PLANET
Networking & Communication

User's Manual

2 Mega-Pixel Wireless Fish-Eye IP Camera

► **ICA-HM830W**

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. (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 and have to collect such WEEE separately.

Revision

User's Manual for PLANET 2 Mega-Pixel Wireless Fish-Eye IP Camera
Model: ICA-HM830W
Rev: 2.00 (May.2013)
Part No. EM-ICAHM830W_v2

Table of Contents

Chapter 1. Product Introduction

1.1 Package Contents

The package should contain the following:

- IP Camera unit x 1
- Power Adapter x 1
- Quick Installation Guide x 1
- User's Manual CD x 1
- Wall Mount Kit x 1
- GPIO Connector 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 included in Internet Camera packet will cause damage and void the warranty for this product.

1.2 Overview

Compact Wireless Panoramic Camera for Exceptional Surveillance

PLANET ICA-HM830W 2mega-pixel Wireless Fish-Eye IP Camera supports H.264 and M-JPEG compression formats and delivers excellent picture quality in up to 1600 x 1200 pixels at 15 frames per second (fps). Incorporating the professional 2 MP-resolution sensor, the ICA-HM830W provides high quality images and panorama function with quad view to enable images of monitoring and recording from four different angles to be displayed simultaneously. It offers 180° panoramic view by wall mount installation or 360° surround view in deployment of ceiling / table mount. Therefore, users do not need to install multiple IP cameras and hence save tremendous installation and maintenance cost. Moreover, the unique design makes it the ideal solution to surveillance applications in boutiques, stores or restaurants.

Complete Monitoring with 360º Surround View

Furthermore, the ICA-HM830W is a Fish-Eye camera that allows you to monitor all angles of a location using just one camera and thus save lots of traditional mechanical Pan/Tilt maintenance cost. The distorted hemispherical image of the Fish-Eye camera will be converted into the conventional rectilinear projection. Without installing any software, you can watch live view and utilize functions such as motion detection and camera tampering through the Web interface using an IE browser. It also provides distortion correction function to fix the camera video so you can use e-PTZ to zoom in and zoom out the image, and pan across the camera's video to survey a large area easily.

Day & Night Functionality

The ICA-HM830W features an automatic, removable infrared-cut filter, which enables the camera to provide color video when there is sufficient light, and black/white video in dark conditions. The ICA-HM830W is able to maintain clear images 24 hours a day.

Advanced Event Management

The ICA-HM830W provides surveillance functions including DI/DO alarm, Micro SD card support for local storage, and 2-way audio that enables audio communication between local and remote ICA-HM830W sites by connecting the external microphone and speaker. It can also be applied in video conferencing via its 2-way audio features.

Two-Way Audio

High Quality Streaming via 11n Wireless Connectivity

The ICA-HM830W adopts IEEE 802.11n wireless technology to communicate at maximum 150Mbps and ensures secure transmission with WEP and WPA encryptions. It allows you to stream high quality video to remote sites and mobile devices. A Site Survey feature also allows you to view and connect to nearby wireless networks with ease. The ICA-HM830W also includes 64-CH central management software for ease of maintenance and remote monitoring. The ICA-HM830W is indisputably the top choice for reliable and high performance surveillance.

1.3 Features

➢ **Camera**
- Fish-Eye Lens to bring 360°/180° panoramic wide angle view
- 1/3” 2mega-pixel progressive scan CMOS sensor
- Unique Fish-Eye hardware correction technology
- 3.0 lux minimum illumination at F2.0
- 9 different video modes including digital PTZ function
- Maximum resolution 1600 x 1200
- Removable IR-cut Filter for Day & Night function

➢ **Video / Audio**
- H.264 and M-JPEG video compression simultaneously
- Simultaneous multi-stream support
- Up to 15fps for 1600 x 1200 resolutions
- Two-way audio support with enhanced audio quality

➢ **Network and Configuration**
- IEEE 802.11b/g/n wireless LAN with WEP and WPA encryption
- Auto MDI/MDI-X supported
- UPnP® support for network setup & configuration
- RTSP / UPnP / 3GPP / HTTPS protocols selectable

➢ **Easy Installation & Management**
- Advanced e-PTZ, including preset point
- 10 motion detection areas / E-mail and FTP alert
- Micro SD card local video recording supported
- Digital Input/Outputs for integration with sensors and alarms
- Cam Viewer 3 Central management software supported

1.4 Product Specifications

Product	ICA-HM830W 2 mega-pixel Wireless Fish-Eye IP Camera
Camera	
Image Device	1/3" 2 mega-pixel progressive scan CMOS image sensor
Lens	FOV=185°(D/H/V), F=2.0, f=1.25mm Mechanical IR Cut Filter Angle of view : 360 degrees view angle
Min Illumination	3.0 lux @ F2.0
Effective Pixels	1600 x 1200 pixels (4:3)
Video	
Video Encoder	H.264 / M-JPEG
Video Resolution	**UXGA mode** H.264: 1600 x 1200 / 800 x 600 / 640 x 480 M-JPEG: 800 x 600 / 640 x 480 **720P mode** H.264: 1280 x 720 / 800 x 450 / 720 x 405 / 640 x 360 M-JPEG: 1280 x 720 / 800 x 450 / 720 x 405 / 640 x 36

Frame Rate	Up to 15fps for UXGA resolutions
Image Setting	Brightness, Hue, Saturation, Contrast, Sharpness, Exposure, White balance Control, Text, Time and Date Overlay
Streaming	Streaming over UDP, TCP, or HTTP M-JPEG streaming over HTTP (server push) Controllable frame rate and bandwidth Constant and variable bit rate (M-JPEG / H.264)
Rate Control	CBR (Constant Bit Rate) VBR (Variable Bit Rate)
UI Layout	Quad view (4R) 360° source image (1O) 360° table view (1O table) 180° double broad view (2P) 180° double table broad view (2P table) 360° source view with 3 PTZ (1O3R) 360° broad view with 2 PTZ (1O2R) 180° source view with 3 PTZ (1P3R) 180° broad view with 2 PTZ (1P2R)
Audio	
Audio Streaming	2-way audio
Audio Compression	RTSP: G.711 64kbps
Microphone	Built-in microphone
Speaker	Built-in speaker
Network and Configuration	
Network Standard	IEEE 802.3 10Base-T IEEE 802.3u 100Base-TX IEEE 802.11b/g/n
Network Protocol	HTTP, HTTPS, TCP/IP, IPv4, UDP, SMTP, FTP, DHCP, DDNS, NTP, DNS, ARP, RTSP, RTP, Bonjour, UPnP, Samba
Antenna connector	1x2db Dipole Antenna
Frequency	2.4GHz
RF Transmission Power	OFDM: 13dBm CCK: 17dBm
Output Power	11n: 12dBm (default) +/- 1dBm 11g: 14dBm (default) +/- 1dBm 11b: 17dBm (default) +/- 1dBm
Data Rate	802.11b: 1, 2, 5.5, 11Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48, 54Mbps 802.11n: up to 150Mbps
Security	Password Protection, Https encryption, User accesslog
Users	Depending on streaming data rate used
System Integration	
Application Programming Interface	Open API for software integration
Alarm Triggers	Intelligent video motion detection

Alarm Events	File upload via FTP, E-mail or Micro SD card Notification via E-mail
Environment	
Power Requirements	12V DC, 2A
Power Consumption	5W (12VDC)
Operating Temperature	0 ~ 50 degrees C
Operating Humidity	20 ~ 80% (non-condensing)
Weight	365g
Dimensions (Φ x H)	180 x 55 mm
Emission	CE, FCC
Connectors	10/100 Mbps Ethernet, RJ-45 DC power jack Terminal block for 1 alarm input and 1 output Audio in Audio out Micro SD/SDHC card (Max 32GB, Class 6) Factory default reset button

Chapter 2. Basic Setup

2.1 System Requirements

The Internet Camera can monitor on all Windows operating systems as suggested system requirements are shown below in order to get better video performance with resolution up to 2 megapixel.

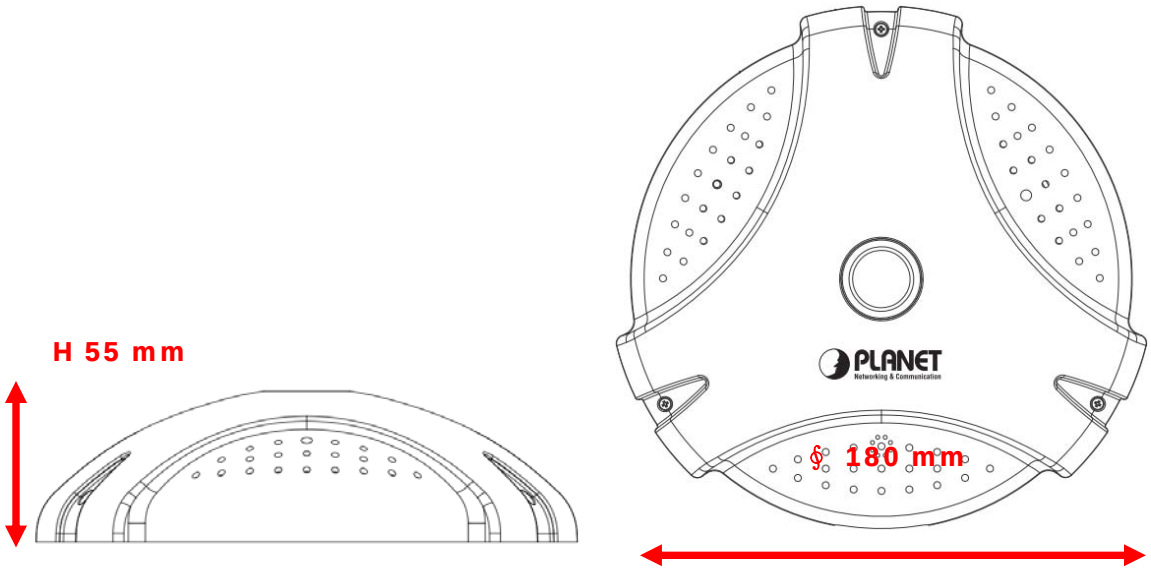
CPU	Intel® Core2 Duo E3500 2.7GHz
RAM	2 GB
Video RAM	128MB
Display Chip	nVIDIA GeForce 8500GT or ATI Radeon HD 4350 or above
Display Resolution	1024 x 768 24bits
Operating System	Windows 2000 SP4 / Windows XP Pro SP2 / Windows 2003 / Vista/ Windows 7
DirectX	9.0c or above
Network	Wired Ethernet 100Base-TX

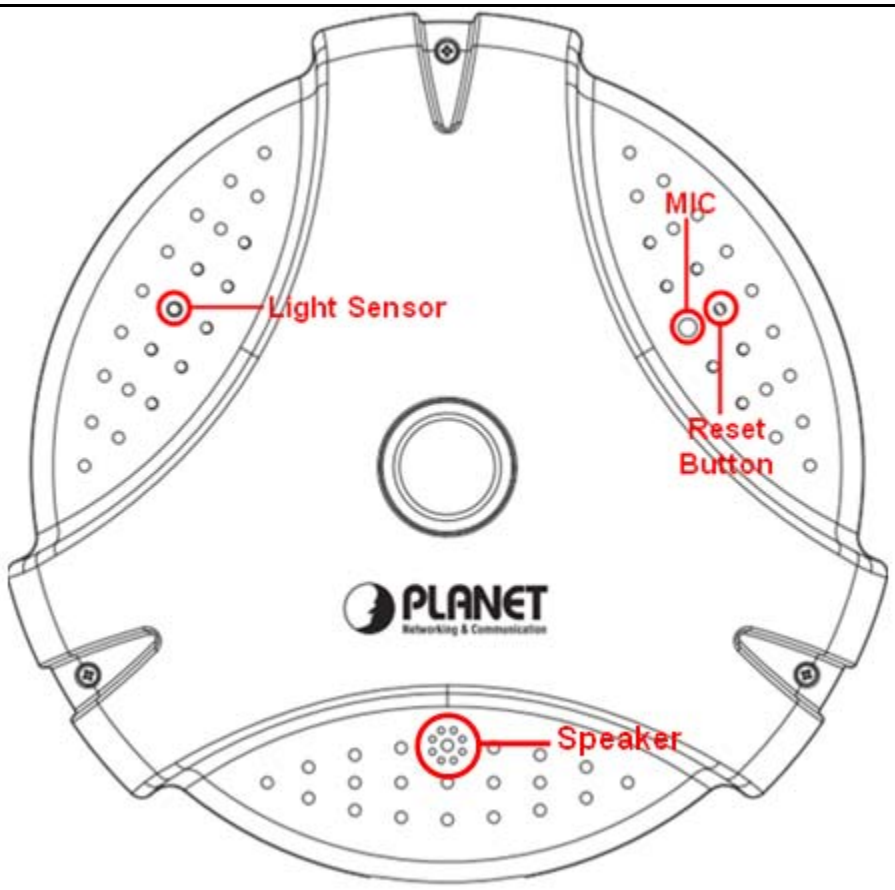
Note

1. The listed information is the minimum system requirements only. Actual requirements will vary depending on the nature of your environment.
2. The ICA-HM830W can be managed by PLANET Cam Viewer Three if you want to configure more detailed information and settings of camera viewer plus software, please refer to the CD-ROM folder "**D:\Manual\Cam Viewer 3**", assuming D is your CD-ROM drive.

2.2 Physical Description

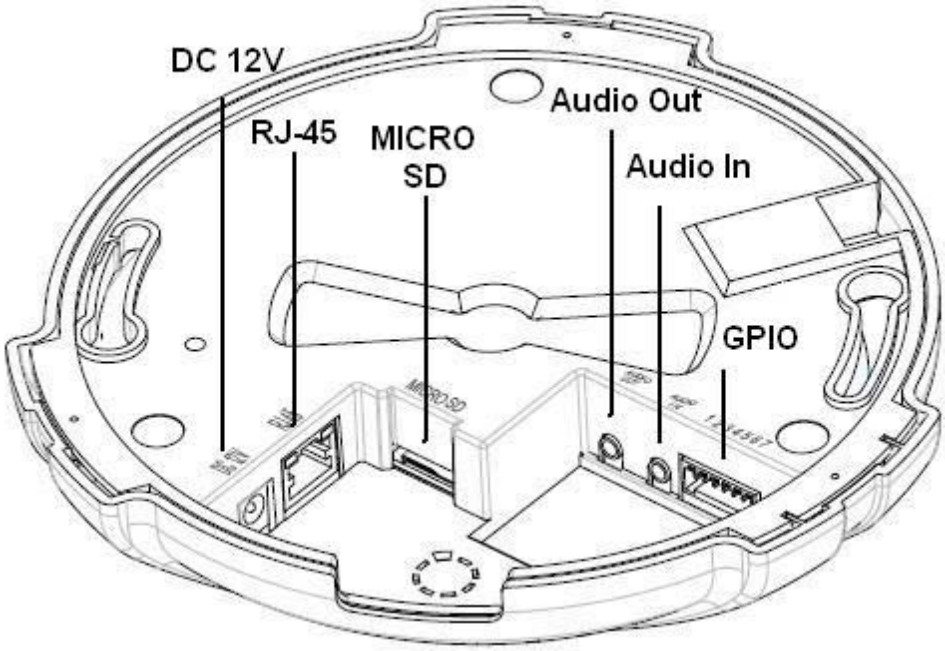
➢ **Front Panel**





Interface	Description
Light Sensor	The Light sensor is for detecting IP Camera environment illuminant, and if IP Camera is in the dark/night environment it will let IR cut filter off for clearly night view.
MIC	The IP Camera has a built-in internal microphone. This microphone is hidden in the pinhole located on the front panel.
Reset Button	This button is hidden in the pinhole. Please refer to the user's manual for more information.
Speaker	The IP Camera has a built-in internal speaker. This speaker is hidden in the pinhole located on the front panel.

- **Bottom Panel**



Interface	Description
Power Jack	The input power is DC 12V.
RJ-45 LAN Socket	Connect to PC or Hub/Switch. For connecting to 10Base-T Ethernet or 100Base-TX Fast Ethernet cabling. This Ethernet port built N-Way protocol can detect or negotiate the transmission speed of the network automatically. Please use CAT-5 cable to connect the Network Camera to a 100Mbps Fast Ethernet network switch or hub.
Micro SD Card Slot	The IP Camera has built-in a Micro SD card slot accepts Micro SD memory card for image / video event recording.
Audio Out	Connect a loud speaker to the IP Camera. This is for voice alerting and two-way audio.
Audio In	Connect a microphone to the IP Camera.
GPIO	The 7 pin terminal block includes 4 input ports and 1 output port.

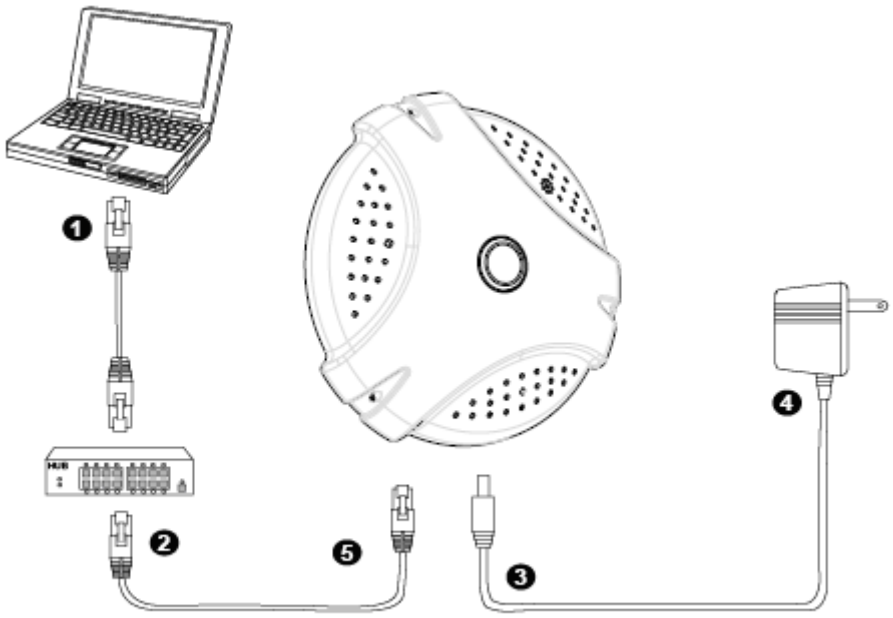
➢ **Terminal block for I/O connectors**

Name	Pin	Function
GND	1	Four sets of Digital Input, DI1 until DI4; the internal device is also photo-coupled electrical relay. In practice, the external device can be simply an On/Off switch. Four sets of On/Off switch can be connected as a different trigger source.
Digital input 4	2	
Digital input 3	3	
Digital input 2	4	
Digital input 1	5	
DO_NO	6	Digital output implementation; Pin6 to COM (Pin7) is a Photo-coupled relay on Normal Open status. External device can directly connect to the terminals. However the current that will go through the 2 nodes must not exceed 130mA. An external “Relay” can also be connected to
DO_COM	7	

		the terminals as an implementation. In this case, current (or/and voltage) limitation is specified by the external Relay.

2.3 Hardware Installation

2.3.1 Physical Installation



Step 1. Prepare a PC with Ethernet link to the network

Step 2. Connect an Ethernet cable

Connect LAN port (RJ-45) of the IP Camera to a network switch.

Step 3. Attach the power supply.

Plug in power adapter to IP Camera and connect the other end to power outlet.

Note	Only use the power adapter supplied with IP Camera; otherwise, the product may be damaged.

