PLANET
Networking & Communication

User's Manual

5 Mega-pixel / Full HD Vandalproof IR IP Camera

▶ICA-5550V / ICA-5250V

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Federal Communication Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

1. Reorient or relocate the receiving antenna.
2. Increase the separation between the equipment and receiver.
3. Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
4. Consult the dealer or an experienced radio technician for help.

FCC Caution

To assure continued compliance, for example, use only shielded interface cables when connecting to computer or peripheral devices. Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Federal Communication Commission (FCC) Radiation Exposure Statement

This equipment complies with FCC radiation exposure set forth for an uncontrolled environment. In order to avoid the possibility of exceeding the FCC radio frequency exposure limits, human proximity to the antenna shall not be less than 20 cm (8 inches) during normal operation.

Safety

This equipment is designed with the utmost care for the safety of those who install and use it. However, special attention must be paid to the dangers of electric shock and static electricity when working with electrical equipment. All guidelines of this and of the computer manufacture must therefore be allowed at all times to ensure the safe use of the equipment.

CE Mark Warning

This is a Class B product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.

WEEE Regulation

To avoid the potential effects on the environment and human health as a result of the presence of hazardous substances in electrical and electronic equipment, end users of electrical and electronic equipment should understand the meaning of the crossed-out wheeled bin symbol. Do not dispose of WEEE as unsorted municipal waste; they should be collected separately.

Revision

User's Manual for PLANET 5 Mega-pixel / Full HD Vandalproof IR IP Camera
Model: ICA-5550V / ICA-5250V
Rev: 1.00 (May. 2013)
Part No. EM-ICA-5550V / EM-ICA-5250V

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Chapter 1. Introduction

High Resolution, Professional Day and Night Network Camera

PLANET ICA-5550V / ICA-5250V PoE IP Camera with IR Illuminator provides high resolution images for round-the-clock surveillance over IP networks. It supports H.264, MPEG-4, and JPEG compression formats and delivers excellent picture quality in 5 mega-pixel resolutions at 15 frames per second (fps) and Full HD resolutions at 30 fps. The ICA-5550V / ICA-5250V is also equipped with IP66-rated and IK-10 vandalproof housing which protect the camera body against rain and dust and ensures operation under extreme weather conditions, thus making it an ideal solution for outdoor applications, e.g. surveillance of buildings, roads, parking areas, garages, railway stations and airports.

Day & Night Functionality

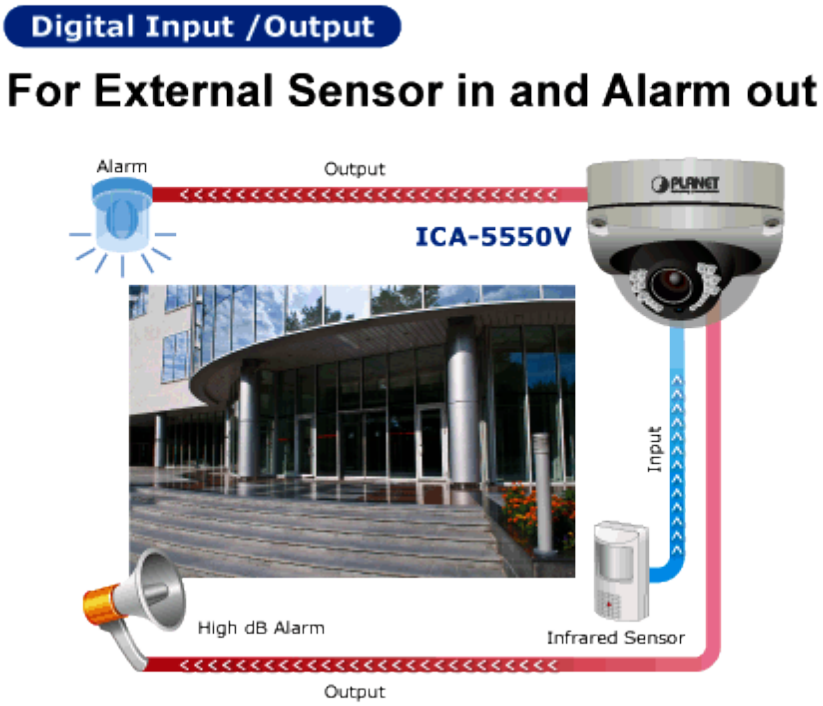
To adapt to constantly changing lighting conditions, the ICA-5550V and ICA-5250V come with a removable IR-cut filter and built-in IR illuminators, which enables the camera to provide color video when there is sufficient light, and black/white video in dark conditions. The camera is able to maintain clear images 24 hours a day.

Exceptional Image Quality

Together with powerful image processing attributes like Wide Dynamic Range and 3-Dimension Noise Reduction technology, the camera is able to filter the intense backlight surrounding a subject and remove noises from video signal. The result is that an extremely clear and exquisite picture quality can be produced even under any challenging lighting conditions.

Advanced Event Management

The ICA-5550V and ICA-5250V also support a number of advanced features that give the camera increased flexibility and capabilities, including auto-iris for improving the image quality to avoid over exposure, AV out for performing the two-way audio function and inputs/outputs for connecting external devices such as door sensors and relays to activate light or close doors.



Flexible Installation and Power Functionality

The ICA-5550V and ICA-5250V incorporate Power over Ethernet which supplies power to the camera via the network, eliminating the need for power cables and reducing installation costs. The ICA-5550V and ICA-5250V are ONVIF-compliant and therefore interoperable with other manufacturer's products. It also includes 64-CH central management software. The ICA-5550V and ICA-5250V are indisputably the top choice for reliable and high performance surveillance.

Vari-Focal and Camera Tampering Detection Offers the Best Recording Flexibility

The ICA-5550V and ICA-5250V incorporate the mega-pixel vari-focal lens, which has the option of selecting a high millimeter setting for narrow viewing fields or a low millimeter setting for wider viewing fields. The ICA-5550V and ICA-5250V provides three individually configurable motion detection zones. The camera can record video or trigger alarms or alerts when camera image is tampered.

Vari-Focal lens for available focal lengths

1.1 Features

- **Camera**
  - 1/2.7” 2 mega-pixel progressive scan CMOS sensor (ICA-5250V only)
  - 1/3.2” 5 mega-pixel progressive scan CMOS sensor (ICA-5550V only)
  - 3~9 mm vari-focal, DC auto-iris lens
  - 0 lux minimum illumination at F1.8
  - Maximum resolution 1920 x 1080
  - Maximum resolution 2592 x 1944 (ICA-5550V only)
  - Removable IR-cut Filter for Day & Night function

- **Video / Audio**
  - H.264 / MPEG-4 and M-JPEG video compression simultaneous

- Simultaneous multi-stream support
- H.264 high profile, main profile and baseline
- Up to 30fps for Full HD resolution (ICA-5250V)
- Up to 15fps for 5 Mega-Pixel resolution (ICA-5550V)
- 3DNR to improve picture quality at low Lux
- WDR Enhancement for enhance visibility under extremely bright or dark environments
- Two-way audio support with enhanced audio quality

➢ **Network and Configuration**

- Compliant with IEEE 802.3af PoE interface for flexible deployment
- Auto MDI/MDI-X supported
- Support for IPv6 in addition to the standard IP protocol version 4
- RTSP / UPnP / 3GPP / HTTPS protocols selectable

➢ **Easy Installation & Management**

- ONVIF compliant for interoperability
- Built-in 18 IR Illuminators, effective up to 20 meters
- IK-10 / IP-66 classification with vandal and weather proof
- Built-in Samba client for NAS
- 3GPP for 3G mobile remote applications
- Micro SD card local video recording supported
- Digital Input/Output for integration with sensors and alarms
- Cam Viewer 3 central management software supported

1.2 Product Specifications

Model	ICA-5250V	ICA-5550V
Camera		
Image Device	1/2.7” 2 Mega-pixel Progressive Scan CMOS sensor	1/3.2” 5 Mega-pixel Progressive Scan CMOS sensor
Lens	Vari-Focal 3~9 mm, DC Auto-Iris Mechanical IR Cut Filter Angle of view : horizontal: 36.96~128.78 degrees / vertical: 21.59~69.39 degrees	Vari-Focal 3~9 mm, DC Auto-Iris Mechanical IR Cut Filter Angle of view : horizontal: 28.9~93.59 degrees / vertical: 22.3~71.5 degrees
Min Illuminator	0 lux @ F1.8	
IR Illumination LED	IR LED*18, 850nm Built-in IR illuminators, effective up to 20 meters	
Effective Pixels	1920 x 1080 @ 30fps	2592 x 1944 @ 15fps
Video		
Video Encoder	H.264 / MPEG-4 / M-JPEG	
Video Profile	H.264: 1080P / 720P / VGA / QVGA/ QCIF M-JPEG: 1080P / 720P / VGA / QVGA / QCIF MPEG-4: VGA / QVGA / QCIF (Only for 3GPP)	H.264 : 2592 x 1944 / QXGA / UXGA / 1080P 1280 x 960 / 720P / VGA / QVGA / QCIF JPEG : 2592 x 1944 / QXGA / UXGA / 1080P 1280 x 960 / 720P / VGA / QVGA / QCIF MPEG-4 : VGA / QVGA / QCIF (Only for 3GPP)
Frame Rate	Up to 30fps for Full HD resolution Up to 15fps for 5 Mega-Pixel resolution	
Image Setting	Brightness, Contrast, Hue, Saturation, Sharpness, AGC, Shutter Time, Sense-Up, WDR, Flip, Mirror, Noise reduction, White Balance, Day & Night adjustable	
Streaming	Simultaneous multi-profile streaming M-JPEG streaming over HTTP Supports 3GPP mobile surveillance Controllable frame rate and bandwidth Constant and variable bit rate (MPEG4 / H.264)	
Audio		
Audio Streaming	Two-Way Audio	
Audio Encoder	RTSP: G.711 / G.726 3GPP: AMR	
Microphone	Terminal block	
Audio Output	Terminal block	
Network and Configuration		
Network Standard	IEEE 802.3 10Base-T IEEE 802.3u 100Base-TX	
Supported Protocols	IPv4, IPv6, TCP, UDP, HTTP, HTTPS, SMTP, FTP, NTP, DNS, DDNS, DHCP, UPnP, RTSP, RTP, RTCP, PPPoE, 3GPP, ICMP	

Security	Password protection, user access log	
Users	10 simultaneous unicast users	
System Integration		
Application Programming Interface	Open API for software integration SDK	
Alarm Triggers	Intelligent video motion detection and external input 3-zone video motion detection	
Alarm Events	File upload via FTP, email and SAMBA. External output activation Configurable Pre/Post alarm buffering	
General		
Power Supply	12V DC, 1A IEEE 802.3af Class 3	
Power Consumption	DC 12V Max: 5.52W(IR On); 4.08W(IR Off) PoE Max: 6.72W (IR on); 5.28W(IR Off)	DC 12V Max: 5.64W(IR On); 4.2W(IR Off) PoE Max: 6.72W (IR on); 5.28W(IR Off)
Housing	IK-10 / IP66 classification with vandal and weather proof	
Operating Temperature	-20 ~ 50 degrees C	
Operating Humidity	20 ~ 80% (non-condensing)	
Weight	890 g	881g
Dimensions (W x D x H)	126 x 126 x 100 mm	
Emission	CE, FCC	
Connectors	10/100 Mbps Ethernet, RJ-45 DC power jack Factory default reset Micro SD/SDHC card (Max. 32GB, Class 6) Composited video out (Max. resolution: D1 720 x 480 pixel) Terminal block for 1 alarm input, 1 output, external MIC input and audio out	

1.3 Package Contents

The package should contain the following:

ICA-5550V or ICA-5250V x 1

Power Adapter x 1

Screw Package x 1

Female to Female RJ-45 Connector x 1

Mounting Label x 1

User's Manual CD x 1

Quick Installation Guide x 1

1. If any of the above items are missing, please contact your dealer immediately.
2. Using the power supply that is not the one included in the Internet Camera packet will cause damage and void the warranty for this product.

Chapter 2. Basic Setup

This chapter provides details of installing and configuring the Internet camera

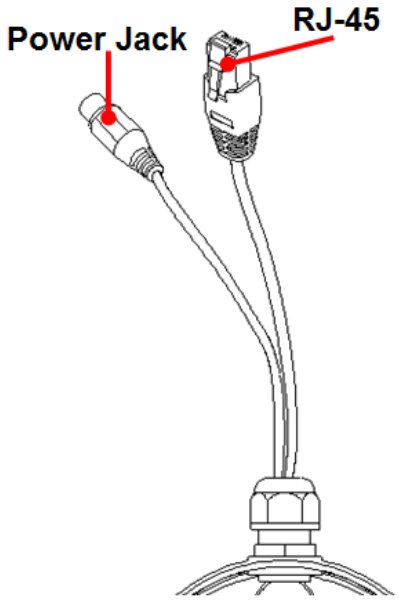
2.1 System Requirements

Network Interface	10/100Base-TX Ethernet
Monitoring System	Recommended for Internet Explorer 8.0 or later
System Hardware (Suggested)	· CPU: Intel Core i3-530 · Memory Size : 2048 MB (1024 MB or above Recommended) · VGA card resolution : 1920 x 1200 · VGA card memory : 512 MB or above
System Hardware (Minimum)	· CPU: Intel C-2.8G · Memory Size : 512 MB · VGA card resolution : 1280 x 1024 · VGA card memory : 64 MB

1. The listed information is minimum system requirements only. Actual requirement will vary depending on the nature of your environment.

2.2 Physical Description

2.2.1 Identification of ICA-5550V / ICA-5250V Cable



1. RJ-45 LAN socket: Connect to PC or Hub/Switch.
For connection to 10Base-T Ethernet or 100Base-TX Fast Ethernet cabling, this Ethernet port built N-Way protocol can detect or negotiate the transmission speed of the network automatically. Please use CAT-5 cable to connect the Network Camera to a 100Mbps Fast Ethernet network switch or hub.

2. Power Jack: The input power is DC 12V.

Note

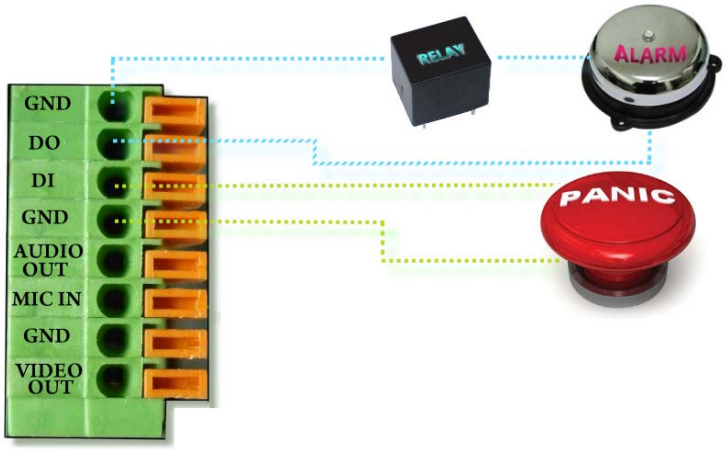
1. ONLY use package power adapter supplied with the Internet. Otherwise, the product may be damaged.

2.2.2 ICA-5550V / ICA-5250V I/O Control Instruction

I/O Connection

Please connect the GND & DO pin to the external relay (buzzer) device.

Please connect the GND & DI pin to the external trigger device.



I/O PIN definition

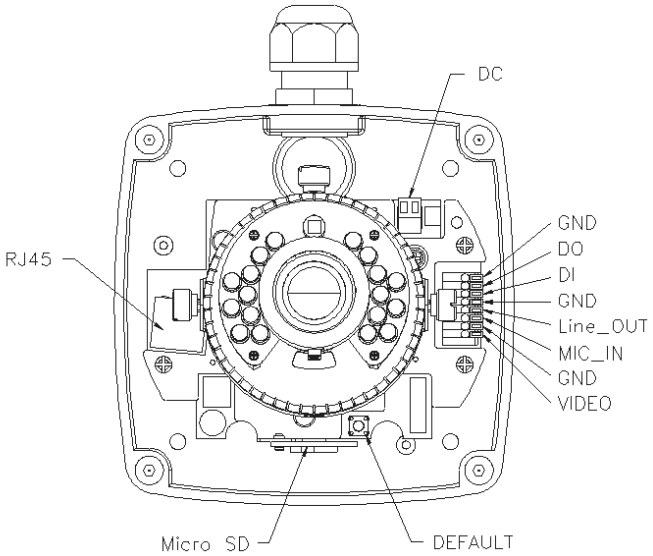
- GND (Ground): Initial state is LOW
- DO (Digital Output): DC 5V
- DI (Digital Input): Max. 50mA, DC 5V

2.3 Hardware Installation

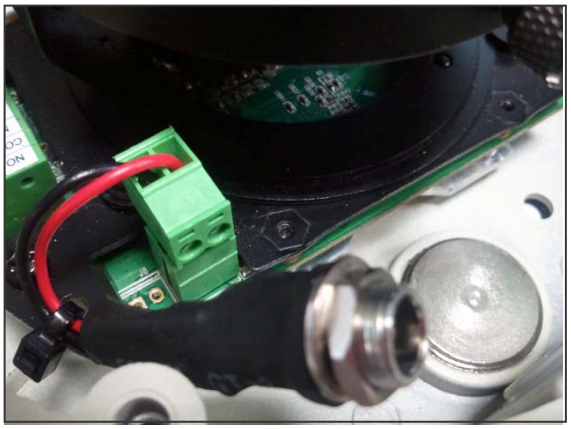
2.3.1 Physical Installation

1. Connector Instruction

Remove the dome cover, and you will see the structure as shown below.



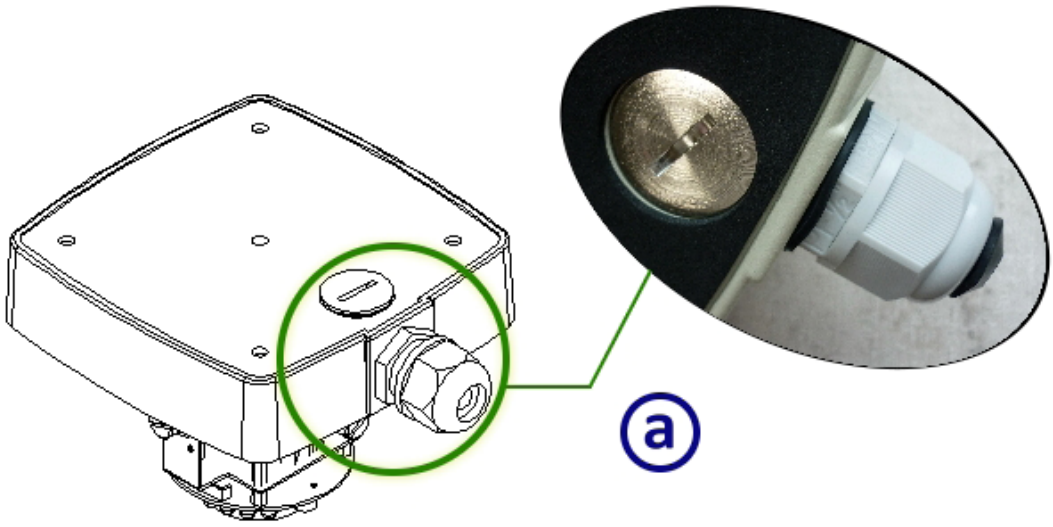
Connect power adapter first, then connect the IP Camera to PC or network, and set up the network configurations according to the network environment. The following picture shows a DC 12V connector for adapter jack plug.



Note

1. In order to ensure IP66 waterproof level, please install the vandal dome according to the instructions.

a. The unused cable outlet hole must be closed, and the waterproof connector on the used hole must be locked closely.

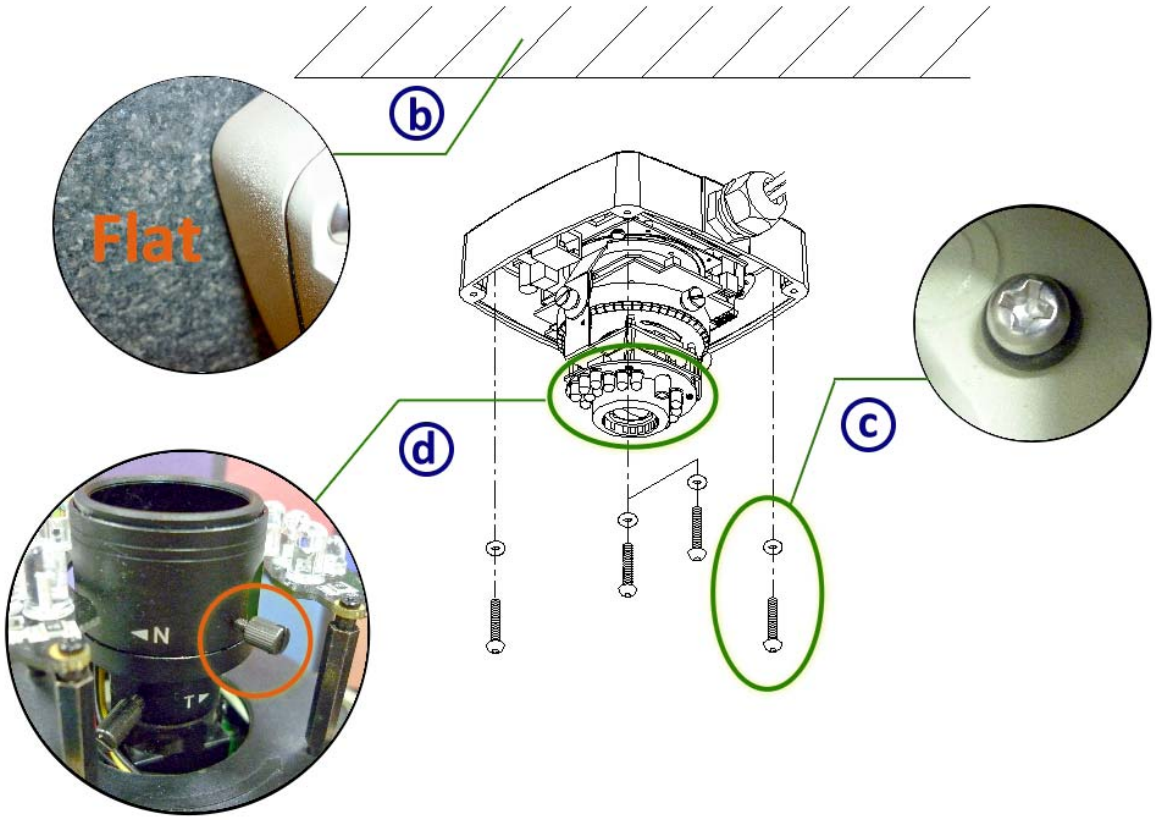


b. We recommend the bottom of housing be set on the smooth flat and closely seal with the surface.

