User Manual

STAINLESS STEEL IP CAMERA

V1.0_20180912

ip Solutions

STAINLESS STEEL IP CAMERA

This is a **1 / 2.8" Megapixel CMOS Sensor** stainless steel IP camera with a built-in web server.

The user can view real-time video via IE browser. It supports **H.264+**, **H.264,** and **M-JPEG** video compression, providing smooth and high video quality.

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

Topics

Inside the folder '**Topics**' you will find the documentation related with this IP Camera. You can click on '**Read More**' for directly opening the file regarding the topic you would like to read.
Adobe Acrobat is recommended.

I. Warnings, Cautions and Copyright Read More

II. Product Specifications Read More

Product features, spec table and pictures.

STAINLESS STEEL IP CAMERA

III. Product Installation

A. Monitor Settings

Read More

Monitor Configuration

B. Hardware Installation

Read More

IP Camera Hardware Installation, Connectors, POE

C. IP Assignment

Read More

IP Scanner, Change IP address, Login

D. Install ActiveX Control

Read More

ActiveX installation and troubleshooting

IV. Live Video

Read More

Live View interface functions

STAINLESS STEEL IP CAMERA

V. Camera Configuration

Configuration functions description

A. System

Read More

Language, User Management, System Update

B. Network

Read More

IP Settings, RTSP, Bonjour, HTTP & HTTPS, SNMP, Access List, QoS/DSCP, IEEE 802.1X, PPPoE & DDNS, FTP, SAMBA,

C. A / V Settings

Read More

Image Setting, Video Setting, Resolution, Audio

D. Event List

Read More

Event Setting, Motion Detection, Record Time Setting, Schedule, Log List.

STAINLESS STEEL IP CAMERA

VI. Network Configuration

Read More

VII. I / O Configuration

Read More

I / O Configuration & Setup, RS-485

VIII. Factory Default

Read More

Steps for resetting the IP Camera to factory default.

IX. Universal Password

Read More

Steps for using universal password.

X. Package Contents

Read More

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

<table>
<tr><td> </td><td>CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN</td><td> </td></tr>
<tr><td colspan="3">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.</td></tr>
</table>

COPYRIGHT

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

Intended Use of the Camera

Certification	Mark
ATEX	II 2G Ex db IIC T6 Gb
ATEX	II 2D Ex tb IIIC T85ºC Db
IECEx	Ex db IIC T6 Gb
IECEx	Ex tb IIIC T85ºC Db

Hazardous Area Classification: Zone 1, Zone 2, Zone 21, Zone 22.

IP Degree: IP68, IP69

Ex Standards: IEC 60079-0: 2011 EN 60079-0: 2012
IEC 60079-1: 2014 EN 60079-1: 2014
IEC 60079-31: 2013 EN 60079-31: 2014

Nameplate:

Special Conditions for Safe Use:

- Ambient Temperature: -40°C to +70°C.
- DO NOT OPEN WHEN ENERGIZED.
- POTENTIAL ELECTROSTATIC CHARGING HAZARD – SEE INSTRUCTIONS.
- When assembly, operation and maintenance, the operator must follow the requirements of the IEC 60079-14: latest version Explosive atmosphere- Part 14: Electrical installation design, selection and erection, beside of the manufacturer's operation instruction or its National equivalent.
- Repair and overhaul shall comply with IEC 60079-19: latest version or its National equivalent.
- HLZ-62KDS+ enclosure cover is provided with 6 off M6x1x12mm A2-70 socket head screws.
- External surfaces are to be routinely cleaned to prevent the accumulation of dust layers.

Product Specifications

Main Features:

- Certification for use in Zones 1 and 2 IIC T6 Group(Gas) and Zones 21 and 22 IIIC T85ºC Group (Dust)
- 1080P@30FPS
- 30x Bulid-in Zoom Lens
- H.264+/ H.264/ M-JPEG Video Compression
- Smart Focus System for Remote Focus Adjustment
- Power over Ethernet
- IR Cut Filter Mechanism
- Day & Night Manual Switch Time Control
- Smart Stream
- ROI Function
- IP68, IP69
- Support iPhone/Android/Mac
- SDK for Software Integration
- Free Bundle 36 Ch Recording Software

Certification	**Mark**
ATEX	II 2G Ex db IIC T6 Gb
ATEX	II 2D Ex tb IIIC T85ºC Db
IECEx	Ex db IIC T6 Gb
IECEx	Ex tb IIIC T85ºC Db
Explosion Proof	
Housing Material	AISI 316L Stainless Steel
Hardware	
CPU	Multimedia SoC
RAM	512MB
Flash	32MB
Image Sensor	1 / 2.8” Megapixel CMOS Sensor

Sensitivity	Color : 0.005 Lux (AGC ON) B / W : 0.001 Lux (AGC ON)
Lens Type	4.5-135mm 30X Bulid-in Zoom Lens @ F1.6
View Angle	2.7~45°(H), 1.9~34.2°(V)
Power over Ethernet	Yes
Power Consumption	PoE Max: 2.88 W DC 12V Max : 2.28W
ICR	IR cut Filter Mechanism
Operating Temperature	-40°C ~ 70°C
Dimensions	142.25mm (∅) x 224mm(H)
Enclosure Certificate	IP68, IP69, IK10
Alarm In/Out	1DI / 1DO
Sunshield	Yes
Wide Dynamic Range	120dB
Audio	G.711(64K) and G.726(32K,24K) audio compression Input : 3.5mm phone jack Output: 3.5mm phone jack Support 2-way.
RS485	1
Cable Length	4M
Weight	6.8kg
Micro SD Card Management	
Local Storage	Industrial 64 GB Micro SD card built in (optional)
Recording Trigger	Motion Detection, IP check, Network break down (wire only),Schedule, DI
Video Format	AVI , JPEG
Video Playback	Yes
Delete Files	Yes
Network	
Ethernet	10/ 100 Base-T
Network Protocol	IPv6, IPv4, HTTP, HTTPS, SNMP, SSL, TLS , DNS , ICMP, IGMP, ARP, SNTP, QoS/DSCP, Access list, IEEE 802.1X, RTSP/RTP/RTCP, TCP/IP, UDP, SMTP, FTP, PPPoE, DHCP, DDNS, NTP, UPnP, 3GPP, SAMBA, Bonjour
System	
Video Resolution[16:9]	1920x1080@30fps, 1280x720@30fps, 640x360@30fps
Video Adjust	Brightness, Contrast, Hue, Saturation, Sharpness, AGC, Night Mode, T-WDR, Flip, Mirror, Noise Reduction, Day&Night Adjustable

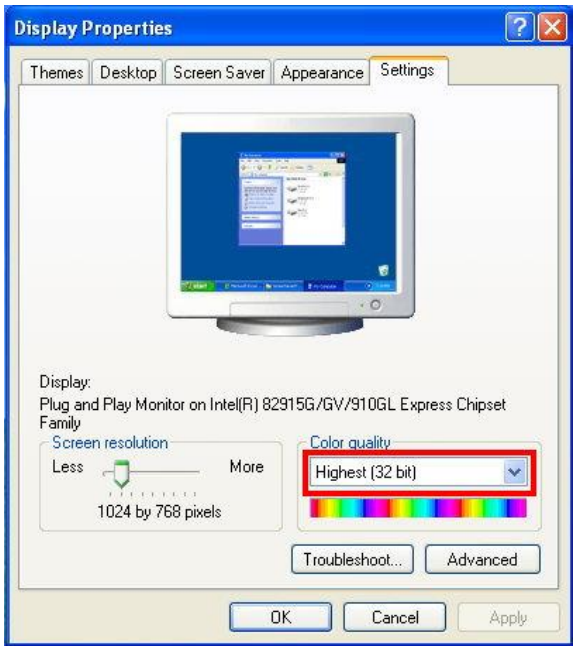
Features	ROI, Smart Stream, Motion Detection, Privacy Mask, Anti Fog, BNC, Tampering Detection, Corridor Mode, 3-Axis Cable Management, IP66, Push Video
Quadruple Streaming	Yes
Image Snapshot	Yes
Full Screen Monitoring	Yes
Privacy Mask	Yes, 3 different areas
Compression Format	H.264+/ H.264/ M-JPEG
Video Bitrates Adjust	CBR, VBR
Motion Detection	Yes, 10 different areas
Triggered Action	Mail , FTP , SAMBA , Dropbox , Google Drive
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
Focus Mode	Auto, Manual
Web Browsing Requirement	
OS	Windows 7, 8 , 10 ,XP, Microsoft IE 6.0 or above
Mobile Support	iOS 8 or above, Android 4.0.4 or above.
Hardware Suggested	Intel Dual Core 2.8G,RAM, 4GB, Graphic card: 128MB

*SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTIFICATION.

Monitor Settings

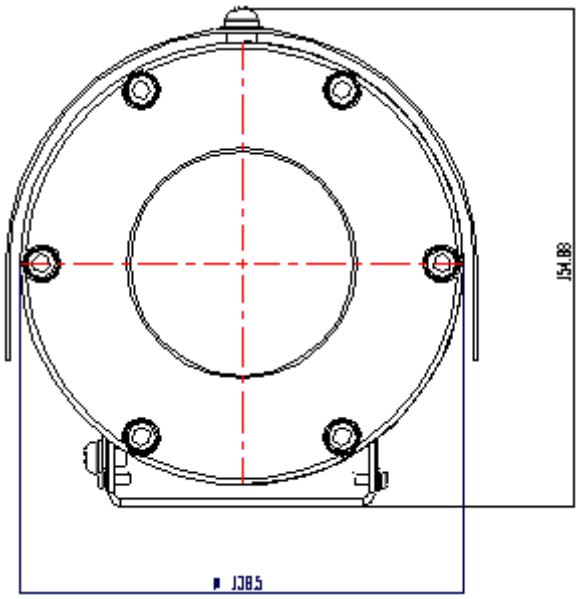
1. Right-Click on the desktop. Select **Properties**

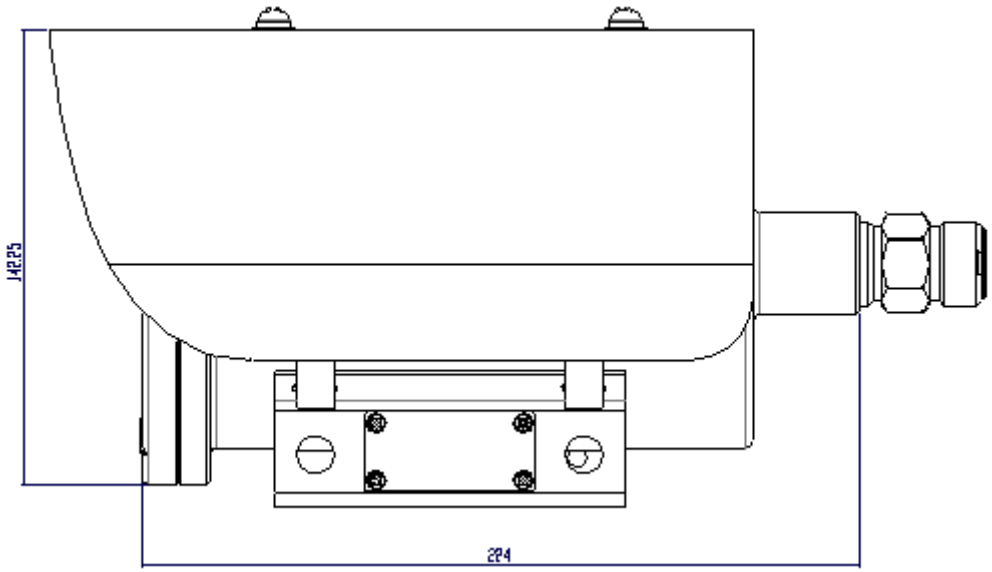
2. Change color quality to highest (**32bit**).



Hardware Installation

Camera Without Bracket

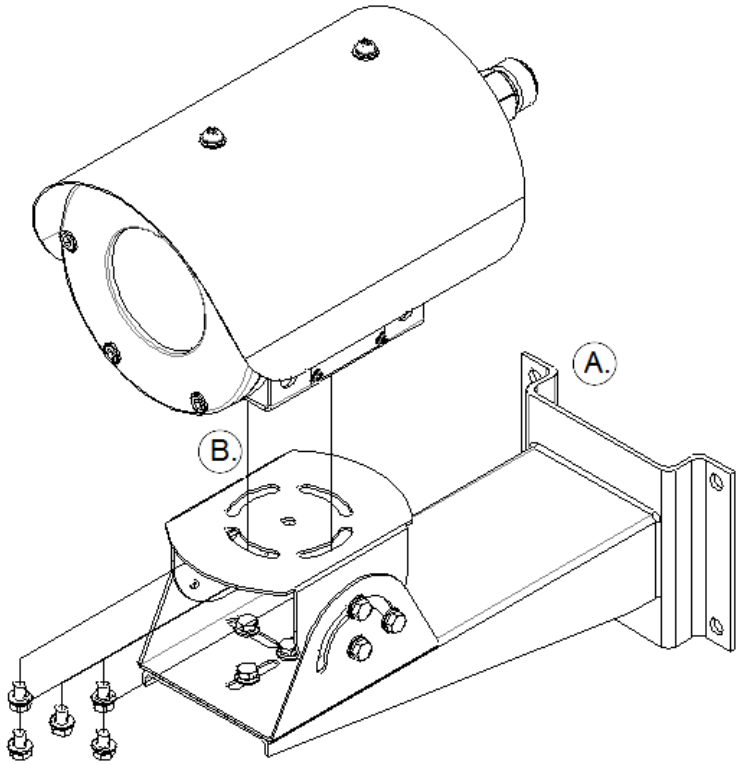




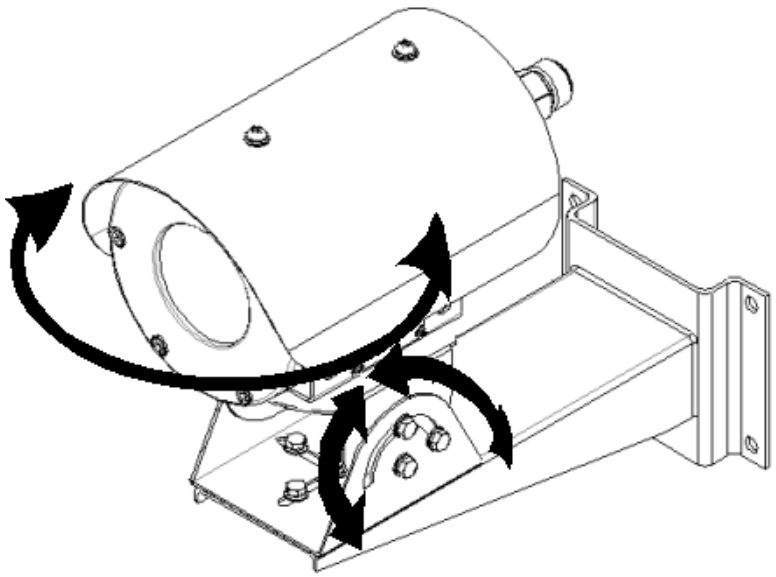
1. Camera With Bracket: Installation Steps

A. Mount the wall bracket before you begin the installation. Please consider its position in relation of the environment for aiming to achieve proper observation for surveillance purposes.

B. Install the mounting base of the camera unto the pedestal bracket with washers and screws.

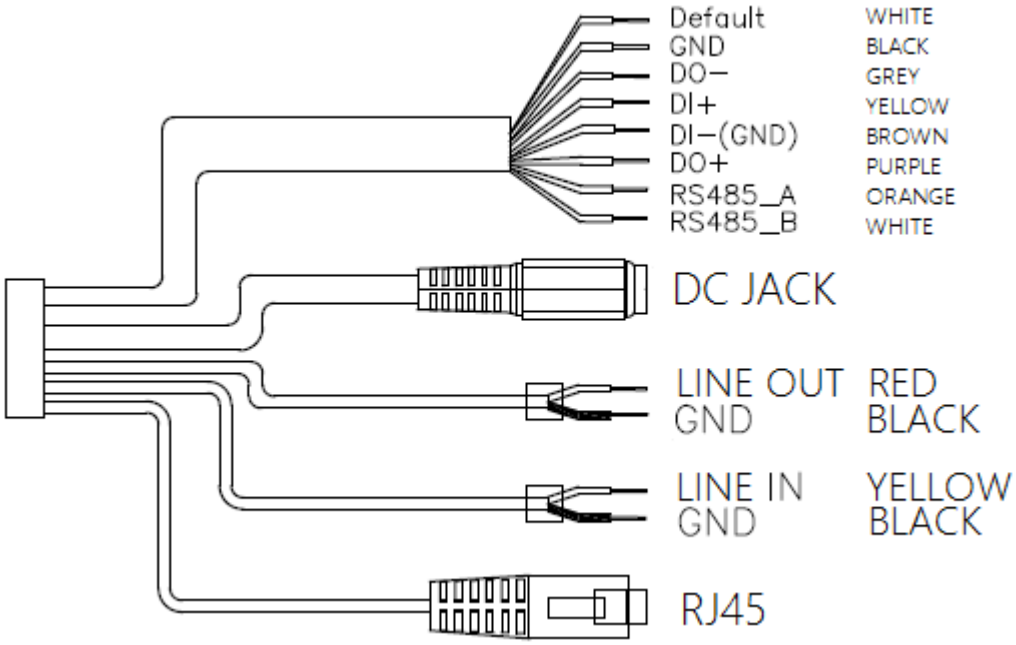


C. Adjust the tilting position and the panning position for the pedestal bracket and the camera base.



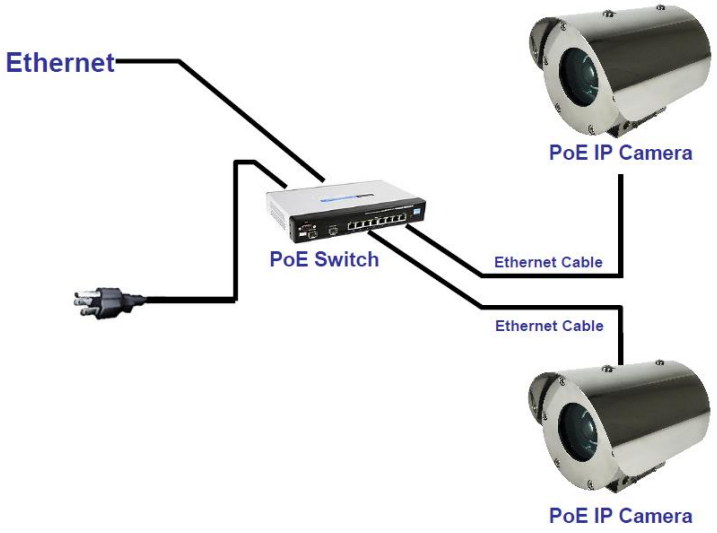
2. Connector Instruction

Connect power adaptor first then the IP Camera to PC or network, and set up the network configurations according to the network environment. Please refer to User Manual: I/O Configuration chapter for more descriptions.



3. PoE (Power Over Ethernet) (Optional) 60W PoE single port recommended

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



IP Assignment

1. Open the software **IP Scanner** to assign the IP address of the IP Camera. Find this software in the **Applications** folder in the software CD attached to the product's package.

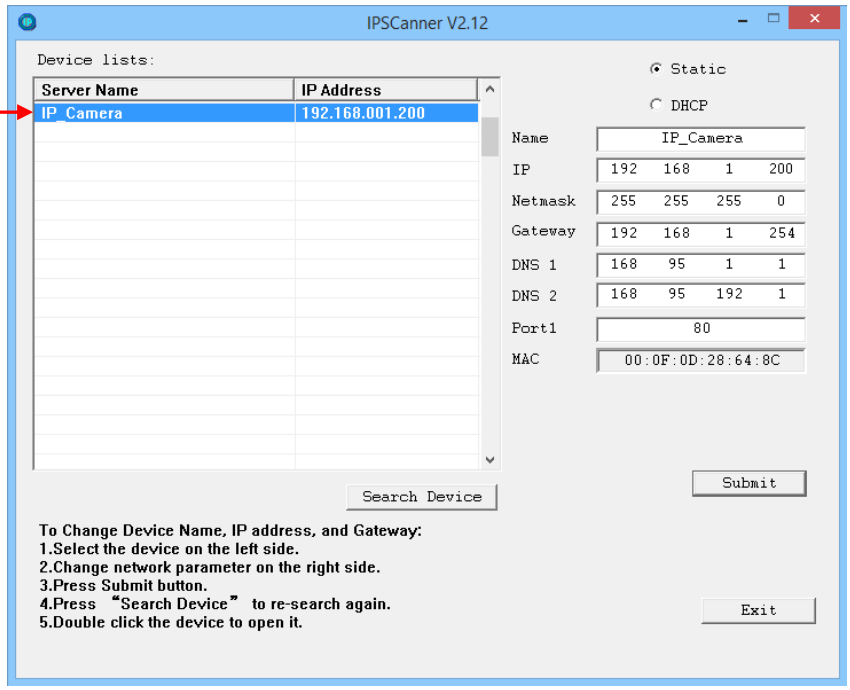
2. **IP Scanner** supports two languages: This manual is for English version.

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 the English version of **IP Scanner**: **IPScannerENG**

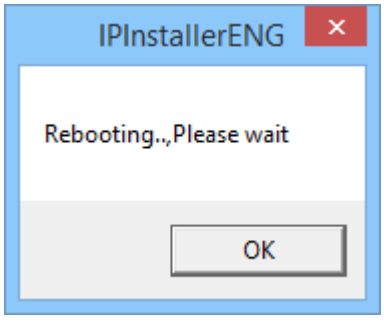
5. For Windows XP SP2 or above, a Windows Security Alert may pop up. Choose the network type based on your surveillance environment, and click on **Allow access**.

6. **IP Scanner** configuration:



7. **IP Scanner** 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 once you highlight the device with your mouse. 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.



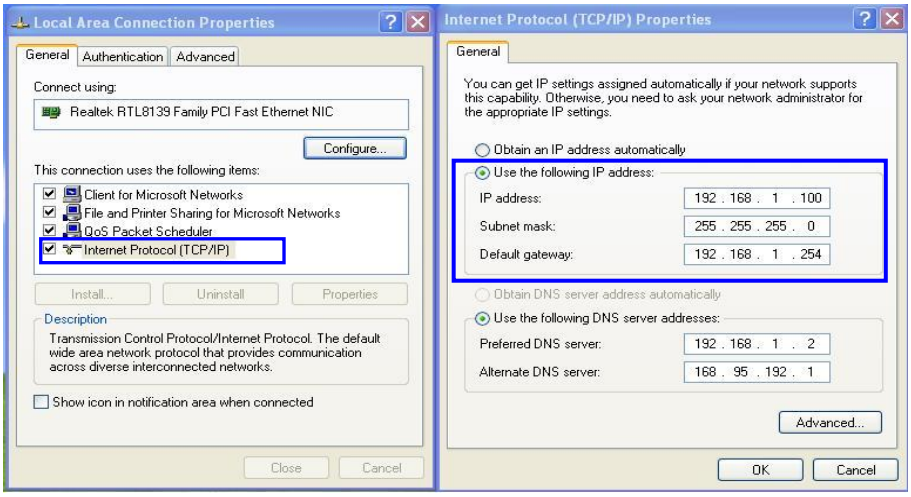
9. Please make sure the subnet of the PC IP address and the IP Camera IP address are the same.

   The same Subnet:
   IP Camera IP address: 192.168.1.200
   PC IP address: 192.168.1.100

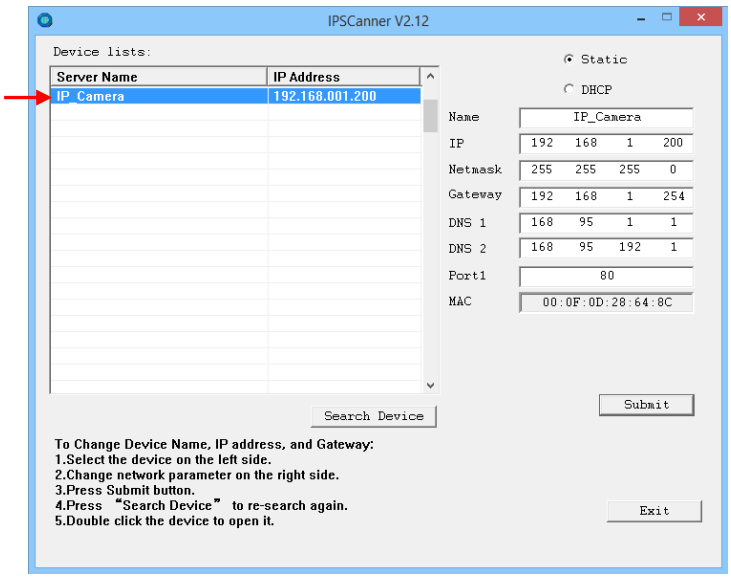
Different Subnets:
IP Camera IP address: 192.168.2.200
PC IP address: 192.168.1.100

To Change the PC IP address:
Control Panel→Network Connections→Local Area Connection Properties→Internet Protocol (TCP/IP) →Properties

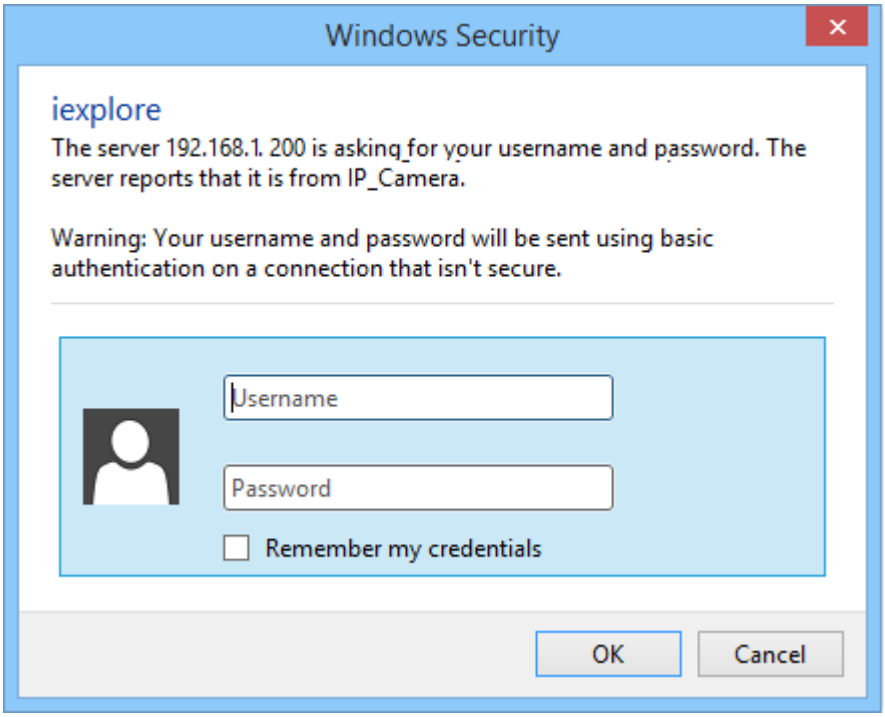
Make sure your IP Camera and PC are in the same Subnet. If not, change the IP Camera subnet or the PC IP subnet accordingly below.



