

INFINOVA VH324-C4

IP Camera User Manual

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Thank You For Purchasing Our Product. If There Are Any Questions, Or Requests, Please Do Not Hesitate To Contact The Dealer. This Manual Applies To IP Camera. This Manual May Contain Several Technical Incorrect Places Or Printing Errors, And The Content Is Subject To Change Without Notice. The Updates Will Be Added To The New Version Of This Manual. We Will Readily Improve Or Update The Products Or Procedures Described In The Manual.

Important Safety Instructions and Warnings:

- Electronic devices must be kept away from water, fire or high magnetic radiation.
- Clean with a dry cloth.
- Provide adequate ventilation.
- Unplug the power supply when the device is not to be used for an extended period of time.
- Only use components and parts recommended by manufacturer.
- Position power source and related wires to assure to be kept away from ground and entrance.
- Refer to qualified personnel for all service matters.
- Save product packaging to ensure availability of proper shipping containers for future transportation.

Warning: To avoid risk of fire and electric shock, keep the product away from rain and moisture!

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CHAPTER 1

SYSTEM INTRODUCTION

1.1 Product Description

HD 1MP and 2MP IP camera is designed for compressing, processing, and transmitting audio and video data. It can capture image and audio, process H.264 video data and G711 audio data which could be transmitted on internet, transmit real-time image and audio on network at the same time. H.264 High profile/M-JPEG video compression format allows image output resolution up to 1920×1080@30fps or 1280×720@30fps. It supports three simultaneous video streams, bi-directional audio and G.711 audio compression. Functioned with ICR day/night switch, motion detection, privacy mask, alarm input/output and local recording.

1.2 Product Features

IP camera has the following features and functions:

1. 1/3" progressive scan CMOS 1.3 or 1/2.8" CMOS2.0 mega pixel HD sensor;
2. IR-Cut Removable (ICR) Filter for Day/Night switching
3. High-resolution image signal output: up to 1920×1080@30fps or 1280×720@30fps;
4. Support 3D denoise;
5. Bi-directional audio, G.711;

6. Supports Motion detection, privacy mask and Local Recording;
7. Supports multiple ways to handle alarms, such as email sending, FTP upload;
8. Supports multiple network monitoring: Web Viewer, IOS, Android;
9. Support Onvif Profile S;
10. Supports General CMS client of XiongMai, UC2 client of topsee and I8
11. Protocol of AEVISION;
12. Standard SDK is provided for easy integration with other video surveillance

1.3 System Requirement

Configuration of the computer to display image and control the camera:

CPU: Intel Pentium 4, 2.4 GHz or above

RAM: 512 MB or greater

Network Port: 100M Ethernet port

Operating System: Microsoft Windows 7, Microsoft Windows XP

IE browser version: Microsoft Internet Explorer 6.0 or above

CHAPTER 2

PREPARE FOR VIDEO VIEW IN IE BROWSER

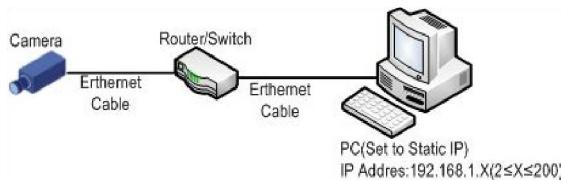
When view the video, the user need to adjust the IE browser of the monitor or other video devices, and set proper system function based on the following instructions:

- Support IE browser version: Internet Explorer 6.0 or above;
- Must install **IPC_AX** control and equip with Directx 9.0c.

2.1 Equipment Connection

(1) IP camera can be directly connected to a computer, or connected to a

network as the figure below, then connect the power adapter and power-on.



(2) Please make sure that the PC or switch's network light is flashing(yellow).

NOTE:Please use the provided power adaptor. Unauthorized power adapter may damage the IP Camera. Check whether the connection is tight or not before power-on.

2.2 Software Installation

The installation procedures of IP camera image software are listed as follows:

(1) *Search IP*

The default IP address is <http://192.168.1.18>; the default subnet mask is 255.255.255.0 and the default gateway IP address is 192.168.1.1. If the camera IP address changed, you can find the IP

address via procedures below.

First, copy the search tool



from the CD to the computer desktop and open it.

Second, click the “**search**” button to find IP camera on the local lan.Then the camera IP address will display in the software as the picture below.

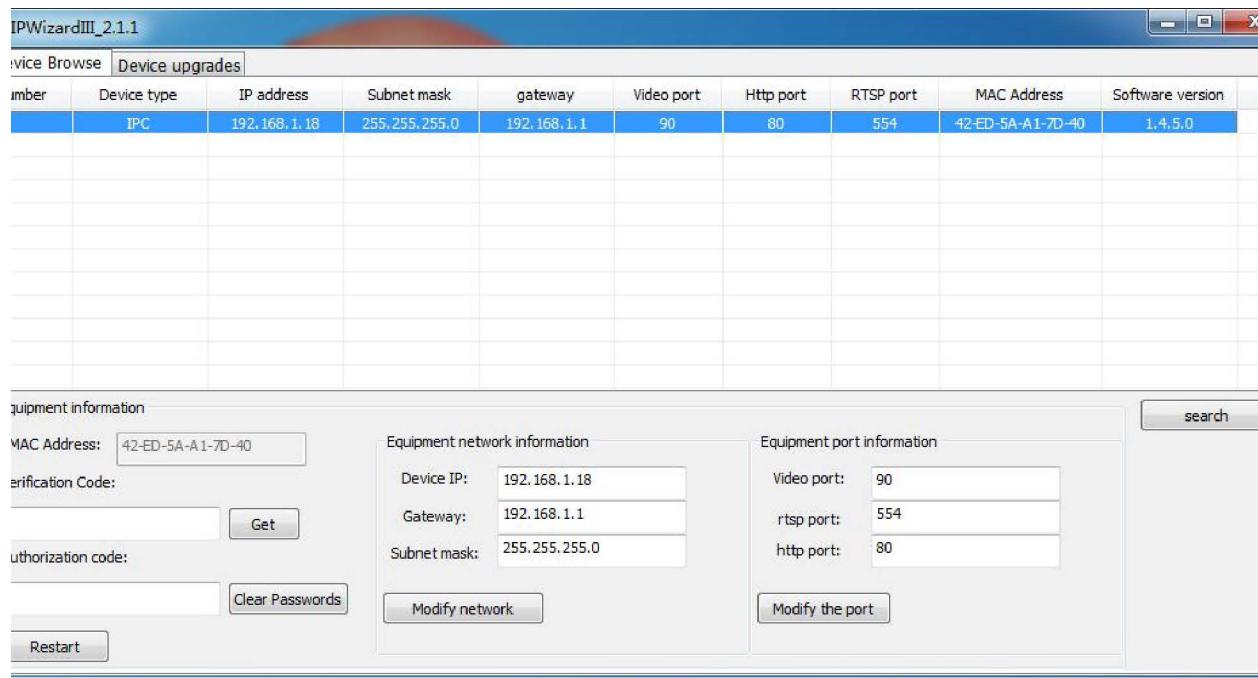


Figure 2-2 IP Search

(2) Login

Start IE browser and enter IP address. Enter user name and password in the pop-up login interface. Do log in the system with the default super user for the first time to run the software.

Note: The default Super User is admin (password: admin).

(3) Install and run Control

There are two ways to install control.

Method 1:

The prompt message as below will come out in live view window after a successful login. Click the link “**download control**” to run, or store the exe file, then run it.

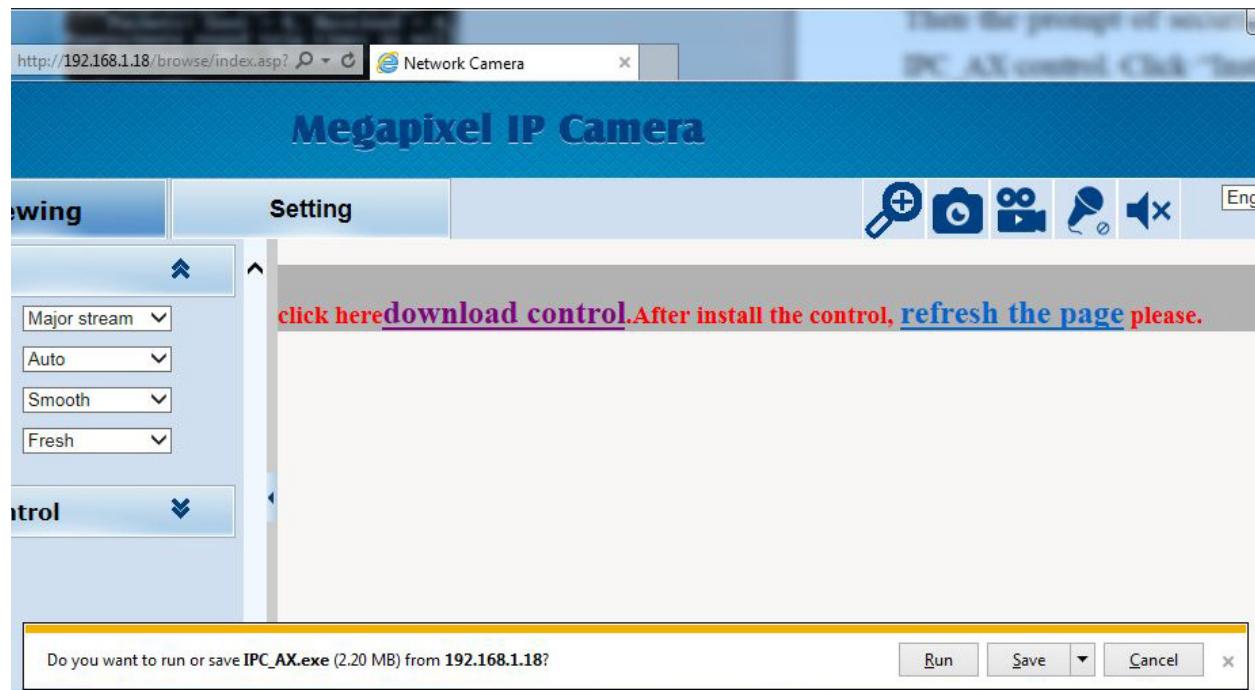


Figure 2-3 Download IPC_AX

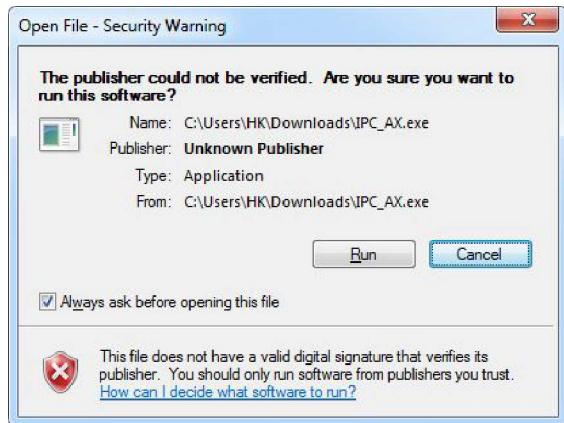


Figure 2-4 Run IPC_AX

If the installation fails, check whether there is video viewed through other IE window or page. You should close the video or the IE window directly. If it successes, click **refresh**, you can view the live video.

Method 2:

The prompt message as below will come out in the page after a successful login. Right click “Allow”.



Figure 2-5 Security Warning

Then the prompt of security warning will pop up to remind the user to install `IPC_AX` control. Click “Run”.