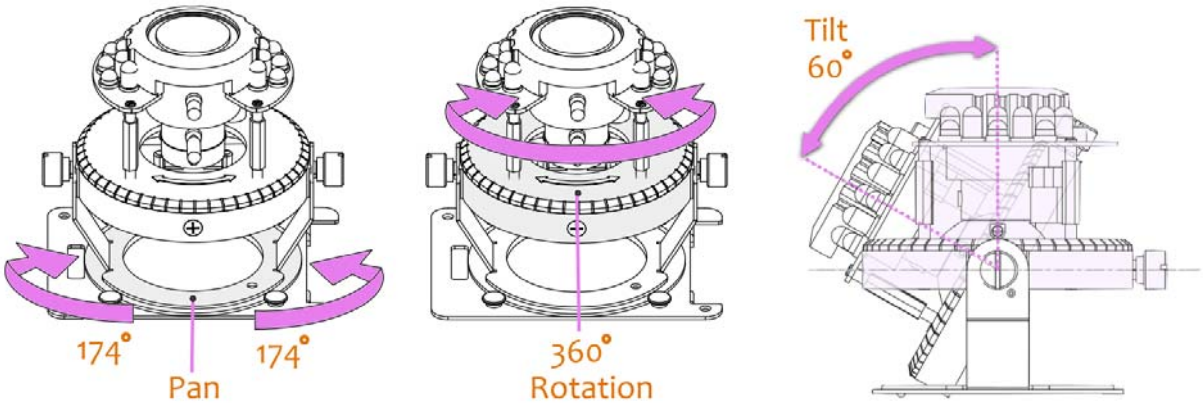
c. When you mount the camera housing on the ceiling or wall, please use the screws with the black

rubber o-rings. Without the o-ring, the water may seep into the machine.

d. Turn and loose the control stick, shift right and left to adjust the vari-focal lens until the image becomes clear, then turn and tighten the stick to fix it.

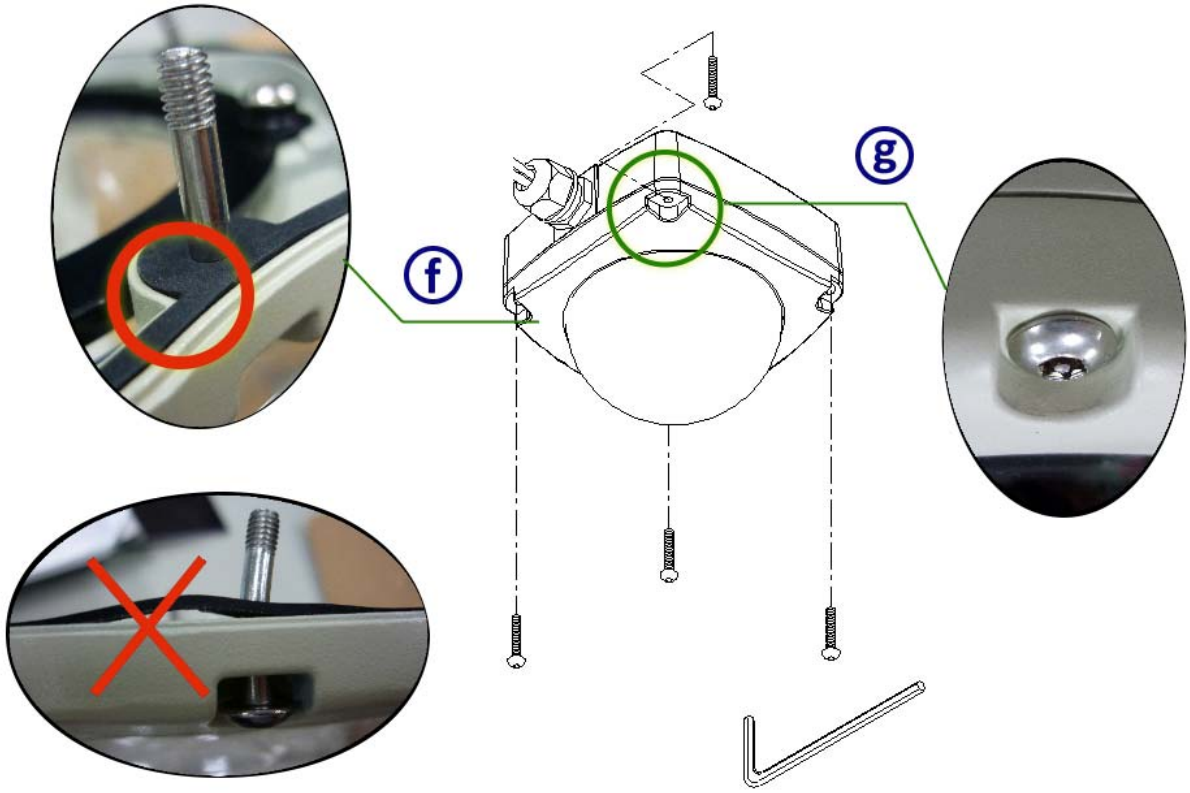


e. Use the 3-Axis bracket to adjust the camera to an appropriate angle.



f. Before you close the dome cover, make sure that the black rubber band sticks to the inside of the cover completely. Crooked or uneven rubber band may cause the waterproof defective.

g. Lock tightly the screws on the dome cover to ensure there's no gap between the lid and base.

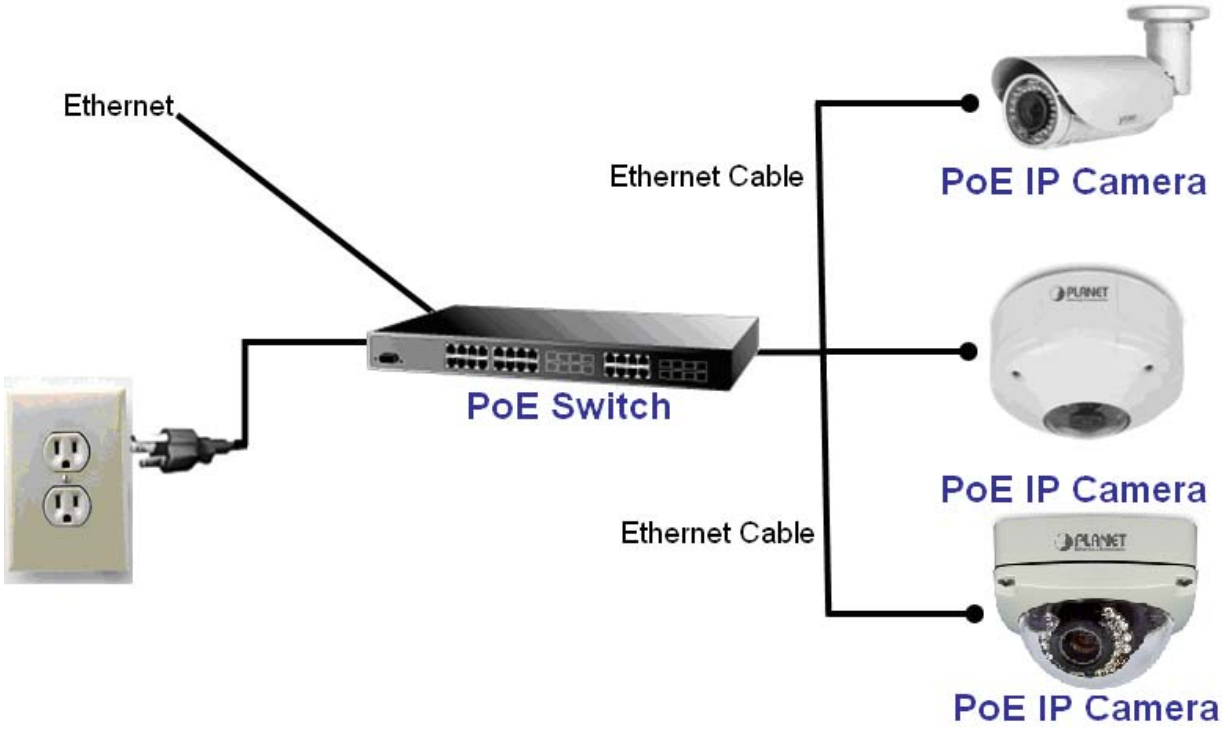


Note

1. When you connect cables to machine, we advise to use a hose to include all the cables inside instead of plugging in several cables separately, because water may seep down the gap of cables into machine. You can also seal the connector hole with silicone after installation.

2. PoE (Power over Ethernet)

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


Ethernet
Ethernet Cable
PoE IP Camera
PoE Switch
PoE IP Camera
Ethernet Cable
PoE IP Camera

2.4 Initial Utility Installation

This chapter shows how to quickly set up your H.264 camera. The camera is with the default settings. However, to help you find the networked camera quickly the windows utility PLANET IP Installer can search the cameras in the network that will help you to configure some basic setting before you start advanced management and monitoring.

1. Insert the bundled CD into the CD-ROM drive to launch the auto-run program. Once completed, a welcome menu screen will appear.
2. Click the “PLANET IPInstaller II” hyperlink; you will see the dialog box as shown below.

1. If the welcome screen does not appear, click “**Start**” at the taskbar. Then, select “**Run**” and type “**D:\Utility\PLANETIPinstaller\PLANETIPinstaller.exe**”, assume D drive is your CD-ROM drive.

When you install the camera in a LAN environment, you may execute PLANET IP Installer to discover camera’s IP address and set up related parameters in the camera.

2.4.1 Search and Configure Network by PLANET IP Installer

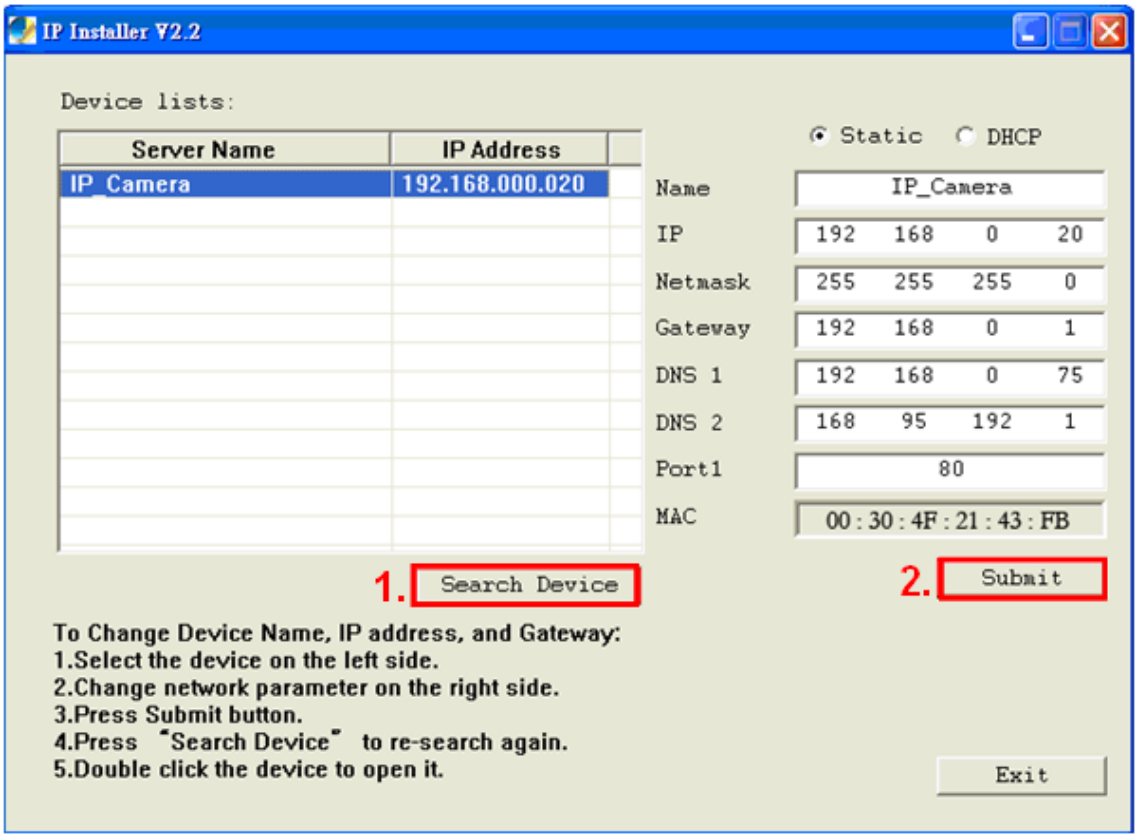
When you install the Camera in a LAN environment, you have two easy ways to search your Cameras by PLANET IP Installer or UPnP discovery. Here is the way to execute PLANET IP Installer to discover Camera’s IP address and set up related parameter in a Camera.

Search and Configure Network

1. OS: Windows XP SP2 or above. If the following “**Windows Security Alert**” pops up, please click “Unblock”.

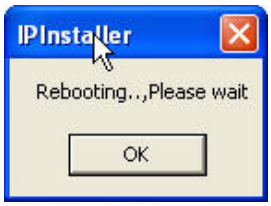
Windows Security Alert
To help protect your computer, Windows Firewall has blocked some features of this program.
Do you want to keep blocking this program?
Name: "PLANET IP Installer V2.2 IP Device Scaner"
Publisher: Unknown
Keep Blocking
Unblock
Ask Me Later
Windows Firewall has blocked this program from accepting connections from the Internet or a network. If you recognize the program or trust the publisher, you can unblock it. When should I unblock a program?

3. The GUI of IP Installer is as follows (Default IP: 192.168.0.20).



(1) IP Installer will search all IP Cameras connected on LAN. The user can click "**Search Device**" to search again.

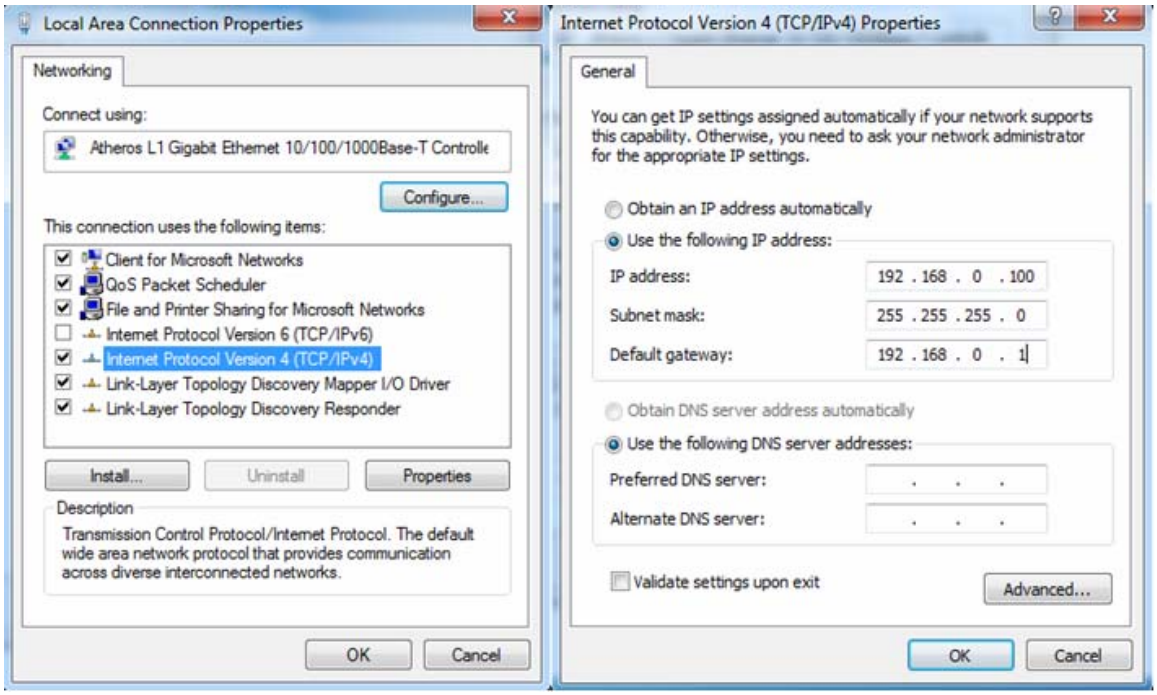
(2) Click one of IP Cameras listed on the left side of IP Installer, then the network configuration of that IP Camera will be listed on the right side. If parameters change, click on "**Submit**". Then, the network configuration will be changed. Just click "**OK**" to reboot



(3) Please make sure the subnet of PC IP address and IP CAM IP address are the same.
IP CAM IP address: 192.168.0.20
PC IP address: 192.168.0.100

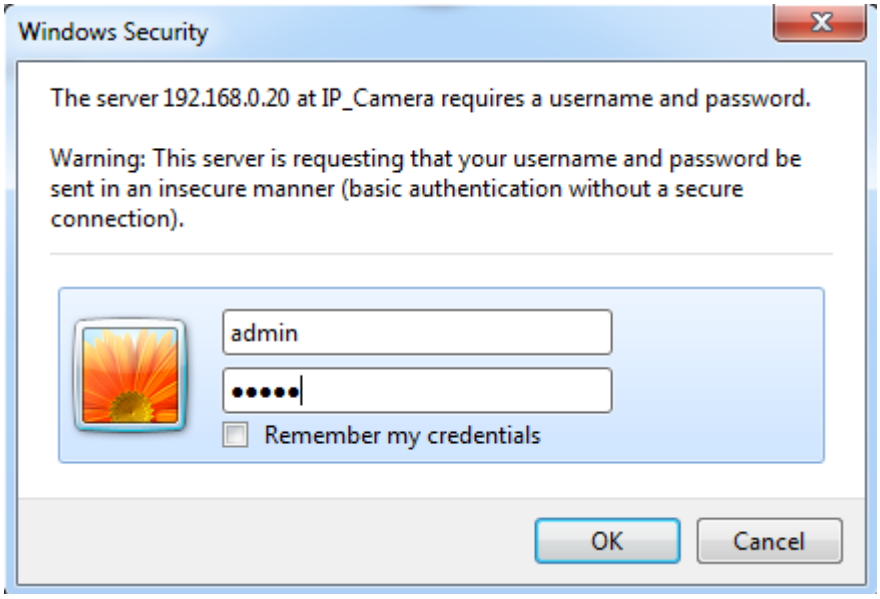
(4) Different Subnets:
IP CAM IP address: 192.168.0.20
PC IP address: 192.168.1.100

(5) To Change PC IP addresses:
Control Panel→Network Connections→Local Area Connection Properties→Internet Protocol (TCP/IP) →Properties
Please make sure your IP Camera and PC have the same Subnet. If not, please change IP Camera IP subnet or PC IP subnet accordingly.



(6) A quick way to access remote monitoring is to left-click the mouse twice on a selected IP Camera listed on “Device list” of PLANET IP Installer. An IE browser will be opened.

(7) Then, please key in the default **“Username: admin**” and “**Password: admin**” in the following message box.



(8) If the user name and password are input correctly, the following web page will be displayed.

2.5 Setup ActiveX to use the Internet Camera

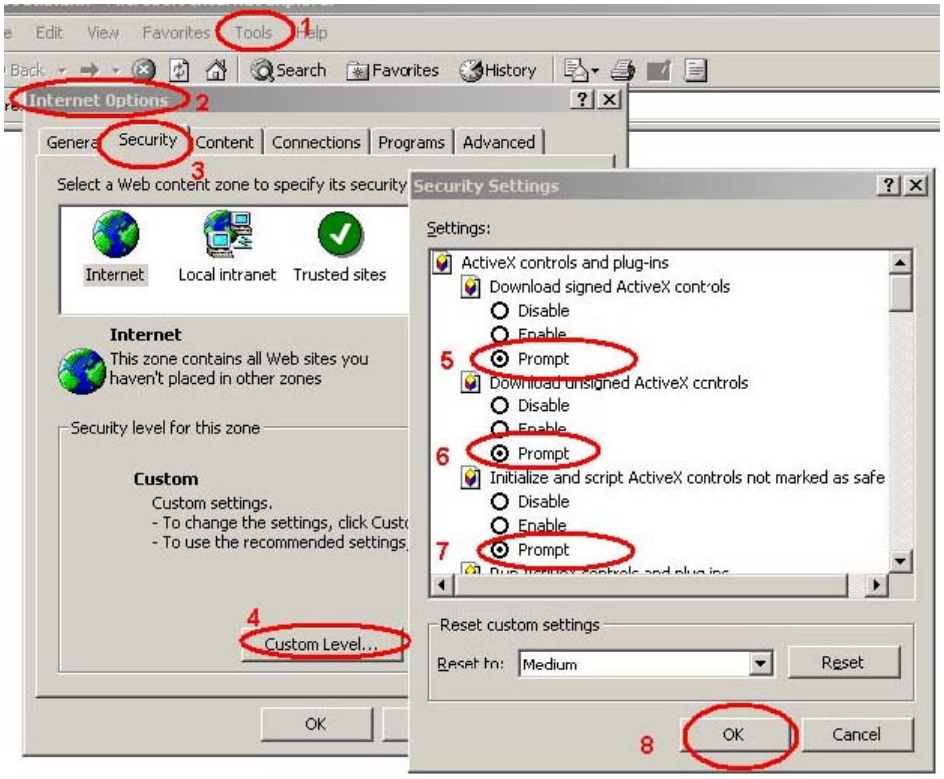
The Internet camera web pages communicate with the Internet camera using an ActiveX control. The ActiveX control must be downloaded from the Internet camera and installed on your PC. Your Internet Explorer security settings must allow for the web page to work correctly. To use the Internet camera, user must setup his IE browser as follows:

2.5.1 Internet Explorer 6 for Windows XP

From your IE browser ➔ "Tools" ➔ "Internet Options…" ➔ "Security" ➔"Custom Level…", please set up your "Settings" as follows:

Set up the first 3 items

- *Download the signed ActiveX controls*
- *Download the unsigned ActiveX controls*
- *Initialize and script the ActiveX controls not masked as safe to Prompt*



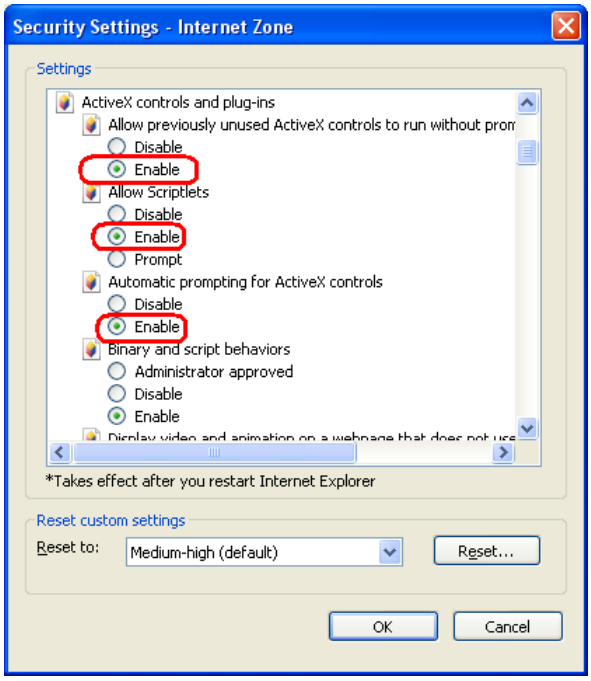
By now, you have finished your entire PC configuration for Internet camera.

