

CAM5xxx Series

User Manual

Release 1.0



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Revision History

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Safety Precautions



Electric Shock Warning

This equipment may cause electric shocks if not handled properly.

- Access to this equipment should only be granted to trained operators and maintenance personnel who have been instructed of, and fully understand the possible hazardous conditions and the consequences of accessing non-field-serviceable units such as the power supplies.
- The system must be unplugged before moving, or in the event that it becomes damaged.



Reliable Grounding

Particular attention should be given to prepare reliable grounding for the power supply connection. It is suggested to use a direct connection to the branch circuit. Check for proper grounding before powering on the device.



Overloading Protection

The device should be installed according to specifications. Provide a suitable power source with electrical overload protection. Do not overload the AC supply branch circuit that provides power to the device.



ESD Precautions

Please observe all conventional anti-ESD methods while handling the device. The use of a grounded wrist strap and an anti-static work pad are recommended. Avoid dust and debris in your work area.

Device Installation/Site Selection

The device should be installed according to specifications. This device should be operated at a site that is:

- Clean, dry, and free of excessive airborne particles.
- Well-ventilated and away from heat sources such as direct sunlight and radiators.
- Clear of vibration or physical shock.
- Away from strong electromagnetic fields produced by other devices.
- Available with properly grounded wall outlet for power. In regions where power sources are unstable, apply surge suppression.
- Available with sufficient space behind the device for cabling.

Never install or use, unless waterproof or dust-resistant is listed as a feature, the device in the following locations:

- Areas where chemicals are used.
- Areas where dust, debris, or pollen is in excess.
- Areas where corrosive gas, sea water or high humidity is present.
- Areas where steam vapor or flammable environments is generated.
- Areas where radiation, X-rays, strong electric waves, or magnetism is generated.
- Areas outside of the allowable ambient operating temperature range.
- Areas subject to impact or rigorous vibration.

Chapter 1. Product Overview

1.1. Network Camera Introduction

CAM5XXX series are professional network cameras that use Internet Protocol (IP) to transmit video streams and control signals over networks. Capable of operating over both LANs and WANs, they provide a complete budget-conscious remote surveillance solution that are ultra clear and highly integrated. CAM5XXX series combine a user-friendly interface and simplified installation with a powerful feature set to provide users an easy upgrade path to new digital surveillance system in a virtual environment. These highlights make CAM5XXX series ideal choices for environments that require remote surveillance or video transmission.

1.2. Features and Benefits

CAM5XXX series IP camera is a cutting-edge digital video transmission device. It can compress and transmit real-time images of outstanding quality using a reasonable amount of bandwidth through a standard TCP/IP network. The following features make this IP camera an outstanding choice when building an intelligent IP surveillance system:

- **High Video Quality**

High image quality is essential in security surveillance applications. It is important to be able to clearly capture an incident in progress and identify persons or objects involved. A network camera gives exceptional video quality, even greater than that of traditional analog cameras, which means that more detail or larger areas can be covered.

- **H.264/MPEG-4/MJPEG Compression**

Motion JPEG, MPEG-4, and H.264 (also known as MPEG-4 Part 10/AVC), each employ different techniques to reduce the amount of data transferred and stored in a network video system. Network cameras that support multiple compression standards are ideal for maximum flexibility and integration possibilities.

- **Dual Streaming**

Dual-stream design enables simultaneous support of real-time video monitoring, video recording, or mobile viewing applications which require different resolutions, compression formats and frame rates.

- **Tampering Detection**

This is an intelligent video analytics application available only in selected network cameras in the market. When a camera is manipulated in any way (e.g. accidental redirection, blocking, defocusing, spray-painted, covered or damaged), it can automatically trigger recording and alert notifications.

- Power-over-Ethernet

The built-in Power-over-Ethernet support reduces cabling and installation costs, and enables users to consolidate power facilities for higher reliability. With PoE, a camera can still operate in the event of a power failure if it is connected to a centralized backup power with an Uninterruptible Power Supply.

1.3. Technical Specifications

Model List for CAM5XXX Series

CAM5XXX Series	
CAM5330SZ	CAM5321S4
	
2 Megapixel 10x Zoom PTZ Dome Network Camera	2 Megapixel Day&Night PT Dome Network Camera

Specifications for CAM5XXX Series

Specifications	Model Name	CAM5330SZ	CAM5321S4
General	Description	2 Megapixel 10x Zoom IP PTZ Dome	2 Megapixel Day&Night PT Dome Network Camera
	Image Sensor	1/2.7" 2 megapixel progressive scan CMOS	1/2.7" 2 megapixel progressive scan CMOS
	Lens	f4.9~ 49mm autofocus lens, F1.8~3.0	f4.0 mm, F2.0
	SNR	48dB	48dB
	WDR	Yes	Yes
	Day/Night ICR	N/A	Yes
	IR LED	N/A	Yes (10M)
	Min Illumination	0.1 Lux @ F2.0 (B/W) 0.5 Lux @ F2.0 (Color)	0.1 Lux @ F2.0 (B/W) 0.5 Lux @ F2.0 (Color)
	Iris Control	DC Drive	Fixed
	Shutter Time	1/30 ~ 1/50,000 s	1/30 ~ 1/50,000 s
	Viewing Angle	Diagonal: 66.6° ~ 7.2°	Diagonal: 62°
	Camera Angle Adjustment	Pan : 390°(-195°~195°)±1°, Pan speed : 1~200°/Sec Tilt : 95°(-5°~ 90°)±1°, Tilt speed : 1~120°/Sec	Pan : 200° Tilt : 70°
	Pan/Tilt/Zoom Functionalities	10x optical zoom , 4x digital zoom (Smart focus / Auto focus / Step focus), Support auto tracking function, Support multi - direction movement	Support auto tracking function, Support multi - direction movement
Video	Video Compression	H.264/MPEG-4/MJPEG	H.264/MPEG-4/MJPEG

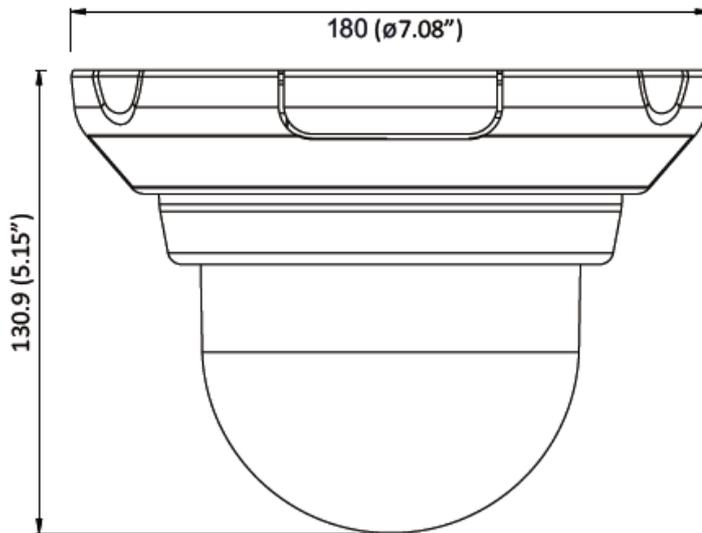
	Resolution	Up to 1920 x 1080	Up to 1920 x 1080
	Frame Rate	30 fps at 1080P (1920 x 1080) 30 fps at SXGA (1280 x 1024) 30 fps at WXGA (1280 x 800) 30 fps at VGA (640 x 480) 30 fps at QVGA (320 x 240)	30 fps at 1080P (1920 x 1080) 30 fps at SXGA (1280 x 1024) 30 fps at WXGA (1280 x 800) 30 fps at VGA (640 x 480) 30 fps at QVGA (320 x 240)
	Video Stream	Dual stream at H.264 and MJPEG simultaneously	Dual stream at H.264 and MJPEG simultaneously
	Bit Rate	64K ~ 10Mbps, VBR, CBR, controller frame rate and quality	64K ~ 10Mbps, VBR, CBR, controller frame rate and quality
	Video Control	AGC (Auto Gain Control), AWB (Auto White Balance), AES (Auto Electronic Shutter), WDR, 3D De-noise, ROI, image adjustment	AGC (Auto Gain Control), AWB (Auto White Balance), AES (Auto Electronic Shutter), WDR, 3D De-noise, ROI, image adjustment
	Intelligent Video	Motion detection	Motion detection
	Video Jack	Video out x1	N/A
Audio	Built-in MIC	N/A	Yes
	Audio Compression	G.711/AMR/AAC	G.711/AMR/AAC
	Audio Input	3.5mm phone jack	N/A
	Audio Output	3.5mm phone jack	N/A
I/O and Event Management	Alarm In	1, terminal block	N/A
	Alarm Out	1, terminal block	N/A
	Video Buffer	N/A	N/A
	Event Action	Send snapshot or video clip by email, record to local storage	Send snapshot or video clip by email, record to local storage
Network	Supported Protocols	TCP/IP, HTTP, SMTP, FTP, DDNS, UPnP, Telnet, NTP, PPPoE, DNS, DHCP, RTSP, Samba	TCP/IP, HTTP, SMTP, FTP, DDNS, UPnP, Telnet, NTP, PPPoE, DNS, DHCP, RTSP, Samba

	Ethernet	10/100 Base-T / RJ45	10/100 Base-T / RJ45
System	Local Storage	SD Card slot x 1	SD Card slot x 1
	RS-485	N/A	N/A
	USB	USB 2.0 x 1	USB 2.0 x 1
	SDK	Surveon SDK 2.0	Surveon SDK 2.0
Viewing System	OS	Microsoft Windows XP/Vista/Win7/Win8	Microsoft Windows XP/Vista/Win7/Win8
	Browser	IE 6.x or above, Firefox, Chrome, Safari	IE 6.x or above, Firefox, Chrome, Safari
	Software	Surveon VMS 2.6	Surveon VMS 2.6
General	Temperature	Operation: 0°C~ 40°C (32°F~104°F)	Operation: 0°C~ 40°C (32°F~104°F)
	Humidity	85% RH	85% RH
	Power	12VDC 1.5A ; PoE (IEEE 802.3af) with Class 3	12VDC 1.5A ; PoE (IEEE 802.3af) with Class 3
	Power Consumption	Max. 10W	Max. 8W
	Dimension	Height : 128mm, Diameter : 130mm	Height : 63mm, Diameter : 92mm
	Weight	NET. 960g	NET. 400g
	Certification	EMI & Safety: CE, FCC	EMI & Safety: CE, FCC

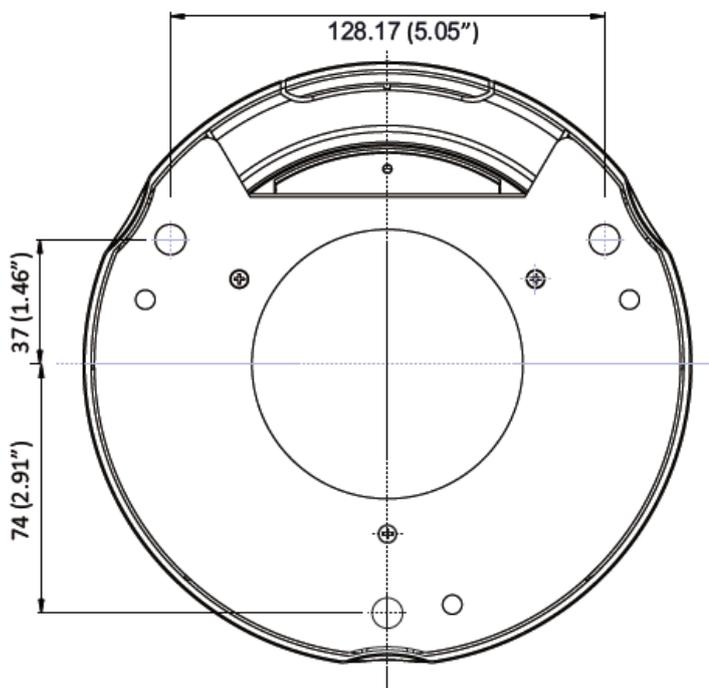
Chapter 2. Hardware Overview

2.1. Overview

Side View for CAM5330SZ



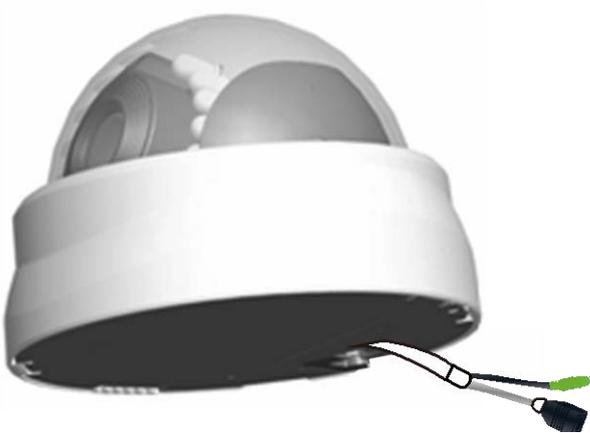
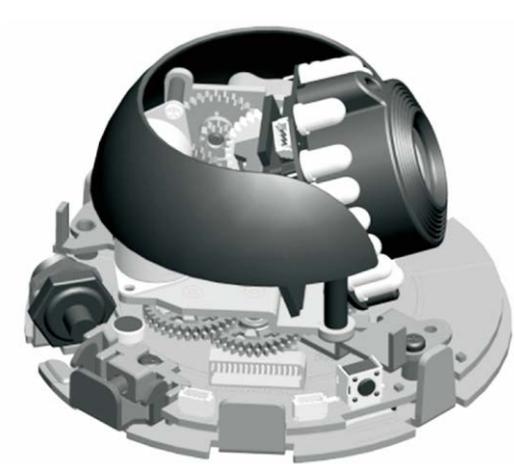
Bottom View for CAM5330SZ



Rear View for CAM5330SZ



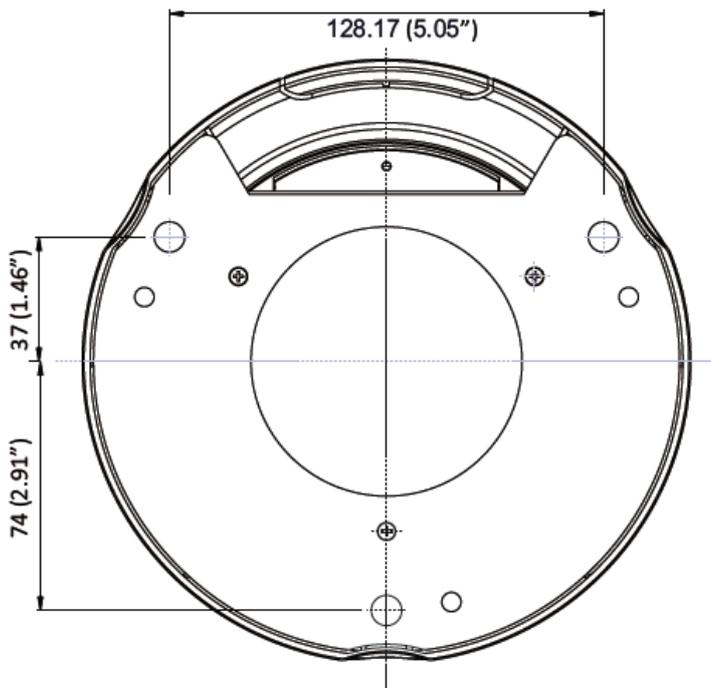
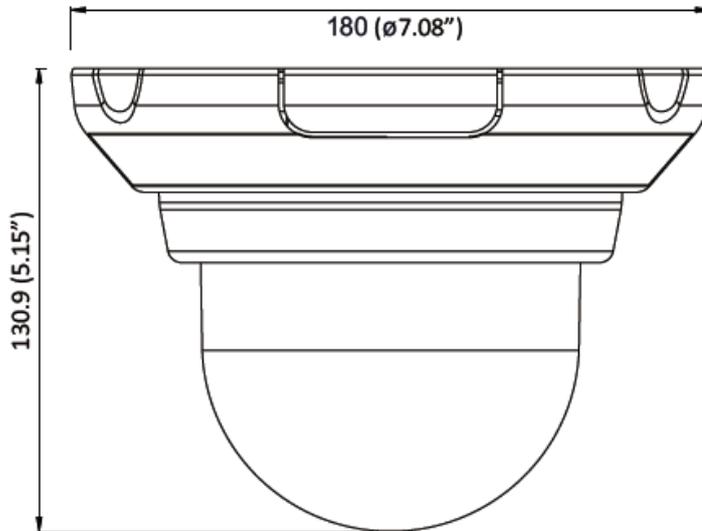
Rear View for CAM5321S4



Dimensions

CAM5330SZ

Unit: mm (inches)



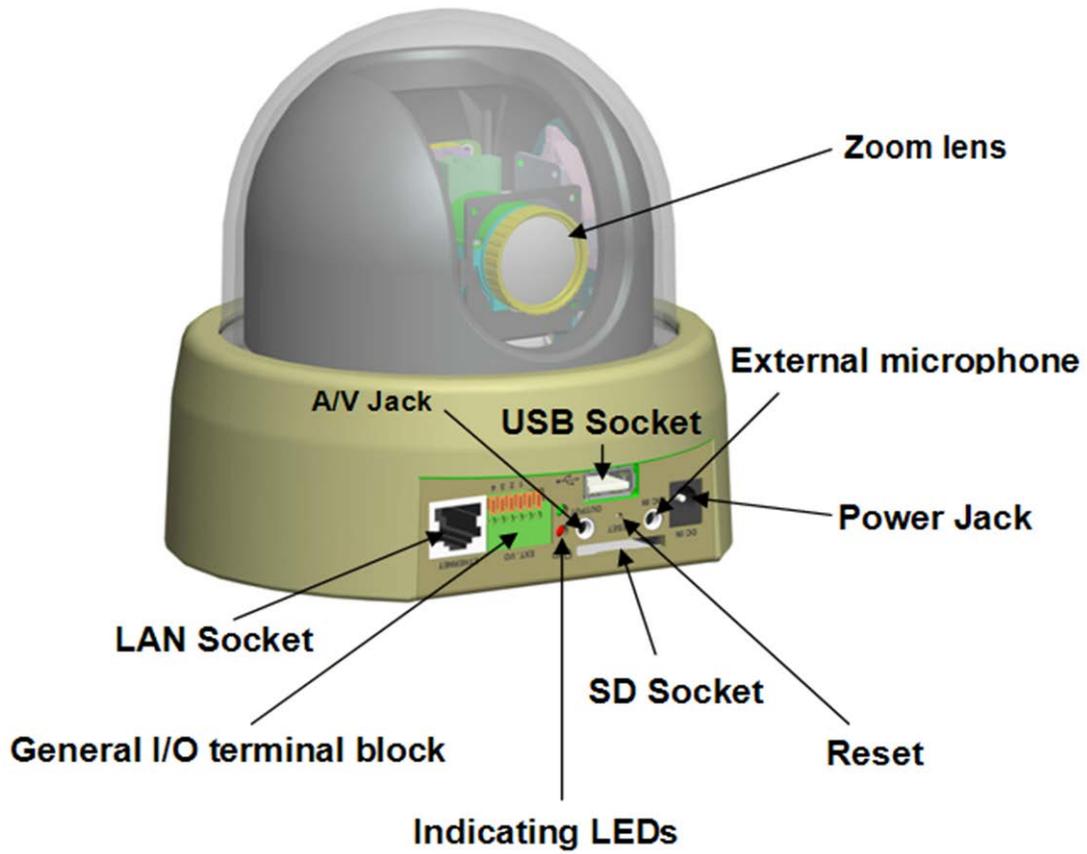
CAM5321S4

Unit: mm (inches)

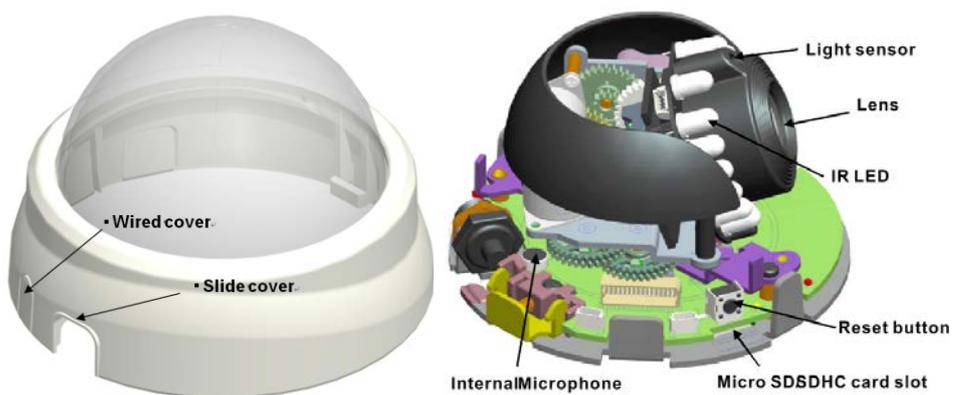


2.2. Functions

CAM5330SZ



CAM5321S4



1. DC Power Jack

The DC power input jack is located on the rear of Network Camera's. The input power is 12VDC. Note that supply the power to the Network Camera with standard power adapter included in package. Otherwise, the improper power adapter may damage the unit and result in danger.

2. LAN Socket

Beside the DC power Jack, the LAN socket is an RJ-45 connector for connections to 10Base-T or 100Base-TX Fast Ethernet cabling. Please use Category 5 "straight through" cable to connect the Network Camera to an Ethernet network switch or hub.

3. Front LEDs

Red LED indicates power, red LED will turn on always after plug-in power.

Green LED indicates networking, green LED will blink every second after getting IP address.

Upon powering up, two of front LEDs will become lighted then the camera will do self-rotation. During the self-rotation, red LED will be on and the network camera is standby for getting IP address.

4. Factory Default Reset

This button is hidden in the pinhole under then Network Camera's bottom. Please refer to the Appendix A in this manual for more information.

5. SD Card slot and USB socket

The built-in SD/SDHC card slot offers a convenient and portable storage (snapshots and video clips) option to prevent data loss in case of network disconnection.

6. Microphone in and A/V out

The Network Camera supports two way audio communication so that operators can transmit and receive audio simultaneously. By using the Network Camera's built-in or external microphone and an external speaker, you can communicate with people around the Network Camera.

7. General I/O Terminal Block

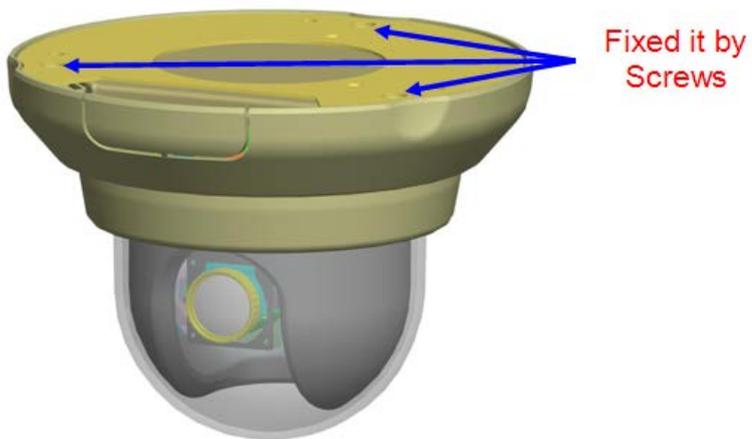
This Network Camera provides a general I/O terminal block which is used to connect external input / output devices.

2.3. Hardware Installation

CAM5330SZ

1. Attach the Network Camera with the included stand.
2. Place the camera on the table or install it onto the ceiling or wall.

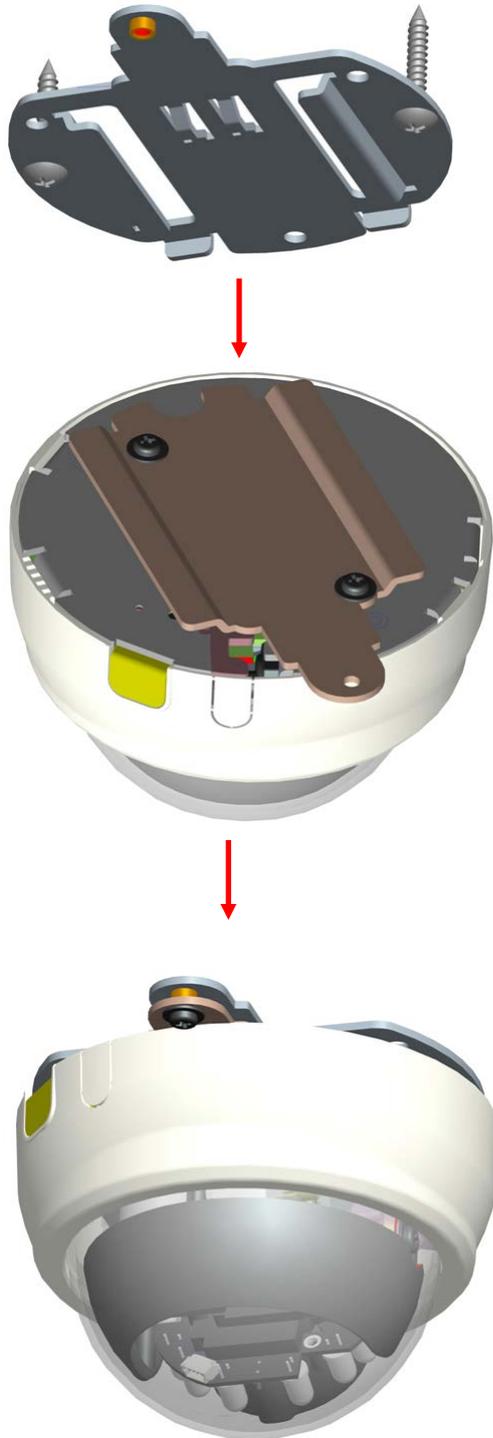
Use screws to secure the camera.



CAM5321S4

1. Attach the Network Camera with the included stand.
2. Place the camera on the table or install it onto the ceiling or wall.

Use screws to secure the camera.



