PLANET
Networking & Communication

User's Manual

720p Wireless IR PT IP Camera

▶ ICA-W7100

Copyright

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 of PLANET 720p Wireless IR PT IP Camera
Model: ICA-W7100
Rev: 1.00 (December, 2014)
Part No. EM-ICA-W7100_v1.0

Table of Contents

Chapter 1.   Product Introduction

1.1 Package Contents

The package should contain the following items:
- Camera Unit x 1
- Power Adapter x 1
- CD-ROM (including User's Manual and Utility) x 1
- Quick Installation Guide x 1
- Screw Package x 1
- 5dBi Antenna x 1
- Bracket x 1
- 4-pin Screw Terminal Block x 1
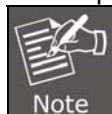
Note	1. If any of the above items are missing, please contact your dealer immediately. 2. Using the power supply that is not the one included in the Internet Camera packet will cause damage and void the warranty for this product.

1.2 Overview

Compact and Cost-effective 720p HD Surveillance
PLANET ICA-W7100 is easily and conveniently installed anywhere as it is compact in size. It incorporates 1 megapixel resolution sensors, and supports H.264 compression format, thus delivering excellent picture quality in up to 1280 x 720 pixels (720p) at 30 frames per second. In addition, the ICA-W7100 comes with a 355-degree pan, 90-degree tilt, and a micro SD slot for storage. Along with the motion detection function and the function of the pan-tilt camera, you can safely and reliably observe larger areas. Complying with ONVIF, the ICA-W7100 is therefore interoperable with any third brand camera in the market, which greatly supports users to integrate with their existing surveillance network.

Day & Night Surveillance

The ICA-W7100 brings the clearest vision at night by featuring 0.1 lux illumination and the 11 IR LEDs built around the lens. It offers color pictures both in the day time and night time with the built-in CMOS sensor supporting up to 10 meters. The ICA-W7100 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 Dimensional Noise Reduction (DNR) technology, the ICA-W7100 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
Users can save consecutive videos in local storage and events on memory card and thus you never have to miss an important moment. Users can set their area of interest to only detect motion in that area, thus greatly reduces the number of unnecessary alarms. The ICA-W7100 also offers 2-way audio surveillance; therefore, the administrator can speak to anyone at the ICA-W7100 remote site with a speaker connected.

Flexible Installation with 11n Wireless Connectivity
The ICA-W7100 adopts IEEE 802.11n wireless technology to communicate at up to 150Mbps wireless signal rate and ensures secure transmission with WEP and WPA encryptions. The wireless N functionality enables rapid integration into the wireless network and offers a flexible choice of the site.
The ICA-W7100 is indisputably the ideal choice for reliable and high-performance surveillance.
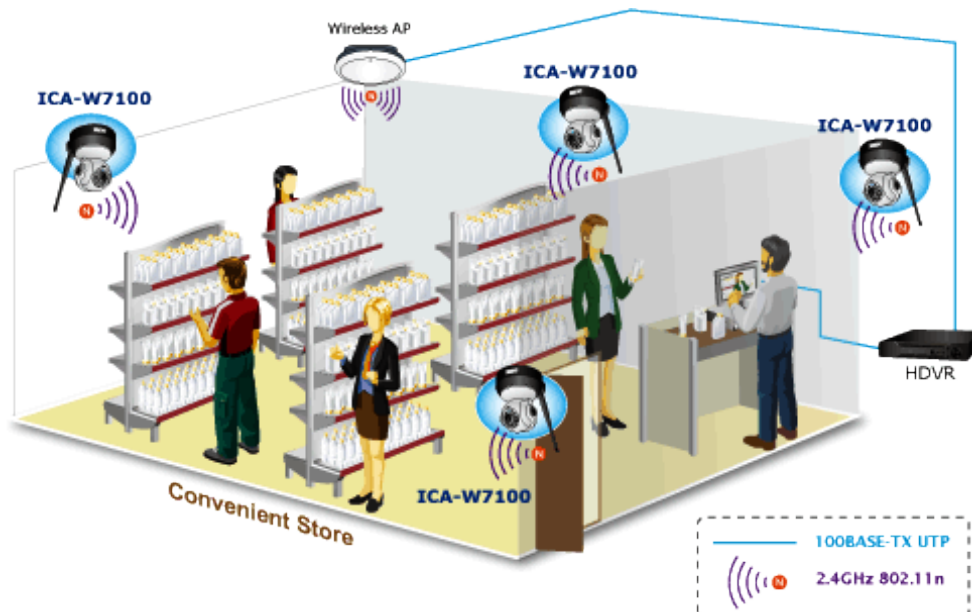
1.3 Features

➢ **Camera**
- 1/4" progressive CMOS sensor
- 3.6mm fixed lens
- 0.1 lux minimum illumination at F1.2
- Maximum resolution 1280 x 720
- Built-in 11 IR illuminators, effective up to 10 meters

➢ **Video / Audio**
- H.264 video compression
- Simultaneous multi-stream support
- Max. resolution 720p at 30fps
- 2DNR to improve picture quality at low lux
- 2-way audio support with enhanced audio quality

➢ **Network and Configuration**
- IEEE 802.11n wireless LAN capability
- WEP / WPA / WPA2-PSK wireless security
- Auto MDI/MDI-X supported
- RTSP / DDNS / FTP protocols selectable

➢ **Easy Installation & Management**
- ONVIF compliant for interoperability
- Intelligent motion detection alarm triggering
- Micro SD/SDHC card for event recording supported
- Digital input/output for integration with sensors and alarms
- Easy configuration and management via Windows-based utility or web interface

1.4 Product Specifications

Product	ICA-W7100
Camera	
Image Device	1/4" 1megapixel CMOS image sensor
Lens	Fixed lens 3.6mm, F1.4 **Angle of view** Horizontal: 75 degrees Vertical: 55 degrees
Effective Pixels	1280 x 720
Min Illumination	Color: 0.1 lux @ F1.2 B/W: 0 lux (IR on)
LED	Built-in IR LED x 11, effective up to 10 meters *The IR distance is based on the environment
Angle of Pan	-175~180 degrees
Angle of Tilt	-5~85 degrees
Video	
Video Encoder	H.264
Video Resolution	Main Stream (H.264): 1280 x 720 / 720 x 576 / 640 x 480 Sub Stream (H.264): 720 x 576 / 640 x 480 / 352 x 288 / 320 x 240 / 174 x 144
Frame Rate	Up to 30fps for all resolutions
Image Setting	2D noise reduction Color, brightness, contrast Mirror / Rotate 4 privacy masks Text, time and date overlay
Streaming	Simultaneous multi-streaming Streaming over UDP, TCP, or HTTP Controllable frame rate and bandwidth Constant and variable bit rate
Audio	
Audio Streaming	2-way audio
Audio Compression	PCM, G.711ALAW, G.711ULAW

Microphone	Internal microphone
Audio Output	Adjustable audio output gain
Network and Configuration	
Network Standard	IEEE 802.3 10BASE-T IEEE 802.3u 100BASE-TX IEEE 802.11 b/g/n
Network Protocol	IPv4, TCP/IP, HTTP, FTP, DHCP, DNS, DDNS, RTP, RTSP, RTCP, PPPoE, NTP, SMTP, 802.1X
Antenna Connector	RP-SMA Female
Frequency	2.4GHz
RF Transmit Power	802.11b mode: 20dBm 802.11g mode: 17dBm 802.11n mode: 17dBm
RF Receiver Sensitivity	802.11b (11Mbps): -85dBm 802.11g (54Mbps): -68dBm 802.11n (20MHz): -68dBm 802.11n (40MHz): -68dBm
RF Data Rate	802.11b: 11Mbps 802.11g: 54Mbps 802.11n (20MHz): up to 72Mbps 802.11n (40MHz): up to 150Mbps
Security	Password protection; WEP, WPA-PSK and WPA2-PSK encryptions
Users	2 clients on-line monitoring at the same time
System Integration	
Application Programming Interface	ONVIF compliant
Alarm Triggering	Motion Detection External Input
Alarm Events	Event snapshot uploads via FTP Event recording uploads via SD card Notification via email, HTTP External output activation
Environment	
Power Requirements	5V DC, 10W max.
Power Consumption	Up to 7.8W (IR & PT on)
Operating Temperature	-10 ~ 50 degrees C
Operating Humidity	20 ~ 85% (non-condensing)
Dimensions (W x D x H)	103 x 106 x 131mm
Weight	305g
Emission	CE, FCC
Connectors	10/100 Mbps Ethernet, RJ-45 DC power jack Terminal block for 1 alarm input and 1 output Audio out Micro SD/SDHC card (max 32GB) Factory default reset

Chapter 2.   Hardware Interface
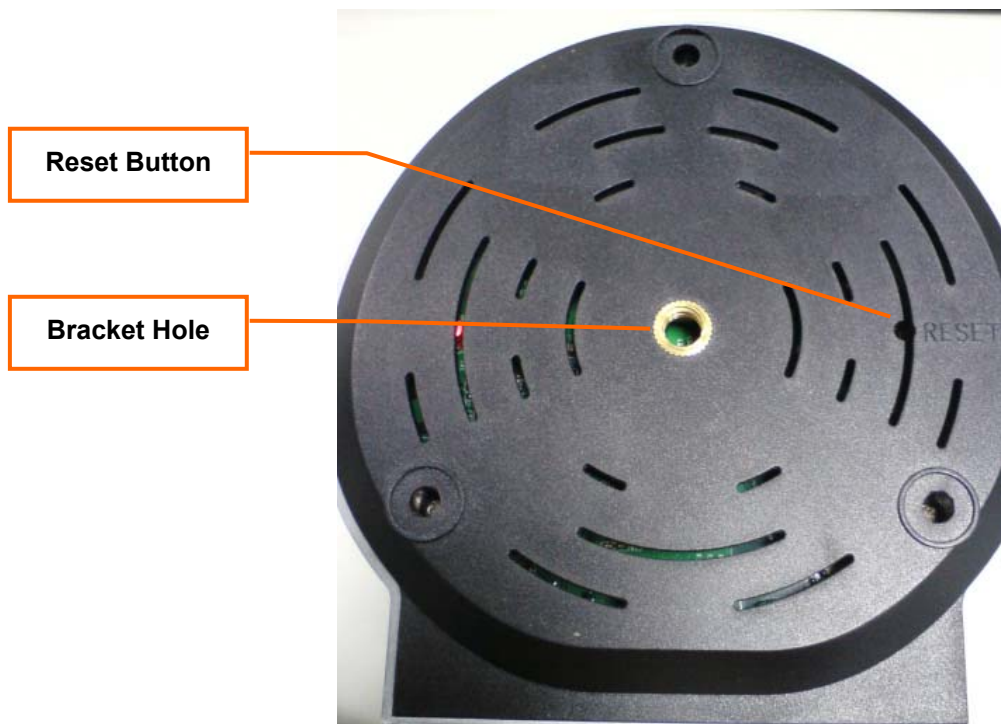
2.1 Physical Descriptions

Front View

Infrared LED

Lens

Light Sensor
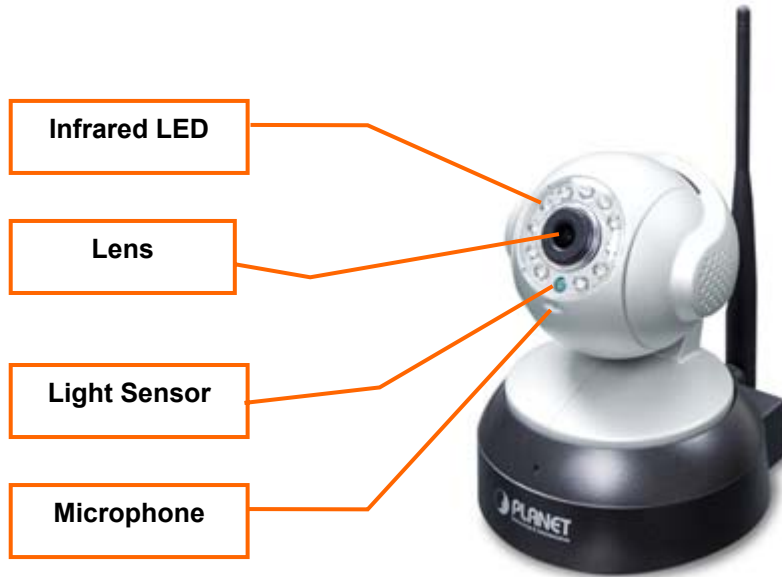
Microphone

Item	Description
Infrared LED	Built-in IR LED x 11, effective up to 10 meters.
Lens	Fixed lens 3.6mm, F1.4
Light Sensor	Detects light level of the place where this IP camera is installed.
Microphone	Receives voice.

