

User Manual

PT IP CAMERA



WARNING

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MISTURE.
DO NOT INSERT ANY METALLIC OBJECT THROUGH VENTILATION GRILLS.

CAUTION

	CAUTION RISK OF ELECTRIC SHOCK DO NOT OPEN	
CAUTION : TO REDUCE THE RISK OF ELECTRIC SHOCK. DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.		

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THE TRADEMARKS MENTIONED IN THE MANUAL ARE LEGALLY REGISTERED TO THEIR RESPECTIVE COMPANIES.

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V1.1_20140214

I. Preface

This is a 1/3.2" Megapixel CMOS sensor IP camera with a built-in web server. The user can view real-time video via IE browser. It supports H.264, and M-JPEG video compression, providing smooth and high video quality. The video can be stored in Micro SD card and playback remotely.

With a user friendly interface, it is an easy-to-use IP camera for security applications.

II. Product Specifications

- 5 Megapixels PT Camera
- 3D+2D Digital Noise Reduction
- Support Digital Wide Dynamic Range
- Support PIR
- Power over Ethernet Available
- IR LED Built in 5 Meters Available
- Mechanism IR Cut Filter Available
- H.264/ M-JPEG/ MPEG4 Compression
- SD Card Backup
- Support 2-way Audio
- Video Output
- Support iPhone/Android/Mac
- SDK for Software Integration

Hardware	
CPU	ARM Cortex A9
RAM	256MB

Flash	16MB
Image sensor	1/3.2" Megapixel CMOS sensor
Lens Type	3.6mm @F1.6
Angle of View	62.58°(H), 43.15°(V)
Pan Angle	270 ⁰
Tilt Angle	120 ⁰
Sensitivity	Color : 1 Lux (AGC ON) B / W : 0.5 Lux (AGC ON)
PIR	Supported
ICR	Mechanism IR cut Filter
LED	Built-in 6 unit IR LED
	IR Distance 5-Meter
I/O	1 DI / 1 DO
Video Output	Yes
Audio	G.711(64K) and G.726(32K,24K) compression Input : External Audio in Output : External Line out
Power over Ethernet	Yes
Power Consumption	DC 12V Max : 4.92W(IR ON); 4.68W(IR Off) PoE Max : 802.3af, 6.24W (IR ON); 5.76W(IR Off)
Operating Temperature	0°C ~ 45°C
Dimensions	105(W)x157(L)x105(H) mm
Weight	550g
Network	
Ethernet	10/ 100 Base-T
Network Protocol	IPv6, IPv4, HTTP, HTTPS, SNMP, QoS/DSCP, Access list, IEEE 802.1X, RTSP, TCP/ IP, UDP, SMTP, FTP, PPPoE, DHCP, DDNS, NTP, UPnP, 3GPP, SAMBA, Bonjour
System	
Video Resolution	2592x1944@15fps, 2048x1536@15fps, 1920x1080@30fps, 1280x720@30fps, 640x480@30fps, 320x240@30fps, 176x144@30fps
Video Adjust	Brightness, Contrast, Hue, Saturation,

	Sharpness, AGC, D-WDR, Flip, Mirror, Noise reduction, Day & Night adjustable, White Balance
Triple Streaming	Yes
Image snapshot	Yes
Full screen monitoring	Yes
Privacy Mask	Yes, 3 different areas
Compression format	H.264/ M-JPEG/ MPEG4(3GPP Only)
Video bitrates adjust	CBR, VBR
Motion Detection	Yes, 3 different areas
Triggered action	Mail, FTP, Save to SD card, DO, SAMBA
Pre/ Post alarm	Yes, configurable
Security	Password protection, IP address filtering, HTTPS encrypted data transmission, 802.1X port-based authentication for network protection
Firmware upgrade	HTTP mode, can be upgraded remotely
Simultaneous connection	Up to 10
SD card management	
Recording trigger	Motion Detection, IP check, Network break down (wire only), Schedule, DI
Video format	AVI, JPEG
Video playback	Yes
Delete files	Yes
Client System requirement	
OS	Windows 7, 2000, XP, 2003, Microsoft IE 6.0 or above, Chrome, Safari, Firefox
Mobile Support	iOS 4.3 or above, Android 1.6 or above.
Hardware Suggested	Intel Dual Core 2.8G RAM: 4GB

*SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTIFICATION.

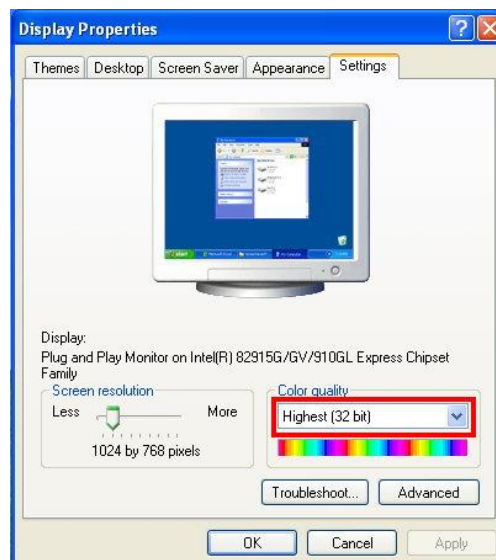
III. Product Installation

A. Monitor Settings

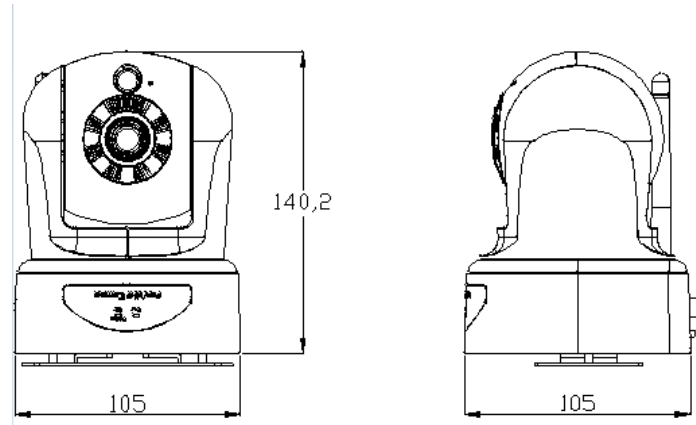
1. Right-Click on the desktop. Select **Properties**



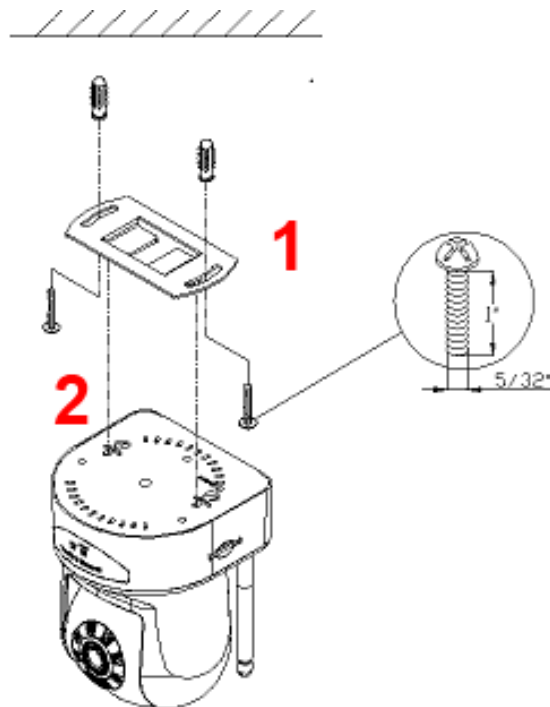
2. Change color quality to highest (32bit).



B. Hardware Installation



1. Installation

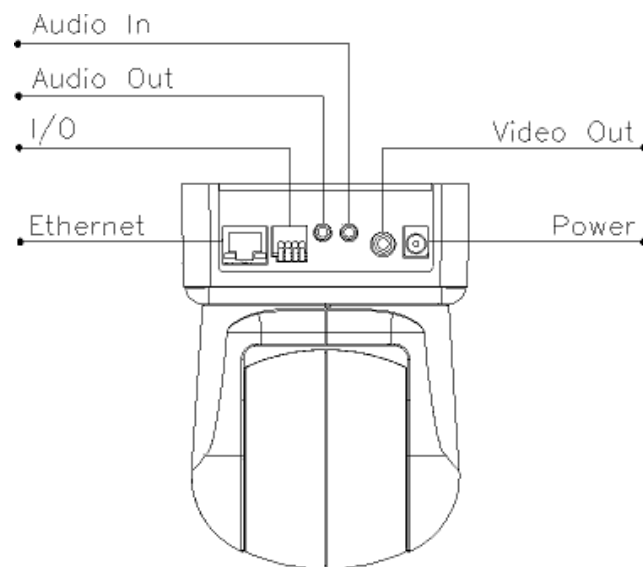


STEP 1: Thigh the base into the ceiling

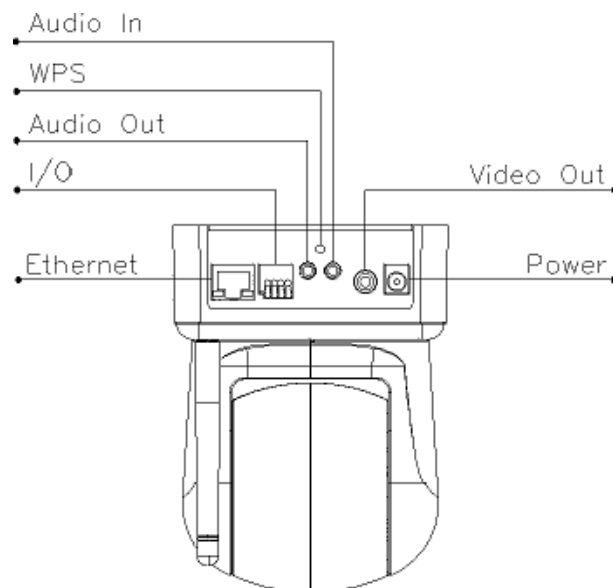
STEP 2: Connect push the camera into the base

2. Connector Instruction

The camera connectors are as below. Connect the power and the Ethernet cable to the camera and set it according to your network environment.



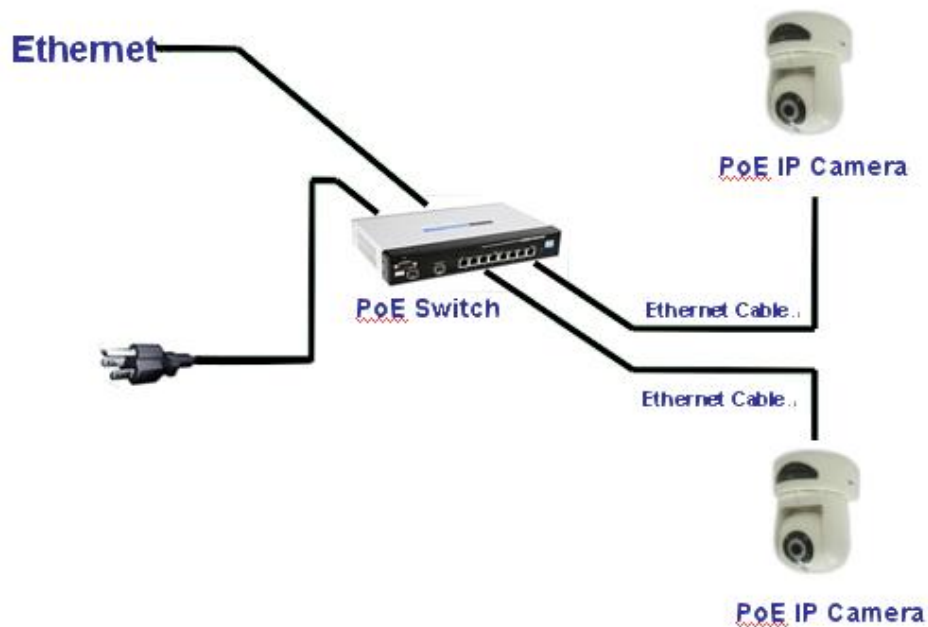
Regular Model



WPS Model

3. PoE (Power Over Ethernet) (Optional) 802.3af, 15.4W PoE Switch is recommended

Power over Ethernet (PoE) is a technology that integrates power into a standard LAN infrastructure. It allows providing power to a network device, such as an IP phone or a network camera, using the same cable as that used for network connection. It eliminates the need for power outlets at the camera locations and enables easier application of uninterruptible power supplies (UPS) to ensure an operation of 24 hours a day, 7 days a week.

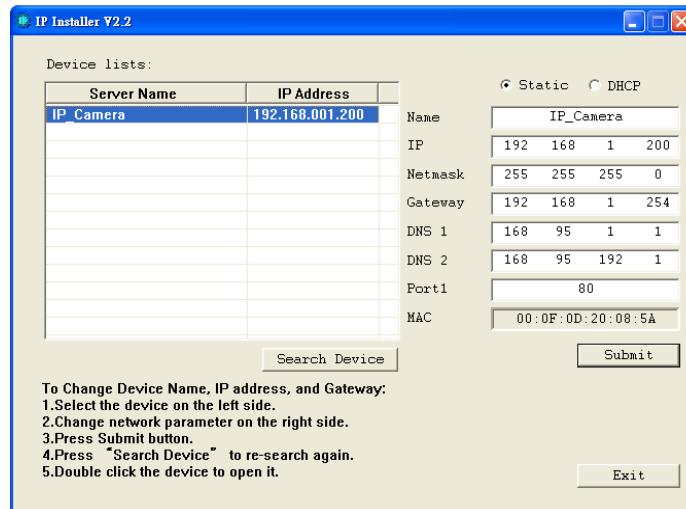


C. IP Assignment

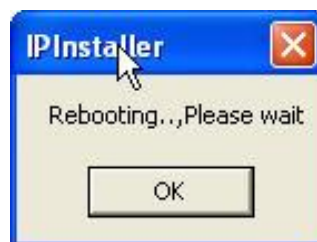
1. Use the software **IP Installer** to assign the IP address of the IP Camera.
The software is in the software CD attached to the product's package.
2. **IP installer** supports two languages:
 - a. IPInstallerCht.exe : Chinese version
 - b. IPInstallerEng.exe : English version
3. There are 3 kinds of IP configuration.
 - a. Fixed IP (Public IP or Virtual IP)
 - b. DHCP (Dynamic IP)
 - c. Dial-up (PPPoE)
4. Execute **IP Installer**
5. For Windows XP SP2 users, it may popup the following message box.
Click **Unblock**.



6. **IP Installer** configuration:



7. **IP Installer** will search for all the IP Cameras connected on the LAN. The user can click **Search Device** to search again.
8. Click one of the IP Cameras listed on the left side. The network configuration of this IP camera will be shown on the right side. You can change the **name** of the IP Camera to your preference (e.g.: Office, warehouse). Change the parameters and click **Submit**, then click **OK**, it will apply the changes and reboot the device.



9. Please make sure the subnet of the PC IP address and the IP Camera IP address are the same.

The same Subnet:

IP Camera IP address: 192.168.1.200

PC IP address: 192.168.1.100

Different Subnets:

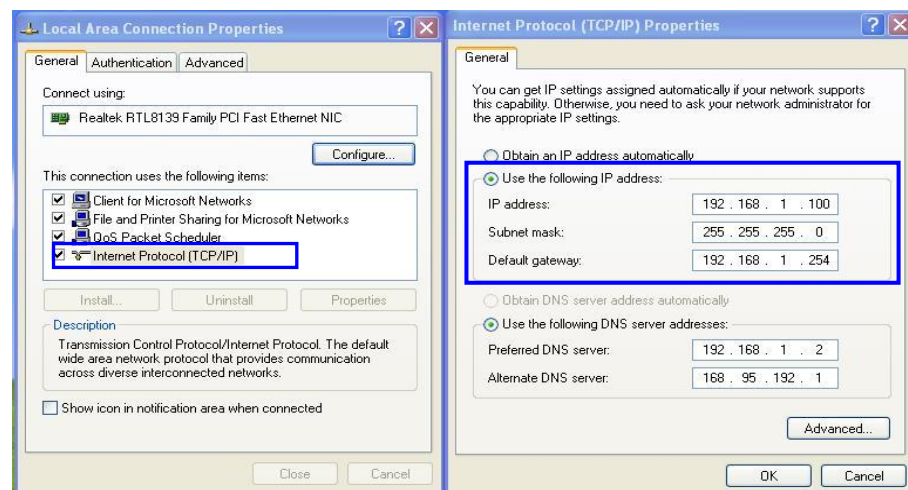
IP Camera IP address: 192.168.2.200

PC IP address: 192.168.1.100

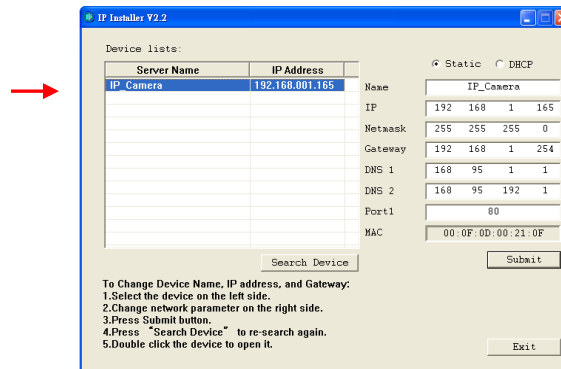
To Change the PC IP address:

Control Panel → Network Connections → Local Area Connection Properties → Internet Protocol (TCP/IP) → Properties

Make sure your IP Camera and PC are in the same Subnet. If not, change the IP Camera subnet or the PC IP subnet accordingly.



10. A quick way to access remote monitoring is to left-click the mouse twice, on a selected IP Camera, listed on **Device list** of **IP Installer**. An IE browser will be opened.



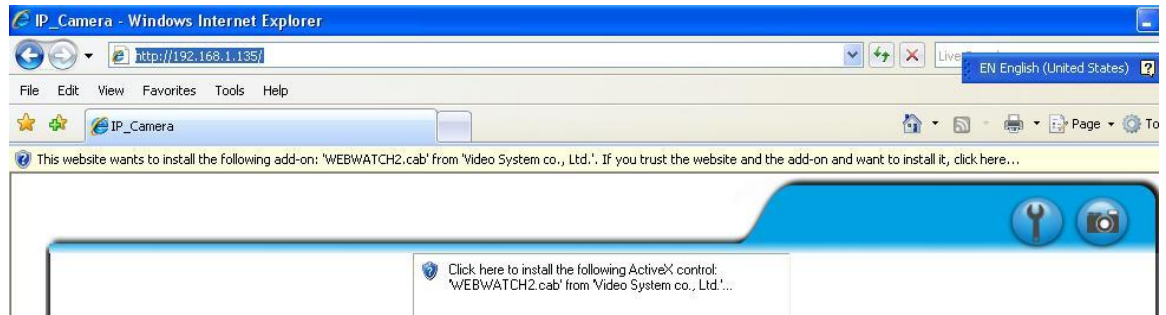
11. Then, key-in the default **user name: admin** and **password: admin**.