After `IPC_AX` control is installed, you can view the live video. If it pops up reboot prompt, please cancel reboot. Then close all the IE window and install `IPC_AX` control once again. The live video will display as below:

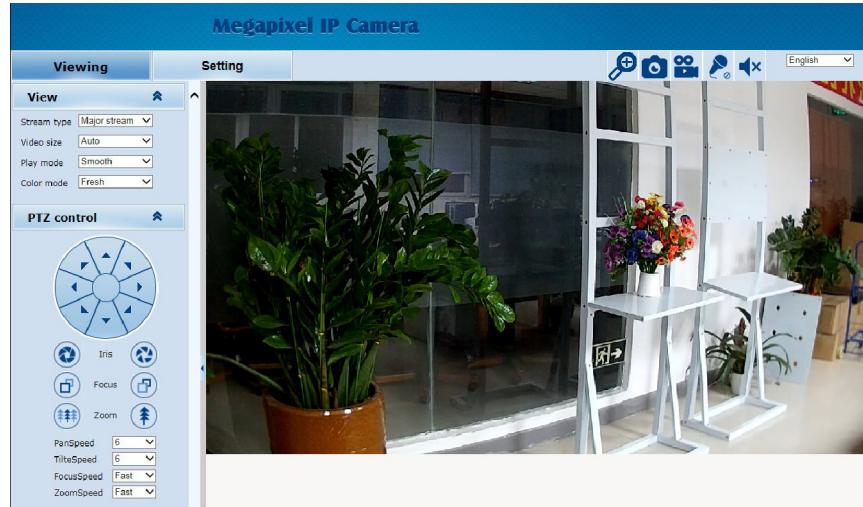


Figure 2-6 Live video

Note: If IPC_AX control installation falls, the live video won't display. Then, you should change the IE security level.

1. Select “**Tool**” in the menu bar, and then select “**Internet Options**” from the drop-down menu.
2. Select “**Security**” in the pop-up Internet options.
3. Click “**Internet**” icon and then click “**Custom Level**”.
4. Select “**Enable**” or “**Prompt**” in the options of “**Download unsigned ActiveX controls**”.
5. Click Privacy in the “**Internet**”, clear “block pop-ups”, then redraw the screen and install control as per the prompt. The live video will display.

By now, the IE browser setting for image viewing comes to an end.

CHAPTER 3

VIEW LIVE VIDEO IN BROWSE

Start IE browser after the server is powered on for about 100 seconds, and then enter IP address, such as <http://192.168.1.18> (default) or the IP address searched by IPWizardIII, in the address field.

Note: The default subnet mask is 255.255.255.0 and the default gateway IP address is 192.168.1.1. For normal access, please correctly set local IP parameters before system login. The login interface is displayed as shown in figure below in English operating system.



Figure 3-1 User Login

Do log in the system with the default super user for the first time to run the software. The system default Super User is admin (*password: admin*). Input the correct user ID and password and then press “OK” button to login the system. After login is successful, the following interface will

display:



Figure 3-2 Live View

IP camera supports H.264 and M-JPEG video compression formats. After successful login, it enters H.264 major stream live video interface. Users can also select H.264 minor stream or MJPEG from the dropdown list of stream type. In the H.264 major or minor stream type, users can do recording,snap-shooting, and audio in/out settings. Over browsing videos, users can also select a proper video scale.

Play mode: live or smooth for option.

Color mode: Fresh, Standard, cold for option.

IP camera supports digital zoom.Click the button to enable digital zoom;

when the button changes to click it to disable digital zoom.During

the digital zoom enable, press the left mouse button and drag a blue frame area

displays on the video, the will zoom in to the full live video interface; press the

right mouse button and drag a area on the video, the live video will recovering.

Click the button to  snapshot. The default storage path: C:\IPC_AX\Picture.

IP camera supports local recording. Click the recording button  to start

recording; when the button changes to  , click it to stop recording. During

local recording,"REC "appears on the video screen. The default recording

storage path: C:\IPC_AX\ Video.

Users can set the snap-shooting and recording storage path in the audio and video settings interface.

PTZ control and PTZ function: When the camera is working with Pan/Tilt, it is able to control the PTZ to perform such operations, such as direction control, focus and zoom adjustment, and speed setting.

Note: The login web page language should be set to English if PC's operating system language is not Chinese.

Click the option tab “Setting” to enter the system setting interface.

ing	Setting			
on	System	Time	Advanced	
Basic information				
ork	Version:	V1.04.05-140926	Time zone:	GMT+08:00
ra	Product info:	HISI-AR series	SerialNum:	491C9BF3F01C
&Audio	Network settings			
unction	MAC address:	4E-2B-8F-FE-F3-11	IP address:	192.168.1.187
d	Default gateway:	192.168.1.1	Subnet mask:	255.255.255.0
nanagement	Alarm settings			
	Alarm server 1 IP:	0.0.0.0		
	Alarm server 2 IP:	0.0.0.0		
	Alarm server 3 IP:	0.0.0.0		
	NTP settings			
	NTP server :	192.168.1.100		
	H.264 video settings			
	□ Public video parameters:			
	Brightness:	80	Contrast:	128
	Saturation:	128	Sharpness:	128
	□ Major stream parameters:			
	Resolution:	1280x720	Frame rate:	25
	Bit rate:	2000Kbps	I/P rate:	25
	□ Minor stream parameters:			
	Resolution:	640x480	Frame rate:	25
	Bit rate:	1000Kbps	I/P rate:	25
	MJPEG video settings			
	Resolution:	1280x720	Frame rate:	3

With the help of navigation menu on the left, Super user can perform the following operations:
Basic Information View, Time Settings and Advanced Settings, Network Settings, Settings
(including Basic Set, Effect Set, White Balance, Reset), Video & Audio Settings, Alarm Settings,

Record setting, User management(Add/Delete User, Change Password), Log, etc.

Note: The following instructions are used for the super user.

CHAPTER 4

BASIC SETTINGS AND OPERATION

This chapter mainly introduces the settings and operation of IP camera.

4.1 System

Click the navigation bar [System] and it displays the following three option tabs:

System, Time and Advanced, as shown in Figure 3-3.

4.1.1 System Information

The initial interface of System Settings displays related system information, such as basic system information, network settings, NTP settings, alarm settings, H.264/MJPEG video settings, etc

4.1.2 Time Settings

System	Time	Advanced
Time zone		
Time zone: (GMT+08:00) Beijing, Chongqing, Hong Kong, Urumqi, Irkutsk, Ulaan ✓		
Daylight saving time: <input type="radio"/> On <input checked="" type="radio"/> Off		
Save Cancel		
NTP		
NTP server : 192.168.1.100		
Sync time: 23 : 59 : 00		
Sync interval(hours): 24 ✓		
Save Cancel		
Sync now		
Device time: 2014-11-12 23:05:25		
Local PC time: 2014-11-12 23:05:26		
NTP PC		

Time Zone Settings

Time Zone: Select the desired time zone in the scroll box, and then click “Save” to save it.

There are 33 time zones for your selection:.

If Daylight Saving Time is applied in your region, please turn on Daylight saving time.

After settings completed, please click the button “Save”.

NTP Settings

Set the NTP server's IP address, test NTP server's status, and set parameters of Sync with NTP, including enable/disable Sync with NTP, Sync time and Sync interval. After completed, please click the button “Save”.

Sync now

There are two sync modes: PC sync and NTP sync.

PC Sync means the system time is consistent with that of local PC. In the NTP Sync mode, the system will automatically adjust time to the same as that of NTP Server.

4.1.3 Advanced Settings

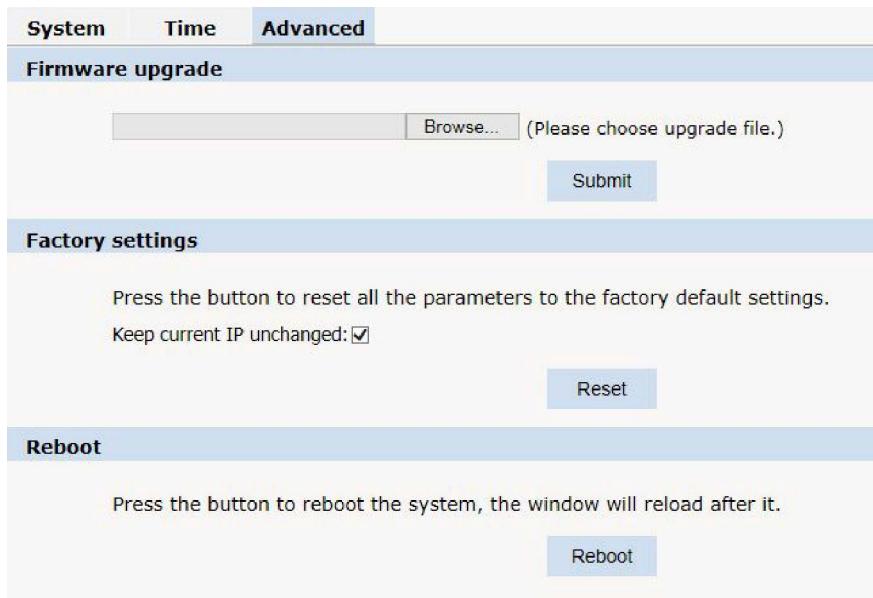


Figure 4-2 “Advanced” Settings

Software Update

Free software update is provided for IP camera, and this update service can reduce system maintenance budget.

Confirm the requirement submitted by user, we will provide the latest software for download, and help user to update the IP camera.

Follow the steps below to update software:

Click “**Browse**” button on the interface and the file selection dialog box will pop up.

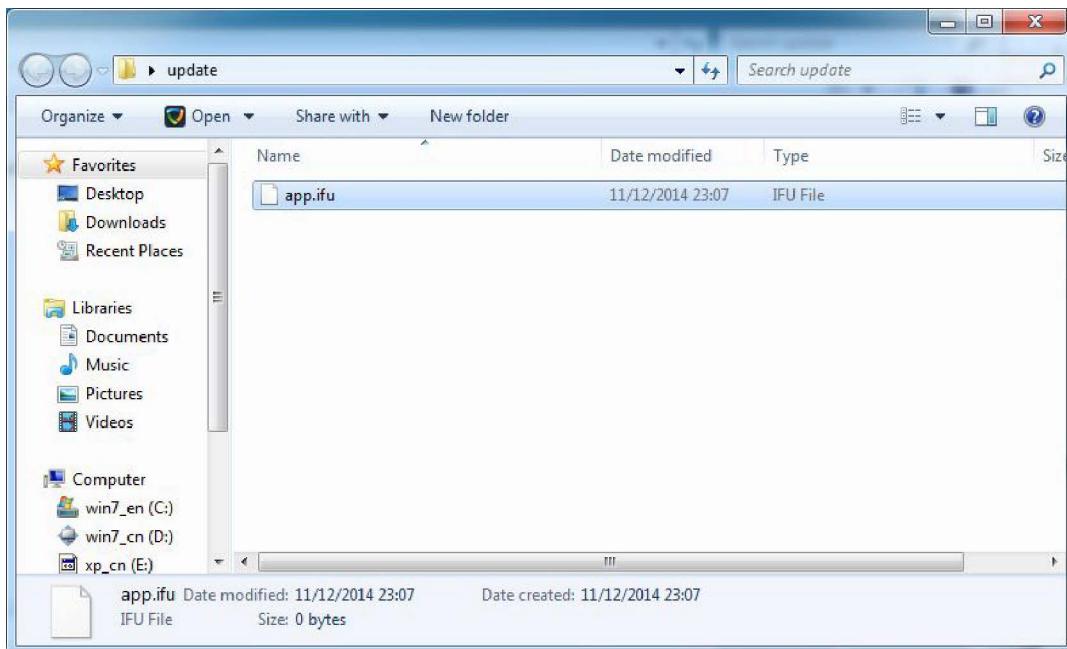


Figure 4-3 Update software selection dialog box

Select update file. The selected update file will be displayed in the Software Update box. After that, click “**Submit**” button to update software, the following information will appear:

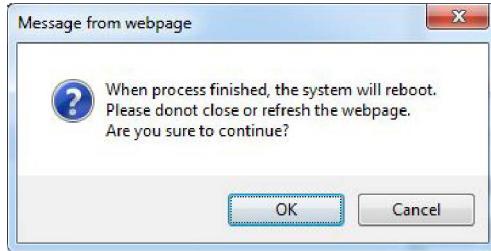


Figure 4-4 Update confirm box

Click “OK” button, run the program to finish the update.