Rear Panel

Micro SD (T/F) Slot

Ethernet Port

Audio Out

Antenna Connector

DI/DO

Power Jack

Item	Description
Micro SD (T/F) Slot	Inserting micro SD card for video recording It supports a maximum 32GB micro SD card. To prevent

	damaging the card, please insert micro SD card before powering on IP cam. (Please refer to Appendix G: Micro SD Card Compatibility to select your SD card)
Ethernet Port	Connecting to PC or hub/switch Please use CAT-5 cable to connect the Network Camera to a 100Mbps Fast Ethernet network switch or hub. When the RJ45 is connected and IP camera is on, the Orange LED will light up and the Green LED will flash. If the RJ45 cable is removed, both LEDs will be off.
Audio Out	Use 3.5mm audio cable to connect the external audio amplifier to output voice.
Antenna Connector	It is the RP-SMA female type that allows device to be connected to the supplied antenna.
DI/DO	Digital input / output dry contacts Connect to external peripherals by wire. Tighten or loosen the screw gently to insert or release the wire.
Power Jack	The input power is 5V DC, 2A. ONLY use the power adapter that comes with the package. Otherwise, the product may be damaged.

Item	Description
Reset button	This button is hidden in the pinhole. This button is used to restore all the factory default settings. To restore the device, please follow the steps below: 1. Power on IP camera and wait till it finishes the booting process (about 1 minute). 2. Use a paper clip or other tiny tool to press the button for about 10 seconds to restore to default settings, and reboot again.

	Restoring the factory default setting will lose all the previous settings including IP address forever. User needs to run the IP Finder II program to search the device and configure it to let the device work properly again.
Note	
Bracket hole	By connecting the bracket, you could fix the camera onto the ceiling or wall. You could also put the camera on the table directly.

2.2 Hardware Installation

1. **Insert micro SD card.**

If user needs to use the alarm recording function, please insert the micro SD/SDHC card before powering on.

Please refer the **Appendix G: Micro SD Card Compatibility** to select your micro SD/SDHC card.

2. Install the included antenna.

3. Connecting an Ethernet cable.
Connect the LAN cable on the camera to the network device (hub or switch).
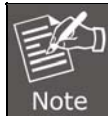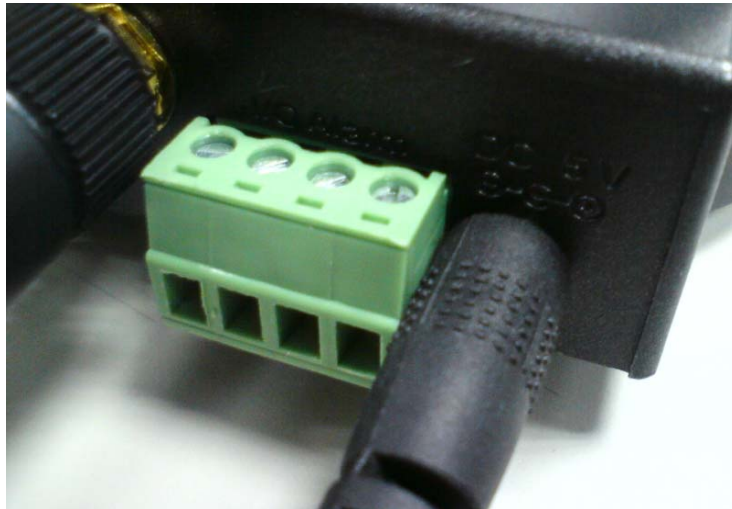
4. Insert 4-pin Screw Terminal Block into DI/DO port. (optional)

5. Attaching the power supply (5V/2A)
Plug the power adapter into a power source. After powering on, the camera will start to operate.

	Only use the power adapter supplied with Internet camera. Otherwise, the product may be damaged.
Note	

**6. Attaching speaker to camera (optional)**
   If user needs both video and audio streams, a speaker should be attached to camera.

2.3 Initial Utility Installation

This chapter shows how to quickly set up your H.264 camera. The camera is with the default settings. However, the windows utility PLANET IP Finder II can help you find the networked camera quickly, and help you to configure some basic settings 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 "IP Finder II" hyperlink; you will see the dialog box as shown below. Please click "Yes" to start to install IP Finder II.
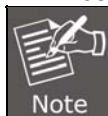
|	If the welcome screen does not appear, click "Start" at the taskbar. Then, select "Run" and type "D:\Utility\PLANETIPFinderII\IPFinderII.exe", assuming D is your CD-ROM drive.
Note	
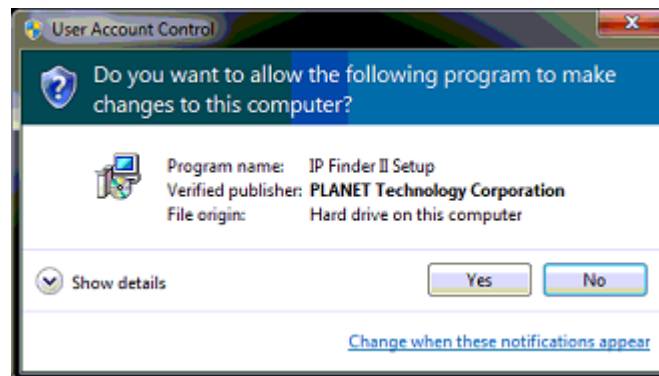
3. The "Welcome to the IP Finder II Setup Wizard" prompt will display on the screen and click "**Next**" to continue.

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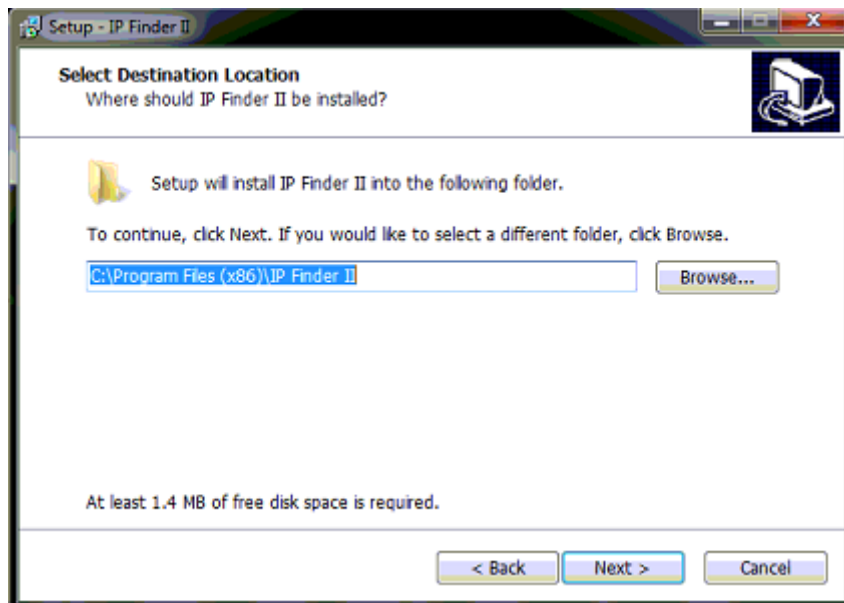
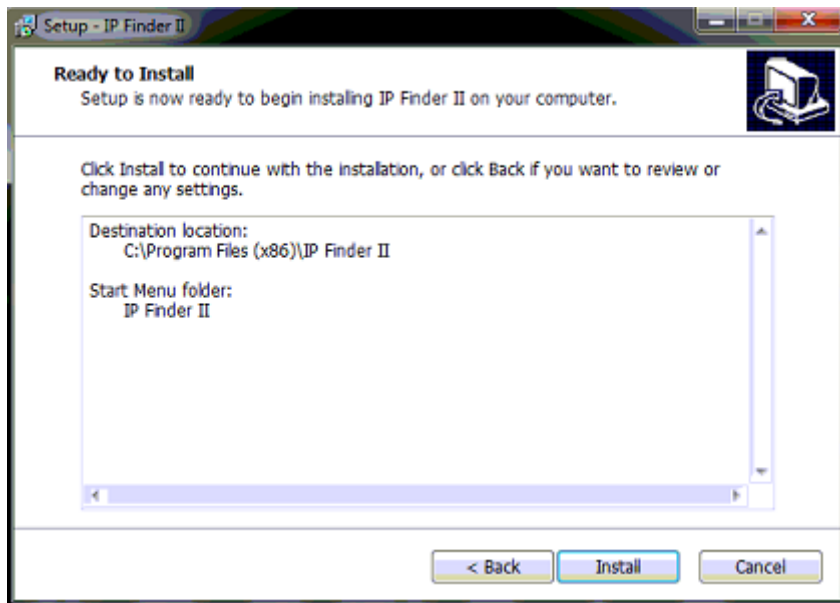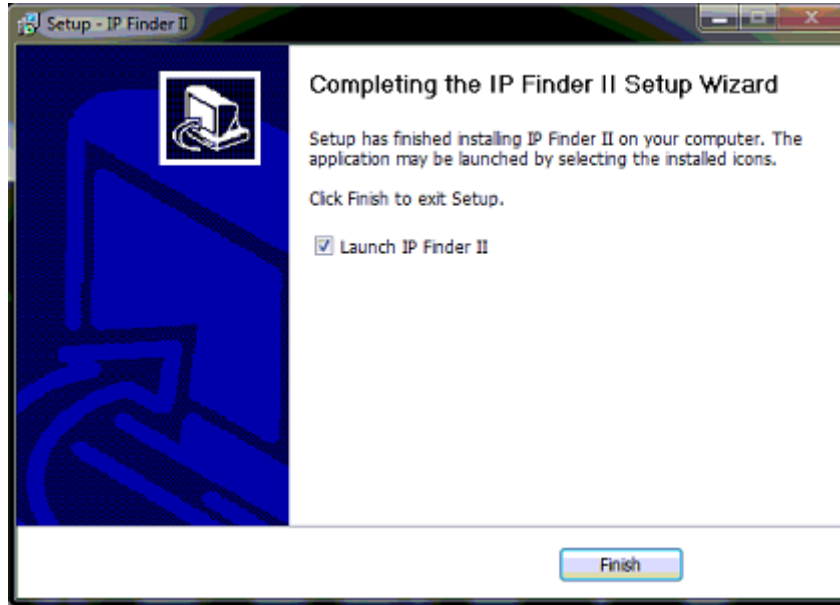5. Please click "**Next**" to install with original settings, or you may click "**Browse…**" button to modify the install folder and then press "Next" to continue.
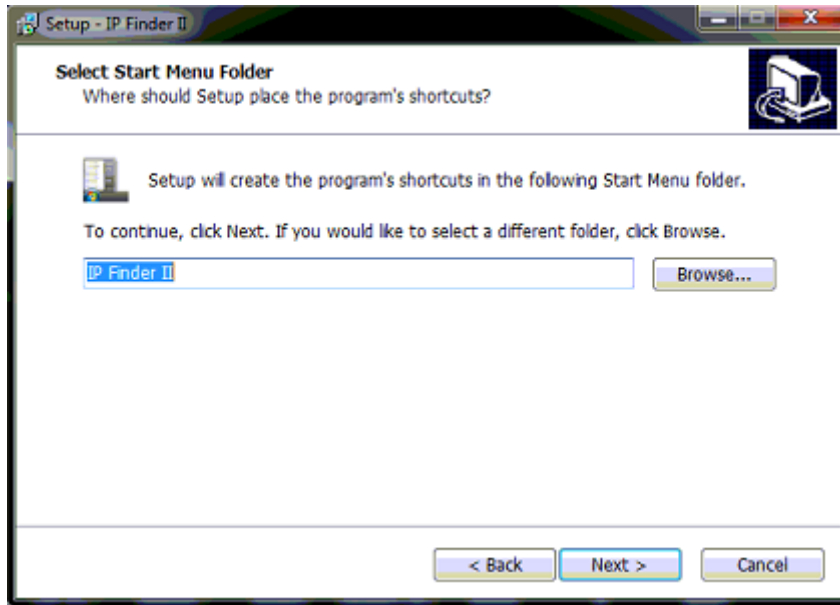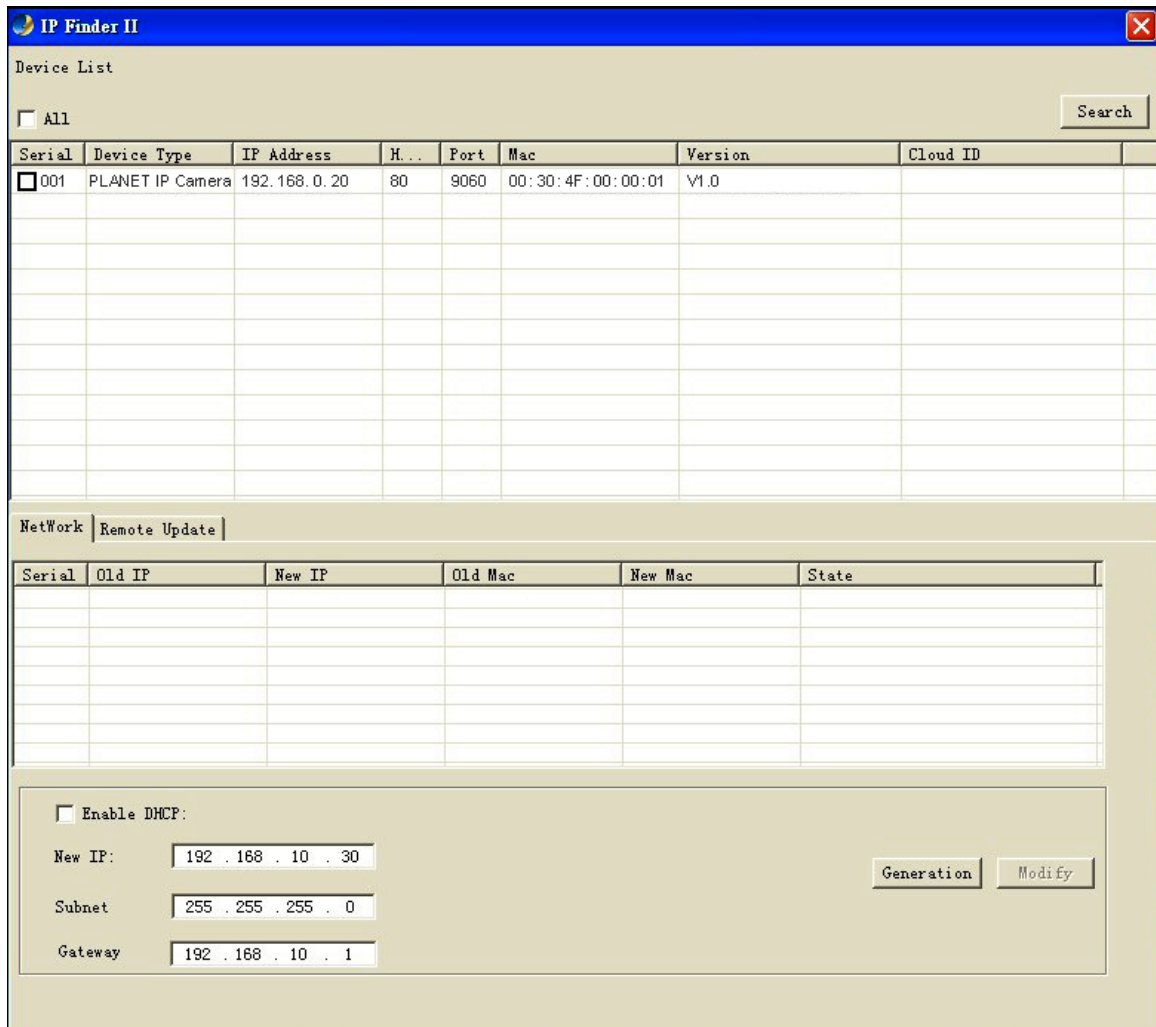

