User Manual

ON-FRTDL08

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Statement

Thank you for choosing our product, this user manual is intended for users of Thermal Camera. It includes instructions on how to use the product. Before using the device, read the user manual carefully. Keep this manual for further clarifications. The descriptions, images and technical parameters may vary with the actual devices. The software embodied in the product is governed by the user license agreement covering that product.

Copyright

This Manual is subject to domestic and international copyright protection.
Our company reserves all rights to this manual. This manual cannot be reproduced, changed, translated, or distributed, partially or wholly, by any means, without the prior written permission of our company.

Privacy Notice

Surveillance &Privacy laws vary by jurisdiction. Check all relevant laws in your jurisdiction before using this product for surveillance purposes to ensure that your use of this product conforms. Please refer to the product specification for camera parameters and functions.

Disclaimer

This manual is for reference only. It may contain several technical incorrect places or printing errors, and the content is subject to change without notice. All information in this booklet has been thoroughly reviewed. Our company is not liable for damage caused by improper use of this device.

Regulatory Information

FCC Caution:

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

-Reorient or relocate the receiving antenna.
-Increase the separation between the equipment and receiver.
-Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
Consult the dealer or an experienced technician for help.

RF warning:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

EU Conformity Statement

This product and if applicable, the supplied accessories too are marked with "CE" and comply therefore with the applicable harmonized European standards listed under the Low Voltage Directive 2014/35/EU, the EMC Directive 2014/30/EU, the RED directive 2014/53/EU, the RoHS Directive 2011/65/EU.

This product can be used across EU member states. The simplified EU declaration of conformity referred to in Article 10(9) shall be provided as follows:
We hereby, declares that the radio equipment type (HD Network Camera) is in compliance with Directive 2014/53/EU.

2012/ 19/ EU (WEEE directive): Products marked with this symbol cannot be disposed of as unsorted municipal waste in the European Union. For proper recycling, return this product to your local supplier upon the purchase of equivalent new equipment, or dispose of it at designated collection points. For more information see: www.recyclethis.info.

2006/ 66/ EC (battery directive): This product contains a battery that cannot be disposed of as unsorted municipal waste in the European Union. See the product documentation for specific battery information. The battery is marked with this symbol, which may include lettering to indicate cadmium (Cd), lead (Pb), or mercury (Hg). For proper recycling, return the battery to your supplier or to a designated collection point. For more information see: www.recyclethis.info

Important note

WARNING: Installation and servicing should be performed only by qualified and experienced technicians to conform to all local codes and to maintain your warranty.

WARNING: This device is configured for 12V DC operation only. Do not connect to a higher voltage. Use only with NRTL approved Class 2 or LPS power supplies. To prevent potential ground loop issues, a separate PSU should be used for each camera. A multiple-output PSU may be used if the multiple output PSU has isolated and protected (2A max) outputs.

Important Safety Instructions

- Read and keep these instructions.
- Ensure that your installation area can safely support 3 times the weight of the device.
- Do not install the device in extreme temperature conditions. Only use the device where temperatures are within the limits shown in the device specifications. Be especially careful to provide ventilation when operating under high temperatures.
- Do not install indoor rated devices where they will be exposed to rain or moisture.
- To prevent damage to the image, do not aim the device toward an extreme light source.
- Do not touch the device lens, dome or bezel (front glass plate).
- Do not drop the device or subject it to physical shock.
- Do not use strong or abrasive cleaners, clean only with a soft cloth and mild detergent or alcohol.
- Do not open the device or attempt to service it yourself. Refer all service issues to your dealer.

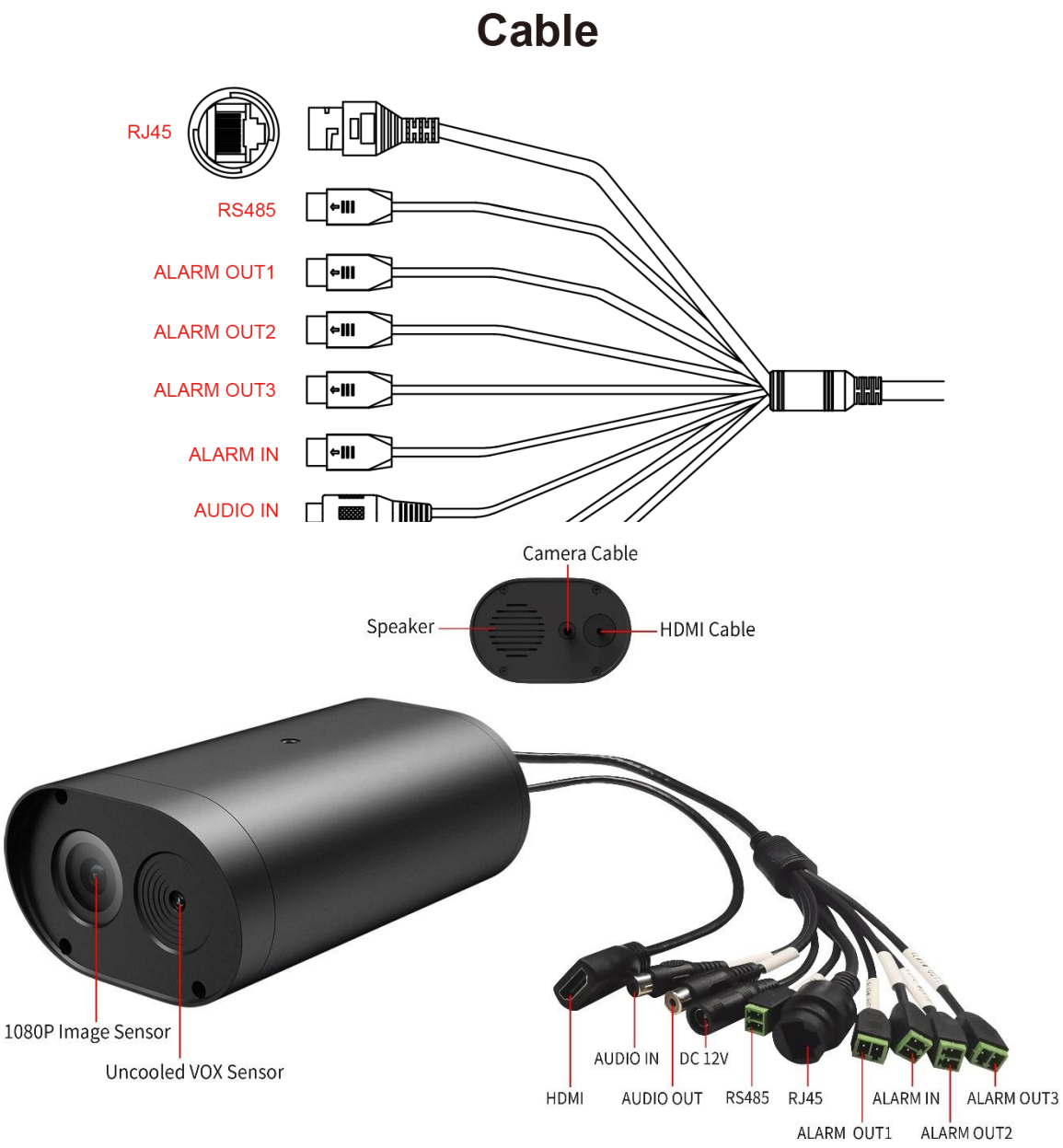
Product Features

This Thermal Camera device is a smart face detection thermal camera that is independently designed and developed by our company. It combined with high-performance imaging sensor IR Human Recognition and High Precision IR thermal sensor. It used for Instant human body Temperature detection widely used in access controlled office areas, office buildings, hotels, schools, hospitals, airports, shopping malls, communities and other public places etc. The HDMI Output of this device can directly connect to a monitor or a display to work this as a stand-alone device.

Note: This product is not for medical purpose and the body temperature measurement is for reference only.

Overview

Schematic Diagram



RJ45: Network interface used for Internet and LAN communication.

RS485: Used to connect PTZ devices like Pan/Tilt brackets.

Alarm In: It is used for the external alarm equipments. When the alarm equipment inputs a signal, it can interact with the integrated machine to generate an action.

Alarm Out1, Alarm Out2 and Alarm Out3: It can output the alarm signal to a connected external alarm. When high temperature detected, it gives alarm.

Audio In: Connect external microphone to pick up the audio

Audio Out: Use to connect external speaker to amplify the device vice broadcast.

DC12V: Used to connect 12V DC power supply to the device.

HDMI: Connect directly to monitor or display support HDMI.

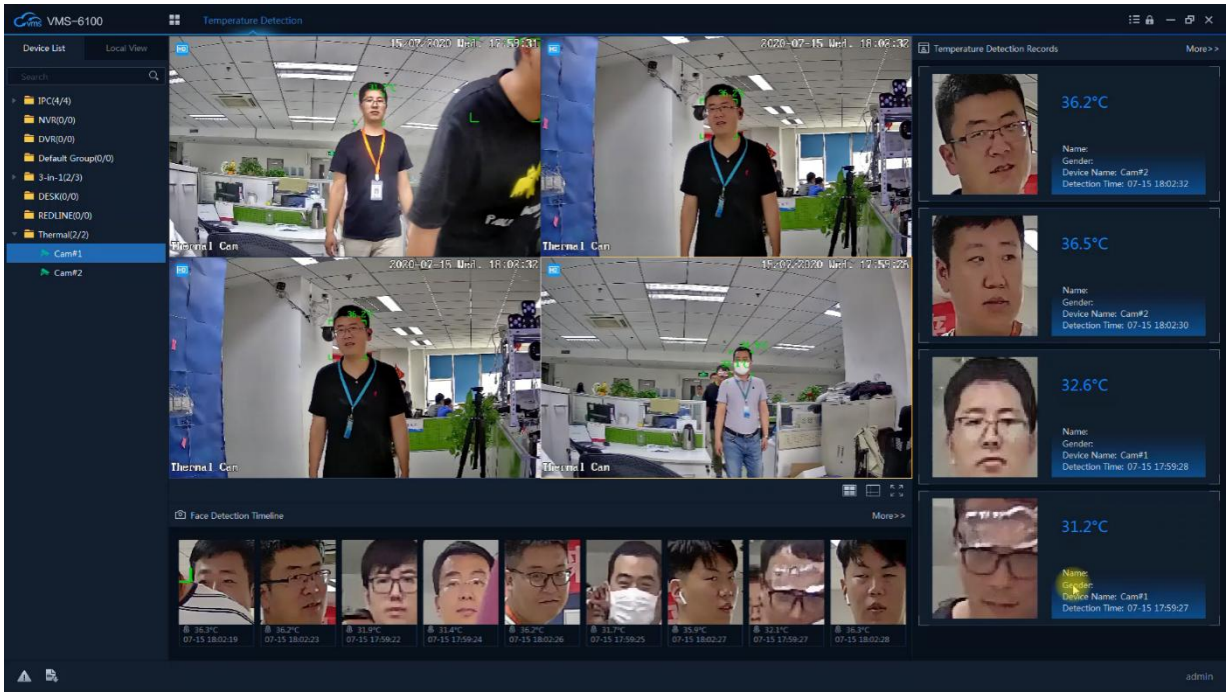
Before you start:

1. Please make sure that the device is in good condition and all of the assembly parts are included.
2. Make sure that all related equipment is powered-off during the installation.
3. Check that the device specification agrees with the installation environment.
4. To avoid damage, ensure the power supply voltage matches your device requirements.
5. Please make sure the installation surface is strong enough to withstand three times the weight of the device and the mounting.
6. If the installation surface is concrete, you need to insert expansion screws before you install the device. If the installation surface is wood, you can use self-tapping screws to secure the device.
7. If the product does not function properly, please contact your dealer or the nearest service center. Do not disassemble the device for repair or maintenance by yourself.

Note: The pictures shown in this manual is for reference only. Different models may vary its shape and structures. Please take actual product as standard.

VMS-6100

VMS-6100 will display the live detection of Face and Temperature.



You can download VMS-6100 from the below link

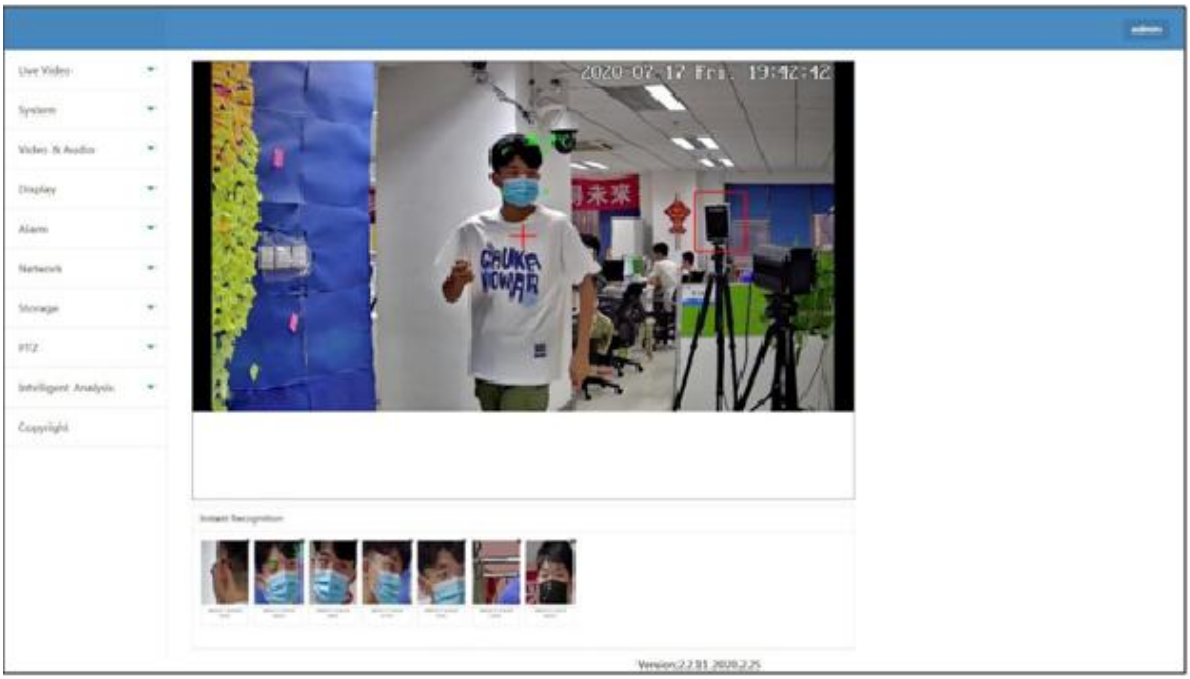
http://edown.afdvr.com/other/VMS-6100_Setup.rar

1. Live Video

Connect the camera with VMS-6100. Select the channel of the camera. Right click on the live video, and select **Remote Settings.** Or access the camera via web browser with camera IP Address.

