H.264 Internet Video Server
IVS-H120

User's Manual

Version: 1.00

Date: September. 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 Internet Video Server
Model: IVS-H120
Rev: 1.0 (Oct. 2009)
Part No. EM-IVS-H120

Table of Content

1. Introduction 6
   1.1 Overview 6
   1.2 Features 6
   1.3 Package Contents 7
2. Basic Setup 8
   2.1 System Requirements 8
   2.2 Physical Description 9
      2.2.1 Left-hand side Panel 9
      2.2.1 Right-hand side Panel 9
   2.3 Hardware Installation 10
      2.3.1 Stand-alone Installation 10
      2.3.2 Chassis Installation and Rack Mounting 11
      2.3.3 Wall Mount Installation 12
      2.3.4 Optional - DIN-Rail Mount Installation 13
   2.4 Initial Utility Installation 14
   2.5 Preparation 16
      2.5.1 Search and View by PLANET IPWizard II 16
      2.5.2 Configure Network by PLANET IPWizard II 17
   2.6 Using UPnP of Windows XP or Vista 19
      2.6.1 Windows XP 19
      2.6.2 Windows Vista 24
   2.7 Install the Device behind a NAT Router 25
   2.8 Setup ActiveX to use the Internet Video Server 26
      2.8.1 Internet Explorer 6 for Windows XP 26
      2.8.2 Internet Explorer 7 for Windows XP 27
      2.8.3 Internet Explorer 7 for Windows Vista 28
3 Web-based Management 29
   3.1 Introduction 29
   3.2 Connecting to Internet Camera 29
   3.3 Live View 31
   3.4 ActiveX Control 34
      3.4.1 Digital Zoom 35
      3.4.2 Record 35
      3.4.3 Snapshot 36
      3.4.4 Voice 36
      3.4.5 Statistics 37
      3.4.6 About 37
   3.5 Network Configuration 38
      3.5.1 Network 38
      3.5.2 DDNS server 40
      3.5.3 PPPoE 41
      3.5.4 Streaming 42
      3.5.5 UPnP 44
      3.5.6 IP Filter 45
      3.5.7 IP Notification 46

3.6 Camera Configuration 48
3.6.1 Picture 48
3.6.2 PTZ Setting 50
3.6.3 Preset Setting 51
3.6.4 Tour Setting 51
3.7 System 53
3.7.1 System 53
3.7.2 Date & Time 54
3.7.3 Maintenance 55
3.8 Video 57
3.8.1 Common 57
3.8.2 Video Profile 57
3.9 Audio Configuration 59
3.10 User Privilege Access Configuration 60
3.11 E-Mail Configuration 61
3.12 Object Detection 62
3.13 Event Server Configuration 63
3.13.1 FTP Server 63
3.13.2 TCP Server 64
3.13.3 HTTP Server 65
3.13.4 SAMBA Server 66
3.14 Event Schedule Configuration 67
3.15 Record Configuration 71
Appendix A: Alarm I/O Connector 72
Appendix B: PING IP Address 74
Appendix C: 3GPP Access 75
Appendix D: Bandwidth and Video Size Estimation 76
Appendix E: DDNS Application 77
Appendix F: Configure Port Forwarding Manually 82
Appendix G: Troubleshooting & Frequently Asked Questions 85
Appendix H: Product Specification 90

1. Introduction

Thank you for purchasing the H.264 Internet Video Server, IVS-H120, allows the conversion of any analog camera into a fully functional IP camera. It integrates the next generation video compression technology – H.264 and can compress the video file size for user to transfer the images on Internet easily. It can stream digital video over an office network in the same way as current IP cameras do. By connecting IVS-H120 with an analog camera, all elements of an existing surveillance system can be upgraded to a new IP surveillance system. The IVS-H120 can send live video and audio through the Internet and users can monitor the surveillance via a web browser anywhere in the world.

The IVS-H120 takes surveillance with 2-Way audio. With a speaker connected to the IVS-H120, the administrator can talk to anyone remotely at the camera site. The IVS-H120 also supports PLANET Media Converter Chassis, it can install max. 15 IVS-H120 can be installed in the media converter chassis at one time. The power of IVS-H120 was supplied by the media converter chassis and can be centrally managed. It offers a flexible and scalable solution with media converter installation.

The IVS-H120 supports Multi-Profile to transfer different video streams in H.264, MPEG-4 and M-JPEG to different users simultaneously. Moreover, the resolutions can differ from one user to another. This state-of-the-art design is considerable to fit in various network environments. Up to 20 users can access to the IVS-H120 at any point at the same time.

1.1 Overview

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

1.2 Features

- 3GPP for 3G mobile remote applications
- 2-Way audio supported
- Multi-Profile encoder supports H.264 / MPEG-4 and M-JPEG video compression simultaneously
- Supports up to D1 resolution
- Plug-N-Watch feature simplifies system integration in existing network environment
- Save-to-NAS function to save video files without operating software
- Easy configuration and management via Windows-Based utility or web interface
- DDNS, PPPoE and FTP upload supporting provides more alternatives in surveillance network
- Motion Detection can monitor any suspicious movement in specific area
- 20 concurrent user

- DI/DO and RS-485 supported
- Standalone or work with PLANET MC-700/1500/1500R media converter chassis
- Cam Viewer Plus - Central management software supported

1.3 Package Contents

User can find the following items in the package:

Video Server unit x 1

Power Adapter x 1

Driver and User's Manual CD x 1

Quick Installation Guide x 1

A/V cable 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 Video Server 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

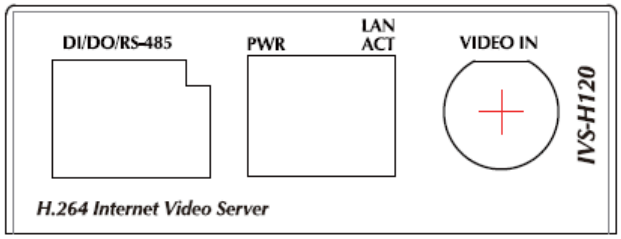
2.1 System Requirements

Network Interface	10/100MBase-TX Ethernet
Monitoring System	Recommended for Internet Explorer 6.0 or later
System Hardware	· CPU: Intel® Core2 Duo E5300 2.6GHz or above · Memory Size : 1GB (1GB or above Recommended) · VGA card resolution : 1024 x 768 or above · VGA card memory : 64 MB or above (at least 128 MB for Megs-pixel resolution) **· Network bandwidth: In VGA resolution mode, minimum upload bandwidth is 1Mbps.**

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

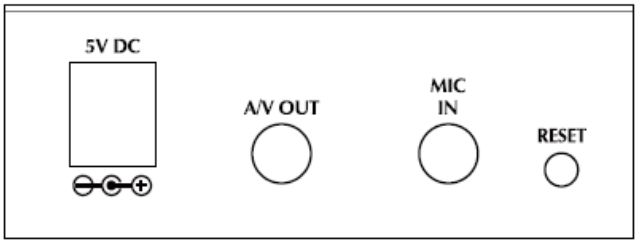
2.2 Physical Description

2.2.1 Left-hand side Panel



DI/DO/RS-485	This IVS-H120 provides a general I/O terminal block with one digital input and one output for device control. It has 6 Pins that from left to right that are 5V DC power supply (50mA maximum), Alarm Input, GND, Alarm Output, D+ terminal of RS-485 and D- terminal of RS-485. **NOTE:** The RS-485 of IVS-H120 is master that can control external scanner or PTZ camera.
RJ-45	Connects to 10Base-T Ethernet or 100Base-TX Fast Ethernet cabling. This Ethernet port built N-Way protocol can detect or negotiate the transmission speed of the network automatically. Please use Category 5 cable to connect the Network Camera to a 100Mbps Fast Ethernet network switch or hub. In the LAN socket, there are two LED embedded: **LAN LED (green color)** This LED will be flashing while network accessing via Ethernet. **Power LED (orange color)** This LED is used to indicate whether DC power is on or not. In addition, this LED will be flashing while network accessing via Ethernet.
Video In	You can install an analog camera and connect it to video-in jack.

2.2.1 Right-hand side Panel



5V DC	The input power is 5V DC. **Note:** ONLY use package power adapter supplied with the product. Otherwise, the product may be damaged.
A/V Out	After connect with the A/V cable attached in packaging, it not only allows this device to output audio or alerting sound, but also it provides composite video output. User can use A/V cable to connect the video server with a TV monitor or VCR. **Note:** 1. The white jack is used for audio output, and yellow jack is used for video output. 2. The IVS-H120 could determine the monitor use NTSC or PAL format signal, and output the fitting video format to monitor automatically. Please connect the video jack (yellow) with monitor properly before power on the machine.
MIC in	MIC-in (line level) jack allows any device that could input audio.
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.) Press the button down continuously. b.) Hold the button at least 5 seconds and release it. Then the device has been restored to default settings and reboot again. **Note:** Restoring the factory default setting will lose the all previous settings included IP address forever. User needs to run the PLANET IPWizard II program to search the device and configure it to let the device work properly again.

2.3 Hardware Installation

2.3.1 Stand-alone Installation

To install an IVS-H120 stand-alone, on a desktop or shelf, simply complete the following steps:

1. Attach video source to IVS-H120

To use IVS-H120, user must supply video source to IVS-H120. Connect the BNC terminal of camera to the IVS-H120's video input and make sure to power on camera first.

2. Plug-in Ethernet cable into RJ-45 connector

Connect an Ethernet cable to the LAN socket located on the IVS-H120's panel and attach it to the network.

3. Check the LAN LED

The LED is defined to identify LAN connection type. When LAN port is connected, the LED will be green.

4. Connect RS-485 D+ and D- (option)

When users would like to apply a camera with P/T/Z function, they usually need to connect their communication port (for camera control) through RS-485. After RS-485 was correctly connected to D+ and D-, the remote users could control the camera movement through internet.

5. Attach Audio source to IVS-H120 (option)

If user needs not only video stream but also audio stream, then the audio source should be attached to IVS-H120. Connect the audio device's line output to the IVS-H120's MIC-in and make sure to power on your camera or audio device first.

6. Attach the power supply

Plug in power adapter and connect to power source. After power on, the camera will start to operate.

NOTE: Only use the power adapter supplied with Video Server. Otherwise, the product may be damaged.

2.3.2 Chassis Installation and Rack Mounting

To install the Video Server in a 10-inch or 19-inch with standard rack, follow the instructions described below.

1. Place your IVS-H120 on a hard flat surface, with the front panel positioned towards your front side.
2. Carefully slide in the module until it is fully and firmly fitted into the slot of the chassis.

Figure 2-1: Insert a media converter into an available slot

3. Attach a rack-mount bracket to each side of the Chassis with supplied screws attached to the package.
4. After the brackets are attached to the chassis, use suitable screws to securely attach the brackets to the rack, as shown in Figure 2-2.
5. Precede with the steps 1~4 of session **2.3.1 Stand-alone Installation** to connect the network cabling and supply video source to Video Server.

Caution: You must use the screws supplied with the mounting brackets. Damage caused to the parts by using incorrect screws would invalidate your warranty.

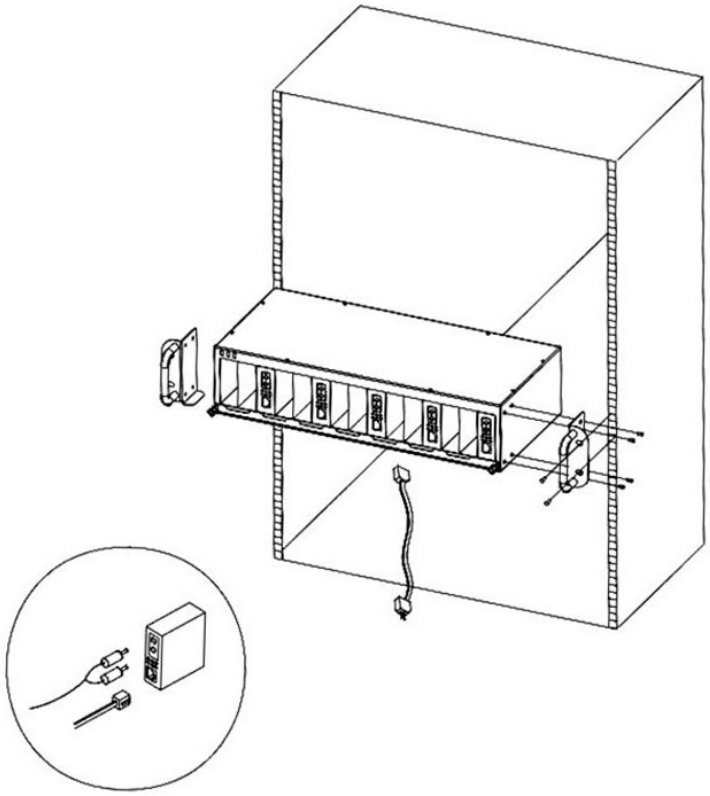


Figure 2-2 Mounting the Chassis in a Rack

2.3.3 Wall Mount Installation

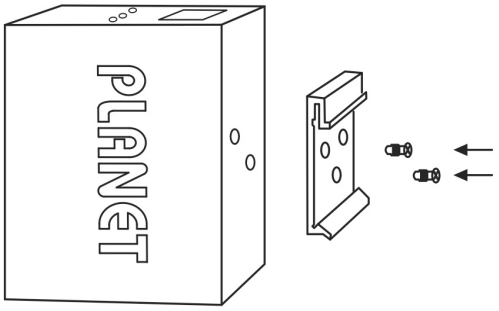
There are two wall holes on the rear of IVS-H120 that allows the video server can be easily installed with DIN-Rail mounting. To install the IVS-H120 on the wall, please follows the instructions described below.

1. To measure the holes spaces and screw the screws on the wall.
2. To hitch the IVS-H120 with screws to fix the video server on the wall.

2.3.4 Optional - DIN-Rail Mount Installation

There are two DIN-Rail holes on the right and left sides of the IVS-H120 that allows the video server can be easily installed with DIN-Rail mounting. The PLANET optional DIN-Rail mounting Kit – RKE-DIN can be order separately. When need to replace the wall mount application with DIN-Rail application on the IVS-H120, please refer to following figures to screw the DIN-Rail on the video server. To hang the IVS-H120, follow the below steps:

1. Screw the DIN-Rail on the IVS-H120.



2. Lightly press the button of DIN-Rail into the track.

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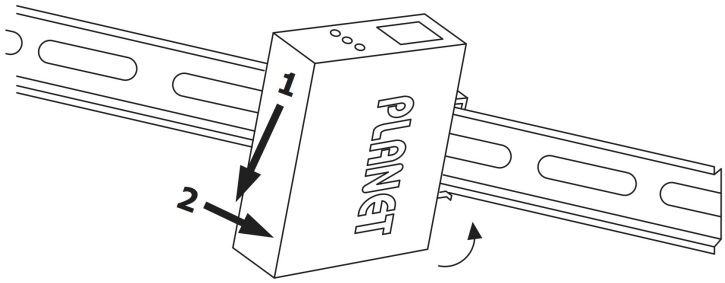
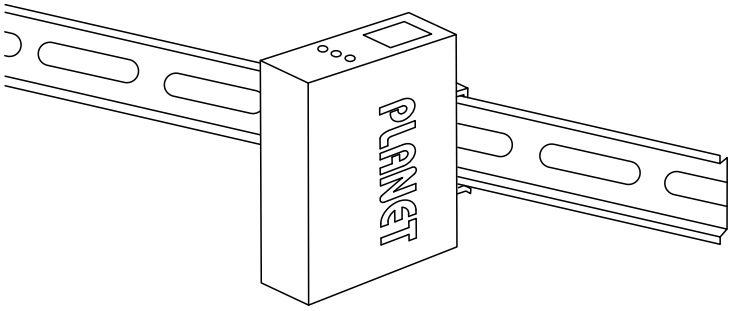


3. Check the DIN-Rail is tightly on the track.

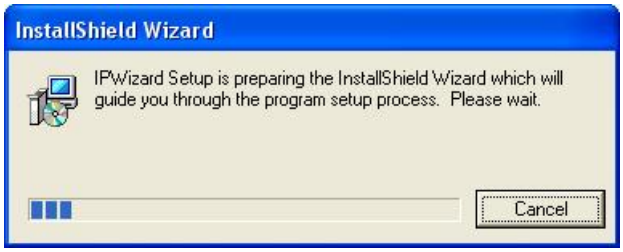


2.4 Initial Utility Installation

This chapter shows how to quick set up your H.264 Internet Video Server. The Internet Video Server is with the default settings. However to help you find the networked Internet Video Server quickly the windows utility PLANET IPWizard II can search the Internet Video Server 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 II” hyperlink; you will see the dialog box as below.

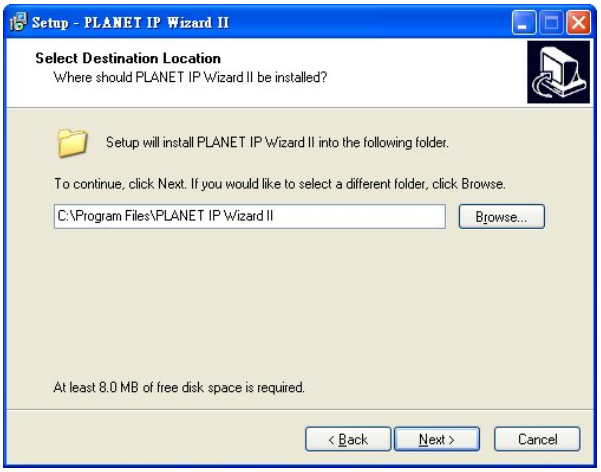
NOTE: If the welcome screen does not appear, click “Start” at the taskbar. Then, select “Run” and type “D:\Utility\IPWizard II\setup.exe”, assume D is your CD-ROM drive.



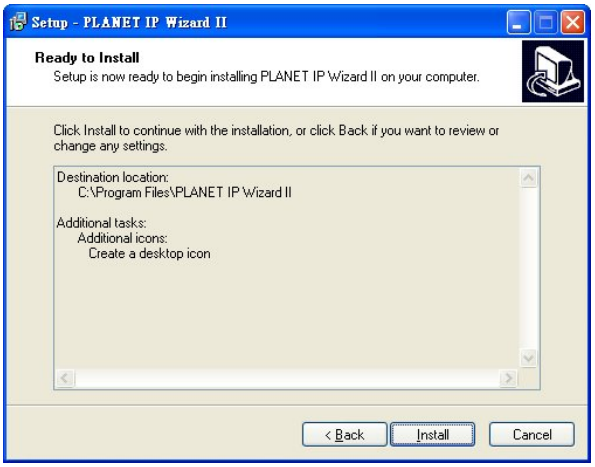
3. The “Welcome to the InstallShield Wizard for PLANET IPWizard II” prompt will display on the screen and click “**Next**” to continue.

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.

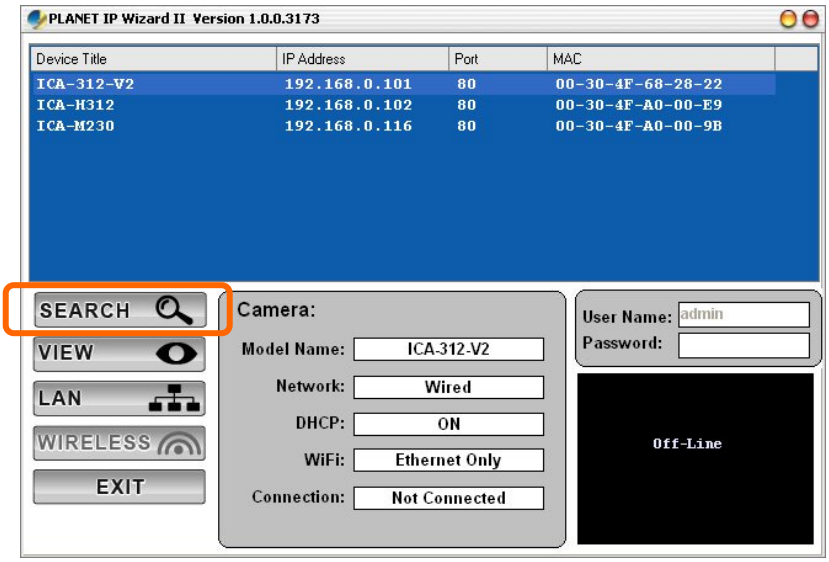
2.5 Preparation

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

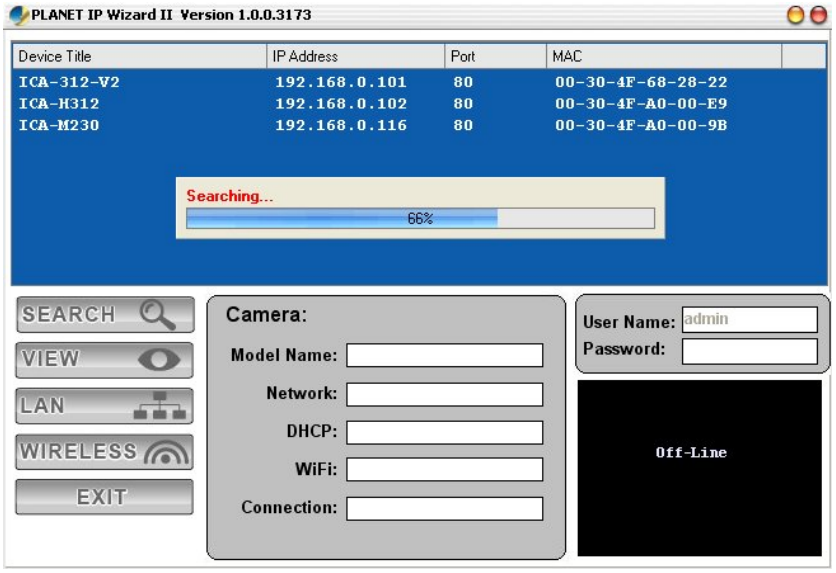
2.5.1 Search and View by PLANET IPWizard II

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

Search

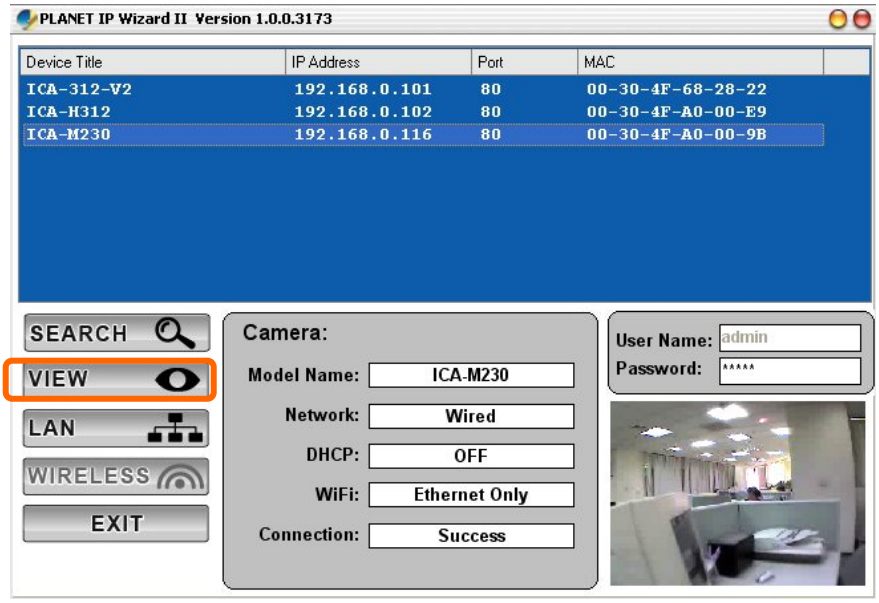


When launch the PLANET IPWizard II, a searching window will pop up. PLANET IPWizard II is starting to search Network Cameras on the LAN. The existed devices will be listed as below.



