

KEDACOM

User Manual for HD IP Camera of IPC Series

V3 (Mar, 2018)

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Target Audience

Administrators and Operators of Video Surveillance Products

Document Version

V3

Applicable Models

IPC1X3 series

IPC185 series

IPC2X51 series

IPC2X52 series

IPC2X53 series

IPC2255 series

IPC2X10 series

IPC2X31, IPC2X32 series

IPC2X11 series

IPC2X40 series

IPC2X33 series

Related Document

Quick Start Guide

Convention

Icon	Convention
	Notes
<i>italic</i>	Book or document name; Filling content
>	Connector between menus of different level
BOLD	Menu; Button; Option

UL Safety Instruction

CAUTION: Risk of Explosion if Battery is replaced by an Incorrect Type. Dispose of Used Batteries According to the Instructions.

Suitable for Mounting on Concrete or Other Non-Combustible Surface Only.

This product is intended to be supplied by a Listed Power Unit, output rated minimum 24Vac, 50/60HZ, 0.5A or 12Vdc, 0.8A or POE,0.5A,non-energy hazards and Tma=60Deg.C. complied with LPS.

- a. the function of the ITE being investigated to IEC 60950-1 is considered not likely to require connection to an Ethernet network with outside plant routing, including campus environment; and
- b. the installation instructions clearly state that the ITE is to be connected only to PoE networks without routing to the outside plant.

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1. Product Brief

HD IP Camera (hereinafter referred to as Camera) is a remote video surveillance device based on IP network technology. It encodes and transmits HD video.

Some features of the HD IP camera:

Live View

Apply high-performance progressive scan sensor, with clear image and vivid color;

High-performance video processing chip and efficient video encoding, providing HD video image;

Dual-stream to fit different network bandwidth;

Configurable text overlay on video image;

Alarm

With audio and alarm connectors, realize functions of talkback and alarm;

Motion detection and alarm linkage, make video surveillance intelligent;

Support alarm linkage edit: Alarm Text Overlay, Device Output, Live View Display and etc.

Networking

Static address, DHCP or PPPoE;

NAT traversal, DNS and multicast technology

Storage

With storage card slot, when the network breaks down, video can be stored in local storage card;

Support local snapshot, default format is .JPG;

Support local recording, user can query and playback recording on PC.

2. Appearance



Picture 2-1 IPC113 / IPC123 / IPC143 series



Picture 2-2 IPC185 series



Picture 2-3 IPC2251 series



Picture 2-4 IPC2451 series



Picture 2-5 IPC2255-GN series



Picture 2-6 IPC2152 / IPC2252 / IPC2452 series

 Note: Different sub-models may have some difference in their appearance. Device appearance is subject to the actual model.



Picture 2-7 IPC2253 / IPC2453 series



Picture 2-8 IPC2110 / IPC2210 series



Picture 2-9 IPC2131 / IPC2132 / IPC2231 / IPC2431 series



Picture 2-10 IPC2233 / IPC2433 series



Picture 2-11 IPC2111 / IPC2211 / IPC2411 series



Picture 2-12 IPC2140/ 2240 / 2440 series

3. Start Up

Please refer to the Quick Start Guide in the packing for device installation and wiring.

3.1 Client Installation Conditions

Requirements of PC for installing the client:

- ✚ Operating System: Windows XP or newer versions
- ✚ Browser: IE7.0 or later versions, Firefox, Google Chrome (41 and below versions)
- ✚ Processor: 3.3 GHz CORE®i3 series and later version or other equivalent processors
- ✚ RAM Memory: 4GB or above
- ✚ DirectX: 9.0c

We will take IE8.0 as an example.

3.2 Initial Configuration

After installation and wiring, electrify the camera.

3.2.1 Modify Parameter

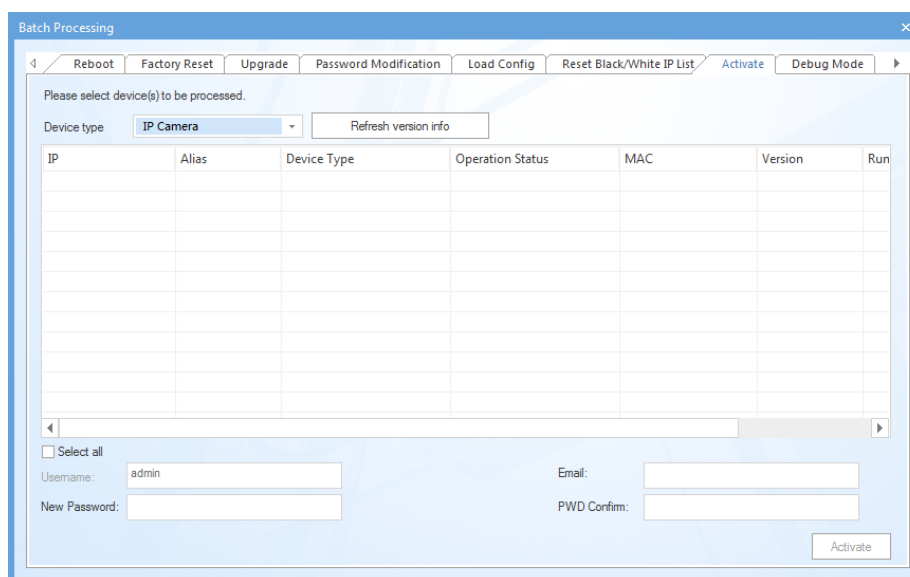
- 1) Get IPCSearch from the attached CD.

No.	IP	Alias	Device Type	Mask	Gateway	MAC	Version	Serial Number	Runtime	Active State
1	10.255.223.103	IP Camera	IP Camera	255.255.255.0	10.255.223.254	00-14-10-14-53-06	7.1.6.329	1642009823	18hr.14min.56sec.	Activated

Picture 3-1 IPCSearch

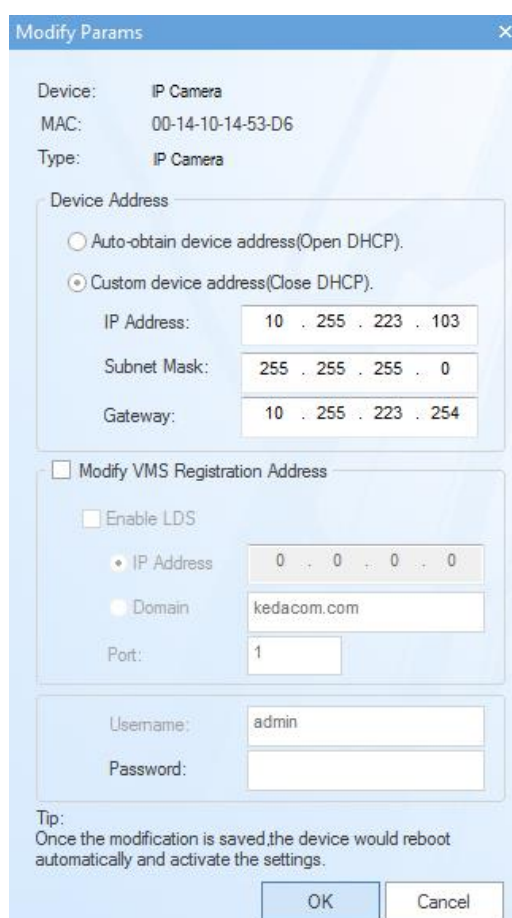
 Note: Camera name is subject to the search result.

- 2) Run IPCSearch: it will search devices in LAN automatically and display the list as shown in Picture 3-1.
- 3) When login to a non-activated camera for the first time, activate it first. Select the device and click “**Batch processing**”. In the popup interface, set admin user’s password and the email address to find back the password. Click “**Activate**” and wait for rebooting, as shown in Picture 3-2.



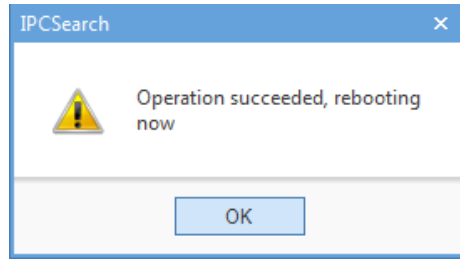
Picture 3-2 Activate camera

- 4) Select a camera to be configured, click **“Modify Params”** or right click the mouse. Interface is shown in Picture 3-3. Modify parameters and fill admin user name (admin) and the password set when activating the device.



Picture3-3 Modify Parameter

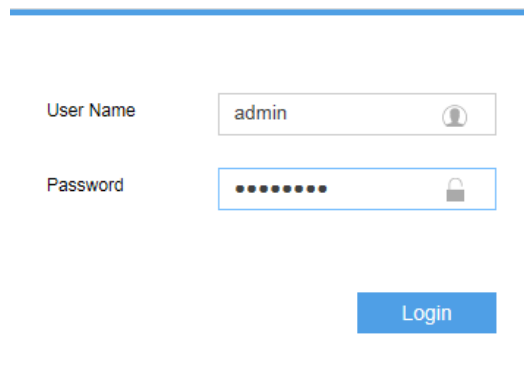
- 5) Click **“OK”** and in the popup window click **“OK”**. Wait for rebooting.