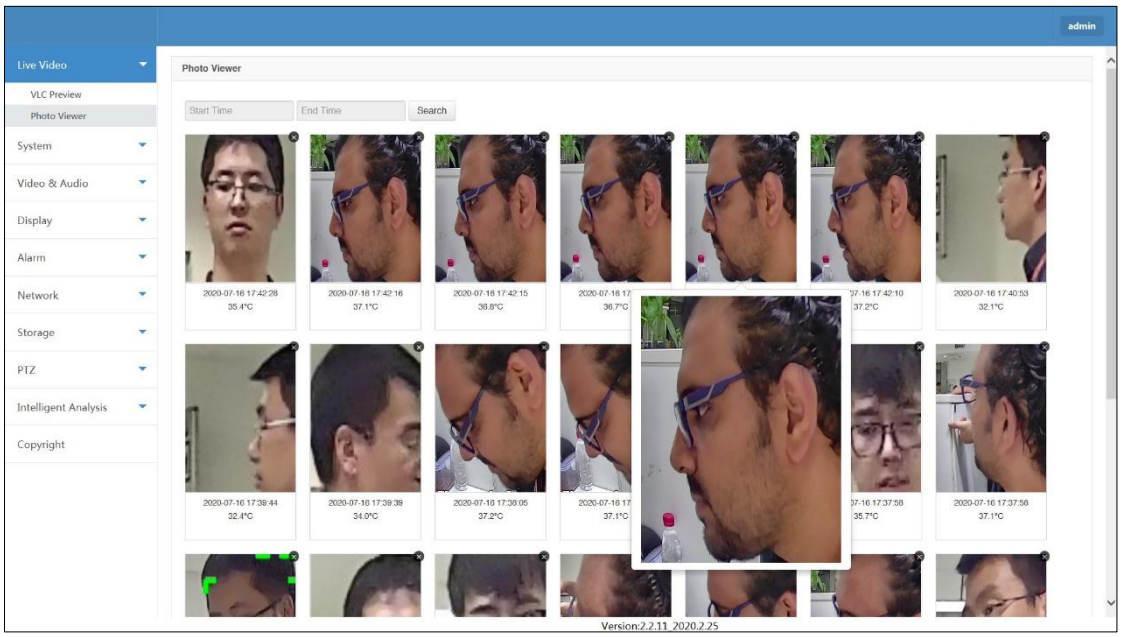
1.1 VLC Preview

You can preview the video streaming in this page. It required VLC plugin. Install VLC plugin from the link displayed on the page.



1.2 Photo Viewer

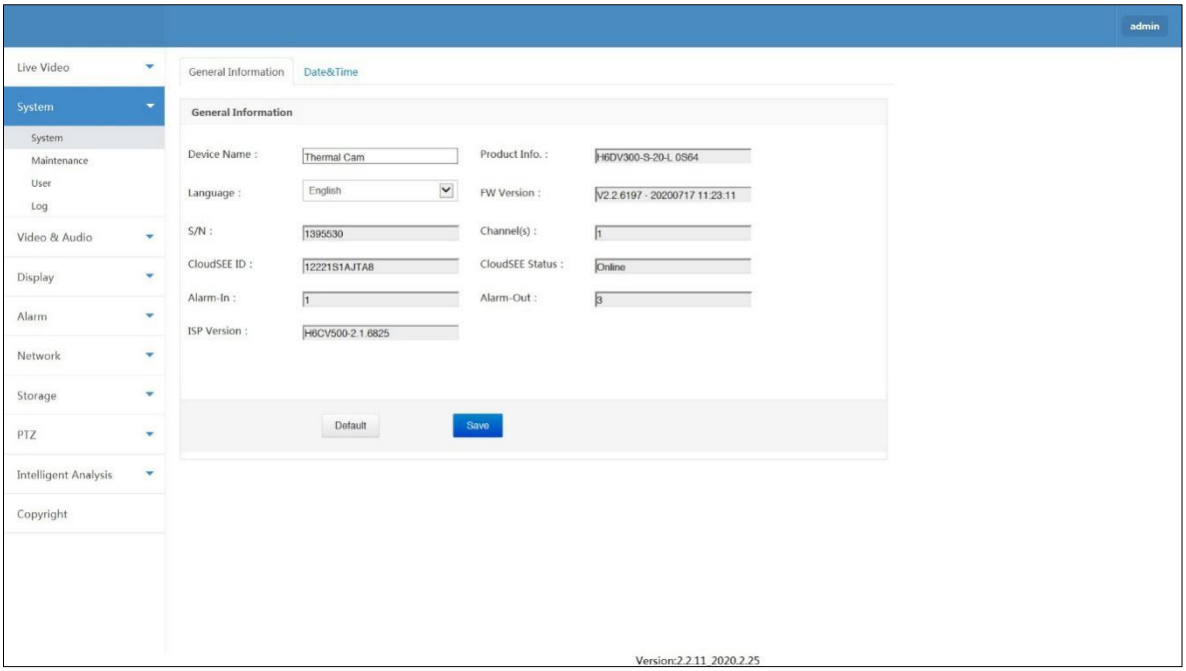
This option used for face recognition system. You can check the detected face records in here.



2. System Configuration

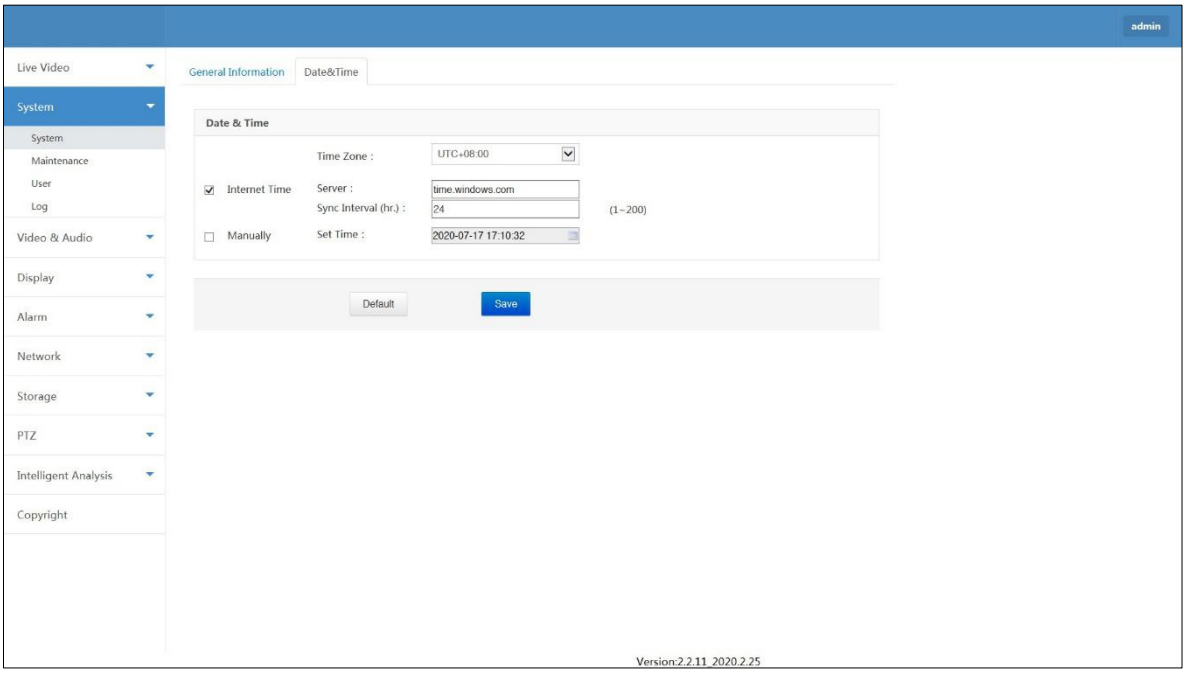
2.1 System

2.1.1 General Information



Items	Description
Device Name	The name of the device can be changed here, which will display on live video window.
Product Info	The model of the device.
Language	System Language can be changed here.
FW Version	System firmware version.
S/N	Product serial number.
Channel(s)	Number of Channels
CloudSEE ID	CloudSEE ID is used for remote connection if the device is online.
CloudSEE Status	Device connectivity status with CloudSEE
Alarm-In	Number of Alarm Inputs
Alarm-Out	Number of Alarm Output
ISP Version	Hardware Solution version
Save	Save Settings
Default	Restore default system settings.

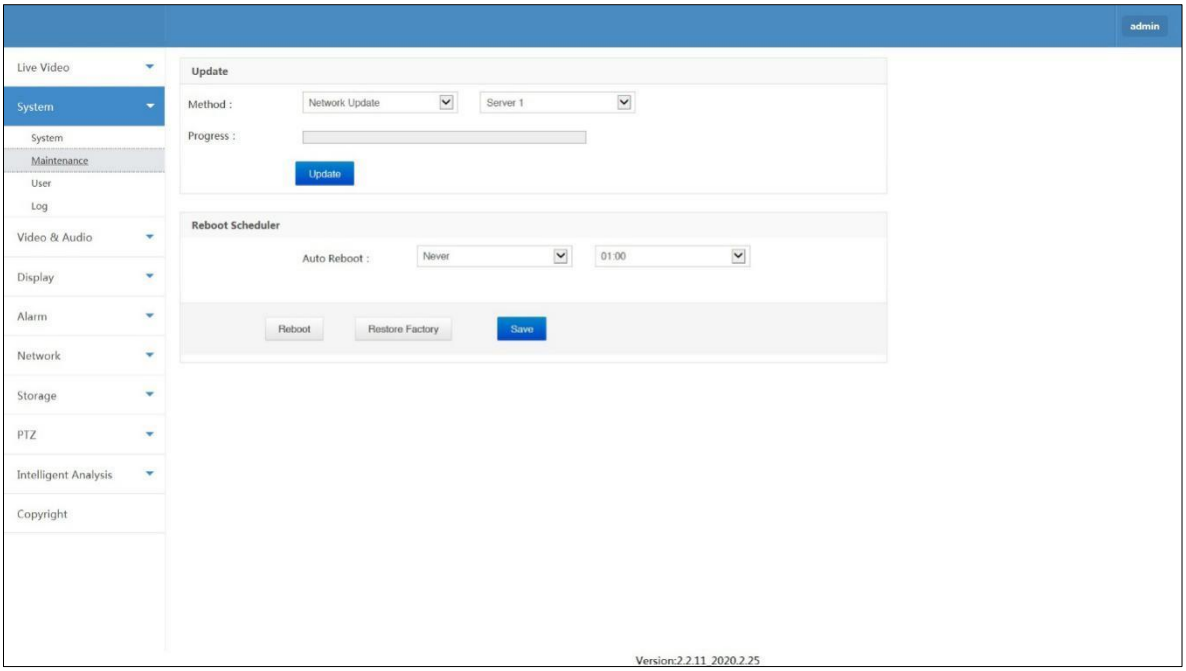
2.1.2 Date & Time



Items	Description
Time Zone	Change Time Zone
Internet Time	Set the device time automatically update from Internet
Server	NTP Server. The default NTP server is almost always a good choice, but if you prefer to use another NTP server, you can enter it here
Sync Interval hr.	The period between two-time synchronization events.
Manually	Set the device time manually
Set Time	Date and Time Selector
Save	Save the settings.
Default	Restore default system settings.

