User Manual

CM7020
OUTDOOR DOME IP CAMERA

1308244 Rev. A

OUTDOOR DOME IP CAMERA

This is a 1/3” 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 which is designed for security application.

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Warnings, Cautions and Copyright

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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Product Specifications

Hardware	
CPU	Multimedia SoC
RAM	512MB
Flash	32MB
Image Sensor	1 / 3” Megapixel CMOS Sensor
Sensitivity	Color: 0.15 Lux (AGC ON) B/W: 0.08 Lux (AGC ON)
Lens Type	2.8-8mm 2.8x motorized zoom lens@ F1.8
View Angle	50.25°~99.1° (H), 28.21°~52.37°(V)
ICR	IR cut Filter Mechanism
I/O	N/A
Power over Ethernet	Yes
Video Output	N/A
Audio	N/A
Power Consumption	DC 12V Max: 5.52W(IR ON); 3.48W(IR OFF) PoE Max: 6.12W(IR ON); 4.32W(IR OFF)
Operating Temperature	-20°C ~ 50°C [*IR OFF] *IR ON: 45°C
Dimensions	105mm (Φ) x 82.2mm (H)
Weight	450g
IR LEDs	
LEDs	10 LEDs, 850nM
IR Distance	15M
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

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System	
Video Resolution[16:9]	2688x1520@30fps, 1920x1080@30fps, 1280x720@30fps, 640x360@30fps
Video Adjust	Brightness, Contrast, Hue, Saturation, Sharpness, AGC, Night Mode, WDR, Flip, Mirror, Noise Reduction, Day&Night Adjustable
Triple Streaming	Yes
Image Snapshot	Yes
Full Screen Monitoring	Yes
Privacy Mask	Yes, 3 different areas
Compression Format	H.264/ M-JPEG
Video Bitrates Adjust	CBR, VBR
Motion Detection	Yes, 3 different areas
Triggered Action	Mail, FTP, Save to SD card, SAMBA
Security	Password protection, IP address filtering, HTTPS encrypted data transmission, 802.1X port-based authentication for network protection, QoS/DSCP
Firmware Upgrade	HTTP mode, can be upgraded remotely
Simultaneous Connection	Up to 10
Micro SD Card Management (Optional)	
Recording Trigger	Motion Detection, IP check, Network break down (wire only),Schedule
Video Format	AVI, JPEG
Video Playback	Yes
Delete Files	Yes
Web Browsing Requirement	
OS	Windows 10, Windows 7, XP, Microsoft IE 6.0-11.0 or Firefox
Mobile Support	iOS 4.3 or above, Android 1.6 or above
Hardware Suggested	Intel Dual Core 2.53G,RAM: 1024MB, Graphic card: 128MB

*SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTIFICATION.

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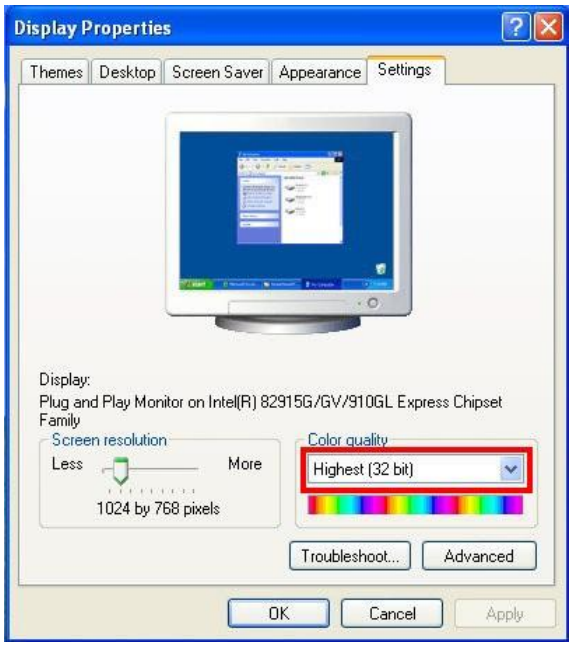
Monitor Settings

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

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



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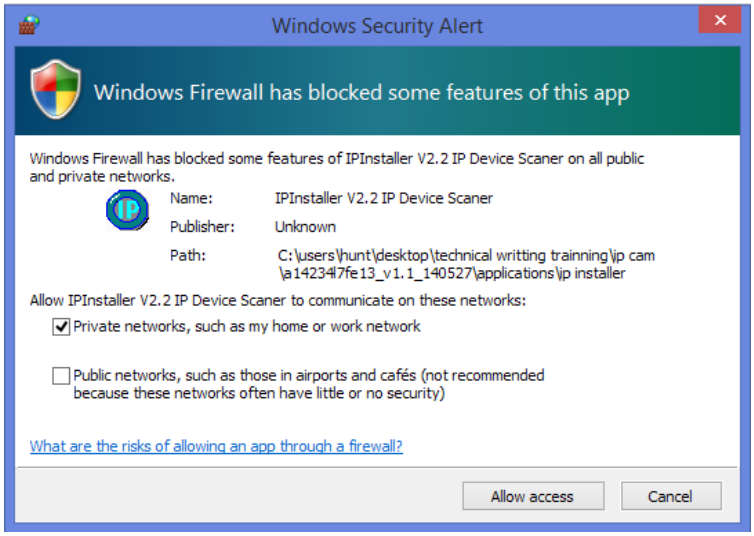
IP Assignment

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. There are 3 kinds of IP configuration.
   - **a.** Fixed IP (Public IP or Virtual IP) – Also known as static assignment.
   - **b.** DHCP (Dynamic IP) – The IP address is assigned from the primary router on the network automatically.
   - **c.** Dial-up (PPPoE) – The IP address is dynamically assigned by the service provider.

3. Execute **IP Installer**

4. For Windows XP SP2 or above, a Windows Security Alert may pop up. Please click on **Allow access**.



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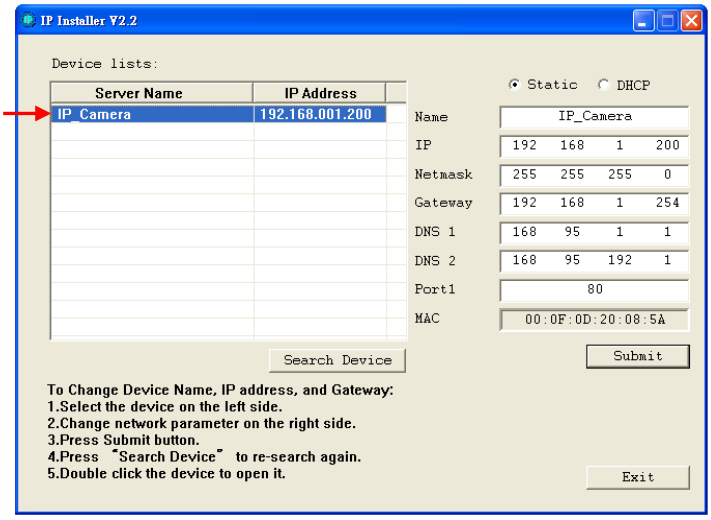
5. **IP Installer** configuration:



6. **IP Installer** will search for all the IP Cameras connected on the LAN. The user can click **Search Device** to search again.

   NOTE: The camera must be connected to the same router as the computer for the camera to be discovered.

7. 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.

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

The same Subnet:

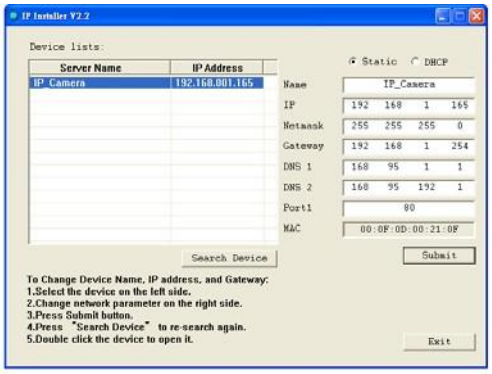
IP Camera IP address: 192.168.1.200 PC IP address: 192.168.1.100

Different Subnets:

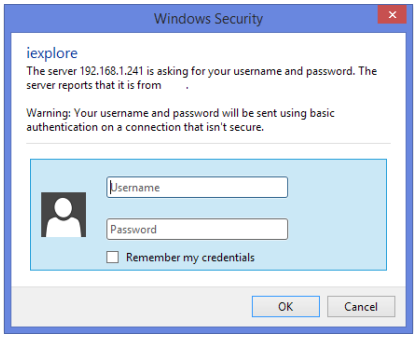
IP Camera IP address: 192.168.2.200 PC IP address: 192.168.1.100

Generally, the PC IP address will always be in the same subnet as long as it connected to the same router as the CM7020 Outdoor Dome IP Camera.

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



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



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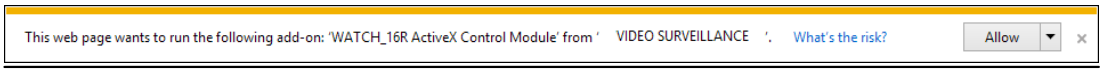
Install ActiveX control

1. For users of IE 6.0-11.0:

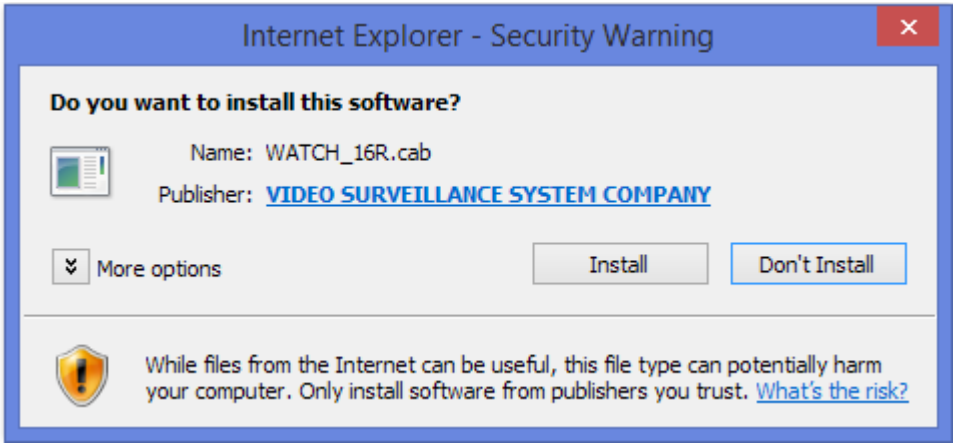
When viewing the camera video for the first time via IE (Internet Explorer), the browser will ask you to install the **ActiveX** component.

Choose 'Allow',



Then choose 'Install'.

Start installing the ActiveX component.



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

Go to **Start-Up Menu** on the lower left corner of the **Windows**, select **Control Panel**

then Double-click on

to access to **Internet Properties** settings.

Starting from **Internet Properties**, proceed to step **A** and **B:**

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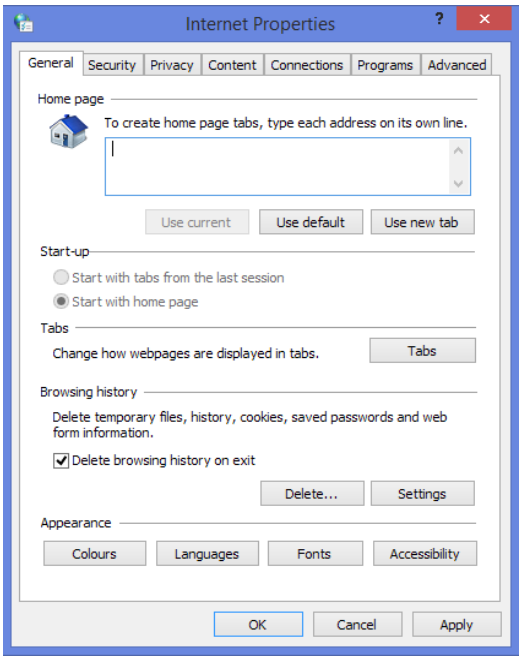
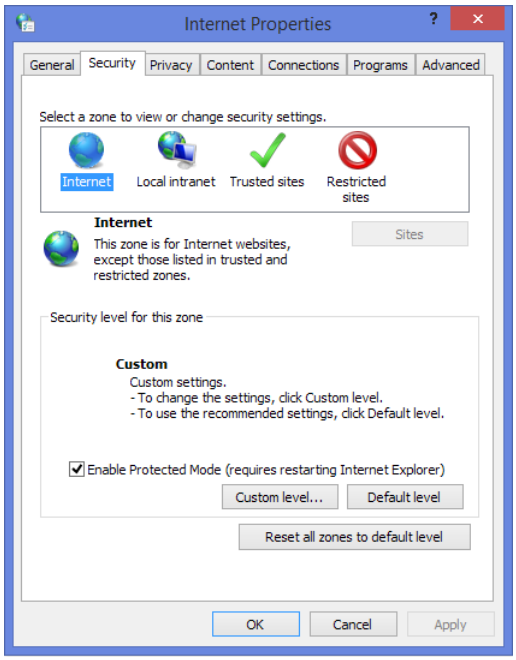
A. Security Custom Level Security Settings Download unsigned ActiveX controls Enable or Prompt (recommended).

B. Security Custom Level Security Settings Initialize and script ActiveX controls not marked as safe Enable or Prompt (recommended).