10. To quickly access remote monitoring, left-click the mouse twice on the selected IP Camera listed under **Device list** of **IP Scanner**. A default network browser of the camera control interface will open.



11. Enter **admin** for both Username and Password to gain access.

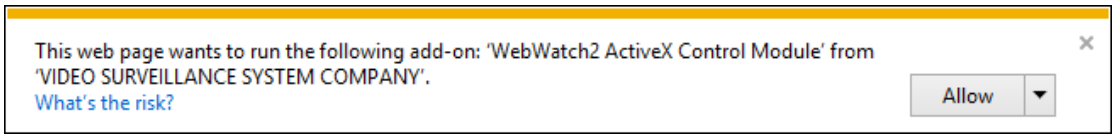

Windows Security
iexplore
The server 192.168.1. 200 is asking for your username and password. The server reports that it is from IP_Camera.
Warning: Your username and password will be sent using basic authentication on a connection that isn't secure.
Username
Password
Remember my credentials
OK
Cancel

Install ActiveX control

1. For users using 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.

Choose '**Allow**'



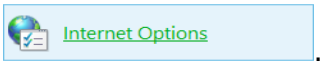
The ActiveX component should then be completed and user will be able to view the live video screen.

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

Follow the steps below:

1) Go to **Start-Up Menu** on the lower left corner of the **Windows**

2) Select **Control Panel**

3) Double-click on 

.

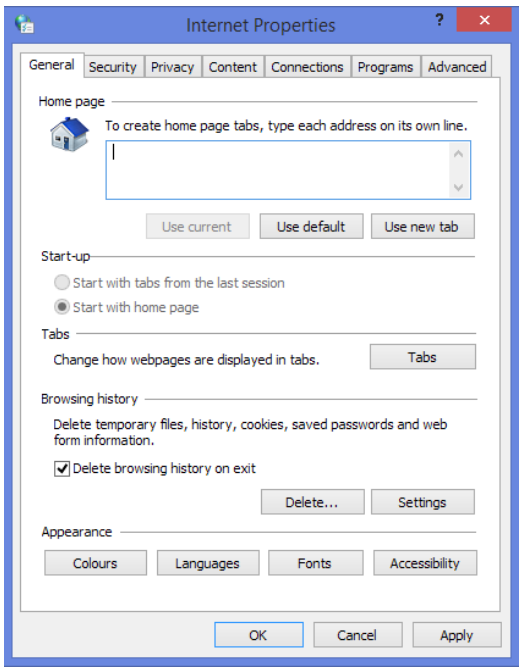
4) You will then enter the page of **Internet Properties** settings.

5) Starting from **Internet Properties**, proceeding step **A** and **B:**

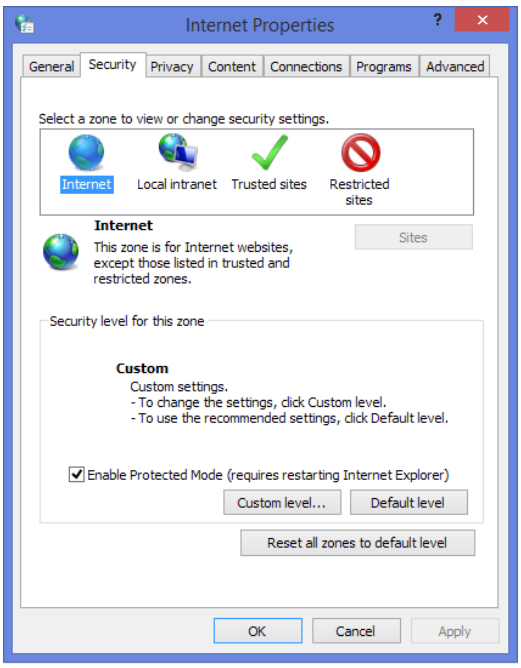
   A. Security → Custom Level → Security Settings → Download unsigned ActiveX controls → Enable or Prompt (recommended).

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

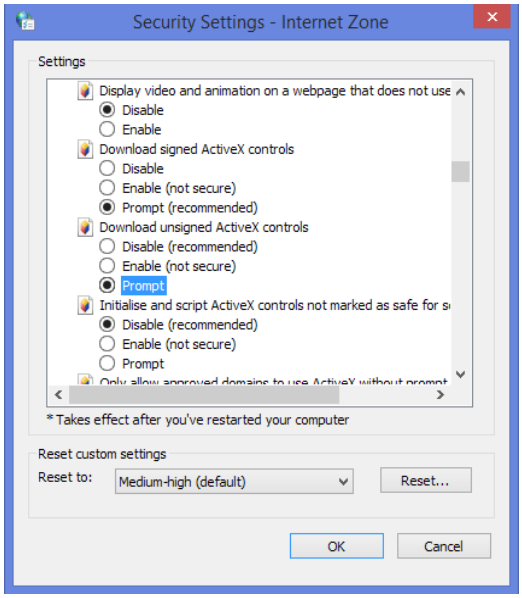
1



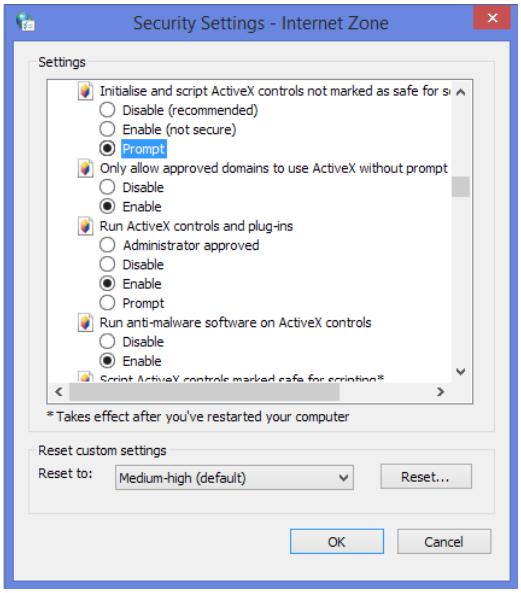
2



3

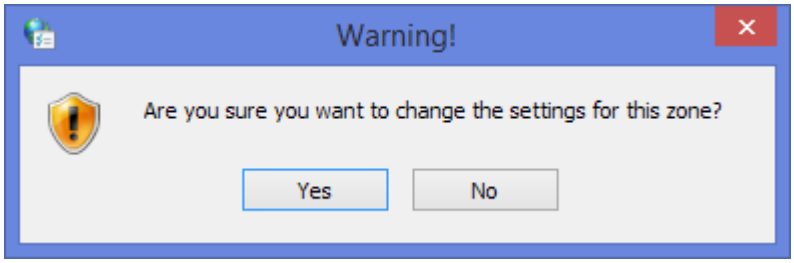


4



5

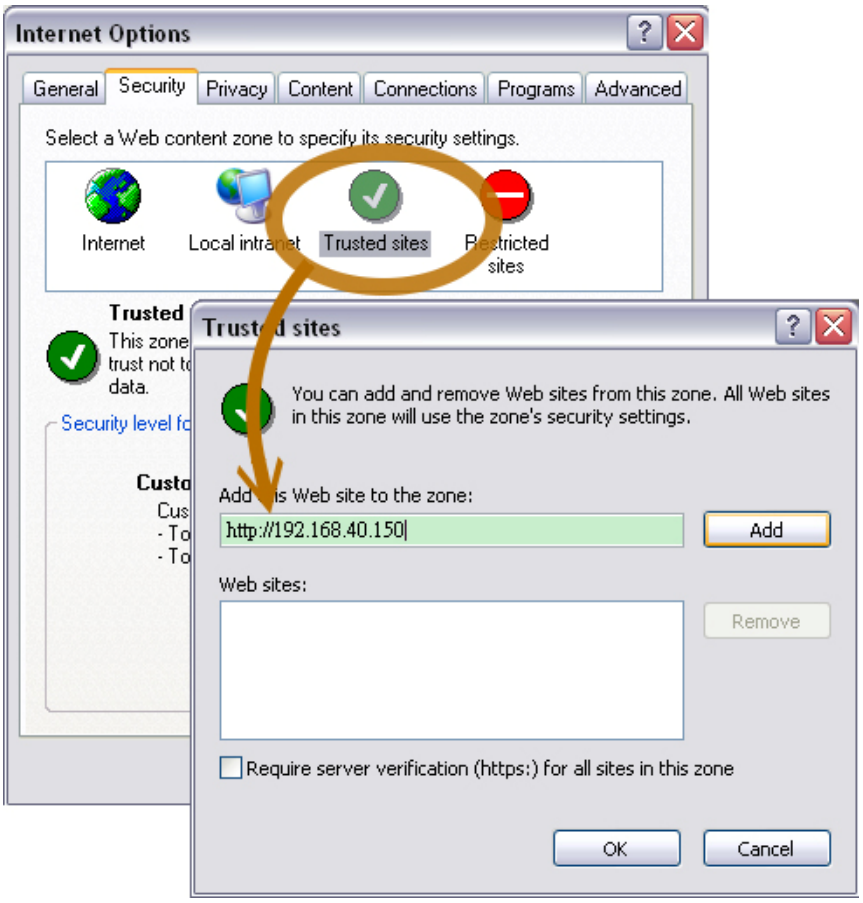
When popup the following dialogue box, click **Yes**.



2. You can choose another method:

Go to: IE→Tools → Internet Options… → Security Tab → Trusted sites → Add the IP address 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.

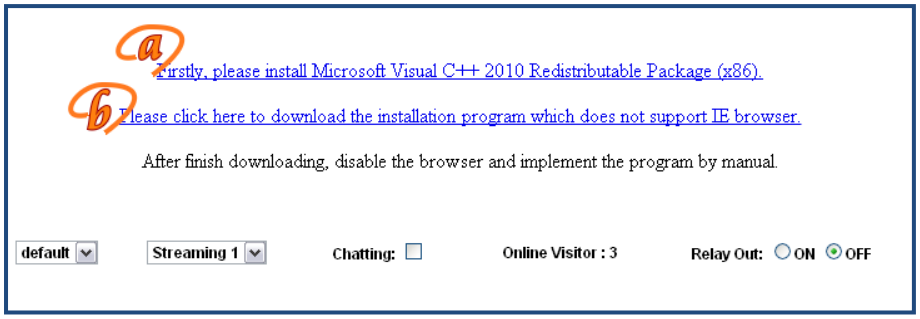


3. For Non-IE Web Browser Users

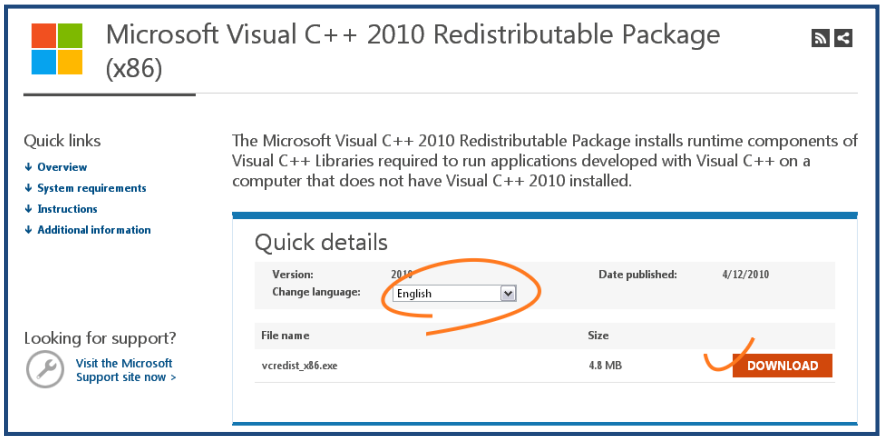
If you use Firefox or Google chrome to access the IP camera but fails to watch the live video, please follow the steps to install necessary tools: (The following pictures are based on chrome.)

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

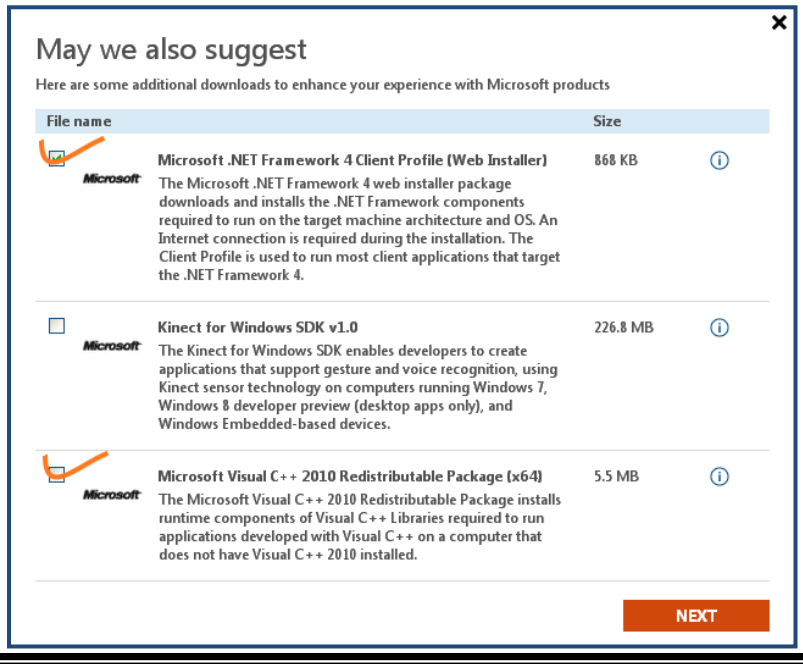
Firstly, please install Microsoft Visual C++ 2010 Redistributable Package (x86).



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

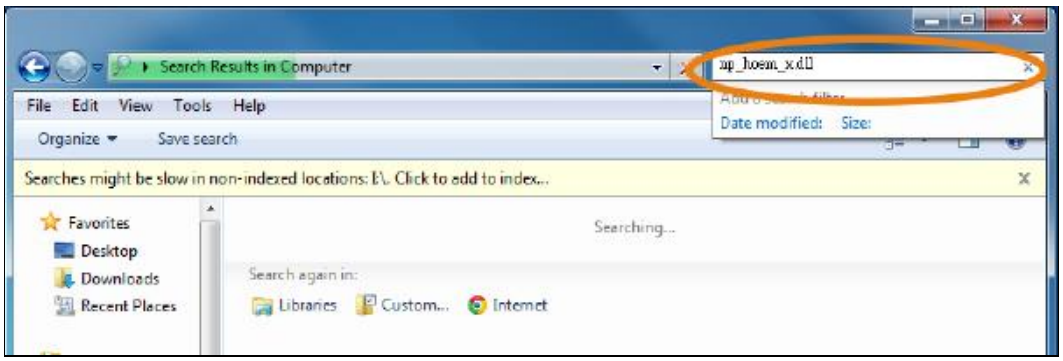
After finishing downloading, execute the two files respectively to install them. The windows may ask you to reboot the PC when the installation is finished.

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.

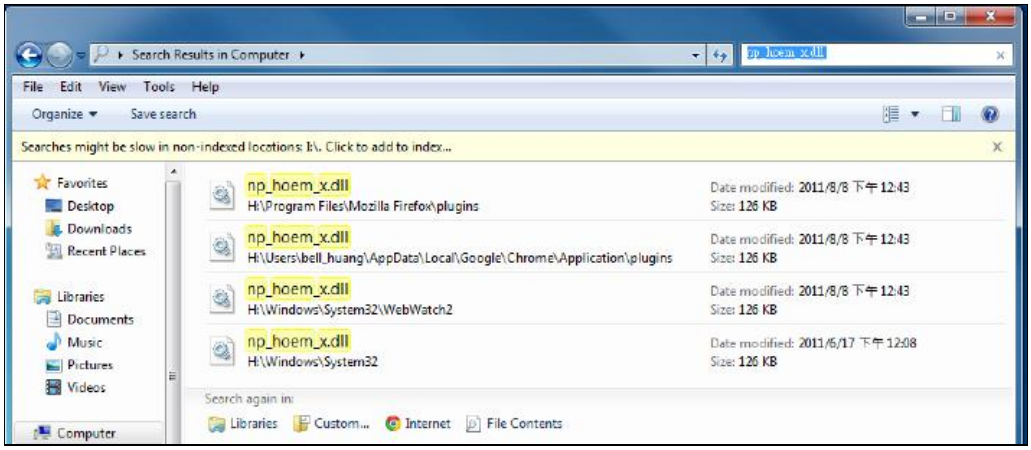
C. If you execute the steps above but still cannot see live video normally, please try the following solution:

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.

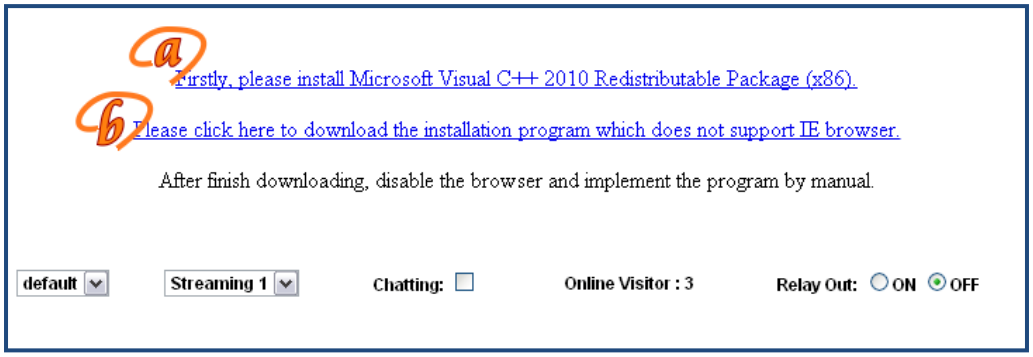


Delete all the files named **np_hoem_x.dll**. They're the **ActiveX** control tools installed in your computer, but the old version of **ActiveX** might not be compatible with the new version of the browser.

Therefore, they need to be deleted in order to install the latest **ActiveX** control.

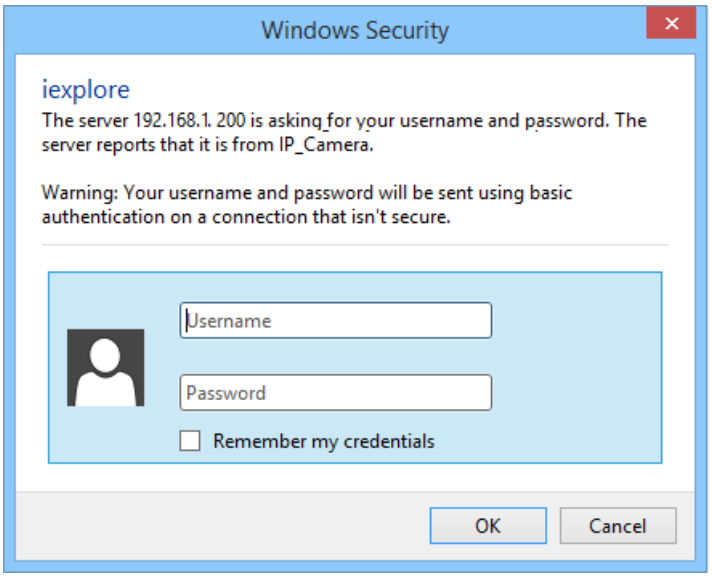


Start your web browser, and repeat the **step A: Download the installation program which does not support IE browser** to download and install **ActiveX**.



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**.



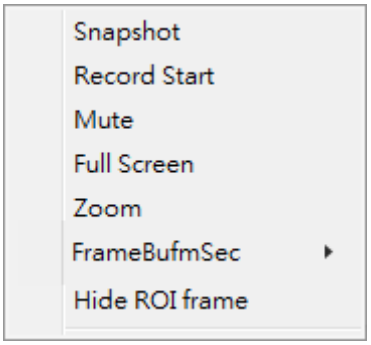
When IP Camera is successfully connected it shows the following interface.

Please change default password is a sign which flickers on the live view screen as a reminder, to suggest the user to change the default password. You may configure the login settings in System to secure your account privacy.

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. Selects the video 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.
8. Click on icons to adjust Zoom In / Zoom Out.
9. Focus: Click on icons to adjust focus.
10. Auto Focus: Click on icon to automatically adjust focus.
11. Home: Click on to restart the view with no Focus / Zoom adjustments.
12. Speed: Set the zoom speed.
13. Control the external output device or DO (digital output) connected to this camera.

Double-clicking on the video screen will enter the full screen mode. Press “Esc” on your computer keyboard or double-click the video screen again for returning to normal screen mode.

Right-Click the mouse on the live video screen, a pop-up menu will then appear as below.



1. **Snapshot:** Save a JPEG picture

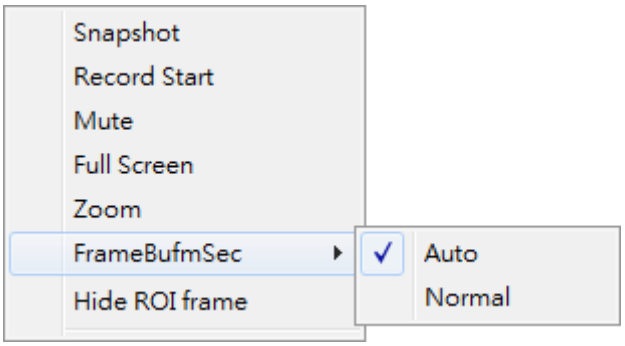
2. **Record Start:** Record the video to the local PC. The video format is AVI and you will be asked to set up the directory for the video file. To stop recording, right-click again. Select “Record Stop”. Play the recorded file with Microsoft Media Player.

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

4. **Full Screen:** Full-screen mode.

5. **Zoom:** Select “zoom” within the pop-up dialogue box and then drag and drop the bar to adjust the zoom factors.

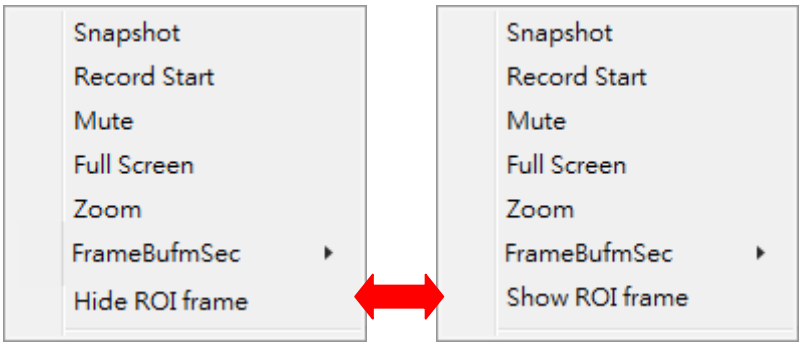
6. **Frame Buffm Sec:** This function aims to build a temporary buffer to accumulate several video frames in a LAN network environment. It can make video streaming smooth when the network speed is slow.



Select **Auto** to allow this function automatically help fix the streaming performance whenever the video happens to be lagging.

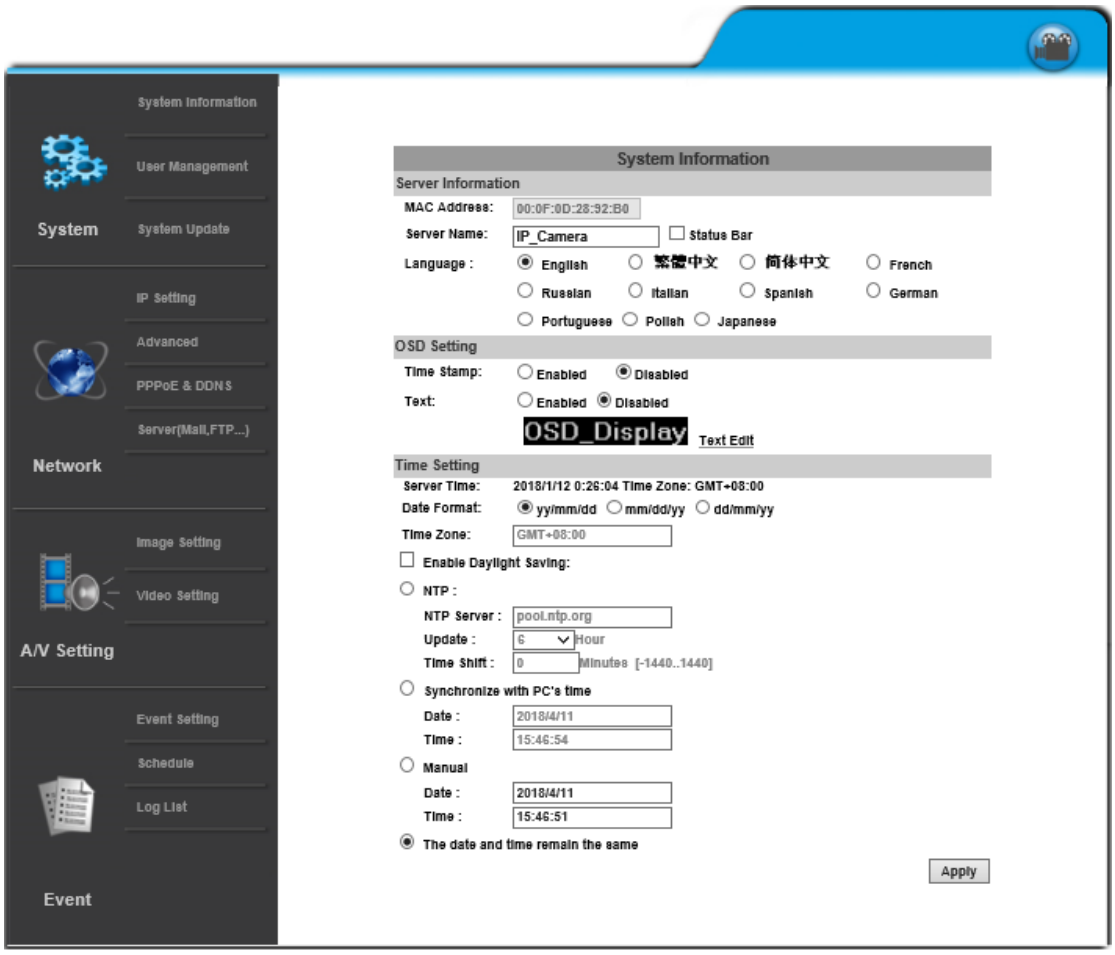
Select **Normal** to play the video data based on the current network streaming performance. (Note: the lagging of the video displayed will not be seen as a result of the actual video data)

7. **Hide / Show ROI frame:** Once the ROI frame has been set up from AV Settings, there will be frames in colors appearing on the live view. Choose to hide to make the frames invisible, or choose show to keep the frames.



System

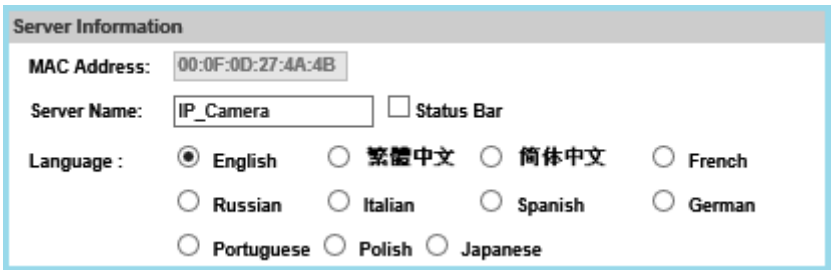
Click to get into the administration page. Click to go back to the live video page.