The response time is due to the program type. You may wait a long time for some program. Do not power off during the update process. Power-off will make update fail, even damage the original program or unable to update again. After update successfully, it needs to reboot the system. There is time prompt in the web page during reboot. After reboot, it will skip to new web page to run new program.

Note: Available only for the super user.

Factory Settings

IP camera provides Online reset function, which greatly facilitates reset adjustment. Select “**Keep current IP unchanged**”, click “Reset” button and the system will pop up a message as below:

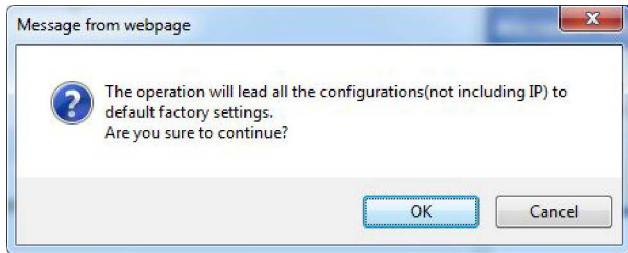


Figure 4-5 Reset to factory confirm box

Click “OK”, all the parameters (*excluding IP address*) will be reset to the factory default settings.

If “**Keep current IP unchanged**” is unselected, the IP address will be reset to the factory default settings. There is time prompt in the web page during reset. After reset, it will skip to new web page. If current IP unchanged, you can access web page directly. If IP address resets to 192.168.1.18, you can't access web page. Then, you have to set PC's IPaddress to 192.168.1 section, such as 192.168.1.25. After that, access web page to change camera's IP address and save, PC's IP address will restore to the corresponding section.

Note:

1. To avoid error happens, the operation of Online reset function should be performed under qualified personnel's guide.
2. Default IP address is 192.168.1.18, and default subnet mask is 255.255.255.0.
3. Do not power off during reset, or else the reset will fail.

Online Reboot

Click “**Reboot**” button, the dialog box “This operation will take 100 seconds. Are you sure to continue ?” pop up. Click “OK” and the system will restart. There is time prompt in

the web page during reboot. After reboot, it will skip to new web page.

Note: Available only for the super user

4.2 Network Settings

Click “Network” in the navigation bar, and the following interface will display:

Network	FTP	SMTP	QoS	IGMP	PORT	DDNS	PPCN
Network							
DHCP:	<input type="radio"/> On <input checked="" type="radio"/> Off	IP address:	192.168.1.187				
Subnet mask:	255.255.255.0					Default gateway:	192.168.1.1
Primary DNS server:	192.168.1.1					Secondary DNS server:	0.0.0.0
<input type="button" value="Save"/> <input type="button" value="Cancel"/>							

Figure 4-6 Network Settings

8 options tabs are available: Network, FTP, SMTP, QOS, IGMP, DDNS and PPCN.

4.2.1 IP Settings

DHCP:	<input type="radio"/> On <input checked="" type="radio"/> Off	IP address:	192.168.1.187		
Subnet mask:	255.255.255.0				
Default gateway:	192.168.1.1				
Primary DNS server:	192.168.1.1				
Secondary DNS server:	0.0.0.0				
<input type="button" value="Save"/> <input type="button" value="Cancel"/>					

Figure 4-7 IP Settings

Users can enable or disable DHCP. When it is disabled, users can set Unit IP address, Subnet mask, Gateway and DNS server IP address manually.

4.2.2 FTP Settings

Network	FTP	SMTP	QoS	IGMP	PORT
FTP					
Server :	0.0.0.0				
User name:					
Password:					
<input type="button" value="Save"/> <input type="button" value="Cancel"/>					

Figure 4-8 FTP Settings

IP camera has the function of alarm associated with FTP upload (*alarm triggered image snapshot*). Configure server IP, user name and password in the FTP settings and activate FTP handling way in alarm settings, then alarm triggered images FTP upload can be achieved.

4.2.3 SMTP Settings

Network	FTP	SMTP	QoS	IGMP	PORT	DDNS
SMTP						
Server :	0.0.0.0					
From:	ipc@domain.com					
To:	test@domain.com					
CC:						
Authentication:	<input type="radio"/> On <input checked="" type="radio"/> Off					
User name:						
Password:						
<input type="button" value="Save"/> <input type="button" value="Cancel"/>						

Figure 4-9 SMTP Settings

User needs to set mail server, recipient, etc in SMTP settings interface.

? **Server IP:** Set mail server address.

? **From:** Set sender's mail address.

? **To:** Mail address of recipient.

? **CC:** Mail address of the person copy to.

? **Authentication:** Enable or disable authentication function. This function should be set according to authentication requirements of mail server.

? **User name:** Sender's name, it can be set according user's needs.

? **Password:** Set sender's password.

Note: There is no limit for Sender's name and password settings. After setting, click "Set" Save to take effect. If user selects "mail" in "Alarm Settings" interface, system will send mails according to SMTP settings.

4.2.4 QOS Settings

Network	FTP	SMTP	QoS	IGMP	PORT
QoS					
		QoS option: Normal service High reliability High throughput Low time-delay			

Figure 4-10 QOS Settings

There are 4 network **QoS** modes to be selected:

(1) Normal Service

(2) Max Reliability

(3) Max Throughput

(4) Min Delay

Recommend: Normal Service.

4.2.5 IGMP Settings

Network	FTP	SMTP	QoS	IGMP	PORT
IGMP					
Stream type:	<input type="button" value="Major Stream"/>				
State:	<input checked="" type="radio"/> On <input type="radio"/> Off				
MultiCast IP address:	<input type="text" value="225.0.1.58"/>				
RTP port:	<input type="text" value="6699"/>				
<input type="button" value="Save"/> <input type="button" value="Cancel"/>					

Figure 4-11 IGMP Settings

IP camera supports multicast function. In the IGMP interface, users can select the stream type and set the state, multicast IP address and RTP port.

4.2.6 PORT Settings

The PORT interface displays the ports camera use. Users can modify RTSP, Http and Video port.

Network	FTP	SMTP	QoS	IGMP	PORT	DDNS	PPCN
PORT							
RTSP Port:	554						
Onvif Port:	8000						
Http Port:	80						
Video Port:	90						
<input type="button" value="Save"/>							
Notes: Settings are invalid while the ports are repeat! Please reboot the device and refresh the page after changing the ports.							

Figure 4-12 PORT Settings

The default Http(WEB) port is 80. You can change it at will. But if you change it as 8888, then you enter 192.168.1.18:8888 for accessing the device. All the port in the interface can be changed but can't be the same. The unavailable port is a bad choice.

Note: The port modify will not take effect until device reboot.

4.2.7 DDNS Settings

Network	FTP	SMTP	QoS	IGMP	PORT	DDNS	PPCN
DDNS							
DDNS Status:	<input type="radio"/> On <input checked="" type="radio"/> Off						
Method:	CamAnyWhere						
Server Address:	dns.camanywhere.net						
Server Port:	86						
UserName:	ipcamera2014						
Password:	*****						
Domain:	ipcamera2014.xicp.net						
<input type="button" value="Save"/>							

Figure 4-13 DDNS Settings

Dynamic Domain Name System (DDNS) synchronizes the host name and dynamic IP address continuously. Users don't have to memorize the dynamic IP address, but enter the dynamic domain name to connect the IP camera. DDNS needs a PC with fixed IP address on the Internet to run the dynamic domain name server.

Operation: select DDNS type in Enable option, enter the IP address of the DDNS server into the address bar, configure domain name, user name, password and update time and then save the settings. Open the IE browser, and enter the domain name to go to the query page of the device.

4.2.8 PPCN Settings

Create mapping between private network and the Internet via P2P protocol. Select PPCN option, view PPCN status or config PPCN. Users can view live video and config camera by smart phone almost anywhere you can surf the internet.

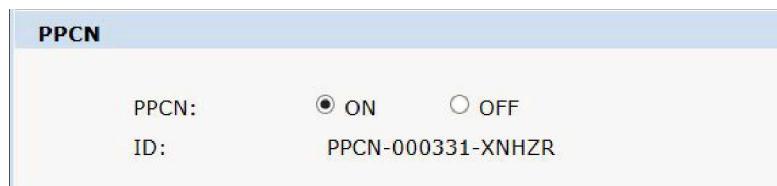


Figure 4-14 PPCN Settings

Click “ON” to *enable PPCN*, Click “OFF” to *disable PPCN*.

Note: Invalid ID will display the character “random” behind, user cannot access IP camera through the Internet.

4.3 Camera Settings

Click “**Camera**” in the navigation bar to enter the interface shown as below:

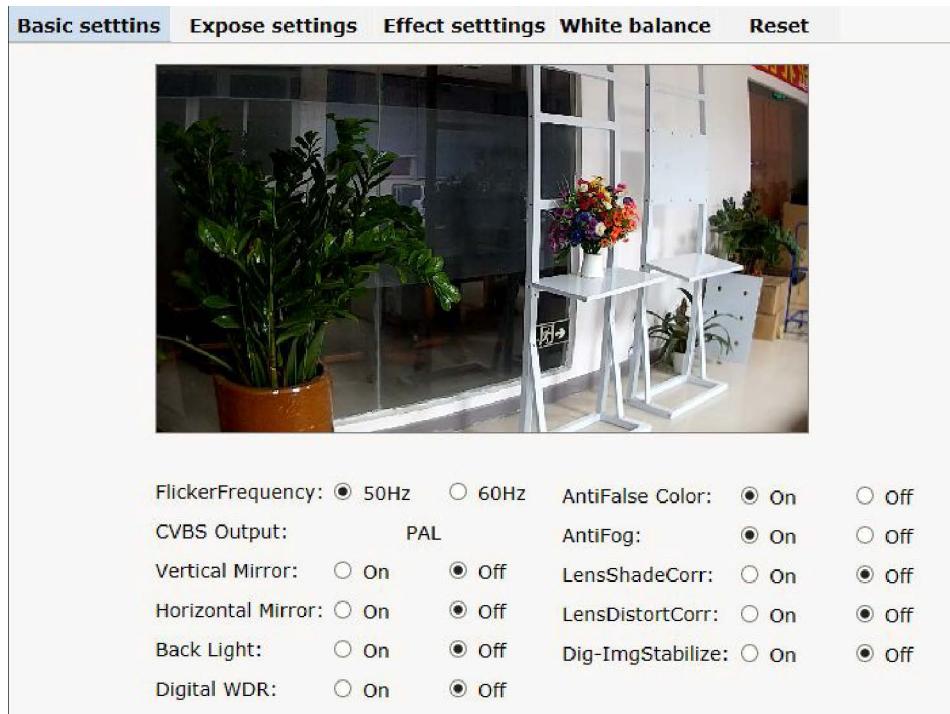


Figure 4-15 Basic Settings

4.3.1 Basic Settings

You can set the following parameters:

Flicker frequency: 50Hz or 60Hz.

CVBS: It automatically changes with the flicker frequency.

(Notes: analog videos are shut off after MJPEG stream is enabled. To enable analog videos, please disable MJPEG stream.)