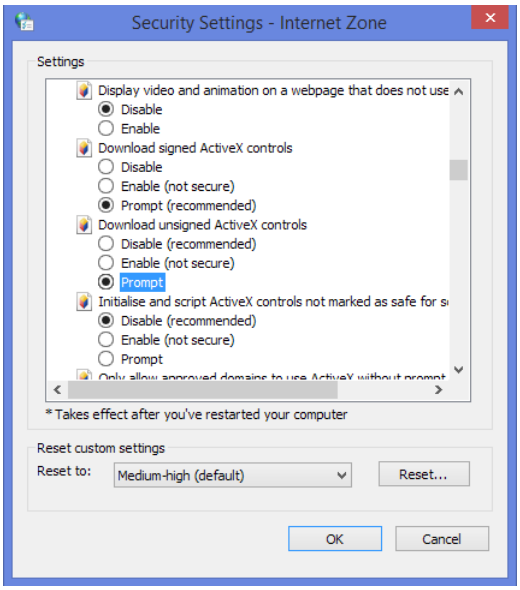
1



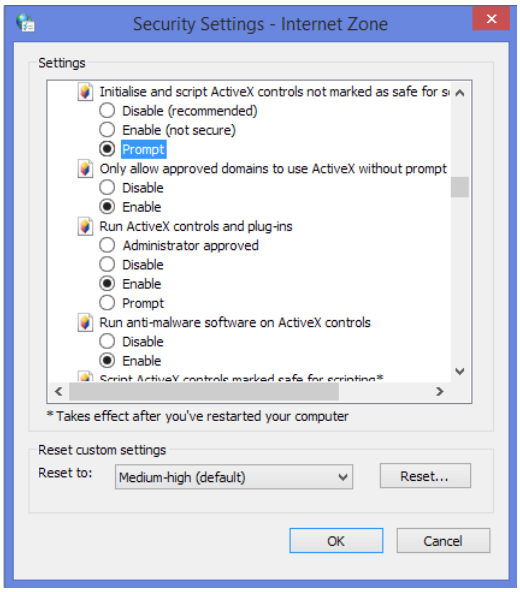
2



3



4



5

When the following pop-up dialogue box appears, click Yes.

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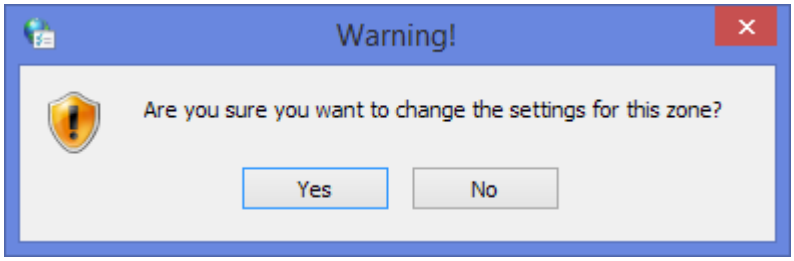
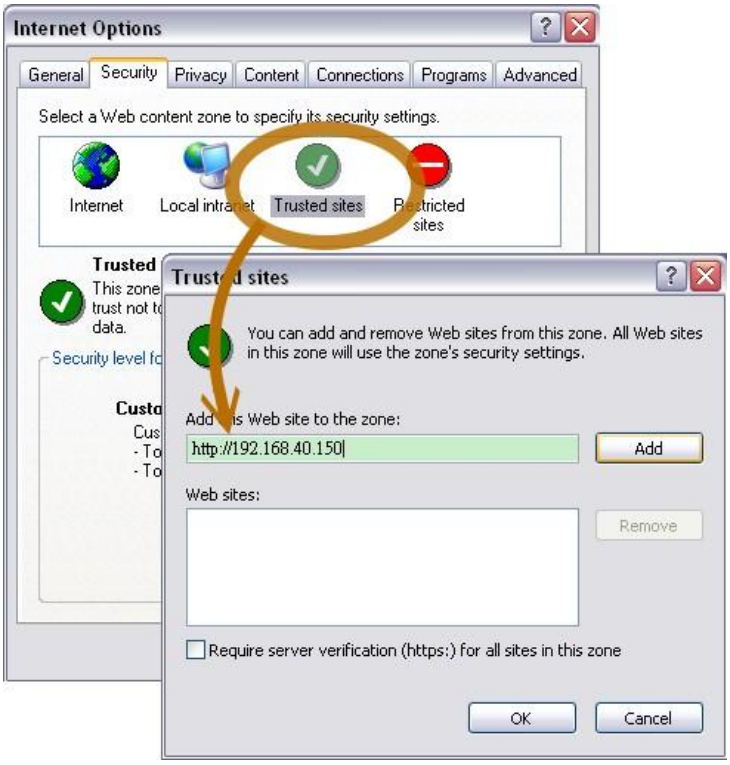


2. Another method of accomplishing the installation:

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

In the site list you can key in 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. For Firefox Users

If you use Firefox to access the IP camera but it fails to watch the live video, please follow

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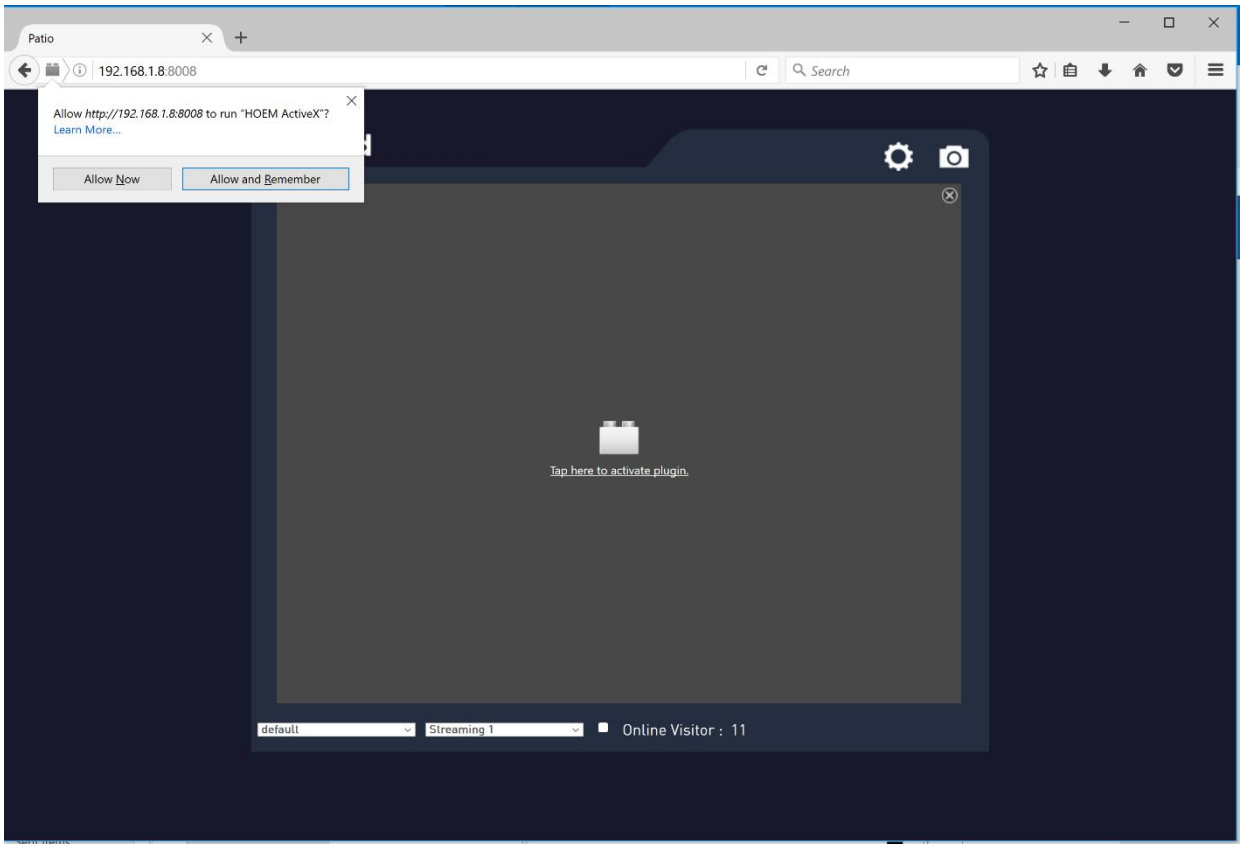
these steps to install necessary add-in:



Click Allow and Remember so that you will not be prompted everytime the add-in runs.

Once the HOEM ActiveX add-in is loaded hit refresh to see the camera image.

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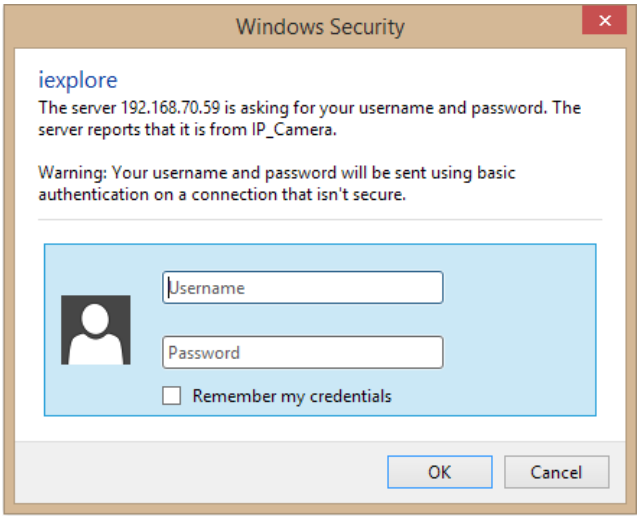
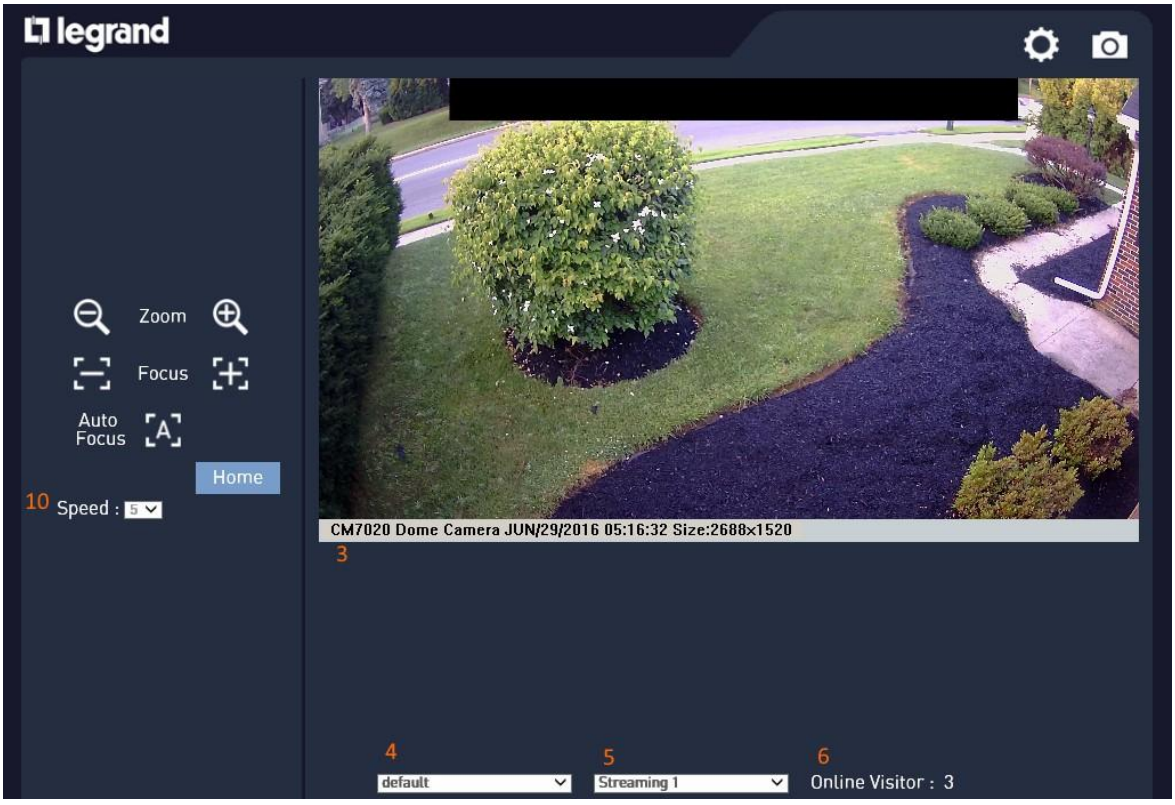
Live Video

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.



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

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1. Get into the administration page.

2. Video Snapshot.

3. Show the system time, video resolution, and video refresh rate.

4. Selects the video streaming source: If streaming 2 is closed, this function will not be displayed.

5. Shows how many people are connected to this IP camera.

6. Click on icons to adjust Zoom In / Zoom Out.

7. Focus: Click on icons to adjust focus.

8. Auto Focus: Click on icon to automatically adjust focus.

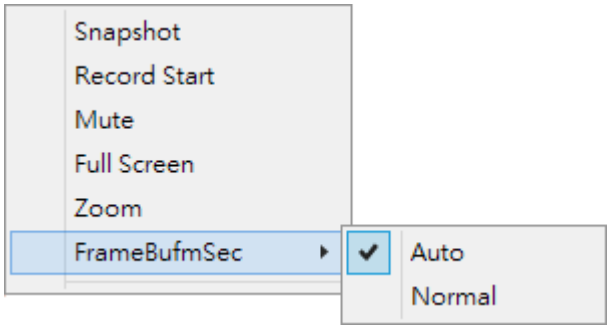
9. Home: Click on

to restart the view with no Focus / Zoom adjustments.