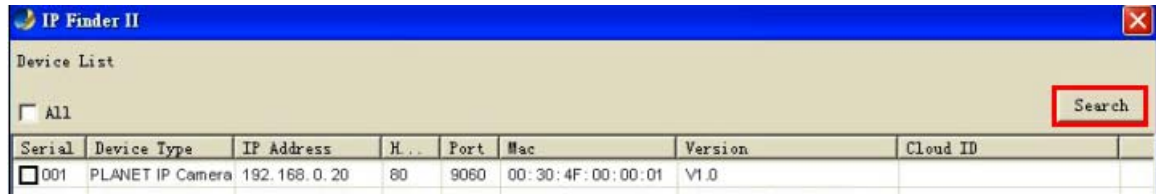6. Please click "**Install**" to start the installation.

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

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

(1) Search: IP Finder II will search all IP cameras connected to LAN. The user can click "Search" to search again.

	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.
Note	

(2) Network:
- If user wants to set a **specific IP address** of device, please refer to the steps below:
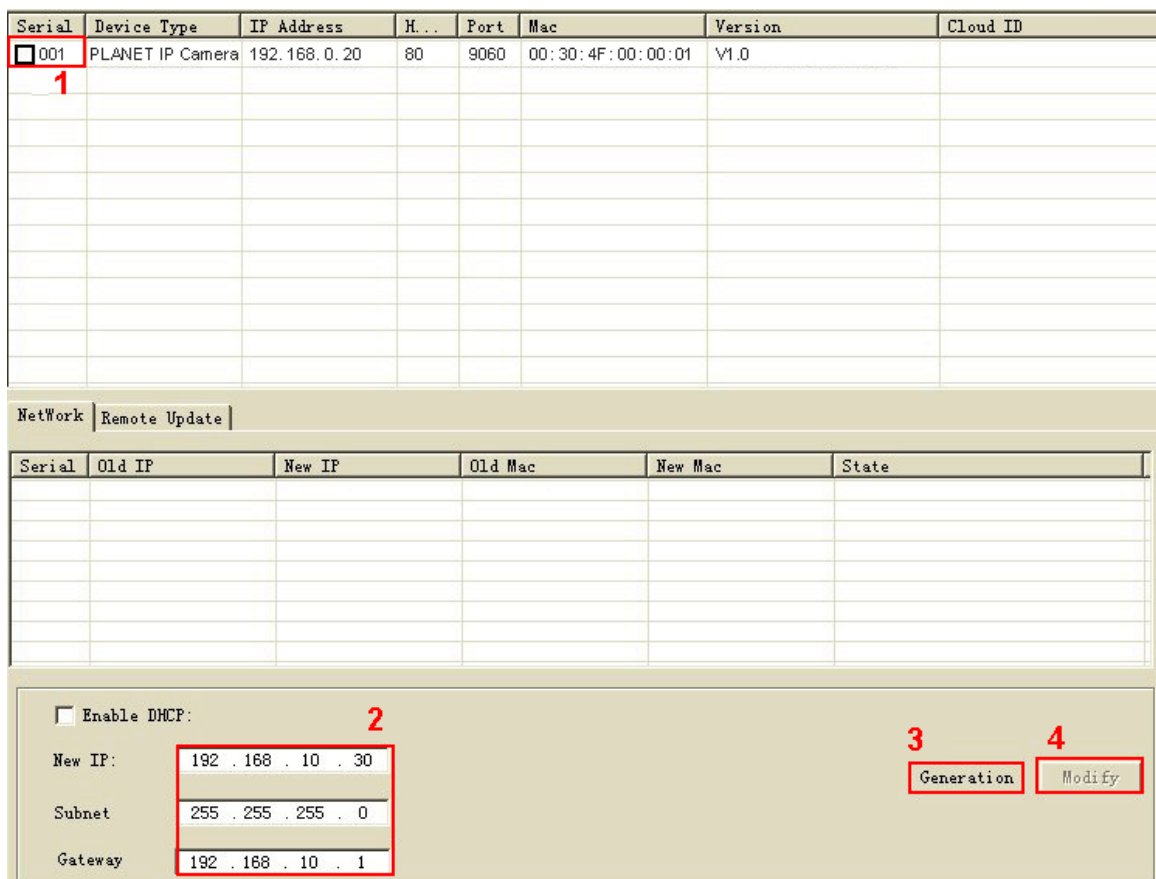
Step 1. Select an IP cam from the device list
Step 2. Set IP address
Step 3. Click "**Generation**"
Step 4. Click "**Modify**"

When you see the message, please click "Yes" to change the IP address.
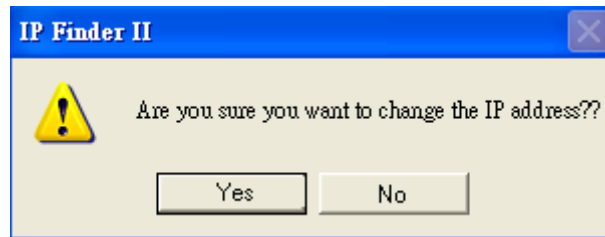
- If user wants to set device as DHCP client, please refer to the steps below:

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, please click "Yes" to change the IP address.
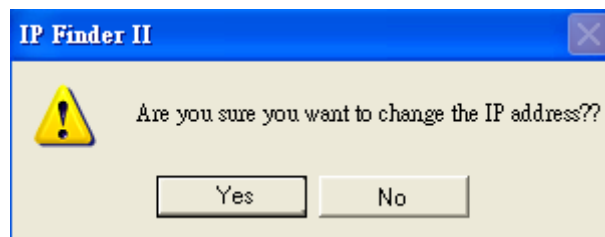
| | Please make sure the IP address of PC is in the same subnet as device's IP address. |

(3) Remote Update:

- **Device Update:** User could update firmware via the function. Please select a device and click "Select File" to select correct firmware, and then click "Start Update" to start to update 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 previous saved setting. Please select a device and click "Select File" to select 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 the same as PC. 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 Setting up 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 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 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*
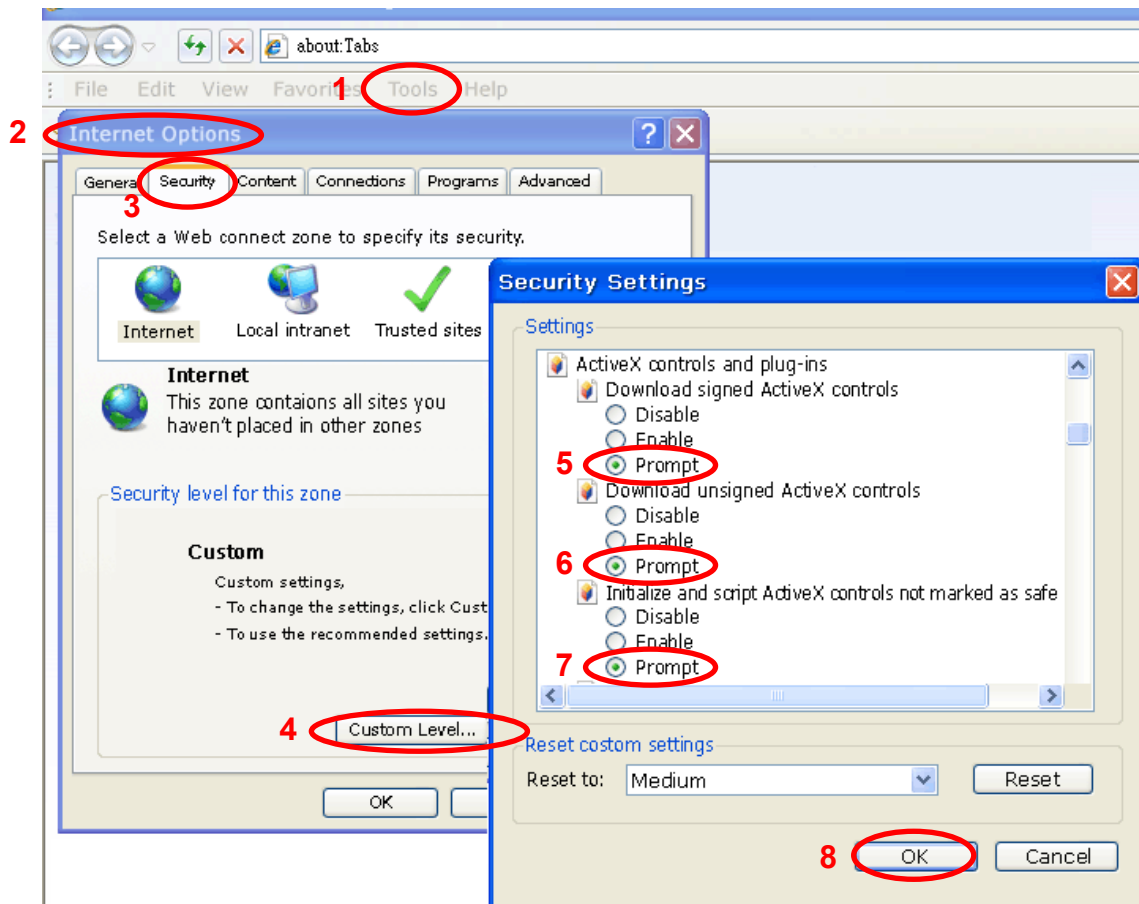
By now, you have finished your entire PC configuration for Internet Camera.

2.4.2 Internet Explorer 7 for Windows XP

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

Set up the first 3 items
• *Allow previously unused ActiveX control to run…*
• *Allows Scriptlets*

• *Automatic prompting for ActiveX controls*
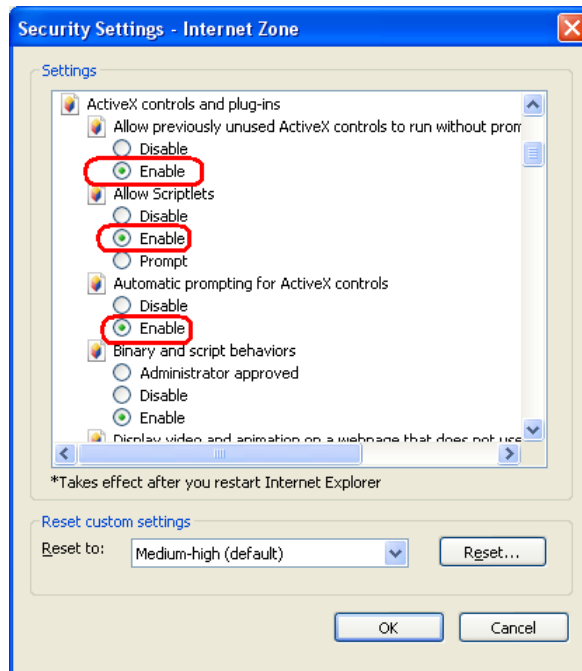
By now, you have finished your entire PC configuration for Internet Camera.

