PLANET
Networking & Communication

User's Manual

H.265 4MP PoE Bullet IR IP Camera with Vari-focal Lens

ICA-3460V

www.PLANET.com.tw

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FCC 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, 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.

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 and have to collect such WEEE separately.

Revision

User's Manual of PLANET H.265 4MP PoE Bullet IR IP Camera with Vari-focal Lens
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Chapter 1. Product Introduction

1.1 Package Contents

The package should contain the following:

- IP Camera Unit x 1
- Camera Screw Package x 1
- Cable Gland x 1
- Quick Installation Guide x 1

Note	If any of the above items are missing, please contact your dealer immediately.

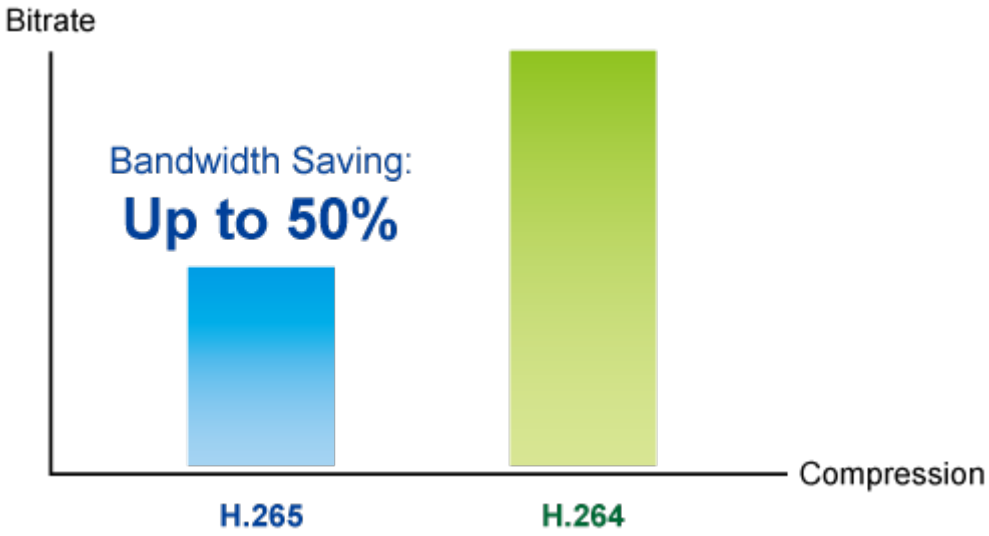
1.2 Overview

Compact and Cost-effective 4MP Outdoor Surveillance

PLANET ICA-3460V PoE IP Camera delivers excellent picture quality in H.265 four mega-pixel resolutions at 30 frames per second (fps). Incorporating the new CMOS image sensor and 30- to 45-meter IR illuminators, which are specially designed for surveillance applications, the ICA-3460V provides sharp images under all lighting conditions. Moreover, it has an IP66-rated housing that can withstand any harsh temperature ranging from -15°C to 55°C. Its outdoor and handy features enable you to easily install the camera in any public areas, such as buildings, gardens, parking areas, railway stations and hospitals.

High Efficiency Video Compression

The ICA-3460V employs the H.265 technology to enable the camera to provide higher and more efficient image compression rates. If the same image quality level of H.264 is compared with that of H.265, the latter is able to save around 50% of bandwidth, meaning H.265 offers much higher quality video for less bandwidth. Thus, it can further enhance the overall performance of its IP surveillance system.



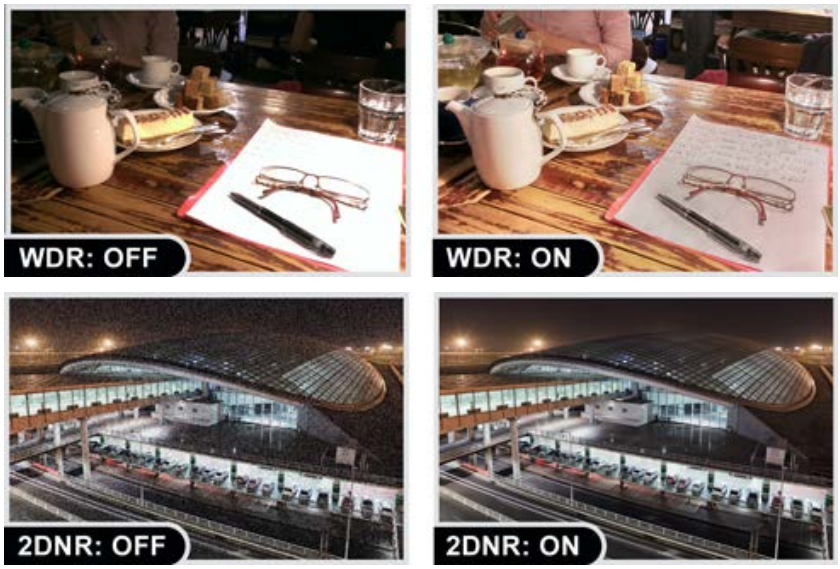
Day & Night Surveillance

To adapt to constantly changing lighting conditions during the day and night, the ICA-3460V comes with a removable IR-cut filter and powerful IR illuminators, which enable the camera to provide color video when there is sufficient light, and black/white video in dark conditions. The ICA-3460V is able to maintain clear images 24 hours a day.

Exceptional Image Quality

Together with powerful image processing attributes like Wide Dynamic Range (WDR) and 2-dimensional Noise Reduction (2DNR) technology, the ICA-3460V 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.



Water Resistance and Dust-proof Protection

The IP66-rated housing protects the camera body against rain and dust, and ensures operation under extreme weather conditions, which makes it an ideal solution for outdoor applications, such as buildings, roads, parking areas, garages, railway stations and airports.

Advanced Media Management

The ICA-3460V supports a number of advanced features to enhance surveillance flexibility and event management capabilities. The advanced features include 4 configurable regions of privacy mask to protect personal privacy, and external RCA ports that allow accessories, such as speakers and microphones, to be added to the camera for two-way audio function.

Flexible Installation and Power Functionality

The ICA-3460V incorporates IEEE 802.3af/at Power over Ethernet standard and is able to be powered via the network cable from a PoE power sourcing equipment such as PoE switch or PoE injector. It thus eliminates the need for extra power cables and reduces installation costs while increases the deployment flexibility. The ICA-3460V is ONVIF compliant and thus, it is interoperable with other brands in the market. The ICA-3460V is indisputably the ideal choice for reliable and high-performance surveillance.

ONVIF
Supported

1.3 Features

➢ Camera

- 1/3" progressive scan CMOS sensor
- 2.8~12 mm vari-focal, fixed-iris lens
- 0.01 lux minimum illumination at F1.2
- Maximum resolution 2592 x 1520
- 48 built-in powerful IR illuminators, effective up to 30~45 meters
- Removable IR-cut filter for Day & Night function

➢ Video and Audio

- Simultaneous H.264 and H.265 video compression
- Simultaneous multi-stream support
- Max. resolution of 4 mega-pixel (2592 x 1520 pixel)
- DNR to improve picture quality at low lux
- WDR enhancement function strengthens visibility under extremely bright or dark environments
- Two-way audio support with enhanced audio quality

➢ Network and Configuration

- Compliant with IEEE 802.3af/at PoE interface for flexible deployment
- RTSP, FTP and PLANET DDNS protocols selectable

➢ Easy Installation and Management

- ONVIF compliant for interoperability
- IP66-rated housing with cable management bracket and waterproof RJ45 connector for rigorous environment
- Intelligent motion detection alarm
- Easy configuration and management via Windows-based utility or web interface

1.4 Product Specifications

Model	ICA-3460V
Camera	
Image device	1/3" 4 mega-pixel progressive scan CMOS sensor
Lens	Vari-focal 2.8~12mm, F1.2 **Angle of view:** Horizontal: 27~90 degrees Vertical: 27~90 degrees
Min. Illumination	0.01 lux (color) @ F1.2 0 lux (B/W) @ IR on
IR Illuminations	IR LED x 48, 850nm Built-in IR illuminators, effective up to 30~45 meters* *The IR distance is based on the environment.
Effective Pixels	2592 x 1520 pixels
Image	
Video Compression	H.264/H.265
Video Resolution	2592 x 1520, 2304 x 1296, 1080p, 1280 x 1024, 960p, 720p, 704 x 576, 640 x 480, 352 x 288, 320 x 240, 176 x 144
Frame Rate	Up to 30fps* for all resolutions *The fps is based on the environment.
Bitrate	1024~8000kbps
Shutter Time	1/25~1/10000 sec
Image Setting	2D noise reduction WDR Brightness, saturation, contrast Mirror/Rotate Privacy mask (4 regions) Text, time and date overlay
Streaming	Simultaneous multi-profile streaming Streaming over HTTP or RTSP Controllable frame rate and bandwidth Constant and variable bit rate
Audio	
Audio Streaming	Two-way audio
Audio Compression	G.711 (A-law and μ-law)
Audio Input	Cable with RCA jack
Audio Output	Cable with RCA jack
Network and Configuration	
Standard	IEEE 802.3 10BASE-T IEEE 802.3u 100BASE-TX IEEE 802.3af/at Power over Ethernet
Protocol	IPv4, TCP/IP, HTTP, FTP, DHCP, DNS, PLANET DDNS, RTP, RTSP, RTCP, PPPoE, NTP, SMTP
Security	Password protection
Users	3 clients on-line monitoring at the same time
System Integration	
Application	SDK for software integration

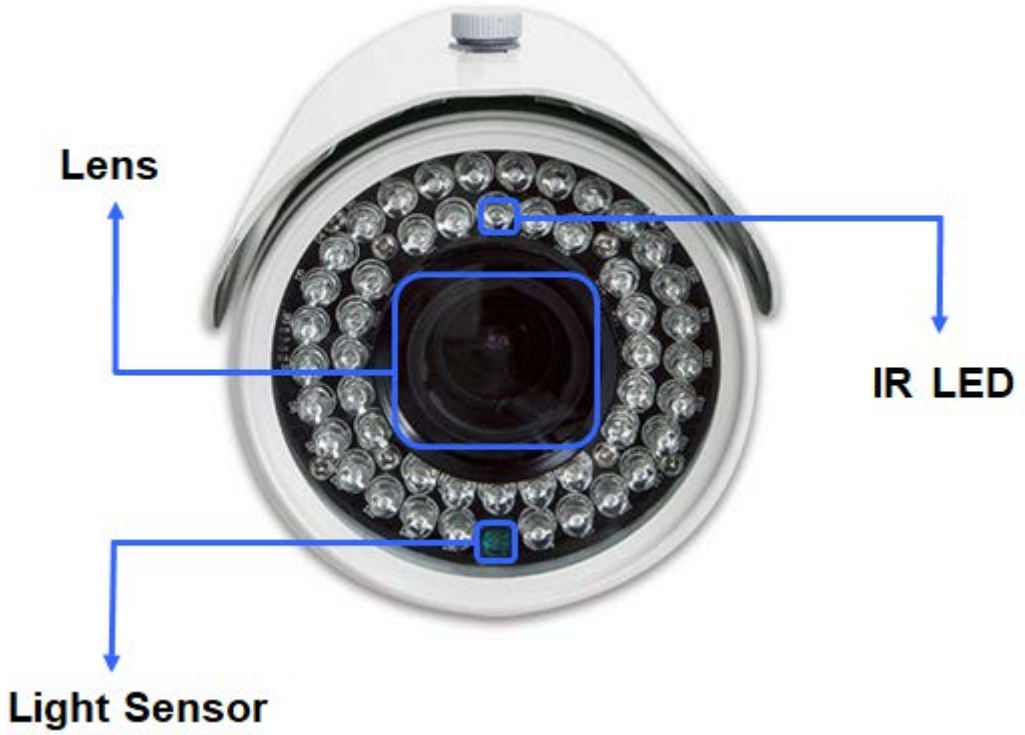
Programming Interface	ONVIF compliant
Alarm Triggering	Motion detection
Alarm Events	Event snapshot upload via FTP Notification via email, and HTTP
General	
Power Requirements	12V DC, 1A IEEE 802.3af/at Class 3
Power Consumption	9W (IR on)
Weight	755g
Dimensions (Φ x L)	83.5 x 295 mm
Emission	CE, FCC
Housing	IP66-rated with cable management bracket
Connectors	10/100Mbps Ethernet, waterproof RJ45 connector DC power jack RCA audio in (white) and RCA audio out (red)
Environments	
Cold Boot Temperature	-10 ~ 50 degrees C
Operating Temperature	-15 ~ 55 degrees C
Operating Humidity	10 ~ 90% (non-condensing)

Chapter 2. Hardware Interface

2.1 Physical Descriptions

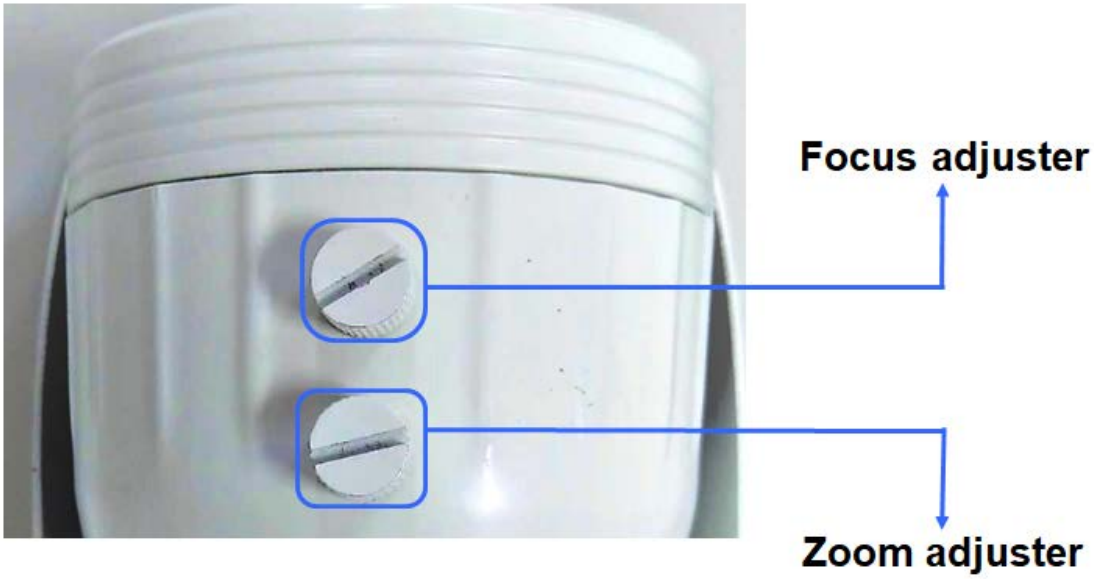
2.1.1 ICA-3460V Physical Details

- **Front view:**



Item	Description
Lens	Keep the lens clean for excellent video quality.
IR LED	Emits infrared light to provide light source in dark places.
Light Sensor	Detects the illumination level or the place where this IP camera is installed, and switches IR LEDs on when it's required. Note: When IR LEDs are switched on, this IP camera will switch to black and white video mode to enhance video quality. Do not cover light sensor or else this IP camera will work in black and white mode only.

- **Bottom view:**

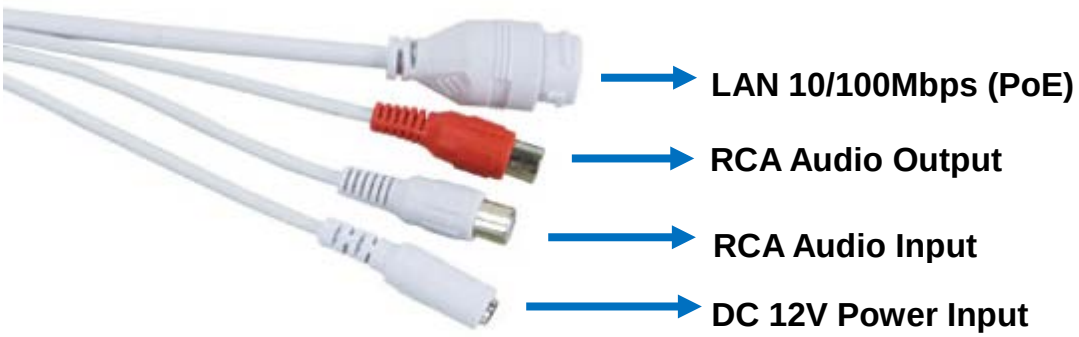


Item	Description
Zoom	Adjust the Zoom adjuster to zoom in/out.
Focus	Adjust the Focus adjuster to get clear image.