10. Speed: Set the zoom speed.

11. Control the external output device or DO (digital output) connected to this camera.

Right-Click the mouse on the video, it will show a pop-up menu.



1. Snapshot: Save a JPEG picture
2. Record Start: Record the video on the local PC. It will ask where to save the video. To stop recording, select “Record Stop”. The video format is AVI. Use Microsoft Media Player to play the recorded file.

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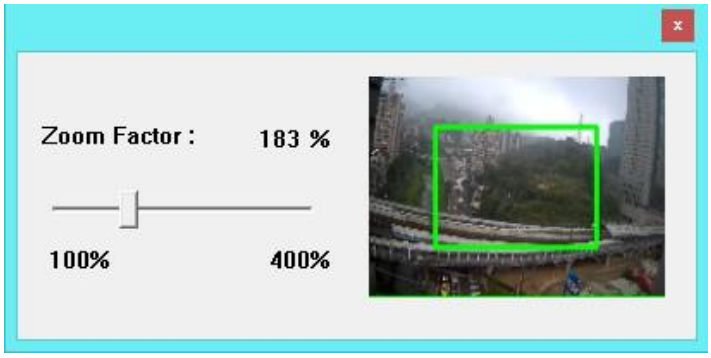
3. Mute: Turn-off the audio. Click again to turn it on.

4. Full Screen: Full-screen mode.

5. Zoom: Enable the zoom-in and zoom-out functions. First, select the “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 aims to build a temporary buffer to accumulate several video frames in a LAN network environment. It can make video streaming smooth when the network speed is slow. Select Auto to allow this function to automatically help fix the streaming performance whenever the video happens to be lagging. Select Normal to play the video data based on the current network streaming performance. (Note: the lagging of the video displayed will not be seen as a result of the actual video data)

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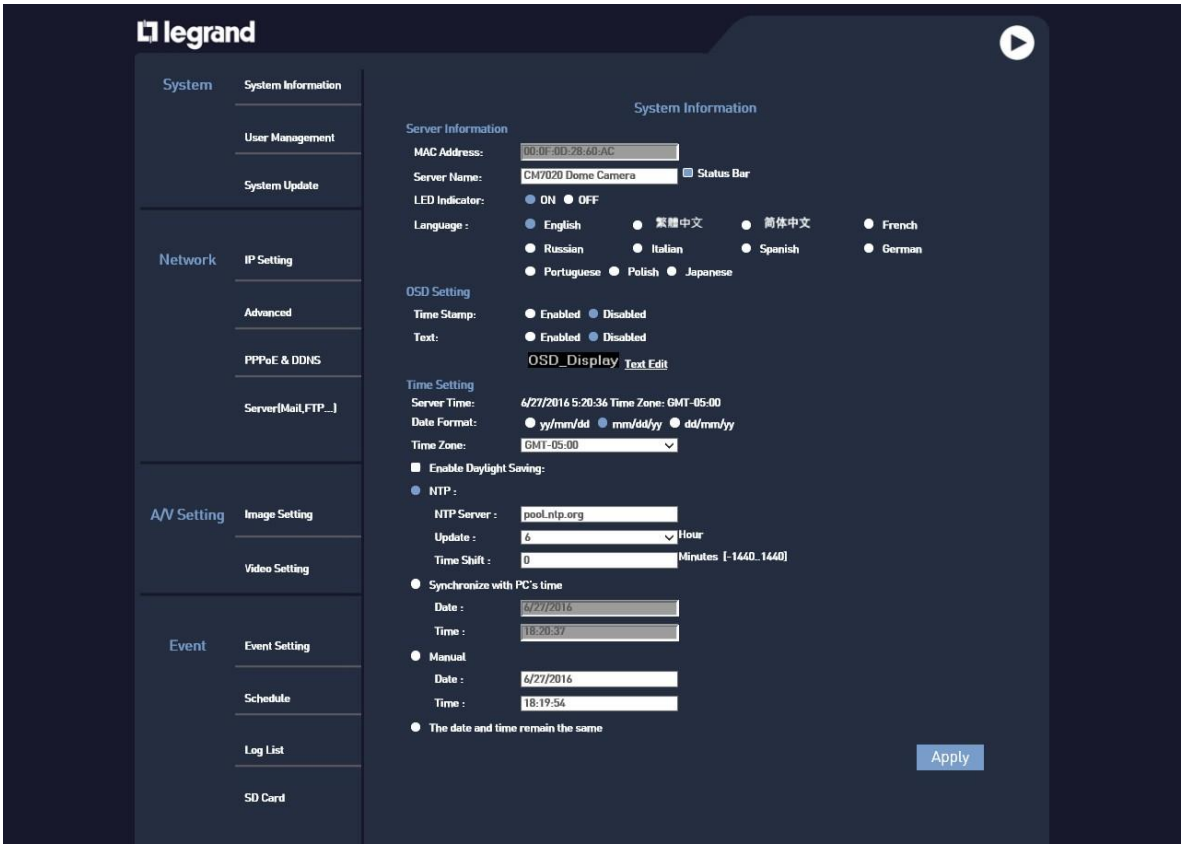
System

Click to get into the administration page. Click to go back to the live video page.



I. System Information

a. Server Information

Set up the camera name, language, and the camera time.

xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

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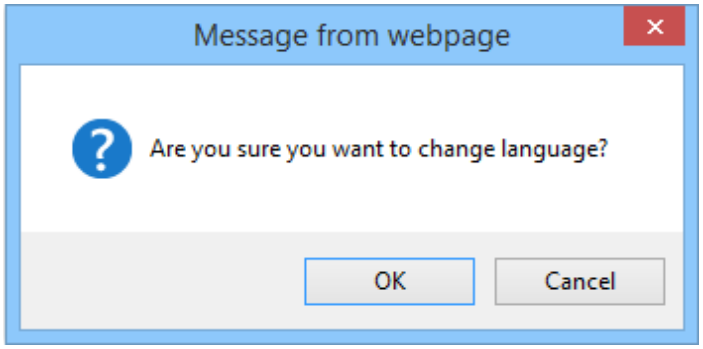
1. **Server Name:** This is the Camera name. This name will be shown on the IP Scanner.

2. **LED Indicator:** Turn on/off the LED indicator on the camera.

3. **Language:** English and other languages can be selected. When a language preference is selected, the following dialogue box will pop up to confirm the change.



b. OSD Setting

Select a position where the date & time stamp / text are displayed on the screen.

Click **Text Edit** for editing the OSD content, including text size and transparency. Click the Upgrade button to apply the settings.

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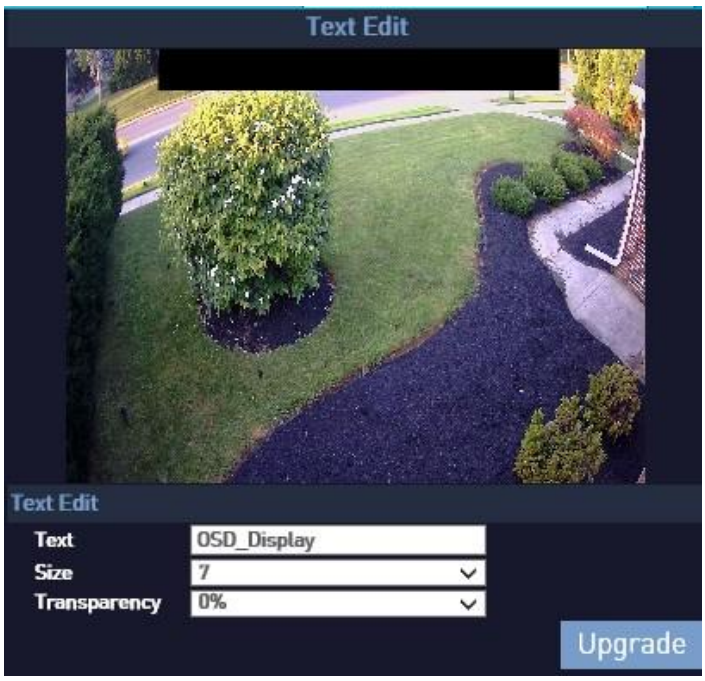
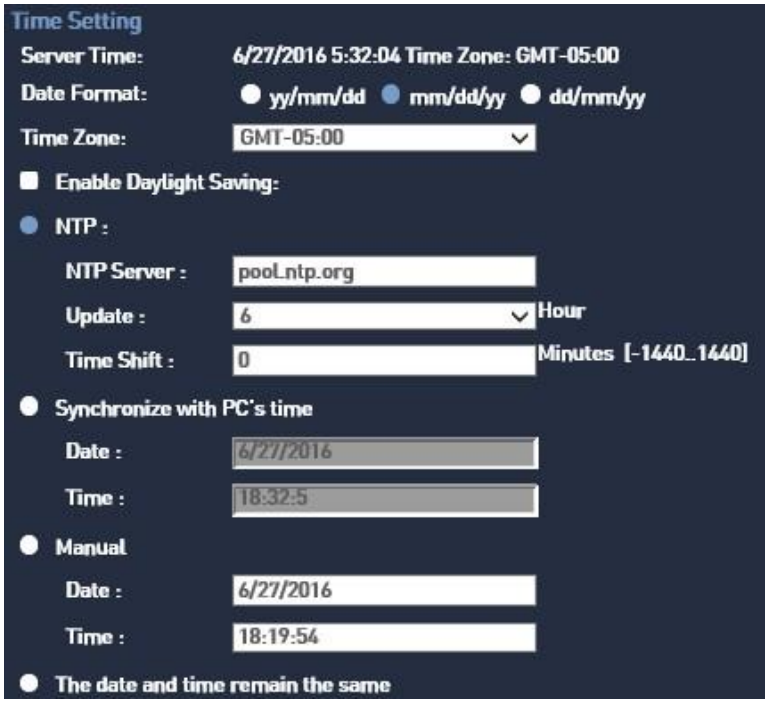


c. Time Setting

Select between **NTP**, **Synchronize with PC's time**, or **Manual**. **The date and time remain the same** for setting the server time.



II. User Management

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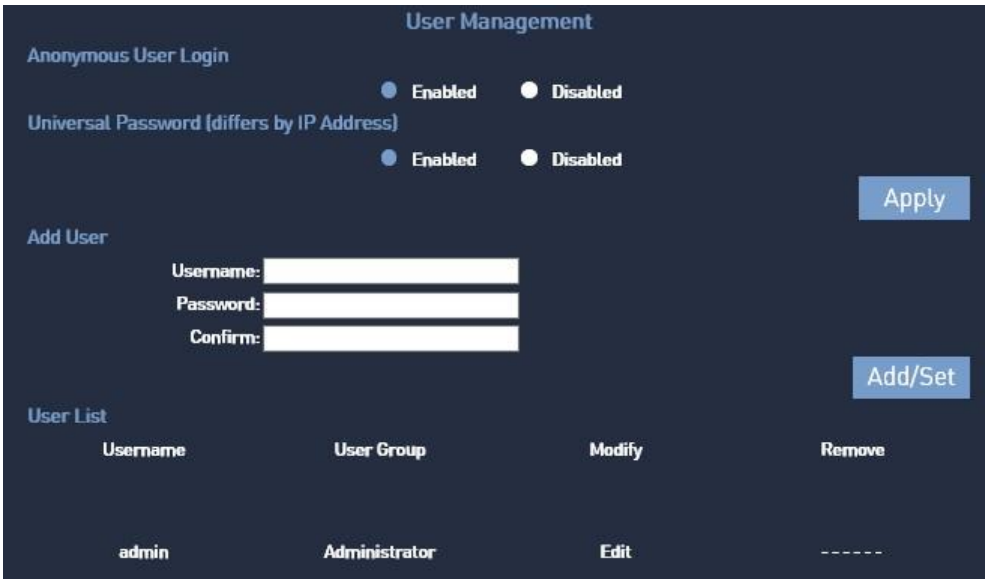

The IP Camera supports three different users: **administrator**, **general**, and **anonymous** user.

1. **Anonymous User Login**

   Select **Yes** for allowing access to watch live video of the IP camera without having to enter username and password. Note that when entering the configuration page of the IP camera, the system will prompt for the username and password. Select **No** for requiring a username and login to access the camera.

2. **Universal Password**

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

3. **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.

   Click “Edit” or “Remove” 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.

