H.264 Indoor PTZ Internet Camera

ICA-H610

User's Manual

Version: 1.00

Date: November. 2009

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Federal Communication Commission Interference Statement

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

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

FCC Caution

To assure continued compliance. (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 H.264 Indoor PTZ Internet Camera
Model: ICA-H610
Rev: 1.00 (November. 2009)
Part No. EM-ICAH610

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1. Introduction

The PLANET ICA-H610, H.264 10x Indoor PTZ Internet Camera, offers the next generation video compression – H.264. It is the most effective solution on the bandwidth limited networks, like Internet transmission. The ICA-H610 features a 100X zooming (10x optical zoom, 10x digital zoom), auto focus, and auto iris.

High-speed motorized structure offers a wide pan range of 355-degrees and tilt range of 120-degrees to control over TCP/IP networks. 180 degree/sec pan speed and 140 degree/sec tilt speed drive the camera move to the preset point faster than normal-speed P/T IP cameras. Plus the 128 presets, 16 camera tour configurations, and combining the motion detection, these unparalleled surveillance functions of the ICA-H610 are able to satisfy the demanding surveillance and remote monitoring applications.

The PLANET Internet Camera support Multi-Profile function can stands for simultaneously video streams. The Internet Cameras can generate H.264, MPEG-4 and M-JPEG streaming simultaneously to different clients. Moreover, the resolution can be different from one client to another. This state-of-art design is considerable to fit in various network environments.

1.1 Overview

This user's guide explains how to operate this camera from a computer. User should read this manual completely and carefully before you operate the device

1.2 Features

- Sony Day/Night Zoom Module with ICR
- Offer PAN degree 355°, Tilt 120° and 100X zooming (10X optical, 10X digital) adjustment
- Up to 30 fps at D1 Video Resolution
- H.264 / MPEG-4 / M-JPEG multi video compression
- 3GPP for 3G mobile remote applications
- Store-to-NAS function to save video files without operating software
- Plug-N-Watch is able to simplify system integration in existing network environment
- 20 simultaneous uni-cast users, unlimited users using multi-cast
- DDNS, PPPoE and FTP uploading supports more alternatives in surveillance network
- Motion Detection feature can monitor any suspicious movement in specific area
- SD card to save local recording video and image
- Supports Web management & Cam Viewer Plus central management software

1.3 Package Contents

User can find the following items in the package:

IP Camera Unit x 1
Power Adapter x 1
Camera Mount Kit x 1
A/V Cable x1
User's Manual CD-ROM x 1
Quick Installation Guide 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 Internet Camera packet will cause damage and void the warranty for this product.

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2. Basic Setup

This chapter provides details of installing and configuring the Internet Camera.

2.1 System Requirement

The Internet Camera can be monitoring on all of Windows operating system that suggest with system requirment below in order to got better video performance.

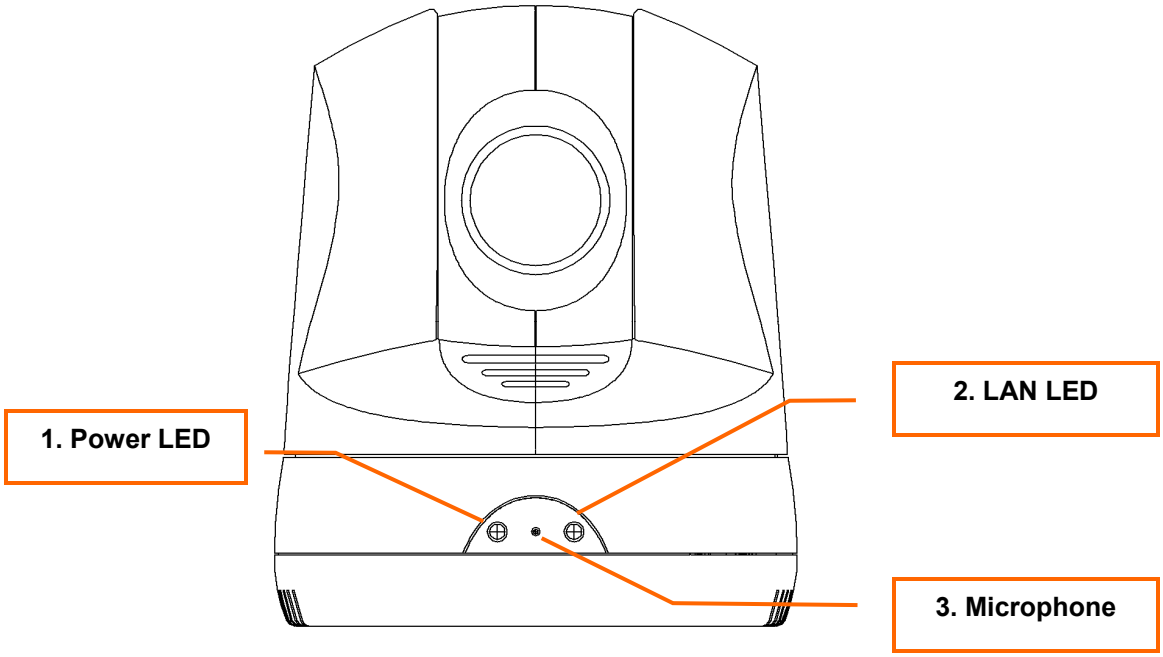
Network Interface	10/100MBase-TX Ethernet
Monitoring System	Recommended for Internet Explorer 6.0 or later
System Hardware	· CPU: Pentium 4, 3.0GHz or above · Memory Size : 512 MB (512 MB above Recommended) · VGA card resolution : 1024 x 768 or above · VGA card memory : 64 MB or above · Network bandwidth: In D1 resolution mode, minimum upload bandwidth is 1.5 ~ 2Mbps.

NOTE:

1. *The listed information is minimum system requirements only. Actual requirement will vary depending on the nature of your environment.*
2. *The ICA-H610 can be managed by PLANET Cam Viewer Plus if you want to configure more detail information and settings of camera viewer plus software please refer to the CD-ROM folder "**D:\Manual\Cam Viewer Plus**", assume D is your CD-ROM drive.*

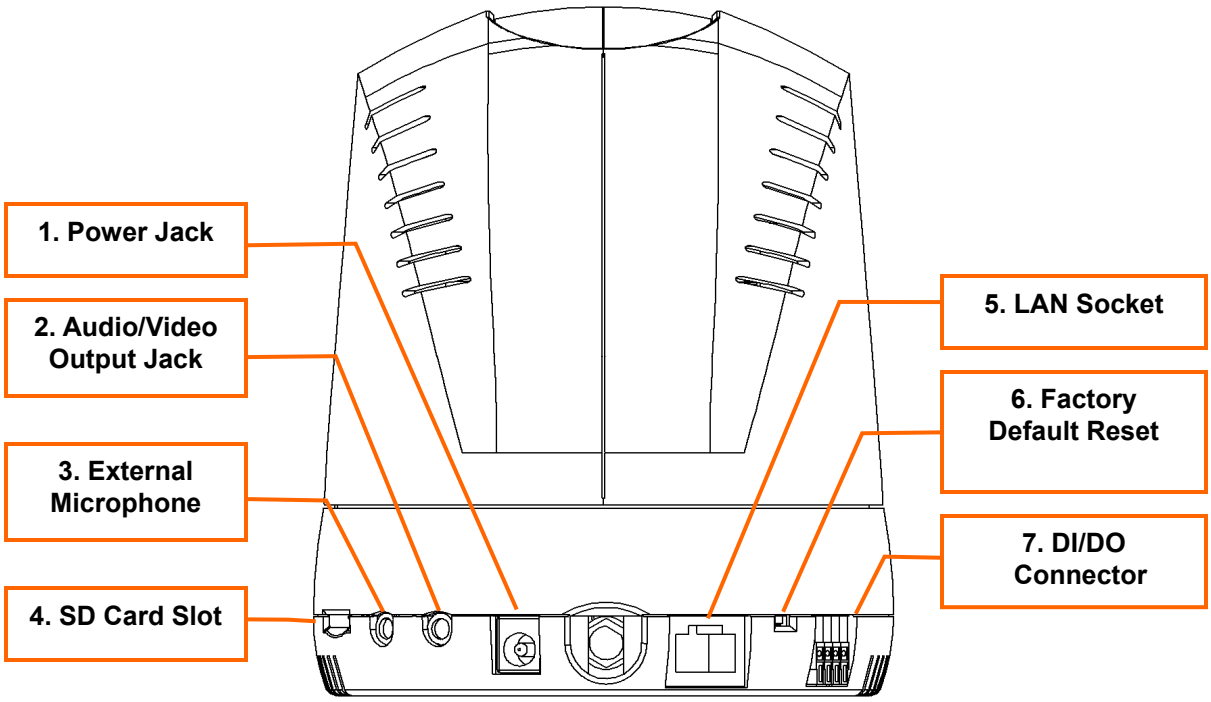
2.2 Physical Description

2.2.1 Terminal Connections



Front View

1	**Power LED**	This LED is used to indicate whether DC power is on or not.
2	**LAN LED**	This LED will be flashing while network accessing via Ethernet.
3	**Microphone**	The Camera has built-in an internal microphone. This microphone is hidden in the pinhole located on the front panel.



Rear View

1.	**Power Jack**	The input power is DC 12V.
2.	**Audio/Video Output Jack**	Audio/Video-out Jack allows this device to output audio and video signal. Use the attached A/V cable to connect A/V device where white cable is for audio and yellow cable is for video.
3.	**External Microphone**	Connect a microphone to the IP camera.
4.	**SD Card Slot**	User can insert a micro SD card into this slot for event recording.
5.	**RJ-45 LAN Socket**	The LAN socket is a RJ-45 connector for connections to 10/100Base-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 IP camera to a 100Mbps Fast Ethernet network switch or hub.
6.	**Factory Default Reset**	This button is used to restore the all factory default settings. Sometimes restarting the device 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.

Restore the device:

a. Insert the paper clip or other tool and press and hold the button down continuously.

Hold it at least 5 seconds and release the tool. Then the device has been restored to default settings and reboot again.

7. DI/DO Connector

The Camera provides a terminal block with 4 pins of connectors for DI and DO. Please refer to the user's manual for more information.

Alarm I/O connectors:

Pin	Function
1	12VDC power supply (50mA maximum)
2	Alarm Input
3	GND
4	Alarm Output

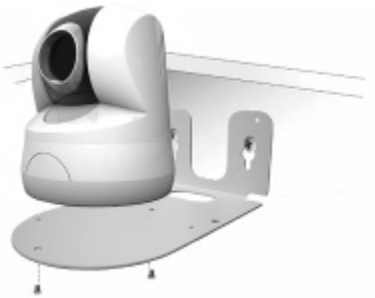
Note:
The pin 1 is located at the right side of terminal block from rear view.

2.3 Hardware Installation

2.3.1 Wall Mount

Step 1. Fix the L-type bracket to the wall using two holly wall anchors and screws.

Step 2. Fix the IP camera to L-type bracket with the two supplied screws.



Step 3. Connect the LAN cable to a switch or hub. When this switch/hub is a PoE device, you can ignore the next step.

Step 4. Connect DC-Jack to the with the bundle power adapter power source.

NOTE:

1. *Only use the power adapter supplied with Internet Camera Otherwise, the product may be damaged.*
2. *The power adapter is unnecessary when Internet Camera is connected to a IEEE802.3af PoE switch. Otherwise, the product may be damaged when Internet Camera is connected to a PoE switch and power adapter simultaneously.*

2.3.2 Ceiling Mount

Step 1. Fix the IP camera to L-type bracket with the two supplied screws.

Step 2. Fix the bracket and IP camera to the ceiling using two holly wall anchors and screws.

Step 3. Connect the LAN cable to a switch or hub. When this switch/hub is a PoE device, you can ignore the next step.

Step 4. Connect DC-Jack to the with the bundle power adapter power source.

NOTE:

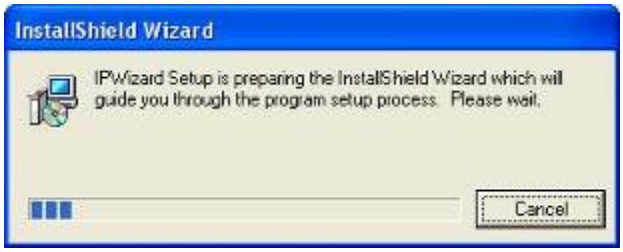
1. *Only use the power adapter supplied with Internet Camera Otherwise, the product may be damaged.*
2. *The power adapter is unnecessary when Internet Camera is connected to a IEEE802.3af PoE switch. Otherwise, the product may be damaged when Internet Camera is connected to a PoE switch and power adapter simultaneously.*

2.4 Initial Utility Installation

This chapter shows how to quick set up your H.264 camera. The camera is with the default settings. However to help you find the networked camera quickly the windows utility PLANET IPWizard can search the cameras in the network that shall help you to configure some basic setting before you started 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 “IPWizard” hyperlink; you will see the dialog box as 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”, assume D is your CD-ROM drive.*



3. The “Welcome to the InstallShield Wizard for PLANET IPWizard 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 “**Install**” to start the installation.

6. Please click “**Finish**” to complete the installation and launch program immediately.

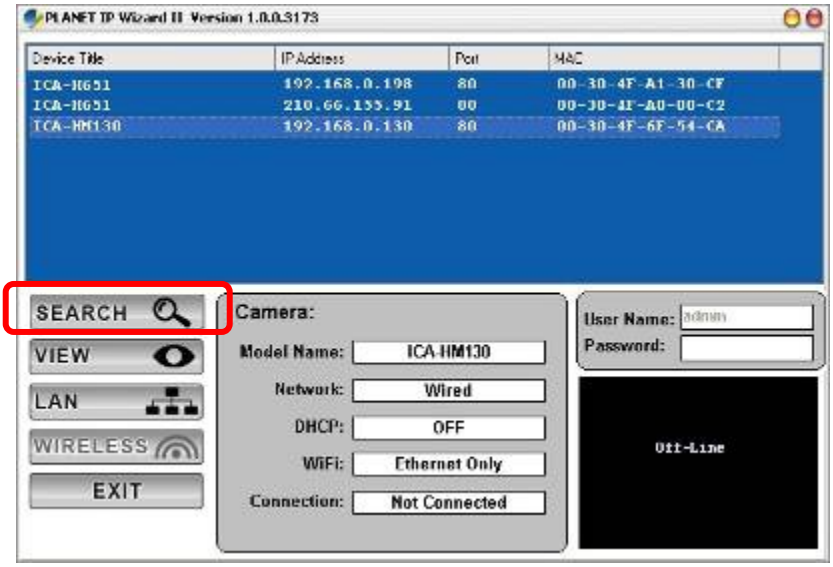
2.5 Preparation

When you installed the Internet Camera on a LAN environment, you may execute PLANET IPWizard to discover camera's IP address and set up related parameters in the camera.

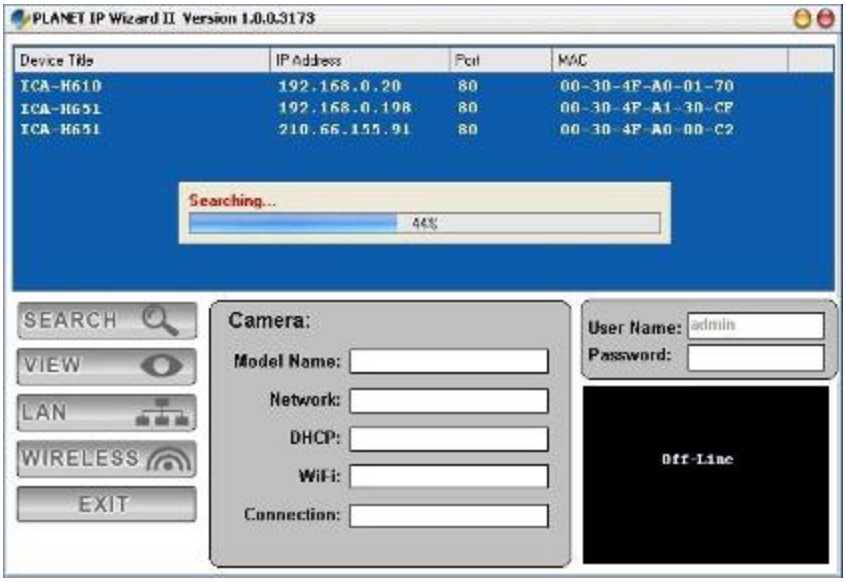
2.5.1. Search and View by PLANET IPWizard II

When you installed the Internet Camera on a LAN environment, you have two easy ways to search your cameras by PLANET IPWizard or UPnP discovery. Here is the way to execute PLANET IPWizard to discover camera's IP address and set up related parameter in a camera.

✓ **Search**

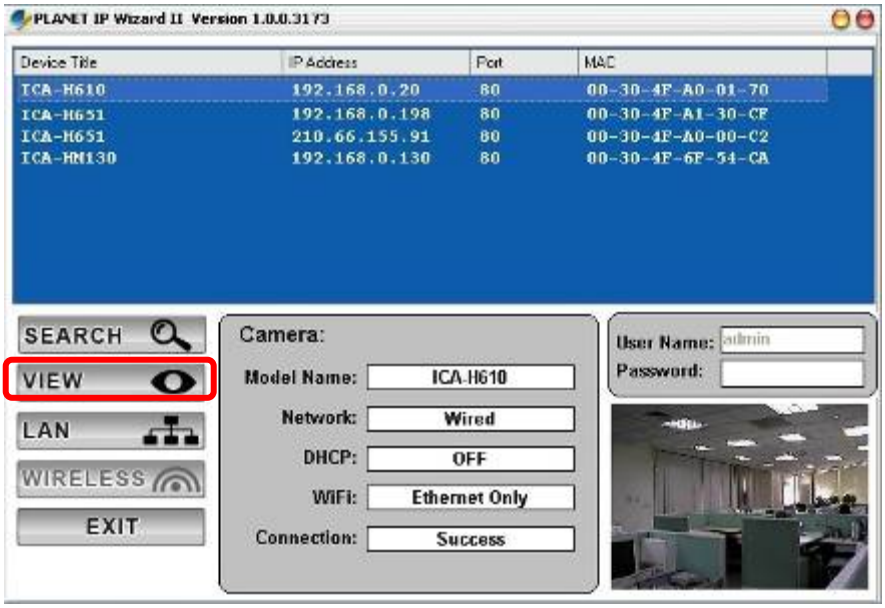


When launch the PLANET IPWizard, a searching window will pop up. PLANTE IPWizard is starting to search Internet Cameras on the LAN. The existed devices will be listed as below.



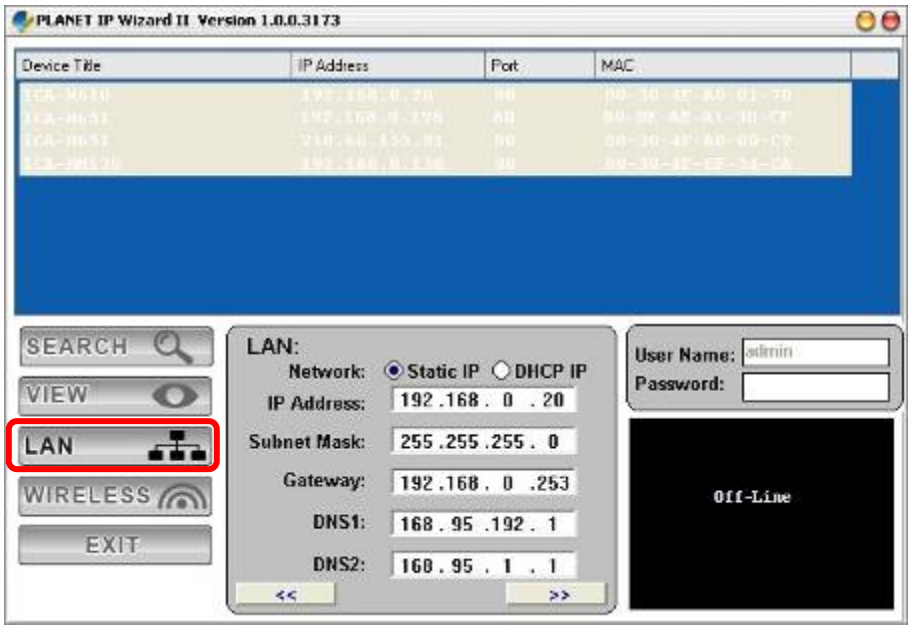
✓ **View**

If PLANET IPWizard finds Internet Camera, **View** button will be available. Please select the camera you want to view and click the **View** button. Then you could see the video from camera directly. Furthermore you could double click the left button of mouse to link to the Internet Camera by browser.

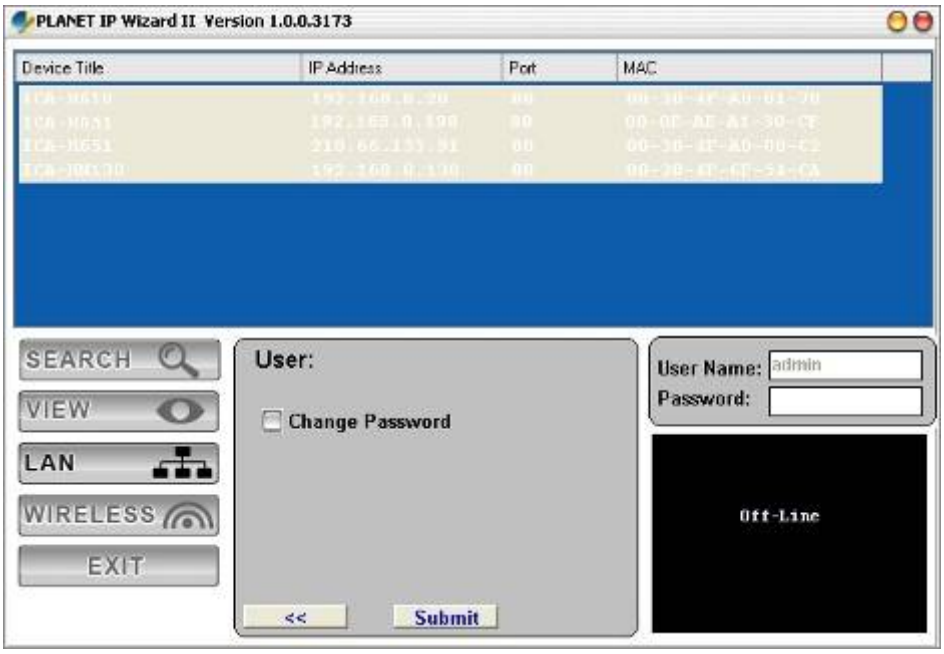


2.5.2. Configure Network by PLANET IPWizard II

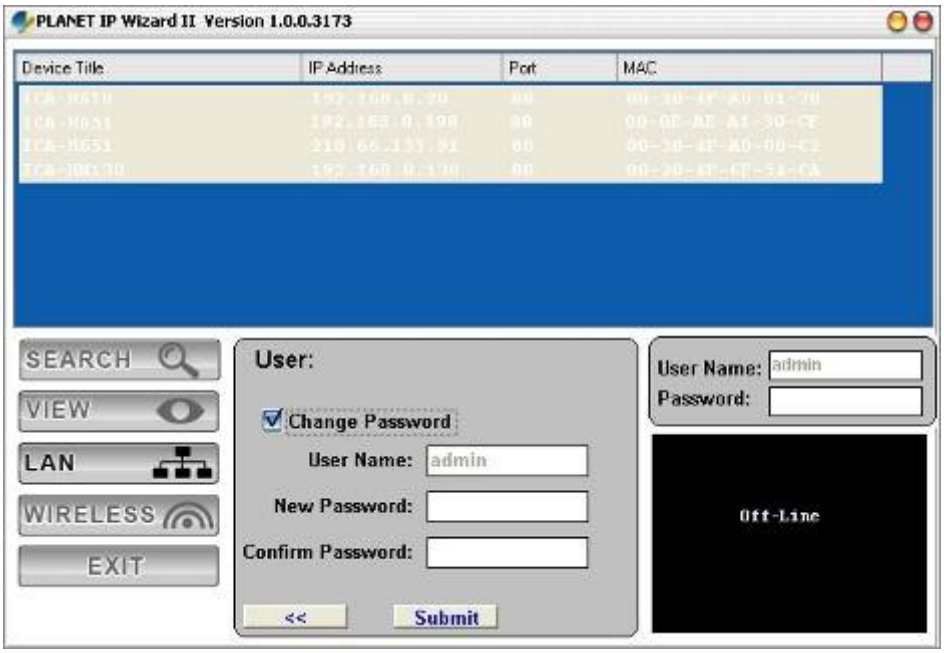
In case you want to change the IP related parameters of wired interface, please select the Internet Camera you want to configure and click the **LAN** button. Relative settings will be carried out as below.



You could modify the relative settings of the selected device. Click "**<<**" button will quit the LAN setting procedure and click "**>>**" button will move to next page as below.



