.

3.6.1.3 Date &Time

Step 1 Select “Settings > System Management > General > Date & Time”, and the system displays the “Date & Time” interface, as shown in Figure 3.6-3.

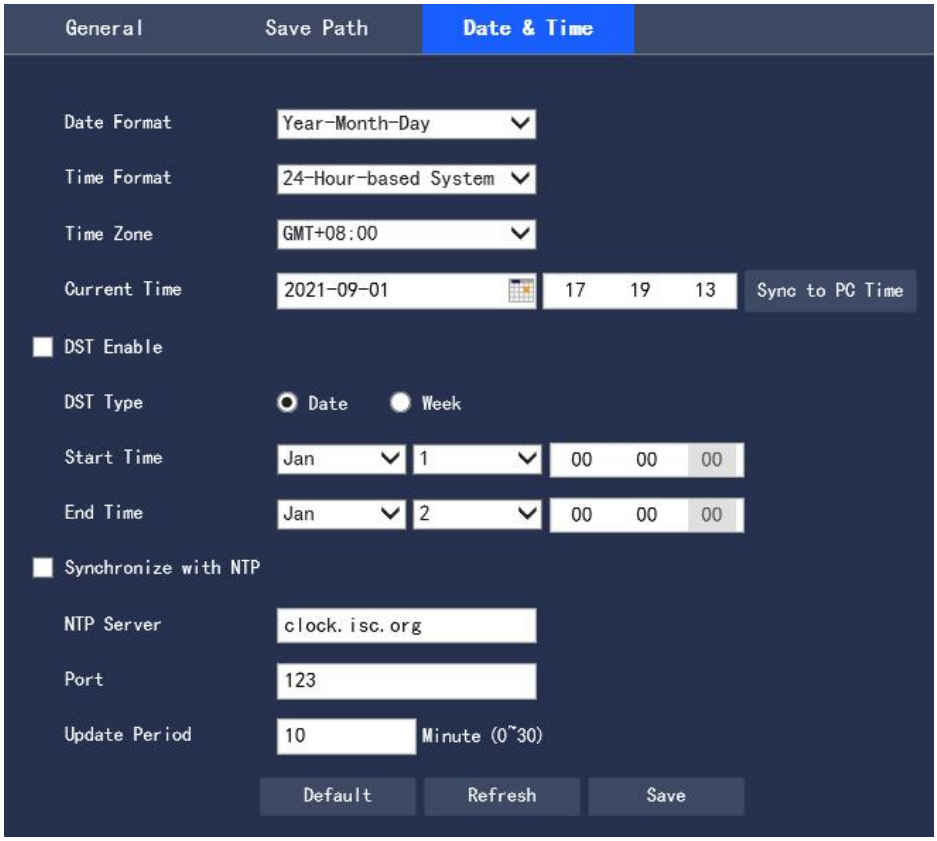


Figure 3.6-3 Date & Time

Step 2 Configure information of each parameter according to actual needs. Please refer to Table 3.6-2

Parameter	Description
Date Format	Select the display format of corresponding date to be displayed
Time Format	Select the format of corresponding time to be displayed
Time Zone	Set the local time zone
Current Time	Set the current system time of the device
DST Enable	Set the start time and end time of DST, which can be set in the time or week format.
Synchronize with NTP	Set whether to enable the network time synchronization function, and enable it after you check it
NTP Server	Set the address of the time server
Port	Set the port number of the time server
Update Period	The synchronization interval period of the device time

Table 3.6-2 Setting Description of Parameters of “Date & Time”

Step 3 Click “Save” to complete the configuration

3.6.2 User Management

3.6.2.1 User Management

The “Account” interface is only available when the user has the user management authority.

● User name and group name can be set with a maximum length of 15 characters, only letters, numbers and

underscores are acceptable.

● The password can be set to 0-32 digits, and only numbers and letters are acceptable. User can also change passwords of other users in addition to changing his/her own password.

● In the “User Management” interface, the group and user modes are adopted. Both the group name and the user name cannot be duplicate, and one user can only belong to one group.

● The user currently logged in cannot modify his/her own authority.

● A default user “admin” is provided during initialization, which is a high-authority user by default during delivery.

3.6.2.1.1 User

In “Settings > System Management > User Management > Account > UserName”, you can check “Anonymous Login”, and click “Enable”, “Add User”, “Delete User” and “Modify User Password” for operations. The configuration interface is shown in Figure 3.6-4.