Step 4. Plug Power on 110v or 220V

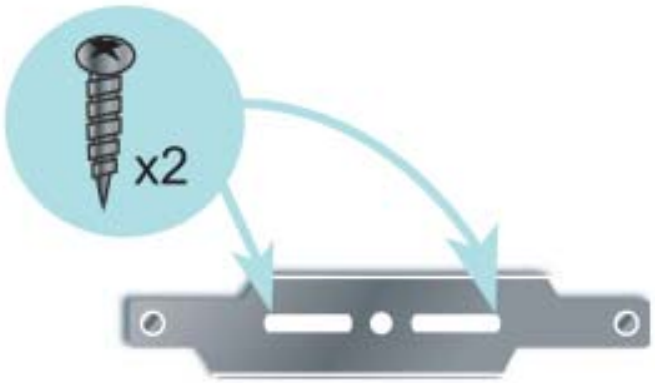
Ensure the power adaptor specification matches the power system (110V AC or 220V AC) and connect the adaptor to the outlet

Step 5. Check LED status

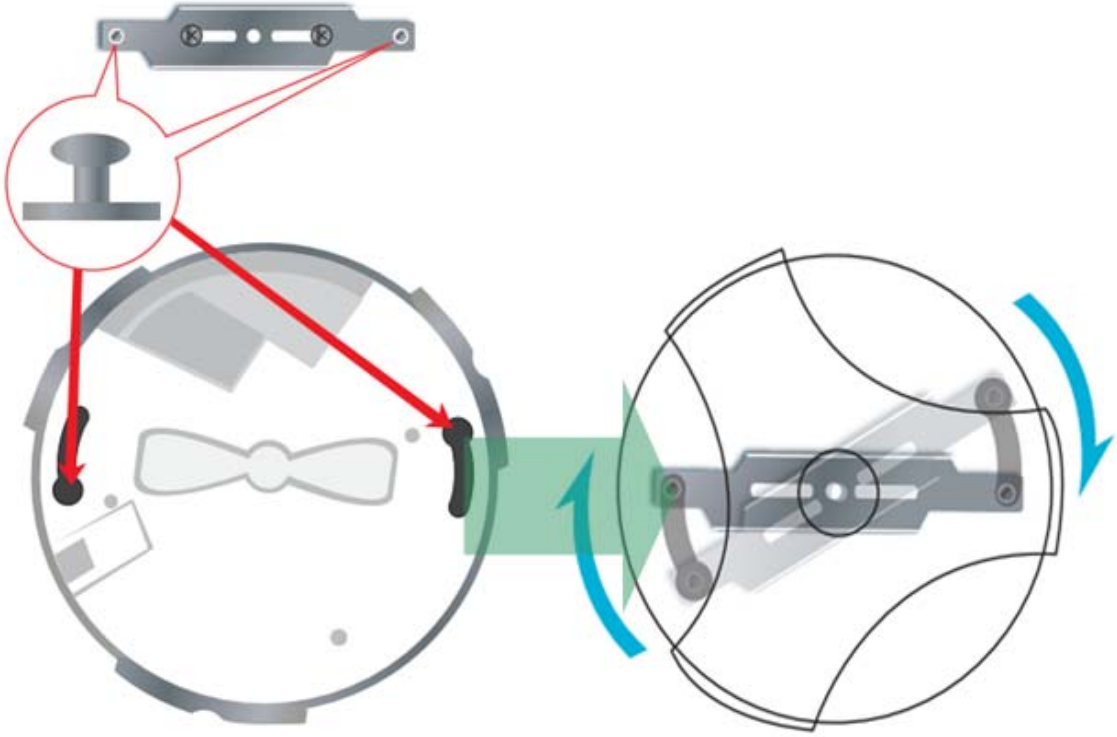
The Power LED is defined to identify IP Camera status. When IP Camera is booting, the LED will be flashing and the IP Camera's LED is ready to light in green.

2.3.2 Wall/Ceiling Mount Installation Procedure

Step1. Take the wall mount bracket, put it on the target place and fix it with the supplied screws (total of 2).



Step2. Load the camera into the wall mount, be sure the cameras are mated with two fixed screw, and rotate the camera to lock it in position.



2.4 Initial Utility Installation

This chapter shows how to quickly set up your IP Camera. The IP Camera is with the default settings. However to help you find the networked IP Camera quickly, the Windows utility (PLANET IPInstaller) can search the IP Cameras in the network that will help you to configure some basic settings before you start advanced management and monitoring.

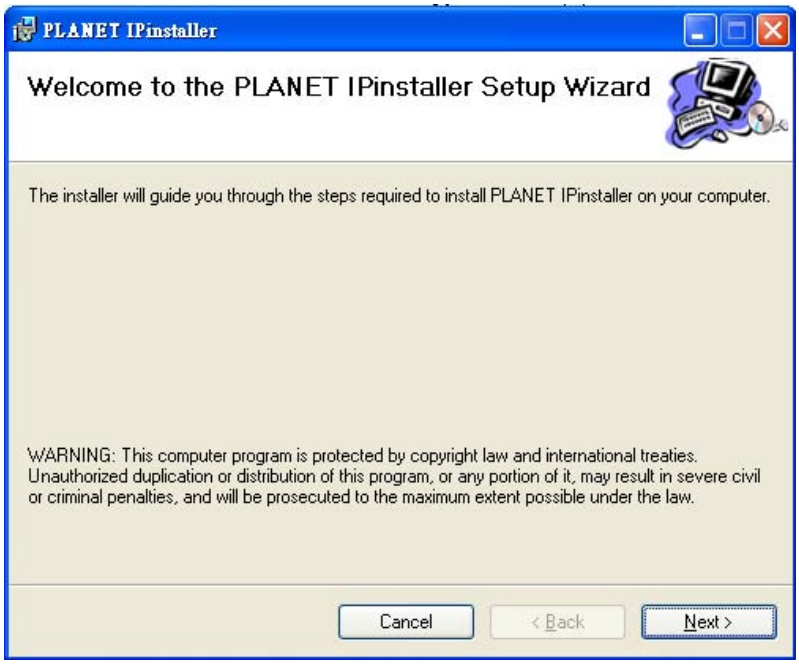
Please insert the bundle CD disk into your CD/DVD-ROM drive. When the welcome web page appears, please click your IP Camera name on the IP Camera list i.e. ICA-HM830W. Then click on

the utility IPInstaller to start the program.

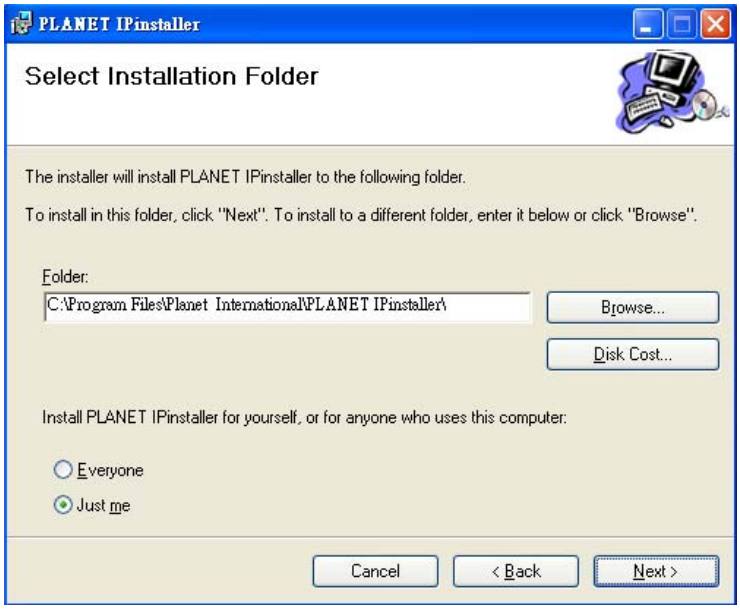
1. Insert the bundled CD into the CD-ROM drive to launch the auto-run program. Once completed, a welcome menu screen will appear.
2. Click the “PLANET_IPInstaller” hyperlink; you will see the dialog box below.

Note	If the welcome screen does not appear, click “Start” at the taskbar. Then, select “Run” and type “D:\Utility\IPWizard II\setup.exe”, assuming D is your CD-ROM drive.

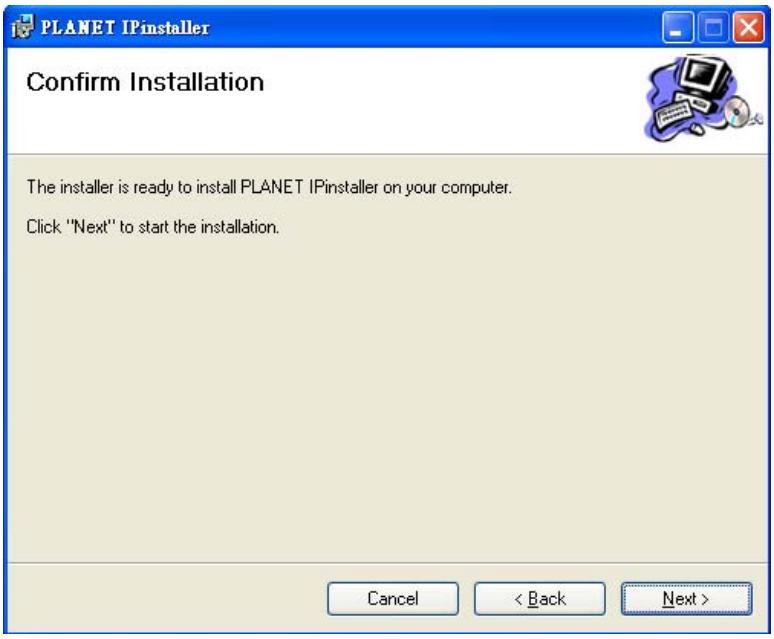
3. The “Welcome to the Install Shield Wizard for PLANET IP Wizard II” prompt will display on the screen and click “**Next**” to continue.



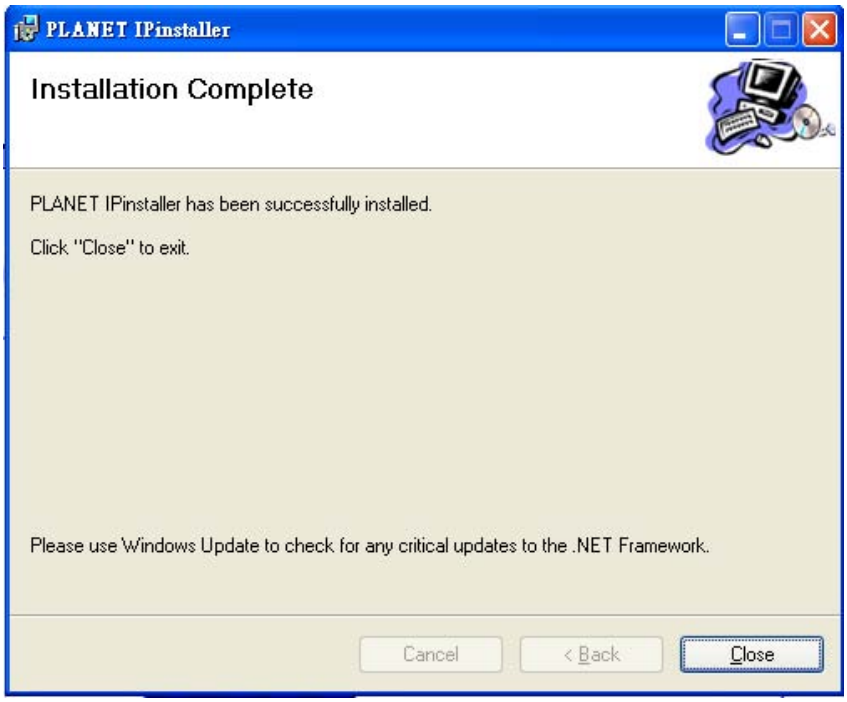
4. Please click “**Next**” to install with original settings, or you may click “**Change…**” button to modify the install folder then press “Next” to continue.



5. Please click "**Next"** to start the installation.



6. Please click "**Close**" to complete the installation and launch program immediately.



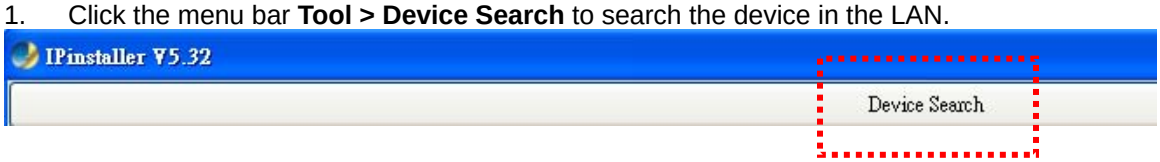
2.5 Preparation

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

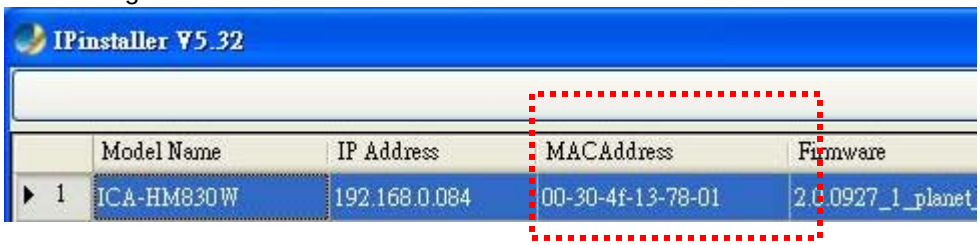
2.5.1 Configuring Network by PLANET IPInstaller

Please click "**Device Search**" button. PLANET IPInstaller will list all networked IP Camera in the LAN. If the IP Camera is not found, you may check whether this IP Camera is connected to the network properly and press the search button again.

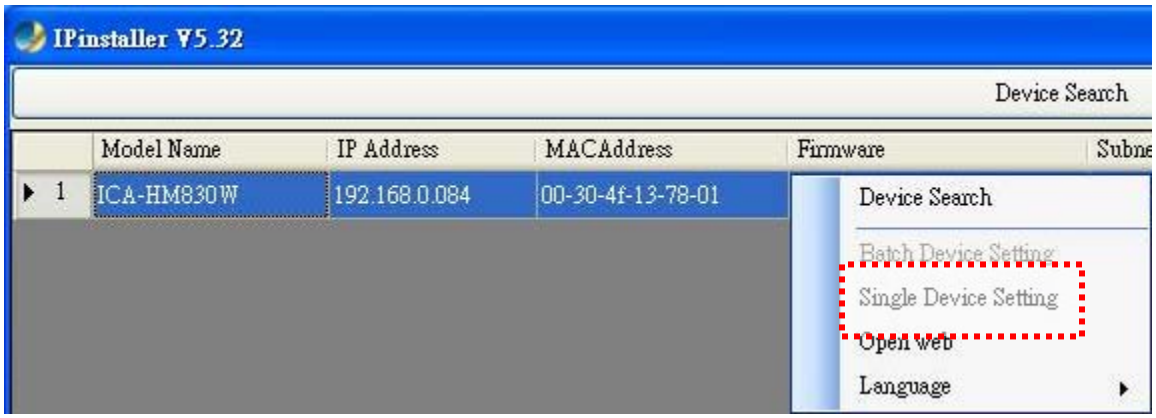
1. Click the menu bar **Tool > Device Search** to search the device in the LAN.



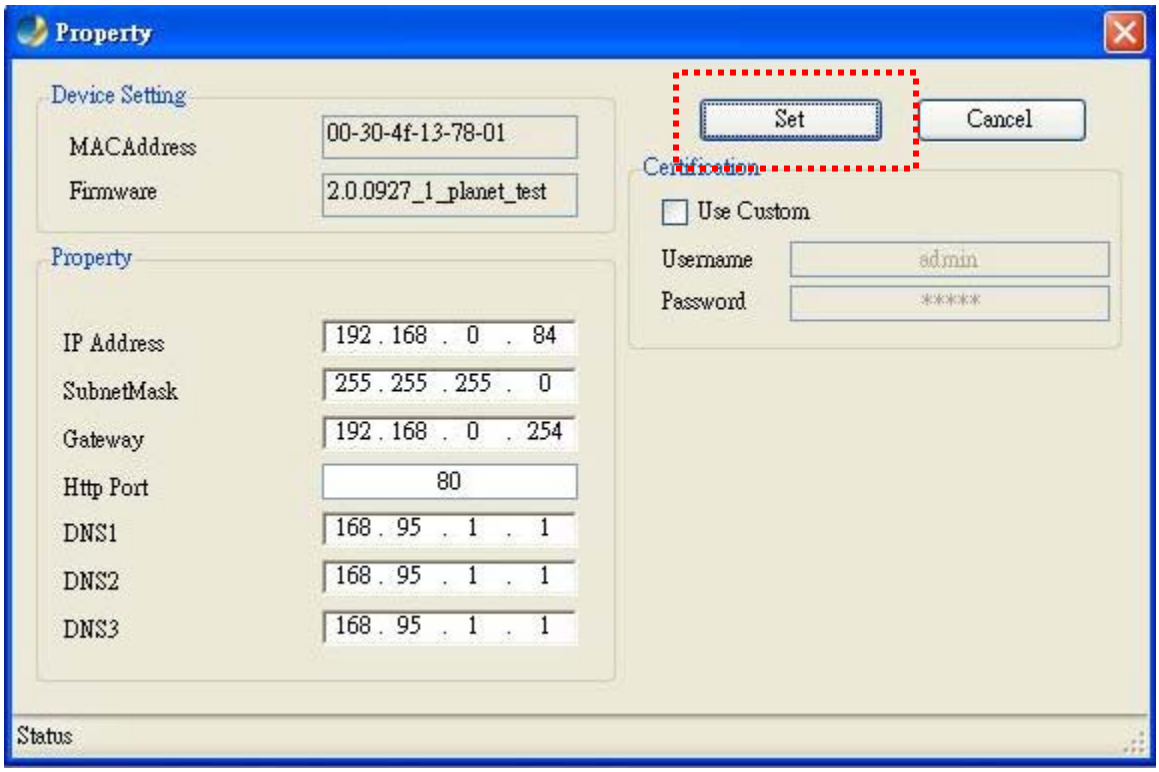
2. Select IP Camera with the MAC Address which corresponds to the IP Camera to be configured.



3. Double click the item to open the Property Page or click the **menu bar > Single Device Setting**



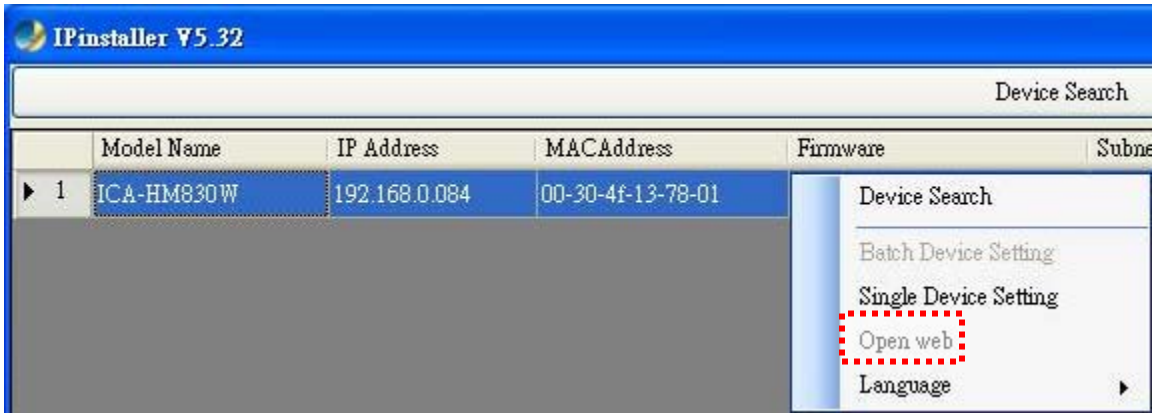
4. After filling out the desired settings in the properties, click on "**Set**" button to complete the configuration settings.



2.5.2 Opening the Web-based UI of Select Camera

If IPInstaller finds IP Camera, please select the device you want to view and click the "**Open Web**" button. Then you could see the video from IP Camera directly.

1. To access the Web-based UI of the selected unit, run the **menu bar > Open web** on the menu bar.



If the Internet Camera is configured correctly, the default Web browser will open to the home page of the selected device.

If you find your browser is opened and automatically connected to the camera Home Page, it means you've assigned an IP Address to the unit successfully. Now you can close the IP Installer and start to use your camera.