Note

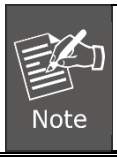
To prevent damaging the device, please adjust the adjuster gently.

2.1.2 I/O Control Instruction



Description of I/O cabling:

Interface	Description
DC 12V Power Input	The input power is 12V DC, 1A. (The power adapter is not included in the package)
LAN 10/100Mbps (PoE)	Connecting to PC or Hub/PoE Switch

Interface	Description
	Connects the onboard LAN port to your local area network by Ethernet cable. For connection to 10BASE-T Ethernet or 100BASE-TX or Fast Ethernet cabling, this Ethernet port built auto-negotiation protocol can detect or negotiate the transmission speed of the network automatically. Please use Cat5e cable to connect the Network Camera to a 100Mbps Fast Ethernet network switch or hub.  Note ONLY use one power source, either from DC or from 802.3af Power over Ethernet.
RCA Audio Input	Connect an external active microphone to the camera.
RCA Audio Output	Connect an active loud speaker to the camera.

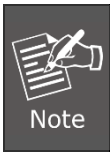
2.2 Hardware Installation

1. Place the Camera on the ceiling or fix it onto wall

Use three screws to fix the camera onto the ceiling or wall.

2. Plug an Ethernet cable into the camera

Connect the Ethernet cable (not included in the package) to the LAN socket. It is recommended to use an exterior-grade Ethernet cable that is already waterproof.



There is a yellow warning sticker only on the rear end of the all-in-one cable, stating the small area is not waterproof while the rest of them are waterproof.

3. Connecting the Ethernet cable to PoE switch

As the camera adopts the IEEE 802.3af standard, the camera's Ethernet cable is able to be connected to this PoE switch to obtain power.

The camera can be powered on by a PoE switch or DC adapter. However, the DC adapter is unnecessary when the camera is connected to the PoE switch. Otherwise, the product may be damaged when the camera is connected to the PoE switch and power adapter simultaneously.

4. Adjusting the angle of lens:

Adjust the camera's stand to get a proper angle.

5. Done

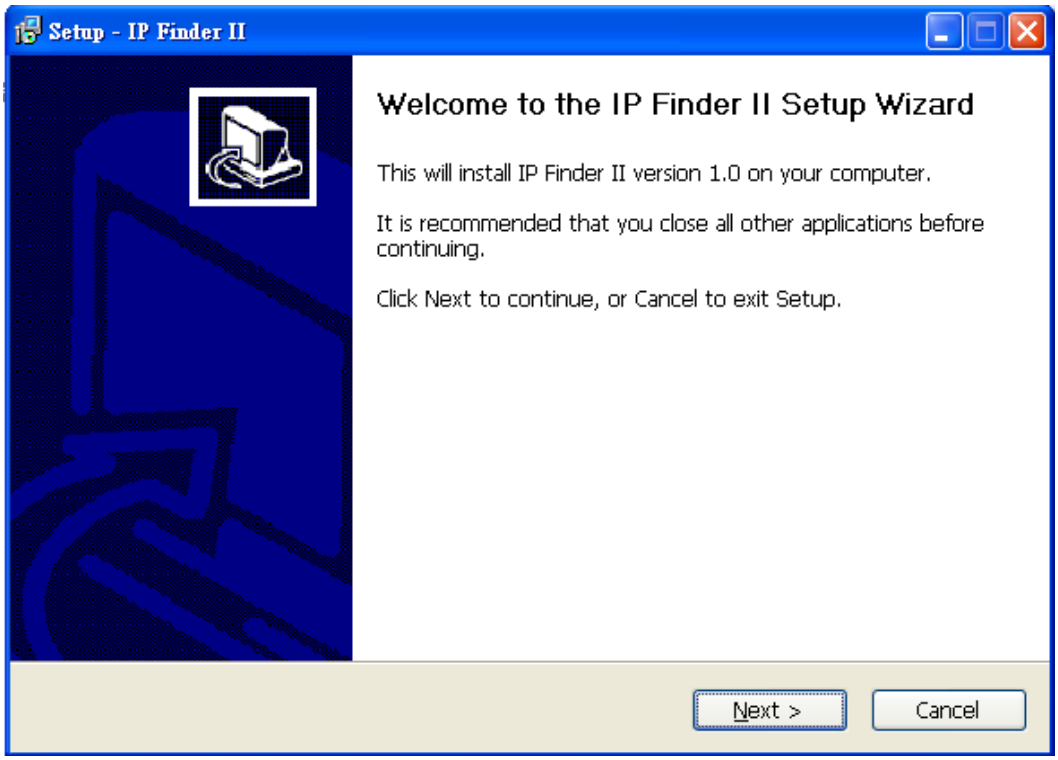
2.3 Initial Utility Installation

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

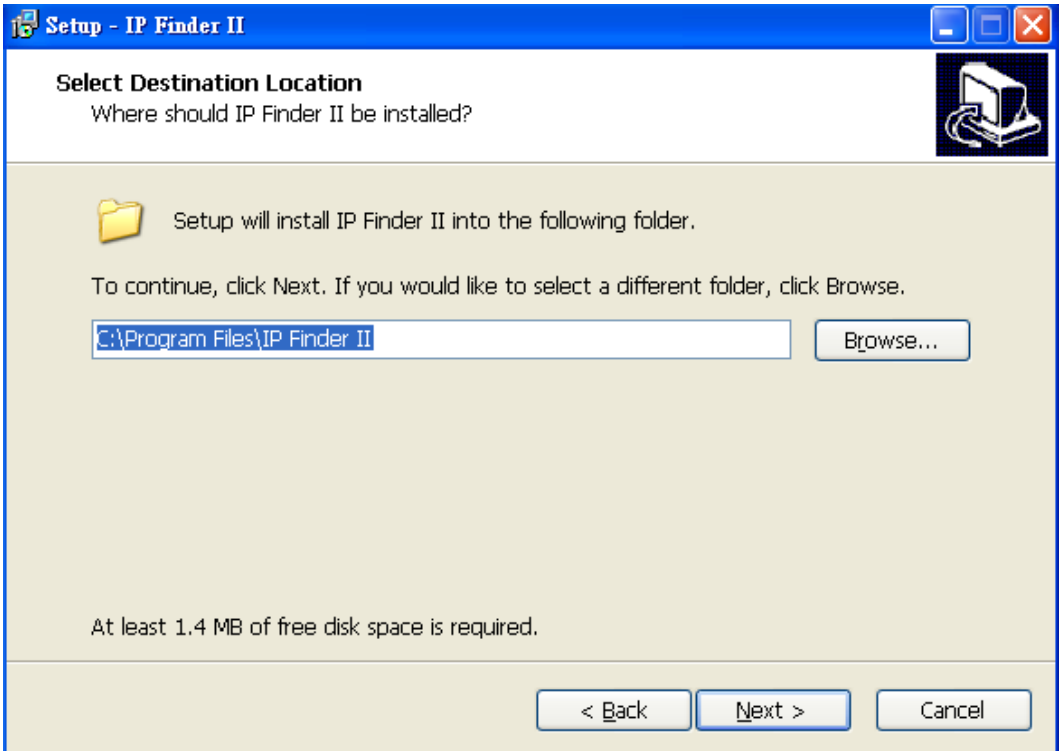
2.3.1 Installing PLANET IP Finder II

1. Go to PLANET website and download the search tool:
http://planet.com.tw/en/product/images/48611/UT-IP%20Finder%20II_v1.0.zip

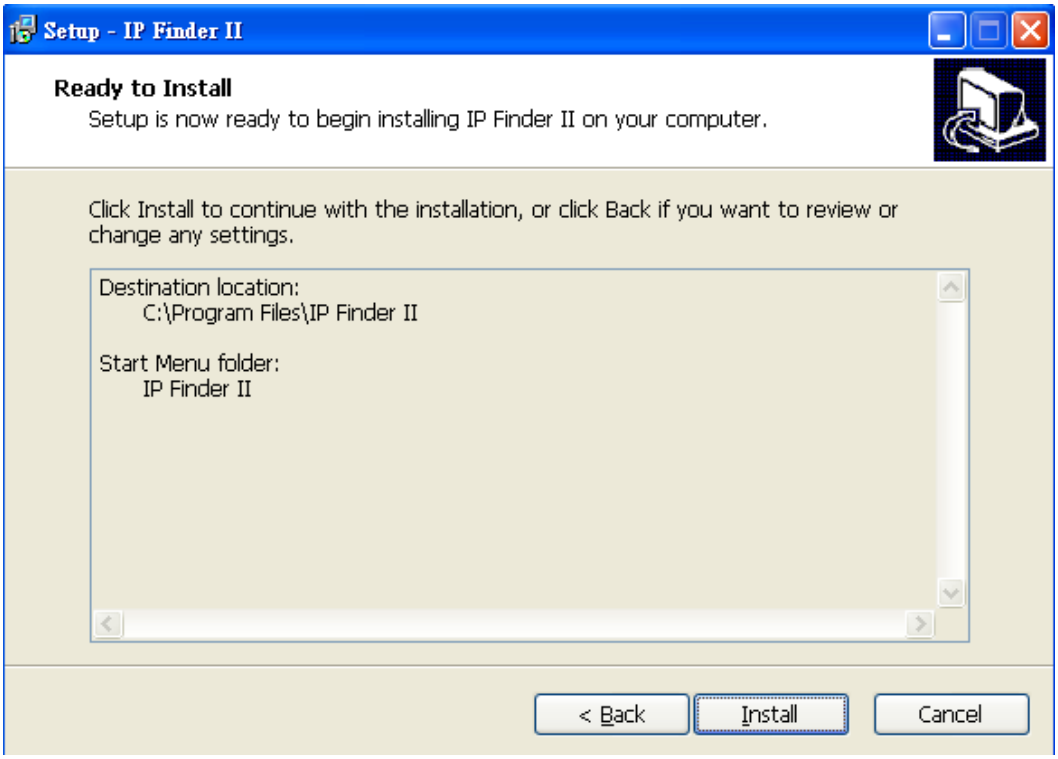
2. Unzip and install the PLANET IP Finder II, the "Welcome to the Install Shield Wizard for PLANET IP Finder II" prompt will display on the screen and click "**Next**" to continue.



3. Please click "**Next**" to install with original settings, or you may click the "**Browse…**" button to modify the install folder and then press "Next" to continue.

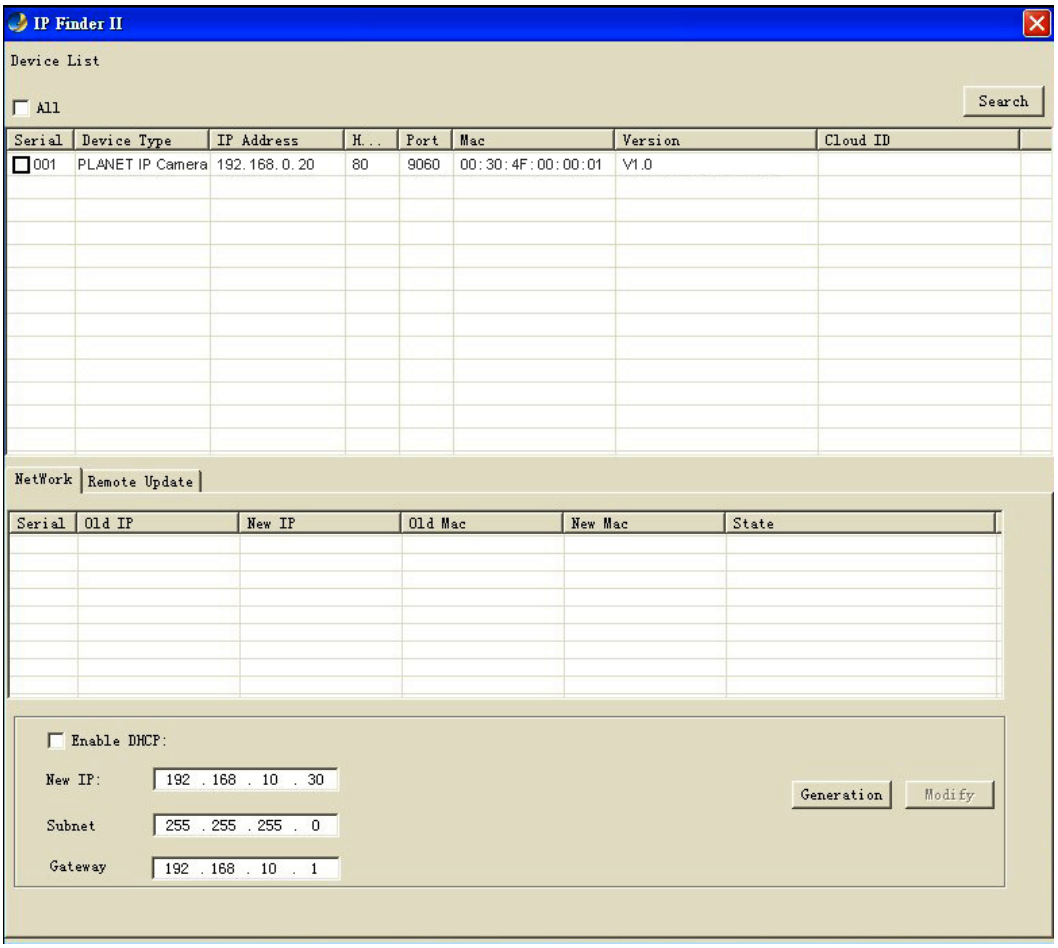


4. Please click "**Install**" to start the installation.



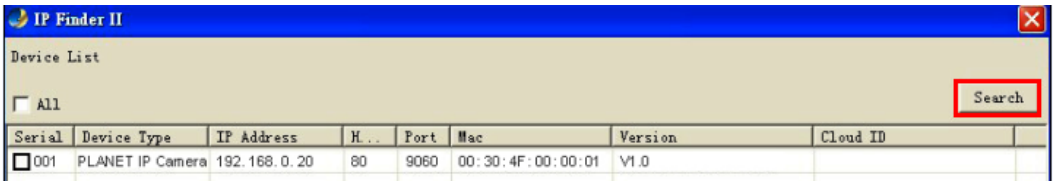
5. Please click "**Finish**" to complete the installation and launch program immediately.

6. The search tool will run as shown in the picture below.



2.3.2 Search Function

IP Finder II will search all IP cameras connected to LAN. The user can click “Search” to search again.