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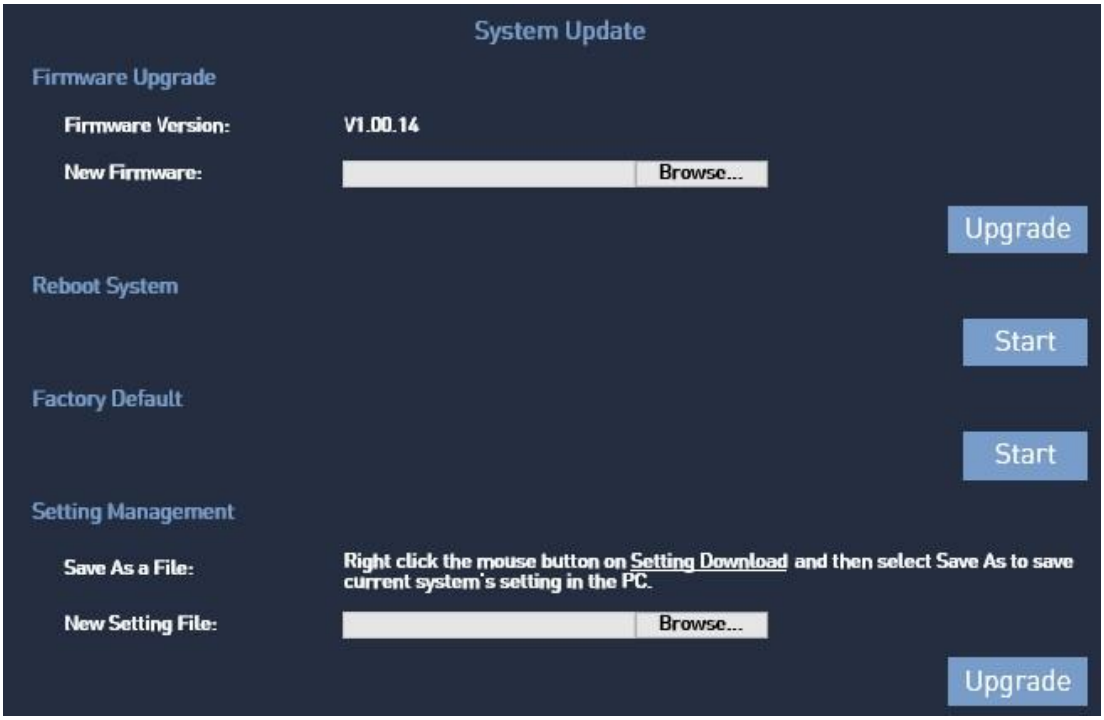
III. System update



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 on the 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.

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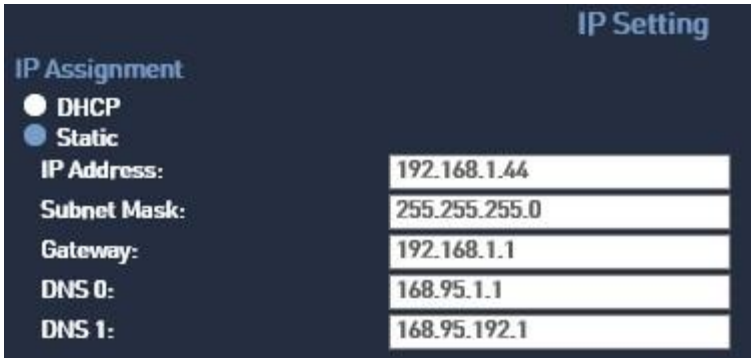
Network

Click to get into the administration page. Click to go back to the live video page.

I. IP Settings

IP Assignment

The IP Camera supports DHCP and static IP.



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

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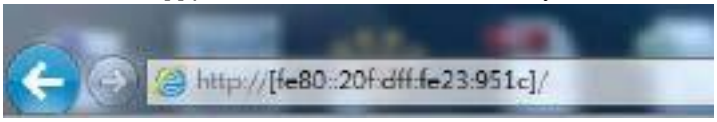
IPv6 Assignment

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.

NOTE: Legrand highly recommends changing the port from the default of port 80.

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)

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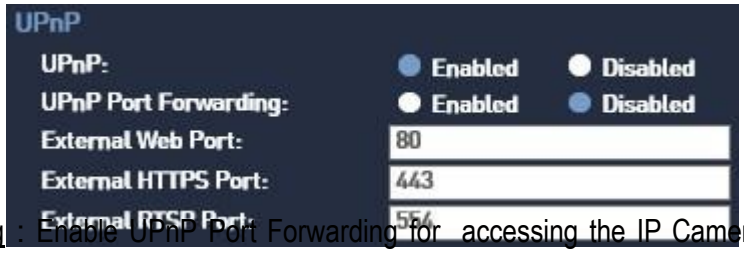
UPnP

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

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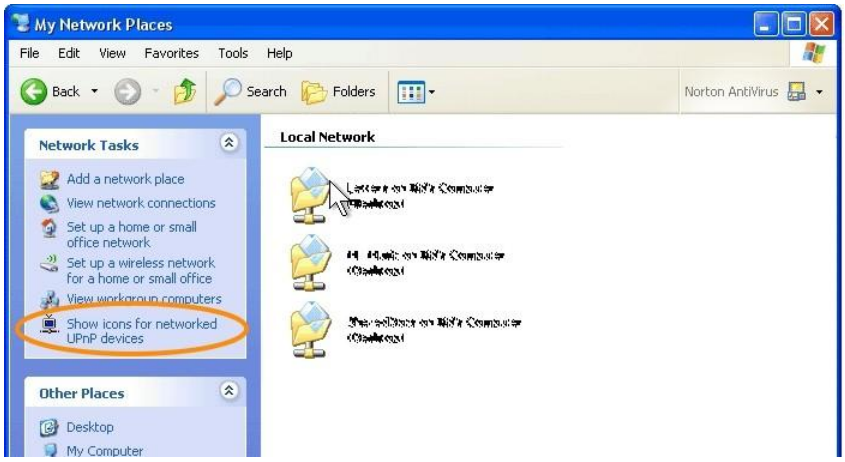
<Approach 2>

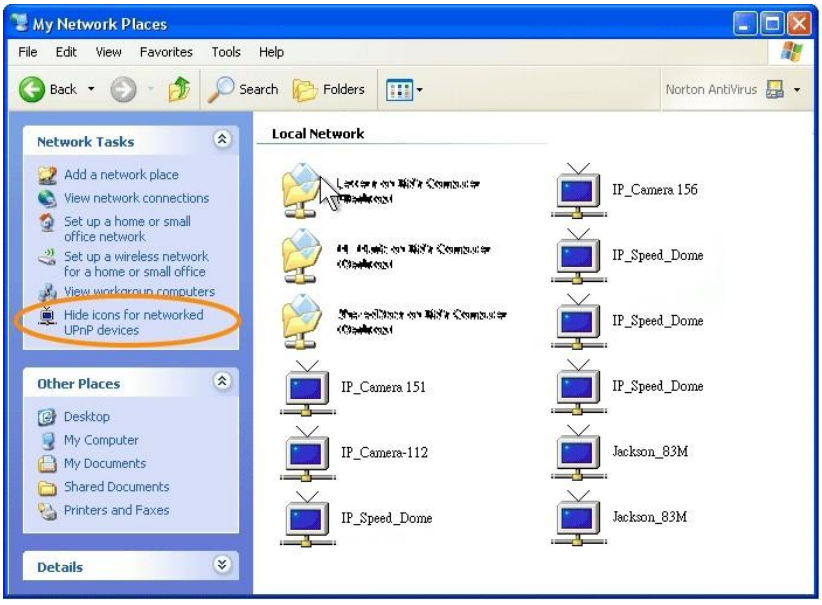
1. Open My **Network Space**

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.



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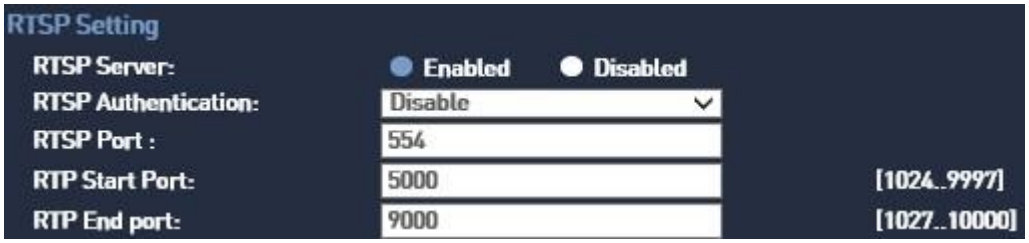
RTSP setting

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 streams 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 is 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 scheme.

2. RTSP Port: setup port for RTSPtransmitting (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.

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Multicast Setting (Based on the RTSP Server)

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

For using Multicast, assign an IP Address and port. TTL means the life time of the 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

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.

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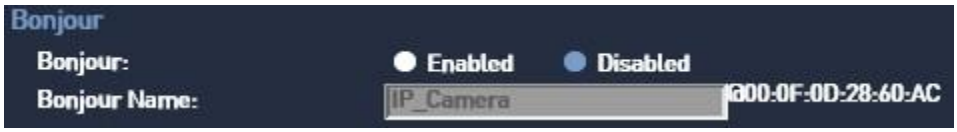
Bonjour



This function allows Apple systems to connect to this IP camera.

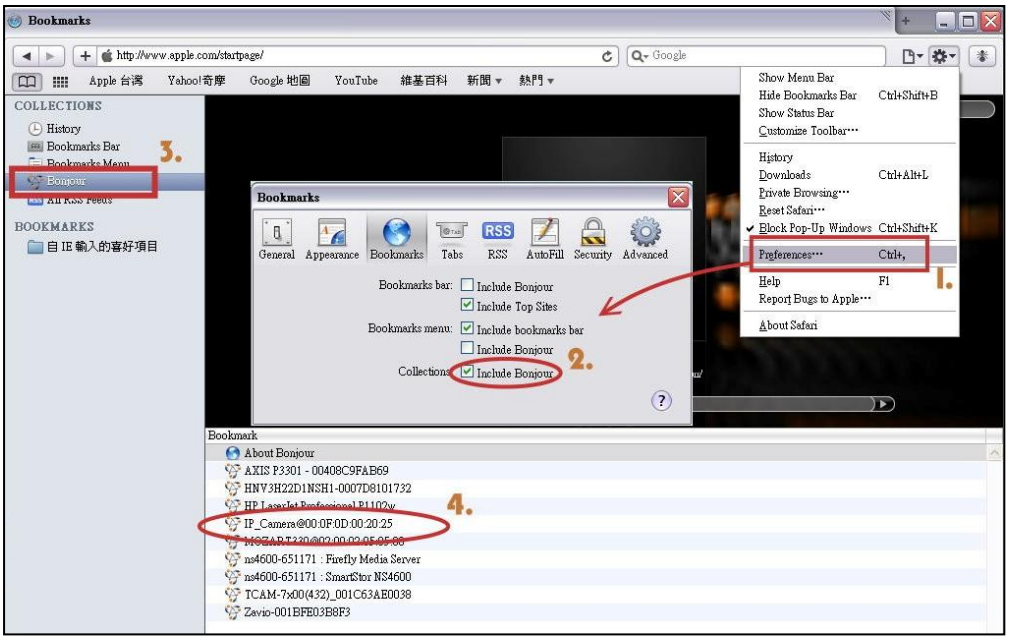
For the

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 for the Safari browser doesn't support HTTPS protocol. If you select https in the camera, it will appear in Safari's bookmarks but it cannot be accessed.

For reference:



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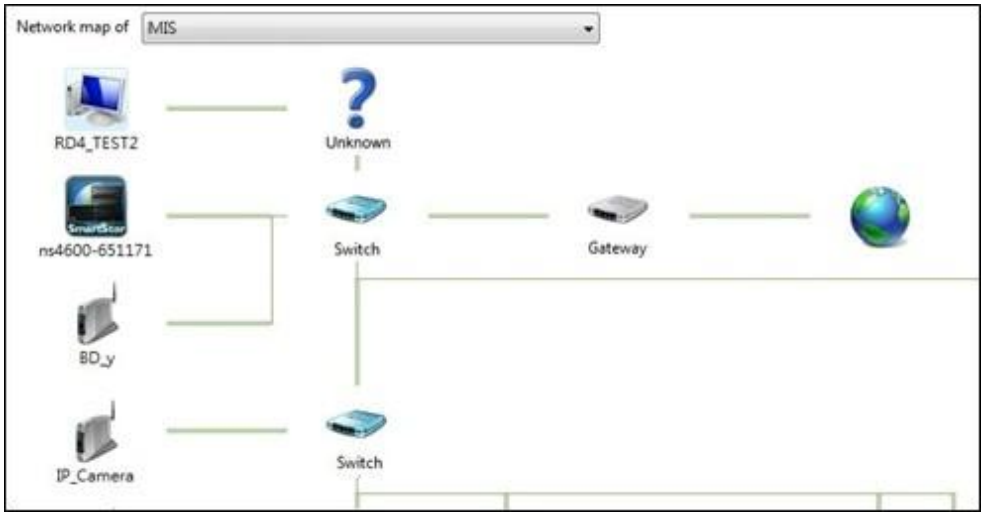
LLTD

If your PC supports LLTD, enable this function to allow for the checking of 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 this path:

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



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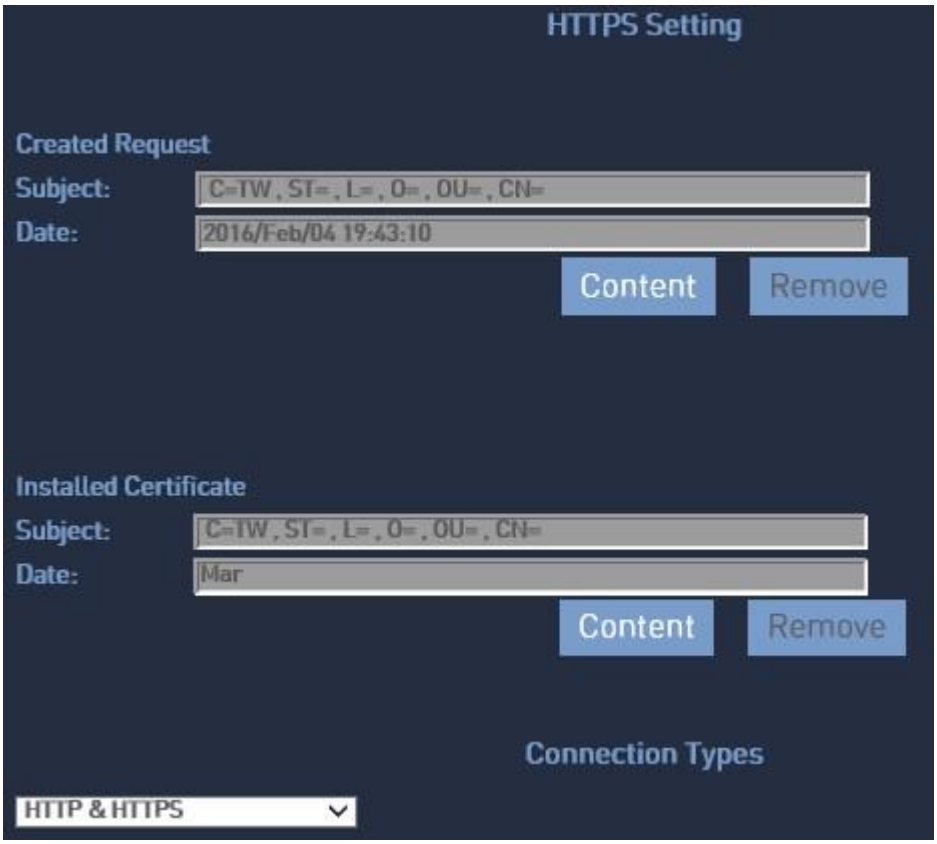
II. Advanced

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.