I. System Information

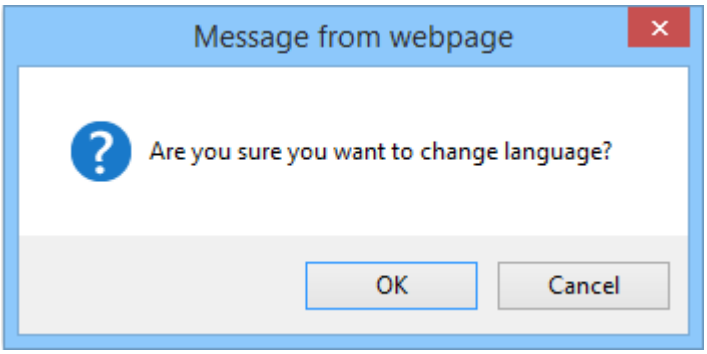
A. Server Information

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



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

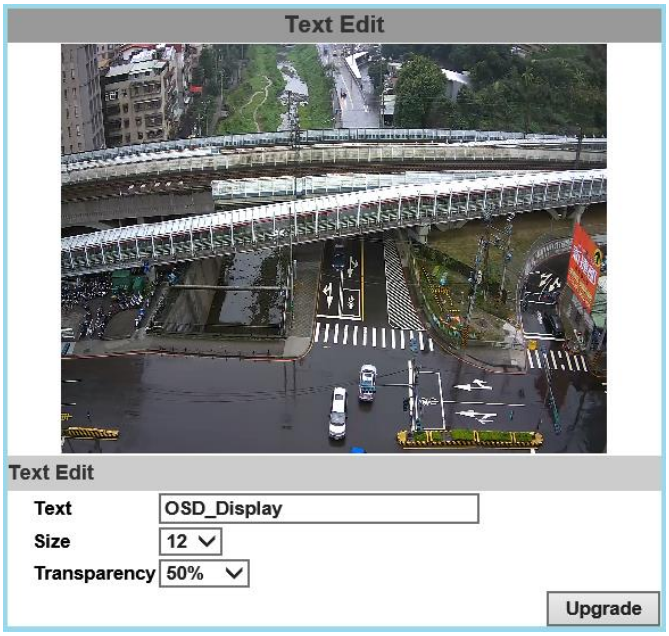
b. **Language:** English and other languages can be selected. When a language preference is selected, the following dialogue box will pop up to confirm the change.



B. OSD Setting

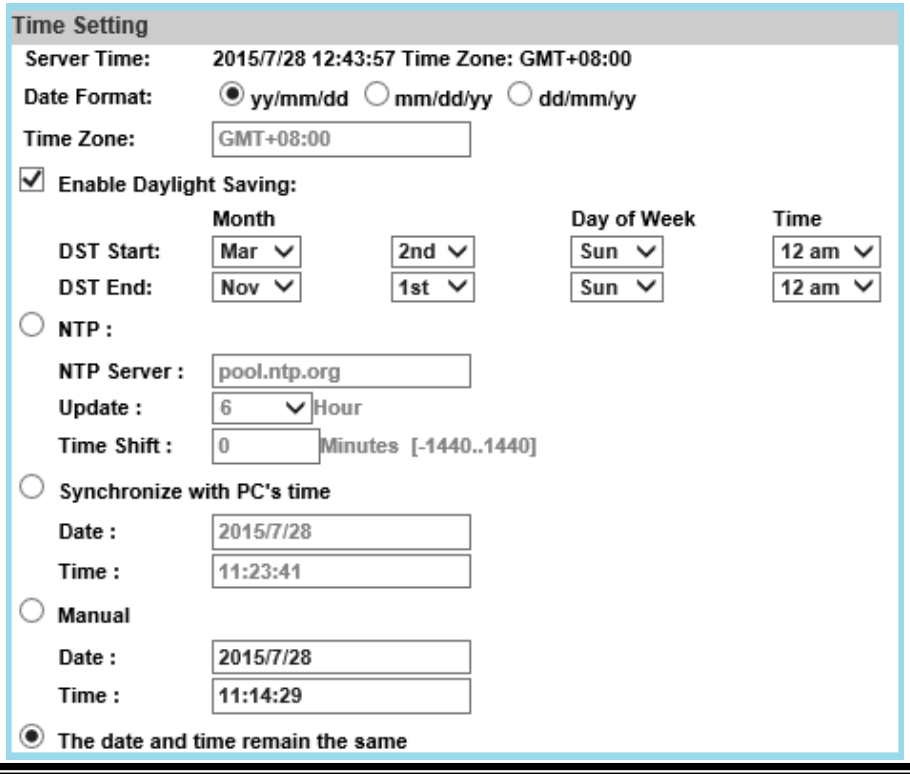
Select a position where the date & time stamp / text are displayed on the screen.

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

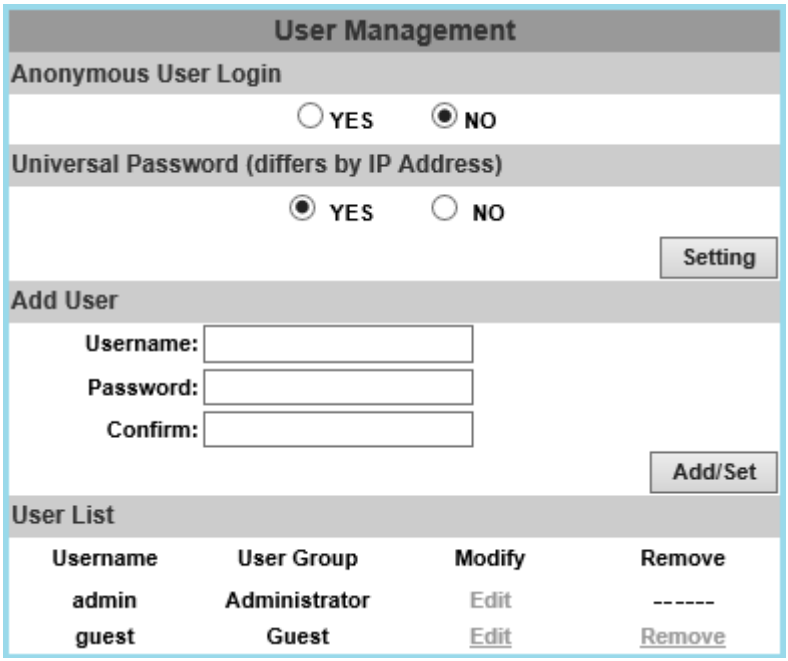


C. Time Setting

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



II. User Management



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

A. Anonymous User Login

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

B. Universal Password

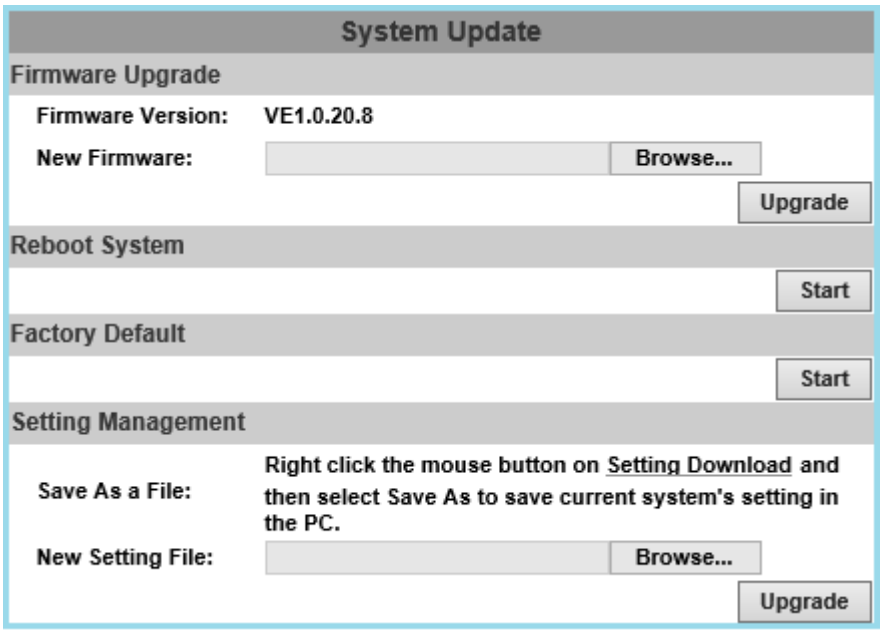
Select **Yes** for allowing login to this IP camera by universal password. Please refer to **Universal Password** chapter for more explanations. Select **No** for disabling universal password.

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.

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.

III. System update



A. Firmware Upgrade: 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.

a. 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

b. Upgrade from previous settings

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

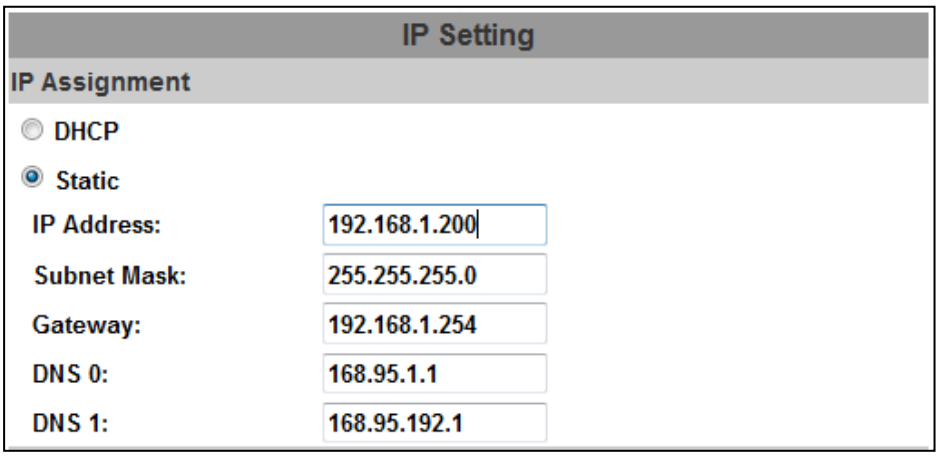
Network

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

I. IP Settings

IP Assignment

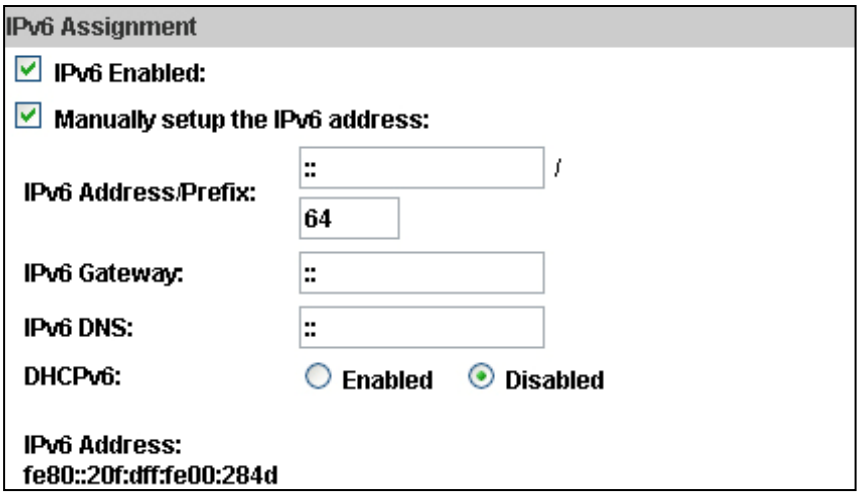
The IP Camera supports DHCP and static IP.



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



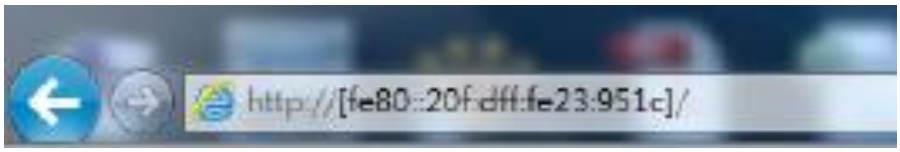
By enabling DHCPv6 you can configure the following IPv6 address settings:

- Manually setup the IPv6 address: Key-in the Address, Gateway, and DNS.

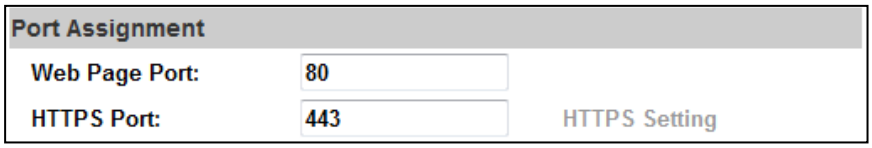
- DHCPv6: If you have a DHCPv6 server, enable it to assign the IPv6 automatically. The assigned IP address will be displayed beside the column.

- 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.



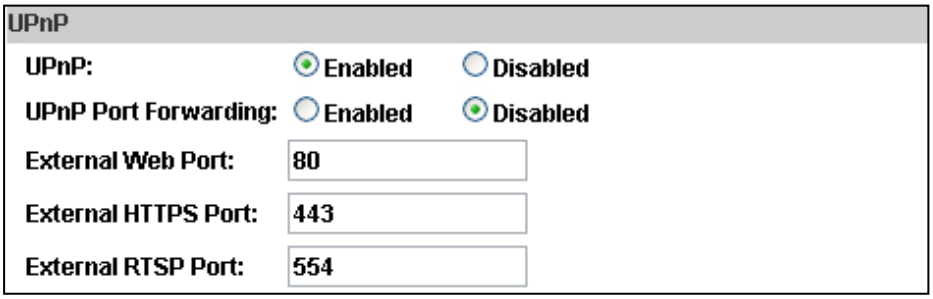
a. Port Assignment: The user might need to assign a different port to avoid conflicts when setting up the IP.



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



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.**

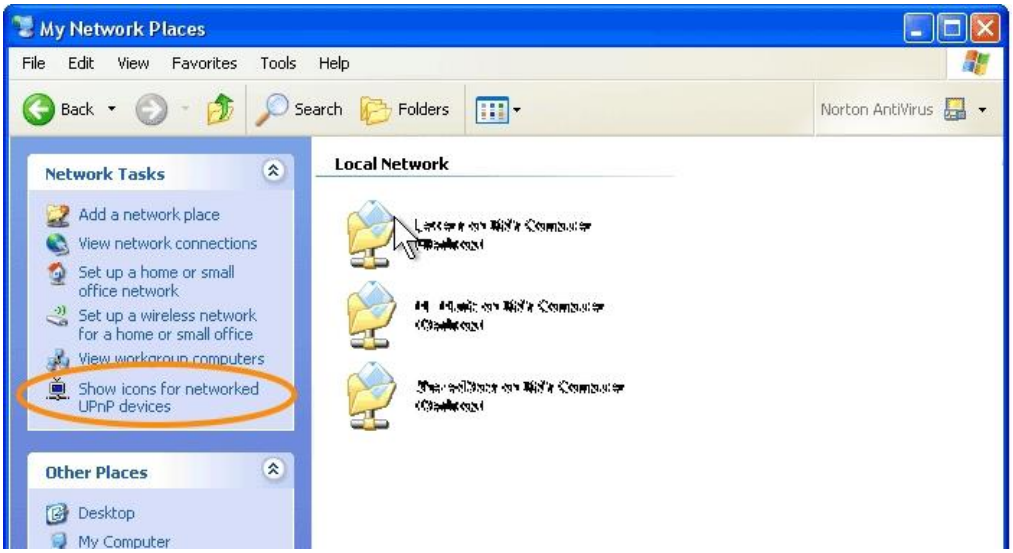
6. The user may double click the IP device icon to access IE browser

<Approach 2>

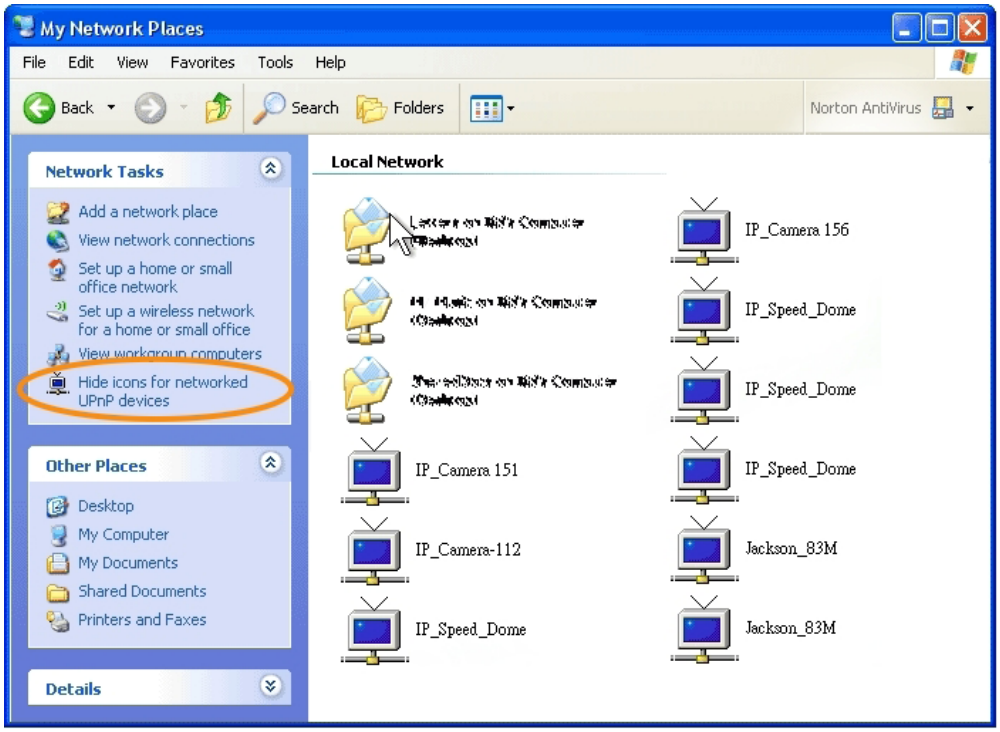
1. Open My **Network Space**

2. Click **Show icons for networked UPnP devices** in the tasks column on the left of the page.

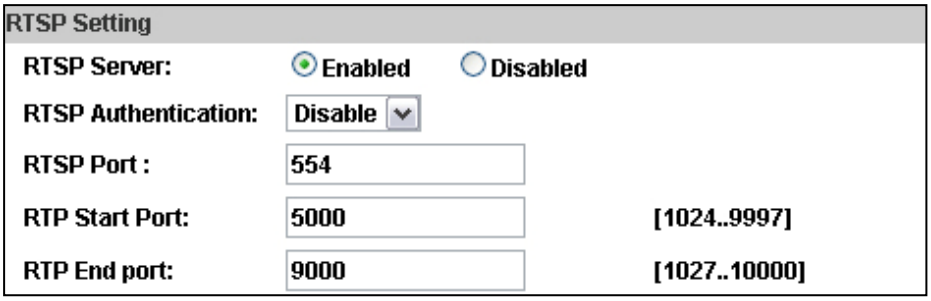
3. Windows might ask your confirmation for enabling the components. Click **Yes**.



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



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.

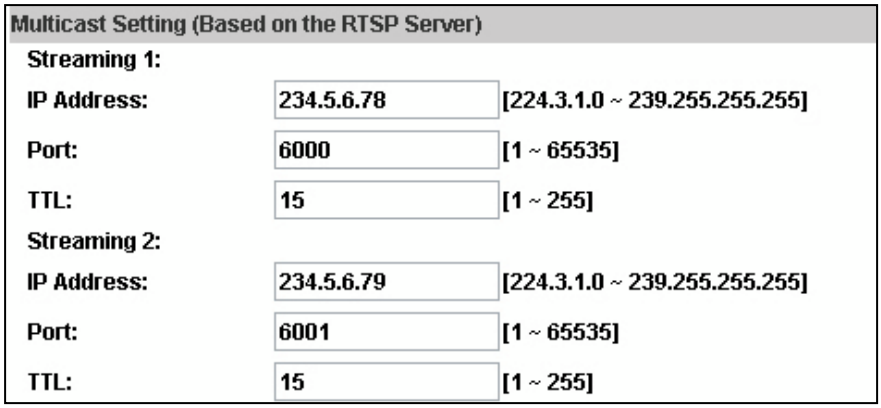
The password is transmitted as a clear text under basic mode, which provides a lower level of security than under **digest** mode.

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)

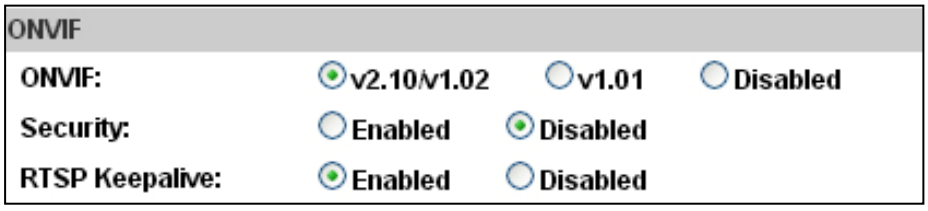


Multicast is a bandwidth conservation technology. This function allows several users to share the same packet sent from the IP camera.

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



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.

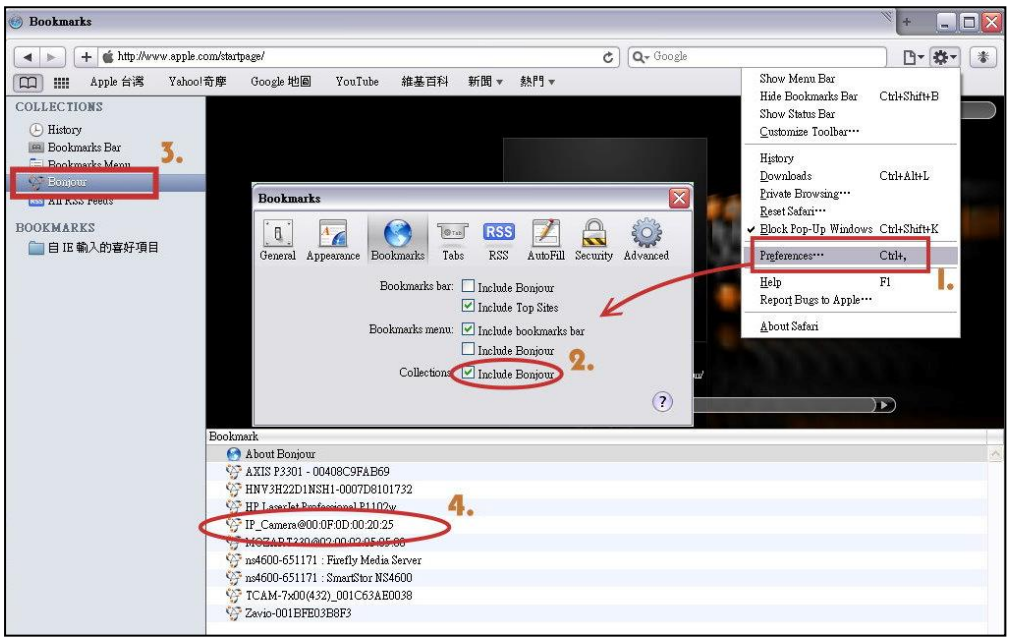
Bonjour

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:

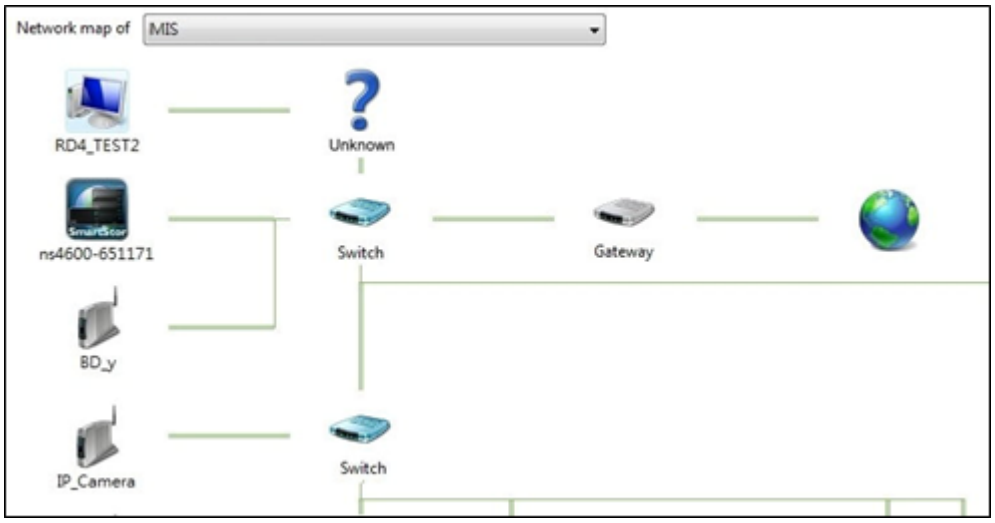


LLTD

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:

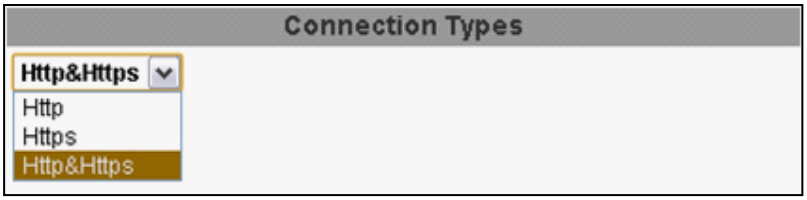
Control Panel → Network and Internet → Network and Sharing Center → Click **See full map**.



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.

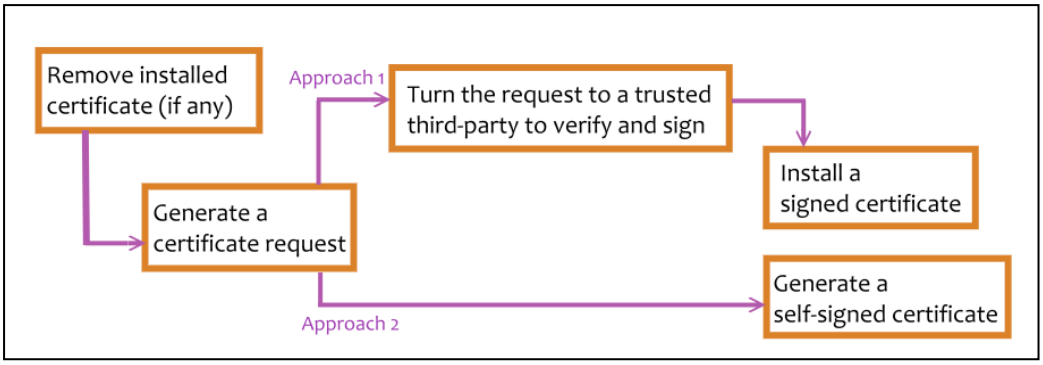
• Https: the user can access the camera via the Https path but cannot access it via the Http path.