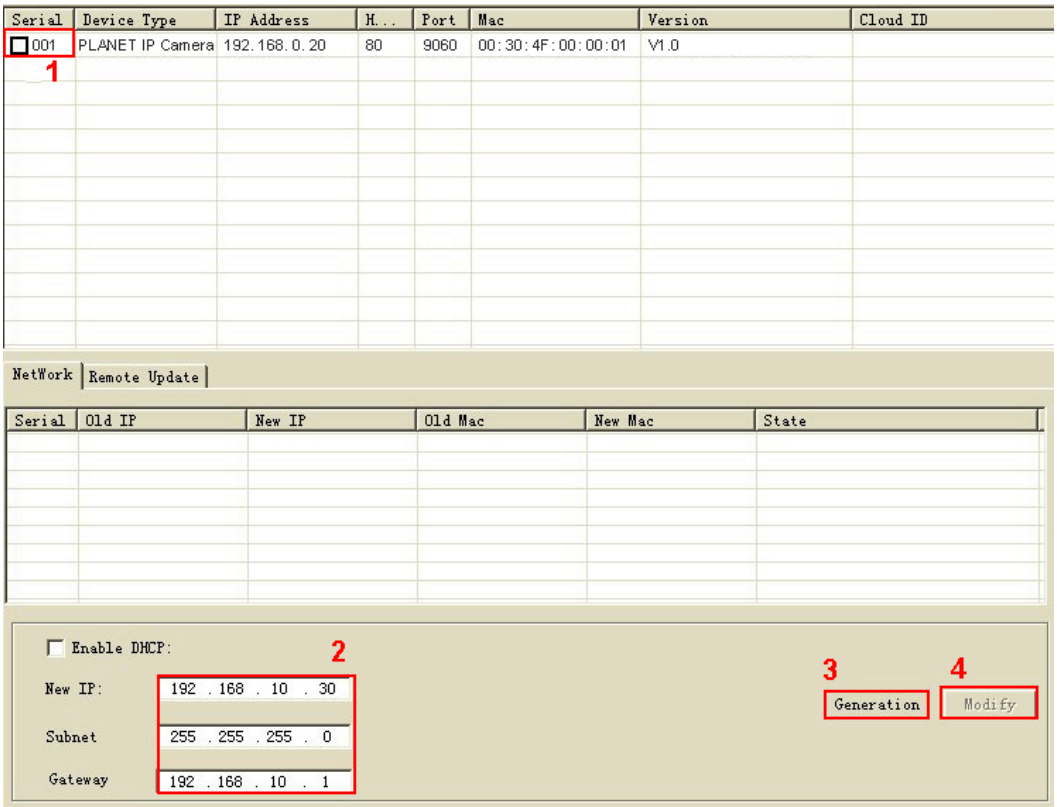


Note

A quick way to access IP camera is to left-click the mouse twice on a selected IP camera listed on “Device list” of PLANET IP Finder II. A login window of IE browser will be opened.

2.3.3 Network Function

If user wants to set a specific IP address of device, please refer to the following steps to set.

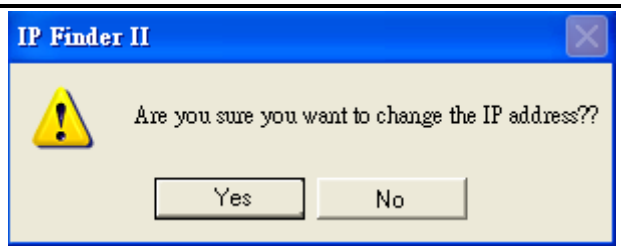


Step 1. Select an IP cam from the device list.

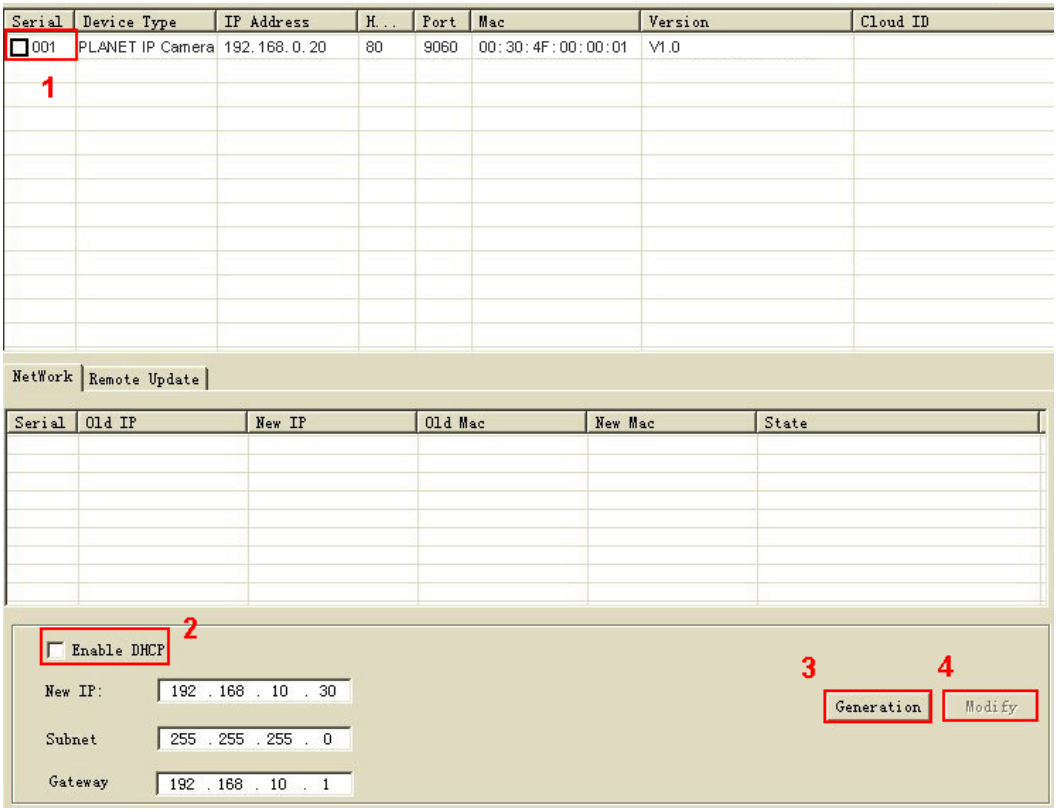
Step 2. Set IP address.

Step 3. Click “**Generation**”.

Step 4. Click “**Modify**” when you see the message and please click “Yes” to change the IP address.



If user wants to set device as **DHCP client**, please refer to the following steps to set.

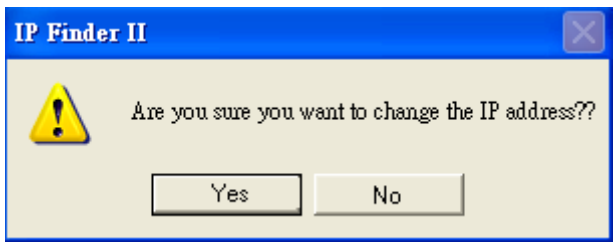


Step 1. Select an IP cam from the device list.

Step 2. Check the "**Enable DHCP**" box.

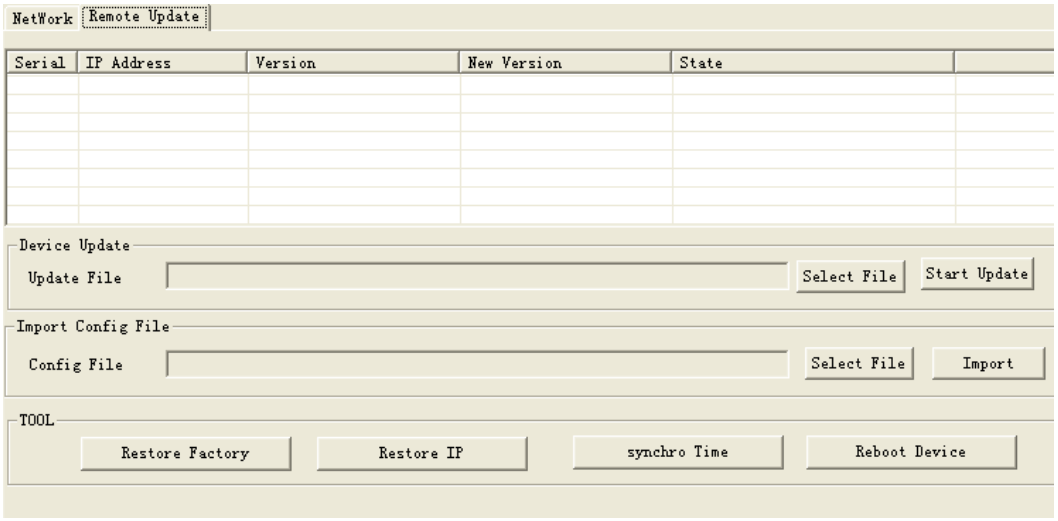
Step 3. Click "**Generation**".

Step 4. Click "**Modify**" when you see the message and please click "Yes" to change the IP address.



Note	Please make sure the IP address of PC is in the same subnet as device's IP address.

2.3.4 Remote Update Function



- **Device Update:** User can update firmware with the function. Please select a device and click "Select File" to select the correct firmware, and then click "Start Update" to start to update the firmware.

Note	1. Please make sure the firmware is correct. If the firmware is wrong, the device might be damaged. 2. Do not do anything or power off device during the update process. It will damage the device.

- **Import Config File:** User may upgrade from the previous saved setting. Please select a device and click "Select File" to select the correct setting file, and then click "Import" to start to upgrade setting.

- **Restore Factory:** Delete all the settings in the device. Please select a device and click "Restore Factory" to restore all settings to factory default setting.

- **Restore IP:** Restore IP address to default IP address. The default IP address is 192.168.0.20. (If there is no DHCP server in the network) Please select a device and click "Restore IP" to restore default IP address.

- **Synchro Time:** Set device's time to the same as PC's. Please select a device and

click “Synchro Time” to change time.

- **Reboot Device:** Re-start the device. Please select a device and click “Reboot Device” to reboot device.

2.4 ActiveX Setup to Use the IP Camera

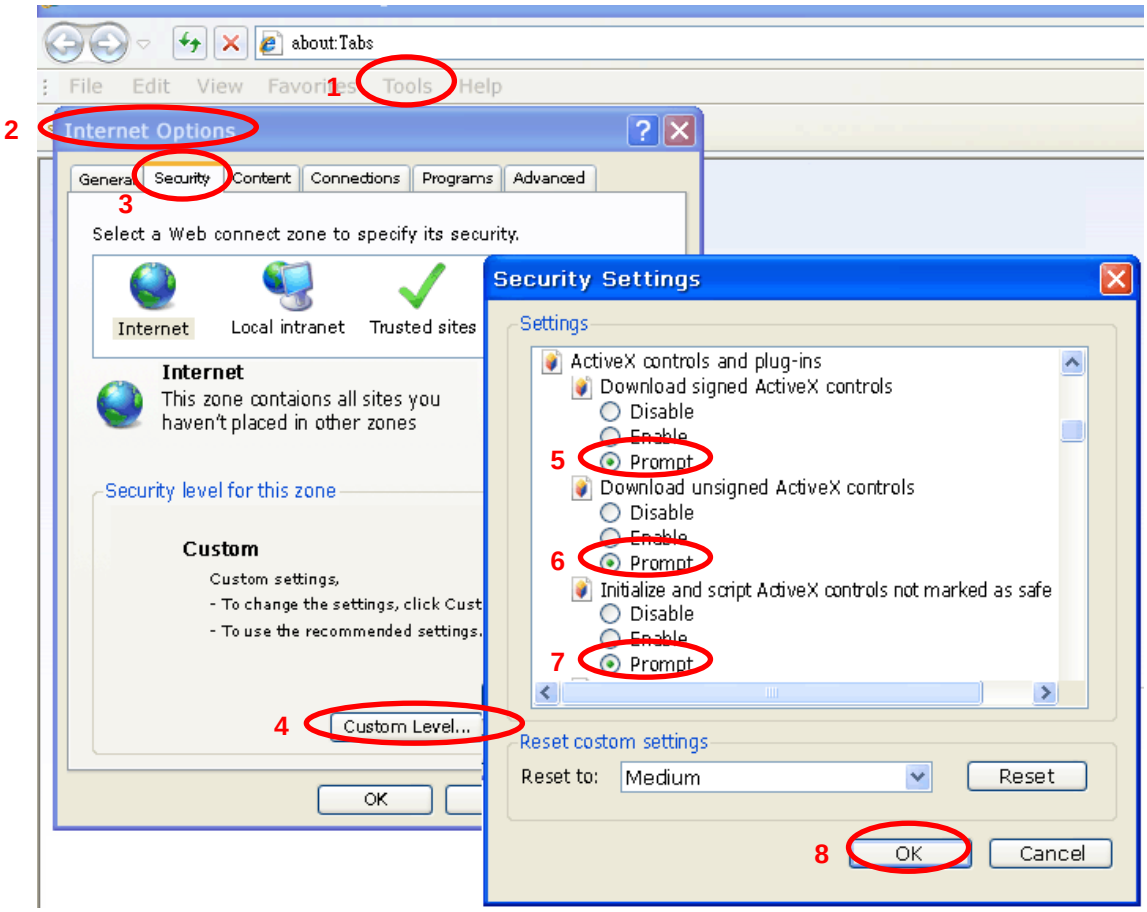
The IP Camera web pages communicate with the IP camera using an ActiveX control. The ActiveX control must be downloaded from the IP camera and installed on your PC. Your Internet Explorer security settings must allow for the web page to work correctly. To use the IP camera, user must set up his IE browser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

2.4.1 Internet Explorer 6 for Windows XP

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

Set the first 3 items:

- *Download the signed ActiveX controls*
- *Download the unsigned ActiveX controls*
- *Initialize and script the ActiveX controls not marked as safe to prompt*



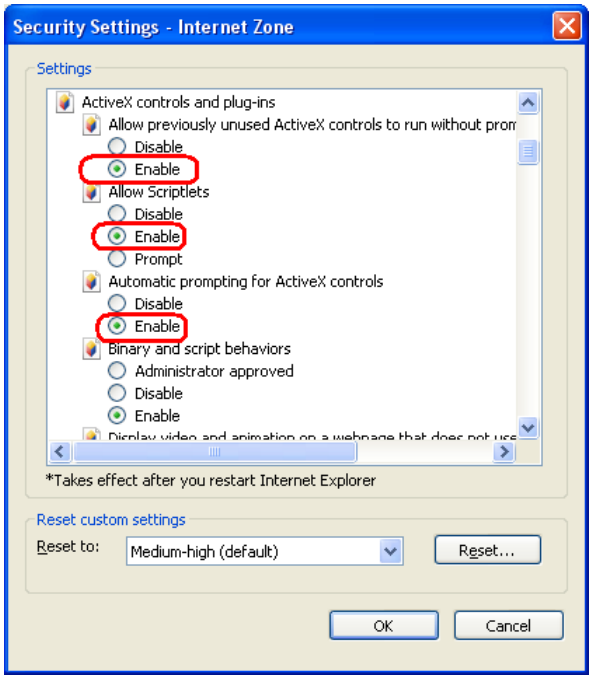
By now, you have finished your entire PC configuration for the camera.

2.4.2 Internet Explorer 7 for Windows XP

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

Set the first 3 items:

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



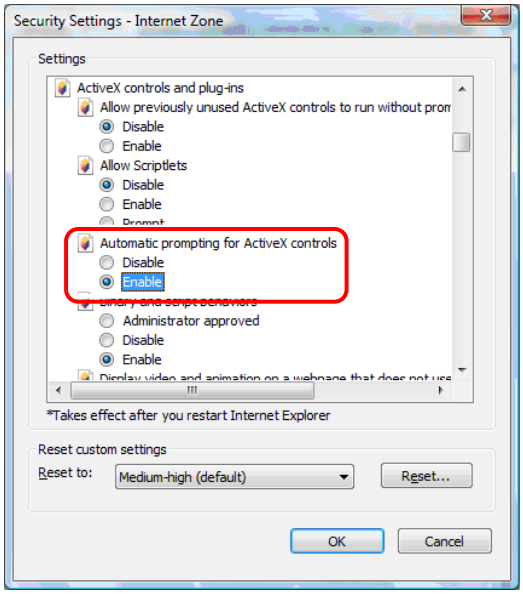
By now, you have finished your entire PC configuration for the camera.