Picture 3-4 Reboot device

3.2.2 Login Web Client

- 1) After modification, camera will reboot automatically. Please wait patiently. After reboot, the button will be enabled again. Please select this device again and click **“Login”** or double click device name to enter web client. Interface is shown in Picture 3-5.



Picture 3-5 Web Client Login Interface

 Note: If log in the non-activated device through web client for the first time, user can set admin password and activate the device in the login interface, as shown below.

 Note:

- 1) To ensure the safety of device on internet, it is strongly recommended that you set a strong password which is composed of at least 2 kinds of the following, digits, case-sensitive letters or specific symbols, and whose length ranges from 8 to 16 bits.
- 2) Please modify the password periodically and once every 3 months is recommended. If the device is used in highly risky environment, suggest modifying the password monthly or weekly.
- 3) Please keep your user name and password safe.

User Name: admin

Password: [lock icon]

Password: [lock icon]

Confirm Password: []

Claim Email: []

When admin's password gets lost, find it back through this email. Make sure this email address is safe and valid.

Active

Picture 3-6 First login through web client

- 2) If user enters a wrong user name or password for 3 times, the camera IP will be locked up for 10 minutes, during which user cannot login to this camera. If user forgets the password, reset the password. Click **"Password Reset"** and a window will pop up, as shown below.

Serial No.: 76377BE503FF950CA835BE884292DD90DA9F9A0CDA13A26FCAB8A26D07234 Copy

Mail: r*****e@kedacom.com

Please visit the following website:
<https://ucq.kedacom.com/restorepwden.jsp>
 Fill in the serial number and email, to complete the password reset operation

Command: []

Customer Service: globalsupport@kedacom.com

OK Cancel

Picture 3-7 Password Reset

- 3) Click the password reset link first and fill in the Serial Number and Email address. Then login to the email address to get a security code and fill in **"Command"** blank and click **"OK"**. Please remember the new password (admin123 by default) shown in the popup window and click **"OK"**. The device will reboot. After resetting the password, re-login the web client and configure the device. Alternatively, scan the QR code in Picture 3-7 with a mobile device and complete this step.

Restore Password

Serial Number: 76377BE503FF950CA835BE884292DD90DA9
F9A0CDA13A26FCAB8A26D0723418E

Email:

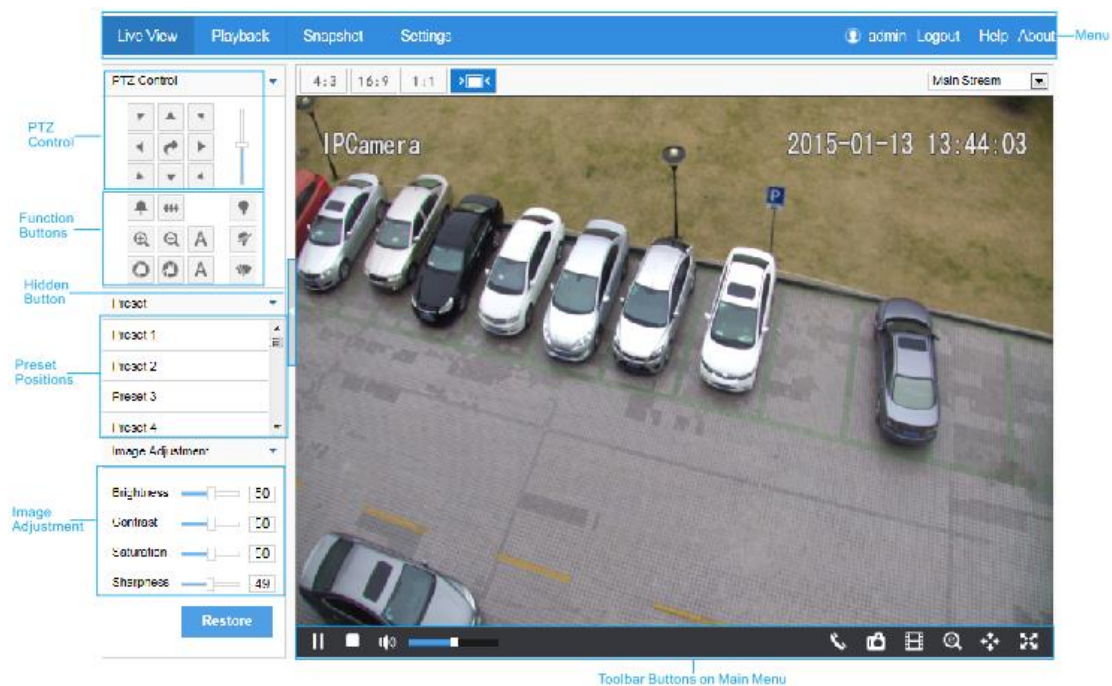
Verification Code:

[Get Security Code](#)

Picture 3-8 Password reset

3.2.3 Login to the Web Client Interface

Enter user name and password: when login successfully for the first time, download and install the plug-in. Close browser when installing. After finishing, double-click the device in IPCSearch to open browser and enter user name and password. Interface after login is shown below.



Picture 3-9 Web Client Interface

3.2.4 Focus

It is the process of imaging the target object clearly. Please focus according to the lens type of camera:

***Mechanical Focus:** View live video on web client and adjust the focus knob on the lens till the image is clear enough. Only some models support this function.

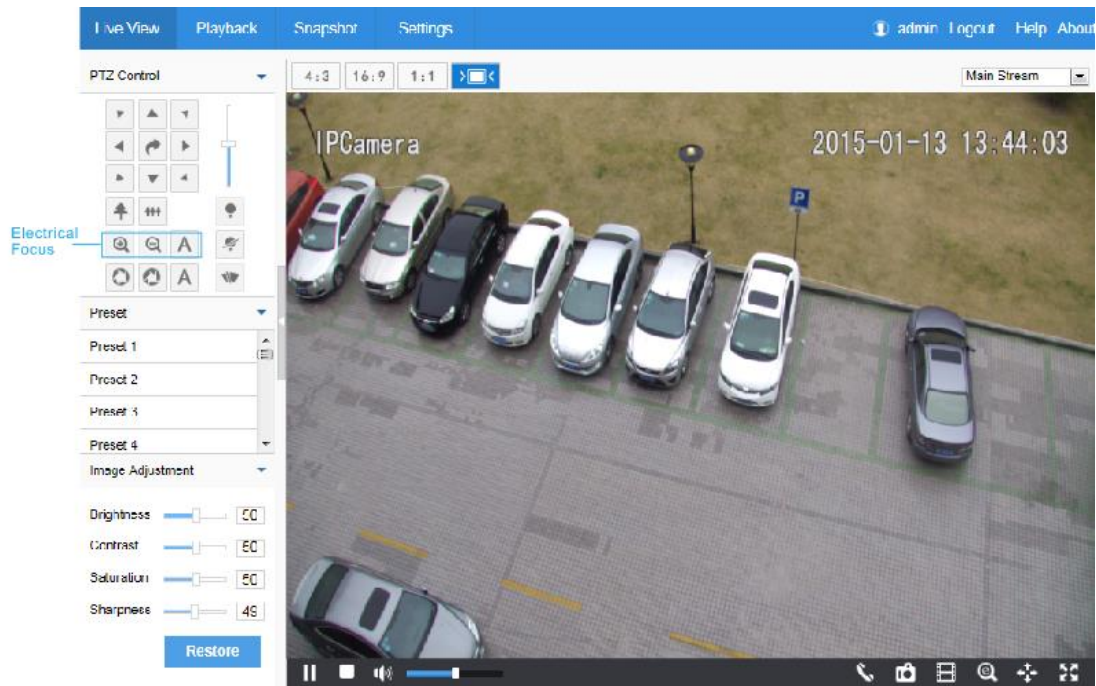
Electrical Focus: Click in function buttons area of the web client, as the picture shows. Or click or for near or far focus. View live video on web

client and adjust focus till the image is clear.

Some models also support other focusing method. Go to **Settings > Camera > Image > Focus**, and select **“Manual”** for Focus Mode.

Go to **Settings > Camera > Image > Focus**, select **“Continuous Focus”** and the camera will focus automatically every time the system triggers focusing.

Go to **Settings > Camera > Image > Focus**, select **“Single Focus”** and the camera will focus automatically only once when the system triggers focusing.



Picture 3-10 Focusing



Note:

Some models adopts electrical focusing lens, which may cause unclear focus at some special scenes. When confronted with such problem, please focus again or focus manually.