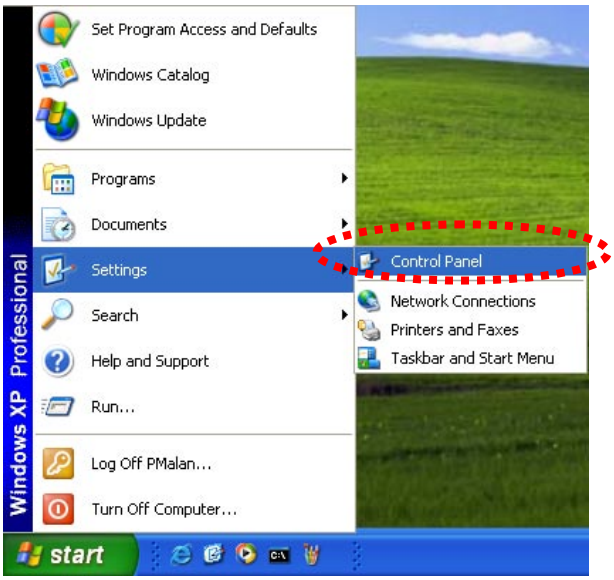
2.6 Using UPnP of Windows XP or Vista

2.6.1 Windows XP

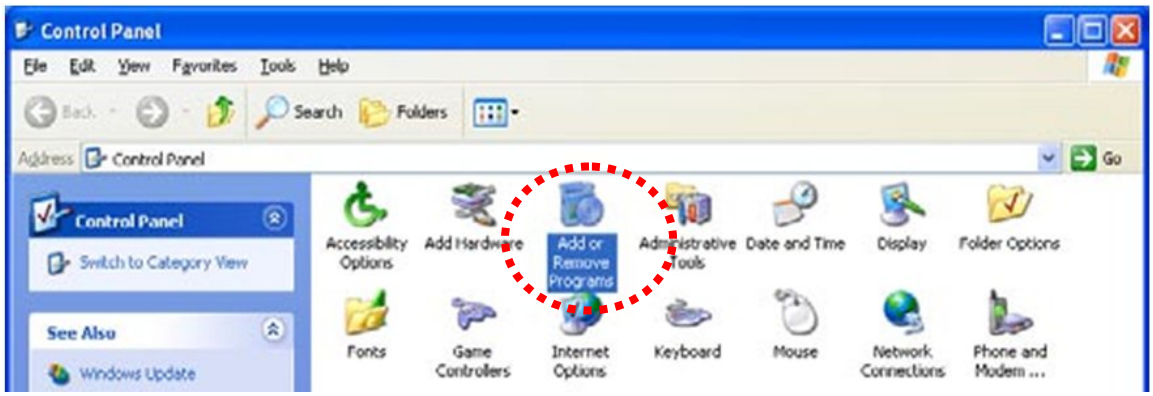
UPnP™ is short for Universal Plug and Play, which is a networking architecture that provides compatibility among networking equipment, software, and peripherals. This device is an UPnP enabled device. If the operating system, Windows XP, of your PC is UPnP enabled, the Internet Camera will be very easy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

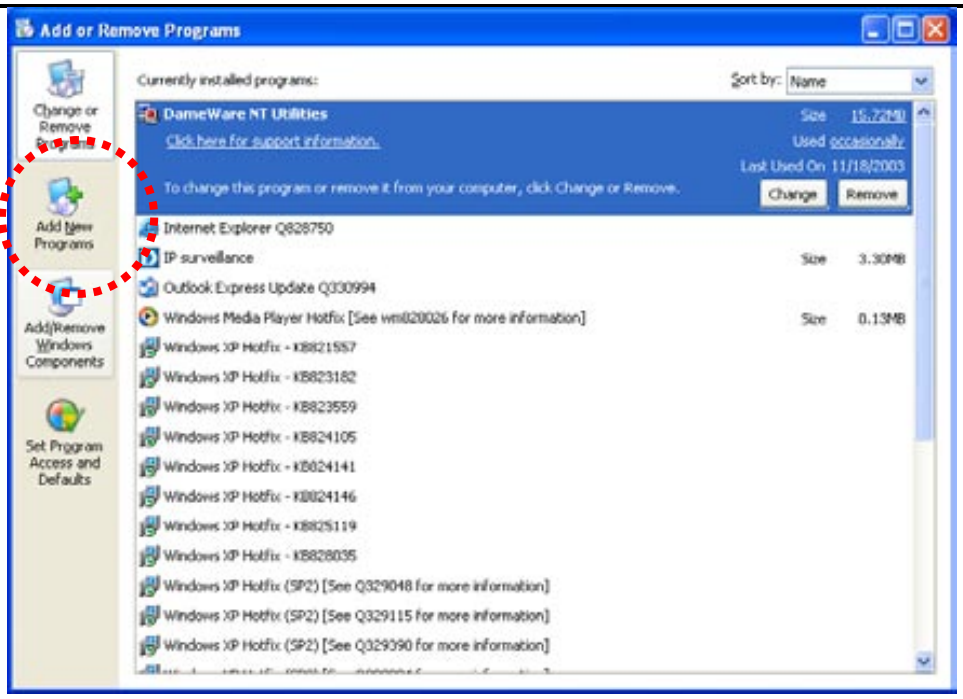
Note	Please note that MS Windows 2000 does not support UPnP feature.

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

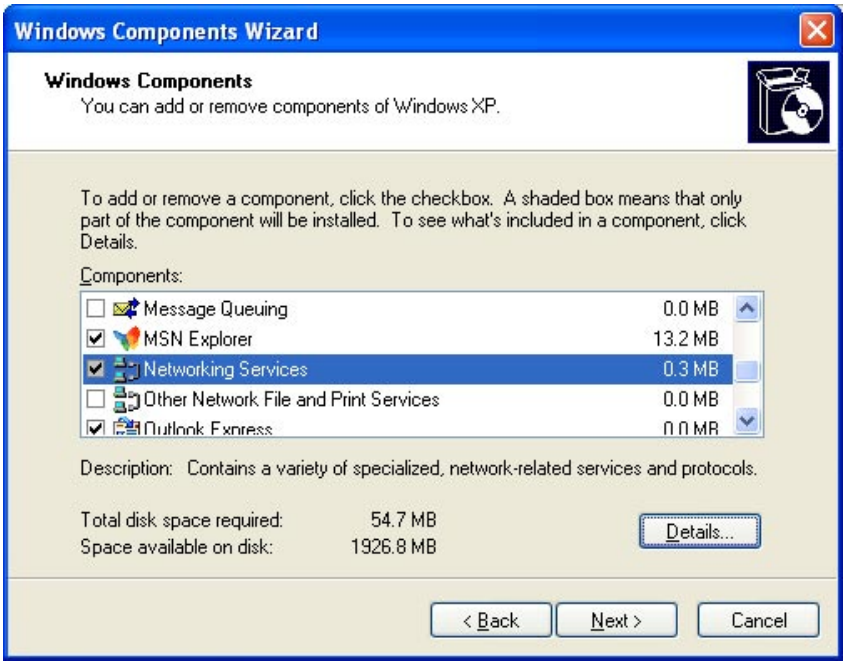


The "**Control Panel**" will display on the screen and double click "**Add or Remove Programs**" to continue

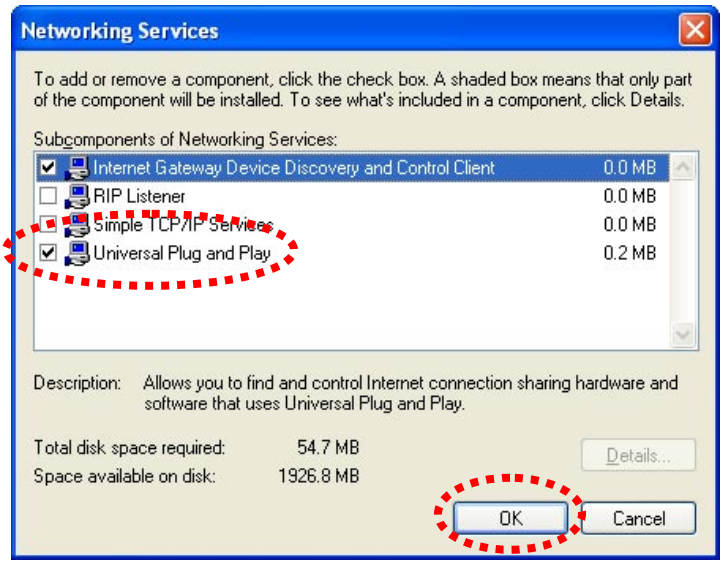




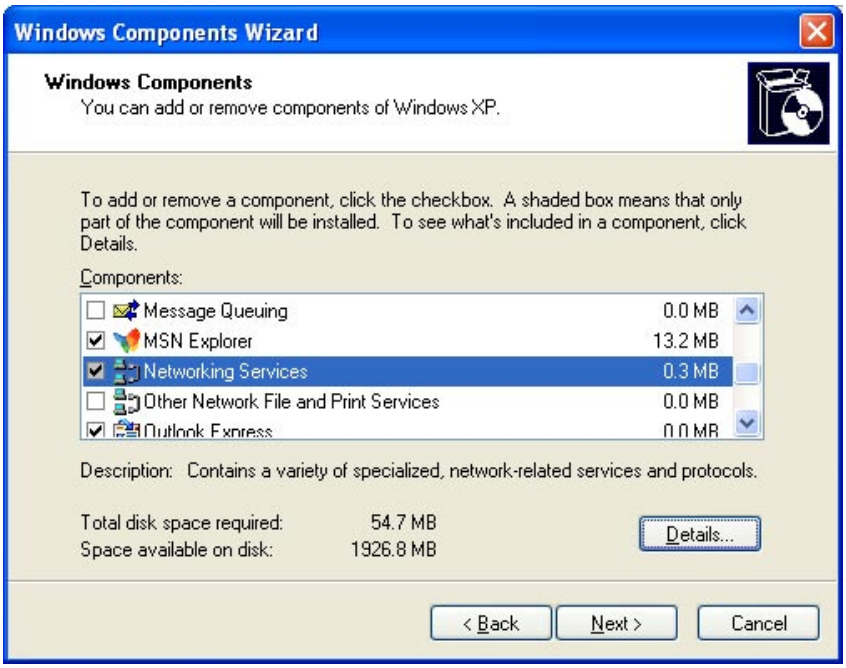
The following screen will appear. Select "**Networking Services**" and click "**Details**" to continue



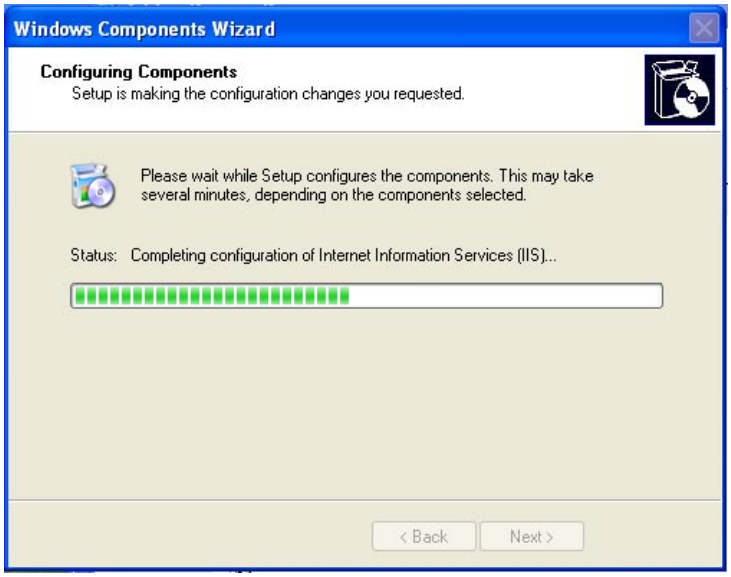
The “Networking Services” will display on the screen. Select “**Universal Plug and Play**” and click “**OK**” to continue.



Please click “**Next**” to continue



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



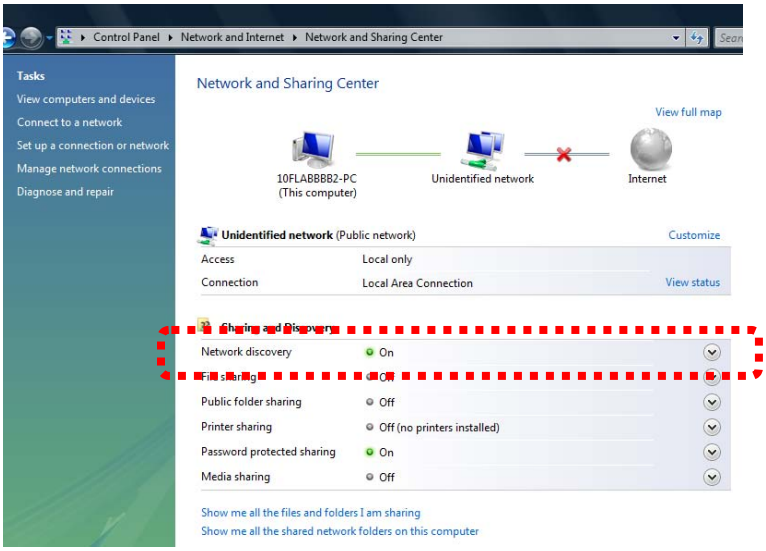
Please click "**Finish**" to complete the UPnP installation

Double-click "**My Network Places**" on the desktop. "**My Network Places**" will display on the screen and double-click the UPnP icon with Internet Camera to view your device in an internet browser.

2.6.2 Windows Vista

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

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



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

2.7 Setting up ActiveX to use the Internet Camera

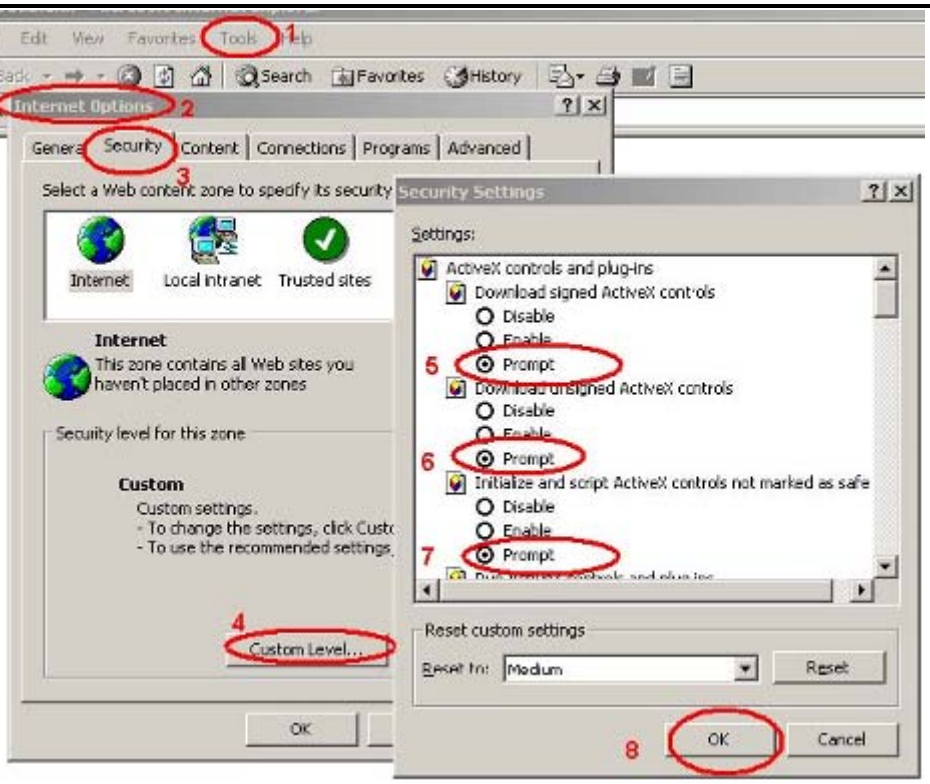
The Internet Camera web pages communicate with the Internet Camera using an ActiveX control. The ActiveX control must be downloaded from the Internet Camera and installed on your PC. Your Internet Explorer security settings must allow for the web page to work correctly. To use the Internet Camera, user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

2.7.1 Internet Explorer 6 for Windows XP

From your IE browse ➔ "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 masked as safe to Prompt*



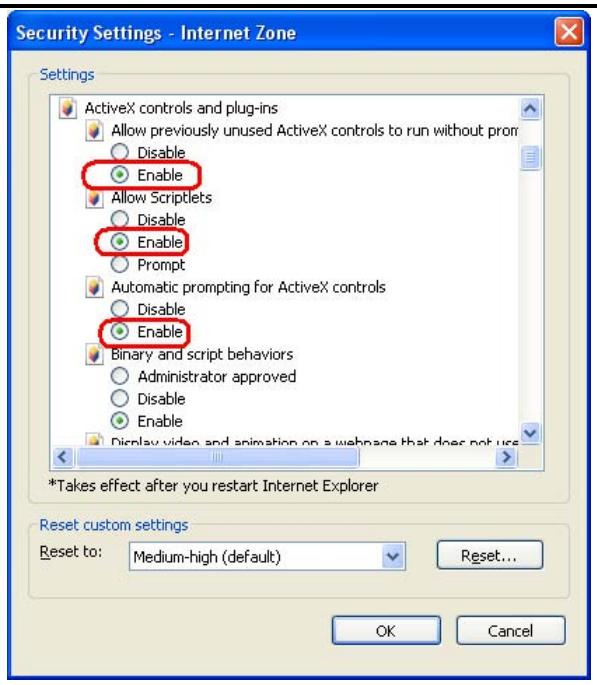
By now, you have finished your entire PC configuration for Internet Camera.

2.7.2 Internet Explorer 7 for Windows XP

From your IE browse ➔ "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 Internet Camera.

Chapter 3. Web-based Management

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

3.1 Introduction

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

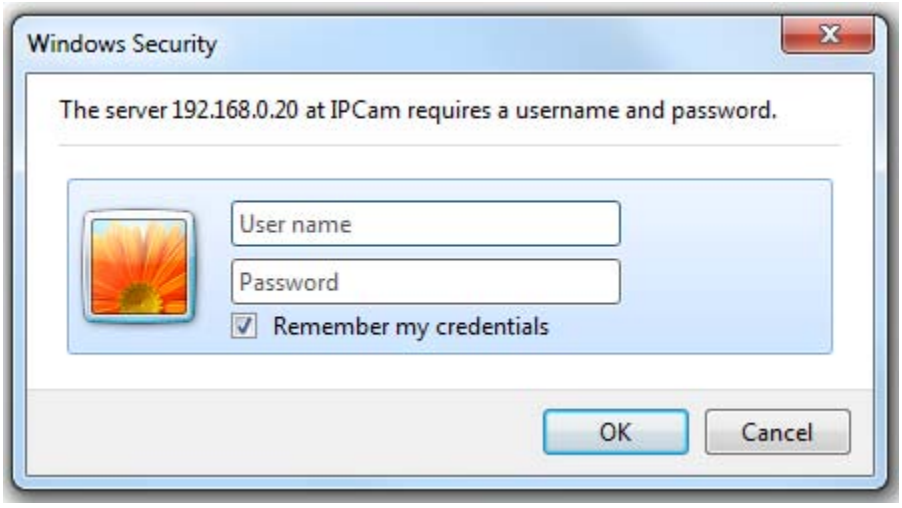
3.2 Connecting to Internet Camera

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

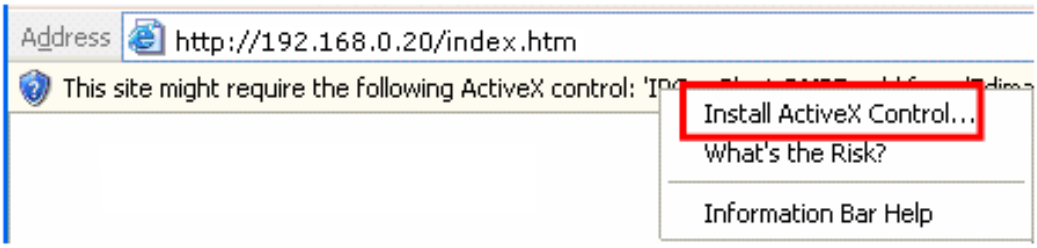
The login window of Internet Camera will appear,
Default login **username/password** is: **admin / admin**



Note	If the User Name and Password have been changed with PLANET IPInstaller, please enter the new User Name and Password here.

For the first installation, there will be a prompt to install the ActiveX control.

Click on the message, and click **Install ActiveX Control…**



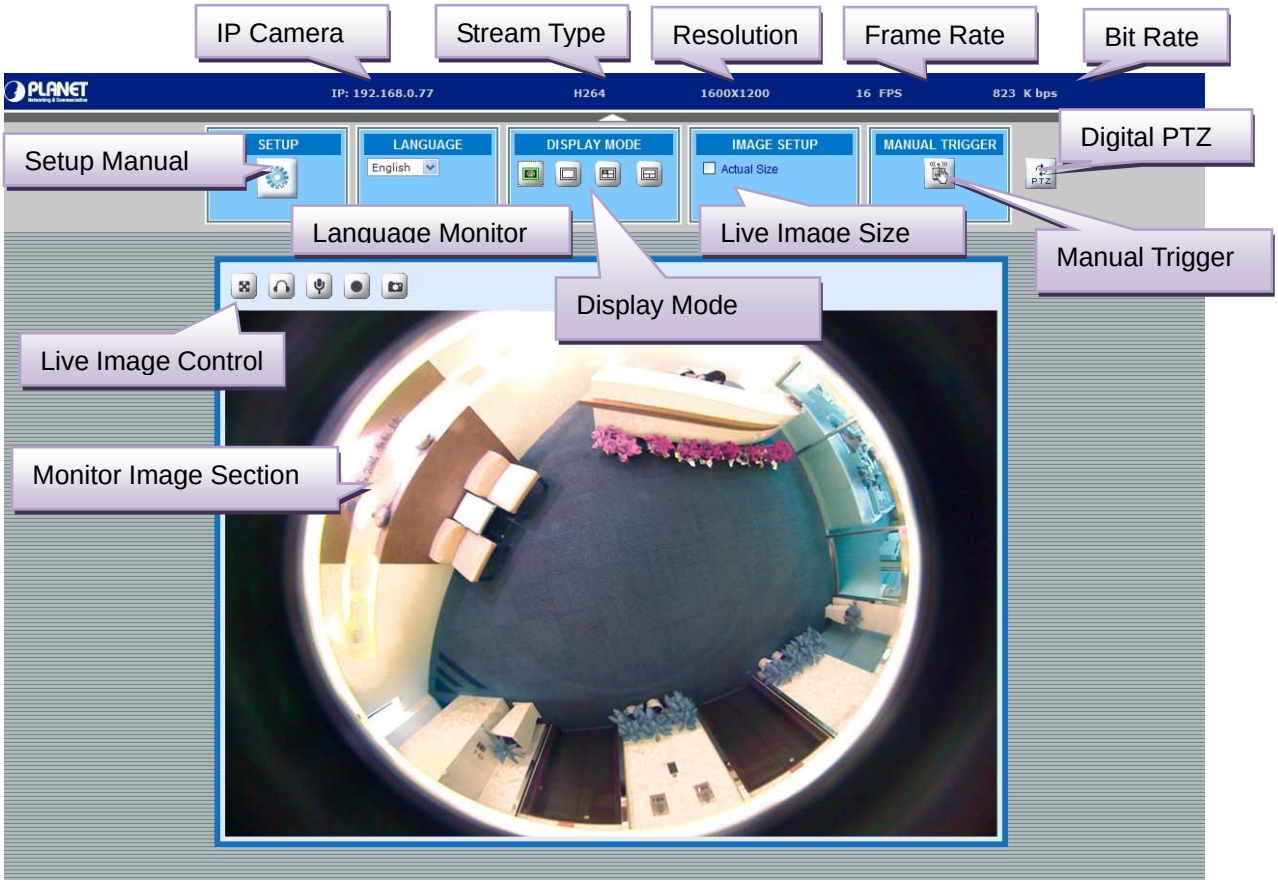
When you see this message, click **Install**' to install required ActiveX control

If the device has been configured correctly, the default Web browser will open to the home page of the selected device.