2.2 Maintenance

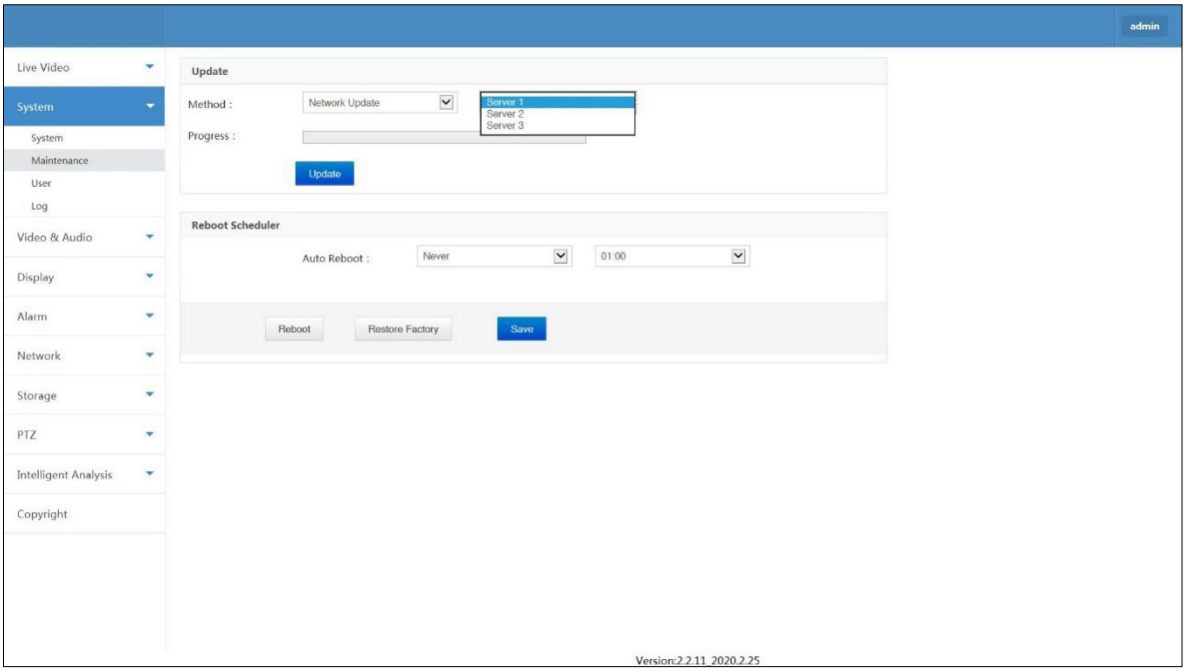
Here you can upgrade device firmware, Set Auto Reboot Schedule and Factory default the device.



Items	Description
Method	Method of device update
Network Update	The device will check for available software updates on update server via Internet. Strongly recommended if with Internet access.
File Update	The device will update with the update files on the computer in the same local network.
Version File	When “File Update” is selected, use this button to browse and select the directory containing version files.
Update File	When “File Update” is selected, use this button to browse and select the directory containing firmware update files.
Progress	Indicates the progress of updating.
Update	Start the selected update procedure.
Auto Reboot	Set a period or a time to reboot the device.
Save	Save the settings.
Reboot	Reboot Device Immediately
Restore Factory	Erase all settings and data, restore the device to its factory settings.

2.2.1 Network Update

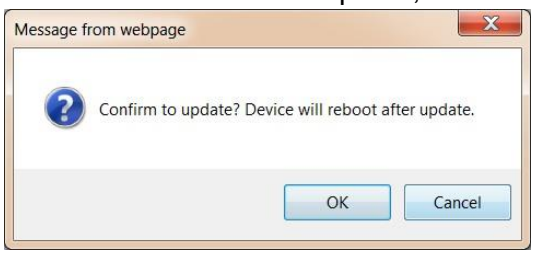
1. Go to **System –> Maintenance**, the maintenance page appears.
2. The default update mode is “**Network Update**”, select update Server from the second drop-down menu.



Note:

Usually**, Server 1** and **Server 2** is for China users, **Server 3** is for other countries and regions.

3. Click “**Update**”, System asks for confirmation of update, click “**OK**”.



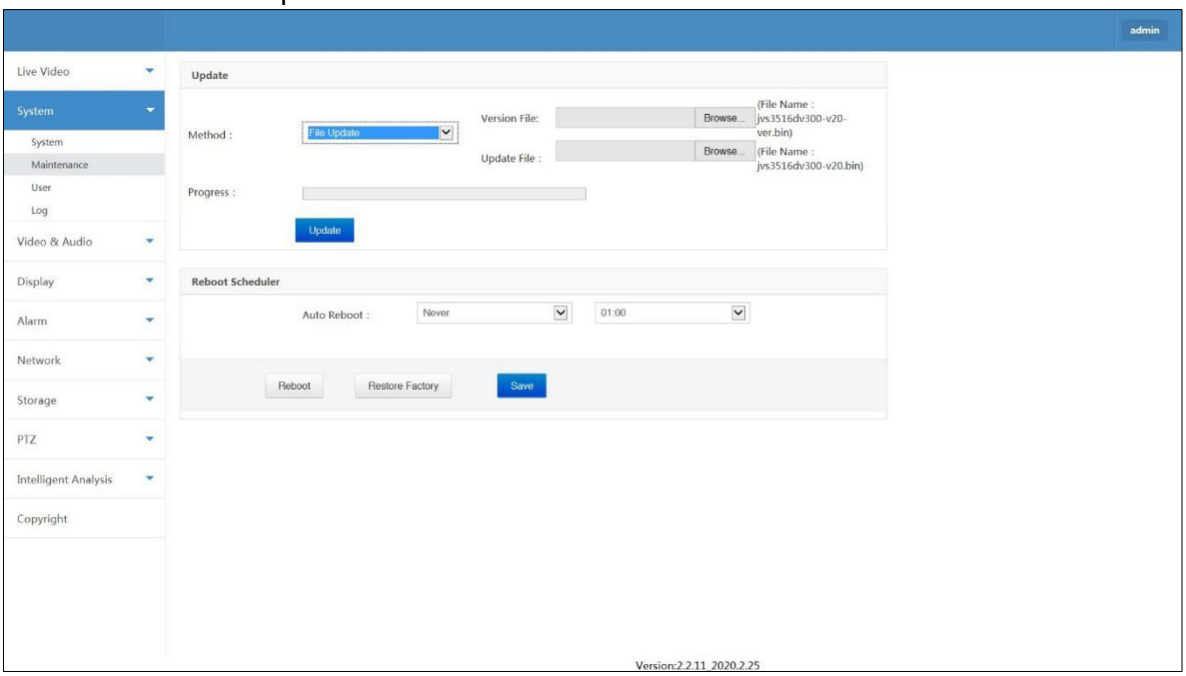
4. Update begins, the progress bar will run twice, one indicates downloading progress and another indicates burning progress.

5. After downloading and burning, the update completes, System will reboot and connect automatically.

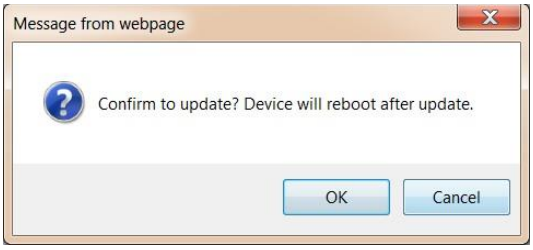
2.2.2 File Update

1. Go to **System –> Maintenance**, the maintenance page appears.

2. The default update mode is “**Web Update**”, select “**File Update**” from the drop-down menu, and click **Choose File** to browse the version file and click second **Choose File** to browse the firmware update file.



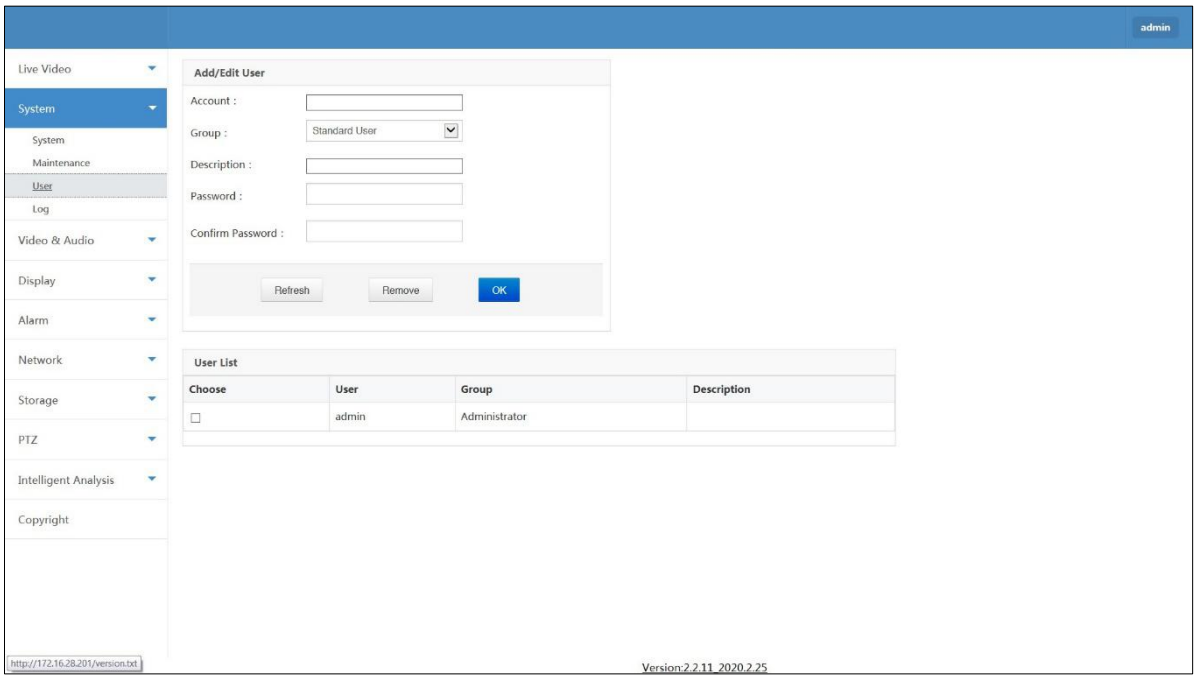
3. Then click “**Update**”, system will start burning progress. If you choose wrong update file directory, System will prompt that “Open update file failed, please check if the update file exists”, you need to check the update files and select correct files. System asks for confirmation of update, click “**Yes**”.



4. Update begins, the progress bar will run twice, one indicates downloading progress and another indicates burning progress.

5. After downloading and burning, the update completes, System will reboot and connect automatically.

2.3 User



Items	Description
Account	Account Name
Group	User Groups
Description	Description about the user account
Password	User password
Confirm Password	Confirm the user password
Refresh	Refresh User list
Remove	Remove User account
User List	List of user account in the device.

Note:

- The build-in account admin cannot be deleted.
- The maximum number of users is 13.
- If the build-in account admin has not been modified, which means the username is admin and the password is empty.
- There are three groups built in the system, to which you can assign users.

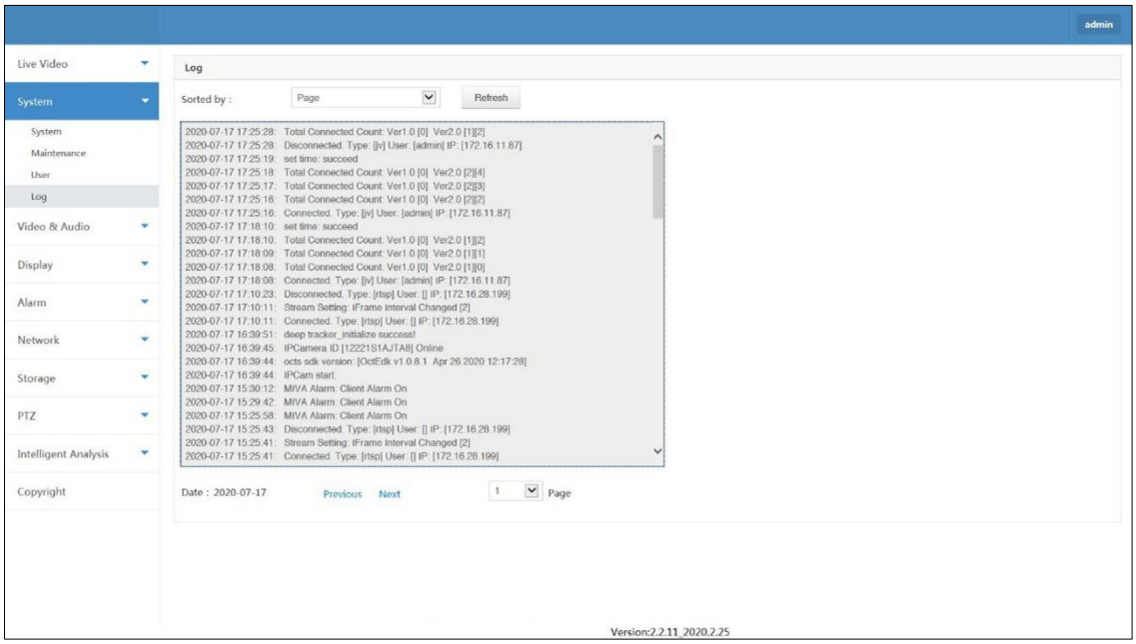
Administrator: Administrators have permissions to access all the functions and operations.

Standard User: Standard users can access parts of the functions, system level operations such as rebooting, performing system recovery, setting network, etc. are not permitted.

Guest: Guests can only watch the live video without any other permissions.

2.4 Log

Event logs record events taking place in the execution of the system in order to provide an audit trail that can be used to understand the activity of the system and to diagnose problems.