2.4. Wiring

CAM5330SZ

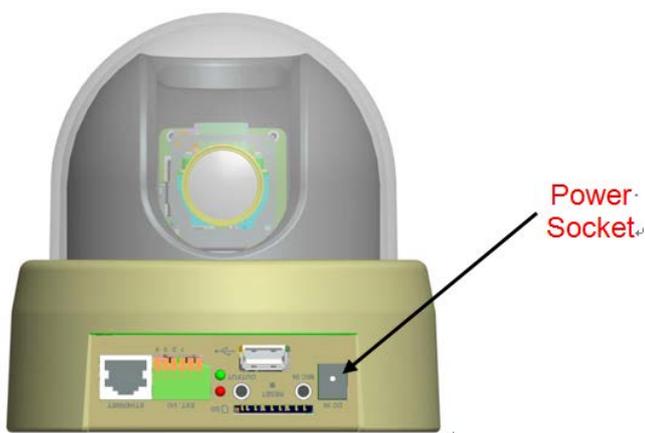
1. Plug a RJ-45 Ethernet cable into the Network Camera

Connect an Ethernet cable to the LAN socket located on the rear of Network Camera's and attach it to the network.



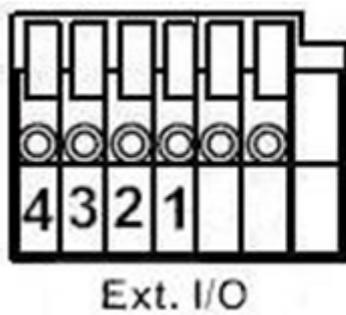
2. Connect the external power supply to Network Camera

Connect the attached power adapter to the DC power jack of the Network Camera. **Note:** Use the power adapter, 12VDC, included in the package and connect it to wall outlet for AC power.



Once you have installed the Network Camera well and powered on, the camera will self-rotate, the red LED will be on, and the green LED will flash in every second, meaning the system is booting.

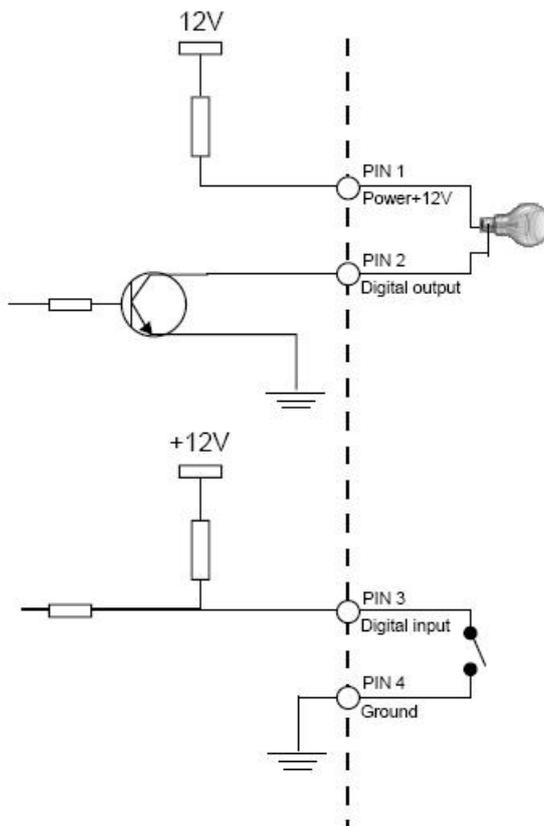
3. General I/O Terminal Block



- 1: Power
- 2: Digital output
- 3: Digital input
- 4: Ground

Pin	Name	Specification	Remarks
1	Power	12VDC \pm 5%, max. 1.5A	Max. rating 2A
2	Digital output	Max. 40VDC, max. 400mA, isolation 2kV	
3	Digital input	OPEN/Short-to-GND, isolation 2kV	Internal pull-up
4	Ground		

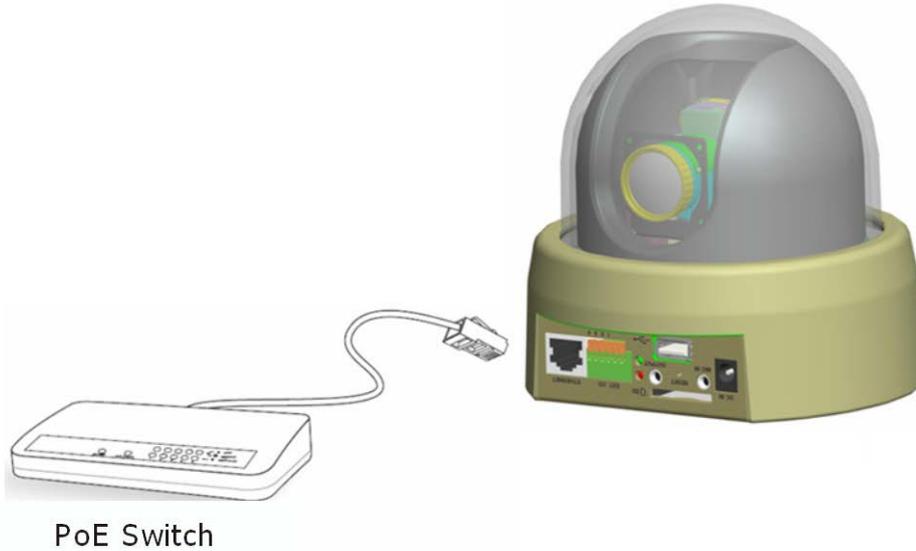
If you have external devices such as sensors and alarms make connection from I/O terminal block.



CAM5330SZ

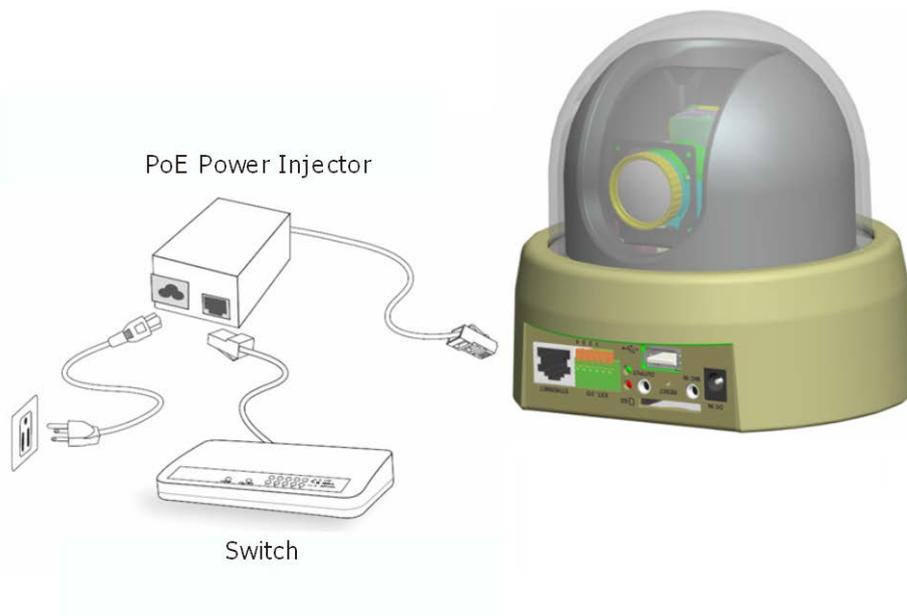
Via a PoE Switch:

Use a PoE switch to connect the camera for power and network connection.



Via a PoE Power Injector:

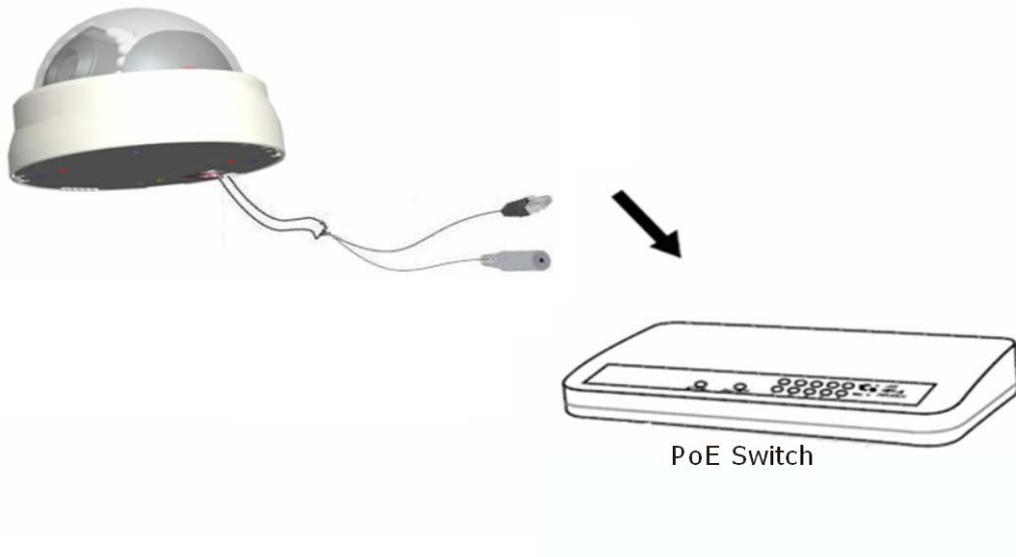
When your switch does not support PoE, use a PoE power injector (user provided item) to connect the camera for power and network connection



CAM5321S4

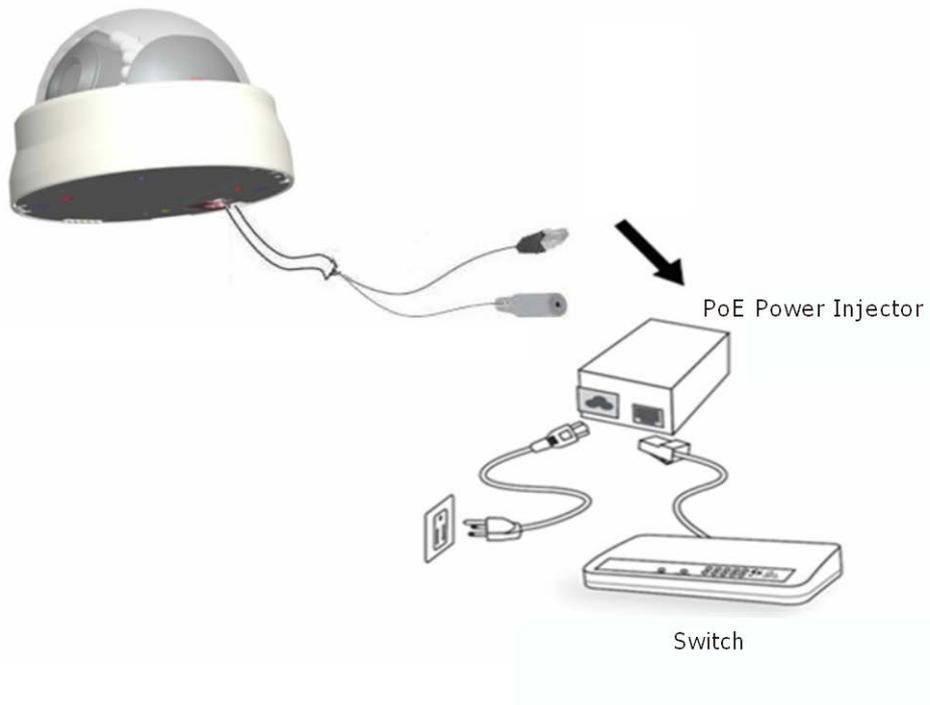
Via a PoE Switch:

Use a PoE switch to connect the camera for power and network connection.



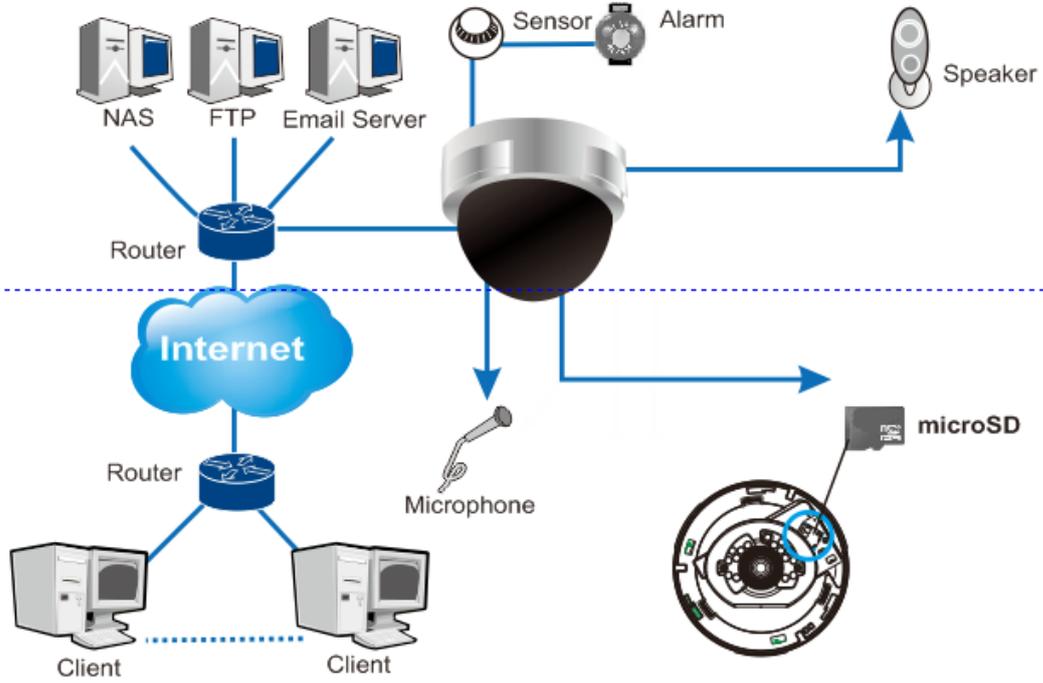
Via a PoE Power Injector:

When your switch does not support PoE, use a PoE power injector (user provided item) to connect the camera for power and network connection



2.5. Camera Deployment

CAM5330SZ/5321S4



2.6. Minimum System Requirement

Network Environment	
LAN	10/100/1000M Ethernet
Monitoring System Recommended for Internet Explorer	
System Hardware	Basic requirements · CPU: Intel® Celeron® Dual-Core @2.70GHz or above · Memory Size: 2 GB or above Recommended · VGA card resolution: 1024 x 768 or above
System Requirement for Viewer & Recorder Application	
Support OS	XP, Windows 7
System Hardware	1-4 cameras surveillance application · CPU: Intel® Celeron® Dual-Core @ 2.70GHz or above · Memory Size: 2 GB or above · VGA card resolution: 1024 x 768 or above

Chapter 3. Connecting to the Network Camera

This section demonstrates how to connect to the network camera through two methods:

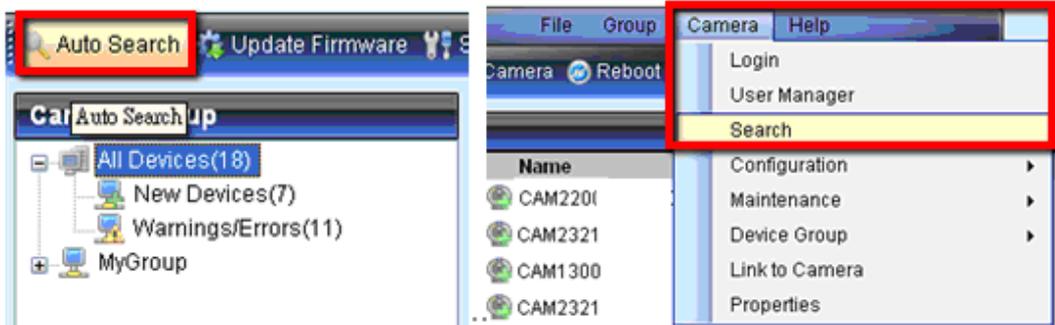
- Web Browser - A simple web-based interface. Internet Explorer is the recommended web browser for use with network cameras, and our examples will be from this browser. Usage on other browsers will be similar.
- RTSP Player - These include common streaming media players, such as *RealPlayer* or *Quicktime Player*. These players can provide live view of the camera using the Real-Time Streaming Protocol (RTSP).

3.1. Connecting with a Web Browser

Obtaining IP address through the IP Utility

The IP address can be obtained using the IP Utility in your product CD:

1. Double click Start SearchToolInstall.exe to begin the utility installation.
2. After the installation is complete, click the **Auto Search** button or click **Camera > Search** in the menus.



The camera search will begin, and a status bar will display the search progress.

3. The details of the camera will display after the search is finished.

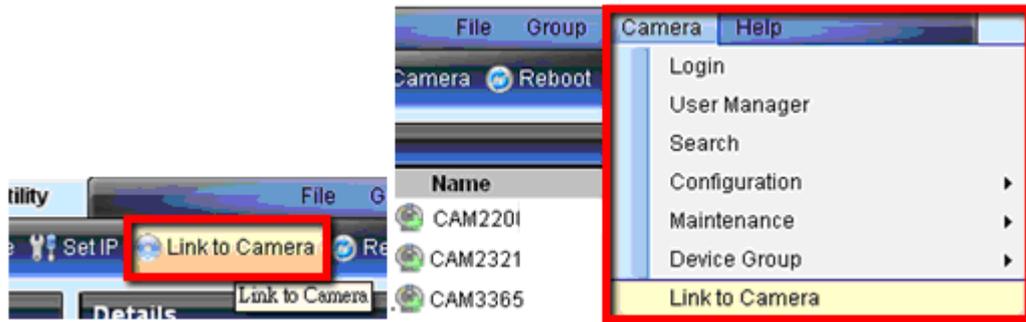
Details							
	Number	Name	IP	Model	MAC	Status	NetMask
<input type="checkbox"/>	1	CAM2320	172.18.6.147	CAM2320	00D02360022F	New	255.255.254.0
<input type="checkbox"/>	2	CAM2311	172.18.7.61	CAM2311	000C0CA006AA	New	255.255.254.0
<input type="checkbox"/>	3	CAM3365	172.18.6.80	CAM3365	00D02360022C	New	255.255.254.0
<input type="checkbox"/>	4	CAM1300	172.18.6.215	CAM1300	000C0CA006F1	New	255.255.254.0

Note: (1) The search may take up to 2 minutes, depending on your network configuration.

Connecting to the Network Camera

Launch the web browser (Microsoft ® Internet Explorer 6.0 or higher is recommended). Enter the IP address of the network camera in the address bar of your browser and press enter.

You can also Click the **Link to Camera** button or click to **Camera> Link to Camera** in the IP Utility menu bar. The camera's live view webpage will open in a browser window.



Logging into the System

The following information will prompt for logging in:

A dialog box for logging in. It has two input fields: 'User Name:' and 'Password:'. Below the fields are two buttons: 'OK' and 'Cancel'.

- Username - The username for the domain. Default is always *admin*.
- Password - The password for the domain. Default is always *admin*.

Click OK.

Installing ActiveX Components in Internet Explorer

You may be prompted to install ActiveX® components when accessing the network camera's Live View page; click Yes when prompted. You will be able to access the camera after installation is completed. Under Windows, this action may require administrator privileges.

If the dialog box suggests that you are not allowed to install ActiveX components, try resolving the problem using the following steps:

1. In Internet Explorer, open Tools> Internet Options> Security. Click the Custom level button.
2. Search for *Download signed ActiveX controls*. Under this heading select **Prompt** and then click OK.



3. Continue installing the Active X components.
4. After installing ActiveX, go to Tools> Internet Options> Trusted Websites> Sites and add the IP Address of the camera.

Chapter 4. Configuration through the Web Interface

4.1. Interface Layout

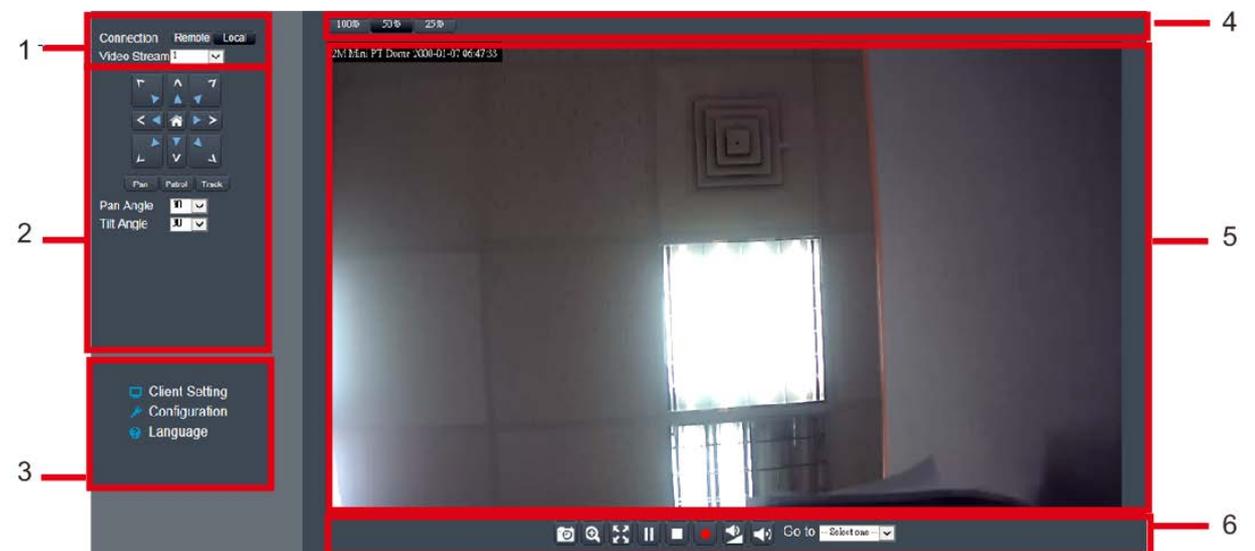
This section demonstrates the layout of the network camera's main interface.

The 6 main areas on the interface are:

CAM5330SZ 2Megapixel 10x Zoom PTZ Dome Network Camera



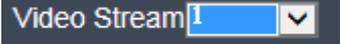
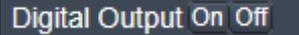
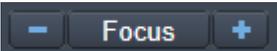
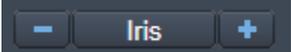
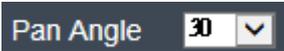
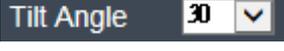
CAM5321S4 2Megapixel Day & Night PT Dome Network Camera



1. **Connection Controls** - Remote/Local viewing, video stream selection, and digital output controls.
2. **Pan/Tilt/Zoom, focus, optical controls** - Directional pad for pan and tilt functionalities. Controls over zoom, focus, iris, patrol and track.
3. **Button Bar** - These controls allow the user to quickly access common features such as live view window resizing, video and still frame capture, interface language, and audio controls.
4. **Live View Window Size** - Live view window resizing to 100%, 50%, and 25%.
5. **Live View Window** - This portion of the screen displays the stream selected .
6. **Button Bar** - These controls allow the user to quickly access common features such as snapshot, digital zoom, full screen, and audio controls.

Control Descriptions

Control	Description
	Snapshot: When clicked, captures the current screen as an image in a new pop-up window.
	Digital Zoom: Enable digital zoom
	Full-Screen: Goes to full-screen when clicked; press "ESC" to return to windowed view.
	Pause: Pause recording or playing
	Stop: Stop recording or playing
	<p>Manual Record: When clicked, records the current live video. The location for storing the video can be changed under <i>Client setting > Recording options</i>.</p> <p>Note: Due to the UAC (User Access Control) function in Windows Vista or Windows 7, the IE browser would need to be run under the "Administrator" privilege.</p>
	Volume: Sets to the current computer volume; Dragging the slider adjusts the volume.
	Mute: Mutes the audio captured by the camera when clicked, un-mutes the audio when clicked again.
	Talk: Allows audio to be transmitted from a local microphone to the camera. Multiple users may access the live view page and receive audio from the camera.
	Mic Volume: Sets to the current computer volume; Dragging the slider adjusts the volume.

	<p>Mic Mute: Mutes the audio captured by the camera when clicked, un-mutes the audio when clicked again.</p>
	<p>After Administrator has determined the preset positions, users can select the presets here.</p>
	<p>User can choose Remote or Local mode for best connection quality.</p> <p>For Internet environment, switch to Remote mode.</p>
	<p>Stream 1,2 or serial video pictures can be selected.</p>
	<p>Enable/disable digital output</p>
	<p>Use the directional pad to pan and tilt. Click the home button to go back to the center.</p>
	<p>Control zoom</p>
	<p>Control focus</p>
	<p>Use this button to have focus adjusted automatically</p>
	<p>Control Iris</p>
	<p>Click this button to move from right to left continuously.</p>
	<p>Patrol among the preset positions, which can be configured on the “Camera control page”. The cycle of patrol is from 1 to Unlimited.</p>
	<p>Track dynamic objects within screen video</p>
	<p>Adjust pan angle 1~180°</p>
	<p>Adjust tilt angle 1~55°</p>

Zoom Step 1 	Adjust zoom step 1~3
Focus Step 4 	Adjust focus step 1~7
 Client Setting	For settings including internet, intranet and recording options
 Configuration	For other detailed settings
 Language	Select a language from the list

4.2. Client Setting

Client setting
2.0.0.2

Home

Internet setting

- UDP
- TCP
- HTTP

Intranet setting

- UDP
- TCP
- HTTP

Recording options

Folder:

File name prefix:

Add date and time suffix to file name

Protocol Options which allows choices on connection protocol between client and server. There are three protocols choices to optimize your usage - UDP, TCP, HTTP.

The UDP protocol allows for more real-time audio and video streams. However, some packets may be lost due to network burst traffic and images may be obscured.

The HTTP protocol allows for less packet loss and produces a more accurate video display. The downside with this protocol is that the real-time effect is worse than that with the UDP protocol.

The TCP guarantees the complete delivery of streaming data and thus provides better video quality. However, the real-time effect is not as good as that of the UDP protocol.

If no special need is required, UDP protocol is recommended. Generally speaking, the client choice will be in the order of UDP → HTTP. After the Network Camera is connected successfully, "Protocol Option" will indicate the selected protocol. The selected protocol will be recorded in the user's PC and will be used for the next connection. If the network environment is changed, or the user wants to let the web browser to detect again, manually select the UDP and TCP protocol, save, and return HOME to re-connect.

Internet Settings

- UDP
- TCP
- HTTP

Intranet Settings

- UDP
- TCP
- HTTP

Recording Options

Users can record live video as they are watching by clicking  to record in MP4 format. Here, you can specify the storage destination and file name.