2.4.3 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…."*
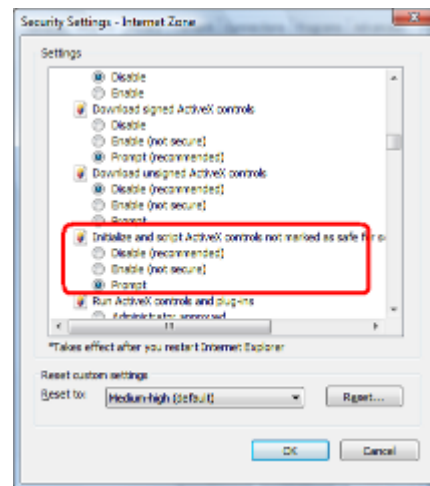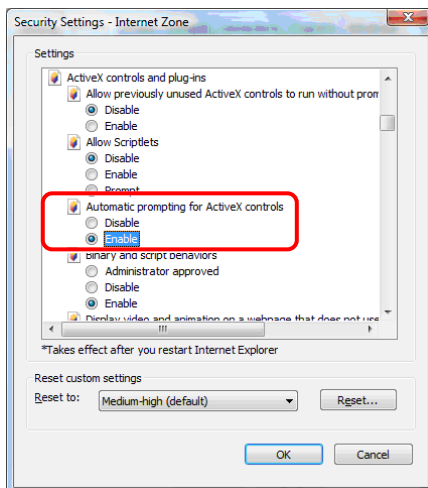
From your IE browser ➔ "Tools" ➔ "Internet Options…" ➔ "Security" ➔ "Trusted Sites" ➔"Custom Level…", please set up your "Settings" as follows:
   • *Enable "Automatic prompting for ActiveX controls"*

• *Prompt "Initialize and script active controls not marked…."*
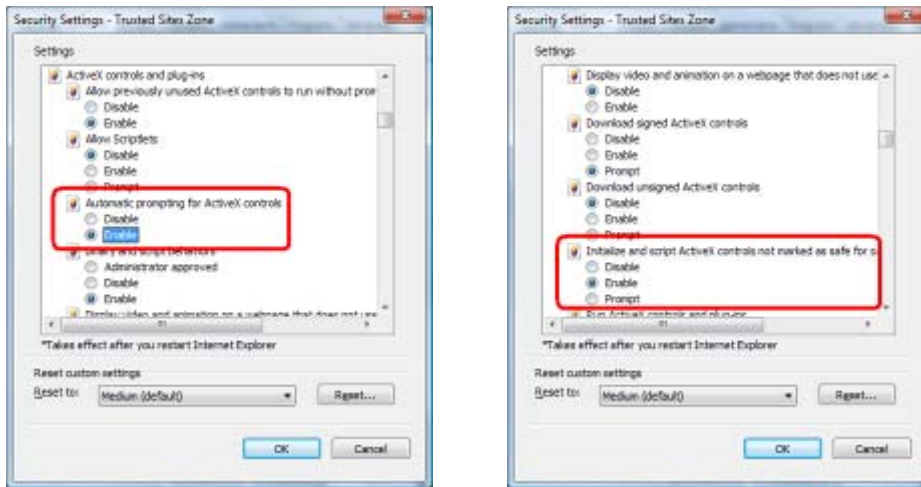
By now, you have finished your entire PC configuration for Internet Camera.