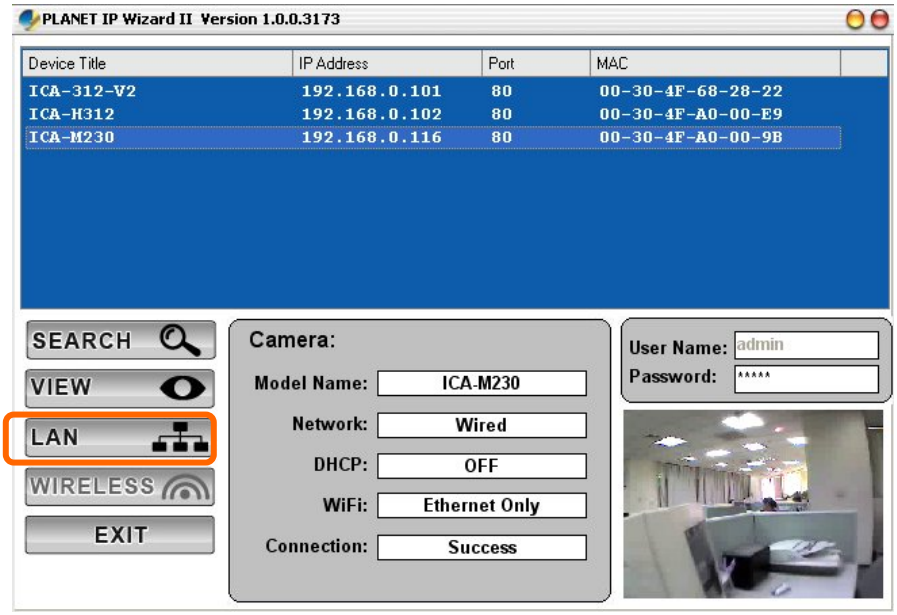
View

If PLANET IPWizard II finds network devices, **View** button will be available. Please select the device 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 network device by browser.



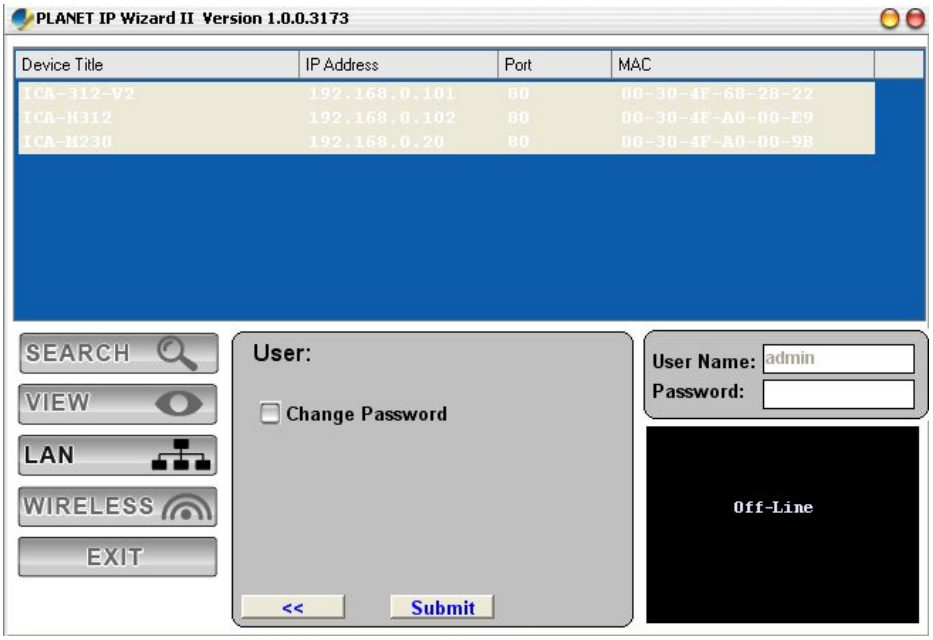
2.5.2 Configure Network by PLANET IPWizard II

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

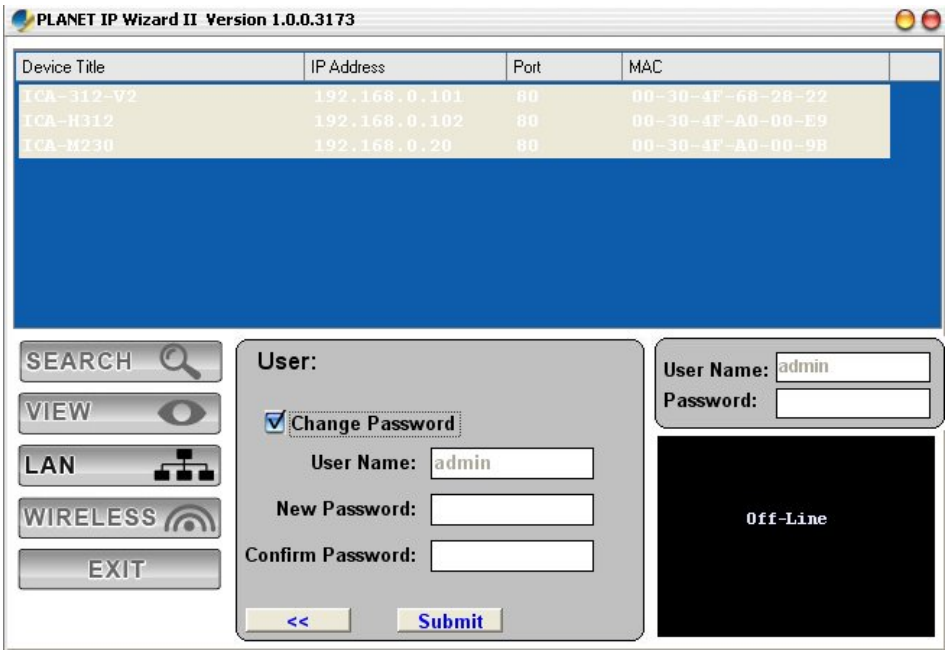


You could modify the relative settings of the selected device. Click "<<" button will quit the LAN

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.

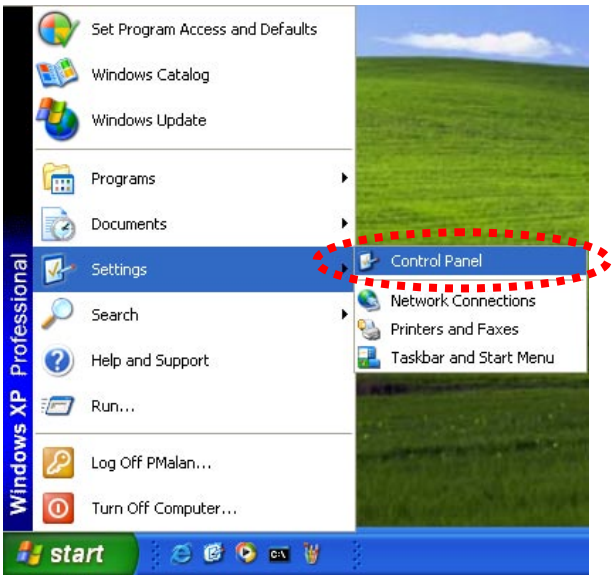
2.6 Using UPnP of Windows XP or Vista

2.6.1 Windows XP

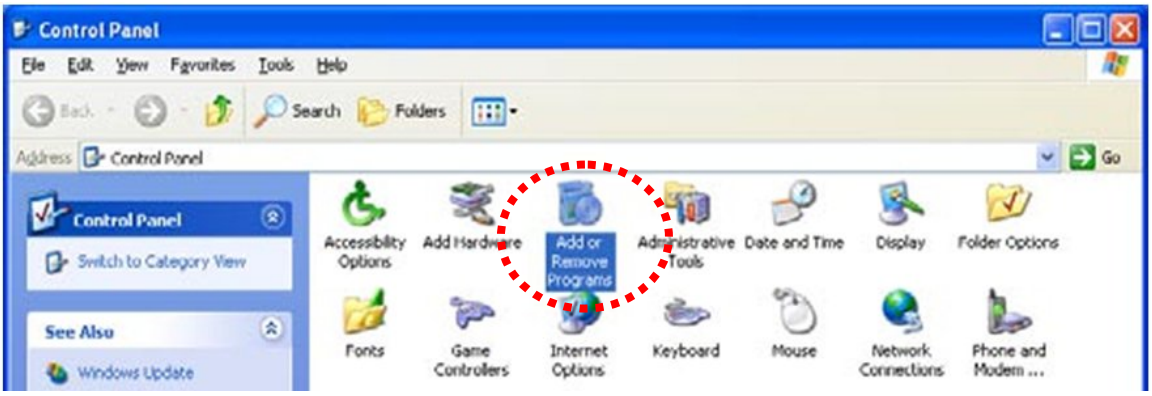
UPnP™ is short for Universal Plug and Play, which is a networking architecture that provides compatibility among networking equipment, software, and peripherals. This device is an UPnP enabled device. If the operating system, Windows XP, of your PC is UPnP enabled, the device will be very easy to configure.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

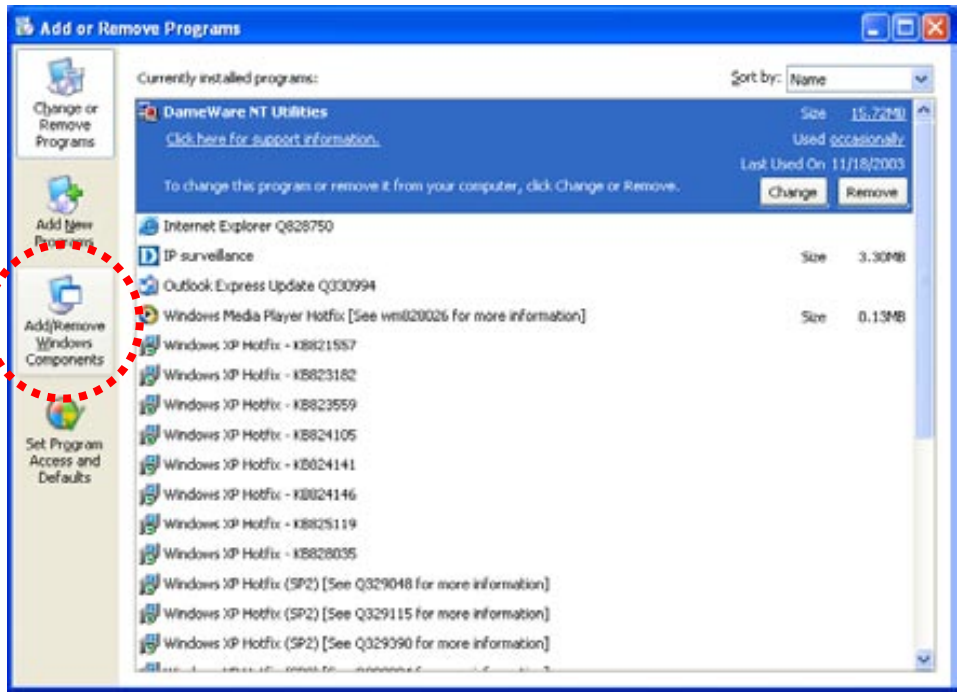
NOTE: Windows 2000 does not support UPnP feature.

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

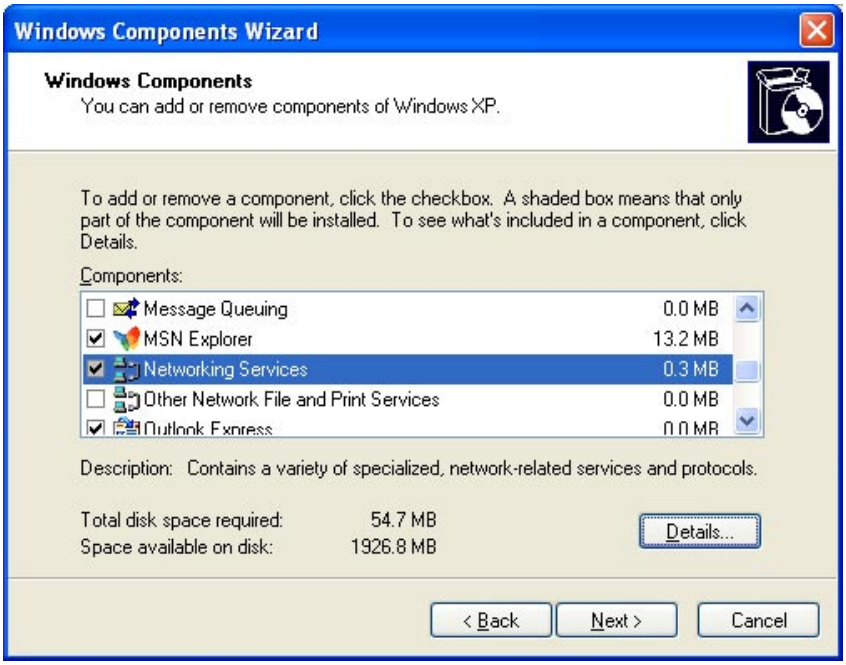


The "**Control Panel**" will display on the screen and double click "**Add or Remove Programs**" to continue

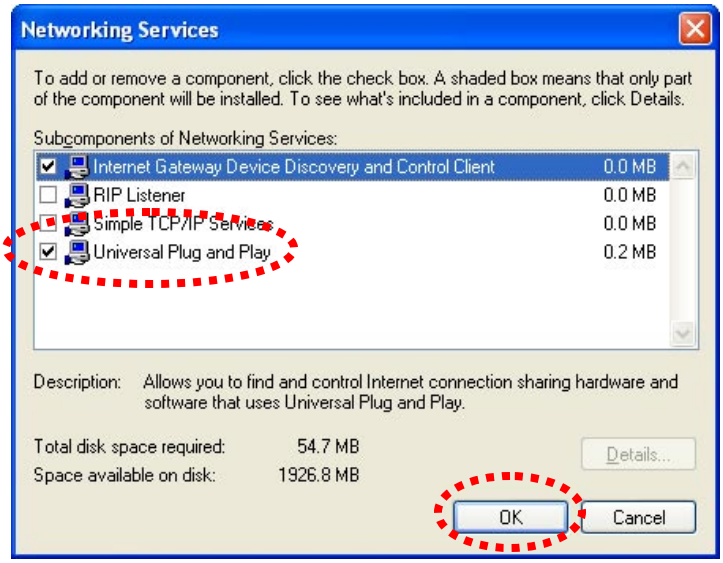




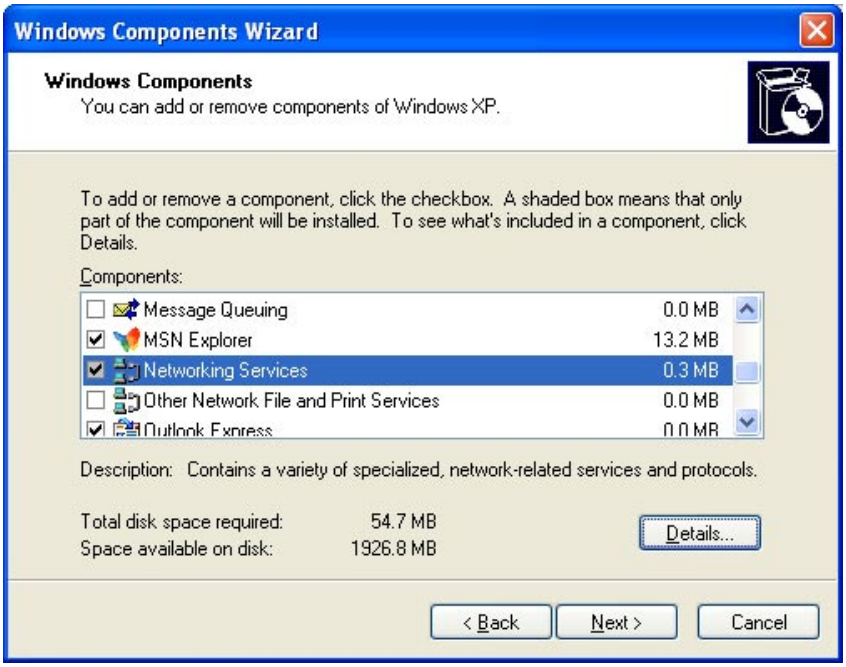
The following screen will appear, select "**Networking Services**" and click "**Details**" to continue



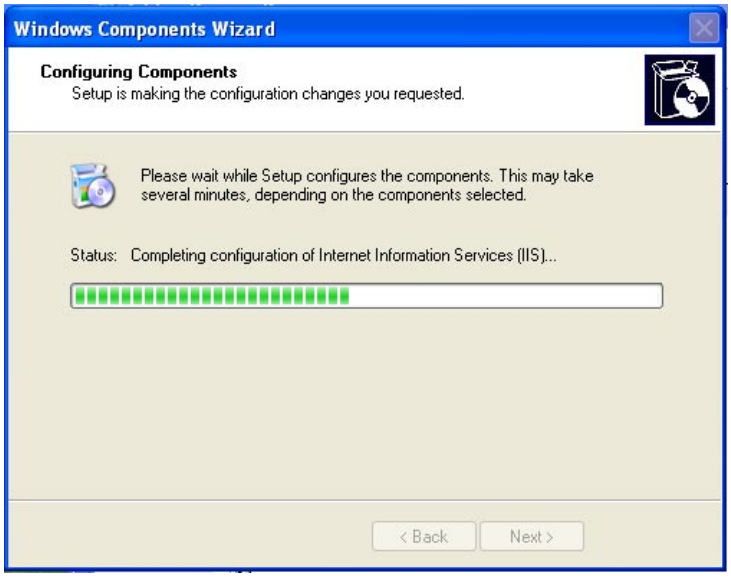
The “Networking Services” will display on the screen, select “**Universal Plug and Play**” and click “**OK**” to continue.



Please click “**Next**” to continue

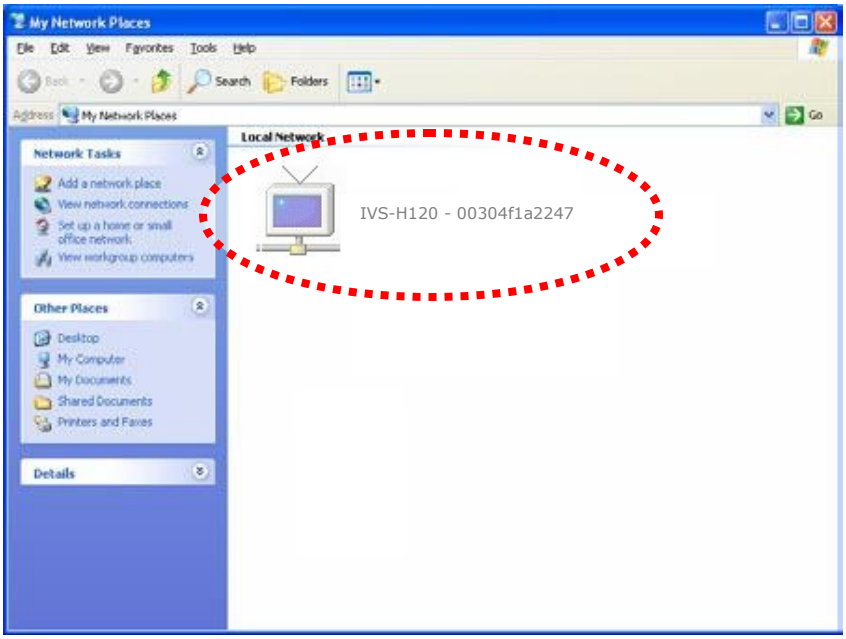


The program will start installing the UPnP automatically. You will see the below pop-up screen, please wait while Setup configures the components.