2.5.2 Internet Explorer 7 for Windows XP

From your IE browser ➔ ”Tools” ➔ ”Internet Options…” ➔ ”Security” ➔”Custom Level…”, please set up your “Settings” as follows:

Set up the first 3 items

- *Allow previously unused ActiveX control to run…*
- *Allows Script lets*
- *Automatic prompting for ActiveX controls*

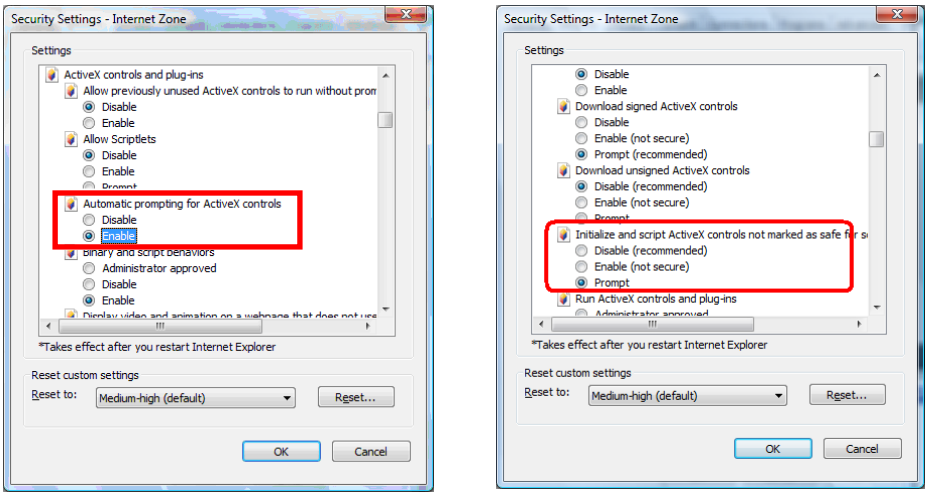


By now, you have finished your entire PC configuration for Internet camera.

2.5.3 Internet Explorer 7 for Windows Vista

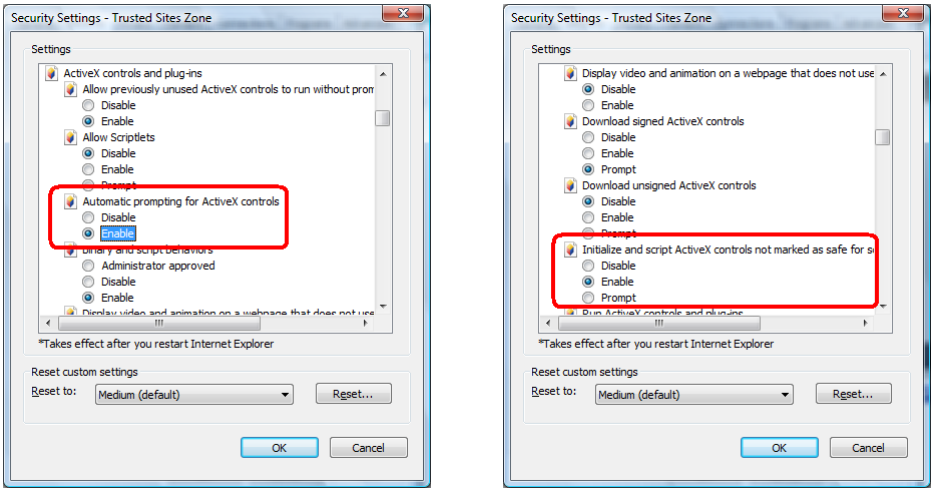
From your IE browser ➔ ”Tools” ➔ ”Internet Options…” ➔ ”Security” ➔ ”Internet” ➔”Custom Level…”, please set up your “Settings” as follows:

- *Enable “Automatic prompting for ActiveX controls”*
- *Prompt “Initialize and script active controls not marked….”*



From your IE browser ➔ ”Tools” ➔ ”Internet Options…” ➔ ”Security” ➔ ”Trusted Sites” ➔”Custom Level…”, please set up your “Settings” as follows:

- *Enable “Automatic prompting for ActiveX controls”*
- *Prompt “Initialize and script active controls not marked….”*



By now, you have finished your entire PC configuration for Internet camera.

Chapter 3. Web-based Management

This chapter provides setup details of the Internet camera's Web-based Interface.

3.1 Introduction

The Internet camera can be configured with your Web Browser. Before configuring, please make sure your PC is under the same IP segment with Internet camera.

3.2 Connecting to Internet Camera

- Use the following procedure to establish a connection from your PC to the camera.
- Once connected, you can add the camera to your Browser's Favorites or Bookmarks.

Start the web browser on the computer and type the IP address of the camera. The Default IP: "http://192.168.0.20 "

The login window of Internet camera will appear. Default login **user name / password** is:

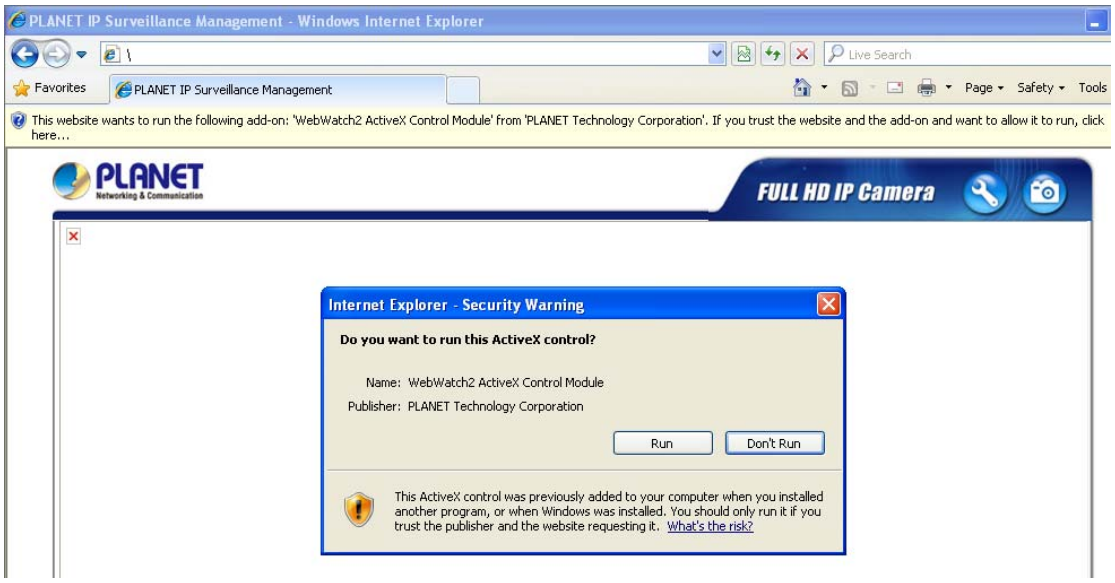
admin / **admin.**

;

Note

1. If the User name and Password have been changed with PLANET IP Installer, please enter the new User name and Password here.

Web browser may display the "**Security Warming**" window. Select "**Yes**" to install and run the ActiveX control into your PC.



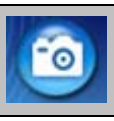
After the ActiveX control is installed and run, the first image will be displayed.

Note

1. If you log in the camera as an ordinary user, setting function will be not available. If you log in the camera as the administrator, you can perform all the settings provided within the device.

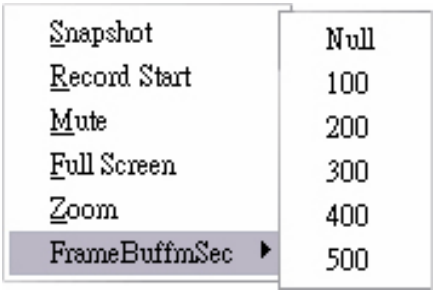
Chapter 4. Live Viewing

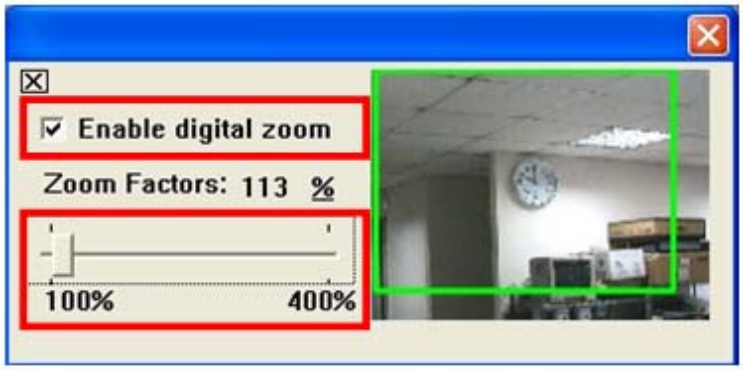
Start-up screen will be shown below whether you are an ordinary user or an administrator.

(1)Configure	Get into the administration page.
(2)Snapshot	 Video Snapshot
(3)Status Bar	Show system time, video resolution, and video refreshing rate.
(4)Screen Size	Select video screen "**default, 1/2x, 1x, 2x**" for view with current camera screen size.
(5)Streaming Select	Select video streaming source (When streaming 2 settings in 『Video Setting』 is closed, this function will not display)
(6)Chatting Function	IP Camera supports 2-way audio. Click the "**Chatting**" check box. Then you can use microphone which connects to the PC to talk to server side, which is IP Camera side
(7)Online Visitor	Shows how many people are connected to this IP camera.

(8)Relay Control	Control the relay which is connected to this camera.
(9) Focus Bar	This function manually adjusts Lens. If value of bar is higher, it means focus is more accurate.

Double-click the video; it will change to full screen mode. Press "**Esc**" or double-click the video again, it will change back to normal mode. Right-click the mouse on the video, it will show a pop-up menu.

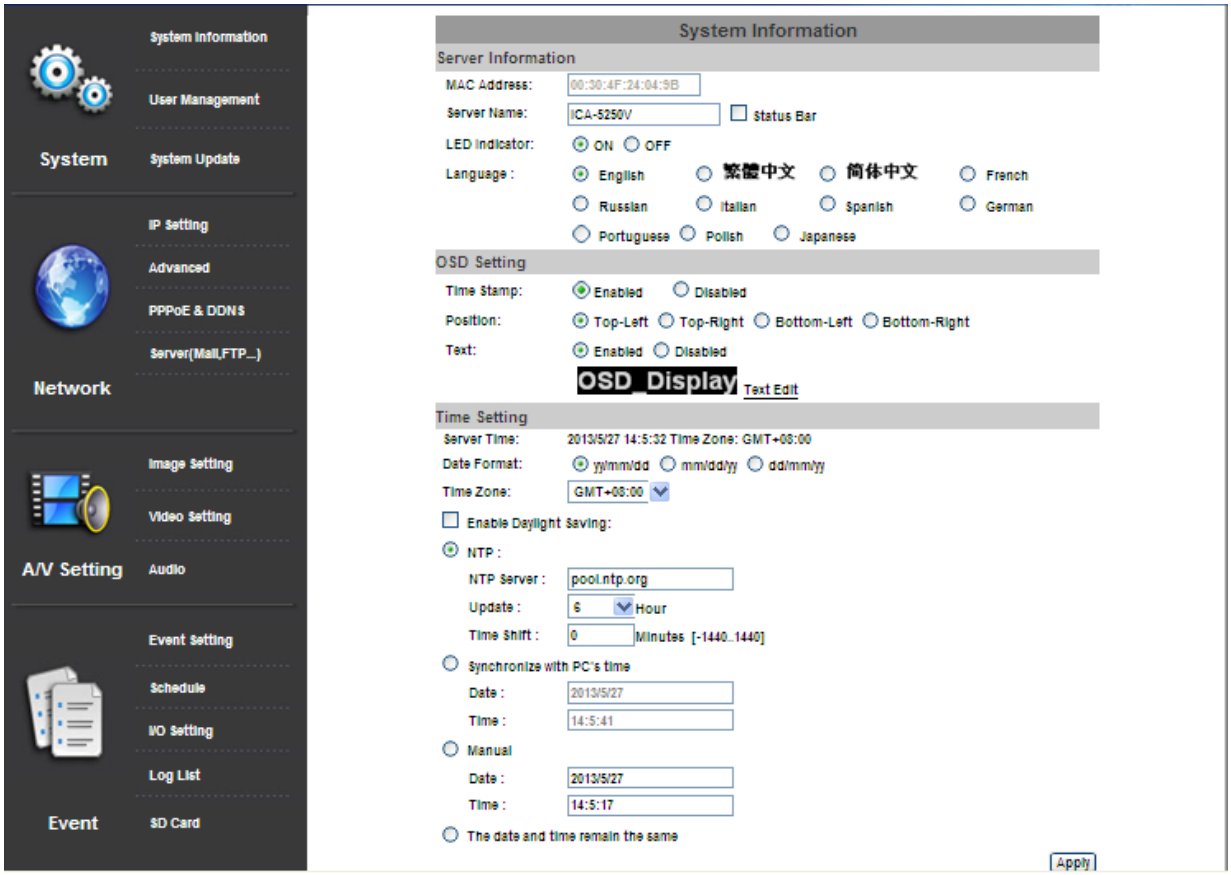




(1)Snapshot	Save a JPEG picture.
(2)Record Start	Record the video in the local PC. It will ask you where to save the video. To stop recording, right-click the mouse again. Select "**Record Stop**". The video format is AVI. Use Microsoft Media Player to play the recorded file.
(3)Mute	Turn off the audio. Click again to turn it on.
(4)Full Screen	Full-screen mode.
(5)ZOOM	Enable zoom-in and zoom-out functions. Select "**Enable digital zoom**" option first within the pop-up dialogue box and then drag and drop the bar to adjust the zoom factors.
(6)FrameBufferSec	Build a buffer to accumulate several video frames and play at a regular interval. This function can make video smooth-going when the Network speed is slow and lag. If you select "100", the interval between every frame is fixed to 100 mSec. The slower the Network is, the bigger value should be selected. The default value is null.

Chapter 5. Configuration

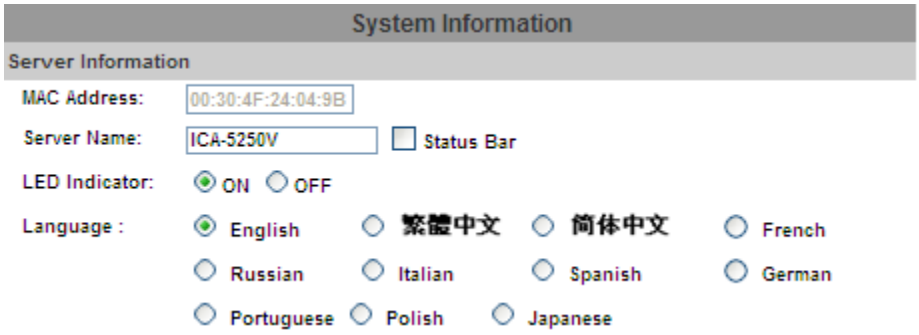
Click to get into the administration page. Click to go back to the live video page.



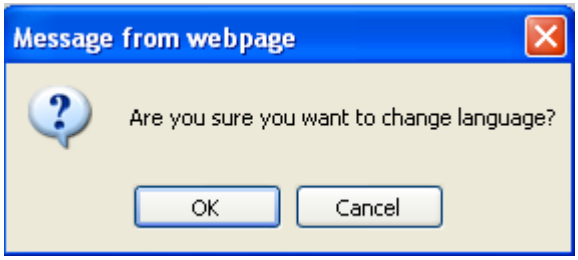
5.1 System

5.1.1 System Information

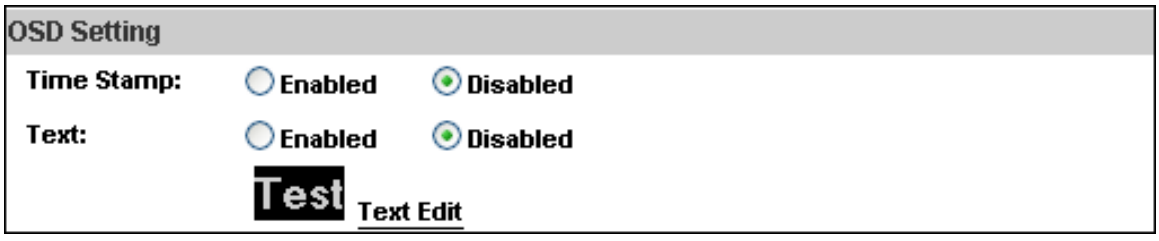
1. Server Information: Set up the camera name, select language, and set up the camera time.



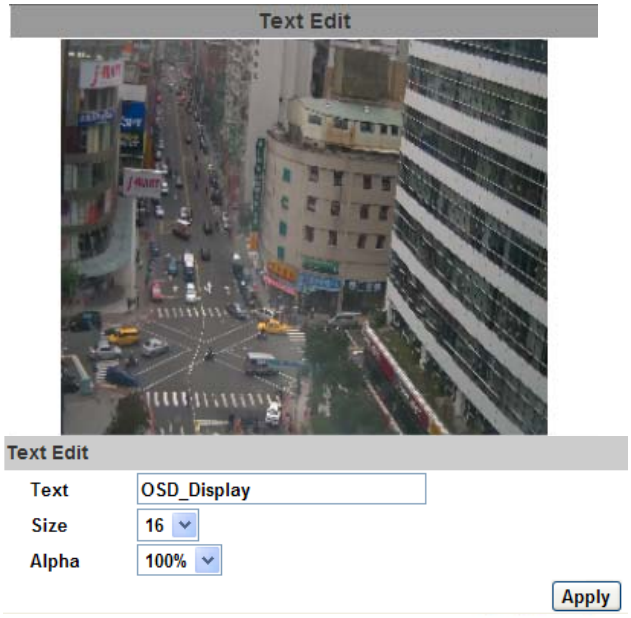
Server Name	This is the Camera name. This name will show on the IP Installer.
Select language	There are English, Traditional Chinese, Simplified Chinese, French, Russian, Italian, Spanish, German, Portuguese, Polish and Japanese to select. When changed, it will show the following dialogue box for the confirmation of changing language.



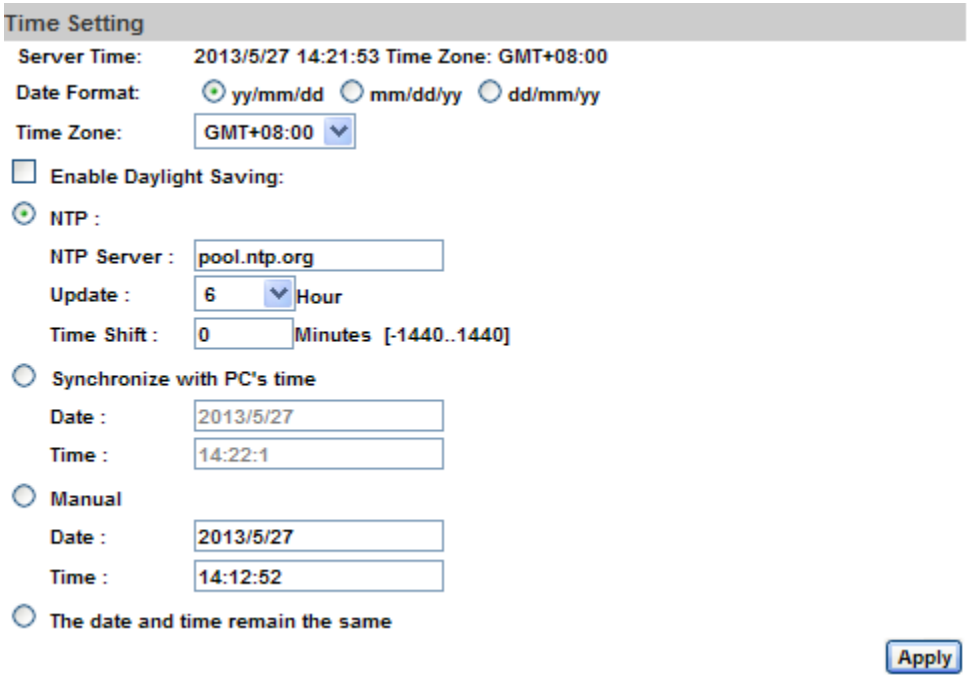
2. OSD Setting: Select a position where date and time stamp / text are shown on the screen.



Moreover, click Text Edit to enter to adjust the OSD contents which include Size and Alpha of text. Finally, click Apply button to reserve the setting.

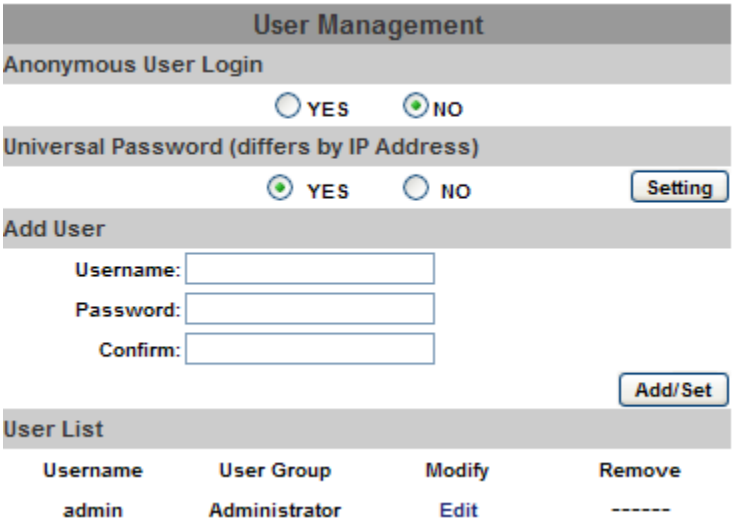


3. Server time setting：Select options to set up time - “**NTP**”, “**Synchronize with PC’s time**”, “**Manual**”, “**The date and time remain the same**”.