In case, you do not want to change username and/or password, then just click "**Submit**" button to perform your setting accordingly. Click "**<<**" button will go back to previous page.
If you like to change username and/or password of the device, just click the check button. Then, the related fields will show up as below.



After keying in new username and password, click "**Submit**" button to perform your setting accordingly. Click "**<<**" button will go back to previous page.

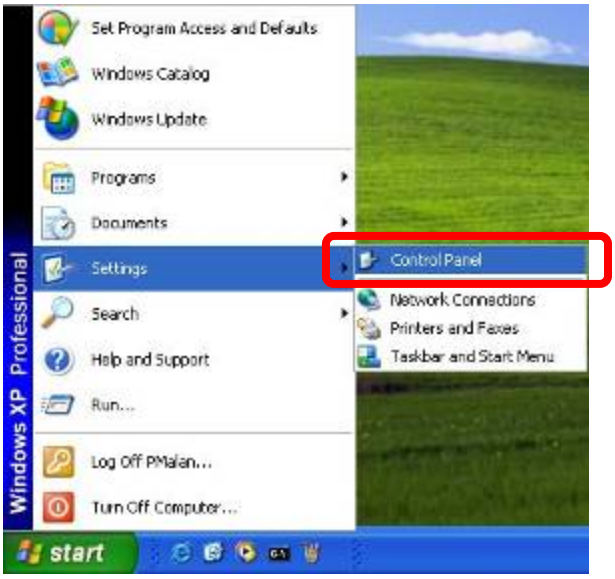
2.6 Using UPnP of Windows XP or Vista

2.6.1. Windows XP

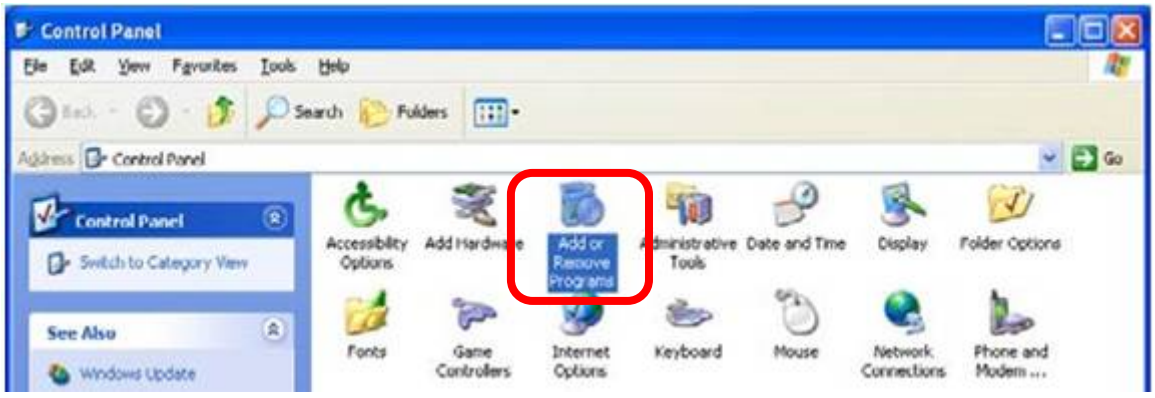
UPnP™ is short for Universal Plug and Play, which is a networking architecture that provides compatibility among networking equipment, software, and peripherals. This device is an UPnP enabled device. If the operating system, Windows XP, of your PC is UPnP enabled, the device will be very easy to configure.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

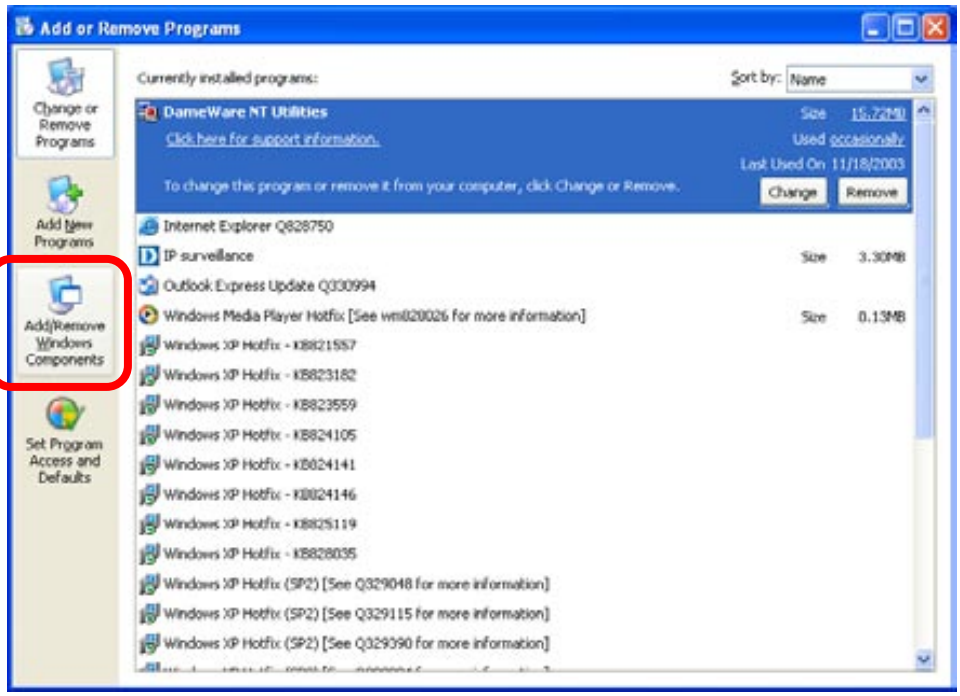
NOTE: *Please notice that MS Windows 2000 does not support UPnP feature.*

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

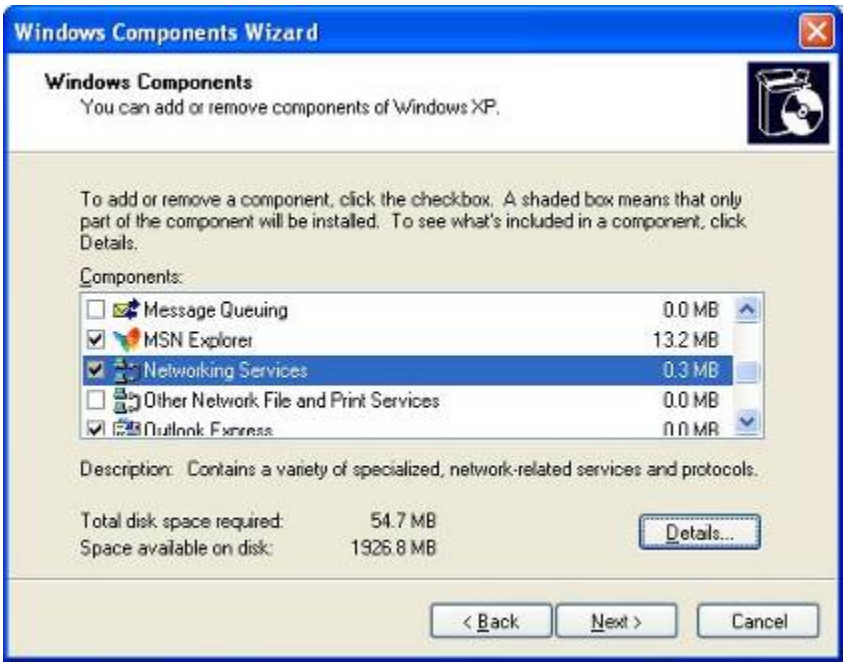


The "**Control Panel**" will display on the screen and double click "**Add or Remove Programs**" to continue.

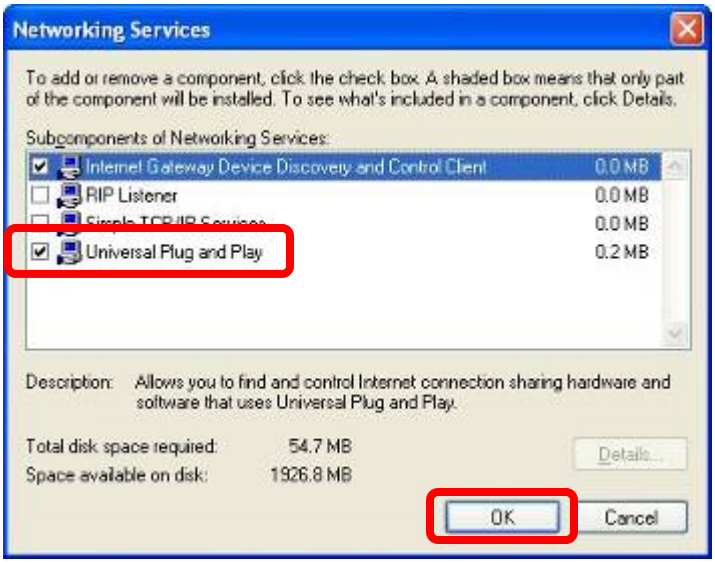




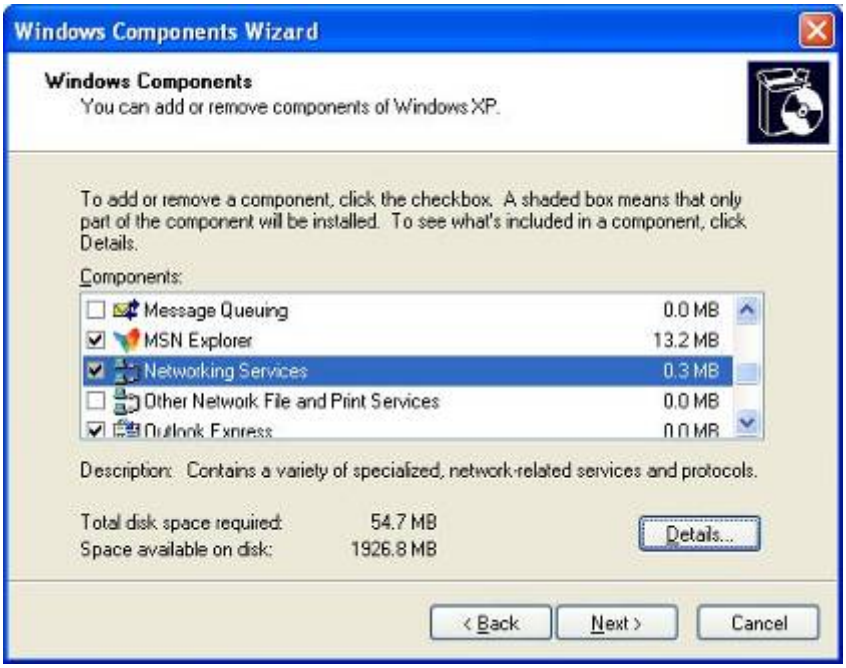
The following screen will appear, select "**Networking Services**" and click "**Details**" to continue.



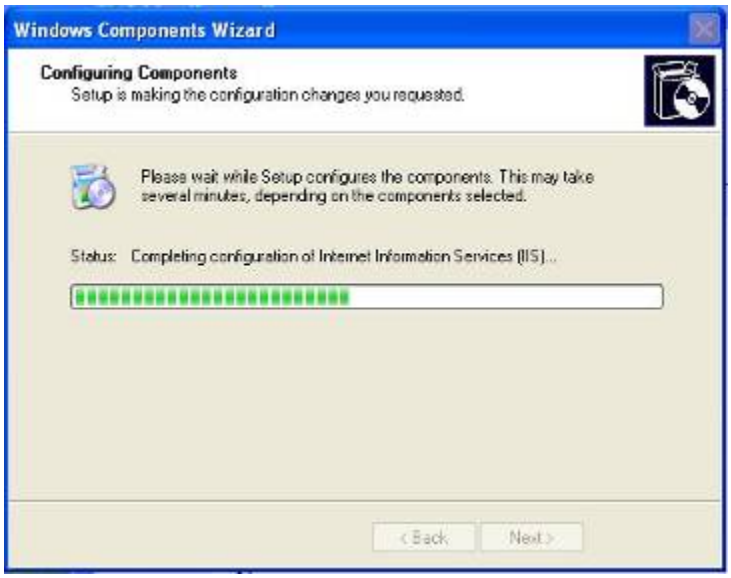
The “Networking Services” will display on the screen, select “**Universal Plug and Play**” and click “**OK**” to continue.



Please click “**Next**” to continue.

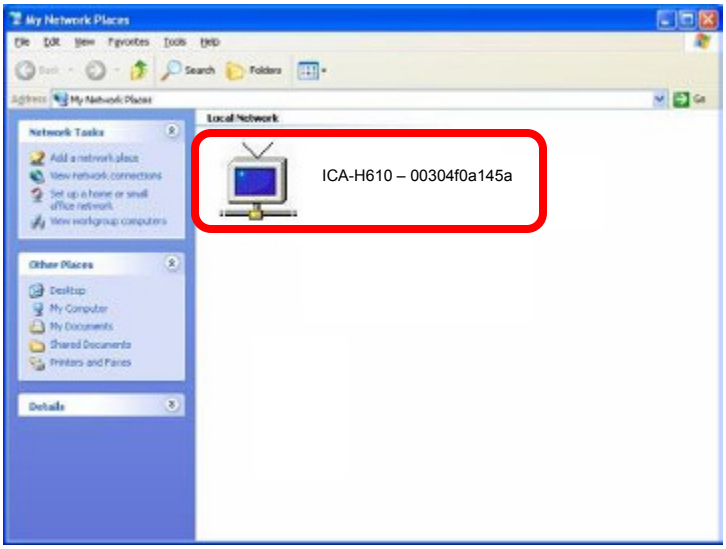


The program will start installing the UPnP automatically. You will see the below pop-up screen, please wait while Setup configures the components.



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

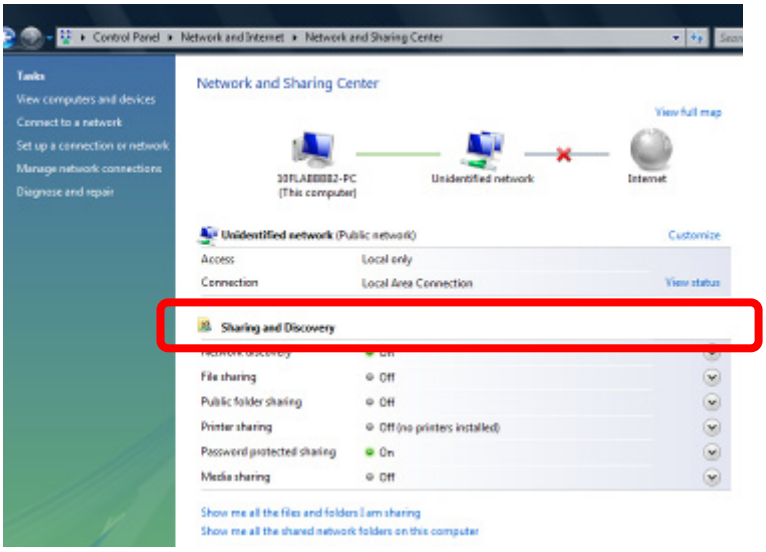
Double-click “**My Network Places**” on the desktop, the “My Network Places” will display on the screen and double-click the UPnP icon with Internet Camera to view your device in an internet browser.



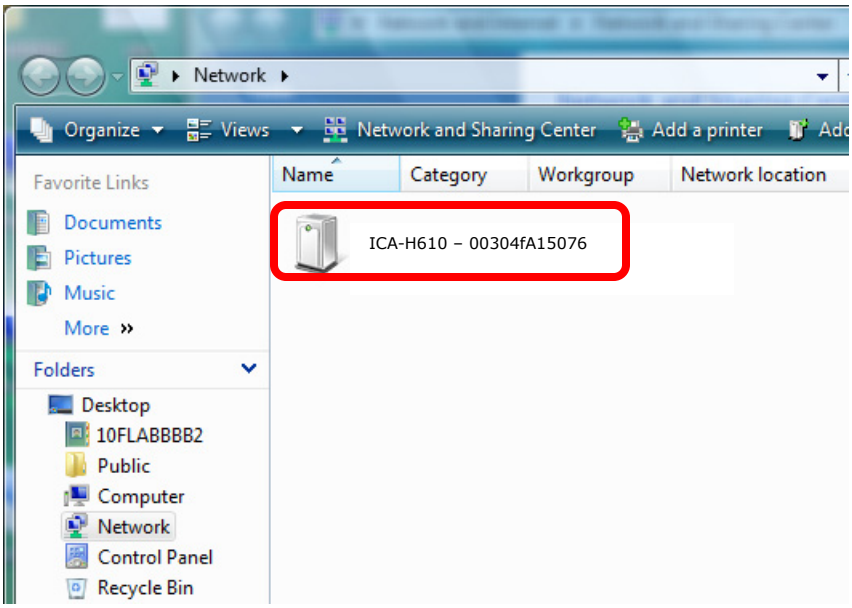
2.6.2. Windows Vista

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 device will be very easy to configure. Use the following steps to enable UPnP settings only if your operating system of PC is running Windows Vista.

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



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



2.7 Setup ActiveX to use the Internet Camera

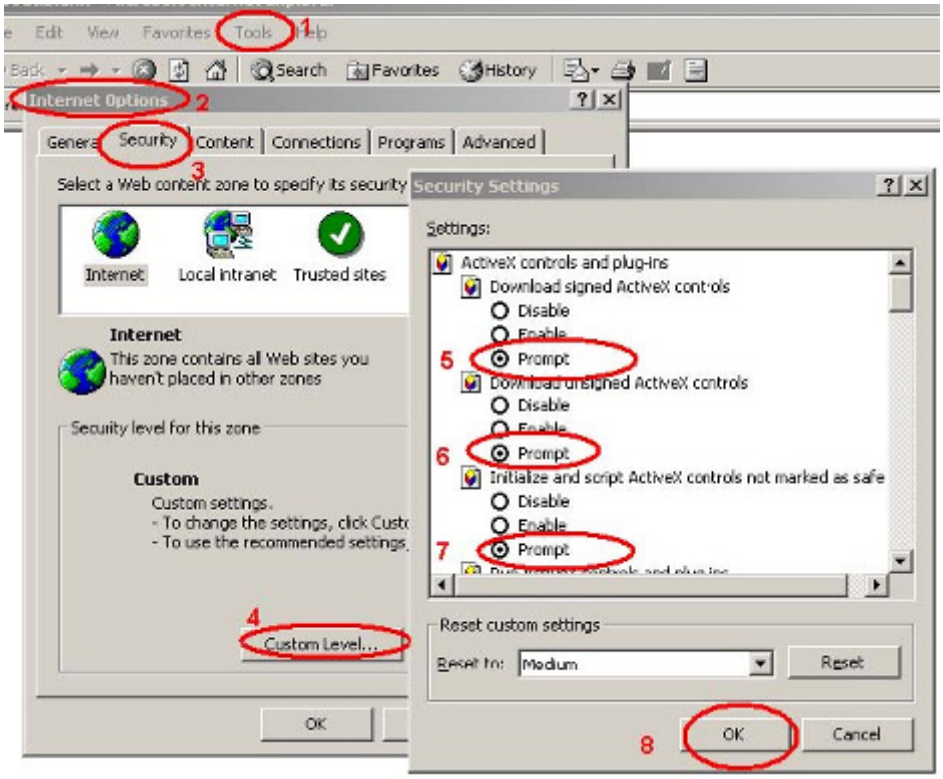
The Internet Camera web pages communicate with the Internet Camera using an ActiveX control. The ActiveX control must be downloaded from the Internet Camera and installed on your PC. Your Internet Explorer security settings must allow for the web page to work correctly. To use the Internet Camera, user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

2.7.1. Internet Explorer 6 for Windows XP

From your IE browse ➔ "Tools" ➔ "Internet Options…" ➔ "Security" ➔"Custom Level…", please setup your "Settings" as follow.

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*



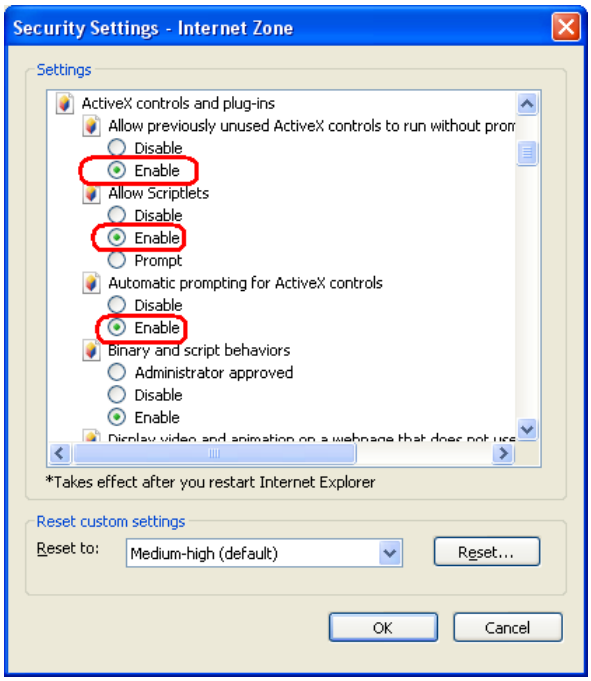
By now, you have finished your entire PC configuration for Internet Camera.

2.7.2. Internet Explorer 7 for Windows XP

From your IE browse ➔ ”Tools” ➔ ”Internet Options…” ➔ ”Security” ➔”Custom Level…”, please setup your “Settings” as follow.

Set the first 3 items

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

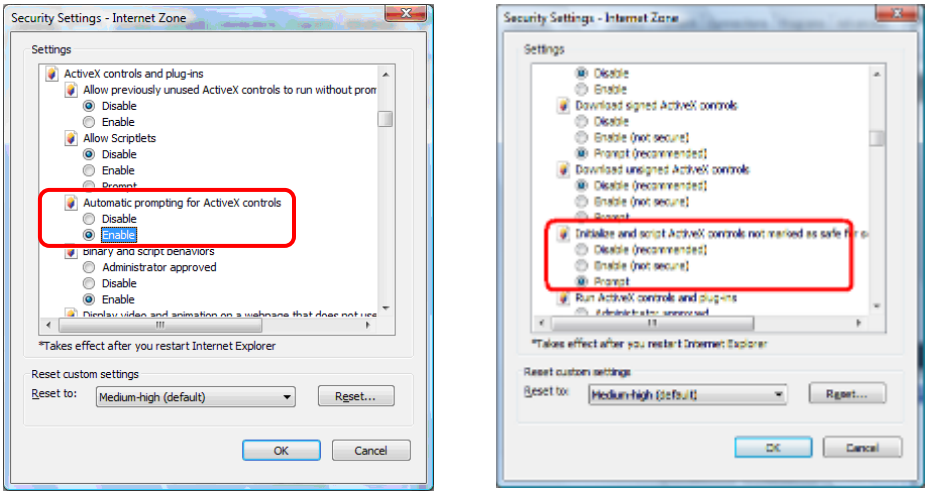


By now, you have finished your entire PC configuration for Internet Camera.

2.7.3. Internet Explorer 7 for Windows Vista

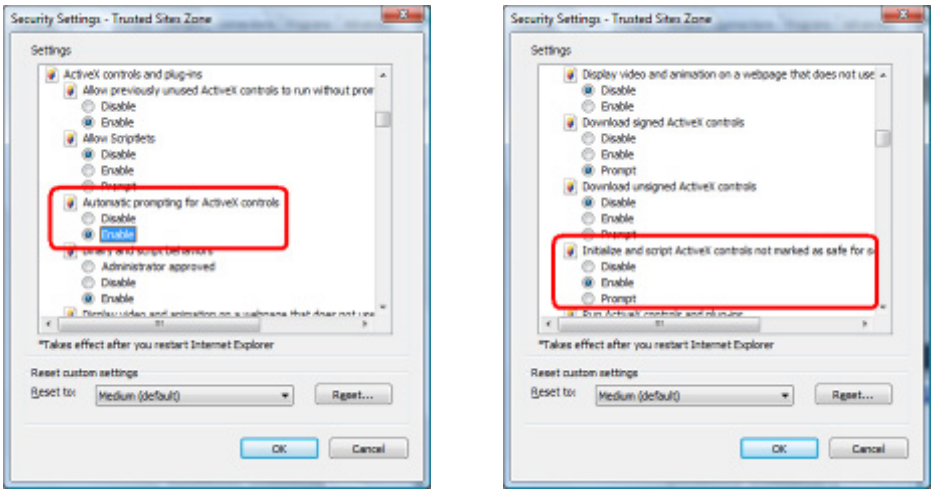
From your IE browse ➔ ”Tools” ➔ ”Internet Options…” ➔ ”Security” ➔ ”Internet” ➔”Custom Level…”, please setup your “Settings” as follow.

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



From your IE browse ➔ ”Tools” ➔ ”Internet Options…” ➔ ”Security” ➔ ”Trusted Sites” ➔”Custom Level…”, please setup your “Settings” as follow.

- *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.