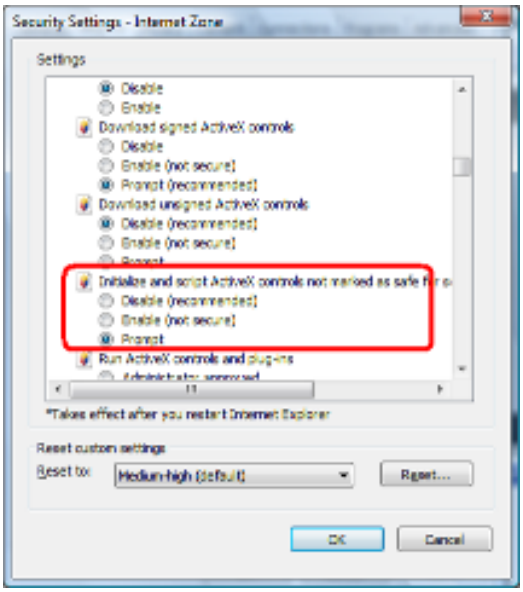
2.4.3 Internet Explorer 7 for Vista

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…."*





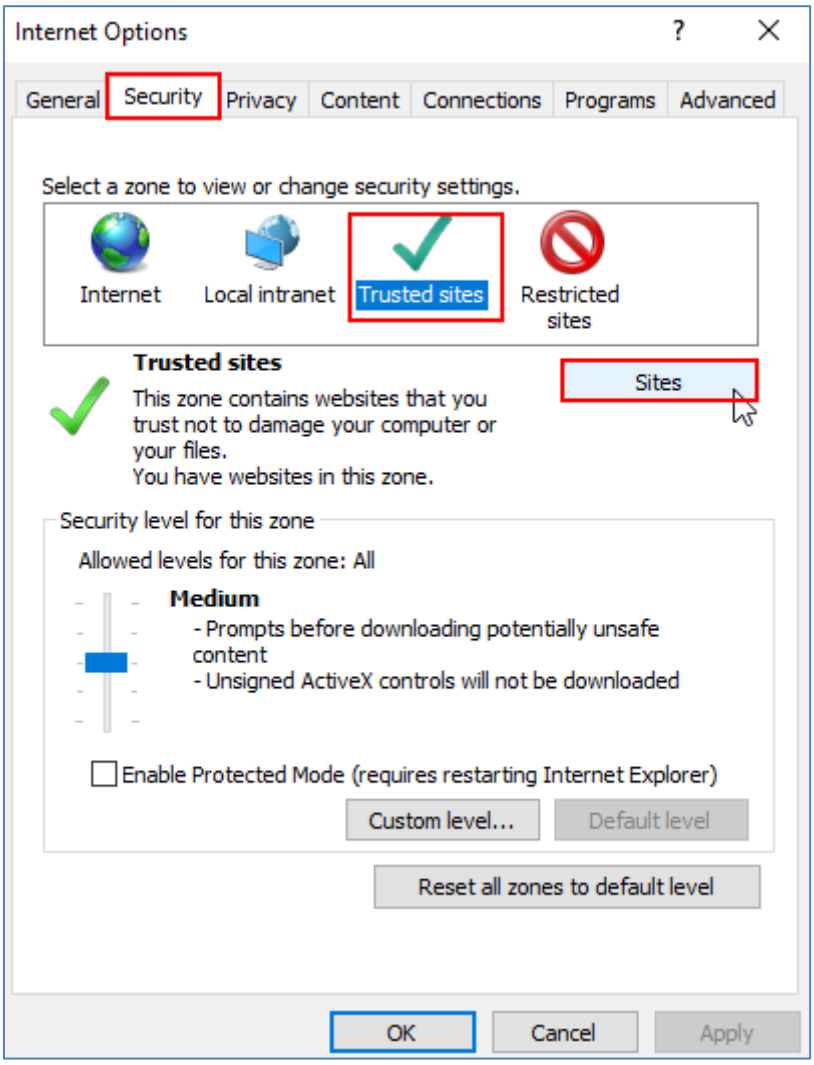
From your IE browser ➔ "Tools" ➔ "Internet Options…" ➔ "Security" ➔ "Trusted Sites" ➔ "Sites", please add the camera's IP address as follows:

•*Add the device's IP, then click the Close button.*

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

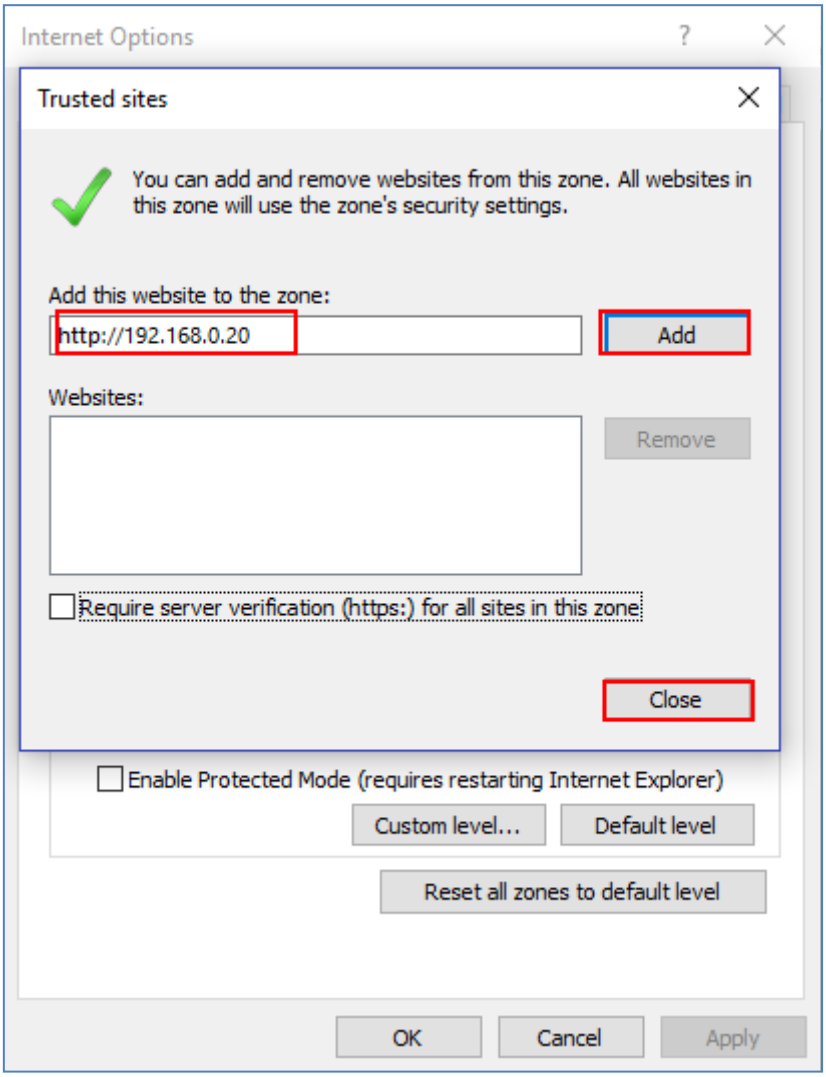
2.4.4 Internet Explorer 11 for Windows 8/10

From your IE browser ➔ "Tool" ➔ "Internet Options…" ➔ "Security" ➔ "Trusted Sites" ➔ "Sites".



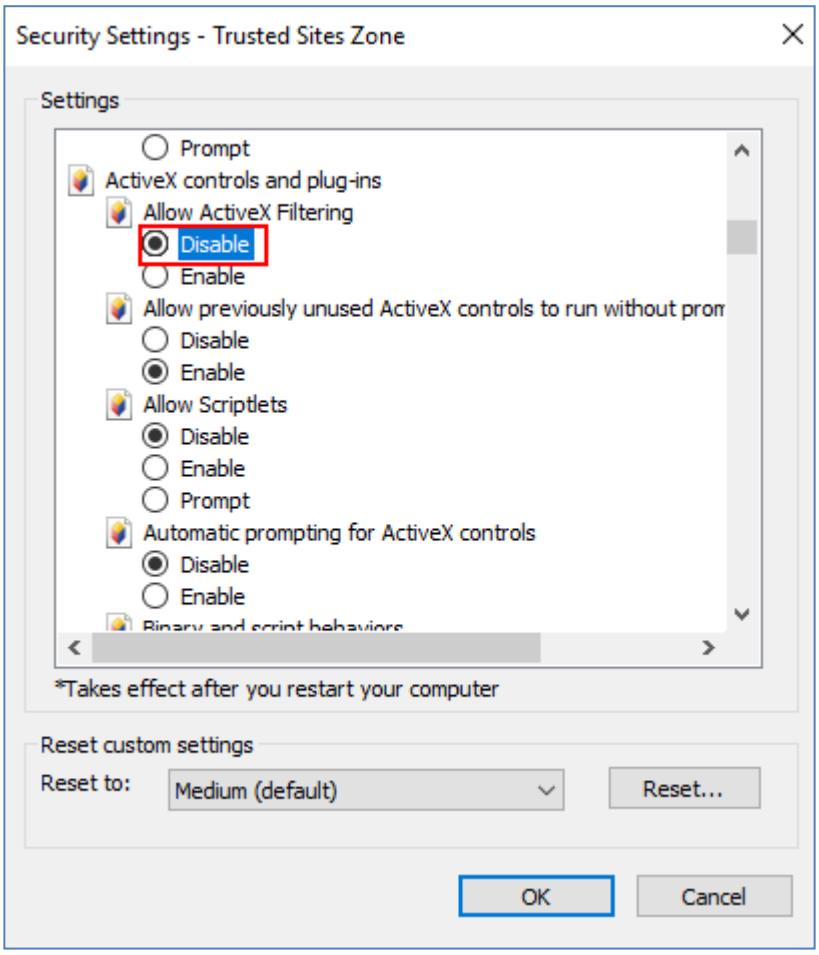
Please add the camera's IP address as follows:

•*Add the device's IP, then click the Close button.*



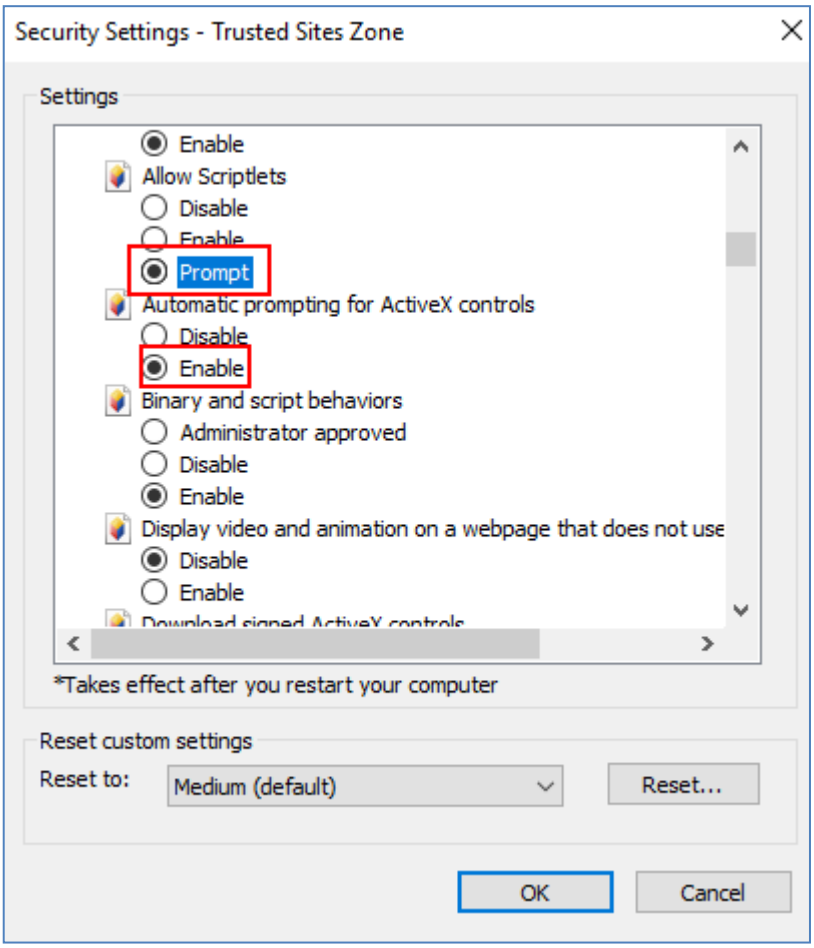
From your IE browser ➔ "Tool" ➔ "Internet Options…" ➔ "Security" ➔ "Trusted Sites" ➔ "Custom Level…", please set up your "Settings" as follows:

• *Disable "Allow ActiveX Filtering"*

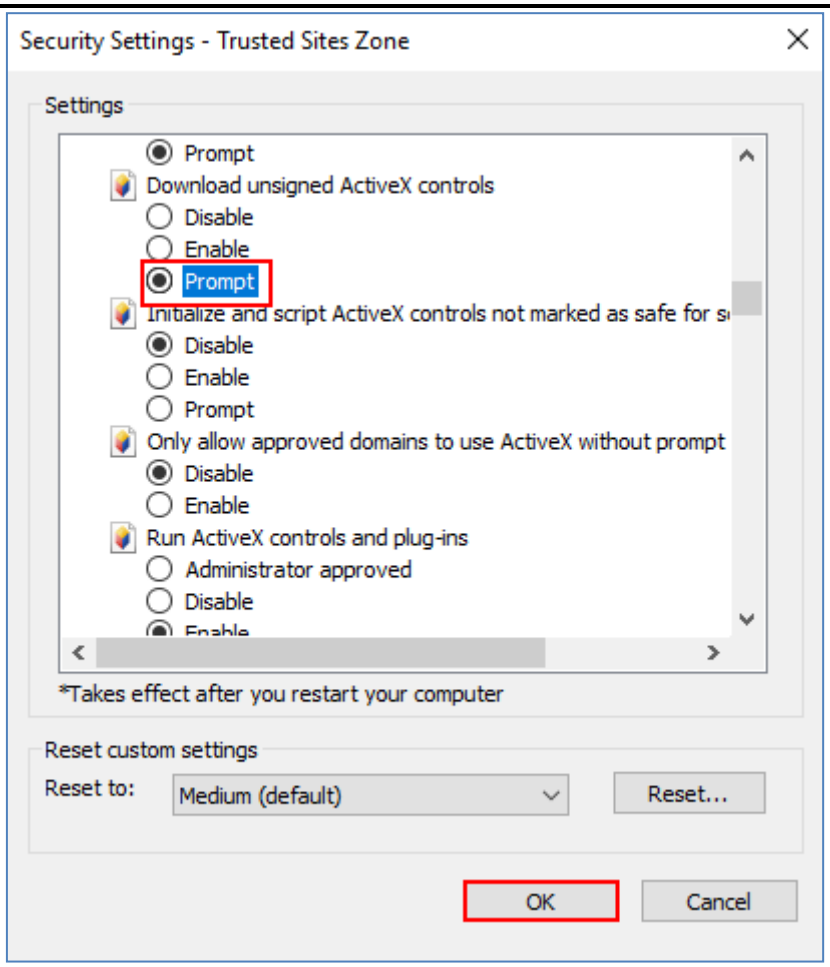


•*Prompt "Allow Scriptlets"*

• *Enable "Automatic prompting for ActiveX controls"*



• *Prompt "Download unsigned ActiveX controls"*



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

Chapter 3. Web-based Management

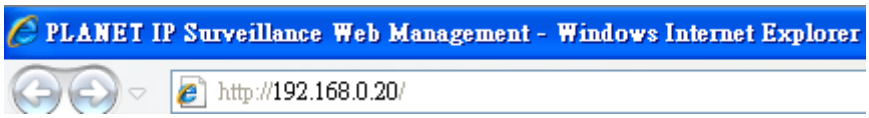
This chapter provides setup details of the IP camera's Web-based Interface.

3.1 Introduction

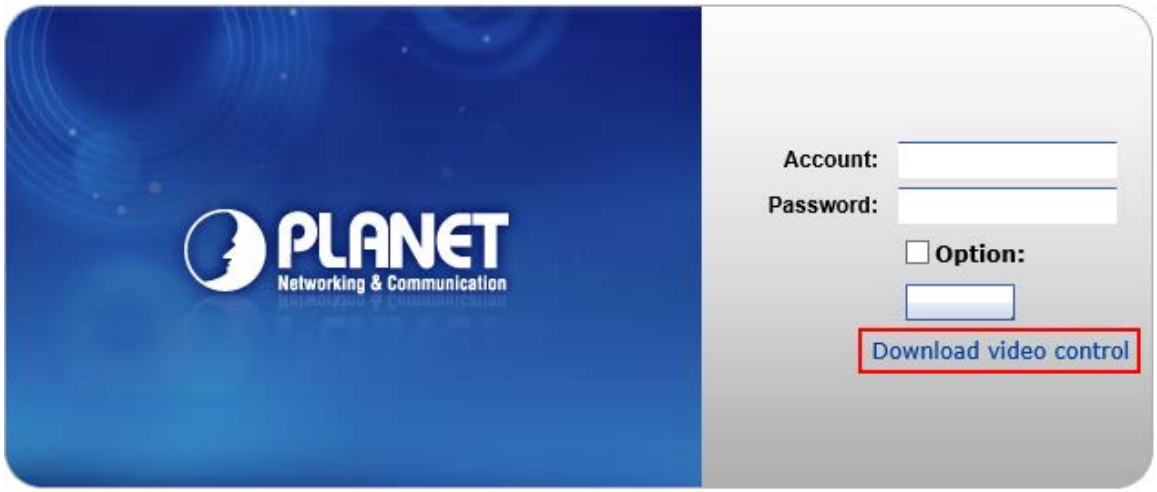
The IP camera can be configured with your Web browser. Before configuring, please make sure your PC is under the same IP segment with Internet camera.