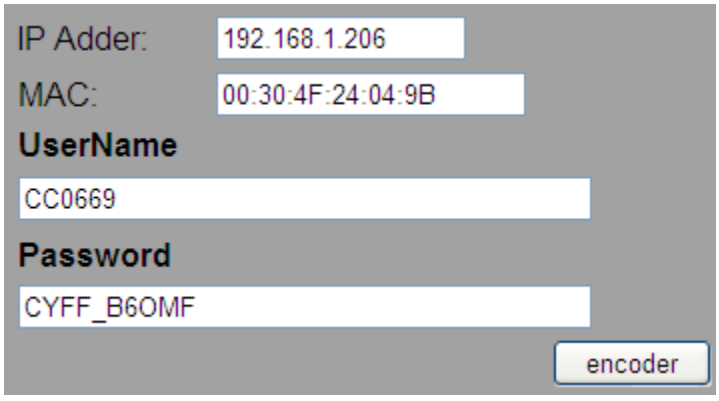


5.1.2 User Management

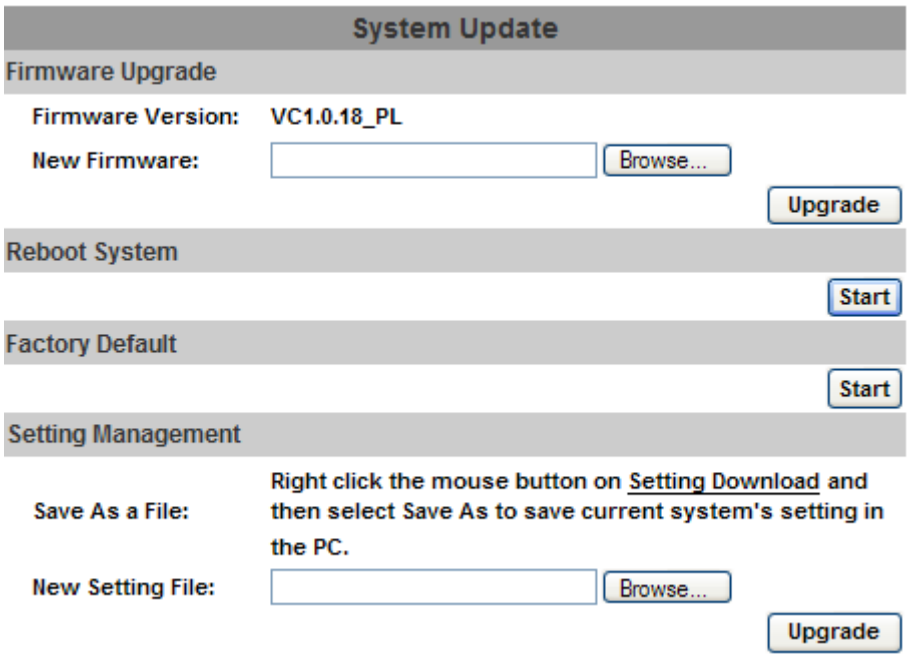
IP camera supports three different users -- administrator, general user, and anonymous user.



Anonymous User Login	Yes：Allow anonymous login No：Need user name & password to access this IP camera
Universal password	When user forgets user name and password to login camera, fill out universal password in MAC address and IP in specific web to login this camera. Note: this user name and password are only for this camera.
Add user	Type the user name and password, then click “**Add/Set**”.



5.1.3 System Update



Firmware Upgrade	To update the firmware online, click "**Browse…**" to select the firmware. Then click "Upgrade" to proceed.
Reboot System	Re-start the IP camera.
Factory default	Delete all the settings in this IP camera.
Setting Management	User may download the current setting to PC, or upgrade from previous saved setting.

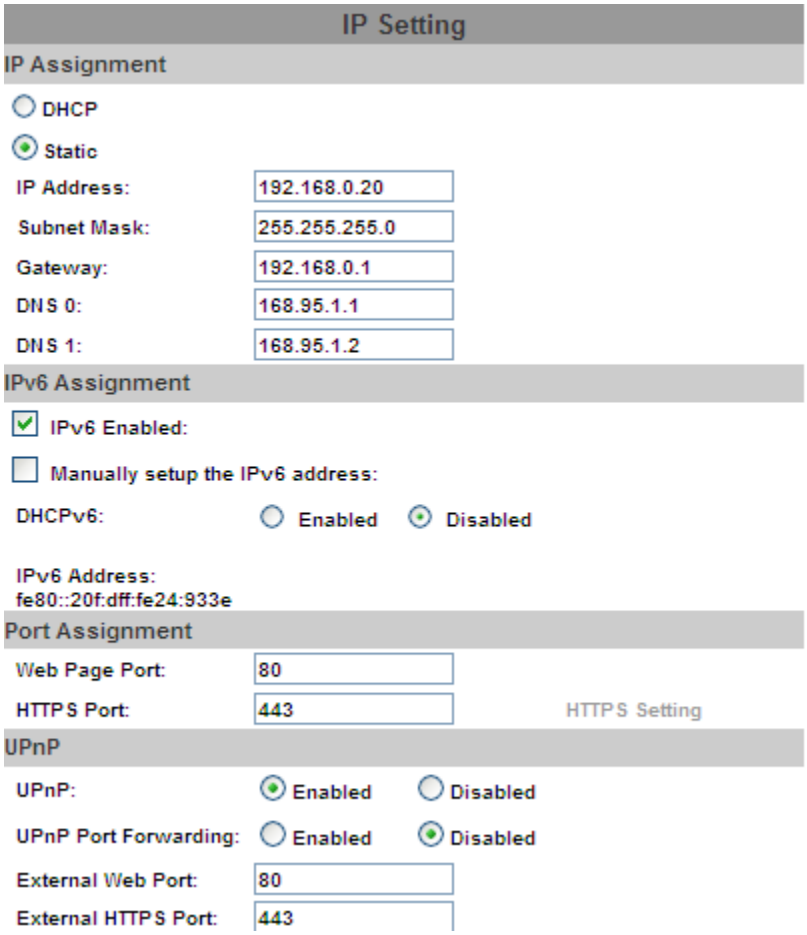
Setting download:
Right-click the mouse button on Setting Download → Select "**Save AS…**" to save current IP CAM setting in PC → Select saving directory → Save

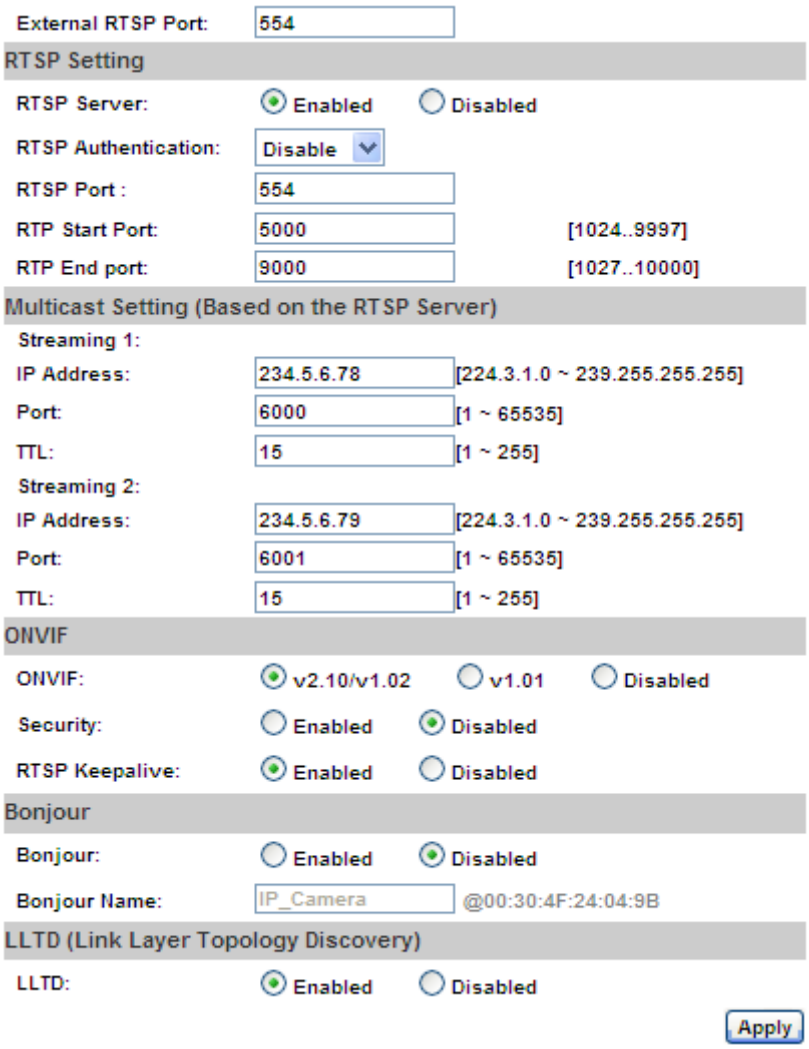
Upgrade from previous setting:
Browse → search previous setting → open → upgrade → Setting update confirm → click index.html. To return to main page

5.2 Network

5.2.1 IP Setting

IP camera supports DHCP and static IP.





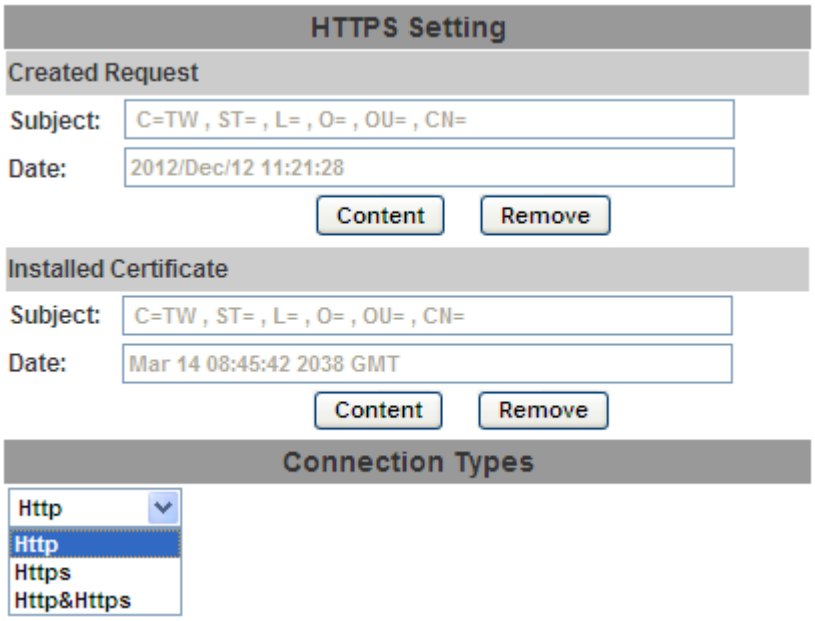
DHCP	Using DHCP, IP camera will get all the network parameters automatically.
Static IP	Please type in IP address, subnet mask, gateway, and DNS manually.
IPv6 Assignment	IPv6 is a newer numbering system that provides a much larger address pool than IPv4, which accounts for most of today's Internet traffic. You can set up IPv6 manually by keying in Address, Gateway, and DNS, or enabling DHCP to assign the IP automatically.
Port Assignment	User may need to assign a different port to avoid conflict when setting up IP assignment. (1) Web Page Port: set up web page connecting port and video transmitting port (Default: 80) (2) RTSP Port: setup port for RTSP transmitting (Default: 554) (3) RTP Start and End Port: in RTSP mode, you may use TCP and UDP for connecting. TCP connection uses RTSP Port (554). UDP connection uses RTP Start and End Port.

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.” Note: UPnP must be enabled on your computer.
UPnP Port Forwarding	When the camera is installed under a router, Enable UPnP Port Forwarding to let the router open ports so that the video streams can be sent out from a LAN. Set Web Port, Http Port, and RTSP port, and make sure your router supports UPnPTM and the function has been activated.
RTSP Server	enable or disable RTSP server
RTSP Authentication	"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 the user to give username and password before allows accessing. The password is transmitted as 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
RTSP port	RTSP Port: setup port for RTSP transmitting (Default: 554) RTSP Start and End Port: in RTSP mode, you may use TCP and UDP for connecting. TCP connection uses RTSP Port (554). UDP connection uses RTSP 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 IP camera. To use Multicast, appoint IP Address and port here. TTL means the life time of packet, The larger the value is, and the more users can receive the packet. << Warning!!! >> To use Multicast, be sure to enable the function "Force Multicast RTP via RTSP" in your media player (ex. VLC media player). Then key in the RTSP path of your camera: "rtsp://(IP address)/" to receive the multicast.
ONVIF	The IP camera supports ONVIF v1.01 / v1.02 / v2.10 standard for integration. Under ONVIF connection, the video will be transmitted by RTSP. Be sure to enable the RTSP server in IP setting, or you're not able to receive the video via ONVIF.
RTSP Keepalive	When the function is enabled, the camera checks once in a while if the user who links to the camera via ONVIF still keeps connecting. If the connection is broken, the camera will stop transmitting video to user.
Bonjour	This function enables MAC systems to link to this IP camera. Key in the name here. The web browser "Safari" also has Bonjour function. Tick "Include Bonjour" in the bookmark setting, and you can see the

	IP camera appearing under the bonjour category. Click the icon to connect the IP camera.
LLTD	If your PC supports LLTD, enable this function and then you can check the connection status, properties, and device position (like IP address) of this IP Camera in the network map. In the computer running Windows Vista or Windows 7, you can find LLTD through the path: Call out the Control Panel → Network and Internet → Network and Sharing Center → Click "See full map"

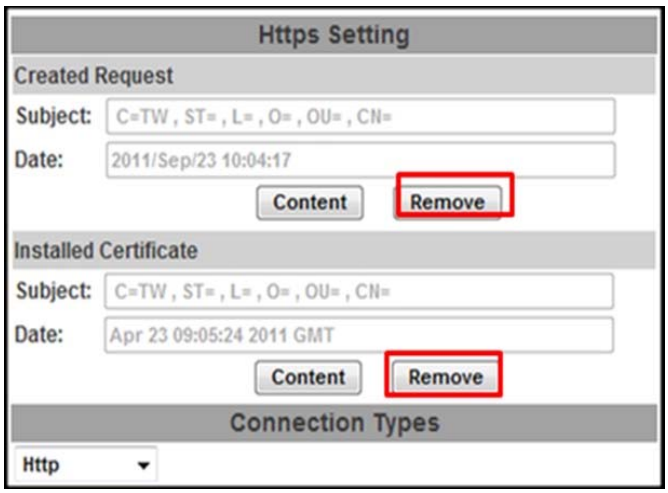
5.2.2 Advanced

5.2.2.1 Https (Hypertext Transfer Protocol Secure)

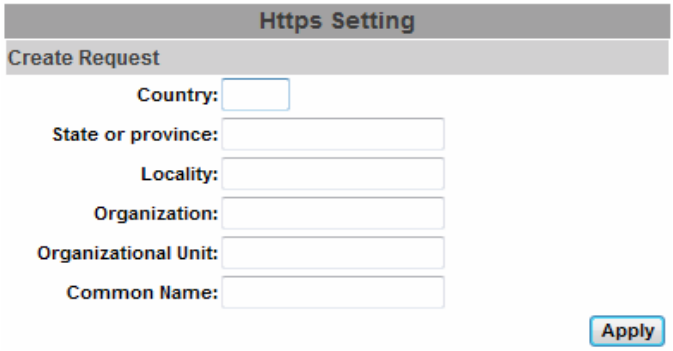


Https can help protect streaming data transmission over the internet on the higher security level. You can select the connection type. "Https" means user cannot connect the camera via Http protocol. The Https path will be: "https://(IP address)/". If you select "Http & Https", both the Http and Https path can be used to access the camera.

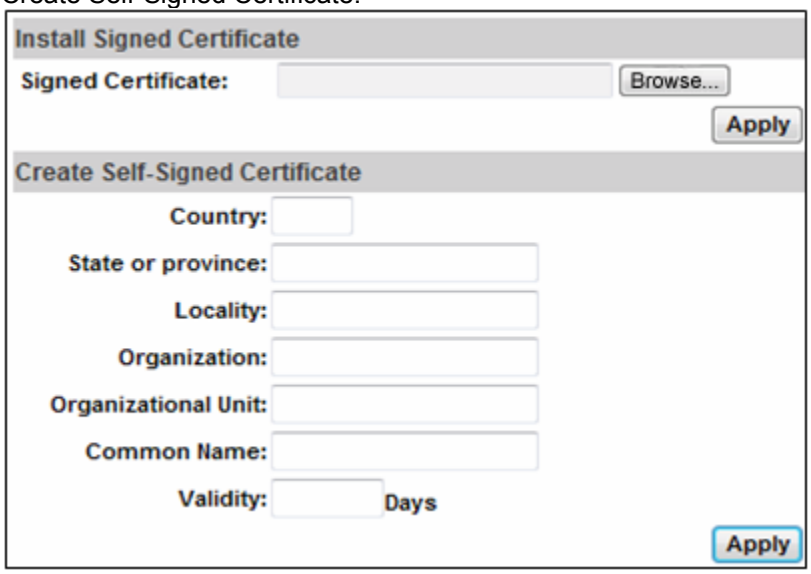
Remove the existing setting: Before setting new request, please remove old secure identification. Select "Http" connection type and click "Remove".



Created Request: Setting the secure identification and apply it



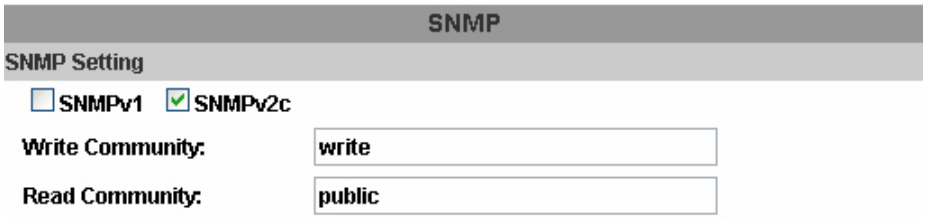
There are two ways to set Certificate -- Install Signed Certificate or Create Self-Signed Certificate.



5.2.2.2 SNMP (Simple Network Management Protocol)

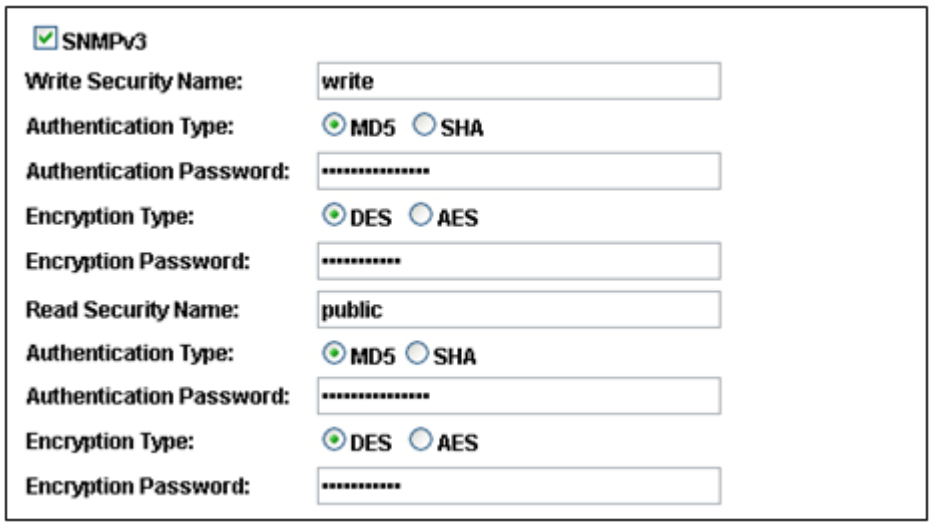
SNMP provides a simple framework for administering networked hardware. To manage the IP camera, you have to prepare a MIB browser or similar tools first. SNMPv1, SNMPv2c, and SNMPv3 can be enabled simultaneously.

SNMPv1 and SNMPv2:



The term "Community name" in SNMPv1 and SNMPv2c can be roughly regarded as key. The person who has the community name has the authority to read or edit the information of IP camera via SNMP. Tick the box to enable SNMPv1 or SNMPv2c protocol, and specify the community name for write (read and write) and read (read-only). The user who use read community name to access the IP camera cannot modify any data of this camera.

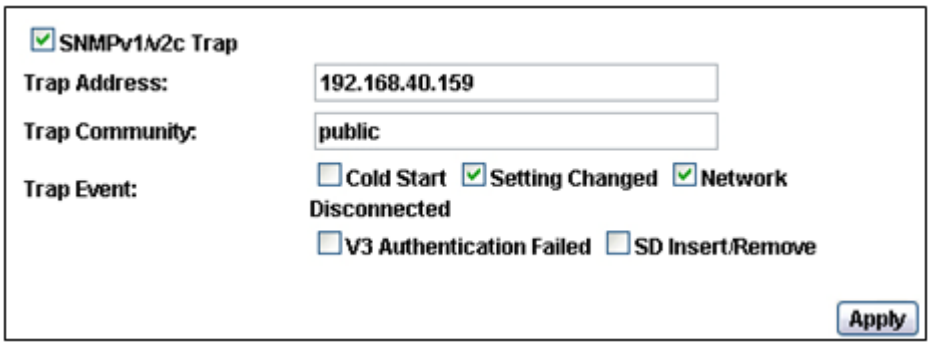
SNMPv3:



For data security reason, the authentication and encryption assurances are added when developing SNMPv3. The user has to give not only the security name (the same as "community name" in v1&v2c, or sometimes we call it "context name") but the password in order to access the IP camera. Please set security name, authentication type, authentication password, encryption type, encryption password of write and read respectively. The password must be 8~64 bits in length.

Different from in SNMPv1 and v2c, the user have to create an account when using SNMPv3. In the account parameters, key in the security name and password you set in the camera to get accessing.

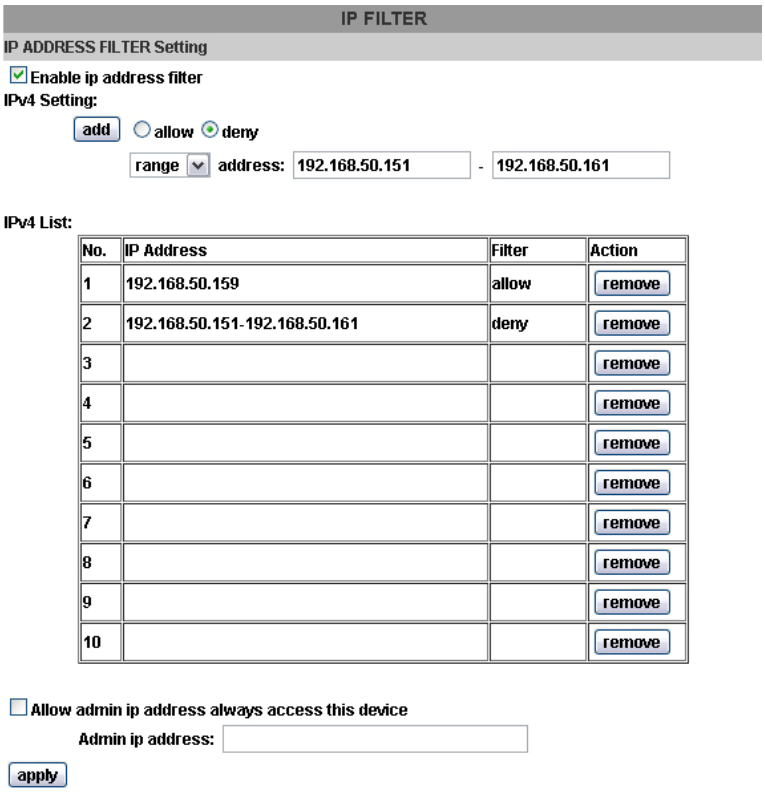
SNMPv1/SNMPv2 Trap:



Trap is a mechanism that allows the managed device to send messages to manager instead of waiting passively for polling from the manager. Specify the trap event. When those events happen, the camera will send the ring message to the Trap Address, which is usually the manager's IP address. Trap Community means the community that can receive the trap message.

- Cold Start: The camera starts up or reboots.
- Setting changed: The SNMP setting is changed.
- Network Disconnected: The network connection was broken down. (The camera will send trap messages after the network being 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.