• 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.

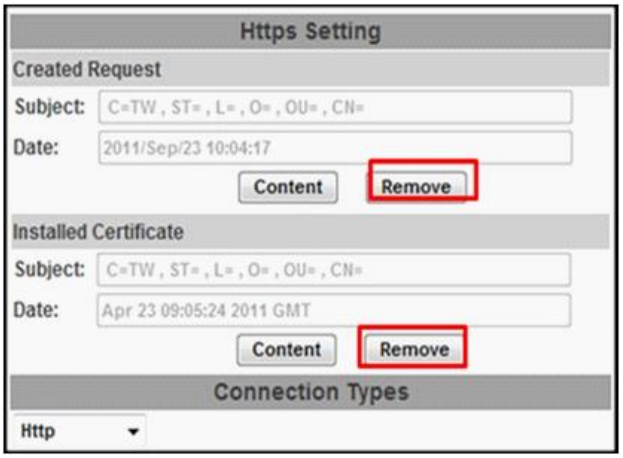
If you want to change from Http to Https, please switch to **Http & Https** mode first, and then switch to **Https** mode and vice versa.

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.

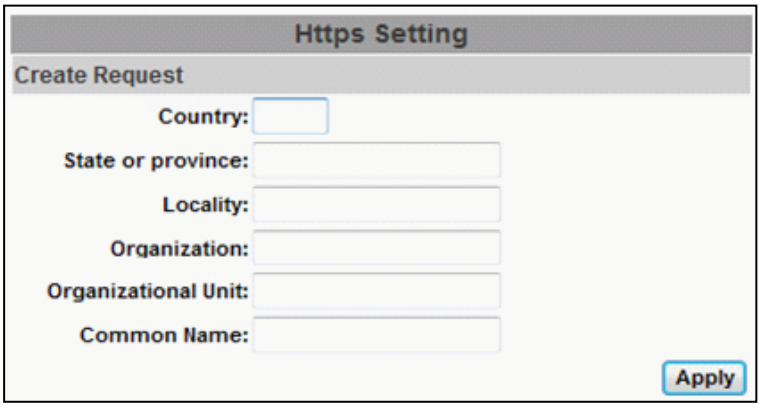
Certificate generation process:



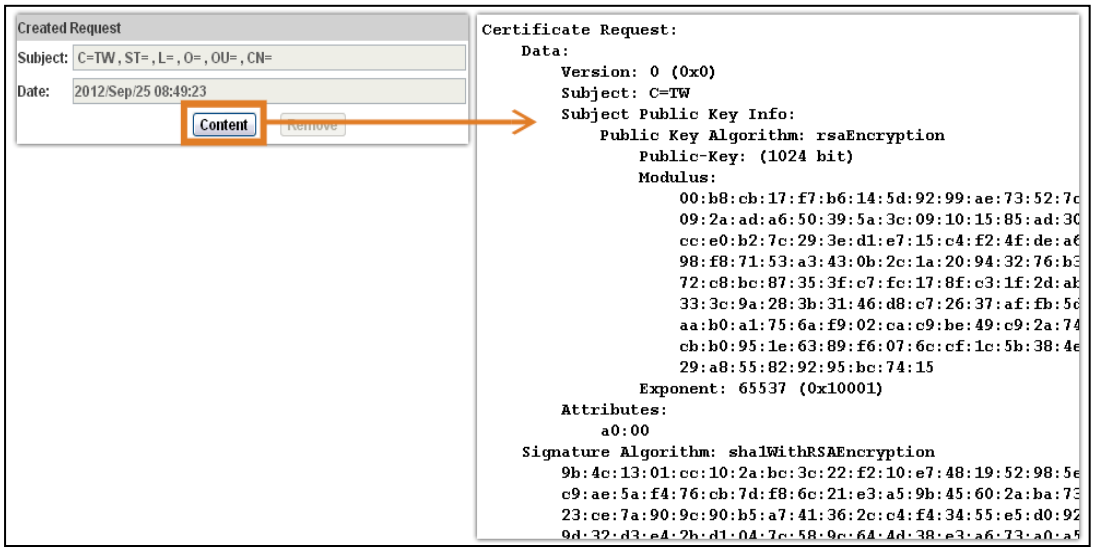
• Remove the existing certificate: Before you generate a new certificate, please remove the installed one. Select the **Http** connection type and click **Remove**. If a dialog box pops up to ask you to confirm, click **Yes**.



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

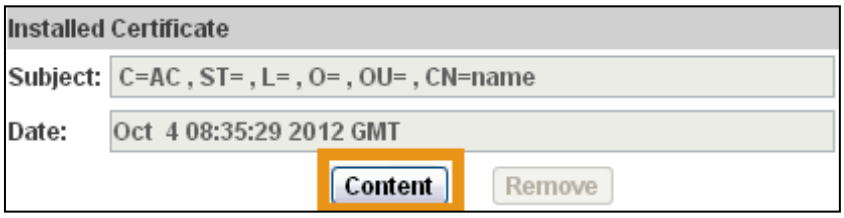


• According to the certificate source, there are two ways to install the certificate:

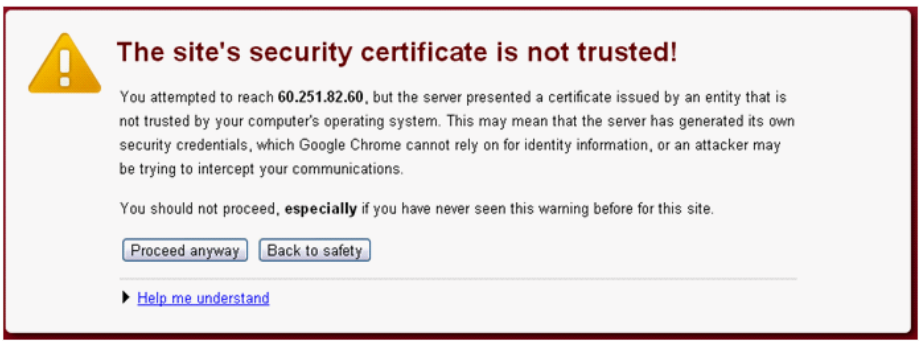
If you had sent the certificate request for signing and receiving a signed certificate, click **browse** and find the certificate file in your computer. Click **Apply** to install it.

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.

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



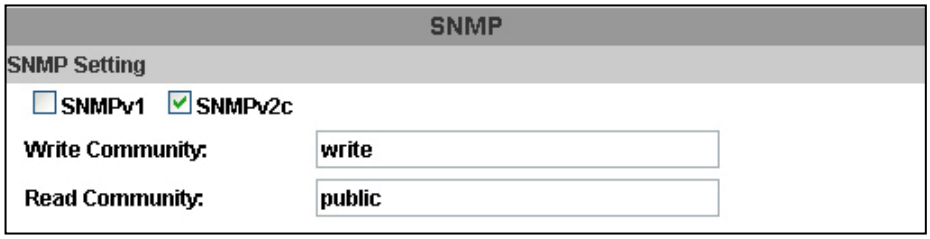
To use Https to access the camera, open your browser, and key-in **https:// (IP address)/** in the address bar. Now your data will be transmitted via encrypted communications. The browser will check your certificate status. It might show the following warning message:



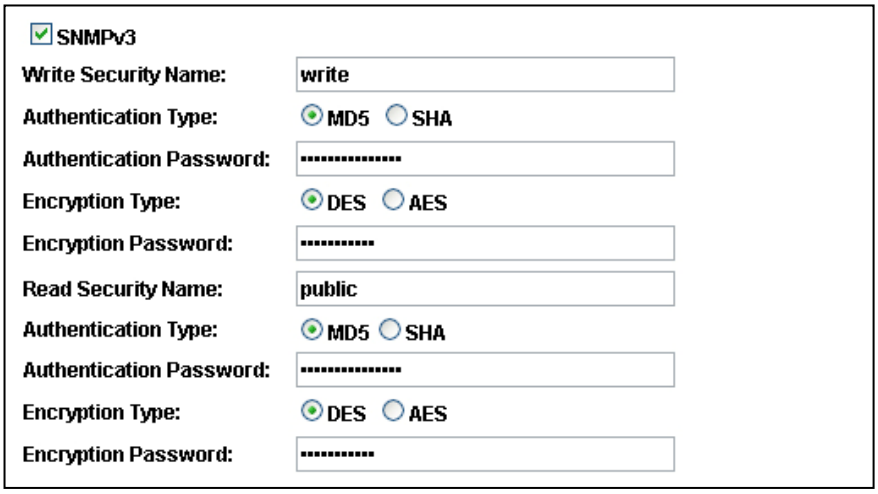
Meaning that certificate is self-signed or signed by a distrusted institution. Click **Proceed anyway** for continuing to the camera page.

b. SNMP (Simple Network Management Protocol)

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



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



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.

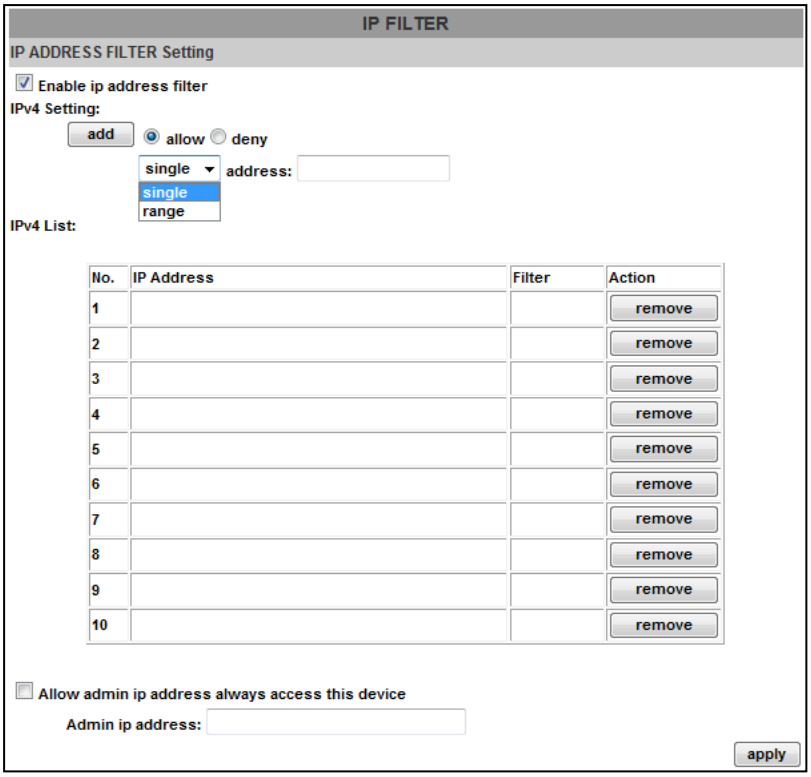
- Network Disconnected: The network connection was broken down (The camera will send trap messages after the network is connected again).

- 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.

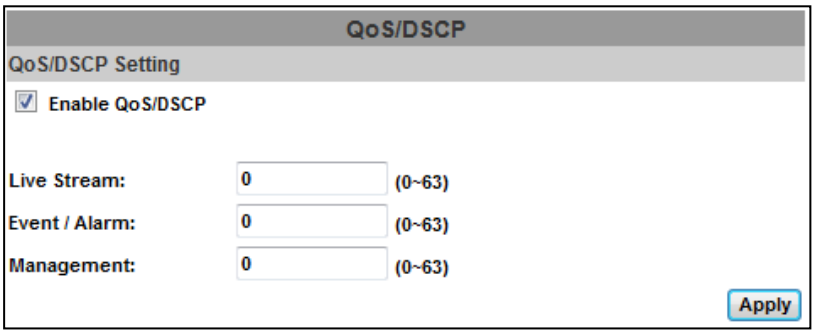
c. Access list:

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



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

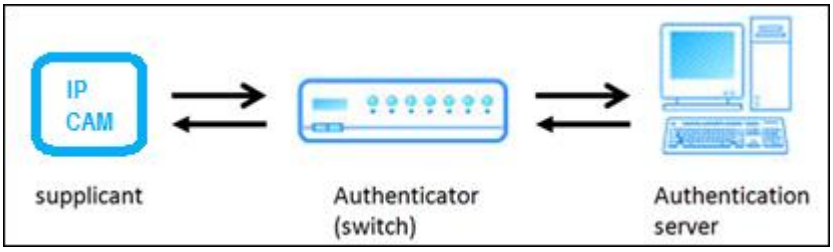
DSCP specifies a simple mechanism for classifying and managing network traffic; and provide QoS on IP networks. DSCP is a 6-bit in the IP header for packet classification purpose. Please define it for **Live Stream**, **Event / Alarm and Management**.



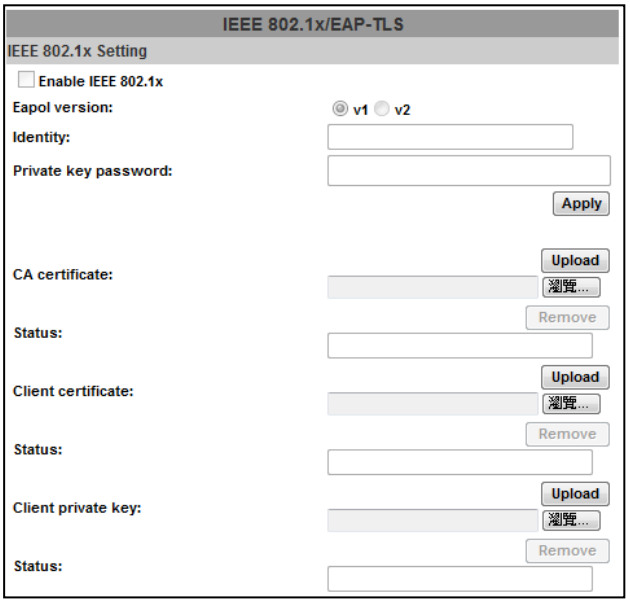
e. IEEE 802.1x:

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.

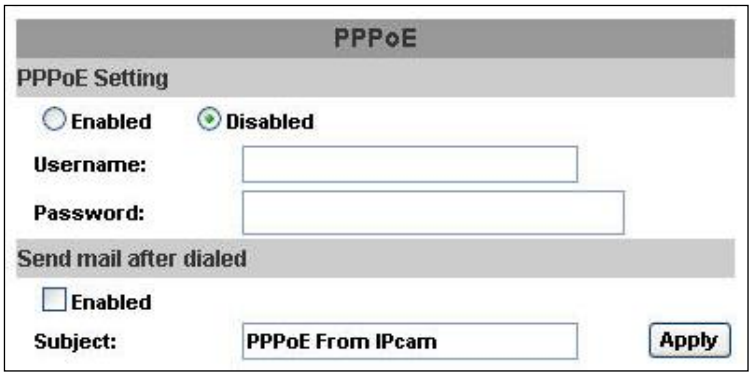
The EAPOL protocol support service identification and optional point to point encryption over the local LAN segment.



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.



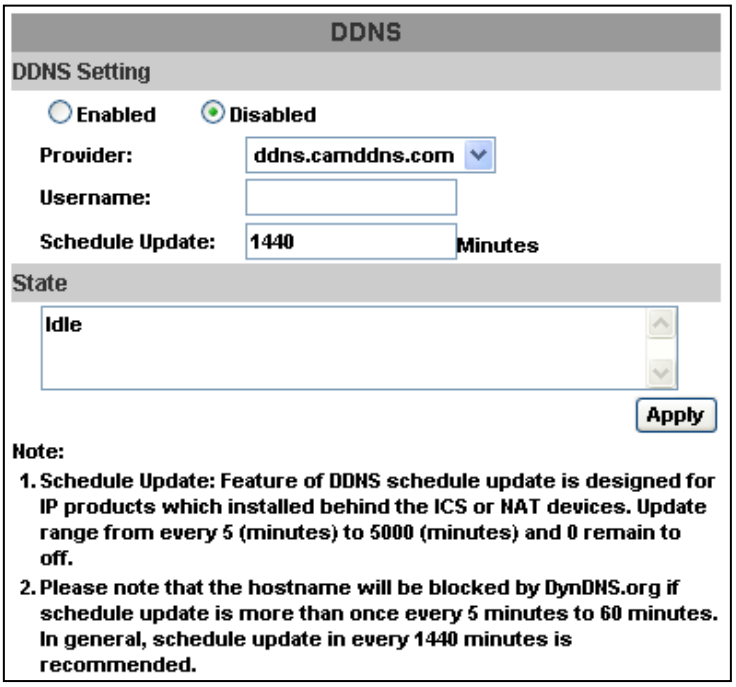
III. PPPoE & DDNS



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 a mail to a specific mail account.

b. DDNS (camddns example):



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

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

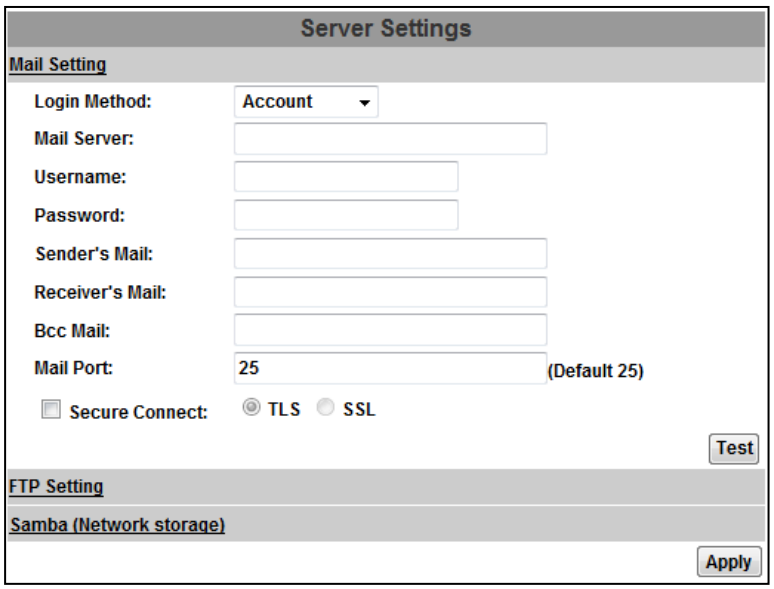
(5) **Update Failed; please check your internet connection:** Network connection failed.

(6) **Update Failed, please check the account information you provided:** The server, user name, and password may be wrong.

IV. Server settings

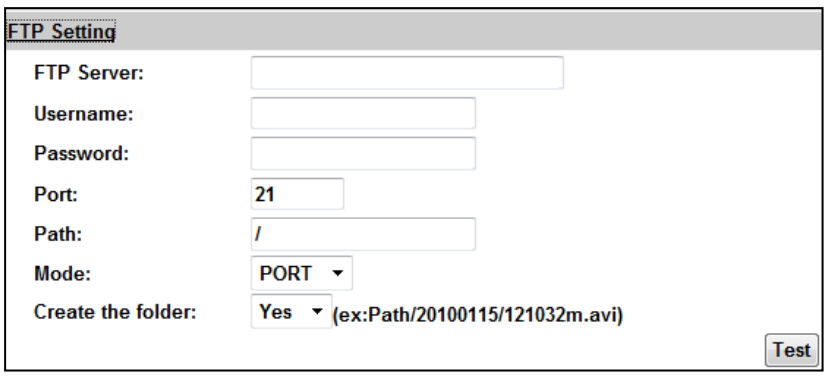
There are three server types available: **Email**, **FTP** and **SAMBA**. Select the item for display detailed configuration options. You can configure either one or all of them.

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



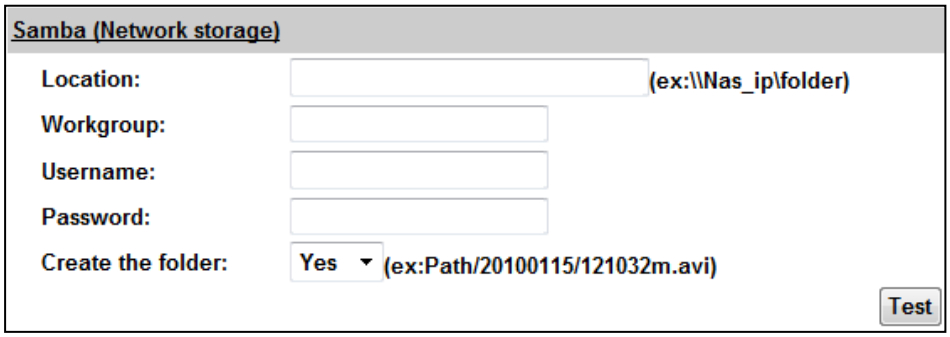
FTP

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



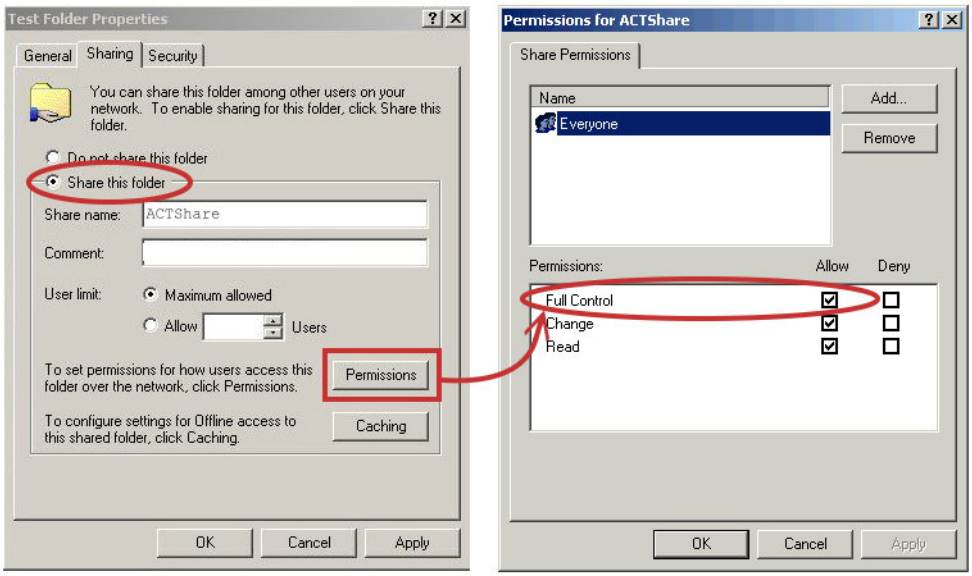
Samba

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



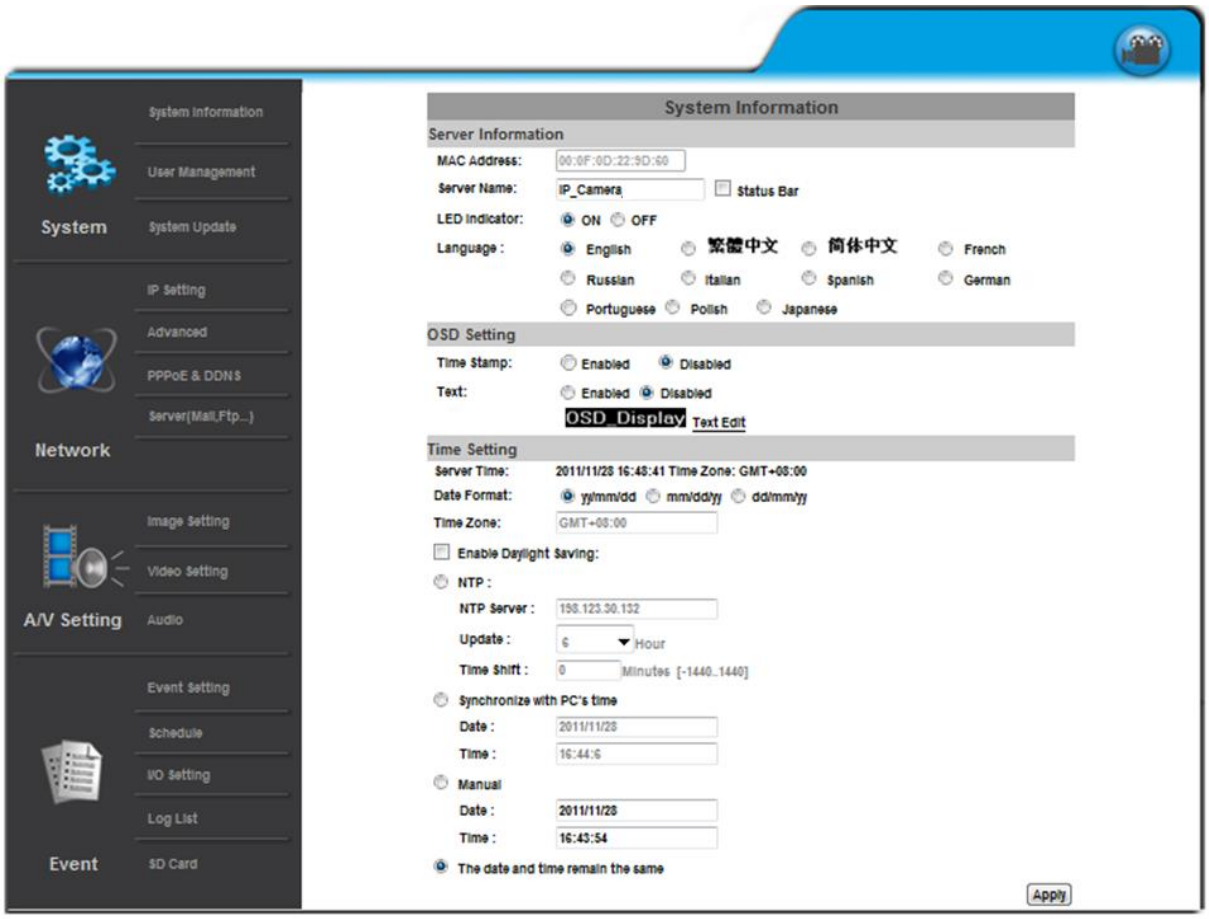
Click **Apply** to save the setting, then use **Test** button to test the server connection. A message box will tell you **OK!** if it works, and a test document will be created in the location.

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.