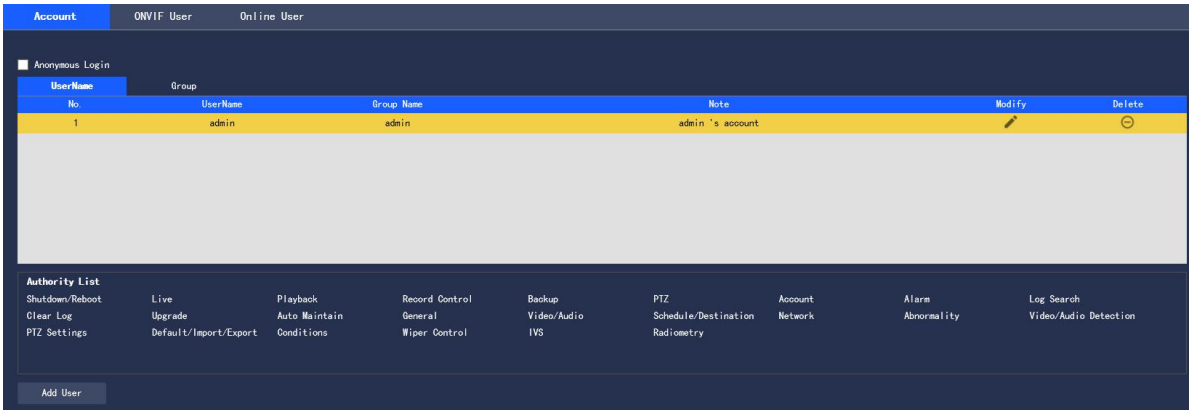


Figure 3.6-4 User Management

Anonymous Login

When you check “Anonymous Login”, you can log in to the device anonymously without entering a user name or password after entering IP. The anonymously logged-in user has only the preview authority listed in the “Authority List”. When you log in to the device in an anonymous way, you can log in to it with other user accounts by clicking “Log Out”.

Add User

Control of adding group users and setting users

Note: The user with the highest authority “admin” in the system cannot be deleted by default.

Step 1 Click “Add User”, and the system pops up the “Add User” interface, as shown in Figure 3.6-5

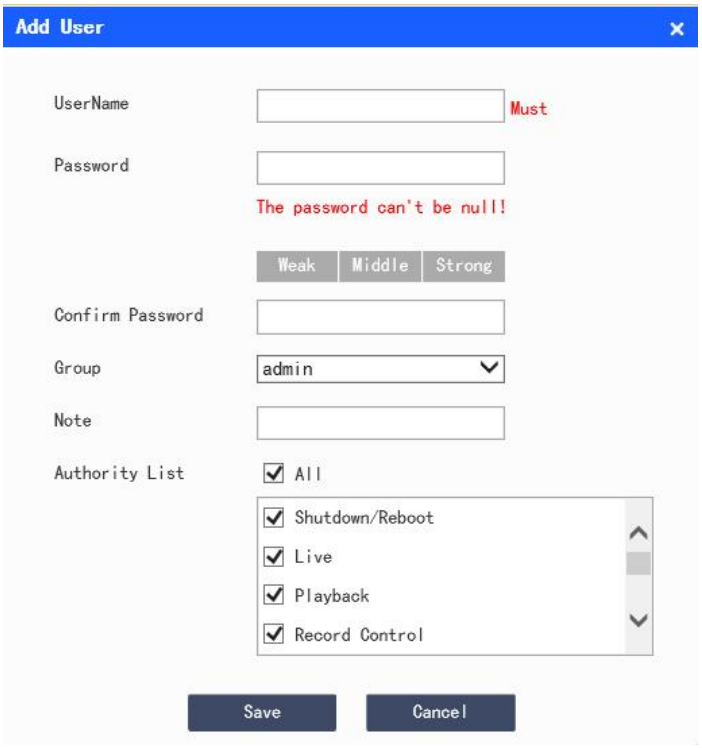


Figure 3.6-5 Add User

Step 2 Enter the user name and password, select a user group, and select the authority

● Once the required group is selected, the user's authority can only be a subset of the group, and cannot exceed the authority attribute of the group.

● In order to facilitate managing the accounts, it is recommended that common users have lower authorities than senior ones when the user defines the authority.

Step 3 Click "Save" to complete the configuration

Modify User

Step 1 Click the corresponding  of the user to be modified, and the system pops up the "Modify User" interface, as shown in Figure 3.7-6