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

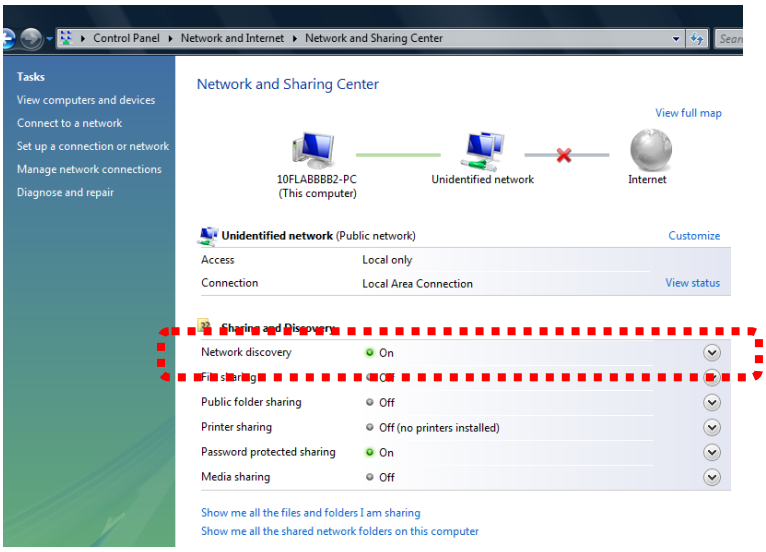
Double-click "**My Network Places**" on the desktop, the "My Network Places" will display on the screen and double-click the UPnP icon with Internet camera to view your device in an internet browser.


My Network Places
File Edit View Favorites Tools Help
Search Folders
Address My Network Places
Go
Network Tasks
Add a network place
View network connections
Set up a home or small office network
View workgroup computers
Other Places
Desktop
My Computer
My Documents
Shared Documents
Printers and Faxes
Details
Local Network
IVS-H120 - 00304f1a2247

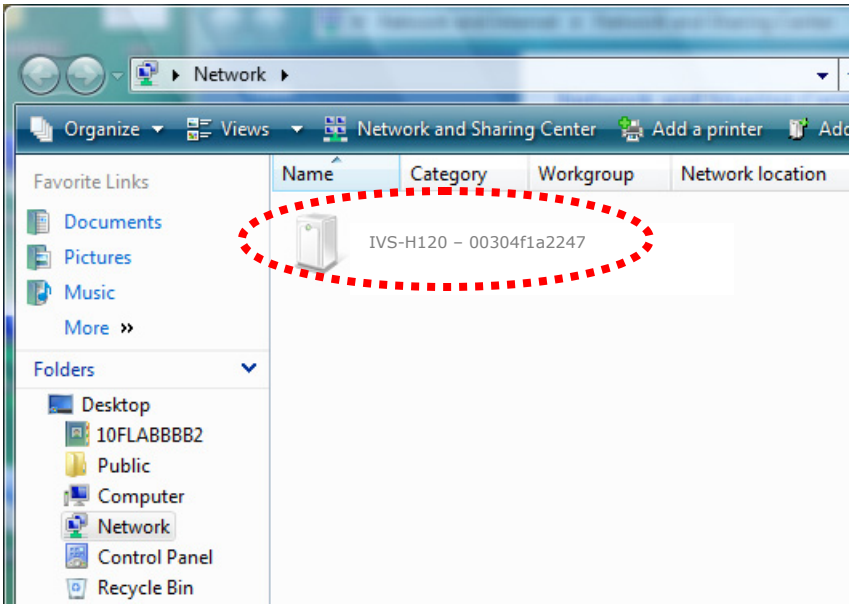
2.6.2 Windows Vista

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 Install the Device behind a NAT Router

Once installed, the device is accessible on your LAN. To access the device from the Internet you must configure your broadband router to allow incoming data traffic to the device. If the device is installed on the LAN with a router, then it may get a dynamic IP address from the DHCP server. However, if the device wants to be accessed from the WAN, its IP address needs to be setup as fixed IP, also the port forwarding or Virtual Server function of router needs to be setup.

However, if your NAT router supports UPnP feature, it can be very easy to achieve NAT traversal automatically. To do this, enable the NAT-traversal feature, which will attempt to automatically configure the router to allow access to the camera.

Installing the device with an UPnP router on your network is an easy 3–step procedure:

(1) Enable UPnP option of your NAT router
(2) Enable UPnP NAT traversal option of the Network Camera (default)
(3) Access your Network Camera by DIPS

(1) Enable UPnP option of your NAT router

To use UPnP IGD function (NAT traversal), you need to make sure the UPnP function is enabled in your router. Most new home routers should support this function. Some of routers are default enable and others are not. Please check user's manual of your NAT router for detail.

(2) Enable UPnP NAT traversal option of the Network Camera

Refer to **Setting ➔ Network ➔ UPnP** page for detail NAT traversal setting. Note that this option is default enabled.

(3) Access your Network Camera by DIPS

Refer to **Setting ➔ System ➔ System** page for detail DIPS information

2.8 Setup ActiveX to use the Internet Video Server

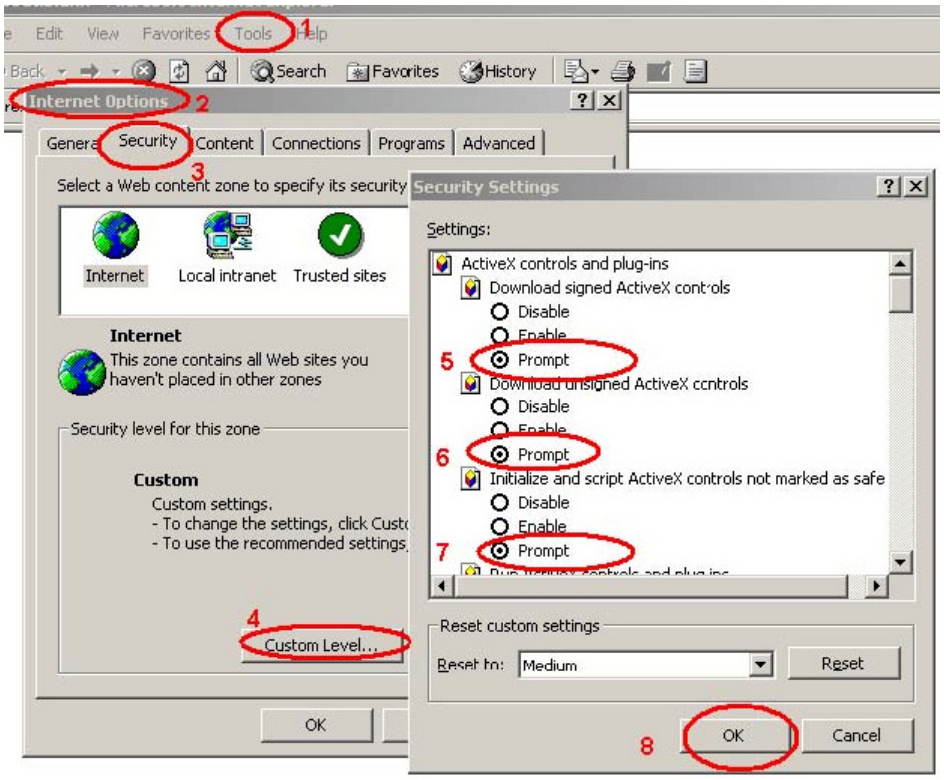
The Video Server web pages communicate with the Video Server using an ActiveX control. The ActiveX control must be downloaded from the Video Server and installed on your PC. Your Internet Explorer security settings must allow for the web page to work correctly. To use the Video Server, user must setup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

2.8.1 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*



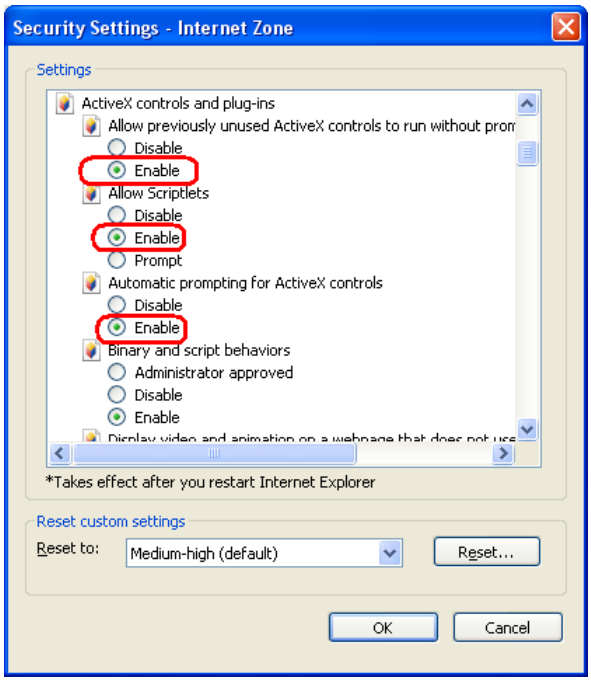
By now, you have finished your entire PC configuration for Internet camera.

2.8.2 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*

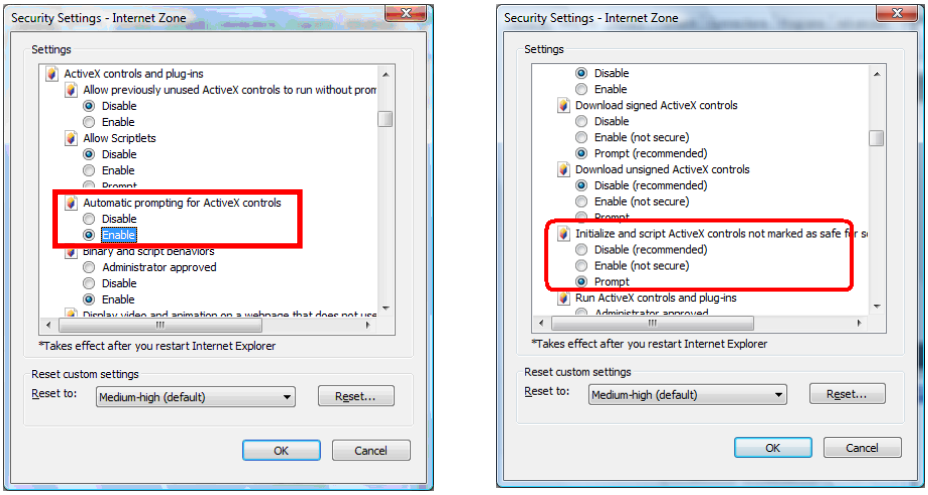


By now, you have finished your entire PC configuration for Internet camera.

2.8.3 Internet Explorer 7 for Windows Vista

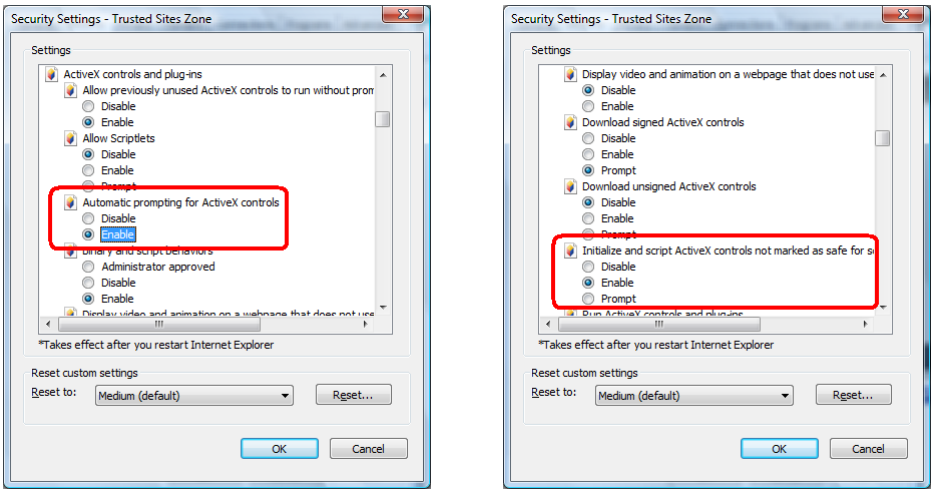
From your IE browse ➔ ”Tools” ➔ ”Internet Options…” ➔ ”Security” ➔ ”Internet” ➔”Custom Level…”, please setup your “Settings” as follow.

- *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 Video Server's Web-based Interface.

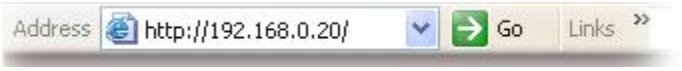
3.1 Introduction

The Video Server 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 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"



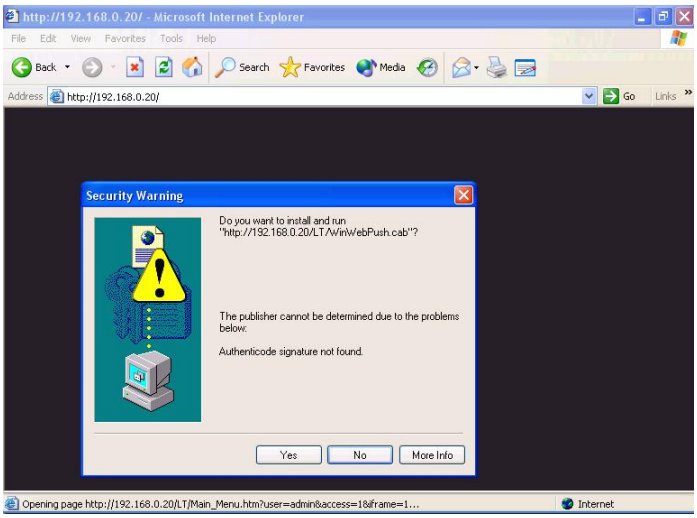
The login window of Internet camera will appear, Default login **username/password** is:

admin / <no password>

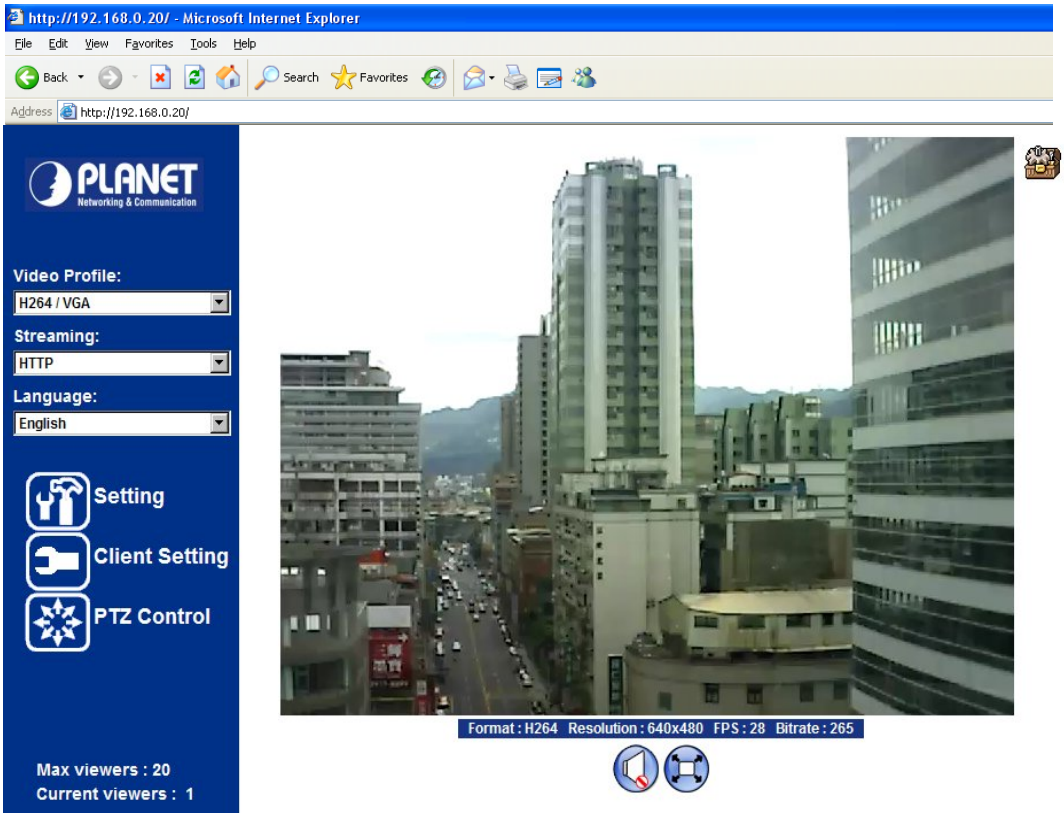
;

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

Web browser may display the “Security Warming” window, select “Yes” to install and run the ActiveX control into your PC.



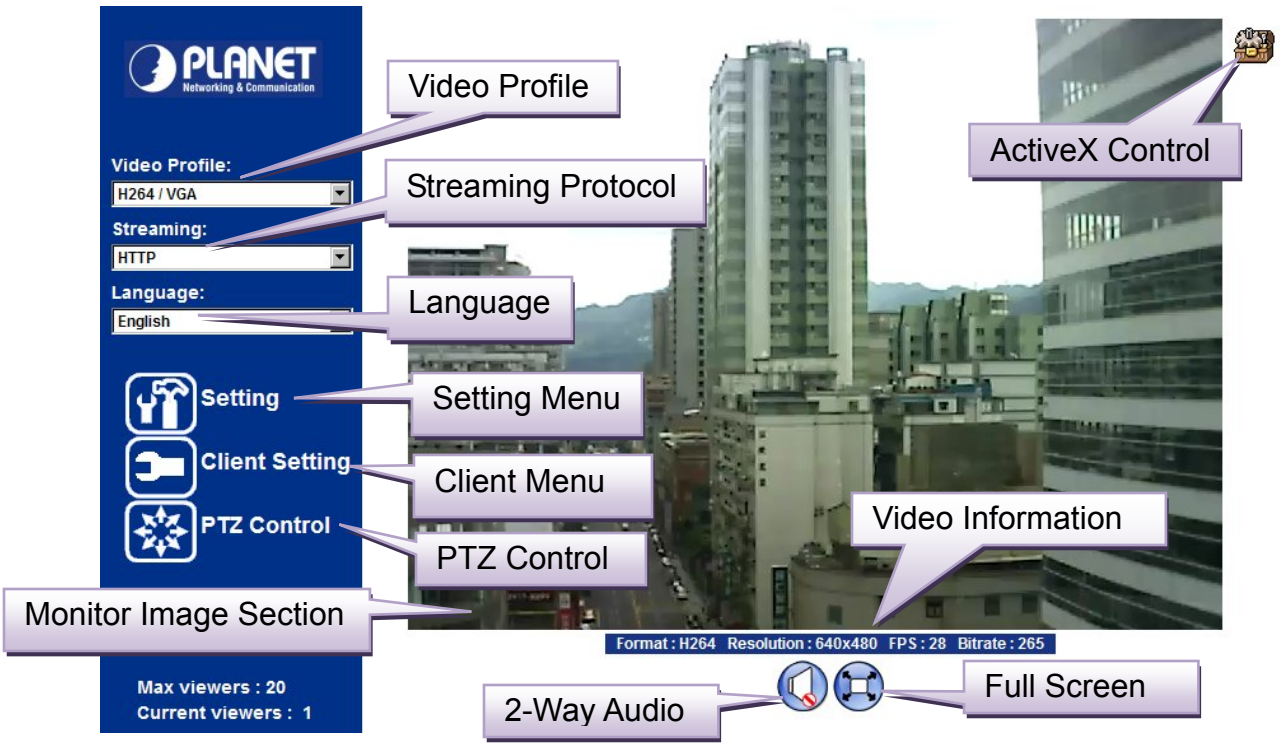
After the ActiveX control was installed and run, the first image will be displayed.



NOTE: If you log in the Video Server as an ordinary user, setting function will be not available. If you log in the Video Server 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 Video Server is shown here. The date and time are displayed at the top of the window.
Video Profile:	The Video Server 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 Video Server 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.

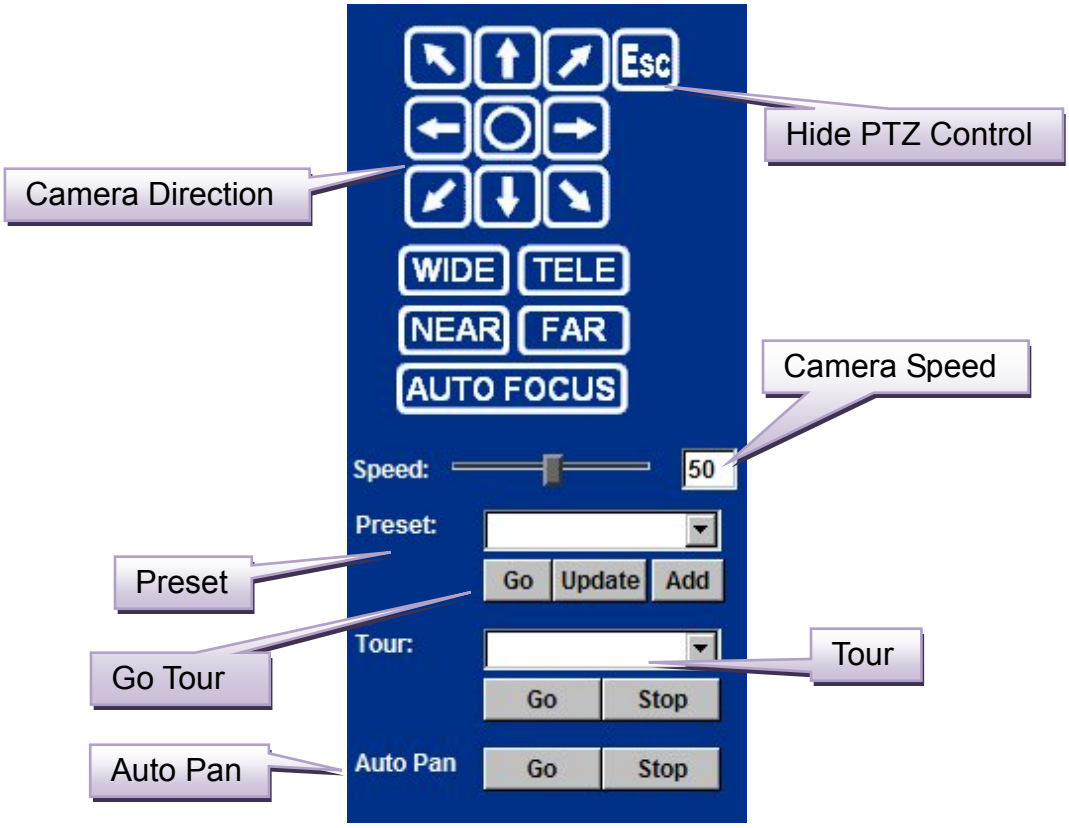
ActiveX Control:	The plug-in ActiveX control supports a lot of functions by clicking the left mouse button. Note that this feature only supports on the ActiveX control within Microsoft® Internet Explorer.
Setting Menu:	This function is detail setting for the camera that only available for user logged 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.
Video Information:	Display video information including video format, resolution, frame rate and bit rate.
Client Setting:	Click this button to display the client extra control panel for

2-way Audio and Full Screen.