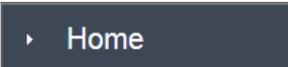
- **Folder:** use browse to specify the storage destination for the recorded video files.
- **File name prefix:** Enter the text that will be appended to the front of the video file name.
- **Add date and time suffix to file name:** Select this option to append the date and time to the end of the file name.

4.3. Configuration

Click **Setup** for configuration.

Remember to click **Finish** to save the settings.

Home

Click this option  to go back to the live view page.

System

(DI and DO setting is for CAM5330SZ only.)

General setting

Host name
2M 10X PTZ Dome

Led indicator
Turn on

Setup

Time setting

Time zone
(GMT+08:00) Beijing Chongqing, Hong Hong, Kuala Lumpur, Singapore, Taipei

Daylight saving time
Enable

Current Time
2014/07/11 15:20:40

Setup

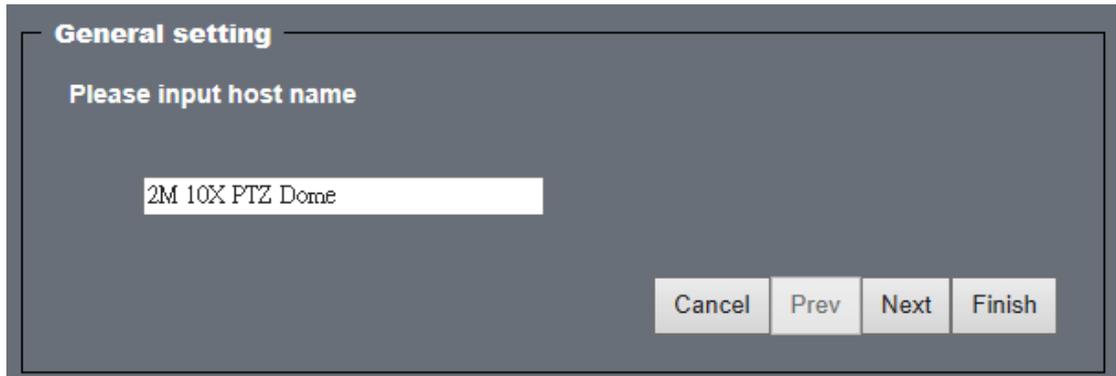
DI and DO setting

Digital input
The active state is "high level"
The current state detected is "high level"

Digital output
The active state is "grounded"
The current state detected is "open"

Setup

General Setting



General setting

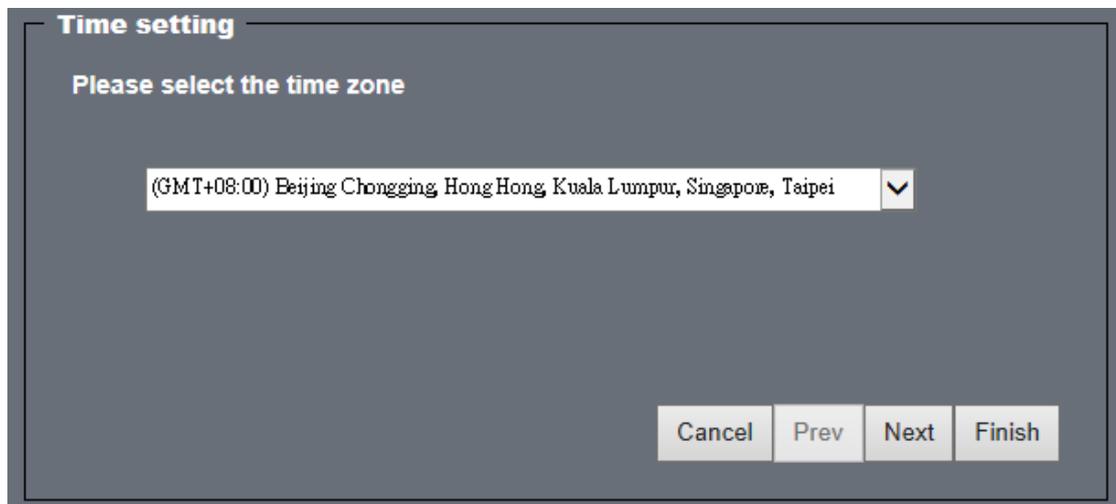
Please input host name

2M 10X PTZ Dome

Cancel Prev Next Finish

- **Host name:** The text displays the title on the top of the main page.
- **LED indicator:** Select turn on or turn off the led indicator.

Time Setting



Time setting

Please select the time zone

(GMT+08:00) Beijing Chongqing, HongHong, Kuala Lumpur, Singapore, Taipei

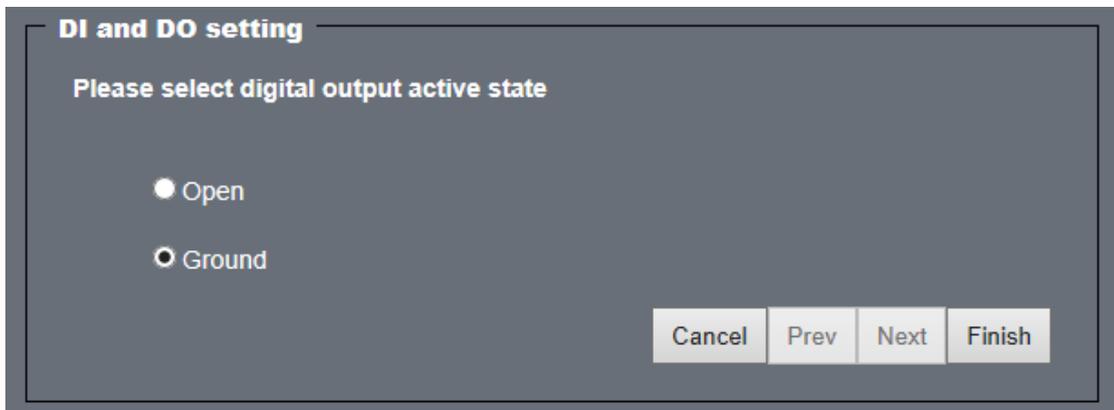
Cancel Prev Next Finish

- **Time Zone:** Select time zone from the dropdown list.
- **Daylight saving time:** Select turn on or turn off the led indicator.
- **Current time**
 - **Keep Current time**
 - **Sync with PC** - Synchronizes the time with the computer's internal clock.
 - **Manually set the time-** Updates the time manually. Choose the appropriate date and enter a time for the system.

- **Adjust by NTP server** - NTP is a protocol for synchronizing the system clock to an external server. If this option is chosen, enter the IP address of a known NTP server in the **NTP Server** field.

DI and DO Setting

(DI and DO setting is for CAM5330SZ only.)



DI and DO setting

Please select digital output active state

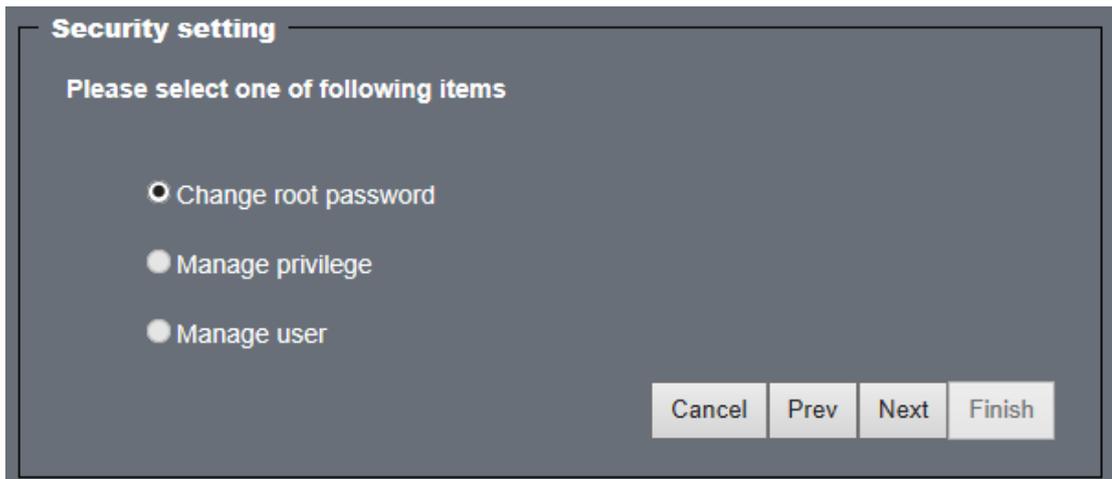
Open

Ground

Cancel Prev Next Finish

Digital Input (DI) and Digital Output (DO) stand are used for event triggering. Select **Open** or **Ground** to define the DO active state.

User Management



Security setting

Please select one of following items

- Change root password
- Manage privilege
- Manage user

Cancel Prev Next Finish

The administrator account name is "root", which is permanent and cannot be deleted. If you want to add more accounts in the Manage User column, please set a password for the "root" account first. Network Camera can provide twenty accounts for your valuable customers or friends.

- **Change root password** - Change the Administrator's password by typing in the new password identically in both text boxes. The typed entries will be displayed as asterisks for security purposes. After pressing "*finish*", the web browser will ask the Administrator for the new password to access.
- **Manage privilege** - You can modify the manage privilege of operators or viewers. Check or uncheck the item, then click **finish** to enable the settings.
- **Manage user**
 - **Add a new user** - Administrators can add up to 20 user accounts.
 - (A) Input the new user's name and password.
 - (B) Select the privilege level for the new user account. Click **Finish** to enable the setting.
 - **Delete a user** - Select an existing user name. Click **Finish** to enable the setting.

- **Update an existing user** - Select an existing user name. Administrators can modify user's password and privilege. Click **Finish** to enable the setting.

Access rights are sorted by user privilege (Administrator, Operator, and Viewer). Only administrators can access the Configuration page. Operators cannot access the Configuration page but can use the URL Commands to get and set the value of parameters. Viewers access only the main page for live viewing.

Network

Network setting

The network type is
LAN,
using dhcp to obtain IP address automatically,
using UPnP presentation ,
using UPnP port forwarding

The ports set as following:
HTTP port is 80,
HTTPS port is 443,
RTSP port is 554,
RTP port for video stream is 54,
RTCP port for video stream is 55,
RTP port for audio stream is 56,
RTCP port for audio stream is 57

access name for stream 1 with audio/video is "live1",
access name for stream 2 with audio/video is "live2"

Setup

DDNS setting

The DDNS set as following:
using the service of ip-discovery.com
Has not been registered.

Setup

Network setting

Network setting

Please select the network type

LAN

PPPoE

Cancel Prev Next Finish

The default type is LAN. Select PPPoE when using ADSL

- LAN

- **Get IP address automatically**

The default status is **Get IP address automatically**. It could be tedious to perform software installation whenever the Network Camera starts. Therefore, once the network is set, the IP address should be entered correctly.

- **Use fixed IP address**

Select **Use fixed IP address**, the Network Camera will skip installation. The Network Camera will automatically restart and operate normally after a power outage. You can run IP installer to check the IP address assigned to the Network Camera if the IP address is forgotten, or you can use the UPnP function provided by the Network Camera (**MS Windows XP provides UPnP function at My Network Place**).

- **IP address:** This is necessary for network identification.
- **Subnet mask:** This is used to determine if the destination is in the same subnet. The default value is "255.255.255.0".
- **Default router:** This is a gateway used to forward frames to destinations in a different subnet. Invalid router setting will fail the transmission to destinations in different subnet.
- **Primary DNS:** The primary domain name server that translates hostnames into IP addresses.
- **Secondary DNS:** Secondary domain name server backups the Primary DNS.
- **Enable UPnP presentation & port forwarding:** Enable UPnP ability.
- **Http port:** This can be typed besides the default Port 80. Once the port is changed, the users must make sure the change for the connection is successful. For instance, when the Administrator changes the HTTP port of the Network Camera which IP address is 192.168.0.20 from 80 or 1025 to 65535, the users must type in the web browser "http://192.168.0.20:8080" instead of "http://192.168.0.20".
- **RTSP Port** RTSP port can be typed besides the default Port 554

- **RTP Port** The RTP port can be typed besides the default Port 54

Note: Please set Video RTP port in even number after default value port 54. Then, Video RTCP port, Audio RTP port, Audio RTCP port will automatically set the values in ascending.

- **RTSP Streaming access names:** The RTSP streaming currently supports video only, audio only, and audio/video. To use the audio/video stream, type the URL as "rtsp://61.30.125.43/liveN.sdp".

- **PPPoE**

If using the PPPoE interface, you should fill the following settings from ISP.

- **Account:** The login name of PPPoE account
- **Password:** The password of PPPoE account
- **Confirm password:** Input password again for confirmation

DDNS setting

DDNS setting

Please input the ip-discovery.com DDNS parameters

Host name .ip-discovery.com

E-mail

The following port numbers is needed to set up at your router's mapping table by yourself. Change the port values if needed. Make sure the values must be the same as that set up at your router's mapping table.

HTTP port	<input type="text" value="80"/>
HTTPS port	<input type="text" value="443"/>
RTSP port	<input type="text" value="554"/>
Video RTP port	<input type="text" value="54"/>
Video RTCP port	<input type="text" value="55"/>
Audio RTP port	<input type="text" value="56"/>
Audio RTCP port	<input type="text" value="57"/>

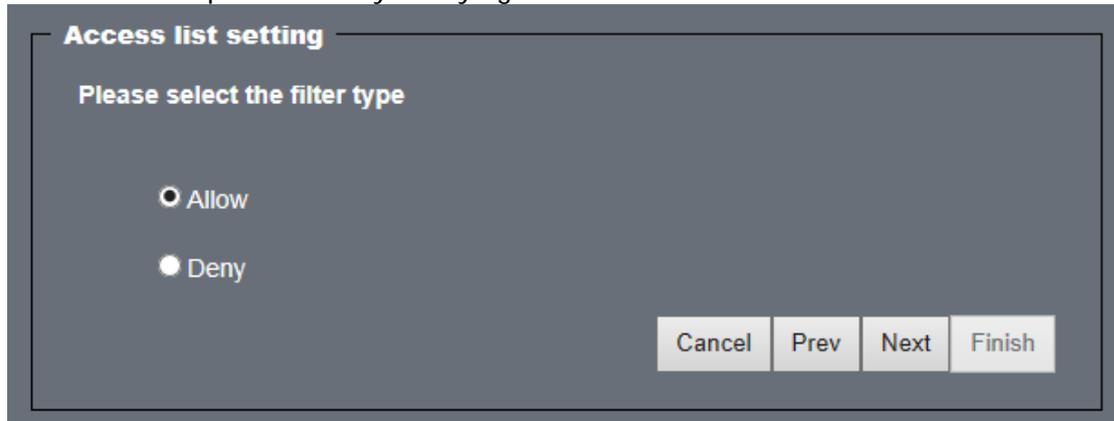
- **Enable DDNS:** This option turns on the DDNS function.
- **ip-discovery:** In the Register column, fill in the Host name (xxxx. ip-discovery), Email, Key, and Confirm Key, then click Register. After a host name has been successfully created, a success message will be displayed in the DDNS Registration Result column and messaging E-mail.
- **3rd party DDNS:** This is enable or disable 3rd party DDNS.
- **Provider:** The provider list contains hosts that provide DDNS services. Please connect to the service provider's website to make sure the service charges.
- **Host Name:** If the User wants to use DDNS service, this field must be filled. Please input the hostname that is registered in the DDNS server.
- **User name:** The Username or E-mail field is necessary for logging in the DDNS server or notify the User of the new IP address.

<p>Note: when this field is input as "User name", the following field must be input as "Password".</p>

- **Password:** Please input the password or key to get the DDNS service.
- **finish:** Click on this button to save modify settings for the DDNS service.

Access List

Control access permission by verifying the client PC's IP address.



Access list setting

Please select the filter type

Allow

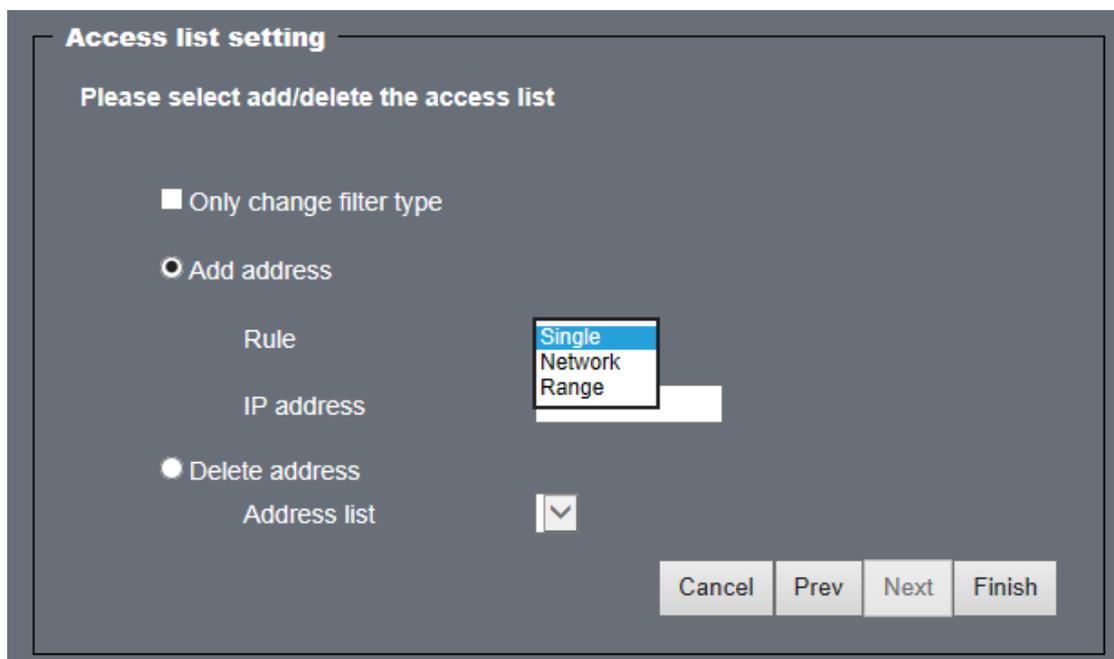
Deny

Cancel Prev Next Finish

Click **Add an address** to add a rule to Allowed/Denied list.

There are three types of rules for user to set up:

- **Single:** This rule allows the user to add an IP address to the Allowed/Denied list.
- **Network:** This rule allows the user to assign a network address and corresponding subnet mask to the Allow/Deny List. The IP address is written in the CIDR format.
- **Range:** This rule allows the user to assign a range of IP addresses to the Allow/Deny List. This rule is only applied to IPv4.



Access list setting

Please select add/delete the access list

Only change filter type

Add address

Rule

IP address

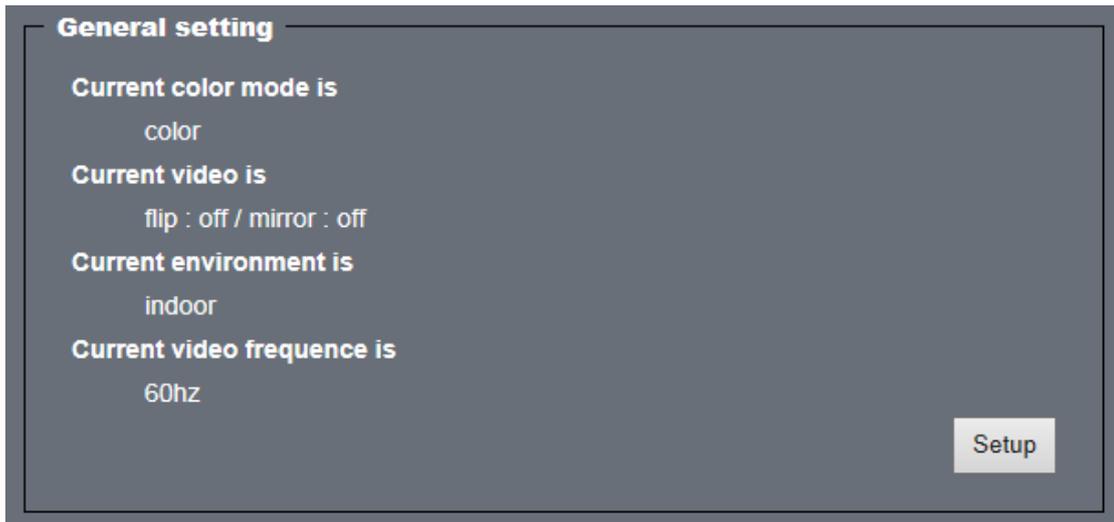
Delete address

Address list

Cancel Prev Next Finish

Audio and Video

General Setting



- **Color mode:** Select use color or monochrome video display.
- **Video orientation:** The orientation of video
 - **Flip:** Vertically rotate the video.
 - **Mirror:** Horizontally rotates the video.
- **Environment:** The orientation of video
 - **Indoor:** This option is usually selected when the Network Camera is placed in indoor environments.
 - **Outdoor:** This option is usually selected when the Network Camera is placed in outdoor environments.
- **Power freq.:** Select 50 Hz or 60Hz power line frequency.

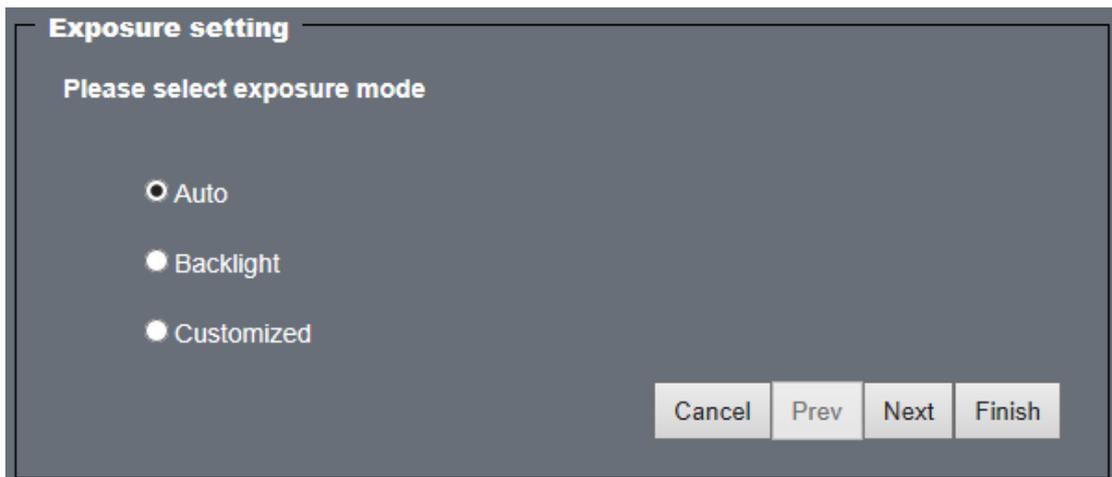
※The fluorescent light will flash according to the power line frequency that depends on local utility. Change the frequency setting to eliminate uncomfortable flash image when the light source is only fluorescent light.

Video Setting



- **Brightness:** Adjust the image brightness level, which ranges from -5 to +5. The default value is set to 0.
- **Saturation:** Adjust the image saturation level, which ranges from -5 to +5. The default value is set to 0.
- **Contrast:** Adjust the image contrast level, which ranges from -5 to +5. The default value is set to 0.
- **Sharpness:** Adjust the image sharpness level, which ranges from -5 to +5. The default value is set to 0.
- **EV:** Exposure value represents the expected target value of the luminance of the weighting result of AE windows in the image and its tolerance as offset.
- **Gain:** In the slide bar of Gain, there are also two sliders, which represent the limitations to control the maximum gain value and the minimum one, respectively. Normally, the minimum value is to 1x for better quality.

Exposure Setting

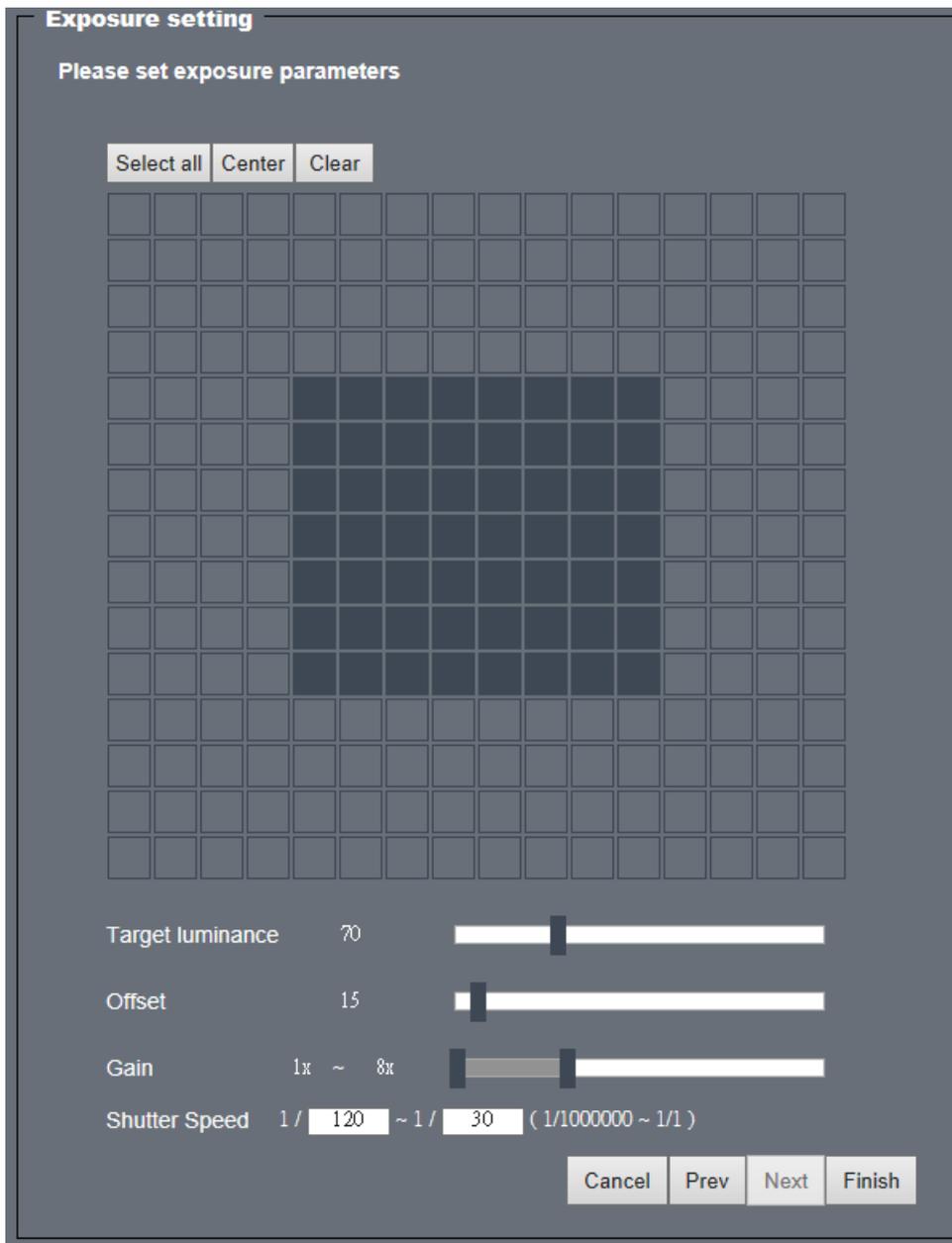


Here it provides 3 modes:

- Auto
- Backlight
- Customized

Auto and Backlight modes are 2 default settings for general purpose and backlight scene, respectively.