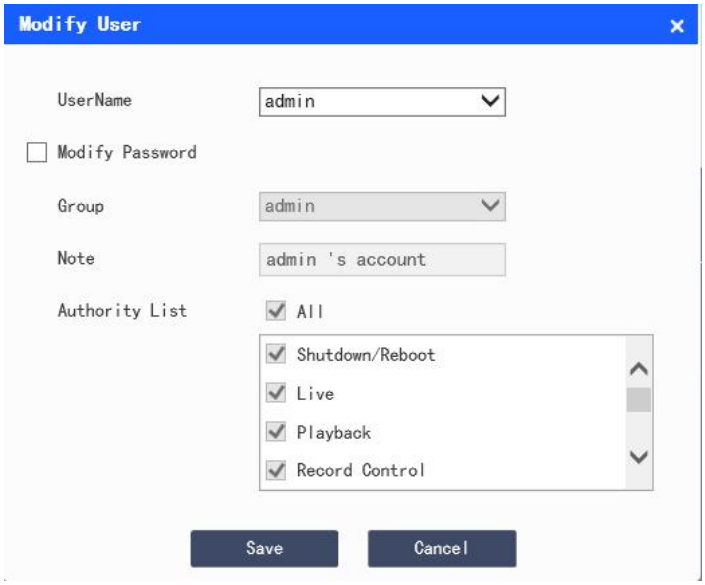


Figure 3.6-6 Modify User

Step 2 Modify the user information according to actual needs

Step 3 Click "Save" to complete the configuration

Modify Password

Step 1 Check the “Modify Password” check box

Step 2 Enter the old password, and enter the new password and confirm it

Step 3 Click “Save” to complete the configuration

Delete User

You can delete the user by clicking the corresponding  of the user to be deleted.

3.6.2.1.2 User Group

In “Settings > System Management > User Management > Account > Group”, you can click “Add Group”, “Delete Group” and “Modify Group Password” for operations. The operating interface is shown in Figure 3.6-7.

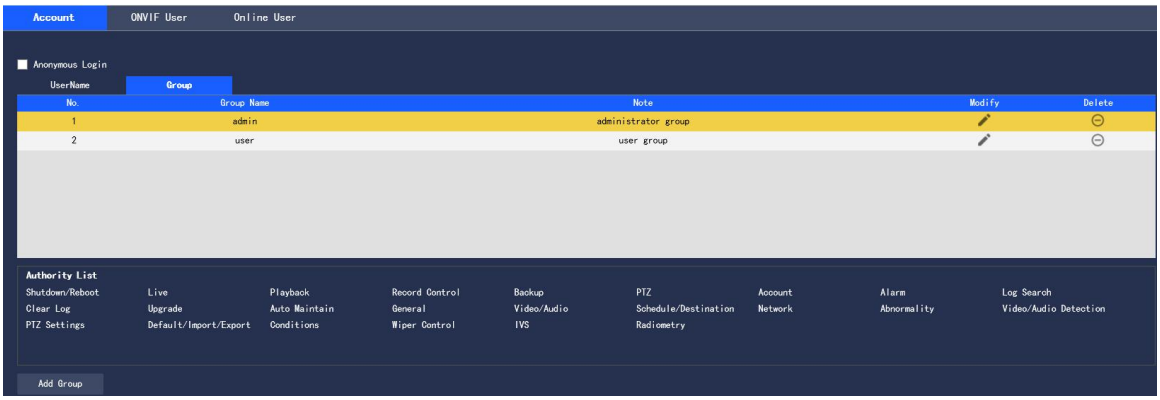


Figure 3.6-7 Settings of “Group”

Add Group

For specific operations, please refer to “3.6.2.1.1 User”

Modify Group

For specific operations, please refer to “3.6.2.1.1 User”

Delete User Group

For specific operations, please refer to “3.6.2.1.1 User”

3.6.2.2 Onvif User

In “Settings > System Management > User Management > Onvif User”, you can view the information of users currently logged in through Onvif, as shown in Figure 3.6-8.

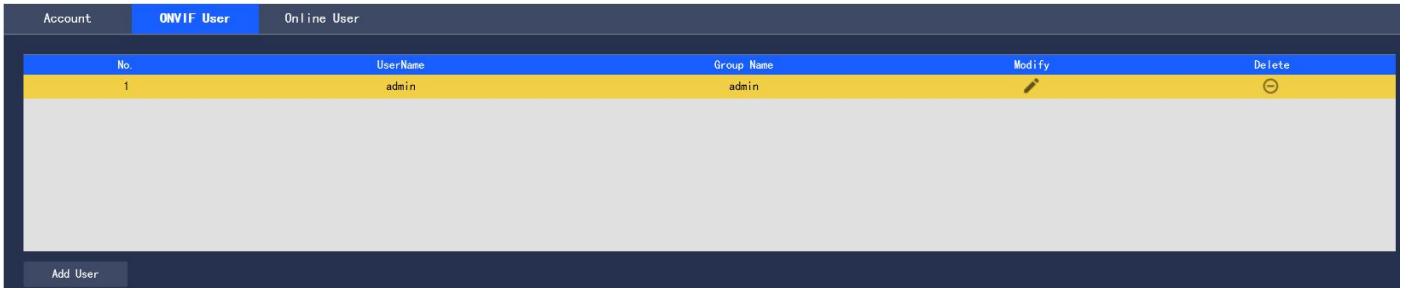


Figure 3.6-8 Onvif User

Add User

For specific operations, please refer to “3.6.2.1.1 User”

Modify User

For specific operations, please refer to “3.6.2.1.1 User”

Delete User

For specific operations, please refer to “3.6.2.1.1 User”

3.6.2.3 Online User

In “Settings > System Management > Account> Online User”, you can view the information of users currently logged in to WEB, as shown in Figure 3.6-9.