PTZ Control:	Click to display the following control panel:



Hide PTZ Control:	Click the icon will hide the PTZ control function.
Camera Direction:	Control camera up/down/left/right and home position.
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.

3.4 ActiveX Control

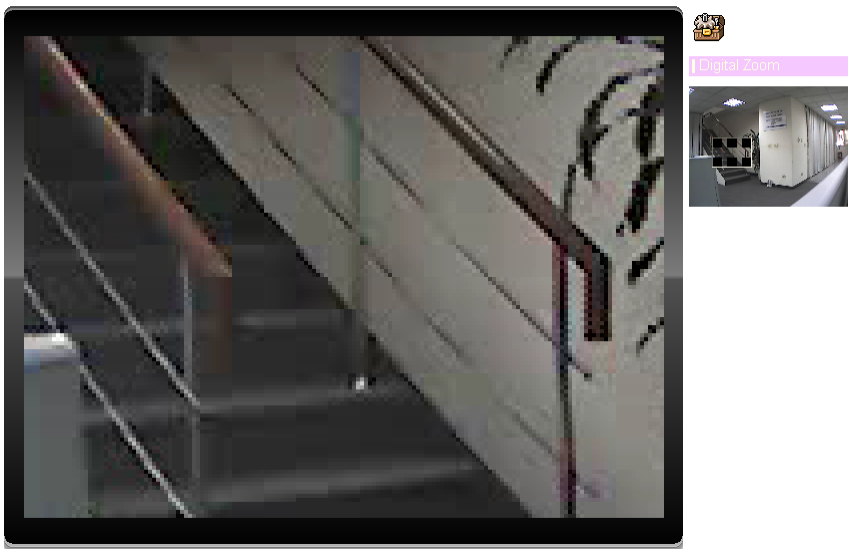
The plug-in ActiveX control supports a lot of functions by clicking the left mouse button. Note that this feature only supports on the ActiveX control within Microsoft® Internet Explorer.

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

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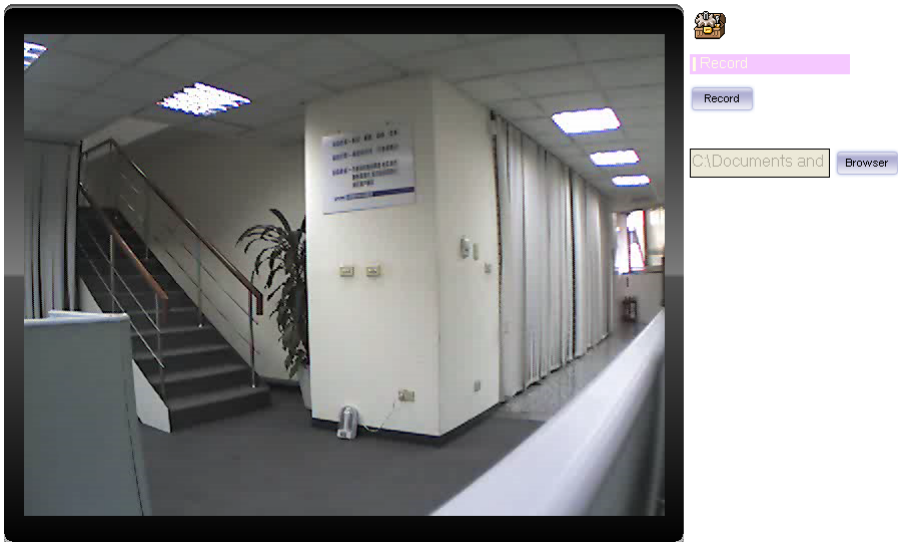


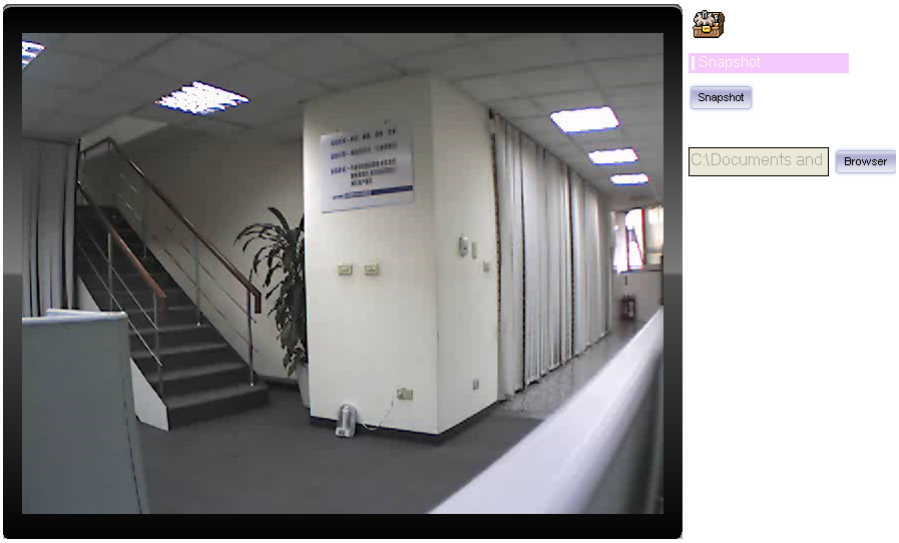
3.4.3 Snapshot

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.

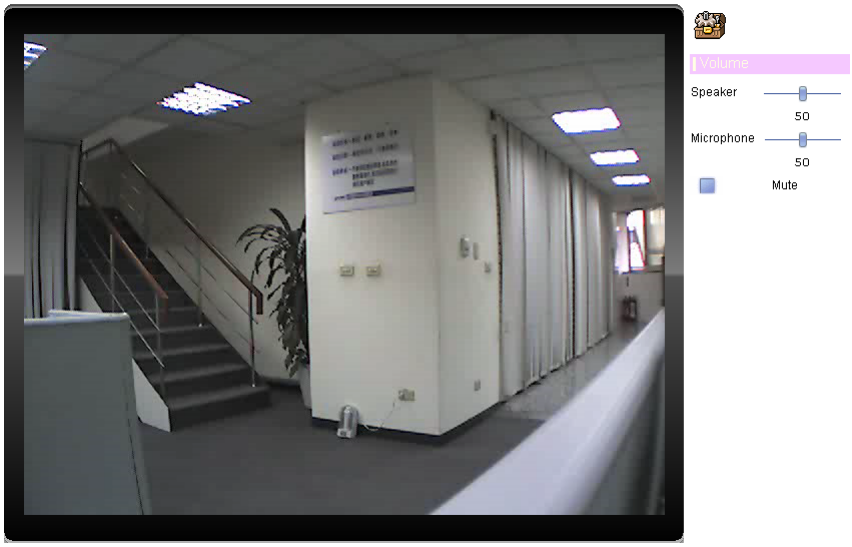
NOTE: Default save path is “C:\Documents and Settings\All user\Desktop

---



3.4.4 Voice

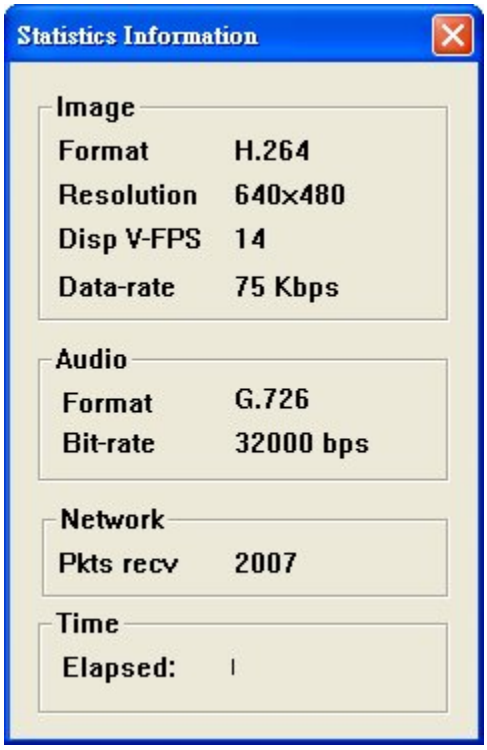
Click Volume to activate this function. These have two control bars for speaker and microphone volume. Scroll this control bar to adjust the audio attribute. Check the volume mute will mute the speaker output.



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

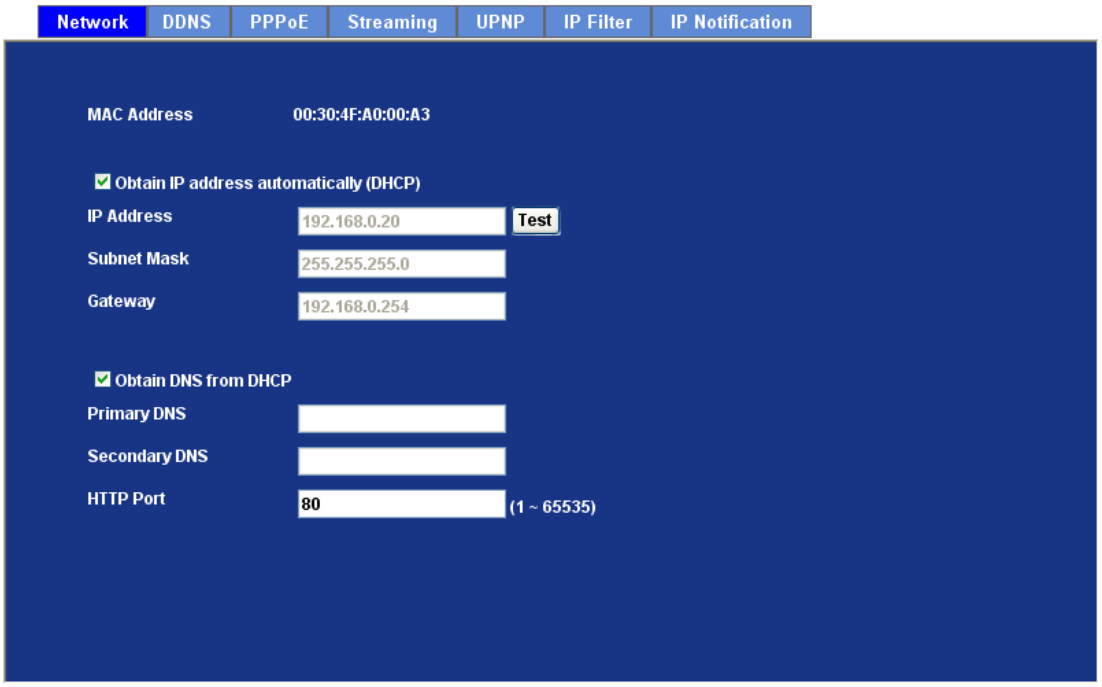
Click **About** to show the ActiveX information

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.

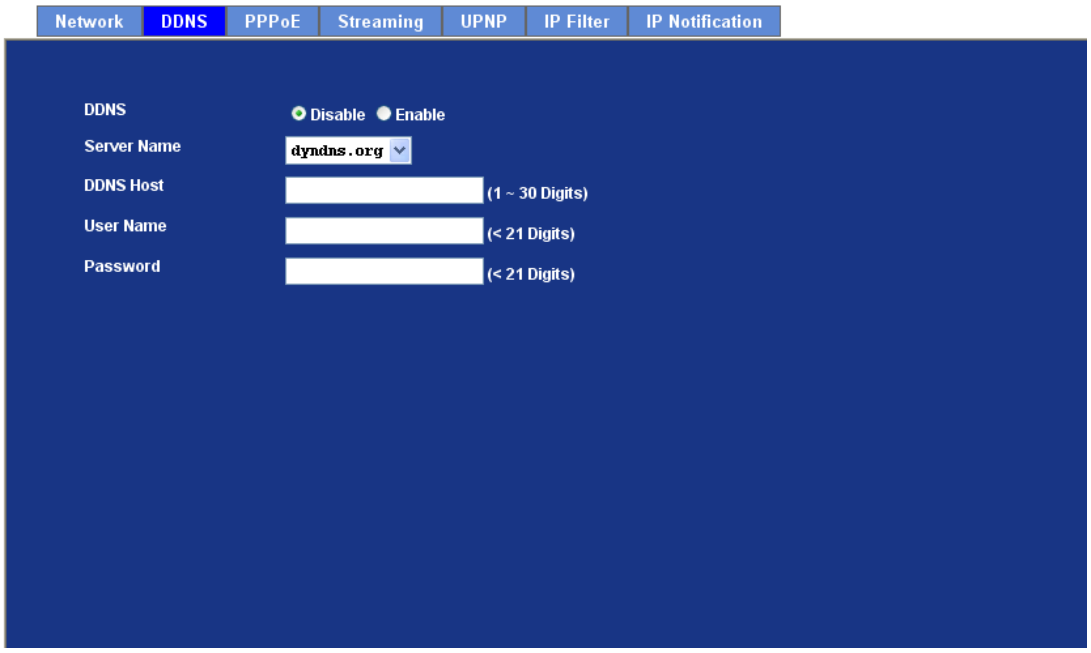
3.5.2 DDNS server

DDNS: Stands for Dynamic Domain Name Server

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

Your Internet Service Provider (ISP) provides you 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

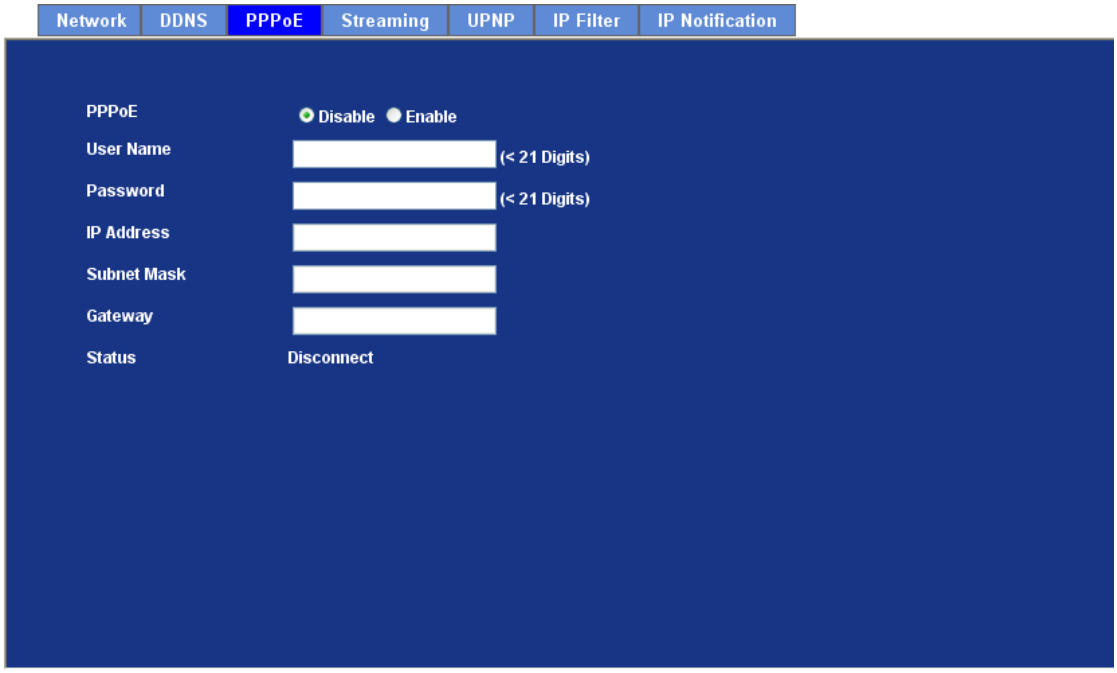
PPPoE: Stands for Point to Point Protocol over Ethernet

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

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

The procedures are

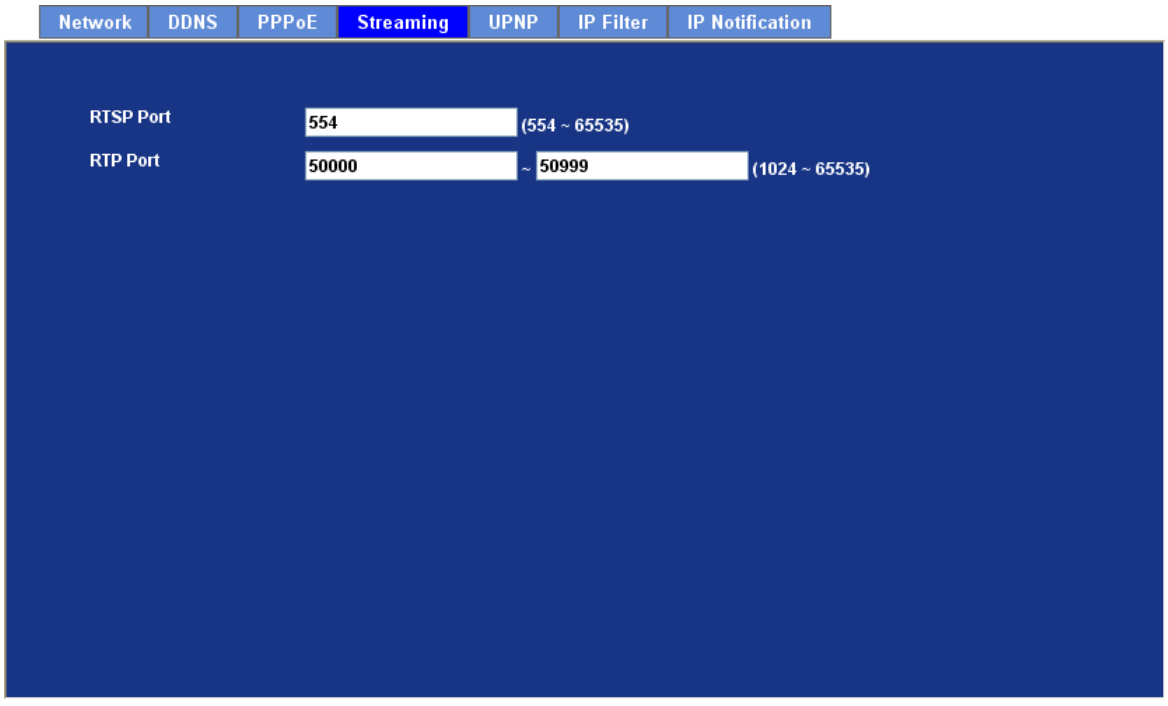
- Connect to a LAN by DHCP or Fixed IP
- Access the device, enter **Setting ➔ Network ➔ PPPoE** as below



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.