Enable or disable vertical & horizontal mirror, back light compensation,digital WDR, anti False

color, anti fog, Lensshade & LensDistort correct or dig-imgstabilize.

4.3.2 Exposure Settings

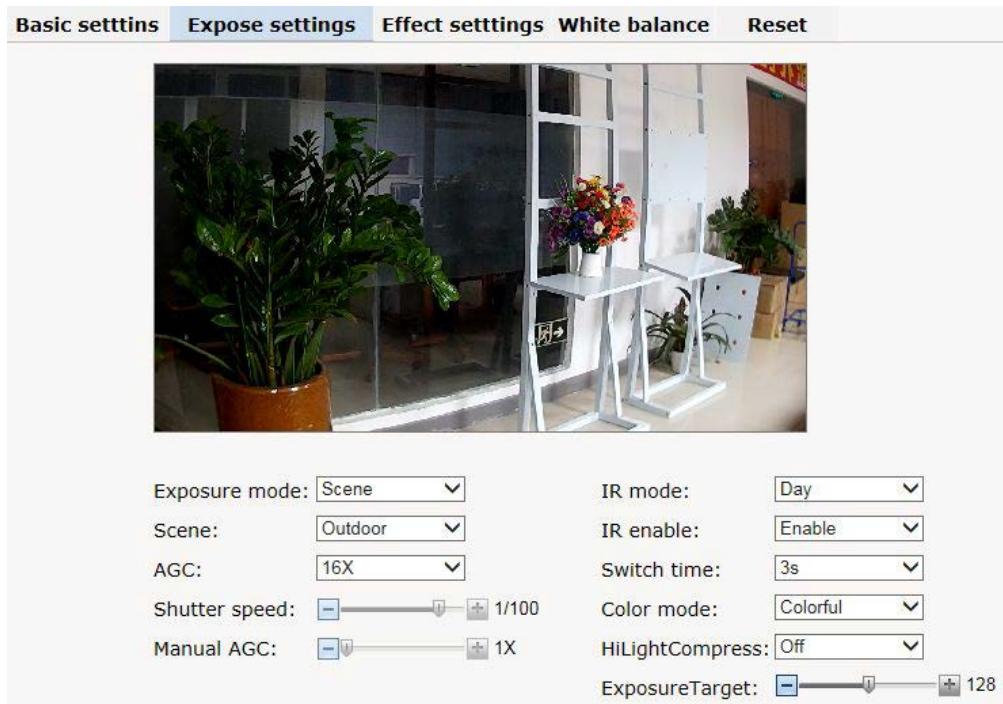


Figure 4-16 Exposure Settings

Exposure mode, scene, AGC, shutter speed, manual AGC, IR mode, IR enable, Switch time,color mode Hi-light Compress and Exposure Target can also be set in this interface.

Exposure mode: Manual, Scene and Shutter. In the Scene mode, indoor or outdoor can be selected and AGC can be set (maximum 64X); if set to manual mode, shutter speed can be set from 1/25s to 1/8000s and manual AGC can be set to 1X to 64X, yet the scene and AGC are non adjustable; if set to shutter mode, the shutter speed and AGC can be set.

IR mode: Auto mode, Night, Day, Out control. In Auto mode, the camera can automatically

control the day/night switching; in Day mode, videos are in color mode; in Night mode, videos are in black/white mode; out-control mode, ICR is controlled by external signals.

Color mode: Colorful, Standard or Cold mode can be configed as you like.

Hi-light Compress: select on, when Strong light coming ,the camera will auto compress the brightness in order to the High light area can be see clearly.

Exposure target: set exposure target level. It can adjust video brightness via Exposure target setup.

4.3.3 Effect Settings

In the Effect Settings interface, users can adjust the brightness, sharpness, hue, contrast, saturation and 3D denoise in two ways: General or Mode, as shown in the figure below:

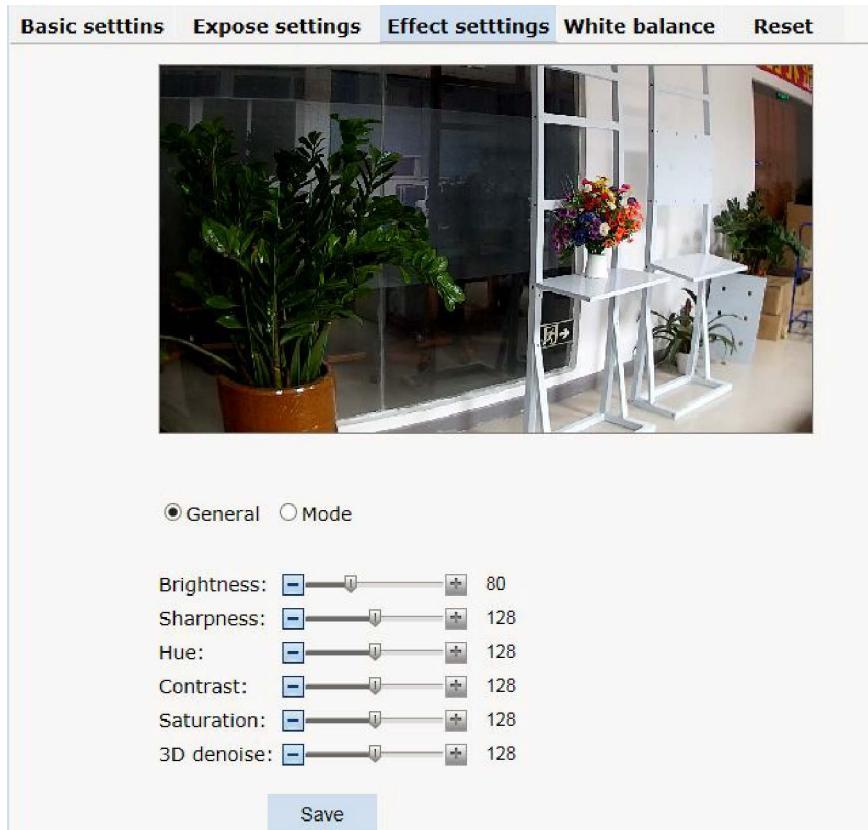


Figure 4-17 Effect Set - General

Drag the sliding block to adjust the brightness, sharpness, hue, contrast, saturation and 3D

denoise.

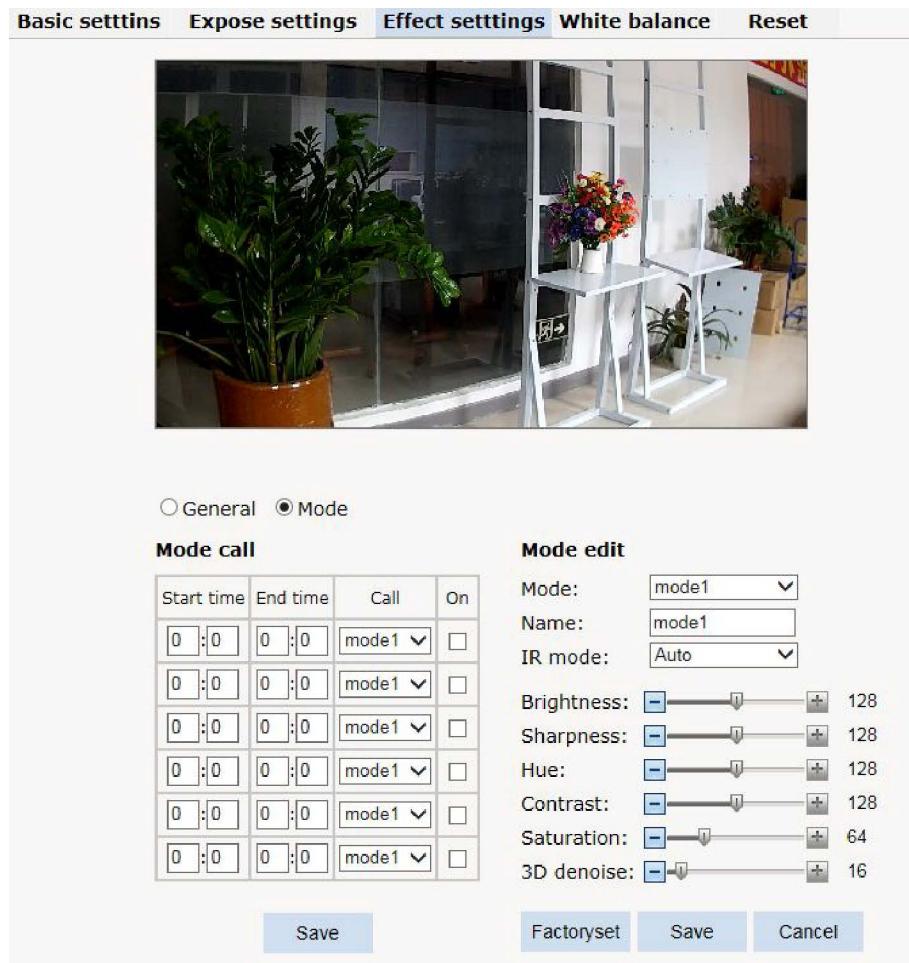


Figure 4-18 Effect Set - Mode

The camera supports 6 video effect modes. Users can set and save Name, ICR control mode and Scene parameters for each mode. Click “**Factory set**” to restore it to default settings.

The camera provides 6 User Modes. Each mode matches with a group of parameters, such as brightness, sharpness, hue, contrast, saturation and 3D denoise. In the Mode call, users can set effect mode call status and call period.

4.3.4 White Balance Settings

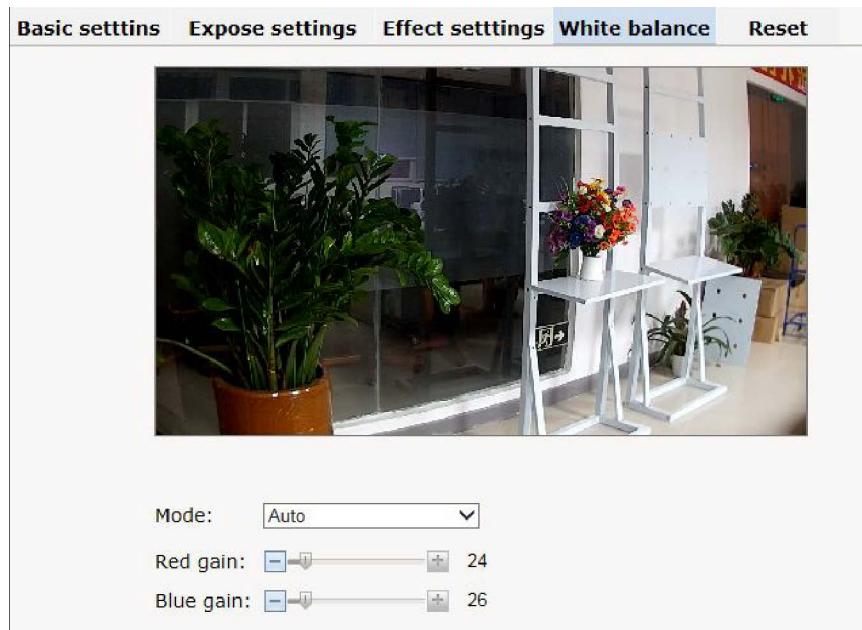


Figure 4-19 White Balance Settings

The camera has rich white balance modes, including Auto, Manual, Incandescent light, Cool white fluorescent light, Sun light, Cloudy and Natrium light. If set to manual mode, you can set the red gain and blue gain.

4.3.5 Reset

In the interface, you can restore all the camera parameters to the factory default settings.

4.4 Audio & Video Settings

Click the button **Audio & Video** in the navigation bar to display the following interface.