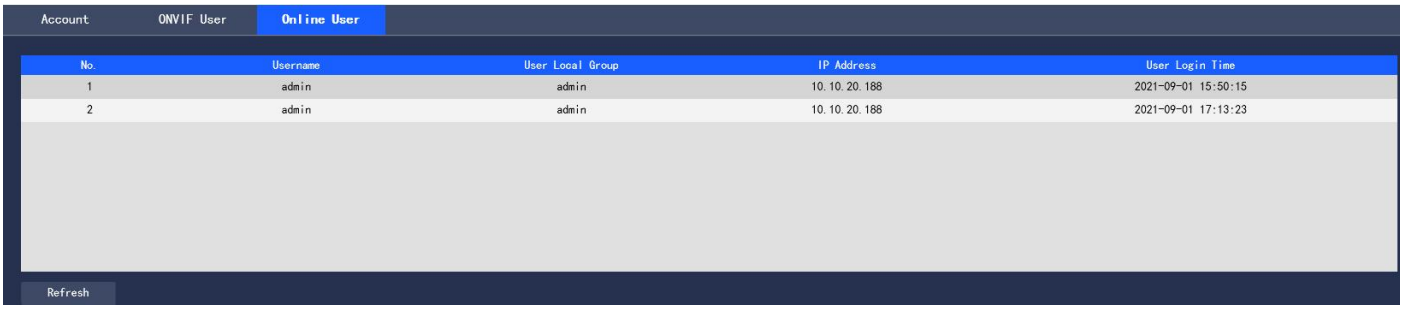


Figure 3.6-9 Online User

3.6.3 Peripheral Management

3.6.3.1 Wiper

Step 1 In “Settings > System Management > Peripheral Management > Wiper”, you can set the external wiper of PTZ, as shown in Figure 3.6-10.

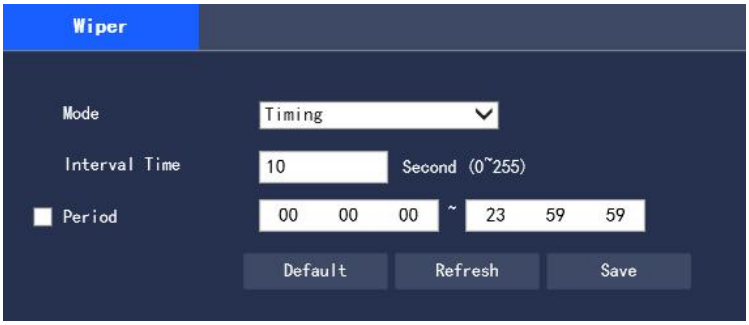


Figure 3.6-10 Wiper

Step 2 Set the wiper mode

- **Timing**: The interval time and period can be configured.
  1. **Interval Time**: the interval from the start of wiper to the start of the next wiper
  2. **Period**: The time period when the wiper works
  3. Click “Save” to complete the configuration
- **Manual**: manually open and close the wiper
  1. **Interval Time**: the interval from the start of wiper to the start of the next wiper
  2. When you click the “Start” button, the wiper will start working within the set interval. When you click the “Stop” button, the wiper stops working. When you click the “Single” button, the wiper will work for one round.

3.6.4 System Maintenance

3.6.4.1 System Log

In “Settings > System Management > System Maintenance > Log”, you can view the user’s operation information on the device and some system information, as shown in Fig. 3.6-11. For the description of parameters, please refer to Table 3.6-3