D. Install ActiveX control

1. For users of IE 6.0 or above:

When viewing the camera video for the first time via IE, the browser will ask you to install the **ActiveX** component.



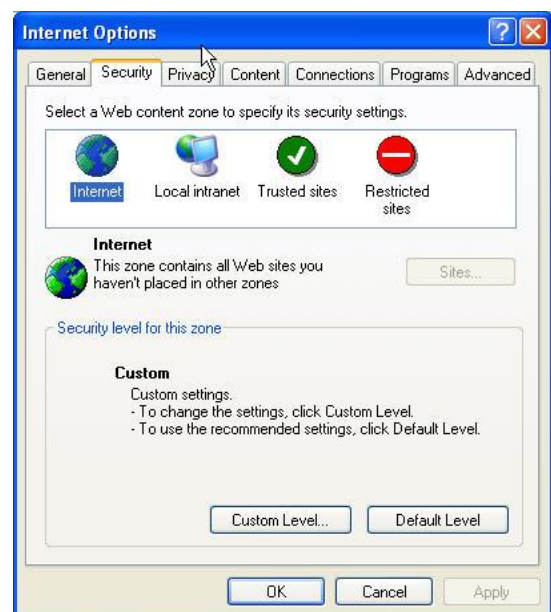
1. If the installation failed, please check the security settings in the IE browser.

- a. IE → Tools → Internet Options... → Security Tab → Custom Level... → Security Settings → Download unsigned ActiveX controls → Select **Enable** or **Prompt**.
- b. IE → Tools → Internet Options... → Security Tab → Custom Level... → Initialize and script ActiveX controls not marked as safe → Select **Enable** or **Prompt**.

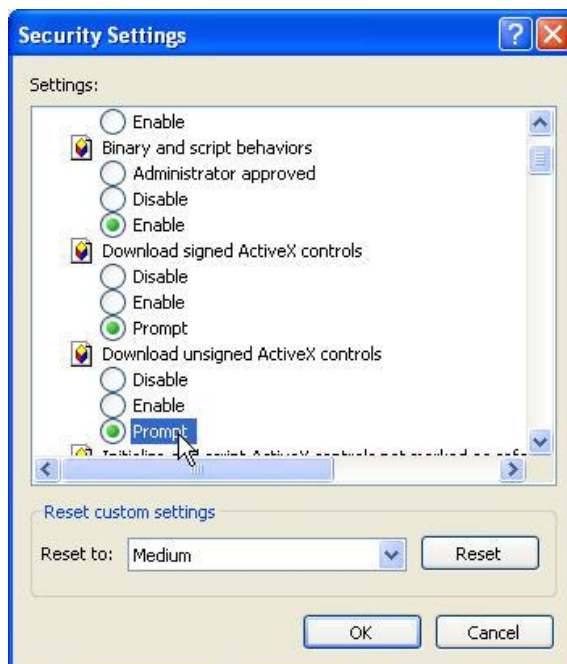
1



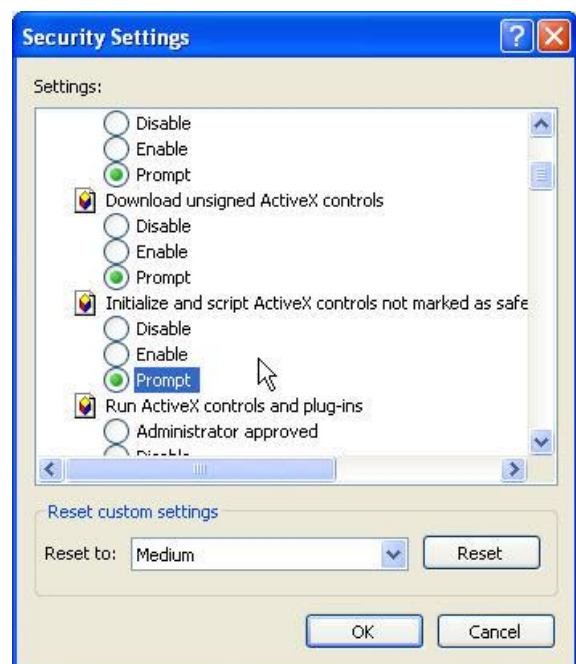
2



3

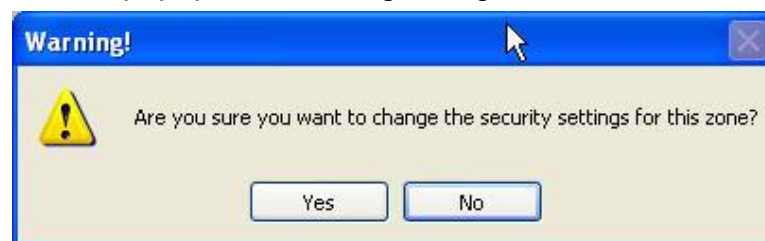


4



5

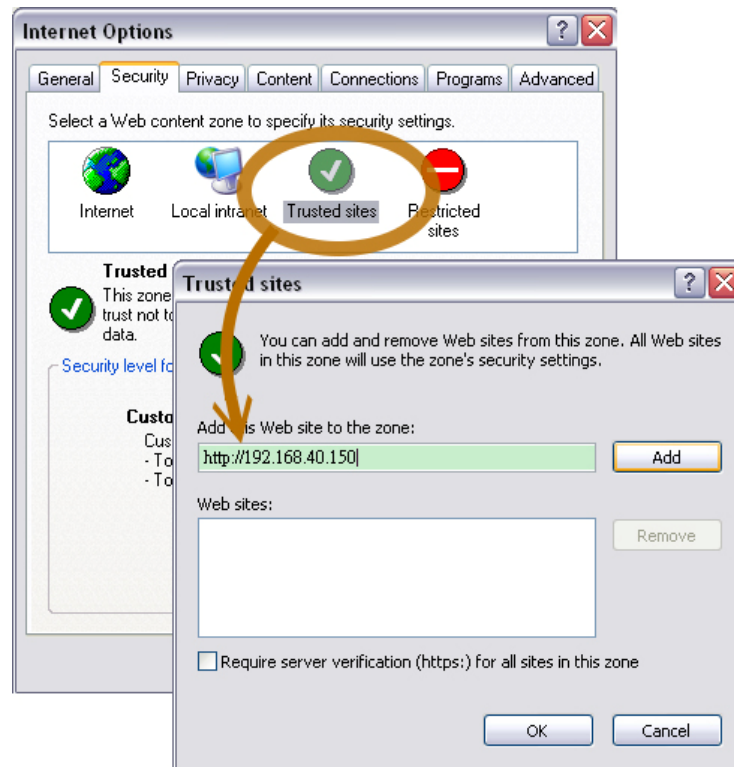
When popup the following dialogue box, click “Yes”.



2. You can choose another way:

Go to: IE→Tools → Internet Options... → Security Tab → Trusted sites → Add the IP address and click **OK**.

In the site list you can key one single IP address or a LAN address. For example, if you add **192.168.21.***, all the IP address under **21.*** on the LAN will be regarded as trusted sites.



2. To Non-IE Web Browser Users

If you use Firefox or Google chrome to access the IP camera but fails to watch the live video, please follow the steps to install necessary tools:

(The following pictures are based on chrome.)

a. You may see the prompt message as the picture below. Click the link:

Firstly, please install Microsoft Visual C++ 2010 Redistributable Package (x86).

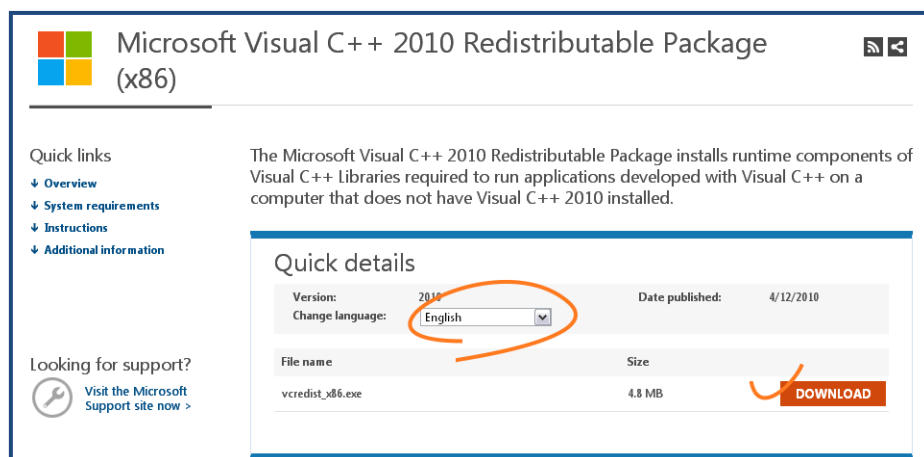
a [Firstly, please install Microsoft Visual C++ 2010 Redistributable Package \(x86\).](#)

b [Please click here to download the installation program which does not support IE browser.](#)

After finish downloading, disable the browser and implement the program by manual.

default Streaming 1 Chatting: ☐ Online Visitor : 3 Relay Out: ☐ ON ☒ OFF

The link will conduct you to the Microsoft official site where you can download the tools. Please select the language and click **download**.



Microsoft Visual C++ 2010 Redistributable Package (x86)

Quick links
↓ Overview
↓ System requirements
↓ Instructions
↓ Additional information

Looking for support?
Visit the Microsoft Support site now >

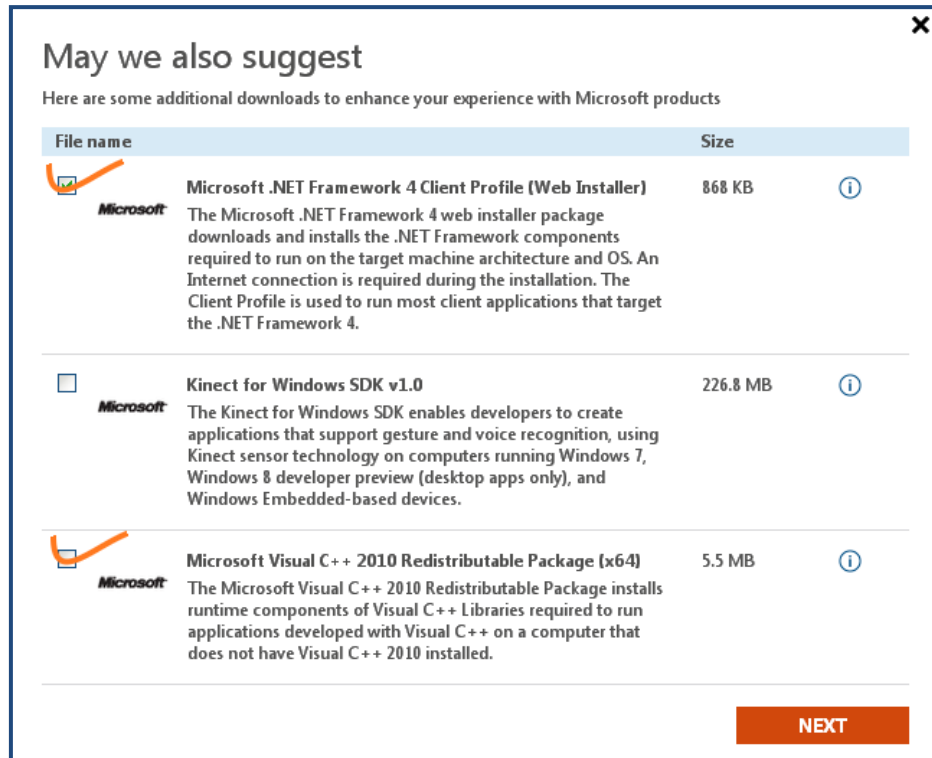
The Microsoft Visual C++ 2010 Redistributable Package installs runtime components of Visual C++ Libraries required to run applications developed with Visual C++ on a computer that does not have Visual C++ 2010 installed.

Quick details

Version:	2010	Date published:	4/12/2010
Change language:	English		

File name	Size	
vc_redist_x86.exe	4.8 MB	DOWNLOAD

In the pop-up window, please tick the first and the third file as the picture below. Click **Next** to download both **Microsoft .NET Framework 4 Client Profile (Web Installer)** and **Microsoft Visual C++ 2010 Redistributable Package (x64)**.

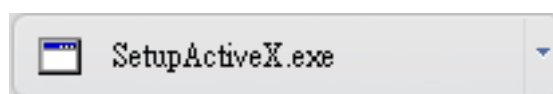


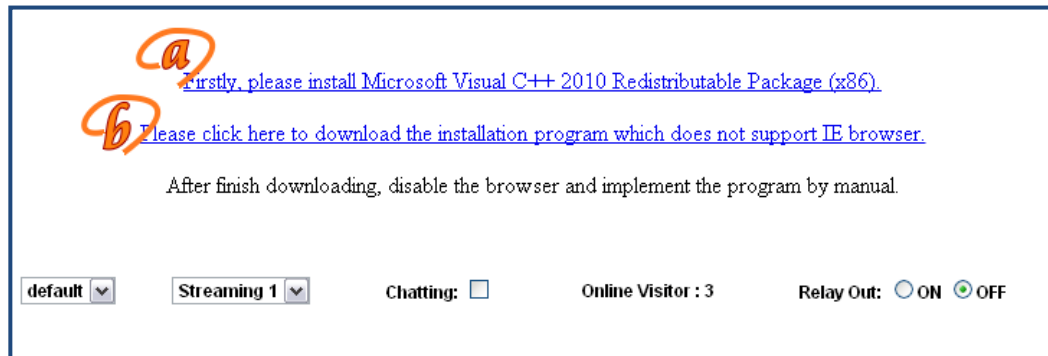
After finishing downloading, execute the two files respectively to install them. The windows may ask you to reboot the PC when the installation is finished.



b. Then, click the second link **Please click here to download the installation program which does not support IE browser** to download Setup ActiveX.

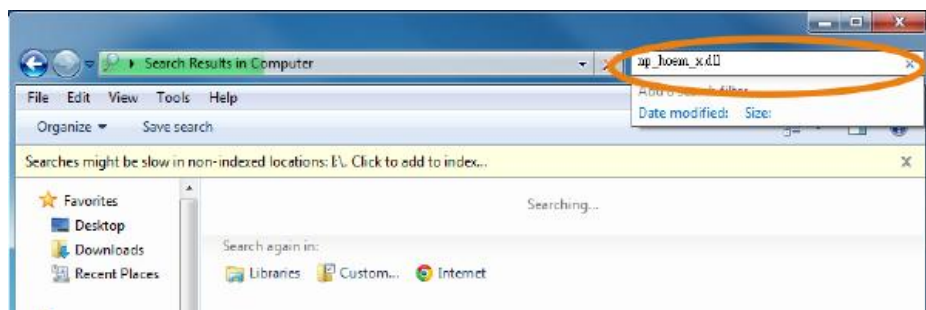
After finishing downloading, execute the files to install **ActiveX**. Then restart the browser.



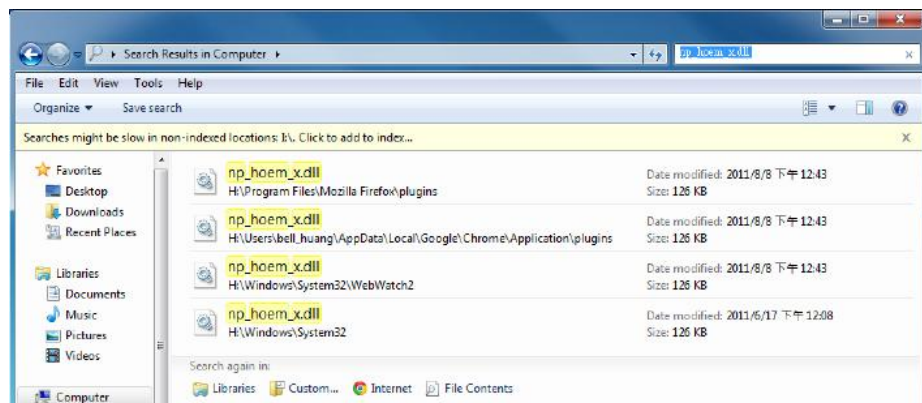


c. If you execute the steps above but still cannot see live video normally, please try the following solution:

Search for the file **np_hoem_x.dll** in your system disk. For Windows XP users, please go to **Start** → **Search** → Search for **All files and folders** and key-in **np_hoem_x.dll**. For Windows 7 users, please use the search bar on the top-right of the Windows Explorer.



Delete all the files named **np_hoem_x.dll**. They're the **ActiveX** control tools installed in your computer, but the old version of **ActiveX** might not be compatible with the new version of the browser. Therefore, they need to be deleted in order to install the latest **ActiveX** control.



Start your web browser, and repeat the step 2-b: **Download the installation program which does not support IE browser** to download and install ActiveX.

- a) [Firstly, please install Microsoft Visual C++ 2010 Redistributable Package \(x86\).](#)
- b) [Please click here to download the installation program which does not support IE browser.](#)

After finish downloading, disable the browser and implement the program by manual.

default ▼

Streaming 1 ▼

Chatting: ☐

Online Visitor : 3

Relay Out: ☐ ON ☒ OFF

IV. Live Video

Start an IE browser, type the IP address of the IP camera in the address field. It will show the following dialogue box. Key-in the user name: **admin** and password: **admin**.



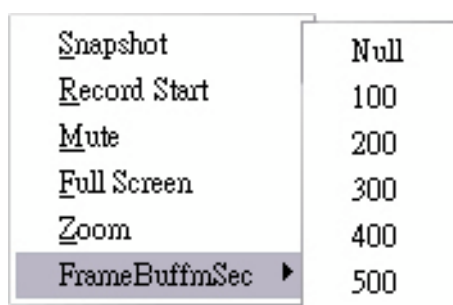
When the IP Camera is successfully connected it shows the following interface.



1. Get into the administration page.
2. Video Snapshot.
3. Show the system time, video resolution, and video refreshing rate.
4. Adjust image: 1/2x, 1x, 2x.
5. Streaming source: If the streaming 2 is closed, this function will not be displayed.
6. Tick on **Chatting** for enabling two-way audio.
7. Shows how many people are connected to this IP camera.

Double-clicking on the video will change the view to full screen mode. Press **Esc** or double-click the video again for changing back to normal mode.

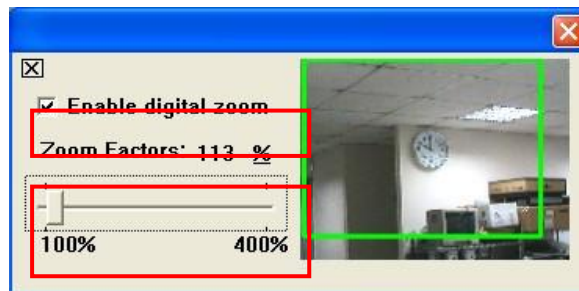
Right-Click on the video for showing a pop-up menu



1. Snapshot: Save a JPEG picture.
 2. Record Start: Record the video in the local PC. It will ask where to save the video. To stop recording, right-click again and Select **Record Stop**.
-

The video format is AVI. Use **Microsoft Media Player** to play the recorded file.