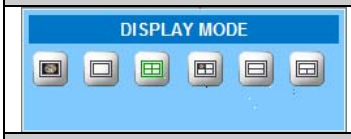
Note	If you log in the Internet Camera as an ordinary user, setting function will not be available. If you log in the camera as the administrator, you can perform all the settings provided within the Internet Camera.

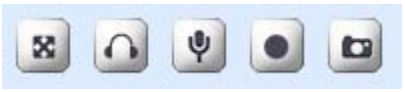
3.3 Live Viewing

Start-up screen will be as follows no matter you are an ordinary user or an administrator.



Button	Description
	● **Video**：Configure bit rate, frame rate and resolution of video profiles. ● **Camera**：Adjust camera general parameters, such as image rotation, Brightness, audio, record parameters. ● **Event**：Configure the event server, I/O ports information, and object motion detection settings. ● **Schedule**：Configure the event schedule and storage while event triggered.

	● **Network**：Configure Network settings such as SMTP, RTSP, DHCP, DDNS, UPnP, etc. ● **System**：Configure system information, date & time, maintenance, and view system log file.
	The Internet Camera could provide multiple languages to meet customer's requirement. (English, Traditional Chinese and Simplified Chinese)
	Select display mode to view the different types of images.
	The Internet Camera allows user to display the live video in actual size mode. (Uses every available space to display the image captured by this camera).
	The camera allows user to trigger the alarm manually. User can click the button to active the alarm immediately while a suspicious object discovered.
	The Digital PTZ button can control camera up/down/left/right and zoom in/out position.



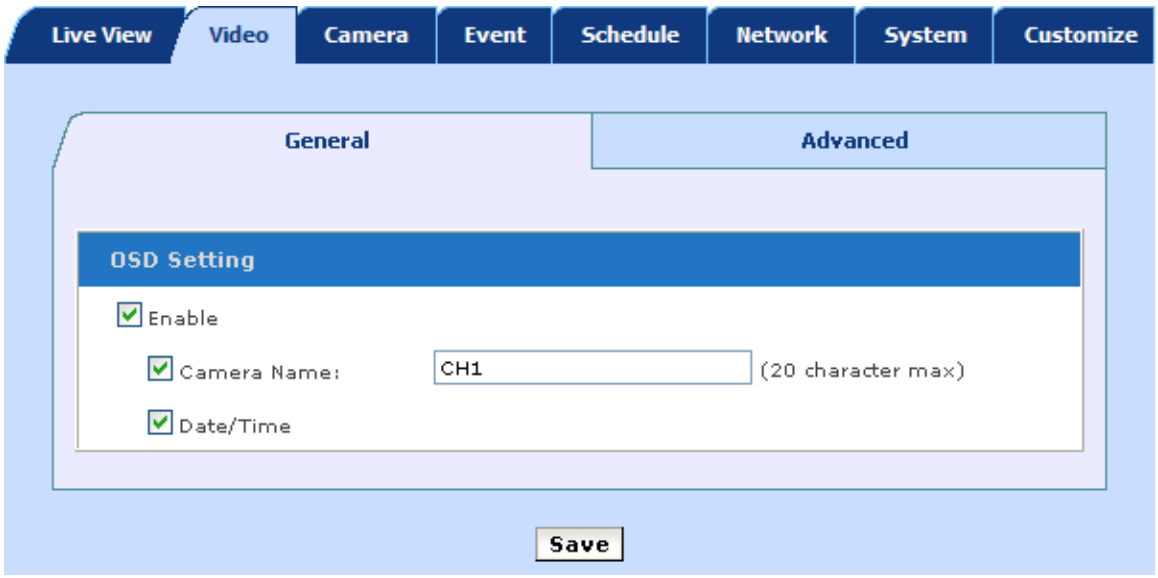
Button	Description
Full screen 	Click the icon to display the image in full-screen mode (uses every browser available space to display the image captured by this camera).
Monitor Listen 	Click the icon to listen to the audio input from local end.
Monitor Talk  (2-way audio)	The Internet Camera supports 2-way audio function. User can choose to enable or disable this function by toggling the icon.
Video Record 	Click the icon to be able to activate the recording function. The video file is saved as AVI format into your local PC.
Snapshot 	Click the icon to be able to activate the snapshot function to take a picture.

3.4 Video Configuration

This Internet Camera provides multiple video stream profiles as shown below to support different requests to each client simultaneously. Each user can choose preferred video profile as his request independently.

3.4.1 Video General Settings

The menu allows user to disable/enable OSD.



OSD Setting:	There is some important information that can be embedded into image, including date, time, and/or camera name.

Note

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

1. Ch: Select the channel (1~4)

2. Step: The speed of the camera (1~10)

3. Pan Tilt control of this IP camera

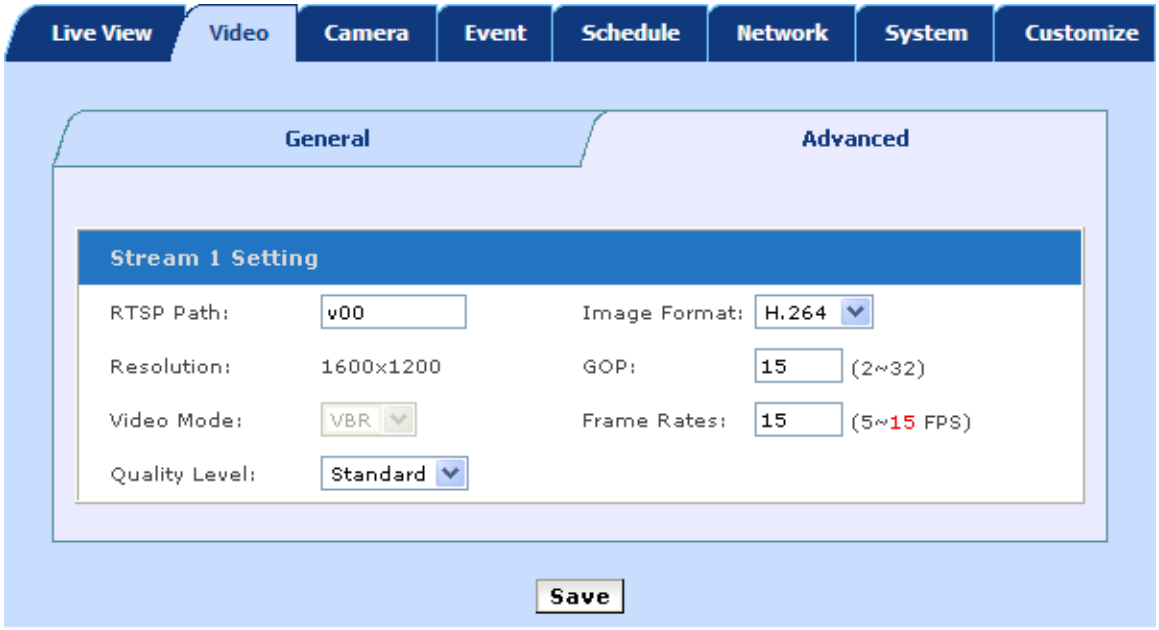
4. Zoom: Digital zooms in/out (1~10)

5. Move the box

6. Close the box

3.4.2 Video Advanced Settings

This Internet Camera provides video stream profiles to support different requests. Stream 1 supports maximum resolution of up to 1600 x 1200 (2 mega-pixel).



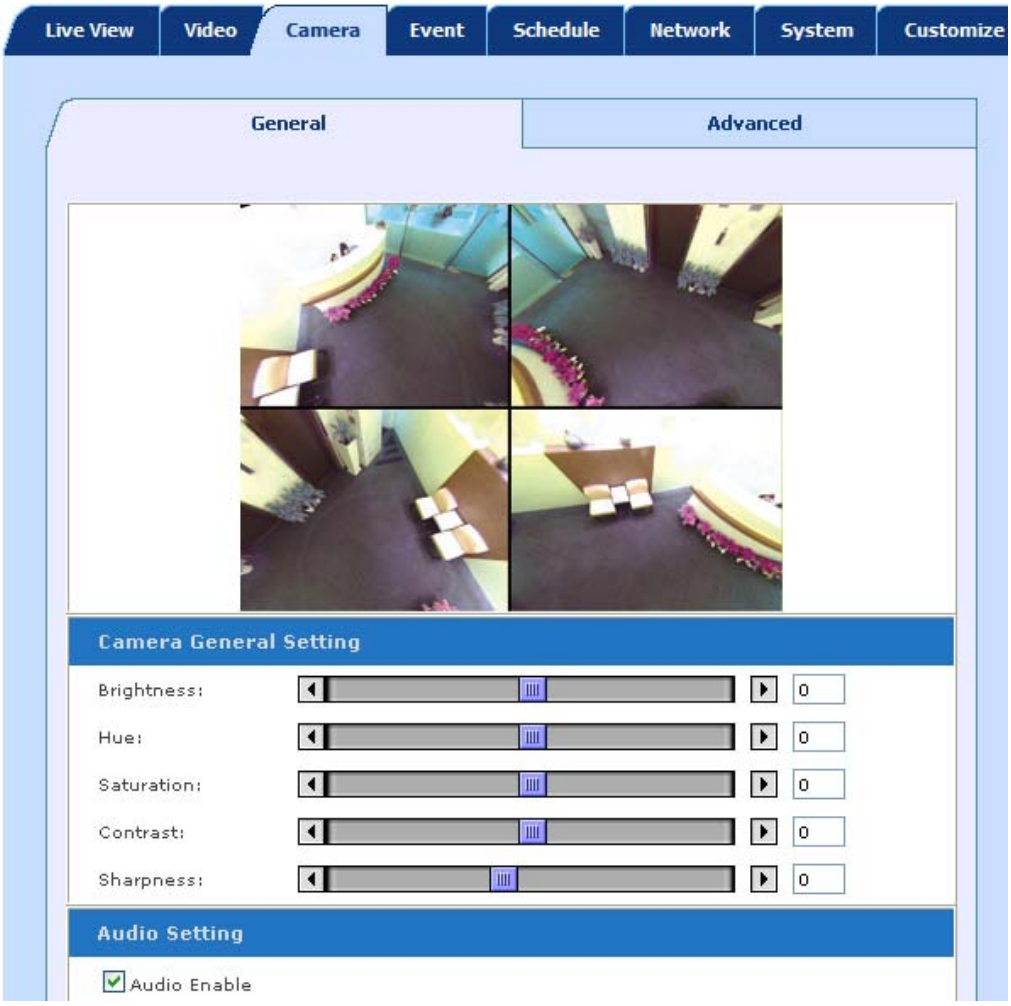
RTSP Path	It is the stream ID used for RTSP client streaming connection, such as VLC player. (Default v00).
Resolution	Image size 1600x1200.
Video Modes	Choose between variable bit rate (VBR) and constant bit rate (CBR) **VBR:** User should choose the quality level to set the video quality rather than bit rate. **CBR:** The video bit rate is between low and high bandwidth based on different resolutions. User can set the bit rate range from 64 to 6000kb
Target Bit Rates(CBR)	Choose the number of frames to encode per second.
Quality Level(VBR)	The quality level is between Standard and Best. The best level can reach the better quality but of course will consume higher bandwidth.
Image Format	2 kinds of format to choose from: H.264 and M-JPEG
GOP	Defines the Intra/Inter-frame (I/P) ratio of this profile.
Frame Rates	Choose the number of frames to display per second. With resolution

1600x1200, FPS can only set up to 15FPS.

3.5 Camera Configuration

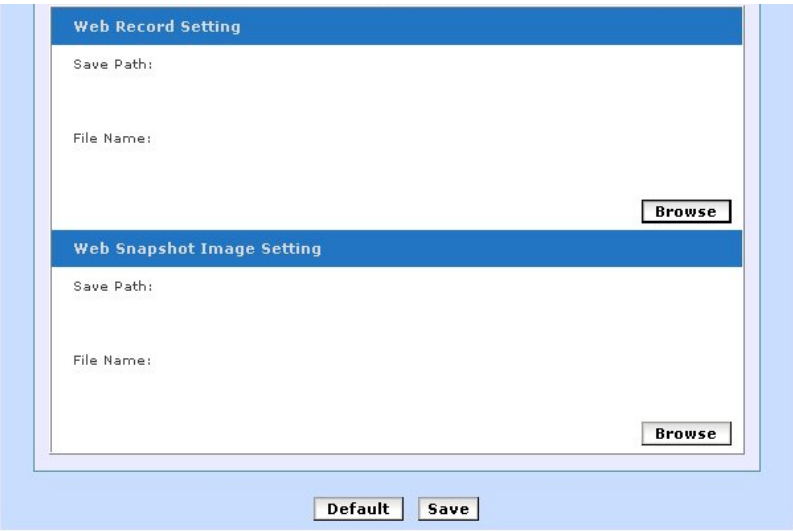
Use this menu to set the function of the camera of Internet Camera

3.5.1 Camera General Settings



Camera General Setting	Adjust the image parameters for a better view. **Brightness:** Large value will brighten camera. **Hue:** Large value will be colorful. **Saturation:** Large value will contrast camera heavily.

	Contrast: The difference in color and light between parts of an image. **Sharpness:** The sharpness of camera.
Audio Setting	**Audio Enable:** Turn on/off the audio. **Input of listen pattern:** Mic In/Line In: Click to choose audio source. **Output of talking pattern:** Speaker Out/Line Out: Click to choose audio source.



Web Record Setting	**Save Path / File name:** Click on the “Browse” button to select the desired path to save as well as naming the video file.
Web Snapshot Image Setting	**Save Path / File name:** Click on the “Browse” button to select the desired path to save as well as naming the video file.
Default	Set “**Camera General Setting’** and ‘A**udio Setting”** back to default

3.5.2 Camera Advanced Settings

The menu allows user to adjust the camera white balance, exposure, gain control and ICR active mode.

White Balance	Adjust the white balance according to the environment **Auto:** will adjust the white balance setting automatically. **Hold:** will hold the white balance setting. **Sunny:** will fix the color temperature with sunny day mode. **Cloudy:** will fix the color temperature with cloudy day mode. **Indoor:** will fix the color temperature with indoor mode.
Exposure	**Automatic:** will adjust the internal gain automatically. **Flicker-free 50Hz:** will effect exposure to 50Hz. **Flicker-free 60Hz:** will effect exposure to 60Hz.
Max Exposure Time	Increase / reduce the exposure time for lens.

Max Gain Control	To adjust maximum gain of input video.
Infrared (IR) Cut Filter	User can turn Auto or setting for fix mode. This function is very useful under low illumination environment.
Camera Mount	3 kinds of format to choose from: Wall, Ceiling and Table.

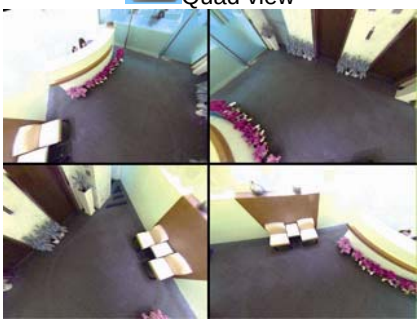
Ceiling Mode：5 kinds of format to choose from:

360° source image

180° double broad view

360° source view with 3 PTZs

Quad view



360° broad view with 2 PTZs

Wall Mode：2 kinds of format to choose from:

 180° source view with 3 PTZs

 180° broad view with 2 PTZs

Table Mode：2 kinds of format to choose from:

 360° table view

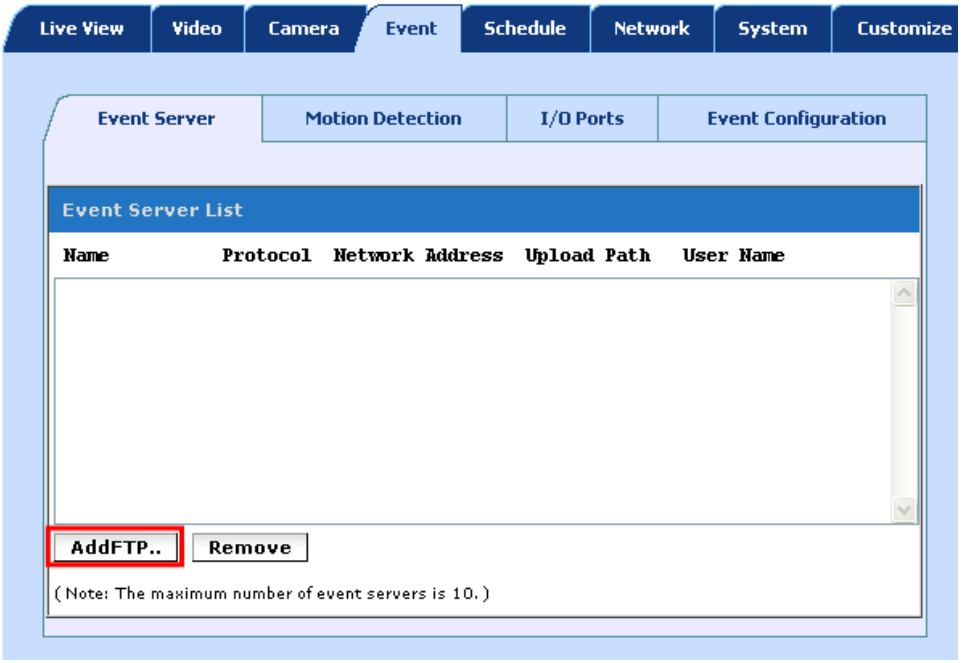
 180° double table broad view

3.6 Event Configuration

This menu is used to specify the schedule of Events and activate some actions provided by this device.

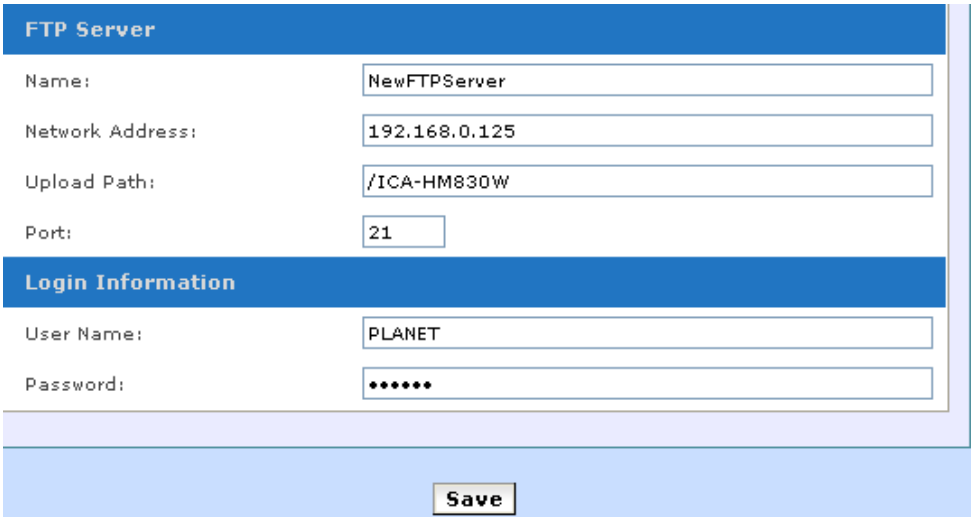
3.6.1 Event Server

The Internet Camera supports FTP upload function that will upload image while event triggers.