3.2 Connecting to Internet Camera

A. Use the following procedure to establish a connection from your PC to the camera.
B. 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"

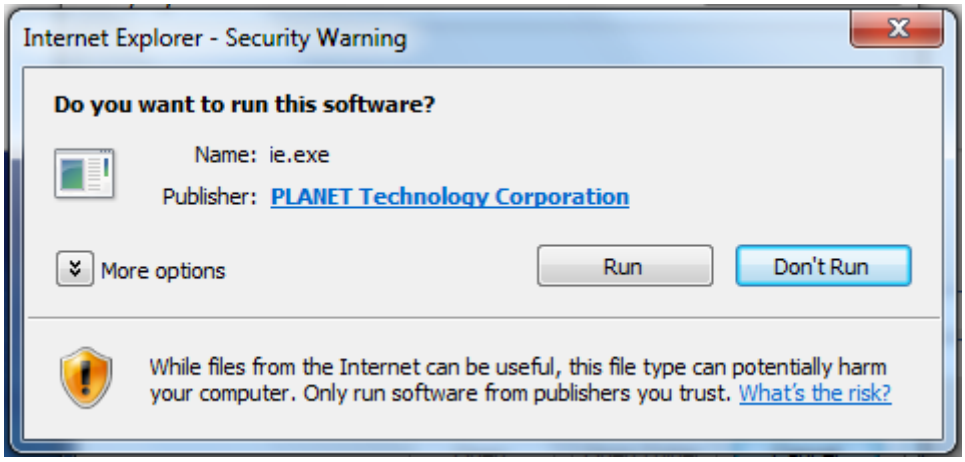


Please click the "Download video control" to download the player **"ie.exe"**



Note	The "ie.exe" is an ActiveX, please install it to login the web management of camera.

Please install the player **"ie.exe"**



Note	If you can't install the ActiveX, please refer the **chapter 2.4 ActiveX Setup** to Use the IP Camera to configure your IE browser setting.

The login window of Internet camera will appear.

Default login **username and password** are both **admin.**

After logging on, you should see the following messages at the top of Internet Explorer:

Click on the message and click **Run Add-on**

When you see this message, click **Run** to install the required ActiveX control

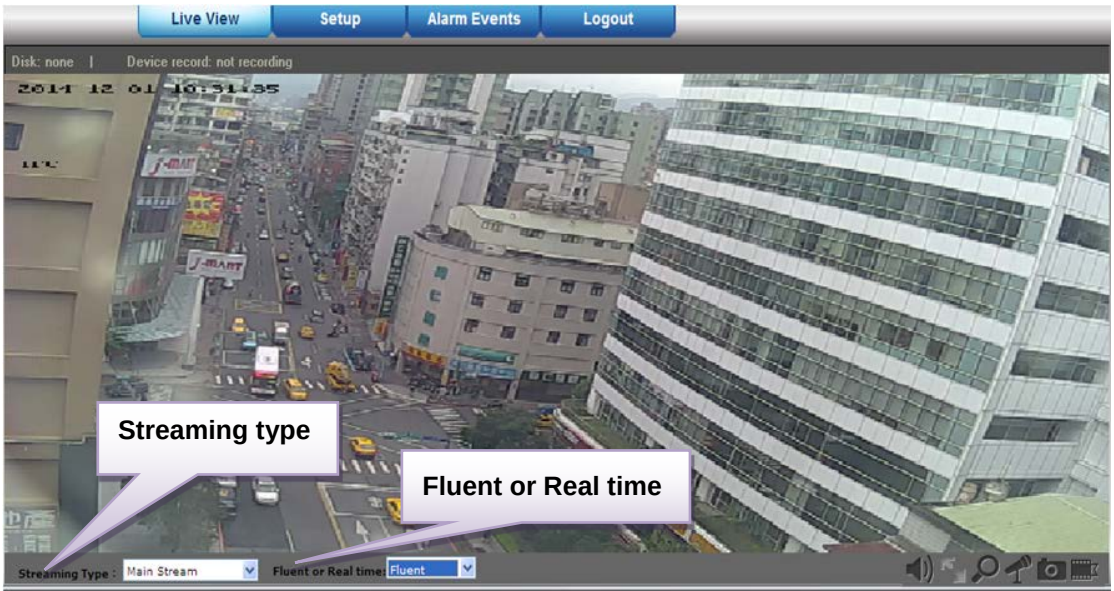
After the ActiveX control has been installed and run, the first image will be displayed.

You should be able to see the images captured from the Internet camera on the web page now. For advanced functions, please refer to instructions given in the following chapters.

Note	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.

3.3 Live View

Start-up screen will be as follows whether you are an ordinary user or an administrator.

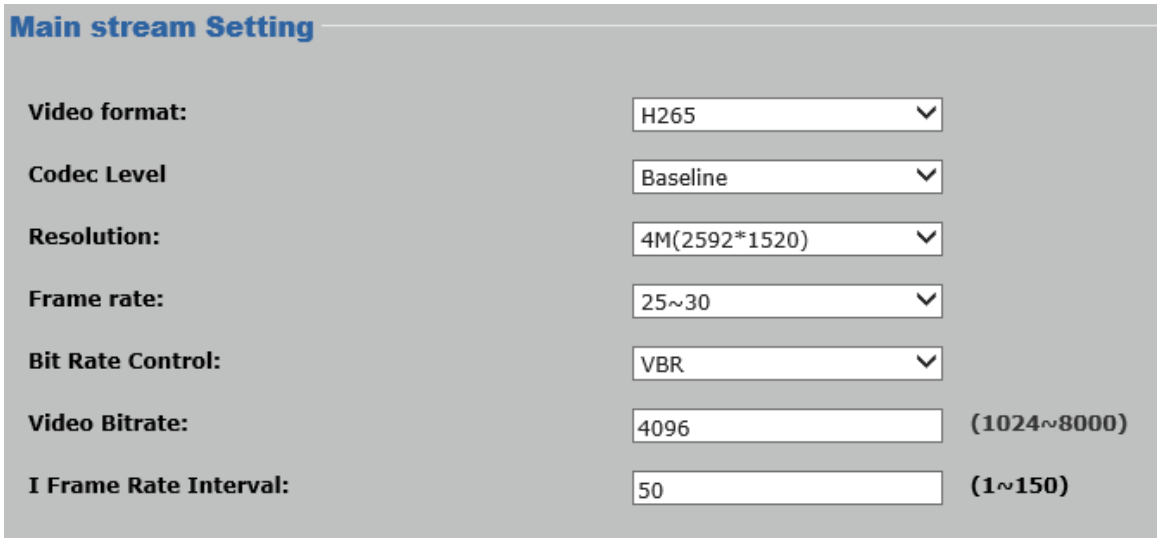


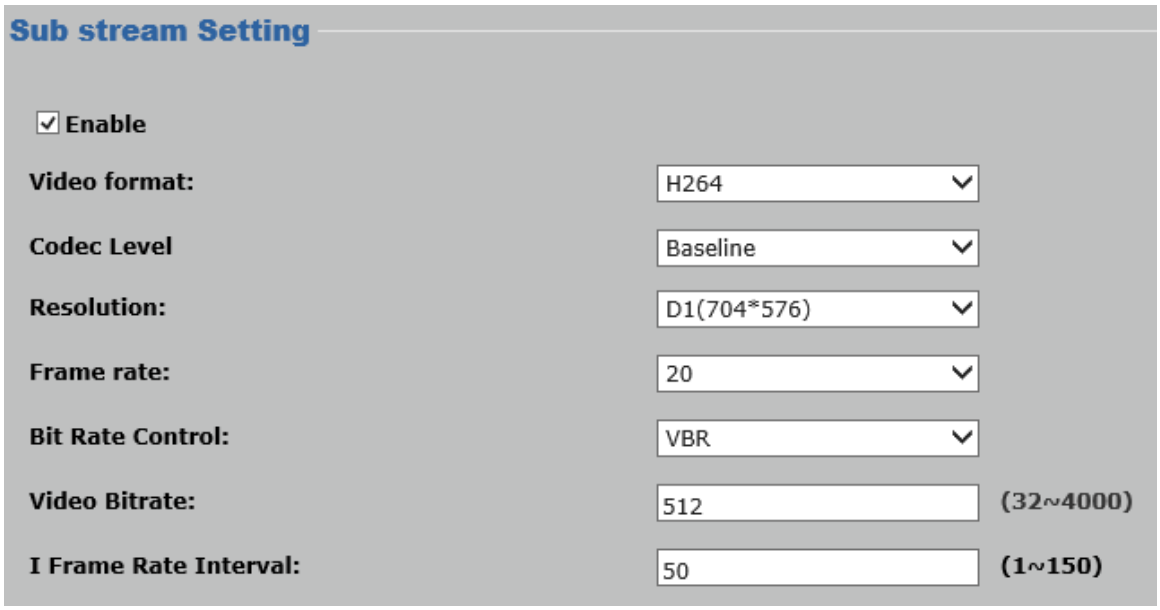
Streaming type	Set up the real-time view stream type (Mainstream/Substream).
Fluent or Real-time	Select the video quality: fluent video or real time video.
	Turn ON or OFF audio out function. User has to connect an external active speaker.
	Enable audio in function. User has to connect an external active microphone.
	Click this button to display the image in full-screen mode (uses every available space to display the image captured by this camera).
	Click **Digital Zoom** to activate this function shown below. User can drag or scale the box over the video to adjust zoom ratio and position.
	Click **Snapshot** to activate this function. Press the **Snapshot** button to take a picture. The image file is saved as JPEG format into your local PC.
	Click **Record** to activate this function. Press the **Record** button to start recording.

3.4 Media Management

Use this menu to set the function of the camera

3.4.1 Video Setting

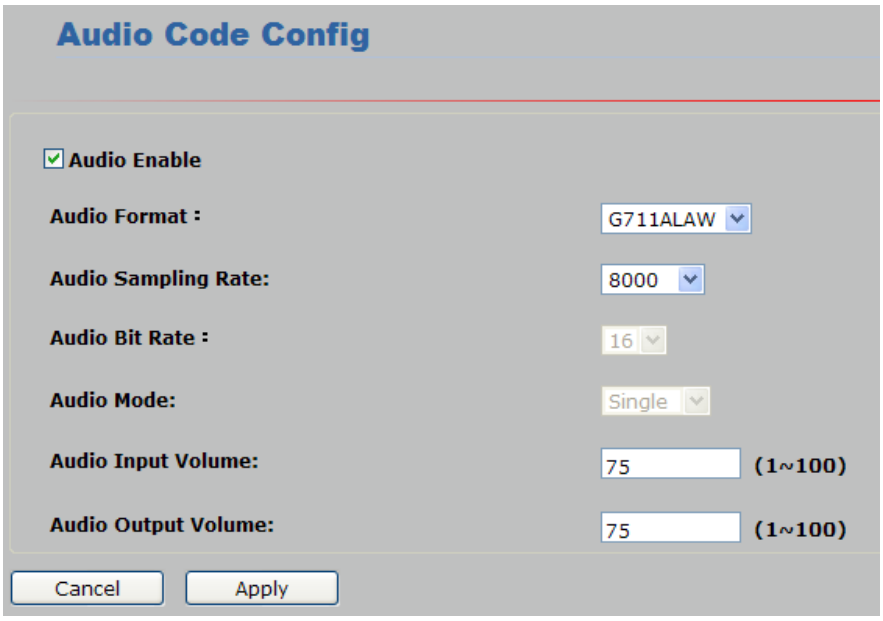




Video Format	Video codec of the selected profile.
Resolution	**Main stream** 2592x1520, 2304x1296, 1920x1080, 1280x1024, 1280x960, 1280x720, 704x576, 640x480 **Sub stream** 704x576, 640x480, 352x288, 320x240, 176x144
Frame Rate	Defines the targeted frame rate of this profile. For example, set the frame rate to 30 fps, then the image will be updated for 30 frames per second. User can set the desired maximum frame rate versus video quality under the limited bandwidth.
Bit Rate Control	Defines the rate control method of this profile. There are two options: Constant Bit Rate (CBR) and Variable Bit Rate (VBR). For CBR, the video bit rate is between low and high bandwidth based on different resolutions. User can set the desired bit rate to match the limitation of bandwidth. For VBR, user should choose the quality level to set the video quality rather than bit rate. The quality level is between 1 and 100. The higher value can reach the better quality but of course will consume higher bandwidth.
Video Bitrate	Defines the limited bandwidth of this profile

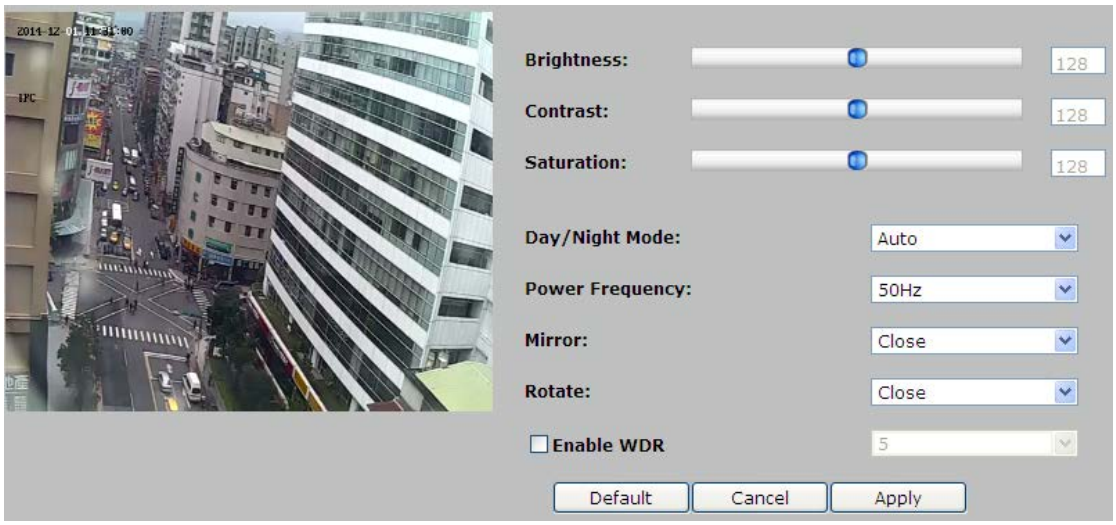
Frame Rate Interval	The max. value is affected by the input resolution you choose.