3. Mute: Turn-off the audio. Click again to turn on it.
4. Full Screen: Full-screen mode.
5. Zoom: Enable the zoom-in and zoom-out functions. First, select **Enable digital zoom** option within the pop-up dialogue box and then drag and drop the bar to adjust the zoom factors.



6. Frame Buffm Sec: This function builds a temporary buffm to accumulate several video frames. This function can make video smooth-going when the Network speed is slow and lag. If you select **100**, the camera plays video 100 mSec after receiving images from camera. The slower the Network is the bigger value should be selected. The available values are: **NULL, 100, 200, 300, 400, and 500**. The default value is null.

Performing PT functions:

1. The 4-direction arrows     are used to turn the camera view. The bigger value you select in **Speed**, the longer the moving range of the view by each click on the arrows.

2. If you click the icon  the camera view turns to its default position.

Patrol point:



1. Use the 4-direction arrows, zoom, and focus function to turn the camera view.

2. After you adjust the camera view to where you want to set a preset point, select a number from the **Preset Point** drop-down menu, key-in a name to be set in **Name** column, and click + button  for the point name to be added to the point list.

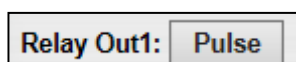
3. When selecting a point from the drop-down menu and clicking **Go**, the camera view will turn to the point

4. Press  for start and pause **Auto Pan**

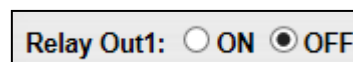
5. Press  for start and pause **Patrol** function (for all the preset point previously set)

Advanced Settings:

Control the relay state according to the I/O settings



or



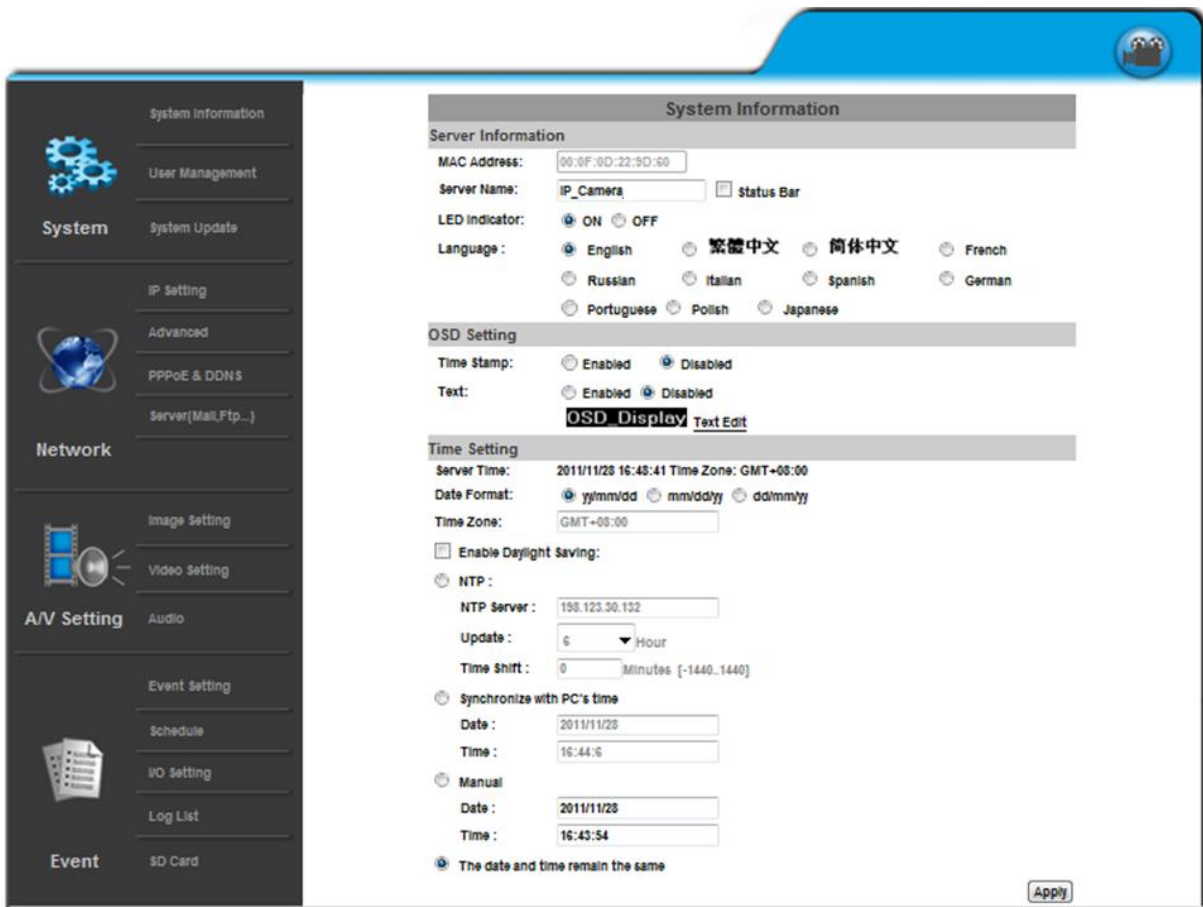
V. Camera Configuration



Click  to get into the administration page. Click



to go back to the live video page.



The screenshot displays the 'System Information' configuration page of an IP camera. On the left is a dark sidebar with a menu containing categories like System, Network, A/V Setting, and Event, each with sub-items. The main content area is titled 'System Information' and includes sections for 'Server Information' (MAC Address, Server Name, LED Indicator, Language), 'OSD Setting' (Time Stamp, Text), and 'Time Setting' (Server Time, Date Format, Time Zone, NTP, Synchronize with PC's time). An 'Apply' button is located at the bottom right.

System Information	
Server Information	
MAC Address:	00:0F:0D:22:9D:50
Server Name:	IP_Camera ☐ Status Bar
LED Indicator:	☒ ON ☐ OFF
Language:	☒ English ☐ 繁體中文 ☐ 简体中文 ☐ French ☐ Russian ☐ Italian ☐ Spanish ☐ German ☐ Portuguese ☐ Polish ☐ Japanese
OSD Setting	
Time Stamp:	☐ Enabled ☒ Disabled
Text:	☐ Enabled ☒ Disabled OSD Display Text Edit
Time Setting	
Server Time:	2011/11/28 16:43:41 Time Zone: GMT+08:00
Date Format:	☒ yy/mm/dd ☐ mm/dd/yy ☐ dd/mm/yy
Time Zone:	GMT+08:00
☐ Enable Daylight saving:	
☒ NTP:	
NTP Server:	198.123.30.132
Update:	6 Hour
Time Shift:	0 Minutes [-1440,1440]
☒ Synchronize with PC's time	
Date:	2011/11/28
Time:	16:44:5
☒ Manual	
Date:	2011/11/28
Time:	16:43:54
☒ The date and time remain the same	
Apply	

A. System

I. System Information

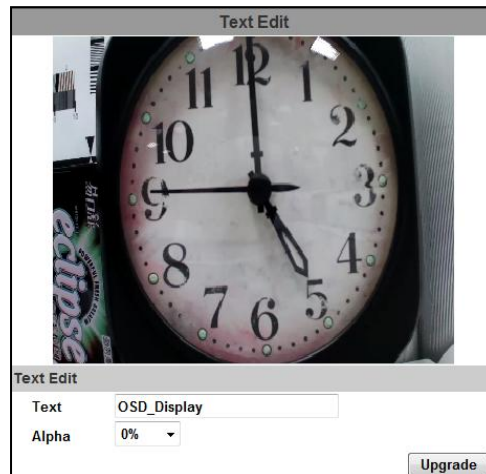
- a. Server Information: Set up the camera name, select language, and set up the camera time.
 1. Server Name: This is the Camera name. This name will be shown on the IP Installer.
 2. Select language: English, Traditional Chinese, and Simplified Chinese can be selected. When it changes, it will show the following dialogue box to confirm the language changing.



- b. OSD Setting: Select a position where the date & time stamp / text are shown on the screen.



Moreover, click **Text Edit** for changing the OSD content, including text size and alpha. Finally, click the **Upgrade** button to keep the settings.



- c. Server time setting: Select between the options **NTP**, **Synchronize with PC's time**, **Manual**, The date and time remain the same for setting the time.

Time Setting

Server Time: 2011/11/28 18:48:45 Time Zone: GMT+08:00

Date Format: ☒ yy/mm/dd ☐ mm/dd/yy ☐ dd/mm/yy

Time Zone: GMT+08:00

☒ Enable Daylight Saving:

	Month	Week	Day of Week	Time
DST Start:	Mar	2nd	Sun	12 am
DST End:	Nov	1st	Sat	12 am

☐ NTP :

NTP Server : 198.123.30.132

Update : 6 Hour

Time Shift : 0 Minutes [-1440..1440]

☐ Synchronize with PC's time

Date : 2011/11/28

Time : 18:44:11

☐ Manual

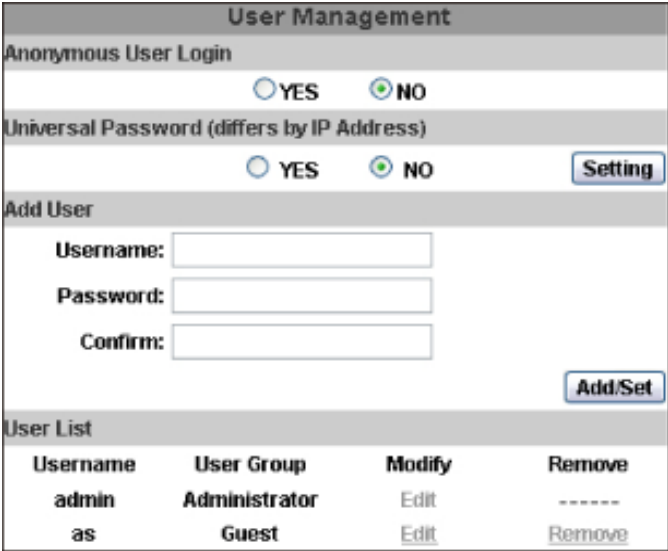
Date : 2011/11/28

Time : 18:43:47

☒ The date and time remain the same

II. User Management

The IP Camera supports three different users: **administrator**, **general**, and **anonymous** user.



The screenshot shows the 'User Management' web interface. It includes sections for 'Anonymous User Login' with radio buttons for YES and NO (NO is selected), 'Universal Password (differs by IP Address)' with radio buttons for YES and NO (NO is selected) and a 'Setting' button, an 'Add User' section with input fields for Username, Password, and Confirm, and an 'Add/Set' button. At the bottom is a 'User List' table.

Username	User Group	Modify	Remove
admin	Administrator	Edit	-----
as	Guest	Edit	Remove

a. Anonymous User Login:

Select **Yes** for allowing everybody to watch live video without username and password. However, if you try to enter the configuration page the camera will ask you to key-in the username and password.

Select **No** for requiring a username and login to access the camera.

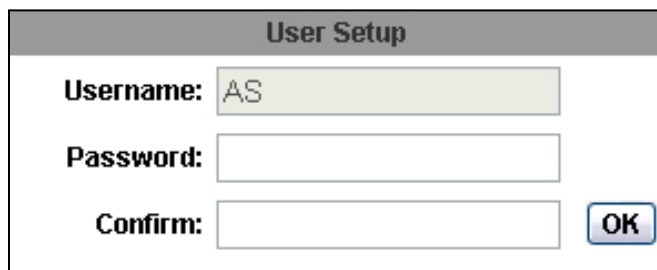
b. Universal Password:

Select **Yes** for allowing login to this IP Cam by universal password. Please refer to **Universal Password** chapter for more explanations. Select **No** for disabling universal password.

c. Add user

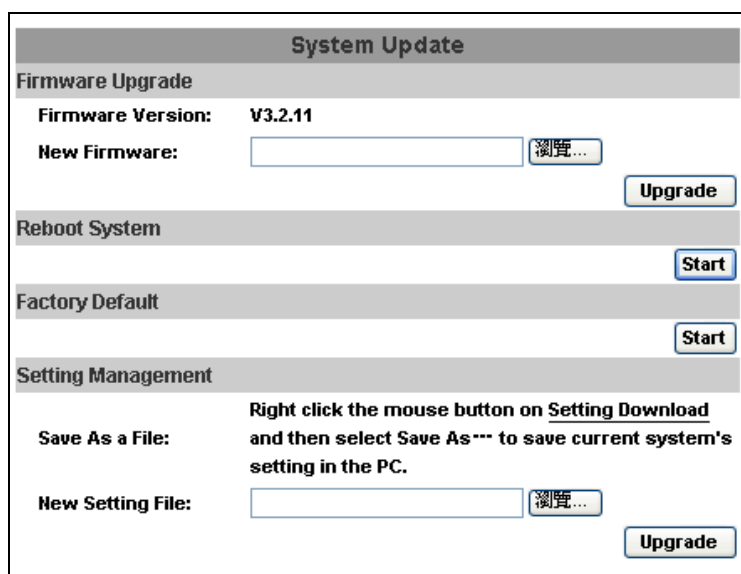
Type the user name and password, then click **Add/Set**. The guest user can only browse live video page and is not allowed to enter the configuration page.

d. Click “edit” or “delete” in the user list to modify them. The system will ask you to key-in the password in the pop-up window before you edit the user information.



The 'User Setup' dialog box contains three input fields: 'Username' with the text 'AS', 'Password', and 'Confirm'. An 'OK' button is located to the right of the 'Confirm' field.

III. System update



The 'System Update' window is divided into several sections:

- Firmware Upgrade:** Shows 'Firmware Version: V3.2.11'. The 'New Firmware:' field has a file browser button (瀏覽...). An 'Upgrade' button is at the bottom right.
- Reboot System:** Features a 'Start' button.
- Factory Default:** Features a 'Start' button.
- Setting Management:** Includes a text instruction: 'Right click the mouse button on Setting Download and then select Save As... to save current system's setting in the PC.' Below this, the 'New Setting File:' field has a file browser button (瀏覽...). An 'Upgrade' button is at the bottom right.

- a. To update the firmware online, click **Browse...** to select the firmware. Then click **Upgrade** to proceed.
- b. Reboot system: re-start the IP camera
- c. Factory default: delete all the settings of this IP camera.
- d. Setting Management: The user can download the current settings to PC, or upgrade from previous saved settings.

1. Settings download:

Right-click the mouse button on Setting Download → Select **Save AS...** to save current IP Camera settings in PC → Select saving directory → Save

2. Upgrade from previous settings

Browse → search previous settings → open → upgrade → Settings update confirm → click **index.html**. for returning to the main page.

B. Network

I. IP Settings

IP Assignment

The IP Camera supports DHCP and static IP.

IP Setting	
IP Assignment	
☐ DHCP	
☒ Static	
IP Address:	192.168.1.200
Subnet Mask:	255.255.255.0
Gateway:	192.168.1.254
DNS 0:	168.95.1.1
DNS 1:	168.95.192.1

- a. DHCP: The IP Camera will get all the network parameters automatically.
- b. Static IP: Type-in the IP address subnet mask, gateway, and DNS.

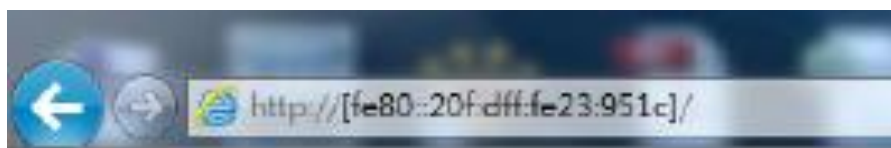
IPv6 Assignment

IPv6 Assignment	
☒ IPv6 Enabled:	
☒ Manually setup the IPv6 address:	
IPv6 Address/Prefix:	:: / 64
IPv6 Gateway:	::
IPv6 DNS:	::
DHCPv6:	☐ Enabled ☒ Disabled
IPv6 Address:	fe80::20f:dff:fe00:284d

By enabling DHCPv6 you can configure the following IPv6 address settings:

- Manually setup the IPv6 address: Key-in the Address, Gateway, and DNS.
- DHCPv6: If you have a DHCPv6 server, enable it to assign the IPv6 automatically. The assigned IP address will be displayed beside the column.
- Automatically generated IPv6 Address: Indicates a virtual IPv6 address generated automatically by the IP camera. This virtual IPv6 address cannot be used on WAN.

To use IPv6 address to access the IP camera, open the web browser, and key-in the **[IPv6 address]** in the address bar. The [] parentheses mark is necessary.



- a. Port Assignment: The user might need to assign a different port to avoid conflicts when setting up the IP.

Port Assignment	
Web Page Port:	80
HTTPS Port:	443

HTTPS Setting

- b. Web Page Port: setup the web page connecting port and video transmitting port (Default: 80)
- c. HTTPS Port: setup the https port(Default: 443)

UPnP

UPnP	
UPnP:	☒ Enabled ☐ Disabled
UPnP Port Forwarding:	☐ Enabled ☒ Disabled
External Web Port:	80
External HTTPS Port:	443
External RTSP Port:	554

This IP camera supports UPnP, if this service is enabled on your computer, the camera will automatically be detected and a new icon will be added to **My Network Places**.

UPnP Port Forwarding : Enable UPnP Port Forwarding for accessing the IP Camera from the Internet; this option allows the IP Camera to open ports on the router automatically so that video streams can be sent out from a LAN. There are three external ports for being set: **Web Port**, **Http Port** and **RTSP** port. To utilize of this feature, make sure that your router supports **UPnP** and is activated.