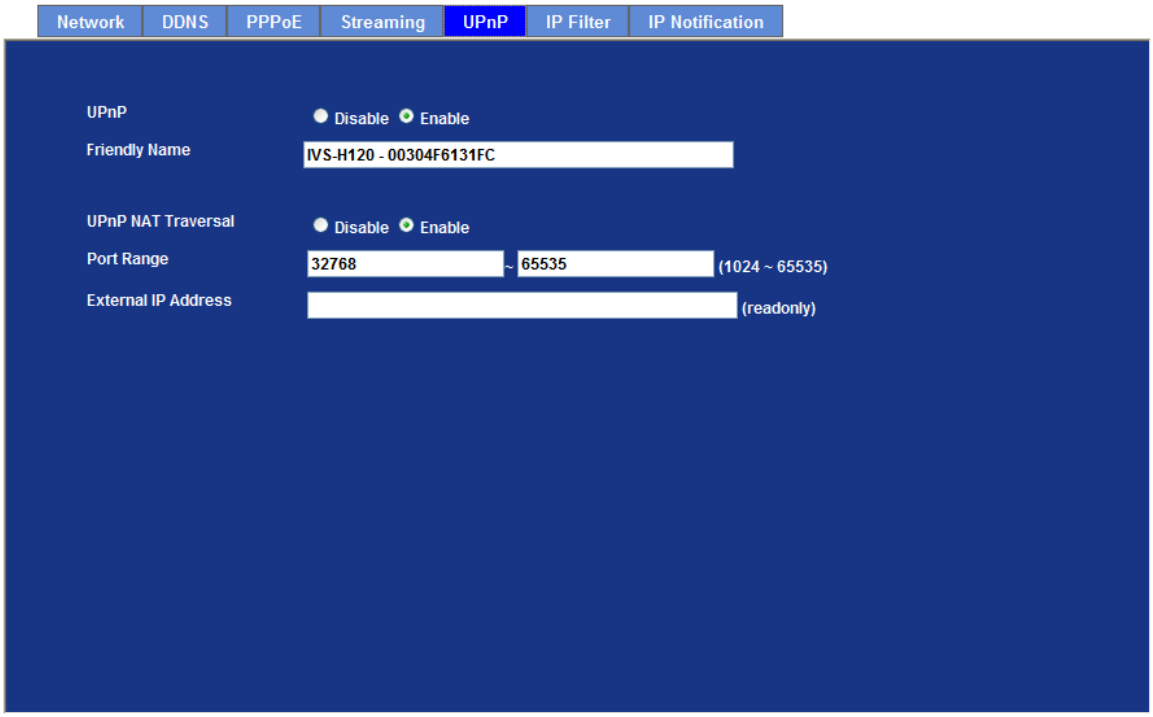


RTSP Port:	Choose the RTSP port. The RTSP protocol allows a connecting client to start a video stream. Enter the RTSP port number to use. The default value is 554.
RTP Port:	Specify the range of transmission port number of video stream. The default range is 50000 to 50999. User can specify a number between 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 Video Server 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 Real player 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 Network Video Server. 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

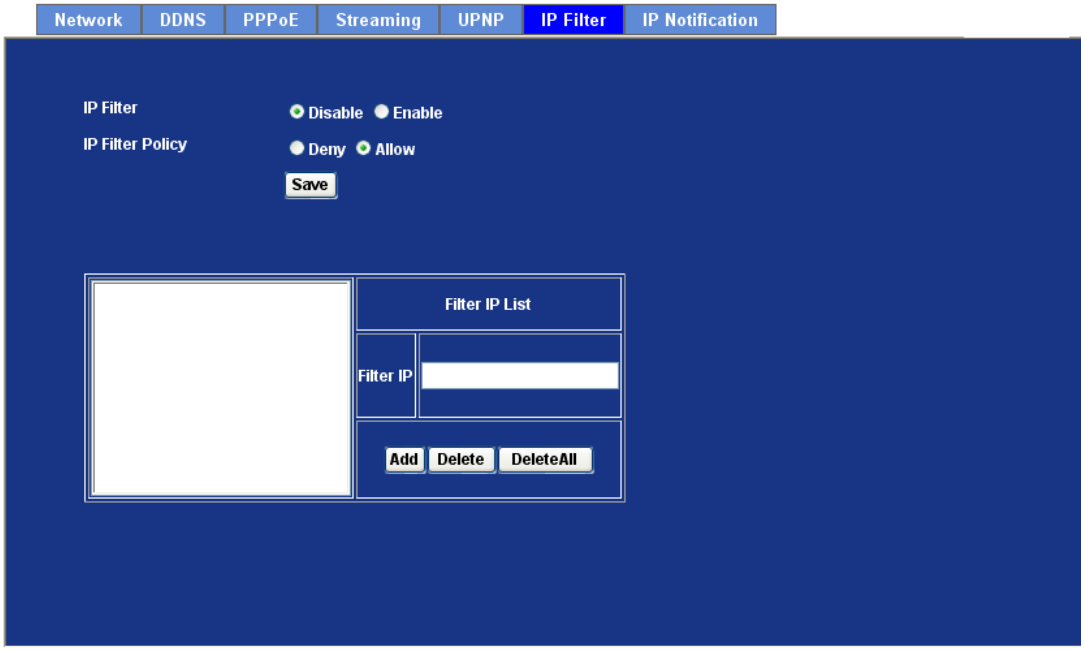
In addition, this device also provides UPnP IGD function for NAT traversal easily. Use NAT traversal when your device is located on an intranet (LAN) and you wish to make it available from the other (WAN) side of a NAT router. With NAT traversal properly configured, all HTTP traffic to an external HTTP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

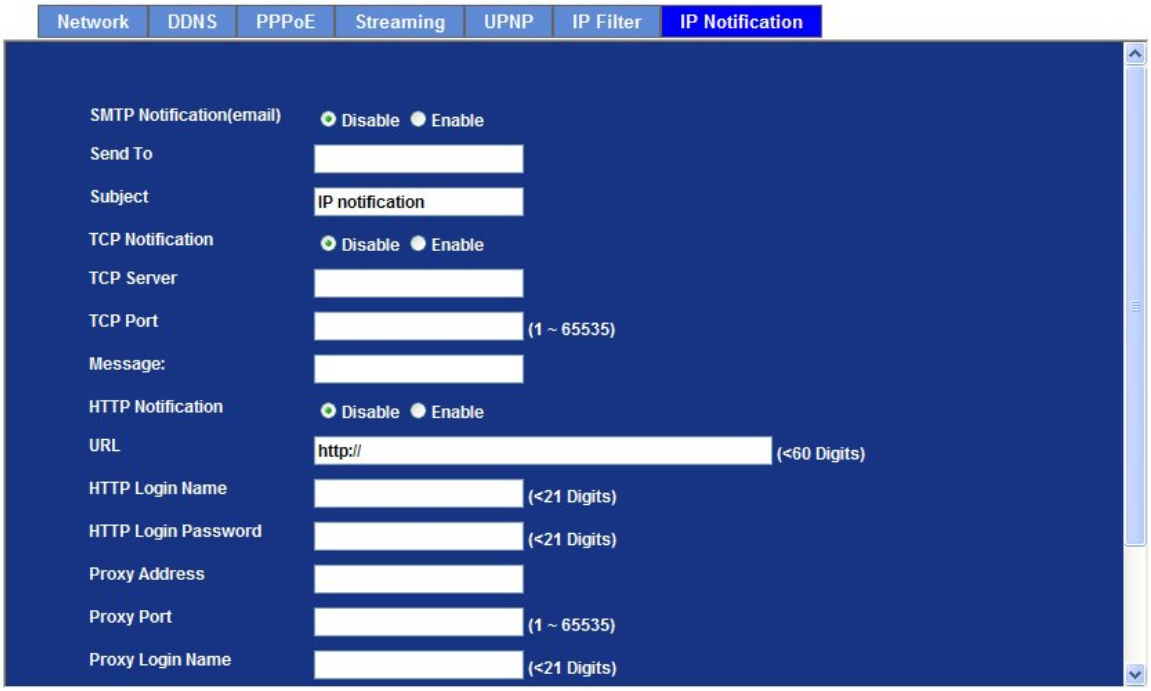
You can enter different user's IP address which are allowing enter or denying by the device.



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

3.5.7 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.



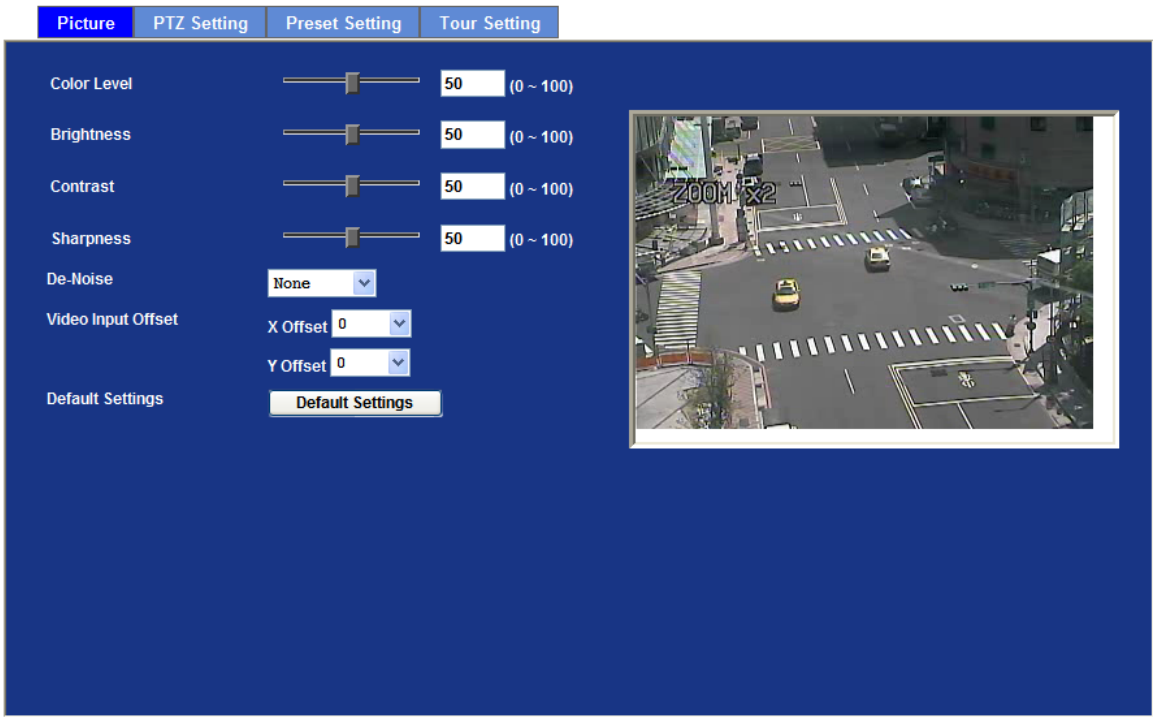
SMTP Notification (e-mail):	If enable this function, then the "**Send to**" and "**Subject**" field need to be filled.
Send To:	Type the receiver's e-mail address. This address is used for reply mail.
Subject:	Type the subject/title of the E-mail.
TCP Notification:	If enable this function, then the "**TCP 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.

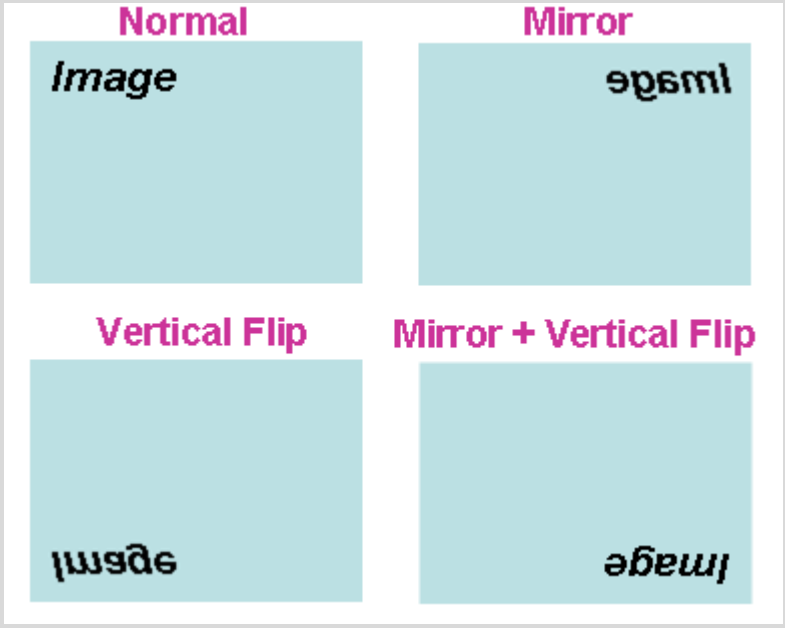
3.6 Camera Configuration

Use this menu to set the function of the camera of Video Server

3.6.1 Picture

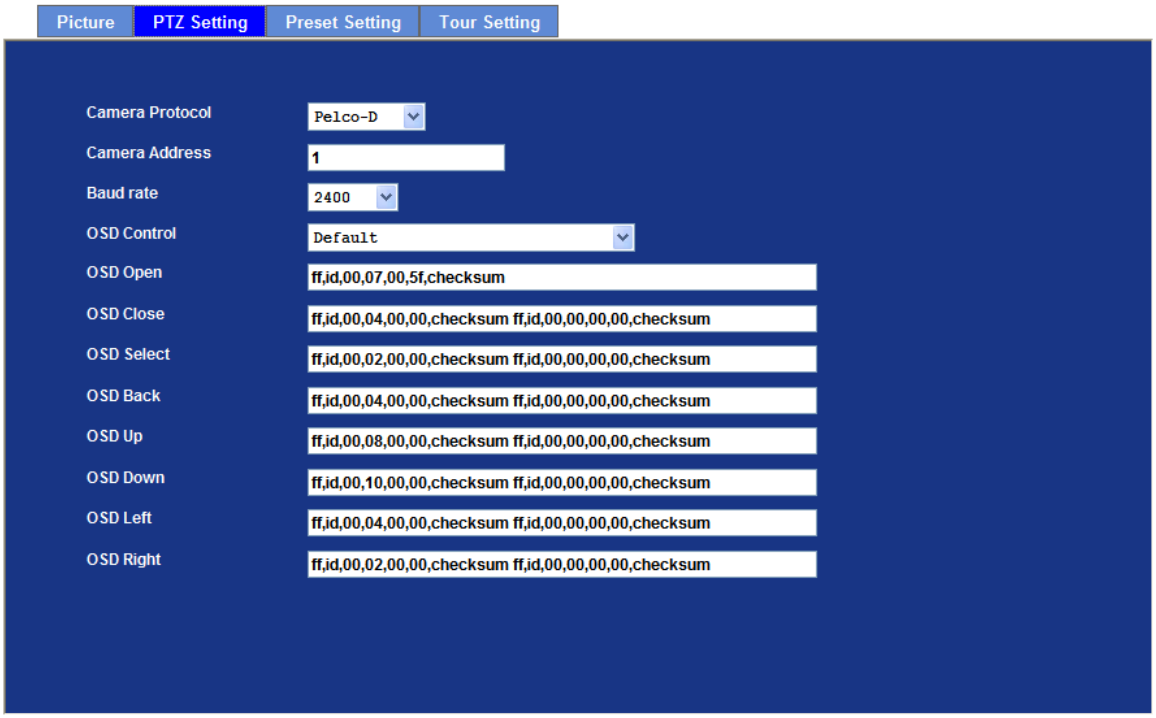


Rotation:	Turn the “Mirror” and “Vertical Flip” On or OFF. The image will be overturned as below.



White Balance:	**Auto:** will adjust the white balance automatically. **Hold:** will hold the white balance.
Exposure Control:	**Auto:** will adjust the internal gain automatically. **Hold:** will hold the internal gain.
Color Level	Large value will be colorful.
Brightness:	Large value will brighten camera.
Sharpness:	Large value will sharpen camera.
Contrast:	Large value will contrast camera heavily.
Night Mode:	User can turn Auto or Off of the night mode. This function is very useful under low illumination environment.
De-Noise:	De-Noise can remove or lower unwanted noise and preserve fine details and edges.

3.6.2 PTZ Setting

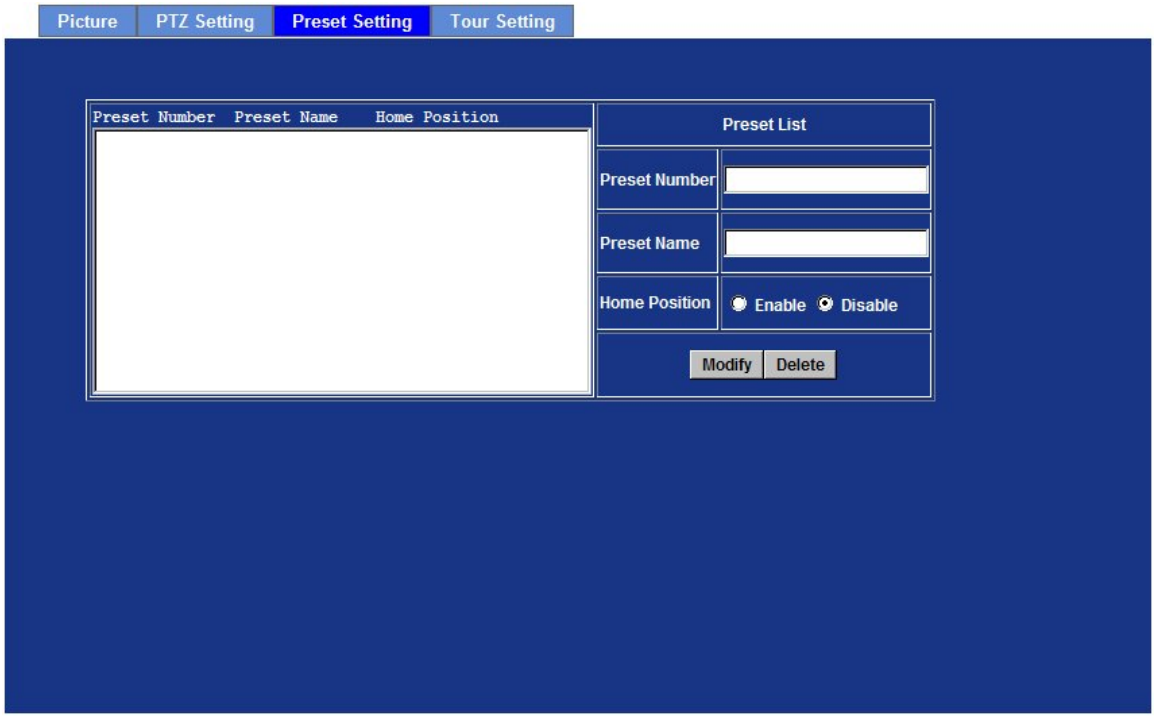


This page allow user to modify the RS485 interface according to the P/T scanner.

Camera Protocol:	This device can connect to a PTZ camera or speed dome camera and controls them thru RS485 interface.
Camera Address:	This is the camera ID set in PTZ camera or speed dome camera. **Note** that please DO NOT changes the default value if unnecessary. If so, user needs to check and set value properly for both sides.
Baud rate:	This is the communication speed between network module and P/T scanner.
NOTE:	If need to change these parameters, user needs to check and set value properly for both, network module and P/T scanner.

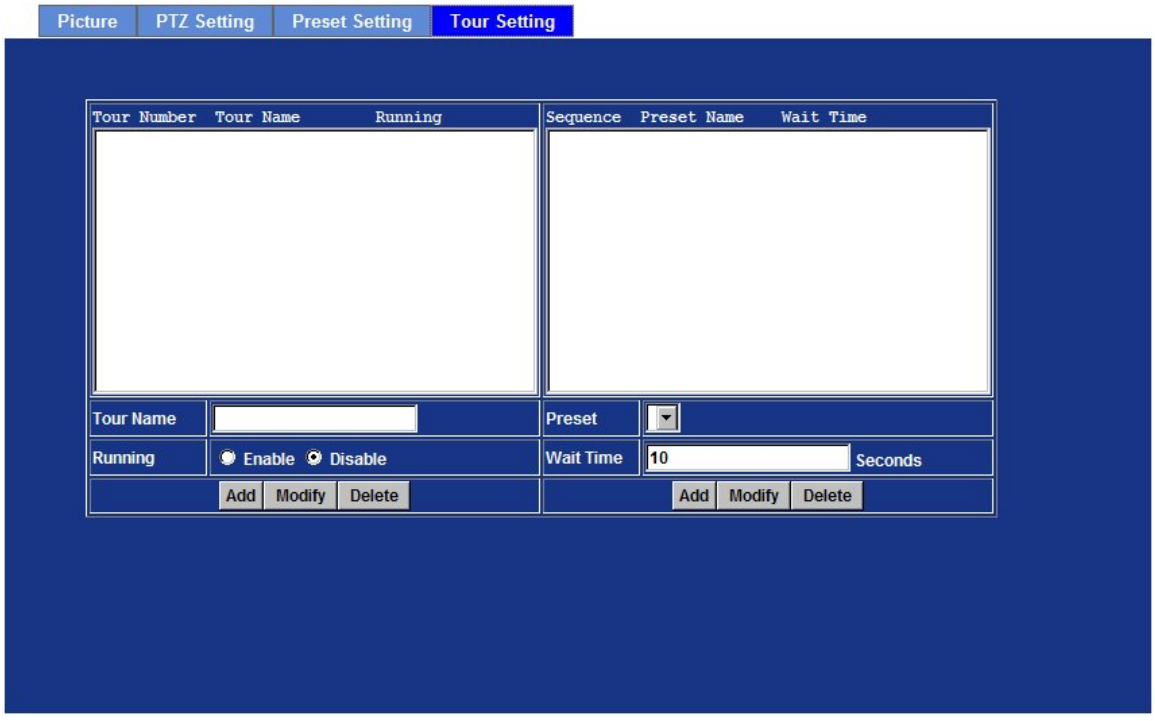
3.6.3 Preset Setting

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



3.6.4 Tour Setting

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

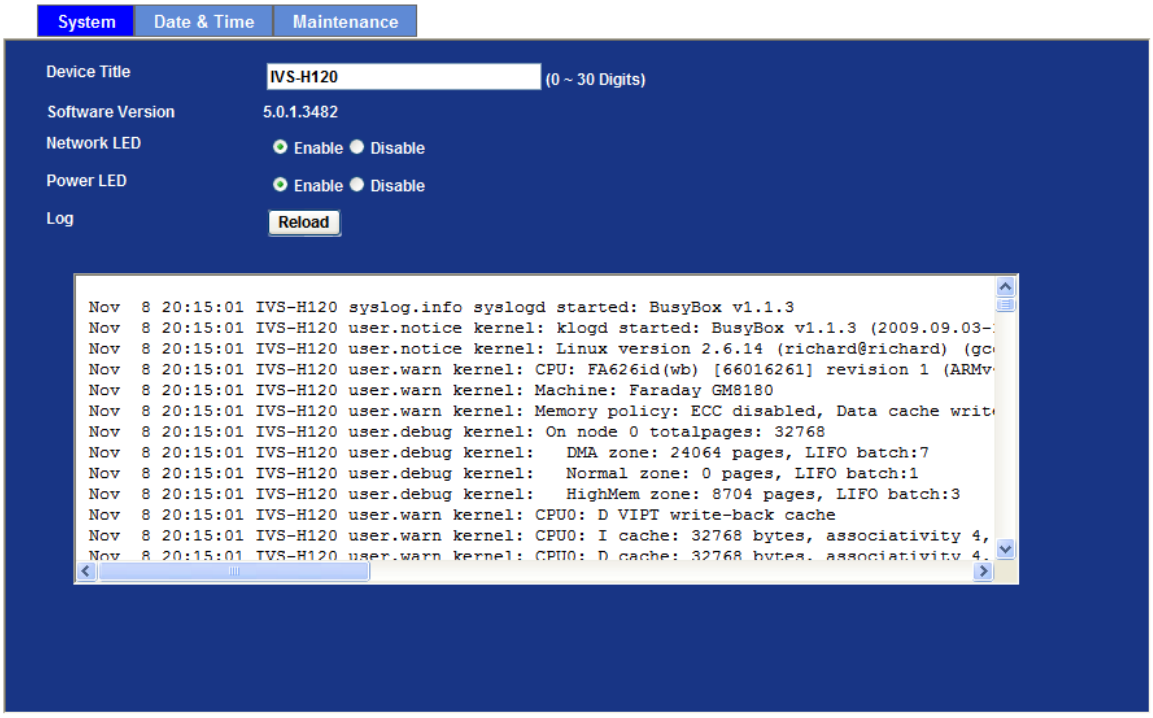


Tour Name:	The group name of the sequence of camera tour. The maximum number of camera tour is 16.
Running:	Enable or disable this camera tour.
Preset:	Set the sequence of the tour. Maximum 16 points can be assigned. The selected preset position is added in the Sequence list from 1 to 16.
Wait Time:	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 64.