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 configure, please make sure your PC is under the same IP segment with Internet Camera.

3.2 Connecting to Internet Camera

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

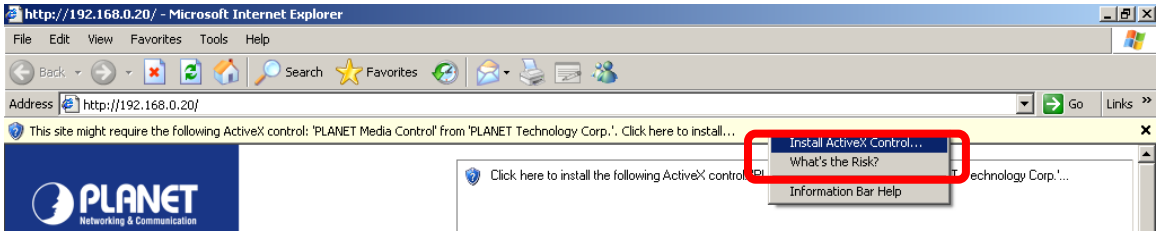
Start the web browser on the computer and type the IP address of the camera.
The Default IP: "http://192.168.0.20"

The login window of Internet Camera will appear,
Default login **username/password** is: **admin** / <no password>

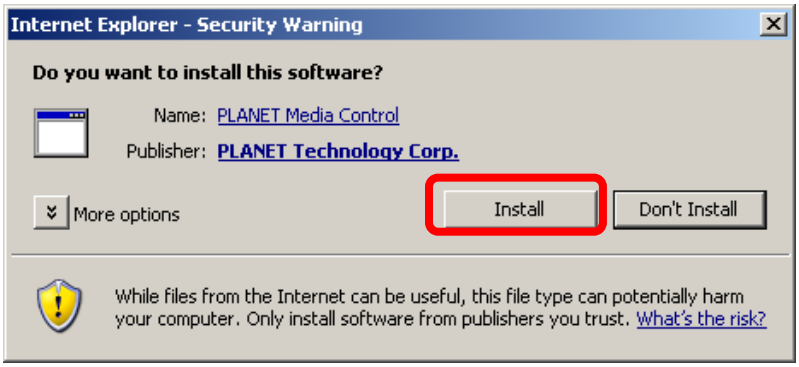
NOTE: *If the User name and Password have been changed with PLANET IPWizard, please enter the new User name and Password here.*

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

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



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



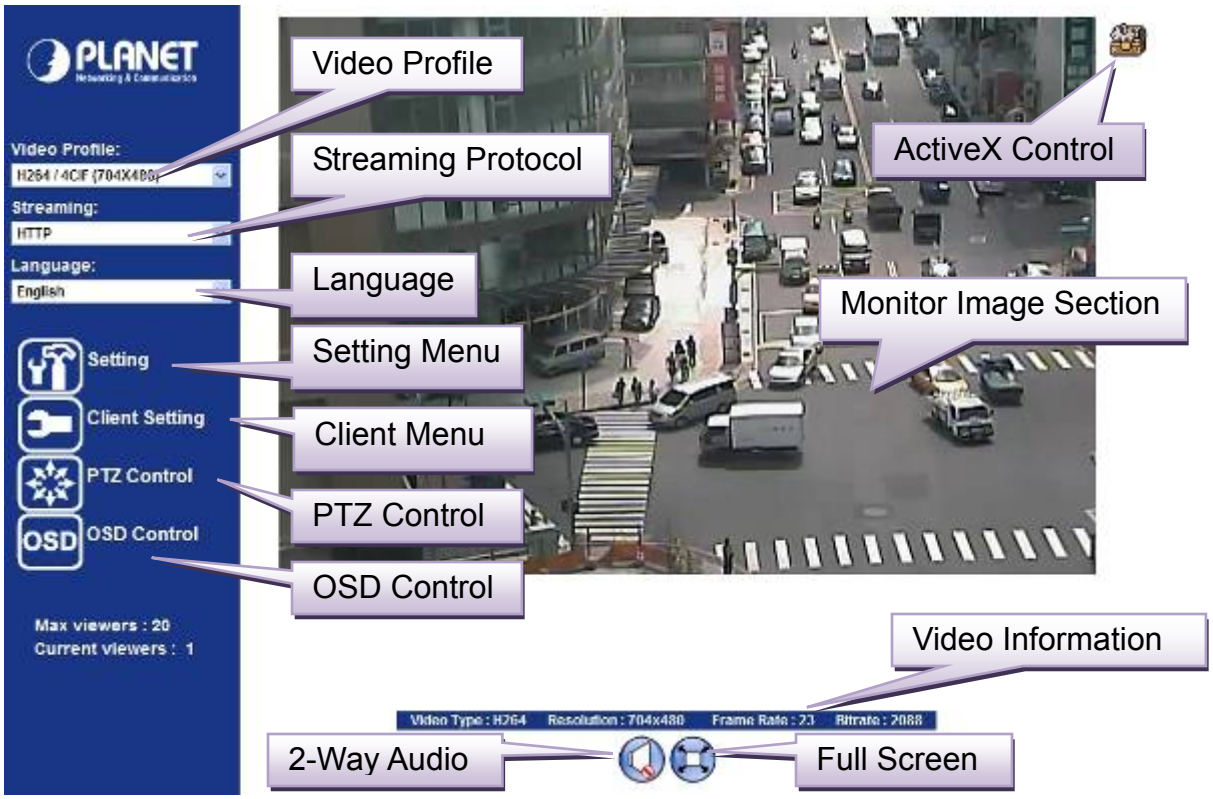
After the ActiveX control was installed and run, the first image will be displayed.

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

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

3.3 Live View

Start-up screen will be as follow no matter an ordinary users or an administrator.



Monitor Image Section	The image shot by the camera is shown here. The date and time are displayed at the top of the window.
Video Profile	The camera support multi-profile for three compressions H264, MEPG-4 and M-JPEG simultaneously. User can chose the proper and/or preferred profile here.
Full Screen	Click this button to display the image in full-screen mode (uses every available space to display the image captured by this camera).
2-Way Audio	The Internet Camera supports 2-way audio function. User can chose to enable or disable this function by toggling the icon below

: Disable audio uploading function.

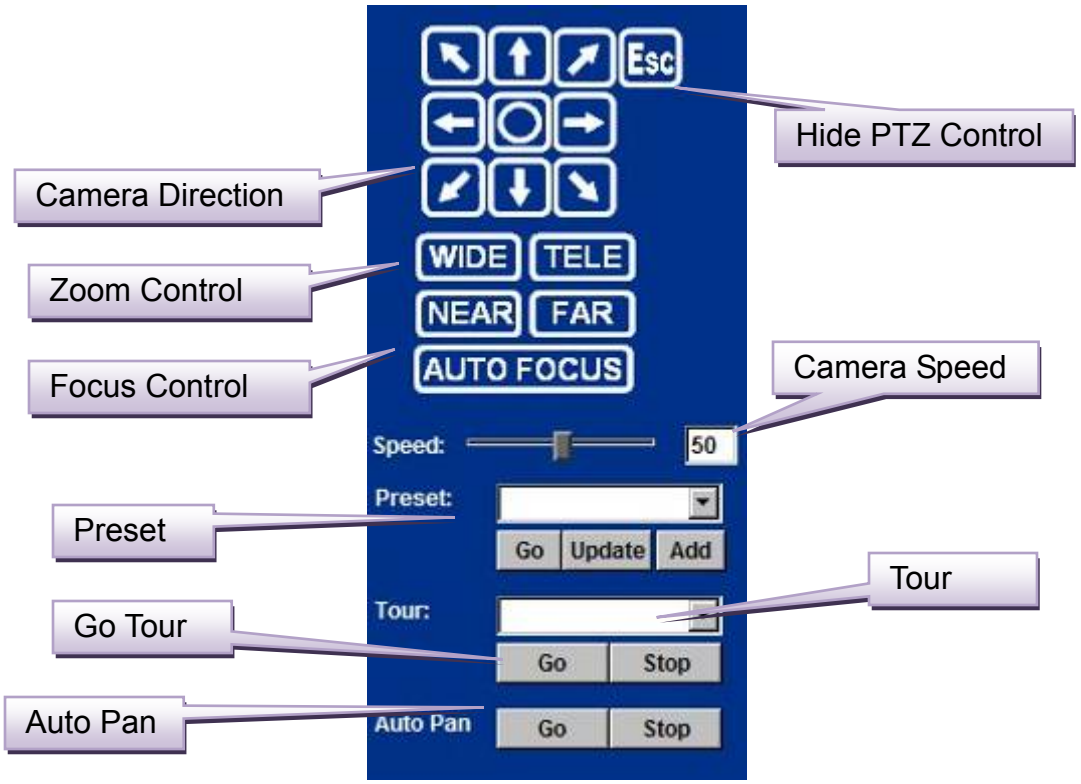
: Enable audio uploading function.

ActiveX Control	The plug-in ActiveX control supports a lot of functions by clicking the left mouse button. Note that this feature only supports on the ActiveX control within Microsoft® Internet Explorer.
Setting Menu	This function is detail setting for the camera that only available for user logged into camera as administrator.

Item	Action
Network	Configure Network settings such as Wireless, DHCP, DDNS, 3GPP, PPPoE and UPnP.
Camera	Adjust camera parameters.
System	Configure system information, date & time, maintenance, and view system log file.
Video	Configure bit rate and frame rate of video profiles.
Audio	Configure audio parameters.
User	Setup user name, password and login privilege.
E-Mail	Setup E-Mail configuration.
FTP	This devise is a client site and configure information to upload images to server.
Object Detection	Setup Object detection.
Event Schedule	Configure the schedule while event triggered.

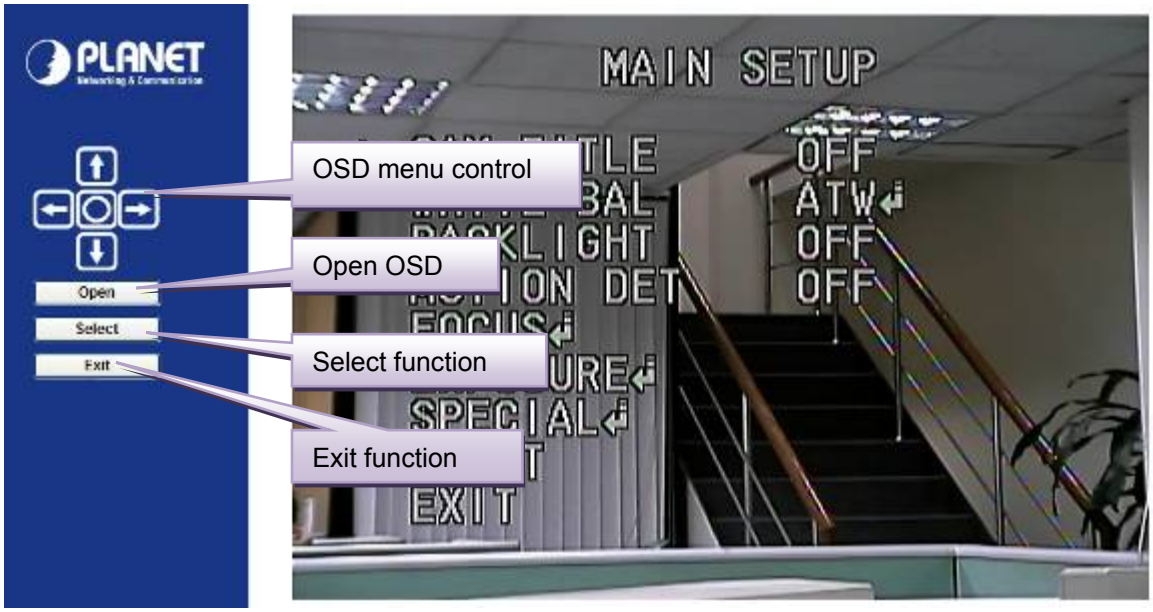
Streaming Protocol	User can select proper streaming protocol according to networking environment.
Language	The device could provide multiple languages to meet customer's requirement.
Client Setting:	Click this button to display the client extra control panel for 2-way Audio and Full Screen.
Video Information	Display video information including video format, resolution, frame rate and bit rate.
PTZ Control	Click to display the following control panel:

3.3.1. Camera PTZ Control



Hide PTZ Control:	Click the icon will hide the PTZ control function.
Camera Direction:	Control camera up/down/left/right and home position.
Zoom Control:	Press **WIDE** to zoom out, and press **TELE** to zoom in.
Focus control:	To focus on a nearby object, press **NEAR**. To focus on a distant object, press **FAR**. By pressing ONE PUSH AF, the focus is set to the optimum position automatically.
Camera Speed:	Choose the speed of Pan and Tilt.
Preset:	Add/Update the preset positions or go to one of these positions.
Tour:	Select one of the camera tours. Camera tour is comprised by series of preset locations.
Go Tour:	Execute the selected camera tour.
Auto Pan:	Execute the auto pan of camera. While auto pan is running, the camera will swing the camera automatically. Note that the speed of auto pan is fixed and cannot be adjustable.

3.3.2. Camera OSD Control



OSD menu control	Control OSD menu up/down/left/right.
Open OSD	Open OSD function.
Select	Select/change the option in the OSD menu.
Exit	Exit this OSD page and return to home page.

3.4 ActiveX Control

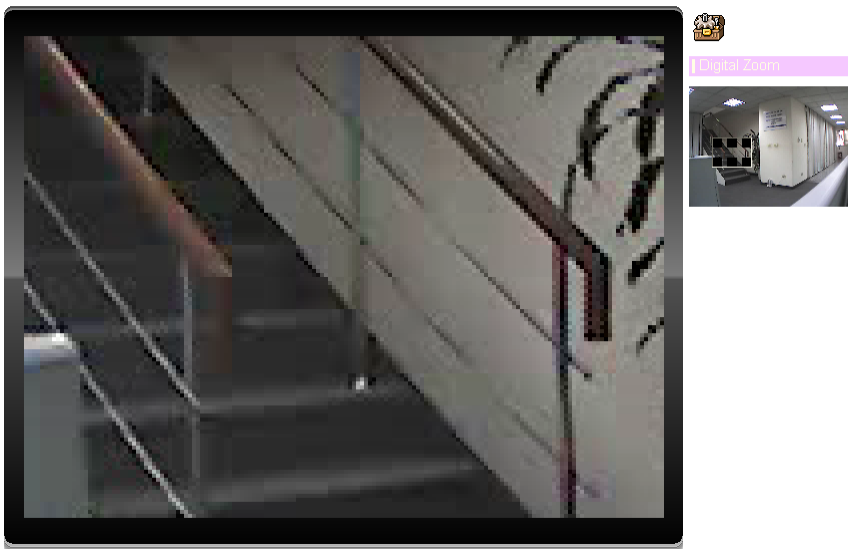
The plug-in ActiveX control supports a lot of functions by clicking the left mouse button. Note that this feature only supports on the ActiveX control within Microsoft® Internet Explorer.

On the ActiveX control icon, click the Left Mouse Button, then a menu pop-up. This menu provides features that are unique to the ActiveX control. These features include:

- Digital Zoom,
- Record,
- Snapshot,
- Voice,
- Statistics,
- About

3.4.1. Digital Zoom

Click **Digital Zoom** to active this function as above. User can drag or scale the box over the video to adjust zoom ratio and position.



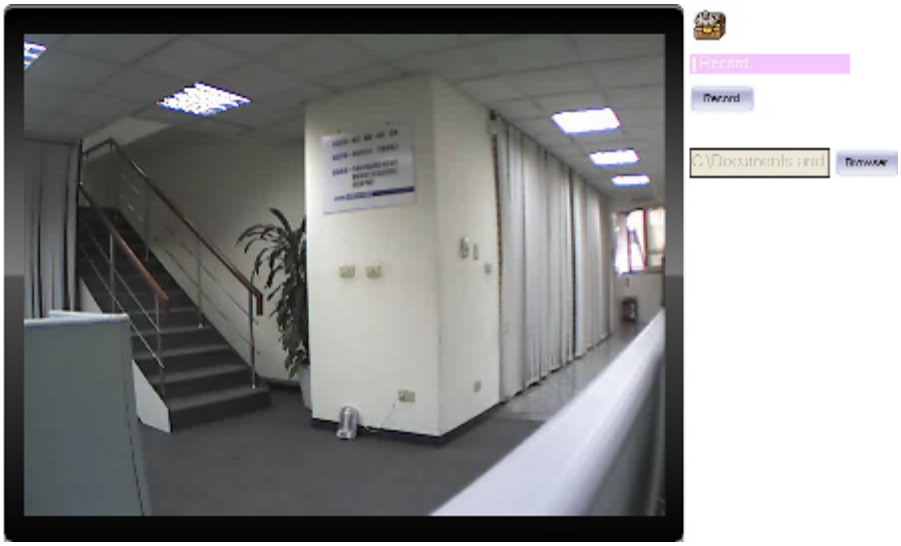
3.4.2. Record

Click **Record** to activate this function. Press **Record** button to start recording. The video file is saved as ASF format into your local PC. While you want to stop it, press **Stop** to stop recording. Select **Browser**, the pop-up window to select the save path and file name prefix, select **OK** to continue.

After stop recording, list the files, this file is named as Video_yyyymmddhhmmss.asf

The ASF files can be display by the standard Windows Media Player, but it needs the DixectX 9.0 or later version to be installed.

NOTE: *Default save path is "C:\Documents and Settings\All user\Desktop"*

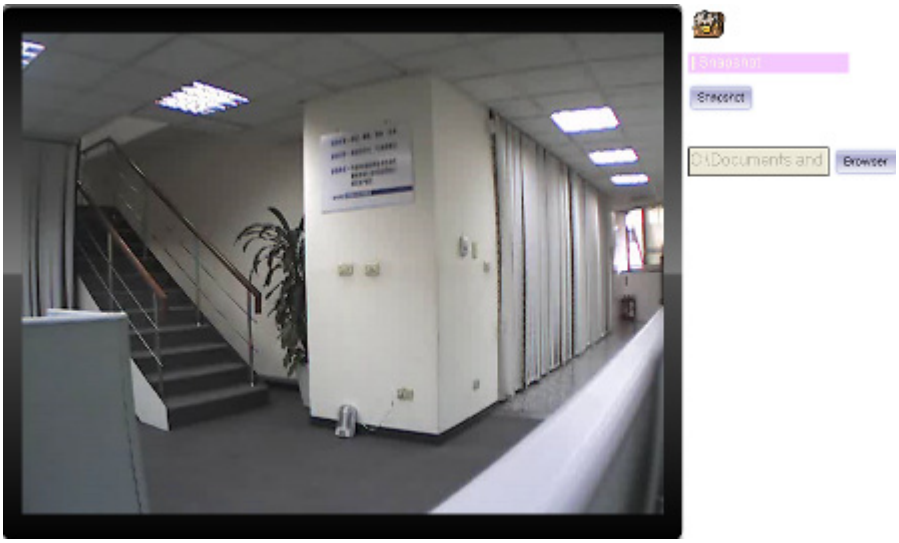


3.4.3. Snapshot

Click **Snapshot** to activate this function. Press **Snapshot** button to take a picture. The image file is saved as JPEG format into your local PC. Select **Browser**, the pop-up window to select the save path and file name prefix, select **OK** to continue.

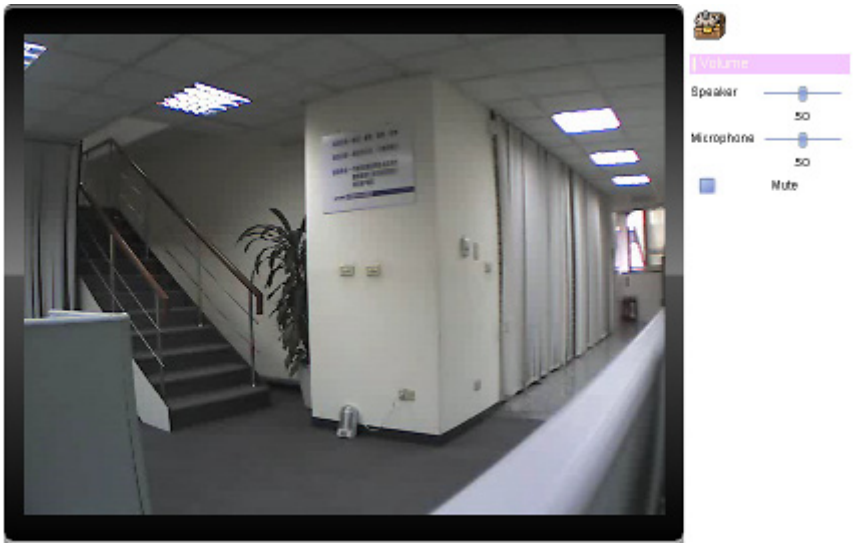
If you like to retrieve the saved image, select the file to display the saved image by using any one of graph editing tools.

NOTE: *Default save path is "C:\Documents and Settings\All user\Desktop"*



3.4.4. Voice

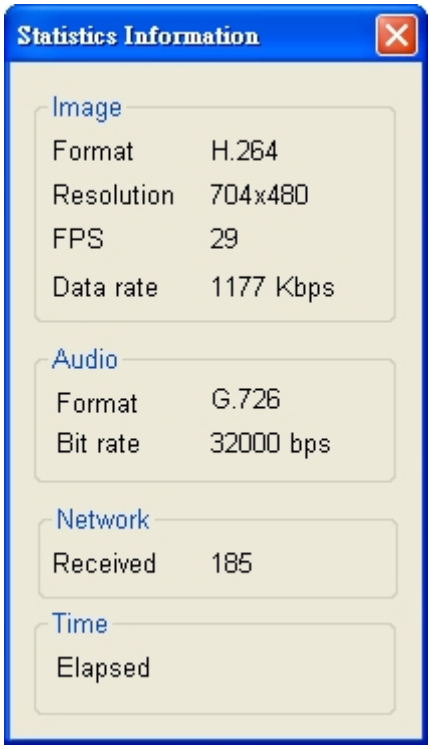
Click Volume to activate this function. These have two control bars for speaker and microphone volume. Scroll this control bar to adjust the audio attribute. Check the volume mute will mute the speaker output.



3.4.5. Statistics

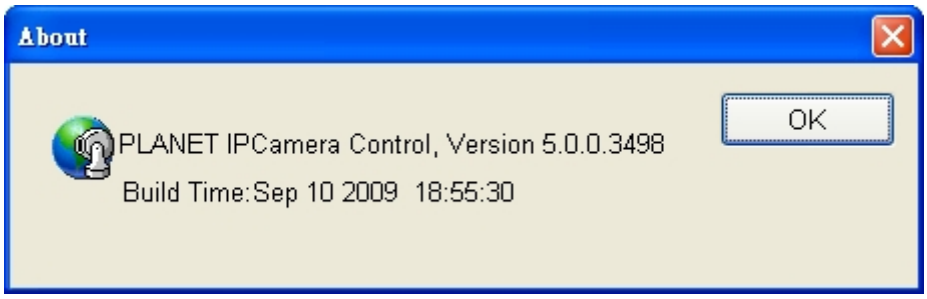
Click **Statistics** to activate this function. A window will be popup to show the statistics information of the streaming status.