3.6.1.1 FTP server

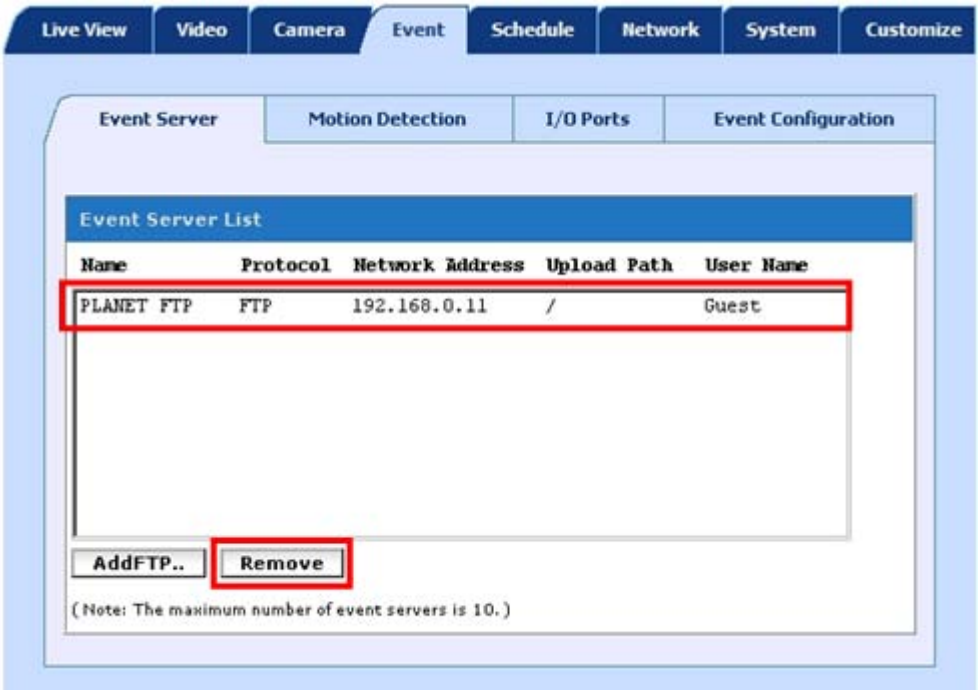
You may set up FTP parameters for further operation of Event Schedule. That is, if users want to send the alarm message to an FTP server.



FTP Server	**Name:** User can specify a FTP server as you wish. Therefore, user needs to specify a name for each FTP setting. **Network:** Type the server name or the IP address of the FTP server. **Upload Path:** Set working directory path of FTP server. **Port:** Set port number of FTP service.
Login Information	**User Name:** Type the user name for the FTP server. **Password:** Type the password for the FTP server.

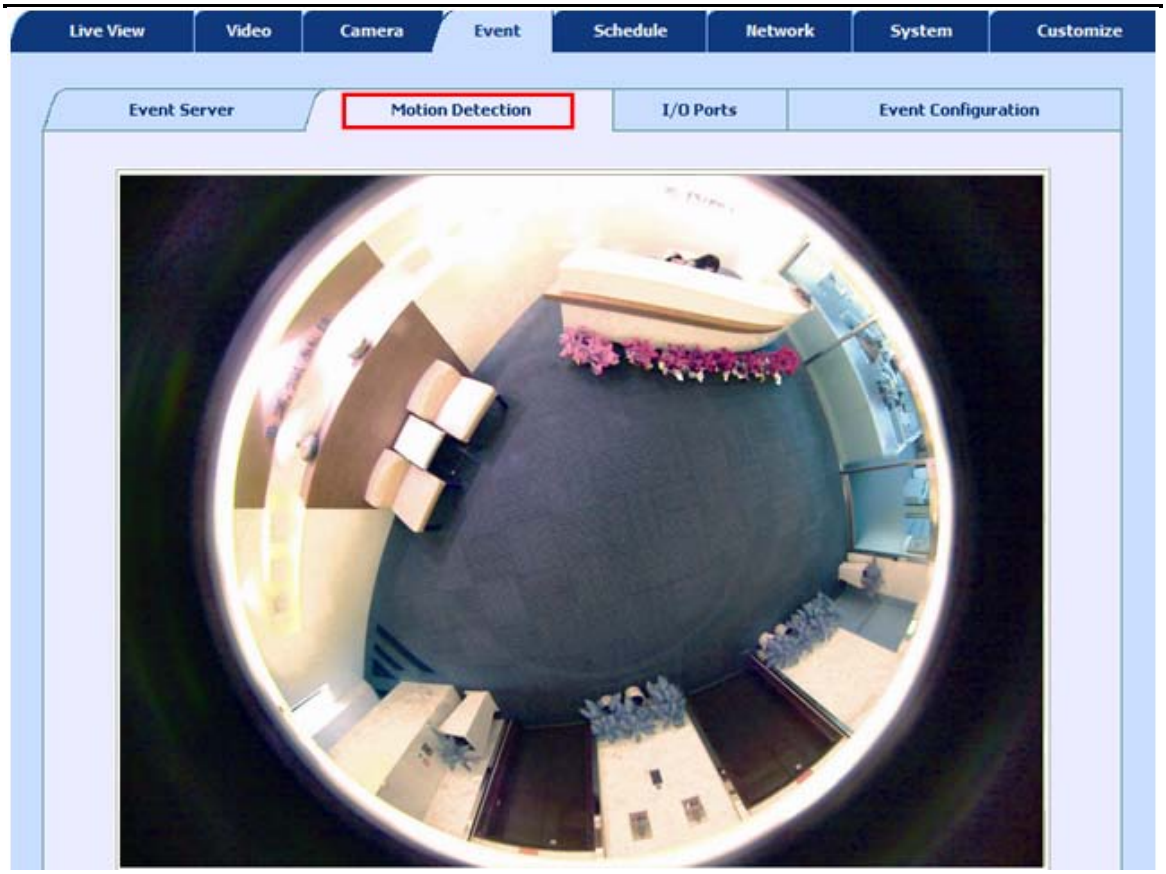
3.6.1.2 Event Server Removal

When you want to delete the unnecessary servers, user just needs to click "**Remove"** button to delete selected event servers.



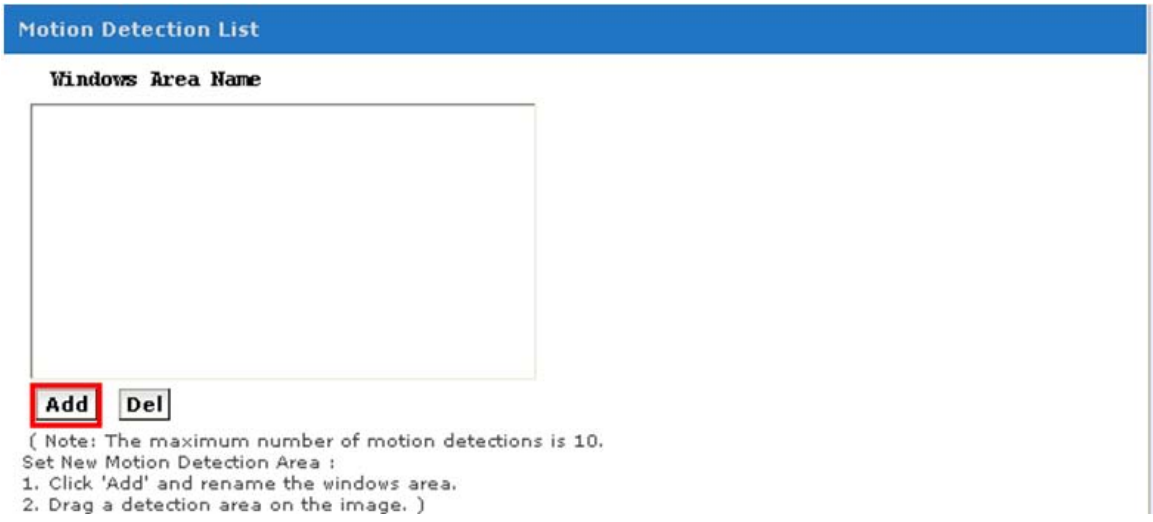
3.6.2 Motion Detection

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

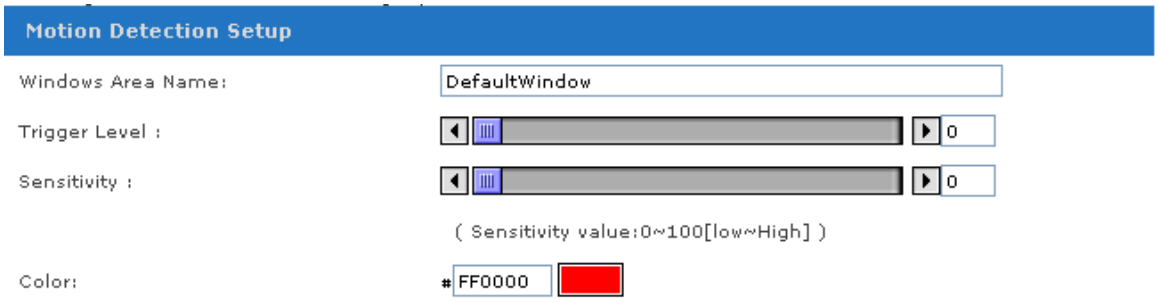


Add a motion detection area

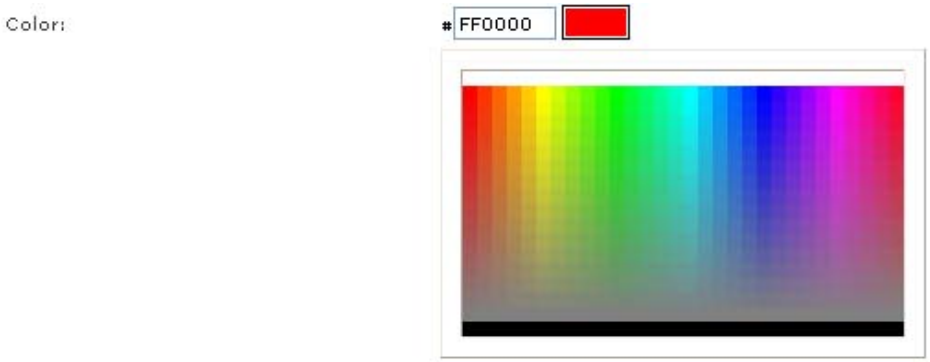
Please click on "**Add"** to set up a detection area as indicated below.



Motion Detection List	**Add and Del:** To add or delete the motion windows. User can specify up to 10 areas to monitor the video captured by this device. By dragging mouse on the bar, you can change the trigger and sensitivity level of the detect motion area accordingly.



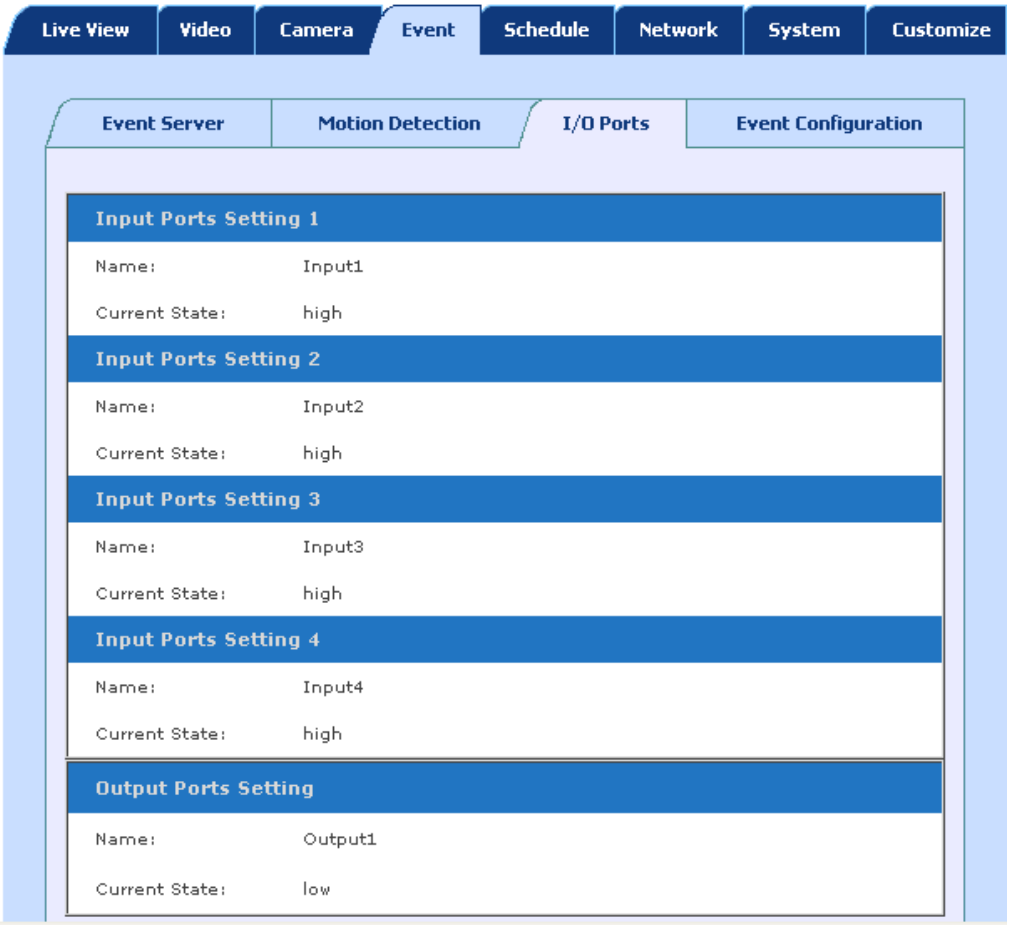
Motion Detection Setup	**Window Area Name:** Name of the specified motion area. **Trigger Level:** Defines the trigger level of motion detection for this detection area. (0~100, low~high) **Sensitivity:** Defines the sensitivity value of motion detection. The higher value will be more sensitivity. (0~100, low~high)



Color	Select color for detection area indication.
View All Windows	Displays all detection windows on screen.
View Selected Window	Only displays selected detection window on screen.

3.6.3 I/O Ports

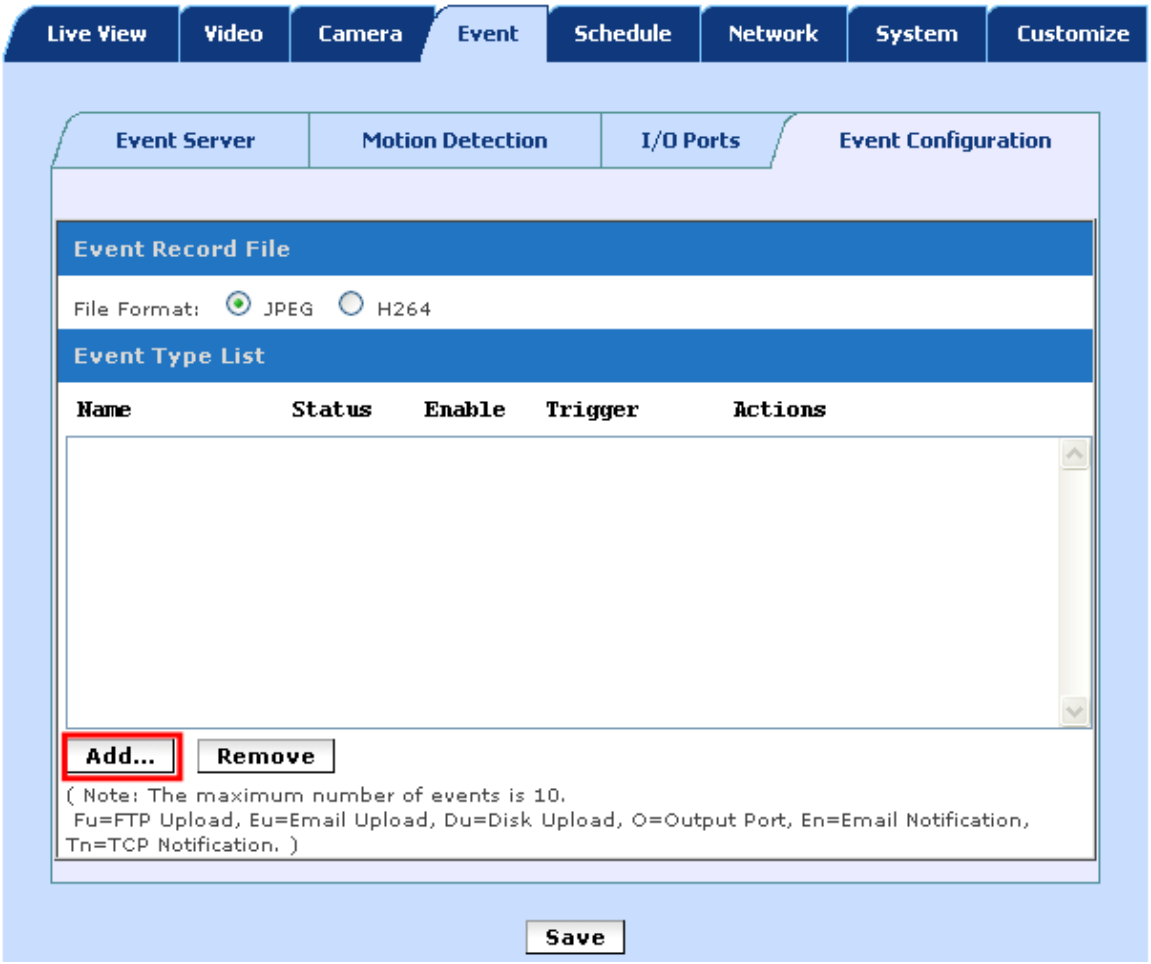
The Camera can be activated by the external sensor that senses physical changes in the area where Camera is monitoring. These changes can include intrusion detection or certain physical change in the monitored area.



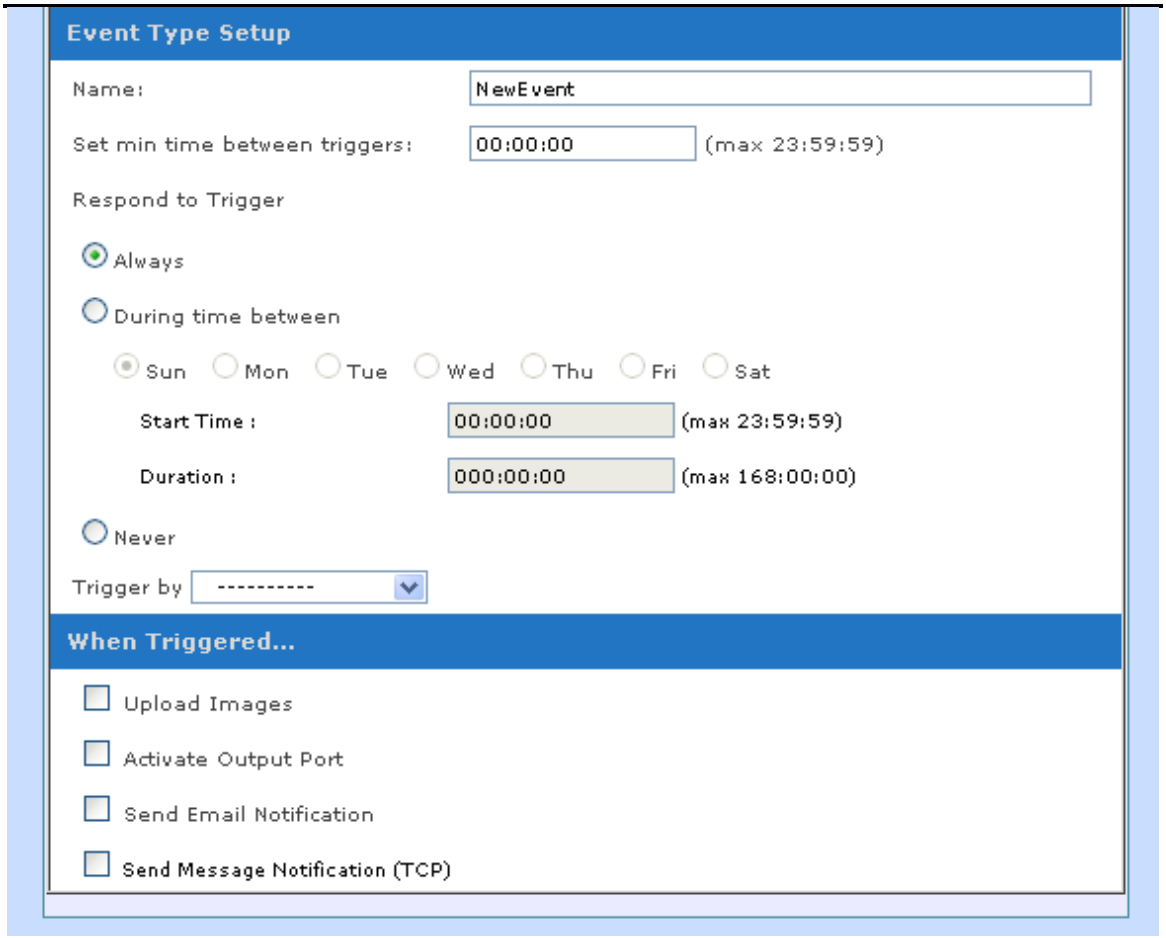
Input Ports Setting	**Name:** The field needs to specify a name for input sensor setting. **Current Status:** The field displays the input port current status.
Output Ports Setting	**Name:** The field needs to specify a name for output sensor setting. **Current Status:** The field displays the output port current status.