# 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 as Internet Camera.

3.2. Connecting to Internet Camera

A. Use the following procedures 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.

1. Start the IE browser on the computer and type the IP address of the camera. The default IP: "http://192.168.0.20"
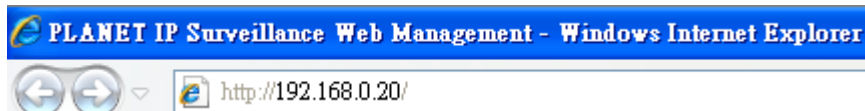
2. The login window of Camera will appear. It requires installing a video player of IP camera. If you never install it, please click "OK" to start an installation. If you installed it before, please "Cancel" and skip steps 3 to 7.
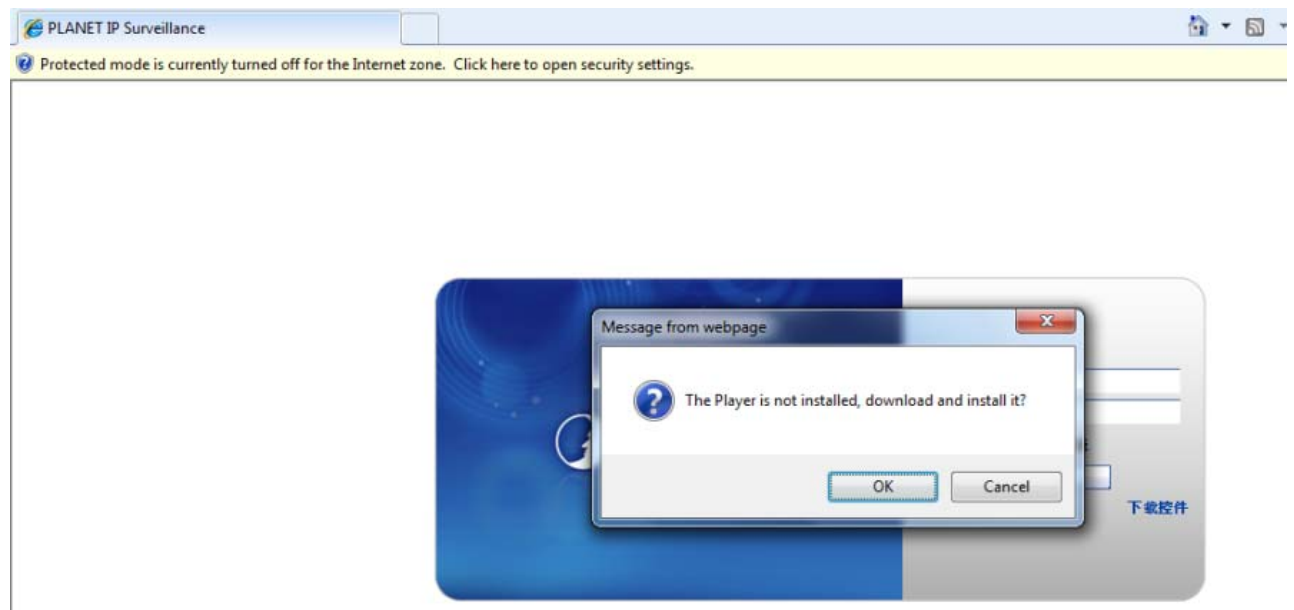
3. Please click "Run" to run the ie.exe file.
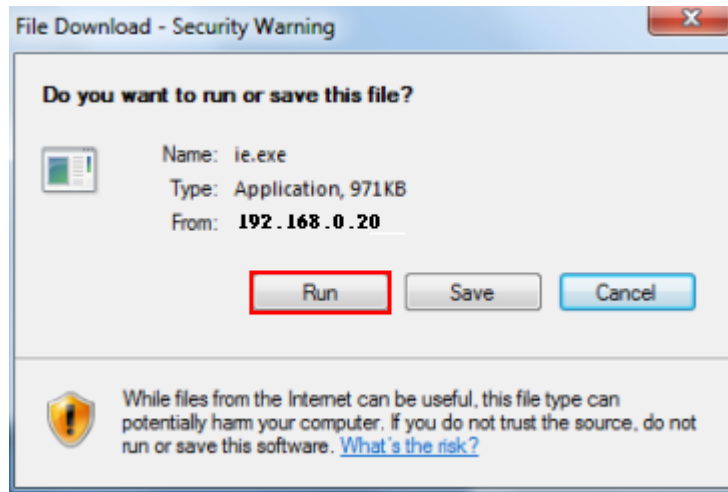
4. Click "Next" to continue.
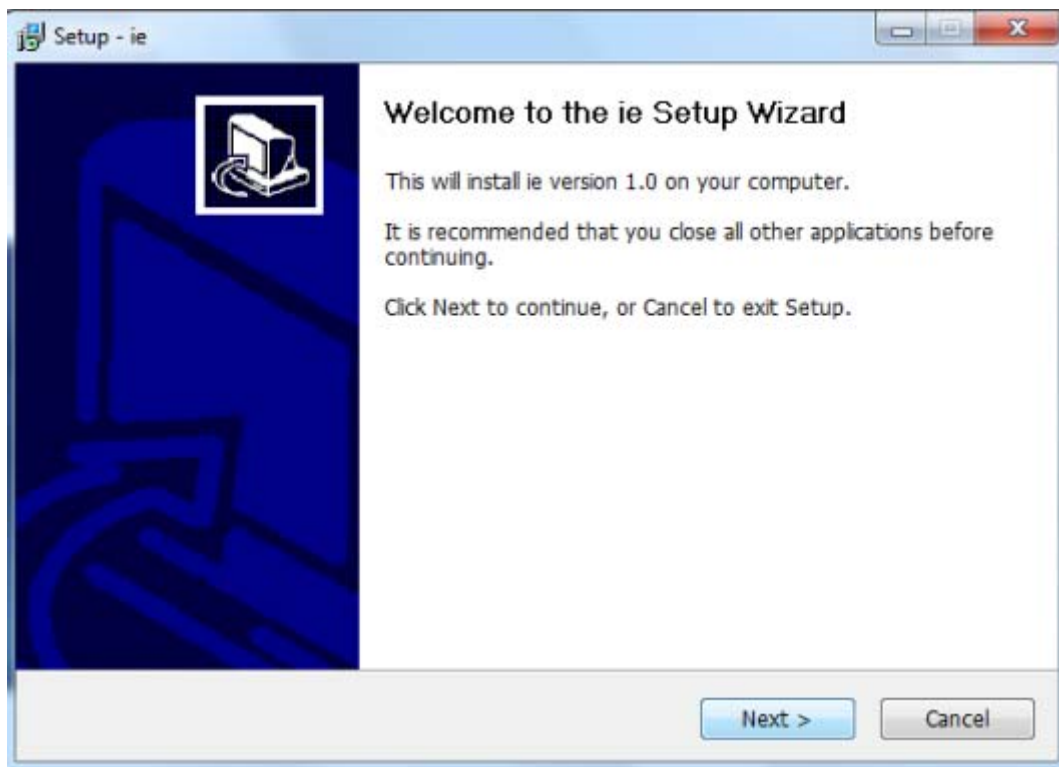
5. Please click "**Next**" to install with original settings, or you may click the "**Browse…**" button to modify the install folder and then press "Next" to continue.
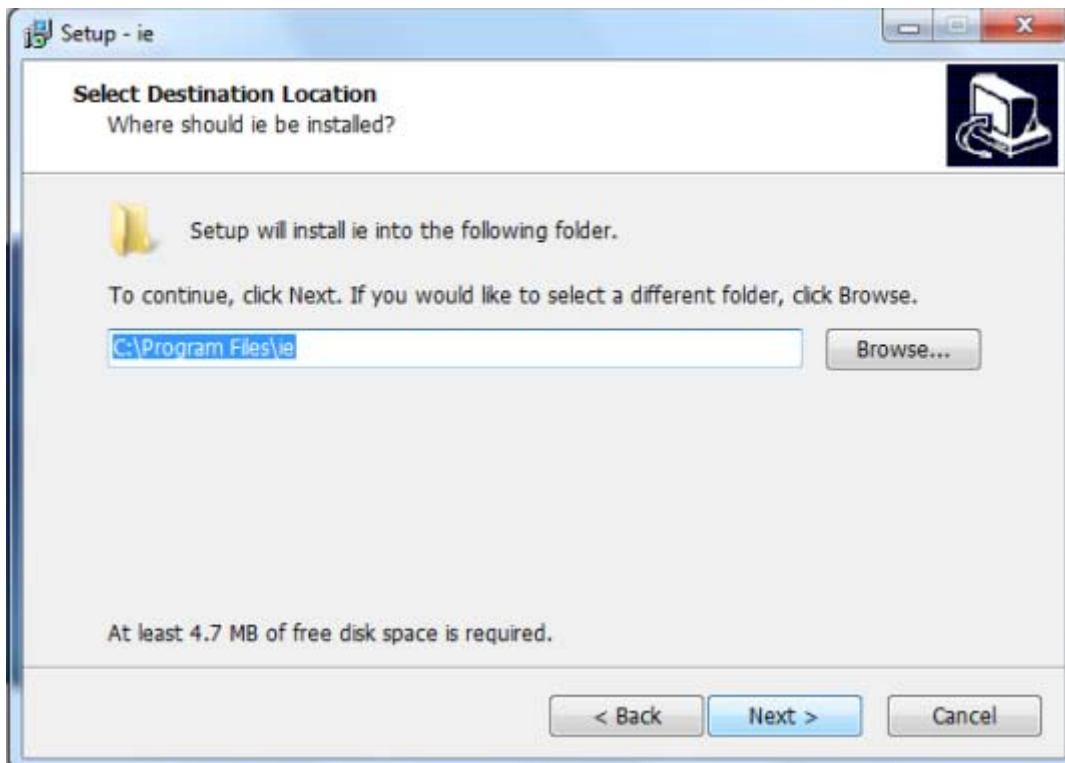
6. Please click "**Install**" to start the installation.
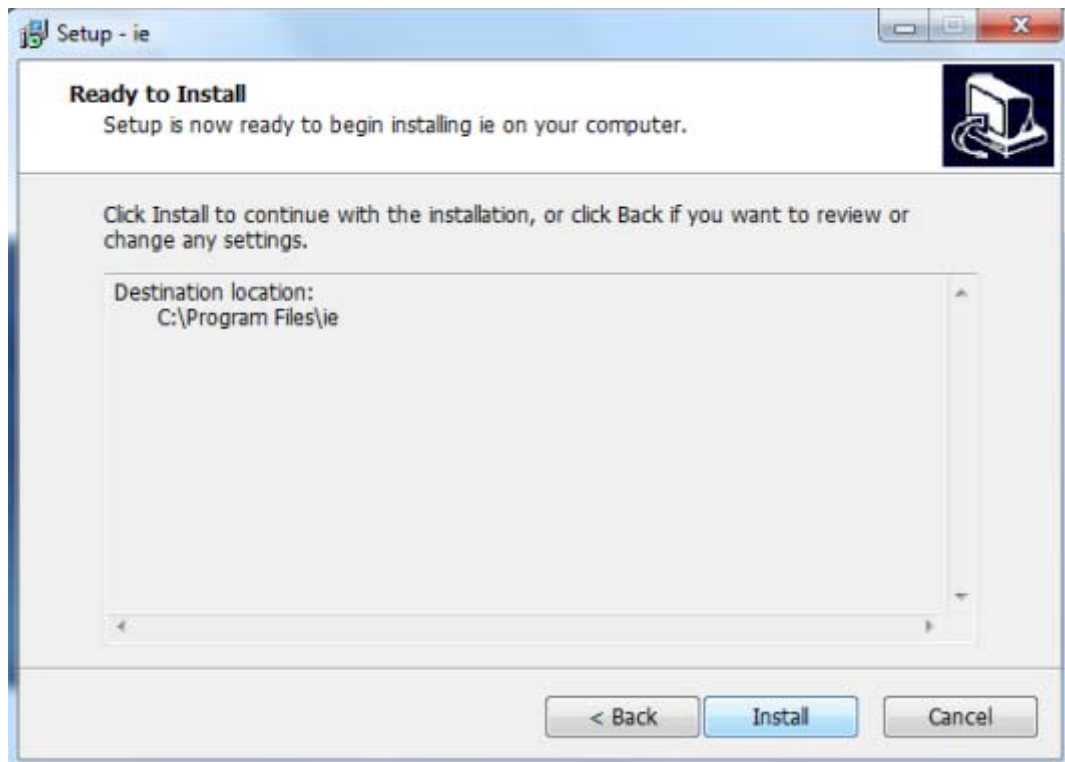
7. Please click "**Finish**" to complete the installation
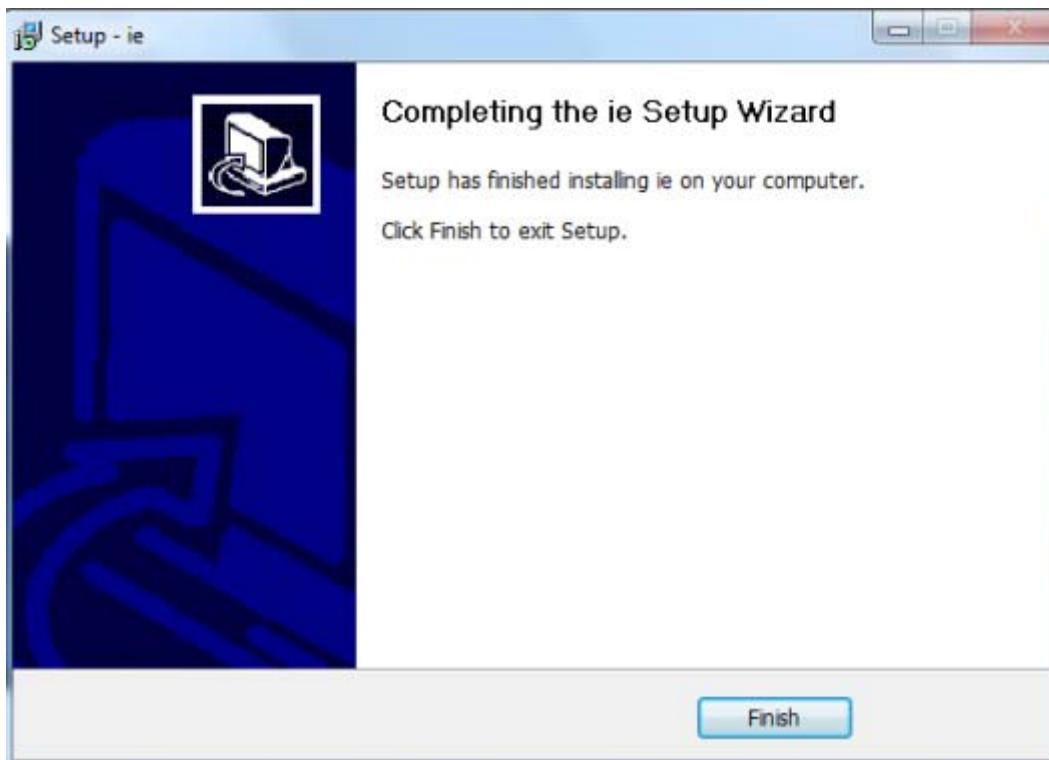
8. Refresh IE browser. Please click "Cancel" to skip the installation of ie.exe, and click ActiveX message to allow it to run.
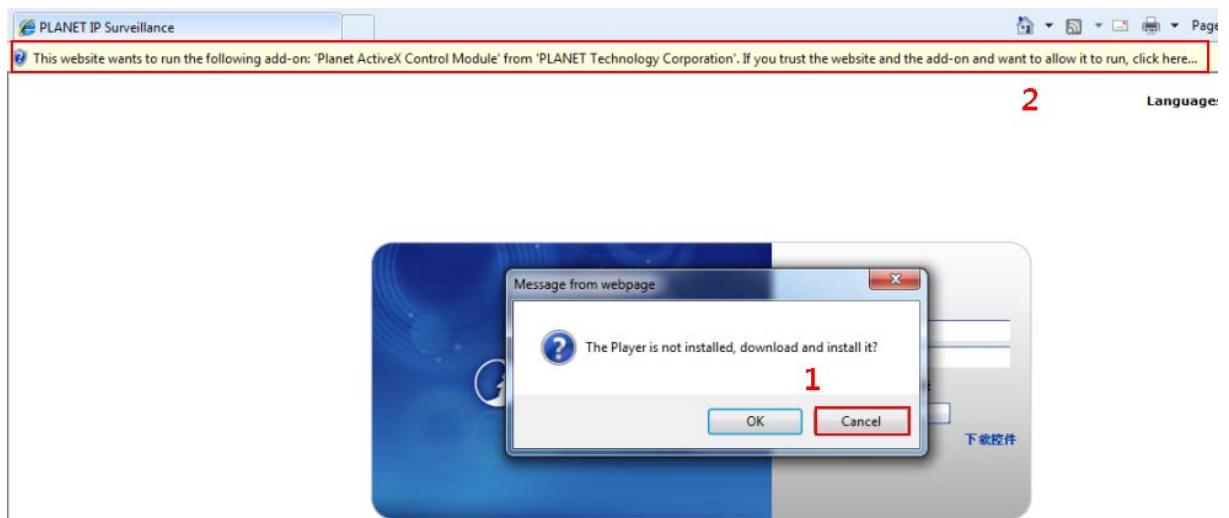
9. Click "Run" to install the ActiveX control.
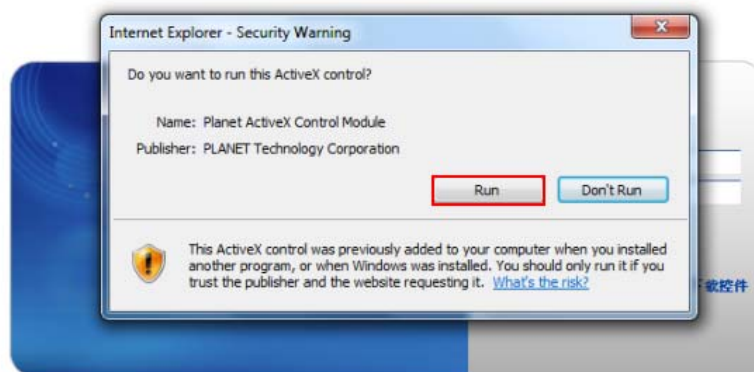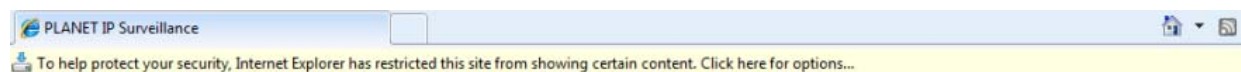
10. After the ActiveX control is installed and run, you are able to login the web management. Default login **username** and **password** are both **admin**.

	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.
Note	

3.3 Live View

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

Click [**Live View**] to get into the Live View page.

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.
	PTZ Control.
	Turn ON or OFF audio out function.(User has to connect a external speaker)
	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.
	Enable audio in function.
	Click the **Snapshot** button to activate this function. The image file is saved as JPEG format into your local PC and is named as Snapyyyy-mm-dd~hh-mm-ss.jpg. (User can change the save path on the Local Setting page. Please refer to chapter 3.8.7 Local Setting.)
	Click the **Record button** to activate this function and click it to stop recording. This recording file is saved as AVI format into your local PC and is named as Manualyyyy-mm-dd~hh-mm-ss.avi. (User can change the save path on the Local Setting page. Please refer to chapter 3.8.7 Local Setting.)

3.4 Playback

Click [Playback] to get onto the Playback page.
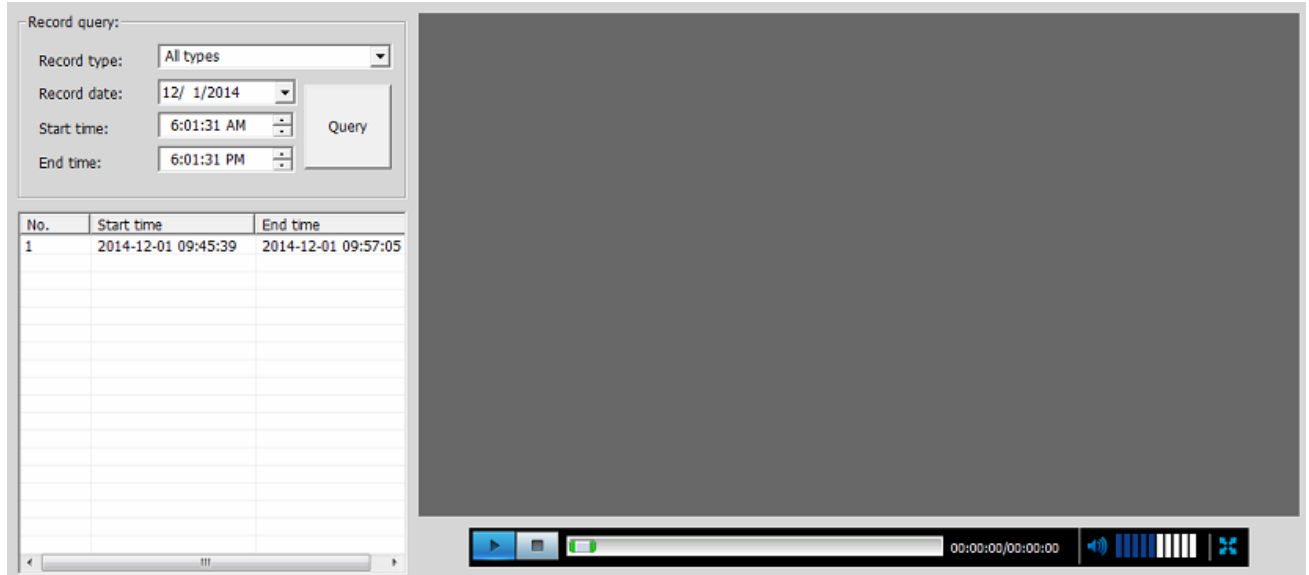
- **Record type:** There are four types in the list: All types, Time record, Move detection record   and I/O alarm record.
- **Record date:** Select the date of recording file.
- **Start/End time:** Select the time of record date.
- **Query:** Click the button to search recording file. All the searched files will be listed on the list below.
- **List:** Show the recording file on the list. You can download the recording file by right-clicking on it.
- **Video control button:**

Key	Function	Key	Function
▶ / ⏸	Play/Pause	■	Stop
🔊	Voice	✖	Full screen

Note	1. Only those recording files that are stored in SD card can be downloaded. 2. Only those recording files that are stored in SD card support playback function.