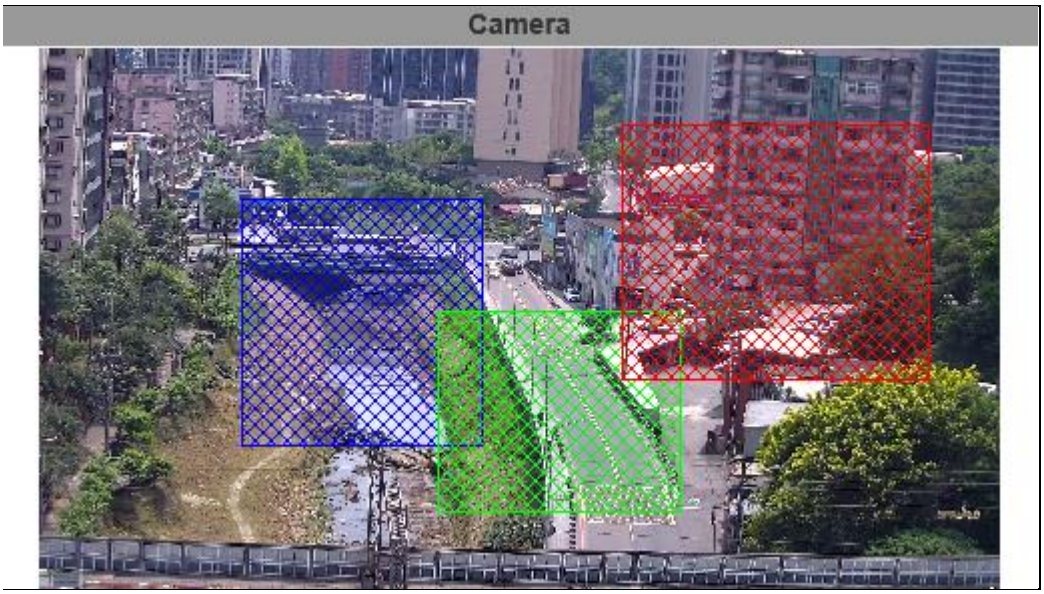


A / V Settings

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



1. Image Setting

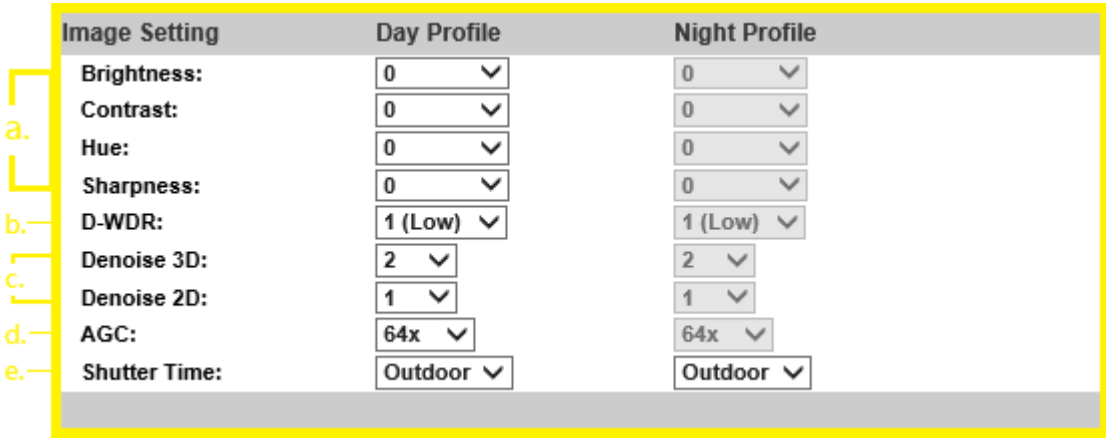


Please refer to the details below for image settings:

A. Privacy Mask:

An area on the monitoring screen can be masked for security and privacy purposes. Click any **Area 1/2/3** button first, and then drag an area on the preview image screen. Please remember to click **Save** to confirm your settings. The masked area will not be shown on both live view and recording image as a monitoring result. Click the **Area 1/2/3** button, and click on **Save** to cancel the masked area you have just set.

B. Image Setting:



Settings can be adjusted from **a ~ e** under **Day Profile & Night Profile** drop-down lists. Activate these profile settings by enabling **Times Mode** from **Day & Night**, the configurations from **a ~ e** will be automatically adjusted between daytime and nighttime.

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

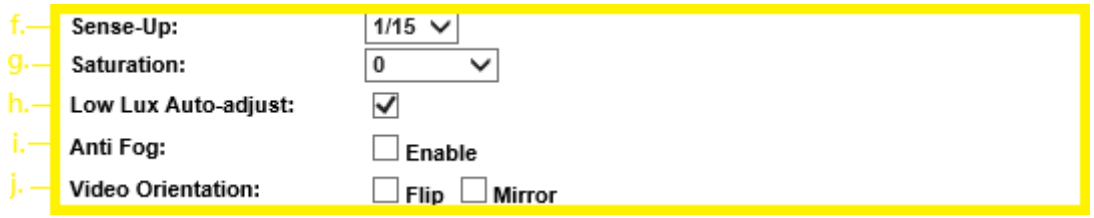
b. **D-WDR:** It enables the camera to reduce the contrast in the view to avoid dark zones as a result of over & under exposure.

c. **Denoise 3D & 2D:** Filter the noise and blur from the image and show a clearer view. You can set the values for **3D & 2D** filters.

d. **AGC:** The sensitivity of the camera can be adjusted according to its environmental lighting. Enable this function to get brighter images on low light, but the level of noise may also increase.

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 value you select, the slower shutter speed becomes. So that the image will get brighter, and moving subjects might be blurred.

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

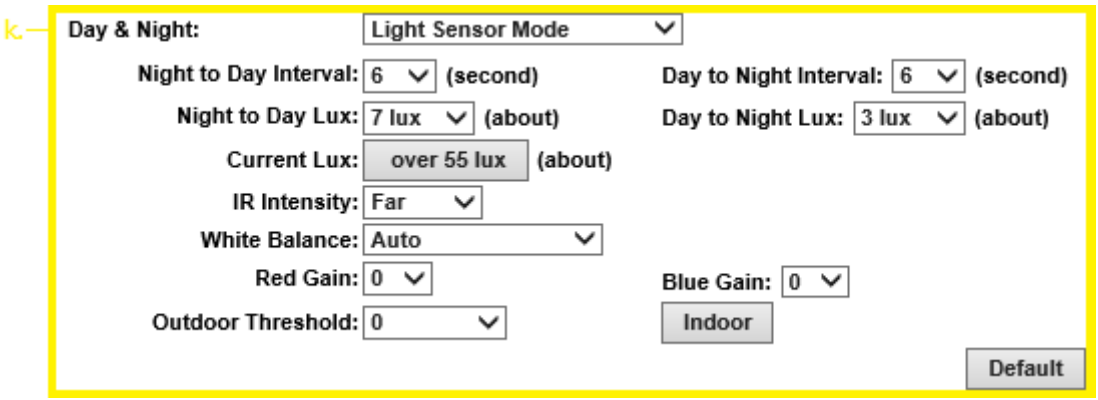
h. **Low Lux Auto-adjust:** Click to enable the camera to adjust its low lux level automatically in different lighting environments.

i. **Anti Fog:** Improve the image clarity on environments presenting high levels of fog or smoke.

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

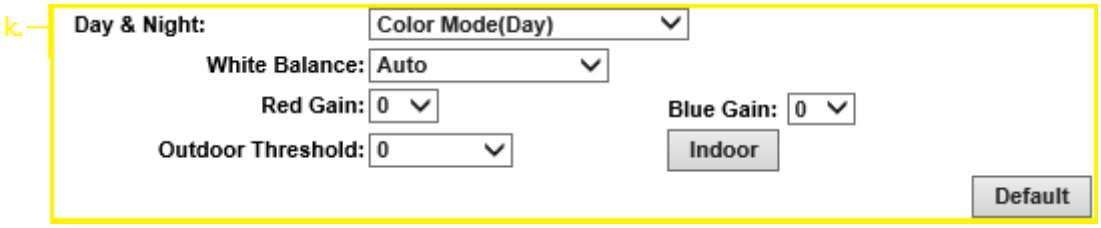
k. **Day & Night:** Adjust the camera to detect the light level for different environments. Settings vary when modes are shifted. An extra sub-function may appear to be available after a setting is adjusted.

Light Sensor Mode: Automatically adjust itself depending on the light of the monitoring scene.



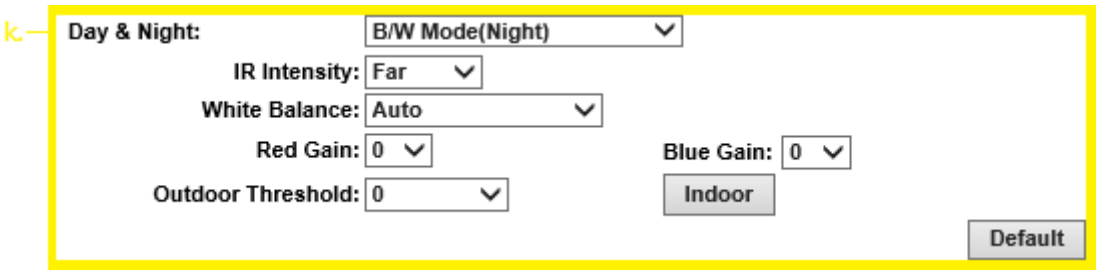
- **Night to Day Interval & Day to Night Interval:** Set up the duration of how long before the Day time shifts to Night time (or the other way around).
- **Day to Night Lux & Night to Day Lux:** Appoint desired lux values as a standard for switching Night to Day Interval & Day to Night Interval.
- **Current Lux:** Provided as a reference to adjust the Day to Night Lux & Night to Day Lux.
- **IR Intensity:** Adjust the IR intensity level from Far, Middle or Near.
- **White Balance:** Apart from AUTO, which continuously adjusts image color balance according to any change of lightings in various scenes, the other 5 modes are designed for specific lighting conditions such as Tungsten Lamp, Fluorescent Lamp, Sunlight, Cloudy, and Cloudy Days.
- **Red & Blue gain:** Adjust levels in red & blue contrasts in the image. Be aware that when these levels are increased, the image quality will become sharper to a point that noise of the image will also be increased.
- **Outdoor Threshold:** Values applied for this feature will define how sensitive the motion detection is triggered for outdoor scenes. The lower the number, the less motion will be conditioned for triggering.
- **Indoor:** Click to enable operation for any indoor motion detections.
- **Default:** Click on Default button to restore the default settings.

Color Mode (Day): Recommended to use for daytime.



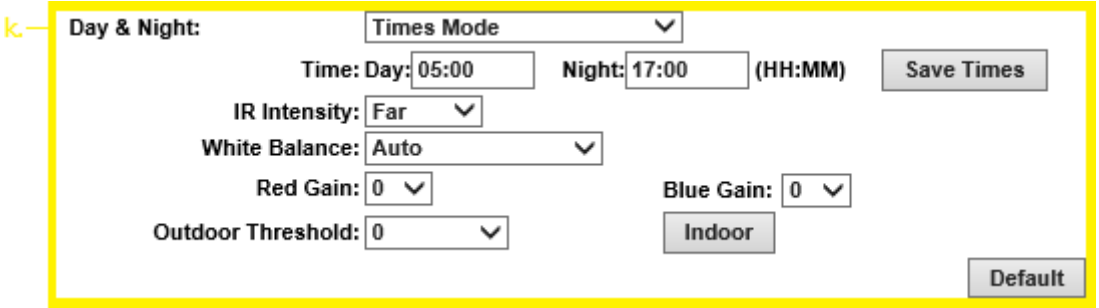
- **White Balance:** Please refer to the content above.
- **Red** & **Blue gain:** Please refer to the content above.
- **Outdoor Threshold:** Please refer to the content above.
- **Indoor:** Please refer to the content above.
- **Default:** Please refer to the content above.

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



- **IR Intensity**: Please refer to the content above.
- **White Balance:** Please refer to the content above.
- **Red** & **Blue gain:** Please refer to the content above.
- **Outdoor Threshold:** Please refer to the content above.
- **Indoor:** Please refer to the content above.
- **Default:** Please refer to the content above.

Times Mode: The values set in **Brightness**, **Contrast**, **Sharpness**, & **Denoise(3D&2D)** from **Day Profile** & **Night Profile** will be performed according to the **Time** arranged from **Day** to **Night**.



- **Time:** The user can define when the daytime (**Day**) starts by filling in the digits such as 05:00 or 12:35. (Hours range: 0~23, minutes range: 0~59)

  The example is as below:

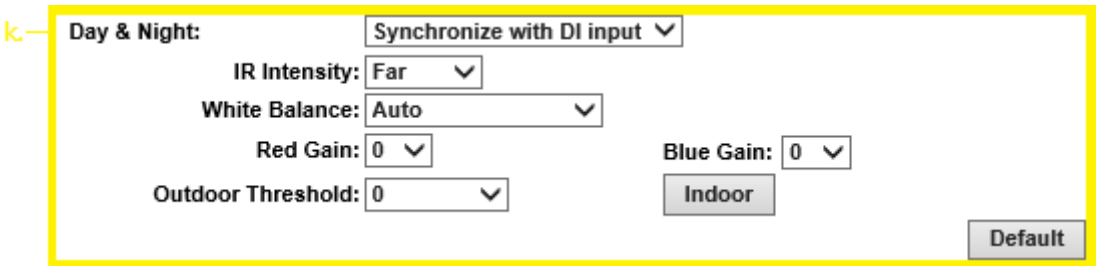
  Time: Day: 05:00 Night: 17:00 (HH:MM)

  If the time range is inaccurate, a window will pop up to remind you. Same way applies to filling the nighttime (**Night**).

  Click Save Times when settings are completed.

- **IR Intensity:** Please refer to the content above.
- **White Balance:** Please refer to the content above.
- **Red** & **Blue gain:** Please refer to the content above.
- **Outdoor Threshold:** Please refer to the content above.
- **Indoor:** Please refer to the content above.
- **Default:** Please refer to the content above.

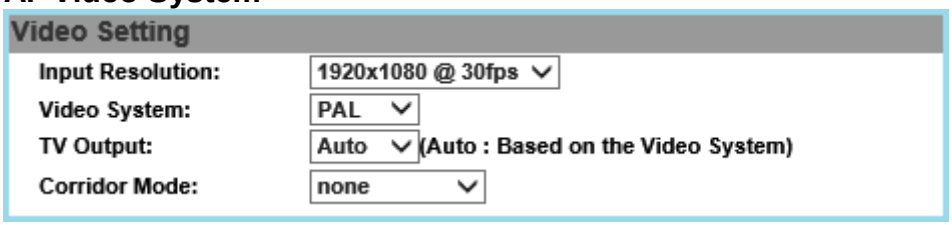
Synchronize with DI input: Settings are adjusted according to the DI input functions.



- **IR Intensity:** Please refer to the content above.
- **White Balance:** Please refer to the content above.
- **Red** & **Blue gain:** Please refer to the content above.
- **Outdoor Threshold:** Please refer to the content above.
- **Indoor:** Please refer to the content above.
- **Default:** Please refer to the content above.

2. Video Setting

A. Video System



- Input resolution: 1920x1080@30fps or 1920x1080_WDR@30fps
- Video System: NTSC or PAL
- TV Output: Choose Auto or select between NTSC and PAL signal.
- Corridor Mode: 90 degrees, 270 degrees or none.

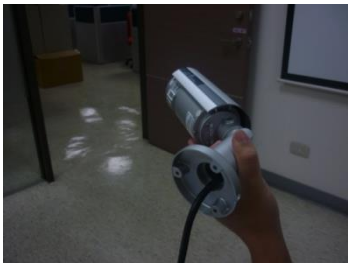
If **Corridor Mode** is set as **none** the relation of the image and the camera would be as the following:

Corridor mode: None (Pictures based on another type of camera model)

Degrees	Position	Image
0 degrees		
90 degrees		
270 degrees		

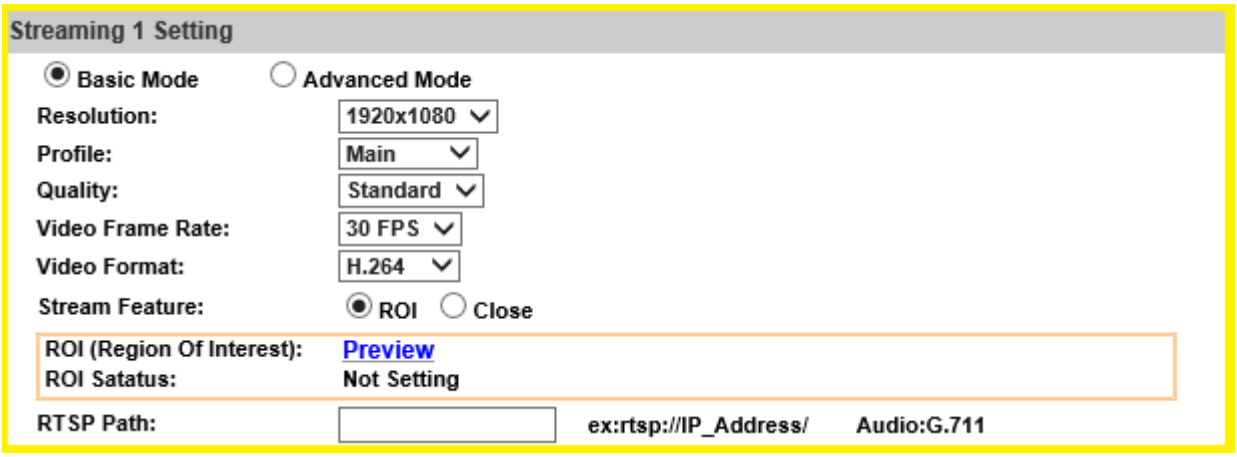
If **Corridor Mode** is set as **90 degrees** or **270 degrees** the relation of the image and the camera would be as the following:

Corridor Mode: 90 or 270 degrees
(Pictures based on another type of camera model)

<table>
<tr><th>Degrees</th><th>Position</th><th>Image</th></tr>
<tr><td>90 degrees</td><td> </td><td rowspan="2"> </td></tr>
<tr><td>270 degrees</td><td>  </td></tr>
<tr><td>0 degrees</td><td> </td><td> </td></tr>
<tr><td></td><td></td><td> </td></tr>
</table>

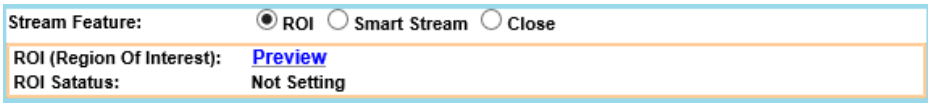
B. Streaming 1 Setting & Streaming 2 Setting

a. **Basic Mode:** Resolution range varies depending on different modes.



- **Resolution:** 1920x1080@30fps, 1280x720@30fps, 640x480@30fps, 320x240@30fps
- **Profile:** Chose from Main or Baseline.
- **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.
- **Video Frame Rate:** Adjust the video refreshing rate for each second.
- **Video Format: H.264+, H.264** or **JPEG**
- **Stream Feature**

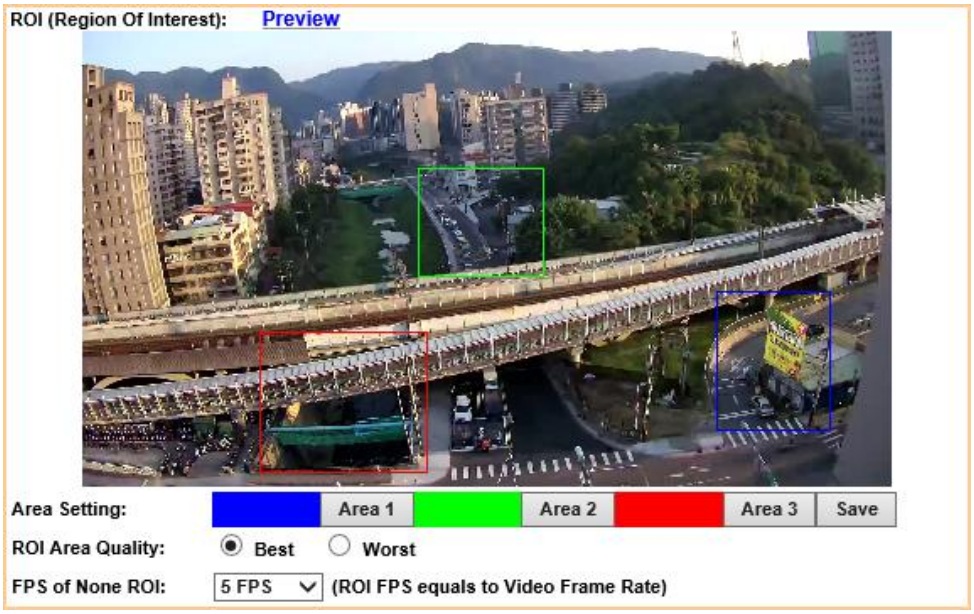
  You MUST click Apply **at the bottom to execute the feature FIRST to enable the Stream Feature after either ROI or Smart Stream is selected.**



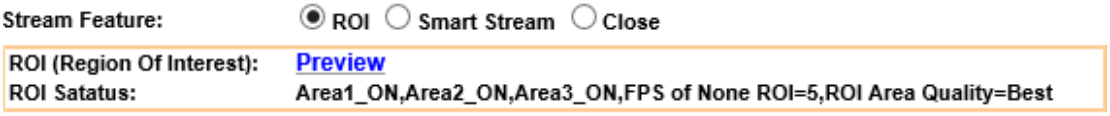
  ROI (Region of Interest)
  This function helps refine any specific part of the monitoring area which can be dragged out with the mouse at a time, improving efficiency in image observation and management in video compression rate.

Click **Preview** to enable ROI the function. Click on any of the colors in **Area Setting** to draw an ROI area on the preview screen by dragging your mouse. You can set up to approximately 3 ROI areas.

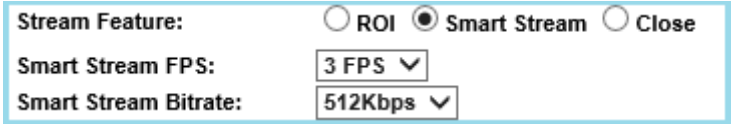
Adjust the **ROI Area Quality** and **FPS of None ROI** values of each area from each drop down list.



After the **ROI** is set in the **Stream Feature**, you can see the **ROI Status** once **ROI** is activated.



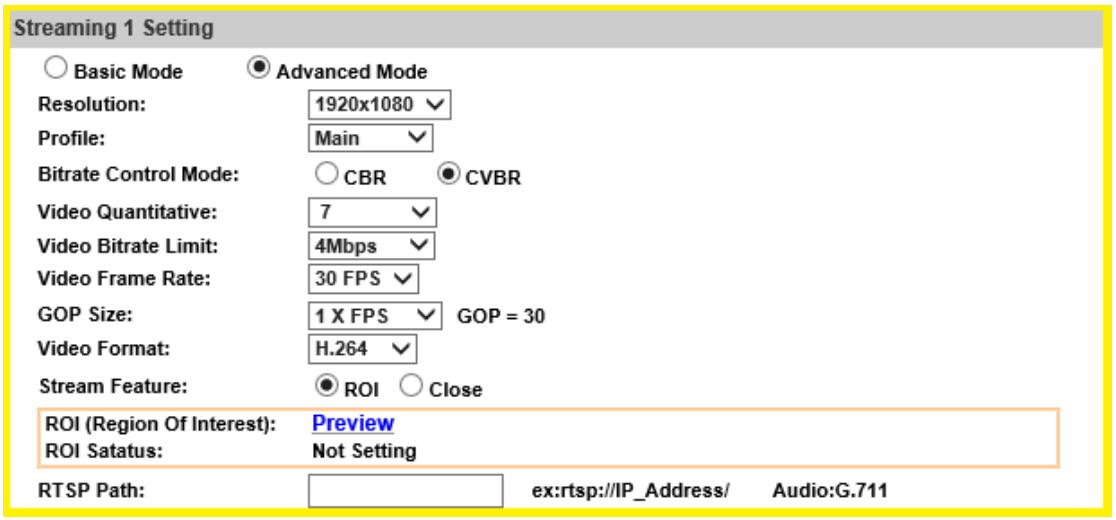
Smart Stream



Enable this mode, set the range of FPS and Bitrate to limit its stream capacity, in order to preserve a better performance of image quality and save more bandwidth.

- **RTSP Path:** Offers the RTSP output connecting path.

a. Advanced Mode:



- **Resolution:** 1920x1080@30fps, 1280x720@30fps, 640x480@30fps, 320x240@30fps

- **Profile:** Chose from High, Main or Baseline.

- **Bitrate Control Mode:** There are **CBR**(Constant Bit Rate) and **CVBR**(Constrained Variable Bit Rate) modes.

  CBR: Video Bitrate Limit: (32Kbps~8Mbps)
  The higher the CBR is, the better the video quality is.

  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.

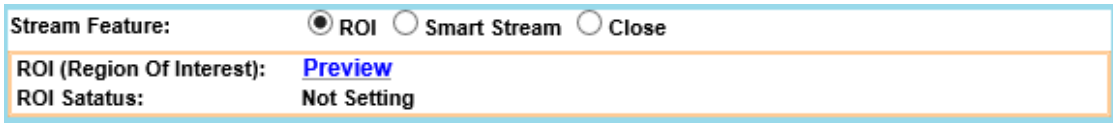
- **Video Frame Rate:** The video refreshing rate per second.

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

- **Video Format:** H.264+, H.264 or JPEG

- **Stream Feature**

  You MUST click Apply **at the bottom to execute the feature FIRST to enable the Stream Feature after either ROI or Smart Stream is selected.**

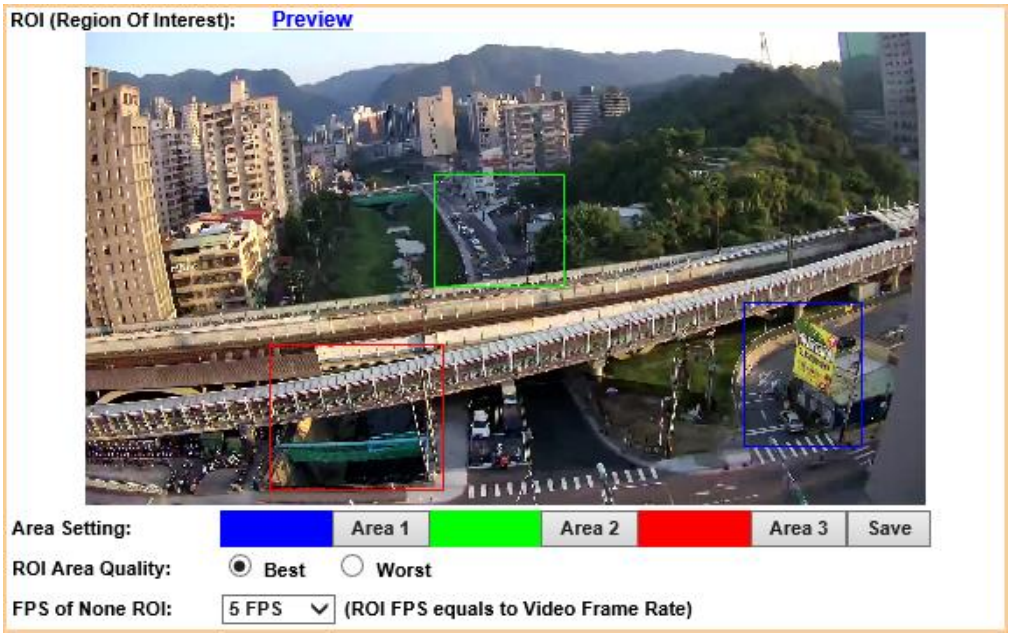


ROI (Region of Interest)

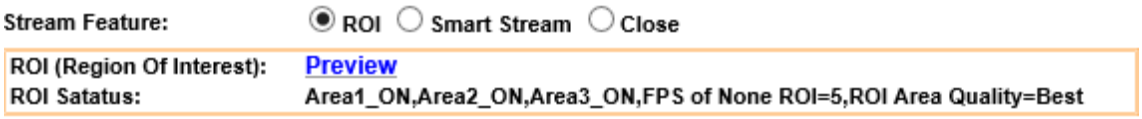
This function helps refine any specific part of the monitoring area which can be dragged out with the mouse at a time, improving efficiency in image observation and management in video compression rate.