Note: *UPnP must be enabled on your computer.*

Please follow the procedure to activate UPnP:

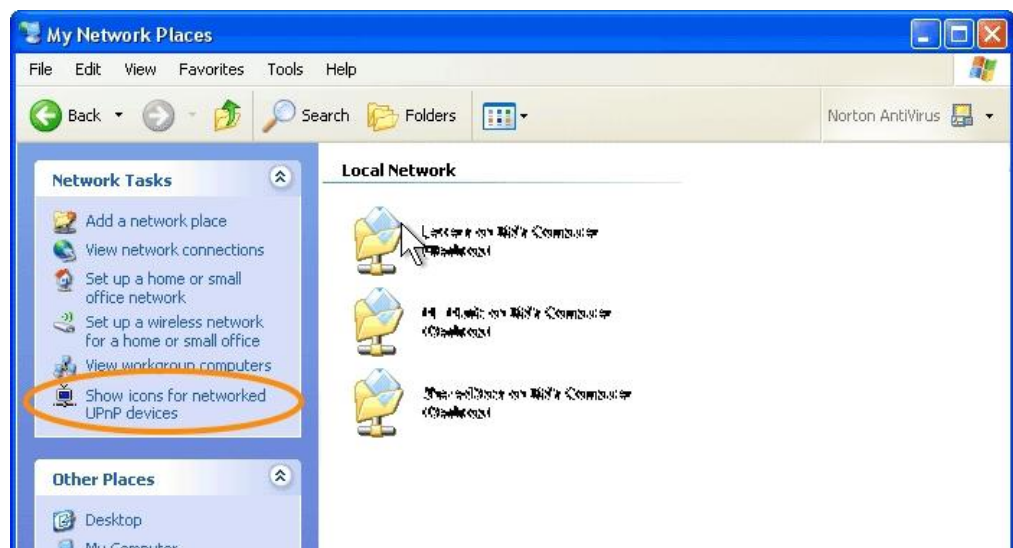
<Approach 1>

1. open the **Control Panel** from the **Start Menu**
2. Select **Add/Remove Programs**
3. Select **Add/Remove Windows Components** and open **Networking Services** section

4. Click **Details** and select **UPnP** to setup the service.
5. The IP device icon will be added to **My Network Places**.
6. The user may double click the IP device icon to access IE browser

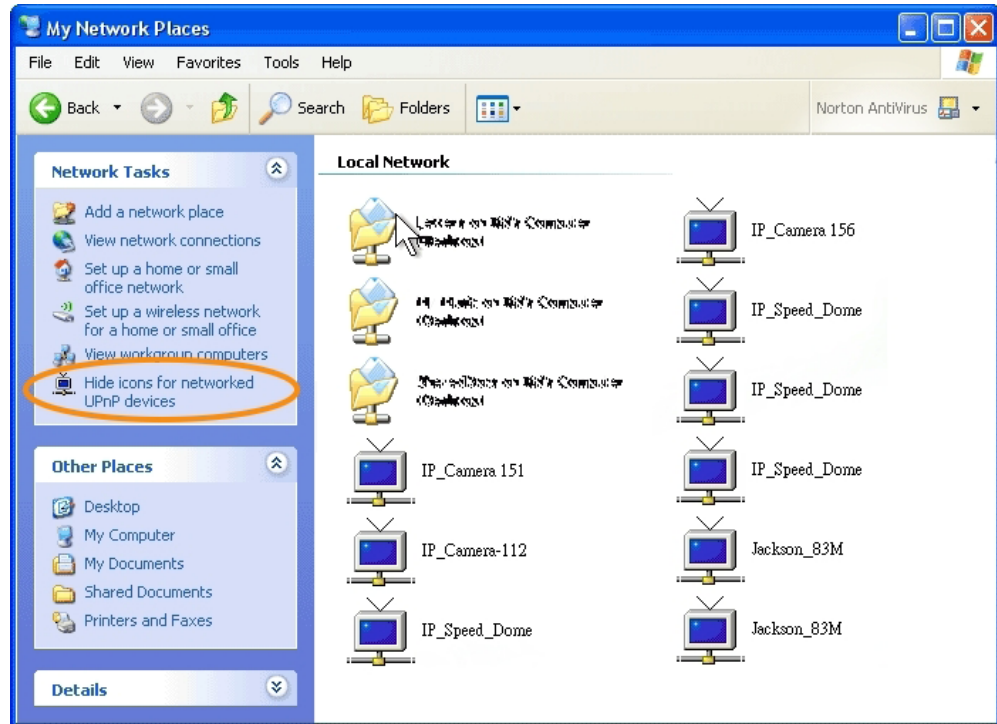
<Approach 2>

1. Open **My Network Space**
2. Click **Show icons for networked UPnP devices** in the tasks column on the left of the page.
3. Windows might ask your confirmation for enabling the components. Click **Yes**.



4. Now the IP device is displayed under the LAN. Double-click the icon to access the camera via web browser. To disable the UPnP,

click **Hide icons for networked UPnP devices** in the tasks column.



RTSP setting

RTSP Setting	
RTSP Server:	☒ Enabled ☐ Disabled
RTSP Authentication:	Disable v
RTSP Port :	554
RTP Start Port:	5000 [1024..9997]
RTP End port:	9000 [1027..10000]

If you have a media player that supports RTSP protocol, you can use it to receive video streaming from the IP camera. The RTSP address can be set for two streamings respectively.

1. RTSP Server: enable or disable

Disable means everyone who knows your camera IP Address can link to your camera via RTSP. No username and password are required.

Under **Basic** and **Digest** authentication mode, the camera asks for a username and password before allows access.

The password is transmitted as a clear text under basic mode, which provides a lower level of security than under **digest** mode.

Make sure your media player supports the authentication schemes.

2. RTSP Port: setup port for RTSP transmitting (Default: 554)
3. RTP Start and End Port: in RTSP mode, you can use TCP and UDP for connecting. TCP connection uses RTSP Port (554). UDP connection uses RTP Start and End Port.

Multicast Setting (Based on the RTSP Server)

Multicast Setting (Based on the RTSP Server)		
Streaming 1:		
IP Address:	234.5.6.78	[224.3.1.0 ~ 239.255.255.255]
Port:	6000	[1 ~ 65535]
TTL:	15	[1 ~ 255]
Streaming 2:		
IP Address:	234.5.6.79	[224.3.1.0 ~ 239.255.255.255]
Port:	6001	[1 ~ 65535]
TTL:	15	[1 ~ 255]

Multicast is a bandwidth conservation technology. This function allows several users to share the same packet sent from the IP camera.

For using Multicast, appoint here an IP Address and port. TTL means the life time of packet, the larger the value is, the more users can receive the packet.

For using Multicast, be sure to enable the function **Force Multicast RTP via RTSP** in your media player. Then key in the RTSP path of your camera: **rtsp ://(IP address)/** to receive the multicast.

ONVIF

ONVIF			
ONVIF:	☒ v2.10/v1.02	☐ v1.01	☐ Disabled
Security:	☐ Enabled	☒ Disabled	
RTSP Keepalive:	☒ Enabled	☐ Disabled	

1. Choose your ONVIF version and settings.

Under ONVIF connection, the video will be transmitted by RTSP. Be sure to enable the RTSP server in IP setting, otherwise the IP Camera will not be able to receive the video via ONVIF.

2. Security

By selecting **Disable**, the username and password are not required for accessing the camera via ONVIF. By selecting **Enable** the username and password are necessary.

3. RTSP Keepalive:

When the function is enabled, the camera checks once in a while if the user who is connected to the camera via ONVIF is still connected. If the connection has been broken the camera will stop transmitting video to the user.

Bonjour

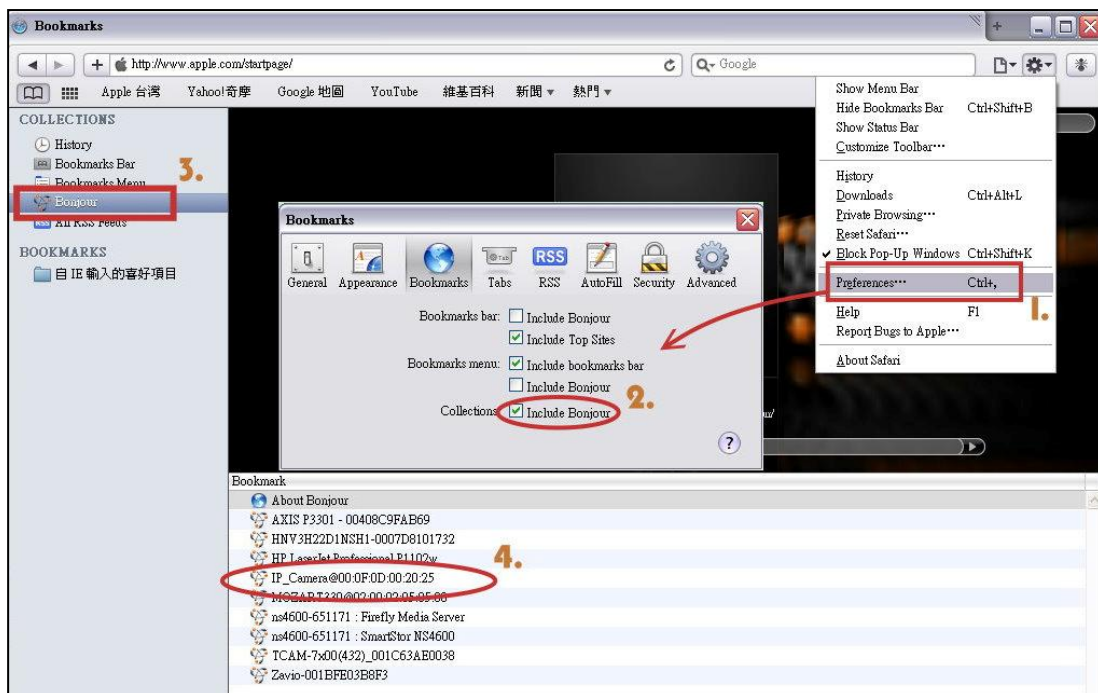
Bonjour	
Bonjour:	☐ Enabled ☒ Disabled
Bonjour Name:	IP_Camera @00:0F:0D:00:28:4D

This function allows Apple systems to connect to this IP camera. On **Bonjour Name** key-in the name here.

The web browser **Safari** also has a Bonjour function. Tick **Include Bonjour** in the bookmark setting, for the IP camera to appear under the bonjour category. Click the icon to connect to the IP camera.

The Bonjour function on Safari browser doesn't support HTTPS protocol. If on the camera you select **https**, the camera will appear on Safari's bookmarks but it cannot be accessed.

Take as a reference the following image:



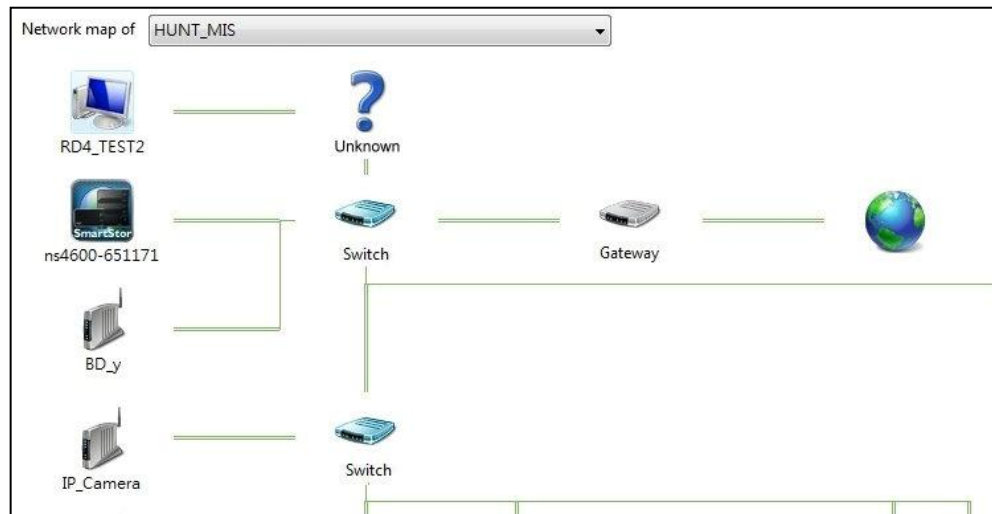
LLTD



If your PC supports LLTD, enable this function for allowing checking the connection status, properties, and device location (IP address) in the network map.

If the computer is running Windows Vista or Windows 7, you can find LLTD through the path:

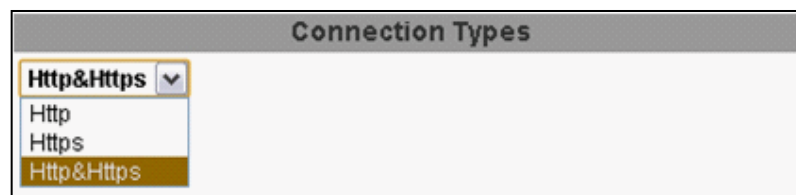
Control Panel → Network and Internet → Network and Sharing Center → Click **See full map**.



II. Advanced

a. Https (Hypertext Transfer Protocol Secure)

When the users access cameras via Https protocol, the transmitted information will be encrypted, increasing the security level.



Select the connection type:

- Http: the user can access the camera via the Http path but cannot access it via the Https path.

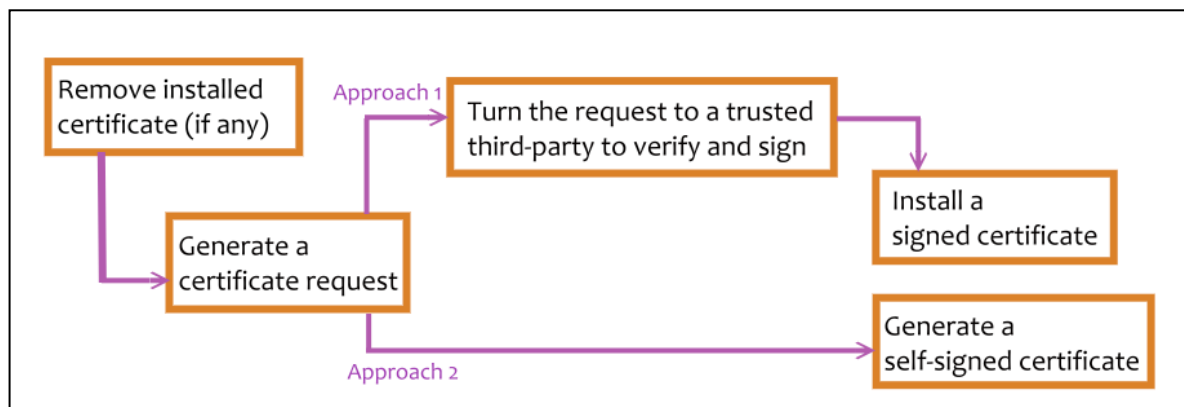
- Https: the user can access the camera via the Https path but cannot access it via the Http path.

- Http & Https: Both the Http and Https path can be used to access the camera. When you change the connection type settings, it may cause connection error or disconnection error if you switch the protocol directly. Therefore, **Http & Https** mode is necessary.

If you want to change from Http to Https, please switch to **Http & Https** mode first, and then switch to **Https** mode and vice versa.

The Https protocol has a verifying mechanism. When the user access a website via Https, the browser will check the certificate of that domain and verify its trustiness and security.

Certificate generation process:



- Remove the existing certificate: Before you generate a new certificate, please remove the installed one. Select the **Http** connection type and click **Remove**. If a dialog box pops up to ask you to confirm, click **Yes**.

Https Setting

Created Request

Subject: C=TW, ST=, L=, O=, OU=, CN=

Date: 2011/Sep/23 10:04:17

Content Remove

Installed Certificate

Subject: C=TW, ST=, L=, O=, OU=, CN=

Date: Apr 23 09:05:24 2011 GMT

Content Remove

Connection Types

Http

- Created Request: Fill-in the following form and click “apply”.

Https Setting

Create Request

Country:

State or province:

Locality:

Organization:

Organizational Unit:

Common Name:

Apply

- After generating a certificate request, if you choose to turn it and verified by a trusted third-party, click “Content” and copy all the request content.

Created Request

Subject: C=TW, ST=, L=, O=, OU=, CN=

Date: 2012/Sep/25 08:49:23

Content Remove

Certificate Request:

Data:

Version: 0 (0x0)

Subject: C=TW

Subject Public Key Info:

Public Key Algorithm: rsaEncryption

Public-Key: (1024 bit)

Modulus:

00:b8:cb:17:f7:b6:14:5d:92:99:ae:73:52:7c
09:2a:ad:a6:50:39:5a:3c:09:10:15:85:ad:3c
cc:e0:b2:7c:29:3e:d1:e7:15:c4:f2:4f:de:a6
98:f8:71:53:a3:43:0b:2c:1a:20:94:32:76:b3
72:c8:bc:87:35:3f:c7:fe:17:8f:c3:1f:2d:ak
33:3c:9a:28:3b:31:46:d8:c7:26:37:af:fb:5c
aa:b0:a1:75:6a:f9:02:ca:c9:be:49:c9:2a:74
cb:b0:95:1e:63:89:f6:07:6c:cf:1c:5b:38:4e
29:a8:55:82:92:95:bc:74:15

Exponent: 65537 (0x10001)

Attributes:

a0:00

Signature Algorithm: sha1WithRSAEncryption

9b:4c:13:01:cc:10:2a:bc:3c:22:f2:10:e7:48:19:52:98:5e
c9:ae:5a:f4:76:cb:7d:f8:6c:21:e3:a5:9b:45:60:2a:ba:73
23:ce:7a:90:9c:90:b5:a7:41:36:2c:c4:f4:34:55:e5:d0:92
9d:32:d3:a4:2b:d1:0a:7c:58:9c:6d:4d:38:e3:a6:73:a0:a5

- According to the certificate source, there are two ways to install the certificate:

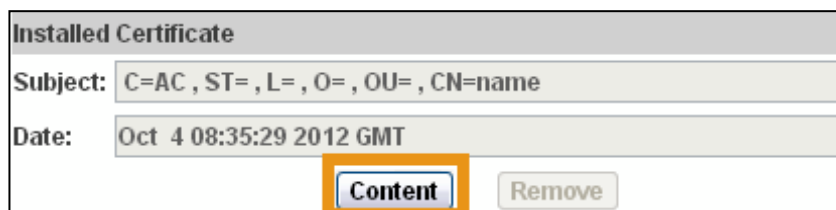
If you had sent the certificate request for signing and receiving a signed certificate, click **browse** and find the certificate file in your computer. Click **Apply** to install it.

If you choose to generate a self-signed certificate, fill-in the following forms and set the validity day, click **Apply** to finish installed it.



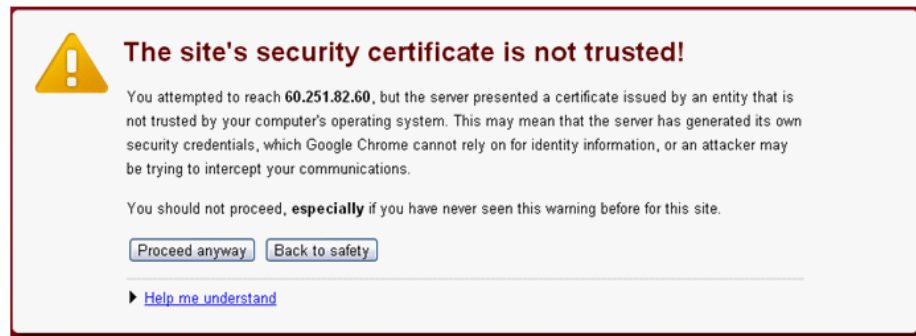
The screenshot shows two sections of a web interface. The top section, titled "Install Signed Certificate", has a "Signed Certificate:" text box with a "Browse..." button and an "Apply" button. The bottom section, titled "Create Self-Signed Certificate", contains several input fields: "Country:", "State or province:", "Locality:", "Organization:", "Organizational Unit:", "Common Name:", and "Validity:" followed by a "Days" label. An "Apply" button is located at the bottom right of this section.

After finishing the installation, click on **Content** to call out and check the certificate content.



The screenshot shows a window titled "Installed Certificate". It contains two rows of information: "Subject: C=AC , ST= , L= , O= , OU= , CN=name" and "Date: Oct 4 08:35:29 2012 GMT". Below the date, there are two buttons: "Content" (highlighted with an orange border) and "Remove".