NOTE: *That this information is the statistics between the device and your local PC.*



3.4.6. About

Click **About** to show the ActiveX information

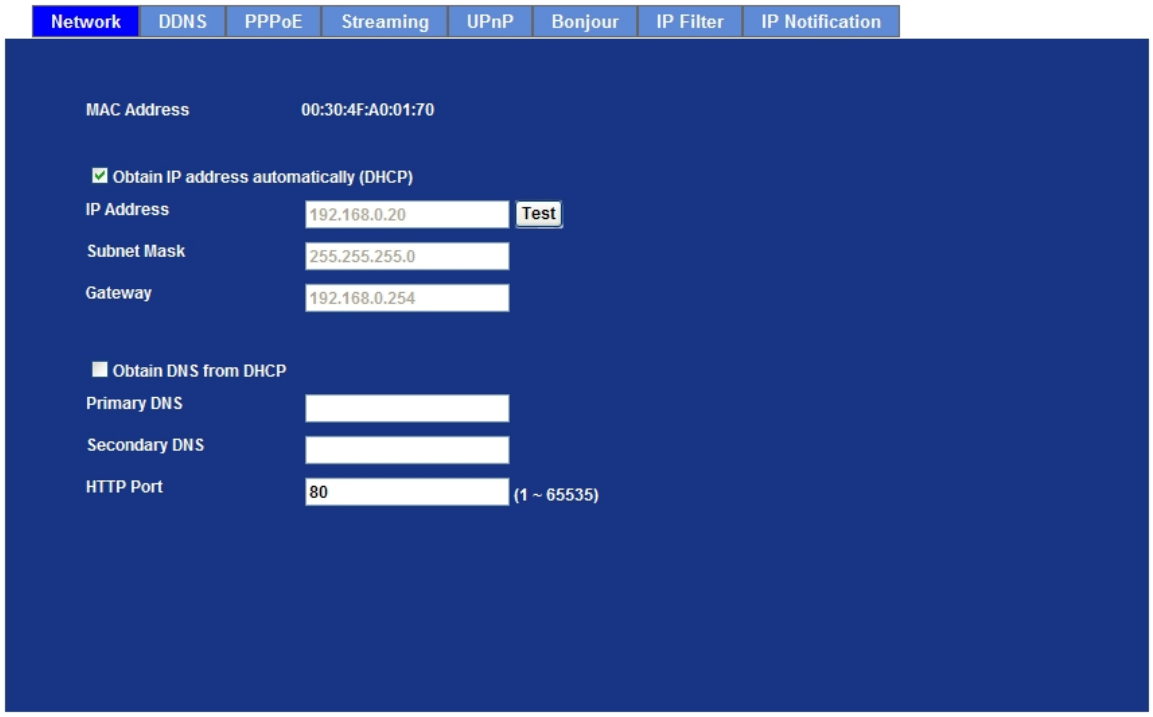


3.5 Network Configuration

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

3.5.1. Network

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



MAC address	Display the Ethernet MAC address of the device. Note that user cannot change it.
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 numbers that identifies a computer or device on the WAN or LAN. These numbers are usually shown in groups separated by periods, for example: 192.168.0.200

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.
Obtain DNS from DHCP	Enable this checked box when a DHCP server is installed on the network and provide DNS service.
Primary 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 control across the Internet.
Secondary DNS	The same function as DNS1. It is option not necessary
HTTP Port	The device supports two HTTP ports. The first one is default port 80 and this port is fixed. This port is very useful for Intranet usage. The second HTTP port is changeable. Users could assign the second 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 device by either http://xx.xx.xx.xx/, or http://xx.xx.xx.xx:xxxx/ to access the device. 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.

NOTE *When the configuration is finish, please click "**OK**" to save and enable the setting.*

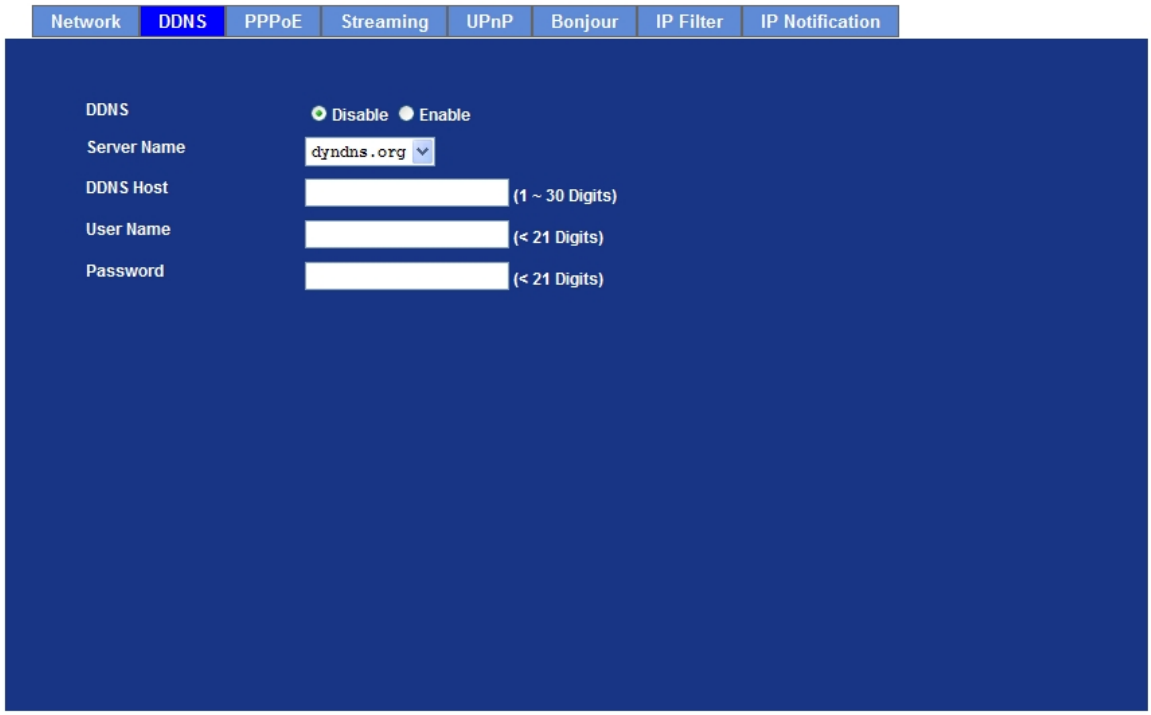
3.5.2. DDNS server

Stands for Dynamic Domain Name Server

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

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

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



DDNS	To enable or disable the DDNS service here.
Server name	Choose the built-in DDNS server.
DDNS Host	The domain name is applied of this device.
User Name	The user name is used to log into DDNS.
Password	The password is used to log into DDNS.

3.5.3. PPPoE

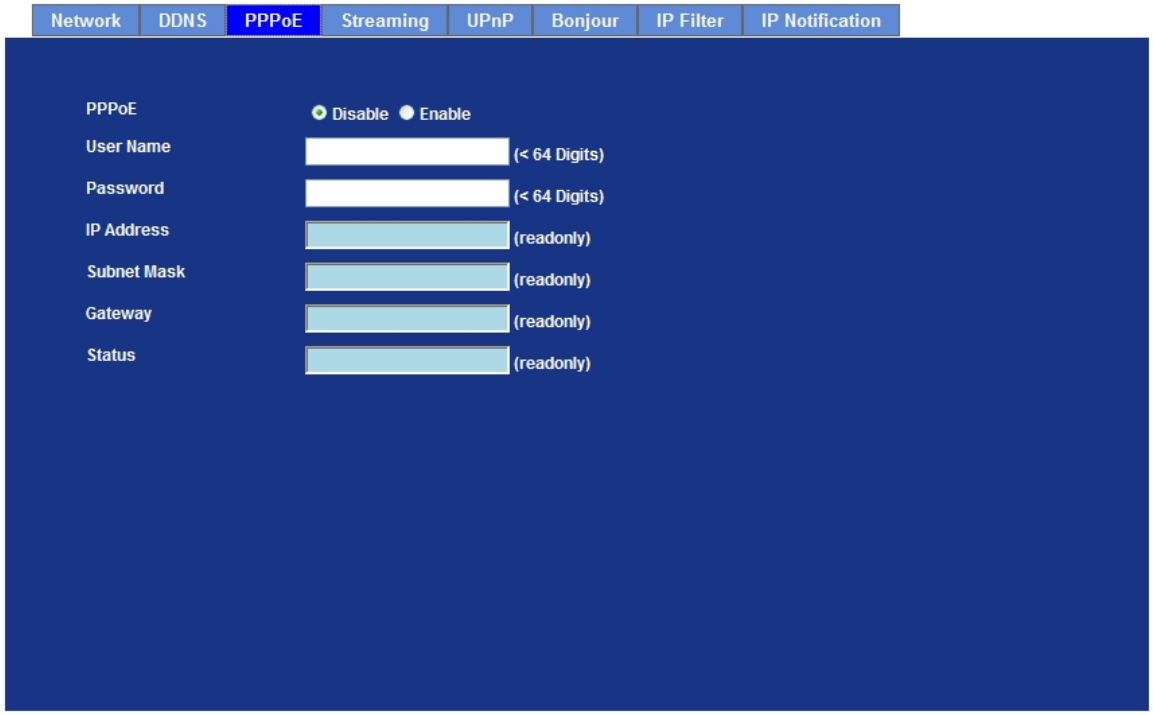
PPPoE: Stands for Point to Point Protocol over Ethernet

A standard builds on Ethernet and Point-to-Point network protocol. It allows Internet Camera 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 setup on a LAN environment to program the PPPoE information first, and then connect to the xDSL modem. Power on again, then the device will dial on to the ISP connect to the WAN through the xDSL modem.

The procedures are

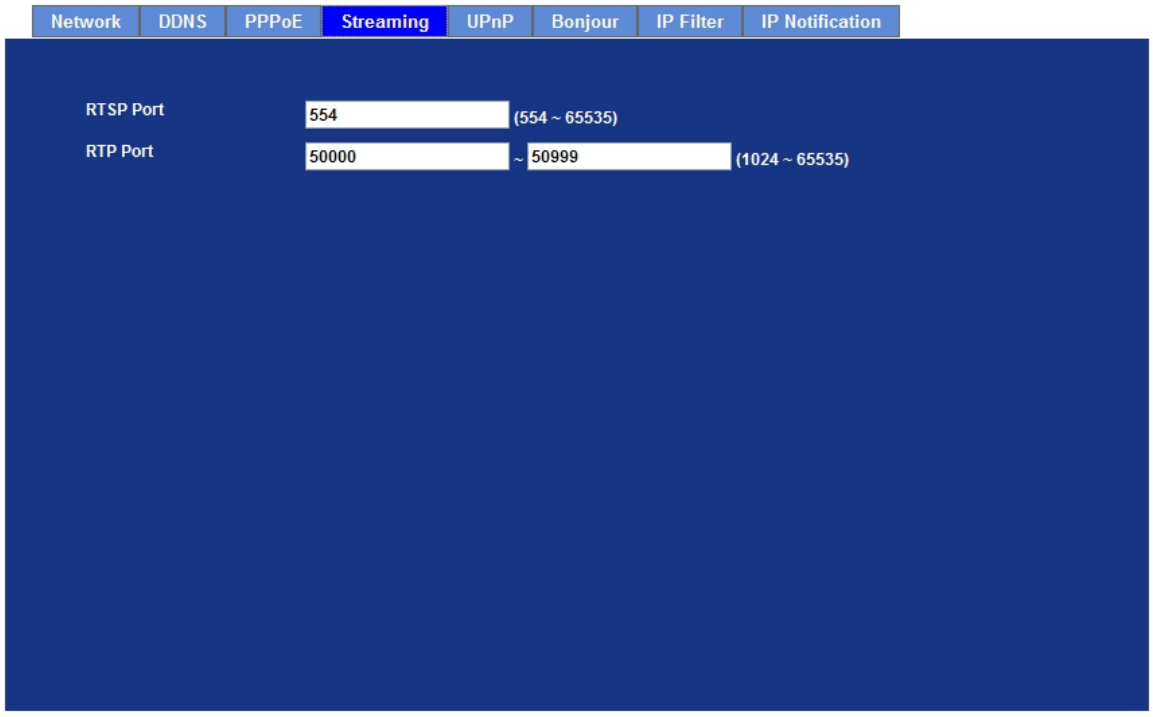
- Connect to a LAN by DHCP or Fixed IP
- Access the device, enter **Setting ➔ Network ➔ PPPoE** as below



PPPoE	To enable or disable the PPPoE service here.
User Name	Type the user name for the PPPoE service which is provided by ISP.
Password	Type the password for the PPPoE service which is provided by ISP.
IP Address / Subnet Mask / Gateway	Shows the IP information got from PPPoE server site.
Status	Shows the Status of PPPoE connection.

3.5.4. Streaming

RTSP is a streaming control protocol, and a starting point for negotiating transports such as RTP, multicast and Unicast, and for negotiating codecs. RTSP can be considered a "remote control" for controlling the media stream delivered by a media server. RTSP servers typically use RTP as the protocol for the actual transport of audio/video data.

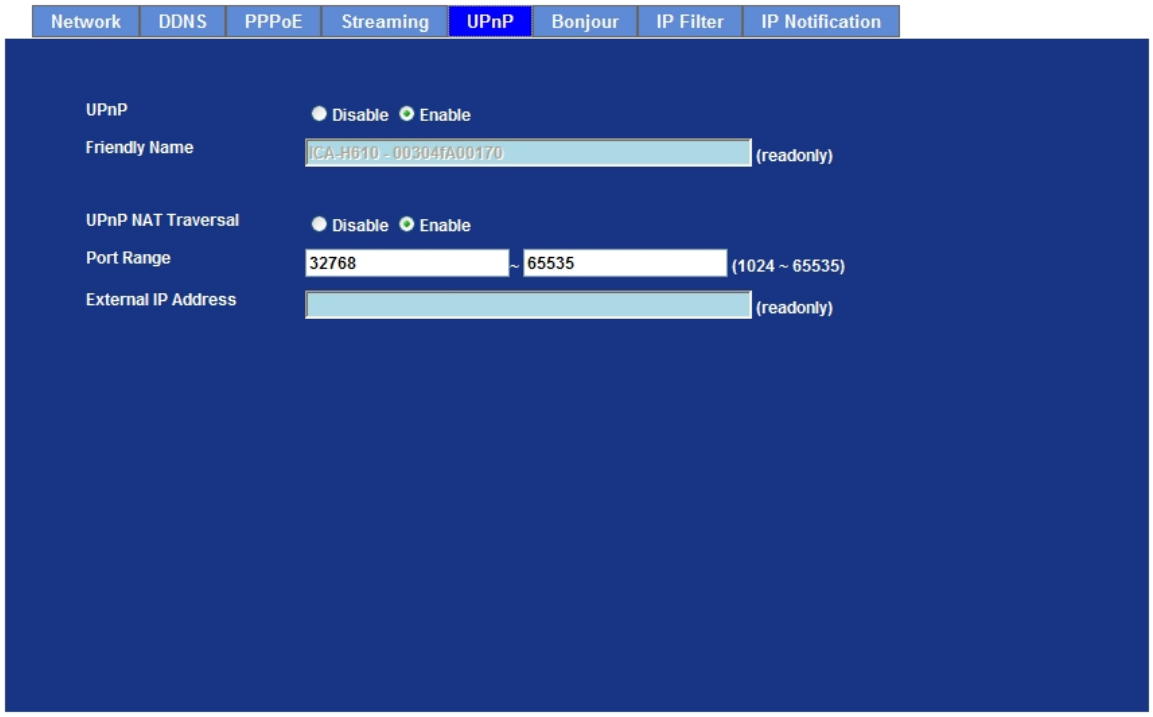


RTSP Port	Choose the RTSP port. The RTSP protocol allows a connecting client to start a video stream. Enter the RTSP port number to use. The default value is 554.
RTP Port	Specify the range of transmission port number of video stream. The default range is 50000 to 50999. User can specify a number between 1024 and 65535.
NOTE	*1. To use the 3GPP function, in addition to previous section, you might need more information or configuration to make this function work.* *2. The camera must be set as Multi-profile mode, not Mega-pixel mode. Otherwise this device cannot serve 3GPP stream.* *3. To use the 3GPP function, it strongly recommends installing the Networked Device with a public and fixed IP address without any firewall protection.* 4. *Port 554 is the default for RTSP service. However, sometimes, some service providers change this port number for some reasons. If so, user needs to change this port accordingly.*
Dialing procedure	1.Choose a verified player (PacketVideo, Quicktime or Realplayer currently) 2. Use the following URL to access: ***rtsp://host/mpeg4/media.3gp*** Where host is the host name or IP address of the camera.
Compatible 3G mobile phone	Please contact your dealer to get the approved list of compatible 3G phone.

3.5.5. UPnP

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 Internet Camera. If your operating system is UPnP enabled, the device will automatically be detected and a new icon will be added to “My Network Places.” If you do not want to use the UPnP functionality, it can be disabled

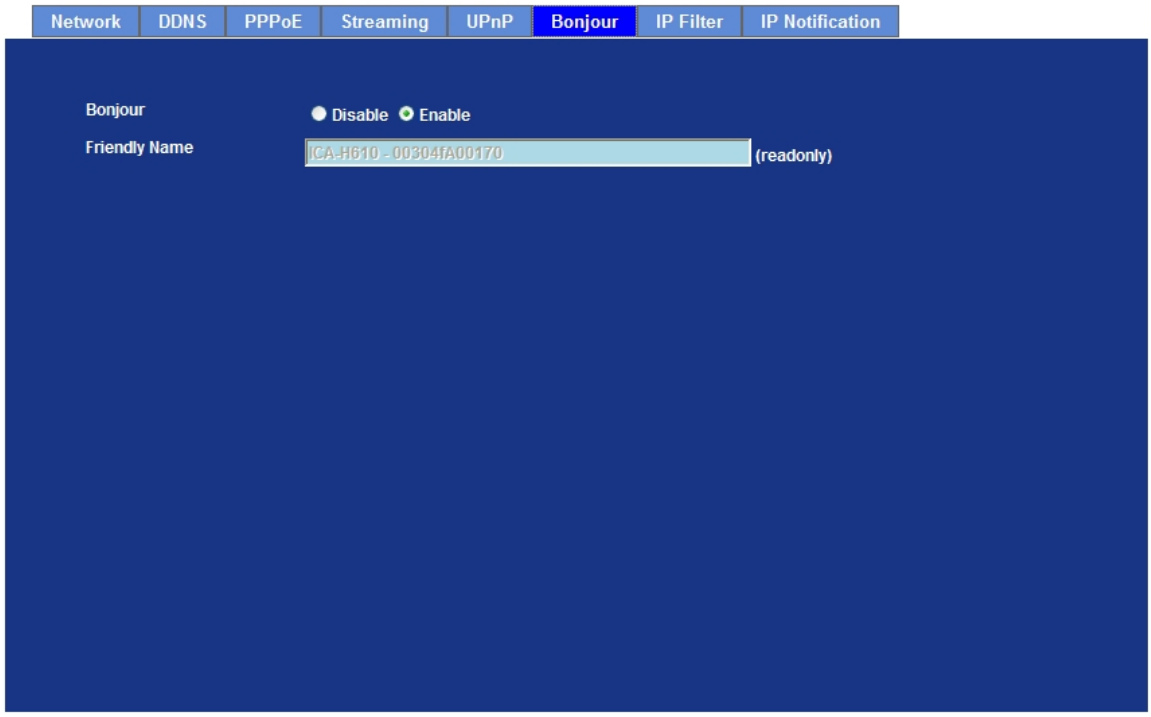
In addition, this device also provides UPnP IGD function for NAT traversal easily. Use NAT traversal when your device is located on an intranet (LAN) and you wish to make it available from the other (WAN) side of a NAT router. With NAT traversal properly configured, all HTTP traffic to an external HTTP port in the NAT router will be forwarded to the device.



UPnP	To enable or disable the UPnP service here.
Friendly Name	Shows the friendly name of this device here.
UPnP NAT Traversal	When enabled, the device will attempt to configure port mapping in a NAT router on your network, using UPnP™. Note that UPnP™ must be enabled in the NAT router first.
Port Range	The port range will open in NAT router.
External IP address	Show the IP address and port for WAN access through Internet. If NAT traversal is configured successfully, user can use this IP address and port to access this device.

3.5.6. Bonjour

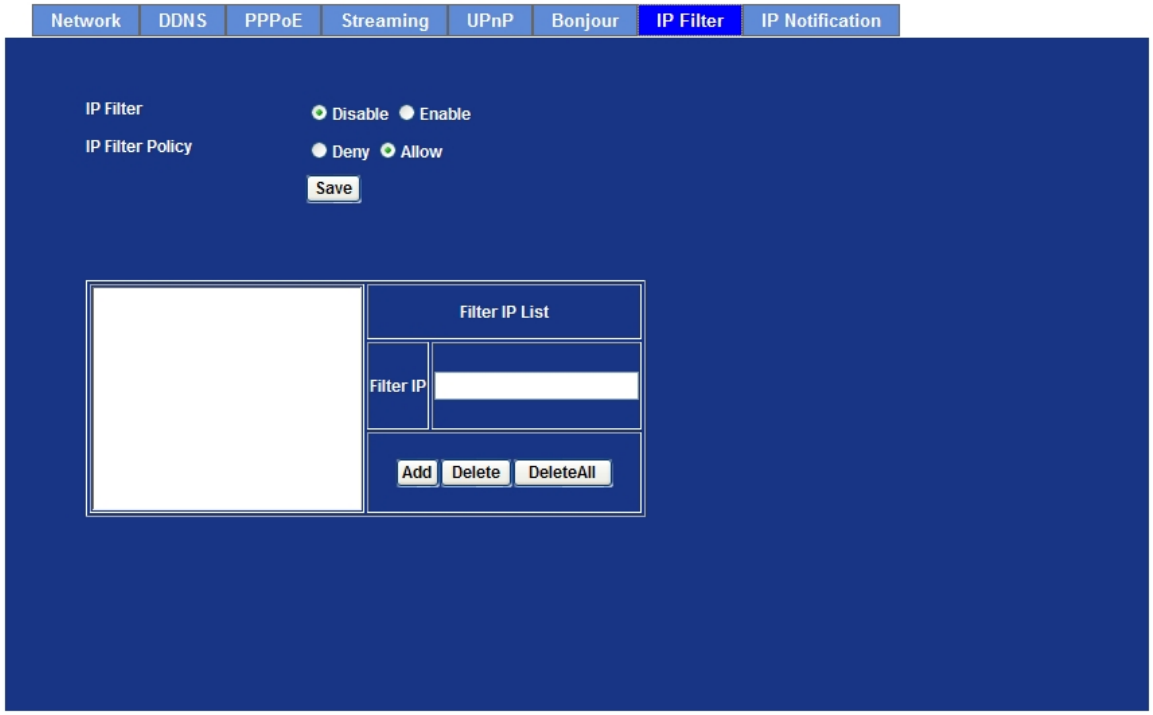
The Bonjour service allows IP camera can be discovered with Apple Safari browser applied, once the option enable the IP camera will be show the Friendly Name in the Bonjour bookmarks menu of Safari browser.



Bonjour	To enable or disable the Bonjour service here.
Friendly Name	Shows the friendly name of this device here.

3.5.7. IP Filter

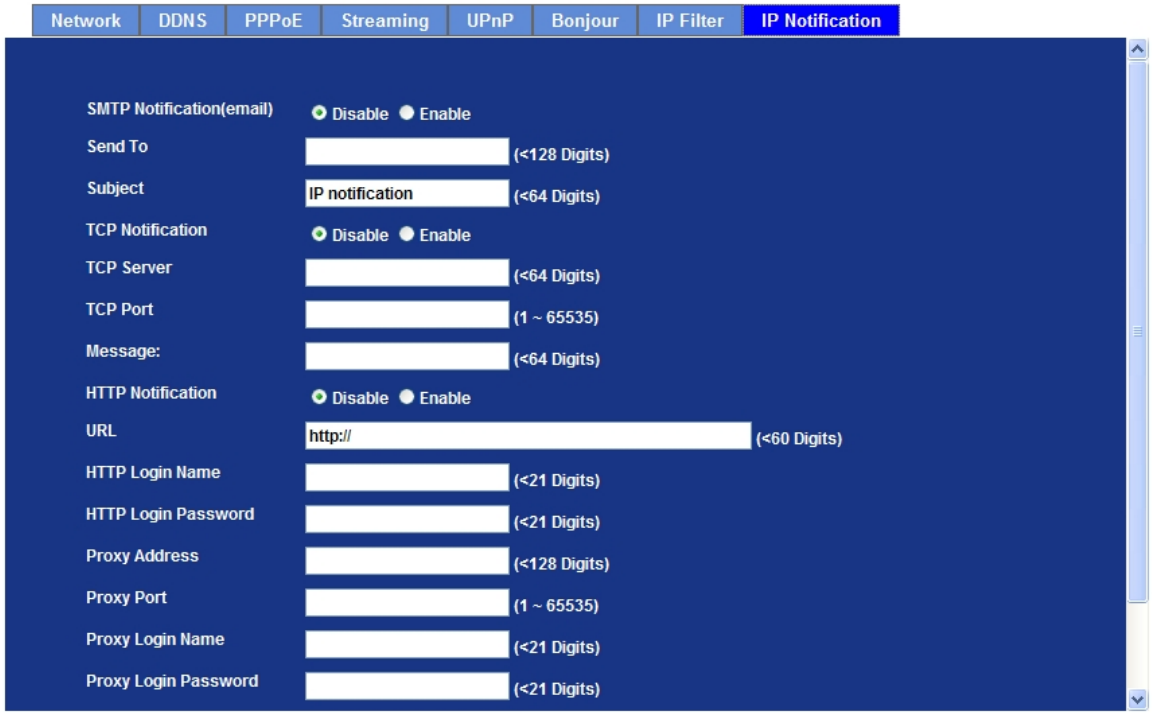
You can enter different user's IP address which are allowing enter or denying by the device.



IP Filter	To enable or disable the IP filter function here.
IP Filter Policy	Choose the filter policy where is denying or allowing.

3.5.8. IP Notification

In case the IP address is changed, system is able to send out an email to alert someone if the function is enabled.