3.4.2 Audio Setting



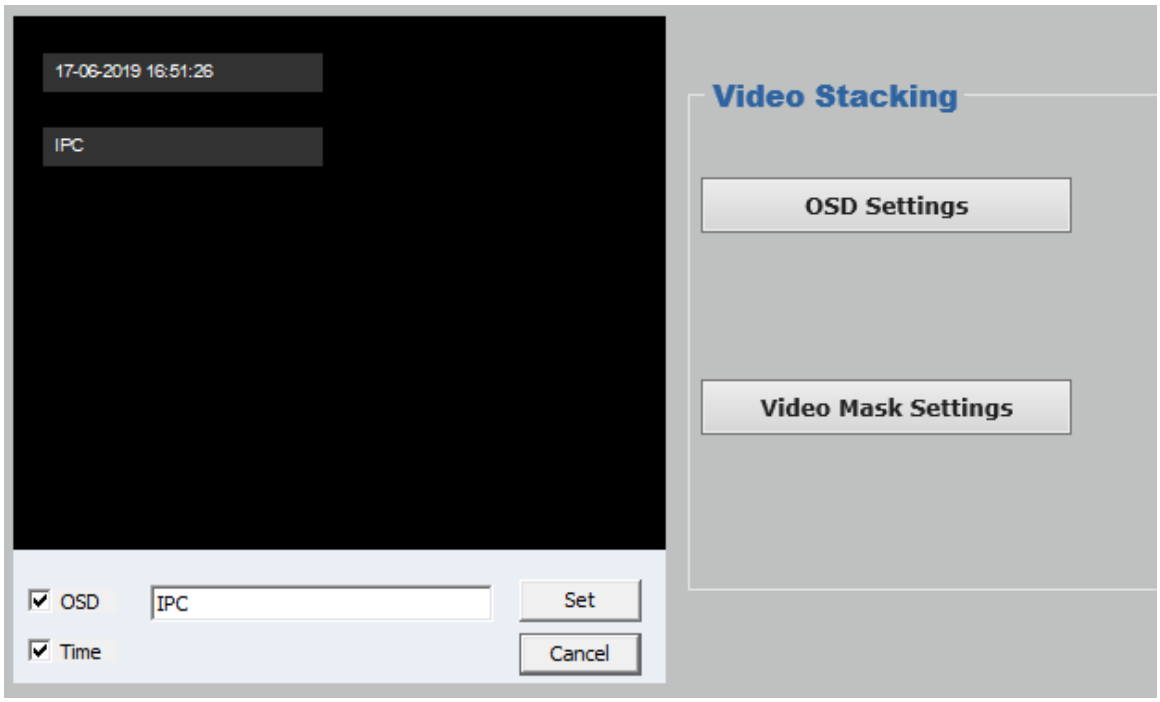
Audio Enable	Check the box to set audio function as enable; uncheck it to set audio function as disable.
Audio Format	User can set audio format as G.711 (A-law and μ-law)
Audio Sampling Rate	User can set audio sampling rate as 8000/16000.
Audio Input Volume	User can set audio input volume from 1 to 100.
Audio Output Volume	User can set audio output volume from 1 to 100.

3.4.3 Camera Setting



Brightness	Large value will brighten camera.
Contrast	Large value will contrast camera heavily.
Saturation	Large value will color camera heavily.
Day/Night Mode	There are three modes selectable-- Auto/Day/Night. In the Auto mode, the camera will change the image quality automatically, based on the light condition.
Power Frequency	Frequency of power line: 50 or 60Hz.
Mirror	Turn the "**Mirror**" On or OFF.
Rotate	Turn the "**Rotate**" On or OFF.
Enable WDR	WDR Enhancement function strengthens visibility under extremely bright or dark environments.
Default	Restore to factory image settings.

3.4.4 OSD & Mask Settings



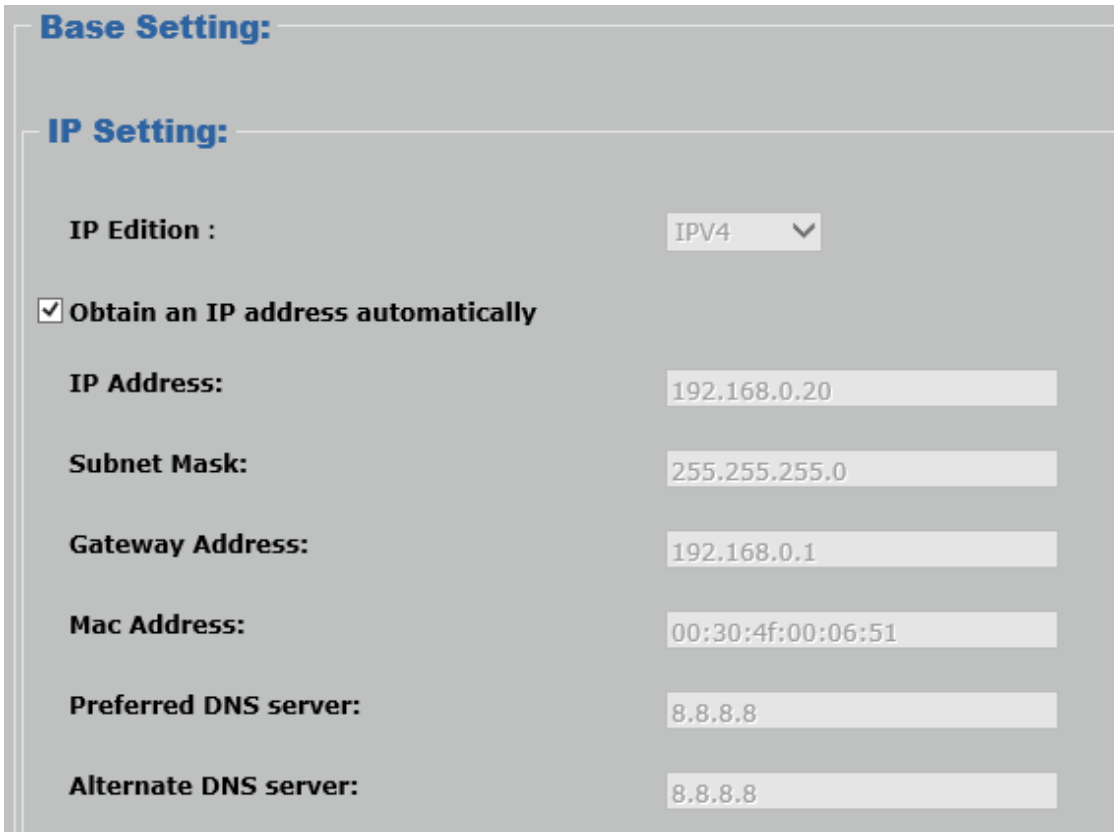
OSD Settings	Display region of Device Title & Time can be settable.
Video Mask Settings	Click "**Video Mask Settings**" to enter the main interface shown below: Select one region on the image; click "**Set**" to save this setup. Click "**Query**" to check the selected masking region. Click "**Delete All**" to delete all Masking regions. Or select one region, and click "**Delete Selected**".

3.5 Networking

Use this menu to configure the network to connect the device and the clients.

3.5.1 TCP/IP Setting

This section provides the menu of connecting the device through Ethernet cable.



Obtain an IP address automatically (DHCP)	Enable this checked box when a DHCP server is installed on the network to issue IP address assignment. With this setting, the IP address is assigned automatically. If this device cannot get an IP address within limited tries, the device will assign a default IP address for 192.168.0.20. If you do not select “Obtain an IP address automatically”, then you need to enter these network parameters by yourself.
IP Address	This address is a unique number that identifies a computer or device on the WAN or LAN. These numbers are usually shown in groups separated by periods, for example: 192.168.0.200. The default IP is 192.168.0.20 if there is no DHCP server in the network.
Subnet Mask	Subnets allow network traffic between hosts to be separated based

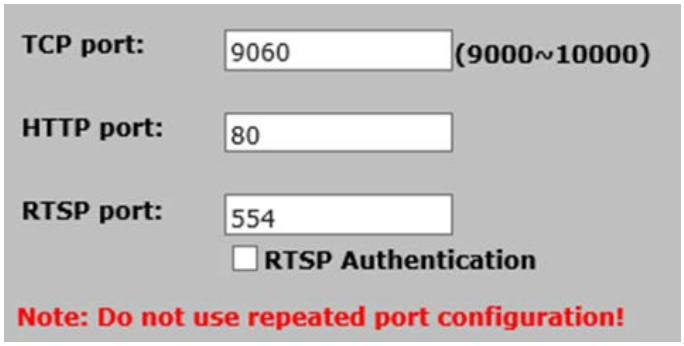
	on the network's configuration. In IP networking, traffic takes the form of packets. IP subnets advance network security and performance to some level by organizing hosts into logical groups. Subnet masks contain four bytes and usually appear in the same "dotted decimal" data. For example, a very common subnet mask in its binary demonstration 11111111 11111111 11111111 00000000 will usually be shown in the corresponding, more readable form as 255.255.255.0.
Gateway Address	A gateway is a piece of software or hardware that passes information between networks. You'll see this term most often when you either log in to an Internet site or when you're transient email between different servers.
MAC Address	Display the Ethernet MAC address of the device. Note that user cannot change it.
Preferred DNS Server	When you send email or position a browser to an Internet domain such as xxxxx.com, the domain name system translates the names into IP addresses. The term refers to two things: the conventions for naming hosts and the way the names are controlled across the Internet.
Alternate DNS Server	The same function as DNS1. It is optional.

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.

When the configuration is finished, please click “**Apply**” to save and enable the setting.

3.5.2 Port Management

User may need to assign a different port to avoid conflict when setting up IP assignment.



TCP Port	Choose the TCP port.
HTTP Port	Set up web page connecting port and video transmitting port (Default: 80).
RTSP Port	Choose the RTSP port. The RTSP protocol allows a connecting client to start a video stream. Enter the RTSP port number to use. The default value is 554.

Note

If you want log in the camera from internet, please set Port Forwarding of your router for TCP port and TCP port+1,TCP port is used to login.

By default, the ports are 9060 and 9061.

3.5.3 PPPoE Setting

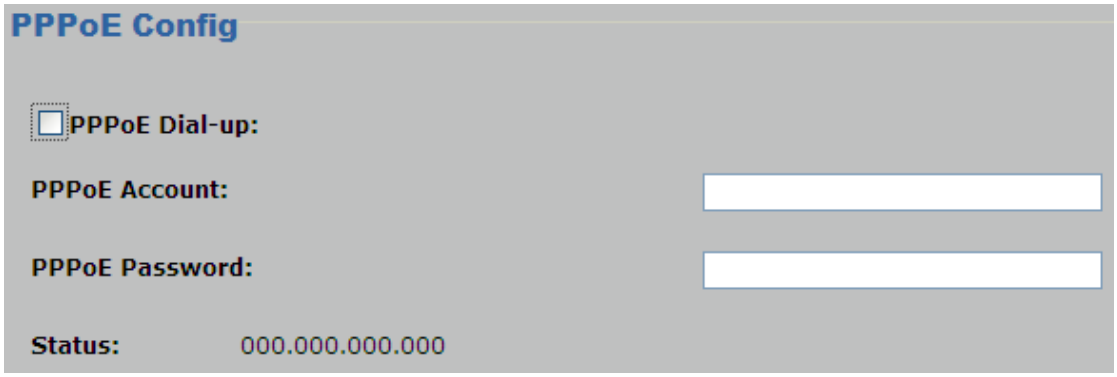
PPPoE stands for Point to Point Protocol over Ethernet

A standard that builds on Ethernet and Point-to-Point network protocol, it allows Internet Camera to connect 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 set up in a LAN environment to program the PPPoE information first, and then connect to the xDSL modem. Power it on again to enable the device to dial on to the ISP for connecting to the WAN through the xDSL modem. The procedures are

• Connect to a LAN by DHCP or fixed IP

• Access the device by entering **Setting ➔ Network ➔ PPPoE** as shown below:



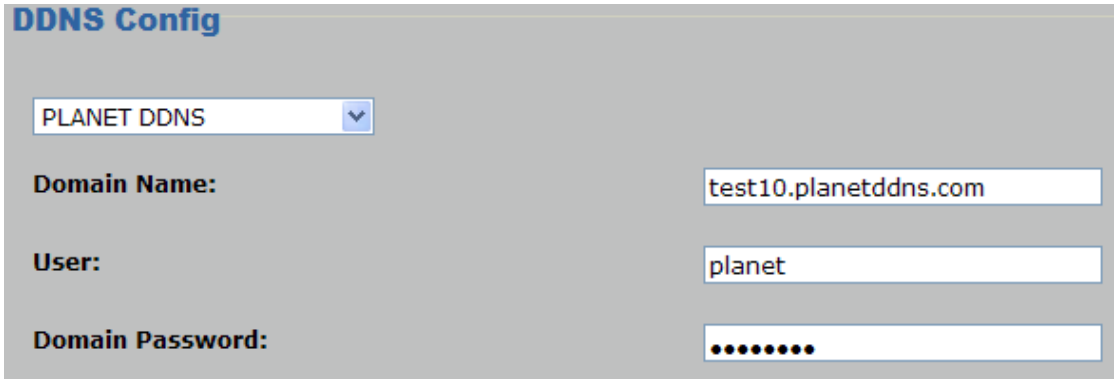
PPPoE Dial-up	To enable or disable the PPPoE service here.
PPPoE Account	Type the user name for the PPPoE service which is provided by ISP.
PPPoE Password	Type the password for the PPPoE service which is provided by ISP.
Status	Shows the Status of PPPoE connection.

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 easily 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 an FTP server, then the Dynamic Domain Name Server is necessary. For more DDNS configuration, please consult your dealer.

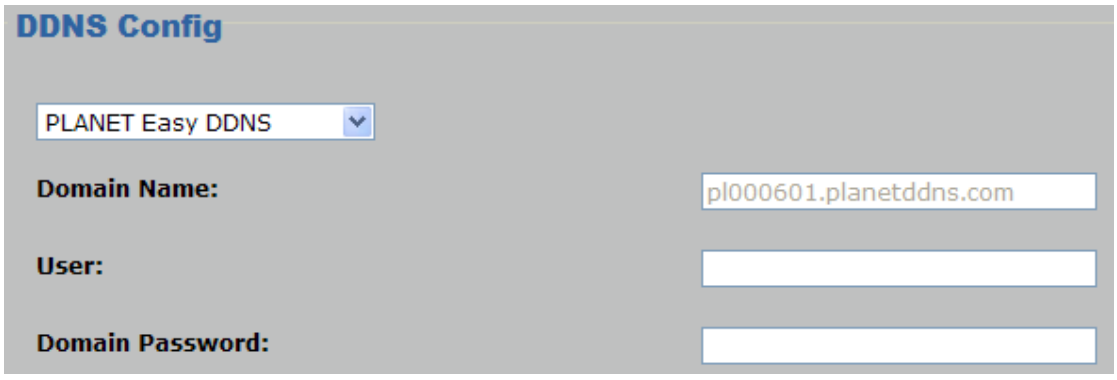
Your ISP provides you with at least one IP address which is used to connect to the Internet. The address you get may be static, meaning it never changes, or dynamic, meaning it's likely to change periodically. Just how often it changes, depending on your ISP. A dynamic IP address complicates remote access 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 look up 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.planetddns.com. 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.



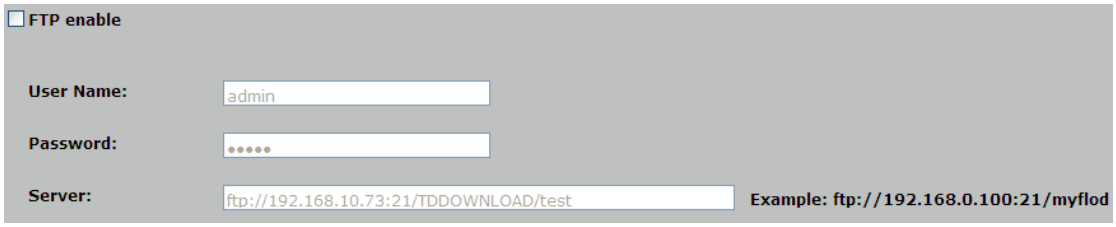
DDNS Enable	To enable or disable the DDNS service here.
Domain Name	The domain name is applied for this device.
User Name	The user name is used to log into DDNS service.
Password	The password is used to log into DDNS service.

This model comes with Planet Easy DDNS. When this function is enabled, DDNS domain name will appear automatically. User doesn't go to www.planetddns.com to apply for a new account.



3.5.4 FTP Setting

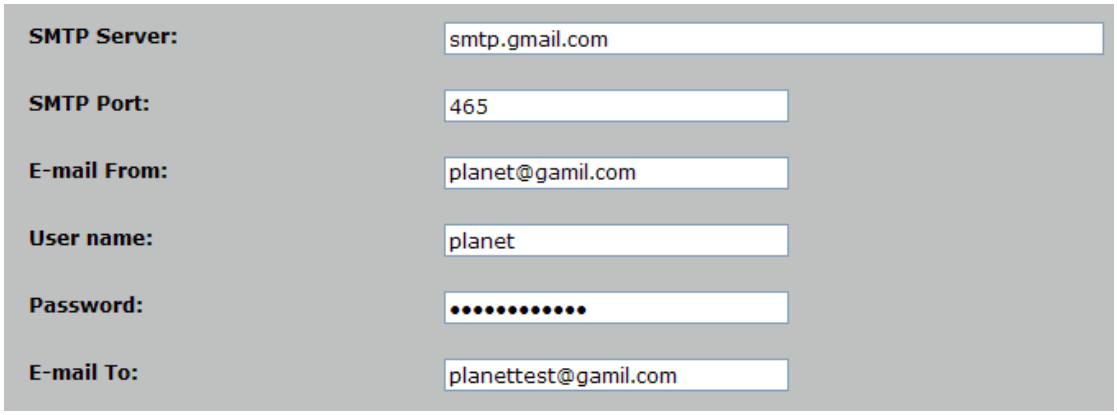
You may set up FTP parameters for further operation of Event Schedule. If users want to send the alarm message to an FTP server, it will need to configure parameters here and also add at least one event schedule to enable event triggering as SMTP.