4. Product Functions

By the web client, user can not only view live video, but also perform local snapshot and recording.

 **Note:** Functions of different cameras may differ, and function with * in this Manual means only some models support. User operation is subject to the actual functions of the model. Disabled button in Web Client means the model doesn't support the function.

4.1 Live View

The default interface after logging in is live view, or user can click Live View to enter the interface.

4.1.1 Toolbar Buttons



Picture 4-1 Toolbar Buttons

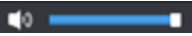
Play/Pause 

Click this button to play or pause a viewing.

Stop 

Click this button to stop live view.

Volume 

It is the local decoding volume. Drag the slide bar  to adjust volume. Click this button to disable voice and click again to enable voice.

Call 

Click this button to call camera and the volume slide bar  appears. Click again to stop calling. Not all cameras support this function.

Snapshot 

Click this button to capture current image.

Snapshot includes Camera Snapshot  and Local Snapshot . User can set picture saving path in **Settings > Local Setting**.

Recording

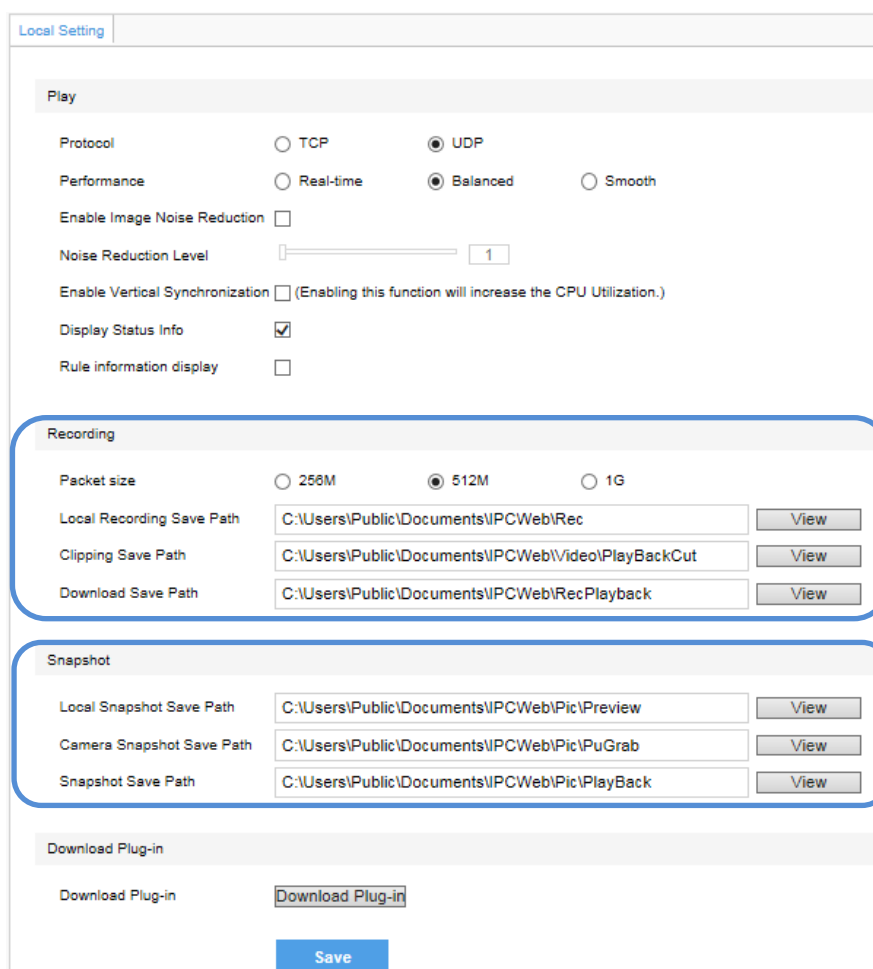
Click this button to start recording and click again to stop recording. Recording is saved on local PC. User can set or modify recording file saving size and path in **Settings > Local Setting**.



Note:

Camera Snapshot: Camera captures an image and sends it to local client. The image quality is good, but there is some time delay caused by network.

Local Snapshot: Client captures an image and saves it locally. The image quality is ordinary, but there is no time delay.



Local Setting

Play

Protocol ☐ TCP ☒ UDP

Performance ☐ Real-time ☒ Balanced ☐ Smooth

Enable Image Noise Reduction ☐

Noise Reduction Level 1

Enable Vertical Synchronization ☐ (Enabling this function will increase the CPU Utilization.)

Display Status Info ☒

Rule information display ☐

Recording

Packet size ☐ 256M ☒ 512M ☐ 1G

Local Recording Save Path

Clipping Save Path

Download Save Path

Snapshot

Local Snapshot Save Path

Camera Snapshot Save Path

Snapshot Save Path

Download Plug-in

Download Plug-in

Picture 4-2 Snapshot and recording setting

EPTZ

Click this button to enable the e-PTZ function. Left click and drag toward lower right to draw an area. The pixels of this area will be amplified and will cover the whole screen. Left click and drag toward upper left to draw an area, then image will recover.

PTZ

Click the button to zoom. Left click and drag toward lower right to draw an area. The pixels of this area will be amplified and will cover the whole screen. Left click and drag toward upper left to draw an area, then the image will recover. Double click a point in the image and the point will be centered.

Video Freeze

Click this icon and the image will freeze for a moment.

Status Info

Click this button to display the frame rate and bit rate of the live video. This button is hidden by default. To enable this function, go to Settings > Local Setting > Play, check “**Display Status Info**” and click “Save”.

Full Screen

Click this button to display full screen. Double click or press Esc to exit.

4.1.2 Image Adjustment

4.1.2.1 Aperture

The function of aperture is to control the amount of input light. A large aperture allows more light and thus the image is brighter.

In the interface of **Live View**, click  (Aperture+)/  (Aperture-) and adjust aperture.

Go to **Settings > Camera > Image > Exposure**, select “DC-IRIS Auto/ DC-IRIS Manual” for **Aperture Mode** and drag the slide bar of **Aperture Sensitivity** to adjust aperture. Auto mode is suggested.

4.1.2.2 Brightness

The image will look completely or partially dark and hard to recognize in low light condition. Web client provides the following methods to increase image brightness and ensure surveillance quality.

*Enable IR Light or Laser

In low light situation, IR lamp can be started to get better surveillance images.

Click  to enable and  to disable.

Increase Image Brightness

In the interface of **Live View**, click **Image Adjustment** to show the parameters, or go to **Settings > Camera > Image > Image Adjustment**, drag **Brightness** slide bar to adjust image brightness.

Longer Time of Shutter

Camera shutter speed means the cycle of the sensor calculating light input amount. Therefore, the longer the shutter is, the brighter the image will be.

 **Note:** If the target object is moving fast, this method is not applicable.

Go to **Settings > Camera > Image > Exposure**, user can set Shutter Mode (Auto/ Manual) and Shutter Lower Threshold or Shutter Level.

Increase Gain

Camera gain means photo-sensibility, the sensitivity level of a sensor to light. A high gain requires less light exposure for low light condition.



Note: However, the higher the gain is, the more noise points there will be and the worse the image will be. Auto mode is suggested.

***Enable WDR**

WDR can provide optimal exposure when there is strong background light.

Go to **Settings > Camera > Image > Image Enhancement**, enable WDR in the drop-down list of **Dynamic Adjustment** and drag the **WDR Sensitivity** slide bar to adjust.

Enable HLC

The HLC function can avoid unclear image caused by strong light interference.

Go to **Settings > Camera > Image > Image Enhancement**, select “HLC” in the drop-down list of Dynamic Adjustment and drag the slide bar of HLC Level.

Enable Backlight

Backlight compensation can also provide optimal exposure when there is strong background light, but it may cause whitening of the bright part of the image.

Go to **Settings > Camera > Image > Image Enhancement**, select “Backlight Auto/ Backlight Manual” in the drop-down list of Dynamic Adjustment and drag the slide bar of Backlight Sensitivity. When selecting “Backlight Manual”, user can set or select Backlight Area in the live view image and the system will refer to the brightness of this area.

Anti-flicker

When there are floating cross stripes on the image under indoor fluorescent lamp, select the correct anti-flicker frequency (50Hz/ 60Hz/ Natural Light) in **Settings > Camera > Image > Exposure** to solve the problem

4.1.2.3 White Balance

The basic concept of white balance is “to restore white objects to be white regardless of the color temperature of the light source”. It can compensate color cast in pictures taken in specific light source.

Go to **Settings > Camera > Image > White Balance**, select white balance mode from the drop-down list.

When selecting “**Manual**”, drag the slide bar of White Balance R (red) Gain and White Balance B (blue).

4.1.2.4 Night Cut

Day (Night) mode means the image switches to color (B/W), thus to get optimal images for day (sufficient light source) and night (insufficient light source) conditions.

Go to **Settings > Camera > Image > Night Cut**, select Night Cut mode.