3.6.4 Event Configuration

This menu is used to specify the trigger of Events and activate some actions provided by this device.



To add an event trigger, please click on "**Add"** and setup panel will be expanded.



Event Type Setup	**Name:** Name of the Event or Schedule. **Set min time between trigger:** Set the time interval between each trigger. **Respond to Trigger:** Set the time period for the trigger. ✓ **Always:** Activate the selected event immediately and continuously. ✓ **Only during time frame:** Choose a day and the starting time and then configure the duration time (168hrs = 24x7). If duration time is set to 168(hrs), it is the same as choosing “Always” ✓ **Never:** Stop the selected event immediately. **Triggered by:** Select the triggered sources with event trigger.

When Triggered …	**Upload Images:** Upload captured image to event server once event is triggered. **Activate Output Port:** Activate the external alarm once event is triggered. **Send Email Notification:** Send notification through SMTP server once event is triggered. **Send Message Notification(TCP):** Send notification through TCP server once event is triggered.

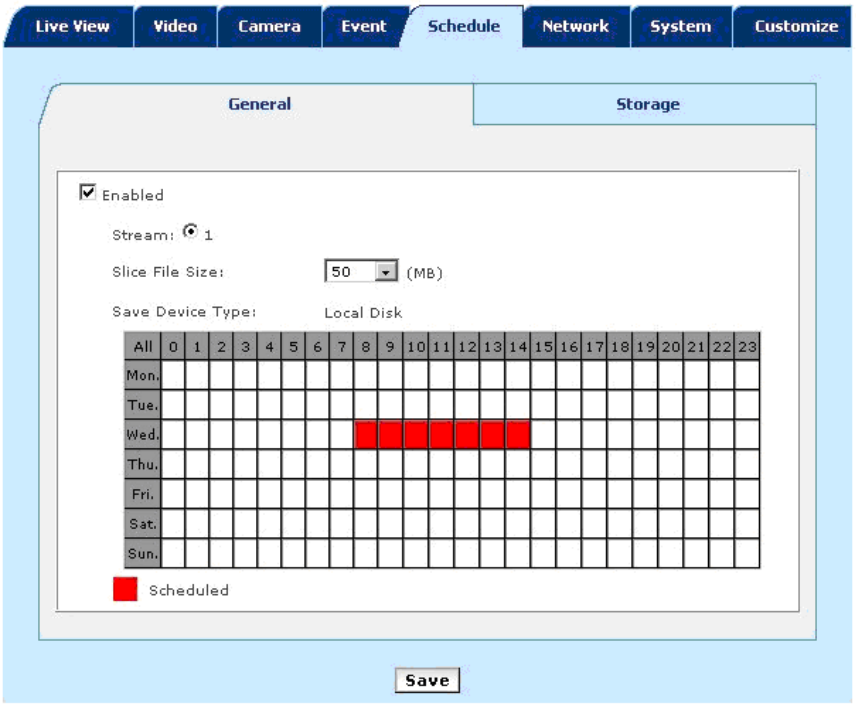
3.7 Schedule Configuration

This menu is used to specify the schedule of Events and activate some actions provided by this device.

3.7.1 General Setting

The page defines the day (specified by days of a week) and time (specified by each single hour) that will be recorded during the scheduled period.

Note that only video data will be recorded. User can select which video stream should be recorded, and the size of each sliced file. When the check box is ticked and setting is saved, recording process starts. Recording files are saved to the Micro SD storage.

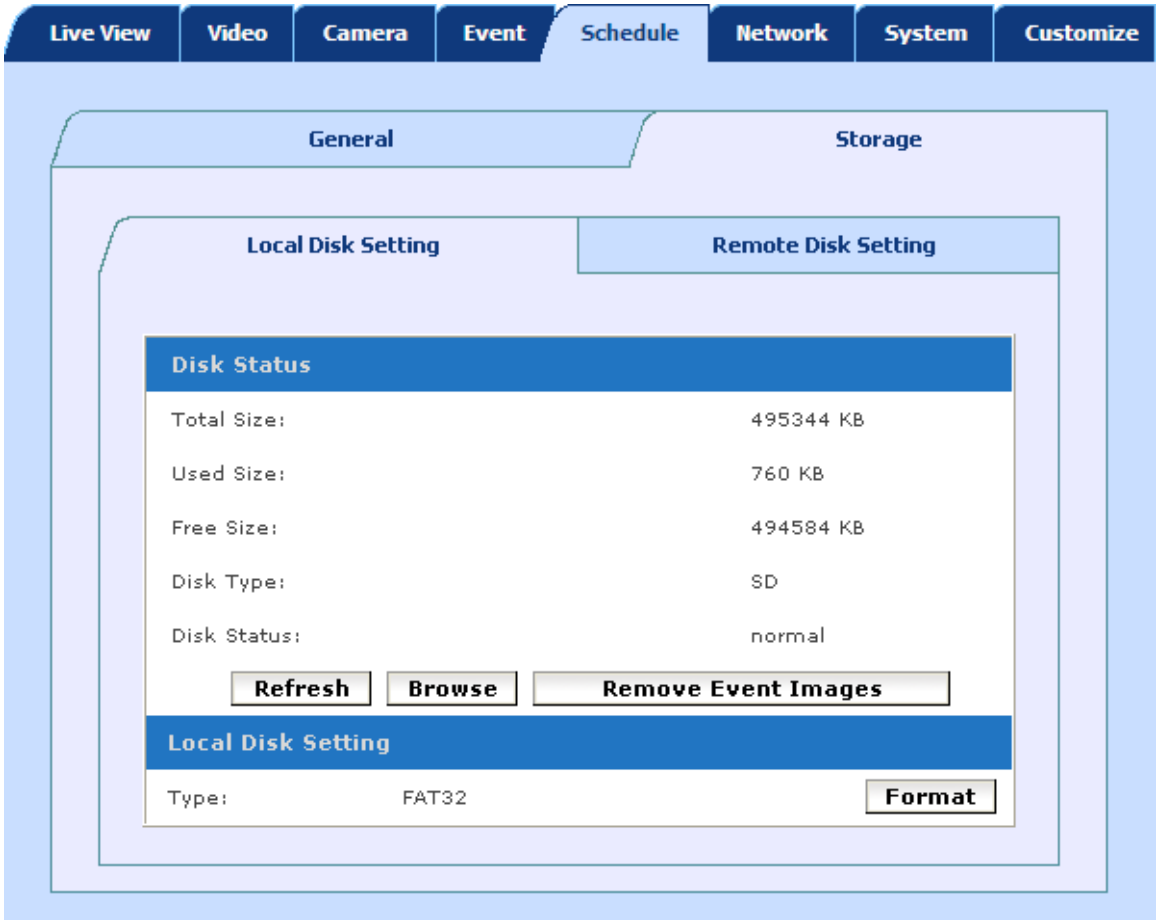


Enable	Enable or disable this schedule record.
Stream	Select one of the stream profiles for video recorded.
Slice File Size	Define the sliced file size for each recording files.

Save Device type	The storage device information.

3.7.2 Storage Setting

The page displays the storage information, including disk size info, type and status. The warning message shows when recording is in process. The SD card should not be removed during the recording process.



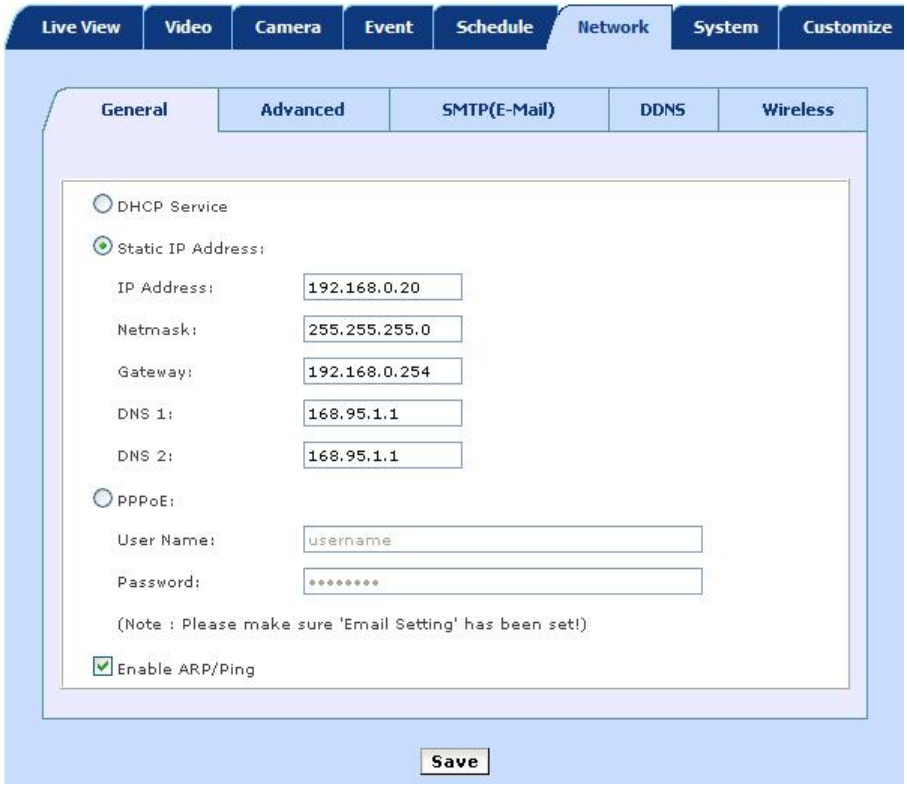
Disk Status	**Refresh:** User can click the button to refresh the status display of SD card. **Browse:** User can click the button to download the file on SD card. **Remove Event Image:** User can click the button to remove the event image.
Local Disk Setting / Remote Disk Setting	The Internet Camera supports the local Micro SD disk feature. User can mark the check box to activate the function. **Format:** When inserting a new Micro SD/SDHC card, user simply clicks the button to complete the disk format operation in the Internet Camera.

3.8 Network Configuration

Use this menu to configure the network to connect the Internet Camera and the clients.

3.8.1 Network General Settings

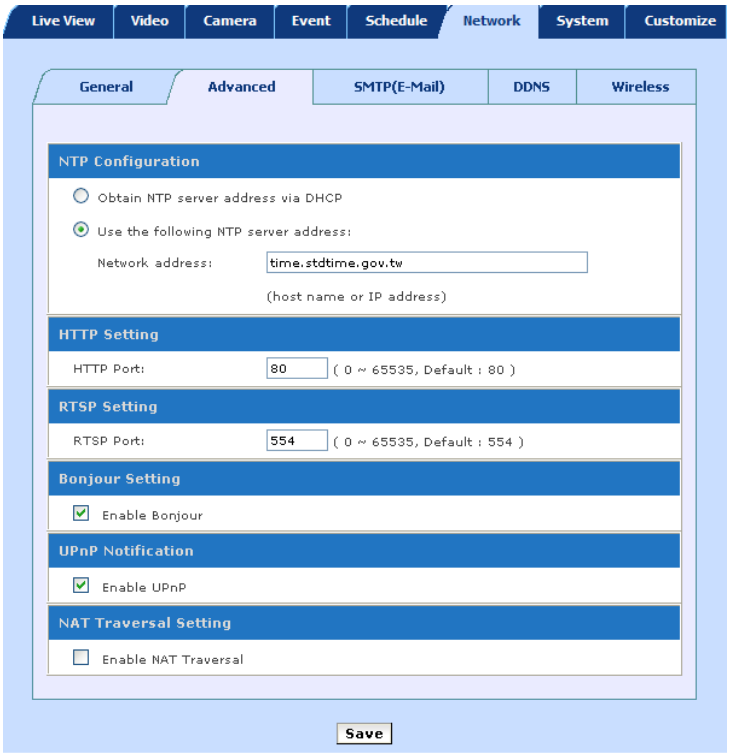
This section provides the menu of connecting the Internet Camera through Ethernet cable.



DHCP Service	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 you do not select “DHCP Service”, then you need to enter these network parameters by yourself.
Static IP Address	Please type in IP address, Subnet Mask, Gateway, DNS manually. **IP address:** This IP address is a unique number that identifies a computer or device on the 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. **DNS:** 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.
Enable ARP/Ping	Enable the camera to accept ARP or ping packets from the network. If this option is disabled, it may provide extra security from intentional ping.

3.8.2 Network Advanced Settings



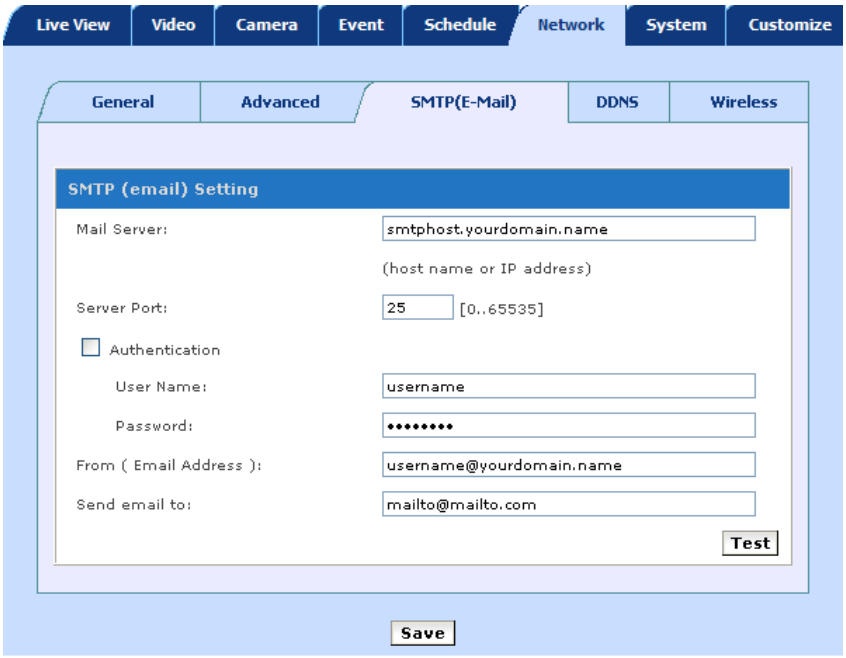
NTP Configuration	Configure a NTP (Network Time Protocol) server so that the camera system date and time can be synchronized with a specified Time Server. This configuration is provided for one of the portions of system

	date/time adjustment.
HTTP Setting	The Internet Camera supports changeable HTTP ports. This port is very useful for Intranet usage. Users could assign the port number of http protocol, and the WAN users should follow the port number to login. If the http port is not assigned as 80, users have to add the port number in back of IP address. For example: http://192.168.0.20:8080. Therefore, the user can access the Internet Camera by either http://xx.xx.xx.xx/, or http://xx.xx.xx.xx:xxxx/ to access the Internet Camera. If multiple devices are installed on the LAN and also required to be accessed from the WAN, then the **HTTP Port** can be assigned as the virtual server port mapping to support multiple devices.
RTSP Setting	**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)
HTTPS Setting	**Enable HTTPS:** The HTTPS service is a combination of the Hypertext Transfer Protocol with the SSL/TLS protocol to provide encryption and secure identification of the camera access.

Bonjour Setting	**Enable Bonjour:** The Bonjour service allows camera to be discovered with Apple Safari browser which will show in the Bonjour bookmarks menu.
UPnP Notification	**Enable UPnP:** The UPnP function allows camera to automatically be detected and a new icon will be added to “My Network Places” if your operating system is UPnP enabled.
NAT Traversal Setting	**Enable NAT Traversal:** When enabled, the Internet Camera will attempt to configure port mapping in a NAT router on your network.

3.8.3 Network SMTP Settings

You may set up SMTP mail parameters for further operation of Event Schedule. That is, 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.

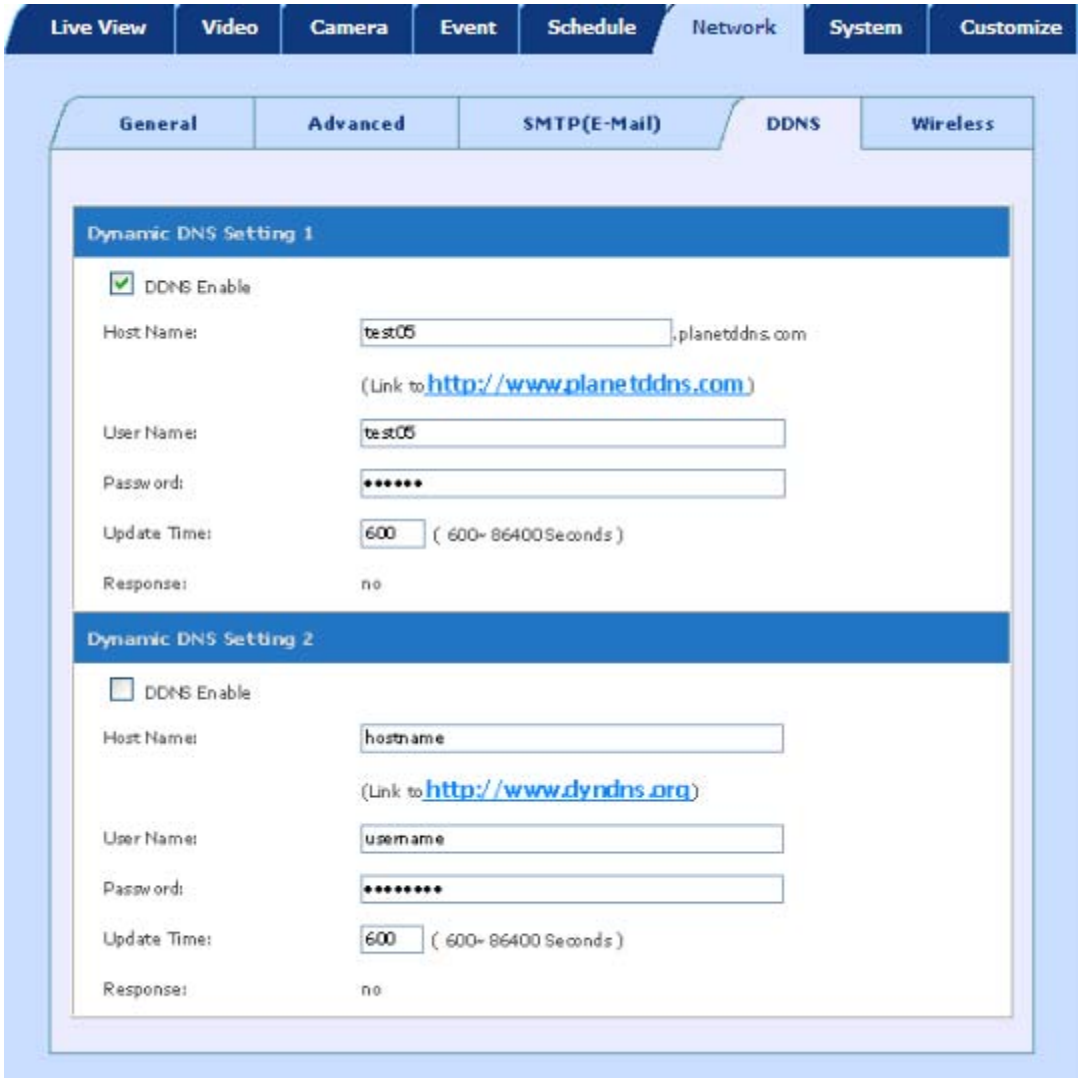


SMTP (email) Setting	**Mail Server:** Type the SMTP server name or the IP address of the SMTP server. **Server Port:** Set port number of SMTP service.(The default value is 25) **Authentication:** Select the authentication required when you send an e-mail. **User Name:** Type the user name for the SMTP server if Authentication is Enable. **Password:** Type the password for the SMTP server if Authentication is Enable. **From (Email Address):** Type the sender's E-mail address. This address is used for replying e-mails.
Test	**Send test email to:** Send a test mail to mail server to check this account is available or not.