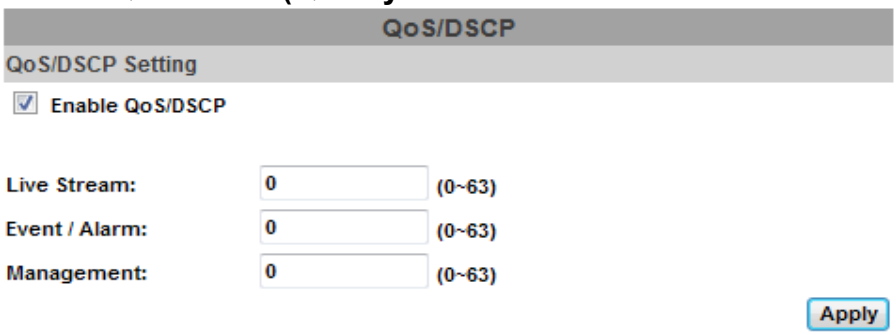
5.2.2.3 Access List



You can deny an IP address or a range of IP address so that they cannot access the IP camera. Tick the "enable" box, key in the IP address you want to deny, select" deny" then click" Add" to add it to the list.

You can also choose to deny a range of IP address but allow one or several IP address of them. Take the picture above for example, IP address 192.168.50.151~161 are not allowed to connect to the camera, but only 192.168.50.159 can access. In the list "allow" condition must be ranked before "deny" condition. For example, if we exchange the sequence, set "Deny: 192.168.50.151~192.168.50.161" for the first item and "Allow:192.168.50.159" for the second item in the list, the IP "192.168.50.159" turns out to be denied by the camera because the "deny" condition has the priority according to our ranking way.

5.2.2.4 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.

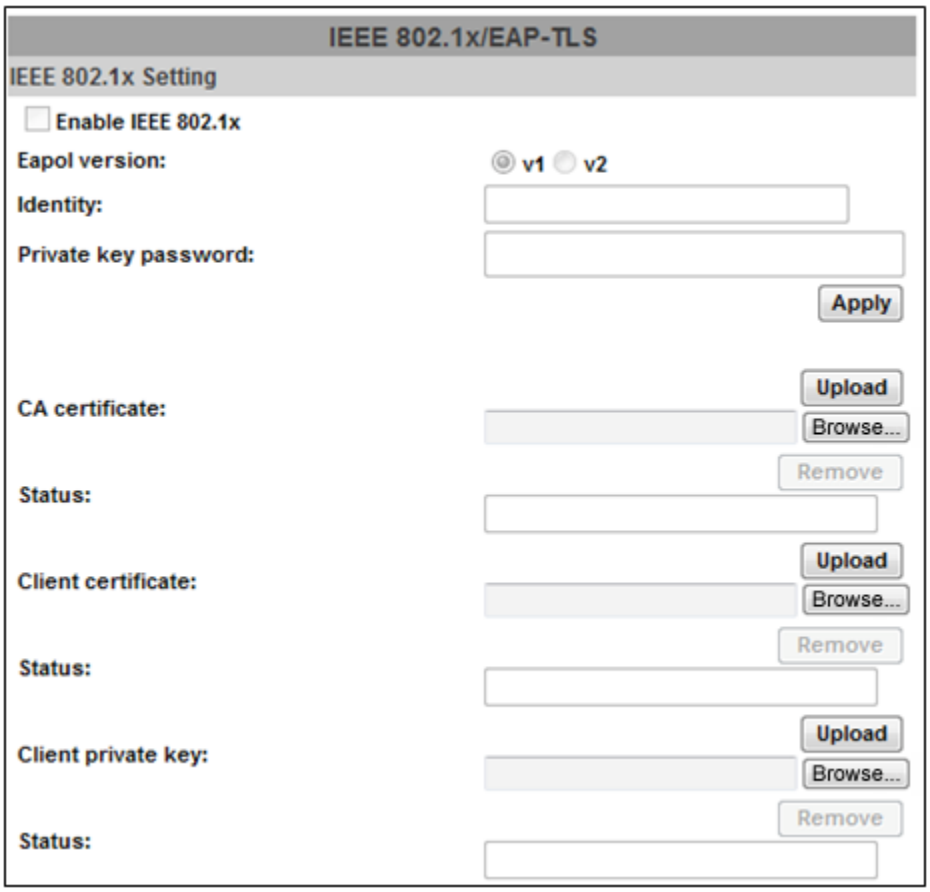
The number 0~63 for Live Stream, Event / Alarm, and Management represent the ratio that the bandwidth is divided. For example, if you set 5, 10, and 20 for the three items, then the bandwidth of the three items is 5:10:20. There is no difference between setting "0, 0, 0" or "63, 63, 63" because under these two setting the three items will get equal bandwidth (1/3).

The three stream control the protocols respectively:

- Live Stream (Video and audio): RTP / RTSP
- Event/Alarm: FTP / SMTP / SAMBA / SIP
- Management: HTTPS / HTTP / SNMP

1. The "Management" stream handles both the live view and the setting area of the web page on which the data is transferred via http/https protocol. If you prefer to distribute more bandwidth when using the web browser to access the camera, please adjust the Management stream.

5.2.2.5 IEEE 802.1x



IEEE 802.1x is an IEEE standard for port-based Network Access Control. It provides an authentication mechanism to device wishing to attach to 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 support. This camera supports EAP-TLS method. Please enter ID, password issued by the CA, then upload related certificates.

5.2.3 Using UPnP of Windows XP or Vista

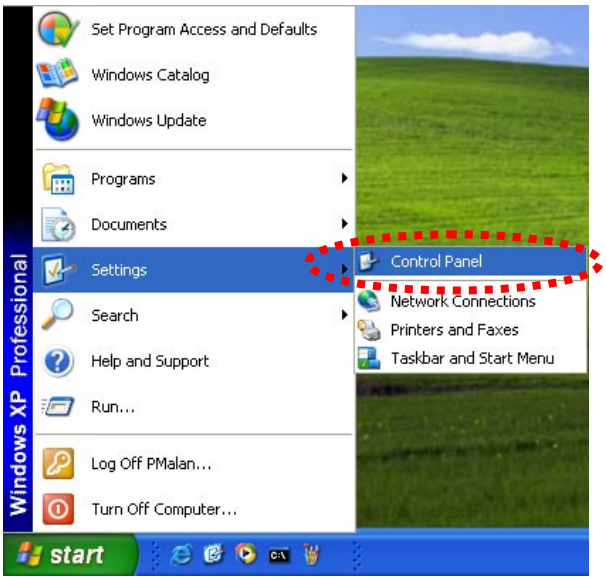
Please follow the procedure to activate UPnP:

5.2.3.1 Windows XP

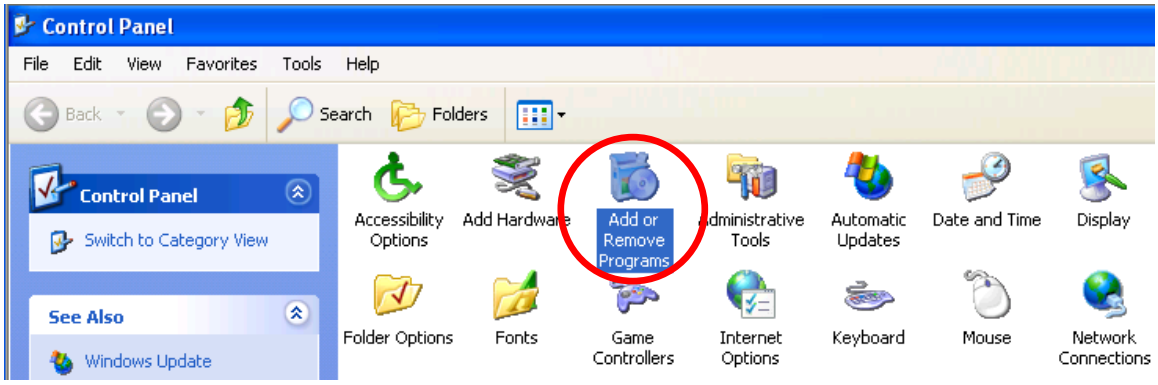
UPnP™ is short for Universal Plug and Play, which is a networking architecture that provides compatibility among networking equipment, software, and peripherals. This device is an UPnP enabled device. If the operating system, Windows XP, of your PC is UPnP enabled, the device will be very easy to configure. Use the following steps to enable UPnP settings only if your operating system of PC is running Windows XP.

1. Windows 2000 does not support UPnP feature.

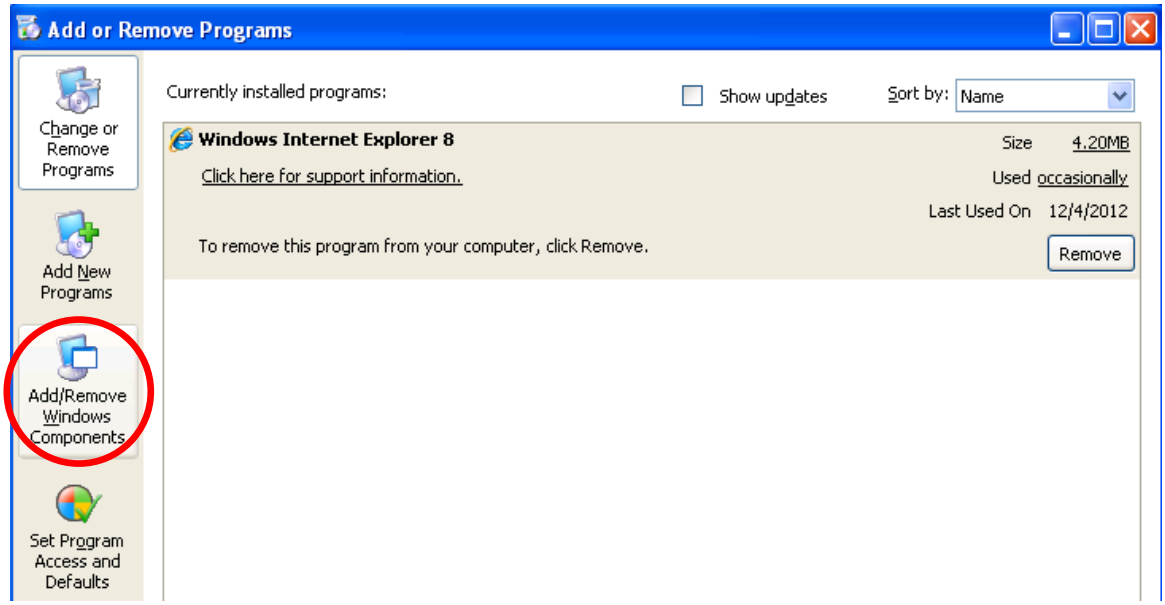
Go to **Start > Settings**, and Click Control Panel



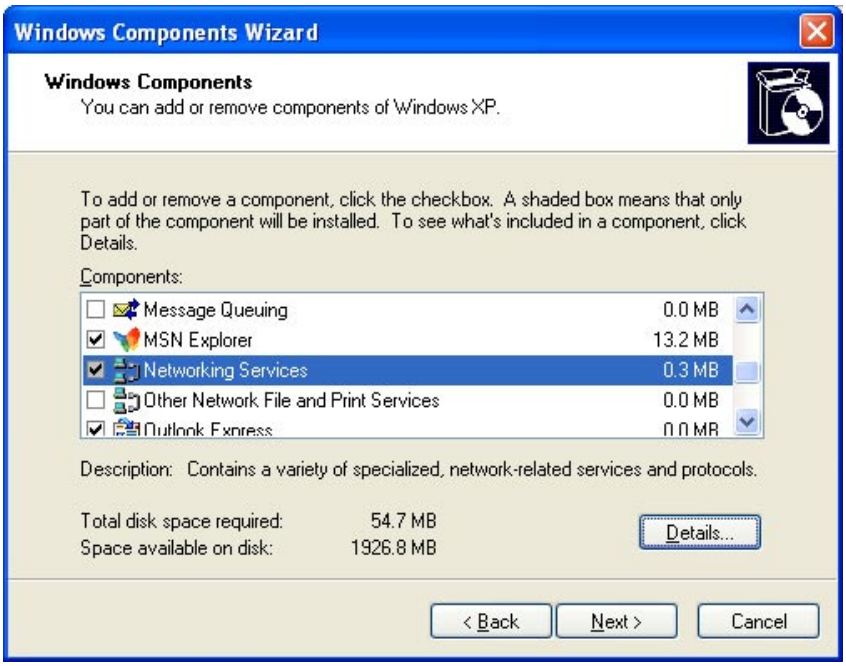
The "**Control Panel**" will display on the screen and double click "**Add or Remove Programs**" to continue



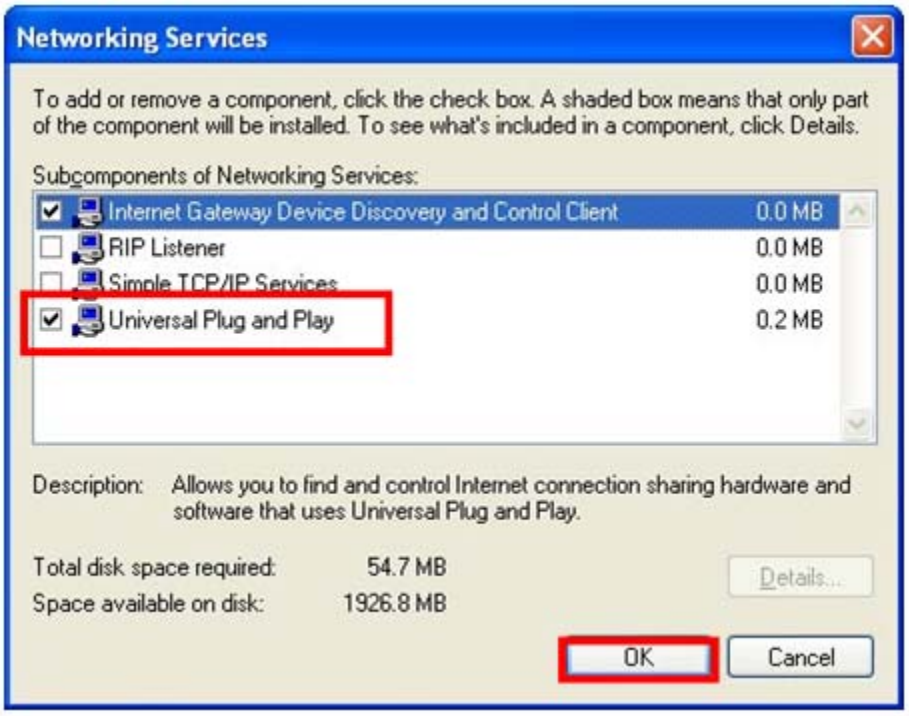
The "Add or Remove Programs" will display on the screen and click **Add/Remove Widows Components** to continue.



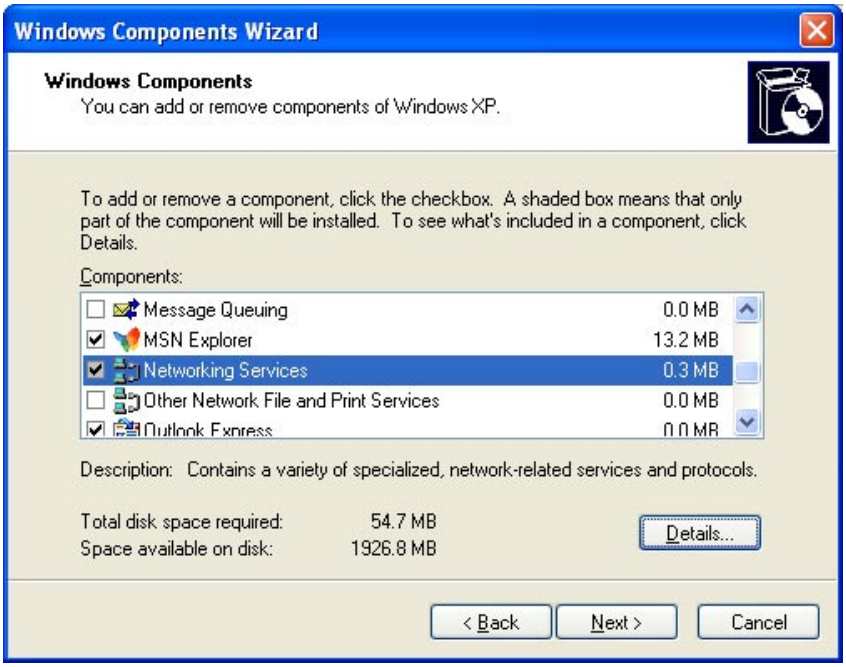
The following screen will appear, select "**Networking Services**" and click "**Details**" to continue



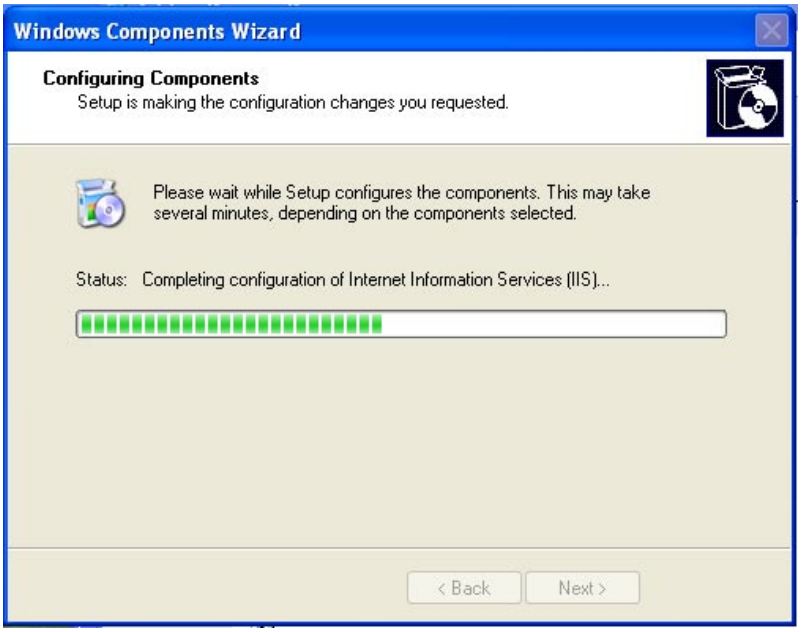
The "**Networking Services**" will display on the screen, select "**Universal Plug and Play**" and click "**OK**" to continue.



Please click "**Next**" to continue

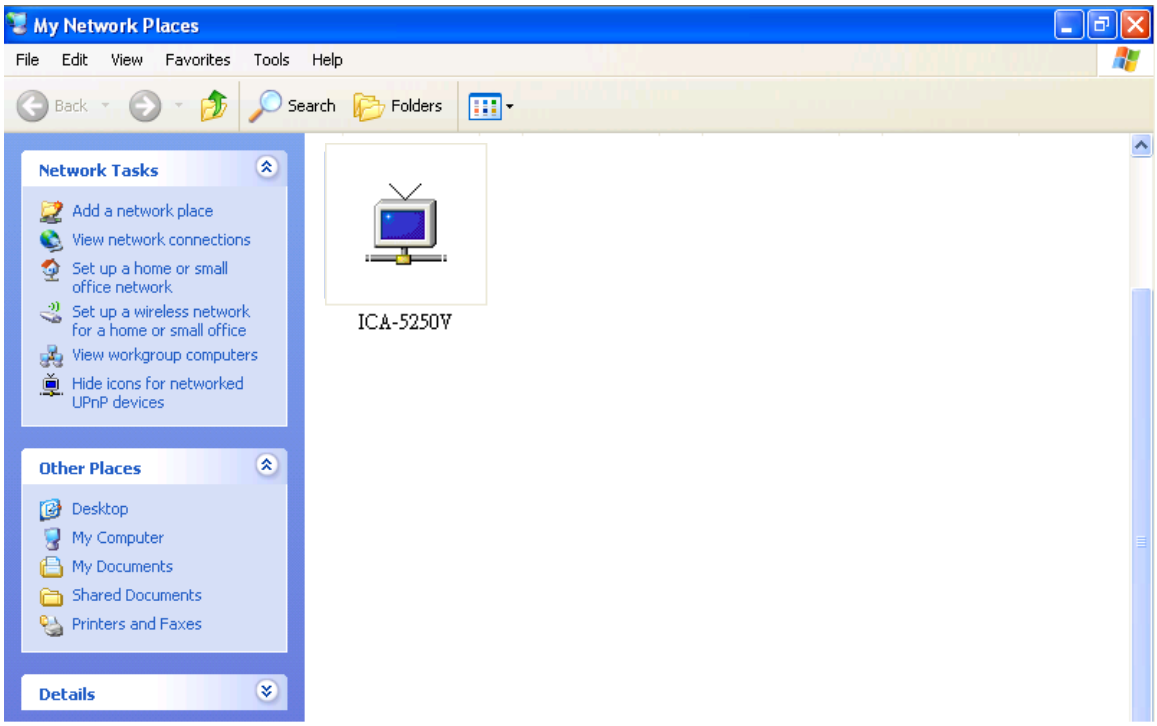


The program will start installing the UPnP automatically. You will see the below pop-up screen, please wait while Setup configures the components.



Please click “**Finish**” to complete the UPnP installation

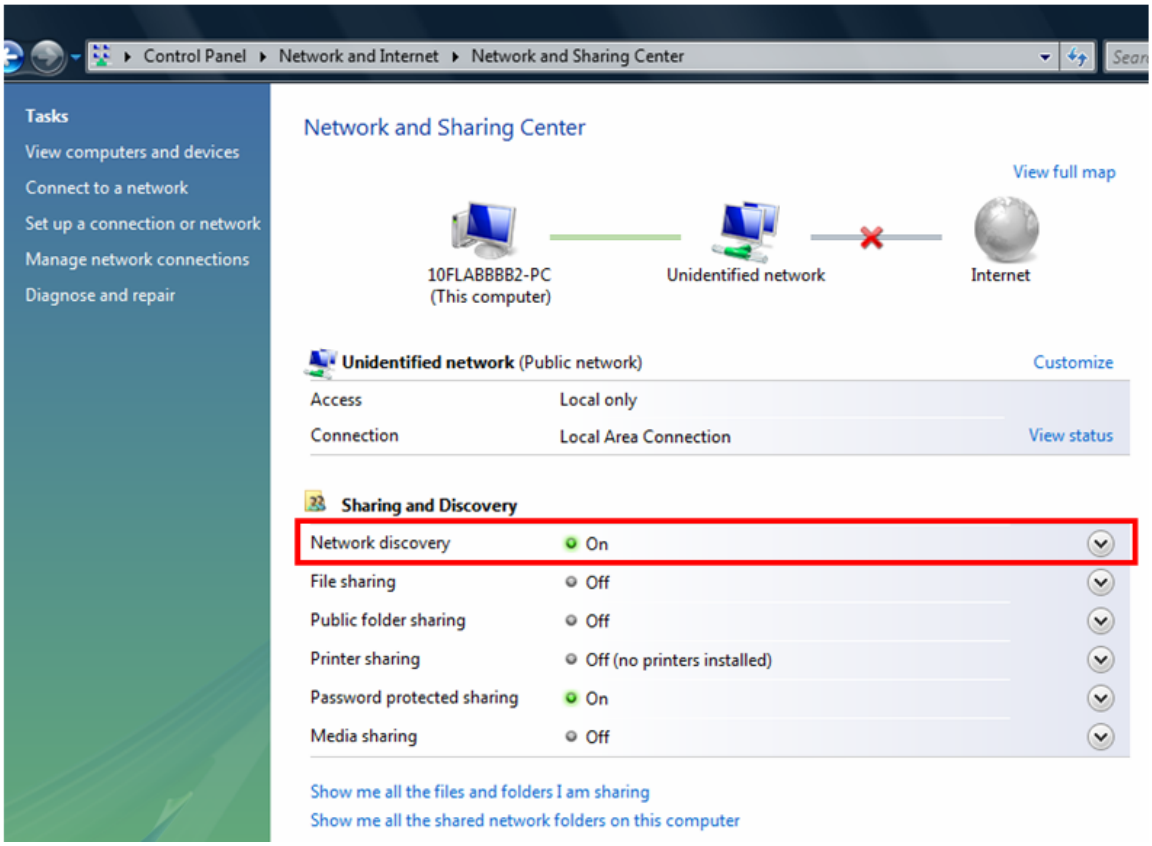
Double-click “**My Network Places**” on the desktop, the “**My Network Places**” will display on the screen and double-click the UPnP icon with Internet camera to view your device in an Internet browser.