Day

Select Day from the dropdown list of Night Cut mode and disable IR lamp (only some models support), and the image is colored.

Night

Select Night from the dropdown list of Night Cut mode and enable IR lamp (only some models support), and the image is black and white.

Auto

Select Auto (gain triggered) or Auto (photosensor triggered) from the dropdown list of Night Cut mode and configure Sensitivity / Photosensitivity, Latency and Night Cut Threshold. The system will switch day/night mode automatically.

Scheduled Day / Night

In this mode, camera switches to day / night mode automatically in a specified period of time.

When selecting Scheduled Day / Night mode, click Edit Time, and check Start Time and End Time in the popup interface.

4.1.2.5 Noise Reduction

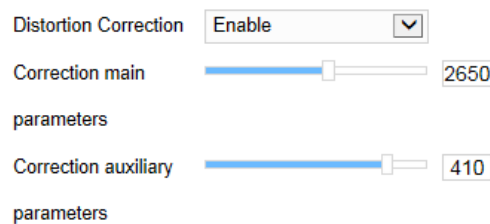
When there are many noise points caused by environment and camera lens, Noise Reduction function can be enabled to adjust images.

Go to **Settings > Camera > Image > Image Enhancement**, 2D/ 3D Noise Reduction and drag the slide bar to adjust 2D/ 3D Noise Reduction level. When selecting "Disable", this function will be disabled.

4.1.2.6 *Distortion Correction

Distortion correction means the camera corrects distorted images due to lens design into normal ones.

- 1) Go to **Settings > Camera > Image > Image Enhancement**, find "Distortion Correction" which is enabled by default and can be disabled when necessary.
- 2) As shown in the following picture, there are 2 parameters for this function: Correction main parameters, range 1000~4000, default 2650; Correction auxiliary parameters, range 0~500, default 410.



Picture 4-3 Distortion correction

- 3) The range of “Distortion Sharpen” is 0~100, default 0.



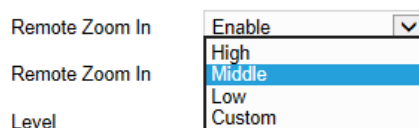
Note:

- 1) When this function is enabled, the max resolution of the main stream is 1080P.
- 2) When selecting “Standard Mode” under Effect parameters, this function will not be affected.

4.1.2.7 *Remote Zoom In

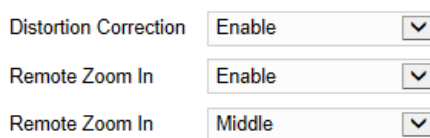
As the near part of image usually seems large while the distant part small, the image will look wide near and narrow afar, which makes it into trapezoid shape. This function means the camera tries to zoom in the distant part of the image and make the image in rectangle shape.

- 1) Go to **Settings > Camera > Image > Image Enhancement**, find “Remote Zoom In” which is disabled by default and can be enabled when necessary.
- 2) As shown in the following picture, there are 4 options for its level: High, Middle, Low and Custom, among which the former 3 are internal parameters while “Custom” is to import parameters by a tool.



Picture 4-4 Remote zoom in

- 3) As shown below, when this function is enabled, parameters of “Distortion Correction” will hide and the internal distortion correction parameters of remote zoom in apply.



Picture 4-5 Distortion correction parameters hide



Note: When this function is enabled, the max resolution of the main stream is 1080P.

4.1.2.8 Defog

This function is suitable for outdoor foggy scene and after enabling it, the camera is able to see through the fog.

Go to **Settings > Camera > Image > Image Enhancement**, select “Defog” from the dropdown list of Image Enhancement and drag the slide bar of Defog Sensitivity.

4.1.2.9 *EIS

EIS function is to prevent image flicker when the camera is zoomed in too much.

Go to **Settings > Camera > Image > EIS**, select “Enable” from the dropdown list of Mode and drag the slide bar of EIS Level.

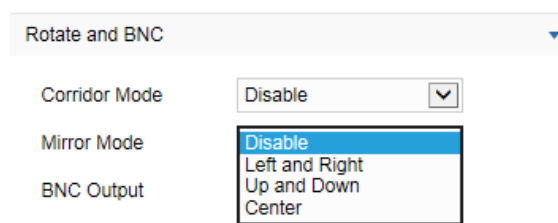
4.1.2.10 Rotate and BNC

Go to **Settings > Camera > Image > Rotate and BNC**, select Mirror Mode from the drop-down list, options including Left and Right, Up and Down, Center and Disable. When the image is reverse, set through this menu.

*Some models also support corridor mode. Go to **Settings > Camera > Image > Rotate and BNC**, select corridor mode from the drop-down list, options including Left, Right and Disable.

Cameras with BNC output ports will be able to output analog images directly after enabling BNC output.

Select BNC output mode from the dropdown list of BNC output, options including PAL (25 frames) and NTSC (30 frames).



Picture 4-6 Rotate and BNC

4.1.3 Auxiliary Function

*Wiper

Wiper is used to clean the dome housing. In the PTZ control part of the Live View

interface, Click  to start the wiper. Click  again to stop the wiper. The

wiper will stop automatically after 10 brushes. Click  to enable wiper again if necessary.

4.2 Motion Detection

Detect movement features in the defined area. Once the movement exceeds the defined sensitivity, an alarm will be triggered by Web Client.

Motion Detection	Tampering	Guard Line	Defocus	Scene Change	Exit Guard Area	Enter Guard Area	Object Left
------------------	-----------	------------	---------	--------------	-----------------	------------------	-------------

Object Removal

Gathering

Audio Surge

Enable

☒

Area Setting



▶

▲

▼

◀

↺

▶

▲

▼

◀

↻

↻

A

50

Area Setting

Stop

Clear All

Sensitivity

4

Duration

✖ Delete

🗑 Delete All

	0	2	4	6	8	10	12	14	16	18	20	22	24
Mon													
Tue													
Wed													
Thu													
Fri													
Sat													
Sun													

Linkage Type(Normal Linkage)

Acoustic Alarm

☒

Report to

☒

Management System

Recording Linkage

☒

Text Overlay

☒

Snapshot

☒

Email Notice

☒

Linkage Type(Other Linkage)

Alarm Output

☒ Alarm Output1

Save

Picture 4-7 Motion Detection

4.2.1 Set Area

Motion detection supports full area detection and maximum 4 user-defined areas.

- 1) Go to **Settings > Event > Intelligent Function > Motion Detection**, and check **"Enable"**.
- 2) Click **"Clear All"** and then **"Edit"** and the image will be divided into 16 columns and 12 lines of small squares. Click a square, drag toward lower right and click **"Stop"**. Then the area is the detected area and it turns purple red. A camera can support max 4 motion detection areas at the same time. Draw an area

toward upper left that contains the defined area, or click the defined squares one by one to clear setting, or click “Clear All” to clear setting.

- 3) Drag the slide bar to adjust **Sensitivity**.
- 4) Click the white bar behind each weekday and drag mouse to make a blue bar as the task duration for that day. Select the blue bar and adjust or delete duration by mouse.
- 5) Check several weekdays or “**Select All**” and click “**Copy**” to copy the defined motion detection durations to the days.
- 6) Check “Linkage Type”. It is the alarm output method when motion detection triggers an alarm. If checking snapshot, when motion detection triggers an alarm, the system will capture an image. Go to **Settings > Storage > Snapshot** to set image format, resolution and quality, and enable “Event Snapshot” and set Time Interval and Number of Snapshots.
- 7) Click “**Save**”.

4.2.2 Clear Area

Start from an undefined square and draw an area that contains the defined area, or click the defined squares one by one to clear setting, or click “**Clear**” to clear setting. Save to make settings effective.

4.2.3 Disable Function

To disable this function, uncheck the checkbox  Enable.

4.3 Tampering

In the surveillance scene, if the camera’s field of view is blocked by something, it will be unable to monitor normally. At this time, the tampering detection algorithm can detect that the camera lens has been blocked and will trigger an alarm. It supports max 1 detection area.

Go to **Settings > Event > Intelligent Function > Tampering** and configure. Please refer to the part of **Motion Detection** for setting steps.