3.8.4 DDNS server

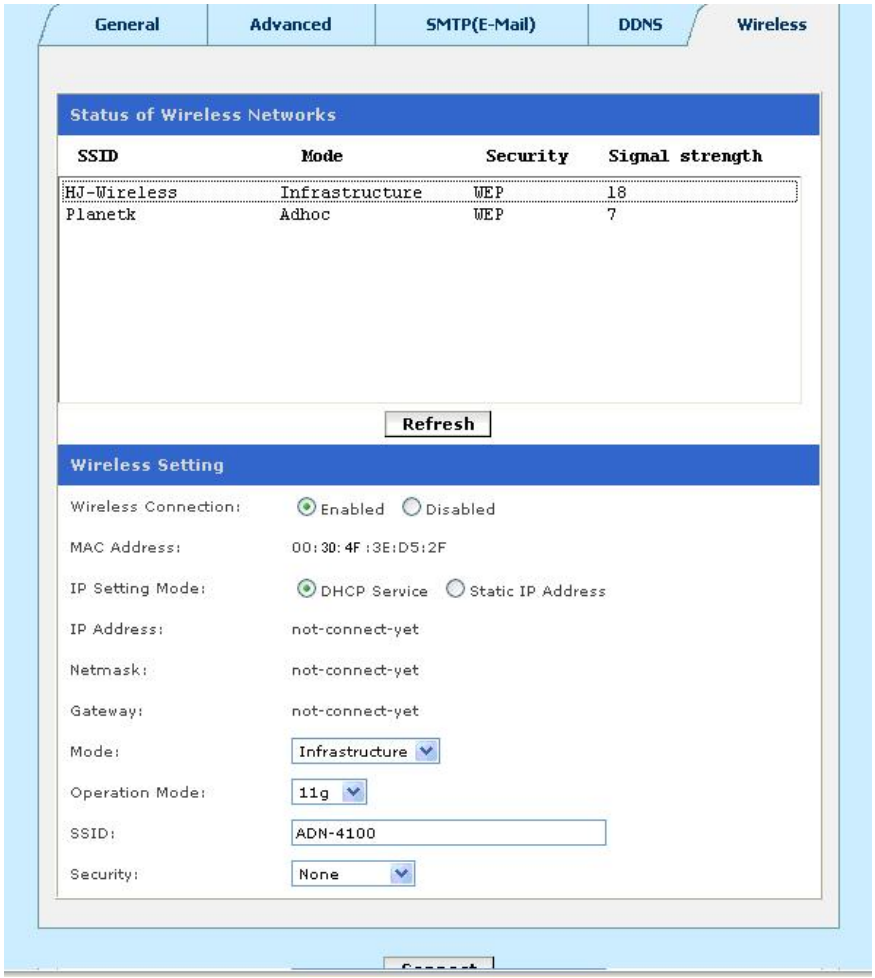
DDNS: Stands for Dynamic Domain Name Server

The Internet Camera 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 Internet Camera to use an easier way to remember naming format rather than an IP address. 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.DynDNS.org. You'll need to register with the service and set up the domain name of your choice to begin using it. Please refer to the home page of the service for detailed instructions or refer to Appendix E for more information.



Dynamic DNS Setting	**DDNS:** To enable or disable the DDNS service here. **DDNS Host:** The domain name is applied for this device. **User Name:** The user name is used to log into DDNS. **Password:** The password is used to log into DDNS. **Update Time:** Periodically, the Internet Camera updates its access info to sever in the configured time. **Response:** The Internet Camera responds the connection info. You can apply a username / password at www.planetddns.com and choose “planet” to log in.

3.8.5 Wireless



Wireless Connection	Select **Enable** to activate wireless network function of this IP camera. Select **Disable** to disable it.
IP Setting Mode	**DHCP Service:** 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. **Static IP Address:** Please type in IP address, Netmask, Gateway manually.
Mode	Select the network type of wireless connection. Available options are **Infrastructure** (Connect the IP camera to a wireless access point), and **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 wireless access point). You can set to **Adhoc** when you don't have any wireless access point, but your computer has wireless network card. Set to 'Infrastructure' when you have wireless access point, and you have computers with wired network connection.
Operation Mode	**AUTO:** Allows user to set the 802.11bgn standard wireless network **11B:** Allows user to set the 802.11b standard wireless network. **11G:** Allows user to set the 802.11g standard wireless network.
SSID	Input the SSID of the wireless access point you wish to connect. It should be less than 32 alphanumerical characters.
Security	It supports "None", "WEP", "WPA-PSK" ,"WPA2-PSK" security encryption based on the setting of the Router.

ADHOC Setting

Operation Mode	**AUTO:** Allows user to set the 802.11bgn standard wireless network **11B:** Allows user to set the 802.11b standard wireless network. **11G:** Allows user to set the 802.11g standard wireless network.
SSID	Input the SSID of the wireless access point you wish to connect. It should be less than 32 alphanumerical characters.
Security	It supports "None", "WEP" security encryption based on the setting of the Router.
Domain	FCC(1~11CH) , ETSI(1~13CH) , JP(1~14CH)

3.9 System Maintenance

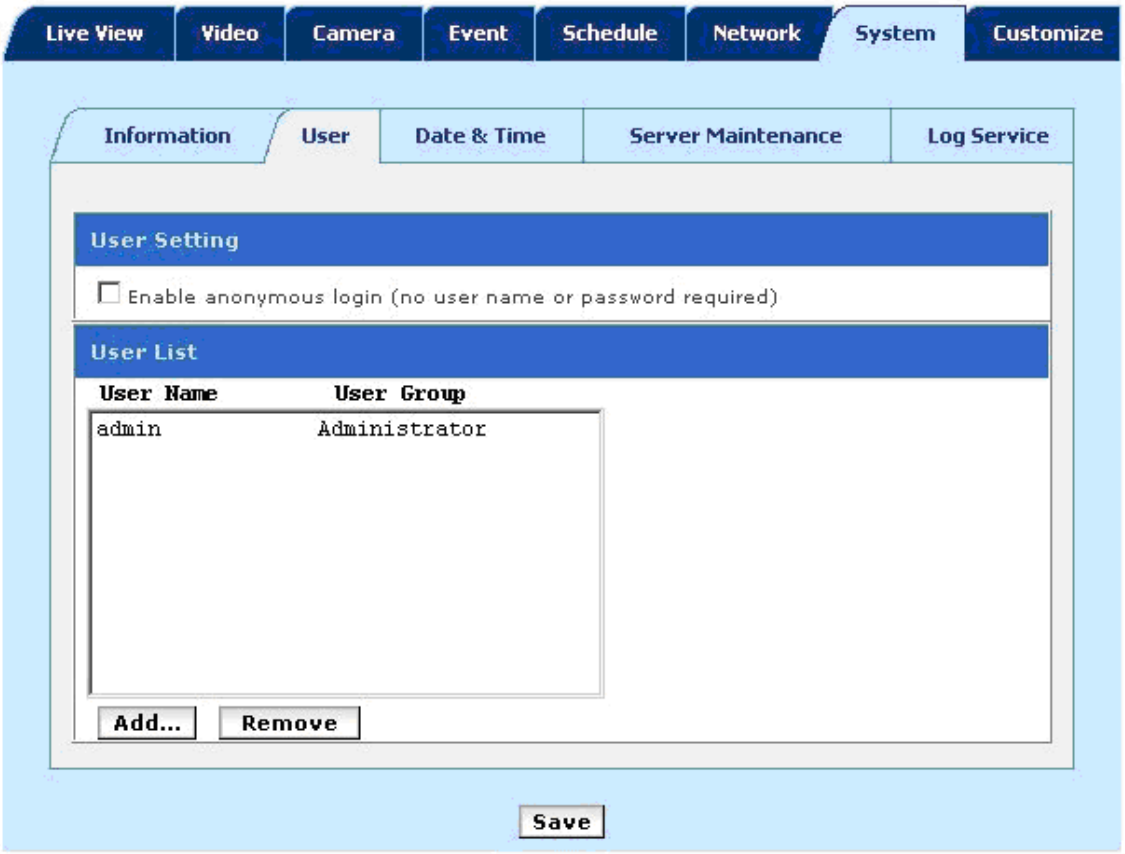
Use this menu to perform the principal settings of Internet Camera.

3.9.1 System Information

User can use this menu to get the system and network information of this camera and detailed descriptions of every setting will be given below.

3.9.2 User Account Configuration

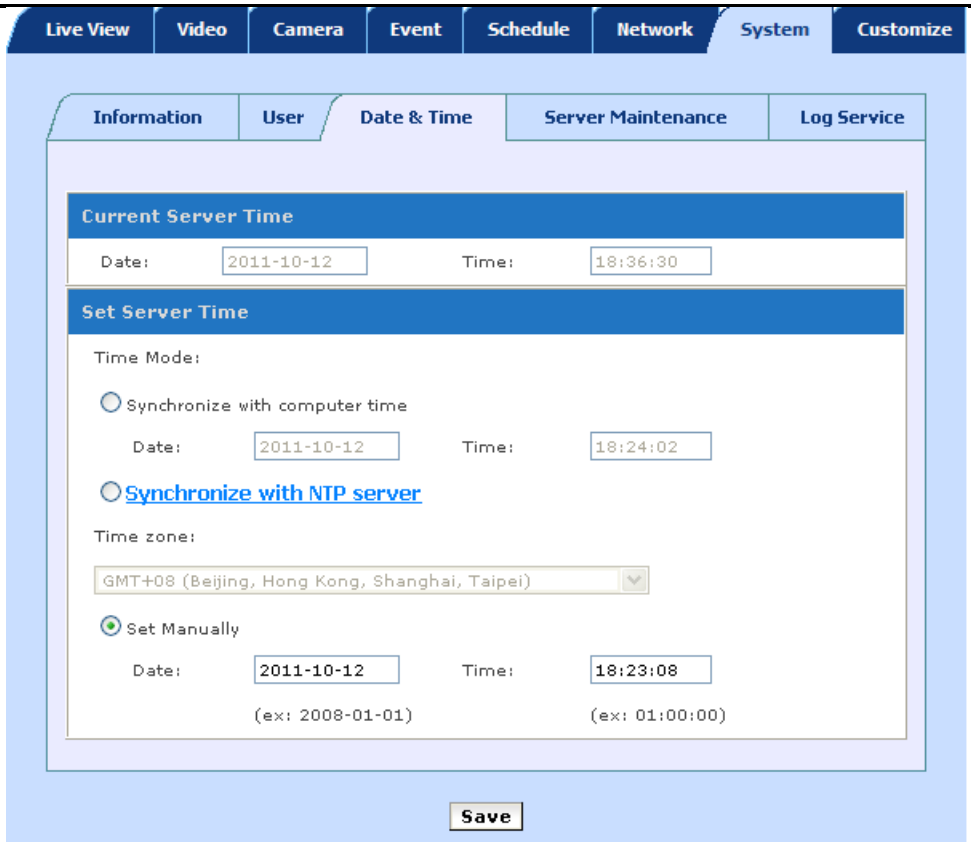
If users wish to allow other people to view the live image captured by this camera, but don't want to allow them to modify system settings that can give them user-level user name and password, they can only view the image and cannot change any system setting. When they want to click menus other than Camera, they will see the following message informing that they don't have permission to do that:



User Setting	**Enable anonymous login (no user name or password required):** The check box allows anyone to view the video once connected. Otherwise, only users in database can view the video after login.

3.9.3 Date & Time Configuration

This setting allows user to change the date and time of the real time clock in this IP camera. User can set the time manually, or use network time protocol (NTP) to set the time automatically.



Current Server Time	**Date & Time:** Displays the date and time of the Internet Camera.
Set Server Time	**Synchronize with computer time:** Click this option to enable time synchronization with PC time. **Synchronize with NTP server:** Click this option if you want to synchronize the Internet Camera's date and time with those of time server called NTP server (Network Time Protocol). **Time zone:** Please select the time zone of the country / city of resident from dropdown menu here. **Set Manually:** Click this option to set time and date manually.

3.9.4 Server Maintenance

This menu allows user to upgrade firmware, clear all settings, reboot the IP camera, and back up all parameters.

Maintain Server	**Reboot:** The Internet Camera is restarted without changing any of the settings. **Load Default:** Recall the Internet Camera hard factory default settings. Note that clicking this button will reset all device's parameters to the factory settings including the IP address.
Firmware Upgrade	The Internet Camera supports new firmware upgrade. Step 1. Close all other application programs which are not necessary for firmware update.

Step 2. Make sure that only you access this device at this moment.

Step 3. Disable Motion Detection function.

Step 4. Select "**Firmware name**".

Step 5. Select the Firmware binary file.

Step 6. Once the firmware file is selected, select "Upgrade".

Step 7. The upgrade progress information will be displayed on the screen.

Step 8. A message will be shown while the firmware is upgraded. Once the upgrading process is completed, the Internet Camera will reboot the system automatically.

Please wait for upgrade procedure to finish, and then you can use PLANET IPInstaller to search the Internet Camera again.

Warning!!!

The download firmware procedure cannot be interrupted. If the power and/or network connection is broken during the download procedure, it might possibly cause serious damage to the Internet Camera.

Please be aware that you should not turn off the power during updating the firmware and wait for the finish message.

Furthermore, do not try to upgrade new firmware if it's not necessary.

Backup	**Save all parameters and user-defined scripts to backup file:** To take 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.
Upload Setting	**Specify the backup file to use:** Click the "Browse" button to locate the saved backup file and then click the "Restore Setting" button. The settings will be restored to the previous configuration.
Add Language	**Choose language:** The Internet Camera can provide multiple languages to meet customer's requirement. **Select language file to upload:** User can manually update other languages into IP camera through language file upload.

3.9.5 Log Service

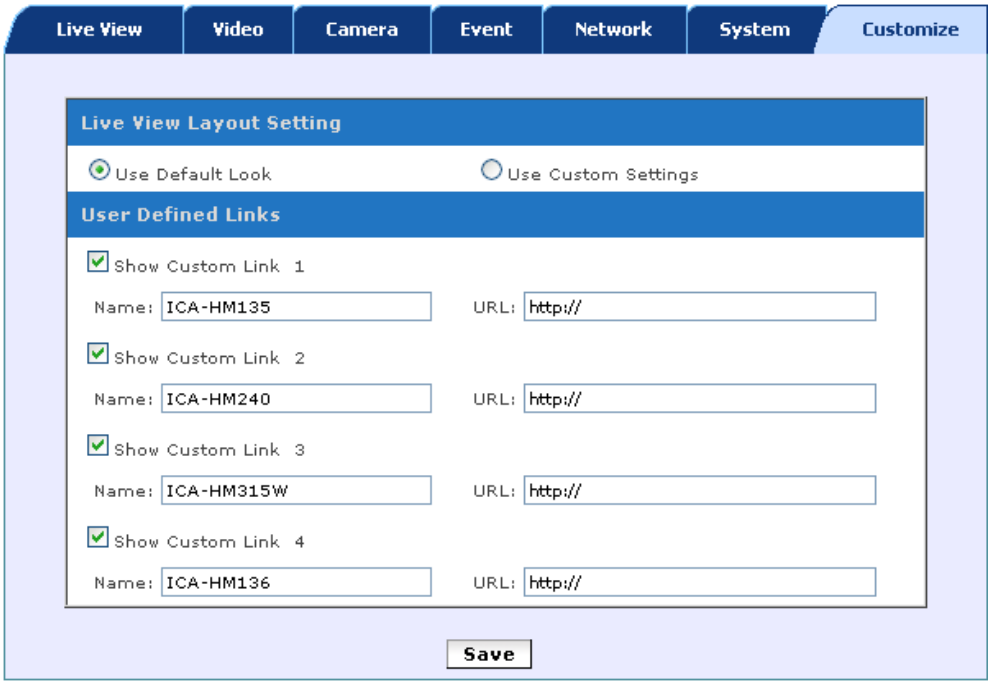
User can check the system log information of the camera. Most system operations and/or process will be kept in a log system. The link provides the review of these records.

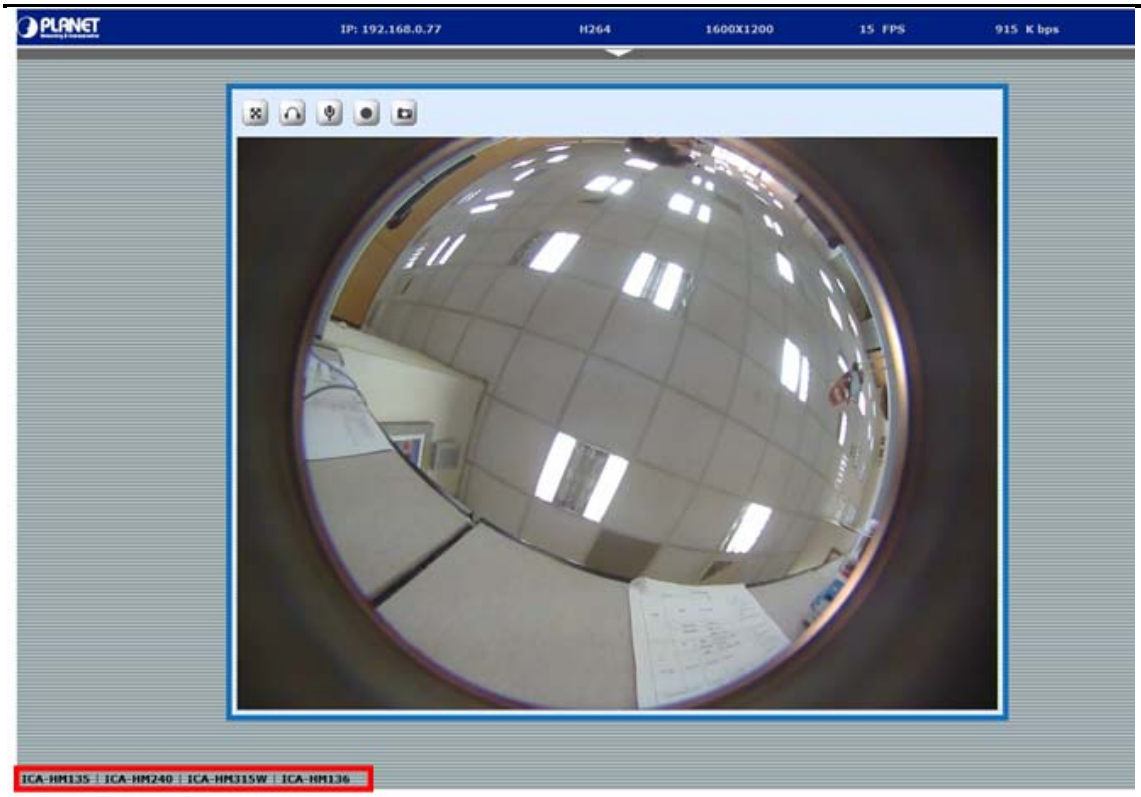
3.10 Customization

The manual allows user to have custom web style, and manually change the background, text color, some description, etc.

3.10.1 Using Default Look

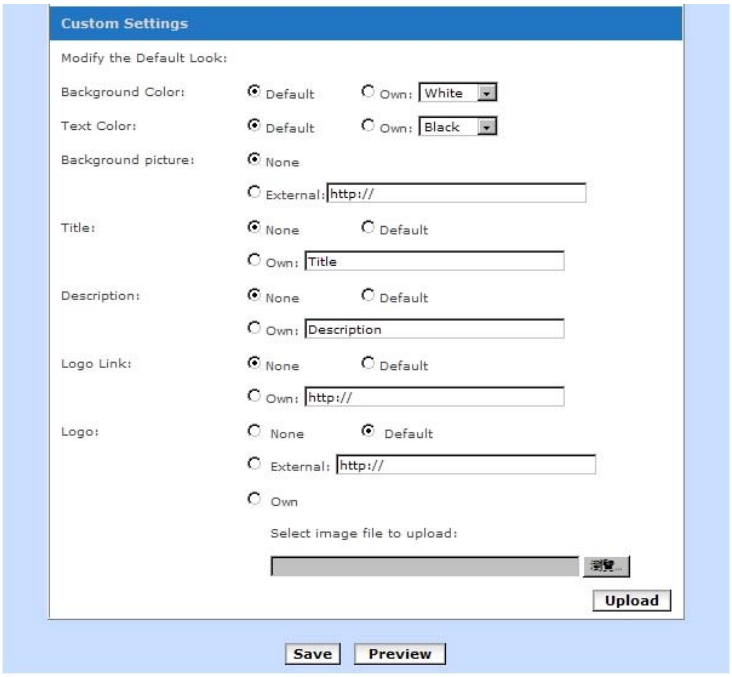
The parts may let user to manually add four hyperlinks to the live view page. User can type in other camera IP or any website you want into the URL field.