Customized mode relates to the grid window above can be pointed on for interesting areas. Within the mode Customized, 16*15 grids windows can be chosen to match where/what you are interested in. Push down left-button of mouse and drag to draw the grids for interesting areas, or push down right-button of mouse and drag to clean the grids for insignificant areas.



- **Target Luminance and Offset**

These two slide bar, Target Luminance and Offset represent the expected target value of the luminance of the weighting result of AE windows in the image and its tolerance as offset. For example, target luminance is set to 100 and target offset is set to 20 that means the average luminance of the AE window should be in the range from 80 to 120 (100 ± 20). When the actual luminance does not meet this range, the AE function will adjust shutter and gain to meet it as possible. In some extreme cases, it cannot reach the target because the environment is too bright or dark. When the environment is not consistent, e.g. with big

moving objects, and the offset is too narrow, the AE will act more frequently that will cause the background of view inconsistent. The offset value is recommended to set 15~25% of target luminance.

- **Gain**

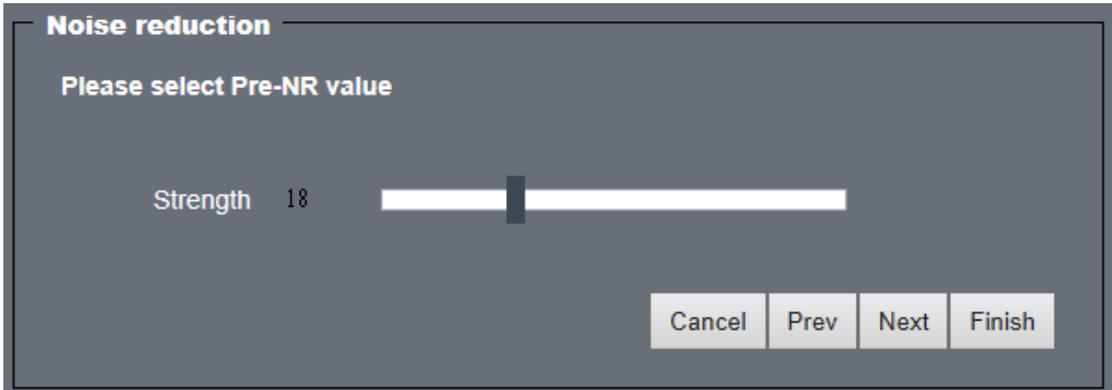
In the slide bar of Gain, there are also two sliders, which represent the limitations to control the maximum gain value and the minimum one, respectively. Normally, the minimum value is to 1x for better quality. It is not allowed if the maximum slider and the minimum one are set to the same value without adjustable interval. Besides, the noise will be increased if the actual gain is too large. When the max. slider is dragged over sensor's max. gain, the slide bar will become deep blue to represent it will apply Mozart 3s digital gain, which extend the max. gain for very low light.

- **Shutter Speed**

There are 2 fields, minimal and maximal time, for the range of Shutter Speed. The precision of the parameter is 1/1000000 sec., but it is **NOT** actual precision of the shutter speed of the sensor. The actual precision of the shutter speed depends on each sensor's specification. Here it will be rounded to approach sensor's effective exposure time. To avoid flickering or banding phenomenon under fluorescent light, the actual shutter speed will be locked at 1/120, 1/60, 1/30 if Power Line Frequency is 60Hz, or 1/100, 1/50, 1/25 if Power Line Frequency is 50Hz. The setting of Power Line Frequency is on the sub-tab Video and Audio. The exposure may not be stable if the maximum value and the minimum one are set to the same value without adjustable interval. Besides, the frame rate will drop down if the actual shutter speed is too slow to meet expected frame rate.

Noise reduction

Here provides 2D and 3D features, reducing noises in low light conditions and even with moving objects.



Noise reduction

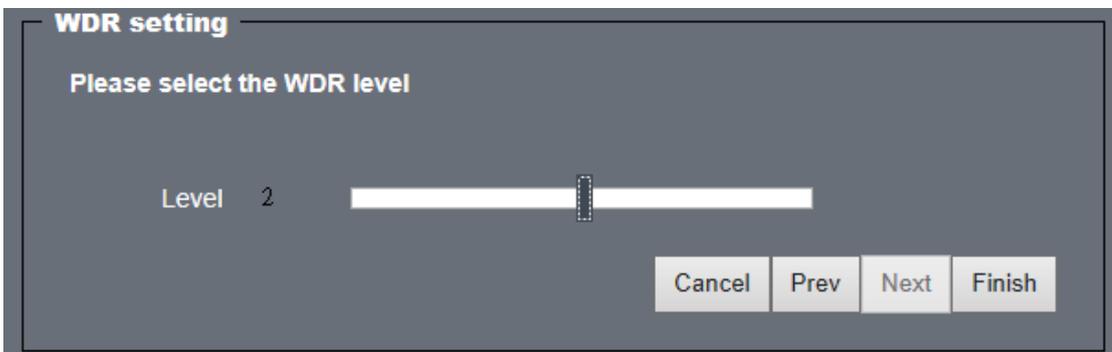
Please select Pre-NR value

Strength 18

Cancel Prev Next Finish

The interface shows a slider for 'Strength' set to 18. The slider bar is white with a dark vertical marker at the 18 position. Below the slider are four buttons: 'Cancel', 'Prev', 'Next', and 'Finish'.

Wide Dynamic Range



WDR setting

Please select the WDR level

Level 2

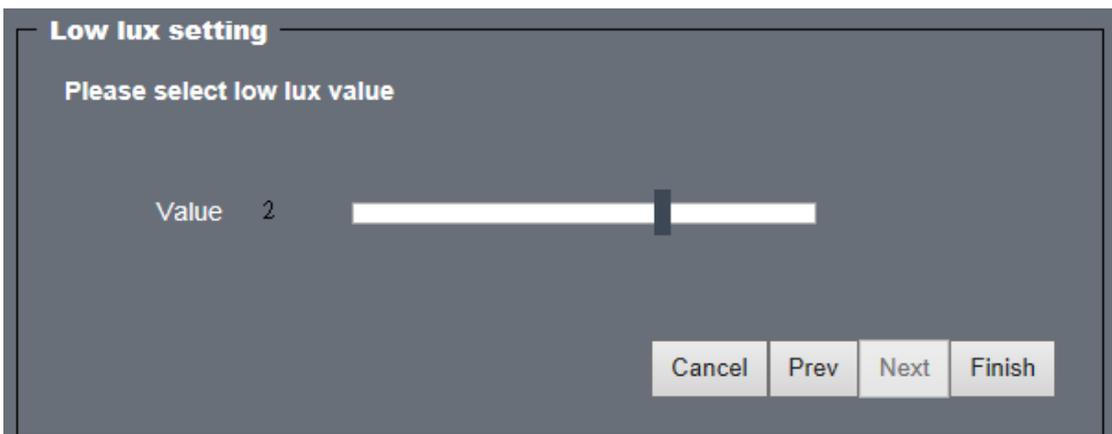
Cancel Prev Next Finish

The interface shows a slider for 'Level' set to 2. The slider bar is white with a dashed vertical marker at the 2 position. Below the slider are four buttons: 'Cancel', 'Prev', 'Next', and 'Finish'.

Enable **Wide Dynamic Range** to improve the exposure, when both bright and dark areas are in the field of view of the camera at the same time. The default is off.

Low Lux Setting

(Low Lux setting is for CAM5330SZ only.)



Low lux setting

Please select low lux value

Value 2

Cancel Prev Next Finish

The interface shows a slider for 'Value' set to 2. The slider bar is white with a dark vertical marker at the 2 position. Below the slider are four buttons: 'Cancel', 'Prev', 'Next', and 'Finish'.

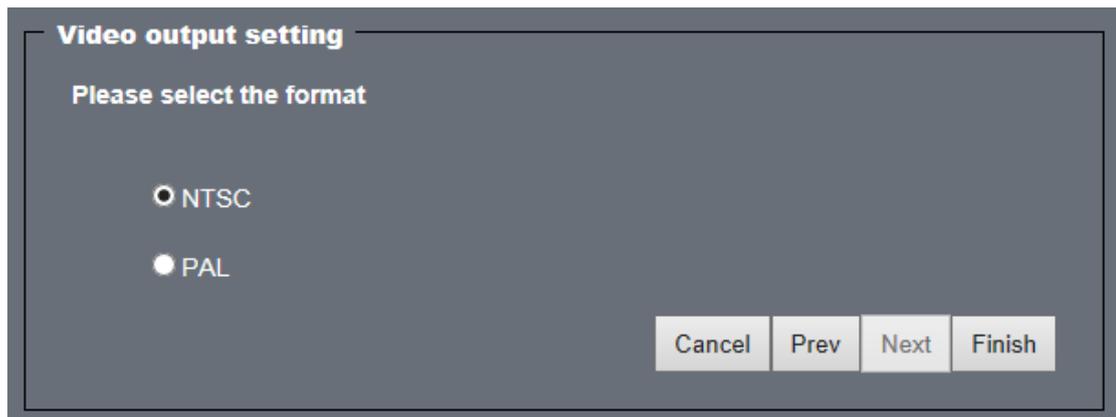
Turn on this functionality to have the video quality improved, when the camera is in the low lux environment.

- **Disable dark mode:** Disable low lux mode.
- **Enable dark mode:** Enable low lux mode.

Video output Setting

(Video Output setting is for CAM5330SZ only.)

- NTSC
- PAL



Infrared LED Setting

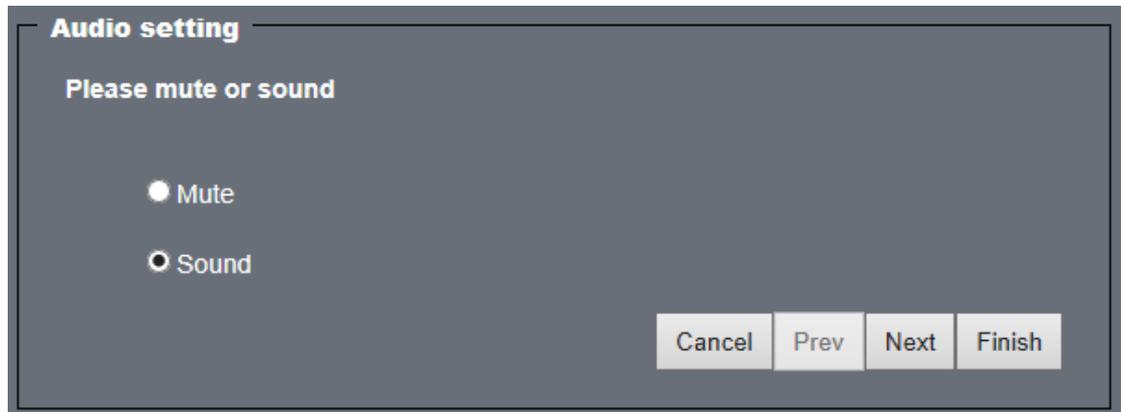
(Infrared LED setting is for CAM5321S4 only)



- **Infrared LED Control:** IR LED for Day and Night (Optional). Users can turn on/off the built-in IR LED. This function is very useful under low illumination environment.
 - **Auto:** Select IR sensitivity from 0 to 4.
 - **Manual:** Turn on/off the IR LED manually.
 - **Turn on:** Turn on LED

- **Turn off:** Turn off LED
- **Low lux mode:** The video quality will be improved when the camera is in low lux environment.
 - **Disable dark mode:** Disable low lux mode.
 - **Enable dark mode:** Enable low lux mode.

Audio Setting



- **Mute:** Audio mute.
- **Microphone:** Internal / External microphone.
- **Mic Volume:** Adjust microphone volume, which ranges from 1 to 46.

Video Record

- **Every day:** Enter the **Start time** and **Stop time** for day mode.

Note: The time format is [hh:mm] and is expressed in 24-hour clock time. By default, the start and end time of day mode are set to 01:00:00 and 23:59:59.

- **Week day:** **SUN, MON, TUE, WED, THU, FRI, SAT**, select the days of the week to perform the application and set the start and the end time.
- **Selected day:** select start and end day, and then select start and end time.
- **Record parameters**
 - **Source:** Select a stream for the recording source.
 - **Recording interval:** Select the recording time interval.
 - **Prefix file name:** You can setting the file name, and enable or disable to add the date and time on file name.
 - **Enable cyclic recording:** The cyclic recording function is enabled, during the transaction stage when a storage space is full and the incoming streaming data is about to overwrite the previously saved videos.
- **Response mode** There are three choices of server types available: NAS, SD Card, and USB storage (for CAM5330SZ only). Select the item to display the detailed configuration options.
- **NAS**
 - **NAS server address:** Enter IP address of the NAS server.
 - **NAS shared directory:** Enter the NAS shared directory path.
 - **Workgroup:** Enter the NAS workgroup parameter.
 - **User account:** Enter the login name of the NAS account.
 - **User password:** Enter the password of the NAS account.

Note: Video record with the Application must be set to the same shared directory path. If you would like do detail recording settings or multi-channel recording, please install bundled 64CH recording software in CD.

Stream

Audio codec setting

Audio codec is

AAC,
and bit rate is 32Kbps

Setup

Video codec setting

Stream 1 video codec is

H.264,
video size is 1920x1080,
connection is from local,
maximum frame rate is 15,
video quality is "fixed quality" and value is 11,
and intra frame period is 30

Stream 2 video codec is

H.264,
video size is 1280x1024,
connection is from local,
maximum frame rate is 20,
video quality is "fixed quality" and value is 12,
and intra frame period is 30

Setup

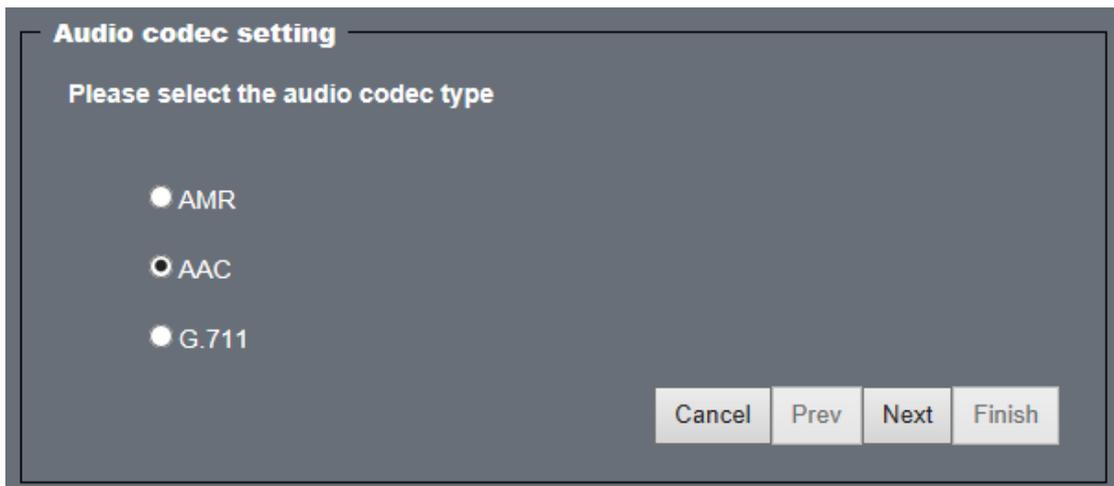
Snapshot and time display setting

Snapshot resolution is

640x480
and add time and date on the picture/stream

Setup

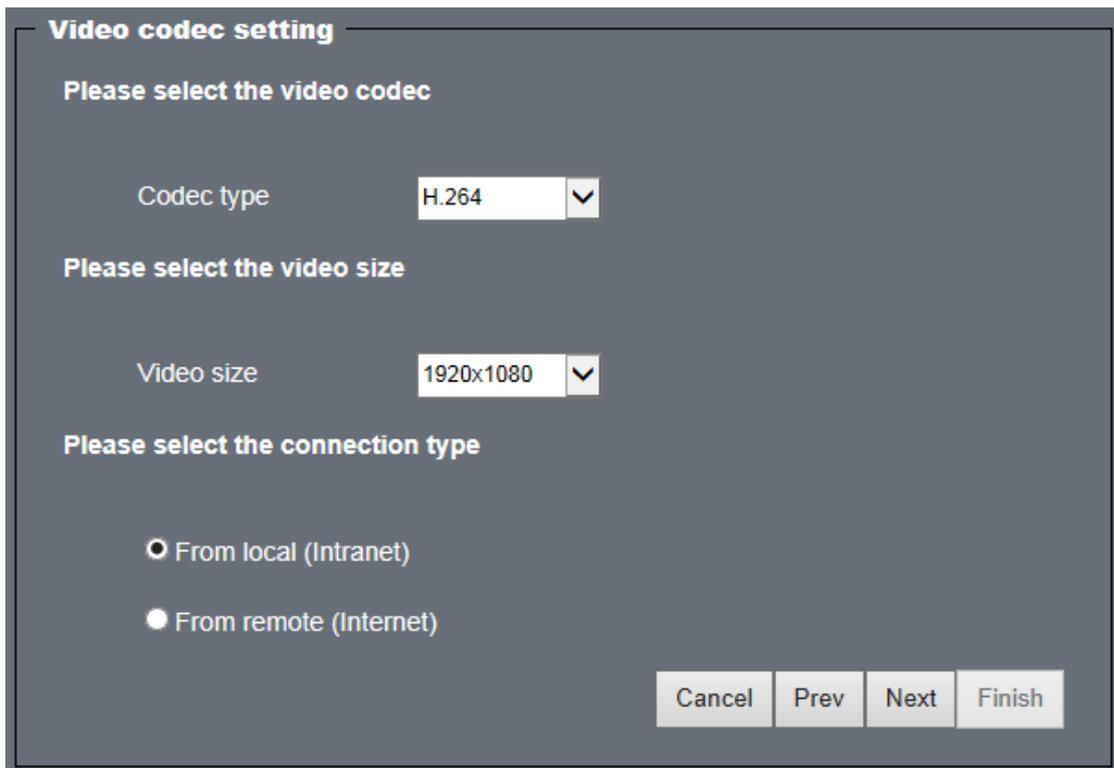
Audio codec setting



The screenshot shows a dialog box titled "Audio codec setting" with a dark gray background. Inside the dialog, the text "Please select the audio codec type" is displayed. Below this text are three radio button options: "AMR", "AAC", and "G.711". The "AMR" option is selected, indicated by a filled circle. At the bottom right of the dialog, there are four buttons: "Cancel", "Prev", "Next", and "Finish".

- **AMR**
The bit rates are selectable at the following rates: 4.75 Kbps, 5.15 Kbps, 5.9 Kbps, 6.7 Kbps, 7.4 Kbps, 7.95 Kbps, 10.2 Kbps and 12.2 Kbps.
- **AAC**
The bit rates are selectable at the following rates: 8 Kbps, 16 Kbps, 24 Kbps, and 32 Kbps.
- **G.711**
 - pcmu
 - pcma.

Video codec setting



The screenshot shows a dialog box titled "Video codec setting" with a dark gray background. It contains three sections of settings:

- Please select the video codec:** A dropdown menu labeled "Codec type" with "H.264" selected.
- Please select the video size:** A dropdown menu labeled "Video size" with "1920x1080" selected.
- Please select the connection type:** Two radio buttons: "From local (Intranet)" (selected) and "From remote (Internet)".

At the bottom right, there are four buttons: "Cancel", "Prev", "Next", and "Finish".

- **Select Stream**
- **Select Codec Type:** The Network Camera supports three kind of video compression mode: "H.264" or "MPEG4" or "MJPEG". User can choose one of these compression modes based on requirement or application.
- **Select Video Size**
- **Select Connection Type:** Intranet or Internet mode

Video codec setting

Please adjust the frame rate

Maximum frame rate 15

Please select the intra frame period

Period

Please select the video quality type

Constant bit rate

Quality

Please adjust the quality

Quality 11 standard excellent

- **Adjust the Frame Rate:** This limits the maximal refresh frame rate per second. Set the frame rate higher for a smoother video quality.
- **Select the Intra Frame Period:** Determine how often to plant a frame. The shorter the duration, the more likely you will get a better video quality, but at the cost of higher network bandwidth consumption.
- **Select the Video Quality Type:** The balance between the bandwidth utilization and video quality.
 - **Constant bit rate:** Users can adjust the video quality from 20 Kbps to 12 Mbps. The camera will maintain a constant bit rate output, regardless of video quality.
 - **Quality:** The quality is selectable from 1 to 20.

Snapshot and time display setting

Snapshot and time display setting

Please select resolution and add/cancel time&date on the picture/stream

resolution ▼

add time and date on the picture/stream

Adjust the photo size and to add time and date on the video / photo.

Camera Control

Camera control



2M 10X PTZ Dome 2014-07-16 11:19:12 zoom x1.0

UL	Up	UR
Left	Home	Right
LL	Down	LR
-	Zoom	+
-	Focus	+
-	Iris	+

Zoom times display

Pan speed ▼ Tilt speed ▼
Zoom Step ▼ Focus Step ▼
Auto pan speed ▼
Patrol cycle ▼ Patrol speed ▼

Preset point setting

The current home position is
default

The current auto pan range is
default

The preset points list as following:
none

Camera control

The pan and tilt functions can be controlled with these buttons. The “Left” button controls the camera to the left; the “Right”, “Up”, and “Down” buttons control the camera accordingly.

- UL, UR, LL and LR buttons control the camera to an oblique angle. Home button controls the camera to the center.
- Zoom: Zooms in and out of the video image. (For CAM5330SZ only)
- Focus: Set focus of the video image. (For CAM5330SZ only)
- Iris: Set Iris of the video image. (For CAM5330SZ only)
- Pan speed: This sets the speed of the horizontal movement of the camera.
- Tilt speed: This sets the speed of the vertical movement of the camera.
- Zoom Step: Zoom step can be adjusted to bigger or smaller steps.
- Focus Step: Focus step can be adjusted to bigger or smaller steps.
- Patrol Cycle: It is the cycle of patrol function.
- Auto Pan Speed: This defines the speed of auto panning.
- Auto Patrol Speed: This defines the speed of auto patrol.

Preset point setting

Preset point setting

Please select one of the items

- Set the home position
- Set the auto pan range
- Add or delete a preset point

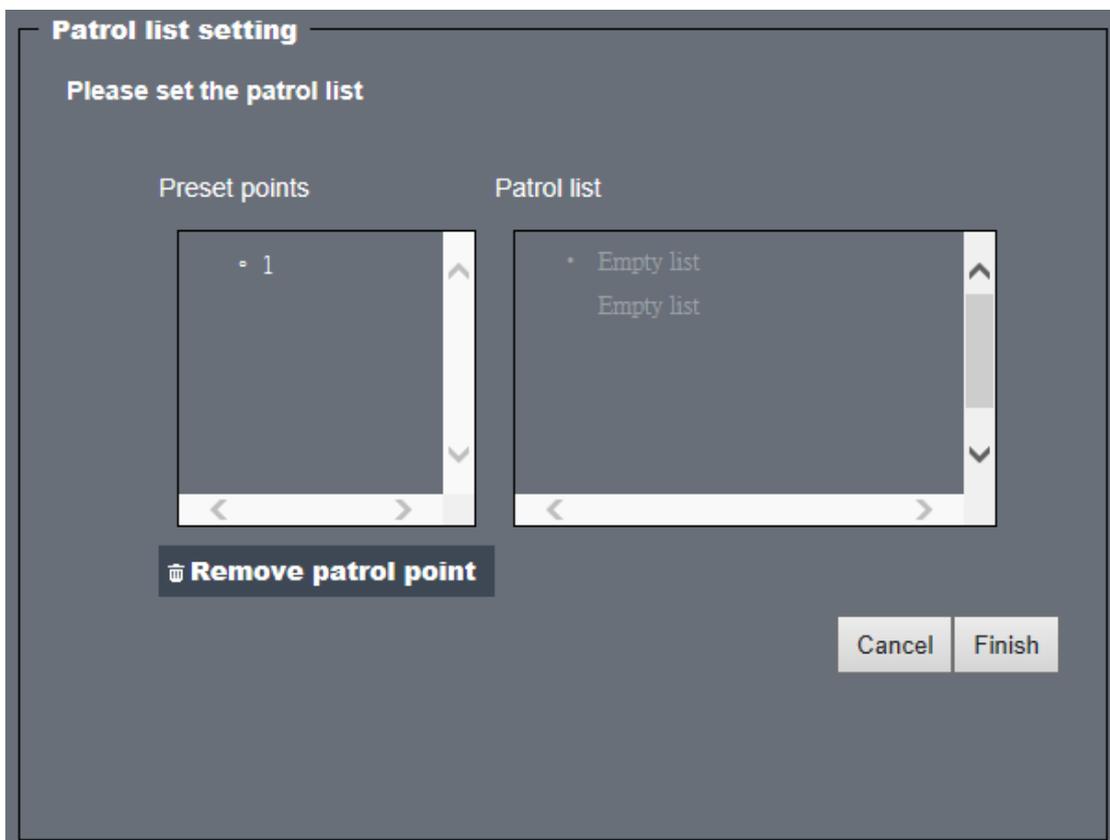
Cancel Prev Next Finish

- **Set the home position**
 - **Set default value as home position:** Restore home position to original default's home by clicking on this button.
 - **Set the current position as home position:** Click on the button will set the current aimed position as home of the Network Camera. Each time the Network Camera reboots or finishes calibration, it will automatically aim to the defined home position
- **Set the auto pan range**

- **Set default value as auto pan range:** Restore auto pan range to the default by clicking on this button.
- **Set the auto pan range manually:** Click on the button to set the auto pan range.
- **Add or delete a preset point**
 - **Add current point as a preset point:** If users want to save the current view as a preset location, enter a name to each of the current video view on “Preset points” and click on the “Finish” button. The camera allows 20 preset locations to be saved.
 - **Delete a preset point from below”** This keeps a list for preset positions. Clicking on the “Finish” button will remove the current selected position from the preset list.