Motion Detection

Tampering

Guard Line

Defocus

Scene Change

Exit Guard Area

Enter Guard Area

Object Left

Object Removal

Gathering

Audio Surge

Enable ☒

Area Setting

IPCamera

2017-02-18 20:30:26

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A

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A

50

Guard Line

1

Guard Line Direction

A->

Target Filter

Edit

Clear

Max and Min Target Ratio

1%

Area Setting

Stop

Clear

Sensitivity

50

Duration

✖ Delete

🗑 Delete All

0 2 4 6 8 10 12 14 16 18 20 22 24

Mon

Tue

Wed

Thu

Fri

Sat

Sun

Linkage Type(Normal Linkage)

Acoustic Alarm ☐

Report to Management System ☒

Recording Linkage ☐

Text Overlay ☐

Snapshot ☐

Email Notice ☐

Linkage Type(Other Linkage)

Alarm Output ☐ Alarm Output1

Save

Setting steps:

- 4) **Target Filter**: to set target area. Click **“Edit”** and drag the mouse in the scene to draw a rectangle. Click **“Stop”** after finishing and drag the slide bar of **“Max and Min Target Ratio”** (1% by default). Moving objects exceeding max and less than min will not trigger an alarm when they pass the guard line(s);
- 5) **Area Setting**: to set guard lines. Click **“Edit”** and drag the mouse in the scene to draw a guard line. User can click its starting point or end point to adjust its length and angle, and drag the slide bar of **“Sensitivity”** to set the guide line’s sensitivity to moving objects;
- 6) **Duration**: Click the white bar behind each weekday and drag mouse to make a blue bar as the task duration for that day. Select the blue bar and adjust or delete duration by mouse. Check several weekdays or **“Select All”** and click **“Copy”** to copy the defined motion detection durations to the days.
- 7) Check **“Linkage Type”** and **“Save”** to make settings take effect.

4.5 *Defocus

Enable this function to detect if the image is clear and to trigger some alarm linkages. Go to **Settings > Event > Intelligent Function > Defocus**.

Picture 4-10 Defocus

Setting steps:

- 1) Check **“Enable”**.
- 2) Drag the slide bar of **“Sensitivity”**. The larger the number is, the more sensitive the image is.
- 3) Check **Linkage Type** and click **“Save”**.

4.6 *Scene Change

Enable this function to detect if the image scene is changed and to trigger some alarm linkages. Go to **Settings > Event > Intelligent Function > Scene Change**.

Motion Detection	Tampering	Guard Line	Defocus	Scene Change	Exit Guard Area	Enter Guard Area	Object Left
Object Removal	Gathering	Audio Surge					

Enable ☒
 Detection Mode Software detection
 Sensitivity

Duration

	0	2	4	6	8	10	12	14	16	18	20	22	24
Mon													
Tue													
Wed													
Thu													
Fri													
Sat													
Sun													

Linkage Type(Normal Linkage)

Acoustic Alarm ☐
 Report to Management System ☒
 Recording Linkage ☐
 Text Overlay ☐
 Snapshot ☐
 Email Notice ☐

Linkage Type(Other Linkage)

Alarm Output ☐ Alarm Output1

Picture 4-11 Scene Change

Setting steps:

- 1) Check **"Enable"**.
- 2) Drag the slide bar of **"Sensitivity"** to adjust scene change sensitivity. The larger the number is, the more sensitive the scene change detection is.
- 3) **Duration**: Click the white bar behind each weekday and drag mouse to make a blue bar as the task duration for that day. Select the blue bar and adjust or delete duration by mouse. Check several weekdays or **"Select All"** and click **"Copy"** to copy the defined motion detection durations to the days.
- 4) Check **Linkage Type** and click **"Save"**.

4.7 *Enter Guard Area

Enable this function in the interface to detect specific area at real time. Once any moving object enters the guard area, an alarm will be triggered.

Go to **Settings > Event > Intelligent Function > Enter Guard Area**.

the area, and drag the slide bar of **"Sensitivity"** to set the sensitivity of the guard area to moving objects;

- 5) **Time Threshold**: The system will trigger an alarm after the target entering the guard area for a certain period of time, for example 5s. Time threshold can be configured and the default is 5s;
- 6) **Duration**: Click the white bar behind each weekday and drag mouse to make a blue bar as the task duration for that day. Select the blue bar and adjust or delete duration by mouse. Check several weekdays or **"Select All"** and click **"Copy"** to copy the defined motion detection durations to the days;
- 7) Check **"Linkage Type"** and **"Save"** to make settings take effect.

4.8 *Exit Guard Area

Enable this function in the interface to detect specific area at real time. Once any moving object leaves the area, an alarm will be triggered.

Go to **Settings > Event > Intelligent Function > Exit Guard Area** and configure. Setting steps can be referred to in **Enter Guard Area**.

4.9 *Object Left

Enable this function in the interface to detect specific area at real time. When any object is left in the area, an alarm will be triggered.

Go to **Settings > Event > Intelligent Function > Object Left** and configure. Setting steps can be referred to in **Enter Guard Area**.

4.10 *Object Removal

Enable this function in the interface to detect specific area at real time. When any object is taken from the area, an alarm will be triggered.

Go to **Settings > Event > Intelligent Function > Object Removal** and configure. Setting steps can be referred to in **Enter Guard Area**.

4.11 *Gathering

Enable this function in the interface to detect specific area at real time. When moving objects exceed the sensitivity, an alarm will be triggered. After setting the area and the sensitivity is set 50%, when 50% or more of the area is covered by moving objects, an alarm will be triggered.

Go to **Settings > Event > Intelligent Function > Gathering** and configure. Setting steps can be referred to in **Enter Guard Area**.

4.12 *Audio Surge

After enabling this function, when there is audio surge, an alarm is triggered. The higher the Voice Intensity Threshold is, the more sensitive it is to voice mutation.

Go to **Settings > Event > Intelligent Function > Audio Surge**.

Setting steps:

- 1) Check **"Enable"**;

- 2) Drag the slide bar of **Voice Intensity Threshold** to adjust the detection sensitivity to voice mutation. The higher the Voice Intensity Threshold is, the more sensitive it is to Voice Mutation;
- 3) **Duration**: Click the white bar behind each weekday and drag mouse to make a blue bar as the task duration for that day. Select the blue bar and adjust or delete duration by mouse. Check several weekdays or “**Select All**” and click “**Copy**” to copy the defined motion detection durations to the days;
- 4) Check **Linkage Type** and click “**Save**”.

The screenshot shows the 'Audio Surge' configuration window. At the top, there are tabs for various detection types: Motion Detection, Tampering, Guard Line, Defocus, Scene Change, Exit Guard Area, Enter Guard Area, and Object Left. The 'Audio Surge' tab is selected. Below the tabs, there are three main sections: 'Audio Input Abnormality' with an 'Enable' checkbox checked; 'Voice Mutation' with a 'Voice Intensity Threshold' slider set to 50; and 'Duration' which shows a 24-hour bar chart for each day of the week (Mon-Sun). The 'Duration' section also has 'Delete' and 'Delete All' buttons. Below the bar chart, there are two sections for 'Linkage Type'. The 'Normal Linkage' section has checkboxes for 'Acoustic Alarm', 'Report to Management System' (checked), 'Recording Linkage', 'Text Overlay' (checked), 'Snapshot', and 'Email Notice'. The 'Other Linkage' section has a checkbox for 'Alarm Output'. A 'Save' button is located at the bottom of the window.

Picture 4-13 Audio Surge

4.13 *Alarm Linkage

Alarm Linkage is the system reaction after an alarm signal is received. It is to raise watch man's attention to handle the event.

The alarm signal comes from the alarms triggered in the set surveillance areas such as motion detection and tampering or alarm input devices such as smoke detector.

Alarm Linkage reaction includes Alarm Text Overlay, Snapshot or triggering alarm output device (such as alarm bell). Explanations are as follows:

Acoustic Alarm: when an alarm is triggered, generate sound alarming (it requires the IP camera to connect with an audio output device).

Report to Management System: when an alarm is triggered, report it to the VMS (it requires the VMS to support this function).

Recording Linkage: when an alarm is triggered, start video recording automatically. Need to install a storage card.

Text Overlay: when alarm is triggered, display alarm text on screen.

Snapshot: when alarm is triggered, capture the image automatically. Need to install a storage card.

Email Notification: when an alarm is triggered, send an e-mail to the e-mail address automatically.

Alarm Output: it means linking to an alarm output device. It requires the camera to support alarm output function and has connected with an alarm output device.



Note:

Go to **Settings > Network > Other Protocols > SMTP** to set the e-mail address. SMTP (Simple Mail Transfer Protocol) is a group of rules for sending email from source address to target address and it determines the transition method of email.

DDNS | PPPoE | K-SNMP | 802.1X | QoS | UPnP | SMTP

SMTP Server

Port 25 1~65535

Sender
Sender Address Email address for sending alarm email

Server Authentication ☒

User Name root
Password User name and password of SMTP server

Topic IPCMail

Attachment ☐

File Format Pic

Receiver Email address for receiving alarm email

Save

Picture 4-14 SMTP

4.13.1 Motion Detection Alarm Linkage

- 1) Enable Motion Detection, and set the detection area and sensitivity. Please refer to Motion Detection for details.
- 2) Check the Linkage Type for motion detection. For example, if user checks Snapshot, when alarm is triggered, the system will take a snapshot. In **Settings > Storage > Snapshot** interface, user can set picture format, resolution, interval and quantity.