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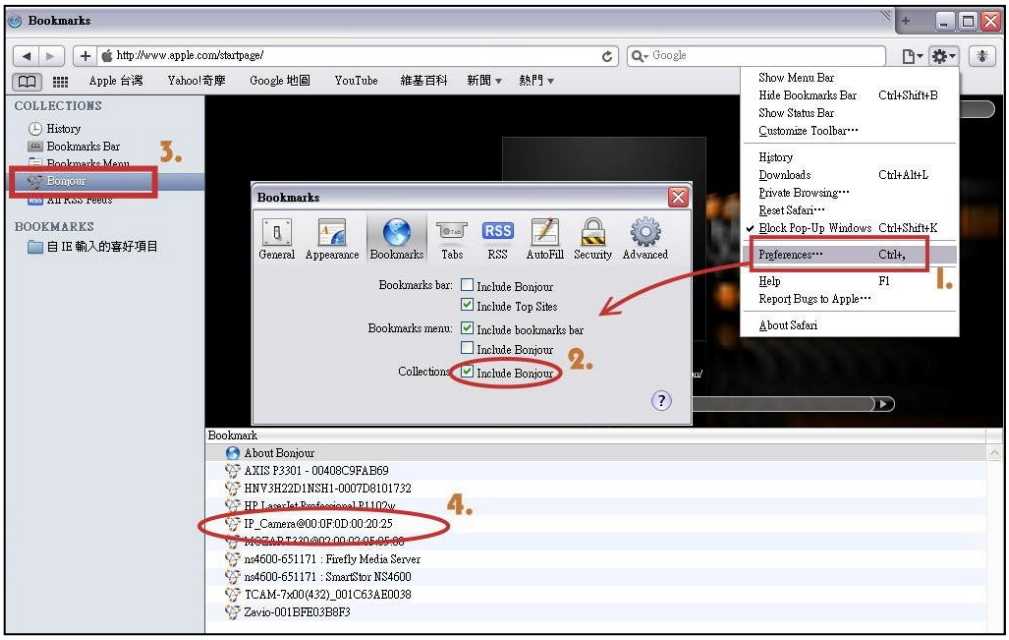
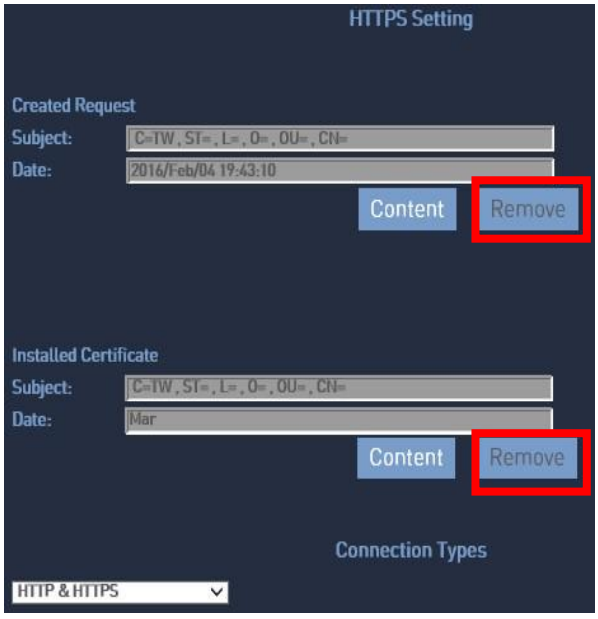
The Https protocol has a verifying mechanism. When the user accesses a website via Https, the browser will check the certificate of that domain and verify its security and trustworthiness.

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**.



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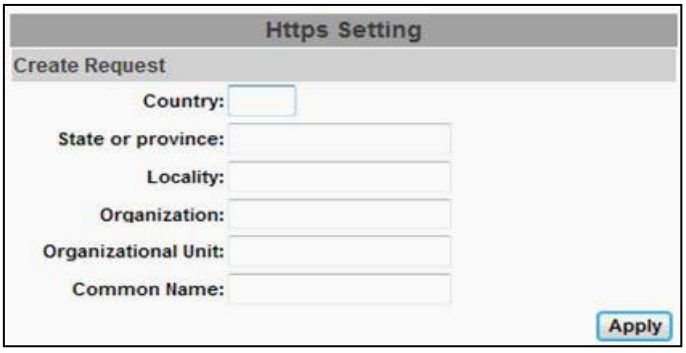
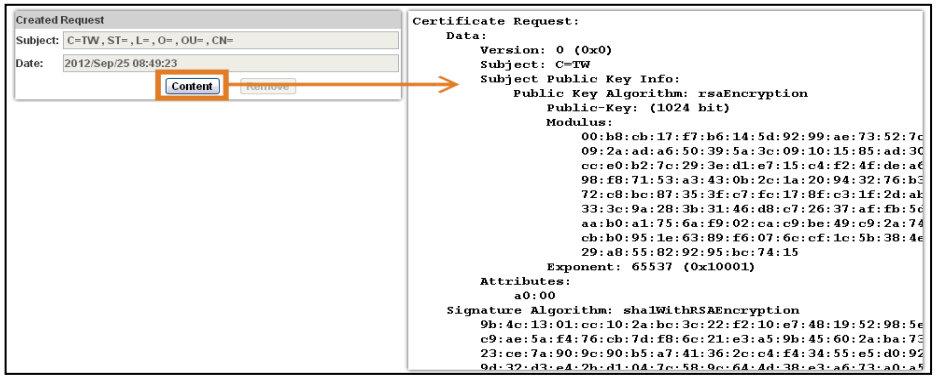
• Created Request: Fill-in the following form and click **apply**.



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



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

1. 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.
2. 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.

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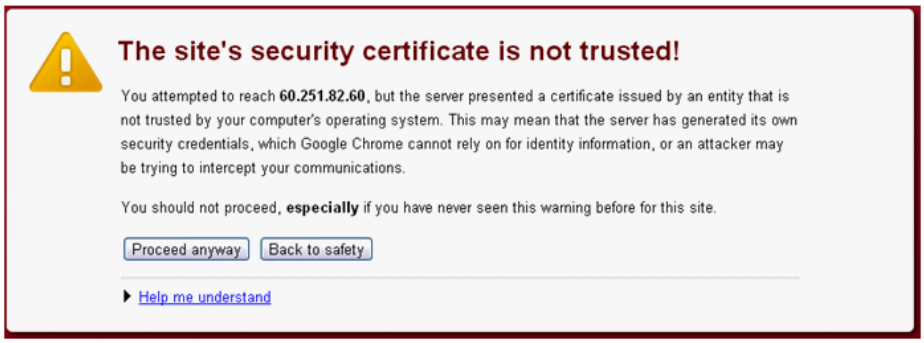
After finishing the installation, click on **Content** to call out and check the certificate content.

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 the **Write Community** and **Read Community**.

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

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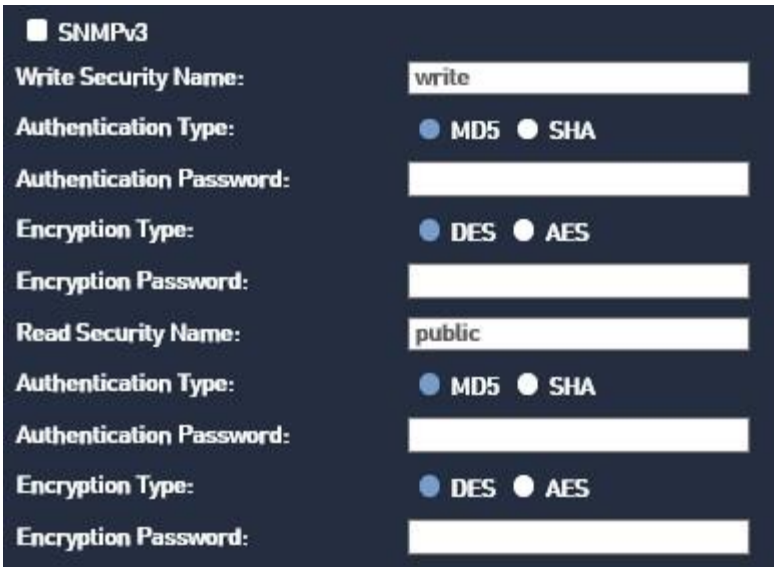

3. Enable SNMPv1/SNMPv2 Trap for detecting the Trap server. Please set what event needs to be detected.

- Cold Start: The camera starts up or reboots.
- Setting changed: The SNMP settings have been changed.
- Network Disconnected: The network connection was broken. (The camera will send trap messages after the network is connected again).
- V3 Authentication Failed: A SNMPv3 user account tried to get authentication but failed. (Due to incorrect password or community)
- SD Insert/Remove: Insertion or removal of a Micro SD card.

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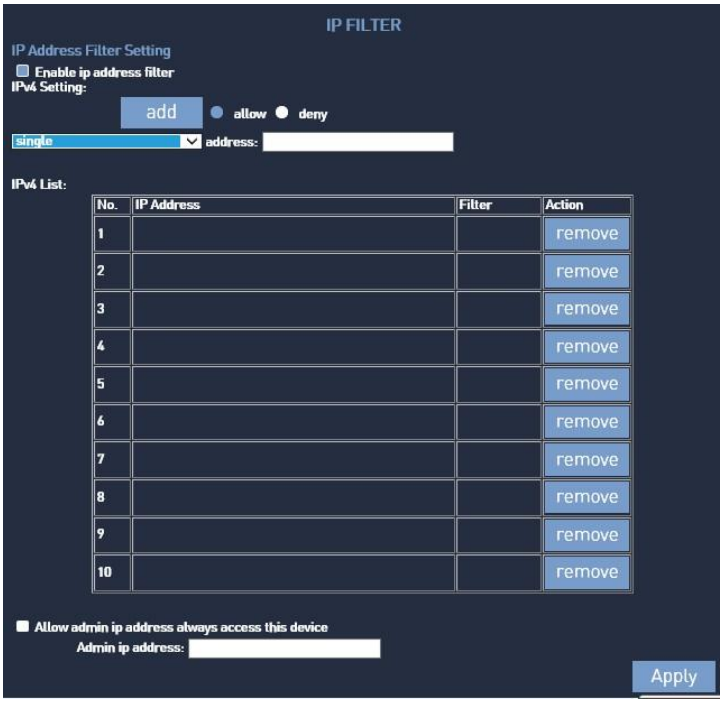
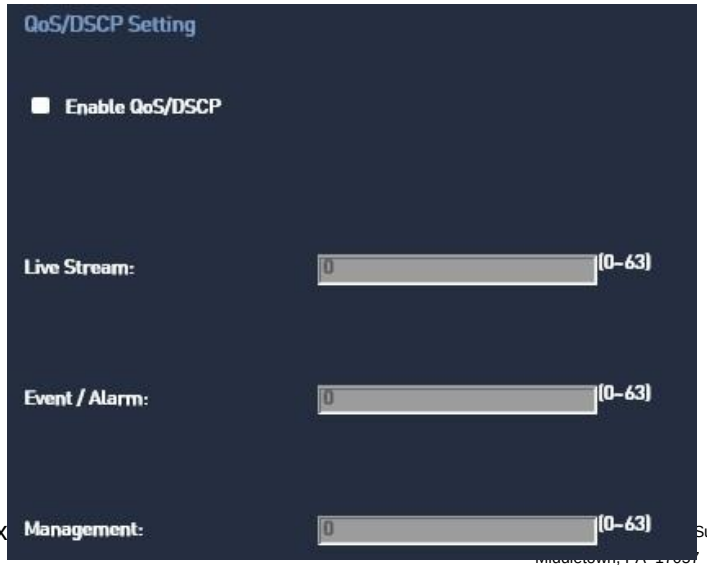
c. Access list:

Enable IP address filter for setting the IP addresses which are allowed or denied from viewing this camera. There are two options: **single** and **range**.



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**.