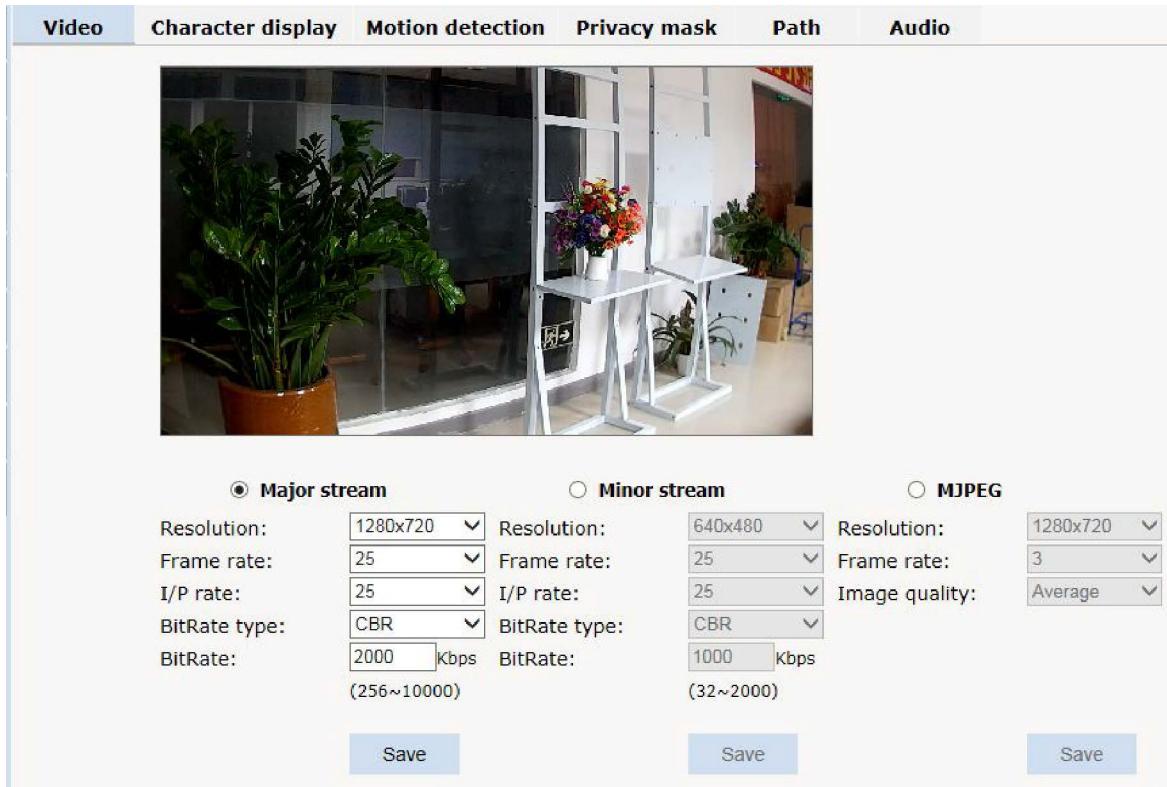


Figure 4-20 Video Settings

Click the related option tab to enter the setting interface.

4.4.1 Video Settings

Users can set the video parameters in the format of H.264 major or minor stream and MJPEG stream, such as resolution, frame rate and IP rate.

Resolution:

For H.264 major stream, the resolution of IP camera comes up to 1280 * 960, with 1280*720, 720*576, 720*480, 640*480 optional; For H.264 minor stream, the resolution comes to 640*480, 352*288, 320*240, 176*144 and closed. For MJPEG stream, the resolution of comes to

1280*960, 1280*720 and closed.

Frame Rate: the number of compressed frames produced by camera per second. The bigger the frame is, the better the image continuity will be, but the CPU performance is lowered. The smaller the frame is, the worse the image continuity will be, but the CPU could handle more events. The maximum frame rate for H.264 is 30fps. The maximum frame rate for MJPEG is 3fps.

I/P Rate: I/P rate means the ratio of I frame to P frame in compressed video images. The bigger the value is, the less the data quantity is and the less network resource it occupies. Max. I/P rate can be set to 60.

Bitrate type: There are 2 modes of bit rate: variable rate (vbr) and constant rate (cbr). The variable rate can adjust the bandwidth that it occupies automatically according to the complexity of image, because the complexity of real video sequence keeps changing, details, speed, etc, and the variable rate setting mode can be used to choose how much bandwidth should be used. If the video gets more details and moving fast, then it takes up more bandwidth to transmit, and reversely it occupies less bandwidth. When the setting goes with constant bit rate, then the image is transmitted under a constant bandwidth.

Bit Rate: You have to set the upper limit of bit rate if “vbr” is selected; the stream size will be fixed if “cbr” is selected and the stream size is defined in the “Bit Rate”. For major stream, the bit rate upper limit can be 1000kbps~10000kbps; for minor stream, the bit rate upper limit can be 32Kbps~2000Kbps.

Image Quality: it can be set under MJPEG stream. Options: Highest, High, Average, Low and Lowest. The higher the image quality is, the more bandwidth it will occupy.

4.4.2 Character display

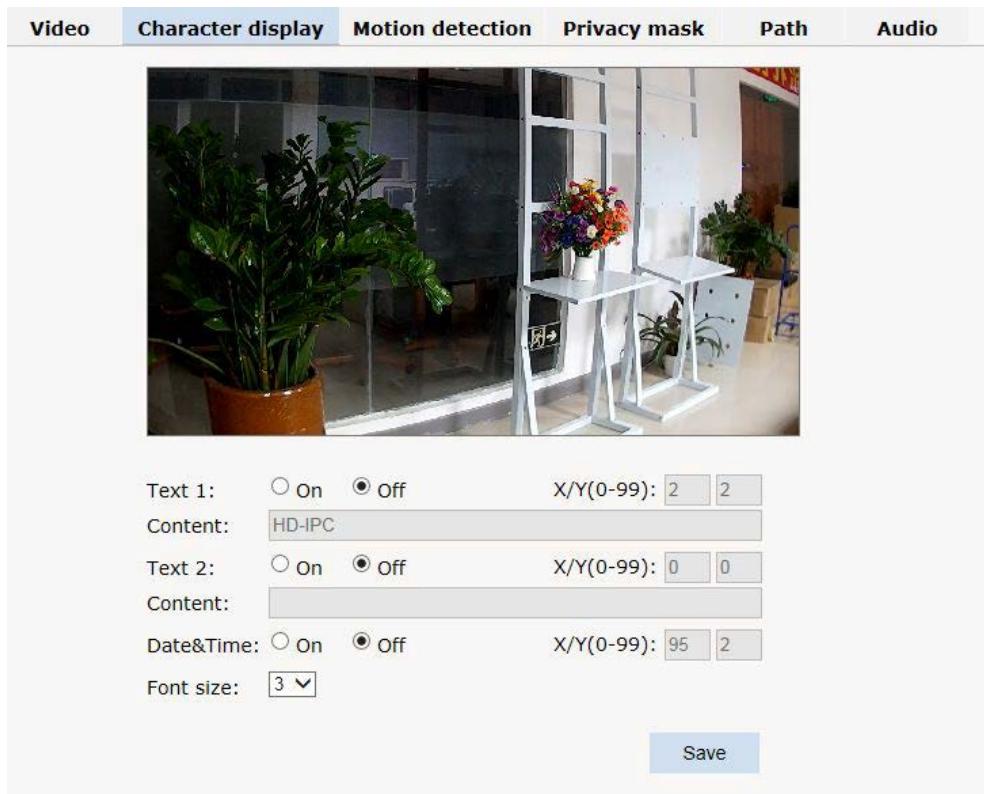


Figure 4-21 Character display

Character display settings include: Text character and Date &Time character. The camera supports two character text: Text 1, Text 2. You can switch which text on if you need .Only if Text 1, Text 2 and Date & Time character are set to “On”, you can set the text content and the display position of text and date.

Context: Enter the text content in the box of Context, which allows up to 40 characters (lower/upper case letters and 0~9).

X-axis &Y-axis: The title axis location. Both X-axis and Y-axis can be any of whole numbers

from 0 to 99.

Font Size: Set the font size to be displayed. The bigger the value is, the larger the font size is.

Default as: 3.

After all settings finished, click “**Save**” button to display character on the video. To cancel character display, set it to “**Off**” and then click the button “**Save**”.

4.4.3 Privacy Mask

IP camera supports 4 privacy masks. If there is certain location within the surveillance area where operators are not allowed to see, and thus, Privacy Mask can be applied. System covers and shields the sensitive area via Privacy Mask setting, to avoid operators observing certain sensitive locations on monitor.

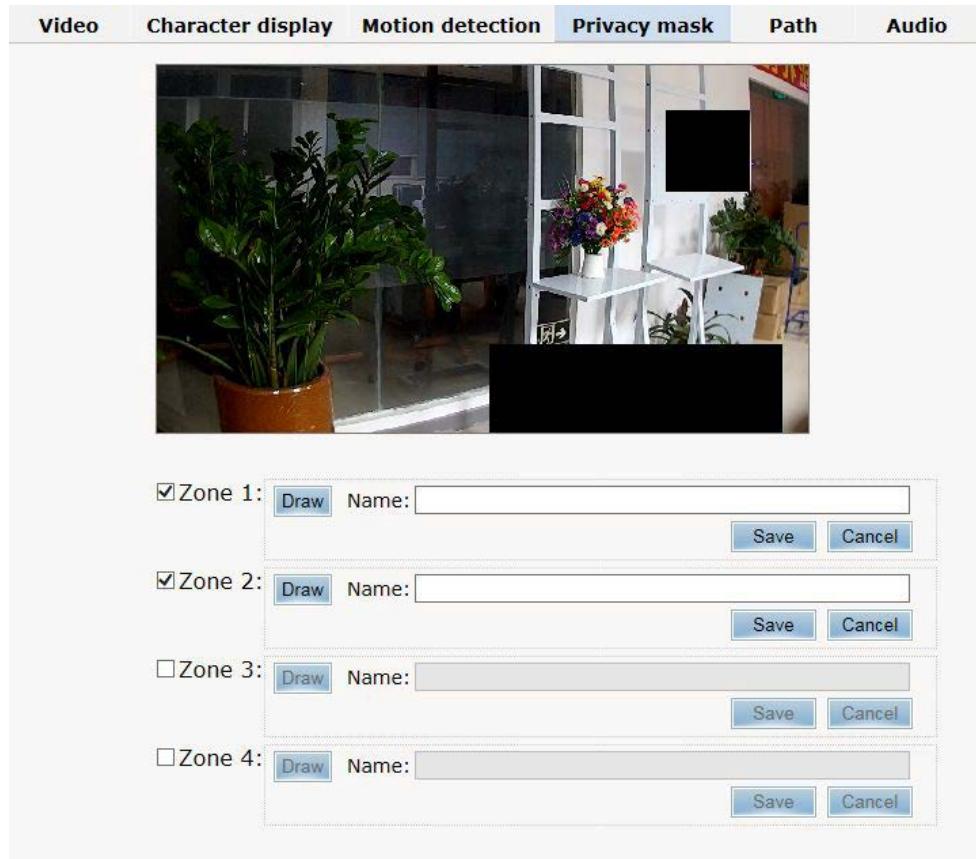


Figure 4-22 Privacy Mask Settings

How to set the privacy masks:

Tick the box of motion detection area number. Click the button “**Draw**” with the mouse, press the left mouse button and drag on the video till a blue frame displays on the screen. Then, click the button “**Save**” with the left mouse button and the blue frame changes into black which indicates a successful setting. To cancel a privacy mask, just cancel the box ticking.