Items	Description
Sorted By	List the logs by Page or Date.
Refresh	Refresh the logs
Previous	Previous Page
Next	Next Page
Page	Choose the log page

3. Video & Audio

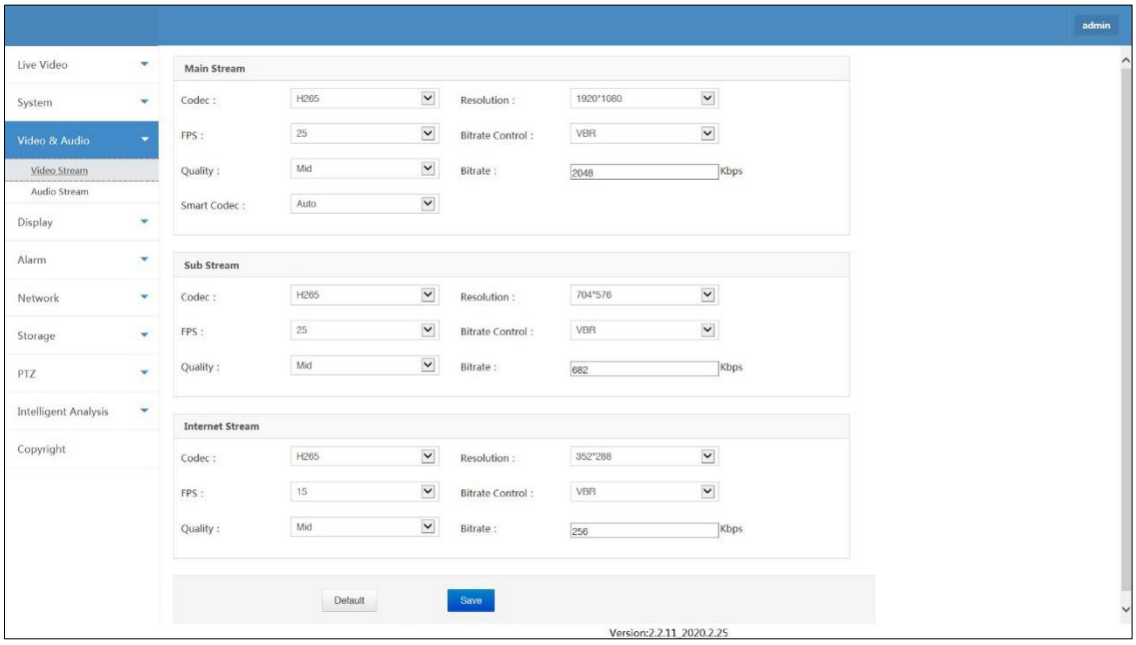
This camera supports Triple Stream.

Main Stream: Main stream or Recording stream, used for recording, and if there is only one channel displaying including full-screen on NVR or no more than 4 channels displaying on client software, this stream will be displayed.

Sub Stream: Sub-stream, used for live view if more than one channel displaying on NVR or more than 4 channels displaying on client software.

Internet Stream: Also called Mobile Stream, used for displaying on mobile phones which costs the least network bandwidth..

3.1 Video Stream



Items	Description	
Codec	Video compression format	
Resolution	Resolution is the width and height dimensions of the camera imaging in pixels. A higher display resolution in a display of the same size means that displayed content appears sharper.	
FPS	Frame rate, also known as frame frequency, is the frequency (rate) at which an imaging device displays consecutive images called frames. The higher frame rate is, the more consecutive video becomes.	
Bitrate Control	**VBR**:	Variable Bit Rate, VBR files vary the amount of output data per time segment. VBR allows a higher bitrate (and therefore requires more storage space) to be allocated to the more complex segments of video files while less space is allocated to less complex segments.
	CBR:	Constant Bit Rate, CBR means that the rate at which a codec's output data should be consumed is constant. Lower bitrate is useful for streaming multimedia content on limited capacity channels since it is the maximum bit rate that matters, but it cannot allocate enough data for complex sections. Higher bitrate will provide enough bits for the

Quality	The quality of the video.
Bitrate	Data transfer rate is the average number of bits per unit time passing between equipment in a data transmission system. A higher data transfer rate means that the stream quality is better but which will use more bandwidth and storage space.
Smart Codec	Smart video compression
Save	Save the settings.
Default	Restore default system settings.

3.2 Audio Stream

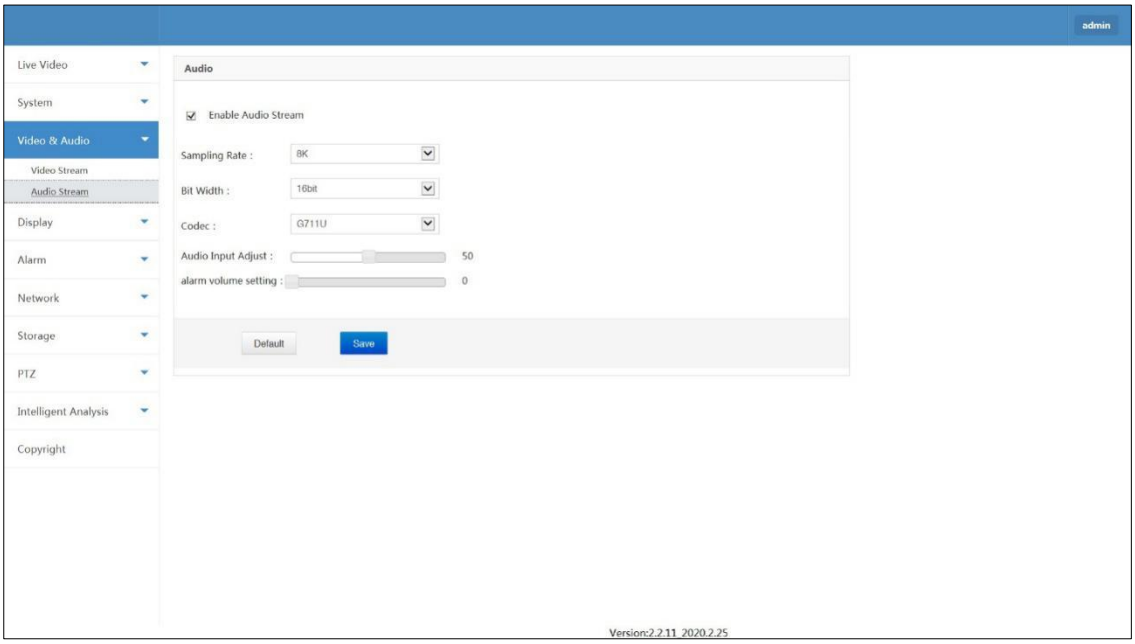
This camera with built-in speaker. Also it supports extrernal Speaker and Mic input.

1. Go to **Video & Audio –> Audio Stream**.

2. Select "**Enable Audio Stream**" to enable audio encoding function. If the check-box is not selected, there will be no sound even if audio-in device is connected.

3. Select proper **Codec** from the drop-down menu

4. Also you can adjust the device volume here.



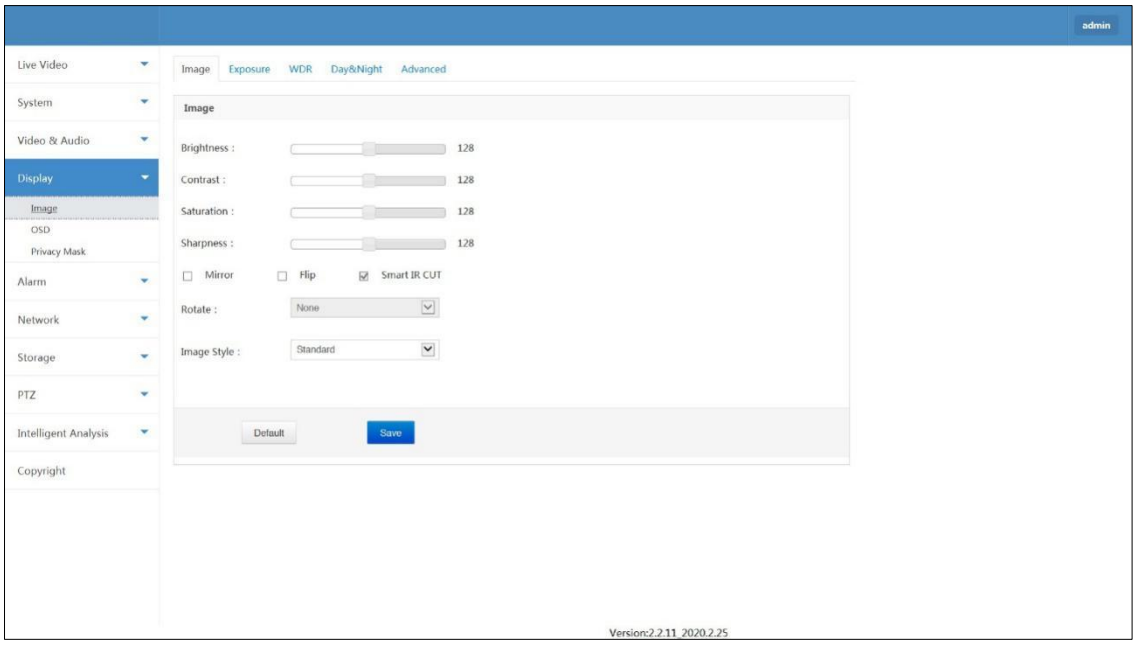
Items	Description
Codec	Audio compression codec. G117A, G117U.
Sampling Rate	Number of samples of a sound.
Bit Width	number of bits of information in each sample
Audio input Adjust	Adjust the input volume
Save	Save the settings.
Default	Restore default system settings.

4. Display

4.1 Image

4.1.1 Image

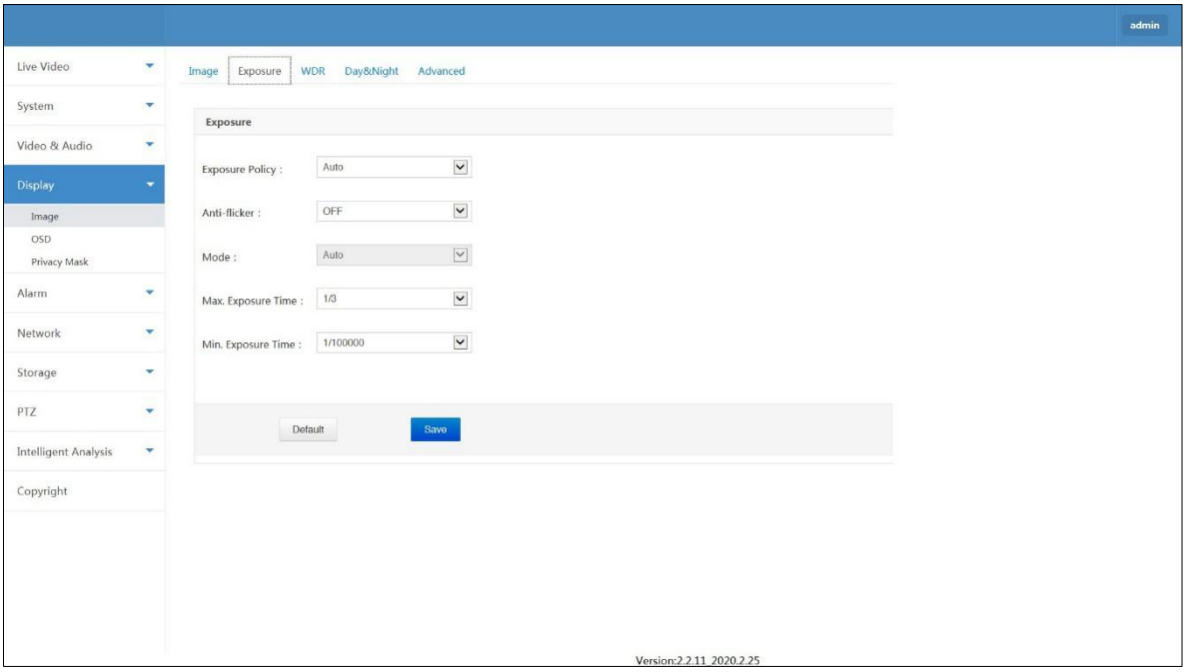
Brightness, contrast, saturation, sharpness and other settings of image can adjust and configured here



Items	Description
Brightness	Set the brightness of the video.
Contrast	Set the difference in luminance or color that makes display distinguishable.
Saturation	Saturation is the colorfulness of a color relative to its own brightness. A highly saturation is vivid and intense, while a less saturation appears more muted, closer to gray.
Sharpness	Set the subjective perception of sharpness that is related to the edge contrast of the image.
Mirror	Show the mirror image of the video, in which the right side of the original object appears on the left and the left side appears on the right
Flip	Make the picture flip vertically.
Smart IR Cut	Smart IR Cut Sensitivity according to the light
Rotate	Support rotate 0°, 90°, 180°, 270°.
Image Style	Adjust image style with pre-defined image settings. Standard, Vivid and Soft Image settings are available.
Save	Save the settings.
Default	Restore default system settings.

4.1.2 Exposure

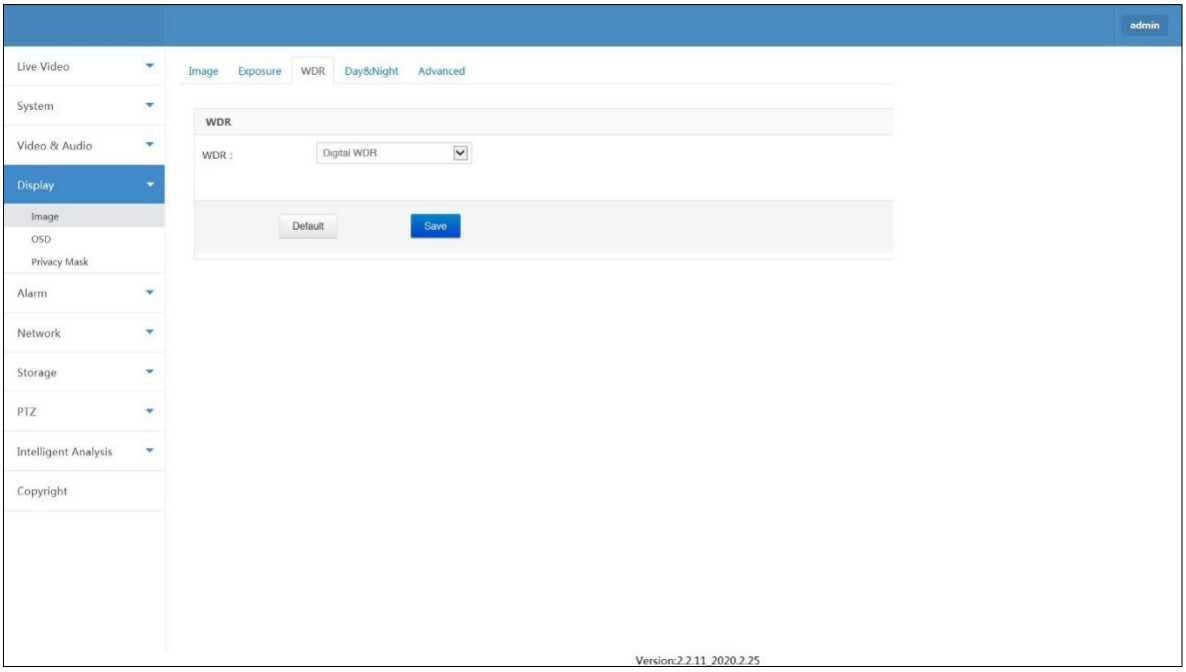
Exposure of the camera can be configured here.