FTP enable	To enable or disable the FTP service here.
User Name	Type the user name for the FTP server.
Password	Type the password for the FTP server.
Server	Type the server name or the IP address of the FTP server.

3.5.5 E-mail Setting

User may set up SMTP mail parameters for further operation of Event Schedule. If users want to send the alarm message out, it will need to configure parameters here and also add at least one event schedule to enable event triggering.



SMTP Server	Type the SMTP server name or the IP address of the SMTP server.

SMTP Port	Set port number of SMTP service.
E-mail From	Type the sender's E-mail address. This address is used for replying e-mails.
User Name	Type the user name for the SMTP server if authentication is enabled.
Password	Type the password for the SMTP server if authentication is enabled.
E-mail To	Type the receiver's e-mail address.

3.6 Cloud Setting

Refer to this menu to connect the camera to cloud server, so user is able to access the camera via mobile app. The Android/iOS APP is OKview.

UID	Display the UID (User ID) of the device. Note that user cannot change it.
Username	Set the username for the cloud server. Default is admin.
Password	Set the password for the cloud server. Default is admin.

Status	When the camera is connected to cloud server, the status will show “OnLine”. When the camera is disconnected from cloud server, the status will show “OffLine”.

Note

User can use mobile app to watch video only when the status is “OnLine”.
If the status is “OffLine”, please check the following:

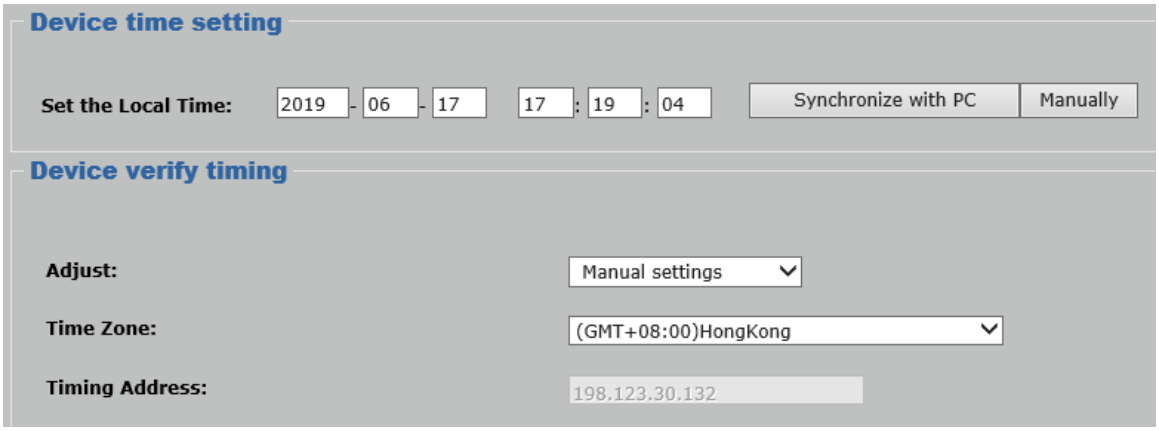
- Please set the camera’s TCP/IP setting to make it connect to internet.
- Is there a firewall or DMZ server in your network? If yes, please set it as disable.
- Does the camera get internet access via router or other devices? If yes, please set the UPnP of router as enable.

3.7 Advanced Tool

Refer to this menu to perform the principal settings of the camera.

3.7.1 Time Setting

User can set up the time setting of Internet camera. Synchronize it with PC or remote NTP server. Also, you may select the correct time zone of your country.

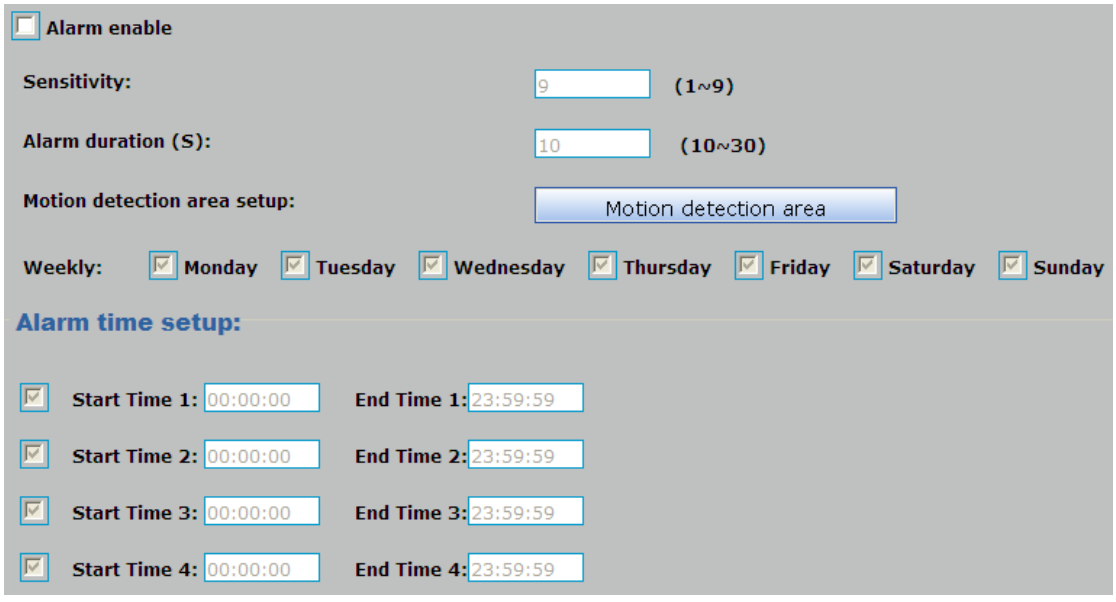


Device Time	Displays the date and time of the device. **Synchronize with PC:**

Setting	Click this option to enable time synchronization with PC time. **Manual Setting:** Click this option to set time and date manually.	
Adjust	**Manual Setting:**	Click this option to set time and date manually.
	Synchronize with NTP:	Click this option if you want to synchronize the device's date and time with those of time server called NTP server (Network Time Protocol).
Time Zone	Set the time difference from Greenwich Mean Time in the area where the device is installed.	
Timing Address	Enter the NTP server IP address.	

3.7.2 Motion Detection

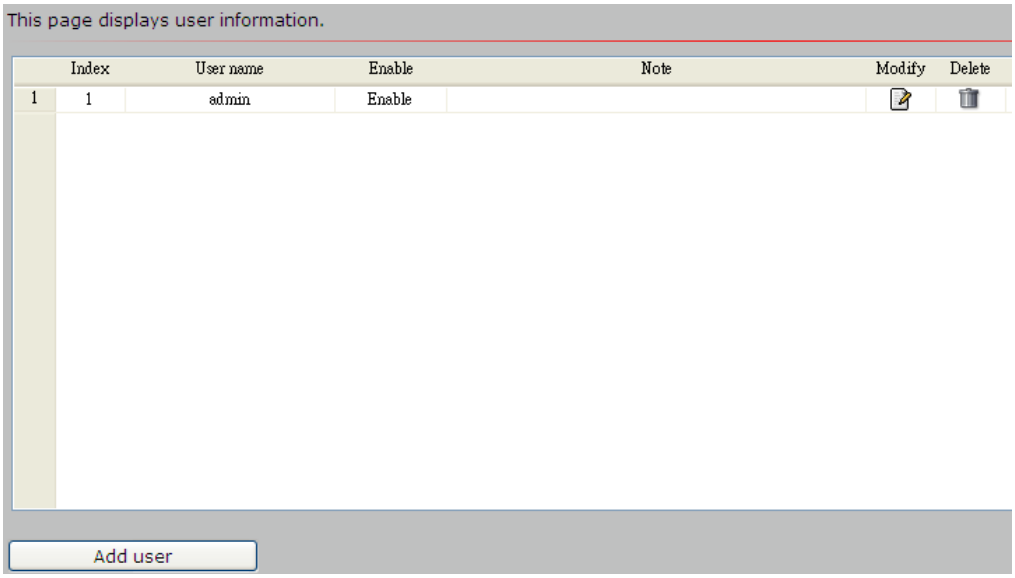
Refer to this menu to specify motion detection window 1 to window 4 and set the conditions for detection while observing a captured image.



Alarm Enable	To enable or disable the **Alarm** service here.
Sensitivity	Define the sensitivity value of motion detection. The higher the value is, the more sensitivity it will be.
Alarm Duration (S)	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.
Motion Detection Area	Click " **Motion detection area**" to select the motion area Select one region on the image, click "**Set**" to save this setup. Click "**Query**" to check the selected masking region. Click "**Delete All**" to delete all Masking regions. Or select one region, and click "**Delete Selected**".
Weekly	After completing the schedule setup, the camera data will be triggered according to the schedule setup.
Alarm Capture	Send JPG file to FTP server triggered by motion.
Sending Email	Send message to e-mail server triggered by motion.

3.7.3 User Management

Refer to this menu to set the user names and password of the Administrator and access right of each user.



Add User	Manage the user's account of viewer user.
Modify	Modify this password of user.
Delete	Remove the user account.

3.8 SysInfo Management

Refer to this menu to perform the principal settings of the Camera.

3.8.1 System Update

To update the firmware online, click "**Select file**" to select the firmware. Then click "Remote Upgrade" to proceed.

Note

1. Make sure that the firmware only applies to this device; once updated, it will be burned into FLASH ROM of system.

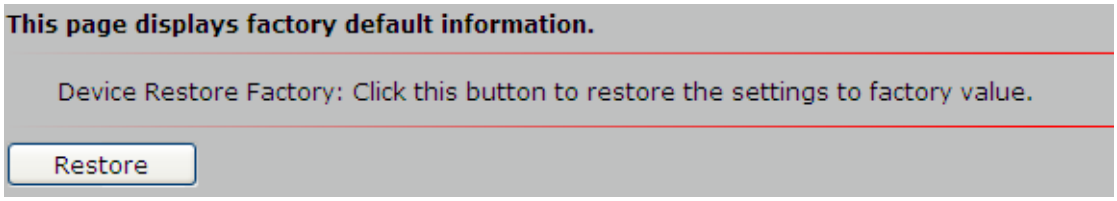
2. The firmware upgrade procedure cannot be interrupted. If the power and/or network connection are/is broken during the download procedure, it might possibly cause serious damage to the device.
   Please be aware that you should not turn off the power during updating the firmware and waiting for the “finish” message. Furthermore, do not try to upgrade new firmware if necessary.

3.8.2 Reboot System

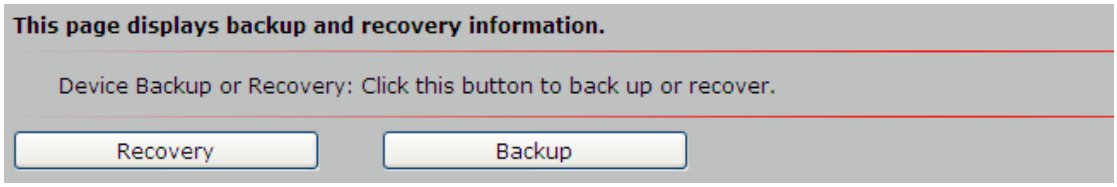
The device is restarted without changing any of the settings.

3.8.3 Factory Default

Clicking the **Restore** button will reset all devices’ parameters to the factory settings (including the IP address).



3.8.4 Backup



Recovery	Click the “Recovery” button to locate the saved backup file and open the backup file. The settings will be restored to the previous configuration.

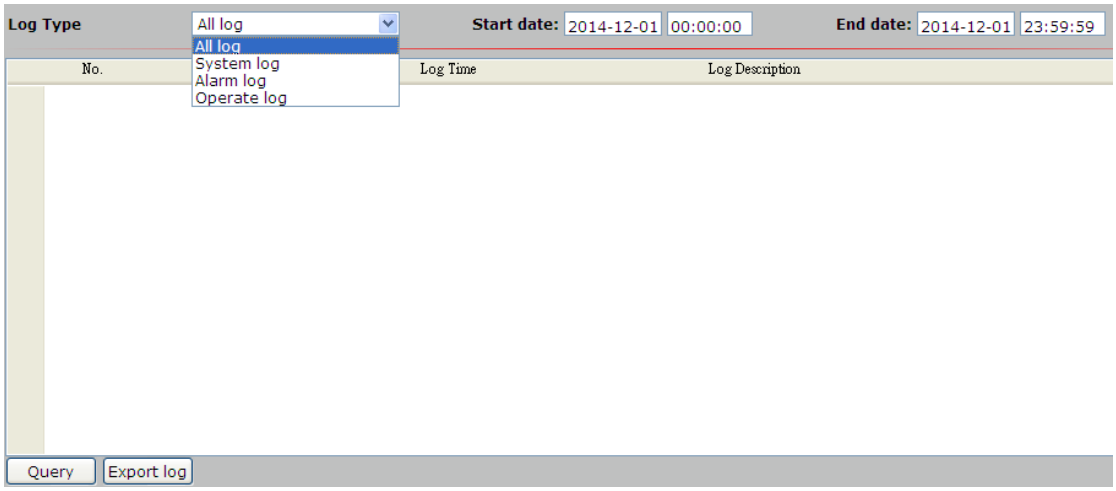
Backup	To have a backup of all of the parameters, click this button. If necessary, it will then be possible to return to the previous settings if settings are changed and there is unexpected behavior.

3.8.5 Version Info

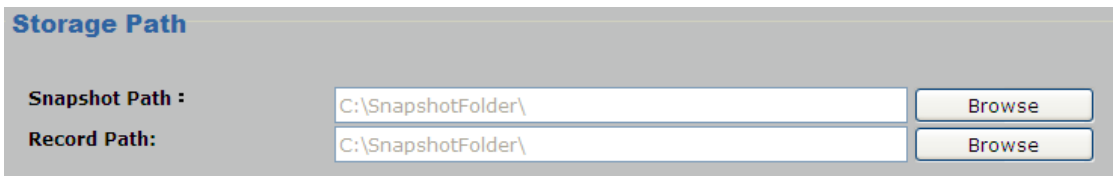
This information shows the software version in the device.

3.8.6 Log Management

User can check the system log, alarm log, operate log information of the device.



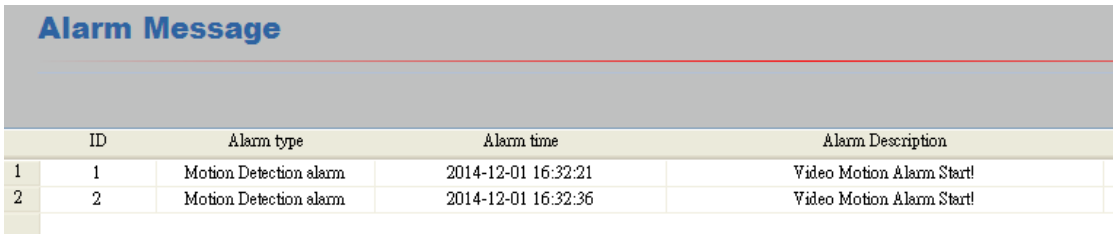
3.8.7 Local Setting



Snapshot Path	Click **Browse** to enable you to select the save path and file name prefix, and select **OK** to continue. If you like to retrieve the saved image, select the file to display the saved image by using any one of the graph editing tools.
Record Path	Select **Browse** to enable you to select the save path and file name prefix, and select **OK** to continue. After recording is stopped, list the files. This file is named as Manualyyyymmddhhmmss.avi.