My Network Places
File Edit View Favorites Tools Help
Back
Search
Folders
Network Tasks
Add a network place
View network connections
Set up a home or small office network
Set up a wireless network for a home or small office
View workgroup computers
Hide icons for networked UPnP devices
Other Places
Desktop
My Computer
My Documents
Shared Documents
Printers and Faxes
Details
ICA-5250V

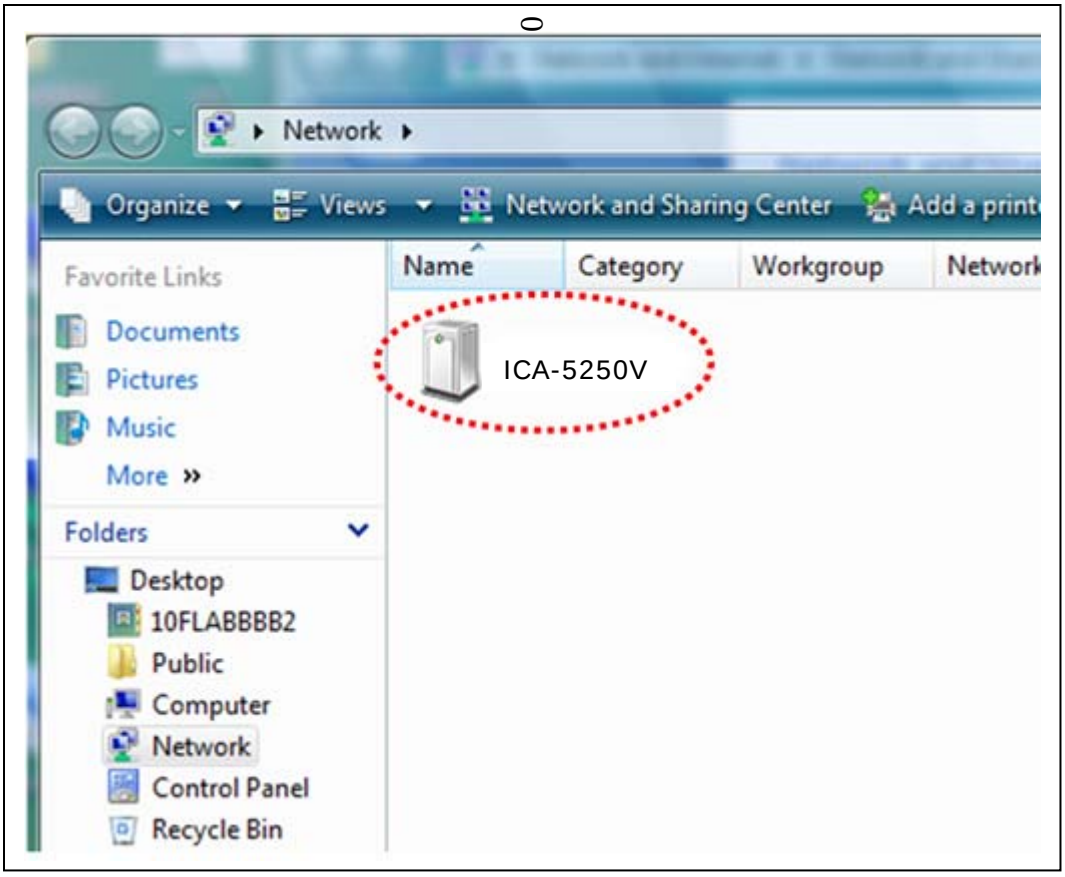
5.2.3.2 Windows Vista

UPnP™ is short for Universal Plug and Play, which is a networking architecture that provides compatibility among networking equipment, software, and peripherals. This device is an UPnP enabled device. If the operating system, Windows Vista, of your PC is UPnP enabled, the device will be very easy to configure. Use the following steps to enable UPnP settings only if your operating system of PC is running Windows Vista.

Go to **Start > Control Panel > Network and Internet > Network and Sharing Center,** and turn on "**Network Discovery**".



Double-click “**My Network Places**“on the desktop, the “**My Network Places**” will display on the screen and double-click the UPnP icon with Internet camera to view your device in an Internet browser.



5.2.4 PPPoE

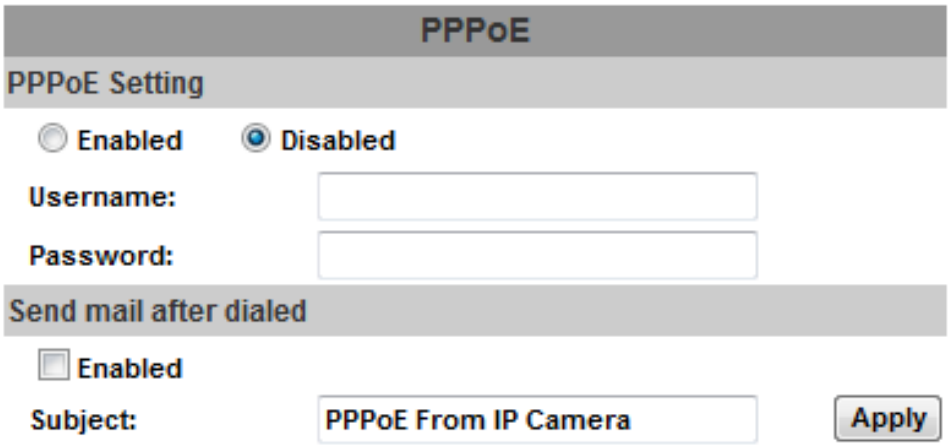
PPPoE: Stands for Point to Point Protocol over Ethernet.

A standard builds on Ethernet and Point-to-Point network protocol. It allows Internet camera connects to Internet with xDSL or cable connection; it can dial up your ISP and get a dynamic IP address. For more PPPoE and Internet configuration, please consult your ISP.

It can directly connect to the xDSL, however, it should be setup on a LAN environment to program the PPPoE information first, and then connect to the xDSL modem. Power on again, then the device will dial on to the ISP connect to the WAN through the xDSL modem.

The procedures are:

(1) Select "**Enabled**" to use PPPoE.
(2) Key-in Username and password for the ADSL connection.
(3) Send mail after dialed：When connect to the Internet, it will send a mail to a specific mail account. For the mail setting, please refer to "**Mail and FTP**" settings.



5.2.5 DDNS

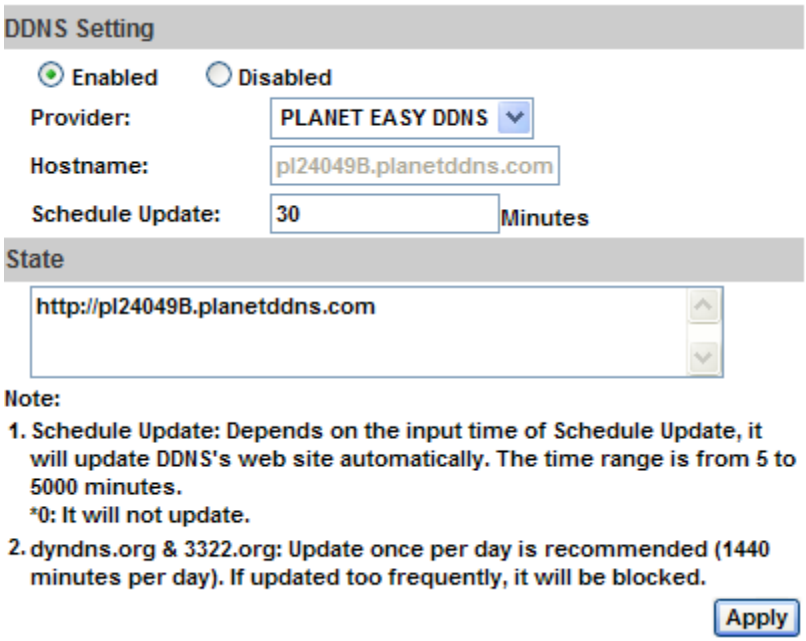
DDNS: Stands for Dynamic Domain Name Server

The device supports DDNS If your device is connected to xDSL directly, you might need this feature. However, if your device is behind a NAT router, you will not need to enable this feature. Because DDNS allows the device to use an easier way to remember naming format rather than an IP address. The name of the domain is like the name of a person, and the IP address is like his phone number. On the Internet we have IP numbers for each host (computer, server, router, and so on), and we replace these IP numbers to easy remember names, which are organized into the domain name. As to xDSL environment, most of the users will use dynamic IP addresses. If users want to set up a web or a FTP server, then the Dynamic Domain Name Server is necessary. For more DDNS configuration, please consult your dealer.

Your Internet Service Provider (ISP) provides you with at least one IP address which you use to connect to the Internet. The address you get may be static, meaning it never changes, or dynamic, meaning it's likely to change periodically. Just how often it changes, depends on your ISP. A dynamic IP address complicates remote access since you may not know what your current WAN IP address is when you want to access your network over the Internet. The solution to the dynamic IP address problem comes in

the form of a dynamic DNS service.

The Internet uses DNS servers to lookup domain names and translates them into IP addresses. Domain names are just easy to remember aliases for IP addresses. A dynamic DNS service is unique because it provides a means of updating your IP address so that your listing will remain current when your IP address changes. There are several excellent DDNS services available on the Internet and best of all they're free to use. One such service you can use is www.DynDNS.org. You'll need to register with the service and set up the domain name of your choice to begin using it. Please refer to the home page of the service for detailed instructions or refer to Appendix E for more information. And other is Planet easy DDNS, it's free for Planet's customer. The default is enables with Planet easy DDNS. The hostname content contains pl and last six MAC address.



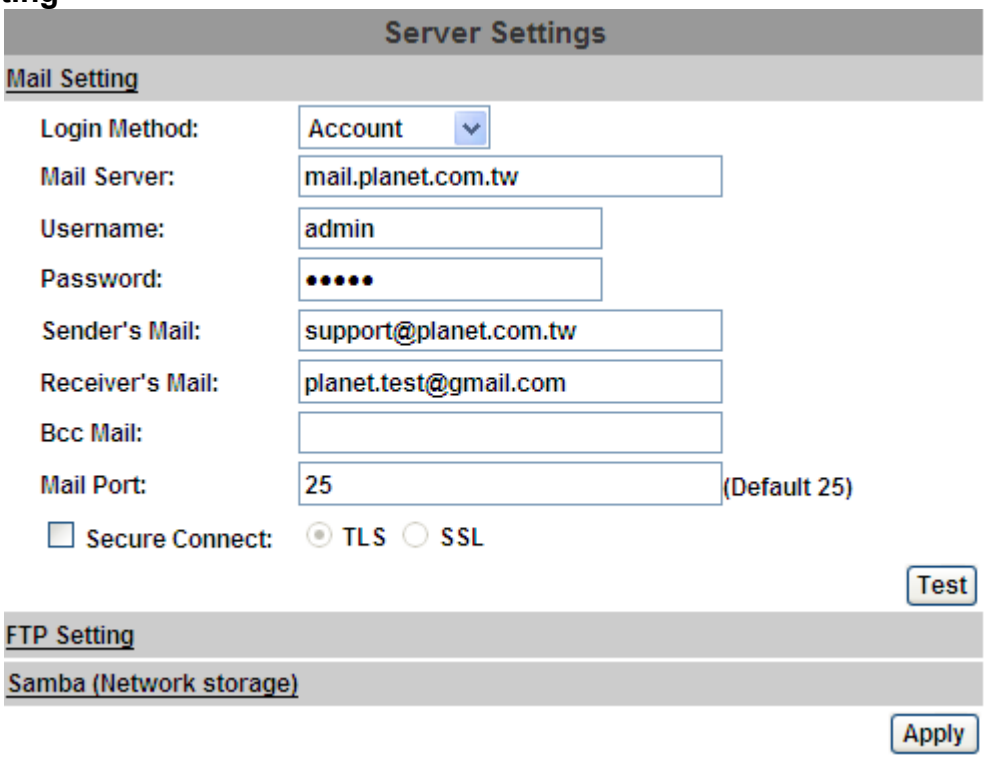
DDNS Status

(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 provide：The server, user name, and password may be wrong.

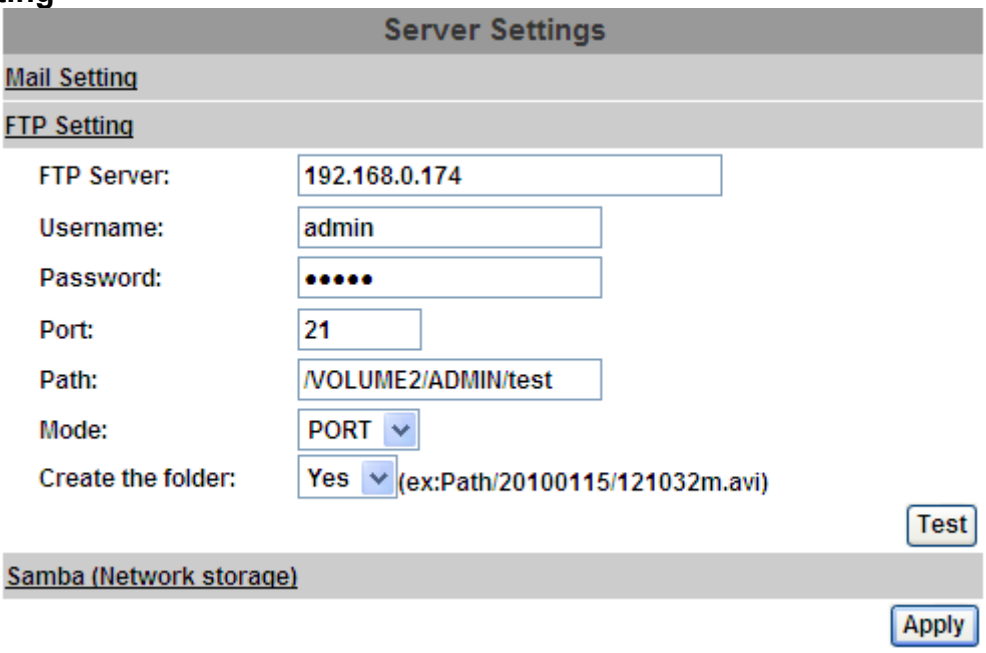
5.2.6 Mail & FTP & SAMBA

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

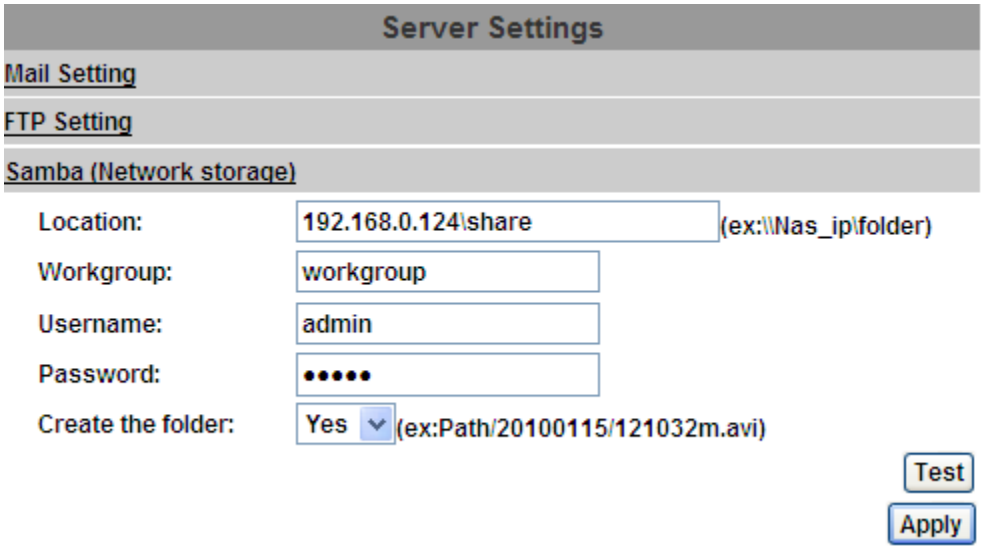
Mail setting



FTP setting



Samba setting



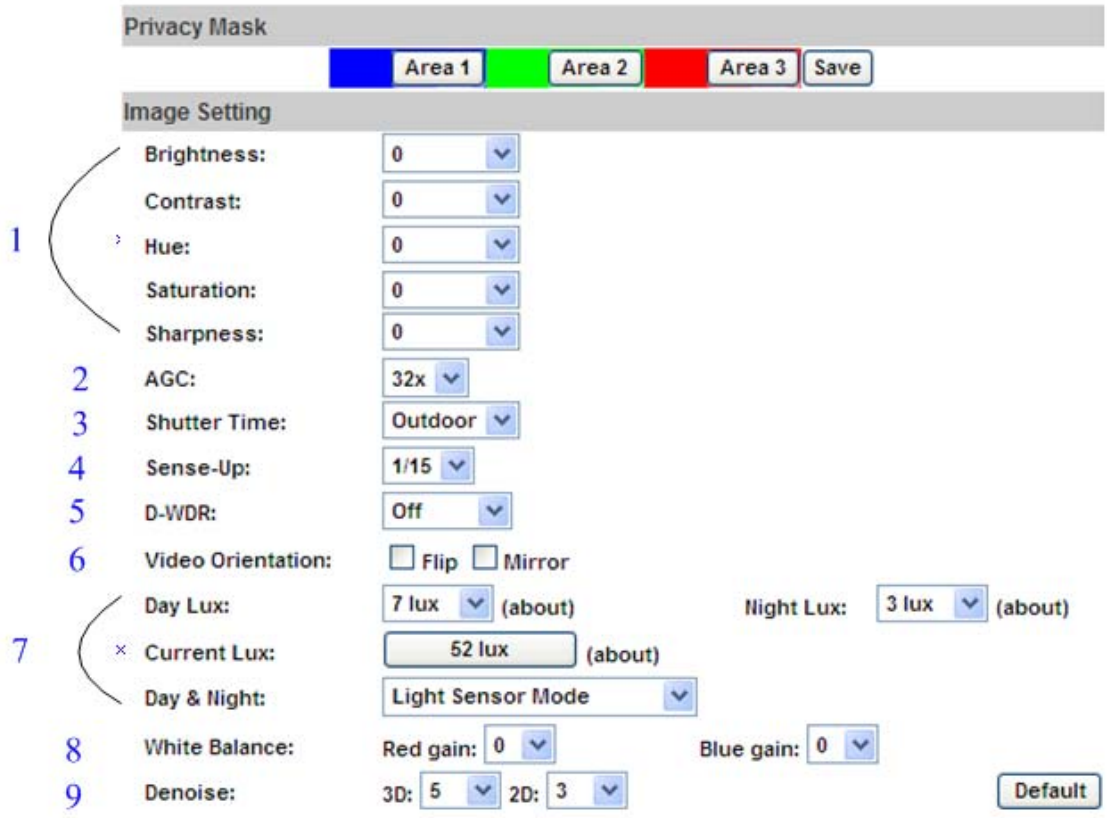
Note

1. Samba only supports one layer folder.

5.3 A/V Setting

5.3.1 Image Setting

For the security purpose, there are three areas that can be set up for privacy mask. Click "**Area**" button first and pull an area on the above image. Finally, click "**Save**" button to reserve the setting. Adjust "**Brightness**", "**Contrast**", "**Hue**", and "**Saturation**" to get clear video. Moreover, the ICA-5250V / 5550V support "**Back Light Compensation (BLC)**", "**Night Mode**" and "**Video Orientation**".



(1) Image adjust	Brightness, Contrast, Hue, Saturation, and Sharpness can be adjusted here.
(2) AGC	Automatic gain control. The sensitivity of camera can be adjusted with the environmental light. Enable this function and the brighter image can be got under dim light, but the level of noise may also increase
(3) Shutter Time	Choose as the location of your camera or fixed shutter time. The shorter the shutter time is the less light the camera receives and the image becomes darker.
(4) Sense-Up	This function increases the sensitivity of camera to get brighter image at night. The smaller the value you select, the slower the shutter speed becomes so that the image will get brighter, and moving subjects might be blurred.

(5) D-WDR	Digital wide dynamic range. This function enables the camera to reduce the contrast in the view to avoid the dark zones resulting from over and under exposure.
(6)Video Orientation	Flip or mirror the image as your requirement.
(7) Day & Night	The camera can detect the light level of environment. If you choose "Light Sensor Mode", the image will be turned to black and white at night in order to keep clear. To set light sensor mode, appoint a lux standard of switching D/N here. Current lux value is provided for reference. Under "Times Mode" the switch time of Color / Black and white is according to the given time. You can also control it by choosing "Color" or "B/W"
(8) White Balance	Enhance red / blue color in the image.
(9) Denoise	This function is able to filter the noise and blur from the image and show a clearer view. "3D" and "2D" are two different denoising approaches. 3D denoise analyzes successive pictures to detect the noise places while 2D denoise analyzes only single picture.