4.13.2 Tampering Alarm Linkage

- 1) Enable Tampering, and set the area and sensitivity. The method is the same as that of Motion Detection.
- 2) Check Linkage Type.

- 3) Click **"Save"**.

4.13.3 Alarm Input Linkage

Camera supports connecting with on-off alarm devices. If the alarm input device is always disabled, when it alarms, the circuit will become a loop and the camera will trigger alarm output by the set alarm linkage type. If the alarm input device is always enabled, when it alarms, the circuit will become open and the camera will trigger alarm output by the set alarm linkage type.

Setting steps:

- 1) Confirm that the alarm input device is always enabled or always disabled and has been rightly connected with the alarm input port of camera.
- 2) Go to **Settings > Event > Alarm Input**, and select a number from the dropdown list of Alarm Input ID (corresponding to the connected input ID).
- 3) Enter alarm name. If the alarm input device is always disabled, which means the circuit is usually open, user must select **"Always Disabled"** from the dropdown list of Alarm Type. If the alarm input device is always enabled, which means the circuit is usually loop, user must select **"Always Enabled"** from the dropdown list of Alarm Type. The default setting is "Always Disabled".
- 4) Duration: Click the white bar behind each weekday and drag mouse to make a blue bar as the task duration for that day. Select the blue bar and adjust or delete duration by mouse. Check several weekdays or **"Select All"** and click **"Copy"** to copy the defined motion detection durations to the days;
- 5) Check **"Linkage Method"**.
- 6) Click **"Save"**.

Alarm Input

Enable ☒

Parallel Port Extension ⓘ

Alarm Input ID

Alarm Type

Duration

	0	2	4	6	8	10	12	14	16	18	20	22	24
Mon	[Blue bar]												
Tue	[Blue bar]												
Wed	[Blue bar]												
Thu	[Blue bar]												
Fri	[Blue bar]												
Sat	[Blue bar]												
Sun	[Blue bar]												

Linkage Method(Common Linkage)

Acoustic Alarm ☒

Report to Management System ☒

Recording Linkage ☒

Text Overlay ☒

Snapshot ☒

Email Notification ☒

Linkage Method(Other Linkage)

Alarm Output ☒ Alarm Output1

Picture 4-15 Alarm Input

4.13.4 Abnormality Linkage

It is triggered when something abnormal happens. Abnormality includes Disk Full, Disk Error and Internet Disconnected.

Abnormality Linkage

Enable ☒

Abnormality Type

Linkage Method(Common Linkage)

Acoustic Alarm ☐

Report to Management System ☒

Text Overlay ☐

Email Notification ☐

Linkage Method(Other Linkage)

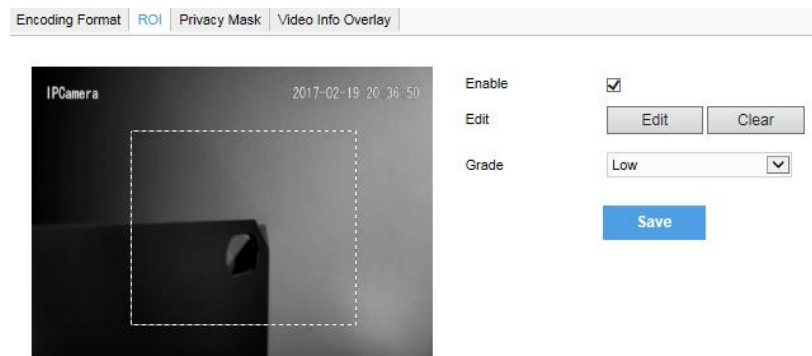
Alarm Output ☐ Alarm Output1

Picture 4-16 Abnormality Linkage

- 1) Select Abnormality Type from the dropdown list.
- 2) Check “Linkage Type”.
- 3) Click “Save”.

4.14 ROI

Only encode specific area to ensure normal surveillance and constant resolution of key area under poor network.



Picture 4-17 ROI

4.14.1 Set

Go to **Settings > Camera > Video > ROI**, and check **“Enable”**. Click **“Edit”**, and drag an area as the clipping area. Select encoding grade from the dropdown list. Click **“Save”** to make settings effective.

4.14.2 Clear

Click **“Clear”** to clear edition and reset area.



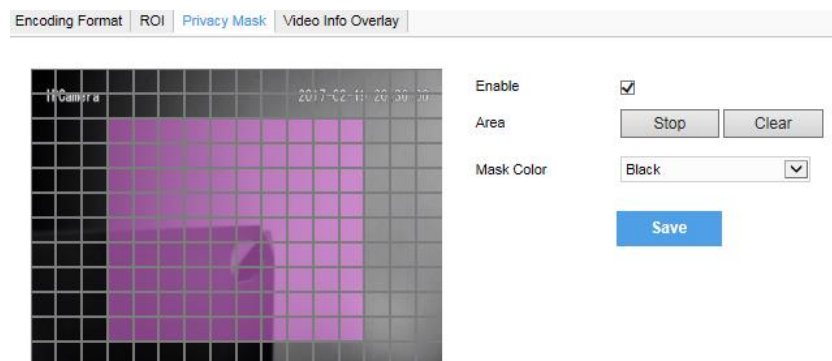
When ROI Encode is enabled, if user modifies image resolution or aspect ratio (standard screen/widescreen), the device will quit ROI Encode automatically.

4.14.3 Disable

To disable this function, uncheck ☒ Enable.

4.15 Privacy Mask

Mask sensitive and private part of the image so as to keep sensitive information private.



Picture 4-18 Privacy Mask

4.15.1 Set

The image is divided into 16 columns and 12 rows of small squares. The maximum number of Privacy Mask area is 4.

- 1) Go to **Settings > Camera > Video > Privacy Mask**, and check **"Enable"**.
- 2) Click **"Edit"**, and the image is divided into 16 columns and 12 rows of small squares. Click any square and drag an area toward lower right, then this area is the privacy mask detection area, which turns purple red.
- 3) User can select **"Mask Color"** from the drop-down list.
- 4) Click **"Save"** to make settings effective.

4.15.2 Clear

Start from an undefined square and draw an area that contains the defined area, or click the defined squares one by one to clear setting, or click **"Clear"** directly. Click **"Save"** to make settings effective.

4.15.3 Disable

To disable this function, uncheck ☒ Enable.

4.16 Video Info Overlay

Go to **Settings > Camera > Video > Video Info Overlay** and configure OSD info on video.

GPS

Check **GPS** and camera coordinates will be displayed.

Lens Direction

Check **Lens Direction** and the lens direction will be displayed.

Basic Intelligent Feature

After configuring basic intelligent info (e.g. In the interface of **Settings > Event > Intelligent Function > Guard Line**, check and configure guard line function) and checking **"Basic Intelligent Feature"** and check **Rule Information Display** in Settings > Local Setting, the intelligent area will be displayed in live view video.

Digital Watermarking

Check **Digital Watermarking**, digital watermarking will be displayed.

Click **"Save"**.

Setting	Status
GPS	☒
Lens Direction	☒
Basic Intelligent Feature	☒
Digital Watermarking	☒

Save

Picture 4-19 Video info overlay

4.17 *SDI Output

For cameras with HD-SDI output function, when the resolution is 1080P, frame rate supports 25 fps, 30 fps, 50 fps and 60 fps; when the resolution is 1080i, frame rate supports 50 fps and 60 fps; when the resolution is 720P, frame rate supports 50 fps and 60 fps. Go to **Settings > Camera > Video > Encoding Format** and set.

Encoding Format | ROI | Privacy Mask | Video Info Overlay

Encoding Format

Multi-Stream: Dual-Stream (Effective after reboot)

Stream Type: Main Stream

Resolution: 1920*1080

Bit Rate Type: CBR

Image Quality: Middle

Frame Rate: 25 (1~25 Upper Limit)

Bit Rate Upper Limit: 4096 (32~16384 (Kbps))

Encoding Format: H.264

Encoding Complexity: Low

Max Key Frame Interval: 75 (1~250)

Save

Picture 4-20 Encoding Format



Note: Settings on resolution and frame rate are also effective to SDI output.

When user wants to set resolution as 1080i, please go to **Settings > Camera > Image > Image Quality**, and select “NTSC (same as main stream resolution)” in **Rotate and BNC** part.

Image Quality

1 2 Alarm Moving 2017-03-09 15:22:41

Image Adjustment

Brightness: 50

Contrast: 50

Saturation: 50

Sharpness: 50

Exposure: <

Focus: <

White Balance: <

Night Cut: <

IR: <

Image Enhancement: <

EIS: <

Rotate and BNC

Rotate Mode: Disable

BNC Output: NTSC

Effect parameters

Picture 4-21 Image Quality

4.18 *Snapshot

Click **“Snapshot”** to enter snapshot management interface. User can view or download snapshots in SD card (An SD card must be inserted in the camera).



Note:

If the Snapshot interface is disabled, please confirm the SD card is inserted and then login client again.