Click **Preview** to enable ROI the function. Click on any of the colors in **Area Setting** to draw an ROI area on the preview screen by dragging your mouse. You can set up to approximately 3 ROI areas.

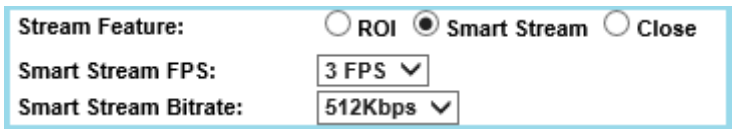
Adjust the **ROI Area Quality** and **FPS of None ROI** values of each area from each drop down list.



After the **ROI** is set in the **Stream Feature**, you can see the **ROI Status** once **ROI** is activated.



Smart Stream



Enable this mode, set the range of FPS and Bitrate to limit its stream capacity, in order to preserve a better performance of image quality and save more bandwidth.

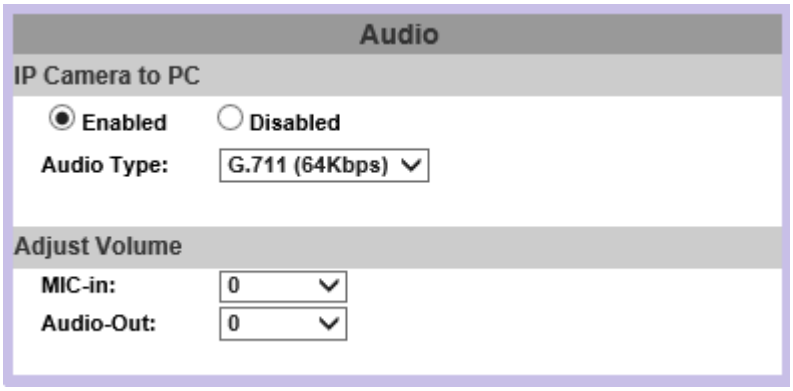
- **RTSP Path:** Offers the RTSP output connecting path.

b. 3GPP Streaming mode: TV output will be shut down during this mode.

- **Resolution:** 640x480@15fps, 320x240@15fps
- **Video Bitrate:** The higher Video Bitrate, the better the video quality is.
- **Video Frame Rate:** The video refreshing rate per second.
- **RTSP Path:** RTSP output name

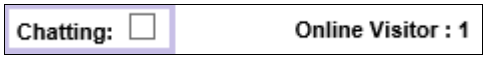
Please click on the Apply button to keep the changes when all the settings are completed and confirmed.

3. Audio



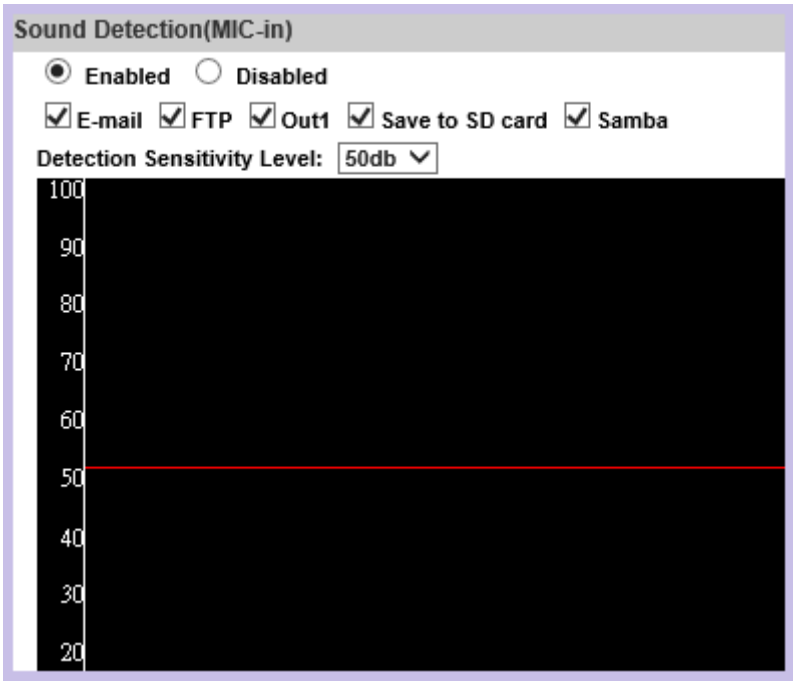
The user can send audio from the IP Camera built-in microphone to the remote PC and audio from remote PC to IP Camera's external speaker.

A. IP Camera to PC: Select **Enabled** to start and select the audio type. Tick **chatting** in the live browser to enable **PC to IP Camera** audio function. The Audio may not be smooth when the SD card is recording.



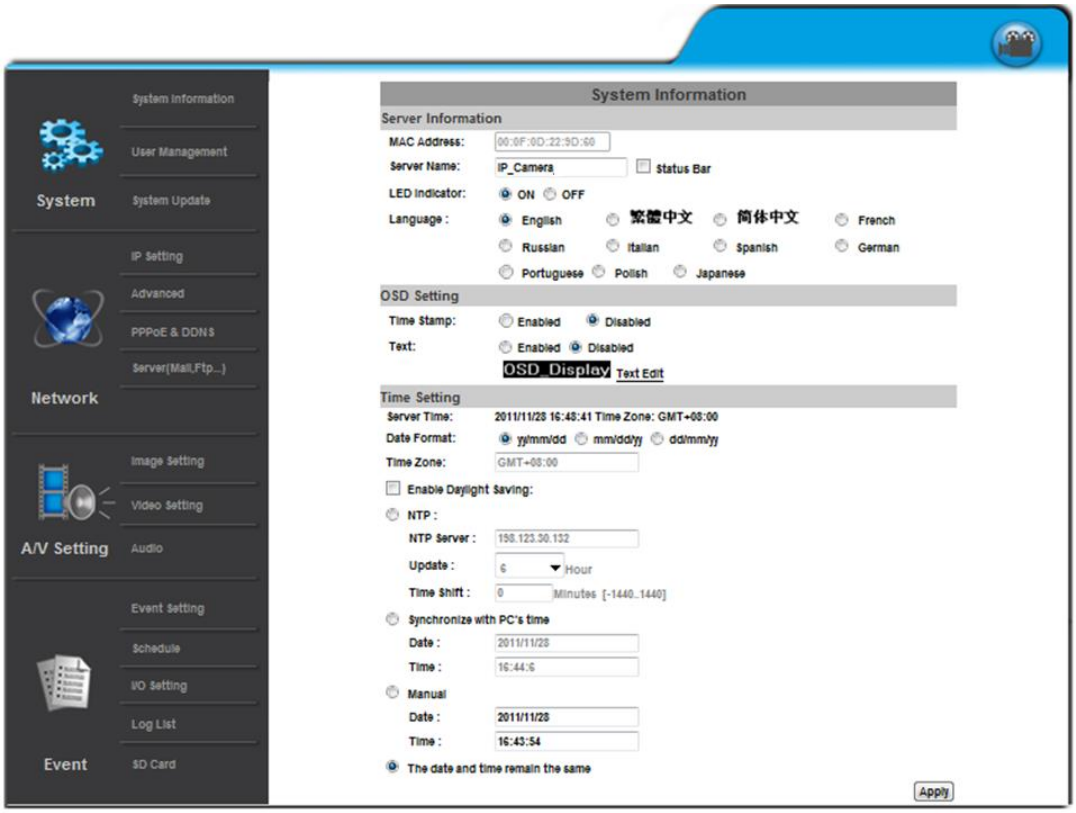
B. **Adjust Volume:** Select the volume of both **Mic-in** & **Audio-out**. Click on the Apply button to keep all the changes.

C. **Sound Detection:** Test the audio volume and sound quality first by selecting **Enabled**. Tick the output destination of the audio file recorded. Adjust the **Detection Sensitivity Leve**l from 40~90db to display the audio frequency level in the analytical graph below.



Event List

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

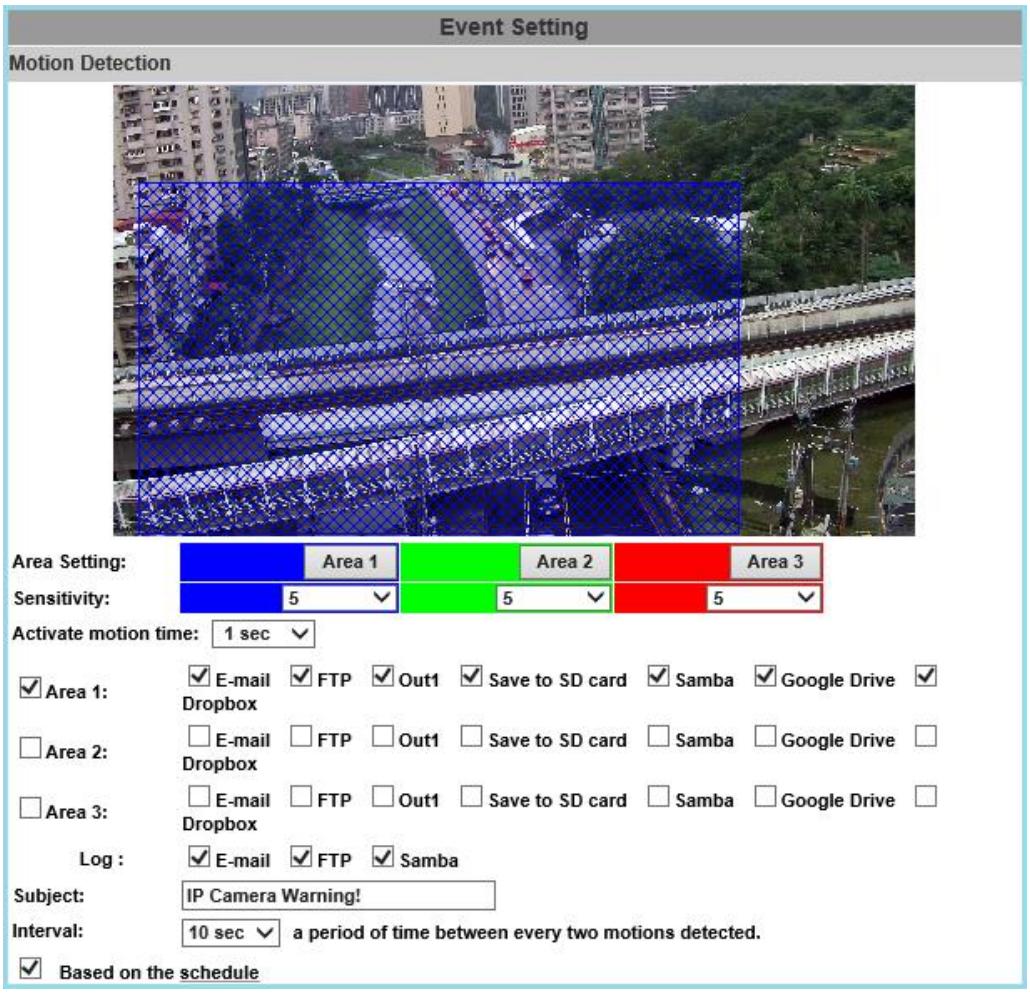


The IP Camera provides multiple event settings.

1. Event Setting

A. Motion Detection

Please change default password is a sign which appears on the live view screen as a reminder, to suggest the user to change the default password.



- **Area Setting:** To start a motion detection operation, 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 **E-mail** addresses, trigger the output device, or save recorded data to **FTP**/ **Micro SD card**/ **Samba** / **Google Drive** / **Dropbox**. You can set up those network paths from **Network** operations.

- **Sensitivity:** Adjust the level of the responsiveness defined as motion detection.

- **Activate motion time:** Adjust the duration of the time defined as motion detection.

- **Area 1/2/3:** By marking the **Save to SD card** checkbox, the video or snapshot will be saved to the **Micro SD card**.

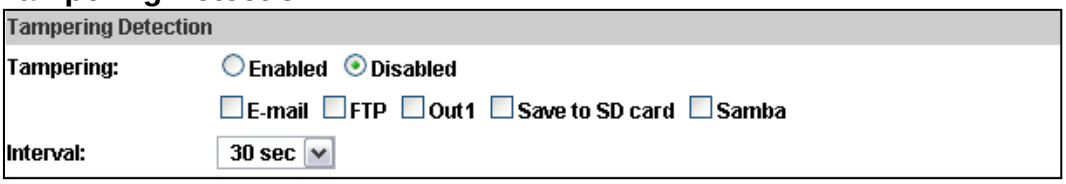
- **Log:** Popped up after **Save to SD card** checkbox is ticked by your mouse. Check **E-mail/ FTP/ Samba** checkboxes on the **Log** option to send the motion detection log to **E-mail/ FTP/ Samba** simultaneously. Please see IO Configuraiton for details.

- **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. Tampering Detection



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

Before Tampering Detection

Tampering Triggered (Defocused)

Before Tampering Detection

Tampering Triggered (Lens Covered)

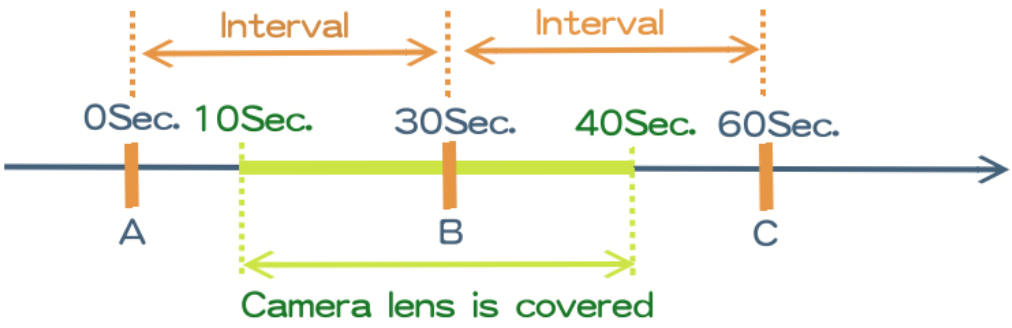
Before Tampering Detection

Tampering Triggered (Glare)

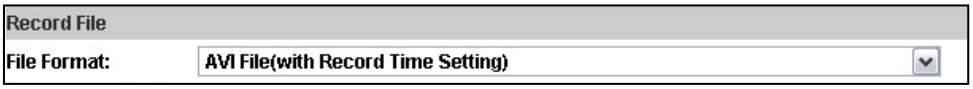
Before Tampering Detection

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 founds that the lens is covered. At time point C, the camera compares the view with time point B, and sends an alarm when it founds that the lens is uncovered.



C. 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.

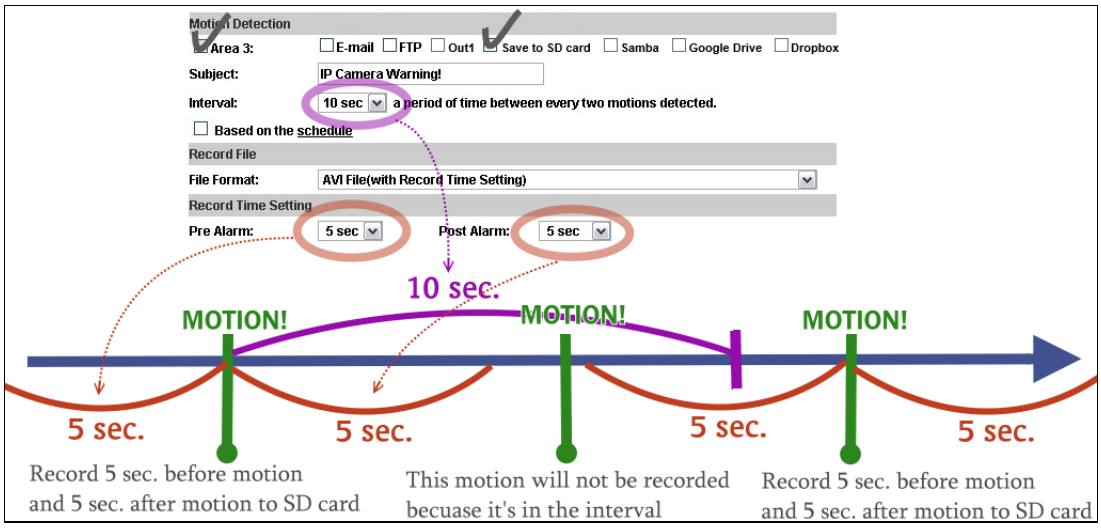
- **AVI File (with Record Time Setting):** Save AVI video file. The video length is according to the value set in Record Time Setting.

- **JPEG Files (with Record Time Setting)*Only Streaming 1 with JPEG file format.:** Only when selecting "JPEG" in streaming 1 video format of 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 single JPEG picture file when the event occurs.

D. Record Time Setting

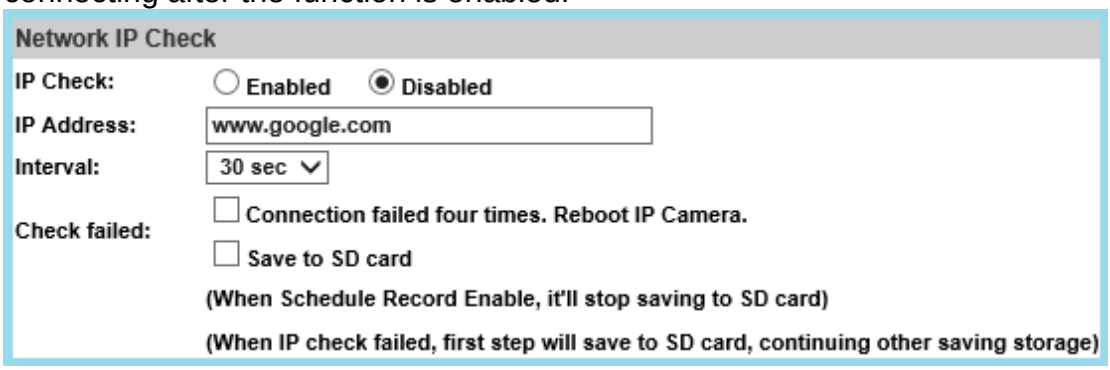
When an event occurs, the IP camera can record a video clip or take a snapshot, and then send it via **mail/ FTP/ Samba** and other platforms. Select the video recording length before and after the event is detected.



E. Network Dis-connected

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

F. Network IP Check: The IP camera can check if the network server is connecting after the function is enabled.

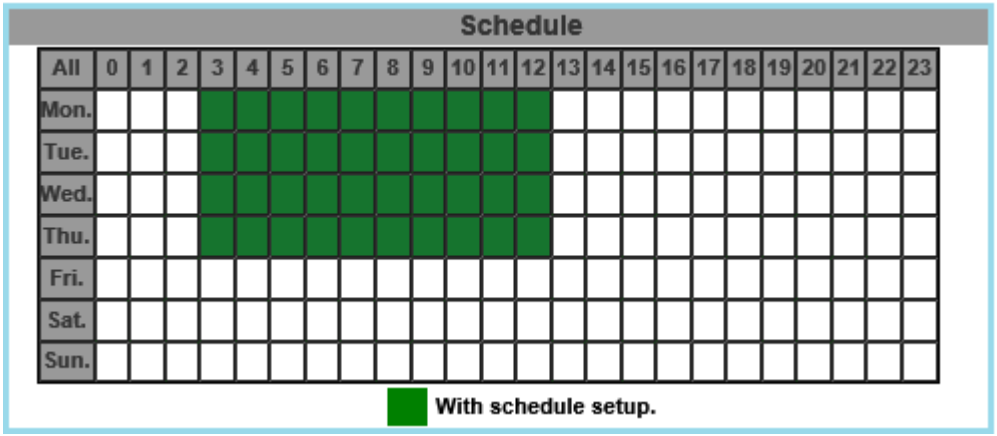


If the IP camera checking fails for 4 times, the camera will reboot.

Click Apply to update all the settings adjusted.

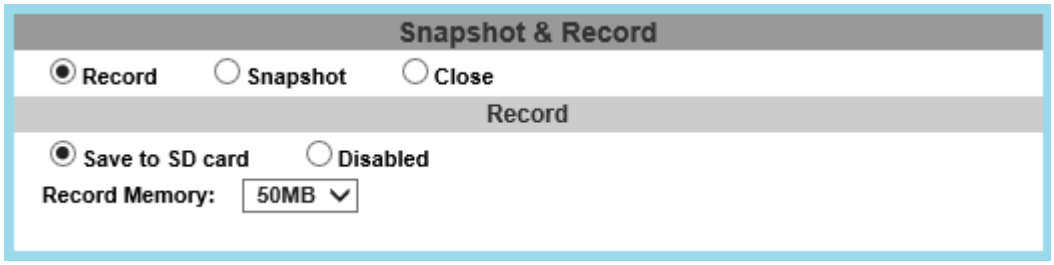
2. Schedule

A. Schedule: Tick the grids on the calendar to manage your schedule time.



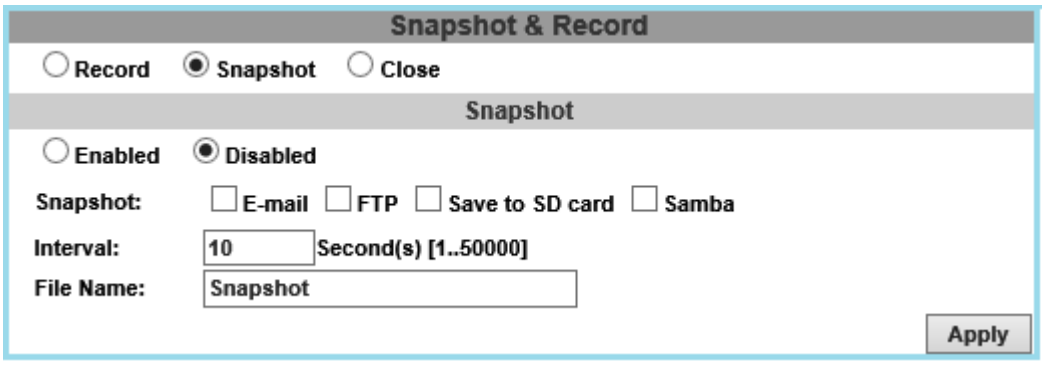
B. Snapshot & Record

- **Record:** After completing the **Schedule**, the camera data will be recorded according to the schedule made from the calendar.



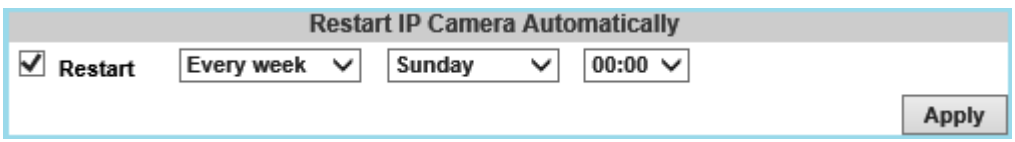
Beware that SD cards may fail in time for being recorded for a long period of time. You may set up how much SD card memory to be used in order to estimate the right time to swap a new one.

- **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.

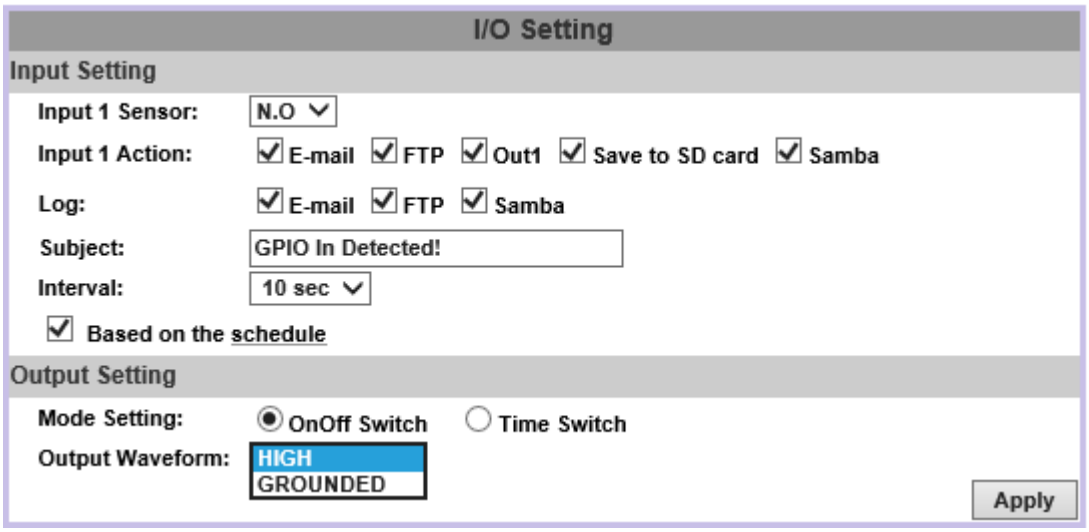


Interval: Users can set the interval between two snapshots.
File Name: Enter the file name of your snapshot file.

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



3. I/O Setting



A. Input Setting: The IP Cam supports input and output. When the input condition is triggered, it can trigger the relay; send the video to mail addresses/FTP server/SAMBA.

- Interval: For example, if you select "10 sec" here, once the motion is detected and 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 I/O is enabled. For example, 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.

- Mode Setting

  (i) 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.

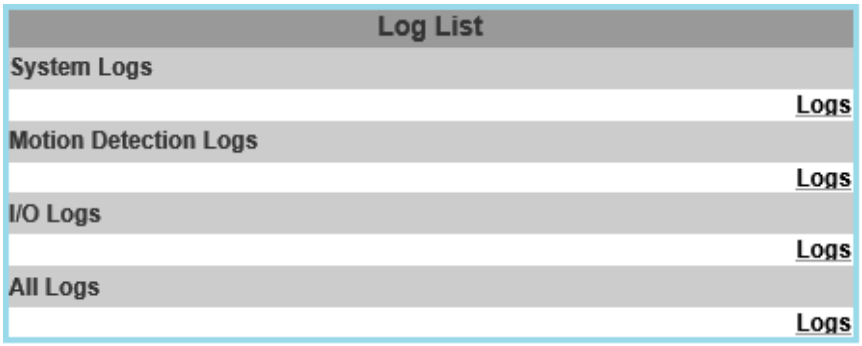
  (ii) Time Switch: The camera triggers the external device and lasts for certain time according to the internal setting, and the user is not allowed to break off the alarm manually.

  Click on the Apply button to keep all the changes.