Patrol list setting

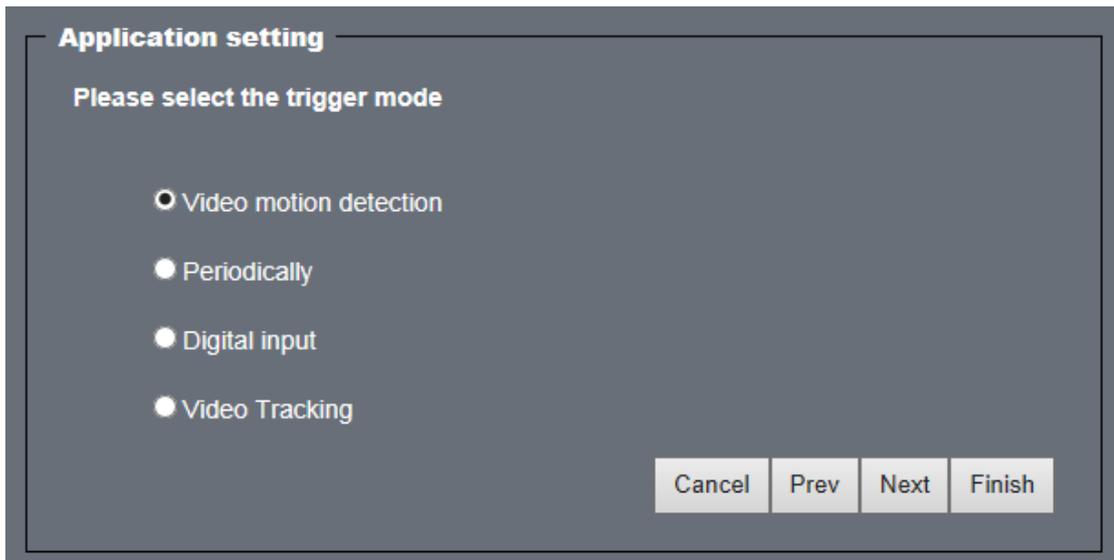
Once the presets are set, the patrol setting will show up.



- **Preset points:** The camera has 64 preset points. Drag the preset points you have set on the left to the patrol list on the right.

- **Patrol list:** Users can drag the preset point to arrange the order and set **Dwelling time (sec):** the stop time of each preset location during auto patrols.
- **Remove patrol point:** Drag the unwanted preset points from the patrol list to the **Remove patrol point bin** .

Application



- **Schedule mode**
 - Every day Enable/Disable every day application.
 - Week day Enable/Disable week day application.
 - Selected day Enable/Disable selected day application.
- **Schedule information**
 - Enter the **Start time** and **Stop time** for day mode.

Note: The time format is [hh:mm:ss] and is expressed in 24-hour clock time. By default, the start and end time of day mode are set to 00:00:00 and 23:59:59.

- **Week day:** SUN, MON, TUE, WED, THU, FRI, SAT, select the days of the week to perform the application and set the start and the end time.
 - **Selected day:** select start and end day, and then select start and end time.
- **Trigger mode**
 - **Video motion detection:** Enable/Disable video motion application. Click **New** to add new windows; up to 16 windows can be created.

Drag the created windows to the desired location. Use the object size and the sensitivity bars to adjust the parameters.

- **Periodically:** This option allows the Network Camera to trigger periodically for every other defined minute. Up to 999 seconds are allowed.
 - **Digital input (For CAM5330SZ only):** This option allows the Network Camera to use an external digital input device or sensor as a trigger source. Depending on your application, there are many choices of digital input devices on the market which helps to detect changes in temperature, vibration, sound, and light, etc.
 - **Video Tracking:** Use this option to track dynamic objects within screen video. **Tracking level** can be set from 1 to 5, the lower the level, the more sensitive.
-
- **Media mode**
 - System log
 - Snapshot
 - Record
 - Message
 - Generate digital output signal
-
- **Response mode**
 - Send a Email
 - **Email security mode:** SMTP, TLS, SSL
 - **Server address:** Enter the domain name or IP address of the server.
 - **Server port:** The default mail server port is set to 25. You can also manually set another port.
 - **User account:** Enter the login name of the email account.
 - **User password:** Enter the password of the email account.
 - **Sender email address**
 - **Recipient email address**
 - **Email subject**

- Email body
- Upload to FTP server
 - FTP server address: Enter the domain name or IP address of the FTP server.
 - FTP server port: By default, the FTP server port is set to 21.
 - User account: Enter the login name of the FTP account.
 - User password: Enter the password of the FTP account.
 - FTP folder name: Enter the folder where the media file will be placed. If the folder name does not exist, the Network Camera will create one on the FTP server.
- Upload to HTTP server
 - URL: Enter the URL of the HTTP server.
 - User account: Enter the username if necessary.
 - User password: Enter the password if necessary.
- Store at NAS
 - NAS server address: Enter the IP address of the NAS server.
 - NAS shared directory: Enter the NAS shared directory path.
 - Workgroup: Enter the NAS workgroup parameter.
 - User account: Enter the login name of the NAS account.
 - User password: Enter the password of the NAS account.

Note: Video record with the Application must be set to the same shared directory path. If you wish to set recording setting details or multi-channel recording, please install 64CH recording bundled software from the CD.

- Store at SD card
- Store at USB flash disk (For CAM5330SZ only)

Storage

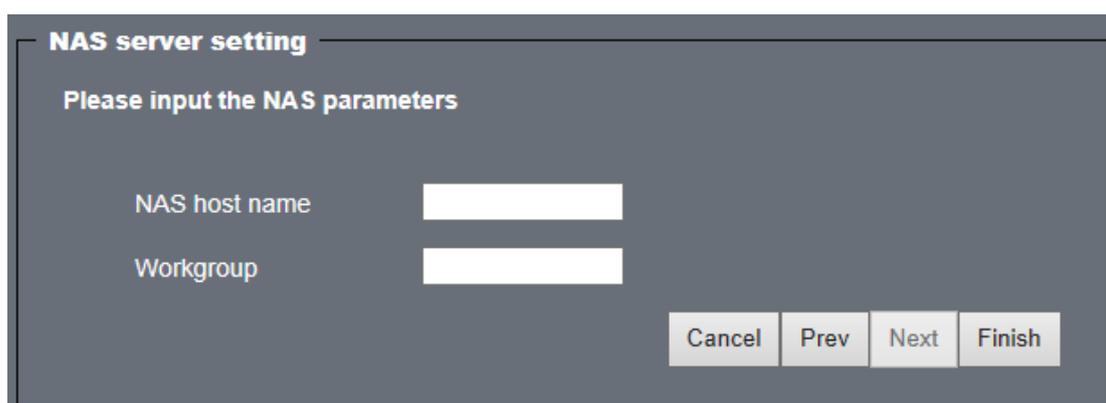
The screenshot displays the 'Storage' settings screen. At the top, under 'NAS server setting', there are two radio buttons: 'SD Card NAS server' (unchecked) and 'USB NAS server' (checked). Below these are 'Cancel', 'Prev', 'Next', and 'Finish' buttons. The main area has two tabs: 'SD card' (selected) and 'USB flash drive'. A red box labeled '1' highlights the storage statistics: 'Total space: 3931136 KB', 'Used space: 1277088 KB', and 'Free space: 2654048 KB'. A 'Format' button is located to the right of these statistics. A red box labeled '2' highlights a list of files and folders, including '.Spotlight-V100', '.TemporaryItems', '.Trashes', and various image and video files. A red box labeled '3' highlights a menu with three options: 'Upload', 'Format', and 'Quit'.

1. SD Card / USB Flash Drive (For CAM5330SZ only) contents information
2. Device contents in details

3. Right-click on the blank area to see options of upload, format and quit. Files can be managed here. Move the mouse to the file and right-click to see the options to delete, format, or quit.

Note : Allow users to upload or delete files when the storage device is not write- protected. If the SD card can't be detected, please link to the following URL: <http://www.sdcard.org/consumers/formatter> to download the "SD Formatter Kit" to format your SD card.

NAS server setting



NAS server setting

Please input the NAS parameters

NAS host name

Workgroup

Cancel Prev Next Finish

- **NAS Host name:** Input the NAS Host name of this camera.
- **Workgroup:** Input the name of Workgroup. You can see the NAS Host name you input in the same workgroup with your PC. Then you can connect to this device and download the files easily from SD card or USB (For CAM5330SZ only) which is inserted to this camera.

Syslog

Remote log setting

Please enter the IP address

IP address

Port number

Current log

```
Jul 16 15:37:26 CAM5330SZ syslogd 1.5.0: restart.
Jul 16 15:37:26 CAM5330SZ syslog: Auto change IP Address to 192.168.88.11 .
Jul 16 15:37:30 CAM5330SZ syslog: Network interface is eth0.
Jul 16 15:37:31 CAM5330SZ syslog: Start rtsp process with Pid : 1592
Jul 16 15:37:33 CAM5330SZ syslog: [VENC_MOTION] venc_motion thread pid: 1611
Jul 16 15:37:34 CAM5330SZ syslog: [VENC_Capture] Start VENC_Capture process with Pid :
1672
Jul 16 15:37:42 CAM5330SZ syslog: Use external microphone
Jul 16 15:37:55 CAM5330SZ PcliFinder: Start IP discovery: Local IP(172.30.10.106), Broadcast
IP(255.255.255.255:49160)
Jul 16 15:37:55 CAM5330SZ PcliFinder: Send first IP discovery info
Jul 16 15:37:56 CAM5330SZ PcliFinder: [UPnP] Device info: 172.30.10.106:49152)
Jul 16 15:37:57 CAM5330SZ PcliFinder: [UPnP] Terminate
Jul 16 15:37:57 CAM5330SZ PcliFinder: [UPnP] Stop UPnP device daemon.
Jul 16 15:37:57 CAM5330SZ PcliFinder: Start IP discovery: Local IP(172.30.10.106), Broadcast
IP(255.255.255.255:49160)
Jul 16 15:37:57 CAM5330SZ PcliFinder: Send first IP discovery info
Jul 16 15:37:58 CAM5330SZ PcliFinder: [UPnP] Device info: 172.30.10.106:49152)
Jul 16 15:38:56 CAM5330SZ syslog: Connecting from 172.30.10.101 .
Jul 16 15:39:21 CAM5330SZ syslog: Connecting from 172.30.10.79 .
Jul 16 15:39:21 CAM5330SZ syslog: Connecting from 172.30.10.101 .
Jul 16 15:40:47 CAM5330SZ syslog: Connecting from 172.30.10.79 .
Jul 16 15:40:49 CAM5330SZ syslog: Connecting from 172.30.10.101 .
Jul 16 15:40:49 CAM5330SZ syslog: Connecting from 172.30.10.79 .
Jul 16 15:40:53 CAM5330SZ syslog: Connecting from 172.30.10.101 .
Jul 16 15:41:12 CAM5330SZ syslog: Connecting from 172.30.10.79 .
23
```

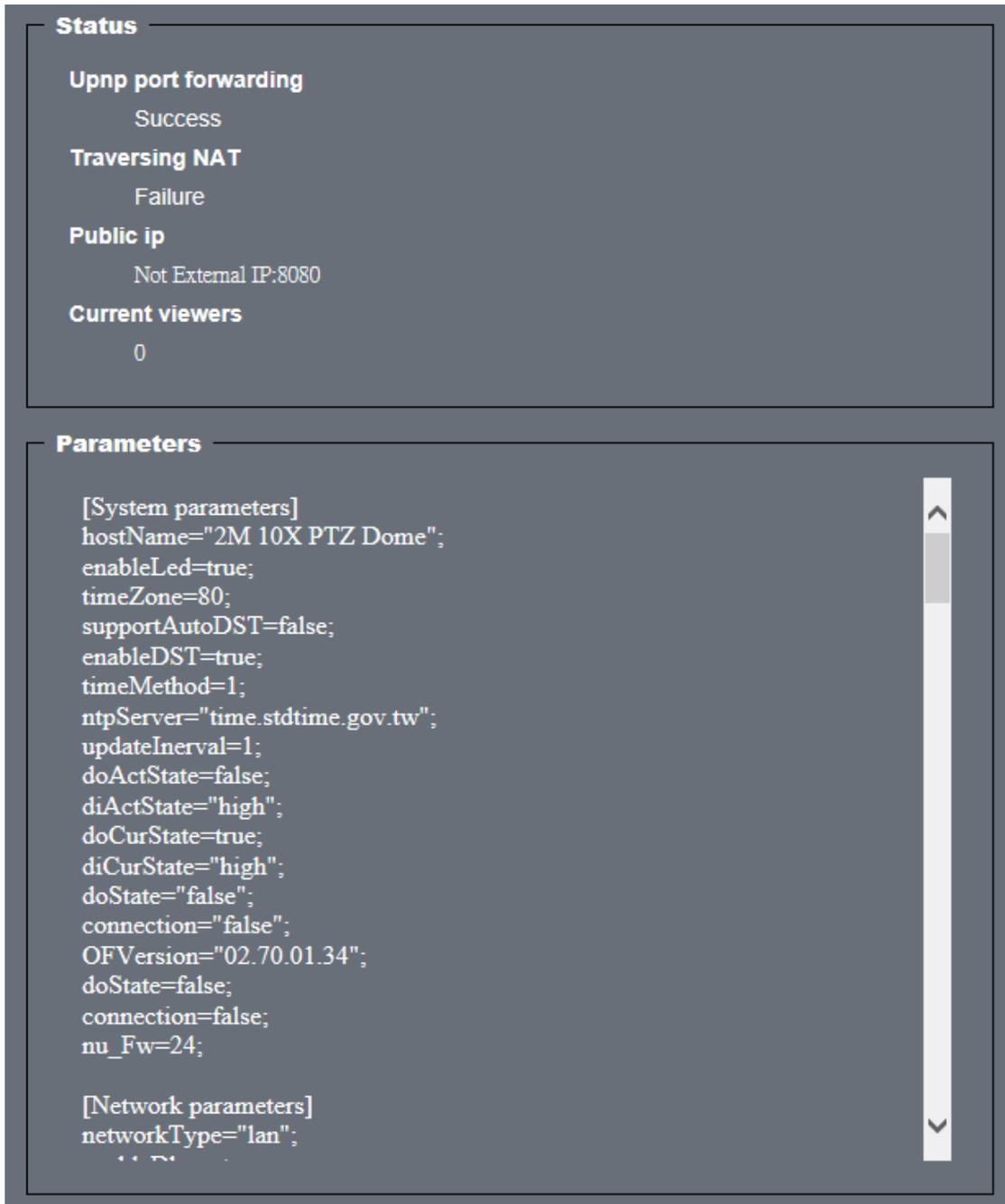
The log lists important information such as login information, changes to camera settings (both successful and unsuccessful), triggered events, and error messages. This information can be very useful in the event of a camera failure or unauthorized entry.

The protocol is compliant to RFC 3164. If you have external Linux server with syslog service, use “-r” option to turn on the facility for receiving log from remote machine. Or you can use some software on Windows that is compliant to RFC 3164. An example is Kiwi Syslog Daemon. Visit <http://www.kiwisyslog.com/kiwi-syslog-daemon-overview/>.

Check **Setup** and **Enable** then input the **IP address** and **port number** of the log server to enable the remote log facility.

Status and Parameters

Find the system information such as "Upnp port forwarding", "Traversing NAT", "Public IP", and so on. Users also can see the number of current viewer of the Network Camera here.



The screenshot displays a web interface with two main sections: "Status" and "Parameters".

Status

- Upnp port forwarding**: Success
- Traversing NAT**: Failure
- Public ip**: Not External IP:8080
- Current viewers**: 0

Parameters

```
[System parameters]
hostName="2M 10X PTZ Dome";
enableLed=true;
timeZone=80;
supportAutoDST=false;
enableDST=true;
timeMethod=1;
ntpServer="time.stdtime.gov.tw";
updateInterval=1;
doActState=false;
diActState="high";
doCurState=true;
diCurState="high";
doState="false";
connection="false";
OFVersion="02.70.01.34";
doState=false;
connection=false;
nu_Fw=24;

[Network parameters]
networkType="lan";
```

The Parameters section includes a vertical scrollbar on the right side, indicating that the list of parameters is scrollable.

Maintenance

Reboot system
Use the button to reboot the system

Restore system
Restore all settings to factory default except settings in
 Network type Root password

Calibrate camera
Recalibrate the home position to the default center to recover the tolerance caused by some external forces
Recalibrate the autofocus position to the default range to recover the tolerance caused by some external forces

Export/Import file
Export setting backup file
Import setting backup file

Upgrade firmware
Select a file to upgrade

- **Reboot system:** The **Reboot** button will reboot the Network Camera. It's useful while the Network Camera got problem.
- **Restore system:** Click the **Restore** button to restore to the factory default settings except settings in **Network type** and **Root Password** when these 2 options are not checked. When these 2 options are checked, the system will restart and require setting up the network again.
- **Calibrate camera (For CAM5330SZ only)**
 - Recalibrate the home position to the default center. Once clicking the **Calibrate** button, the Network Camera will calibrate immediately.
 - Recalibrate the autofocus position. Once clicking the **Calibrate** button, the Network Camera will calibrate immediately.
- **Export/Import file**
 - **Export setting backup file:** Click **Export** to export all the parameters and user-defined scripts for the device.

- **Import setting backup file:** Click **Browse...** to upload a setting backup file.

Note : The model and firmware version of the device should be the same for the setting backup file. If you have set up a fixed IP or other special settings for your device, it is not suggested to upload a settings backup file.

- **Upgrade firmware:** Select the firmware file and click upgrade button. Please do not turn off the power during upgrading and wait till the process completes.

Warning: *The upgrade firmware procedure cannot be interrupted. If the power and/or network connection are broken during the procedure, it might possibly cause serious damage to the Network Camera.*

Note: Firmware upgrade will take 120-210 seconds, the system will restart and require the installer to set up the network again.

Chapter 5. Configuration through the IP Utility

Camera configurations can be done through web interface and IP Utility.

**For IP Utility, please look into [this chapter](#); for web interface, please refer to [Chapter 4](#).

		Web Interface	IP Utility
General	Basic Settings	V	X
	User Account	V	X
	Date & Time	V	X
Network	Network Configuration	V	Set IP Only
	Port Settings	V	X
	UpnP	V	X
	Wifi Setting	V	X
Video & Audio Settings	Basic Settings	V	X
	Image Appearance Settings	V	X
	Video Streams	V	X
	Audio Settings	V	X
PTZ	RS-485 Settings/PTZ Settings	V	X
Recording	Recording Basic Settings	V	X
	Recorded File Management	V	X
Event Notification	Event Server	V	X
	Motion Detection	V	X
	Tampering Detection	V	X
	DI & DO	V	X
	Event Settings	V	X
System	MicroSD Card Management	V	X
	System Status	V	V
	System Log	V	X
	Firmware Upgrade	V	V
	Resetting to Factory Default Settings	V	X

	Export/Import	V	V
	Reboot	V	V
Camera Search		X	V
Login		V	V
Properties		X	V
Delete from Tool		X	V
Clearing and Setting Status		X	V
Camera Group Actions		X	V
Focus Tool		X	V

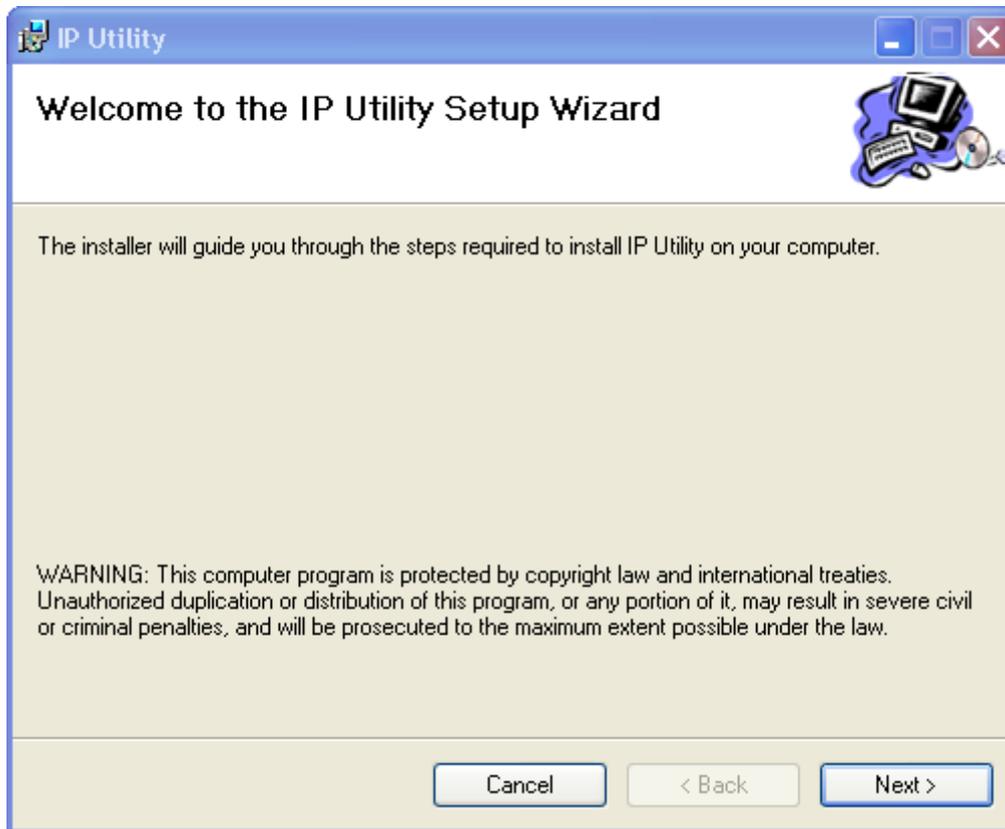
5.1. Overview

The IP Utility is a set of tools for network cameras. It includes tools to create, modify, delete and manage groups within the camera; The IP Camera Utility also provides tools to perform simple connectivity configuration, firmware upgrades and reboot operations. The utility is intended to simplify the configuration and management of multiple cameras.

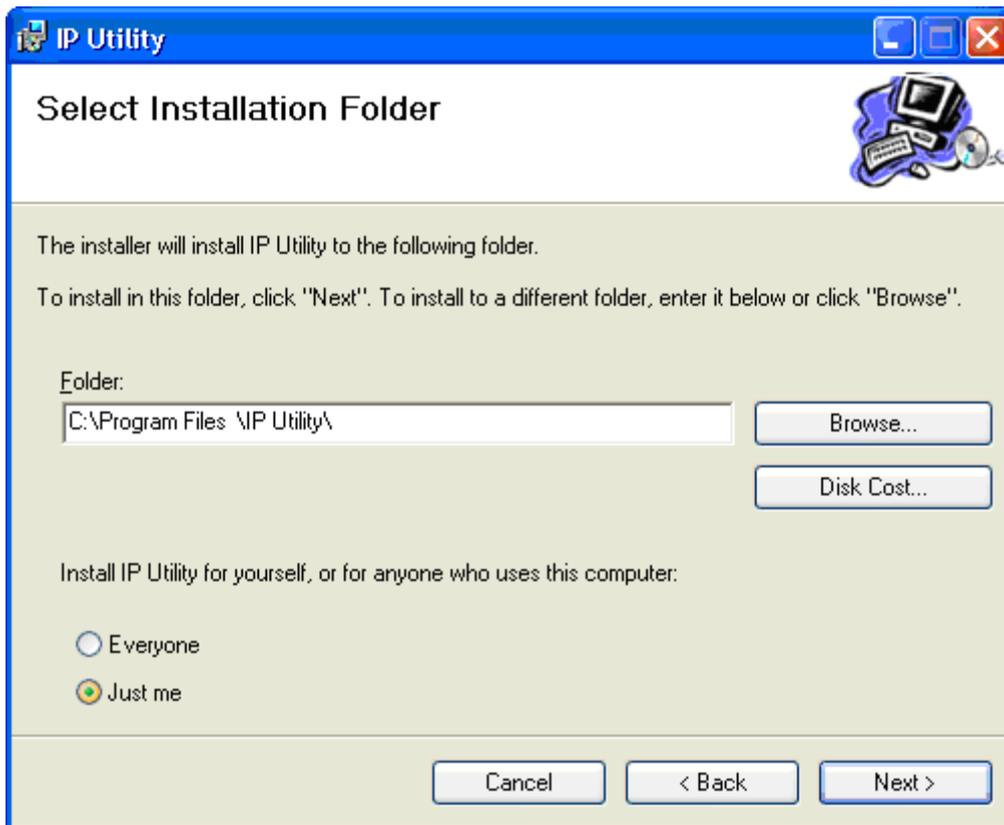
5.2. Installing the IP Utility

Install the IP Utility with the following steps:

1. Start SearchToolInstall.exe to begin the utility installation dialog:



2. Click **Next** to continue with installation.



3. Fill in the **Folder** field to specify the installation path. Clicking **Browse...** pulls up a file system browser. Clicking **Disk Cost** will display free space and the space the utility will take up on disks.
4. Choose if you wish to install the application for the current user only (**Just me**) or all users on this computer (**Everyone**).
5. Click **Next** to continue. The system will respond with a ready screen. Click **Next** again. The system will respond by displaying installation progress.
6. You may click **Cancel** at any time before finishing introduction, or **<Back** if it is available to cancel or jump back a step. Click **Close** when after installation is complete. The software is ready to use at this point.