To use Https to access the camera, open your browser, and key-in **https:// (IP address)/** in the address bar. Now your data will be transmitted via encrypted communications. The browser will check your certificate status. It might show the following warning message:



Meaning that certificate is self-signed or signed by a distrusted institution. Click **Proceed anyway** for continuing to the camera page.

b. SNMP (Simple Network Management Protocol)

1. **SNMPv1** or **SNMPv2**: write the name of both **Write Community** and **Read Community**.

SNMP	
SNMP Setting	
☐ SNMPv1	☒ SNMPv2c
Write Community:	write
Read Community:	public

2. **SNMPv3**: Set the Security Name, Authentication Type, Authentication Password, Encryption Type, Encryption Password of Write mode and Read mode.

☒ **SNMPv3**

Write Security Name:

write

Authentication Type:

☒ MD5 ☐ SHA

Authentication Password:

Encryption Type:

☒ DES ☐ AES

Encryption Password:

Read Security Name:

public

Authentication Type:

☒ MD5 ☐ SHA

Authentication Password:

Encryption Type:

☒ DES ☐ AES

Encryption Password:

3. Enable SNMPv1/SNMPv2 Trap for detecting the Trap server.

Please set what event needs to be detected.

☐ **SNMPv1/v2c Trap**

Trap Address:

Trap Community:

public

Trap Event:

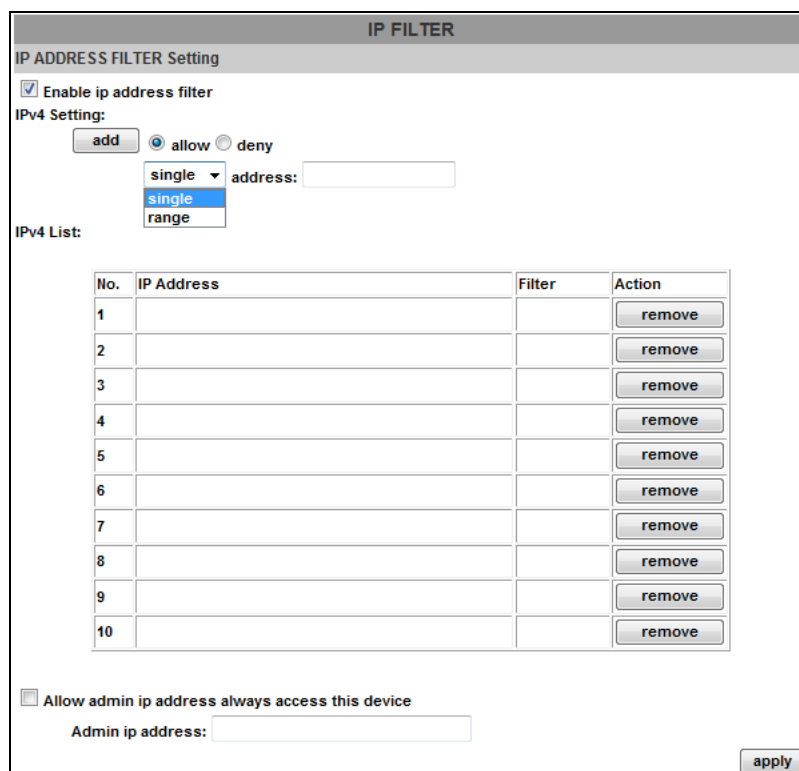
☐ Cold Start ☐ Warm Start ☐ Link Up
☐ Authentication Failed ☐ SD Detect

- Cold Start: The camera starts up or reboots.
- Setting changed: The SNMP settings have been changed.
- Network Disconnected: The network connection was broken down (The camera will send trap messages after the network is connected again).
- V3 Authentication Failed: A SNMPv3 user account tries to get authentication but failed. (Due to incorrect password or community)

- SD Insert / Remove: A Micro SD card is inserted or removed.

c. Access list:

Enable IP address filter for setting the IP addresses which allows or denies this camera. There are two options: **single** and **range**.



The IP FILTER configuration interface includes the following elements:

- IP ADDRESS FILTER Setting**: A section header.
- Enable ip address filter**: A checkbox that is checked.
- IPv4 Setting**:
 - An **add** button.
 - Radio buttons for **allow** (selected) and **deny**.
 - A dropdown menu currently showing **single**, with **single** and **range** as options.
 - An **address:** text input field.
- IPv4 List**: A table with 10 rows, each containing an IP address and a **remove** button.
- Allow admin ip address always access this device**: A checkbox that is unchecked.
- Admin ip address:** A text input field.
- An **apply** button at the bottom right.

No.	IP Address	Filter	Action
1			remove
2			remove
3			remove
4			remove
5			remove
6			remove
7			remove
8			remove
9			remove
10			remove

d. QoS/DSCP(Quality of Server/Differentiated Services Code-point):

DSCP specifies a simple mechanism for classifying and managing network traffic; and provide QoS on IP networks. DSCP is a 6-bit in the IP header for packet classification purpose. Please define it for **Live Stream, Event / Alarm and Management**.

QoS/DSCP

QoS/DSCP Setting

☒ Enable QoS/DSCP

Live Stream:

0

(0~63)

Event / Alarm:

0

(0~63)

Management:

0

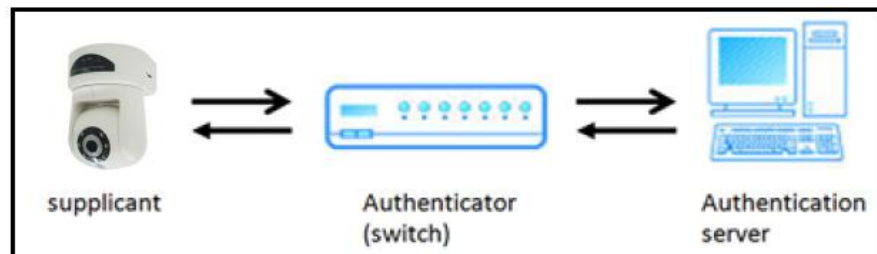
(0~63)

Apply

e. IEEE 802.1x:

IEEE 802.1x is an IEEE standard for port-based Network Access Control. It provides an authentication mechanism to a device on a LAN or WLAN.

The EAPOL protocol support service identification and optional point to point encryption over the local LAN segment.



Please check what version of the authenticator and authentication server is supported. This camera supports EAP-TLS method. Please enter the ID, password issued by the CA, then upload related certificates.

IEEE 802.1x/EAP-TLS

IEEE 802.1x Setting

☐ Enable IEEE 802.1x

Eapol version:

☒ v1 ☐ v2

Identity:

Private key password:

Apply

CA certificate:

Upload

瀏覽...

Remove

Status:

Client certificate:

Upload

瀏覽...

Remove

Status:

Client private key:

Upload

瀏覽...

Remove

Status:

III. PPPoE & DDNS:

PPPoE

PPPoE Setting

☐ Enabled ☒ Disabled

Username:

Password:

Send mail after dialed

☐ Enabled

Subject:

PPPoE From IPcam

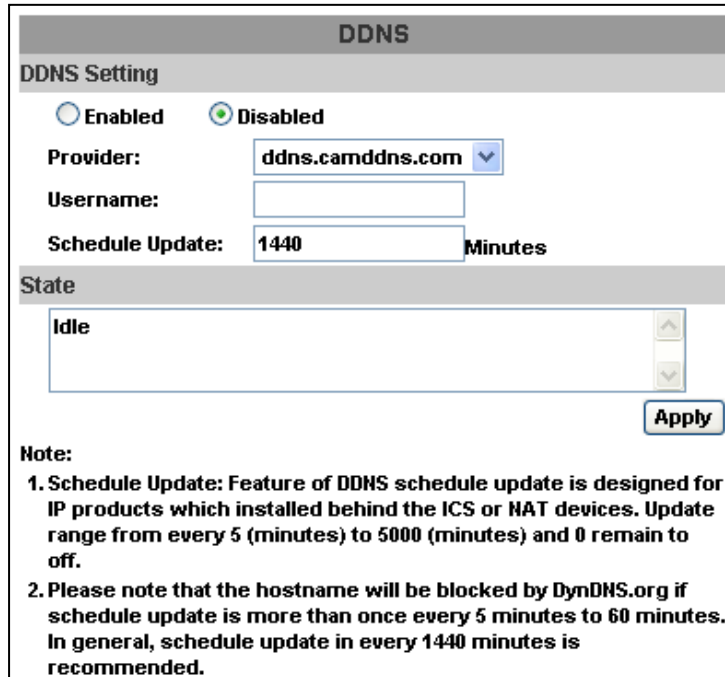
Apply

- a. **PPPoE:** Select **Enabled** to use PPPoE. Key-in the the Username and password for ADSL connection.

Send mail after dialed: When connected to the internet, the camera will send a mail to a specific mail account.

b. DDNS:

Example when using camddns:



DDNS

DDNS Setting

☐ Enabled ☒ Disabled

Provider: ddns.camddns.com

Username:

Schedule Update: 1440 Minutes

State

Idle

Apply

Note:

1. Schedule Update: Feature of DDNS schedule update is designed for IP products which installed behind the ICS or NAT devices. Update range from every 5 (minutes) to 5000 (minutes) and 0 remain to off.
2. Please note that the hostname will be blocked by DynDNS.org if schedule update is more than once every 5 minutes to 60 minutes. In general, schedule update in every 1440 minutes is recommended.

1. Enable this service
2. Key-in the username.
3. IP schedule update. Default: 5 minutes
4. Click **Apply**.
3. DDNS Status

(1) **Updating:** Information update

(2) **Idle:** Stop service

(3) **DDNS registration successful, can now log by**

<http://<username>.ddns.camddns.com:>

Register

successfully.

- (4) **Update Failed, the name is already registered:** The user name has already been used. Please change it.
- (5) **Update Failed; please check your internet connection:** Network connection failed.
- (6) **Update Failed, please check the account information you provided:** The server, user name, and password may be wrong.

IV. Server settings

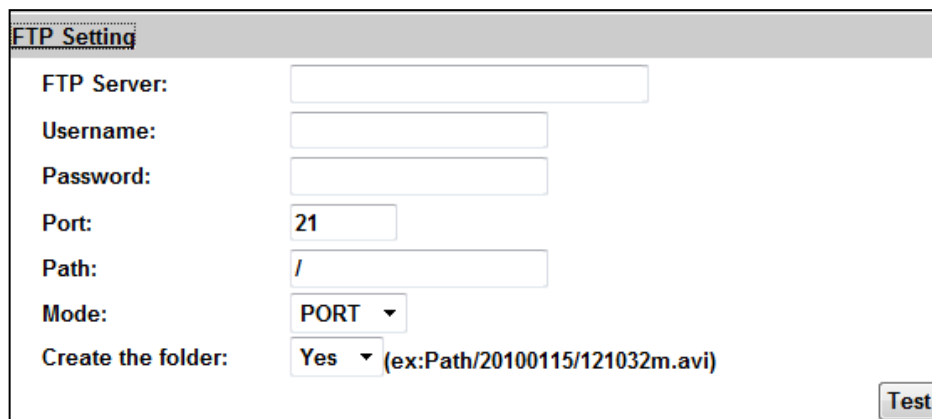
There are three server types available: **Email**, **FTP** and **SAMBA**. Select the item for display detailed configuration options. You can configure either one or all of them.

To send out the video via mail of FTP, please set up the configuration first.

Server Settings	
<u>Mail Setting</u>	
Login Method:	Account ▼
Mail Server:	
Username:	
Password:	
Sender's Mail:	
Receiver's Mail:	
Bcc Mail:	
Mail Port:	25 (Default 25)
☐ Secure Connect:	☒ TLS ☐ SSL
Test	

FTP

To send out the video via mail of FTP, please set up the configuration.

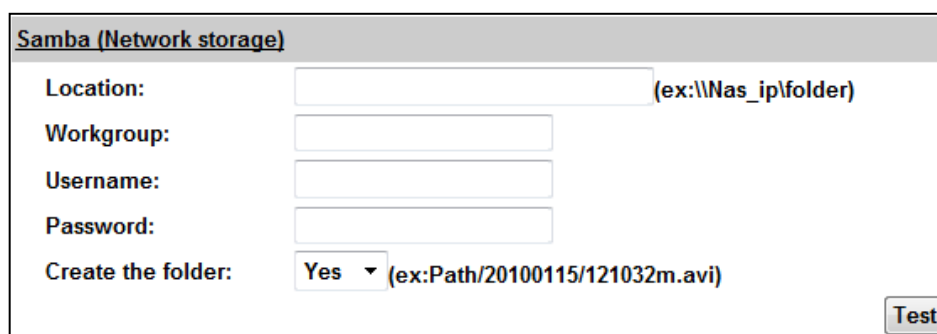


The 'FTP Setting' window contains the following fields and controls:

- FTP Server:** Text input field.
- Username:** Text input field.
- Password:** Text input field.
- Port:** Text input field with the value '21'.
- Path:** Text input field with the value '/'.
- Mode:** Dropdown menu set to 'PORT'.
- Create the folder:** Dropdown menu set to 'Yes', with an example path '(ex:Path/20100115/121032m.avi)'.
- Test:** Button in the bottom right corner.

Samba

Select this option to send the media files via a neighbor network when an event is triggered.

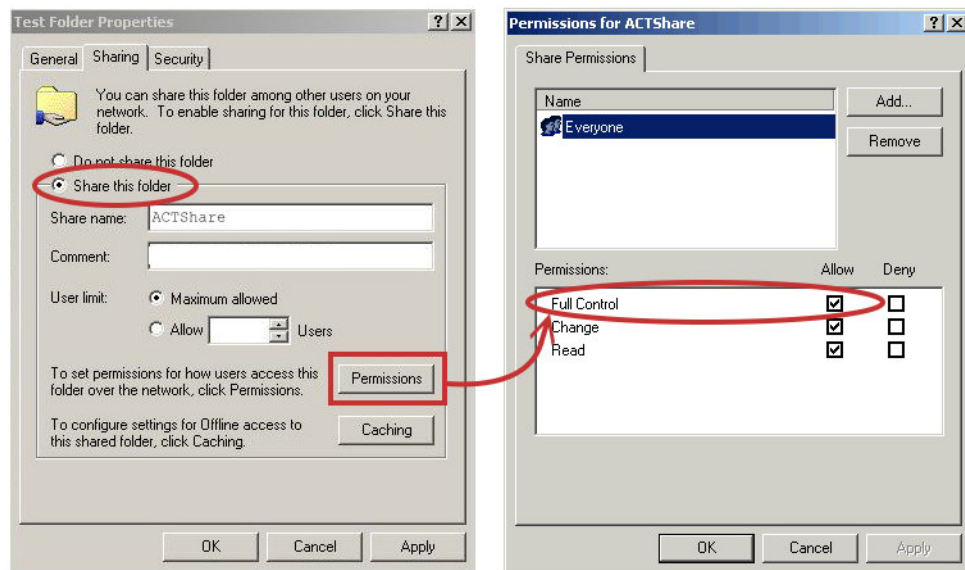


The 'Samba (Network storage)' window contains the following fields and controls:

- Location:** Text input field with an example '(ex:\\Nas_ip\\folder)'.
- Workgroup:** Text input field.
- Username:** Text input field.
- Password:** Text input field.
- Create the folder:** Dropdown menu set to 'Yes', with an example path '(ex:Path/20100115/121032m.avi)'.
- Test:** Button in the bottom right corner.

Click **Apply** to save the setting, then use **Test** button to test the server connection. A message box will tell you **OK!** if it works, and a test document will be created in the location.

If the test failed, check the sharing setting of your location folder. The folder properties must be **shared** and the permissions must be **Full Control** as the picture.



V. Wireless Setting (Optional): Support 802.11 b/g/n

For setting up the IP camera via wireless network, first, use the Ethernet cable to connect the camera. After finishing the wireless settings and saving them, remove the Ethernet cable.

Note: The IP address is the same under both wireless and wired network. If the Ethernet cable is plugged in the camera, the IP camera will use it to link to the Internet instead of the wireless router.

a. Status of Wireless Networks

Wireless Setting			
Status of Wireless Networks			
SSID	Mode	Security	Signal Strength
RHOSON	Infrastructure	WEP	47
hunt-ZyXEL	Infrastructure	WPA1PSKWPA2PSK/TKIPAES	42
hunt_sal4_showroom	Infrastructure	WPA1PSKWPA2PSK/TKIPAES	68
HUNT_MIS	Infrastructure	WPA2PSK/AES	52
fan	Infrastructure	WPAPSK/TKIP	52
MLink	Infrastructure	WPA1PSKWPA2PSK/TKIPAES	31
sales-4 second	Infrastructure	WPAPSK/TKIP	47
eCoffee	Infrastructure	WPA2PSK/TKIPAES	31
ZyXEL-NVR	Infrastructure	WPA1PSKWPA2PSK/TKIPAES	13
Lanner Wireless	Infrastructure	WPA/TKIPAES	26

The camera scans and shows the SSID, Mode, Security, and Signal strength of the wireless network.

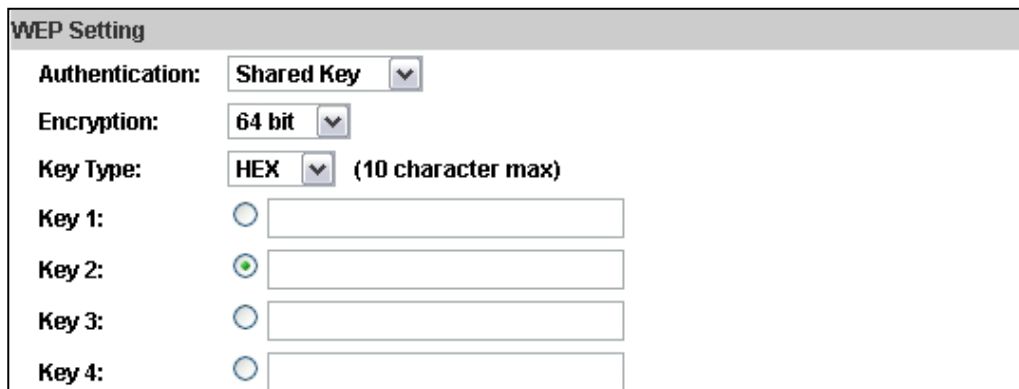
b. Wireless Setting

Wireless Setting	
MAC Address:	00:0D:F0:64:27:AC
Mode:	Ad-hoc ▼
Operation Mode:	Auto ▼
SSID:	Default
Domain:	FCC (1~11Ch) ▼
Channel:	6 ▼
Security:	None ▼

- Mode: **Infrastructure** mode is used to link to the wireless router. **Ad-hoc** mode is used to link to the PC directly. **Domain** and **Channel** options appear only in the Ad-hoc mode.
- SSID: The ID of the wireless network service.