3.5 Media Management

Click **Setup**-> **Media Management**.

3.5.1 Video Setting

Video Format	Video format is H.264. Note that user cannot change it.
Resolution	**Main stream:** 1280x720, 720x576, 640x480 **Sub stream:** 720x576, 640x480, 352x288, 320x240, 174x144
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 three options: Constant Bit Rate (CBR), 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
I Frame Rate Interval	The max value is affected by the input resolution you choose.

3.5.2 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 PCM/G711ALAW/G711ULAW.
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.

3.5.3 Camera Setting

Brightness	Large value will brighten camera.
Contrast	Large value will contrast camera heavily.
Saturation	Large value will color camera heavily.
Auto/Day/Night Mode	Three modes -- Auto/Day/Night – are selectable. Under 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 Settings	Restore to factory image settings.

3.5.4 OSD & Mask Settings

OSD Settings	Display region of Device Title & Time can be set.
Video Mask Settings	Click "**Video Mask Settings**" to enter the main interface shown below. Select one region on the image and 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**".
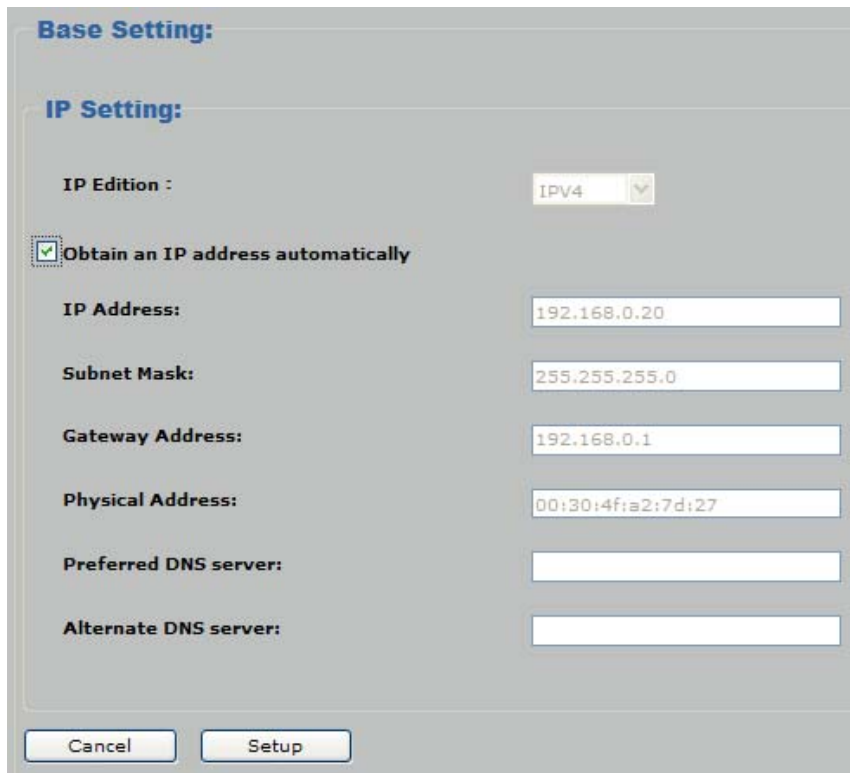
3.6 Networking

Click **Setup**-> **Networking**.
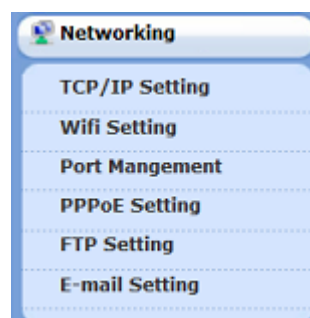
3.6.1 TCP/IP Setting

IP camera supports DHCP and static IP.

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: 192.168.0.20
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	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.
Physical 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 control across the Internet.

Alternate DNS Server	Set the second DNS server.

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. When the configuration is finished, please click "**Setup**" to save and enable the setting.

3.6.2 Wi-Fi Setting

In this menu, you can configure IP camera's wireless network settings.
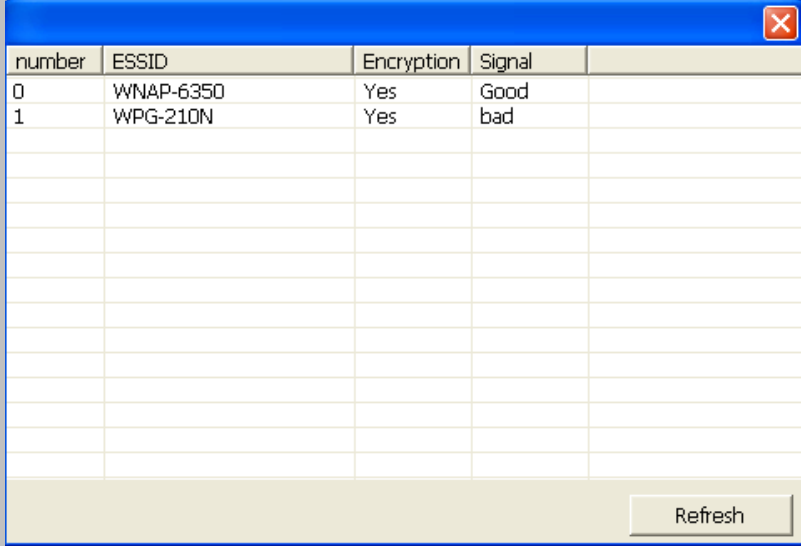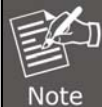
The descriptions of every setting in this menu will be given below:

Item	Description
Enable Wi-Fi	Check the box to activate wireless network function of this IP camera; uncheck the box to disable it.

Search Wi-Fi Device	Here it shows all wireless access points found by this IP camera. Please note not all access points will be displayed at the same time. If the access point you expected to connect does not appear, you may have to click the **"Refresh"** button for several times until it appears.
	The description of all fields is listed below: **ESSID:** The ESSID of all found wireless access points will be shown here. You are able to left-click the mouse twice on the wireless access points you want to connect. **Encryption:** It shows whether the wireless access point has the encryption or not. If the wireless access point does not have the encryption, **"No"** will be displayed here. **Signal:** It shows the radio signal strength of the wireless access point.
ESSID	Input the ESSID of the wireless access point you wish to connect. When you left-click the mouse twice on the wireless access points in the access point list, its ESSID will be filled in this field automatically. However, if the ESSID is not displayed (the wireless access point you selected choose to hide its ESSID), you have to know its ESSID and input it here, or you will not be able to connect it.
Password	It supports None, Open System, Shared Key 64bits and 128bits, WPA-PSK and WPA2-PSK. Configure the setting consistent with the setting on the wireless router/AP that this IP camera will join the wireless network. Apply the settings and then check the wireless networking. In the Open System /Shared Key, the IP camera only supports WEP key 1. If the wireless access point is not using key 1, please change it.
Network Type	Select the network type of wireless connection. **Infrastructure** :Connect the IP camera to a wireless access point **Adhoc**: This IP camera will become a stand-alone wireless network point. Other wireless computers / devices can discover this IP camera and connect to it without the wireless access point.
Domain	In some countries, the wireless rule might apply; please select it according to your country.
Channel Number	Select the radio channel you wish to use here. When the network type is **'Infrastructure"**, the radio channel is auto-selected according to the channel that wireless access point uses. You can only select the
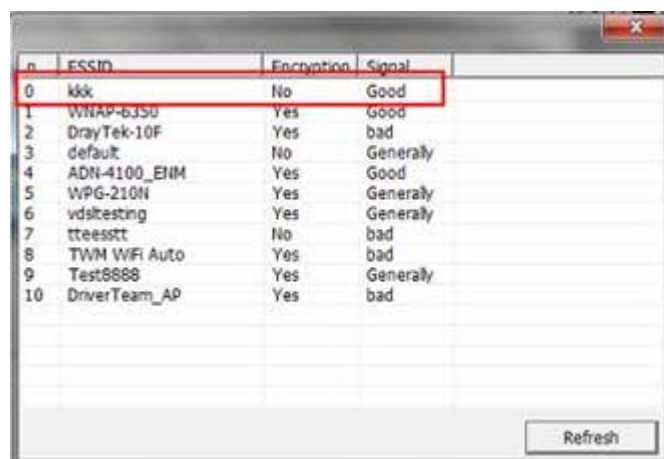
	channel number when the network type is **"Adhoc"**.
Signal	It shows the radio signal strength of the wireless access point.
State	It shows the state of the wireless connection.
Obtain an IP Address Automatically	Using DHCP, IP camera will get all the network parameters automatically.
IP Address	Set the IP address. Default: 192.168.0.20.
Subnet Mask	Set the subnet mask code.
Gateway	Set the default gateway. Default: 192.168.0.1.
Physical Address	It shows the LAN MAC address.
Preferred DNS Server	It translates the domain name into IP address. The IP address is offered by the network provider. The address must be set and reboot to enable to work.
Alternate DNS Server	Set the second DNS server.

● **Here is an example that shows how to connect the camera to wireless AP.**

Step 1: Check the box of Enable Wi-Fi and click the "Search Wi-Fi device" button to search nearby wireless AP.

Step 2: Please left-click the mouse twice on the wireless access points and the ESSID will be filled in the field of ESSID automatically.

Step 3: If the wireless AP has the encryption key, please input the correct password. If the wireless AP doesn't have the encryption key, please keep it as blank.

Step 4: Click the "Setup" button to save change.

Step 5: Remove IP camera's Ethernet cable. IP camera will connect to the wireless AP via wireless.

Step 6: If wireless AP supports Wireless Client Table function, user is able to check the connection status via the function.

3.6.3 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.
ONVIF Port	Choose the ONVIF port. ONVIF is a global and open industry forum with the goal to facilitate the development and use of a global open standard for the interface of physical IP-based security products. In other words, it creates a standard for how IP products within video surveillance and other physical security areas can communicate with each other.

3.6.4 PPPoE Setting
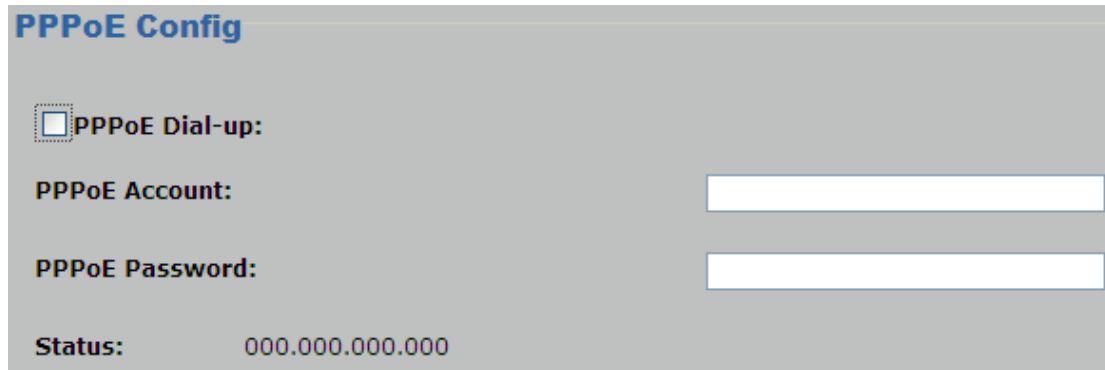
● PPPoE stands for Point to Point Protocol over Ethernet

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 Config

PPPoE Dial-up:

PPPoE Account:

PPPoE Password:

Status: 000.000.000.000

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 Planetddns. You'll need to register at http://planetddns.com 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 C for more information.

DDNS Config

☐ DDNS Enable

Domain Name:

User:

Domain Password:

DDNS Enable	To enable or disable the DDNS service here.
Domain Name	Choose the built-in DDNS server.
User Name	The user name is used to log into DDNS.
Password	The password is used to log into DDNS.

● Here is an example for DDNS settings:

☑ DDNS Enable

Domain Name: test.planetddns.com

User: test

Domain Password: ••••••••

Note	If you do not have a Planet DDNS account yet, please visit http://planetddns.com to register and set your domain name.

3.6.5 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

User Name: admin

Password: •••••

Server: ftp://192.168.10.73:21/TDDOWNLOAD/test   Example: ftp://192.168.0.100:21/myflod

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.

3.6.6 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 reply e-mails.
User Name	Type the user name for the SMTP server if Authentication is Enabling.
Password	Type the password for the SMTP server if Authentication is Enabling.
E-mail To	Type the receiver's e-mail address.