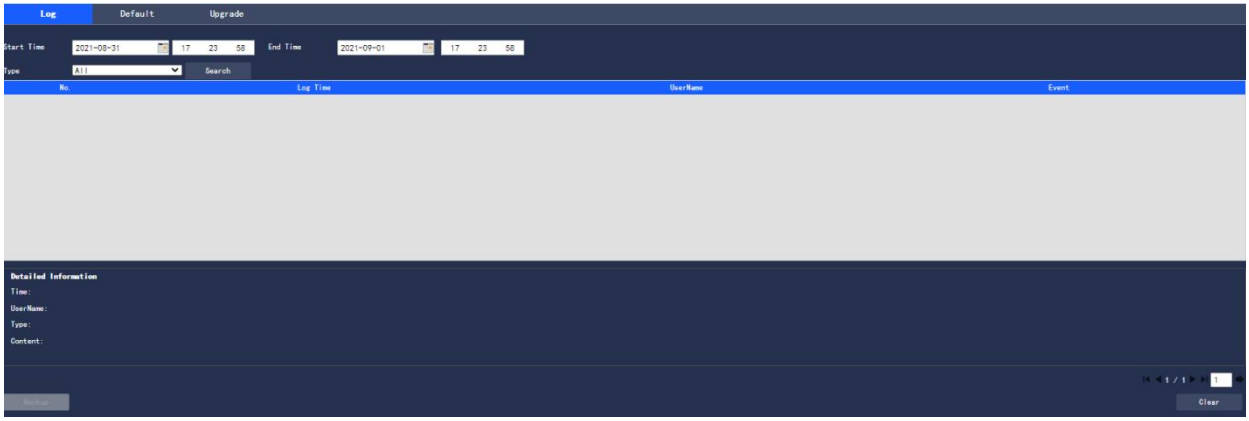


Figure 3.6-11 System Log

Parameter	Description
Start Time	The start time of the log to be searched
End Time	The end time of the log to be searched
Type	For types of log information, system operation, configuration operation, data management, alarm event, video taking operation, user management and log clearing are available.

Search	First, you can set the start time and end time of the log to be searched, and select the log type. When you click “Search”, the system will dynamically display the number of searched entries. When you click “Stop”, the system will stop searching logs, and display the number of searched entries and the period area.
Detailed Information	Click “Log Record” to display the details of the log
Clear	Clear all the log information of the device. The log information cannot be cleared by categories however.
Backup	Back up the searched system log information to the PC currently used by the user

Table 3.6-3 Description of Parameters of “Log”

The meanings of different log types are as follows:

● System operation: including application startup, abnormal exit, exit, application restart, device shutdown/restart, device restart and system upgrade

● Configuration operation: including saving and deleting configuration files

● Data operation: including setting of hard disk type, data clearing, hot swap, FTP status and video taking mode

● Event operation (record the video detection, intelligence, alarm, abnormality and other events): including the start time and end time of the event

● Video taking operation: including file access, file access error and file query

● User Management (record User Management modification and login and logout of user): including login, logout, adding user, deleting user, modifying user, adding group, deleting group and modifying group

● Clear log: clear the log

3.6.3.2 Default

In “Settings > System Management > System Maintenance > Default”, you can click “Manual Reboot” to restart the device, and click “Default” to restore some of the device settings to default values. The configuration interface is shown in Figure 3.6-11.

When multiple devices share the same configuration method, you can rapidly configure the above multiple devices by importing and exporting configuration files.

Step 1 Select the “Settings > System Management > System Maintenance > Default” interface on the Web side of a device, as shown in Figure 3.6-11

Step 2 Click “Export” to export the configuration file (.backup file) to local

Step 3 Click “Import” in the “Import/Export” interface of the WEB side to be configured with device, and import the configuration file into the system, and the device will be configured.

User can set to automatically reboot the system or delete a file. To automatically reboot the system, you need to set the period and time, being 02:00 every Tuesday by default. To automatically delete an old file, you need to set the period of the file, and delete the file within a certain period.

Step 1 Select the “Settings > System Management > System Maintenance > Default” interface, as shown in Figure 3.6-12.

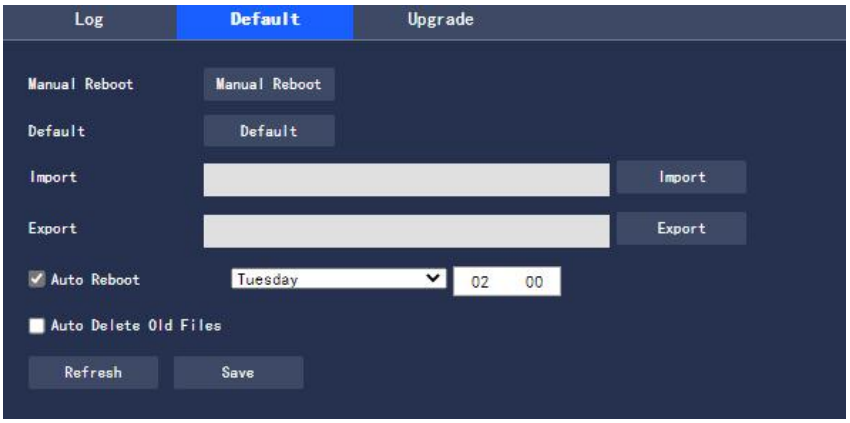


Figure 3.6-12 Default

Step 2 Configure information of each parameter according to actual needs. For the description of parameters, please refer to Table 3.6-4

Parameter	Description
Auto Reboot	Set the reboot time of the device after you check it
Auto Delete Old Files	After you check it, you can customize the period for deleting files, ranging from 1 day to 31 days.

Table 3.6-4 Description of Parameters of “Auto Maintenance”

Step 3 Click “Save” to make the configuration effective

Note: Some settings will not be restored to default values.