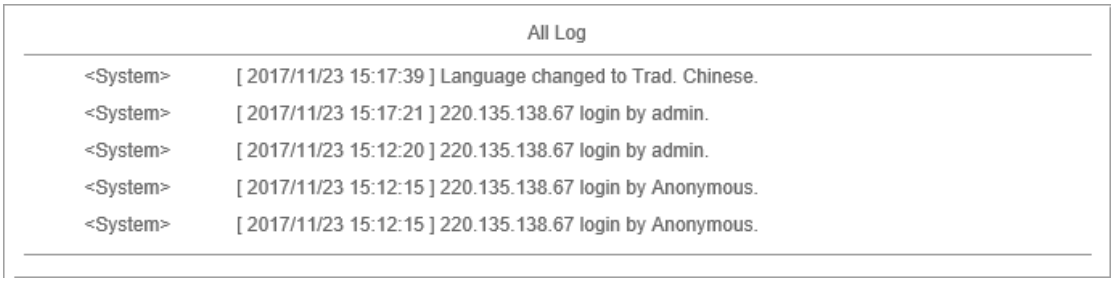
- Output Waveform

  Select either HIGH or GROUNDED for the output waveform.

4. Log List

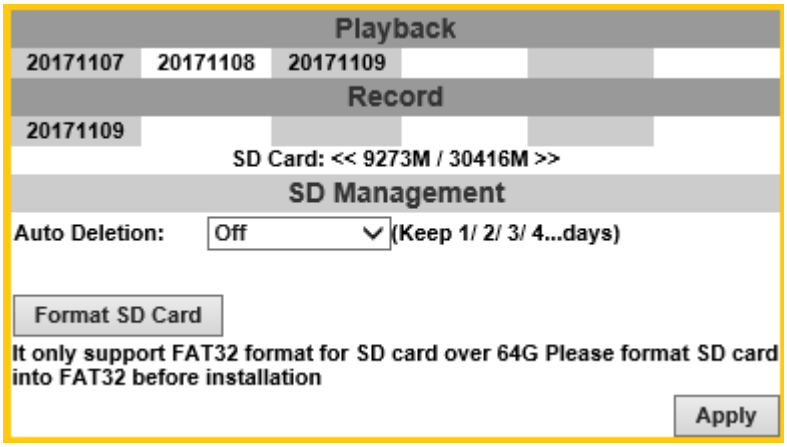


Sort by System Logs, Motion Detection Logs and I/O Logs. In addition, System Logs and I/O Logs won’t lose data due to power failure. Choose All Logs to list out all the events from Motion Detection Logs to I/O Logs.

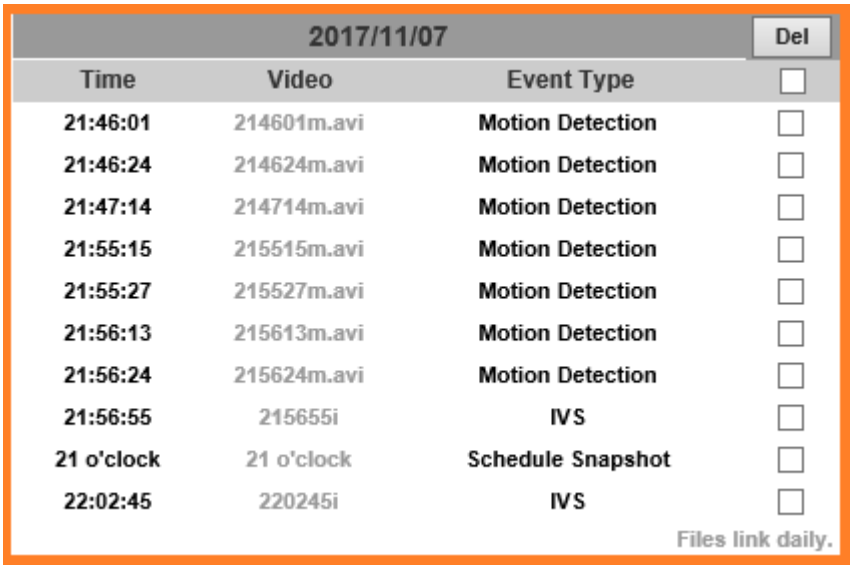


5. SD card

A. Playback: Please Insert the Micro SD card before use it. Make sure to push the Micro SD card into the slot completely.



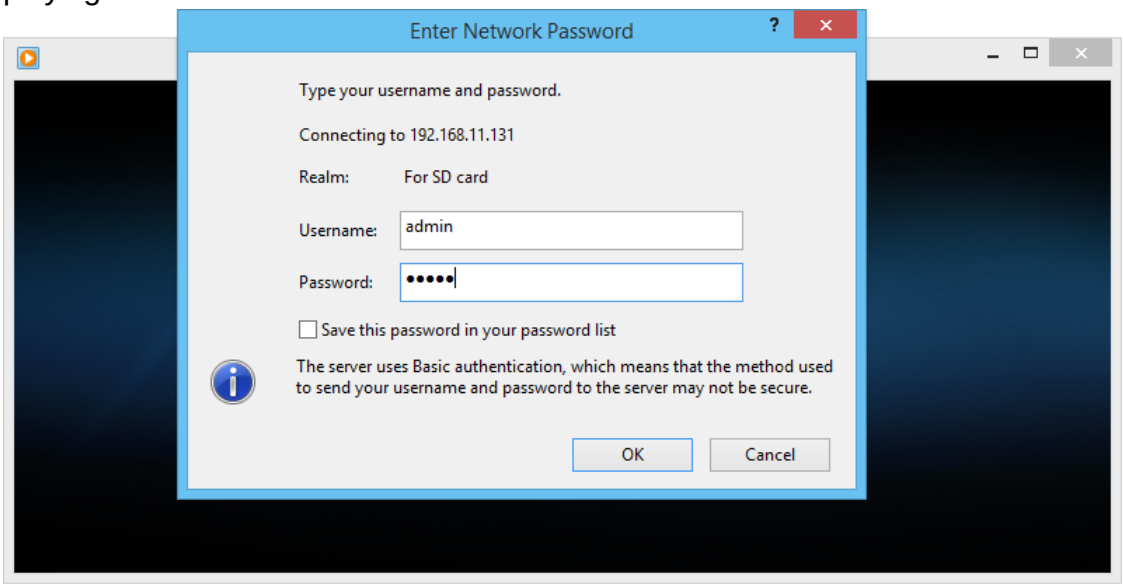
Click the date under the **Playback** title and a list of files will pop up. For example, if the date **2017/11/07** is clicked, all the events happened within that time frame will then appear in a list like the one below.



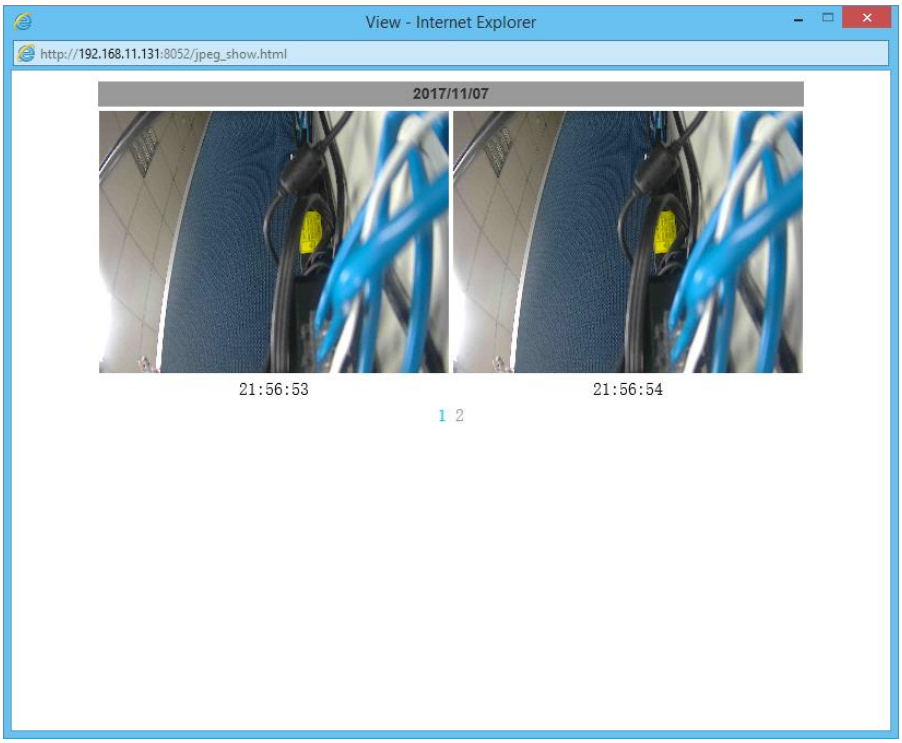
The enlisted files under **Video** category are files representing an event. There are 3 types of file formats, and each is different for its own **Event Type**. Notice how the file name formations under the **Video** category represent the time when a file is created.

For instance, the file name "**214601m.avi**" means the video is recorded at **21:46:01** today, **m** means **Motion Detection**, and **avi** represents the file format.
Click on the file name to open the file.

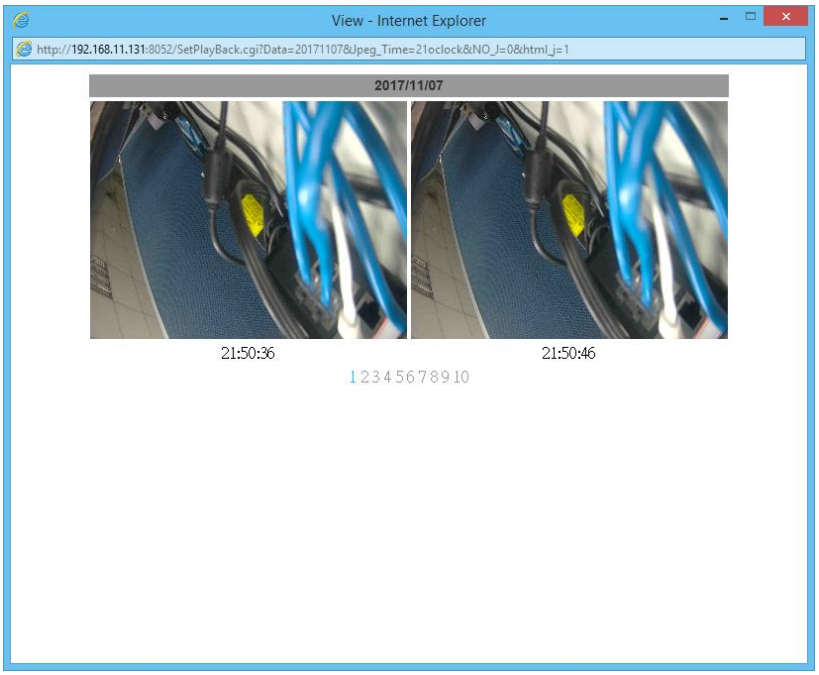
For **avi** files, you need Microsoft Media Player which is supposedly built-in in your PC. The default Username & Password for playing the video file are both **admin**.



Clicking on an **IVS** file (such as **215655i**) will bring out a pop-up window suggesting an **IVS** event captured as snapshots as the one below:

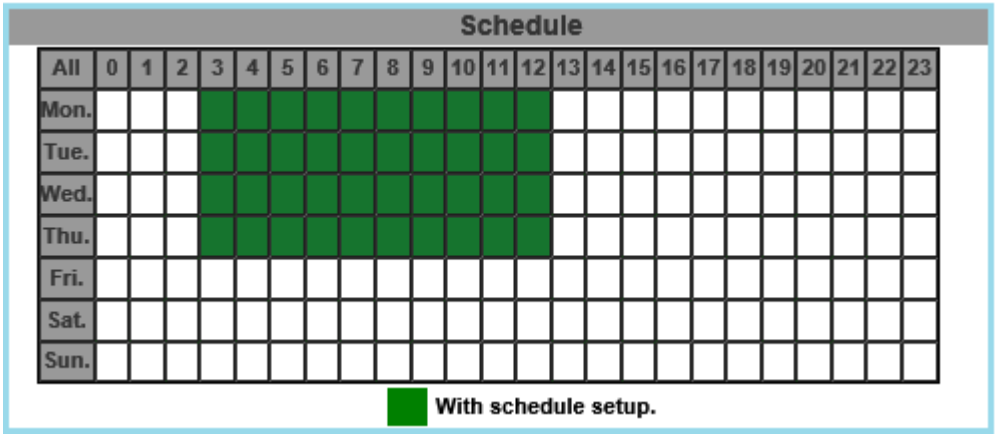


Clicking on any title that is labeled with "**time unit**" (such as **21 o'clock**) at the end will bring out a pop-up window indicating the snapshot taken as scheduled in **Schedule** mode and enabled in **Snapshot** mode.



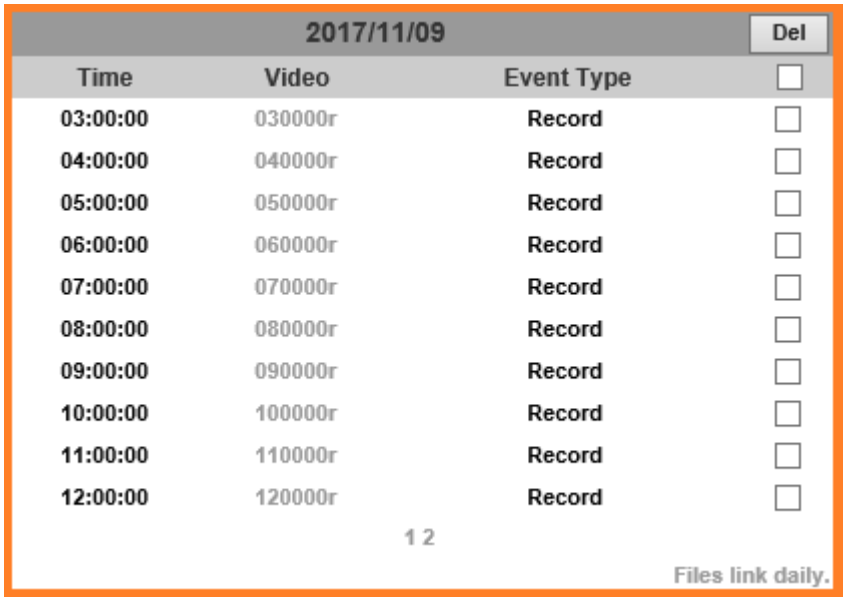
Click the Del icon to delete any file by marking on the checkbox under the **Del** category with a mouse click.

B. Record: The recording mode is enabled after **Record** is set in **Schedule** mode. Take the schedule calendar below for example, the grids coloured in green between 3~12 are scheduled to start recording from 3 o'clock to 12 o'clock from Monday to Thursday.

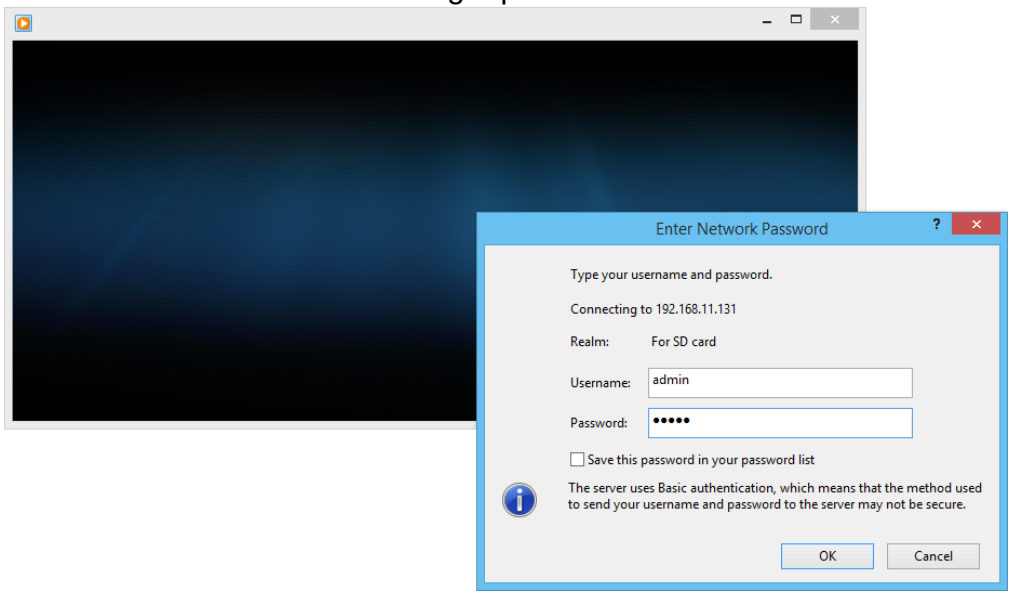


Once the recording mode is on, the video data recorded will be found and labelled as **2017/11/09**.

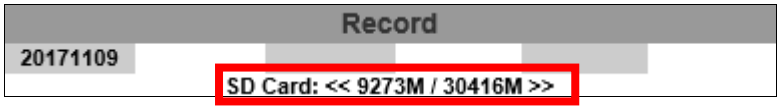
Click on **2017/11/09** to enter the next page where all files recorded on that date are enlisted.



Click on any video title to open Microsoft Media Player (supposedly already built-in in your PC) and play the video file. Key-in **admin** for both Username & Password to get permission to view the video.



The number at the bottom indicates the distributive law of the current SD Card memory which is divided and assigned to different types of recording purposes. The left side shows how much memory is still available, and the right side shows how much the total memory is.

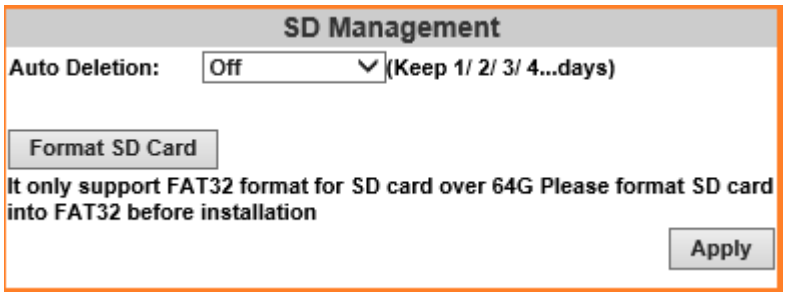


If the memory of the SD card is **over 128G**, **70%** of the memory will be used for scheduled recording, and **30%** will be used for event recording.

If the memory of the SD card is **below 128G**, **50%** of the memory will be used for scheduled recording, and **50%** will be used for event recording.

Click the Del icon to delete any file by marking on the checkbox under the Del category with a mouse click.

C. SD Management

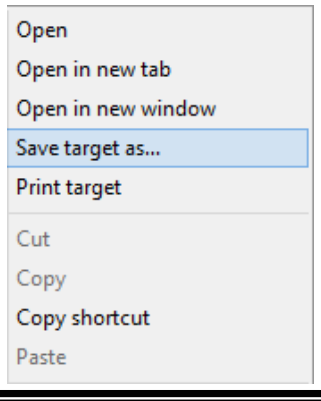


a. **Auto Deletion:** Choosing “The 1st day” means the recoding file will be kept for one day. Example: It is five o’clock now. Choose “The 1st day”. The files will be kept from five o’clock yesterday to five o’clock today. The oldest file will be deleted if the Micro SD card is full.

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.

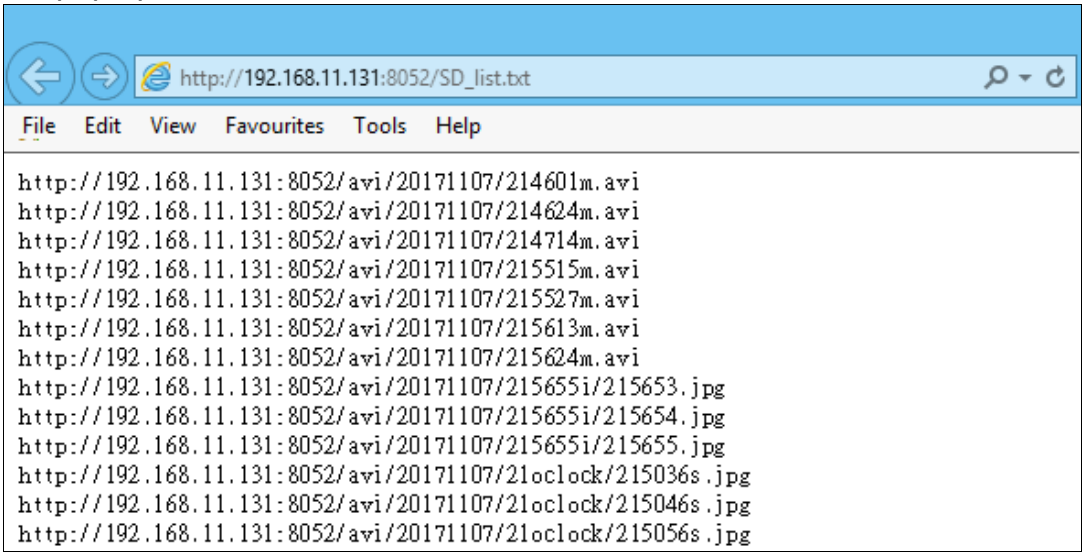
b. **Format SD Card:** Click the icon to process the SD Card formatting into FAT32 format. Be cautious that since it only supports FAT format for SD Card over 64G, please format SD Card into FAT32 before installation.

D. SD Card Files



a. **Downloading the Files:** For both **Playback** and **Record** mode, after entering a date data to see the **Video** and **Event Type,** right-click on a title under the **Video** list, and choose "**Save Target As…**" from its pop-up window to start downloading the file.

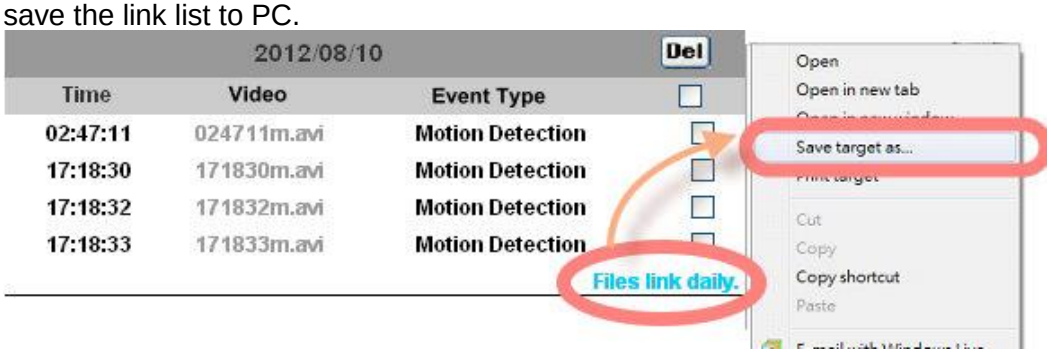
b. **Linking the Files:** For both **Playback** and **Record** mode, find the **Files link daily.** link at the right corner of the bottom after entering a date data to see the **Video** and **Event Type**. Click on the link, a window will pop up.



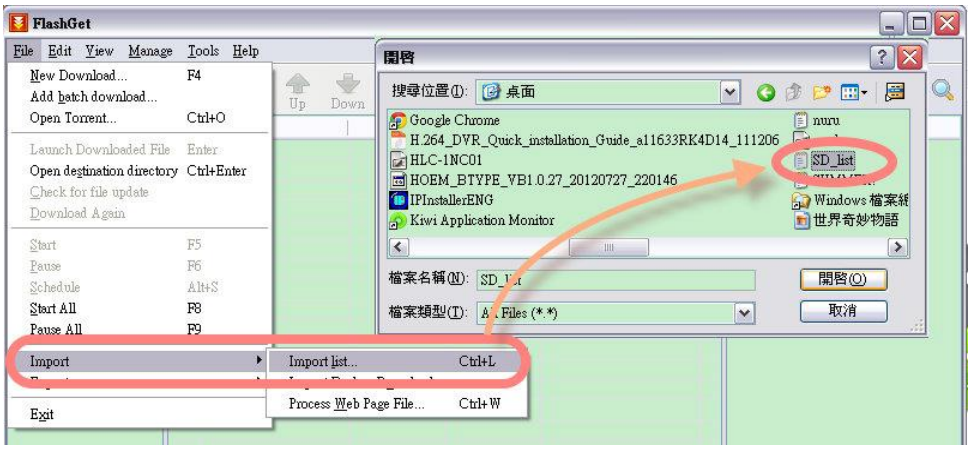
You may copy any of the protocol provided in the window and paste it on a web browser as a URL address to look at each file.

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 the steps:

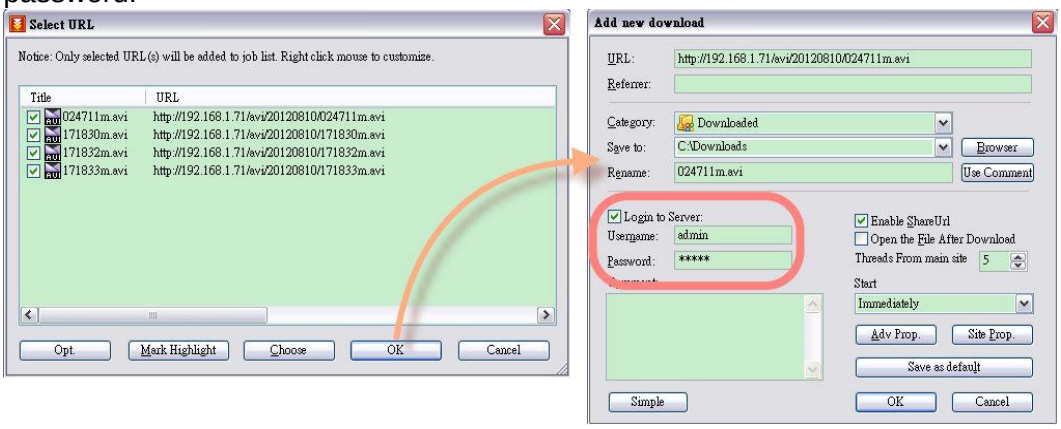
i. Enter data list and right-click " **Files link daily.**", select "save target as…" then save the link list to PC.



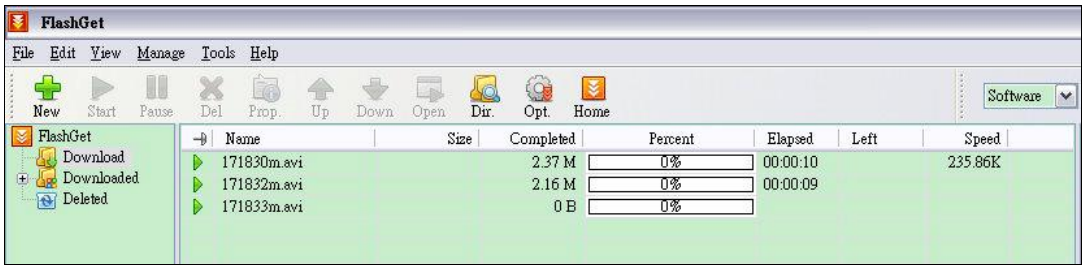
ii. Open FlashGet, select "File"→ "Import" → "Import list", and find the link list file you just saved. The file name may be called "SD_list".



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.