3.7 Advanced Tool

Click **Setup**-> **Advanced Tool**
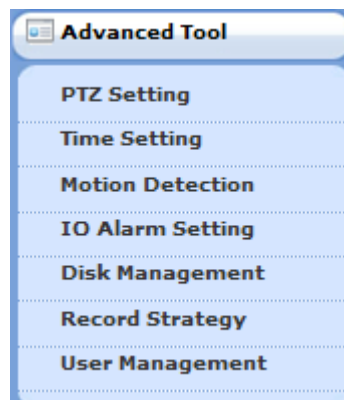
3.7.1 Time Setting

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 setting

Set the Local Time: 2014 - 12 - 01   14 : 25 : 39   [Synchronize with PC]   [Manual setting]

Device verify timing

Adjust: Manual settings ▼

Time Zone: (GMT+08:00)Beijing Chongqing, HongKong ▼

Timing Address: [   ]

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

3.7.2 Motion Setting

Use this menu to specify motion detection window and set the conditions for detection while observing a captured image.
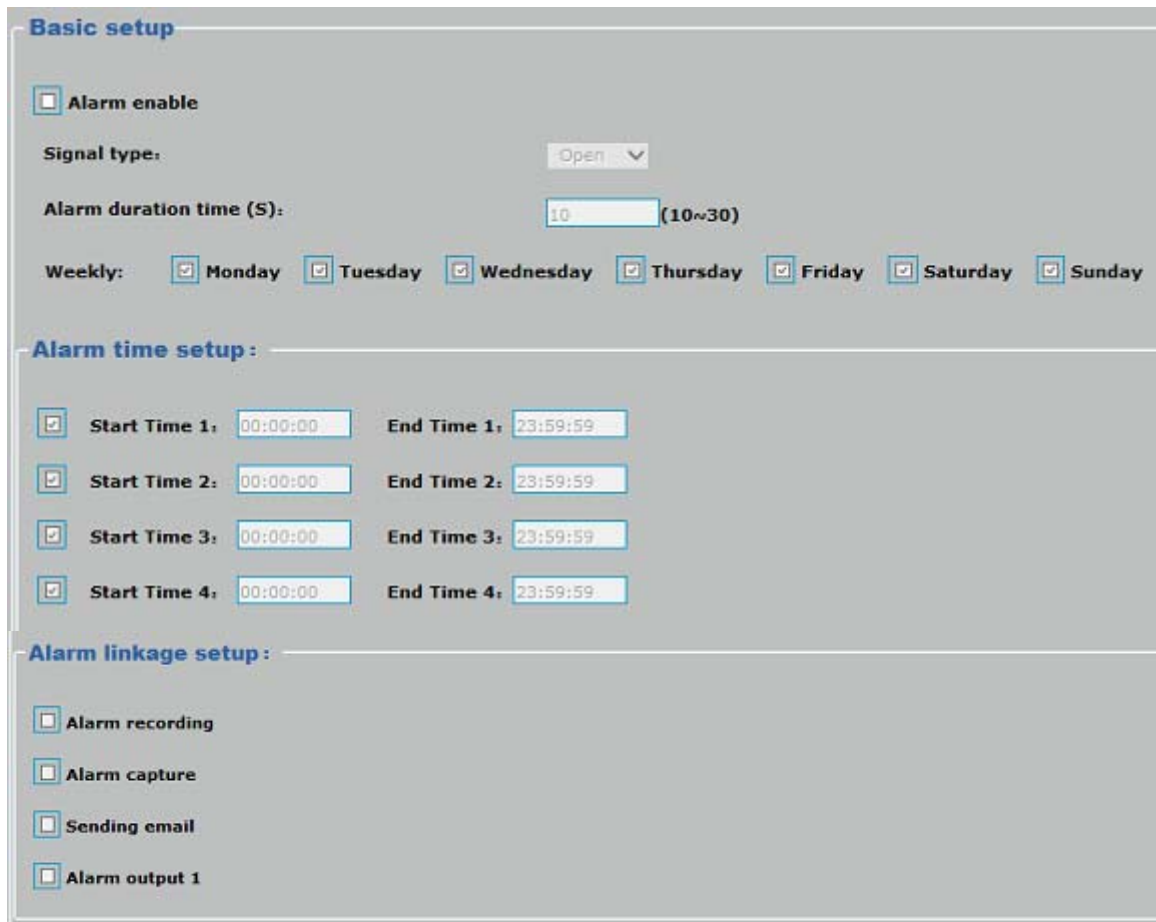
Alarm Enable	To enable or disable the **Alarm** service here.
Sensitivity	Define the sensitivity value of motion detection. The higher value will be more sensitivity.
Alarm Duration (S)	For example, if you set it as "10 sec", once the motion is detected and action is triggered, it cannot be triggered 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, the camera will be triggered according to the schedule.
Alarm Recording	Send recording file (.avi) to SD card when the camera is triggered.
Alarm Capture	Send JPG file to FTP server when the camera is triggered.
Sending Email	Send message to e-mail server when the camera is triggered.
Alarm Output	Send signal to digital out when the camera is triggered.

3.7.3 IO Alarm Setting

Use this menu to specify the triggered conditions of digital I/O.

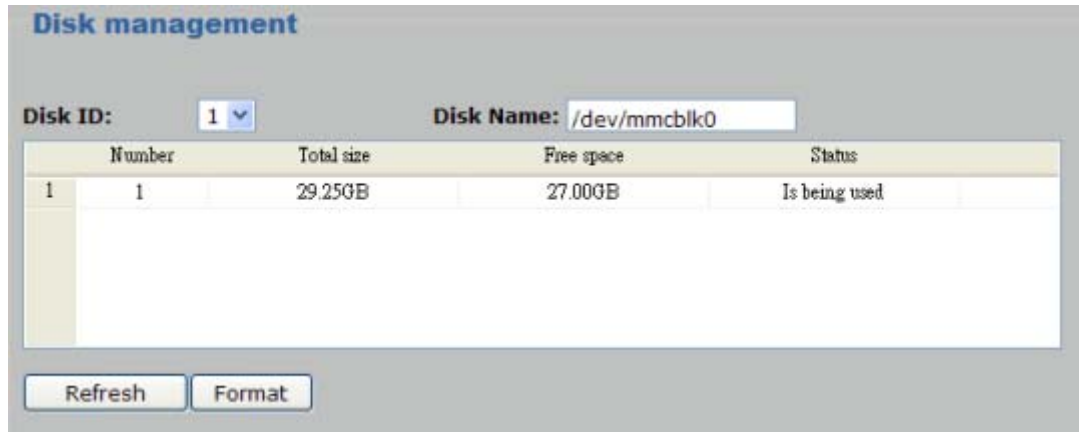| Alarm enable	To enable or disable the **Alarm** service here.
Signal type	This trigger will be activated when digital input's input signal is open or closed (select from dropdown list).
Alarm Duration (S)	For example, if you set it as "10 sec", once the motion is detected and action is triggered, it cannot be triggered again within 10 seconds.
Weekly	After completing the schedule, the camera will be triggered according to the schedule.
Alarm Recording	Send recording file (.avi) to SD card when the camera is triggered.
Alarm capture	Send JPG file to FTP server when the camera is triggered.
Sending Email	Send message to e-mail server when the camera is triggered.
Alarm Output 1	Send signal to digital out when the camera is triggered.

3.7.4 Disk Management

Users can implement local recording to the Micro SD card up to 32GB. This page shows the capacity information of the micro SD card. Users can also format the SD card through the setting page.
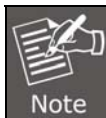
Disk management

Disk ID:	1 ∨		Disk Name:	/dev/mmcblk0

	Number	Total size	Free space	Status
1	1	29.25GB	27.00GB	Is being used

Refresh   Format

Micro SD Card List	Show the information of micro SD card.
Refresh	Click the button to refresh the information of micro SD card.
Format	Click the button to delete all data in the micro SD card.
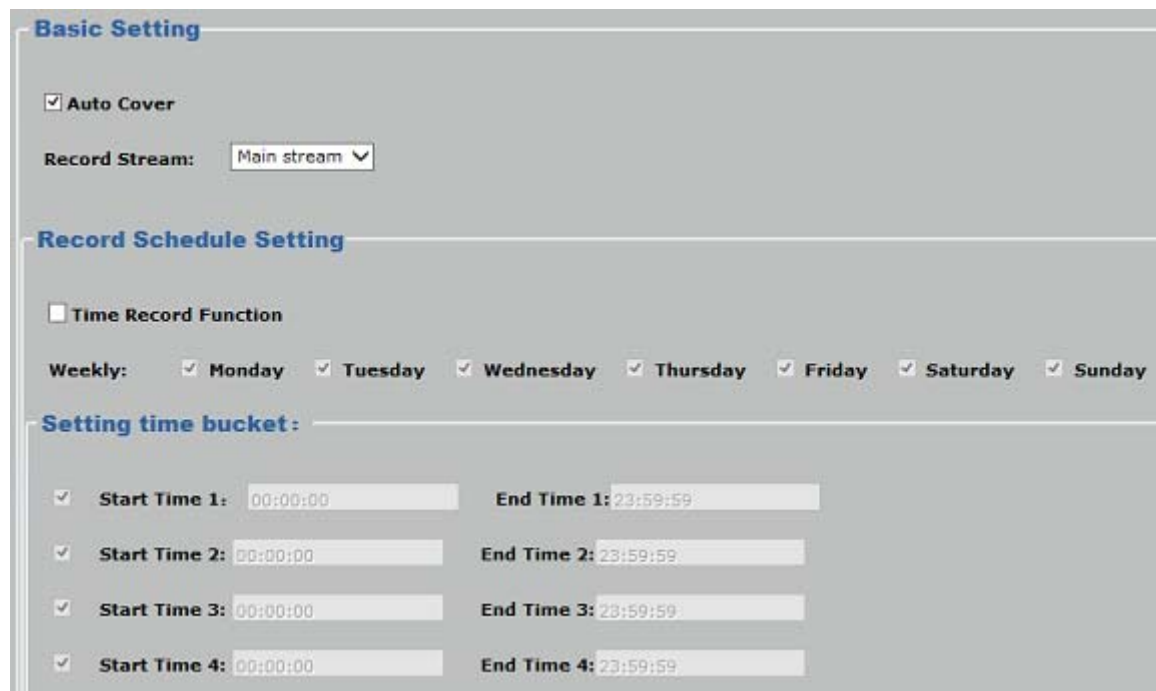
Note	Please format the micro SD card when using for the first time. Formatting will also be required when a memory card is already being used on one camera and later transferred to another camera with a different software platform.

3.7.5 Record Strategy

Use this menu to specify the record plan.

Basic Setting

☑ Auto Cover

Record Stream: Main stream ∨

Record Schedule Setting

☐ Time Record Function

Weekly: ☑ Monday ☑ Tuesday ☑ Wednesday ☑ Thursday ☑ Friday ☑ Saturday ☑ Sunday

Setting time bucket:

☑ **Start Time 1:** 00:00:00   **End Time 1:** 23:59:59

☑ **Start Time 2:** 00:00:00   **End Time 2:** 23:59:59

☑ **Start Time 3:** 00:00:00   **End Time 3:** 23:59:59

☑ **Start Time 4:** 00:00:00   **End Time 4:** 23:59:59

Auto Cover	If the function is enable, once the SD card is full, the camera will delete the old data automatically to keep recording.

Record Stream	User can select to record main stream or sub stream. If the sub stream is selected, please set sub stream as enable.
Record Schedule Setting	The camera will start to record by schedule.

3.7.6 User Management

Use this menu to set the user name and password of the Administrator and access right of each user.
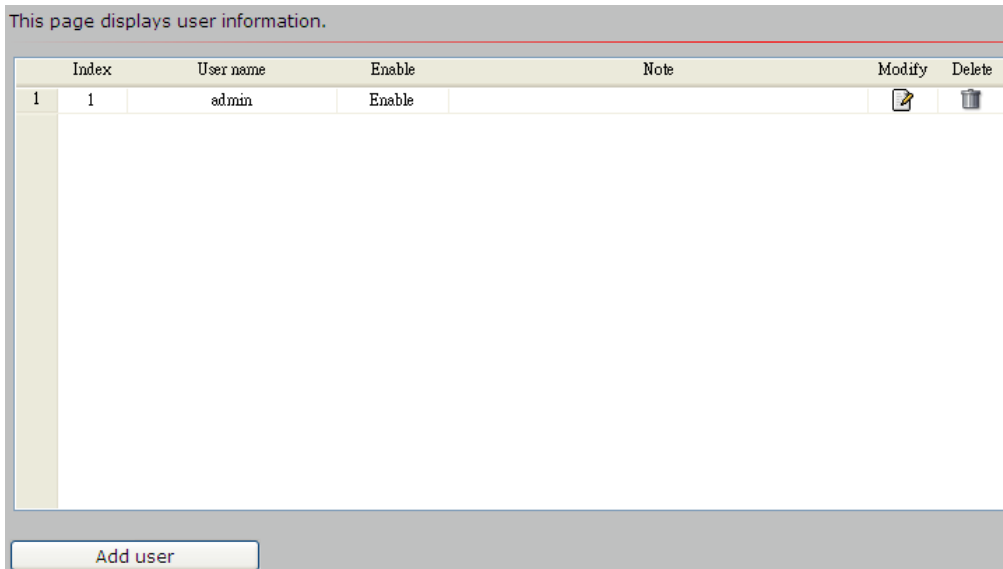
Add User	Manage the user's account of viewer user.
Modify	Modify this password of user.
Delete	Remove the user account.