Items	Description
Exposure Policy	You can choose Auto, BLC and HLC
Anti-flicker	Set Anti-Flicker according to the room light.
Mode	Set the exposure mode
Max. Exposure Time	Maximum time of exposure in camera sensor
Min. Exposure Time	Minimum time of exposure in camera sensor
Save	Save the settings.
Default	Restore default system settings.

4.1.3 WDR

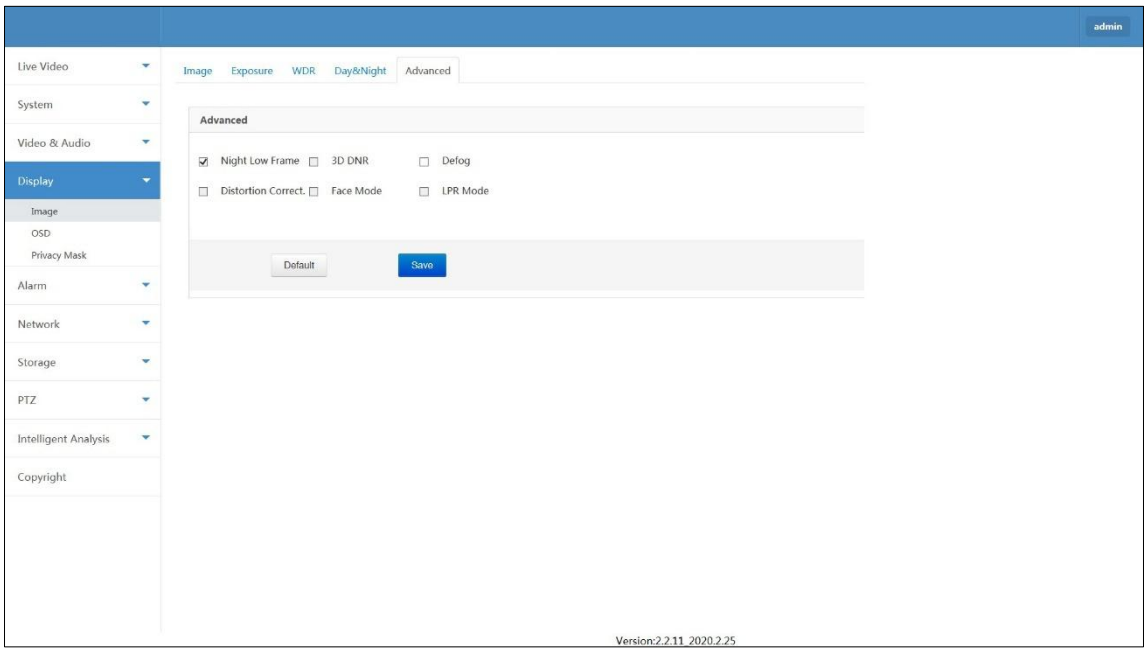
You can enable the WDR (Wide Dynamic Range) function here.



Note: This models only support Digital DWDR.

4.1.4 Advanced

In Advances Option, you can enable Night Low Frame, 3D DNR, Defog, Distortion Correction, Face Mode and LPR.

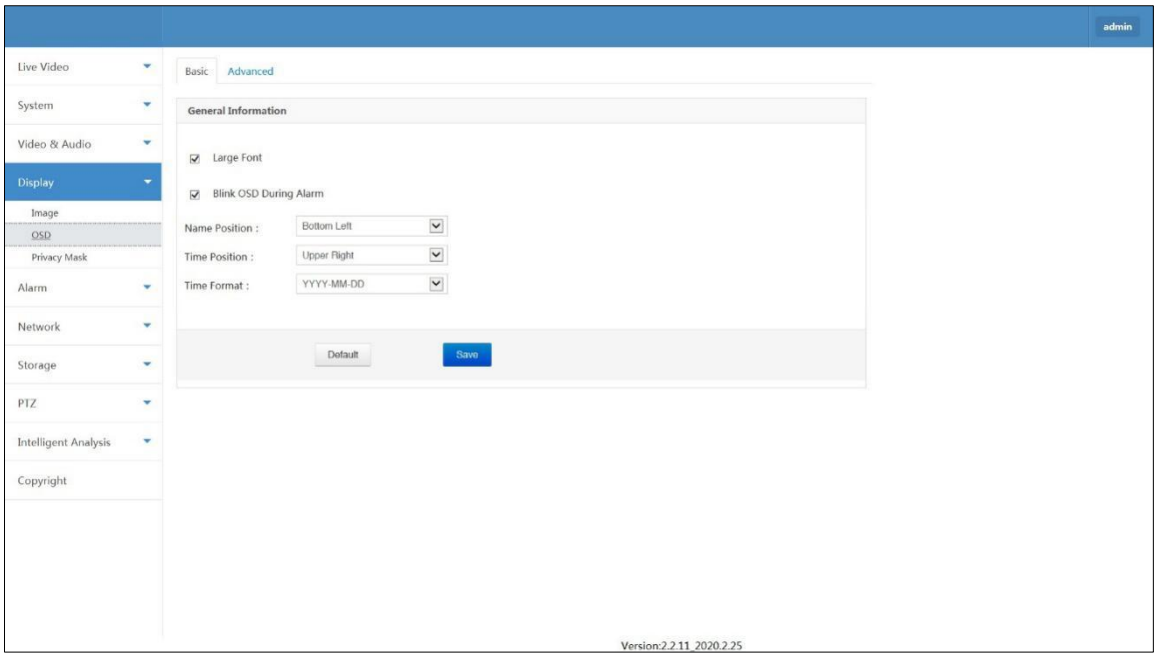


Items	Description
Night Low Frame	Enable this function to improve the night vision effect.
3D DNR	The camera's imager digitally removes noise from the image.
Defog	It helps improve the images clarity in poor weather conditions such as rain, smog or fog.
Distortion Correct	It corrects barrel or pin cushion distortion that occurs in images due to the characteristics of specific lenses.
Face Mode	It controls over exposure on the face in day time.
LPR Mode	License Plate Recognition Mode. Its only available when the device supports LPR
Save	Save the settings.
Default	Restore default system settings.

4.2 OSD

4.2.1 Basic

In the Basic OSD Settings, you can Enable the Large Font OSD as well as Blink OSD During Alarm Options. Also Name Position, Time Position and Date Format.

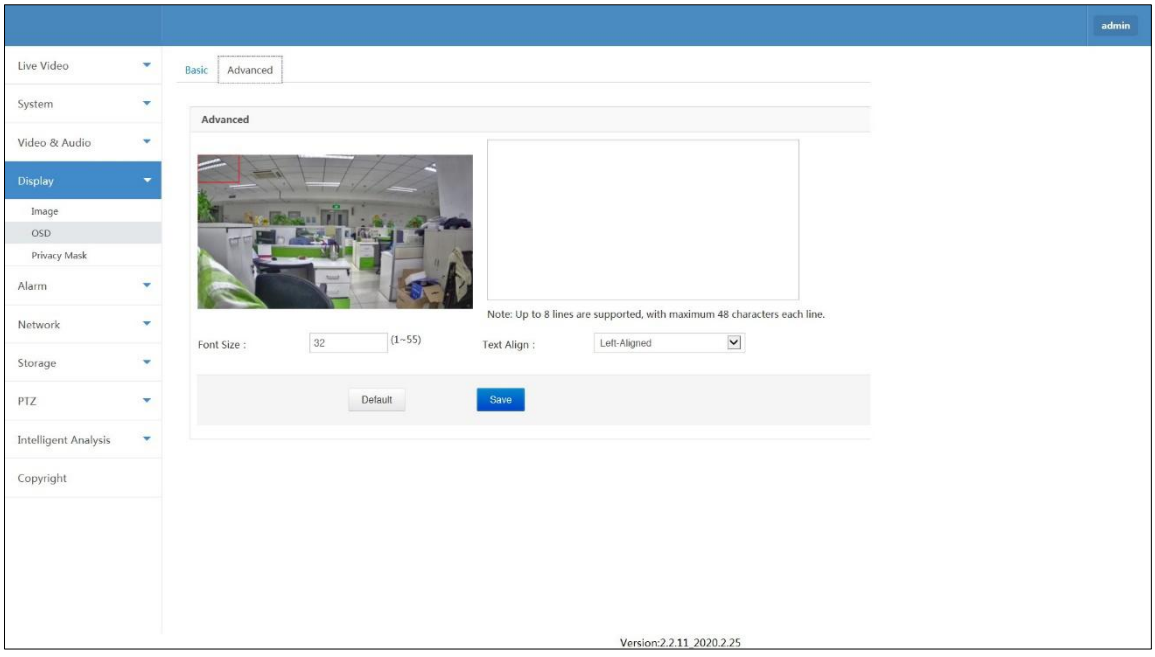


Items	Description
Large Font	Use large OSD if the camera is in high resolution.
Blink OSD During Alarm	If enabled, The OSD will blink in red color when an alarm is triggered.
Name Position	Change the position of OSD Name: Upper Left, Bottom Left, Upper Right, Bottom Right or Hide.
Time Position	Change the position of OSD Time: Upper Left, Bottom Left, Upper Right, Bottom Right or Hide.
Time Format	Change the Time Format: YYYY-MM-DD, MM/DD/YYYY or DD/MM/YYYY.
Save	Save the settings.
Default	Restore default system settings.

4.2.2 Advanced

You can add additional OSD Lines in the camera with this Advanced Menu. Font size settings and Align OSD text function also available in the menu.

Note: You are allowed to add 8 lines of OSD with maximum of 48 characters in each line



Items	Description

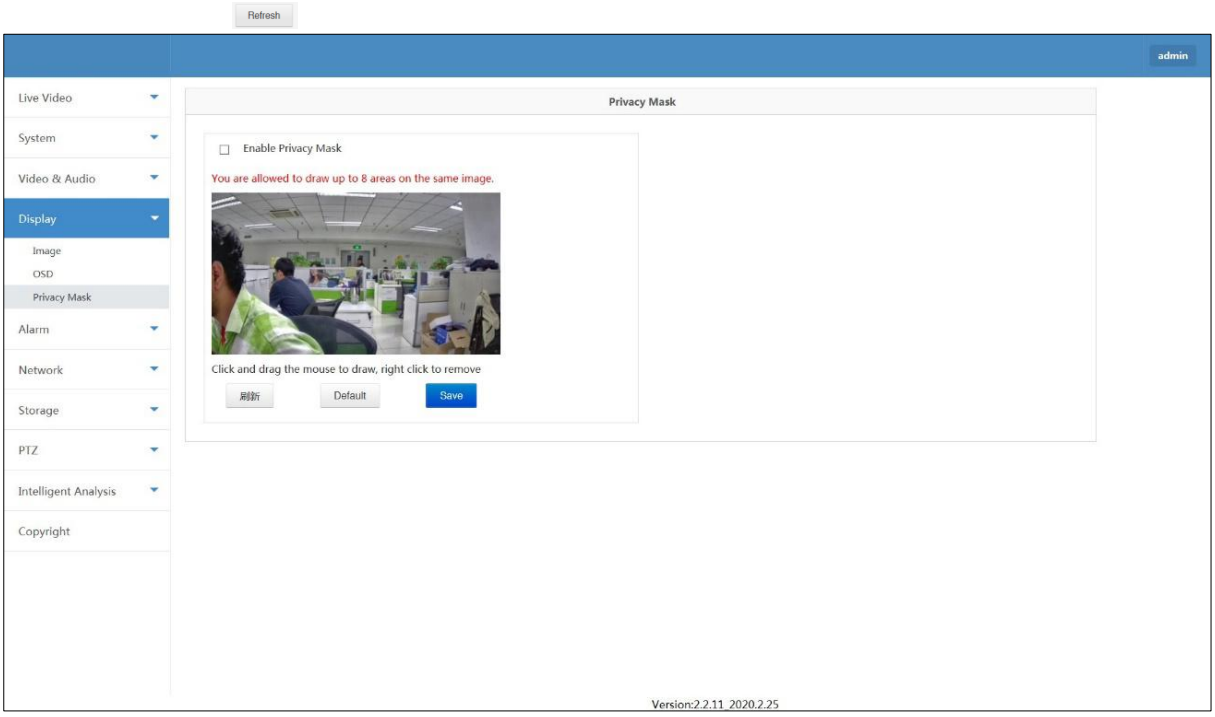
Font Size	Set OSD font size from 15 ~ 32.
Text Align	Align OSD Text: Left Align or Right Align.
Save	Save the settings.
Default	Restore default system settings.