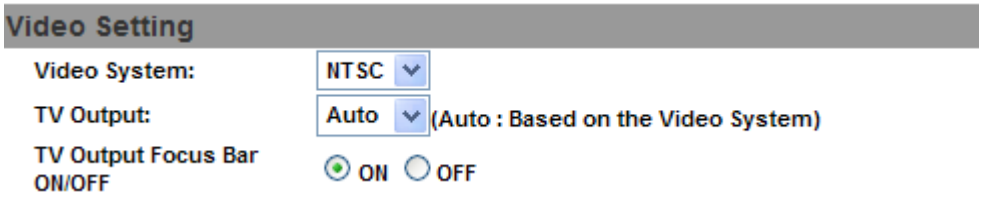
5.3.2 Video Setting

User may select 2 streaming outputs simultaneously:

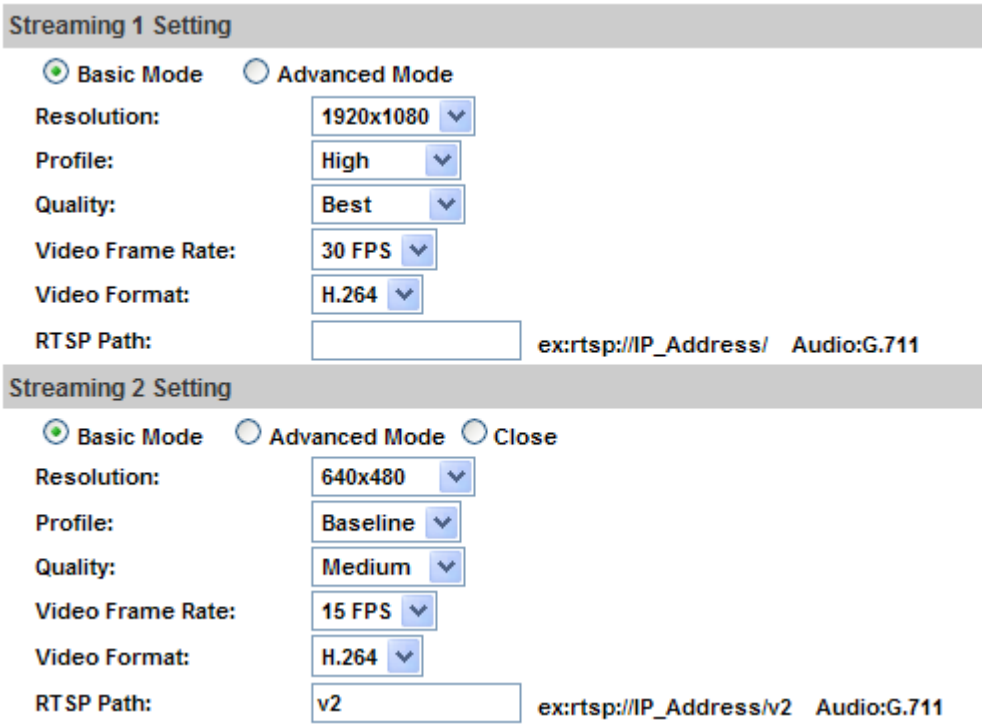
Streaming 1 Setting	Basic mode and Advanced mode.
Streaming 2 Setting	Basic mode, Advanced mode, and 3GPP mode

1. Max Video Frame Rate for both streaming combined is 30 FPS.

5.3.2.1 Video System: click the drop down list to select the system type "**NTSC/PAL**" and TV Output (analog signal). User can select show focus bar on left corner of screen.

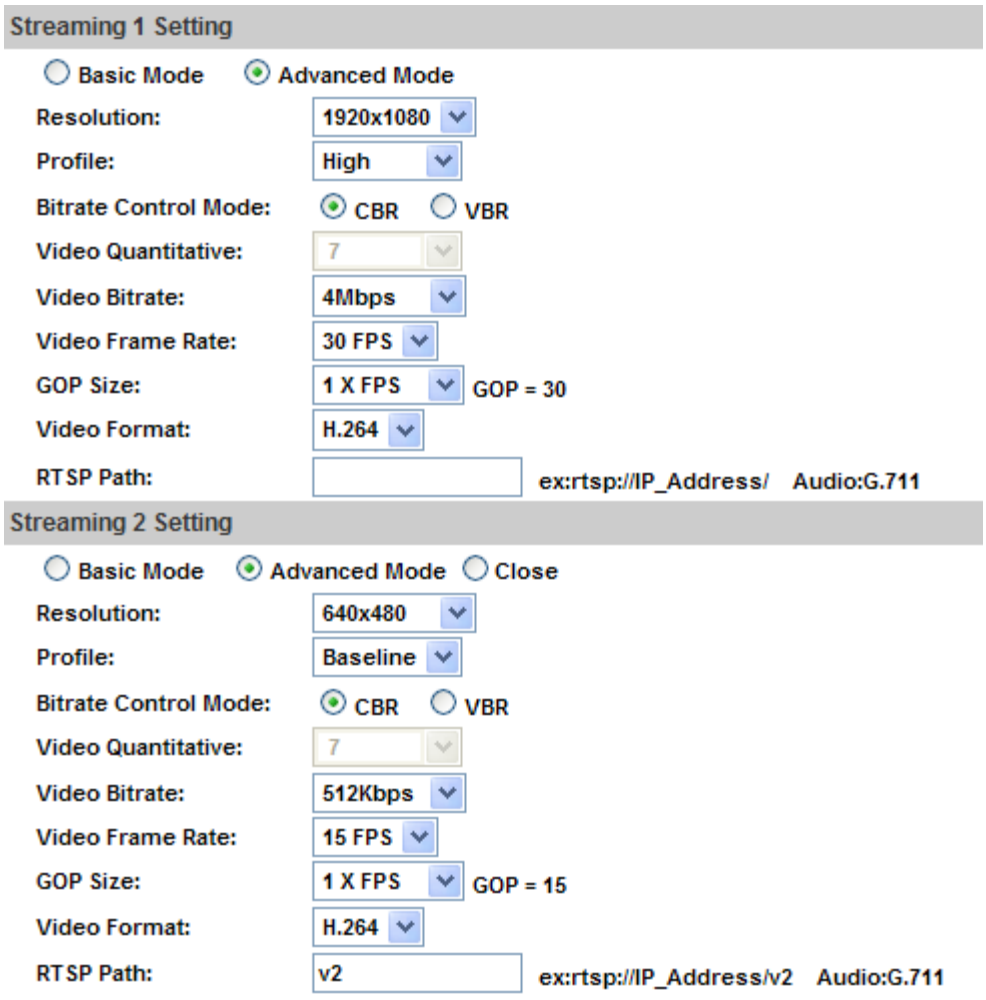


5.3.2.2 Basic Mode of Streaming 1 and Streaming 2:



Resolution	There are 5 resolutions that can be chosen. 1920x1080,1280x720, 640x480, 320x240, or 176x144
Profile	Profile is a different compression way of H.264. High profile provides better coding efficiency. Note that some devises do not support every profile. For example, iPhone4 only supports Main profile.
Quality	The higher the quality is, the bigger the file size is. It might affect Internet transmitting speed if the file gets too large.
Video Frame Rate	The video refreshing rate per second. The max Value is affected by the input resolution you choose.
Video Format	H.264 or JPEG.
RTSP Path	Set the RTSP output connecting route.

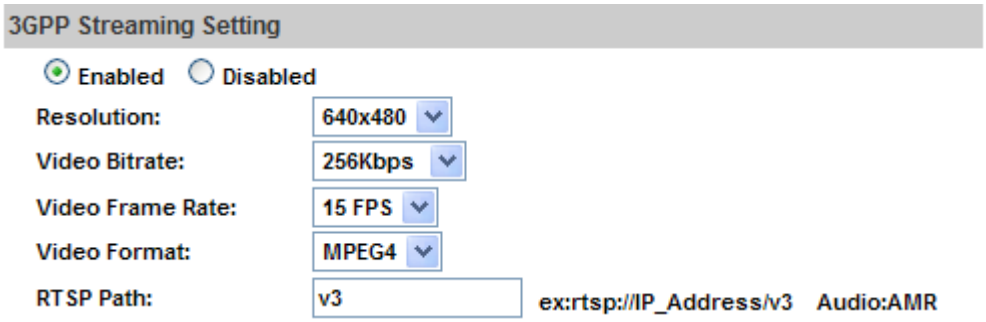
5.3.2.3 Streaming 1 and 2 Advanced Mode：



Resolution	There are 5 resolutions that can be chosen. 1920x1080,1280x720 , 640x480, 320x240, or 176x144
Profile	High profile provides better coding efficiency. Note that some devises do not support every profile. For example, iPhone4 only supports Main profile.
Bitrate Control Mode	There are CBR〔Constant Bit Rate〕 and VBR〔Variable Bit Rate〕to use. **CBR**：32Kbps~10Mbps (the higher the CBR is, the better the video quality is) **VBR**：1(Low) ~10(High) – Compression rate, the higher the compression rate, the lower the picture quality is and vice versa. The balance between VBR and network bandwidth will affect picture quality. Please carefully select the VBR rate to avoid picture breaking up or lagging.
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 or JPEG.
RTSP Path	RTSP output connecting route.

5.3.2.4 3GPP Streaming mode:



Enable or Disable	Enable or Disable 3GPP Streaming.
Resolution	640x480, 320x240, or 176x144
Video Bitrate	The higher the value is, the higher the image quality is.
Video Frame Rate	The video refreshing rate per second.
Video Format	H.264 or MPEG4
3GPP Path	3GPP output connecting route. If the IP address of your camera is 192.168.40.150, and you key in "3g" in the column, the 3GPP path will be rtsp://192.168.40.150/3g.

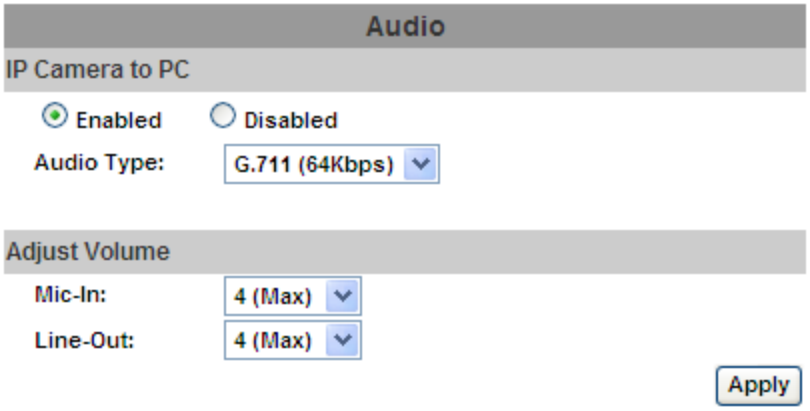
The RTSP here is separated from the RTSP setting in the "IP SETTING".
3GPP Streaming can still work even you select "disabled" in the RTSP server option of IP Setting.

5.3.3 Audio

The ICA-5250V / 5550V supports 2-way audio. User can send audio from ICA-5250V / 5550V's built-in microphone to remote PC; User can also send audio from remote PC to ICA-5250V / 5550V's external speaker.

(1) Audio from IP camera's built-in microphone to local PC: select "**Enable**" to start this function.

The Audio compression format can be chosen from 3 options. You can also adjust the volume of 2-way audio.



(2) Audio from local PC to ICA-5250V / 5550V: Check "**chatting**" on the browsing page.

5.4 Event List

The ICA-5250V / 5550V provides multiple event settings.

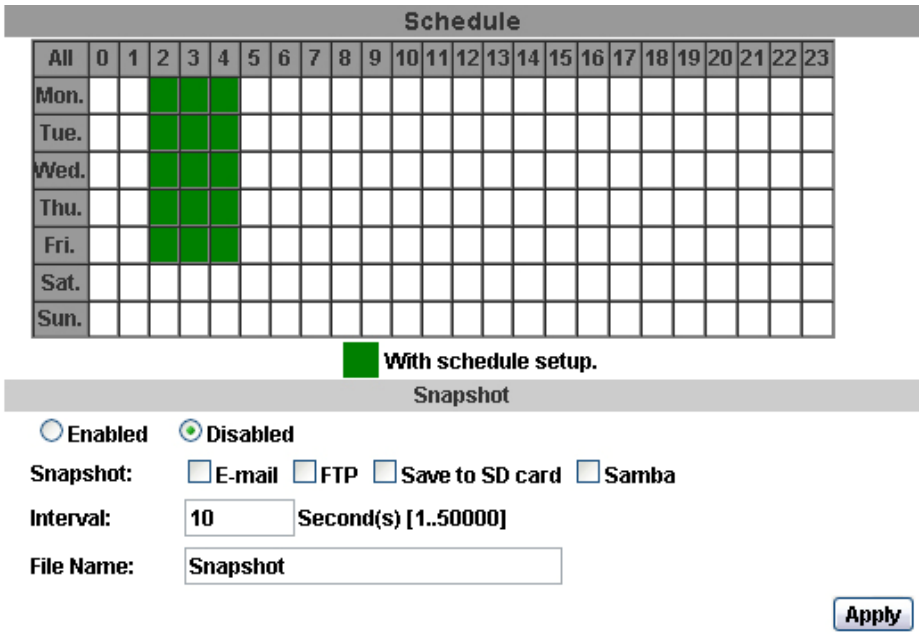
5.4.1 Event Setting

Motion Detection	IP CAMERA allows 3-area motion detection. When motion is triggered, it can send the video to some specific mail addresses, transmit the video to remote ftp server and SAMBA, and trigger the relay. To set up the motion area, click “Area Setting” and use mouse to drag and draw the area. The same operation is done for areas 2 and 3.
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 motion detection 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 the camera detects motion during 11:00~12:00 on Monday.
Tampering Detection	If user enables this function and when anything covers LENS of camera, it will send the video to some specific mail addresses, transmit the video to remote ftp server and SAMBA, and trigger the relay.
Record File Setting	IP CAMERA allows 3 different types of recording files to change its record size. When motion/alarm is triggered, there are 3 different types of recording modes, and they are: (1) AVI File (with Record File Setting) (2) Multi-JPEG (with Record File Setting), only with JPEG compression format. (3) Single JPEG (Single File with Interval Setting)
Record Time Setting	Pre Alarm and Post Alarm setups for video start and end time when motion detects I/O, or other devices got triggered. Note: Pre/Post Alarm record time is based on record time setting and IP cam built-in RAM memory. Limited by IP cam built-in Ram memory and when information is too much or video quality is set too high, it will cause recording frame to drop or decrease post alarm recording time.
Network Disconnected	To avoid video loss, the camera will start to save the video to local SD card when it detects no network connection. The video recording will continuously be saved into SD card and divided into every 10 minutes a file until the network is reconnected successfully. The oldest file will be deleted if the capacity of SD card is full.
Network IP Check	Key in the target IP address and interval. The camera checks once in a while according to the setting interval time if it can link to the target IP address. If connection fails, the camera starts to save the video to SD card

5.4.2 Schedule

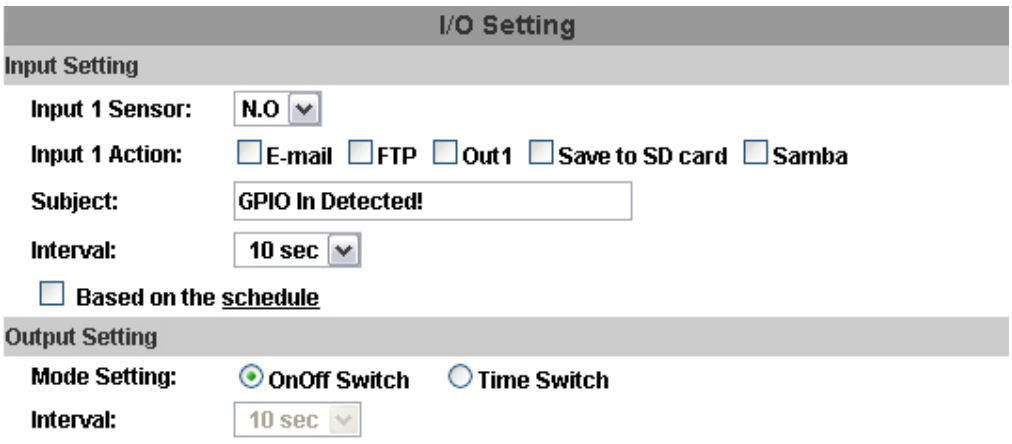
Schedule	After completing the scheduled setup, the camera data will be recorded according to the scheduled setup.

Snapshot	After enabling the snapshot function, user can select the storage position of snapshot file, the interval time of snapshot and the reserved file name of snapshot.
Interval	The interval between two snapshots.



5.4.3 I/O Setting

The ICA-5250V / 5550V supports 1 input/1 output. When input is triggered, it can send the video to some specific mail addresses, transmit the video to remote ftp server, and trigger the relay and SAMBA.



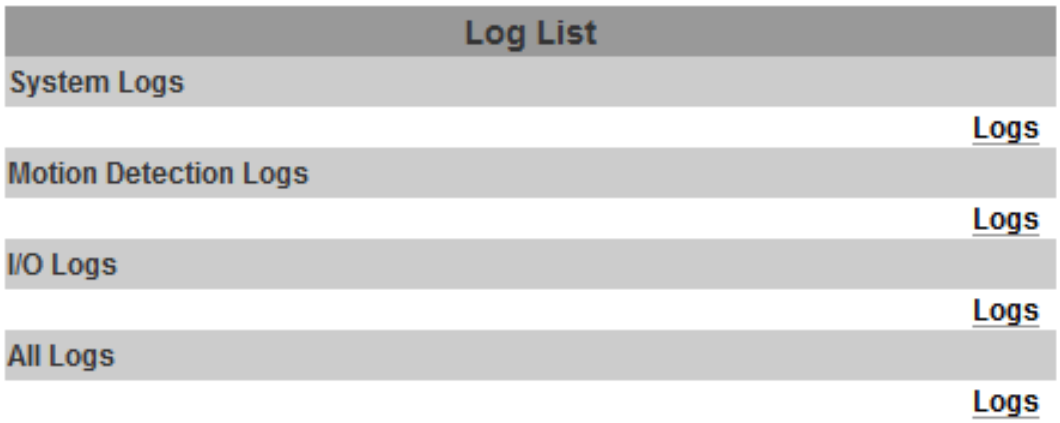
Note

1. Please connect to propriety relay box to reduce the risk of electric shock and damage.

Alarm Input Setting	The GPIO I/O port input activates related action when I/O input is triggered.
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 scheduled time, the I/O is enabled. That is, for example, the 11th hour of Monday has not been colored in the scheduled table, then no action will be triggered even the camera detects input signal during 11:00~12:00 on Monday.
GPIO Output Setting	The GPIO I/O port output activates On/Off Switch, Slide Switch or Pan/Tilt Module for use with relay box.
On Off Switch	The camera triggers the external device and lasts for 10 seconds. You can turn off the alarm manually by clicking "off" on the right bottom of the live video page.
Time Switch	The camera triggers the external device and lasts for certain of time according to the interval setting, and the user is not allowed to break off the alarm manually.

5.4.4 Log List

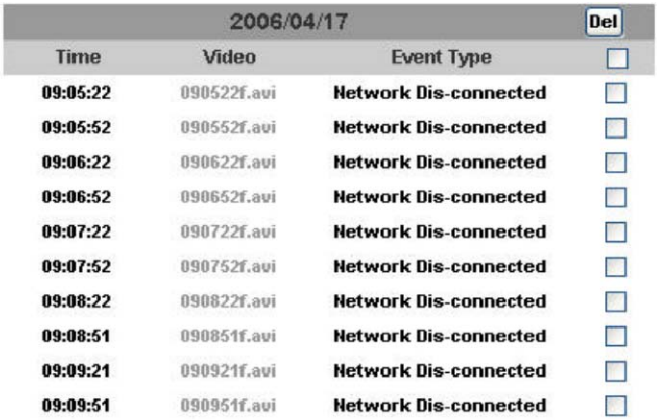
Sort by System Logs, Motion Detection Logs and I/O Logs. In addition, System Logs and I/O Logs won't lose data due to power failure.



5.4.5 SD card

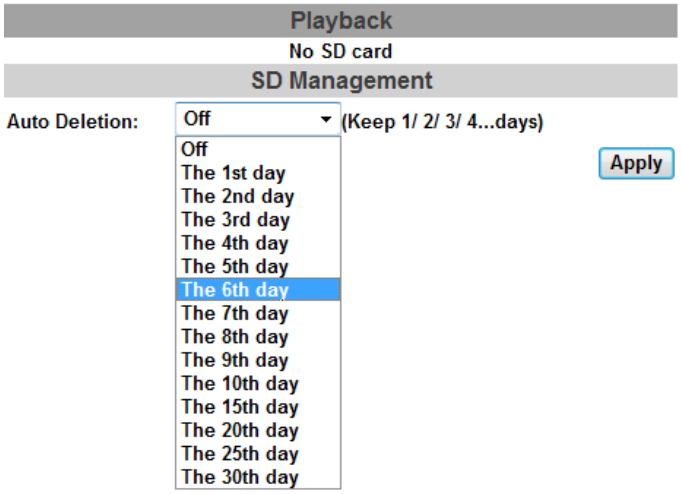
5.4.5.1 Playback

Please Insert Micro SD card before using it. Make sure to push Micro SD card into the slot completely.
Click the date listed on this page and it shows the list of the video. The video format is AVI. Click the video to start Microsoft Media Player to play it. To delete the video, check it, and then click "Del".



5.4.5.2 SD Management

Choose “The 1st day” means the recoding file will be kept for one day. For 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

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

5.4.5.3 Copy to PC

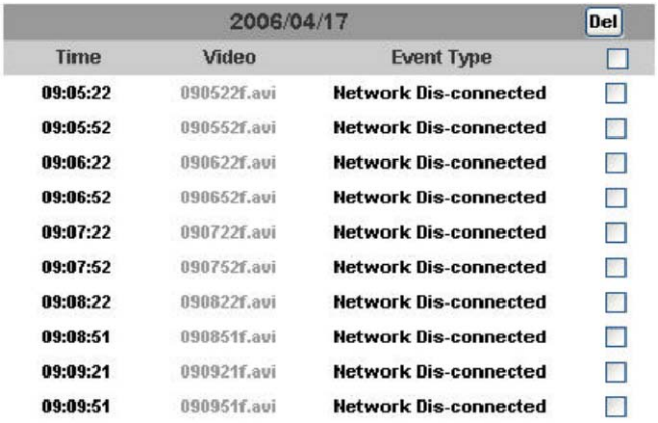
You can insert the Micro SD card to PC and read the files directly, or use FlashGet instead to download

5.4.5 SD card

5.4.5.1 Playback

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

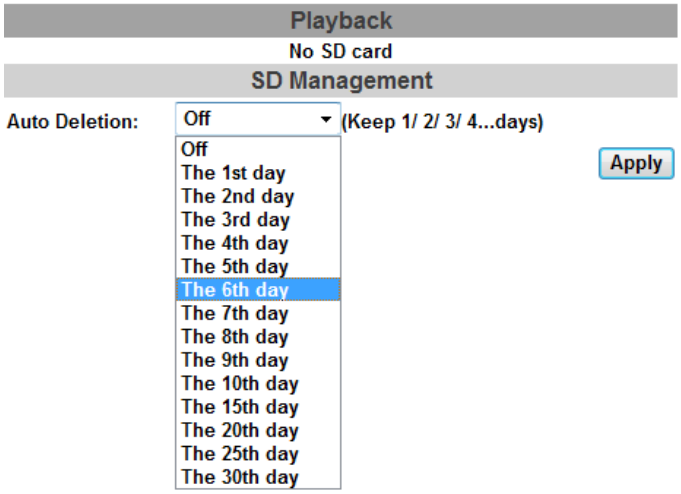
Click the date listed on this page and it shows the list of the video. The video format is AVI. Click the video to start Microsoft Media Player to play it. To delete the video, check it, and then click "Del".



5.4.5.2 SD Management

Choose “The 1st day” means the recoding file will be kept for one day. For 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.