3.8 SysInfo Management

Click **Setup**-> **SysInfo Management**.

3.8.1 System Update

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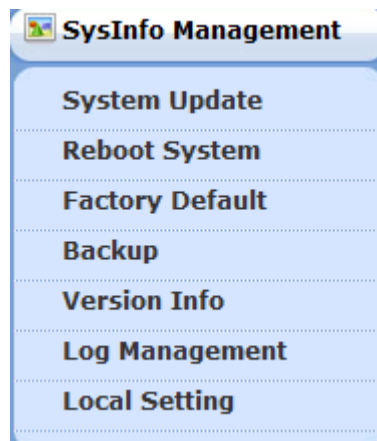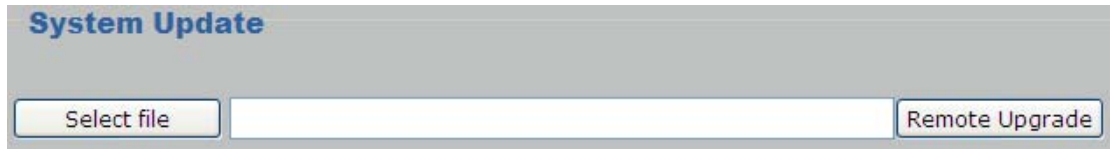

Note	1. Downloading of the firmware procedure cannot be interrupted. If the power and/or network connection are broken during the download procedure, it might possibly cause serious damage to the device. 2. User must make sure that the firmware only applies to this device. Furthermore, do not try to upgrade new firmware if not necessary.

3.8.2 Reboot System

The device is restarted without changing any of the settings.

3.8.3 Factory Default

Restore the device to factory default settings. Note that clicking this 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	Click this button to back up all of the parameters. If necessary, it will 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.

Version Information

Firmware version: PL_V111

Device Title: ICA-W7100

Created date: 2014-11-19

Product Serial:

Web Version: PL_V111

3.8.6 Log Management

User can check the System log, Alarm log and Operate log information of the device.

Log Type	All log	Start date: 2014-12-01 00:00:00	End date: 2014-12-01 23:59:59
	All log		
No.	System log	Log Time	Log Description
	Alarm log		
	Operate log		

Query Export log

3.8.7 Local Setting

Storage Path

Snapshot Path :	C:\SnapshotFolder\		Browse
Record Path:	C:\SnapshotFolder\		Browse

Snapshot Path	Click the "**Browse**" button to select the save path, and select **OK** to continue.
Record Path	Click the "**Browse**" button to select the save path, and select **OK** to continue.

3.9 Alarm Events

This information shows the alarm message in the device.

Alarm Message

	ID	Alarm type	Alarm time	Alarm Description
1	1	Motion Detection alarm	2014-12-01 16:32:21	Video Motion Alarm Start!
2	2	Motion Detection alarm	2014-12-01 16:32:36	Video Motion Alarm Start!

3.10 Logout

Click [Logout] to logout the web management.

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 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 conflicting 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 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
320 x 240	8 ~ 20k byte per frame	256kbps~768kbps @ 30fps	192kbps~512kbps @ 30fps
640 x 480	20 ~ 50K byte per frame	512kbps~3072kbps @ 30fps	384kbps~1536kbps @ 30fps
1920 x 1080	200 ~ 500k byte per frame	-	1536kbps~10000kbps @ 30fps
2048 x 1536	300 ~ 750k byte per frame	-	2048kbps~12000kbps @ 30fps

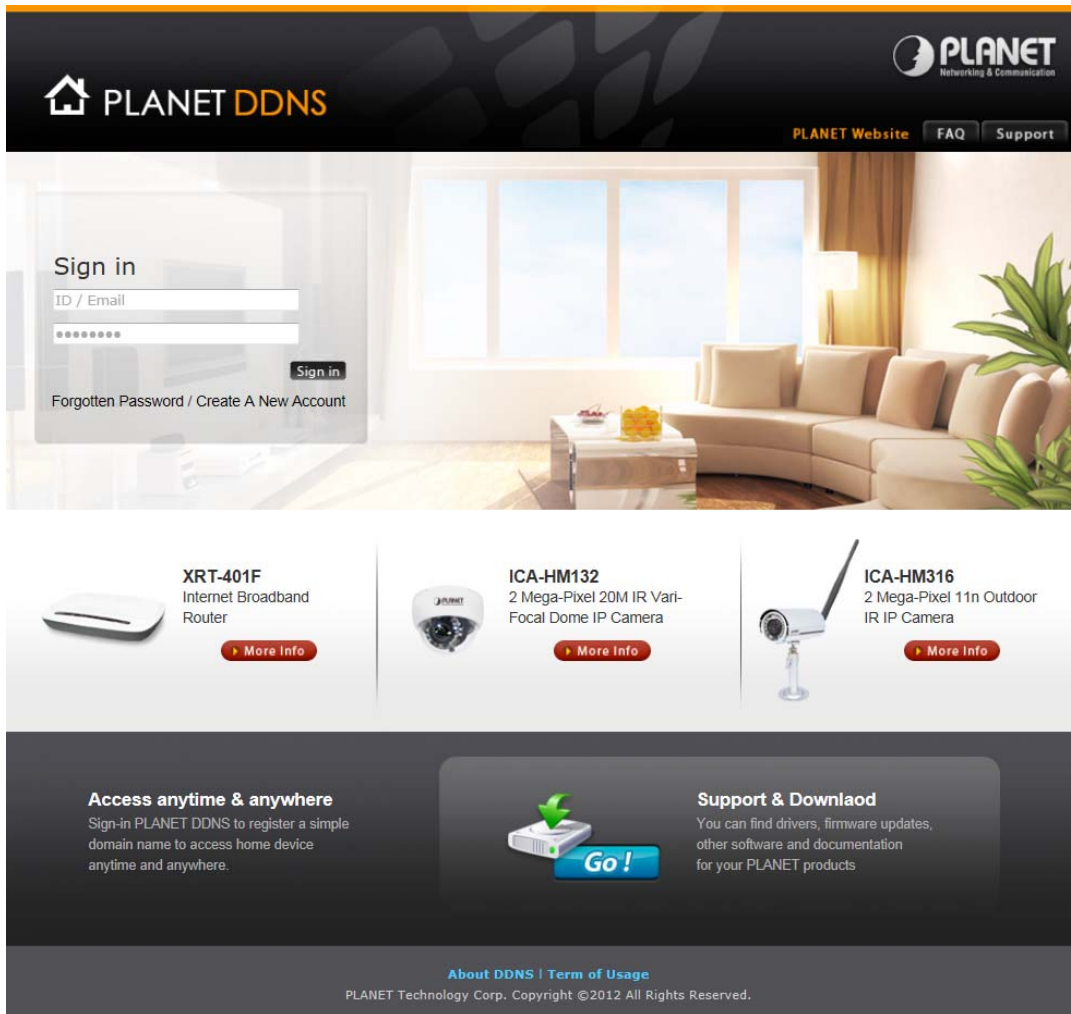|	
Note	Audio streaming also takes bandwidth around 32kbps. Some xDSL/Cable modem upload speeds could not even reach up to 128 kbps. Thus, you may not be able to receive good quality video while also streaming audio on a 128 kbps or lower connection. Even though the upload speed is more than 128kbps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

Appendix C: Planet 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
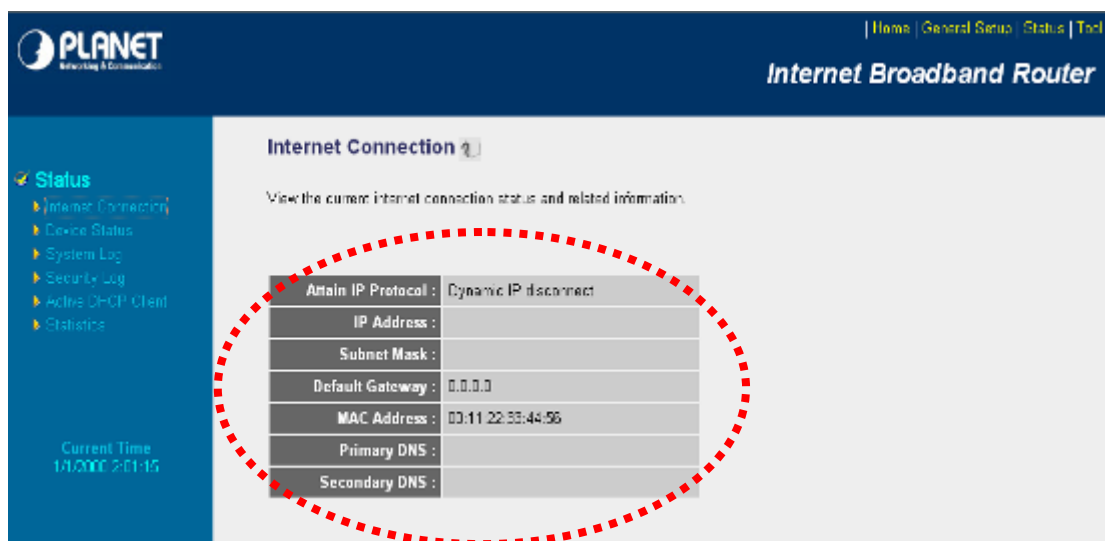3. Open/Configure Virtual Server Ports of Your Router

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:
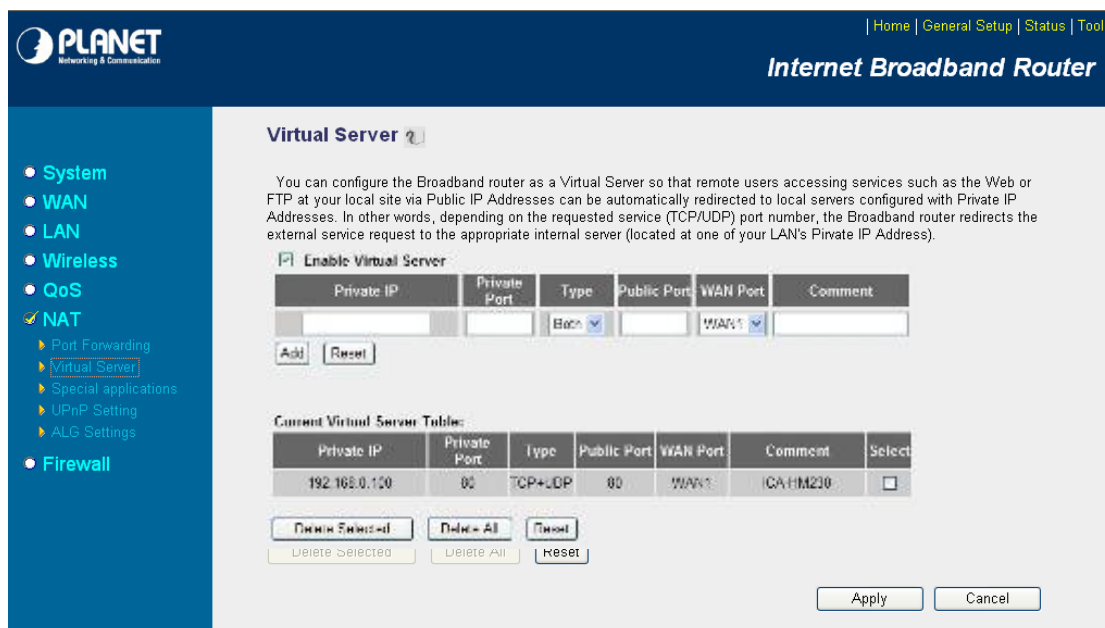
- Click **Enabled**.
- Enter a unique name for each entry.
- Select **Both** under **Protocol Type** (**TCP** and **UDP**)
- Enter your camera's local IP address (e.g., **192.168.0.100**) in the **Private IP** field.
- If you are using the default camera port settings, enter **80** into the **Public** and **Private Port** section, 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).
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	
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.264 compressions to provide high quality images. The audio codec is defined as PCM/ G.711.
The maximum number of users that accesses the device simultaneously.	The maximum number of users is limited to 2. 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 is varying 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 used indoor only.
Installing this device	
The network cabling is required for the device.	The device uses Category 5 UTP cable allowing 10 and/ 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 and RTSP port need to be opened on the firewall or NAT router.
The user name and password used for the first time or after factory default reset	User name = **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.** Press "**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 restore the device to default by pressing the hardware reset button over 10 seconds.
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 that is 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 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 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 Internet camera is already being used by another device or computer. To confirm this possible problem, disconnect the Internet 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 Internet 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 Internet 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 work 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 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 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 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.
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.

Appendix G: Micro SD Card Compatibility

The following are the micro SD cards recommended:

Transcend	SDHC	class10	32GB
SanDisk	SD SDHC	class4 class10	32GB 32GB