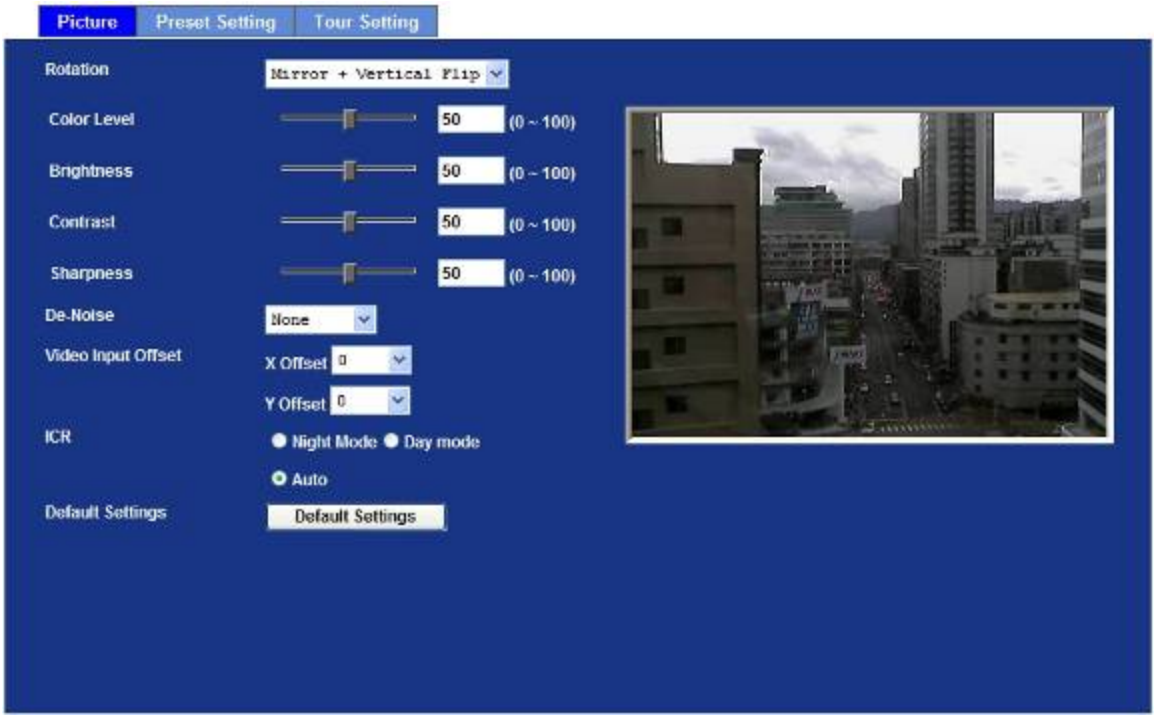
SMTP Notification (e-mail)	If enable this function, then the "**Send to**" and "**Subject**" field need to be filled.
Send To	Type the receiver's e-mail address. This address is used for reply mail.
Subject	Type the subject/title of the E-mail.
TCP Notification	If enable this function, then the "**TCP Server**", "**TCP Port**", and "**Message**" fields need to be filled.
TCP Server	Type the server name or the IP address of the TCP server.
TCP Port	Set port number of TCP server.
Message	The message will be sent to FTP server.
HTTP Notification	If enable this function, then the fields below need to be filled.
URL	Type the server name or the IP address of the HTTP server

HTTP Login name	Type the user name for the HTTP server.
HTTP Login Password	Type the password for the HTTP server.
Proxy Address	Type the server name or the IP address of the HTTP Proxy.
Proxy Port	Set port number of Proxy.
Proxy Login name	Type the user name for the HTTP Proxy.
Proxy Login Password	Type the password for the HTTP Proxy.
Custom parameter	User can set specific parameters to HTTP server.
Message	The message will be sent to HTTP server.

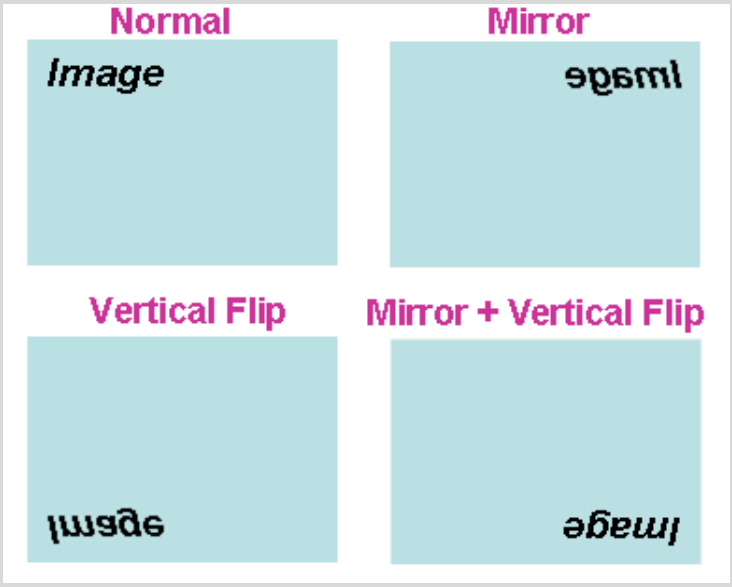
3.6 Camera Configuration

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

3.6.1. Picture



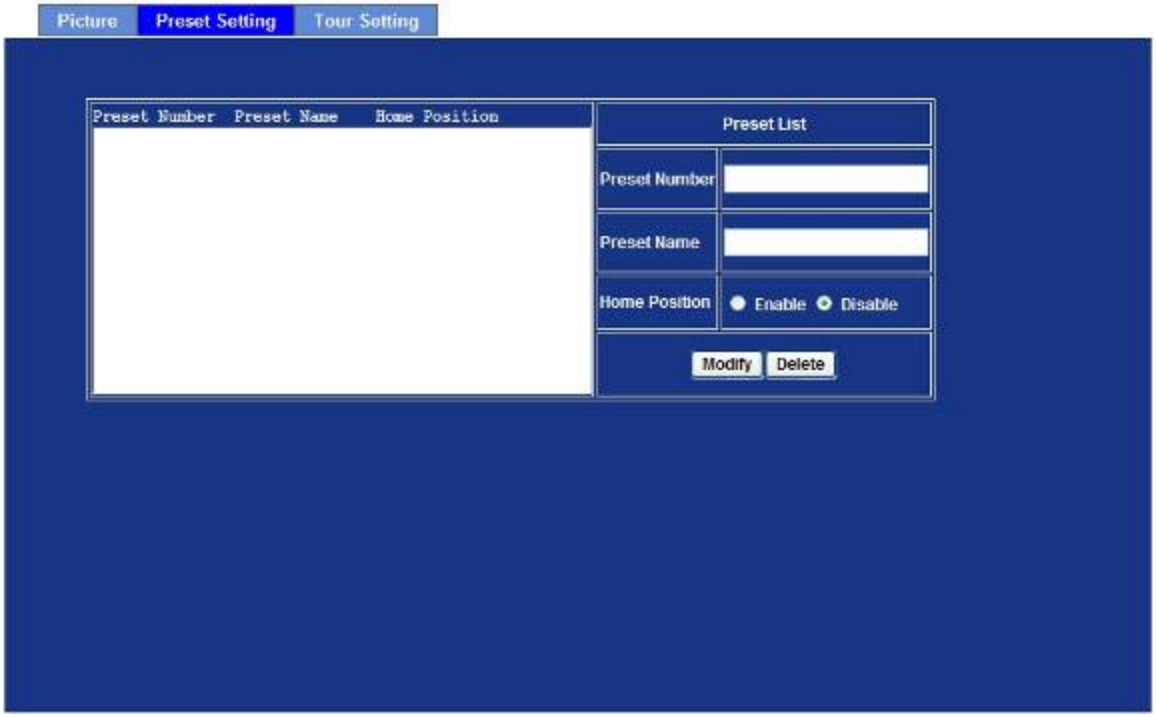
Rotation	Turn the "**Mirror**" and "**Vertical Flip**" On or OFF. The image will be overturned as below.



Color Level	It changes the image shadows, midtones and highlights. Can adjust an image's tonal range and contrast
Brightness	Large value will brighten camera.
Contrast	Large value will contrast camera heavily.
Sharpness	Large value will sharpen camera.
De-Noise	De-Noise can remove or lower unwanted noise and preserve fine details and edges.
Video Input Offset	Use to adjust start point of captured video.
ICR	This is an optional function by model. In case, the camera is built-in ICR, user can configure these parameters to control ICR function. There are 4 modes of ICR: Night, Day, Auto and Schedule. In case the Auto mode is selected, user needs to specify 3 parameters in advance: **Night Mode Threshold (0~10000)**: this value set the threshold to activate night mode. It should be lower or equal to Day Mode Threshold. **Day Mode Threshold (0~10000):** this value set the threshold to activate day mode. It should be higher or equal to Night Mode Threshold. **Delay Time:** The delay time between ICR switching. ***Note :*** *That Current Value is the current luminance from the captured video. It's a useful reference to set Day/Night Mode Threshold.*
Default Setting	Restore to factory image settings.

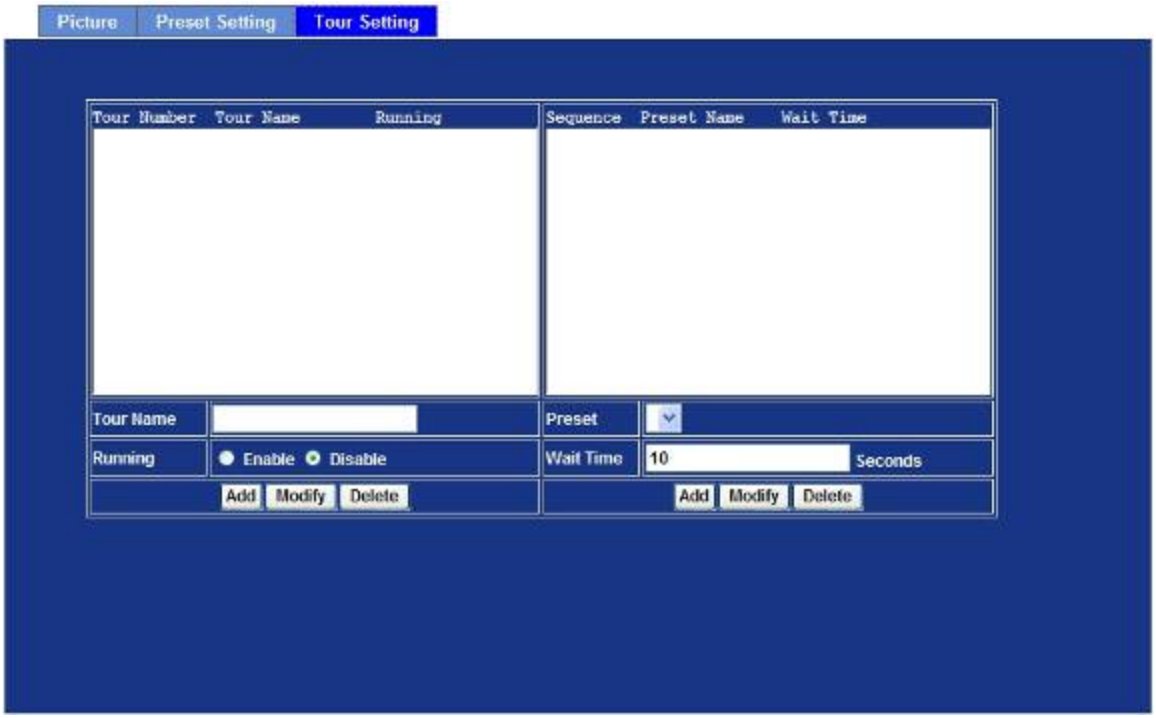
3.6.2. Preset Setting

This page provides the edit tool to modify or delete the “Preset Setting” item by item.



3.6.3. Tour Setting

Up to 64 positions can be preset, and the camera can be programming to move to the preset position sequentially.



Tour Name	The group name of the sequence of camera tour. The maximum number of camera tour is 16.
Running	Enable or disable this camera tour.
Preset	Set the sequence of the tour. Maximum 16 points can be assigned. The selected preset position is added in the Sequence list from 1 to 16.
Wait Time	Type a period of time during which the camera is to stay at each preset point, between 0 to 36000 seconds.

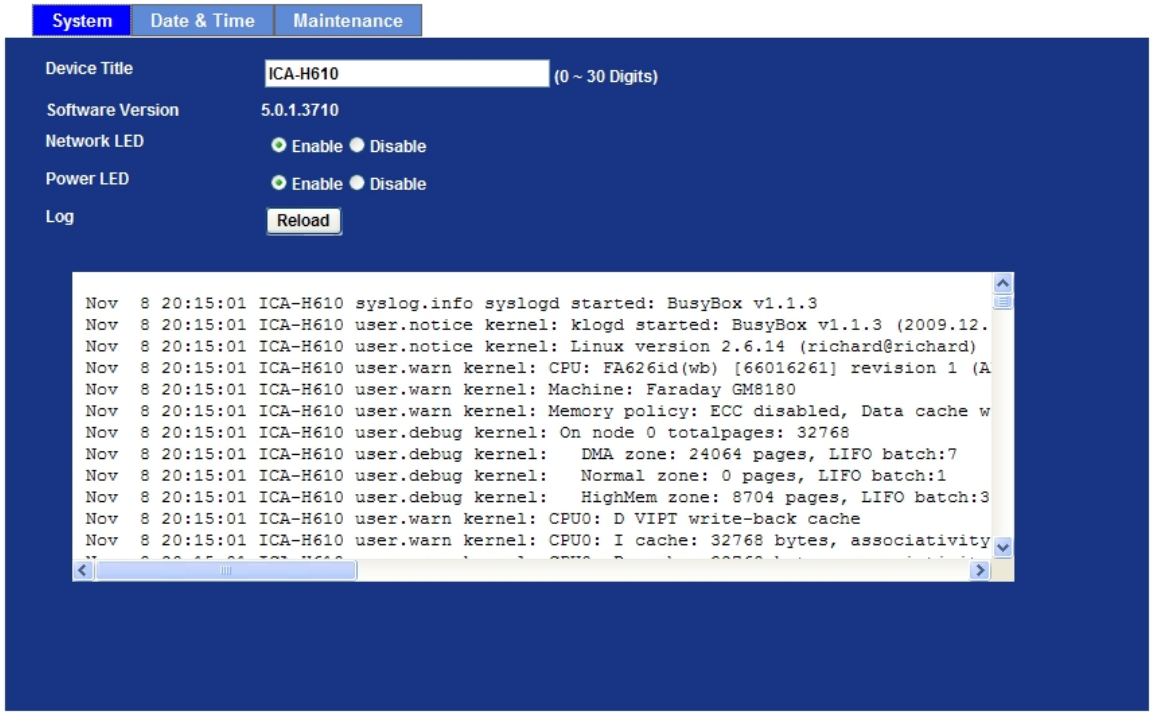
NOTE:

To use the camera tour function, user must preset some camera positions first. The maximum number of preset points is 128.

3.7 System

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

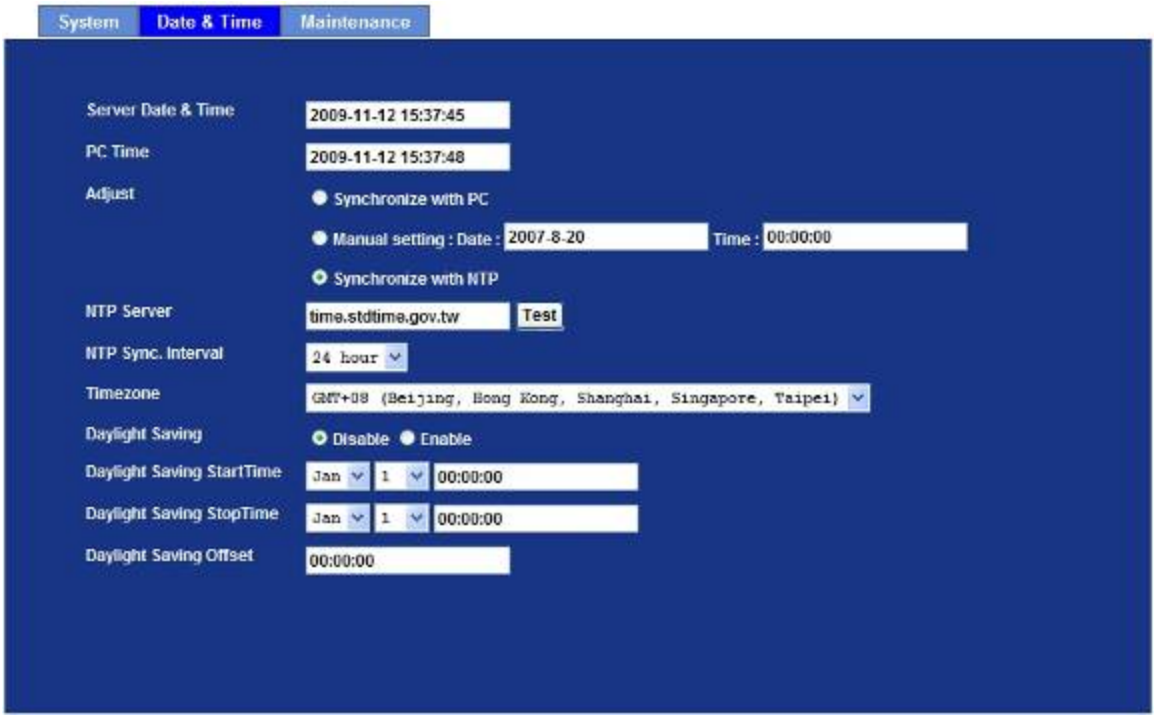
3.7.1. System



Device title	You can enter the name of this unit here. It's very useful to identify the specific device from multiple units.
Software version	This information shows the software version in the device.
Network LED	Switch the LED light of this Internet Camera on or off, that Network LEDs will stop working, in case you don't want other people know the camera is transferring data.
Power LED	Switch the LED light of this Internet Camera on or off.
Log	User can check the system log information of the device, including the Main Info, Appended Info, Operator IP, and so on …
Reload	Click this button; user can refresh the log information of the device.

3.7.2. Date & Time

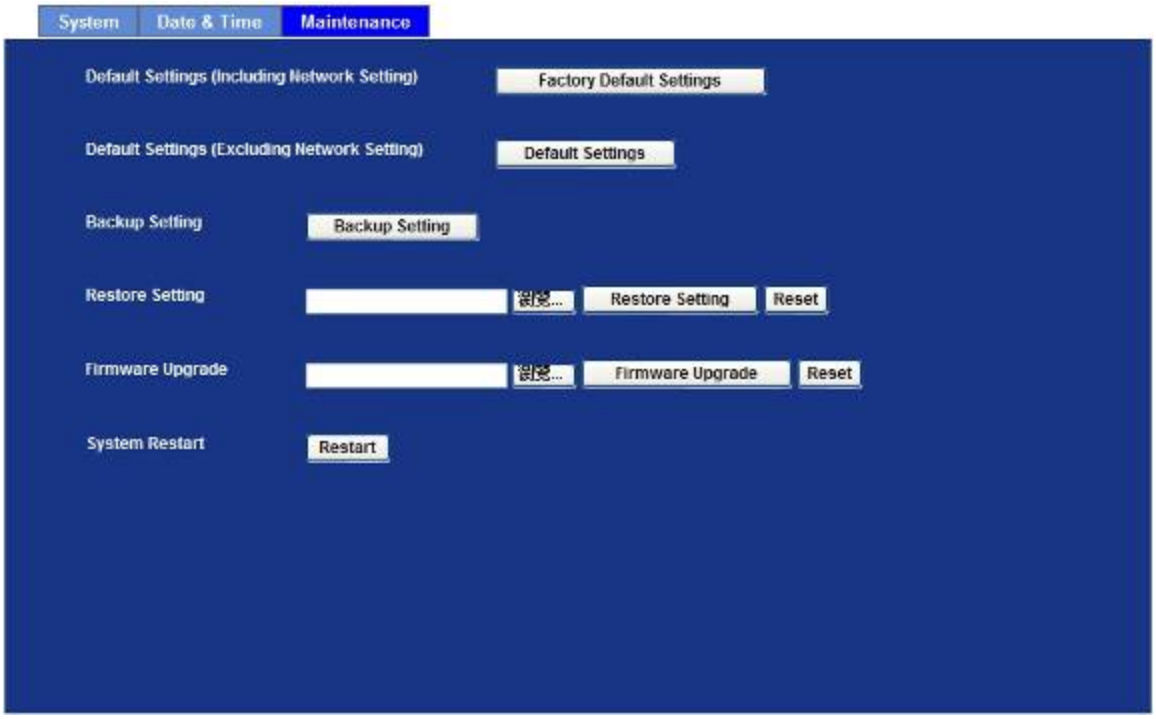
User can setup the time setting of Internet Camera, make it synchronized with PC or remote NTP server. Also, you may select the correct time zone of your country.



Server Date & Time	Displays the date and time of the device	
PC Time	Displays the date and time of the connected PC	
Adjust	**Synchronize with PC:**	Click this option to enable time synchronization with PC time
	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)
NTP server name	Type the host name or IP address or domain name of the NTP server.	
NTP sync. Interval	Select an interval between 1 and 23 hours at which you want to adjust the device's time referring to NTP server	
Time zone	Set the time difference from Greenwich Mean Time in the area where the device is installed.	
Daylight saving	Check this item to enable daylight saving adjustment.	

Daylight Saving Start Time	Sets up the date and time of daylight saving start time.
Daylight Saving Stop Time	Sets up the date and time of daylight saving stop time.
Daylight Saving Offset	Sets up the date of daylight saving offset.

3.7.3. Maintenance



Default Settings (Include the network setting)	Recall the device hard factory default settings. Note that click this button will reset all device's parameters to the factory settings (including the IP address).
Default Settings (Except the network setting)	The unit is restarted and most current settings are reset to factory default values. This action will not reset the network setting.
Backup Setting	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.

Restore Setting	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.

Firmware upgrade The device supports new firmware upgrade.

1. Close all other application programs which are not necessary for firmware update.
2. Make sure that only you access this device at this moment
3. Disable Motion Detection function.
4. Select "**Firmware name**"
5. Select the Firmware binary file.

Note :

That it must make sure that the Firmware only applies to this device, once update, it will be burned into FLASH ROM of system.

6. Once the firmware file was selected, select "**Upgrade**".
7. The upgrade progress information will be displayed on the screen.
8. A message will be shown while the firmware upgraded. Once the upgrading process completed, the device will reboot the system automatically.
9. Please wait for 80 seconds, and then you can use PLANET IPWizard to search the device again.

Warning !!!

The download 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.

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

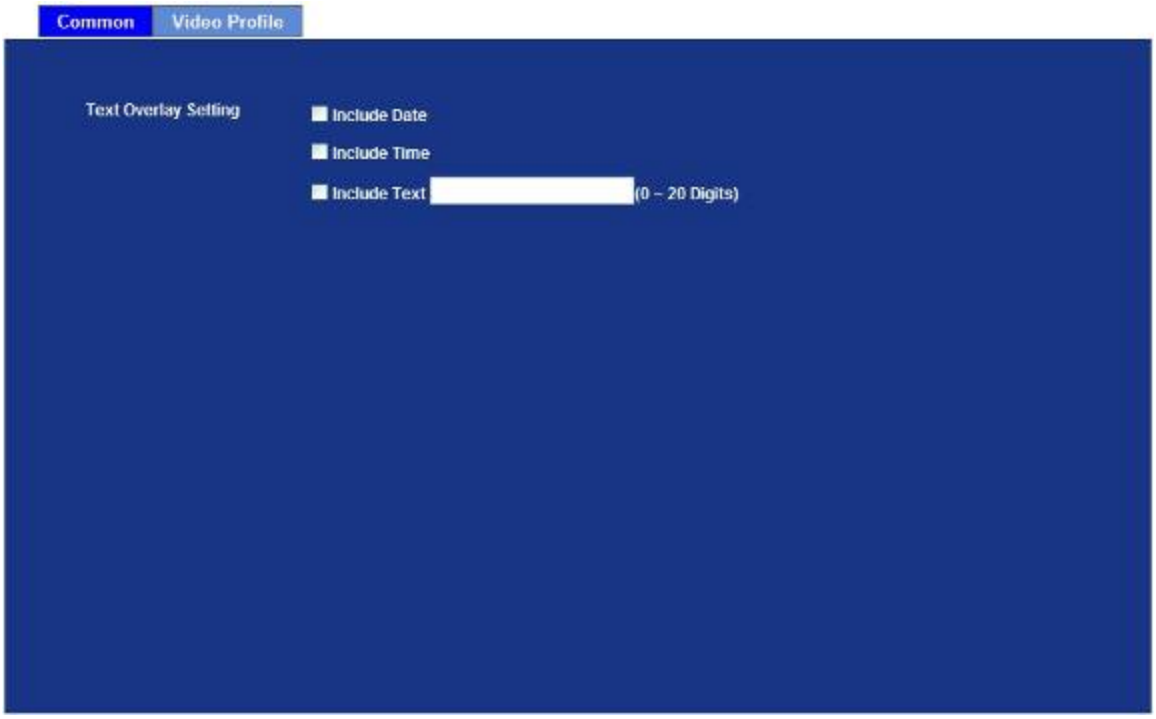
Furthermore, do not try to upgrade new firmware if it's not necessary.