5.3. IP Utility Basics

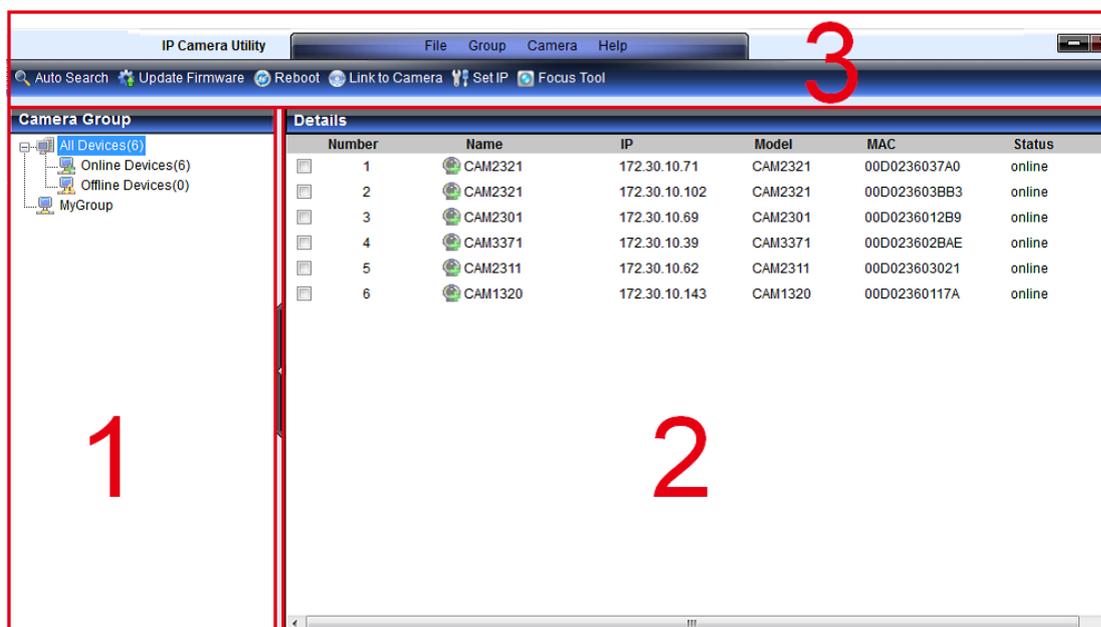
Starting the IP Utility

To start the IP Utility, double-click the IP Utility shortcut on your desktop or go to **Start > Program Files > IP Utility > IP Utility**.

Note: On startup, the utility will automatically scan for IP Cameras on the same subnet as the computer. In some cases this may result in longer wait times.

IP Utility Main Screen

The IP Utility main screen is divided into 3 sections:



1. Camera Group Display - displays group details
2. Camera Detail Display - displays camera details
3. Function Buttons and Menus - this section contains alternative access methods for functions that can be done within the Camera Group and Camera Detail Displays. This manual does not discuss this section separately.

Exiting the IP Utility

To exit the IP utility, click the X button on the top right corner of the screen or choose **File > Exit** from the menu bar.

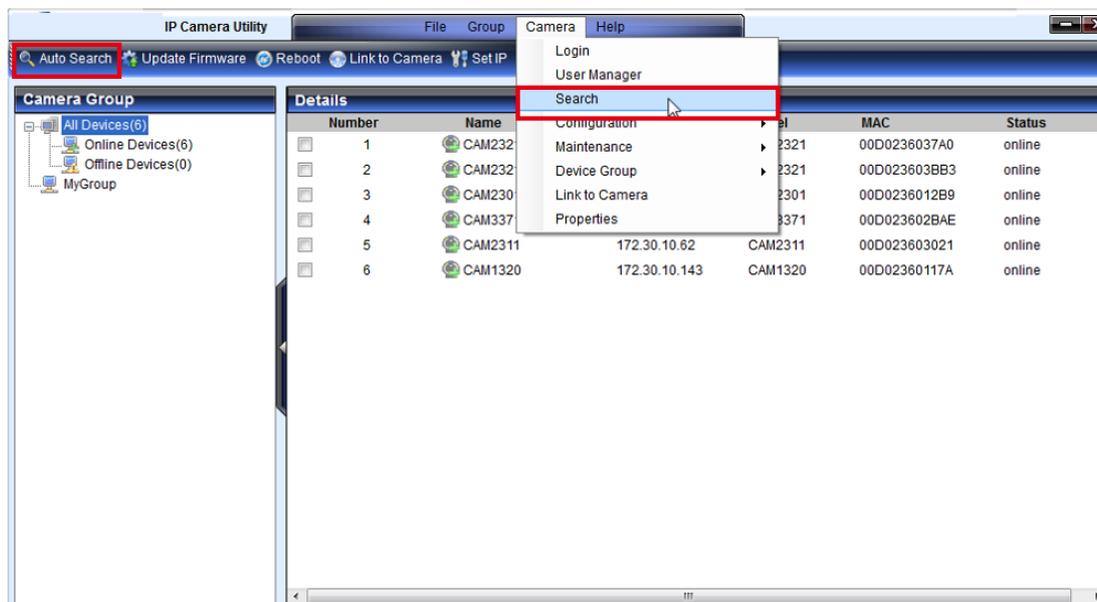
5.4. Camera Actions

This section displays camera information, including the IP, Name, Model, MAC Address, Status and Network Mask.

Search

Search updates the details for the cameras listed, as well as locates any new cameras connected on the same subnet. The search is performed every time the IP utility starts. To perform search again:

1. Click the **Auto Search** button or click **Camera > Search** in the menus. The search will begin, and a status bar will display the search progress.

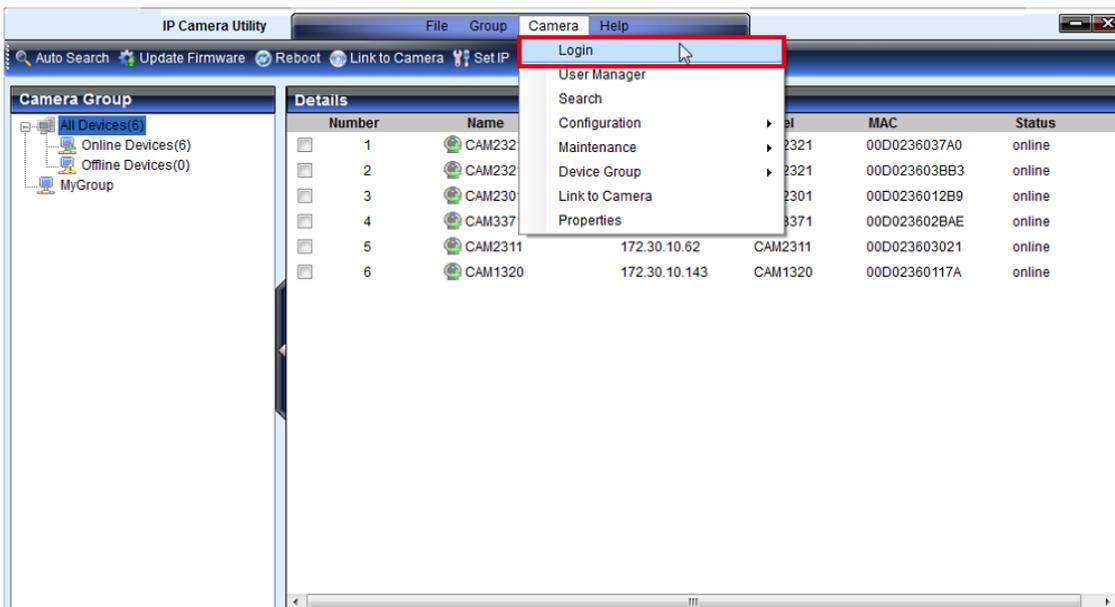
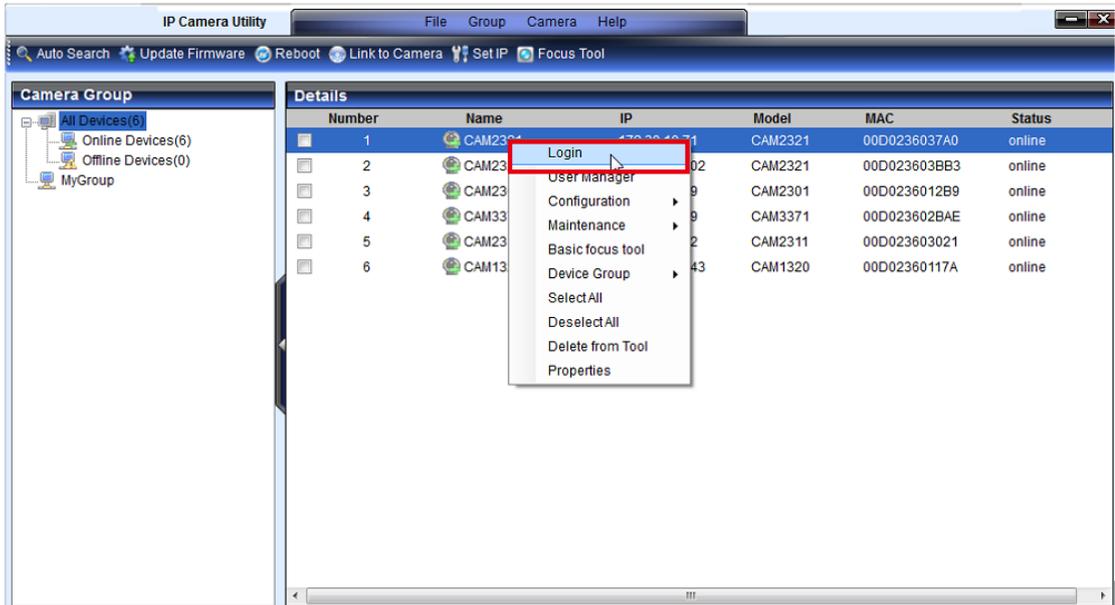


Note: The search may take up to 2 minutes, depending on your network configuration.

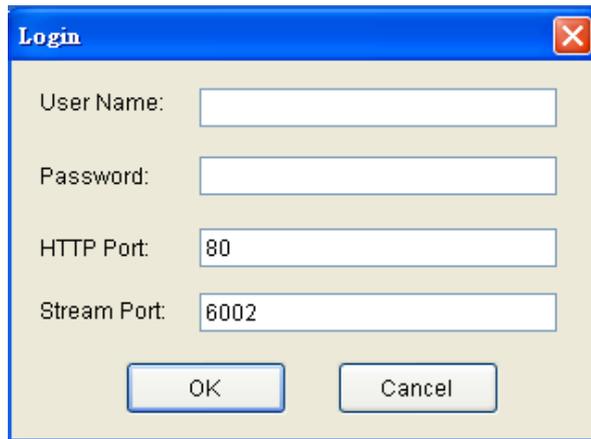
Login

Before performing camera actions, most cameras require that proper login credentials are supplied. To login to a camera:

1. Right click the camera you wish to set. Select **Login** from the popup, the system responds with the *Login* window. Alternatively, click the camera entry and choose **Login** from the **Camera** menu.



2. Fill in the user name and password.



A dialog box titled "Login" with a close button (X) in the top right corner. It contains four input fields: "User Name:" (empty), "Password:" (empty), "HTTP Port:" (containing "80"), and "Stream Port:" (containing "6002"). At the bottom are "OK" and "Cancel" buttons.

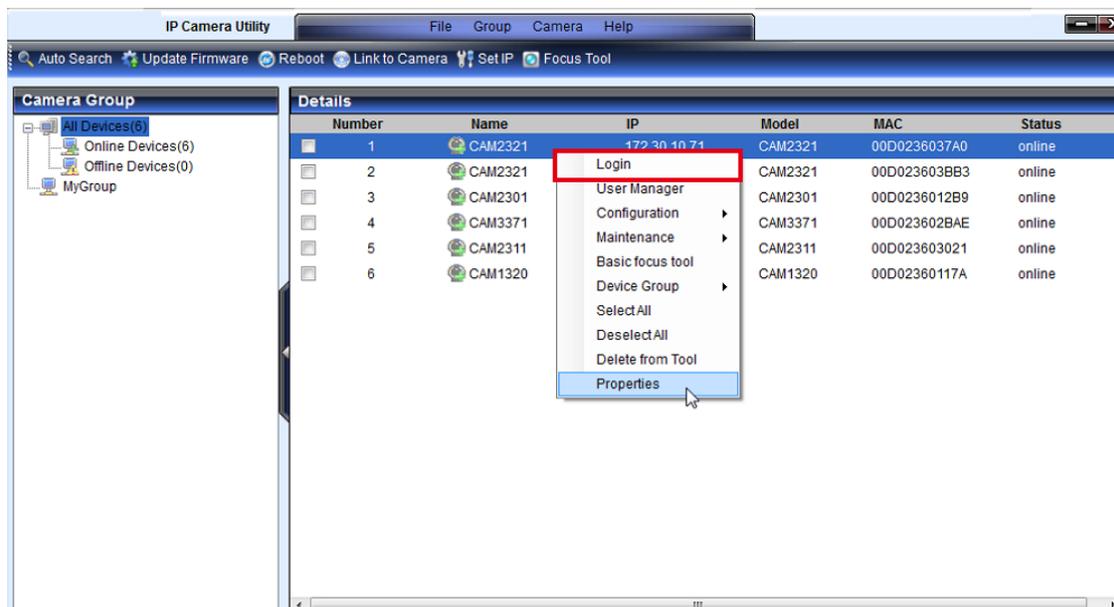
3. Click OK to set the username and password.

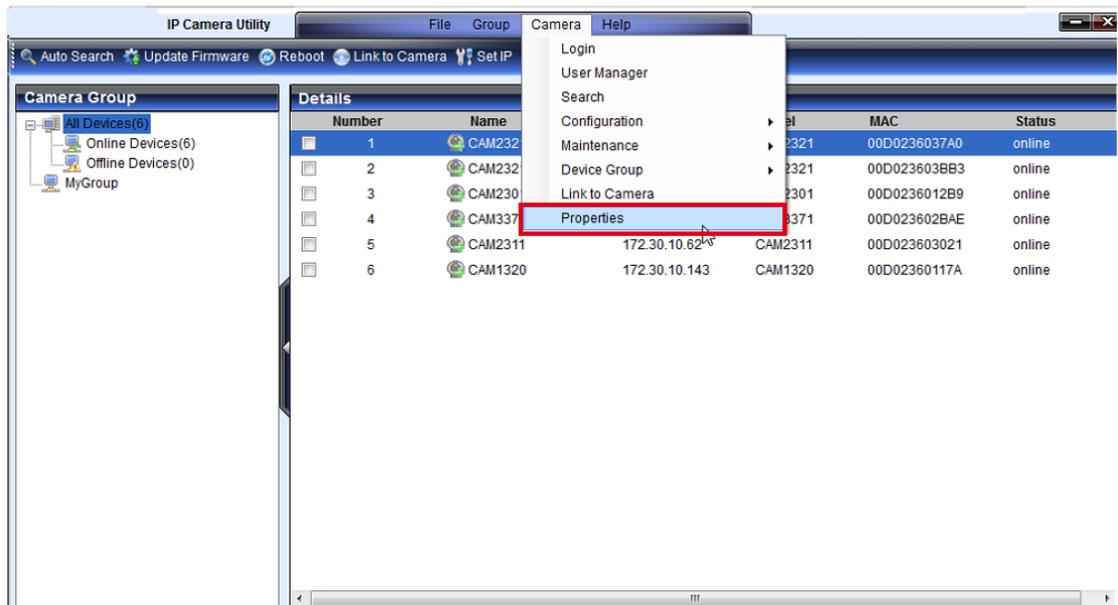
Note: To perform further configuration, please make sure that the User set here has administrator privileges. The default Username/Password for cameras is admin/admin.

Properties

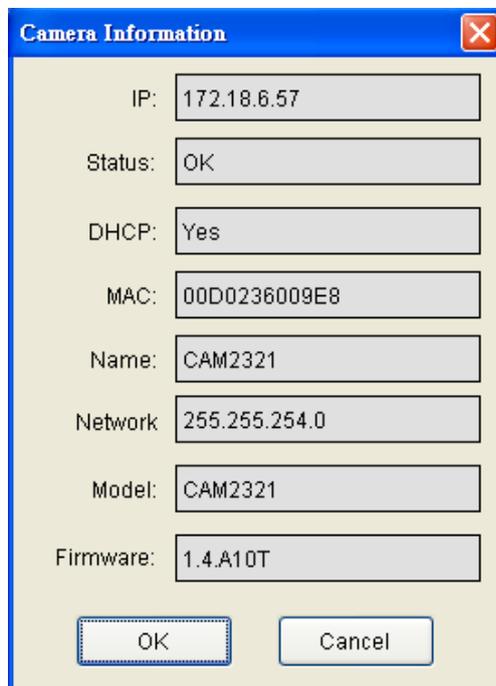
The properties of a camera can be viewed by following these steps:

1. Select a camera by checking the box in the first column of its listing.
2. Right click the camera and select **Properties**, or select **Camera > Properties** from the menu bar.



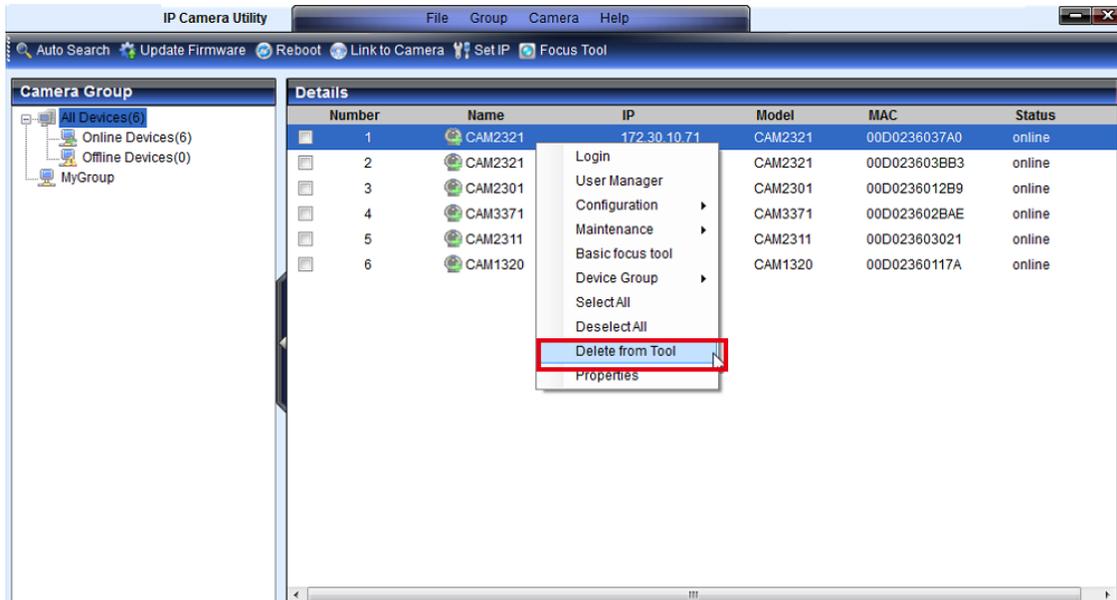


The *Camera Information* popup will display with camera details.



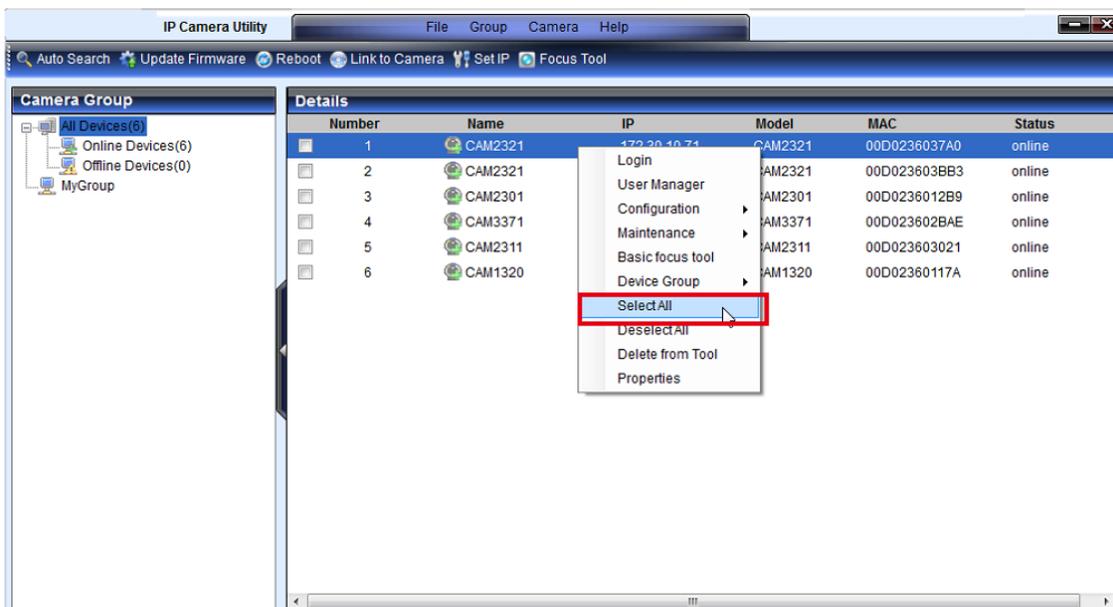
Delete from Tool

1. Select one or more cameras by checking the box in the first column of their listing.
2. Right click the camera(s) which you want to delete from the tool and select **Delete from Tool**. The camera will be removed from the listings.



Select All

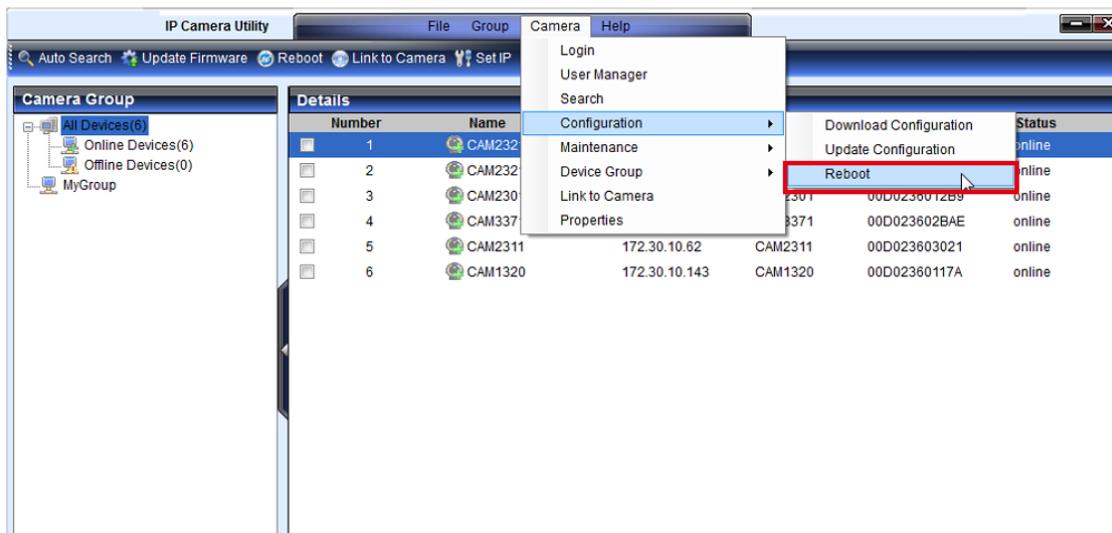
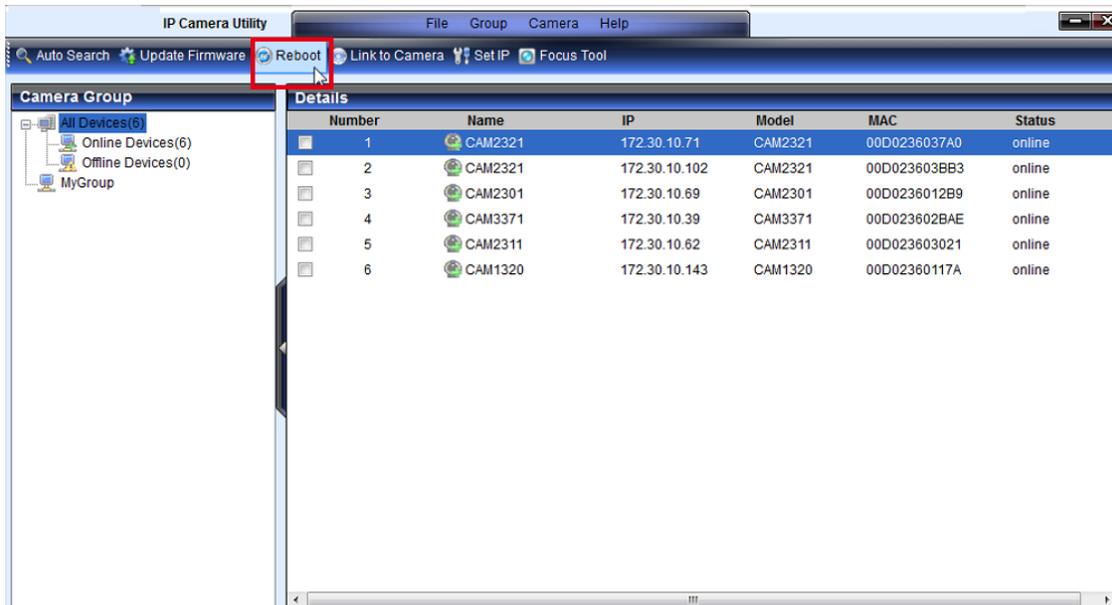
In a group context, right clicking a camera, and selecting **Select All** will select all the cameras in the group.



Rebooting Camera

In certain cases it may be necessary to reboot the camera. To do this:

1. Select a camera by checking the box in the first column of its listing.
2. Click the **Reboot** button or select **Camera > Configuration > Reboot** from the menu bar.