3.9 Alarm Events

This information shows the alarm message in the device.



Appendix A: Ping IP Address

The ping (or 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 Internet camera is installed or not, or if the IP address conflicts with any other device over the network.

If you want to make sure the IP address of the 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 camera.

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

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

Appendix B: Bandwidth and Video Size Estimation

The frame rate of video transmitted from the device depends on connection bandwidth between client and server, video resolution, codec type, and quality setting of server. Here is a guideline to help you roughly estimate the bandwidth requirements from your device.

The required bandwidth depends on content of video source. The slow motion video will produce smaller bit rate generally and fast motion will produce higher bit rate. Actual results generated by the device may be varying

Image Resolution	Average range of data sizes for JPEG mode	Average bit rate for MPEG4 mode	Average bit rate for H.264 mode	Average bit rate for H.265 mode
320 x 240	8 ~ 20K bytes per frame	256kbps~768kbps @ 30fps	192kbps~512kbps @ 30fps	96kbps~256kbps @ 30fps
640 x 480	20 ~ 50K bytes per frame	512kbps~3072kbps @ 30fps	384kbps~1536kbps @ 30fps	192kbps~768kbps @ 30fps
1920 x 1080	200 ~ 500K bytes per frame	-	1536kbps~10000kbps @ 30fps	768kbps~5000kbps @ 30fps
2048 x 1536	300 ~ 750K bytes per frame	-	2048kbps~12000kbps @ 30fps	1024kbps~6000kbps @ 30fps

Audio streaming also takes bandwidth around 32kbps. Some xDSL/Cable modem upload speeds could not even reach up to 128 kbps. Thus, you may not be able to receive good quality video while also streaming audio on a 128 kbps or lower connection. Even though the upload speed is more than 128kbps for optimal video performance, disabling audio streaming will get better video performance.

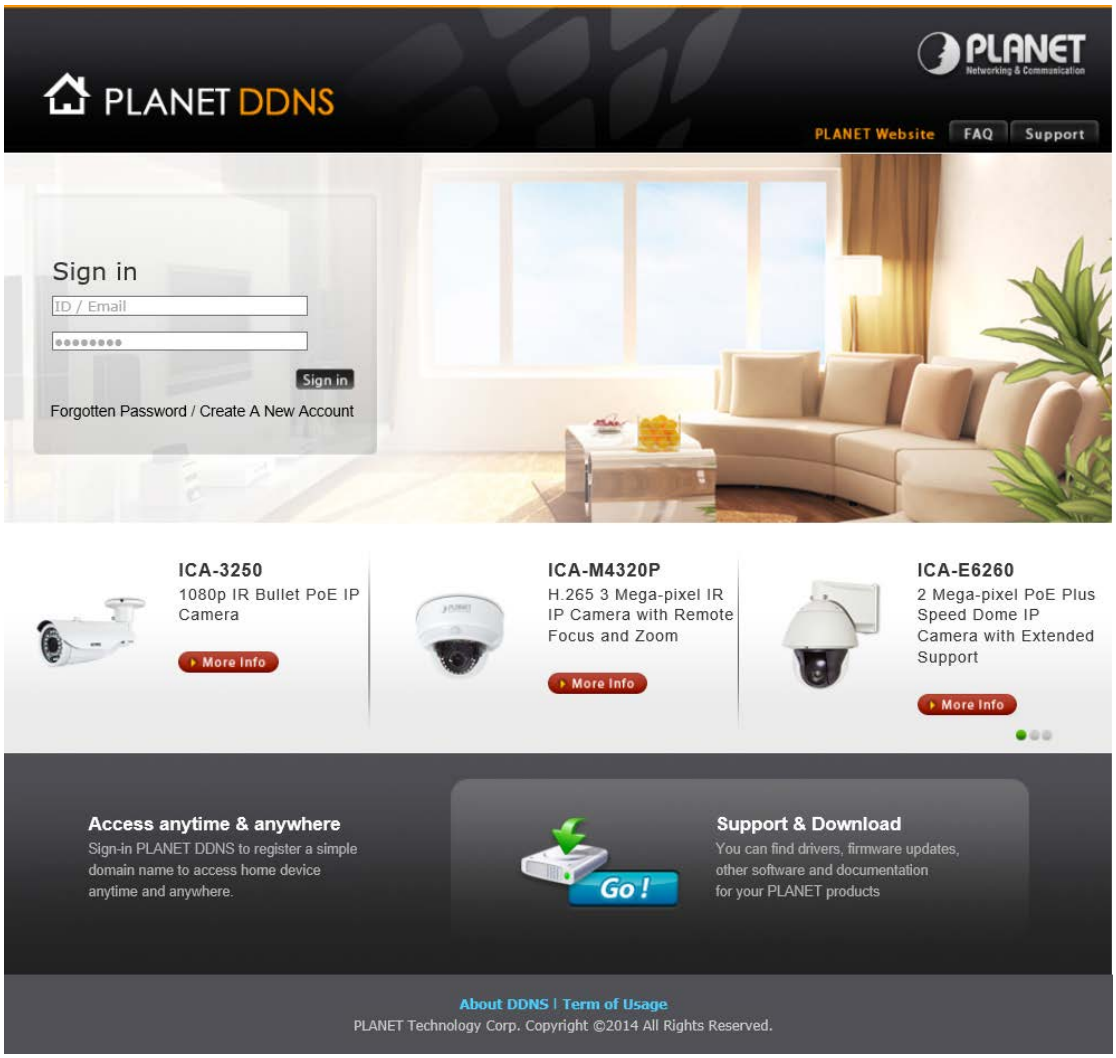
Appendix C: DDNS Application

Configuring PLANET DDNS steps:

Step 1: Visit DDNS provider's web site and register an account if you do not have one yet. For example, register an account at http://planetddns.com

Step 2: Enable DDNS option through accessing web page of the camera.

Step 3: Input all DDNS settings.



Appendix D: 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 fixed IP address. 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 shown below:

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

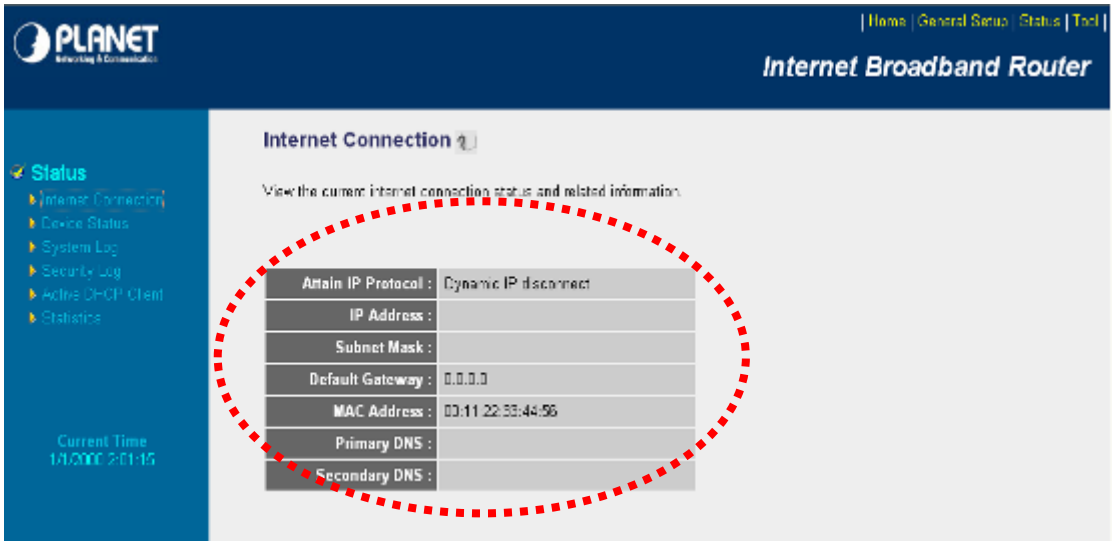
1. Assign a local/fixed IP address to your device

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 Wireless Router 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

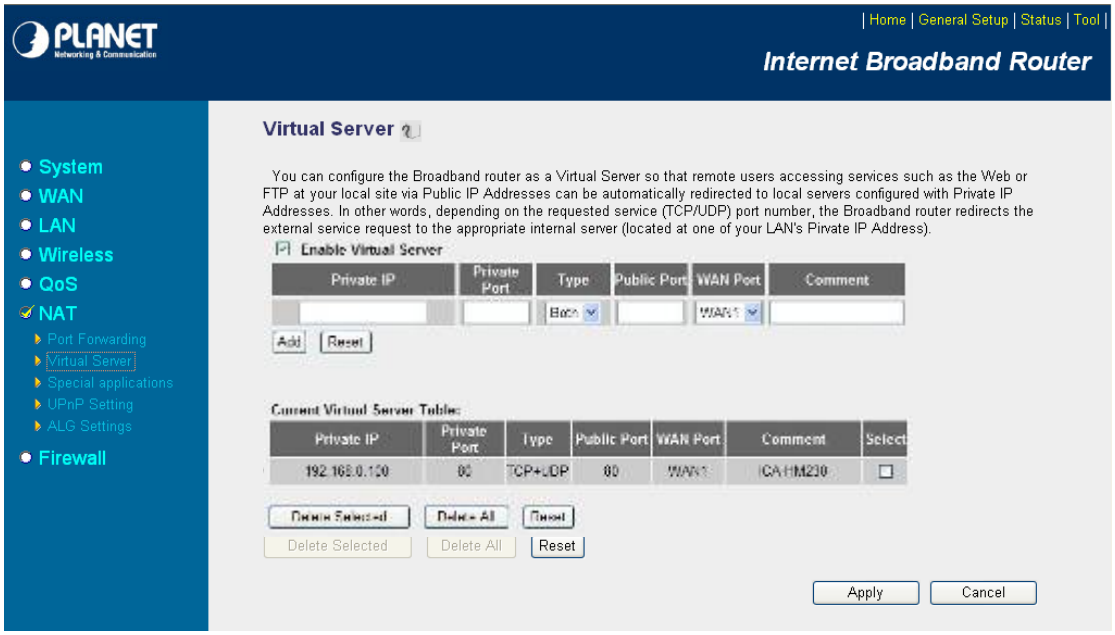
The firewall security features built into the router and most routers prevent users from accessing the video from the device over the Internet. The router connects to the Internet over a series of numbered ports. The ports normally used by the device are blocked from access over the Internet. Therefore, 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**) in the **Private IP** field.
- If you are using the default camera port settings, enter **80** into the **Public** and **Private Port** section, and click **Add**.

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

Note	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 E: Power Line Frequency

COUNTRY	VOLTAGE	FREQUENCY	COMMENTS
Argentina	220V	50 Hz	*Neutral and line wires are reversed from that used in Australia and elsewhere.
Australia	230V*	50 Hz	*Outlets typically controlled by adjacent switch. Though *nominal* voltage has been officially changed to 230V, 240V is within tolerances and commonly found.
Austria	230V	50 Hz	
Brazil	110/220V*	60 Hz	*127V found in states of Bahia, Paraná (including Curitiba), Rio de Janeiro, Paulo and Minas Gerais (though 220V may be found in some hotels).Other areas are 220V only, with the exception of Fortaleza (240V).sion
Canada	120V	60 Hz	
China	220V	50 Hz	
Finland	230V	50 Hz	
France	230V	50 Hz	
Germany	230V	50 Hz	
Hong Kong	220V*	50 Hz	
India	230V	50 Hz	
Italy	230V	50 Hz	
Japan	100V	50/60 Hz*	*Eastern Japan 50 Hz (Tokyo, Kawasaki, Sapporo, Yokohoma, and Sendai); Western Japan 60 Hz (Osaka, Kyoto, Nagoya, Hiroshima)
Malaysia	240V	50 Hz	
Netherlands	230V	50 Hz	
Portugal	230V	50 Hz	
Spain	230V	50 Hz	
Sweden	230V	50 Hz	
Switzerland	230V	50 Hz	

COUNTRY	VOLTAGE	FREQUENCY	COMMENTS
Taiwan	110V	60 Hz	
Thailand	220V	50 Hz	
United Kingdom	230V*	50 Hz	*Outlets typically controlled by adjacent switch. Though nominal voltage has been officially changed to 230V, 240V is within tolerances and commonly found.
United States of America	120V	60 Hz	

Appendix F: Troubleshooting & Frequently Asked Questions

Features	
The video and audio codec is adopted in the device.	The device utilizes H.265/H.264 compression to provide high-quality images. The device does not have a built-in audio.
The maximum number of users that accesses the device simultaneously.	The maximum number of users is limited to 3. However, it also depends on the total bandwidth accessed to this device from clients. The maximum data throughput of the device is around 20~25Mbps for UDP mode and 10Mbps for HTTP mode. Therefore, the actual number of connected clients varies by streaming mode, settings of resolution, codec type, frame rate and bandwidth. Obviously, the performance of the each connected client will slow down when many users are logged on.
The device can be used outdoors or not.	The device is weatherproof and could be installed outdoor.
Installing this device	
The network cabling is required for the device.	The device uses Category 5 UTP cable allowing 10/100BASE-TX 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, RTSP port, TCP port and TCP port+1 need to be open on the firewall or NAT router.
The username and password used for the first time or after factory default reset	Username = **admin** and password = **admin**. Note that it's all case sensitive.
Forgot the username and password	Follow the steps below: 1. Open the IP Finder II and search this device.

	2. Check the box of this device. 3. Press the "**Restore Factory**" button to restore all settings to factory default setting.
Forgot the IP address of the device.	Check IP address of device by using PLANET IP Finder II program or set the device to default by reset button.
PLANET IP Finder II program cannot find the device.	● Re-power the device if you cannot find the unit within 1 minute. ● Do not connect device over a router. PLANET IP Finder II program cannot detect device over a router. ● If IP address is not assigned to the PC running PLANET IP Finder II program, then PLANET IP Finder II 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 11. If you are experiencing problems, try adding the camera's IP address to the IE11's compatible list.
PLANET IP Finder II program fails to save the network parameters.	Network may have trouble. Confirm the parameters and connections of the device.
Accessing this device	
Cannot access the login page and other web pages of the Internet Camera from Internet Explorer	● Maybe the IP address of the camera is already being used by another device or computer. To confirm this possible problem, disconnect the camera from the network first, and then run the ping utility to check it out. ● Maybe due to the network cable. Try correcting your network cable and configuration. Test the network interface by connecting a local computer to the camera via a crossover cable. ● Make sure the Internet connection and setting are ok.

	Make sure to enter the IP address of Internet Explorer correctly. If the camera has 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 Internet camera must be in the same class of the private IP address on the LAN. ● Make sure the http port used by the Internet camera, default=80, is forwarded to the Internet camera's private IP address. ● The port number assigned in your Internet camera might not be available via Internet. Check your ISP for available port. ● The proxy server may prevent you from connecting directly to the Internet camera. Do not use the proxy server for the setup. ● Confirm whether 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 Internet camera from the Internet with the global IP address of the router and port number of Internet camera. ● Some routers reject the global IP address to access the Internet camera on the same LAN. Access with the private IP address and correct port number of Internet camera. ● When you use DDNS, you need to set Default Gateway and DNS server address. ● If it's not working after the above procedure, reset Internet camera to default setting and install it again.
Image or video does not appear on the main page.	● When the PC connects to Internet camera for the first time, 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.
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 that 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 to slow down 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 minimal value.

Image Transfer on 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.
What is the RTSP command?	The RTSP command: rtsp://servername:rtsp port/stander/livestream/0/0 Note. 0=Main stream；1=Sub stream e.g., rtsp://192.168.0.20:554/stander/livestream/0/1
What is the Snapshot command?	The Snapshot command: http://servername/cgi-bin/snapshot?channel=0 Note. 0=Main stream；1=Sub stream e.g., http://192.168.0.20/cgi-bin/snapshot?channel=0
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.	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.	● Wrong power line frequency makes images flicker. Make sure the 50 or 60Hz format of your device. ● If the object is dark, the image will flicker. Make the condition around the camera brighter.
Noisy images occur.	The video images might be noisy if the device is located in a very low light environment. Make the condition around the camera brighter or turn the White-light LED on.