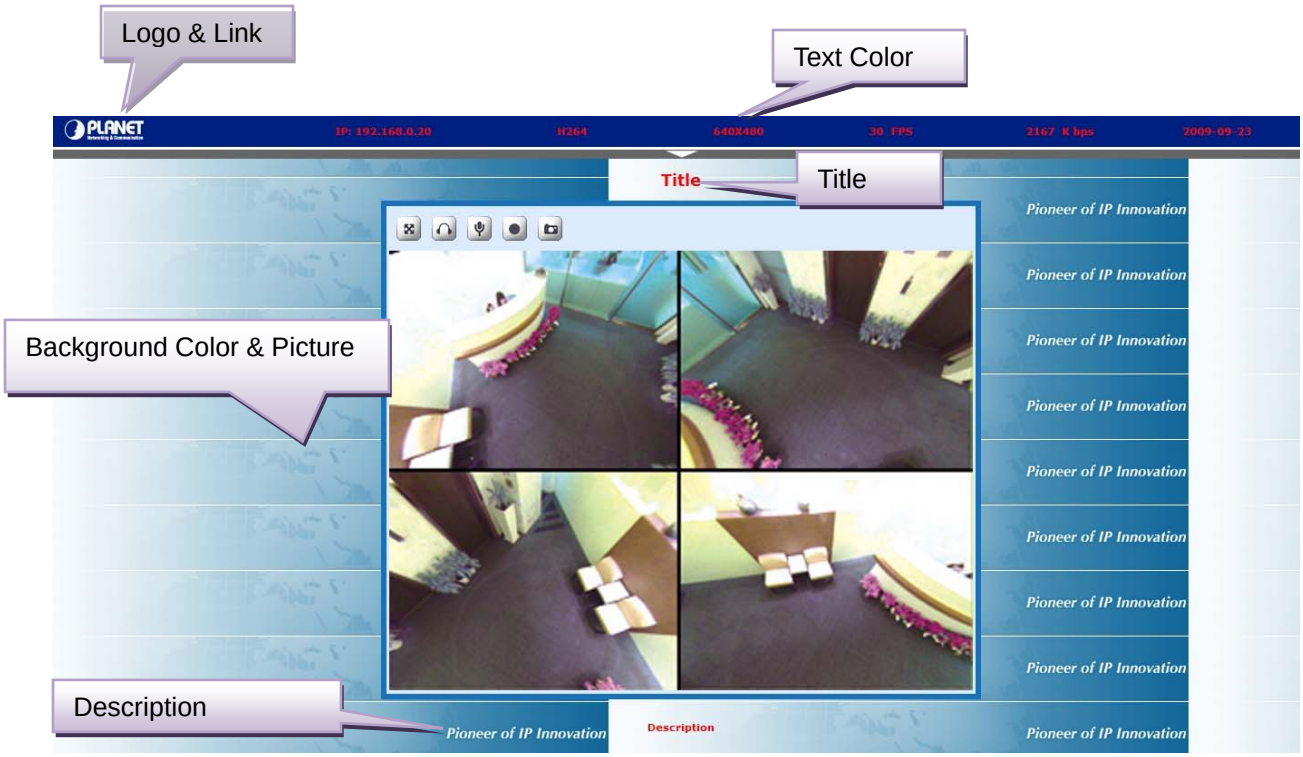




3.10.2 Using Custom Settings

The features allow the user to have custom settings for background color, text color and camera description, and even to change upload image.



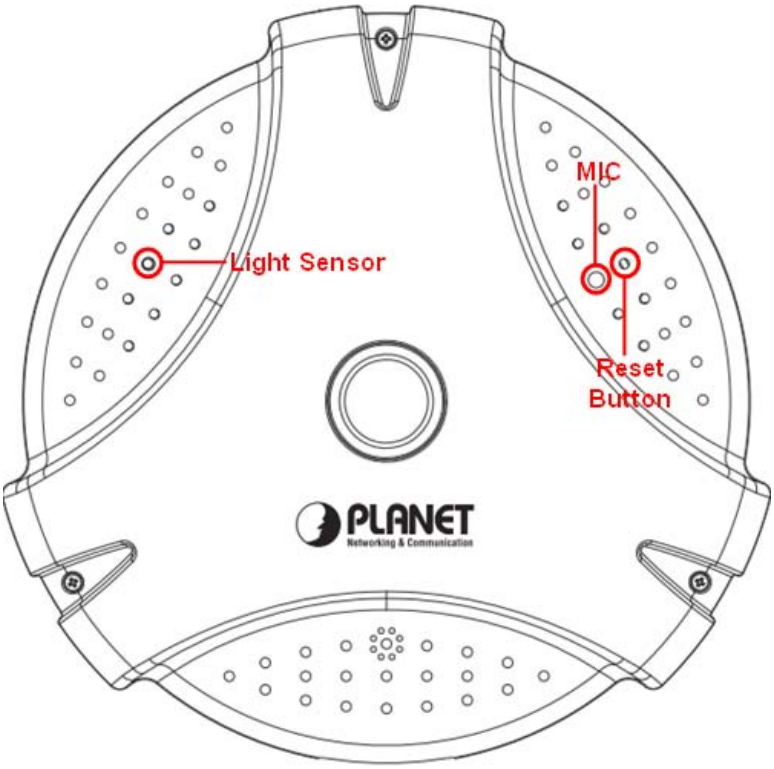

Logo & Link
Text Color
IP: 192.168.0.20
H264
640X480
30 FPS
2167 K bps
2009-09-23
Title
Title
Pioneer of IP Innovation
Background Color & Picture
Description
Pioneer of IP Innovation
Description
Pioneer of IP Innovation

Appendix A: Resetting Factory Default Settings

There is a button hidden in the pinhole near the Mic. This button is used to restore all the factory default settings. Sometimes restarting the Internet Camera will make the system back to a normal state. However, if the system still got problems after restart, user can restore the factory default settings and install it again.

Restoring the Internet Camera:

1. Unplug the power jack to turn off the power of ICA-HM830W.
2. Insert a pin into the reset hold as indicated in orange as shown in the figure below. Keep the button pressed until instructed to release.
3. Plug in the power jack to turn on the ICA-HM830W. In about 20 seconds the LED indicator will start to flash.
4. Release the button. (Remove the pin from the reset hold)
5. The ICA-HM830W can now return to factory default. Have access to the Internet Camera by changing IP address from the default 192.168.0.20.



Note

Restoring the factory default setting will lose all the previous settings including IP address forever. User needs to run the PLANET IPInstaller program to search the unit and configure it to let the Internet Camera work properly again.

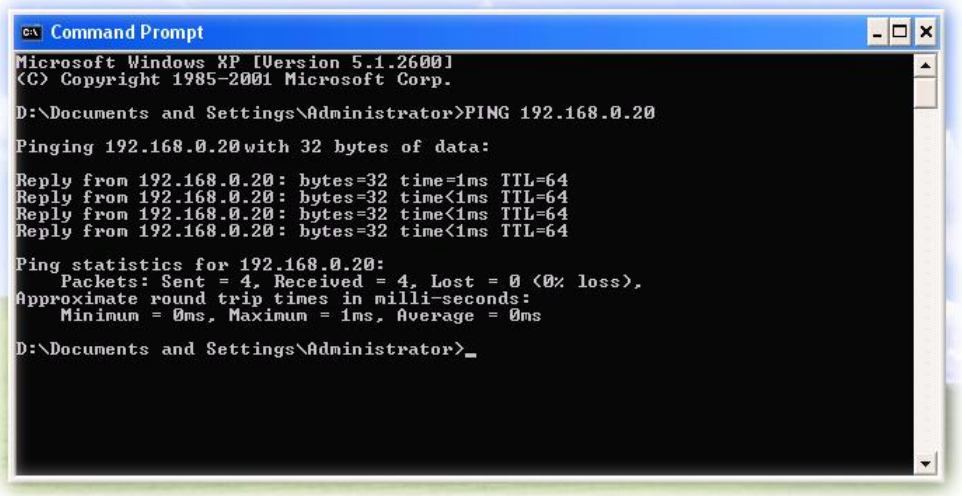
Appendix B: PING IP Address

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

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

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

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



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

Appendix C:
Bandwidth and Video Size Estimation

The frame rate of video transmitted from the Internet Camera depends on connected 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 for your Internet Camera.

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 and vice versa. Actual results generated by the Internet Camera may be varying.

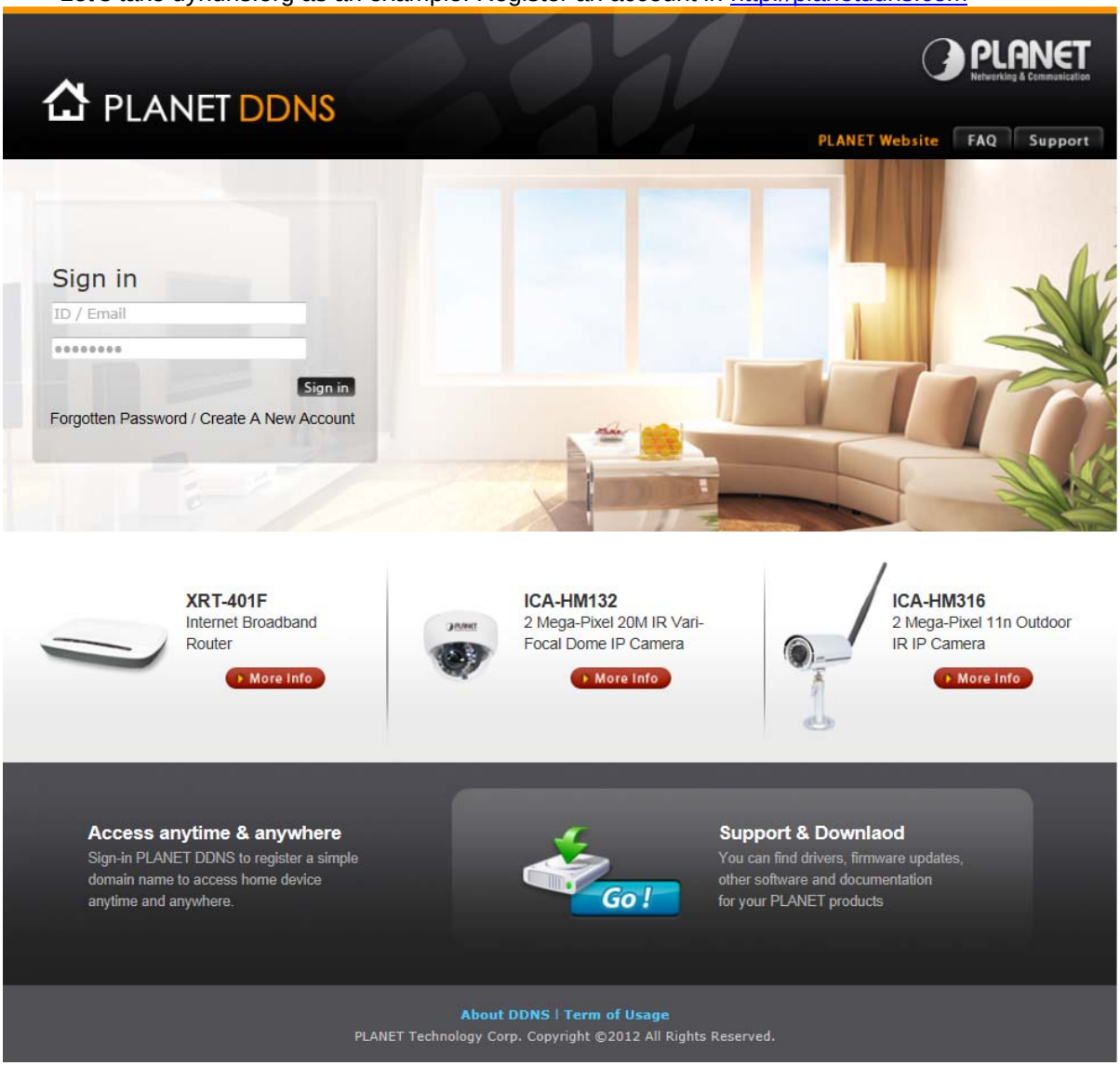
Image Resolution	Average range of data sizes for M-JPEG mode	Average bit rate for H.264 mode
320 x 240 (QVGA)	8 ~ 20k byte per frame	192kbps~512kbps @ 30fps
640 x 480 (VGA)	20 ~ 50K byte per frame	384kbps~1536kbps @ 30fps
1280x1024 (SXGA)	100 ~ 200k byte per frame	512kbps~3076kbps @ 15fps
1600x1200 (UXGA)	600 ~ 1500k byte per frame	640kbps~6144kbps @ 15fps

Audio streaming also takes bandwidth around 5 kbps to 64kbps. Most xDSL/Cable modem upload speeds may not even reach up to 128 kbps. Thus, you may not be able to receive any video while 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 D: DDNS Application

Configuring PLANET DDNS steps:

Step 1: Enable DDNS option through accessing web page of NAS
Step 2. Select on DDNS server provided, and register an account if you do not use yet.
Let's take dyndns.org as an example. Register an account in http://planetddns.com



Appendix E:
Configuring Port Forwarding Manually

The Internet Camera can be used with a router. If the Internet Camera wants to be accessed from the WAN, its IP address needs to be set up as fixed IP address. The port forwarding or Virtual Server function of router also needs to be set up. This device supports UPnP traversal function. Therefore, user can 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 Internet Camera 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

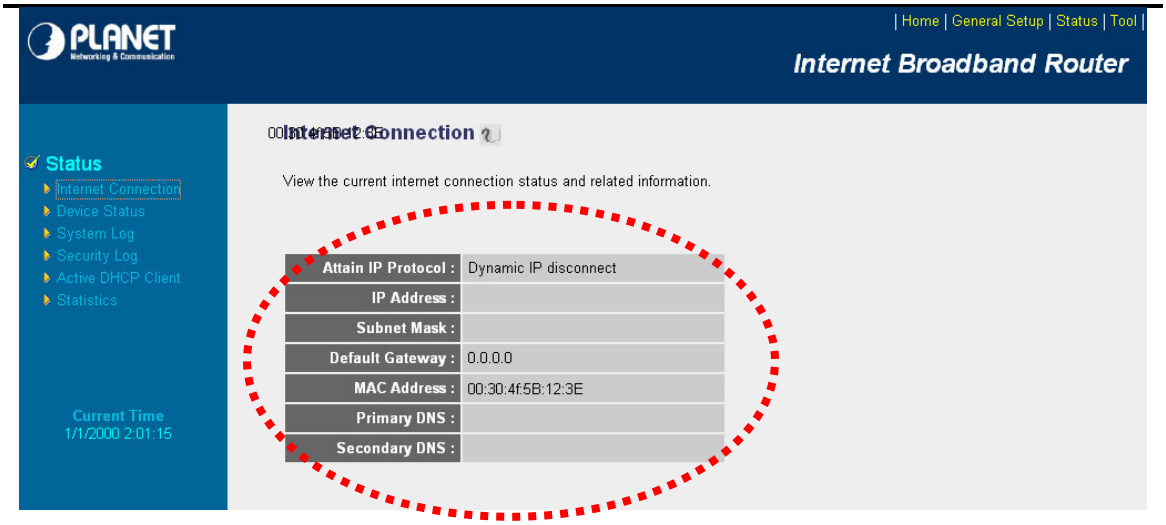
1. Assign a local/fixed IP address to your device

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

2. Access the Router with Your Web browser

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

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



Your WAN IP Address will be listed here.

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

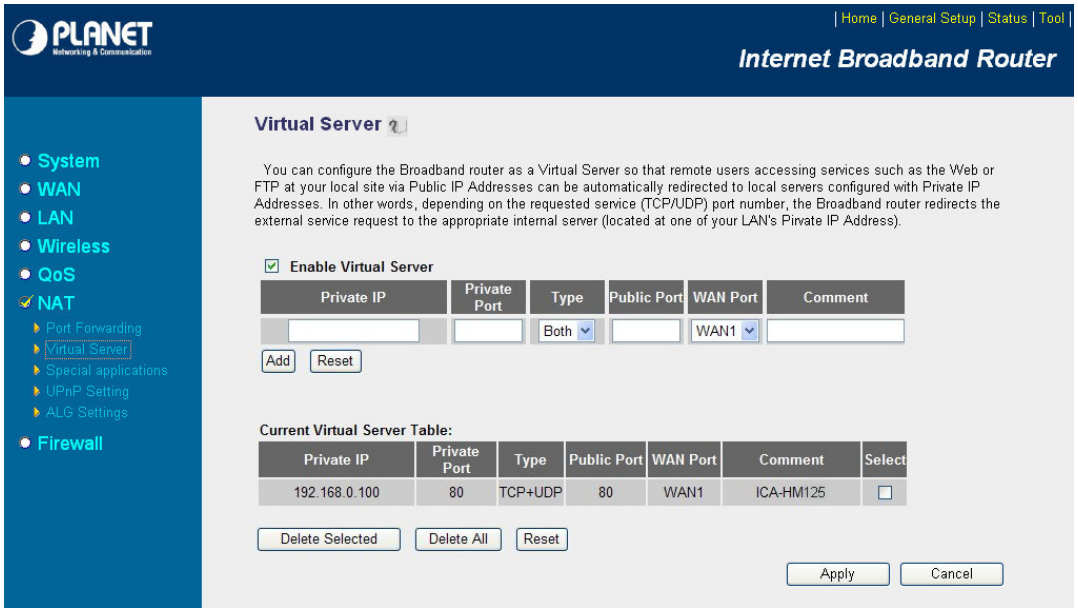
The firewall security features built into the router and most routers prevent users from accessing the video from the device over the Internet. The router connects to the Internet over a series of numbered ports. The ports normally used by the device are blocked from access over the Internet. Therefore,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

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

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

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

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 F:
Troubleshooting & Frequently Asked Questions

Features	
The video and audio codec is adopted in the device.	The device utilizes H.264 and M-JPEG triple compression to provide high quality images. Where H.264 is standard for video compression, M-JPEG is standard for image compression. The audio codec is defined as u-Law for RTSP streaming.
The maximum number of users accessing device simultaneously.	The maximum number of users is limited to 10. However, it also depends on the total bandwidth accessed to this device from clients. 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 not weatherproof. It needs to be equipped with a weatherproof case for outdoor use. However, when equipped with a weatherproof case, it might disable the audio function of the device.
Install this device	
Status LED does not light up.	Check and confirm that the DC power adaptor, included in the package, is used. Secure the power connector and re-power it on.
The network cabling is required for the device.	The device uses Category 5 UTP cable allowing 10 and/or 100 Base-T networking.
The device will be installed and work if a firewall exists on the network.	If a firewall exists on the network, port 80 is open for ordinary data communication. The HTTP port and RTSP port need to be opened on the firewall or NAT router.
The username and password for the first time or after factory default reset	Username = **admin** and leave password = **admin**. Note that it's all case sensitivity.
Forgot the username and password	Follow the steps below. 1. Restore the factory default setting by pressing and holding down for more than 20 seconds on the device. 2. Reconfigure the device.
Forgot the IP address of the device.	Check IP address of device by using the IPInstaller program or by UPnP discovery or set the device to default by Reset button.

PLANET IPInstaller program cannot find the device.	• Re-power the device if cannot find the unit within 1 minutes. • Do not connect device over a router. IPInstaller program cannot detect device over a router. • If IP address is not assigned to the PC which is running IPInstaller program, then the 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 the setting up of 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 IPInstaller program fails to save the network parameters.	Network may have trouble. Confirm the parameters and connections of the device.
UPnP NAT Traversal	
Cannot work with NAT router	Maybe NAT router does not support UPnP function. Please check user's manual of router and turn on UPnP function.
Some IP cameras are working but others failed	Maybe too many Internet Cameras have been installed on the LAN, and then NAT router is out of resource to support more cameras. You can turn off and on NAT router to clear out of date information inside router.
Access this device	
Cannot access the login page and other web pages of the Network Camera from Internet Explorer	• Maybe the IP Address of the Internet Camera is already being used by another device or computer. To confirm this possible problem, disconnect the Network Camera from the network first, and then run the PING utility to check it out. • Maybe due to the network cable. Try correcting your network cable and configuration. Test the network interface by connecting a local computer to the Network Camera via a crossover cable. • Make sure the Internet connection and setting is ok. • Make sure that entering the IP address of Internet Explorer is correct. If the Internet Camera has a dynamic address, it may have changed since you last checked it. • Network congestion may prevent the web page appearing quickly. Wait for a while. The IP address and Subnet Mask of the PC and Network Camera must be in the same class of the private IP address on the LAN. • Make sure the http port used by the Network Camera, default=80, is forward to the Network Camera's private IP address.

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

	to be accessed outside your local LAN. ● Check the bandwidth of Internet connection. If the Internet bandwidth is lower than target bit rate, the video streaming will not work correctly.
Image Transfer on e-mail or FTP does not work.	● Default Gateway and DNS server address should be set up correctly. ● If FTP does not work properly, ask your ISP or network administrator about the transferring mode of FTP server.
Video quality of the device	
The focus on the Camera is bad.	The lens is dirty or dust is attached. Fingerprints, dust, stain, etc. on the lens can degrade the image quality.
The color of the image is poor or strange.	● Adjust White Balance. ● To ensure the images you are viewing are the best they can be, set the Display property setting (color quality) to 16bit at least and 24 bit or higher if possible within your computer. ● The configuration on the device image display is incorrect. You need to adjust the image related parameters such as brightness, contrast, hue and sharpness properly.
Miscellaneous	
Cannot play the recorded .h264 file	Please install VLC player to play the H264 file recorded by the Device.