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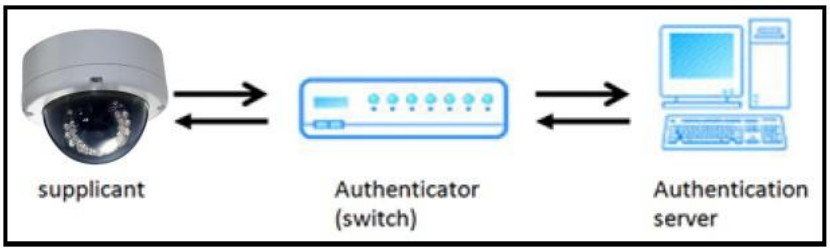
e. IEEE 802.1x:

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.

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III. PPPoE & DDNS

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 mail to a specific mail account.

b. DDNS (no-ip ddns example):

Enable this service

1. Key-in the username.
2. IP schedule update. Default: 5 minutes
3. Click **Apply**.

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.

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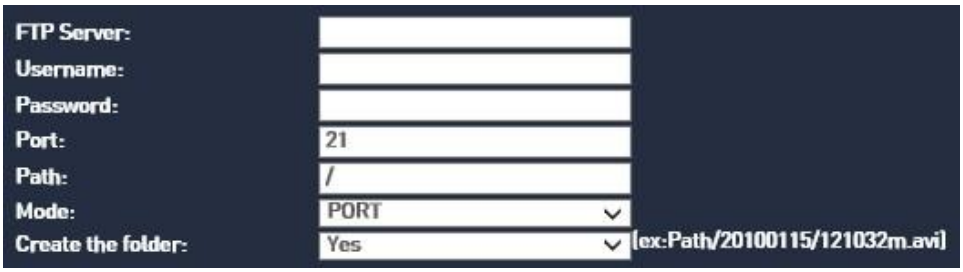
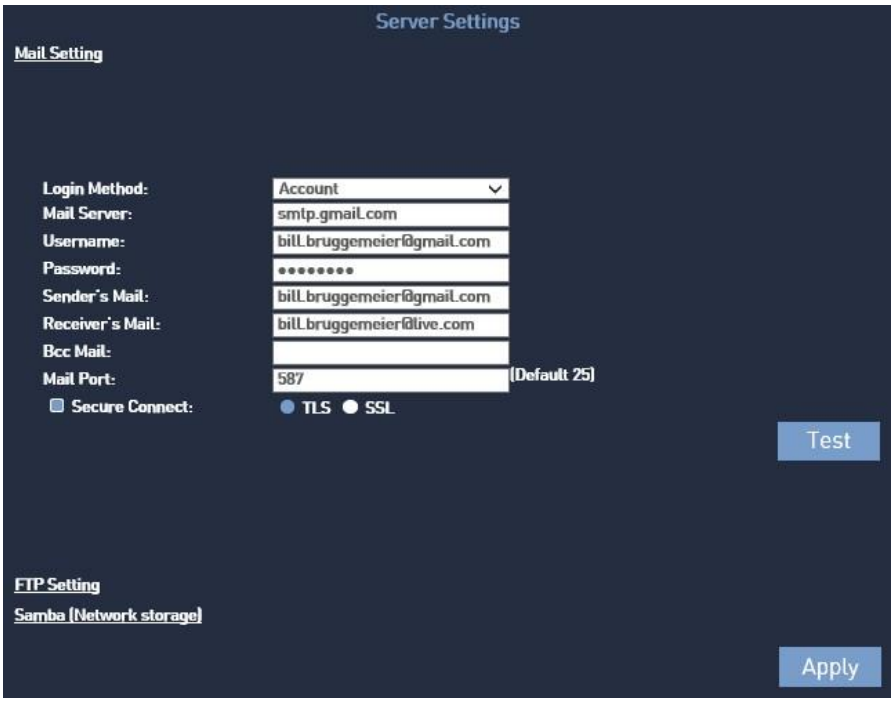
(4) **Update Failed, the name is already registered:** The user name has already been used. Please change it.

(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/or 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.

FTP sends out video via mail from the FTP server. Please set up the configuration.

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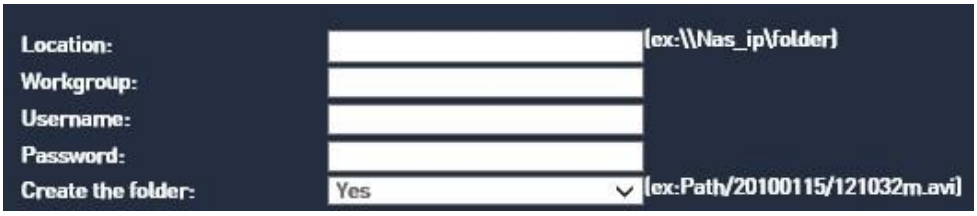
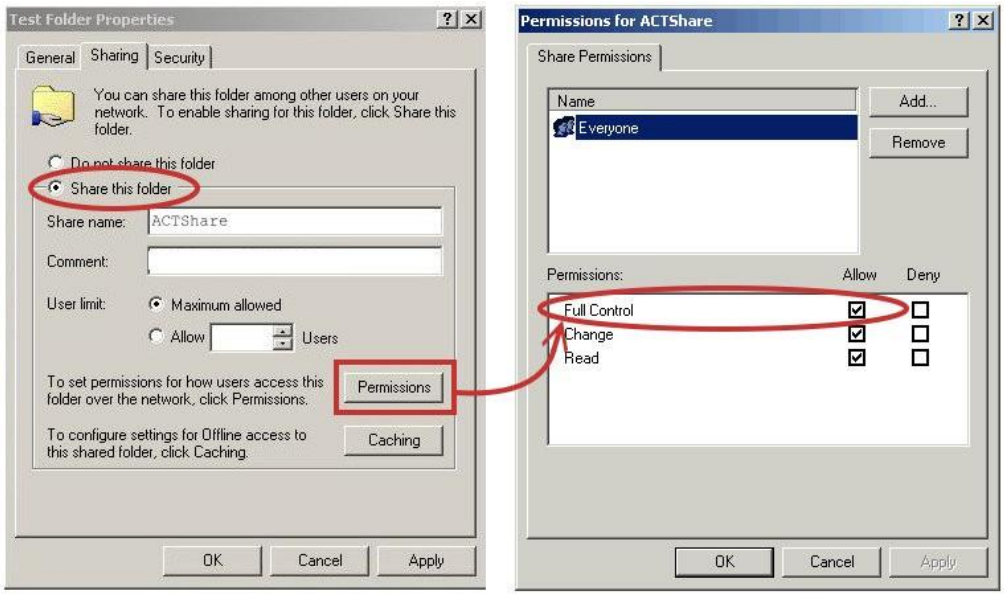
Samba

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



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 shows.



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A / V Settings

Click to get into the administration page. Click to go back to the live video page.

1. Image Setting

Please refer to the details below for image settings:

a. **Privacy Mask:** 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. Please refer to the details below for image settings.

b. **Brightness/Contrast/Hue/Sharpness:** Different values can be adjusted here.

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c. **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.

d. **Denoise 2D:** 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 filters.

e. **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.

Note: When you select a number in **Shutter Time**, the shutter time will vary in a range and be controlled by camera automatically. The following table shows the shutter time options and corresponding range.

f. **Sense-Up:** This function increases the sensitivity of camera to get brighter image at night. The smaller the value you select, the slower the shutter speed becomes so that the image will get brighter, and moving subjects might be blurred.

g. **Saturation:** Adjust the saturation values here.

h. **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.

i. **Video Orientation:** Flip or mirror the image.

j. **IR Intensity:** Adjust the camera IR level in 3 different manners.

k. **Day & Night:** Adjust the camera to detect the light level for different environments.

Light Sensor Mode: The image will turn black and white at night to keep a clear image. To set light sensor mode, appoint a lux standard of switching D/N. Current lux values in the menu are provided for reference.

Color Mode (Day): Recommended to use for day time.

B/W Mode (Night): Recommended to use for night time.

Times Mode: Set the values in Brightness, Contrast, Sharpness, and Denoise(2D) for both Day and Night(IR ON) to be performed according to the time from Day time to Night time.

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The user can define when the Day time starts by filling in the digits such as 05:00 or 12:35. (Hours range: 0~23, minutes range: 0~59) If the time range is incorrect, a window will pop up to remind you. Same way applies to filling the Night time.

Synchronize with DI input: The settings are adjusted according to the DI input functions.

l. **Night to Day Lux:** Available when Light Sensor Mode is set in Day & Night drop- down menu.

m. **Current Lux:**

Display what lux value is the camera applied to.

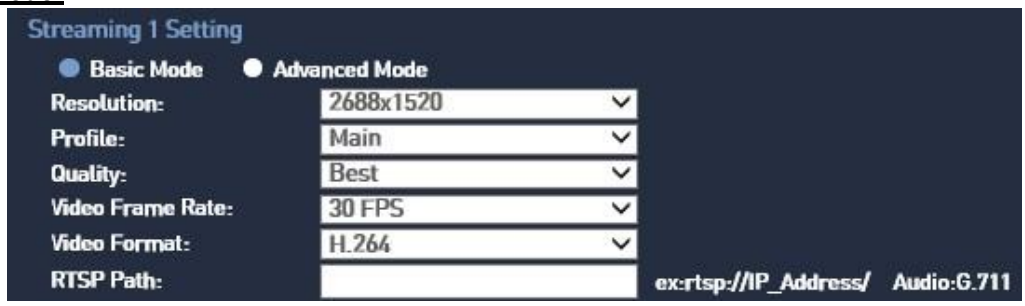
2. Video Setting

a. Input Resolution

There are two kinds of **Input Resolution** (NTSC & PAL). Resolution ranges are limited to streaming types. Choose Input Resolution type before choosing a streaming type to allow different options.

b. Streaming 1 Setting & Streaming 2 Setting:

Resolution range varies depending on the **Input Resolution** set in **Video Setting**. **i. Basic Mode:**



When set in 2048X1536@30fps, The **Resolution** range: 2688x1536@30fps, 1600x1200@30fps, 1280x960@30fps, 800x600@30fps, 640X480@30fps, 320X240@30fps

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When set in 2688X1520@30fps, The **Resolution** range: 2688x1520@30fps,

1920x1080@30fps, 1280x720@30fps, 640x360@30fps

Profile: Chose from High, Main or Baseline.

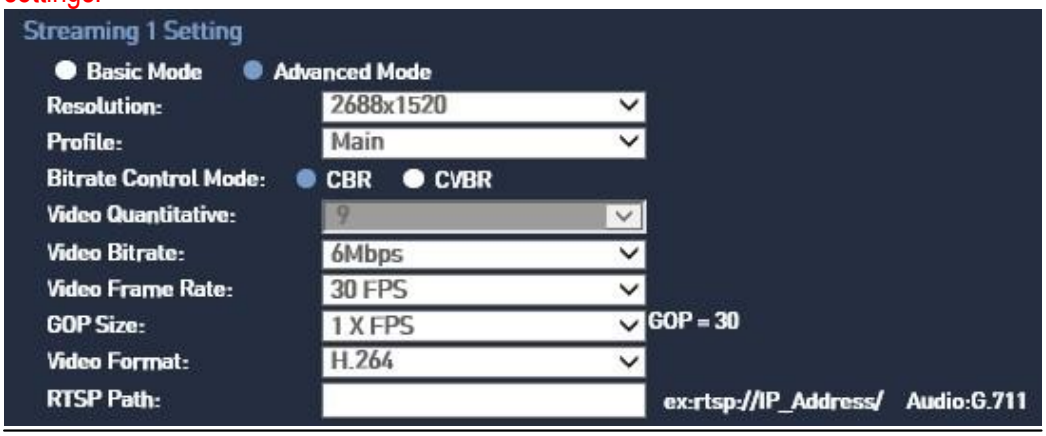
Quality: There are 5 levels. Best/ High/ Standard/ Medium/ Low The higher the quality is, the bigger the file size is and the more bandwidth is required.

Video Frame Rate: The video refresh rate per second.

Video Format: H.264 or JPEG

RTSP Path: RTSP output name

ii. **Advanced Mode**: For Streaming 1 settings only. Streaming 2 is limitedto Basic mode settings.



When set in 2048X1536@30fps, The **Resolution** range: 2688x1536@30fps,

1600x1200@30fps, 1280x960@30fps, 800x600@30fps, 640X480@30fps,

320X240@30fps

When set in 2688X1520@30fps, The **Resolution** range: 2688x1520@30fps, 1920x1080@30fps, 1280x720@30fps, 640x360@30fps

Bitrate Control Mode

There are CBR (Constant Bit Rate) and CVBR (Constrained Variable Bit Rate)

CBR

Video Birate 32Kbps~8Mbps: The higher the CBR is, the better the video quality is.

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CVBR

Video Quantitative 1(Low) ~10(High): The higher the compression rate, the lower the picture quality is; vice versa. Avoid image breaking up or lagging by setting the bandwidth limit for CVBR streaming.

Video Frame Rate: The video refresh rate per second.

GOP Size: It means "Group of Pictures". The higher the GOP is, the better the quality is.

Video Format: H.264 or JPEG

RTSP Path: RTSP output connecting path

iii. 3GPP Streaming mode:

The RTSP here is separated from the RTSP settings in the "IP SETTINGs".3GPP Streaming can still work even if you select "disabled" in the RTSP server option of IP Setting. Enable or Disable 3GPP Streaming

RTSP Path: 3GPP output connecting path. If the IP address of your camera is 192.168.40.150, and you key-in "3g" in the column, the 3GPP path will be rtsp://192.168.40.150/3g.