3.6.3.3 Firmware Upgrade

You can upgrade the firmware in “Settings > System Management > System Maintenance > Upgrade”. The configuration interface is shown in Figure 3.6-13.



Figure 3.6-13 Firmware Upgrade

When upgrading the firmware, you can click “Browse…” to select the file to be upgraded, and click “Upgrade” to upgrade the firmware. Files to be upgraded belong to the “*.bin” type.

4 Playback

Saved videos and pictures can be played back in the “Playback” interface.

● Before playback, you are required to make sure that there are video takings and pictures stored in the local SD card.

Click the “Playback” tab, and the system will display the “Playback” interface, as shown in Figure 4-1

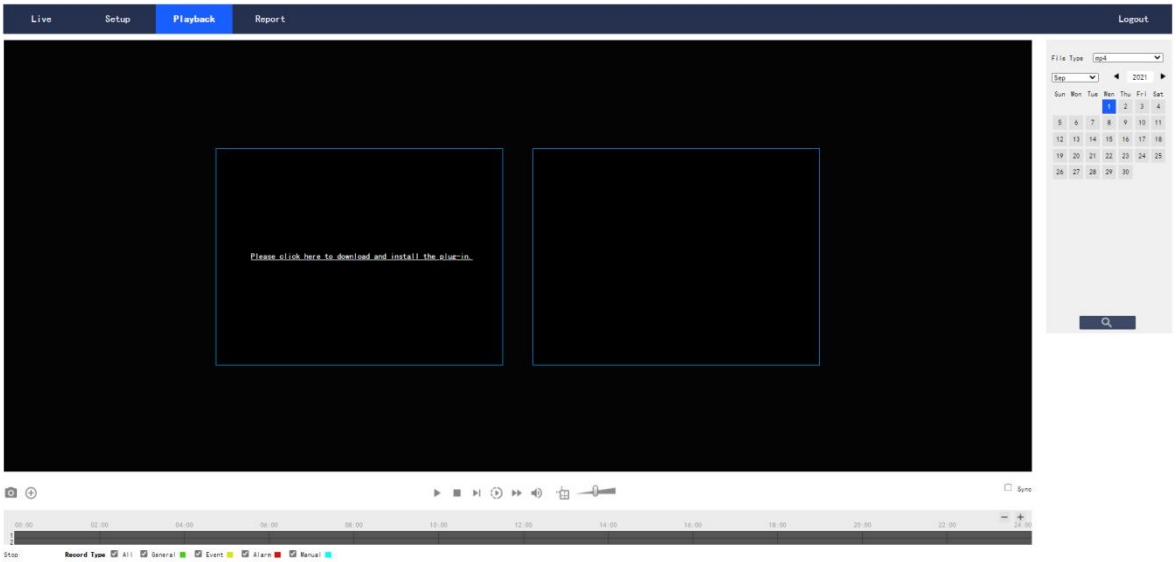


Figure 4-1 “Playback” Interface

4.1 Video Playback

Select the file type as “mp4”, and the system will display the interface as shown in Figure 4.1-1. For the description of parameters, please refer to Table 4.1-1

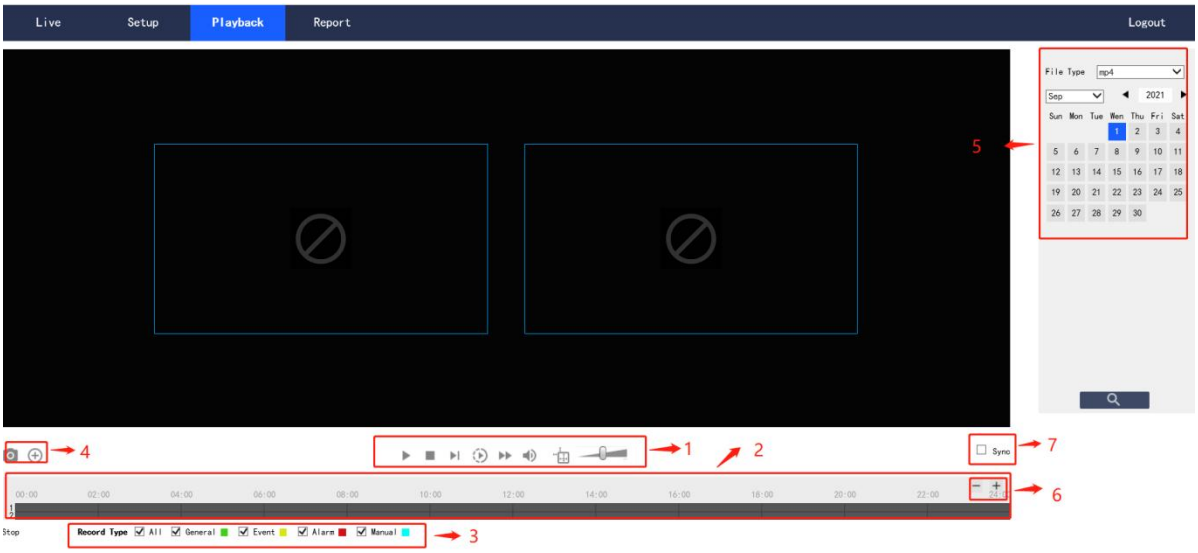


Figure 4.1-1 “Video Playback” Interface

No.	Description
1	Play function bar
2	Progress bar
3	Video taking type bar
4	Miscellaneous function bar
5	Playback file bar
6	Progress bar time format bar
7	Progress synchronization