4.4.4 Motion Detection

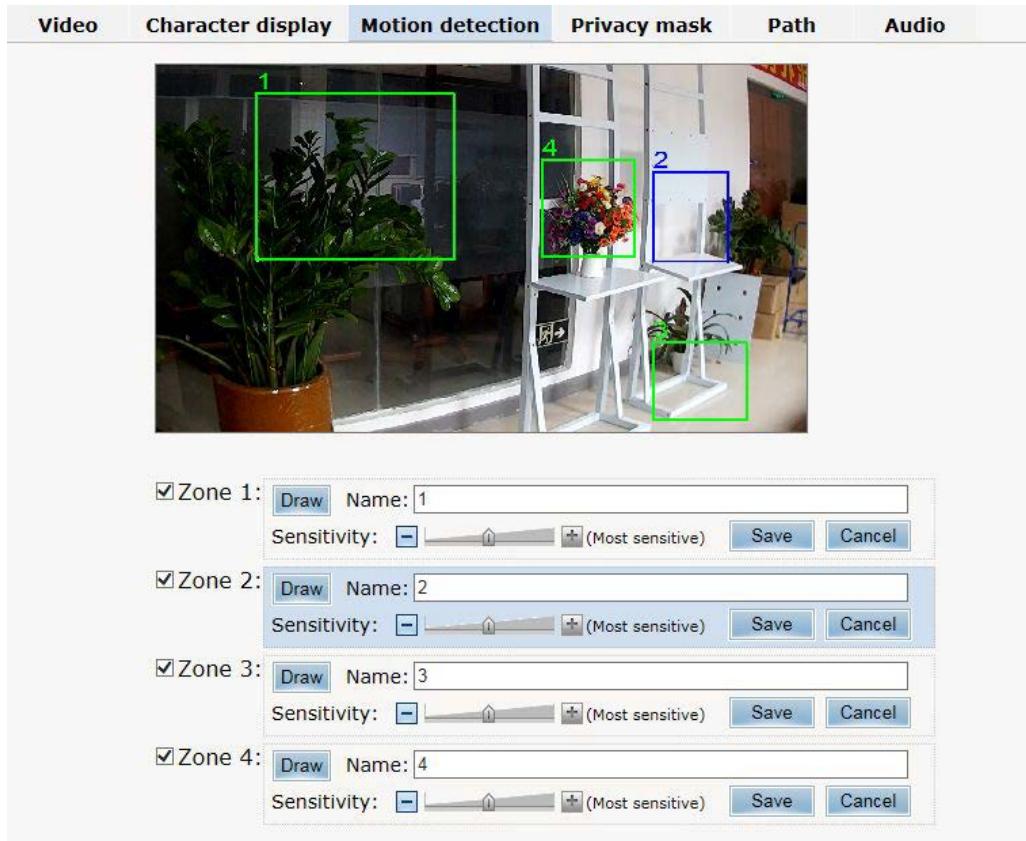


Figure 4-23 Motion Detection Settings

IP camera support motion detection. Users can easily set the motion detection areas (up to 4) with the mouse.

Tick the box of Zone number to be set. If the motion detection area has been set, a blue frame will be displayed on the screen.

How to set the motion detection area:

Tick the box of motion detection area number. Click the button “Draw” with the mouse, press the left mouse button and drag on the video till a blue frame displays on the screen. Then, click the button “Save” with the left mouse button and the blue frame changes into green which indicates a successful setting.

Besides, you can set the area name and sensitivity. To cancel a motion detection area, just cancel the box ticking.

4.4.5 Path

You can set the photo saving path and recording saving path in the following interface.

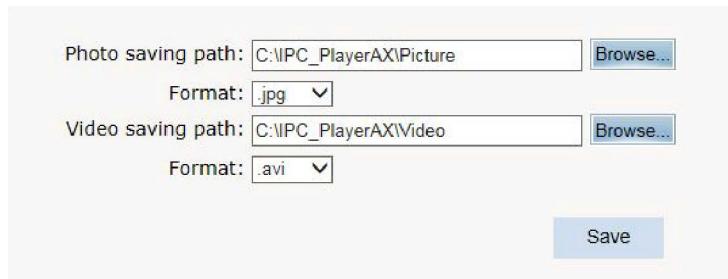


Figure 4-24 Storage Path

Default photo saving path: **C:\IPC_AX\Picture**.

Default video saving path: **C:\IPC_AX\Picture**.

Photo and video formats can also be set. The default photo format is .jpg and the default video format is .avi.

To change the saving path, click the button “Browse” and select the path from the popup dialog box.

4.4.6 Audio Settings

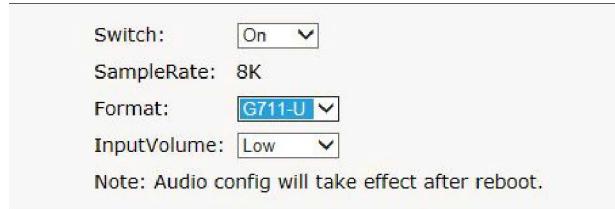


Figure 4-25 Audio Settings

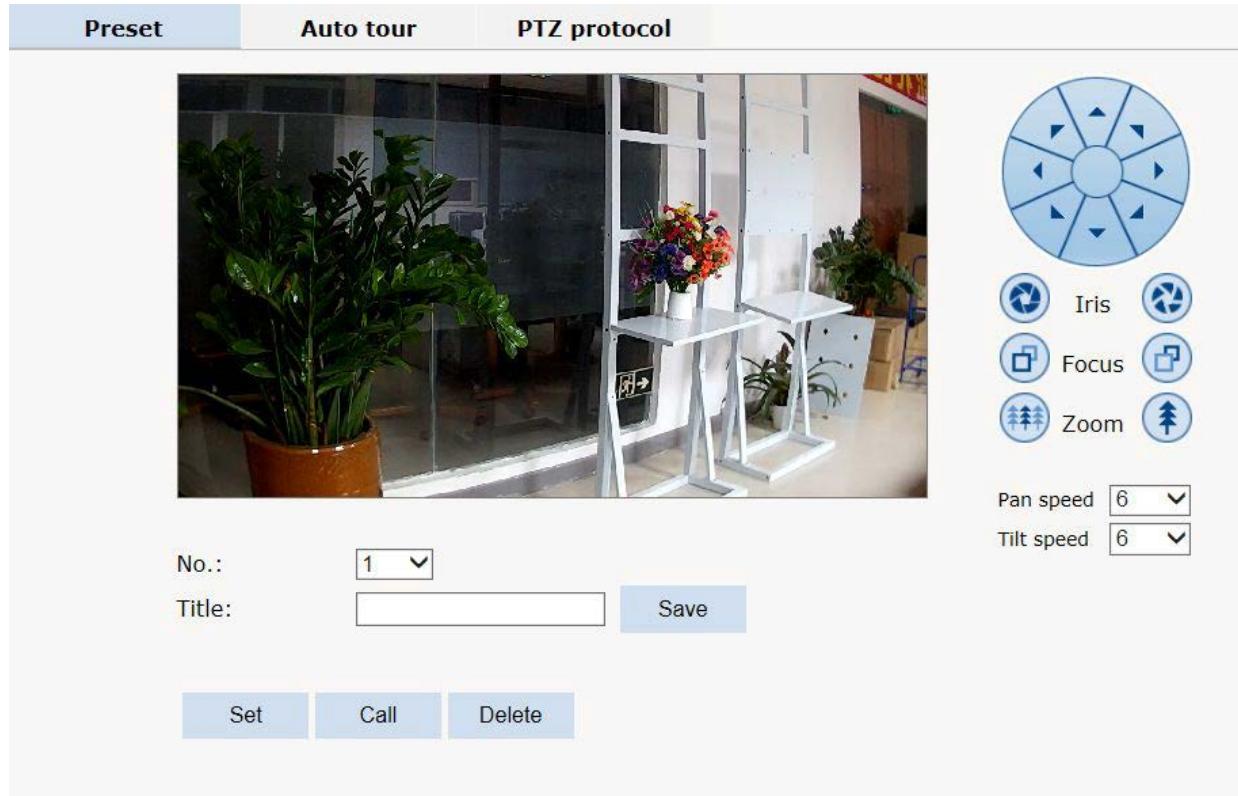
Switch: Set to “On” to enable audio, Set to “Off” to disable audio.

Sample Rate: 8K.

Format: G711-U,G711-A,PCM can be set according to the demand.

Input Volume: Input Volume is means the minimum sampling level of input audio and output audio volume, Options: Low, Middle, High. The higher the input volume is, the higher volume it will occupy.

4.5 PTZ Functions



When the camera is working with Pan/Tilt, you can set camera address, baud rate and protocol in the interface. You can also set preset, autopan, and etc.

4.6 Alarm Settings

Click “Alarm” in the navigation bar to display the following Alarm Settings interface:

Alarm configuration						
I/O Input 1:	<input type="button" value="Grounded circuit"/> <input type="button" value="Open circuit"/>					
Alarm out contact:	<input type="button" value="Local contact"/> <input type="button" value="Network contact"/>					
Alarm server 1 IP:	0.0.0.0					
Alarm server 2 IP:	0.0.0.0					
Alarm server 3 IP:	0.0.0.0					
<input type="button" value="Save"/>						
Alarm out relate						
	I/O out 1	Mail	SD card	FTP	TCP	Select all
I/O Input 1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Motion area 1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Motion area 2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Motion area 3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Motion area 4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="button" value="Save"/>						
Alarm schedule						
	Start time		End time			
<input type="checkbox"/> Sun.	00	:	00	23	:	59
<input type="checkbox"/> Mon.	00	:	00	23	:	59
<input type="checkbox"/> Tue.	00	:	00	23	:	59
<input type="checkbox"/> Wed.	00	:	00	23	:	59
<input type="checkbox"/> Thu.	00	:	00	23	:	59
<input type="checkbox"/> Fri.	00	:	00	23	:	59
<input type="checkbox"/> Sat.	00	:	00	23	:	59
<input type="checkbox"/> Everyday	00	:	00	23	:	59
<input type="button" value="Save"/>						

Figure 4-27 Alarm Settings

Alarm Configuration

I/O Input 1: Settable 1-channel alarm inputs.

Each alarm input has 2 modes: Grounded Circuit or Open Circuit.

Alarm out Contact: used to set sending way of alarm.

Local Contact: I/O out1 is triggered by I/O alarm in, motion detection alarm.

Default: Local Contact.

Net Contact: I/O out is controlled by the surveillance management software.

Note: This function needs to be supported by digital video surveillance management software like HCMS. If Net Contact is selected, users have to set Alarm Server IP the same as the IP address of HCMS server. After related setting to HCMS finished, users can remotely control the relay via HCMS software. For detailed information, please refer to HCMS manual.

Alarm Server IP: used to set the IP address of alarm server. If alarm occurs, it will inform the alarm server.

Alarm out Relate

Users can set the relevant alarm response ways for I/O alarm in, motion detection alarm, Alarm output 1 (if Net Contact is selected, Alarm output 1 on the web page is unavailable), SD card, Mail, FTP or Audio. After setting completed, click “Save” button to take effect.

Note: when “FTP” or “Mail” is selected, you need to set FTP or SMTP parameters in Network Settings, refer to Section 4.3.2 or Section 4.3.3 for details.

Alarm Schedule

IP camera can set the effective alarm schedule. Select the alarm period (if Sunday is selected,

alarm will be enabled during the set period of each Sunday; if everyday is selected, alarm will be enabled during the set period of everyday), and then, set the time period. Enter the start time and end time in the 24-hour format. The end time must be larger than the start time.