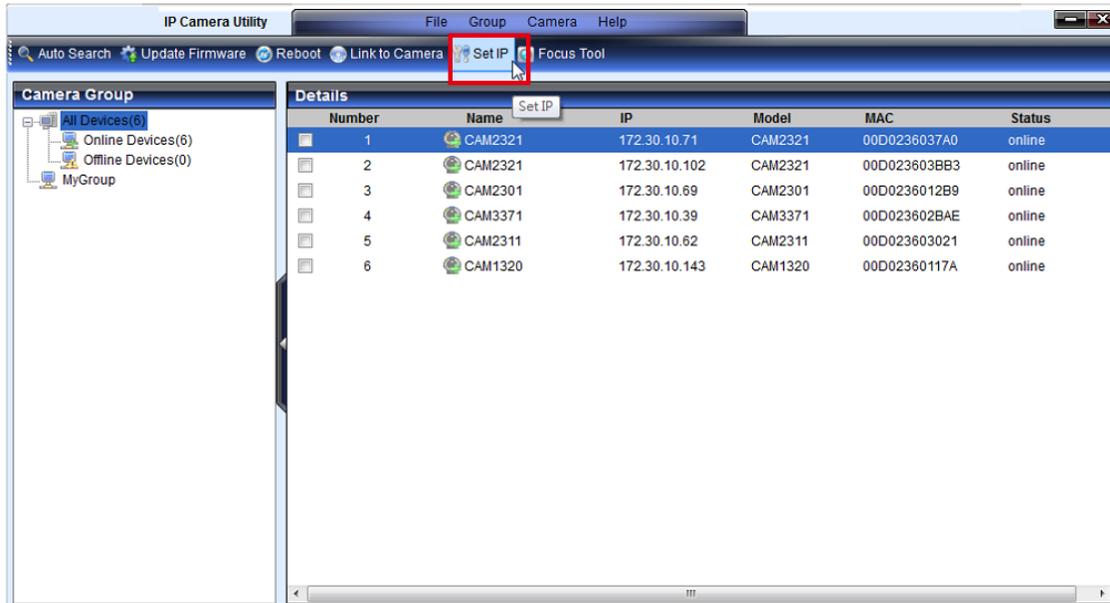


The camera will reboot. If further configuration is needed, perform the **Login** function again after the reboot is completed.

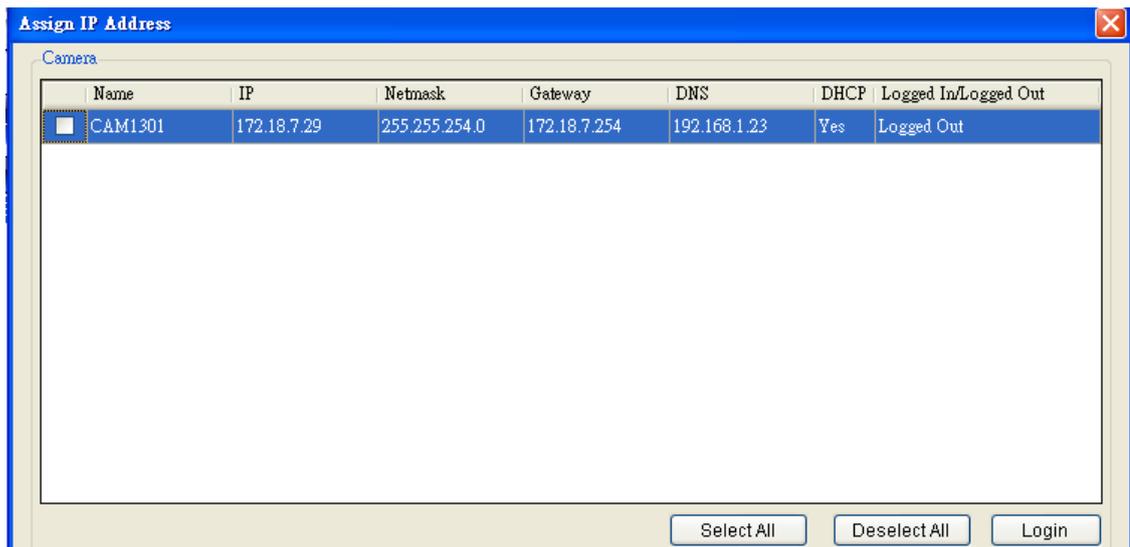
Set IP

The IP Address of a camera can be set by following these steps:

1. Click the Set IP button.



2. You can choose to obtain an IP address from DHCP or assign a fixed IP.



3. Select one or more cameras by checking the box in the first column of their listing. Click **Select All**.
4. A *Login* window will pop up. Fill in the user name and password. Click **OK**.

Login

User Name:

Password:

HTTP Port:

Stream Port:

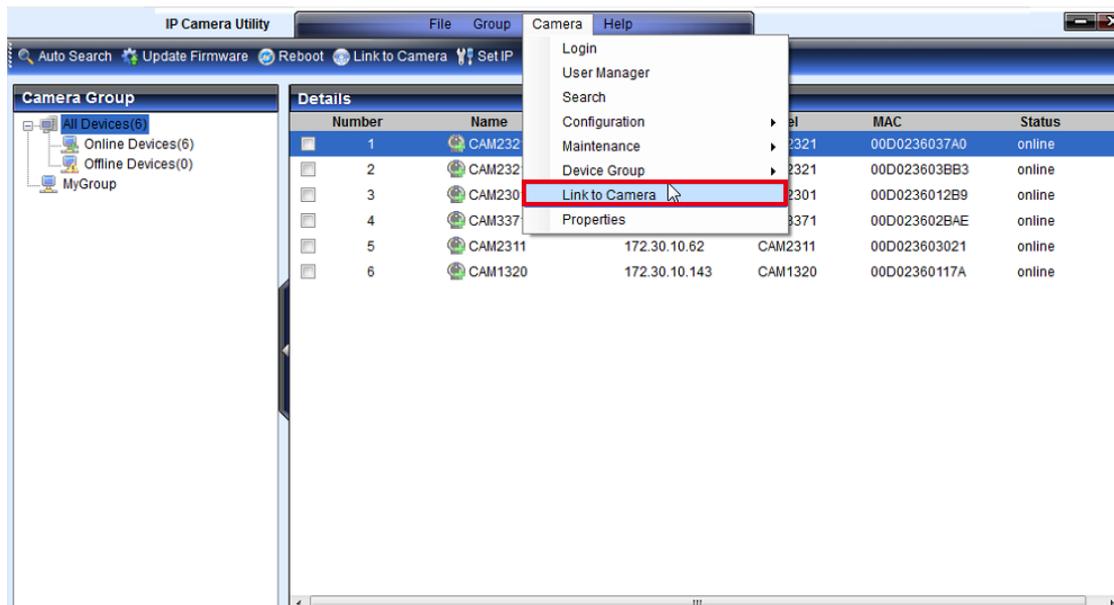
OK Cancel

Click **OK** to save or **Cancel** to abort the changes before you leave the page.

Link to Camera Web Interface

Link to Camera

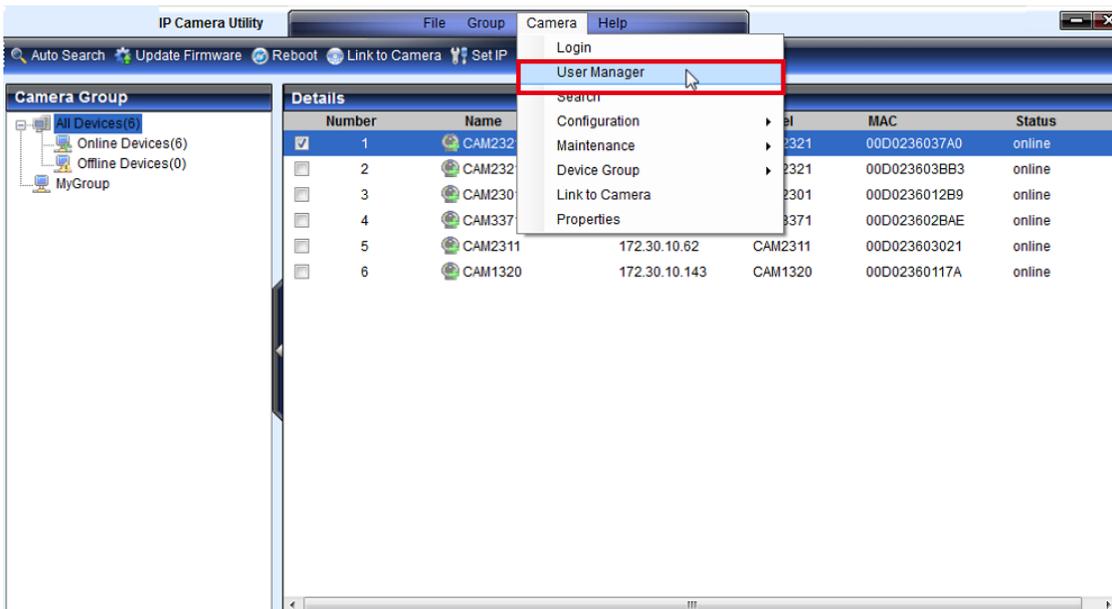
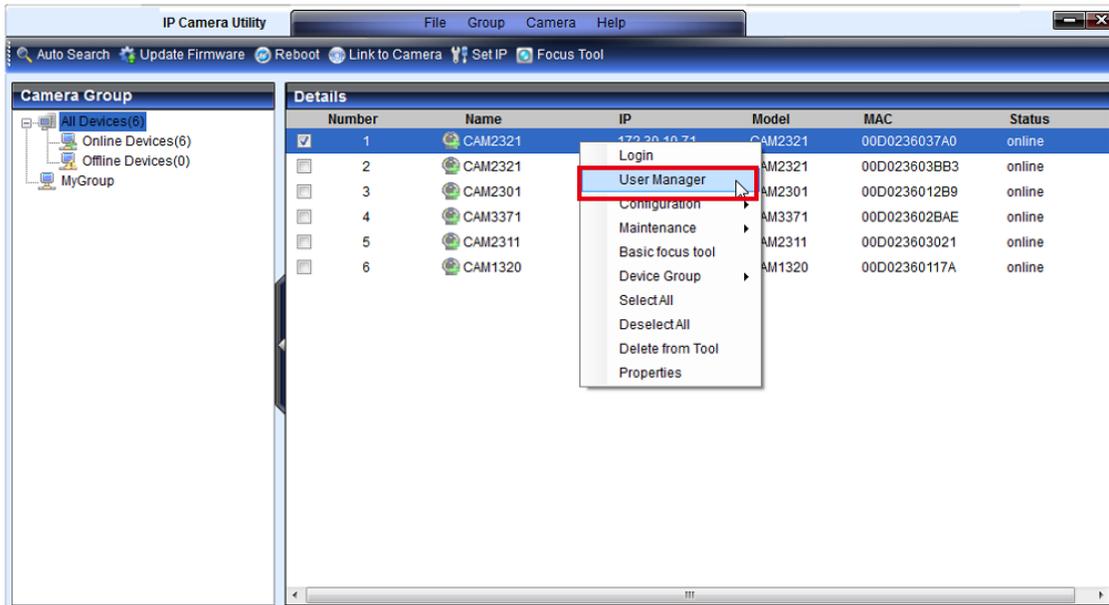
1. Select a camera by checking the box in the first column of its listing.
2. Double click the selected camera or select **Camera > Link to Camera** in the menu bar. The camera's live view webpage will open in a browser window.



Link to Camera User Manager

This function links to the user management page of the selected camera.

1. Select a camera by checking the box in the first column of its listing.
2. Right click the camera and select **User Manager** or click **Camera > User Manager** in the menu bar. The camera's user management webpage will open in a browser window.



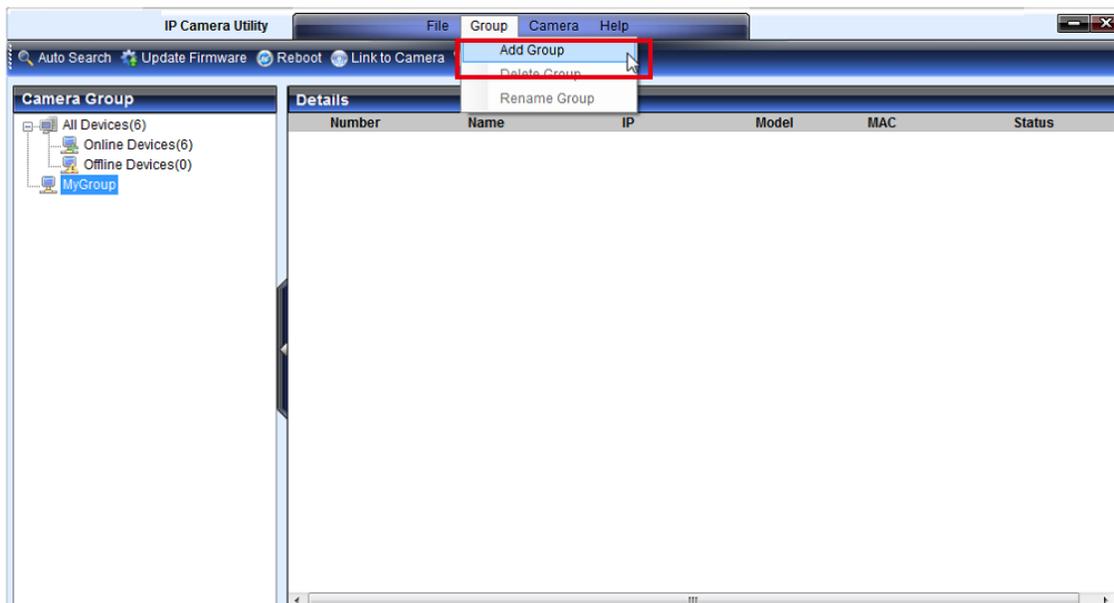
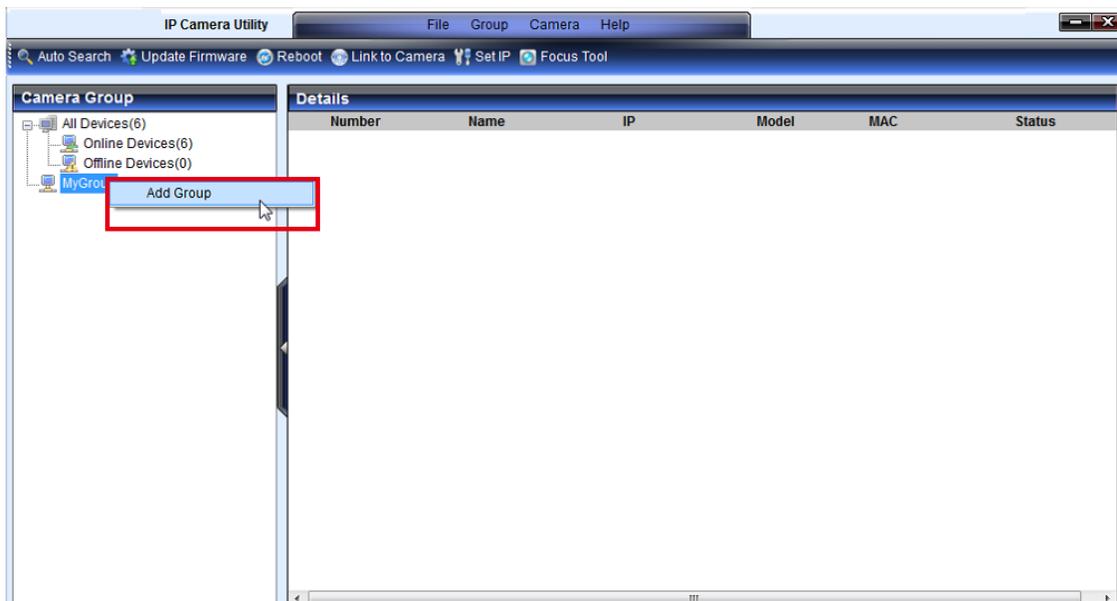
5.5. Camera Group Actions

The *Camera Group* frame contains a simple tree containing group listings. There are two pre-defined subsections.

- **All Devices** - contains all the cameras in the tool, as well as predefined groups *New Devices* and *Warnings/Errors*
- **MyGroup** - contains only user defined groups.

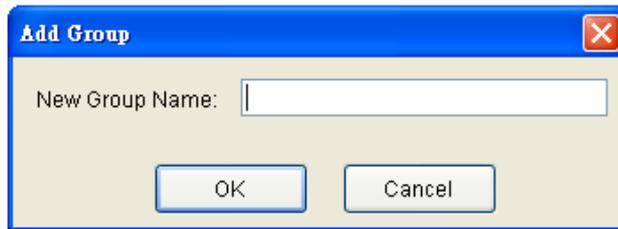
Add Group

1. Right click the *MyGroup* root, and choose **Add Group** or choose **Add Group** from the **Group** menu.



The system responds with the *Add Group* popup.

2. In the *New Group Name* field, type in a group name.

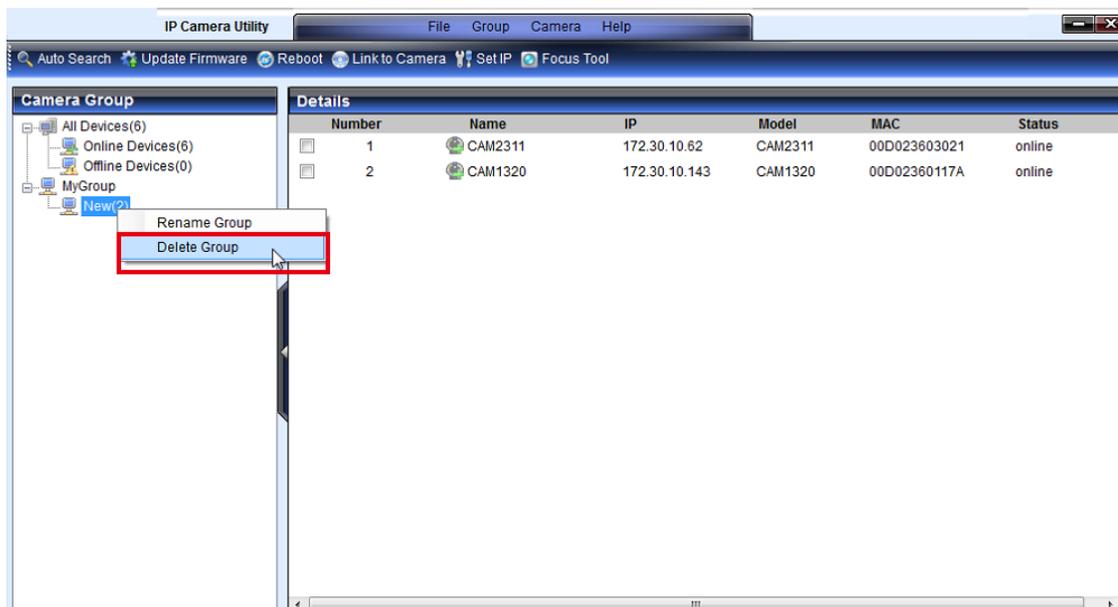


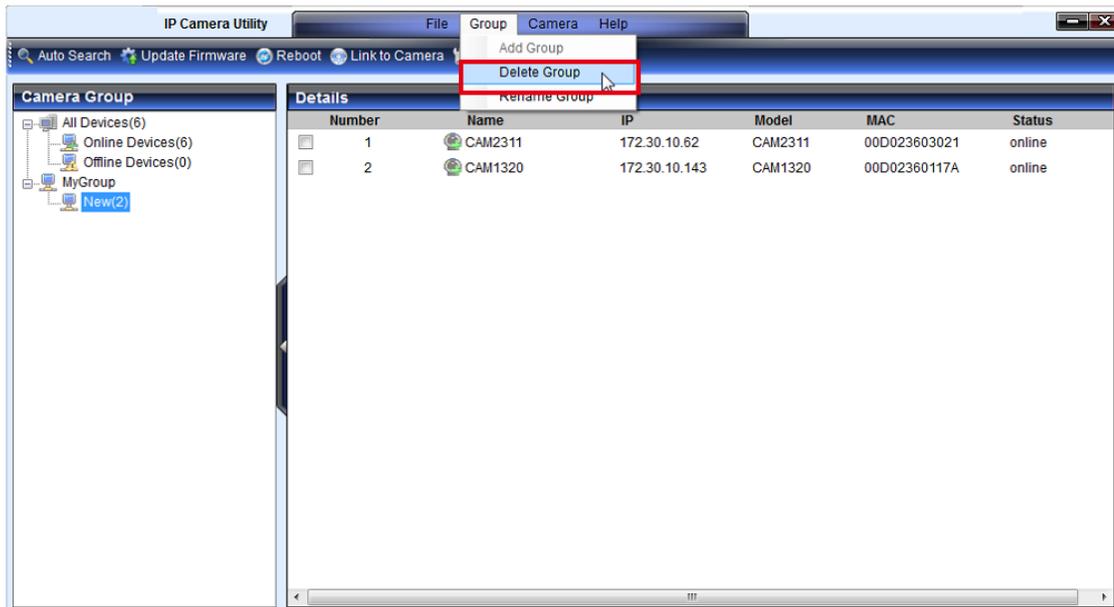
3. Click OK to add the group. The group will appear under *MyGroup*

Note: Camera group names can contain upper and lower-case letters, numerals and the _ symbol. Cameras can belong to more than one group.

Delete Group

1. Expand *MyGroup* and right-click the group you wish to delete.
2. Choose **Delete Group** to delete the group. Alternatively, click the group and choose **Delete Group** from the **Group** menu.



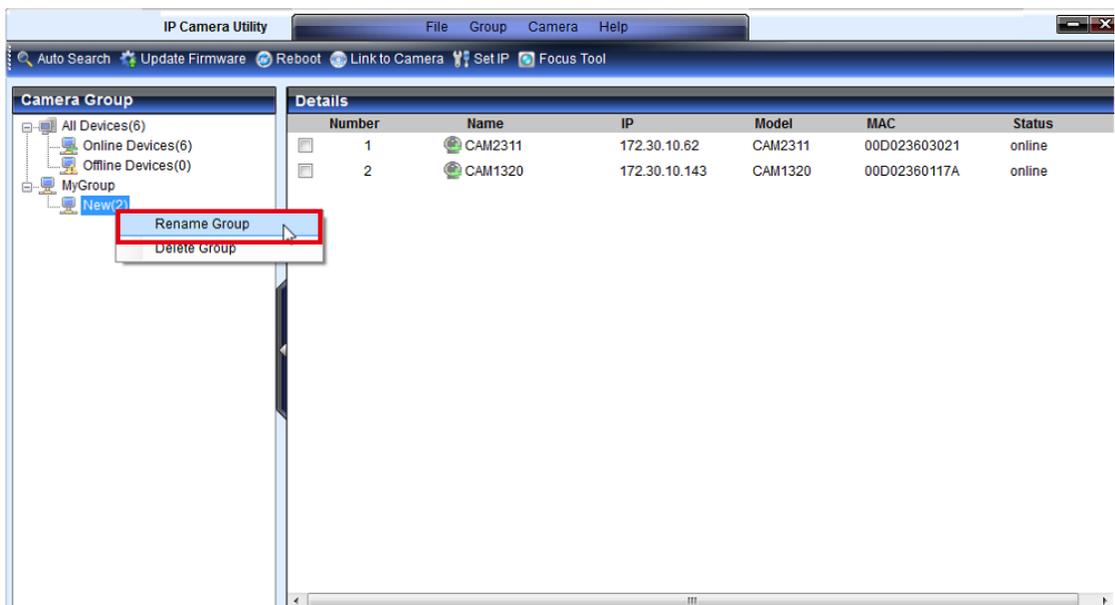


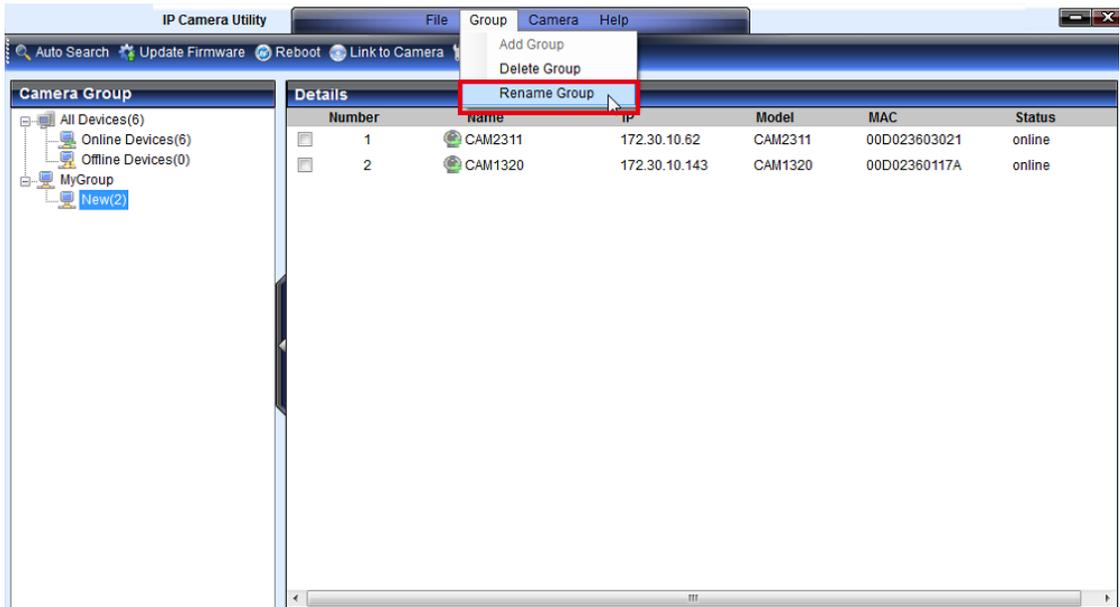
3. The system will ask to confirm the deletion. Click Yes to delete the group.

Note: Groups may be deleted, even if they contain cameras.

Rename Group

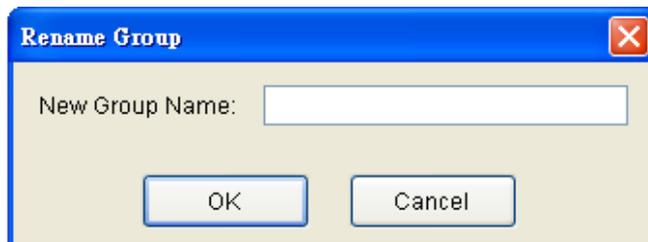
1. Expand *MyGroup* and right-click the group you wish to rename.
2. Choose **Rename Group**. Alternatively, click the group and choose **Rename Group** from the **Group** menu.