Table 4.1-1 Description of Parameters of “Video Playback”

4.1.1 Play function

The play function bar is shown in Figure 4.1-2. For the description of parameters, please refer to Table 4.1-2



Figure 4.1-2 Play Function Bar

Parameter	Description
1 Play	When this button is displayed, it indicates that the video taking is paused or not played. Click it to switch to the normal play state
2 Stop playing	Click it to stop playing the video taking
3 Next frame	Click it to skip to the next frame to play
4 Slow play	Click it to slow down
5 Fast play	Click it to speed up
6 Mute	When this button is displayed, it indicates that it is currently in the mute state. Click it to switch to the normal sound state
7 Regulation information	Click it to display the intelligent rule line in “Video Taking Playback”
8 Volume	Click the left mouse button to adjust the video taking volume

Table 4.1-2 Description of Parameters in the Play Function Bar

4.1.2 Video Taking Type

After selecting a video taking file, only the selected file will be displayed in the progress bar and file list. The “Video Taking Type” interface is shown in Figure 4.1-3



Figure 4.1-3 Video Taking Type

4.1.3 Miscellaneous Function

The miscellaneous function bar is shown in Figure 4.1-4. For the description of parameters, please refer to Table 4.1-3



Figure 4.1-4 Miscellaneous Function Bar

Parameter	Description
1 Image capture	Click the button to conduct image capture of the video, and save the pictures in the set path.
2 Partial zoom	● Click the button, and select any area by frame to zoom when the picture is in the original state. For any picture that is not in the original state, the zoomed area can be dragged within a certain range, which will be resumed to the original state by clicking the right mouse button. ● Click the button, and zoom in and out the picture by scrolling the mouse wheel.

Table 4.1-3 Description of Parameters of “Miscellaneous Function”

4.1.4 Playback File

The date displayed in blue in the calendar indicates that there are video takings or pictures for the current date, as shown in Figure 4.1-5. For the description of parameters, please refer to Table 4.1-4

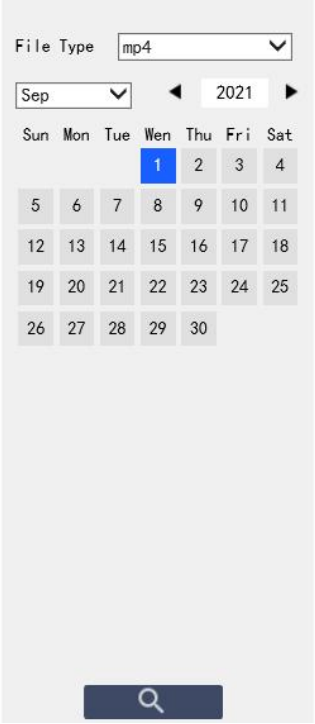


Figure 4.1-5 Playback File (1)

Parameter	Description
File Type	● Select “mp4” to play back the video taking ● Select “jpg” to play back the picture
Source	Default SD card

Table 4.1-4 Description of Parameters of "Playback File" (1)

The configuration steps are as follows:

Step 1 Click the date in blue, and the progress bar of the video taking file with color will be displayed on the time axis.

Among them, “green” represents ordinary video takings, “yellow” motion detection video takings, “red” alarm video takings, and “blue” manual video takings.

Step 2 Click a certain time position in the progress bar area of the record file to play the video taking file

starting from this time point in the “Playback” interface

The progress bar is shown in Figure 4.1-6.

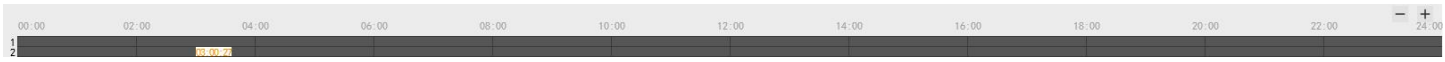


Figure 4.1-6 Progress Bar of video taking File

Step 3 Check “Sync” to set the visible light and thermal imaging playback video takings as synchronous. The synchronization box is shown in Figure 4.1-7.

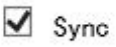


Figure 4.1-7 Synchronization Box

Step 4 Select the channel.