4.3 Privacy Mask

This function allows you to cover an area with a black block, both in live view and recording. Supports up to 8 private areas. Drag the mouse and draw a rectangle covering on the area you want.

Note: You are allowed to draw up to 8 areas on the image.

Items	Description
Enable Privacy Mask	Enable Privacy Mask Area function.
Refresh	Get the latest view image
Save	Save the settings.
Default	Restore default system settings.

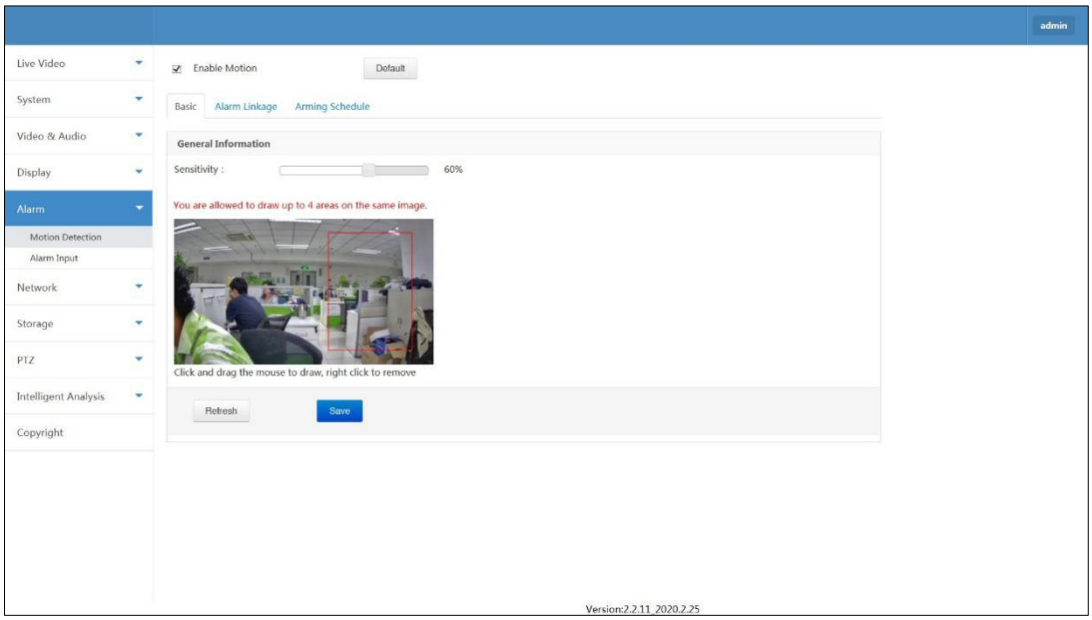


5. Alarm

5.1 Motion Detection

5.1.1 Basic

Motion detection detects the moving objects in the configured surveillance area, and a series of actions can be taken when the alarm is triggered



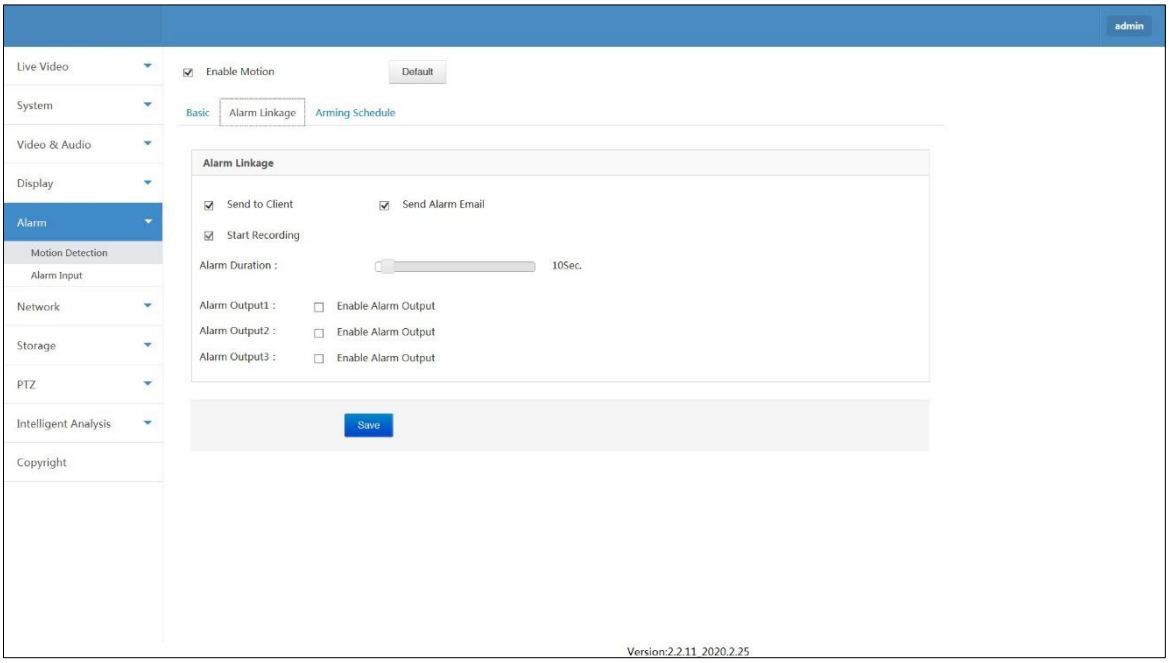
Steps

1. Highlight Enable Motion check-box to enable full-screen motion detect.
2. Click and drag the mouse on the live video to draw a motion detection area, you can choose 4 areas at most for one channel. Sensitivity can also be set here.
3. Click OK to save the settings.

Items	Description
Enable Motion	Enable motion detect function.
Sensitivity	Set the sensitivity of motion detect, the higher the number is, the less sensitive the detection is
Refresh	Get the latest view picture
Save	Save the settings.
Default	Restore default system settings.

5.1.2 Alarm Linkage

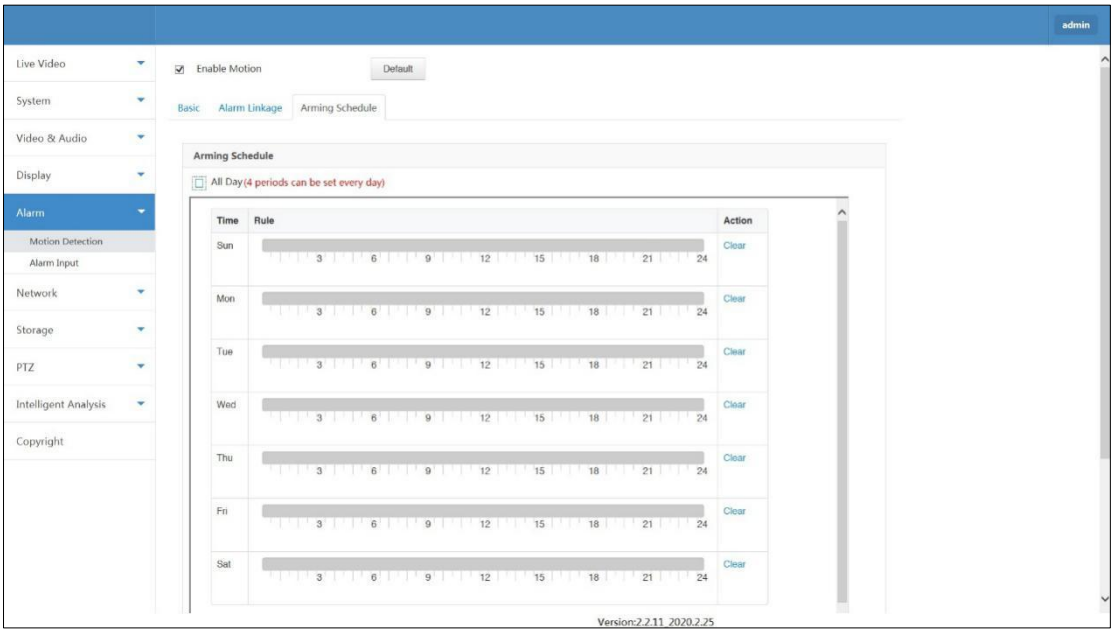
You can set the Alarm output linkage here.



Items	Description
Send to Client	Send alarm to client software connecting the camera.
Send Alarm Mail	Send an email with alarm information to a user or users when an event occurs
Start Recording	Start recording when alarm is triggered
Alarm Duration	Set the duration that one alarm lasts. 3 ~ 100Sec
Alarm Output1,2 & 3	Select Alarm Output lines
Save	Save the settings.
Default	Restore default system settings.

5.1.3 Arming Schedule

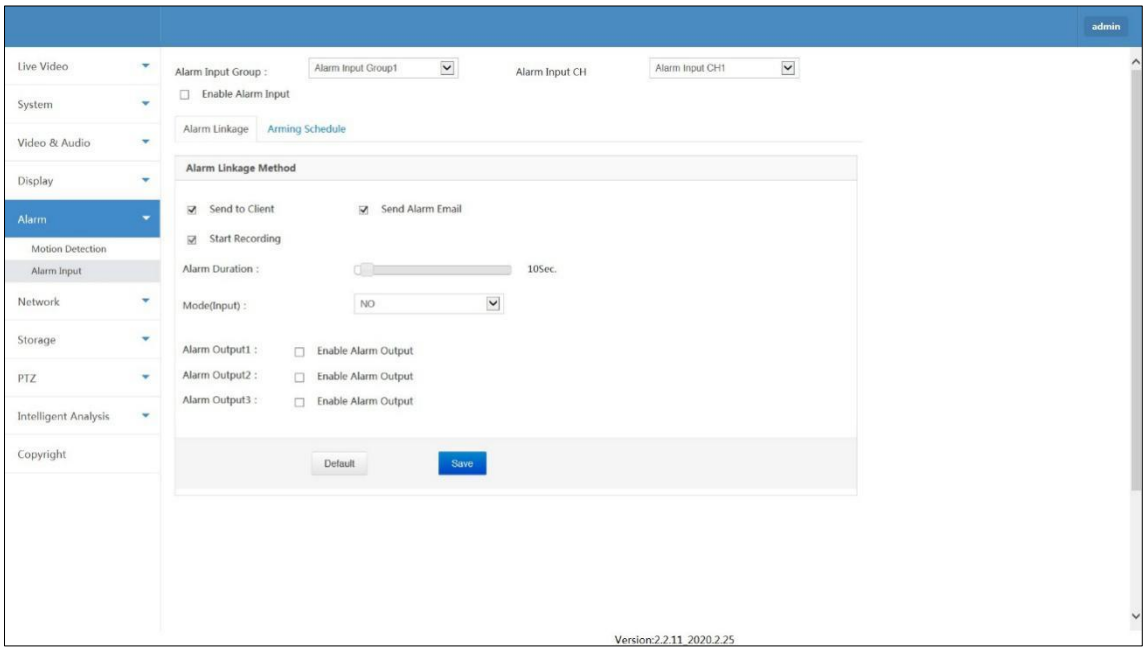
You can schedule the Motion Detection Alarm in this page.



Items	Description
All Day	Enable Motion Detection 24x7. If disabled, you can set schedule manually by selecting time range in each day in a week. Note: You are allowed to set 4 periods only in one day
Clear All	Clear all the manual selection of alarm schedule
Save	Save the settings.
Default	Restore default system settings.