Operation Steps

Search snapshots: search snapshots in accordance with the duration and format from the SD card.

On the snapshot list, select searched picture and click  to download.

4.19 *Playback

Click **“Playback”** to enter recording management interface. User can playback, clip and download recordings in SD card (An SD card must be inserted in the camera.)



Note:

If the Playback interface is disabled, please confirm the SD card is inserted and then login client again.



Note:

User can set scheduled recording durations in **Settings > Storage > Recording**. Check “Enable”. Click the white bar behind each weekday and drag mouse to make a blue bar as the task duration for that day. Select the blue bar and adjust or delete duration by mouse. Check several weekdays or “Select All” and click “Copy” to copy the defined motion detection durations to the days.

Recording |

Recording Configuration

Recording Type

Main Stream

If the encoding stream is disabled, recording is unavailable.

Code Stream Format

ES (VSIP/Onvif)

Effective after reboot.

Prerecord

30 s

Recording Delay

5 s

Storage Device List

Disk ID	Capacity	Remaining Space	Status	Type	Attribute
1	30248M	0M	Normal	Local External	Read-write

Scheduled Recording

Enable

☒

Time Table

Delete

Delete All

	0	2	4	6	8	10	12	14	16	18	20	22	24
Mon													
Tue													
Wed													
Thu													
Fri													
Sat													
Sun													

Picture 4-22 Recording

4.19.1 Playback

- 1) Select recording duration from the calendar.
- 2) If there is background color on a date, it means there is recording on that day. Select duration of the date and the video will be displayed directly in the right window.

4.19.2 Download

Select recording duration from calendar and download recording to local PC.
Download path can be configured in **Settings > Local Setting > Local Setting**.

4.20 Upgrade

4.20.1 Firmware Upgrade

Contact dealer for upgrade file.

Method 1

- 1) Go to **Settings > System > System Maintenance > Upgrade**, as shown below.

System Maintenance
Network test

Reboot

Reboot
Reboot

Auto Maintenance

Enable
☐

Maintenance Cycle
Everyday

Maintenance Time
00:00:00

Save

Upgrade

Upgrade
Upgrade
Business version upgrade

Configuration Management

Partial Restoration
Partial Restoration
All parameters restore to factory default except camera IP address, protocols, user info and RTSP authorization.

Complete Restoration
Complete Restoration
Restore to factory default

Configuration Export
Export
Export all settings to a file.

Import Parameter
Import
All parameters are imported from the file except the network, device name and OSD setting.

Advanced Configuration

Advanced Configuration
Configuration

Picture 4-23 Firmware Upgrade

- 2) Select local upgrade file (<*.pkg> or <*.img> format).
- 3) During upgrading, please do nothing but waiting.
- 4) After upgrading, if it is necessary to upgrade the web client, the system will prompt to download the plug-in. Please refer to the **Web Client Upgrade** for details.

 **Note:** Please click “Upgrade” when upgrading, and the upgrade file is usually in <*.pkg> format.

Method 2

- 1) Run IPCSearch and select the device from the list.
- 2) Click **Batch Processing > Upgrade** to upgrade firmware of cameras for the same models simultaneously.

4.20.2 Web Client Upgrade

Method 1

Go to **Settings > Local Setting > Local Setting > Download Plug-in**. Click “**Download Plug-in**” and follow the prompts to finish upgrade.

Local Setting

Play

Protocol

☐ TCP
☒ UDP

Performance

☐ Real-time
☒ Balanced
☐ Smooth

Decoded Process Mode

☐ Default
☒ Brightness Enhance

Enable Image Noise Reduction

☐

Noise Reduction Level

1

Enable Vertical Synchronization

☐ (Enabling this function will increase the CPU Utilization.)

Display Status Info

☒

Rule information display

☐

Recording

Packet size

☐ 256M
☒ 512M
☐ 1G

Local Recording Save Path

View

Clipping Save Path

View

Download Save Path

View

Snapshot

Local Snapshot Save Path

View

Camera Snapshot Save Path

View

Snapshot Save Path

View

Download Plug-in

Download Plug-in

Download Plug-in

Picture 4-24 Download Plug-in

Method 2

After firmware upgrade, please re-login web client. The page will prompt to download a new plug-in control. After downloading, the upgrade is completed. Re-login to enter the latest web client.

 **Note:** For detailed operation instructions of Web Client, please refer to the [help document](#).

4.20.3 Restoration

Go to **Settings > System > System Maintenance** and in the configuration management part, there are options of Partial Restoration and Complete Restoration.

Partial Restoration: click this button and all parameters will restore to factory default except camera IP address, protocols, user info and RTSP authorization.

Complete Restoration: click this button and all parameters will restore to factory default.

[System Maintenance](#)
[Network test](#)

Reboot

Reboot

Reboot

Auto Maintenance

Enable

☐

Maintenance Cycle

Everyday

Maintenance Time

00:00:00

Save

Upgrade

Upgrade

Business version upgrade

Configuration Management

Partial Restoration

Partial Restoration

All parameters restore to factory default except camera IP address, protocols, user info and RTSP authorization.

Complete Restoration

Complete Restoration

Restore to factory default

Configuration Export

Export

Export all settings to a file.

Import Parameter

Import

All parameters are imported from the file except the network, device name and OSD setting.

Advanced Configuration

Advanced Configuration

Configuration

Picture 4-25 Restoration

5. Settings

Some models may not support some of the functions stated below. User operation is subject to the actual models and clients.

5.1 Network Access

The part of **Initial Configuration** has introduced how to modify parameters via IPCSearch to make camera access network. Camera accepts multiple network access methods (via Ethernet and PPPoE). The following introduces how to configure camera network parameters in Web Client.

5.1.1 Ethernet

Go to **Settings > Network > IP and Port > IP Address**, as shown in Picture 5-1 to configure IP address, subnet mask and default gateway.

The screenshot shows the 'IP Address Configuration' web page. At the top, there are tabs for 'LAN' and 'Port', with 'LAN' selected. Below the tabs is the 'IP Address Configuration' section. It contains several fields: 'IP Version' is set to 'IPv6'; 'IPv6 Mode' is set to 'Route Map' with a 'View Route Bulletin' link; 'IP Address' is '0:80fe::ff10:1402:9f86:15'; 'Subnet Mask' is '64'; 'Default Gateway' is '::'; 'Multicast Address' is '::'; 'MAC Address' is '00-14-10-15-86-9F'; and 'MTU' is '1500'. Below this is the 'DNS Server Setting' section, which has 'Automatically Obtain DNS' unchecked, and empty fields for 'Preferred DNS Server' and 'Alternate DNS Server'. A blue 'Save' button is at the bottom.

Picture 5-1 Ethernet Parameter

5.1.2 PPPoE

Go to **Settings > Network > Other Protocols > PPPoE**, as shown in Picture 5-2 to enter user name and password, and click "Save".

The screenshot shows the 'PPPoE Setting' web page. At the top, there are tabs for 'DDNS', 'PPPoE', 'K-SNMP', '802.1X', 'QoS', 'UPnP', 'SNMP', and 'SMTP', with 'PPPoE' selected. Below the tabs, the 'Enable' checkbox is checked. The 'DHCP' field is '0.0.0.0'. The 'User Name' field is 'root'. The 'Password' field is masked with four dots. A blue 'Save' button is at the bottom.

Picture 5-2 PPPoE Setting

5.2 Register to VMS

Go to **Settings > Network > Access Protocol > VSIP**, as shown in Picture 5-3. Enter “VMS Address” and “VMS Port Number”. Click “Save” and reboot device.

The screenshot shows the 'VSIP' configuration page. At the top, there are tabs for 'VSIP', 'ONVIF', 'GB28181', and 'DPSS'. Below this is a section titled 'Registered VMS'. It contains the following fields: 'VMS Method' (a dropdown menu set to 'IP Address'), 'VMS Address (IPv4)' (a text box containing '10.77.128.211'), 'VMS Port Number' (a text box containing '5510' with a range '1~65535' indicated), 'Camera UUID' (a text box containing '04c18c38dc514416a72a9711202bf9e1'), 'Camera Password' (a masked text box with dots), and 'Send NAT Probe Packets' (a checkbox that is unchecked). Below the 'Registered VMS' section is a 'VSIP Service' section with an 'Auto Networking' checkbox that is checked. At the bottom of the form is a blue 'Save' button.

Picture 5-3 Register to VMS

5.3 BNC Output

Camera with BNC output can output analog image directly when local display function is enabled.

Go to **Settings > Camera > Image > Rotate and BNC**, select BNC output mode from the drop-down list, as shown below.