System Restart	The device is restarted without changing any of the settings.

3.8 Video

This device provides more video profiles as below to support different request to each client simultaneously. Each user can choose his preferred video profile as his request independently.

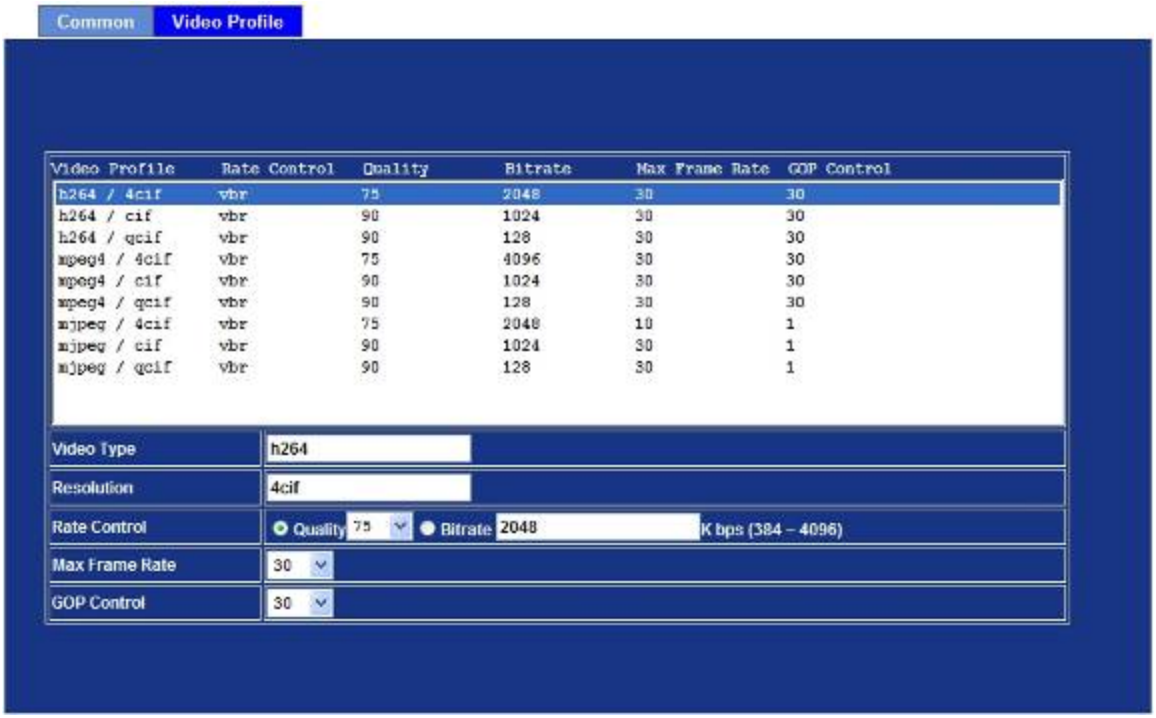
3.8.1. Common



Text Overlay Setting	There are some important information can be embedded into image, including date, time, and/or text.

3.8.2. Video Profile

User can modify the detail parameter for each video profiles in this page.



Video Type	Video codec of the selected video profile.
Resolution	There are four resolutions in this profile: D1(4CIF), CIF and QCIIF.
Rate Control	Defines the rate control method of this profile. There are two options: Constant Bit Rate (CBR) or Variable Bit Rate (VBR). For CBR, the video bit rate is between low to 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.
Max Frame Rate	Defines the targeted frame rate of this profile. For example, set the frame rate to 15 fps, then the image will be updated for 15 frames per second. User can set the desired max frame rate versus video quality under the limited bandwidth.

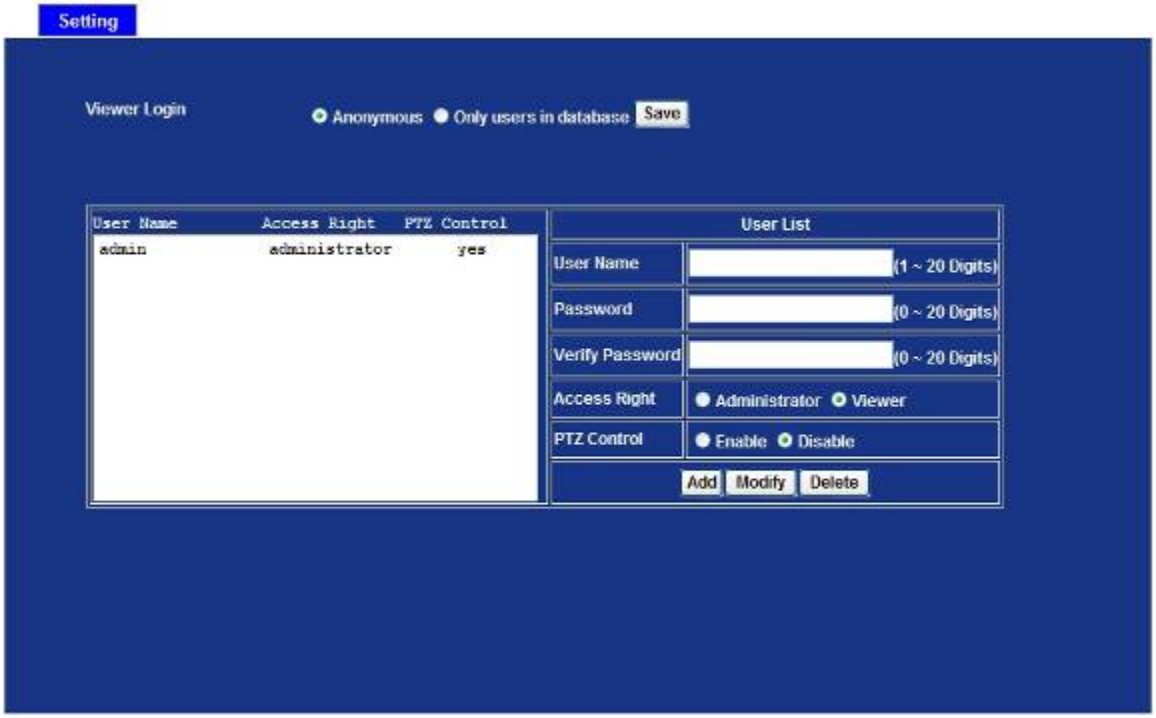
GOP Control	Defines the Intra/Inter-frame (I/P) ratio of this profile. For example, set the GOP to 30, then the video stream will have one Intra-frame every 30 frames.
Multicast Video	IP address and port for multicast video streaming of the selected profile.
Multicast Audio	IP address and port for multicast audio streaming of the selected profile.
Always Enable Multicast	Multicast streaming is always enabled or by request.

3.9 Audio Configuration

Audio:	To enable or disable audio function.
Audio Input Source	Select either built-in MIC or external MIC.
Mute While PT	Mute the audio while pan and/or tilt motion
Audio Mode:	To select Simplex or Full duplex (2-way audio) mode.
Input Gain:	To adjust gain of input audio.
Output Gain:	To adjust gain of output audio.

3.10 User Privilege Access Configuration

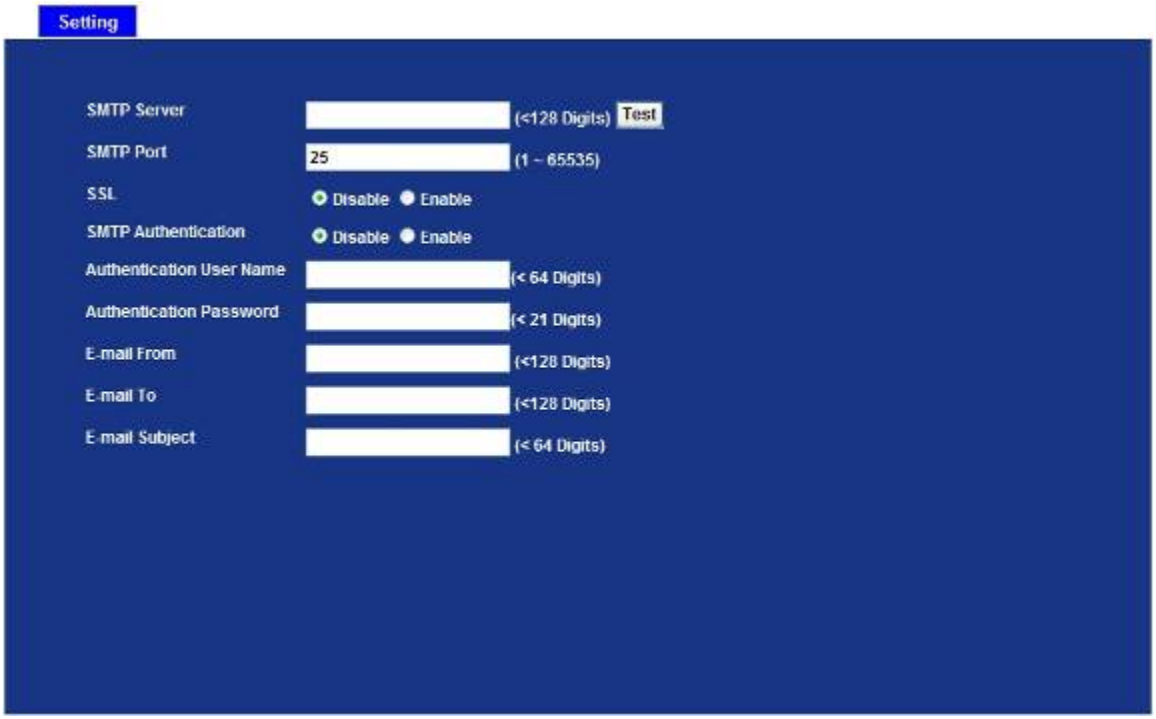
Use this menu to set the user names and password of the Administrator and up to 10 users, and access right of each user.



Viewer login	Select “Anonymous” to allow any one viewing the video once connected. Otherwise, only users in database can view the video after login.
Access right	Administrator can access every function in this device. However, Viewers only can view the video and access limited function.
Add, update, and remove of Users account	Manage the user’s account of viewer user.

3.11 E-Mail Configuration

You may setup SMTP mail parameters for further operation of Event Schedule. That's, 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.
Test	Send a test mail to mail server to check this account is available or not.
SMTP Port	Set port number of SMTP service.
SMTP Authentication	Select the authentication required when you send an e-mail. **Disable:** If no authentication is required when an e-mail is send. **Enable:** If authentication is required when an e-mail is sent.
Authentication User Name	Type the user name for the SMTP server if Authentication is Enable.
Authentication Password	Type the password for the SMTP server if Authentication is Enable.
E-mail From	Type the sender's E-mail address. This address is used for reply e-mails.
E-mail To	Type the receiver's e-mail address.
E-mail Subject	Type the subject/title of the e-mail.

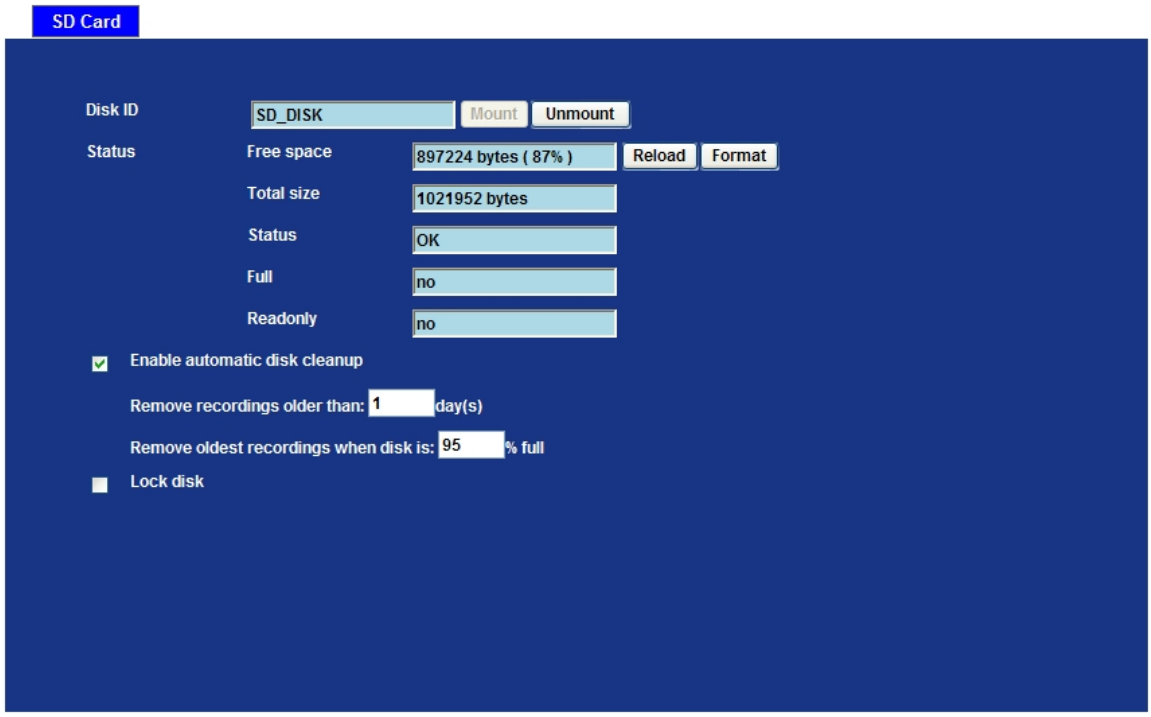
3.12 Object Detection

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

Add and Del	To add or delete the motion windows. User can specify up to 4 Included and/or Excluded windows to monitor the video captured by this device. By dragging mouse on the image, you can change the position and size of the selected motion window accordingly.
Included or Excluded Window	These windows can be specified as Included or Excluded type. **Included:** Windows target specific areas within the whole video image **Excluded:** Windows define areas within an Include window that should be ignored (areas outside Include windows are automatically ignored)
Name	Name of the specified motion window.
Object Size	Defines the object size of motion detection. The higher object size will only larger objects trigger motion detection. The lower object size will even small objects trigger motion detection too. Generally speaking, the smaller size will be easier to trigger event.
Sensitivity	Defines the sensitivity value of motion detection. The higher value will be more sensitivity.

3.13 Storage Configuration

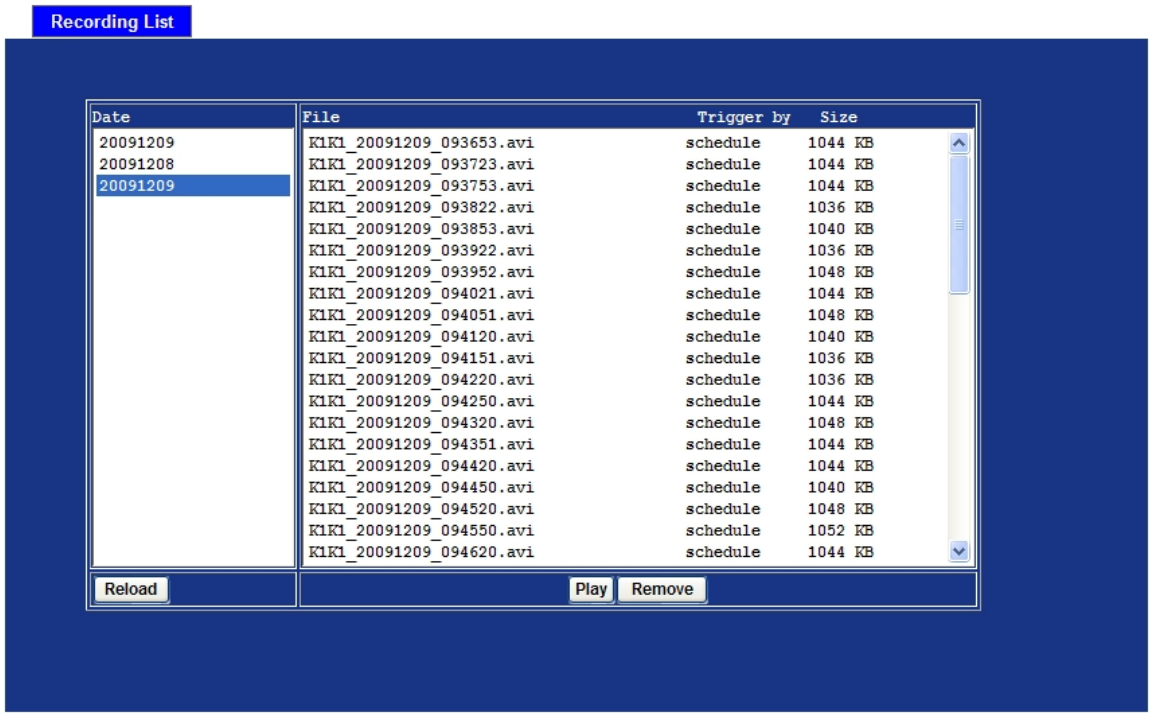
This page shows the status of attached SD card. You may setup related parameters to manage the attached SD card also.



Enable automatic disk cleanup	Delete old recorded files while the conditions are reached as below.
Remove recordings order than	Delete old files by days.
Remove oldest recordings when disk is	Delete old files by left capacity.

3.14 Recording List

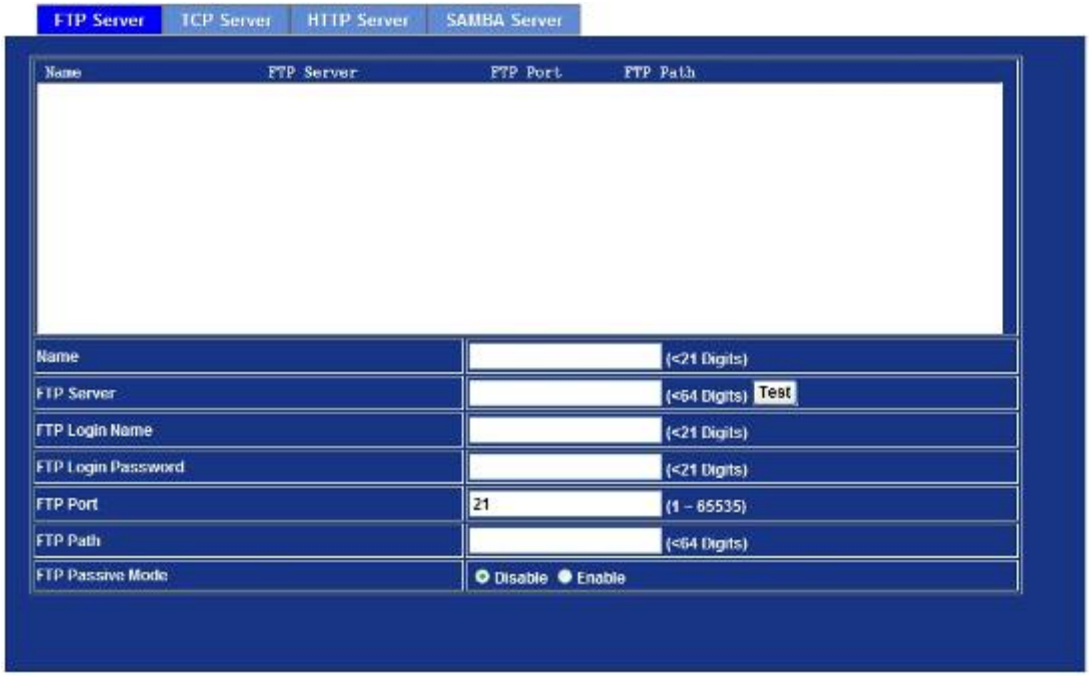
This page shows the files list information. User may play or delete the selected file.



3.15 Event Server Configuration

3.15.1. FTP Server

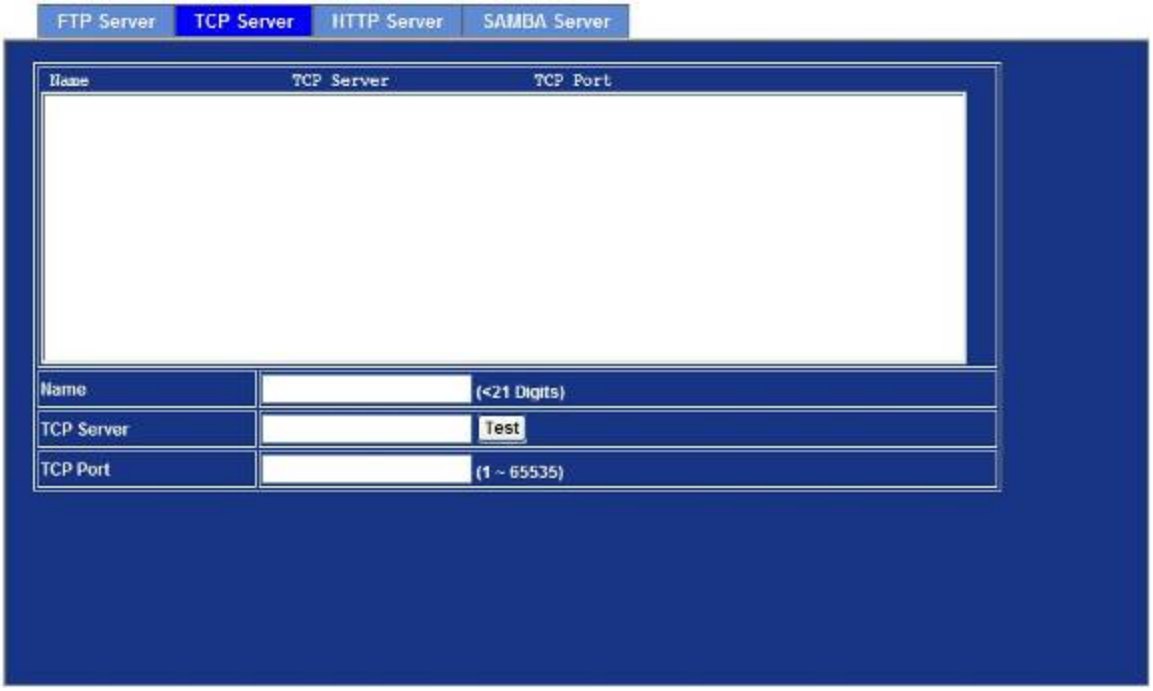
You may setup FTP parameters for further operation of Event Schedule. That's, if users want to send the alarm message to an FTP server, it will need to configure parameters here and also add at least one event schedule to enable event triggering as SMTP.



Name	User can specify multiple FTP paths as wish. Therefore, user needs to specify a name for each FTP setting.
FTP Server	Type the server name or the IP address of the FTP server.
Test	Check the FTP server whether this account is available or not.
FTP Login name	Type the user name for the FTP server.
FTP Login Password	Type the password for the FTP server.
FTP Port	Set port number of FTP service.
FTP Path	Set working directory path of FTP server.
FTP Passive Mode	Select passive or active mode connecting to FTP server.

3.15.2. TCP Server

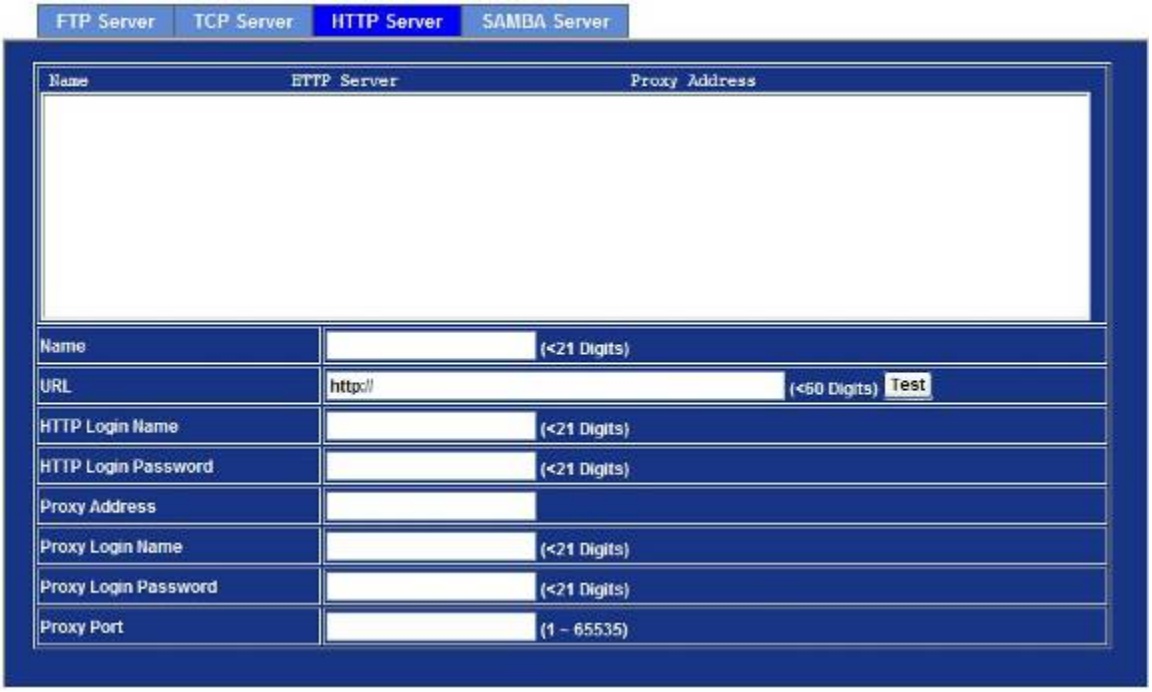
In addition to send video file to FTP server, the device also can send event message to specified TCP server.