4.7 Record Management

IP cameras support storage with SD card. In the Record Management interface, you can set the recording parameters, replay and download the recorded videos.

4.7.1 Record Settings

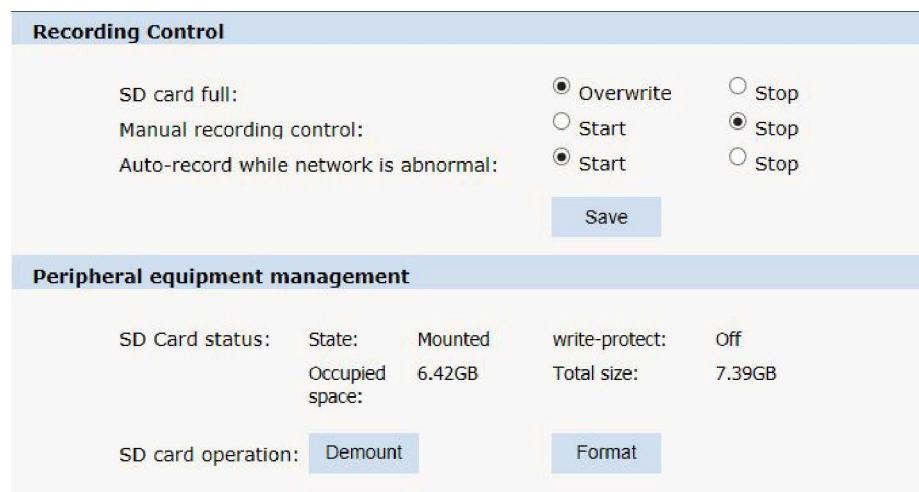


Figure 4-28 Record Settings

SD card when full: Overwrite or Stop. Overwrite means newly recorded videos automatically overwrite the previous videos when the SD card is full; Stop means recording stops when the SD card is full.

Manual recording control: If Start is selected, recording is automatically start, and select stop to stop. You can view the total size, used space and state of SD card and also format it. To remove SD Card when it is being used, please click “**Demount**”.

4.7.2 Replay

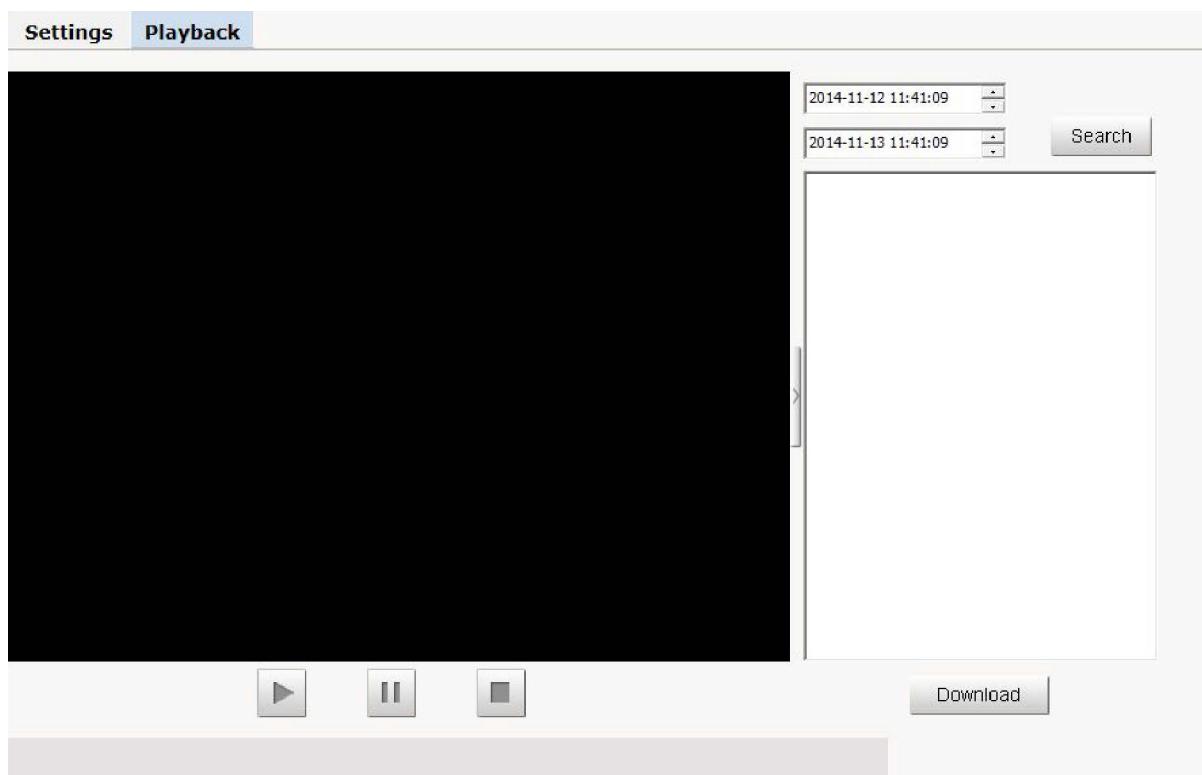


Figure 4-29 Replay

Video Search: set the start and end time, and then click the search button. All videos recorded during this period of time will display in the list.

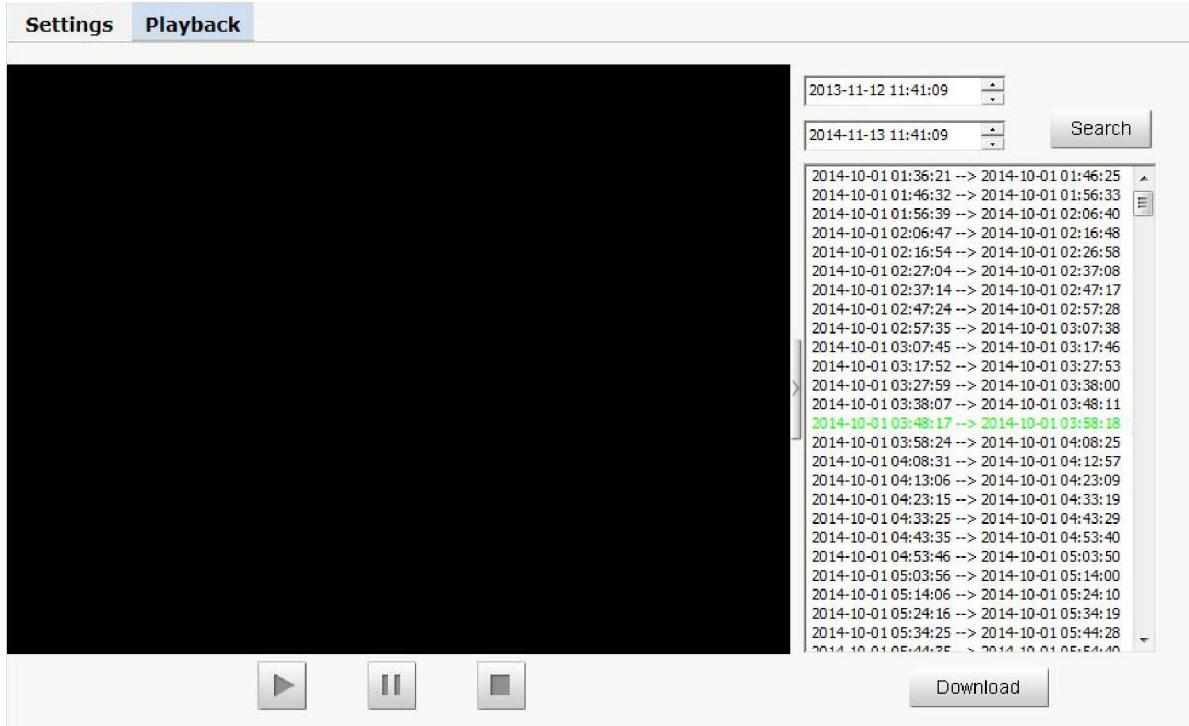


figure 4-30 Searching Videos

Replay: to replay a video, double click a file in the list with the mouse or select a file and then press the “Play” button . During playing, click or to pause or stop playing.

Download: You can download the videos stored in the SD card to your PC. Select the file from the video list (also you can select multiple files simultaneously using the key “Ctrl” or “Shift”), and then click the button “Download” to enter the downloading interface.

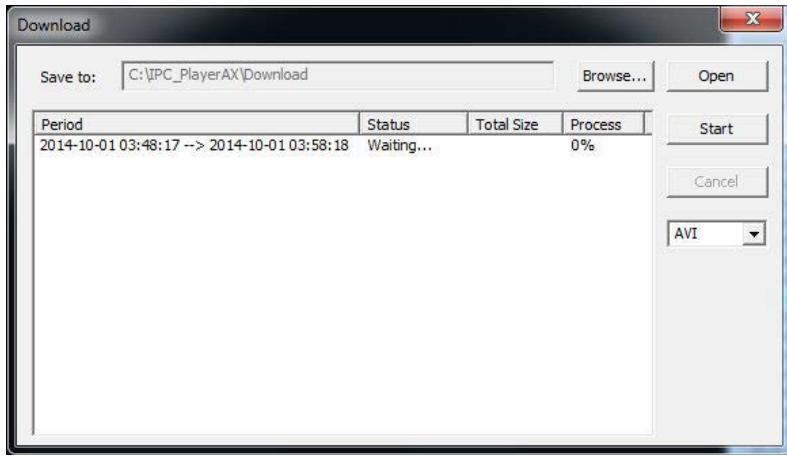


Figure 4-31 Downloading Videos

Save to: Set the path to save the downloaded files. If resetting required, click the button “**Browse**”. AVI/H.264 drop-down list box: select the downloaded file attribute. In the download list, file total size, status and process will display. Click the button “**Start**”, and then the files in the list will be downloaded in order. The process shows 100% after downloading is finished. Click the button “**Open**” to enter download content.

4.8 User Management

The default super user is admin (password: admin). Super user can add, delete common user, and change the password of common users. Super user cannot change his own password. A maximum of 7 common users are supported. Detailed instruction about how to add and delete user are addressed below.

Click the Account option tab in the Settings interface, the following account information will display. The “Num” item shows the current user number. In “Property” column, stands for super user stands for common user. In “Operation” column , means to delete; means to edit user information.

See figure below:

Account Settings			
Num	User name	Property	Operation
1	admin		

Figure 4-32 Account Settings

1. Add Users

(1) Click “”, enter the interface of “Add a User”.



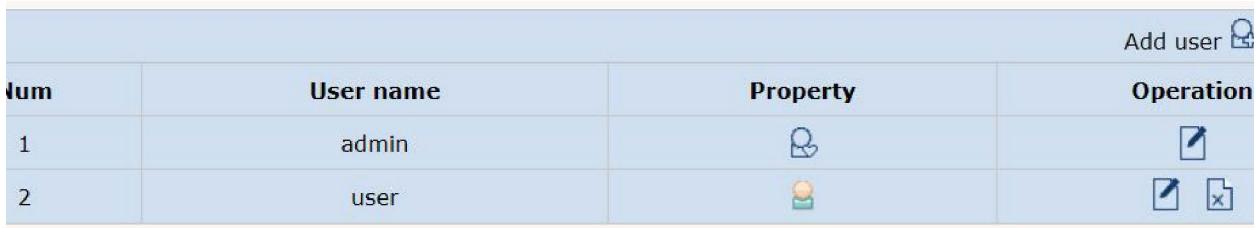
The dialog box for adding a user has three input fields: "User name:", "Password:", and "Password confirm:". Below the fields are two buttons: "OK" and "Cancel".

Figure 4-33 Add a User

(2) Enter the desired User Name and Password (Note: User name and password shall include letter, number and underline only. No special character is allowed. The string length of user name is legal between 1 and 30 characters and that of password is between 8 and 20 characters.)