3.7 System

Use this menu to perform the principal settings of Video Server.

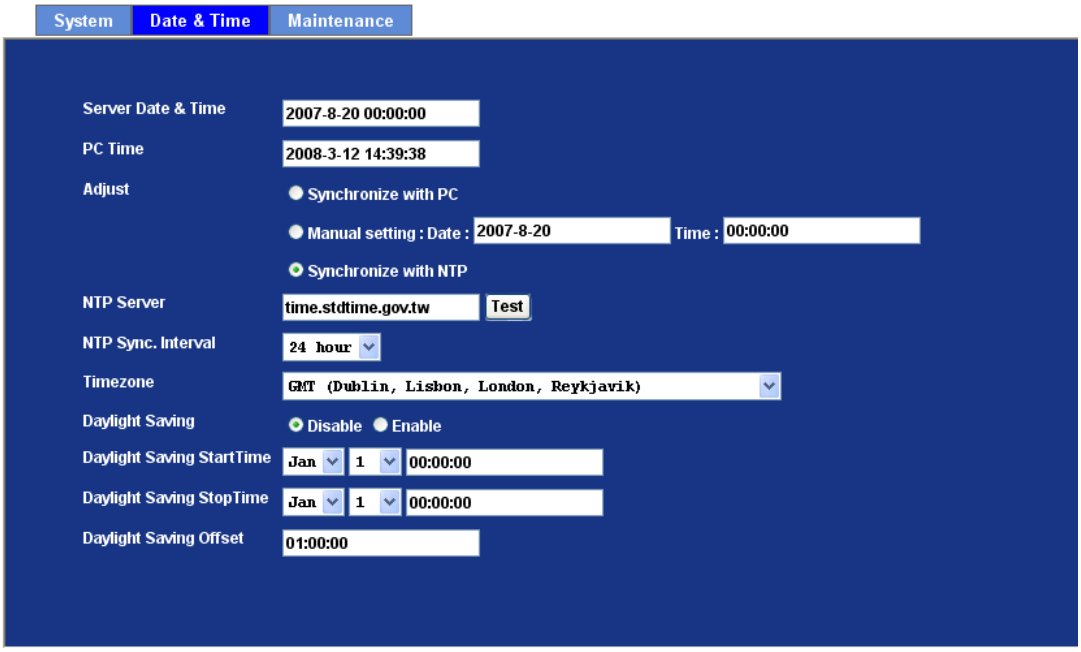
3.7.1 System



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

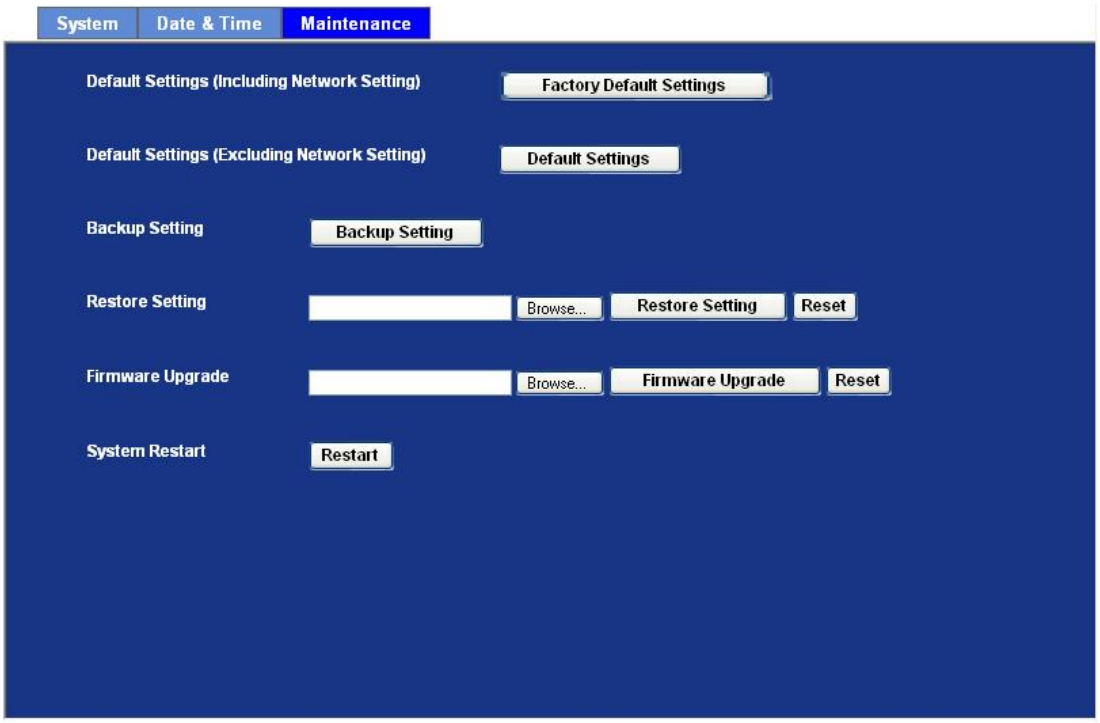
You can setup the time setting of Video Server, make it synchronized with PC or remote NTP server. Also, you may select the correct time zone of your country.



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 II 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.

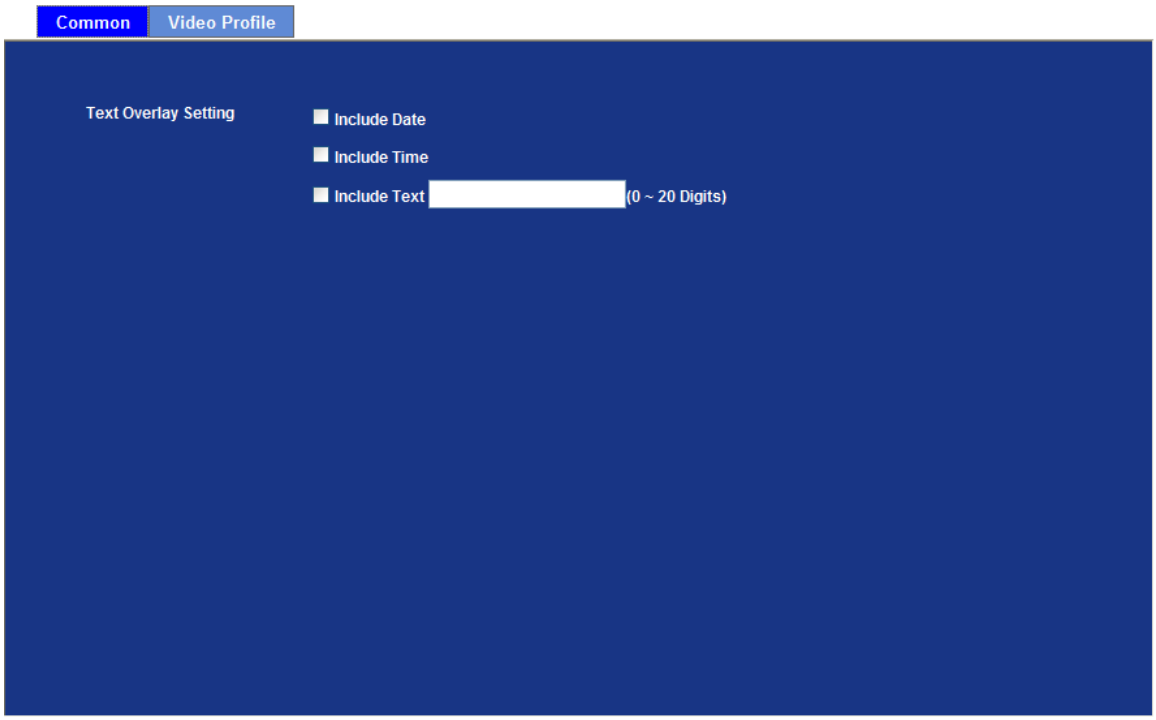
Furthermore, do not try to upgrade new firmware if it’s not necessary.

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.

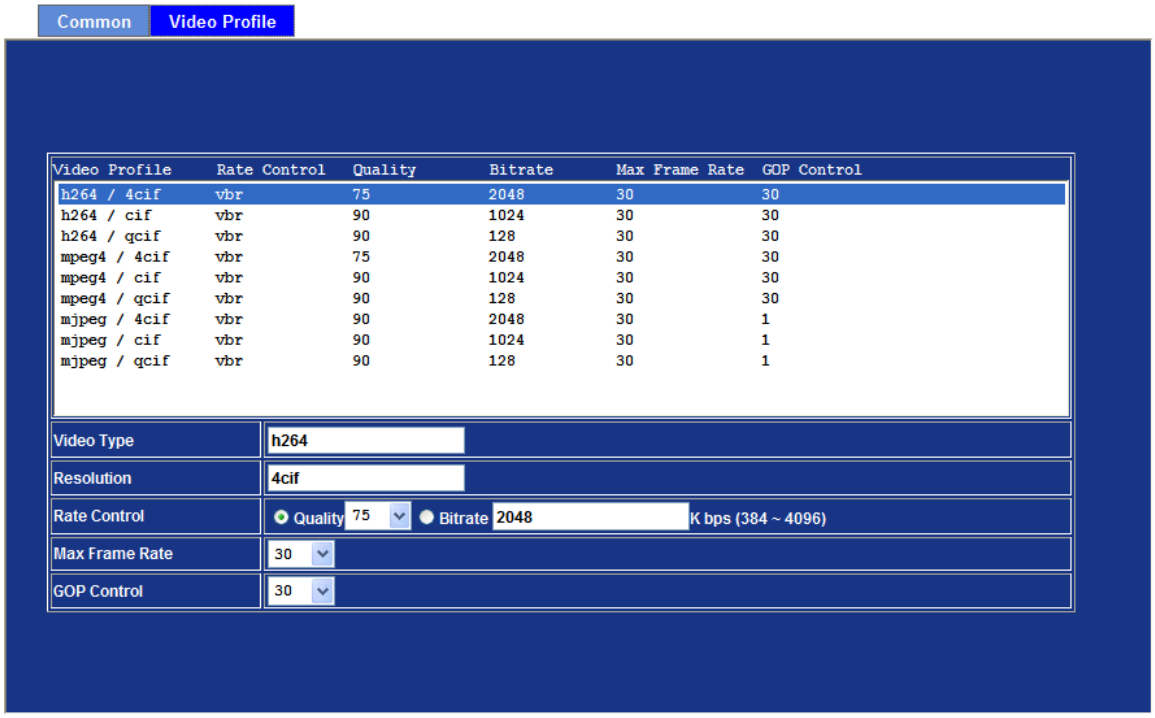
3.8.1 Common



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

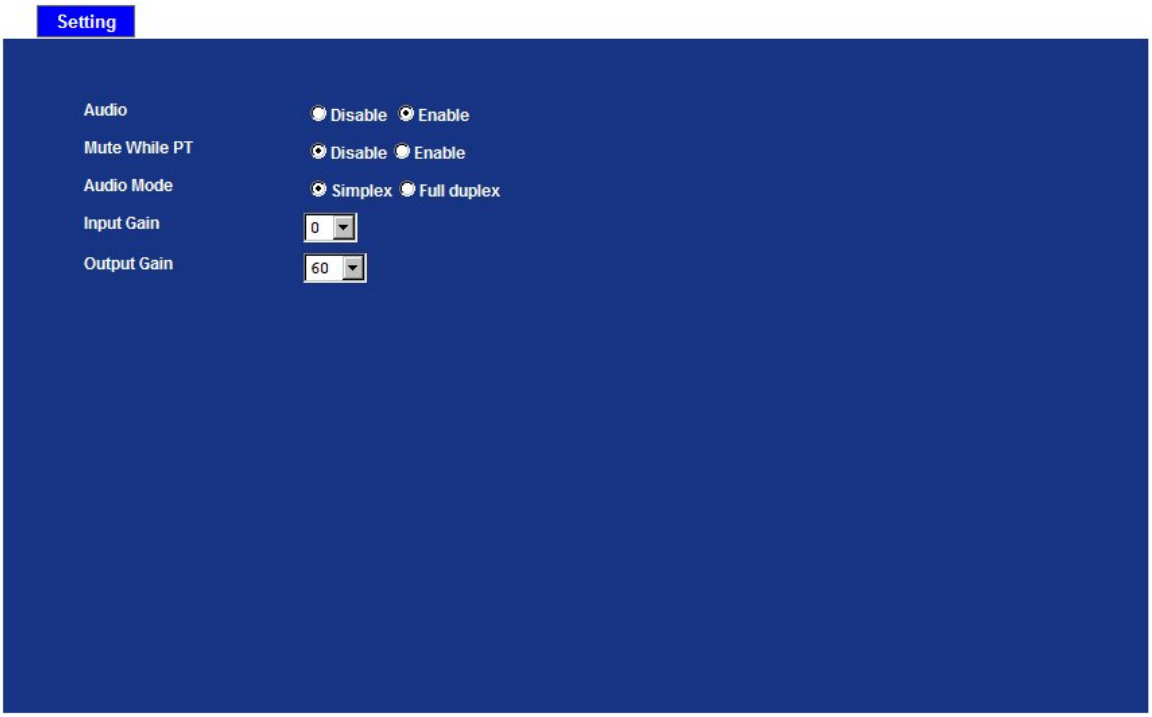
3.8.2 Video Profile

There are H.264, MEPG4 and MJEPG encoder modes in this profile.



Video Type:	There are three video types: H.264, MPEG4 and MJPEG.
Resolution:	There are three resolutions in each profile: 4CIF, CIF and QCIF.
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.

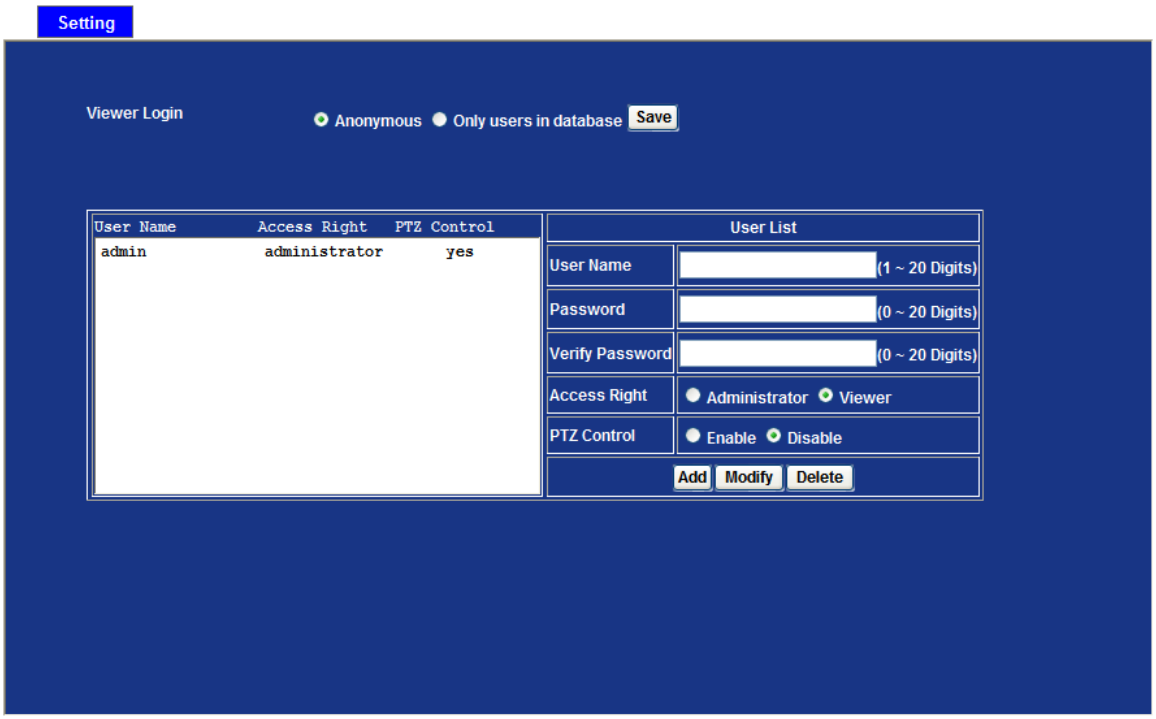
3.9 Audio Configuration



Audio:	To enable or disable audio function
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

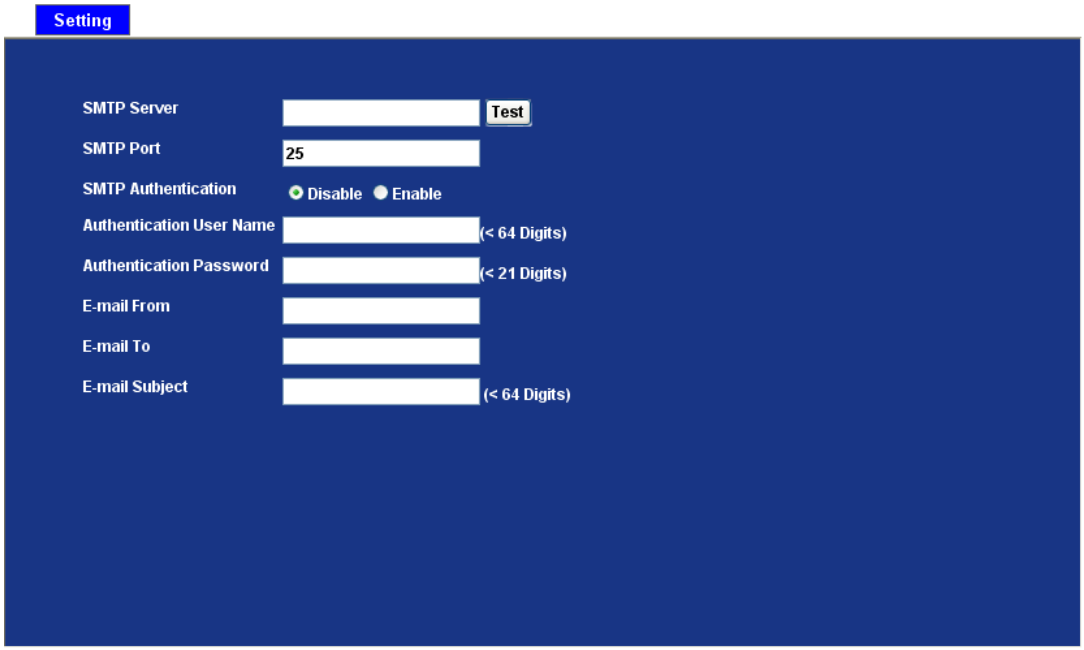
Use this menu to set the user names and password of the Administrator and up to 10 users, and access right of each user.



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.

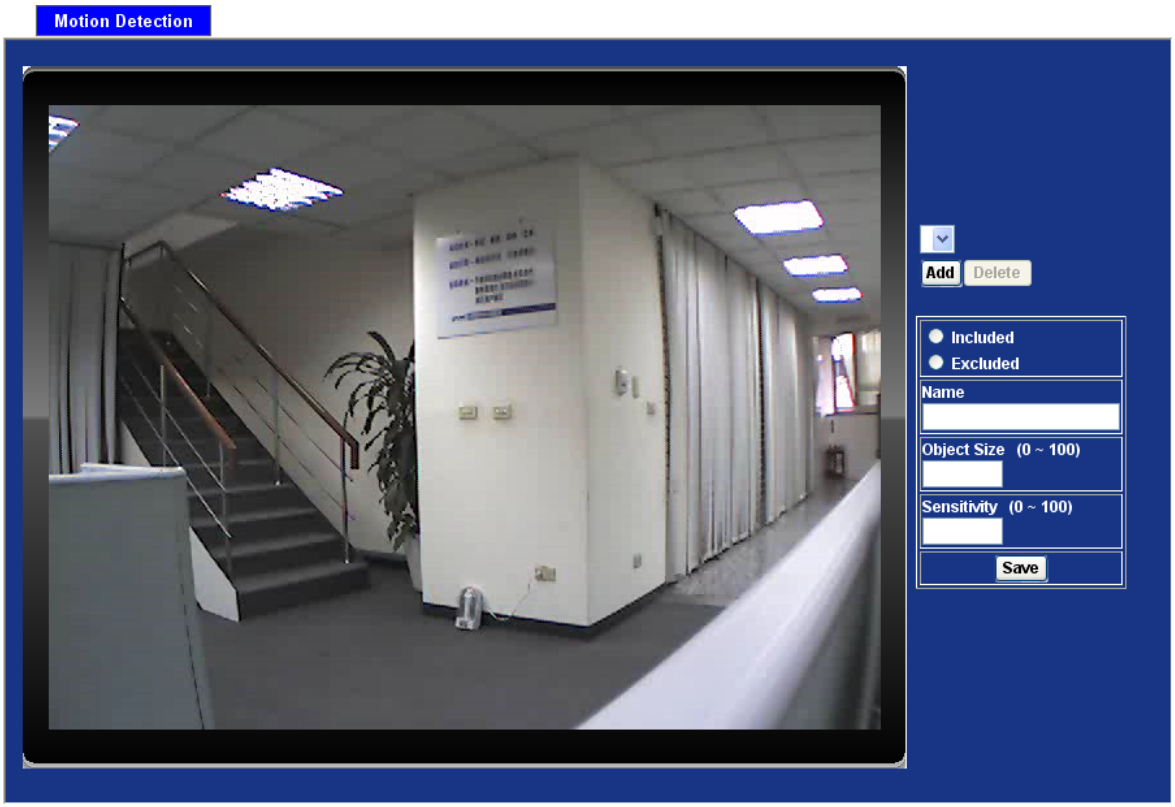


SMTP Server:	Type the SMTP server name or the IP address of the SMTP server.
Test:	Send a test mail to mail server to check this account is available or not.
SMTP Port:	Set port number of SMTP service.
SMTP Authentication:	Select the authentication required when you send an e-mail. **Disable:** If no 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 Enabling.
Authentication Password:	Type the password for the SMTP server if Authentication is Enabling.
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 10 and set the conditions for detection while observing a captured image.