- Select “Channel 1” to display the visible light playback file
- Select “Channel 2” to display the thermal imaging playback file

Step 5 Click the query icon  of the file list. The video taking file of the selected date will be displayed in the list.

The list of playback files is shown in Figure 4.1-8. For the description of parameters, please refer to Table 4.1-5

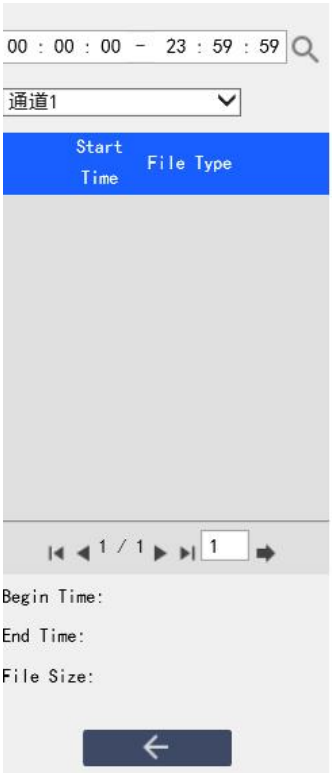


Figure 4.1-8 Playback File (2)

Parameter	Description
	Search, indicating to search all video taking files between the input start time and the end time of the selected date
	Click the download icon to save the video taking file in the set download path of playback file
	Click it to return to the calendar page, and you can re-select the time for operation

Table 4.1-5 Description of Parameters of "Playback File" (2)

4.1.5 Progress bar time format

The interface of progress bar format is shown in Figure 4.1-9. Every time you click “+”, the progress bar will be changed from display in the 24-hour mode, to the display of video takings of 2 hours, 1 hour, and half an hour of the video taking. You can click “-” successively to change back to the 24-hour mode.



Figure 4.1-9 Progress Bar Time Format

5 Logout

Click “Log out” to log out the system, and the system will pop up the interface as shown in Figure 5-1. To enter the system again, you need to log in it again.

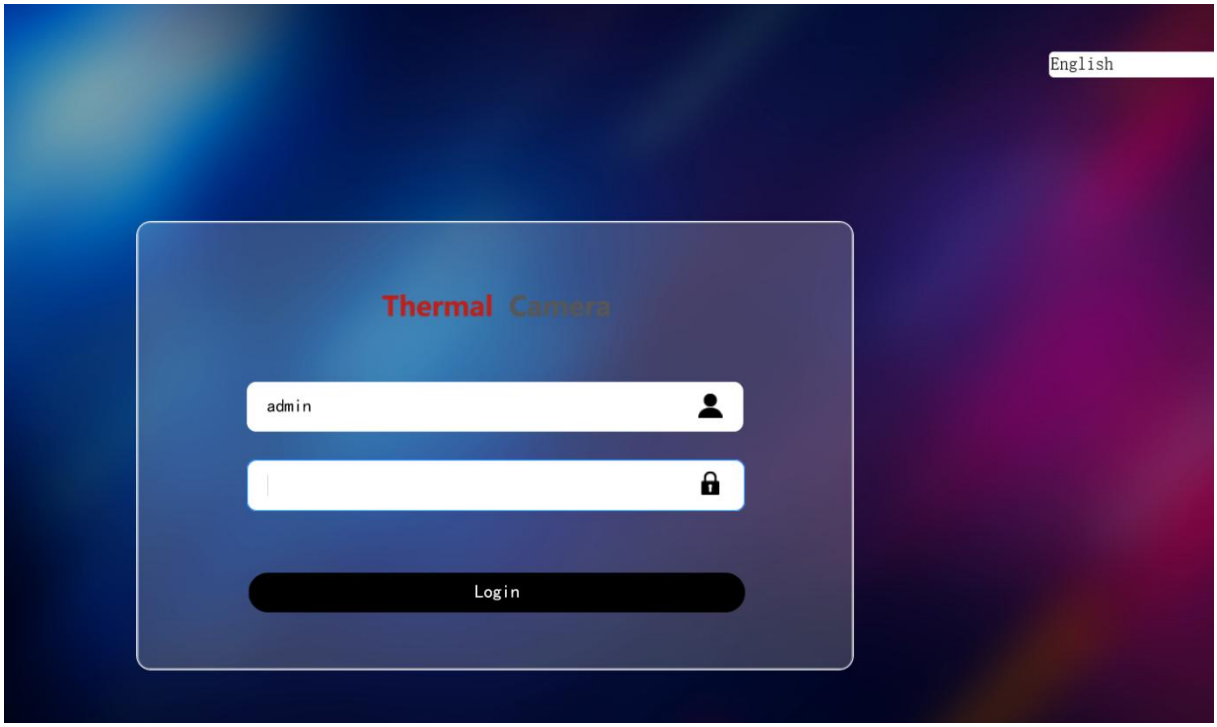


Figure 5-1 Logout Interface