- Domain: The wireless network standards are different in each region. Please select the wireless standard of your location. FCC is the American standard. ETSI is the European standard. JP is the Japanese standard.
- Channel: Assign a channel for the camera in order to avoid interference.
- Security: Select WEP, WPA-PSK, or WPA2-PSK according to your wireless router settings.

c. WEP Setting



The image shows a 'WEP Setting' configuration window. It contains the following fields and options:

- Authentication:** A dropdown menu with 'Shared Key' selected.
- Encryption:** A dropdown menu with '64 bit' selected.
- Key Type:** A dropdown menu with 'HEX' selected, followed by the text '(10 character max)'.
- Key 1:** A radio button (unselected) and an empty text input field.
- Key 2:** A radio button (selected) and an empty text input field.
- Key 3:** A radio button (unselected) and an empty text input field.
- Key 4:** A radio button (unselected) and an empty text input field.

- Authentication: **Open System** or **Shared Key**, according to your wireless router.
 - Encryption: The option determines the length of the key password. In **HEX** type, 10 characters are allowed if you select 64 bit; 26 characters are allowed if you select 128bit; In **ASCII** type, 5 characters are allowed if you select 64 bit; 13 characters are allowed if you select 128bit.
 - Key Type: In **HEX** type, the key password can only be hexadecimal numbers. In ASCII type, the key password can be any letter and number. (Capital and lowercase letters are regarded as different.)
-

- Key 1~4: Key in the key password according to your wireless router setting. The length and type must be consistent with the settings above.

d. WPA-PSK/ WPA2-PSK Setting

WPA-PSK Setting	
Encryption	TKIP ▼
Pre-Shared Key:	23133690 (ASCII format, 8~63)

- Encryption: **TKIP** or **AES**, according to your wireless router.
- Pre-Shared Key: Key-in the key password according to your wireless router settings. Any letters and numbers are allowed. (Capital and lowercase letters are regarded as different.)

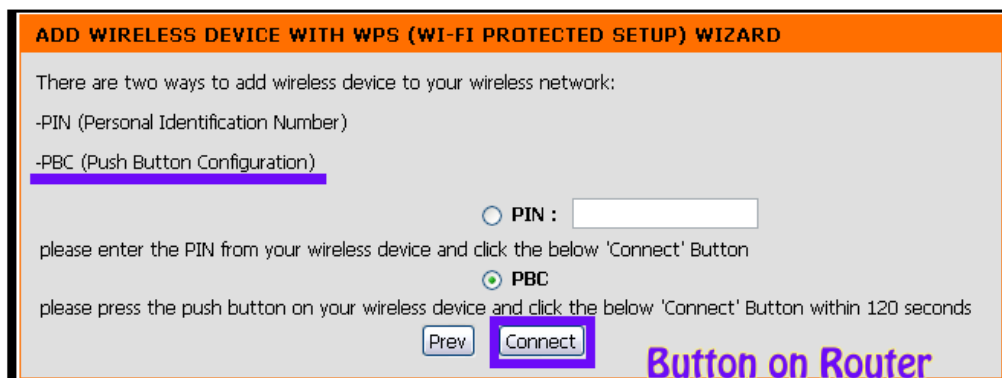
e. WPS

WPS (Wi-Fi Protected Setup) is an interface standard that allows users to easily establish wireless network, and be free from complicated security setting.

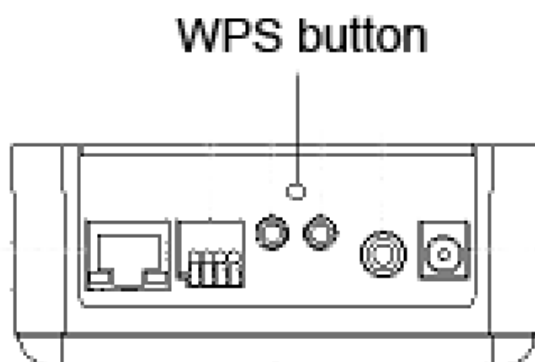
Please follow the steps for starting WPS. The menu and usage of every router may be different from the sample pictures.

- Set up the SSID and the pre-shared key on your wireless router. WPS only supports WPA/WPA2 security. Do not select WEP security.
- Plug-in the power adapter to the IP camera.

- Use the Ethernet cable to connect the IP camera to the PC or network. Enter into the wireless setting page, and check if the SSID of your wireless router is listed in **Status of Wireless Networks**. If yes, continue toward next step, no other wireless settings are needed.
- Access your router, and press the **Connect** button of the **PBC (Push Button Configuration)** on your router. **(Please read the manual of your router about WPS configuration)**



- Then, press the WPS button on the back of the camera as shown in the image. The light above the WPS button will start flashing.

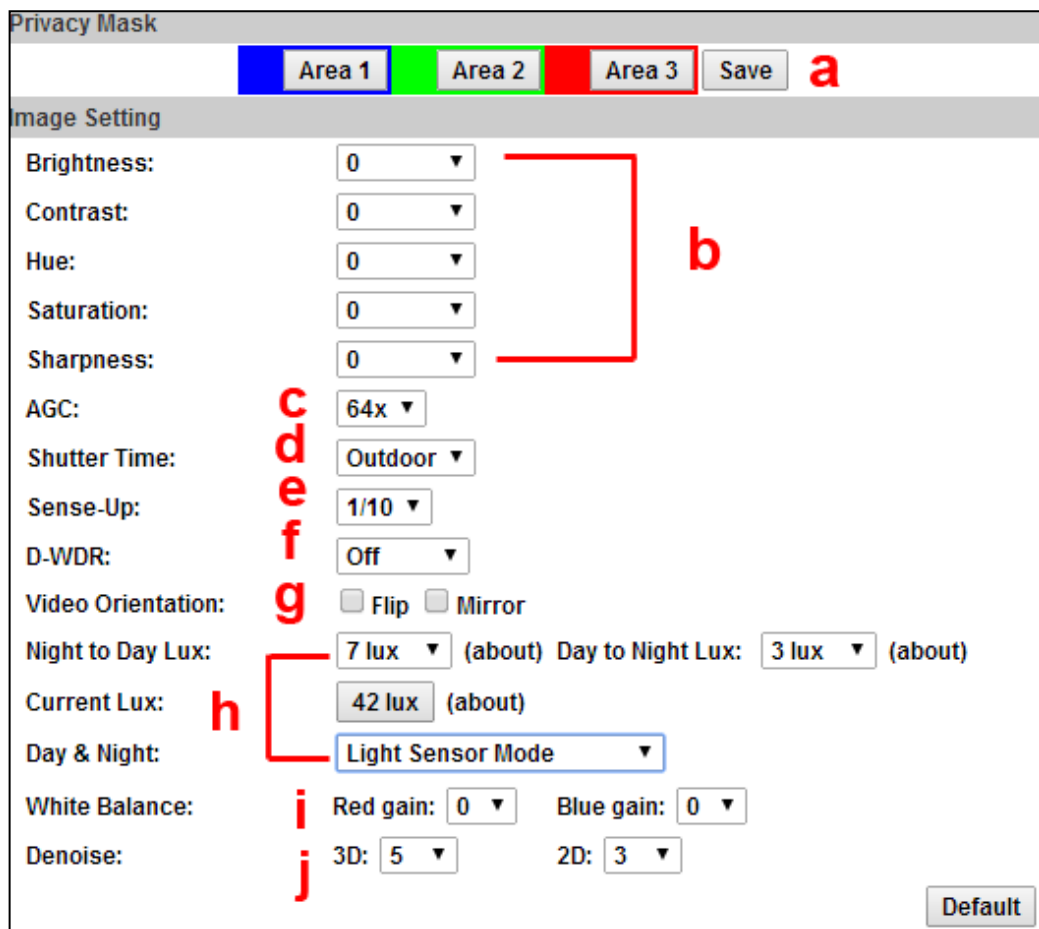


When it finally stops flashing and lights constantly, it means the WPS connection is successful. Refresh the wireless setting page on the camera;

you will see that the security settings have been already automatically completed. Meanwhile you might see a message on your router page to inform you the connection is OK. Now you can remove the Ethernet cable from the IP camera.

If the light finally stops flashing but the lights are off, it means the WPS connection failed. Check your wireless router setting, and make sure the SSID of the wireless router is found by the camera and listed in **Status of Wireless Networks**.

C. A/V Setting



1. Image Setting

Please refer to the details below for image settings:

- a. For security and privacy purposes, there are three areas that can be set up for privacy. Click the **Area** button first, and then drag an area on the above image. Remember to save your settings. The masked area will not be shown on both live view and recording image.
- b. Brightness, Contrast, Hue, Saturation, Sharpness can be adjusted here. The available values are: **-4, -3, -2, -1, 0, 1, 2, 3, 4**
- c. AGC: The sensitivity of the camera can be adjusted to the environmental lighting. By enabling this function the camera will get brighter images on low light, but the level of noise may also increase. The available values are: **8x, 16x, 24x, 32x, 48x, 64x**.
- d. Shutter Time: Choose the location of your camera or a fixed shutter time. The shorter the shutter time is the less light the camera receives and the image becomes darker.
- e. Sense up: When enabled, provides a higher sensitivity in low light conditions by slowing the shutter speed. The available values are: **1/30, 1/15, 1/10, 1/5**.
- f. D-WDR: This function enables the camera to reduce the contrast in the view to avoid dark zones as a result of over and under exposure. If the Input resolution is 30fps, the default value is fixed on **ENABLED**. The

available values are: **OFF, 1, 2, 3, 4, 5, 6, 7, 8**. If the D-WDR is enabled the values for bright, dark and contrast can be adjusted.

g. Video Orientation: Flip or mirror the image.

h. Day & Night: The camera can detect the light level of the environment. If you choose **Light Sensor Mode**, the image will be turned black and white at night in order to keep a clear image. To set light sensor mode, appoint a Lux standard of switching D/N.

The current Lux value is provided for reference. Under **Times Mode** the switch time of Color / Black and white will be according to the given time.

You can also control it by choosing **Color** or **B/W**.

i. Red / Blue gain: Set the values for Red / Blue gain. The available values are: **-5, -4, -3, -2, -1, 0, 1, 2, 3, 4, 5**

j. Denoise: This function is able to filter the noise and blur from the image and show a clearer view. You can set the values for 2D and 3D filters. The available values are: **off, 1, 2, 3, 4, 5, 6, 7, 8, 9**

2. Video Setting

Video Setting	
Input Resolution:	2592x1944 @ 15fps ▼
Video System:	PAL ▼
TV Output:	Auto ▼ (Auto : Based on the Video System)
TV Output Focus Bar ON/OFF	☒ ON ☐ OFF

- Input Resolution: **2592X1944 @ 15fps** or **1920X1080 @ 30fps**
- Video System: **PAL** or **NTSC**
- TV Output: **PAL**, **NTSC** or **Auto**

a. Streaming 1& 2 Basic Mode:

(Max Video Frame Rate for both streaming combined is 30 FPS)

Streaming 1 Setting	
☒ Basic Mode	☐ Advanced Mode
Resolution:	1280x800 ▼
Quality:	High ▼
Video Frame Rate:	30 FPS ▼
Video Format:	H.264 ▼
RTSP Path:	ex:rtsp://IP_Address/ Audio:G.711

1. Resolution:

On input: 2592X1944 @ 15fps

Stream 1

2592x1944@15fps, 2048x1536@15fps, 1920x1080@15fps,
1280x720@15fps, 640x480@15fps, 320x240@15fps,
176x144@15fps

Stream 2

640x480@15fps, 320x240@15fps, 176x144@15fps

On input: 1920X1080 @ 30fps

1920x1080@30fps, 1280x720@30fps, 640x480@30fps,
320x240@30fps, 176x144@30fps

2. Profile:

Baseline, Main, High

Profiles are different compressions of H.264. High profile provides better coding efficiency. Note that some devices do not support every profile. For example, iPhone4 only supports Main profile.

3. Quality:

There are 5 levels:

Best/ High/ Standard/ Medium/ Low

The higher the quality is, the bigger the file size is. Not good for internet transmission.

4. Video Frame Rate: The video refreshing rate per second.

5. Video Format: **H.264, JPEG**

6. RTSP Path: RTSP output name

b. Streaming 1 & 2 Advanced Mode:

(Max Video Frame Rate for both streaming combined is 30 FPS)

Streaming 1 Setting	
☐ Basic Mode ☒ Advanced Mode	
Resolution:	1280x800
Bitrate Control Mode:	☒ CBR ☐ VBR
Video Quantitative:	7
Video Bitrate:	2Mbps
Video Frame Rate:	30 FPS
GOP Size:	1 X FPS
GOP = 30	
Video Format:	H.264
RTSP Path:	ex:rtsp://IP_Address/ Audio:G.711

1. Resolution:

On input: 2592X1944 @ 15fps

Stream 1

2592x1944@15fps, 2048x1536@15fps, 1920x1080@15fps,
1280x720@15fps, 640x480@15fps, 320x240@15fps,
176x144@15fps

Stream 2

640x480@15fps, 320x240@15fps, 176x144@15fps

On input: 1920X1080 @ 30fps

1920x1080@30fps, 1280x720@30fps, 640x480@30fps,
320x240@30fps, 176x144@30fps

2. Profile:

Baseline, Main, High

Profiles are different compressions of H.264. High profile provides better coding efficiency. Note that some devices do not support every profile. For example, iPhone4 only supports Main profile.

3. Bitrate Control Mode

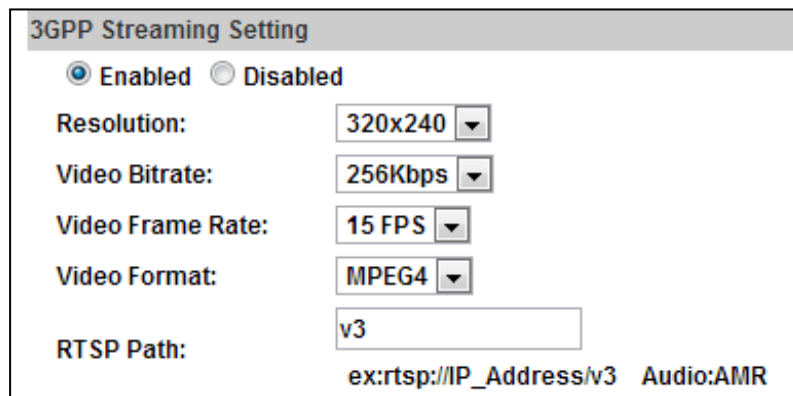
There are CBR [Constant Bit Rate] and VBR [Variable Bit Rate]

CBR: **32Kbps~8Mbps** (the higher the CBR is, the better the video quality is)

VBR: 1(Low) ~10(High) – Compression rate, the higher the compression rate, the lower the picture quality is; vise versa. The balance between VBR and network bandwidth will affect picture quality. Select the VBR rate to avoid picture breaking up or lagging.

4. Video Frame Rate (**5~30 FPS**): The video refreshing rate per second.
5. GOP Size (**1, 1/2, 2**) X FPS: "Group of Pictures". The higher the GOP is, the better the quality is.
6. Video Format: **H.264** or **JPEG**
7. RTSP Path: RTSP output connecting path

c. 3GPP Streaming mode:



The image shows a '3GPP Streaming Setting' dialog box. It has a title bar and a header area with 'Enabled' (selected) and 'Disabled' radio buttons. Below are several settings: 'Resolution' set to '320x240', 'Video Bitrate' set to '256Kbps', 'Video Frame Rate' set to '15 FPS', and 'Video Format' set to 'MPEG4'. The 'RTSP Path' is set to 'v3'. At the bottom, there is an example path: 'ex:rtsp://IP_Address/v3 Audio:AMR'.

3GPP Streaming Setting	
☒ Enabled ☐ Disabled	
Resolution:	320x240
Video Bitrate:	256Kbps
Video Frame Rate:	15 FPS
Video Format:	MPEG4
RTSP Path:	v3
ex:rtsp://IP_Address/v3 Audio:AMR	

1. Resolution:

640x480@15fps, 320x240@15fps, 176x144@15fps

2. Video Bitrate:

32Kbps~1Mbps (the higher Video Bitrate is, the better the video quality is).

3. Video Frame Rate

The video refreshing rate per second.

4. Video Format

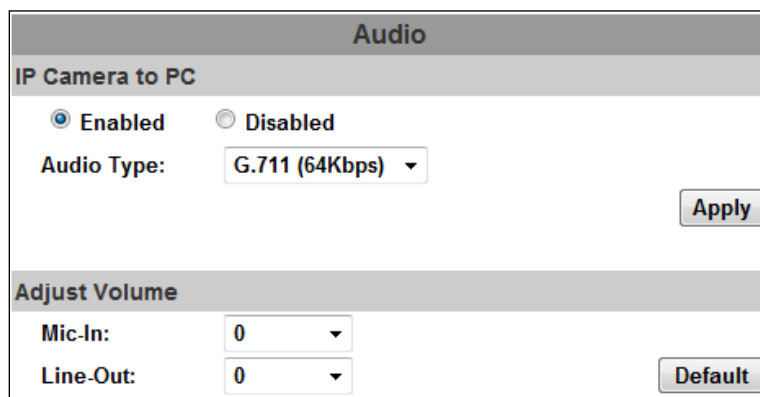
Select between **JPEG** or **MPEG4**

5. RTSP Path: RTSP output name

3. Audio

The IP Camera supports 2-way audio. The user can send audio from the IP Camera built-in microphone to the remote PC; the user can also send audio from remote PC to IP Camera's external speaker.

- a. Audio from IP camera built-in microphone to local PC: select **Enable** to start this function and select the audio type.



Audio	
IP Camera to PC	
☒ Enabled	☐ Disabled
Audio Type:	G.711 (64Kbps) ▼
Apply	
Adjust Volume	
Mic-In:	0 ▼
Line-Out:	0 ▼
Default	

- b. Audio from local PC to IP Camera: Check **chatting** in the browsing page.



The Audio will not be smooth when the SD card is recording.

D. Event List

The IP Camera provides multiple event settings.

1. Event Setting

a. Motion Detection

Area Setting:	Area 1	Area 2	Area 3
Sensitivity:	5	5	5
☐ Area 1:	☐ E-mail ☐ FTP ☐ Out1 ☐ Save to SD card ☐ Samba		
☐ Area 2:	☐ E-mail ☐ FTP ☐ Out1 ☐ Save to SD card ☐ Samba		
☐ Area 3:	☐ E-mail ☐ FTP ☐ Out1 ☐ Save to SD card ☐ Samba		
Subject:	IP Camera Warning!		
Interval:	10 sec a period of time between every two motions detected.		
☐ Based on the schedule			

To enable motion detection, tick **Area 1/2/3**. Click **Area 1/2/3** in **Area Setting**, and draw an area on the preview screen. When motion is detected in the area, the word **Motion!** will be displayed on the live screen. The camera will send video or snapshot to specific mail addresses, trigger the output device, or save video to FTP/ Micro SD card/ Samba.