The screenshot shows the 'Image Quality' settings page. On the left is a live video feed of a street scene with a timestamp '2017-03-09 15:48:10' and a 'Alarm Monitor' overlay. Below the video feed is a blue button labeled 'Effect parameters'. On the right is the 'Image Adjustment' panel. It includes sliders for 'Brightness', 'Contrast', 'Saturation', and 'Sharpness', all set to 50. Below these are expandable sections for 'Exposure', 'Focus', 'White Balance', 'Night Cut', 'IR', 'Image Enhancement', and 'EIS'. The 'Rotate and BNC' section is expanded and highlighted with a blue box. It contains two settings: 'Rotate Mode' (a dropdown menu set to 'Auto') and 'BNC Output' (a dropdown menu set to 'PAL').

Picture 5-4 BNC Output



Note: For cameras with HD-SDI output, when BNC is enabled, the web client will stop image output.

5.4 User Security

5.4.1 User Management

Go to **Settings > System > User Security > User**.

Add:

Click **“Add”**, and enter user name and password in the popup interface. Select user type from the dropdown list, and assign operation rights to newly added user from the Authorization List. After setting, click **“Confirm”**.

Add User

User Name: admin

Password:

Weak Good Strong

Use a combination of alphanumeric special symbols to enhance password strength.

Password Confirm:

User Type: Operator

Authorization List

☒ View	☒ Playback/Picture
☐ PTZ Control	☐ Parameter Configuration
☐ Storage	☐ Reboot, Discover, Auto maintenance
☐ System Maintenance	

Confirm Cancel

Picture 5-5 Add user



Note: It is suggested to set complicated password in the form of combination of 8–16 digits, case-sensitive letters or special symbols. The system will judge the password strength according to the complexity of the password. Only when the password strength being **“Good”** or **“Strong”** can the setting be successful.

Delete:

Select user IP and click **“Delete”** to delete the user.

Modify:

Select user IP and click **“Modify”** to modify in the popup interface.

5.4.2 IP Filter

By setting IP address filtering, user can manage access limitation to the web client. White List includes IP addresses able to access to the client, while Black List includes IP addresses unable to access to the client.

Enable:

Select filter method from the dropdown list according to request, or select **“Disable”** to disable IP filter.

Add Black/White List:

After select filter method, click “Add” and input IP address in the popup interface, and click “Confirm”.

Modify Black/White List:

Select the IP address from the list and click “Modify” to modify the IP address in the popup interface, and click “Confirm”.

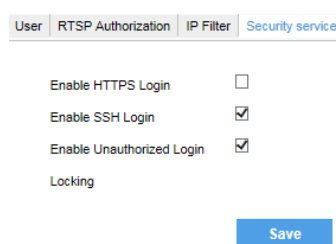
Delete Black/White List:

Select the IP address from the list and click “Delete” to delete the IP address. Click “Delete All” to clear all the IP addresses.

5.4.3 Security Service

Go to **Settings > System > User Security > Security Service**, and configure function of unauthorized login.

Check “Enable Unauthorized Login”. When user logs in and input wrong password for 3 times, the user IP will be locked up for 10 minutes, during which the user cannot log in.

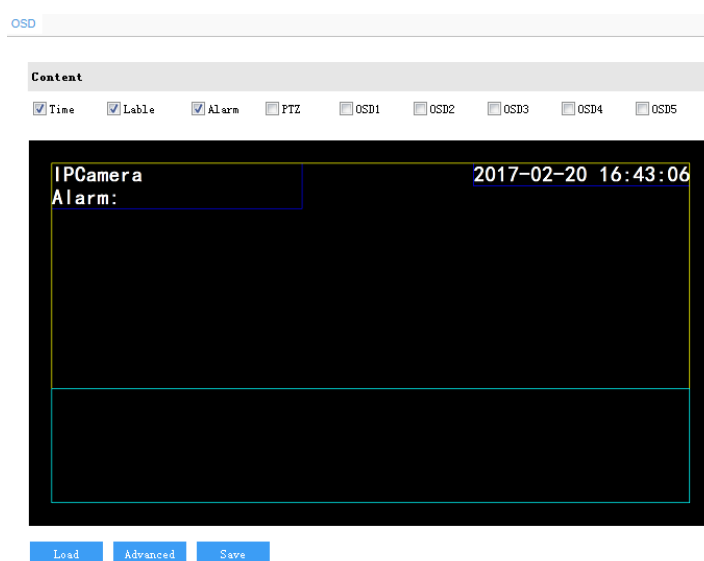


Picture 5-6 Security service

5.5 Text Overlay

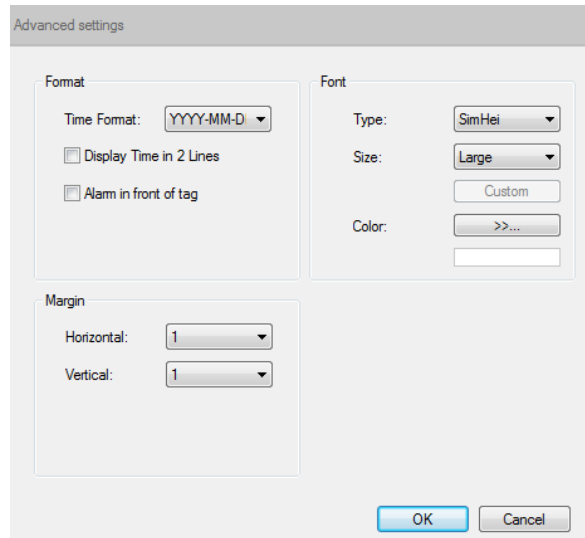
Display preset text on the surveillance window, configuration steps as follows:

- 1) Go to **Settings > Camera > OSD**, as shown below.



Picture 5-7 OSD

- 2) Check the options in **“Content”** and preview the result in the window below. For example, if user checks **“Time”**, time will be displayed in the window.
- 3) Edit positions: drag the items in the window with mouse to change their positions.
- 4) Edit OSD texts: for example, if user checks OSD1, double click OSD1 textbox and input characters in the popup interface. Click **“OK”**.
- 5) Click **“Save”** to save OSD setting.
- 6) Load font: Click **“Load”** to load “Default Font” or other fonts. Then edit content and position according to the above steps.
- 7) Click **“Advanced”** to set “Format”, “Font” and “Margin”.
- 8) Click **“Save”** to save OSD setting.



Picture 5-8 Advanced Setting of OSD

5.6 Video Encoding

Camera supports multiple streams encoding and decoding. Multi-stream means the same video source is encoded into different streams of videos with different resolutions. User can select proper resolution to view or record according to the network bandwidth.



Note: Different camera models may have different numbers of streams.

Operation steps:

- 1) Go to **Settings > System > System Maintenance**; click “Configuration” under “Advanced Configuration”, and input password;
- 2) Select working mode from the dropdown list;

Advanced Configuration

0 0~16384 (Kbps) (When code rate exceeds this value, subject to actual bandwidth)

Encoding bit rate mode Video stream network t

Function Switch

AEC supported ☒ Close ☐ Support (System will to down)

Audio Features ☐ Close ☒ Support (Restart to take effect)

Stream extension head ☐ Close ☒ Enable

Dual IP ☒ Close ☐ Enable (Restart to take effect)

Working Mode

Mode selection Ultra wide dynamic model to take effect) ?
Ordinary three yards flow pattern

Audio Noise Reduction

Collect Audio Stream Close Yes (Will occupy system resources)

Decode Audio Stream Close Yes (Will occupy system resources)

Save Close

Picture 5-9 Advanced Configuration

- 3) Click “Save” and reboot camera to make setting take effect. After reboot, re-login;
- 4) Go to **Settings > Camera > Video > Encoding Format**, as shown in Picture 5-10. In Multi-stream option, select Single Stream, Dual-stream, Triple-stream or Quad-stream from the dropdown list, and the selection takes effect after reboot. After enable, user can set parameters below the option accordingly.

Encoding Format ROI Privacy Mask Video Info Overlay

Encoding Format

Multi-Stream Dual-Stream Effective after reboot

Stream Type Main Stream

Resolution 1920*1080

Bit Rate Type CBR

Image Quality Middle

Frame Rate 25 1~25 Upper Limit

Bit Rate Upper Limit 4096 32~16384 (Kbps)

Encoding Format H.264

Encoding Complexity Low

Max Key Frame Interval 75 1~250

Save

Picture 5-10 Stream Type

6. Appendix: Glossary of Terms

Term	Explanation
HD	High Definition
QXGA	Resolution of 2048*1536 pixels (4:3)
UXGA	Resolution of 1600*1200 pixels (4:3)
1080P	Resolution of 1920*1080 pixels
720P	Resolution of 1280*720 pixels
CIF	Resolution of 352*288 pixels
QCIF	Resolution of 176*144 pixels
PC	Personal Computer
IP	Internet Protocol
MPEG4	Moving Pictures Experts Group
NAT	Network Address Translation
DHCP	Dynamic Host Configuration Protocol
DDNS	Dynamic Domain Name Server
PPPoE	Point to Point Protocol over Ethernet