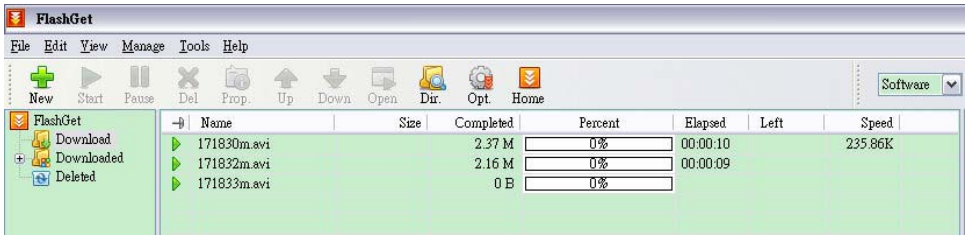


Note

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

5.4.5.3 Copy to PC

You can insert the Micro SD card to PC and read the files directly, or use FlashGet instead to download



- **FlashGet is a free software that can be downloaded from FlashGet official website. The example above is based on FlashGet ver.1.9.6.1073**

Appendix A : Factory Default

To recover the default IP address and password, please follow the following steps:

Remove the power and Ethernet cable. Press and hold the button as the picture is shown below.

•Connect power to the camera again, and do not release the button during the system booting.

• It will take around 30 seconds to boot the camera.

• Release the button when camera finishes proceeding.

• Re-login the camera using the default IP (http://192.168.0.20), and user name (admin), password (admin)

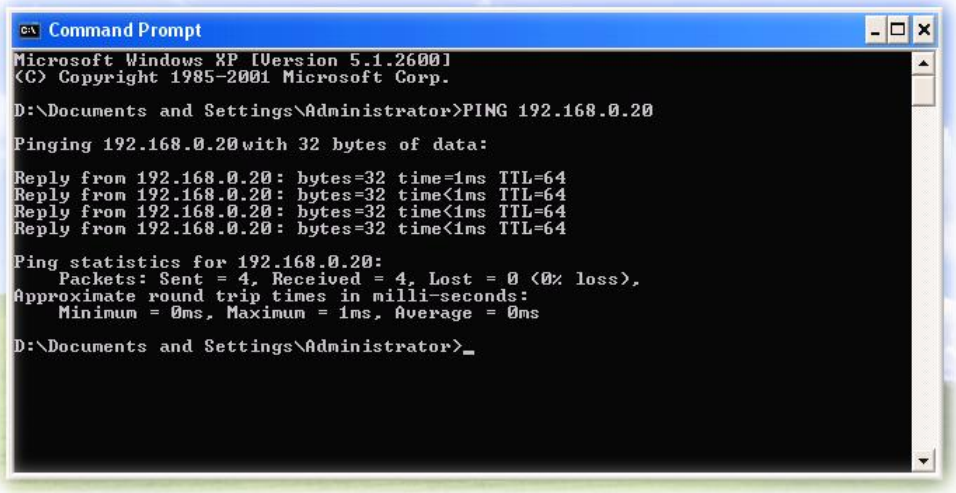
Appendix B : PING IP Address

The PING (stands for Packet Internet Groper) command is used to detect whether a specific IP address is accessible by sending a packet to the specific address and waiting for a reply. It's also a very useful tool to confirm whether or not Internet camera is installed or if the IP address conflicts with any other device over the network.

If you want to make sure the IP address of Internet camera, utilize the PING command as follows:

- Start a DOS window.
- Type ping x.x.x.x, where x.x.x.x is the IP address of the Internet camera.

The replies, as illustrated below, will provide an explanation to the problem.



If you want to detect any other device that conflicts with the IP address of Internet camera, you also can utilize the PING command but you must disconnect the Internet camera from the network first.

Appendix C : 3GPP Access

To use the 3GPP function, in addition to the previous section, you might need more information or configuration to make this function works.

1. To use the 3GPP function, it is strongly recommended to install the Networked Device with a public and fixed IP address without any firewall protection.

RTSP Port:
Port 554 is the default for RTSP service. However, sometimes, some service providers change this port number for some reasons. If so, user needs to change this port accordingly.

Dialing procedure:

1. Choose a verified player (PacketVideo or Realplayer)

2. Use the following default URL to access:

rtsp://*IP-Address*/3g

Where *host* is the host name or IP address of the camera.

Compatible 3G mobile phone:
Please contact your dealer to get the approved list of compatible 3G phones.

1. Besides IP camera and 3G mobile phone, you will also need to make sure the ISP and company have provided the 3GPP service to you.

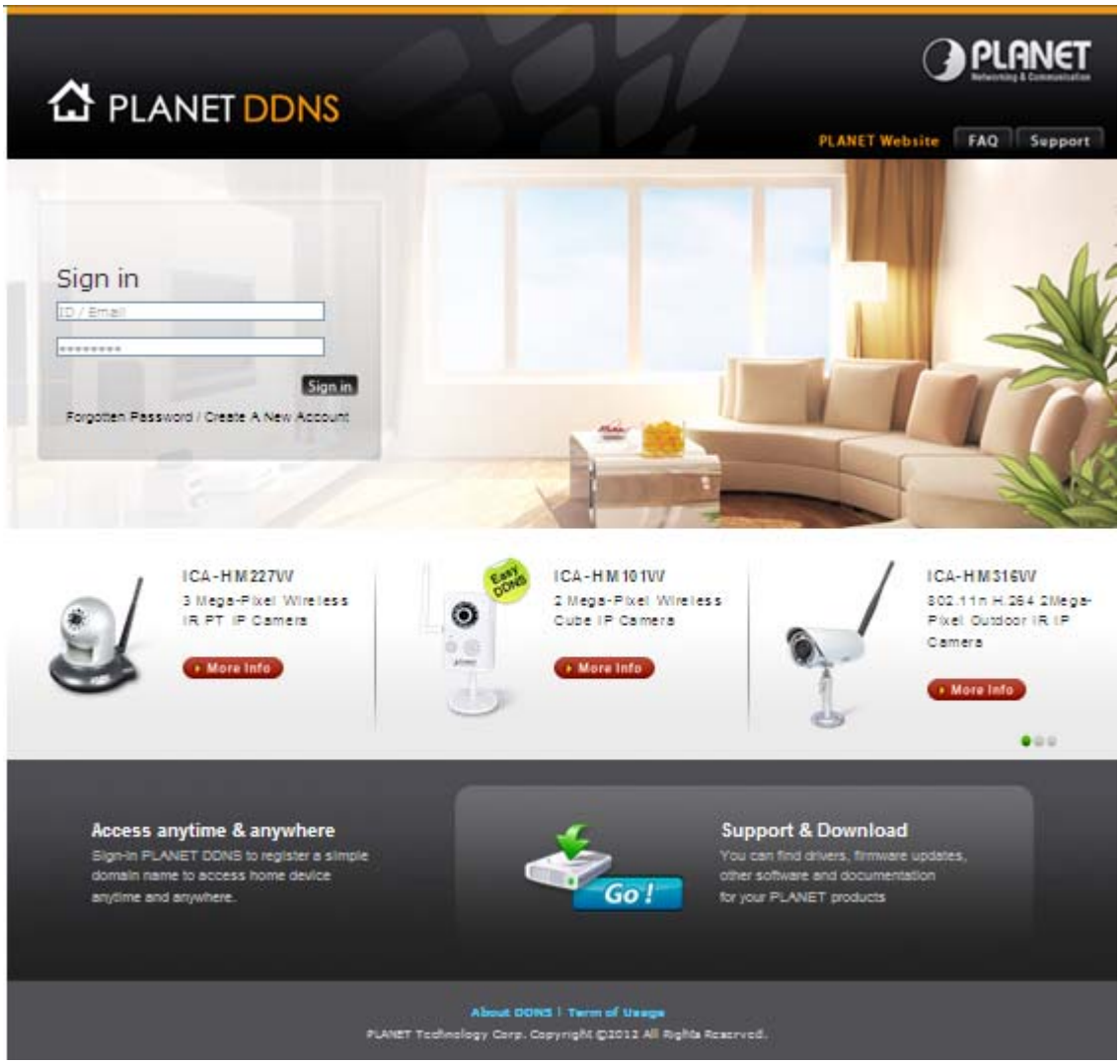
Appendix D : Planet DDNS Application

Configuring PLANET DDNS steps:

Step 1 Enable DDNS option through accessing web page of the ICA-2500.

Step 2 Select on DDNS server provided, and register an account if you do not use yet.

Let's take dyndns.org as an example. Register an account at http://planetddns.com



Appendix E : Configuring Port Forwarding Manually

The device can be used with a router. If the device wants to be accessed from the WAN, its IP address needs to be set up as a fixed IP address. The port forwarding or Virtual Server function of router also needs to be set up. This device supports UPnP traversal function. Therefore, user could use this feature to configure port forwarding of NAT router first. However, if user needs to configure port forwarding manually, please follow the steps below:

Manually installing the device with a router on your network is an easy 3–step procedure as follows:

1. Assign a local/fixed IP address to your device
2. Access the Router with Your Web browser
3. Open/Configure Virtual Server Ports of Your Router

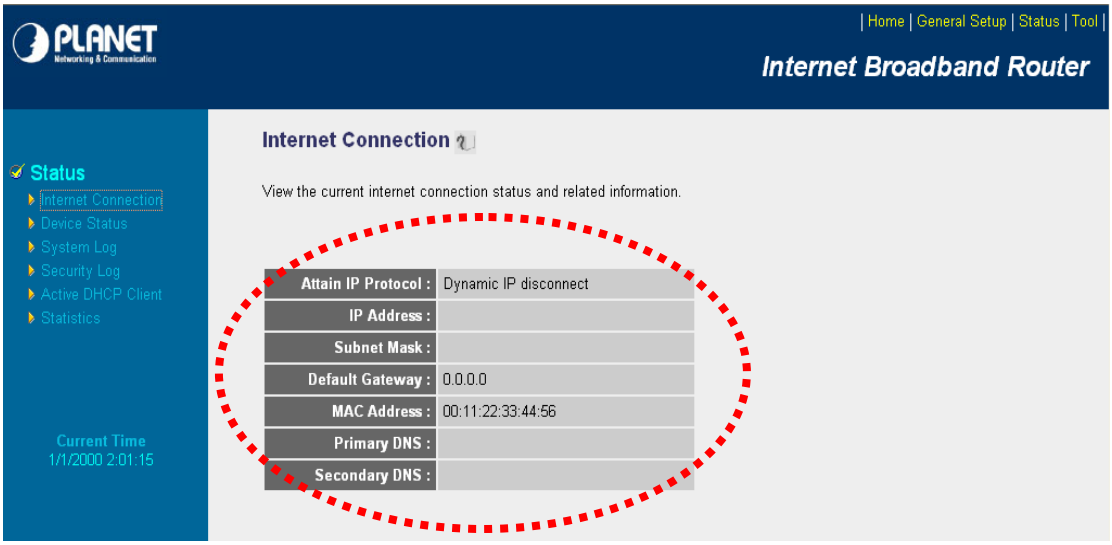
1. Assign a local/fixed IP address to your device

The device must be assigned a local and fixed IP Address that allows it to be recognized by the router. Manually set up the device with a fixed IP address, for example, *192.168.0.100*.

2. Access the Router with Your Web browser

The following steps generally apply to any router that you have on your network. PLANET WNRT-620 is used as an example to clarify the configuration process. Configure the initial settings of the router by following the steps outlined in the router's **Quick Installation Guide**.

If you have cable or DSL service, you will most likely have a dynamically assigned WAN IP Address. 'Dynamic' means that your router's WAN IP address can change from time to time depending on your ISP. A dynamic WAN IP Address identifies your router on the public network and allows it to access the Internet. To find out what your router's WAN IP Address is, go to the **Status** screen on your router and locate the WAN information for your router. As shown on the following page the WAN IP Address will be listed. This will be the address that you will need to type in your web browser to view your camera over the Internet. Be sure to uncheck the **Reset IP address at next boot** button at the top of the screen after modifying the IP address. Failure to do so will reset the IP address when you restart your computer.



Your WAN IP Address will be listed here.

3. Open/set Virtual Server Ports to enable remote image viewing

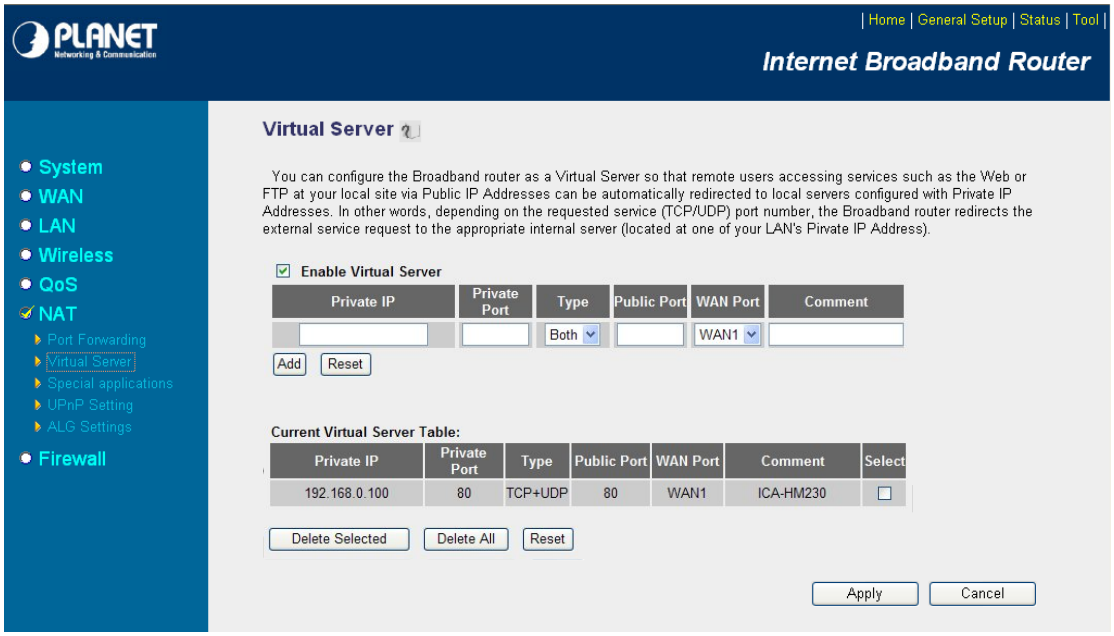
The firewall security features built into the router and most routers prevent users from accessing the video from the device over the Internet. The router connects to the Internet over a series of numbered ports. The ports normally used by the device are blocked from access over the Internet. Therefore, these ports need to be made accessible over the Internet. This is accomplished using the **Virtual Server** function on the router. The Virtual Server ports used by the camera must be opened through the router for remote access to your camera.

Follow these steps to configure your router's Virtual Server settings

- Click **Enabled**.
- Enter a unique name for each entry.
- Select **Both** under **Protocol Type** (**TCP** and **UDP**)
- Enter your camera's local IP Address (e.g., **192.168.0.100**, for example) in the **Private IP** field.
- If you are using the default camera port settings, enter **80** into the **Public** and **Private Port** section, click **Add**.

A check mark appearing before the entry name will indicate that the ports are enabled.

1. Some ISPs block access to port 80. Be sure to check with your ISP so that you can open the appropriate ports accordingly. If your ISP does not pass traffic on port 80, you will need to change the port the camera uses from 80 to something else, such as 8080. Not all routers are the same, so refer to your user manual for specific instructions on how to open ports.



Enter valid ports in the **Virtual Server** section of your router. Please make sure to check the box on this line to enable settings. Then the device can be accessed from WAN by the router's WAN IP Address.

By now, you have finished your entire PC configuration for this device.

Appendix F : Troubleshooting & Frequently Asked Questions

Features	
The video and audio codec is adopted in the device.	The device utilizes H.264, MPEG-4 and M-JPEG triple compression to provide high quality images. Where H.264 and MPEG-4 are standards for video compression and M-JPEG is a standard for image compression. The audio codec is defined as AMR for 3GPP and G.711 for RTSP streaming.
The maximum number of users that accesses the device simultaneously.	The maximum number of users is limited to 10. However, it also depends on the total bandwidth accessed to this device from clients.
Install this device	
The network cabling is required for the device.	The device uses Category 5 UTP cable allowing 10 and/or 100 Base-T networking.
The device will be installed and work if a firewall exists on the network.	If a firewall exists on the network, port 80 is open for ordinary data communication. The HTTP port and RTSP port need to be opened on the firewall or NAT router.
The username and password for the first time or after factory default reset	Username = **admin** and Password = **admin**. Note that it's all case sensitivity.
Forgot the username and password	Follow the steps below: (1)Remove power, and press and hold the button in the back of IP camera. (2)Power on the camera. Don't release the button during the system booting. (3)It will take around 30 seconds to boot the camera. (4)Release the button when camera finishes proceeding. (5)Re-login the camera using the default IP (http://192.168.0.20), and username (admin), password (admin).
Forgot the IP address of the device.	Check IP address of device by using the PLANET IP Installer program or by UPnP discovery or set the device to default by Reset button.
PLANET IP Installer program cannot find the device.	● Re-power the device if cannot find the unit within 1 minute. ● Do not connect device over a router. PLANET IP Installer program cannot detect device over a router. ● If IP address is not assigned to the PC that runs PLANET IP Installer program, then PLANET IP Installer program cannot find

	device. Make sure that IP address is assigned to the PC properly. ● Antivirus software on the PC might interfere with the setup program. Disable the firewall of the antivirus software during setting up this device. ● Check the firewall setting of your PC or Notebook.
Internet Explorer does not seem to work well with the device	Make sure that your Internet Explorer is version 6.0 or later. If you are experiencing problems, try upgrading to the latest version of Microsoft's Internet Explorer from the Microsoft webpage.
PLANET IP Installer program fails to save the network parameters.	Network may have trouble. Confirm the parameters and connections of the device.
UPnP NAT Traversal	
Cannot work with NAT router	Maybe NAT router does not support UPnP function. Please check user's manual of router and turn on UPnP function.
Some IP cameras are working but others failed	Maybe too many IP cameras have been installed on the LAN, and then NAT router is out of resource to support more cameras. You could turn off and on NAT router to clear out of date information inside router.
Access this device	
Cannot access the login page and other web pages of the Network Camera from Internet Explorer	● Maybe the IP Address of the Network Camera is already being used by another device or computer. To confirm this possible problem, disconnect the Network Camera from the network first, and then run the PING utility to check it out. ● Maybe it's the network cable. Try correcting your network cable and configuration. Test the network interface by connecting a local computer to the Network Camera via a crossover cable. ● Make sure the Internet connection and setting are ok. ● Make sure the IP address of Internet Explorer you entered is correct. If the Network Camera has had a dynamic address, it may have changed since you last checked it. ● Network congestion may prevent the web page from appearing quickly. Wait for a while. The IP address and Subnet Mask of the PC and Network Camera must be in the same class of the private IP address on the LAN. ● Make sure the http port used by the Network Camera, default=80, is forward to the Network Camera's private IP address. ● The port number assigned in your Network Camera might not be available via Internet. Check your ISP for available port. ● The proxy server may prevent you from connecting directly to the Network Camera. You are advised not to use the proxy server. ● Confirm that Default Gateway address is correct.

	● The router needs Port Forwarding feature. Refer to your router's manual for details. ● Packet Filtering of the router may prohibit access from an external network. Refer to your router's manual for details. ● Access the Network Camera from the Internet with the global IP address of the router and port number of Network Camera. ● Some routers reject the global IP address to access the Network Camera on the same LAN. Access with the private IP address and correct port number of Network Camera. ● When you use DDNS, you need to set Default Gateway and DNS server address. ● If it's not working after following the above procedure, reset Network Camera to default setting and install it again.
Image or video does not appear on the main page.	● The first time the PC connects to Network Camera, a pop-up **Security Warning** window will appear to download ActiveX Controls. When using Windows XP, or Vista, log on with an appropriate account that is authorized to install applications. ● Network congestion may prevent the Image screen from appearing quickly. You may choose lower resolution to reduce the required bandwidth.
How to check whether the device's ActiveX is installed on your computer	Go to C:\Windows\Downloaded Program Files and check to see if there is an entry for the file "**Web Watch2 Control"**. The status column should show "Installed". If the file is not listed, make sure your Security Settings in Internet Explorer are configured properly and then try reloading the device's home page. Most likely, the ActiveX control did not download and install correctly. Check your Internet Explorer security settings and then close and restart Internet Explorer. Try to browse and log in again.
Internet Explorer displays the following message: "Your current security settings prohibit downloading ActiveX controls".	Set up the IE security settings or configure the individual settings to allow downloading and scripting of ActiveX controls.
The device works locally but not externally.	● Might be caused from the firewall protection. Check the Internet firewall with your system or network administrator. The firewall may need to have some settings changed in order for the device to be accessible outside your LAN. ● Make sure that the device isn't conflicting with any other web server running on your LAN. ● Check the configuration of the router settings to allow the device to be accessed outside your local LAN. ● Check the bandwidth of Internet connection. If the Internet bandwidth is lower than target bit rate, the video streaming will not work correctly.

The unreadable characters are displayed.	Use the operating system of the selected language. Set the Encoding or the Character Set of the selected language on the Internet Explorer.
Frame rate is slower than the setting.	● The traffic of the network and the object of the image affect the frame rate. The network congestion causes frame rate slower than the setting. ● Check the bandwidth of Internet connection. If the Internet bandwidth is lower than target bit rate, the video streaming will not work correctly. ● Ethernet switching hub can smooth the frame rate.
Blank screen or very slow video when audio is enabled.	● Your connection to the device does not have enough bandwidth to support a higher frame rate for the streamed image size. Try reducing the video streaming size to 160x120 or 320x240 and/or disabling audio. ● Audio will consume 32 kbps. Disable audio to improve video. Your Internet connection may not have enough bandwidth to support streaming audio from the device.
Image Transfer on e-mail or FTP does not work.	● Default Gateway and DNS server address should be set up correctly. ● If FTP does not work properly, ask your ISP or network administrator about the transferring mode of FTP server.
Video quality of the device	
The focus on the Camera is bad.	The lens is dirty or dust is attached. Fingerprints, dust, stain, etc. on the lens can degrade the image quality.
The color of the image is poor or strange.	● Adjust White Balance. ● To ensure the images you are viewing are the best they can be, set the Display property setting (color quality) to 16bit at least and 24 bit or higher if possible within your computer. ● The configuration on the device image display is incorrect. You need to adjust the image related parameters such as brightness, contrast, hue and sharpness properly.
Image flickers.	● If the object is dark, the image will flicker. Make the condition around the Camera brighter.

Appendix G : Micro SD Card Compatibility

The following is the Micro SD Card recommended:

Transcend	SDHC	class4	16GB
	SDHC	class4	32GB
	SD	class4	16GB
	SD	class4	32GB
	SDHC	class6	4GB
	SDHC	class6	8GB
	SDHC	class6	16GB
	SD	class6	4GB
	SD	class6	8GB
	SD	class6	16GB
	SDHC	class10	4GB
	SDHC	class10	8GB
	SDHC	class10	
SanDisk	SDHC	class4	4GB
	SDHC	class4	8GB
	SDHC	class4	16GB
	SDHC	class4	32GB