By selecting **save to SD card**, the video or snapshot will be saved to the

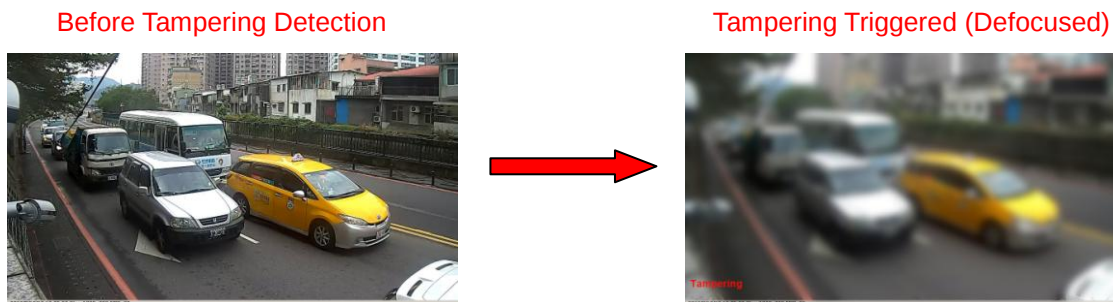
Micro SD card. Also, by ticking **E-mail/ FTP/ Samba** on the **Log** option, the motion detection log will be sent to **E-mail/ FTP/ Samba** simultaneously.

- Interval: For example, when selecting "10 sec", once the motion is detected and the action is triggered, it cannot be triggered again within 10 seconds.
- Based on the schedule: When the option box is ticked, only during the selected schedule time the motion detection is enabled.

b. Tampering Detection

Tampering Detection	
Tampering:	☐ Enabled ☒ Disabled
	☐ E-mail ☐ FTP ☐ Out1 ☐ Save to SD card ☐ Samba
Interval:	30 sec ▼

When the camera view is covered, moved, hit by strong light, or out of focus, the tampering detection will be triggered, and send snapshot or video to mail/FTP/Samba/SD card, or trigger the external alarm. For example:



Before Tampering Detection



Tampering Triggered (Lens Covered)



Before Tampering Detection



Tampering Triggered (Glare)



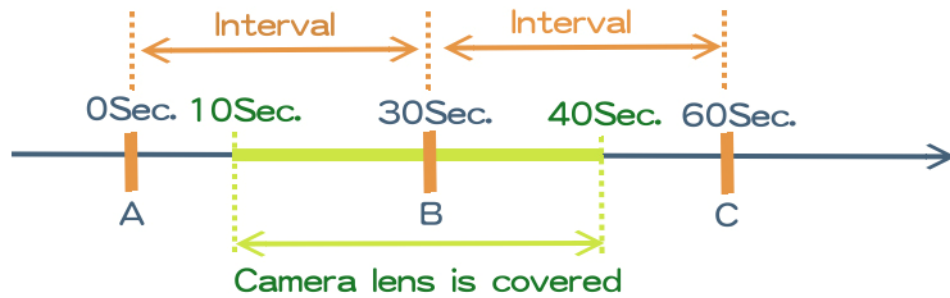
Before Tampering Detection



Tampering Triggered (Camera Moved)



- Interval: The tampering detecting interval. Take the diagram below as example. The interval is set for 30 second; the camera lens is covered during 10 - 40 sec. At time point B, the camera compares the view with time point A, and sends an alarm when it finds that the lens is covered. At time point C, the camera compares the view with time point B, and sends an alarm when it finds that the lens is uncovered.



c. Record File

Record File	
File Format:	AVI File(with Record Time Setting) 

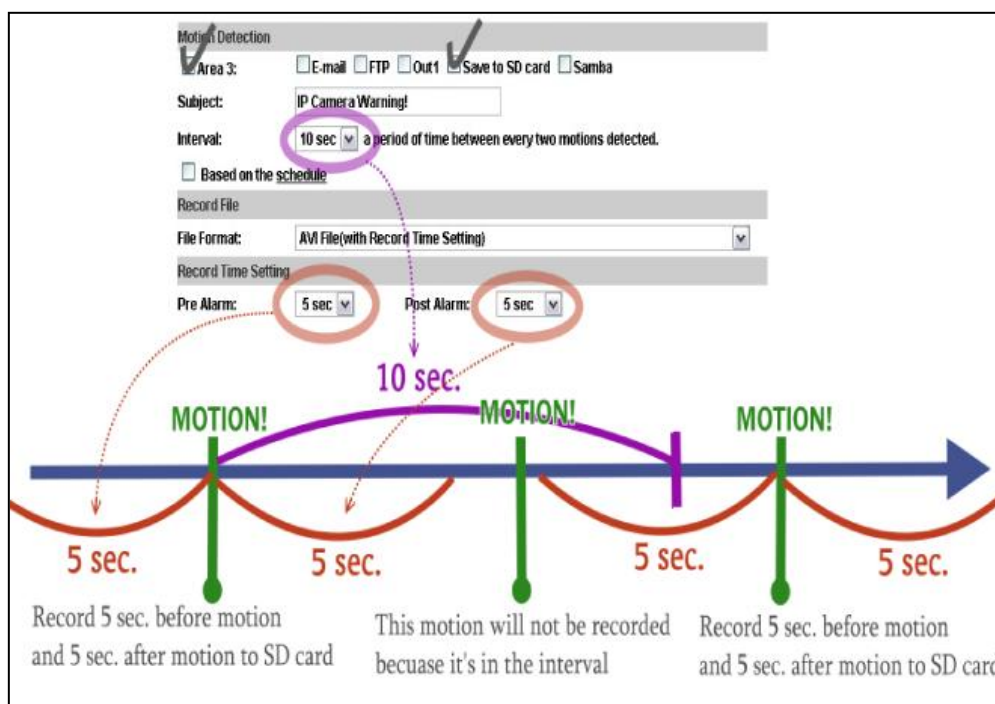
When an event occurs, the IP camera will record a video clip or take snapshot, and then send to mail/ FTP/ Samba. Select the file format to be saved.

- AVI File (with Record Time Setting): Save AVI video file. The video length is according to the value set in Record Time Setting.
- JPEG Files (with Record Time Setting): This option is enabled when selecting **JPEG** video format in **streaming 1** on **Video Setting**, this option can be enabled. Select this option to save several JPEG picture files. The successive picture files cover a period of time according to the value set in **Record Time Setting**.
- JPEG File (Single File with Interval Setting): Save a single JPEG picture file when the event occurs.

d. Record Time Setting

Record Time Setting			
Pre Alarm:	5 sec	Post Alarm:	5 sec

When an event occurs, the IP camera can record a video clip or take a snapshot, and then send it via mail/ FTP/ Samba. Select the video recording length before and after the event is detected.

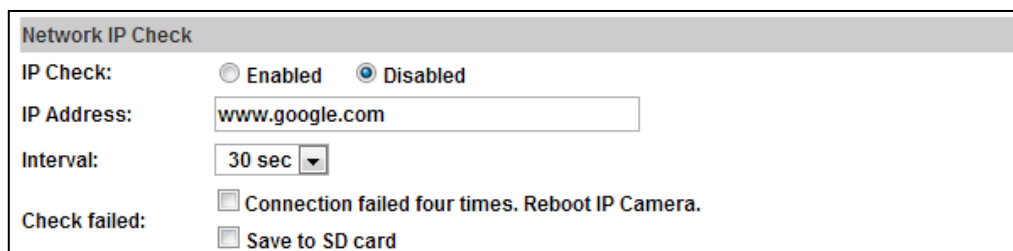


e. Network Dis-connected

The IP Camera will scan the network. The image will be record to the SD card after the IP Camera detects network dis-connected, if set **Save to SD card**.

f. Network IP check

After enabling IP Check, the IP camera can check if the network server is connecting. If the IP camera checking failed, the image will be recorded into the SD card.



Network IP Check

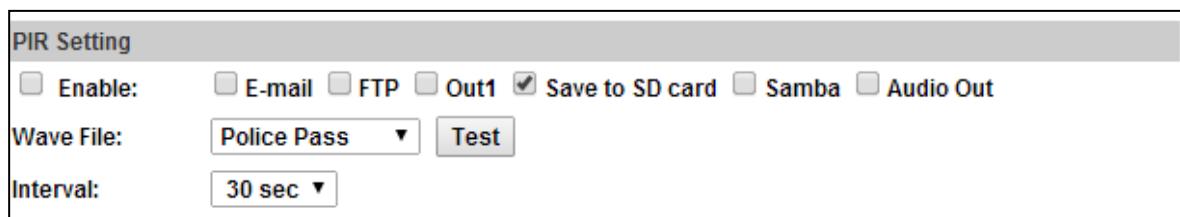
IP Check: ☐ Enabled ☒ Disabled

IP Address:

Interval: ▼

Check failed: ☐ Connection failed four times. Reboot IP Camera.
☐ Save to SD card

g. PIR Setting



PIR Setting

☐ Enable: ☐ E-mail ☐ FTP ☐ Out1 ☒ Save to SD card ☐ Samba ☐ Audio Out

Wave File: ▼

Interval: ▼

After enabling the PIR select the action to be performed.

- Wave file: Select the Wave File to be triggered. You can test the audio before setting it.
- Interval: For example, when selecting "10 sec", once the event is triggered, it cannot be triggered again within 10 seconds.

2. Schedule

Schedule																								
All	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Mon.																								
Tue.																								
Wed.																								
Thu.																								
Fri.																								
Sat.																								
Sun.																								

 With schedule setup.

Snapshot	
☐ Enabled ☒ Disabled	
Snapshot:	☐ E-mail ☐ FTP ☐ Save to SD card ☐ Samba
Interval:	10 Second(s) [1..50000]
File Name:	Snapshot
Apply	

- a. Schedule: After completing the schedule setup, the camera data will be recorded according to the schedule setup.
- b. Snapshot: After enabling the snapshot function; the user can select the storage position of the snapshot file, the interval time of the snapshot and the reserved file name of the snapshot.
- c. Interval: The interval between two snapshots.

3. I/O Setting

I/O Setting	
Input Setting	
Input 1 Sensor:	N.O ▼
Input 1 Action:	☐ E-mail ☐ FTP ☐ Out1 ☐ Save to SD card ☐ Samba
Subject:	GPIO In Detected!
Interval:	10 sec ▼
☐ Based on the <u>schedule</u>	
Output Setting	
Mode Setting:	☒ OnOff Switch ☐ Time Switch
Interval:	10 sec ▼

a. Input Setting:

The IP Cam supports input and output. When the input condition is triggered the camera will trigger the relay; send video to mail addresses or /FTP server / SAMBA.

- Interval:

For example, when selecting **10 sec**, once the motion is detected and the action is triggered, it cannot be triggered again within 10 seconds.

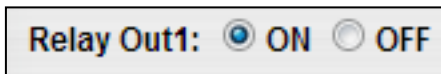
- Based on the schedule:

Only when the option box is ticked, the selected schedule time for I/O is enabled. For example, if the 11th hour of Monday has not been colored in the schedule table, then no action will be triggered even if the camera detects input signal during 11:00~12:00 on Monday.

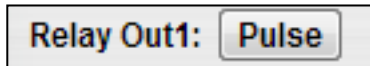
b. Output Setting:

The output mode affects the DO or relay out duration.

- ON/Off Switch: The camera triggers the external device and lasts for 10 seconds. You can turn off the alarm manually by clicking **off** at the right bottom of the live video page.



- Time Switch: Click **Pulse** for the camera to trigger the external output device for several seconds; the duration length is according to the **interval** setting in **Output Setting**.



4. Log List

Log List	
System Logs	Logs
Motion Detection Logs	Logs
I/O Logs	Logs
All Logs	Logs

Sort by System Logs, Motion Detection Logs and I/O Logs. In addition, System Logs and I/O Logs won't lose data due to power failure.

System Log
[2012/07/03 16:22:39] 192.168.40.159 login by admin.
[2012/07/03 11:54:22] 192.168.40.132 login by admin.
[2012/07/02 19:08:52] 192.168.40.132 login by admin.
[2012/07/02 18:24:50] 192.168.40.132 login by admin.
[2012/07/02 14:37:05] 192.168.40.132 login by admin.
[2012/07/02 14:18:26] 192.168.40.132 login by admin.
[2012/07/02 09:00:25] 192.168.40.132 login by admin.
[2012/06/29 19:51:34] Streaming 2 going to Close.
[2012/06/29 19:51:34] Streaming 1 Video bitrate going to 5000 Kbps.

5. SD Card

a. Playback

Insert the Micro SD card before using it. Make sure to push the Micro SD card completely into the slot.

Click the date listed on this page for showing the video list. The video format is AVI. Click the video to start Microsoft Media Player to play it. To delete the video, check it, and then click **Del**.

2006/04/17			Del
Time	Video	Event Type	☐
09:05:22	090522f.avi	Network Dis-connected	☐
09:05:52	090552f.avi	Network Dis-connected	☐
09:06:22	090622f.avi	Network Dis-connected	☐
09:06:52	090652f.avi	Network Dis-connected	☐
09:07:22	090722f.avi	Network Dis-connected	☐
09:07:52	090752f.avi	Network Dis-connected	☐
09:08:22	090822f.avi	Network Dis-connected	☐
09:08:51	090851f.avi	Network Dis-connected	☐
09:09:21	090921f.avi	Network Dis-connected	☐
09:09:51	090951f.avi	Network Dis-connected	☐

b. SD Management

When choosing **The 1st day** the recording file will be kept for one day.

The oldest file will be deleted if the Micro SD card is full.

Playback	
No SD card	
SD Management	
Auto Deletion:	Off (Keep 1/ 2/ 3/ 4...days)
	Off The 1st day The 2nd day The 3rd day The 4th day The 5th day The 6th day The 7th day The 8th day The 9th day The 10th day The 15th day The 20th day The 25th day The 30th day
	Apply

Note : The use of the SD card will slightly affect the operation of the IP Camera, such as affecting the frame rate of the video.

c. Copy to PC

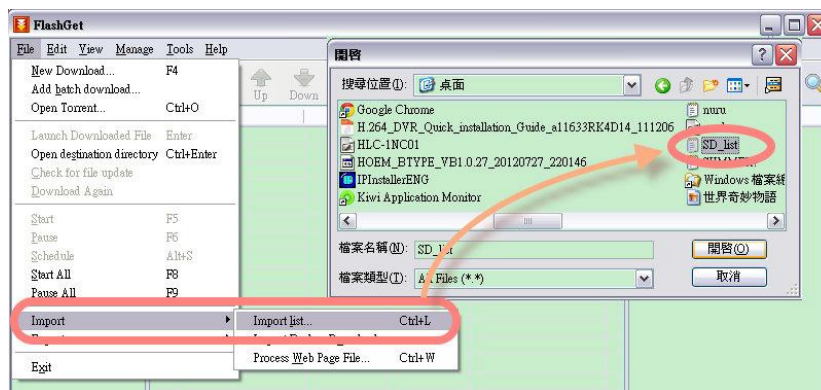
You can insert the Micro SD card to the PC and read the files directly, or use **FlashGet** instead to download the files from the IP camera. (In this way you do not need to pull out the Micro SD card from the camera.)

For using **FlashGet** to download image and video data from the Micro SD card, please follow the steps:

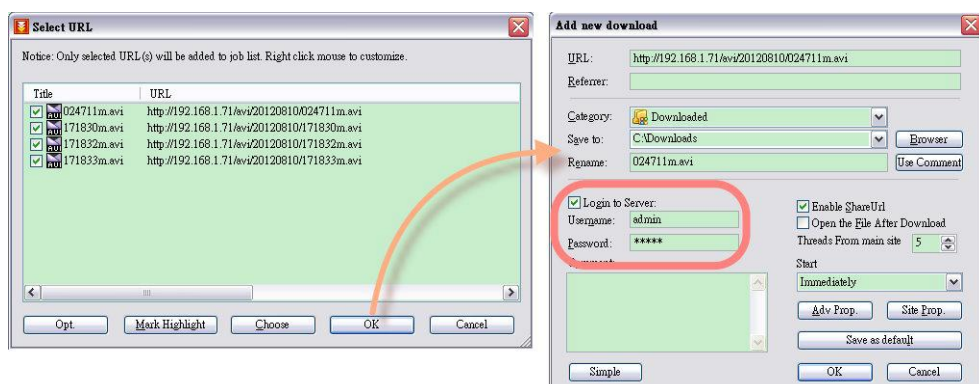
- (i) Enter data list and right-click **Files link daily**, select **save target as...** then save the link list to PC.



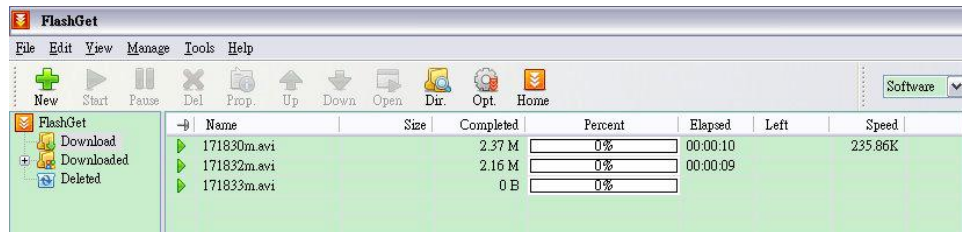
(ii) Open FlashGet, select **File** → **Import** → **Import list**, and find the link list file you just saved. The file name may be called **SD_list**.



(iii) **FlashGet** will show you the link list, and you can tick the files you want to copy to your PC. Give the directory path in the new download window, and remember to enable **Login to Server**: key in the IP Camera username and password.



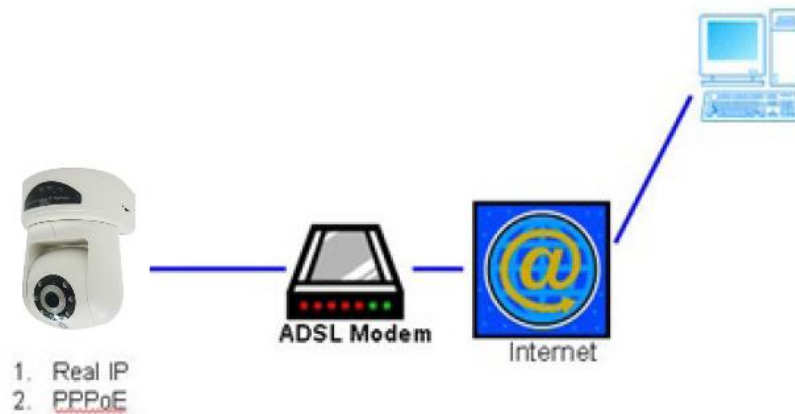
(iv) Click **OK** to start download.



- **FlashGet** is a free software that can be downloaded from FlashGet official website. The example above is based on FlashGet ver.1.9.6.