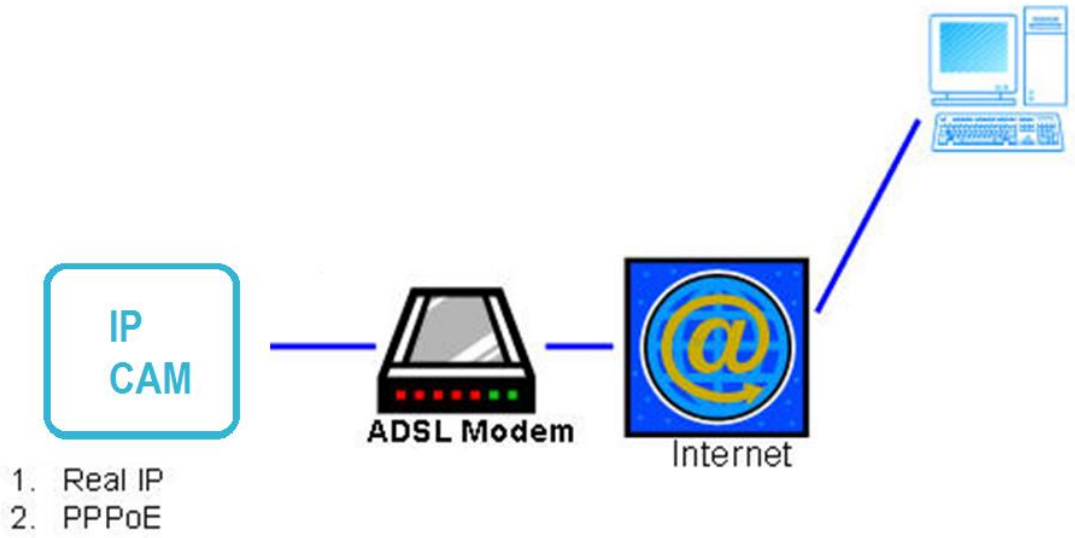
iv. Click OK to start download.



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

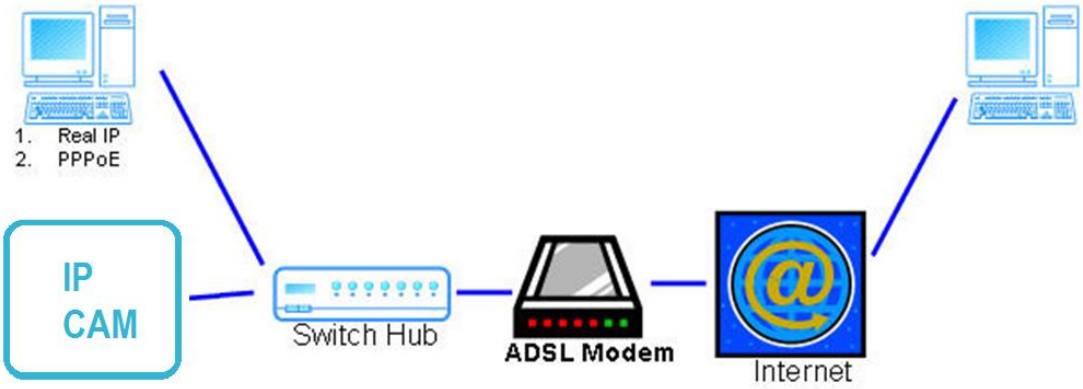
Network Configuration

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.

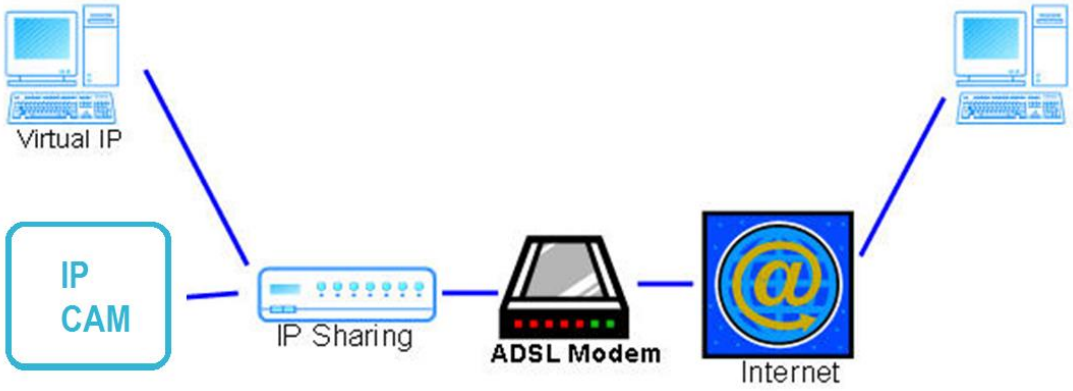
II. Configuration 2:



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:

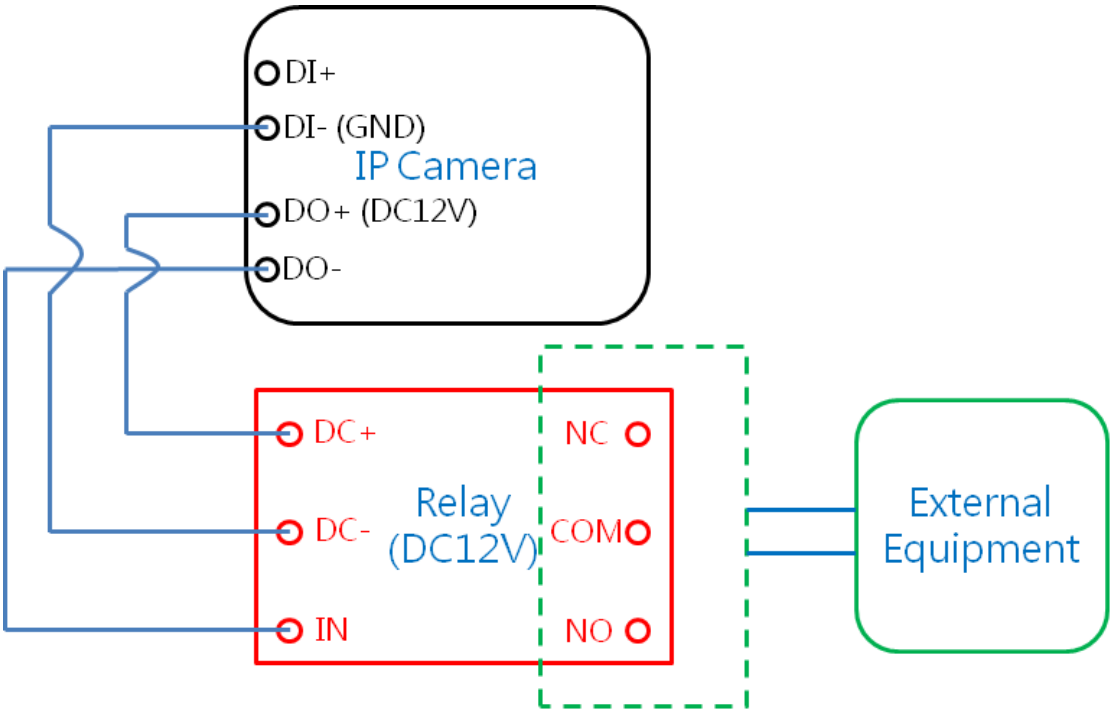


a. Internet Access: ADSL or Cable Modem
b. IP address: one real IP or one dynamic IP
c. IP Camera and PC connect to the internet
d. Device needed: IP sharing
e. Use virtual IP, set up port forwarding in IP sharing.

I / O Configuration

1. I/O Connection

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



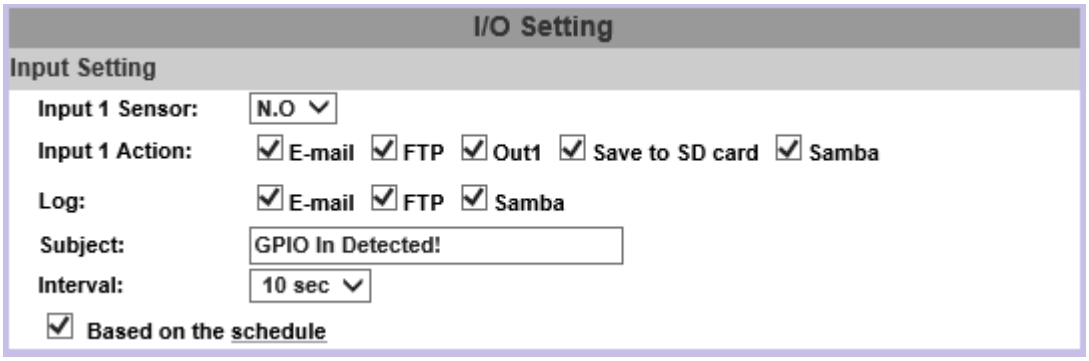
C. I/O PIN definition

- GND (Ground): Initial state is LOW
- DO (Digital Output): Max. 50mA ,.DC 12V
- DI (Digital Input): Max. DC 6V

2. I/O Setup

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

A. Input Setting: The IP Cam supports input and output. When the input condition is triggered, the relay will be also triggered & a notification will be sent depending what checkboxes are ticked.



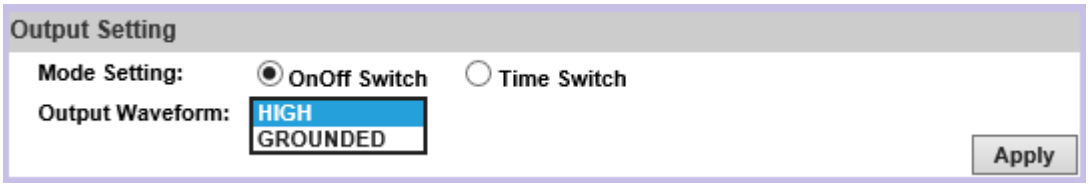
- **Log:** Tick the **Save to SD card** checkbox to enable the **Log** which you would like to save data with.

- **Subject:** Input or edit the message you would like to receive for triggered alarm.

- **Interval:** For example, if you select "10 sec" here, once the motion is detected and 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 I/O is enabled. That is, for example, 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

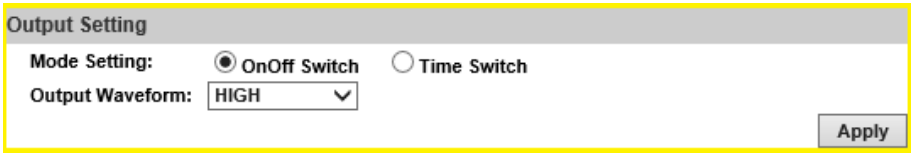


After the external input and output hardware are installed, you can enable the "Relay Out" function on the live video page to test if DO / Relay Out works.

- **Mode Setting**

(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".

Select **HIGH** or **GROUNDED** To adjust the **Output Waveform**.



(ii) Time Switch mode: The camera triggers the external device and lasts for certain time according to the internal setting, and the user is not allowed to break off the alarm manually.

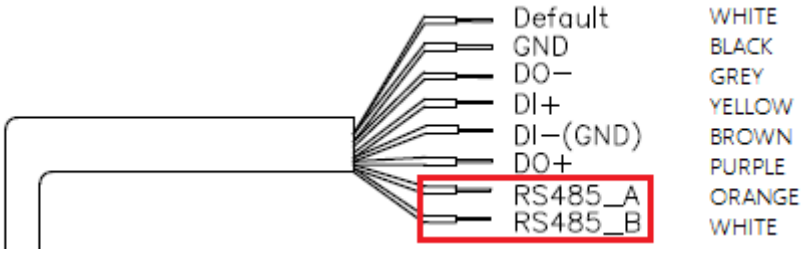
Click "Pulse", the camera will trigger the external output device for several seconds; the duration length is according to the "interval" setting in Output Setting.

Click on the

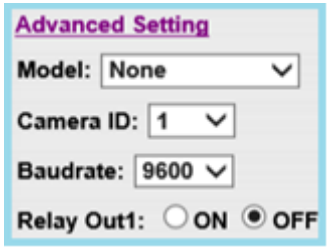
button to keep all the changes.

3. RS-485

You can link the camera to NVR, DVR, cradle head, or joystick controller by RS-485. Please use cable to connect D+ with D+ of two devices, and connect D- with D-.



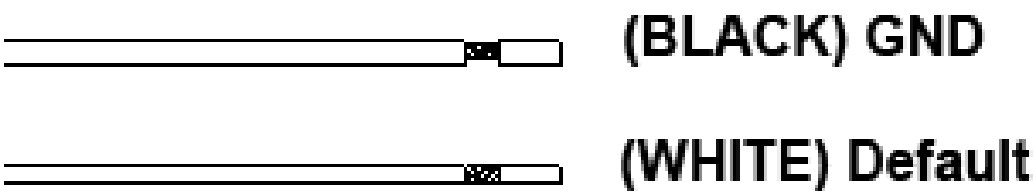
After the RS-485 Setting in I/O Setting is enabled, you can turn to the live video page and check the related options.



Factory Default

If you forget your password, please follow the steps to set back the IP Camera to its default value.

- Remove the power and Ethernet cable.
- Join the Black (GND) and White (Default) cables



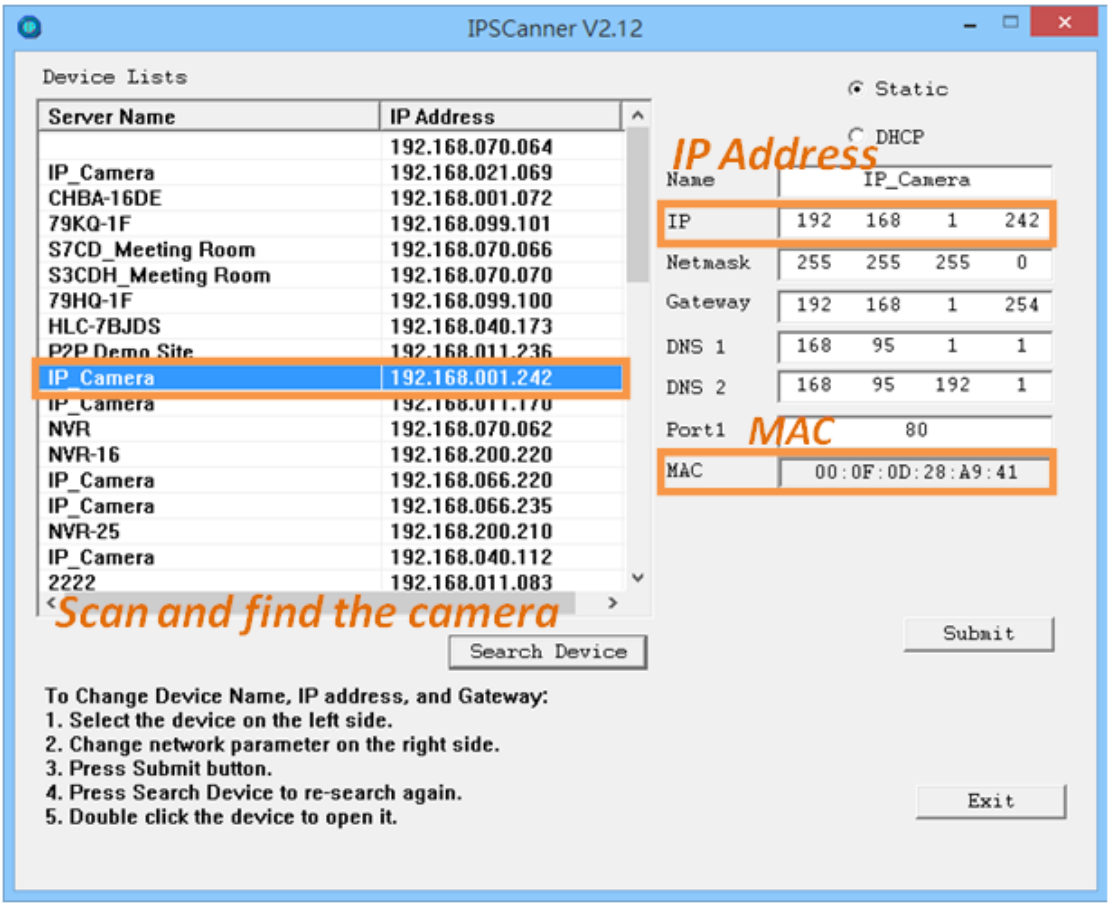
- Connect the power back to the camera. It will take around 30 seconds to boot the camera.
- Separate the Black(GND) and White (Default) cables
- Re-log in the camera using the default IP (**http://192.168.1.200**), and user name: **admin**, password: **admin**.

Universal Password

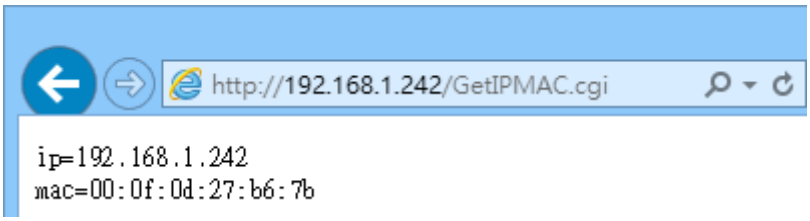
If you forgot the password of your IP camera, you can reset the camera to factory default, or follow the procedure below to generate a universal password.

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 Scanner** to scan the LAN, and see the IP address and MAC address on the side column.

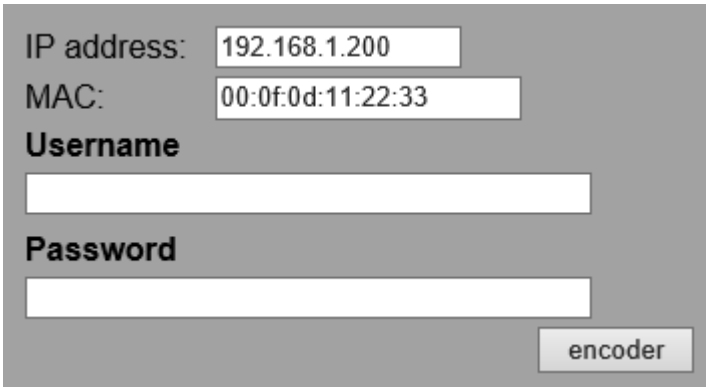


Or, if you already know the IP address of camera: Open the web browser, key in **http:// (IP address) /GetIPMAC.cgi** and press enter. The IP address and MAC address will be displayed on browser.



2. Locate the .html file named **Universal Password_V1.1** in the Universal Password from the Applications folders in CD-ROM. Open it with a web browser.

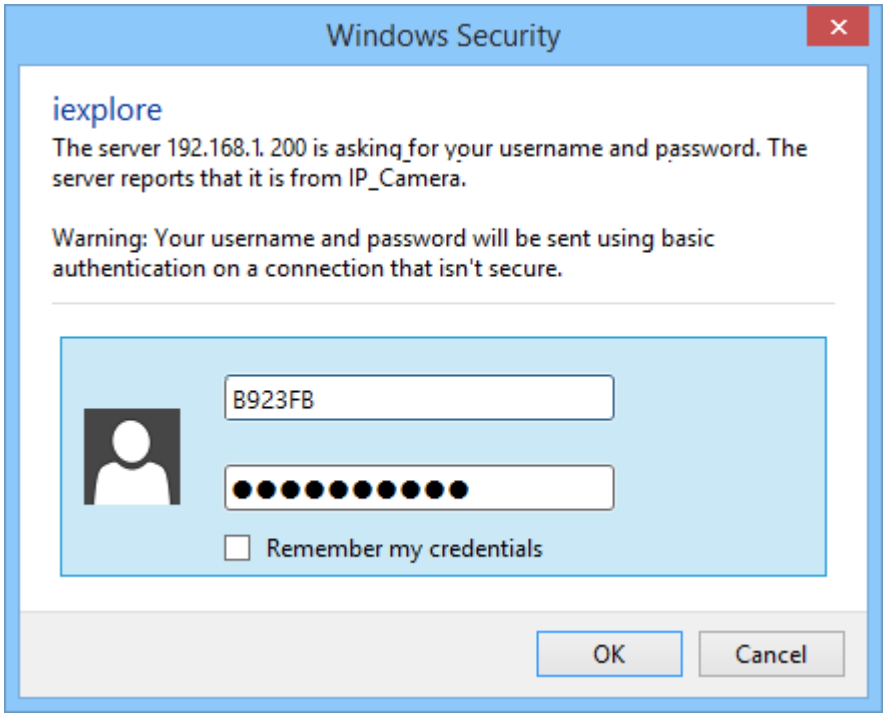
3. The camera IP address and MAC address will be displayed automatically in both **IP Address** and **MAC** columns.



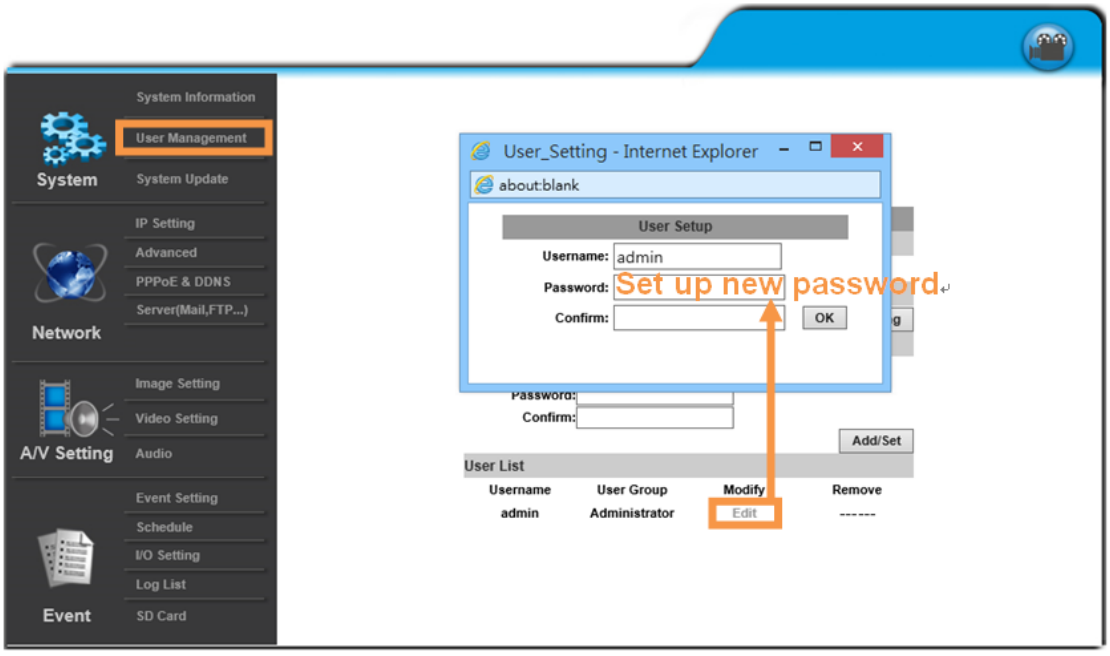
After clicking on **encoder**, a set of username and password will appear.

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.

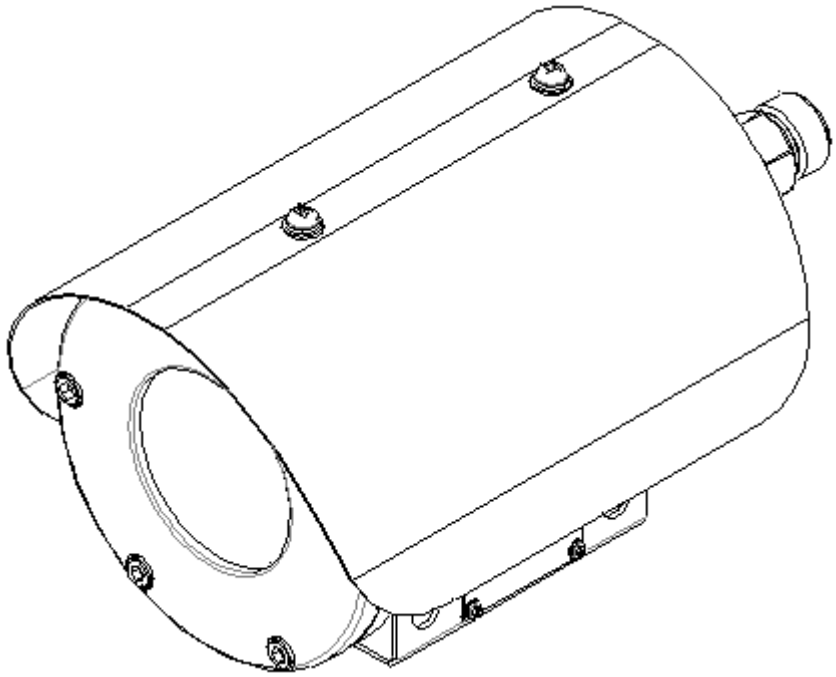
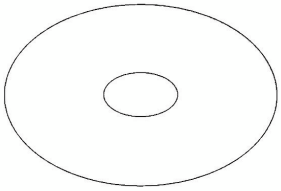
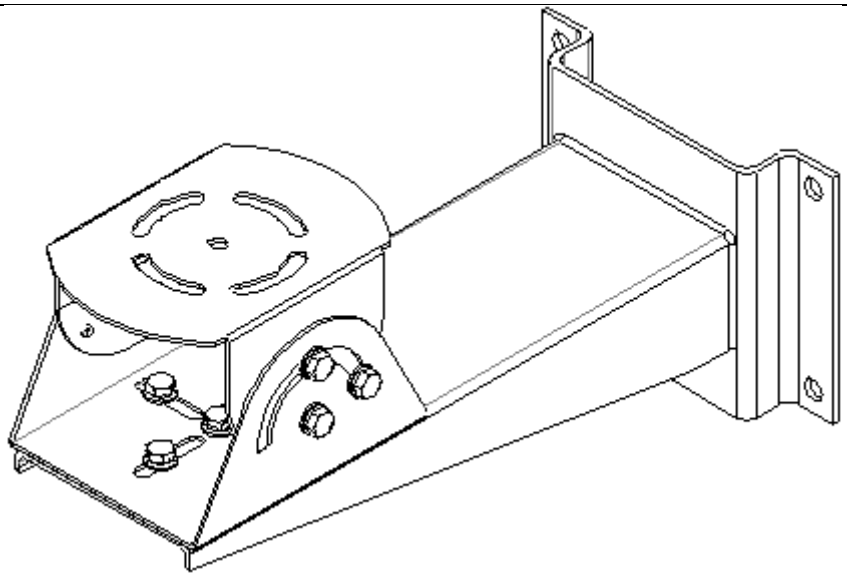
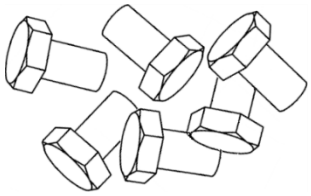
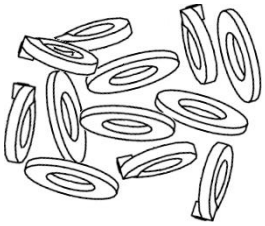
4. Take the generated username and password. Use them to log into the camera.



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.



Package Contents

IP Camera	CD
	
	Quick Installation Guide
Bracket	**Screws Pack**
	
	Washers
	

- The CD includes user manual and software tools