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Event List

Click to get into the administration page. Click to go back to the live video page.

The IP Camera provides multiple event settings.

1. Event Setting

a. Motion Detection

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 a video or snapshot to specific mail addresses, trigger the output device, or save video to FTP/ Micro SD card/ Samba depending on what the user chooses.

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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.

•Subject: Type in the message you would receive when motion is detected. The default message is “IP Camera Warning!”.

•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. Record File

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 File (Single File with Interval Setting): Save single JPEG picture file when the event occurs.

•JPEG Files (with Record Time Setting): Only when selecting "JPEG" in streaming 1 video format of Video Setting, can 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.

c. Record Time Setting

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.

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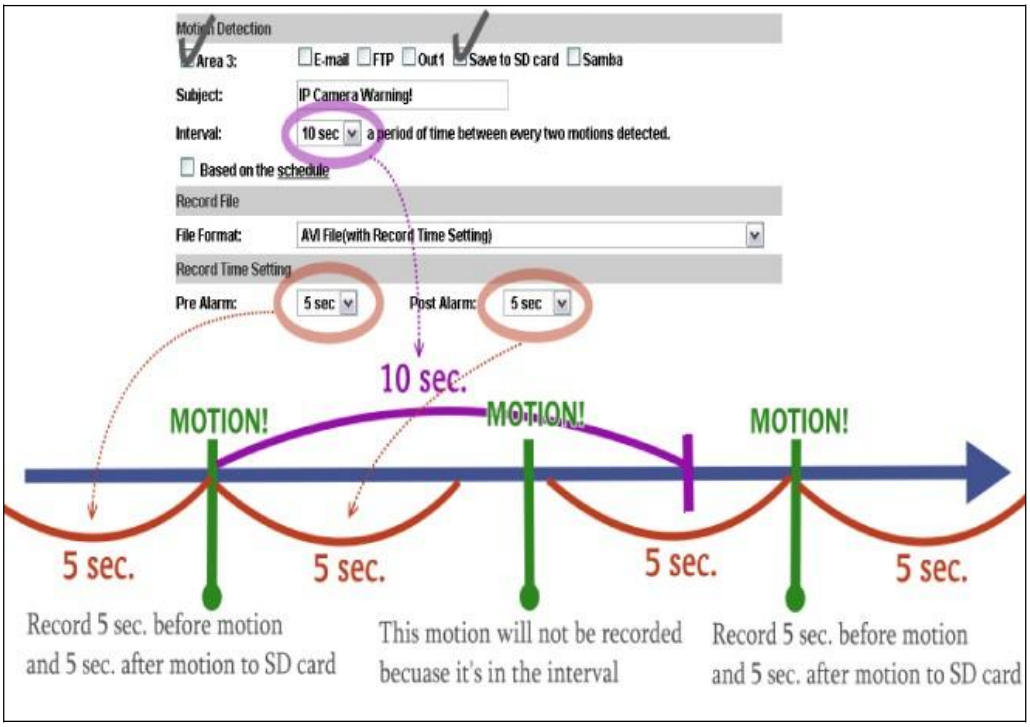

d. Network Dis-connected:

The IP Cam will scan the network. The image will be recorded to the SD card after the IP Camera detects network dis-connected, if set to “Save to SD card”.

e. 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 to the SD card.

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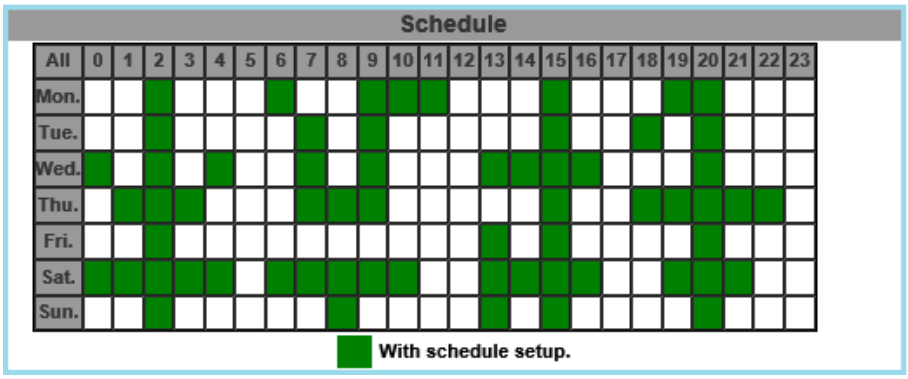
2. Schedule

a. Schedule: Tick the grids on the calendar to manage the days for scheduling.

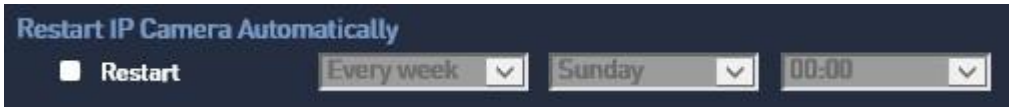


b. Snapshot:

- **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.

Interval: Users can set the interval between two snapshots. File Name: Enter the file name of your snapshot file.

- Restart IP Camera Automatically: Set up the time for IP camera to restart automatically after ticking **Restart** to enable access.



- IP Camera Automatically Update: Set up the time for IP camera to automatically check firmware and **Update** to the latest firmware.

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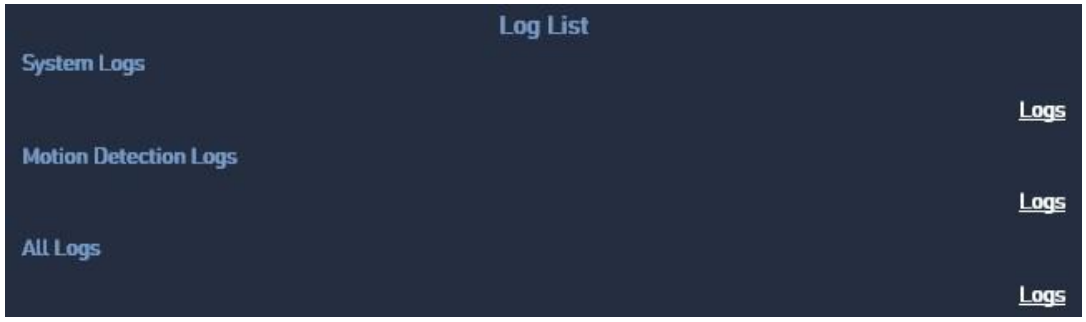
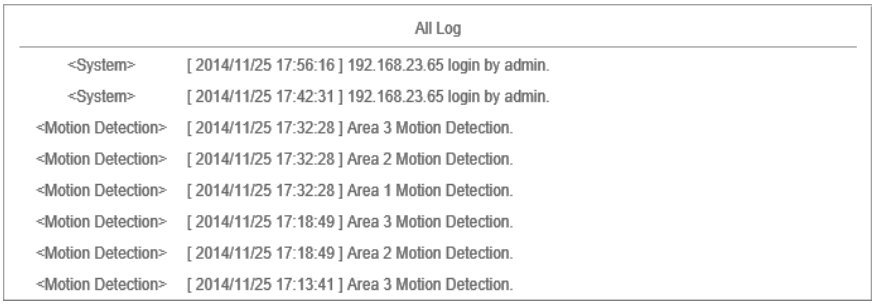
4. Log List



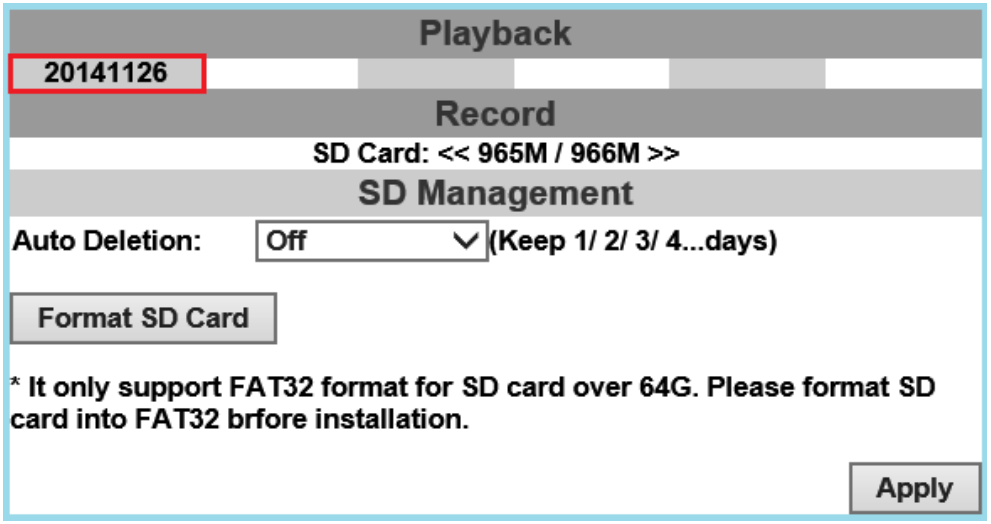
Sort by System Logs, Motion Detection Logs and I/O Logs. In addition, System Logs and I/O Logs won't lose data due to power failure. Choose All Logs to list out all the events from Motion Detection Logs to I/O Logs.



5. SD card

a. Playback

Please Insert the Micro SD card. Make sure to push the Micro SD card into the slot completely.



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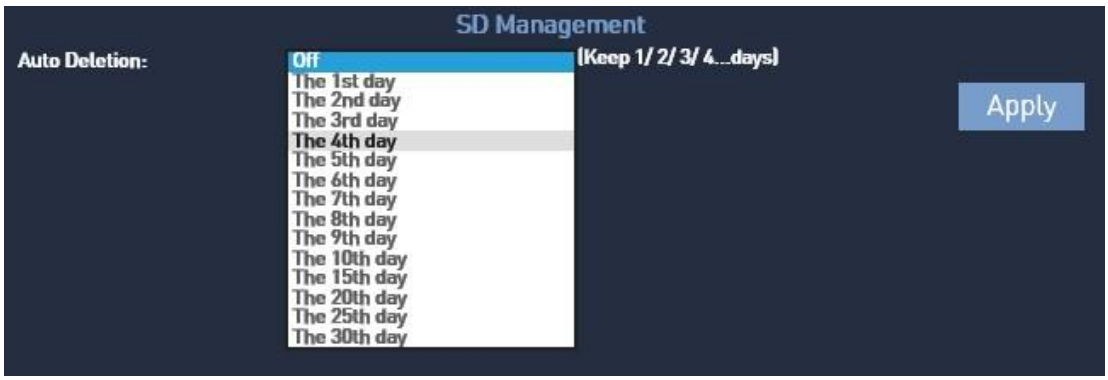
Click the date under the Playback title and a list of video files will pop up.

The video format is AVI. Click the video to start Microsoft Media Player to play it. To delete the video, check it, then click "Del"

b. SD Management

Choosing “The 1st day” means the recoding file will be kept for one day. Example: It is five o’clock now. If “The 1st day” is chosen, the files will be kept until five o’clock tomorrow. The oldest file will be deleted if the Micro SD card is full.



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.)

To use FlashGet for downloading image and video data from the Micro SD card, please follow these steps:

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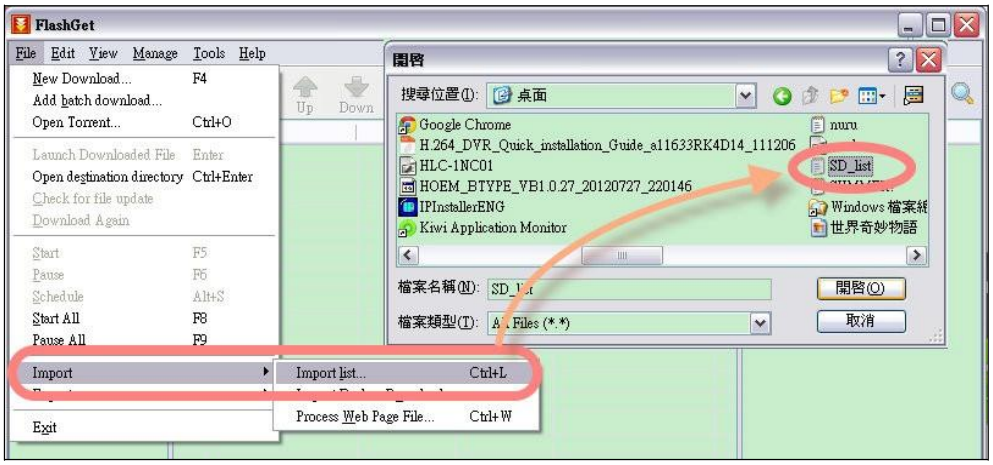
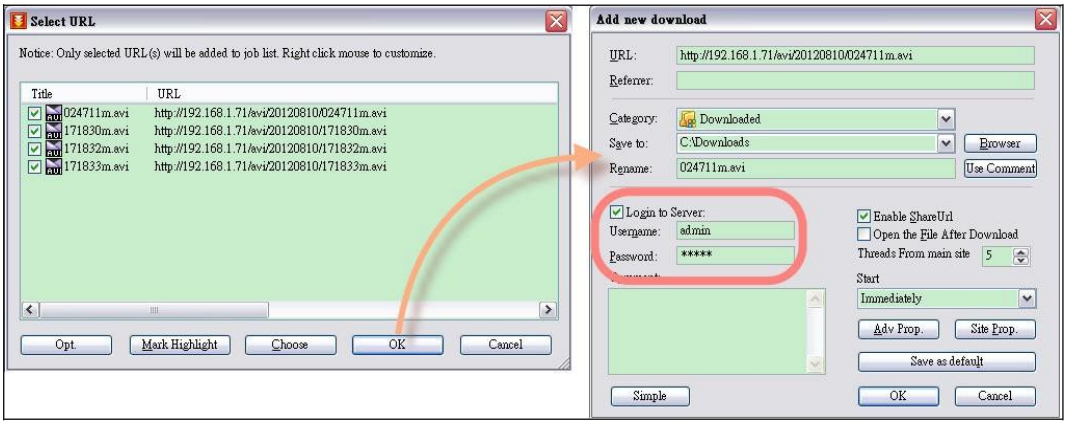
(i) Enter data list and right-click “Files link daily”, select “save target as…” then save the link list to PC.