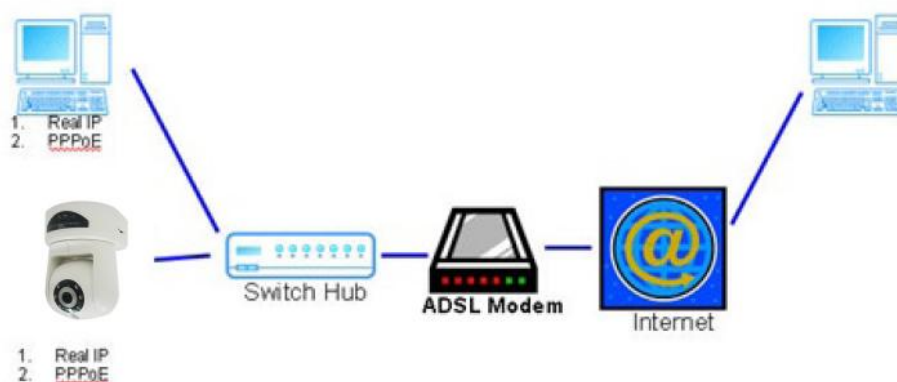
VI. Network Configuration

I. Configuration 1:



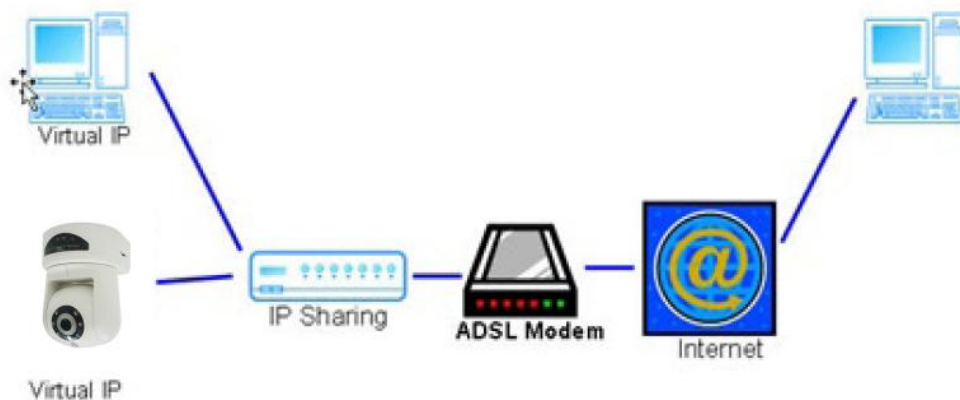
- a. Internet Access: ADSL or Cable Modem
- b. IP address: One real IP or one dynamic IP
- c. Only the IP Camera is connected to the internet
- d. For fixed real IP, set up the IP into IP Camera. For dynamic IP, start PPPoE.

II. Configuration 2:



- a. Internet Access: ADSL or Cable Modem
- b. IP address: More than one real IP or one dynamic IP
- c. IP Camera and PC connect to the internet
- d. Device needed: Switch Hub.
- e. For fixed real IP, set up the IP into IP Camera and PC. For dynamic IP, start PPPoE.

III. Configuration 3:

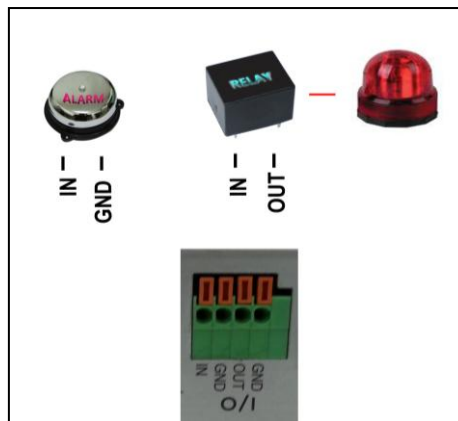


- a. Internet Access: ADSL or Cable Modem
- b. IP address: one real IP or one dynamic IP
- c. IP Camera and PC connect to the internet
- d. Device needed: IP sharing
- e. Use virtual IP, set up port forwarding in IP sharing.

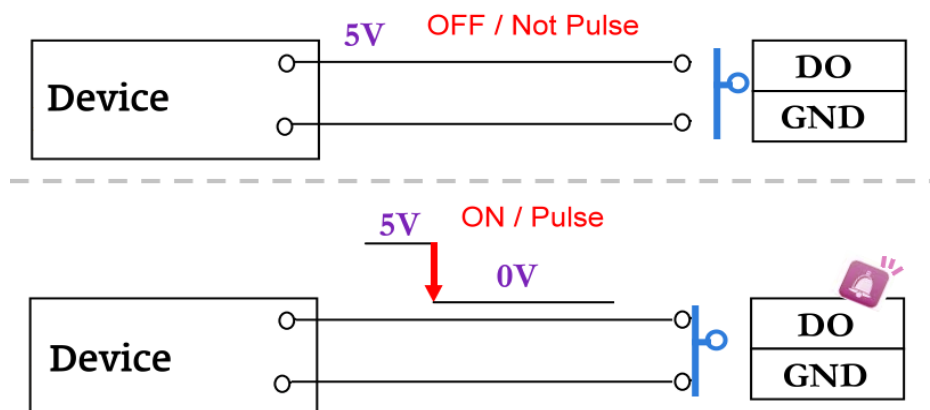
VII. I/O Configuration

1. I/O Connection

- Connect the **GND** & **DO** pin to the external relay (buzzer) device.
- Connect the **GND** & **DI** pin to the external trigger device.

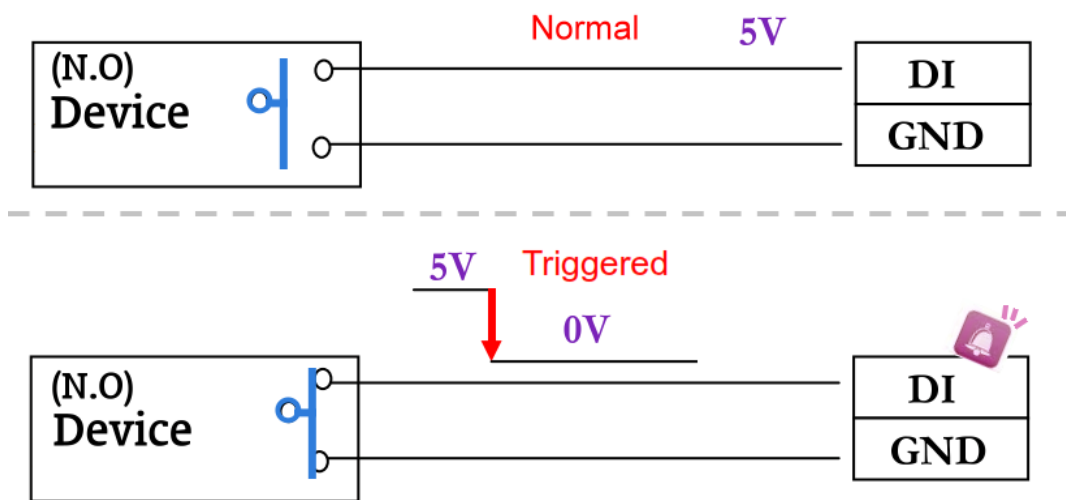


When no event occurs, the DO output is 5V (DO and GND are disconnected). When the camera detects events it will trigger and external alarm, DO output is 0V (DO and GND are connected).



If you select **N.O** on **Input sensor setting**, when the switch contacts are opened, the camera input alarm will be triggered and will execute the action user has set, for example, send a snapshot to E-mail address.

If you select **N.C** in **Input sensor setting**, when the switch contacts are closed, the camera input alarm will be triggered and will execute the action user has set, for example, send a snapshot to E-mail address.



c. I/O PIN definition

- GND (Ground): Initial state is LOW
- DO (Digital Output): DC 5V
- DI (Digital Input): Max. 50mA, DC 5V

2. I/O Setup

- Click I/O Setting from the system setup page via IE, and check **Out1** to enable I/O signal.

I/O Setting	
Input Setting	
Input 1 Sensor:	N.O
Input 1 Action:	☐ E-mail ☐ FTP ☒ Out1 ☐ Save to SD card ☐ Samba
Input 2 Sensor:	N.O
Input 2 Action:	☐ E-mail ☐ FTP ☒ Out1 ☐ Save to SD card ☐ Samba
Subject:	GPIO In Detected!
Interval:	10 sec
☐ Based on the <u>schedule</u>	
Output Setting	
Mode Setting:	☒ OnOff Switch ☐ Time Switch
Interval:	10 sec
Apply	

b. Output Test

After the external input and output hardware is installed, you can use the **Relay Out** bottom on the live video page to test if DO / Relay Out works.

(i) On Off Switch mode:

Clicking **ON** will trigger the external output device for 10 seconds. For example, your alarm buzzer will continuously ring for 10 seconds. After 10 seconds the buzzer stops ringing, or you can manually break off the output signal by clicking **OFF**.

Relay Out1: ☒ ON ☐ OFF

(ii) Time Switch mode:

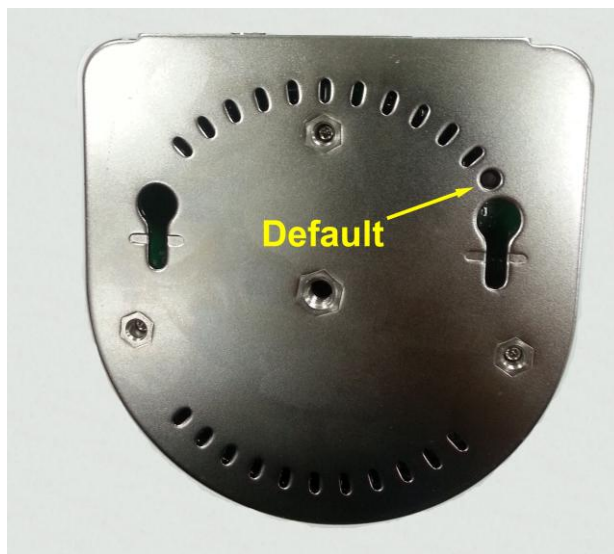
Click **Pulse** for the camera to trigger the external output device for several seconds; the duration length is according to the **interval** setting in **Output Setting**.

Relay Out1: **Pulse**

VIII. Factory Default

If you forget your password, please follow the steps to revert back to default value.

- Remove the power adapter and Ethernet cable from the camera.
- Press and hold the **Default** button on the back of the camera, just as shown in the picture.



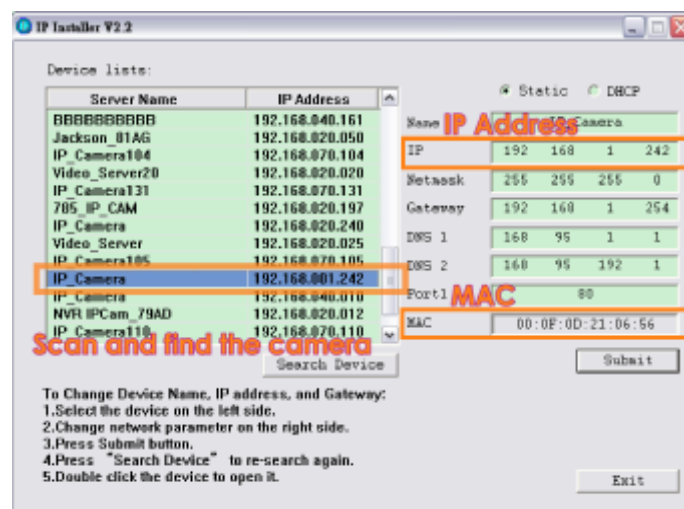
- Connect back the power to the camera. It will take around 30 seconds for the camera to boot.
- After the camera finishes booting release the button and plug-in the Ethernet cable after the camera.
- Re-login the camera by using the default IP (**http://192.168.1.200**), and user name: **admin**, password: **admin**.

IX. Universal Password

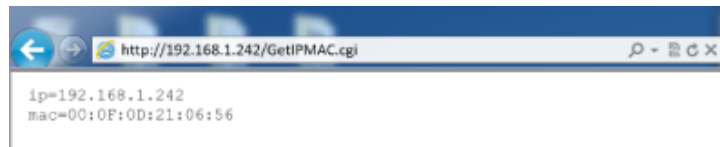
If you forgot the password of your IP camera, you can reset the camera to factory default, or follow the procedure below to generate a universal password.

Note: Universal password will be valid only when you enable the function in **User Management**.

1. First, you need to know the IP address and MAC address of your IP camera. You can use **IP installer** to scan the LAN, and see the IP address and MAC address on the side column.



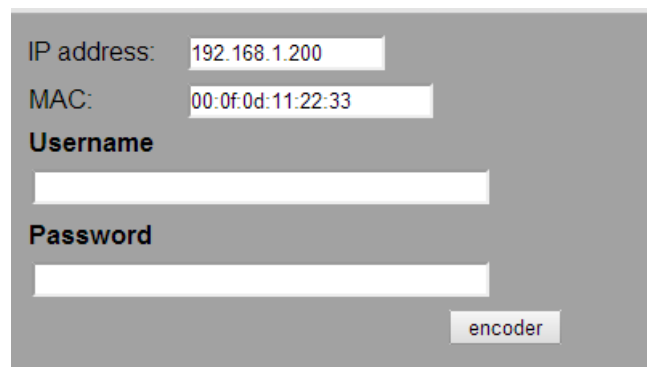
Or, if you already know the IP address of camera: Open the web browser, key in **http:// (IP address) /GetIPMAC.cgi** and press enter. The IP address and MAC address will be displayed on browser.



2. Find the .html file named **Universal Password** in CD-ROM. Click to open it.

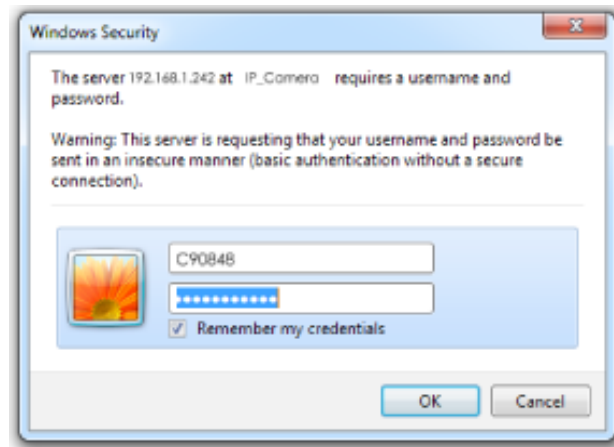


3. Key in the camera IP address **IP Address** column and MAC address in **MAC** column, and then click **encoder**, a set of username and password will appear, as shown in the picture below:

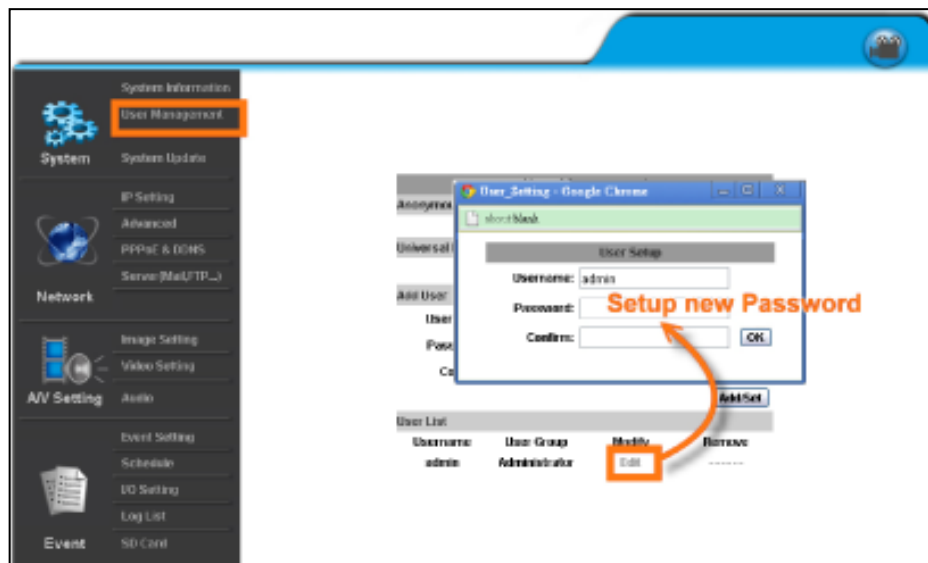


The universal username and password are generated from the IP address and MAC address you key-in, so if you change the camera IP address the universal password changes, too.

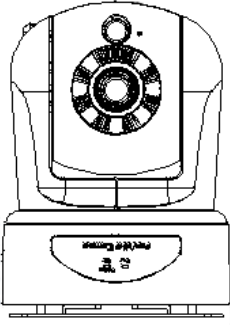
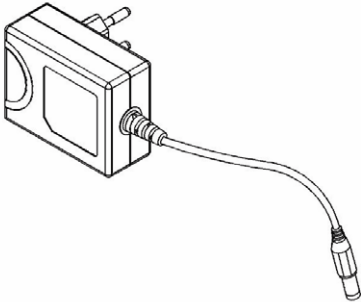
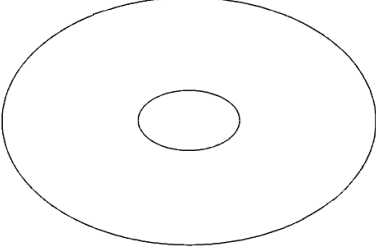
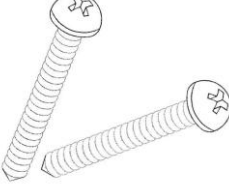
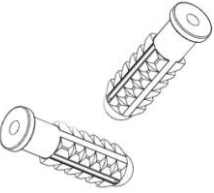
4. Take the generated username and password. Use them to log into the camera.



5. Now you can login as administrator. Turn to **User Management** page. The use of universal password does not affect the previous user setting, so the administrator account password does not change until you edit it. Please click **Edit** to give a new administrator password.



X. Package contents

IP Camera	Adaptor	Quick Installation Guide
		
CD	Screws x2	Wall Plug x2
		

- The CD includes user manual and software tools
- Adaptor: AC100-240V DC12V/0.5A

XI. Micro SD Card Compatibility

The following are the recommended SD Cards:

SD Card	
ADATA 4G	SanDisk 512M
ADATA 512M	SanDisk 8G
Blast 128M	Silicon Power 128M
GiGATEK 128M	Silicon Power 256M
Kingmax 256M	TEKQ 128M
Kingston 128M	TEKQ 256M
Kingston 1G	Toshiba 128M
Kingston 256M	Toshiba 256M
Kingston 32G	Toshiba 4GB
Kingston 512M	Transcend 128M 80X
Phast 256M	Transcend 1G 80X
Photofast 256M	Transcend 256M 80X
PK 128M	Transcend 4G 150X
PK 128M	Tracend 2G 150X
PRETEC 128M	Tracend 4G 150X
READY 128M	Tracend 512M 80X
SanDisk 128M	Transcend 16G
SanDisk 16G	Transcend 32G
SanDisk 1G	Transcend 4GB
SanDisk 256M	Transcend 8G
SanDisk 2G	TwinMOS 128M
SanDisk 32G	TwinMOS 256M
SanDisk 4GB	UMAX 128M
	U-TEK 128M
SDHC CARD	
SanDisk 4GB	Transcend 4GB
SanDisk 8G	Transcend 8G

SanDisk 16G	Transcend 16G
SanDisk 32G	Transcend 32G
Toshiba 4GB	Kingston 32G