(3) Click “OK” button. If the setting is successful, the new user name will appear in the account

list. Take new user “user” as an example:



The screenshot shows a user management interface with a table. The columns are labeled "Num", "User name", "Property", and "Operation". There are two rows. Row 1 contains "1" in "Num", "admin" in "User name", a user icon in "Property", and edit/cancel icons in "Operation". Row 2 contains "2" in "Num", "user" in "User name", a user icon in "Property", and edit/delete icons in "Operation". A "Add user" button is located at the top right of the table.

Num	User name	Property	Operation
1	admin		
2	user		

Figure 4-34

2. Delete Users

In the “Account setting” interface, click  button of the “Operation” item to delete user.

The following dialog box will display:

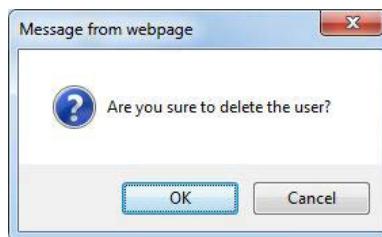


Figure 4-35

Click “OK” button, the selected user would be deleted and the account list would be automatically updated.

3. User Password Change

Click  button in the account list, the dialog box of Edit User Information will pop up:

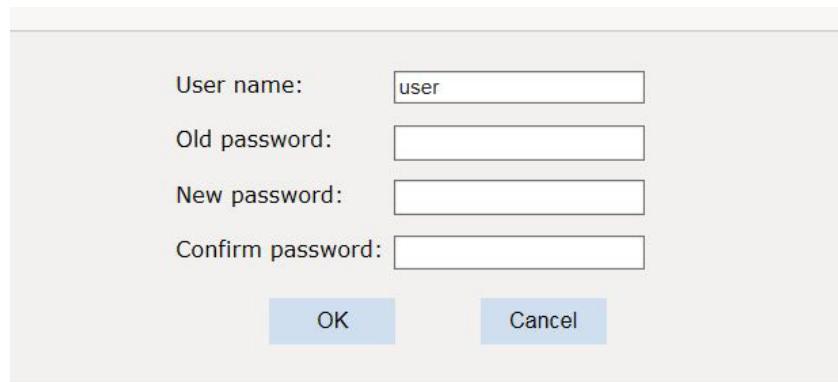


Figure 4-36

Input the old password, enter the desired new password for twice and then click “OK” button, the following picture will appear:



Figure 4-37

4.9 System Log

Click the “Log” option tab, the date, time and log information will appear on the right of the screen.

Date	Time	Log
2014 - 11 - 13	09 : 28 : 59	last message repeated 3 times
2014 - 11 - 13	09 : 28 : 28	app: Get a motion alarm.
2014 - 11 - 13	09 : 27 : 43	app: Get a motion alarm.
2014 - 11 - 13	09 : 27 : 35	app: change IP to 192.168.1.18
2014 - 11 - 13	08 : 53 : 13	last message repeated 3 times
2014 - 11 - 13	08 : 52 : 48	app: Get a motion alarm.
2014 - 11 - 13	08 : 47 : 44	app: Get a motion alarm.
2014 - 11 - 13	08 : 46 : 32	app: Get a motion alarm.
2014 - 11 - 13	08 : 45 : 37	last message repeated 4 times

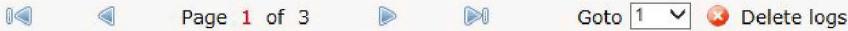
 Page 1 of 3 Goto Delete logs

Figure 4-38

It can display 30 logs on a page. The user can turn over the pages or skip to the desired page by clicking the below arrows. Click “Delete logs”, a prompt will come out. Then, click “Yes” to clear logs.

CHAPTER 5

ADDITIONAL INFORMATION AND SUPPORT

5.1 Troubleshooting

1. Camera Cannot Be Accessed Remotely

- Ensure the camera is properly connected to the network.
- Check if the firewall or security software is blocking the connection.
- Verify DDNS settings if using a dynamic IP address.
- Make sure port forwarding is set correctly on the router.

2. Camera Keeps Disconnecting From the Network

- Check the stability of your internet connection.
- Ensure the router firmware is updated.
- Reduce network congestion by limiting the number of connected devices.
- Restart both the router and the camera.

3. No Audio Output

- Check whether audio input/output is enabled in the settings.
- Increase the microphone and speaker volume.
- Ensure that the audio format is supported (e.g., G.711-U).
- Use a different browser or try refreshing the page.

4. Camera Not Responding to PTZ Controls

- Verify if the camera model supports PTZ functions.
- Check the PTZ protocol settings in the camera interface.
- Ensure that zoom and focus controls are properly configured.
- Restart the camera to reset PTZ operations.

5. Recorded Footage Missing or Corrupted

- Ensure that the SD card is mounted and has available storage.
- Try formatting the SD card if experiencing storage issues.
- Verify the recording schedule and settings.
- Avoid removing the SD card while recording is in progress.

6. Poor Night Vision Performance

- Confirm that the IR-cut filter is functioning correctly.
- Ensure night mode is enabled in settings.
- Clean the lens to remove any dust or smudges.
- Check for external light interference affecting infrared performance

7. Network Configuration Issues

- If using DHCP, ensure the router assigns an IP address dynamically.
- If using a static IP, confirm that the subnet mask and gateway match the network settings.
- Ensure port forwarding is correctly configured for remote access.
- Verify that firewall settings are not blocking camera access.

8. Camera Not Streaming Over Mobile App or CMS Software

- Check if the camera supports ONVIF and is properly configured in the app.
- Ensure that the correct video ports are open (default: 90).
- Confirm PPCN settings are enabled for remote viewing.
- Try resetting the app's login credentials and re-adding the camera.

9. RTSP Stream Not Working

- Verify the RTSP port is correctly set (default: 554).
- Ensure the RTSP stream URL is correct: rtsp://[IP Address]:554/stream1.
- Check for compatibility with third-party video players like VLC.
- Restart the camera and router if connectivity issues persist.

10. Alarm Notifications Not Sending to Email or FTP

- Confirm SMTP settings (mail server, authentication, recipient).
- Ensure the FTP server address and login credentials are correct.
- Adjust alarm sensitivity and duration settings.

- Test the email and FTP functions separately before enabling alarms.

11.Image Distortion or Artifacts in Video Feed

- Check if excessive bitrate is causing network congestion.
- Lower the frame rate or resolution settings to reduce bandwidth usage.
- Ensure no strong direct light sources interfere with the sensor.
- Clean the lens and verify the camera firmware is up-to-date.

12.IP Camera Time & Date Incorrect

- Enable NTP synchronization for automatic time updates.
- Set the correct time zone in system settings.
- Manually adjust the time if NTP server sync fails.
- Restart the camera after applying time settings.

5.2 Appendices

Hardware Specifications

- Image Sensor:1/3" progressive scan CMOS (1.3 MP) or 1/2.8" CMOS (2 MP)
- Lens: Fixed or variable focal length (varies by model)
- Infrared (IR) Cut Filter: IR-Cut Removable (ICR) for day/night switching
- Video Compression: H.264 High Profile, M-JPEG
- Audio Compression:G.711-U, G.711-A, PCM
- Audio Support:Bi-directional audio
- Digital Zoom:Supported
- Wide Dynamic Range (WDR):Digital WDR support
- Noise Reduction: 3D digital noise reduction
- PTZ Control:Supports pan, tilt, and zoom (if PTZ model)

- Motion Detection: 4 configurable detection zones
- Privacy Masking: Up to 4 configurable zones
- Storage: SD card slot available for local recording
- Alarm Inputs/Outputs: I/O ports for external alarm devices

Video & Imaging

- Resolution Options: $1920 \times 1080 @ 30 \text{ fps}$; $1280 \times 720 @ 30 \text{ fps}$
- Frame Rate: Max 30 fps (H.264), 3 fps (MJPEG)
- Bitrate Options: 256 Kbps – 10 Mbps (H.264 major stream), 32 Kbps – 2 Mbps (H.264 minor stream)
- Video Modes: Stream Type: Major Stream, Minor Stream, MJPEG ; Color Modes: Fresh, Standard, Cold
- Image Adjustments: Brightness, Sharpness, Contrast, Saturation, Hue

Network & Connectivity

- Ethernet Port: 10/100M Ethernet
- Network Protocols Supported: ONVIF, FTP, SMTP, QOS, IGMP, DDNS, PPCN
- RTSP Stream Support: ** Available on port '554'
- HTTP Web Access: Default port '80'
- IP Address Options: Static or DHCP
- Remote Viewing: Web viewer, iOS, Android, PC CMS software

Environmental & Power

- Power Supply: DC 12V / 1A
- Operating Temperature: -10°C to 50°C
- Humidity Range: 10%–90% (non-condensing)

- Storage Conditions: Avoid extreme temperatures, moisture, and magnetic interference

Default Login Credentials

- - Default IP Address: 192.168.1.18
- - Subnet Mask: 255.255.255.0
- - Gateway: 192.168.1.1
- - Default Username: admin
- - Default Password: admin

5.3 Glossary

- **ActiveX Control** – A plugin required for viewing live video in Internet Explorer.
- **Bitrate** – The amount of data processed per second in video transmission.
- **Frame Rate (FPS)** – The number of images displayed per second in a video stream.
- **IP Address** – A unique numerical label assigned to the IP Camera for network identification.
- **Motion Detection** – A feature that triggers alerts when movement is detected.
- **ONVIF** – A standard protocol that allows interoperability between different IP cameras and video management software.
- **PTZ (Pan-Tilt-Zoom)** – Camera controls that allow movement and zooming of the image.
- **Subnet Mask** – A setting that defines the network portion of an IP address.
- **WDR (Wide Dynamic Range)** – A feature that improves visibility in high-contrast lighting conditions.
- **Bandwidth** – The amount of data that can be transmitted over a network in a given time, usually measured in Mbps.
- **Bit Rate** – The speed at which video or audio data is processed or transmitted, measured in Kbps or Mbps.
- **DHCP (Dynamic Host Configuration Protocol)** – A network protocol that automatically assigns IP addresses to devices on a network.

- **DVR (Digital Video Recorder)** – A device or software used to record and store video footage digitally.
- **Firewall** – A network security system that monitors and controls incoming and outgoing network traffic based on predetermined security rules.
- **Frame Rate** – The number of individual images displayed per second in a video stream, measured in FPS (Frames Per Second).
- **Latency** – The delay between the transmission and reception of data, usually measured in milliseconds.
- **MAC Address** – A unique identifier assigned to a device's network interface, used for network communication.
- **MJPEG (Motion JPEG)** – A video compression format that compresses each frame as a separate JPEG image, used in surveillance cameras.
- **ONVIF (Open Network Video Interface Forum)** – A standardized protocol that ensures interoperability between different IP cameras and video management software.
- **PoE (Power over Ethernet)** – A technology that allows network cables to deliver both power and data to devices like IP cameras.
- **Port Forwarding** – A network setup that allows external devices to access specific services within a private network, often used for remote camera viewing.
- **PTZ (Pan-Tilt-Zoom)** – A camera function that allows movement and zoom control remotely.
- **QoS (Quality of Service)** – A network technology that prioritizes data traffic to ensure stable and high-quality performance for video streams.
- **RTSP (Real-Time Streaming Protocol)** – A protocol used to stream audio and video over the internet, commonly used for IP camera live feeds.
- **Subnet Mask** – A setting that helps define the network portion of an IP address, used for proper communication between devices.
- **Video Compression** – The process of reducing video file sizes while maintaining quality, commonly achieved using formats like H.264 or H.265.

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