Name	User can specify multiple TCP servers as wish. Therefore, user needs to specify a name for each TCP server setting.
TCP Server	Type the server name or the IP address of the TCP server.
TCP Port	Set port number of TCP server.

3.15.3. HTTP Server

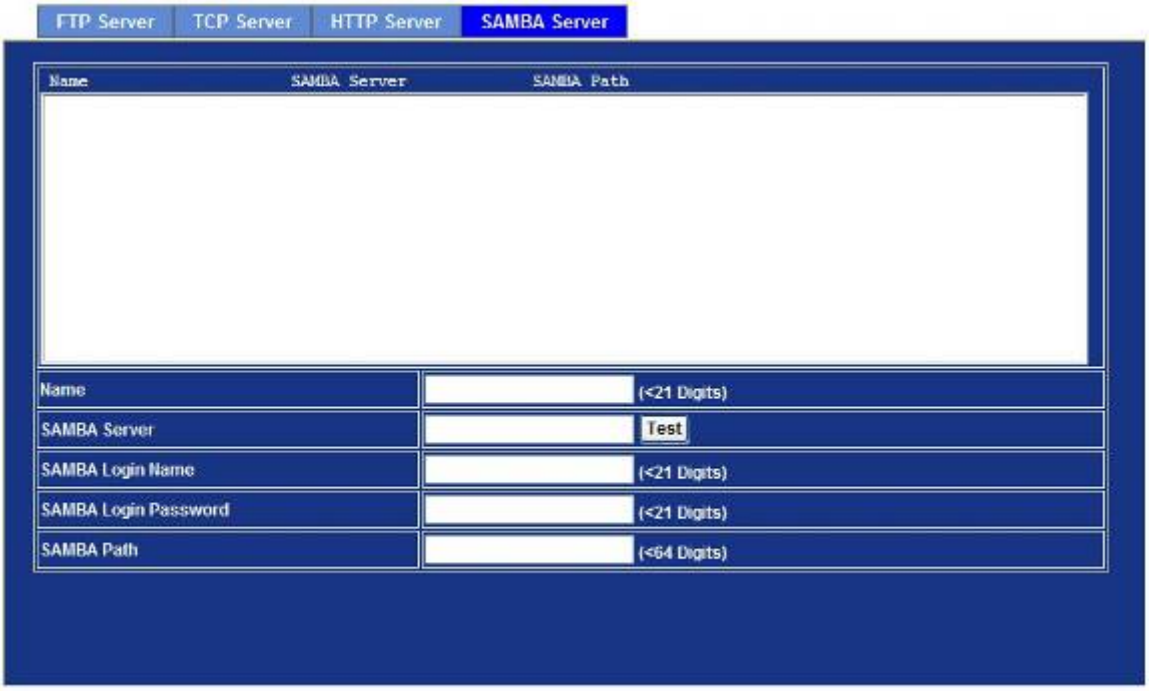
The device also can send event message to specified HTTP server.



Name	User can specify multiple HTTP servers as wish. Therefore, user needs to specify a name for each HTTP server setting.
URL	Type the server name or the IP address of the HTTP server.
Test	Check the HTTP server whether it is available or not.
HTTP Login name	Type the user name for the HTTP server.
HTTP Login Password	Type the password for the HTTP server.
Proxy Address	Type the server name or the IP address of the HTTP Proxy.
Proxy Login name	Type the user name for the HTTP Proxy.
Proxy Login Password	Type the password for the HTTP Proxy.
Proxy Port	Set port number of Proxy.

3.15.4. SAMBA Server

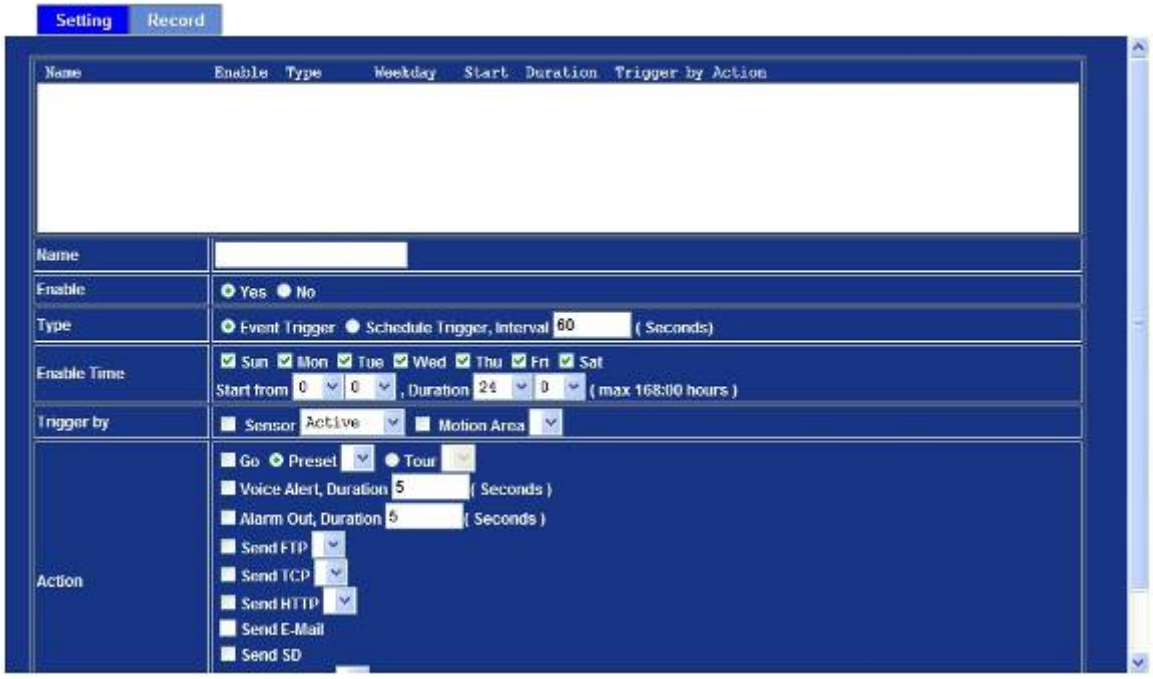
The device also can send video stream to specified SAMBA server. Most of the time, the SAMBA server will be another PC or NAS server.



Name	User can specify multiple HTTP servers as wish. Therefore, user needs to specify a name for each HTTP server setting.
SAMBA Server	Type the server name or the IP address of the SAMBA server.
Test	Check the SAMBA server whether this account is available or not.
SAMBA Login name	Type the user name for the SAMBA server.
SAMBA Login Password	Type the password for the SAMBA server.
SAMBA Path	Set working directory path of SAMBA server.

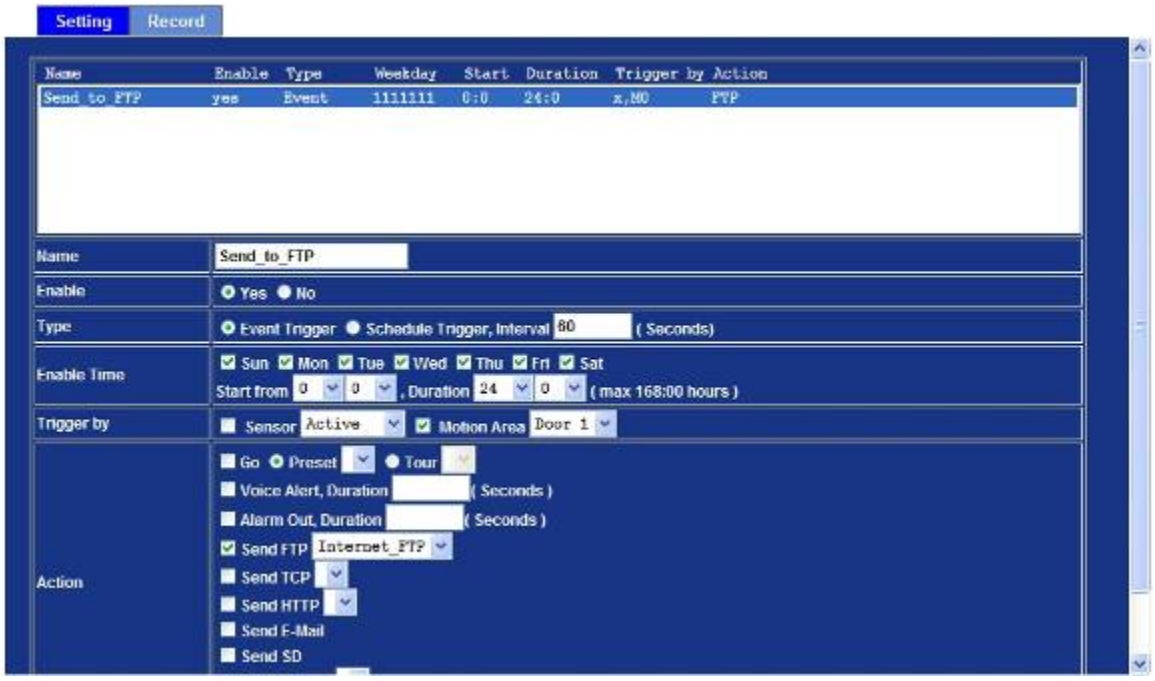
3.16 Event Schedule Configuration

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



Name	Name of the Event or Schedule.
Enable	Enable or disable this Event or Schedule.
Type	Schedule start with Event trigger or Schedule trigger.
Enable Time	Define the feasible time slot.
Trigger by	Select the triggered sources with event trigger.
Action	Define the actions once event triggered.

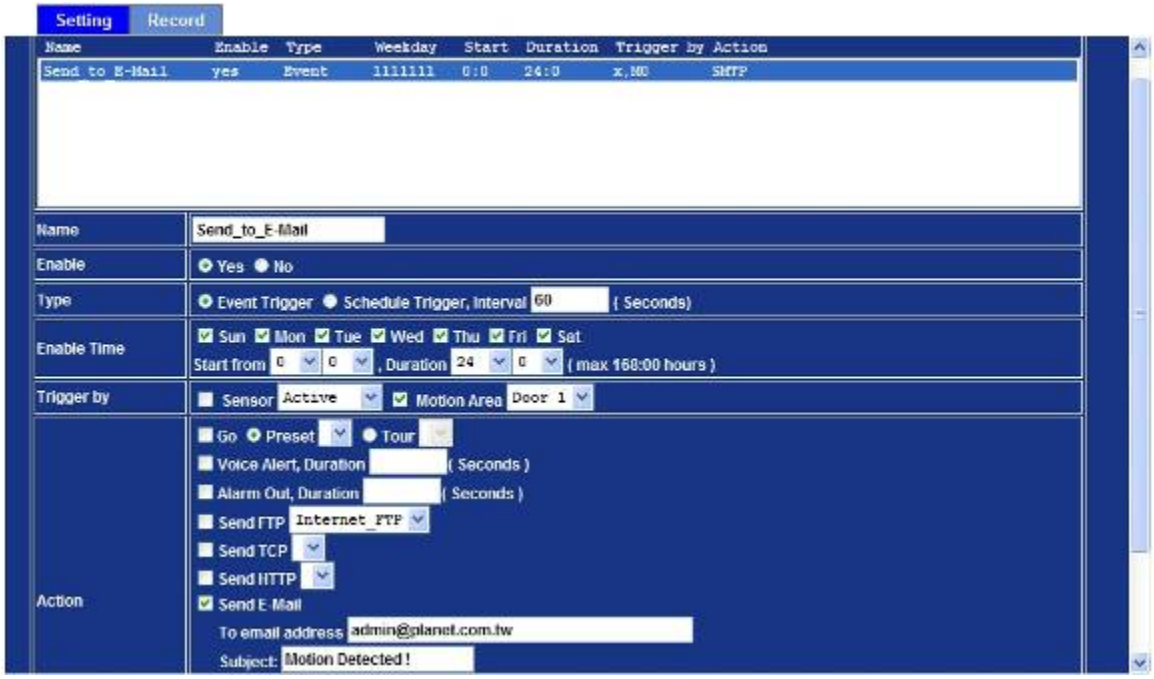
Example1.



Send file to FTP server by motion triggered always:

1. Select event trigger
2. Enable time: start from 00:00 to 24:00 every day
3. Trigger by: Motion Area (Added in Object Detection page)
4. Action : Send FTP (Add in Event Server -> FTP Server page)

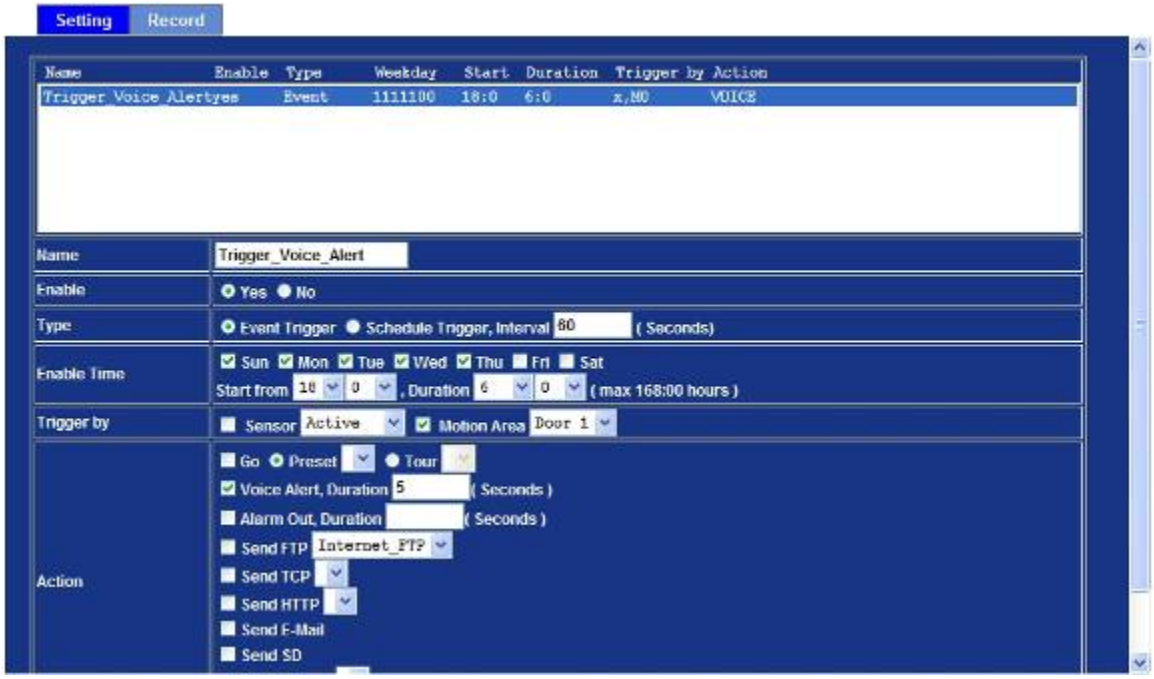
Example2.



Send file to E-Mail server by motion triggered from Friday 18:00 to Saturday 06:00

1. Select event trigger.
2. Enable time: start from Friday 18:00 and keep work in 12 hours, so it will stop on Saturday 06:00.
3. Trigger by : Motion Area (Added in Object Detection page)
4. Action : Send e-mail (Add in E-Mail page)
    i. To email address: You need to input the receiver email address.
    ii. Subject: You could specify the email subject.
    iii. Message: You could specify the email content.

Example3.

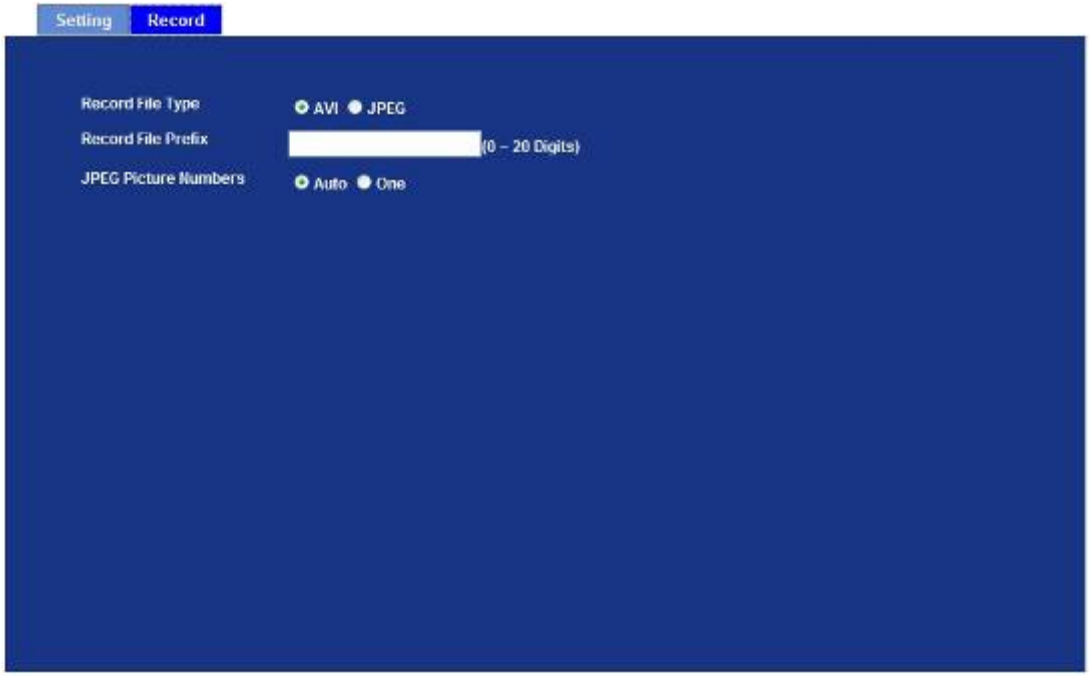


Enable Voice Alert every 10-minute during 18:00 to 24:00 from Monday to Friday.

1. Type: Select schedule trigger and interval is 10-minute.
2. Enable Time: Select Monday to Friday, and set start time from 18:00 and keep work in 6 hours.
3. Trigger by: You do not need to choose it, because this will be triggered every minute.
4. Action: Voice Alert.

3.17 Record Configuration

User can choose the type of record file for event or schedule application.



Record File Type	Choose AVI or JPEG file format.
Record File Prefix	Define the prefix of recorded filename.
JPEG Picture Numbers	Define the picture capture method.

Appendix A: Alarm I/O Connector

Some features of the Internet Camera can be activated by the external sensor that senses physical changes in the area Internet Camera is monitoring. These changes can include intrusion detection or certain physical change in the monitored area. For examples, the external sensor can be a door switch or an infrared motion detector. These devices are customer provided, and are available from dealers who carry surveillance and security products. Electrically, they must be able to provide a momentary contact closure.

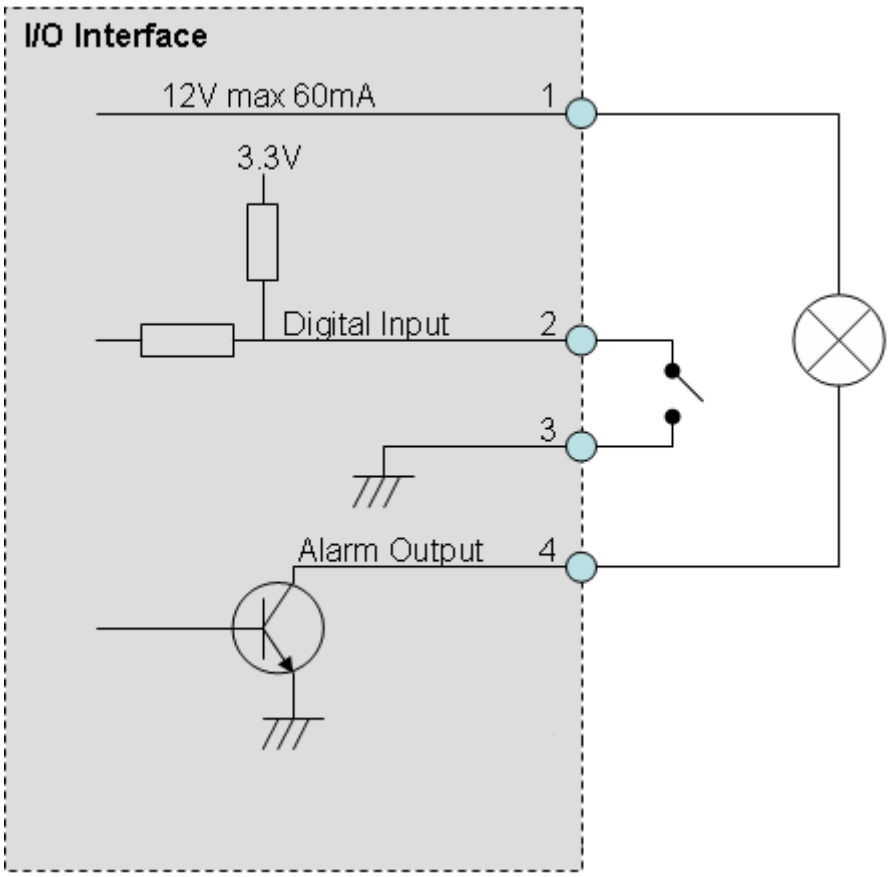
This device provides a general I/O terminal block with one digital input and one output for device control. The pin 1 is located at the right side of terminal block from rear view. Pin 2 and 3 can be connected to an external sensor. The input voltage will be monitored from the initial state 'LOW'. If the external sensor need 12VDC power, then it can connect to Pin1(50mA maximum). The Alarm Output of pin 3 and 4 can be used to turn on or off the external device.

This Internet Camera provides a general I/O terminal block as below:

Pin	Function
1	12VDC power supply (50mA maximum)
2	Alarm Input
3	GND
4	Alarm Output

User can refer to the schematic below to make a proper connection between I/O connector and external sensor and output device.

Explanation of External I/O Circuit Diagram:



CAUTION!

- ✓ The low voltage/current circuits and high voltage/current circuits are in the Internet Camera circuit. The qualified electrician should do the wring not by yourself incorrect wiring could damage Internet Camera. You could receive the fatal electric shock.
- ✓ The external I/O is not capable of connecting directly to devices that require large amounts of current. In some cases, a custom interface circuit (customer provided) may have to be used. Serious damage to Internet Camera may result if a device is connected to the external I/O that exceeds its electrical capability.

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 Internet Camera installed or if the IP address conflicts with any other devices 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 devices conflicts with the IP address of Internet Camera, also can utilize the PING command but you must disconnect the Internet Camera from the network first.

Appendix C: 3GPP Access

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

Note *That to use the 3GPP function, it strongly recommends to install the Networked Device with a public and fixed IP address without any firewall protection.*

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

Dialing procedure:

1. Choose a verified player (PacketVideo or Realplayer currently)

2. Use the following URL to access:

   rtsp://*host*/mpeg4/media.3gp

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

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

Note *Besides IP camera and 3G mobile phone. You will also need to make sure the ISP and telephone company has provided the 3GPP service to you.*

Appendix D: Bandwidth and Video Size Estimation

The frame rate of video transmitted from the Internet Camera 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 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 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 MPEG-4 mode	Average bit rate for H.264 mode
160 x 120 (QQVGA)	3 ~ 6k byte per frame	64kbps~256kbps @ 30fps	32kbps~192kbps @ 30fps
320 x 240 (QVGA)	8 ~ 20k byte per frame	256kbps~768kbps @ 30fps	192kbps~512kbps @ 30fps
640 x 480 (VGA)	20 ~ 50K byte per frame	512kbps~2048kbps @ 30fps	384kbps~1536kbps @ 30fps
1280x1024 (SXGA)	100 ~ 200k byte per frame	NA	512kbps~3076kbps @ 15fps

NOTE: *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 E: DDNS Application

1. Preface

If you have a Cable modem or xDSL, this is a great way to host your own Networked Device or other TCP/IP Service. Get your own domain like www.yourname.com, www.yourname.com.tw etc. (Note: This domain must be registered with Internic via registration authorities such as Network Solutions, DirectNIC, Register.com etc). Your domain name's dynamic IP address is automatically tracked by a DDNS server.

Host your own Networked Device and much more no matter what your computer's IP address may be and even if you have dialup, DSL or cable modem internet connection where your computer's IP address changes all the time!! DDNS service supports all top level domain names including but not limited to .com, .net, .org, .to, .uk etc.