5.2 Alarm Input

Here you can set Alarm Input

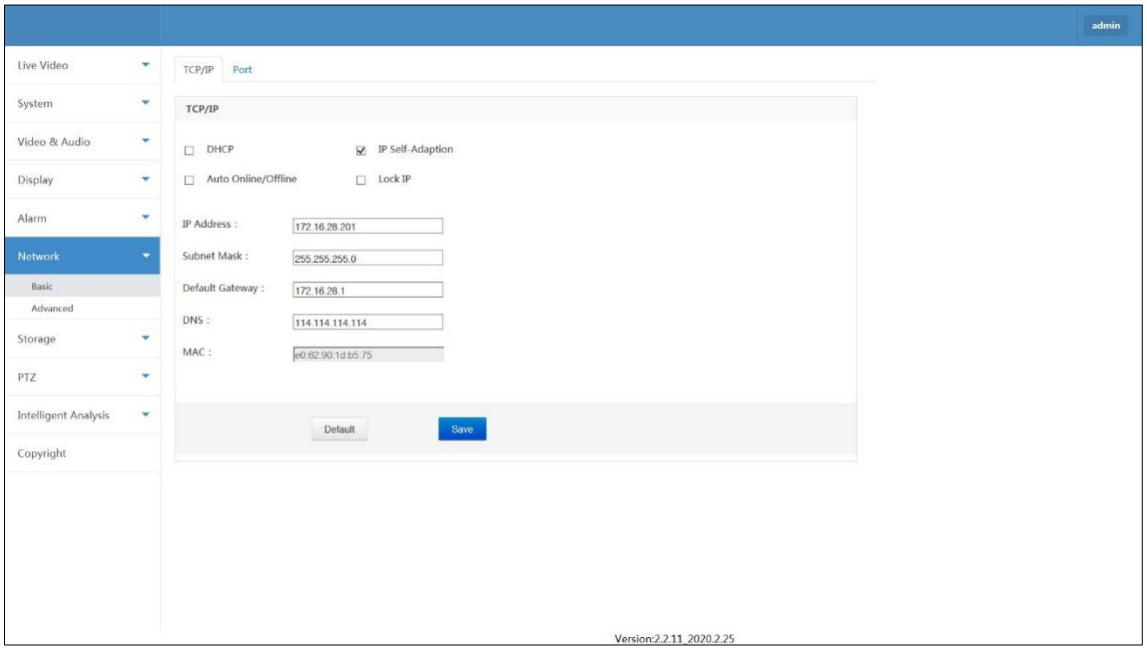


6. Network

6.1 Basic

6.1.1 TCP/IP

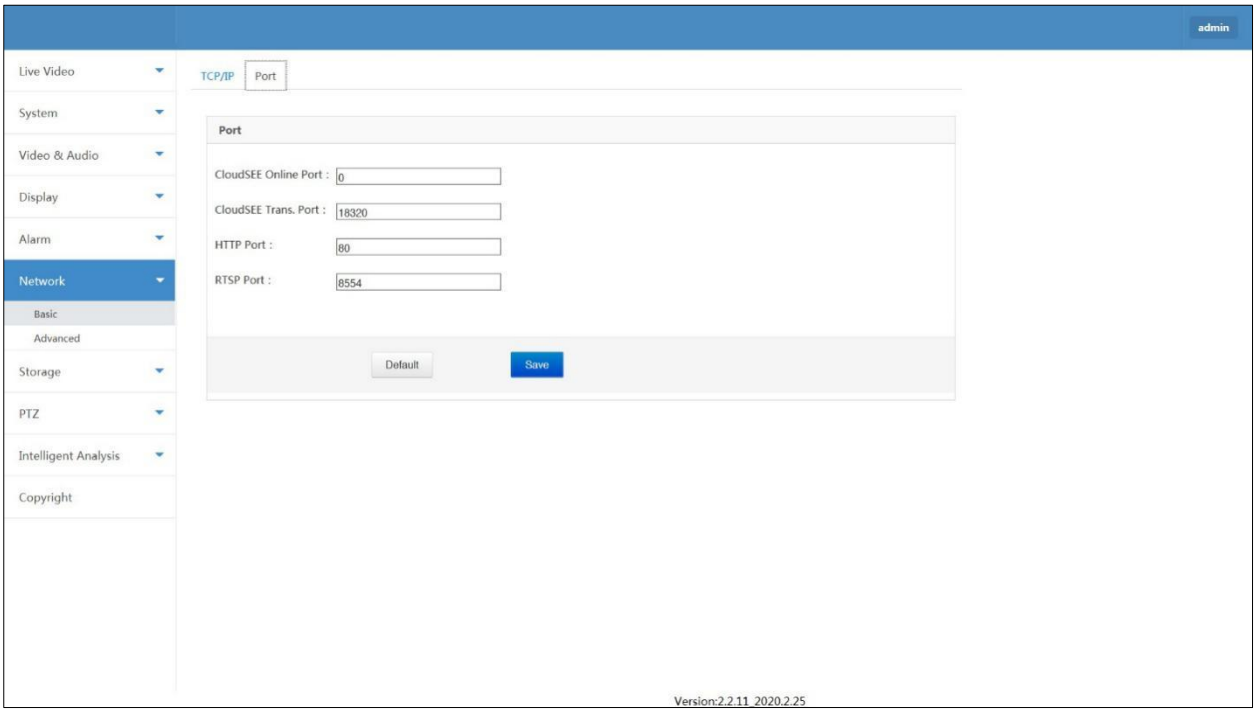
The TCP/IP screen is used to configure the camera's network settings.



Items	Description
Enable CloudSEE Service	Enable or Disable CloudSEE Cloud Service
DHCP	Dynamic Host Control Protocol to get IP Address from DHCP Pool.
IP Self Adaption	Adapt the Ip Segment of the NVR
Auto Online/Offline	If enabled, the CloudSEE Service stop when the device connects to NVR
Lock IP	Keep the IP address unchanged.
IP Address Details	Input IPv4 IP Address, Subnet Mask, Default Gateway and DNS. You can see the MAC Address of the device here.
Save	Save the settings.
Default	Restore default system settings.

6.1.2 Port

You can set the network ports in this page

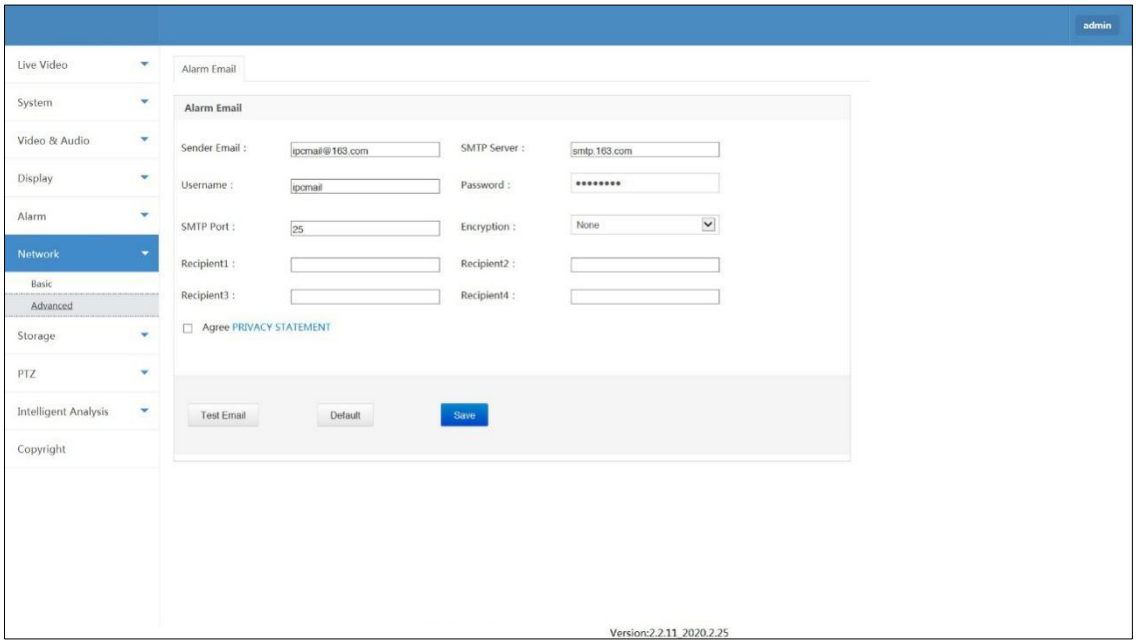


Items	Description
CloudSEE Online Port	0
CloudSEE Trans. Port	18320
HTTP Port	80
RTSP Port	8554
Save	Save the settings.
Default	Restore default system settings.

6.2 Advanced

6.2.1 Alarm Email

Configure alarm email here. Input all required parameters and **Agree Privacy Statement**. then **Test Email**.

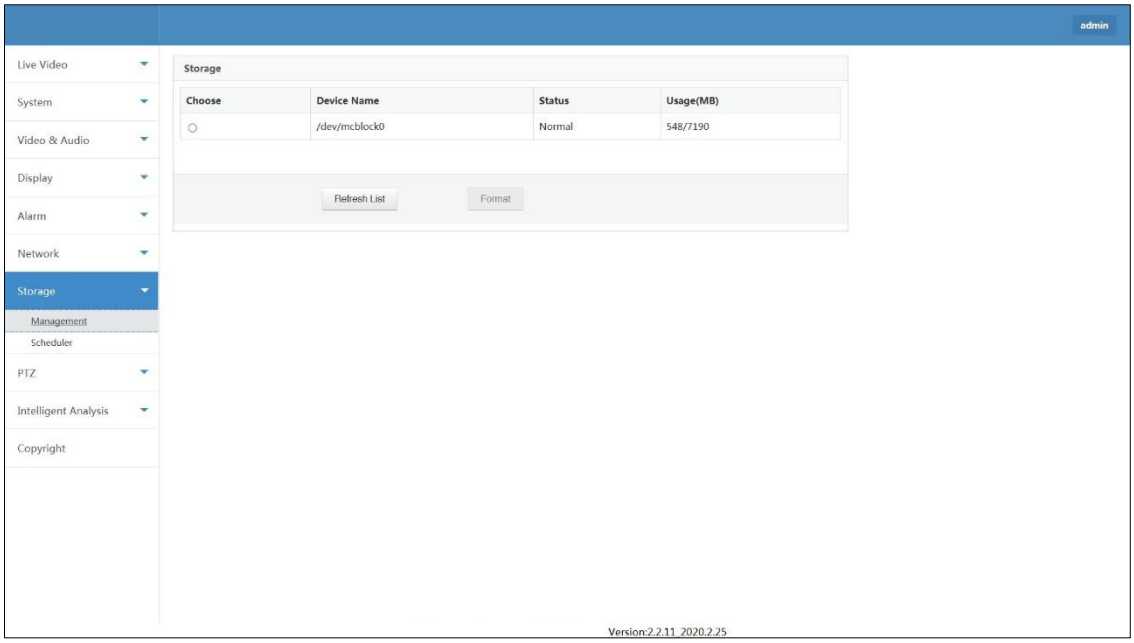


Items	Description
Sender Email	Input E-mail address of the sender.
SMTP Server	Input the SMTP server of sending e-mail.
Username	Username of sender
Password	Password of sender
SMTP Port	Input the port for SMTP
Encryption	Choose the security protocols for SMTP
Recipients	E-mail(s) to receive alarm e-mail
Privacy Statement	Need to agree the Privacy Statement to use Email function
Test Email	Send test e-mail to check whether these settings work fine
Default	Restore default system settings.
Save	Save the settings.

7. Storage

7.1 Management

Here you can manage the storage of the IPC.

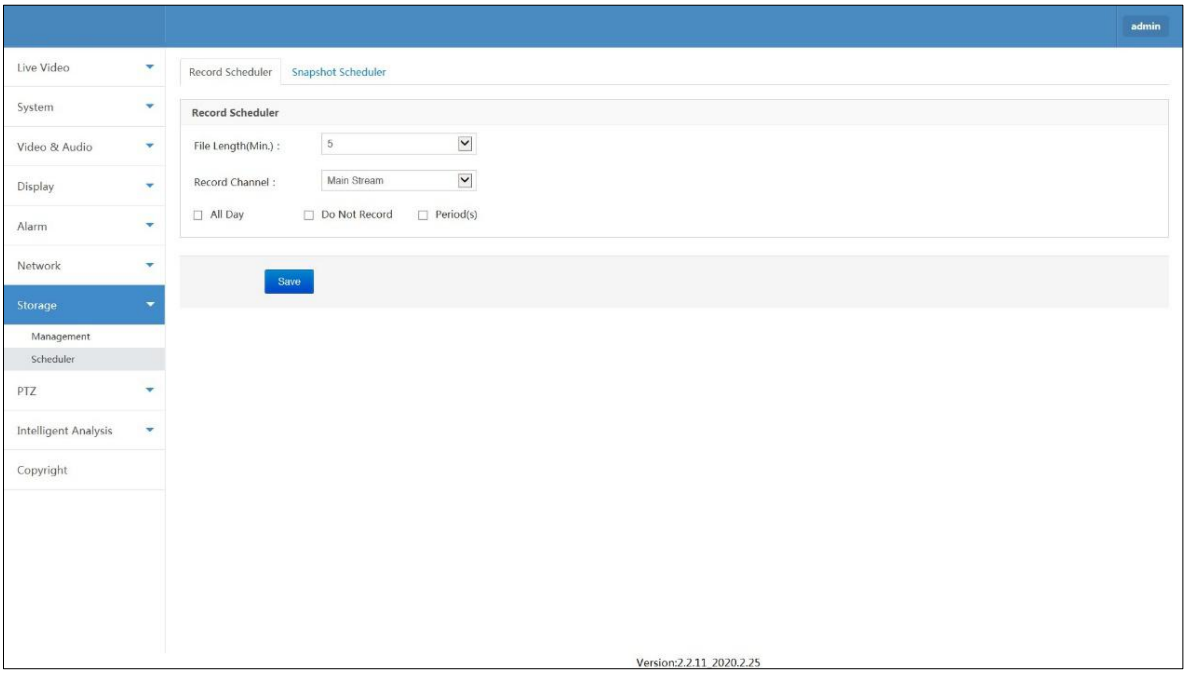


Items	Description
Choose	Select storage for operation.
Device Name	It displays the storage name
Status	Display the status of storage
Usage (MB)	Display the usage of the storage
Refresh List	It refreshes the list of the storage
Format	It formats the selected storage

7.2 Scheduler

7.2.1 Record Scheduler

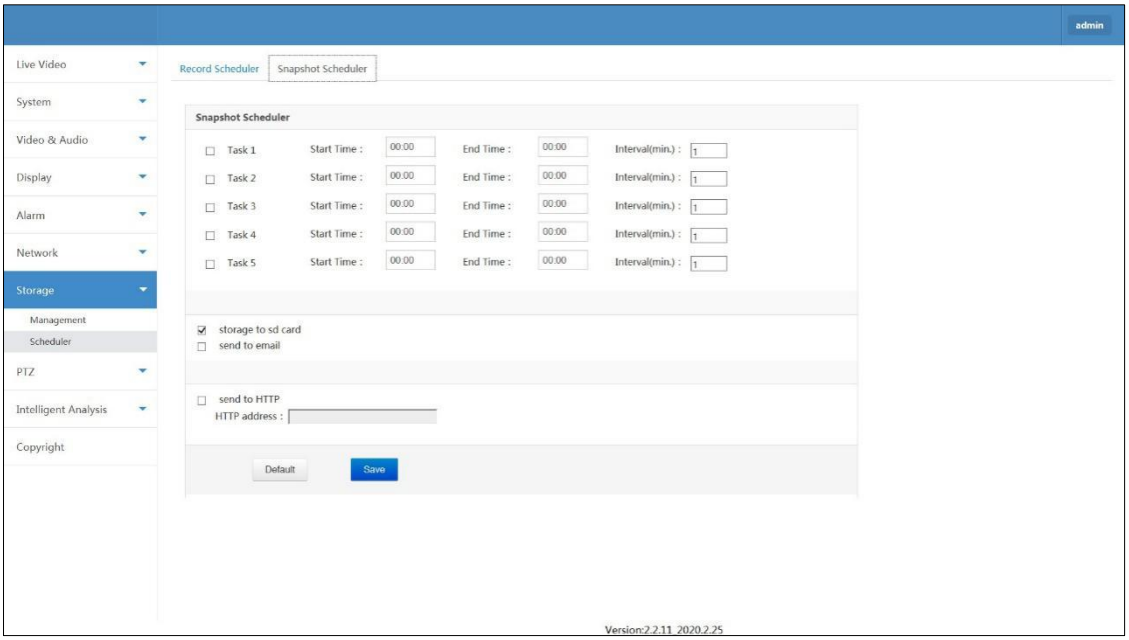
You can schedule your recording to the storage.