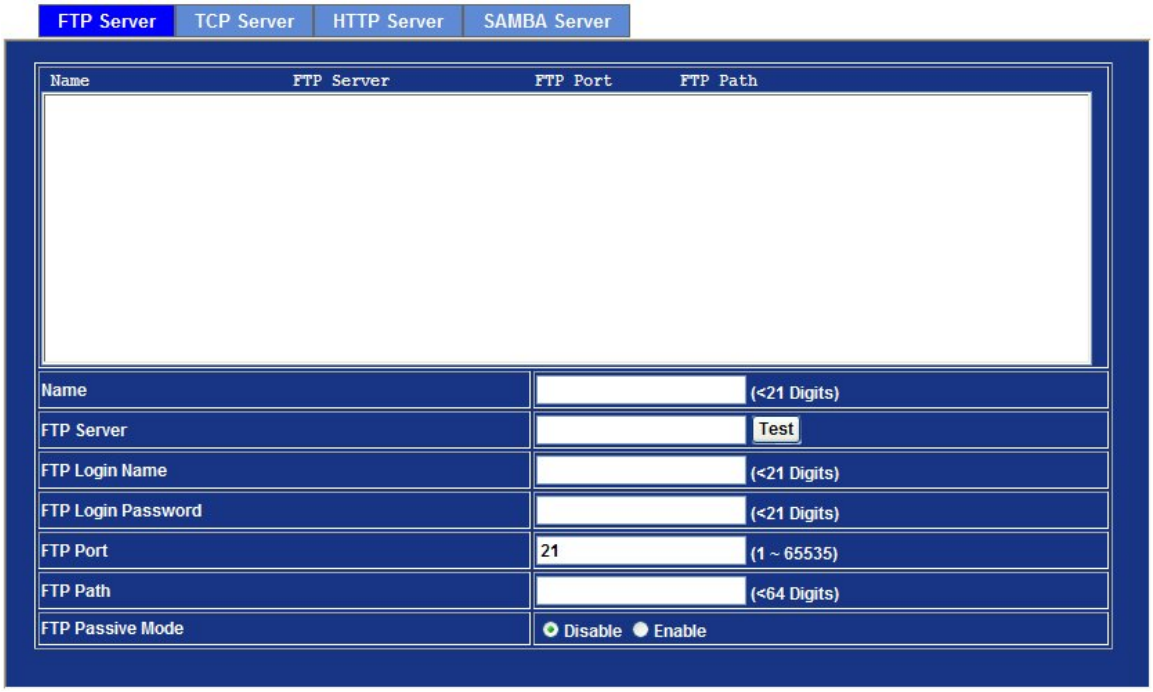
Add and Del:	To add or delete the motion windows. User can specify up to 10 Included and/or Excluded windows to monitor the video captured by this device. By dragging mouse on the image, you can change the position and size of the selected motion window accordingly.
Included or Excluded Window:	These 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 Event Server Configuration

3.13.1 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.

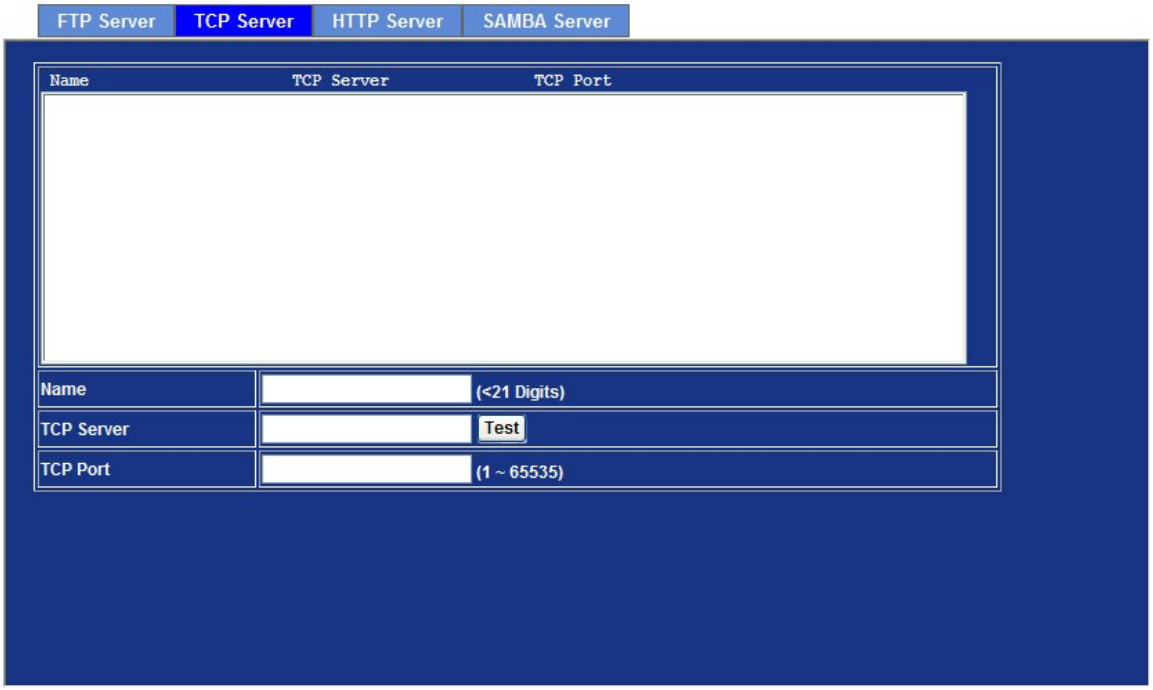


Name:	User can specify multiple FTP paths as wish. Therefore, user needs to specify a name for each FTP setting.
FTP Server:	Type the server name or the IP address of the FTP server.
Test:	Check the FTP server whether this account is available or not.

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.

3.13.2 TCP Server

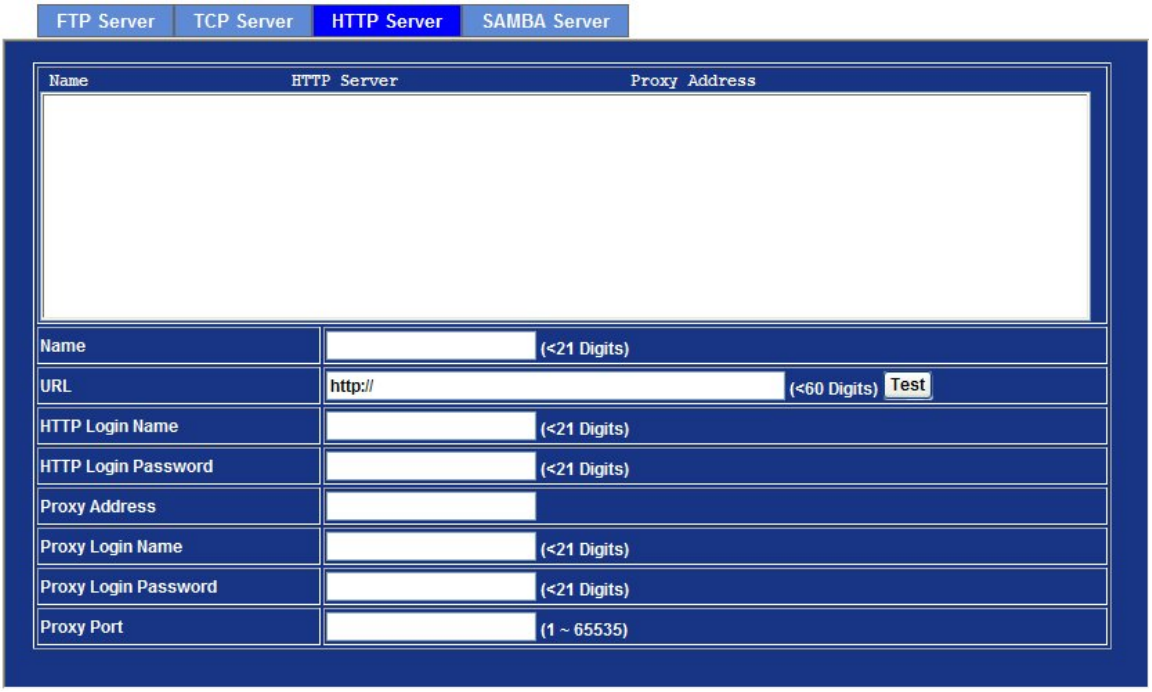
In addition to send video file to FTP server, the device also can send event message to specified TCP server.



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.

3.13.3 HTTP Server

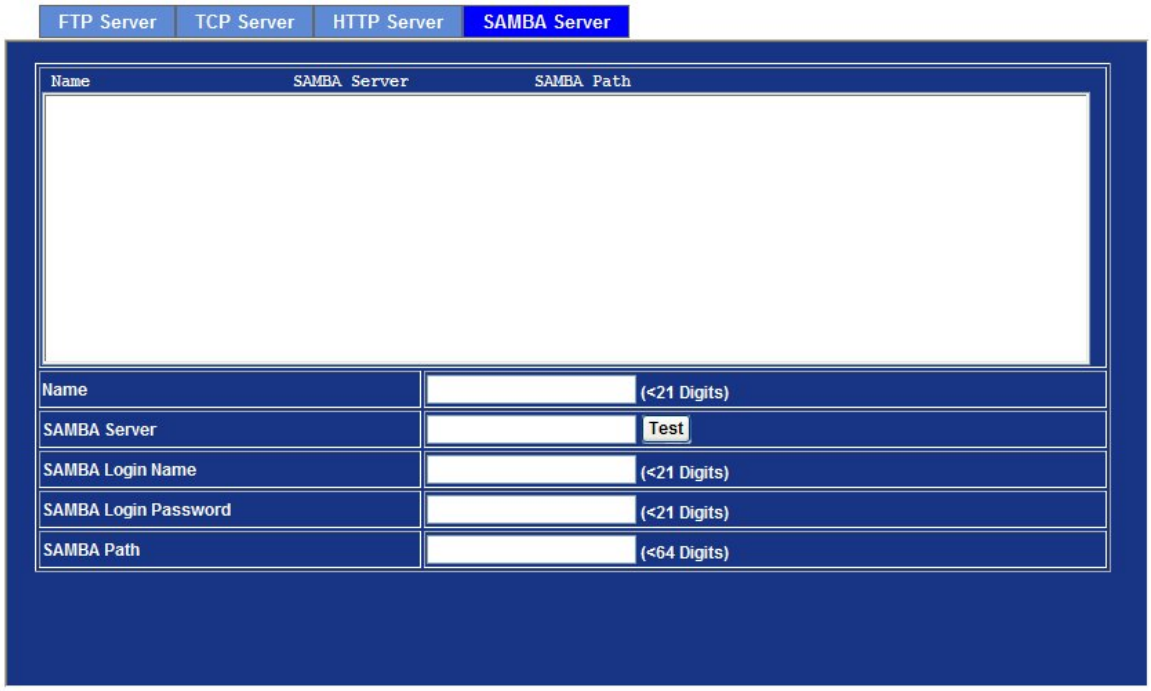
The device also can send event message to specified HTTP server.



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.

3.13.4 SAMBA Server

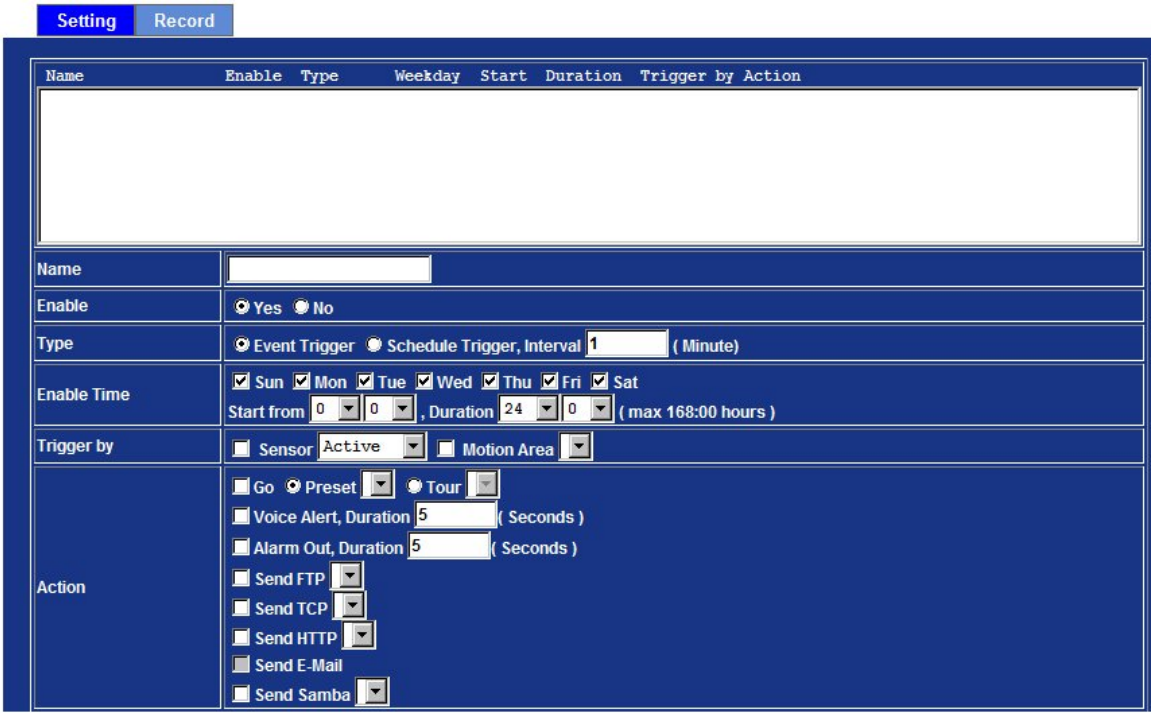
The device also can send video stream to specified SAMBA server. Most of the time, the SAMBA server will be another PC or NAS server.



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.

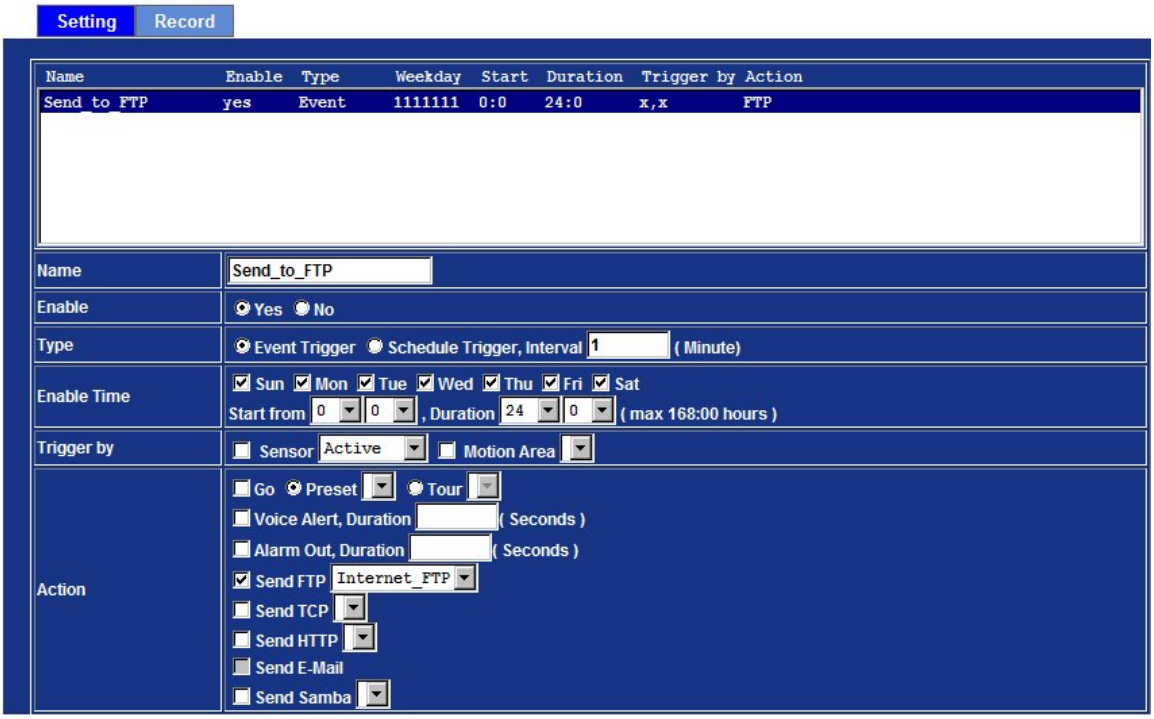
3.14 Event Schedule Configuration

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.

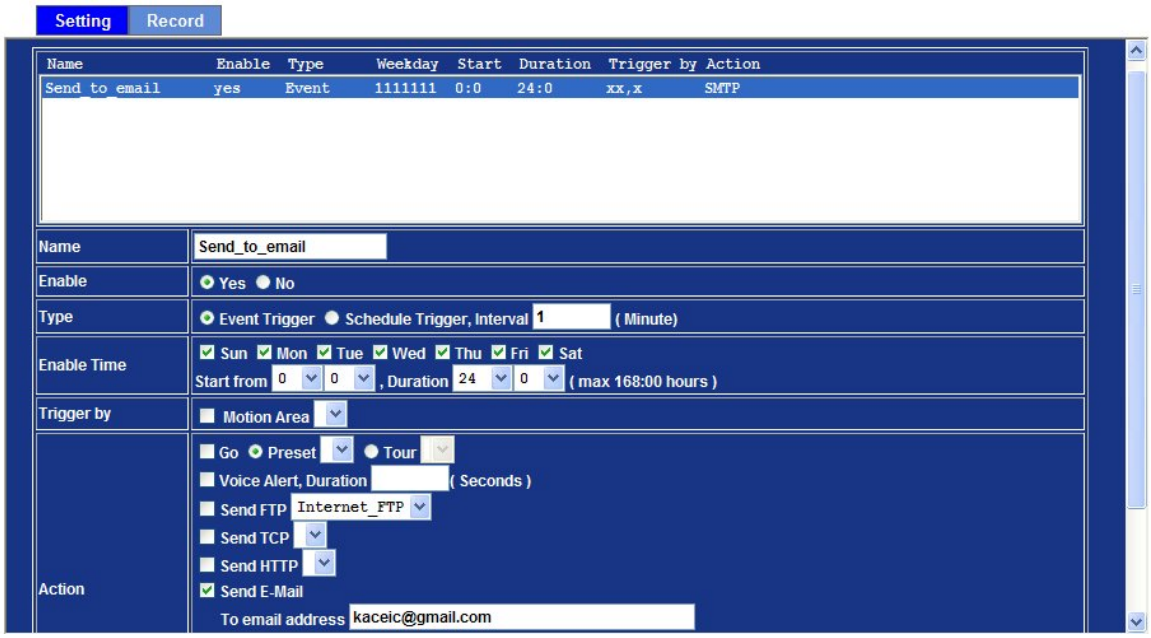
Example1.



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)

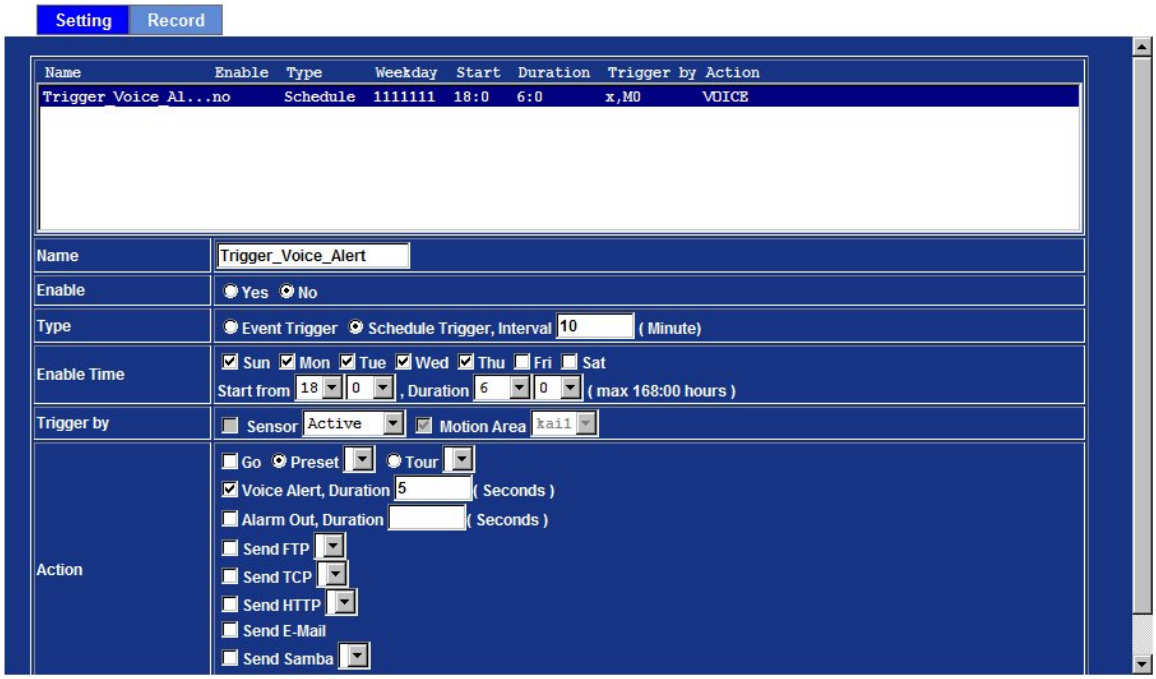
Example2.