The *Rename Group* popup appears.

3. Enter a new group name in the *New Group Name* field.



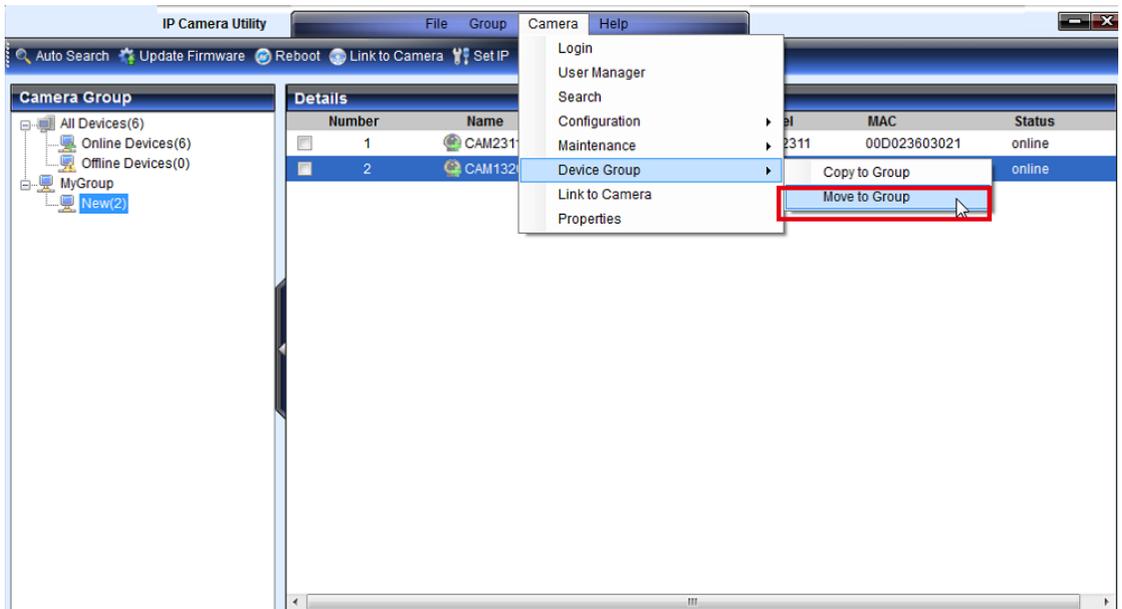
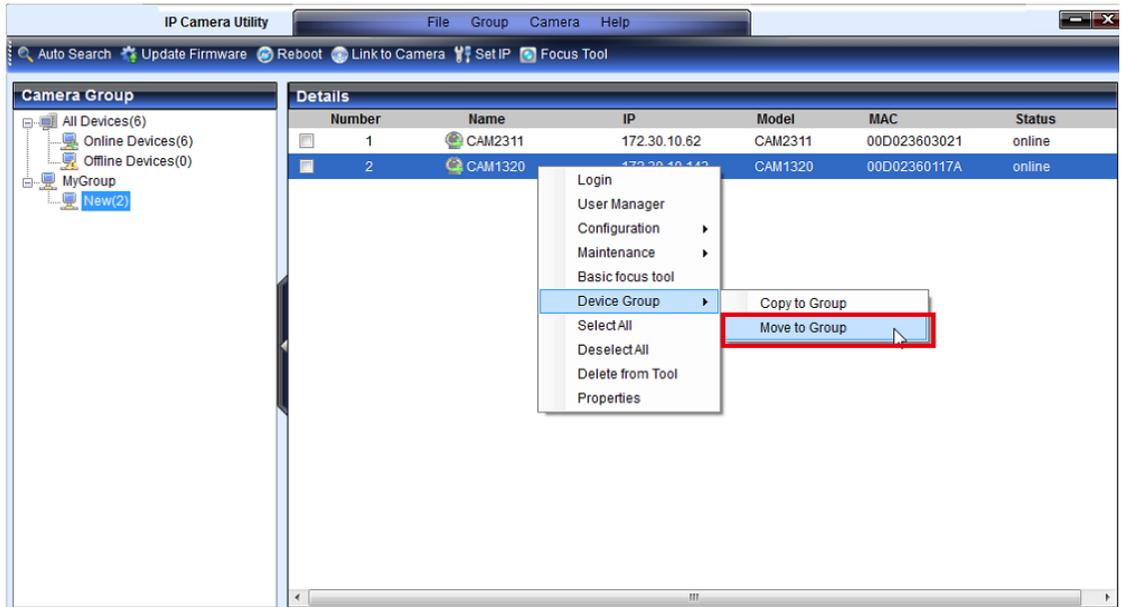
4. Click **OK** to save your changes.

Note: Camera group names can contain upper and lower-case letters, numerals and the _ symbol.

Move to Group

This function moves the selected camera(s) from a group to another group.

1. From the *Camera Group* window select a group under *MyGroup*.
2. Select one or more cameras from the existing group by checking the box in the first column of their listing.
3. Right click the camera and select **Device Group > Move to Group**, or select **Camera > Device Group > Move to Group** from the menu bar.



4. In the *Select Group* pop-up box select the destination group.



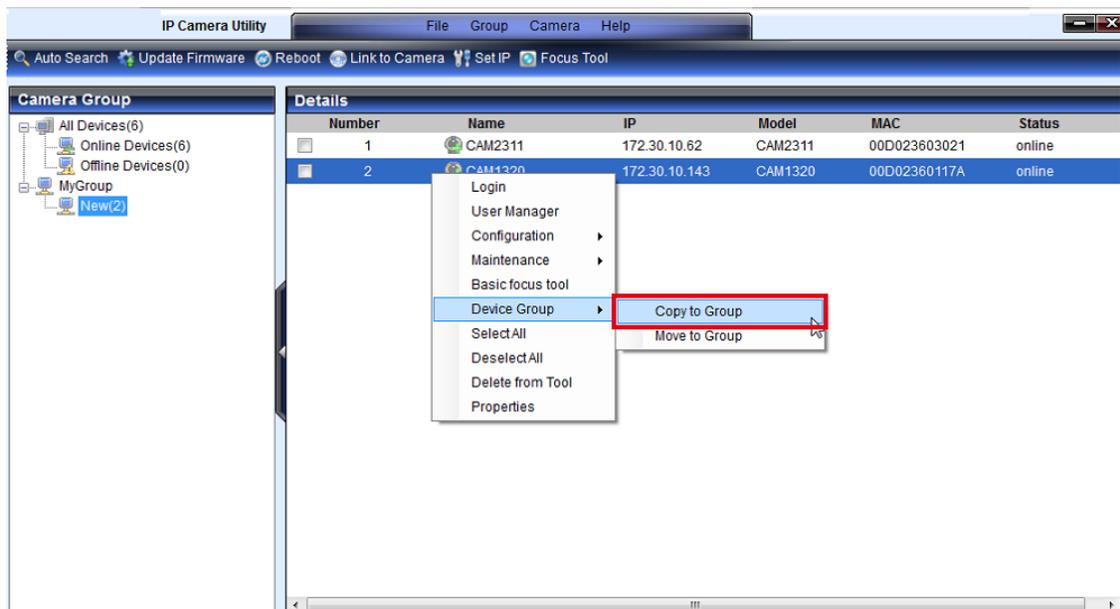
5. Click OK to move the selected camera(s) to the group.

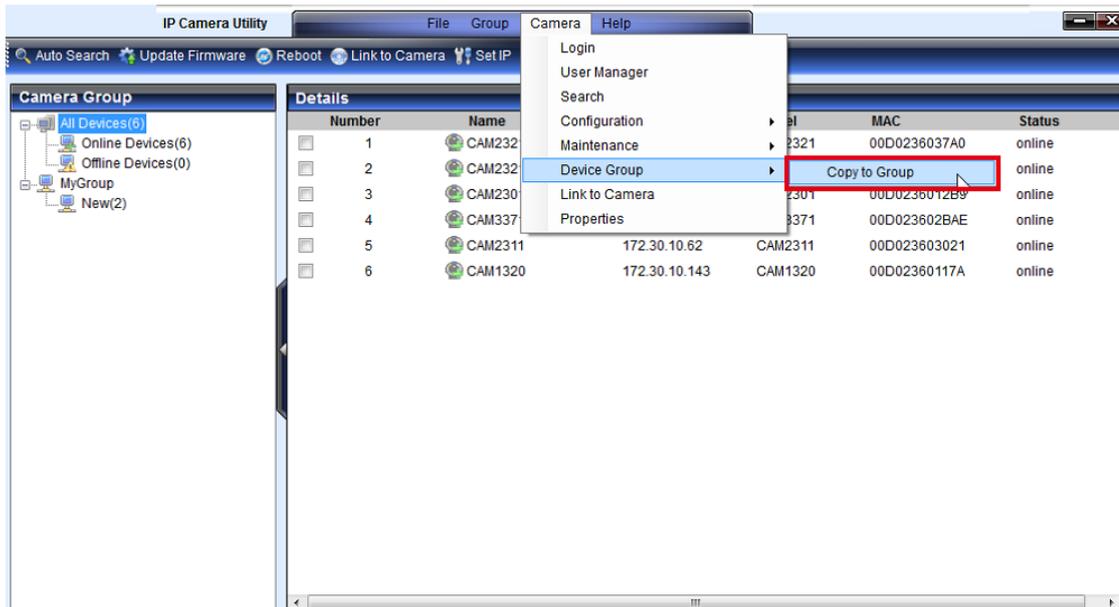
Note: Cameras can not be moved from groups under *All Devices*.

Copy to Group

This function copies the selected camera(s) from a group to another group.

1. From the *Device Group* window select a group.
2. Select one or more cameras from the existing group by checking the box in the first column of their listing.
3. Right-click the camera(s) and select **Device Group > Copy to Group**, or select **Camera > Device Group > Copy to Group** from the menu bar.





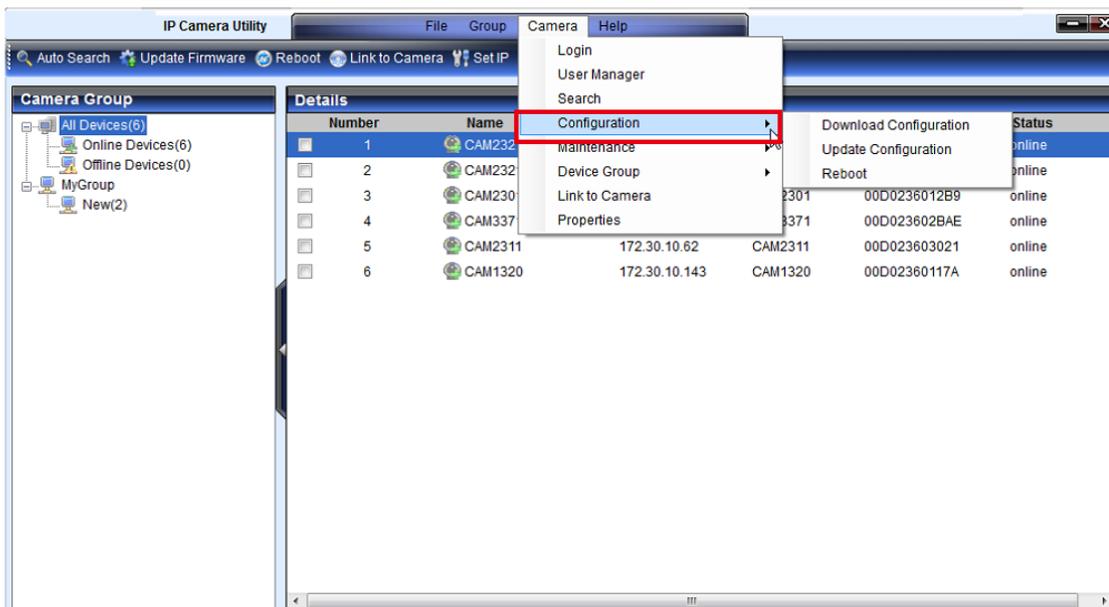
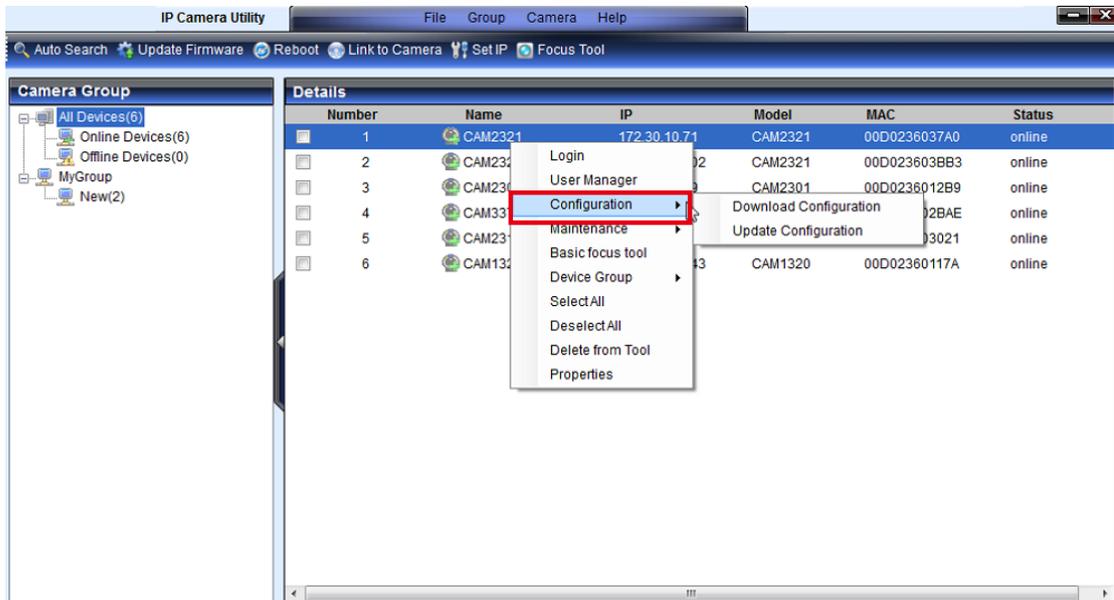
4. In the *Select Group* pop-up box select the destination group.



5. Click OK to copy the selected camera(s) to the group.

5.6. Configuration Settings

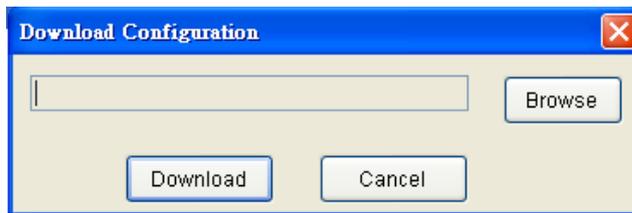
Configuration can be downloaded and updated by selecting **Camera > Configuration**, or the process can be automated by downloading the configuration from one camera using the **Download Configuration** function, and then using the **Update Configuration** function to upload the changed configuration file.



Download Configuration

This function downloads a configuration file.

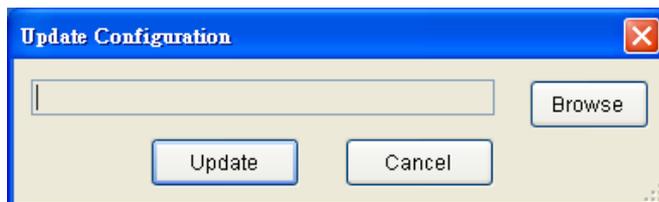
1. Select a camera by checking the box in the first column of its listing.
2. Right-click the camera which you want to download from and select **Configuration > Download Configuration**, or select **Camera > Configuration > Download Configuration** from the menu bar. The *Download Configuration* popup will display.



3. Click the **Browse** button to browse the computer and locate a destination.
4. Click **Download** to download the configuration file to the destination.

Update Configuration

1. Select one or more cameras by checking the box in the first column of their listing.
2. Right-click the camera(s) which you want to update to and select **Configuration > Update Configuration**, or select **Camera > Configuration > Update Configuration** from the menu bar. The *Update Configuration* popup will display.

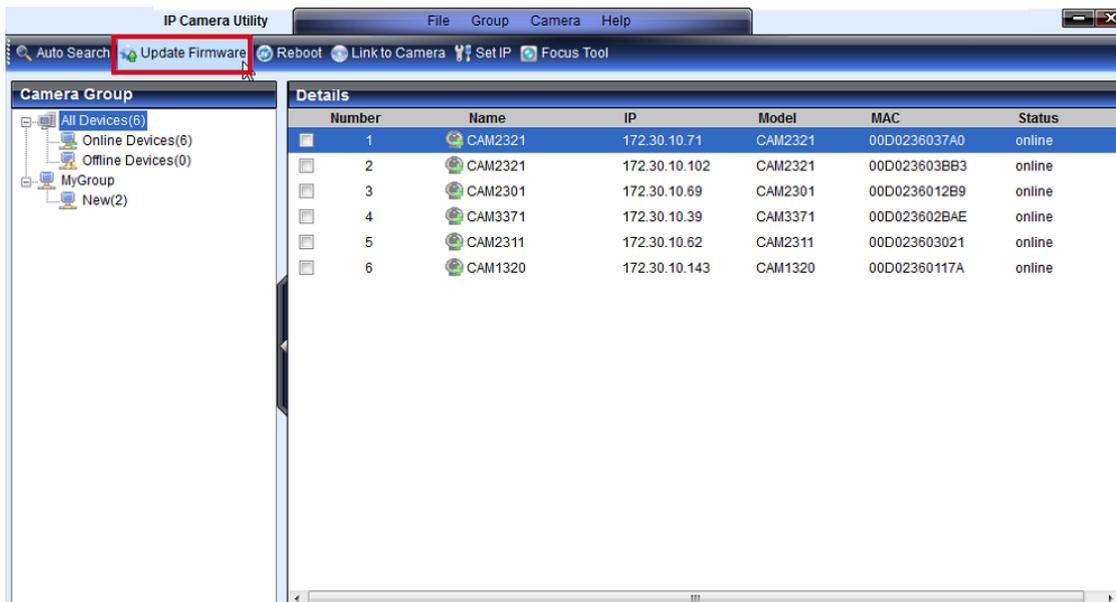
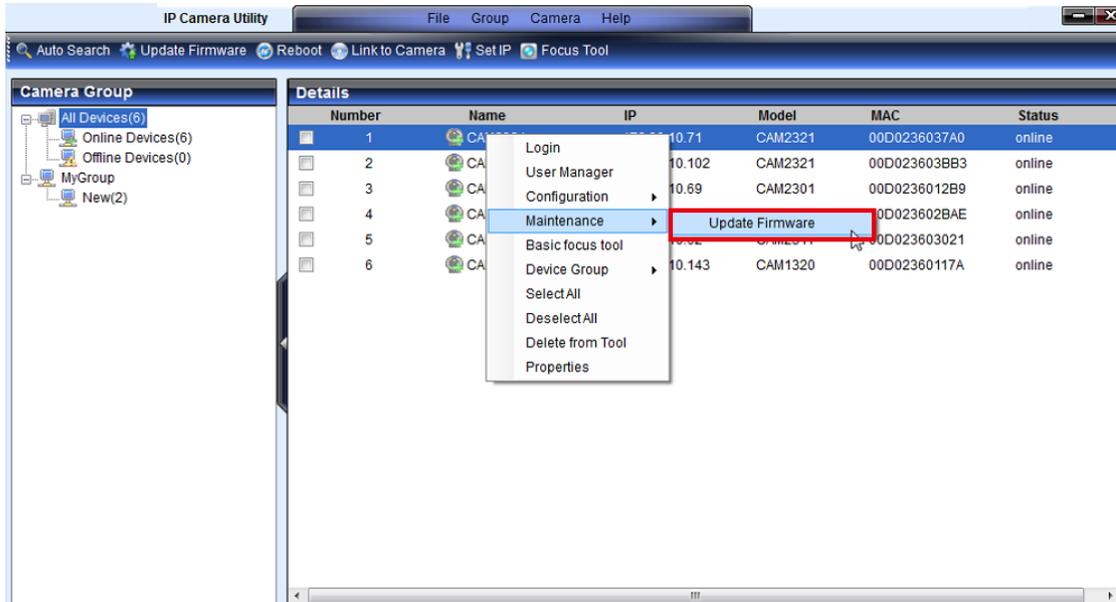


3. Click the **Browse** button to browse the computer and locate a configuration file.
4. Click **Update** to upload the configuration file to the camera(s).

5.7. Firmware Actions

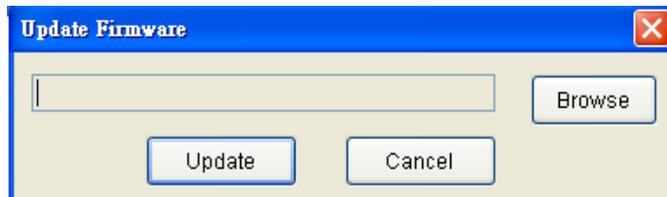
Update Firmware

Once a new version of the camera firmware is obtained, the firmware can be updated using the following steps:



Note: You must be logged into the camera to update the camera firmware.

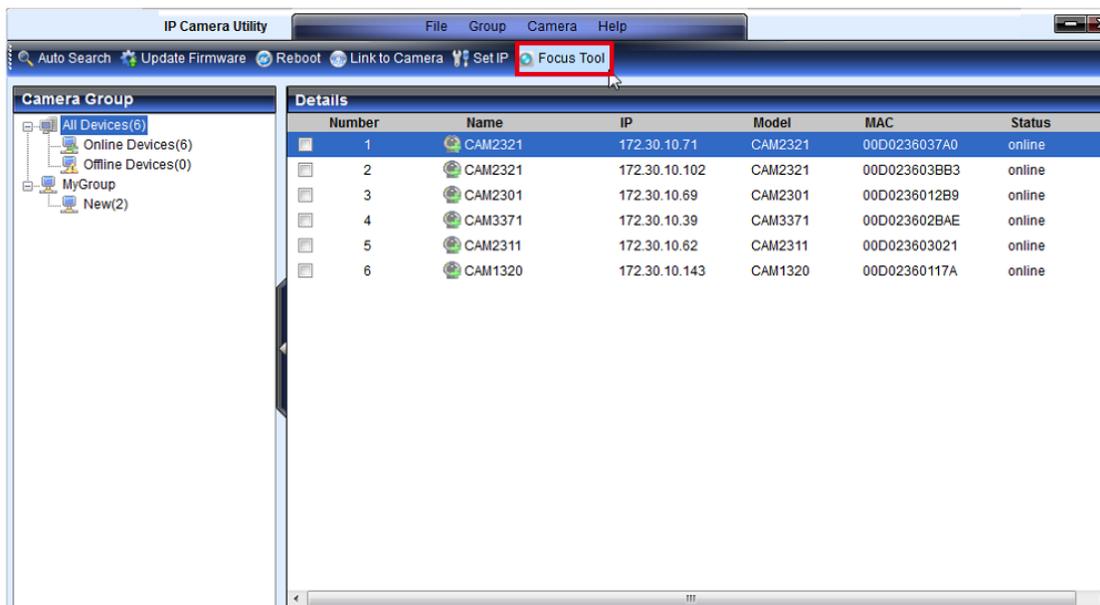
1. Select one or more cameras by checking the box in the first column of their listing.
2. Click the **Update Firmware** button; right-click the camera(s) which you want to update to and select **Maintenance > Update Firmware**; or select **Camera > Maintenance > Update Firmware** from the menu bar. The *Update Firmware* popup will display.



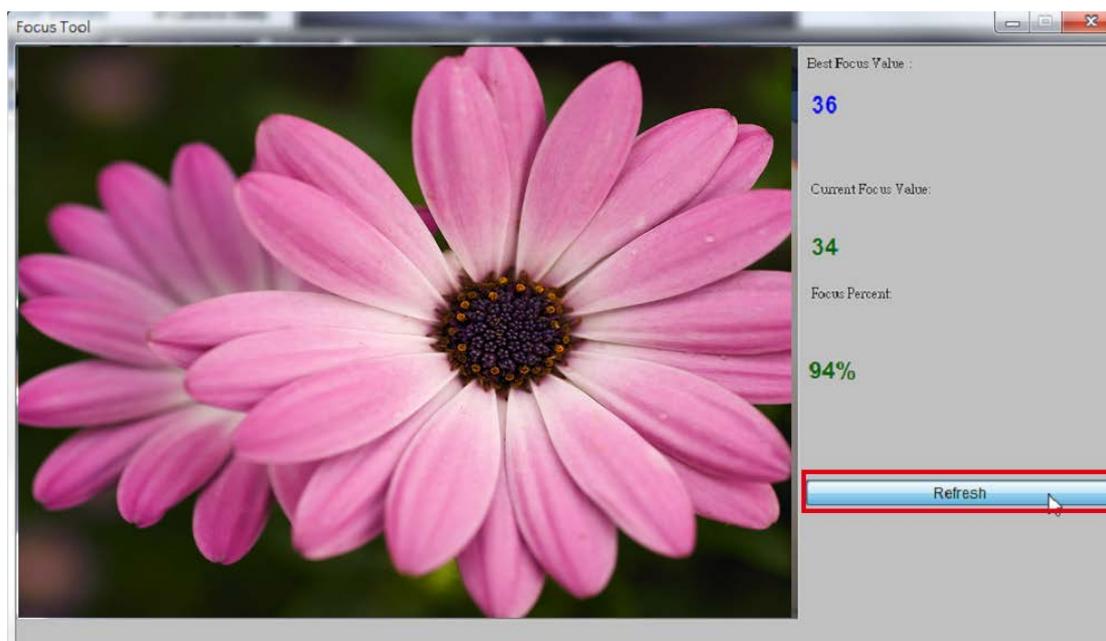
3. Click the **Browse** button to browse the file system and locate a firmware file.
4. Click **Update** to upload the firmware to the camera(s).

5.8. Focus Tool

The Focus Tool is used as a reference for focus precision. Click the Focus Tool button to open it.



Information of *Best Focus Value*, *Current Focus Value* and *Focus Percent* will be shown at the bottom of the Focus Tool Window. You can click Refresh to get a new data after focus adjustment is done.



Note: When the Focus Percent is higher, the focus is more precise.