(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.



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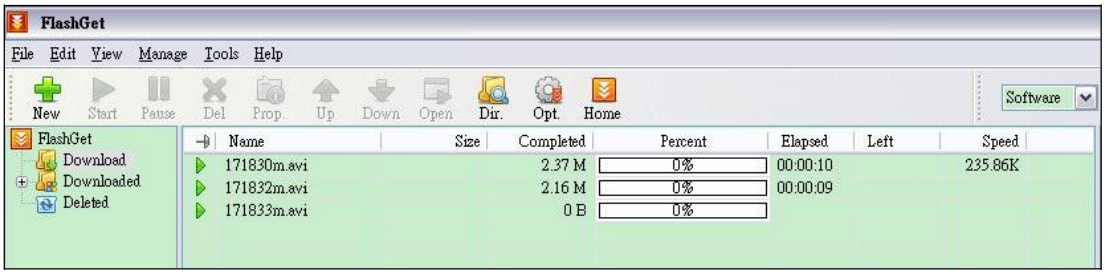
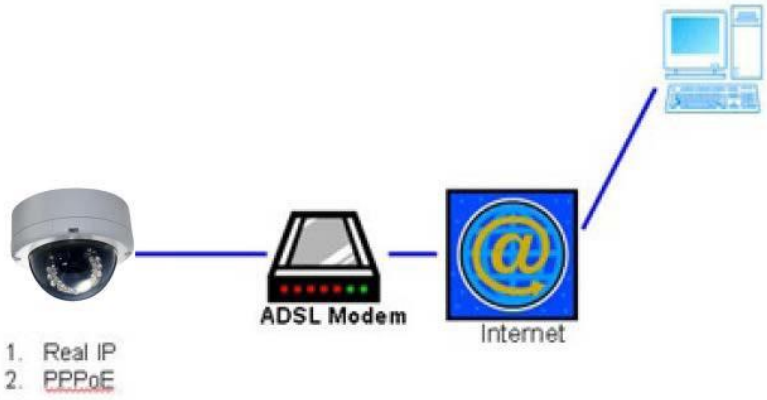
(iv) Click OK to start download.



• FlashGet is free software that can be downloaded from the FlashGet official website. The example above is based on FlashGet ver.1.9.6.

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 address in the IP Camera. For dynamic IP, start PPPoE.

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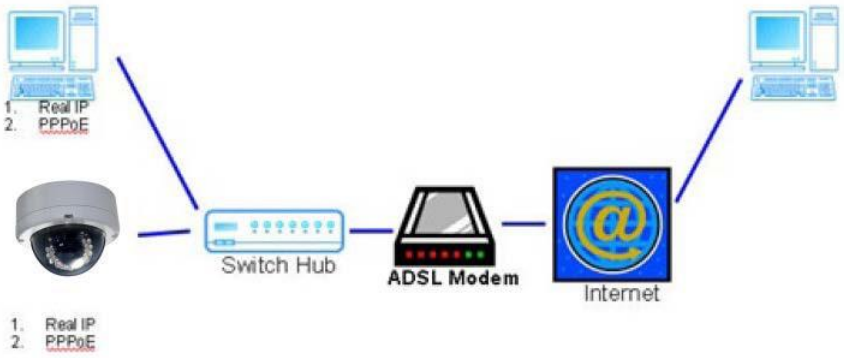
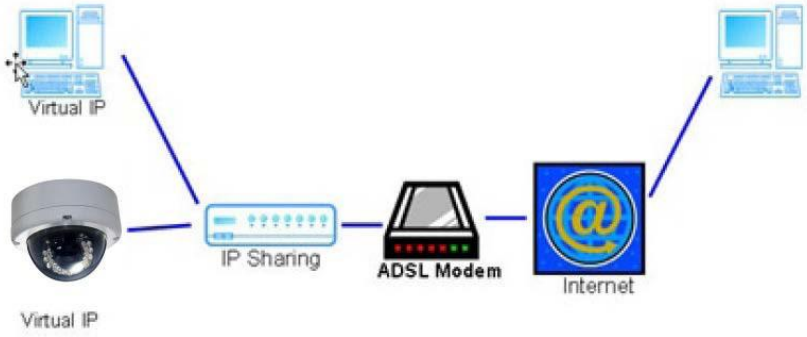
II. Configuration 2:



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 address in the 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.

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Factory Default

If you forget your password, please follow the steps to set the IP camera back to its factory default state.

- Remove the power and Ethernet cable. Use a pin to press and hold the default button as shown in the picture below.

- Connect the power back to the camera, and do not release the default button during the system boot process. It will take around 30 seconds to boot the camera.

- Release the button when the camera finishes booting.

- Plug-in the Ethernet cable. Log back into the camera using the user name: admin, password: admin.

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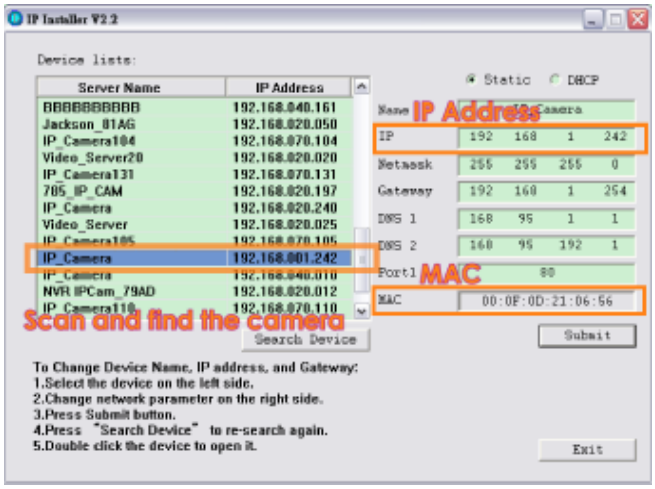
Universal Password

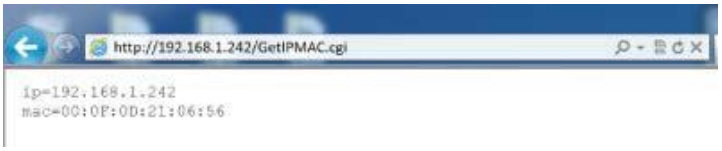
If you forgot the password of your IP camera, you can reset the camera to factory default, or follow the procedure below to generate a universal password.

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 in the **IP Address** column and MAC address into the **MAC** column, and then click **encoder**, spaces for the username and password will appear, as shown in the picture below:

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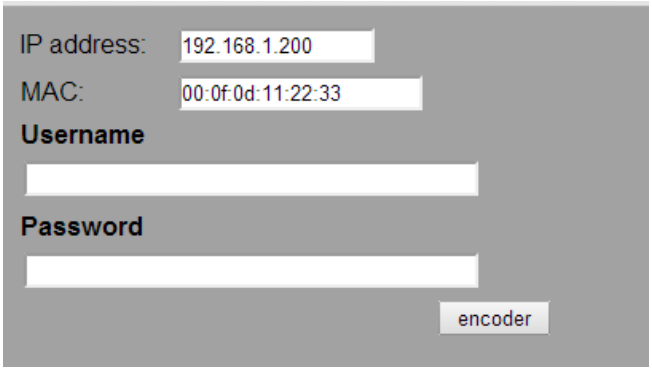

The universal username and password are generated from the IP address and MAC address you key-in, so if you change the camera IP address the universal password changes, too.

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

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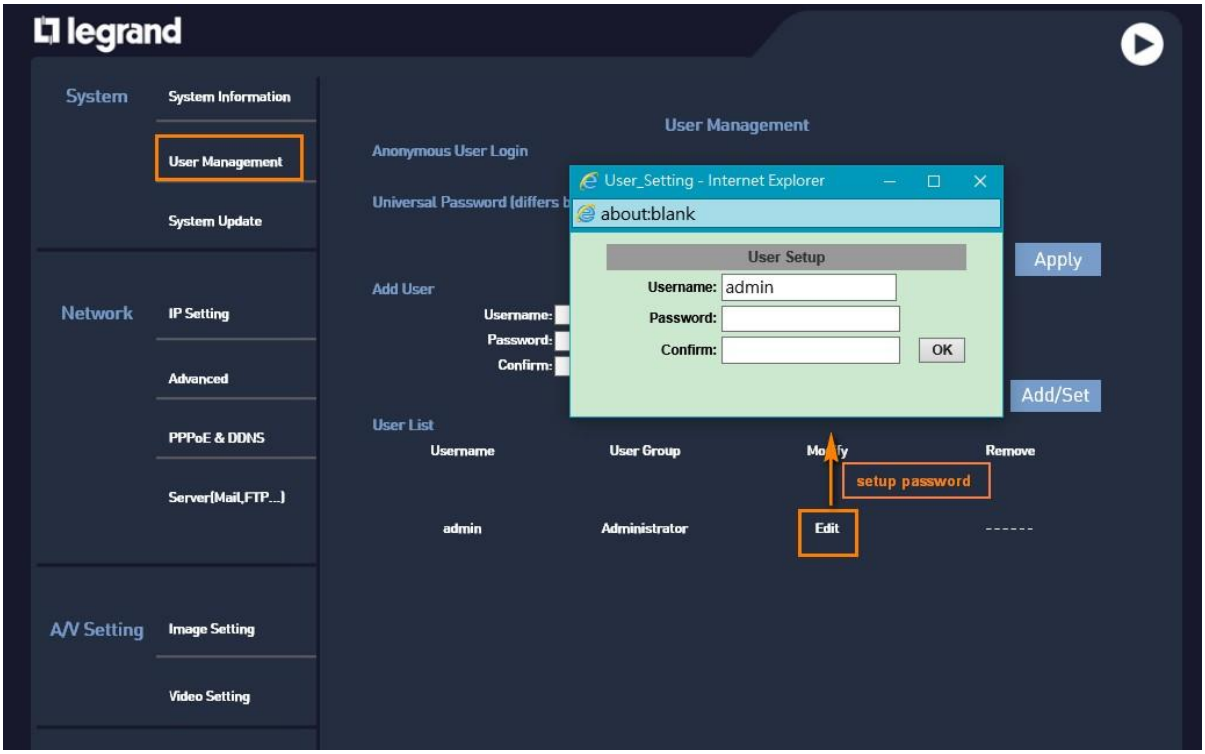
5. Now you can login as administrator. Go to the **User Management** page. The use of universal password does not affect the previous user setting, so the administrator account password does not change until you edit it. Please click **Edit** to enter a new administrator password.



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Package Contents

IP Camera	Quick Installation Guide	Connect Plate

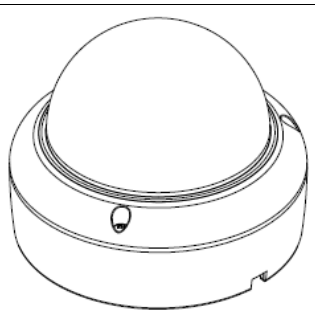
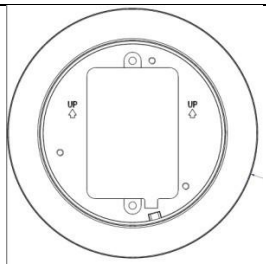
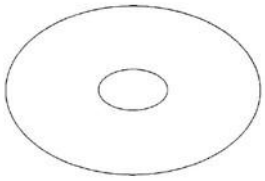
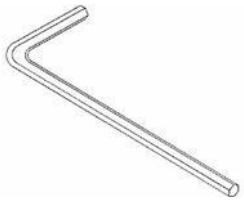
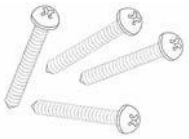
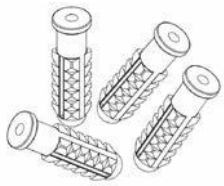

		

Plate screw x2	**CD**	**Hex Wrench**
		
Screws x3	**O-ring**	**Wall Plug x3**
		

- The CD includes user manual and software tools

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Micro SD Card Compatibility

The following are the recommended Micro SD Cards:

Transcend	SDHC class4 16GB
	SD class4 16GB
	SDHC class4 32GB
	SD class4 32GB
	SD class6 4GB
	SDHC class6 4GB
	SD class6 8GB
	SDHC class6 8GB
	SD class6 16GB
	SDHC class6 16GB
	SDHC class10 4GB
	SDHC class10 8GB
	SDHC class10 16GB
	SDHC class 10 Max. 64GB
SanDisk	SDHC class4 8GB
	SDHC class4 16GB
	SDHC class4 32GB
	SDHC class10 Max. 64GB

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