Items	Description
File Length (Min)	Length of the video footage to record
Record Channel	Recording video streaming in Main Stream or Sub Stream
All Day	Record all day long
Do not Record	Stop recording
Period(s)	Record in specific period
Save	Save the settings.

7.2.2 Snapshot Scheduler

Schedule your snapshots here



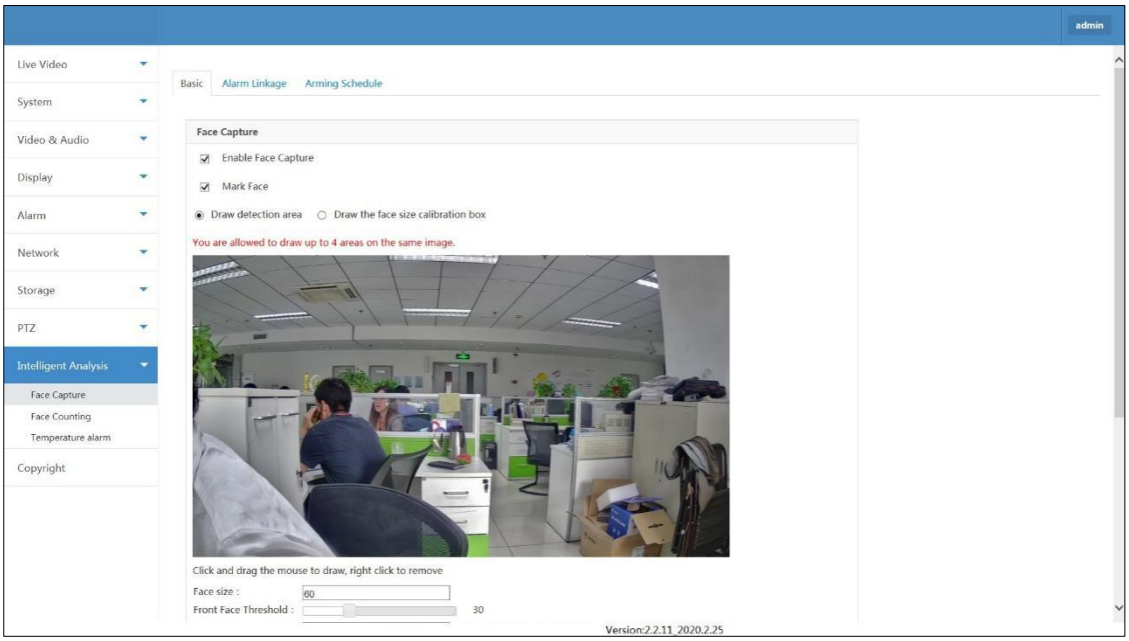
Items	Description
Tasks	Set the snapshot schedule tasks
Storage to SD Card	Set scheduled snapshots store into the SD card
Send to mail	Set scheduled snapshots send to email
Send to HTTP	Set scheduled snapshots send to email specified HTTP address
Save	Save the settings.
Default	Restore default system settings.

8. Intelligent Analysis

8.1 Face Capture

8.1.1 Basic

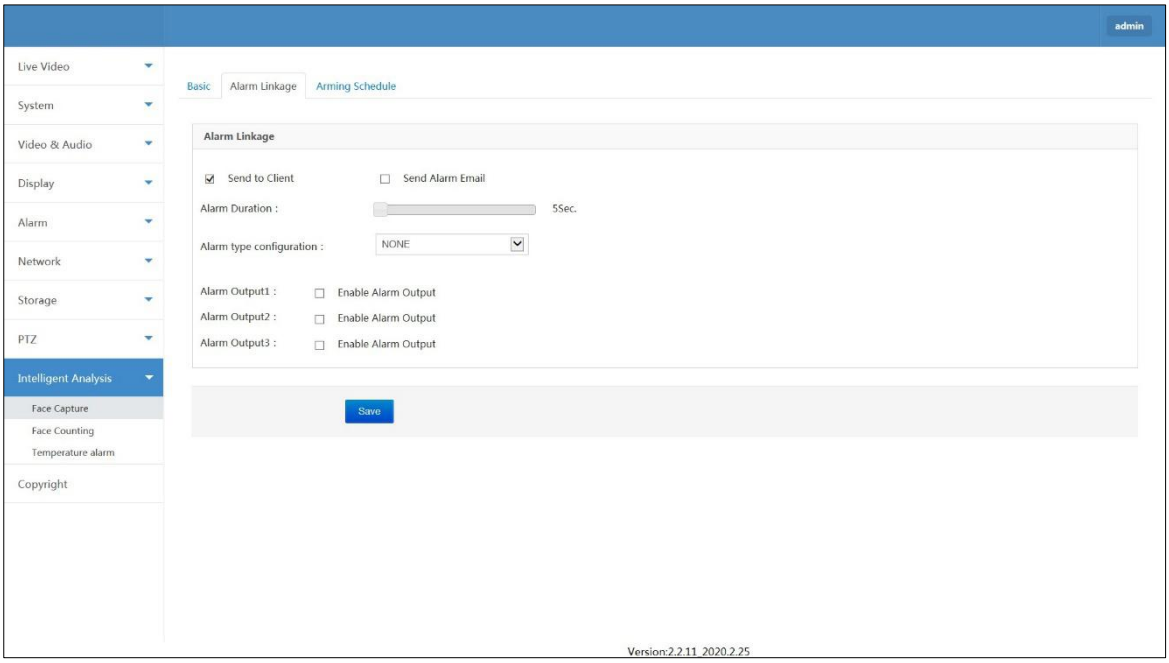
You can set the face capturing properties in this page.



Items	Description
Enable Face Capture	Enable face capturing function
Mark Face	It marks the face on detection
Draw Detection Area	Click and drag the mouse on the live video to draw a face detection area. You can choose 4 areas.
Draw the face size calibration box	Click and drag the mouse on the live video to draw a face calibration box
Face Size	Size of face. Default value is 60
Front Face Threshold	Front face threshold value. Default is 30
Server Address	Set the server address to upload the capture faces
Capture Interval	Face capturing interval. The default value is 2Sec.
Face pitch angle	Pitch angle of face. Default value is 15°
Face roll angle	Roll angle of face. Default value is 15°
Facial yaw angle	yaw angle of face. Default value is 15°
Save	Save the settings.
Refresh	Get the latest view picture
Default	Restore default system settings.

8.1.2 Alarm Linkage

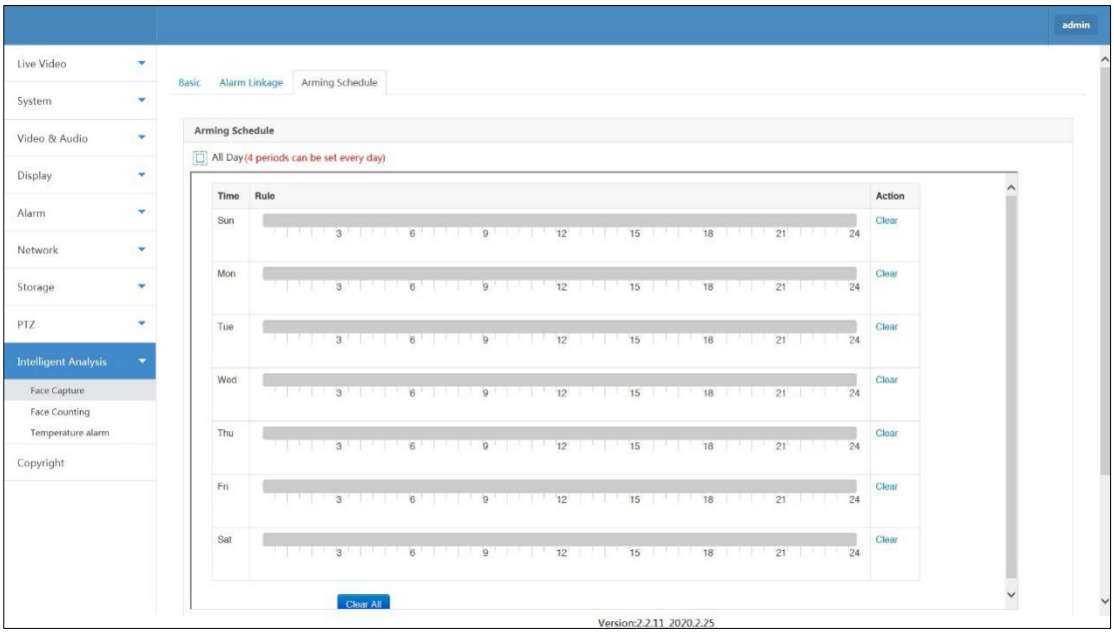
You can set the Alarm output linkage here.



Items	Description
Send to Client	Send alarm to client software connecting the camera.
Send Alarm Mail	Send an email with alarm information to a user or users when an event occurs
Alarm Duration	Set the duration that one alarm lasts. 3 ~ 100Sec
Alarm Output1,2 & 3	Select Alarm Output lines
Save	Save the settings.

8.1.3 Arming Schedule

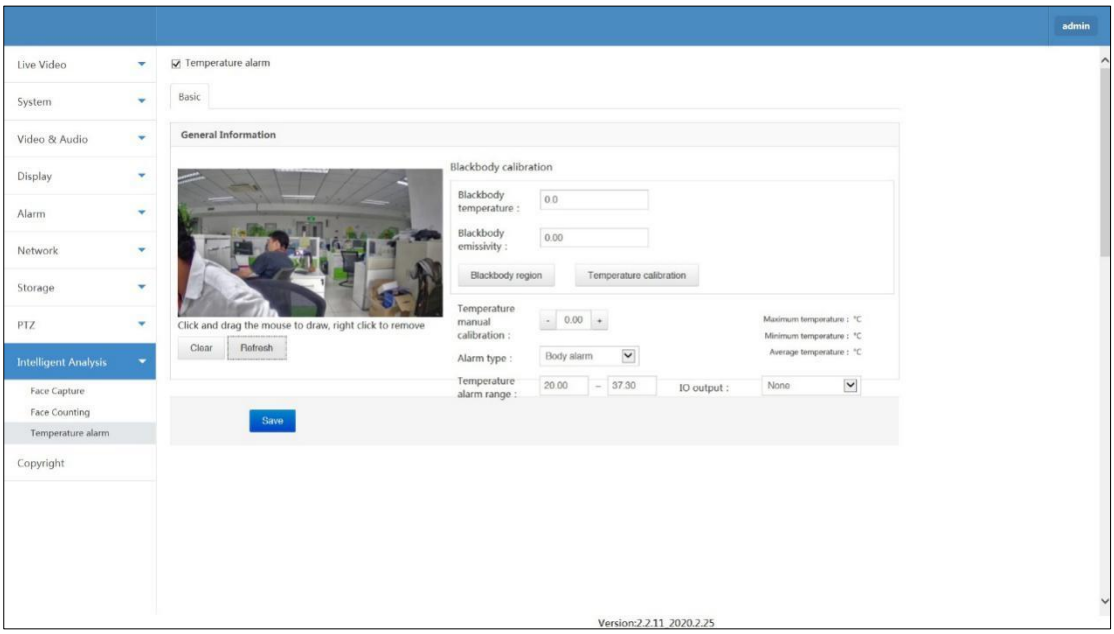
You can schedule the Face Capture Alarm in this page.



Items	Description
All Day	Enable Face capture alarm 24x7. If disabled, you can set schedule manually by selecting time range in each day in a week. Note: You are allowed to set 4 periods only in one day
Clear All	Clear all the manual selection of alarm schedule
Save	Save the settings.
Default	Restore default system settings.

8.2 Temperature Alarm

In this setting, you can set up the temperature alarm range and calibrate the temperature manually or using blackbody.



Items	Description
Temperature Alarm	Enable temperature alarm function
Blackbody Temperature	Set the blackbody temperature displayed on blackbody panel
Blackbody Emissivity	Set the blackbody emissivity value
Blackbody Region	Click and drag the mouse on the live video to draw blackbody surface area
Clear	Clear the region
Refresh	Get the latest view picture
Temperature Calibration	After draw drawing blackbody surface area, click Temperature Calibration to calibrate the IR tempertature sensor.
Temperature manual calibration	Calibrate the temperature manually
Alarm Type	Trype of Alarm
Temperature alarm range	Set the temperature alarm range to get the alarm
IO Output	Select Alarm Output lines
Save	Save the settings.