2. Ethernet Network Environment

Normally, DDNS service is only necessary for the users that could only obtain dynamic IP addresses. As to the users that could obtain the static valid IP address, they do not usually have to apply the DDNS service. Before we decide if DDNS is necessary for the users, we have to check what kind of Ethernet network environment we have to install our Networked Device on.

(1) Environment of Fixed Valid IP Network

If users could obtain valid IP addresses, they could save the effort to apply DDNS service. Because the IP address in this environment is fixed, users could input the IP address or domain name of demo site directly in the IE browser.

(2) Environment of Dynamic IP Network

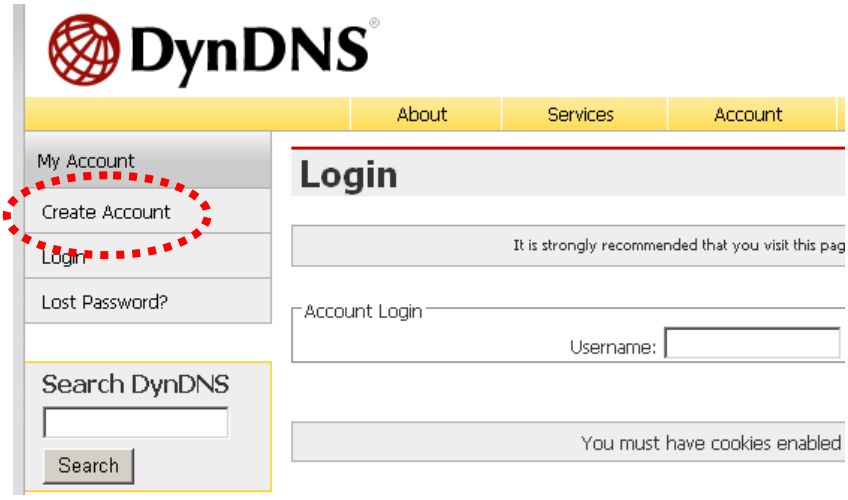
If users is under an environment of dynamic IP network (Dial-up xDSL), they have to apply a domain name in advance. Then apply DDNS service. Finally setup the necessary information of DDNS and PPPoE of the Networked Device in order to let the outside administrator be able to access through internet.

3. Application Steps – DDNS & Domain Name

(1). Visit the following web site: http://www.dyndns.org/

(2). Click "Account"

(3). After the columns show up at the left side, click “Create Account”.



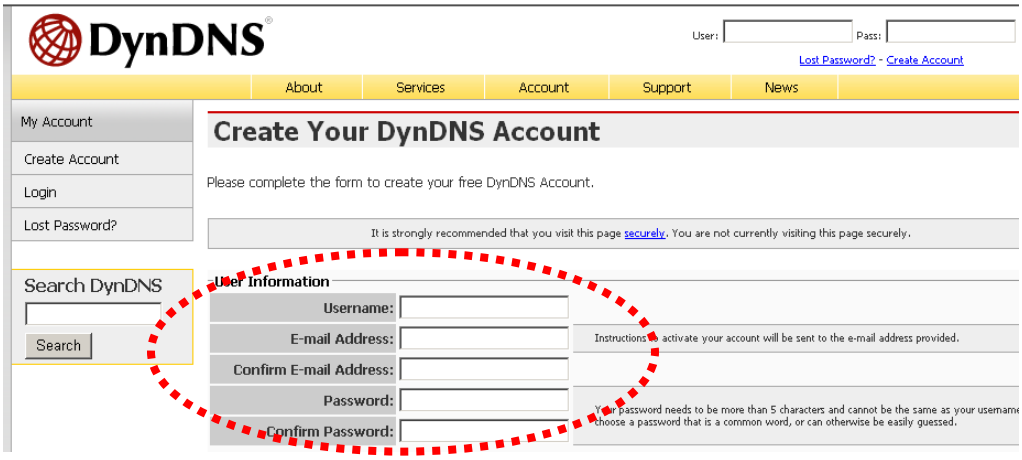
(4). Fill the application agreement and necessary information.

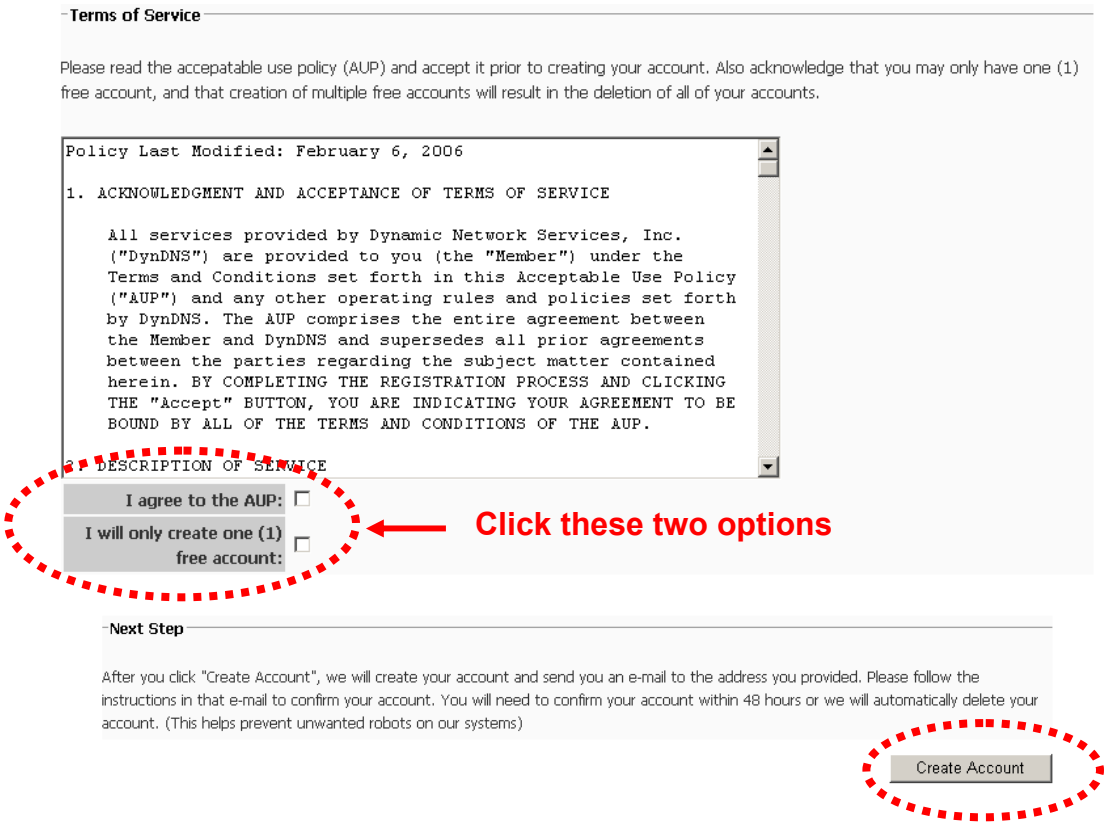
a. Username

b. E-mail address and confirmation

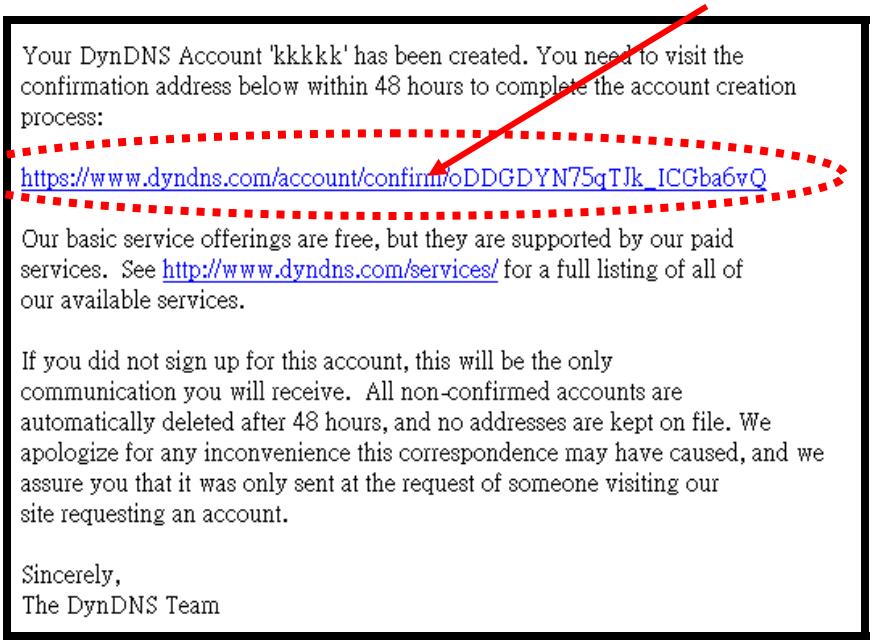
c. Password and confirmation

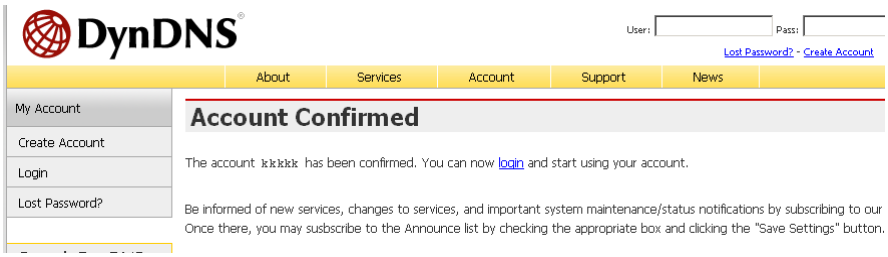
d. Submit all the input information and finish creating an account





(5). Check your e-mail mailbox. There will be an e-mail with a title “Your DynDNS Account Information“. Click the hyperlink address to confirm the DDNS service that you just applied. Then DDNS you applied activated.



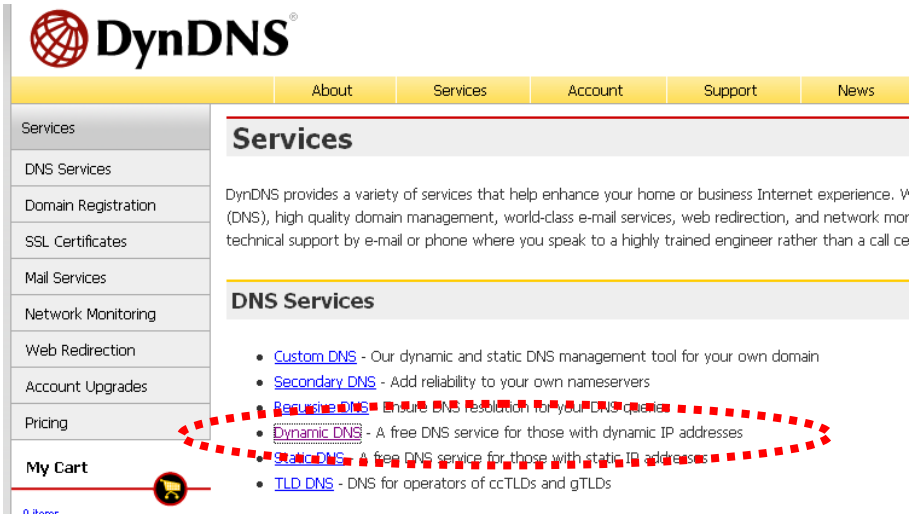


(6). Enter the web page http://www.dyndns.org/ again. Input your username and password that you just applied to login administration interface of DDNS server.

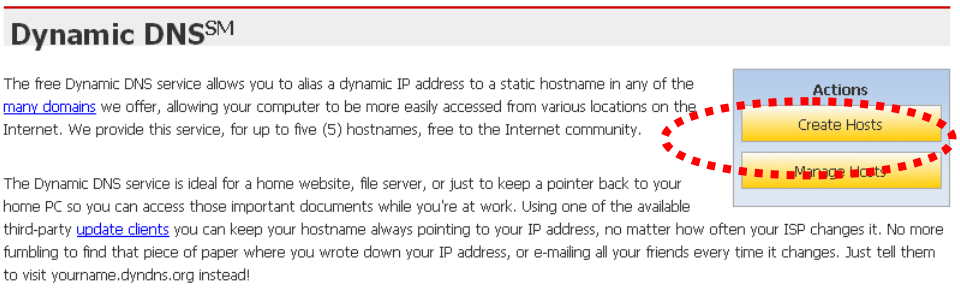
(7). If the correct username and password are input, you can see the following picture at the top-right of the login page.

(8). Click the "Services".

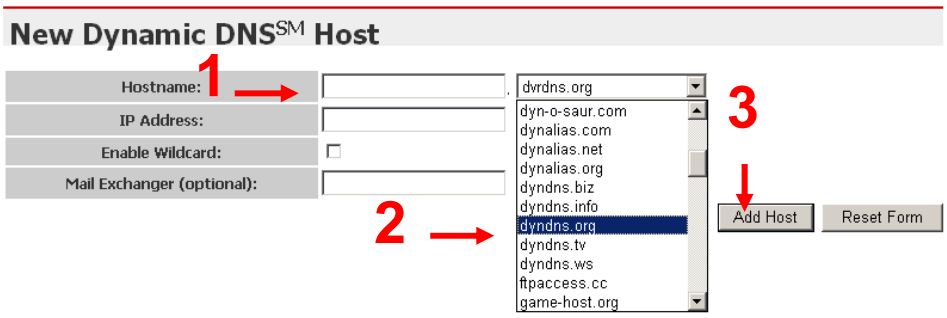
(9). Click the " Dynamic DNS ".



(10). Click the "Create Hosts".



(11). We could create a domain name without any charge at this step. First, we input the host name. (No.1) Then we pick a domain that is easy to remember. Finally (No.2), click the "Add Host" to submit the domain name information. (No.3)



4. Setup the DDNS and PPPoE of network device

At last, users have to enter the web page of Networked Device and setup the necessary information of DDNS and PPPoE after the application of DDNS service. Please check the user manual to access the DDNS and PPPoE pages. After saving the modification, restart the device. The external users could browse the Networked Device by the input of their domain name.

Appendix F:
Configure 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 setup as fixed IP address, also the port forwarding or Virtual Server function of router needs to be setup. 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 as below:

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

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

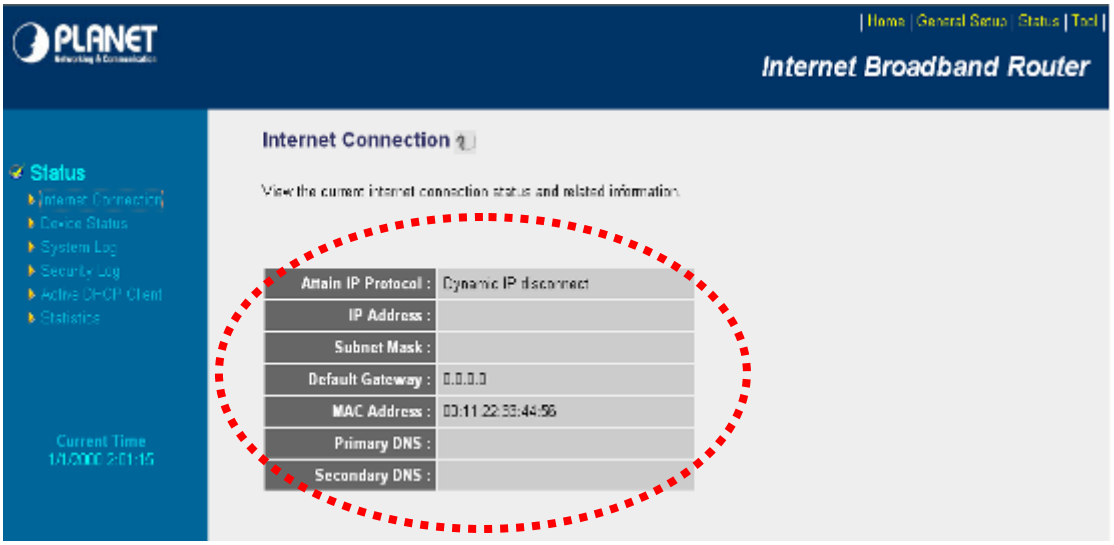
1. Assign a local/fixed IP address to your device

The device must be assigned a local and fixed IP Address that allows it to be recognized by the router. Manually setup 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. The PLANET WNRT-620 is used as an example to clarify the configuration process. Configure the initial settings of the router by following the steps outlined in the router's **Quick Installation Guide**.

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



Your WAN IP Address will be listed here.

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

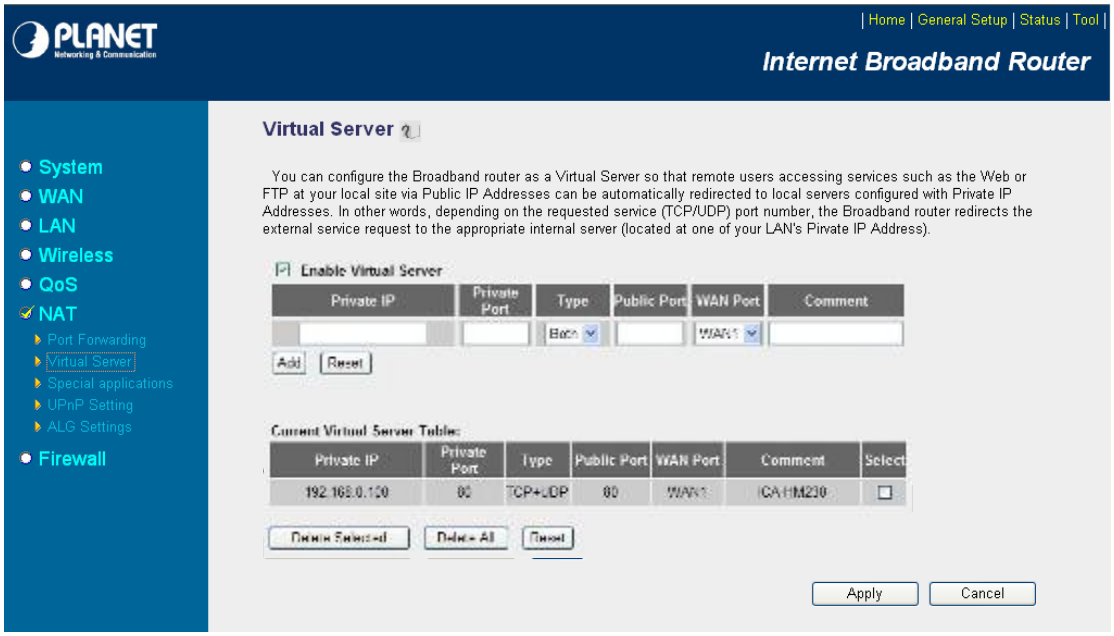
The firewall security features built into the router and most routers prevent users from accessing the video from the device over the Internet. The router connects to the Internet over a series of numbered ports. The ports normally used by the device are blocked from access over the Internet. Therefore,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

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

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

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

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 access from WAN by the router's WAN IP Address.

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

Appendix G: 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, Paran (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 H:
Troubleshooting & Frequently Asked Questions

Features	
The video and audio codec is adopted in the device.	The device utilizes H.264, MPEG-4 and M-JPEG triple compression to providing high quality images. Where H.264 and MPEG-4 are standards for video compression and M-JPEG is a standard for image compression. The audio codec is defined as AMR for 3GPP and G.711/G.726 for RTSP streaming.
The maximum number of user accesses the device simultaneously.	The maximum number of users is limited to 20. 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 outdoors using. However, equipped with a weatherproof case 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 packaged, is used. Secure the power connector and re-power it on again.
The network cabling is required for the device.	The device uses Category 5 UTP cable allowing 10 and/or 100 Base-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 username and password for the first time or after factory default reset	Username = **admin** and leave password blank. Note that it's all case sensitivity.
Forgot the username and password	Follow the steps below. 1. Restore the factory default setting by press pressing and holding down more than 3 seconds on the device. 2. Reconfigure the device.
Forgot the IP address of the device.	Check IP address of device by using the PLANET IPWizard program or by UPnP discovery or set the device to default by Reset button.

PLANET IPWizard program cannot find the device.	● Re-power the device if cannot find the unit within 1 minutes. ● Do not connect device over a router. PLANET IPWizard program cannot detect device over a router. ● If IP address is not assigned to the PC which running PLANET IPWizard program, then PLANET IPWizard 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 IPWizard program fails to save the network parameters.	Network may have trouble. Confirm the parameters and connections of the device.
UPnP NAT Traversal	
Can not 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 are failed	Maybe too many IP cameras have been installed on the LAN, and then NAT router is out of resource to support more cameras. You could turn off and on NAT router to clear out of date information inside router.
Access this device	
Cannot access the login page and other web pages of the 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 is ok. ● Make sure enter 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 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 forward 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, set up not to use the proxy server. ● Confirm that Default Gateway address is correct. ● The router needs Port Forwarding feature. Refer to your router's manual for details. ● Packet Filtering of the router may prohibit access from an external network. Refer to your router's manual for details. ● Access the 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 above procedure, reset Internet Camera to default setting and installed it again.
Image or video does not appear in 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 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 "**IPCamera Control"**. The status column should show "Installed". If the file is not listed, make sure your Security Settings in Internet Explorer are configured properly and then try reloading the device's home page. Most likely, the ActiveX control did not download and install correctly. Check your Internet Explorer security settings and then close and restart Internet Explorer. Try to browse and log in again.
Internet Explorer displays the following message: "Your current security settings prohibit downloading ActiveX controls".	Setup 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 slower than the setting. ● Check the bandwidth of Internet connection. If the Internet bandwidth is lower than target bit rate, the video streaming will not work correctly. ● Ethernet switching hub can smooth the frame rate.
Blank screen or very slow video when audio is enabled.	● Your connection to the device does not have enough bandwidth to support a higher frame rate for the streamed image size. Try reducing the video streaming size to 160x120 or 320x240 and/or disabling audio. ● Audio will consume 32 kbps. Disable audio to improve video. Your Internet connection may not have enough bandwidth to support streaming audio from the device.
Image Transfer on e-mail or FTP does not work.	● Default Gateway and DNS server address should be set up correctly. ● If FTP does not work properly, ask your ISP or network administrator about the transferring mode of FTP server.
Pan/Tilt does not work. (including Click to Center and Preset Positioning)	● Click "**Refresh**" on the Internet Explorer when the communication stops with the device. The image will refresh. ● Other clients may be operating Pan/Tilt. ● Pan/Tilt operation has reached the end of corner.
Pan/Tilt does not work smoothly.	There may be a slight delay when you are using the Pan/Tilt feature in conjunction with streaming audio and video. If you find that there is a significant delay while panning or tilting the camera, try disabling the audio streaming and/or reducing the video streaming size.
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 insure the images you are viewing are the best they can be, set the Display property setting (color quality) to 16bit at least and 24 bit or higher if possible within your computer. ● The configuration on the device image display is incorrect. You need to adjust the image related parameters such as brightness, contrast, hue and sharpness properly.
Image flickers.	● 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.
Miscellaneous	
Can not play the recorded ASF file	Please installed Microsoft®'s DirectX 9.0 or later and uses the Windows Media Player 11.0 or later to play the AVI filed recorded by the Device.

Appendix I: Product Specification

Product	ICA-H610
Camera Specification	
Horizontal Resolution	500 TV Lines
Image Sensor	1/4” Color SONY CCD image sensor
Sensor Elements	NTSC: 15,734 Hz (H), 60 Hz (V) PAL: 15,625 Hz (H), 50Hz (V)
View Angle	H: 5.6 ~ 51.2 Degree V: 4.3 ~ 39.3 Degree
Optical /Digital Zoom	10X optical zoom, 10X digital zoom
Lens	3.8 ~ 38.0 mm
Illumination	0.7 Lux (color) / 0.02 Lux (monochrome)
Image Specification	
Video Encoder	H.264 / MPEG-4 / M-JPEG simultaneously
Video Resolution	4CIF (D1), CIF, QCIF 30fps for all resolution
Audio Specification	
Audio Codec	G.711 / G.726 / AMR
Audio Streaming	One-way / two-way
Audio Input	Build in / External microphone
Audio Output	Line level out
Network and Configuration	
Network Interface	Ethernet 10 /100Base-TX
Networking Protocol	TCP, UDP, HTTP, SMTP, FTP, NTP, DNS, DDNS, DHCP, ARP, Bonjour, UPnP, RTSP, RTP, RTCP, PPPoE, 3GPP, ICMP
Browser	Microsoft ® Internet Explorer 6.0 or later
Hardware Specification	
Pan Degree	355 degree continuous panning
Tilt Degree	120 degree with instant flip
Manual Pan Degree	0-180 degree / second
Manual Tilt Degree	0-140 degree / second
Preset Point	128 present points
Camera Tour	16 tours
DI / DO ports	DI:1 / DO:1
Environment Specifications	
Power Requirement	12V DC external power adapter IEEE 802.3af
Dimension (Φ x H)	110 x 130 mm
Emission	CE, FCC