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.

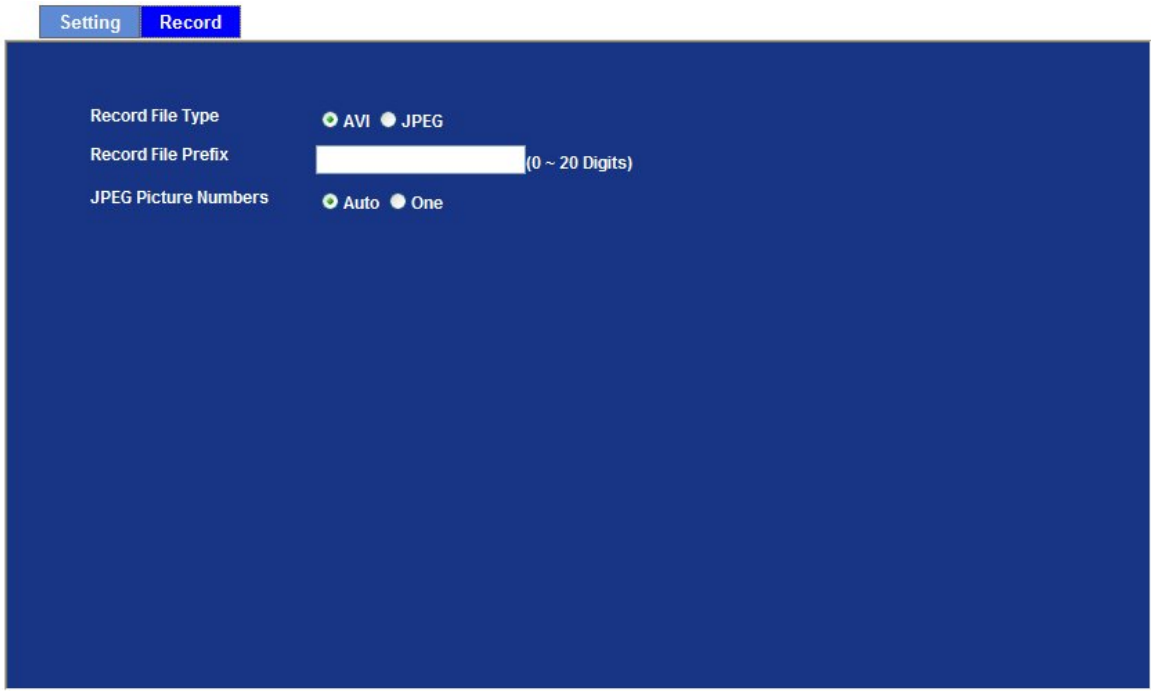


Send file to E-Mail server by motion triggered from Friday 18:00 to 24:00 from Monday to Friday.

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.

3.15 Record Configuration

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



Record File Type:	Choose AVI or JPEG file format for record file.
Record File Prefix:	Define the prefix of recorded filename.
JPEG Picture Numbers	Define the picture capture method. “Auto” will send all the pictures from the buffer. “One” will send the first picture from the buffer.

Appendix A: Alarm I/O Connector

Some features of the Video Server can be activated by the external sensor that senses physical changes in the area 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.

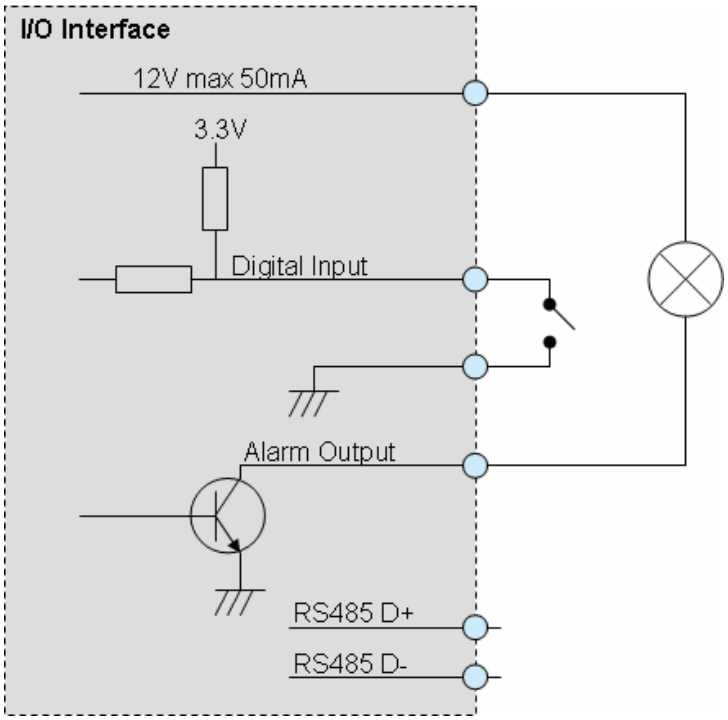
This Camera provides wires for general I/O terminal and RS485 interface as below:

Cable for I/O connectors:

Name	Cable Color	Function
5VDC	Brown/White	DC 5V (50mA maximum)
GND	Blue/White	GND
D+	Purple/White	RS485 data +
D-	Gray	RS485 data -
DI	Green/White	Digital signal input
DO	Orange/White	Digital signal 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 network camera circuit. The qualified electrician should do the wring not by yourself incorrect wiring could damage network 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 network camera may result if a device is connected to the external I/O that exceeds its electrical capability.

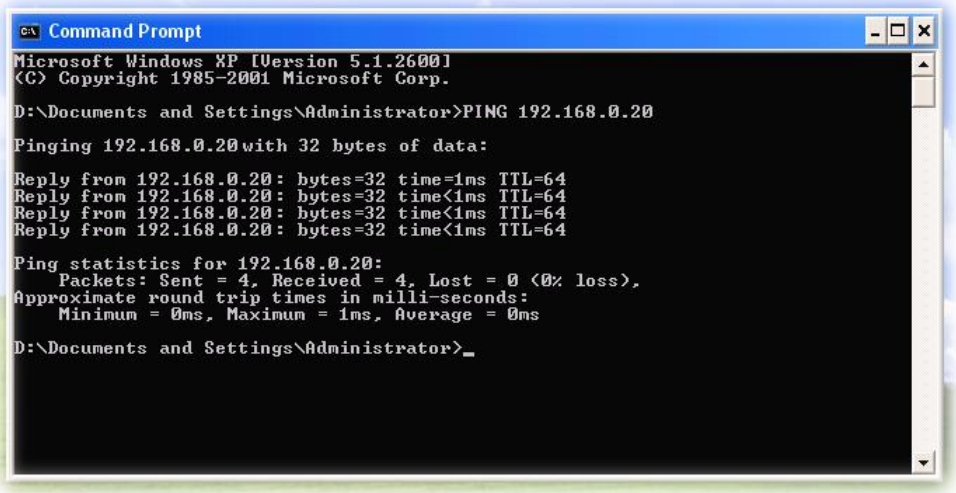
Appendix B: PING IP Address

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 Video Server 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 Video Server, also can utilize the PING command but you must disconnect the Video Server 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 Video Server.

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

Note:	Besides Internet Video Server and 3G mobile phone. You will also need to make sure the ISP and company has provided the 3GPP service to you.

Appendix D:
Bandwidth and Video Size Estimation

The frame rate of video transmitted from the Internet Video Server 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 Video Server 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, and 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

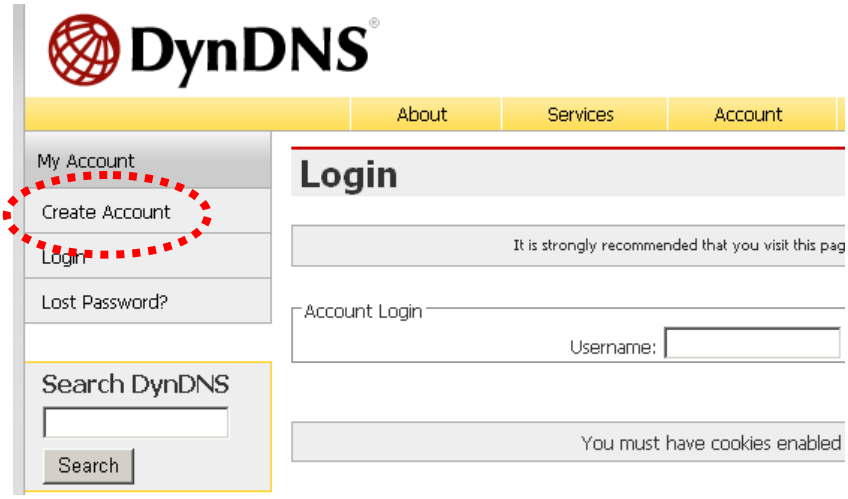
If users is under an environment of dynamic IP network (Dial-up xDSL), they have to apply a domain name in advance. Then apply DDNS service. Finally setup the necessary information of DDNS and PPPoE of the Networked Device in order to let the outside administrator be able to access through internet.

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”.



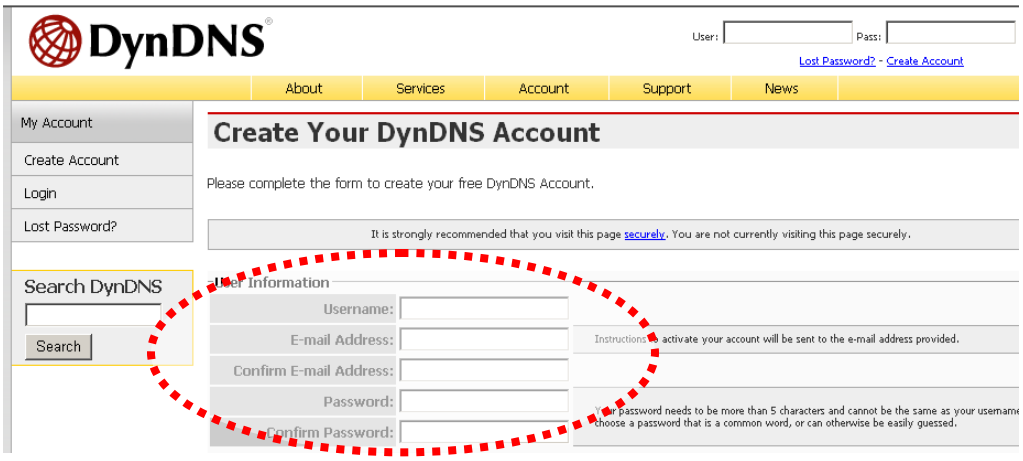
(4). Fill the application agreement and necessary information.

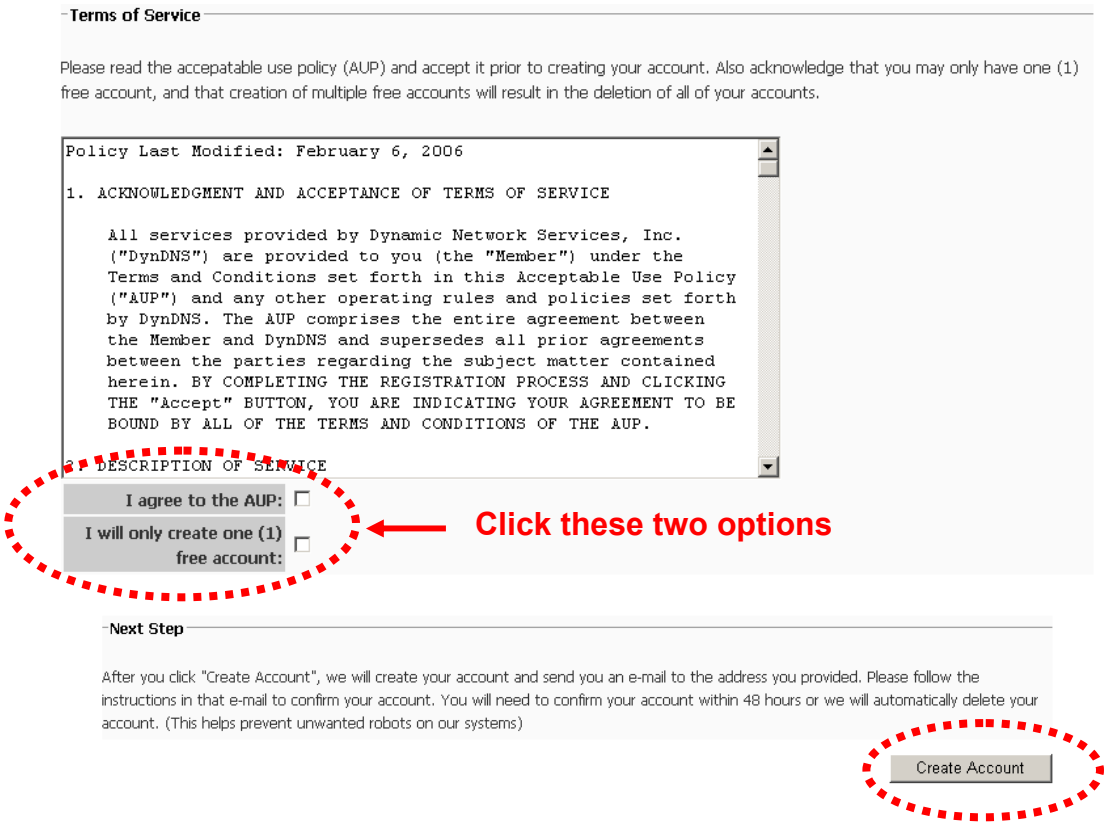
a. Username

b. E-mail address and confirmation

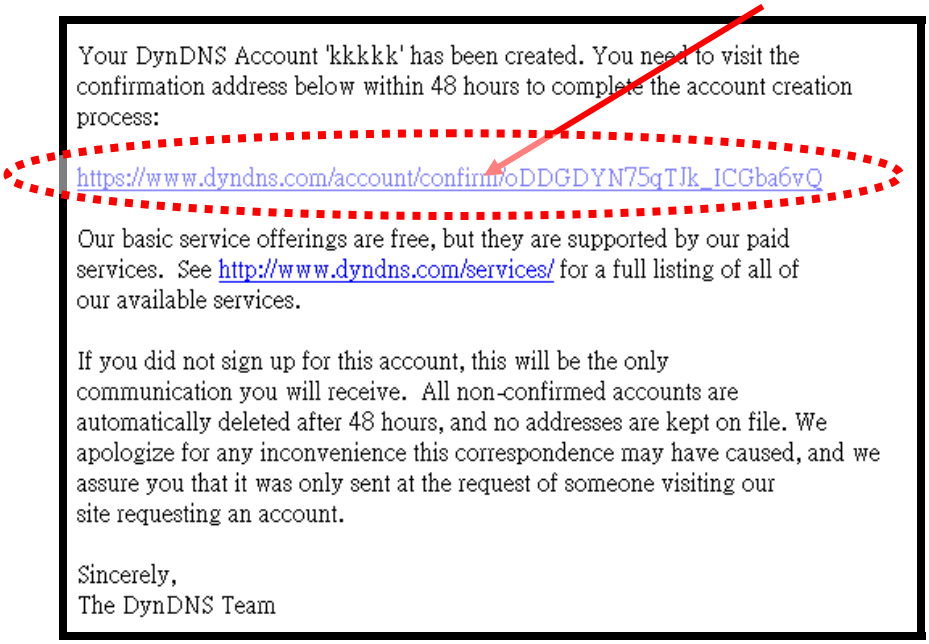
c. Password and confirmation

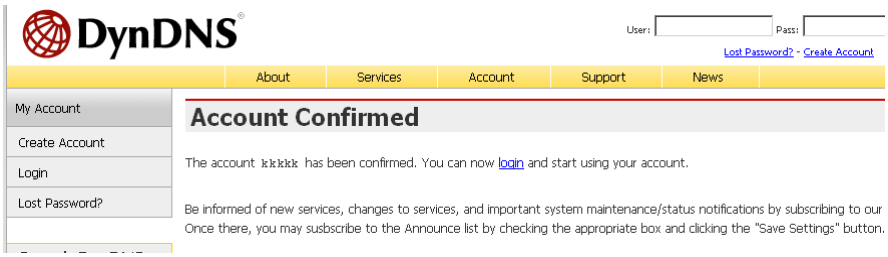
d. Submit all the input information and finish creating an account





(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.

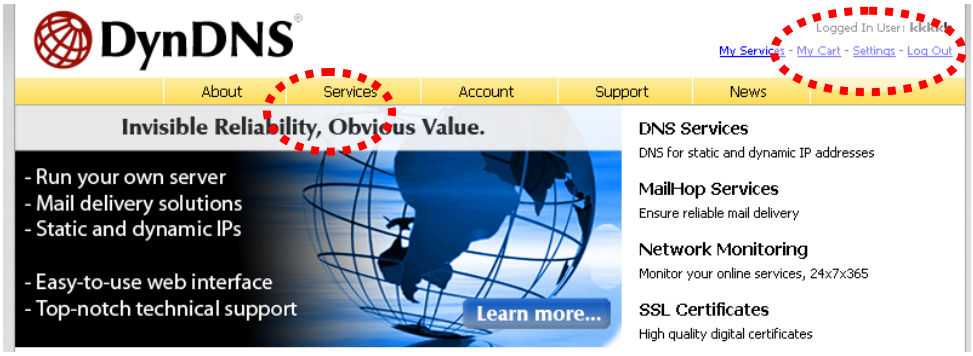




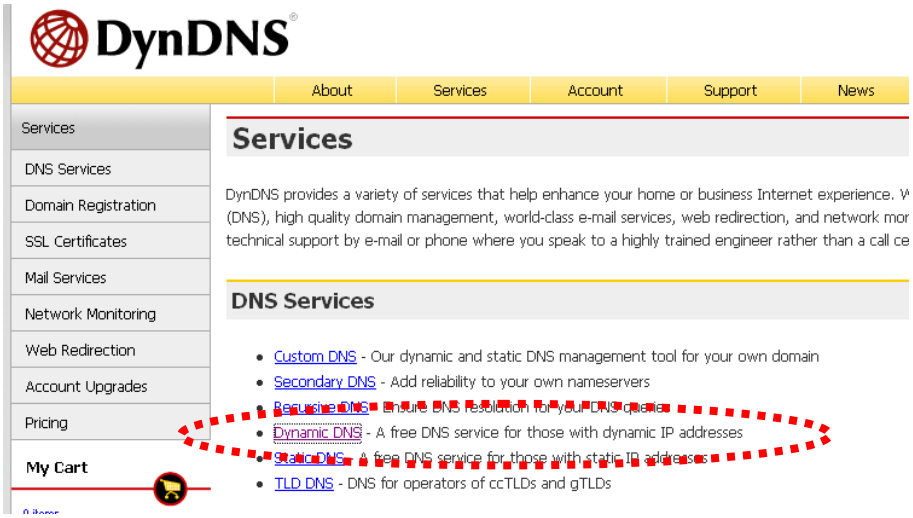
(6). Enter the web page http://www.dyndns.org/ again. Input your username and password that you just applied to login administration interface of DDNS server.

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

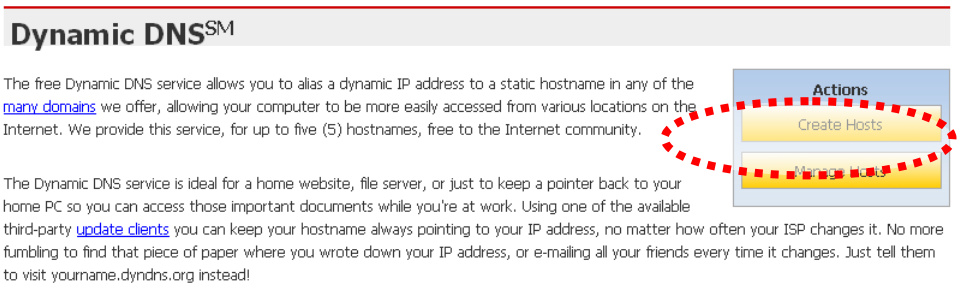
(8). Click the "Services".



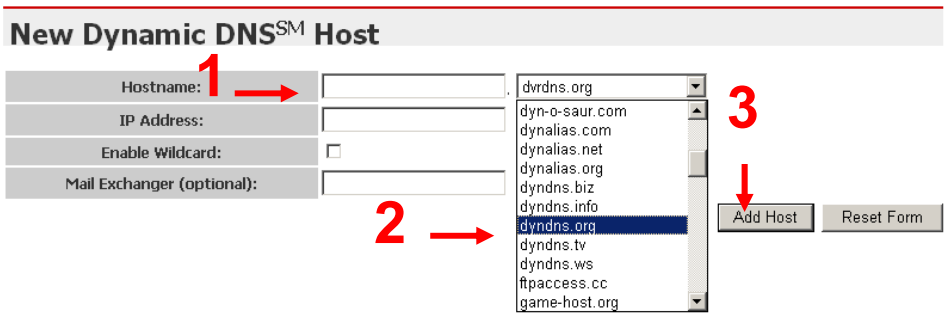
(9). Click the " Dynamic DNS ".



(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

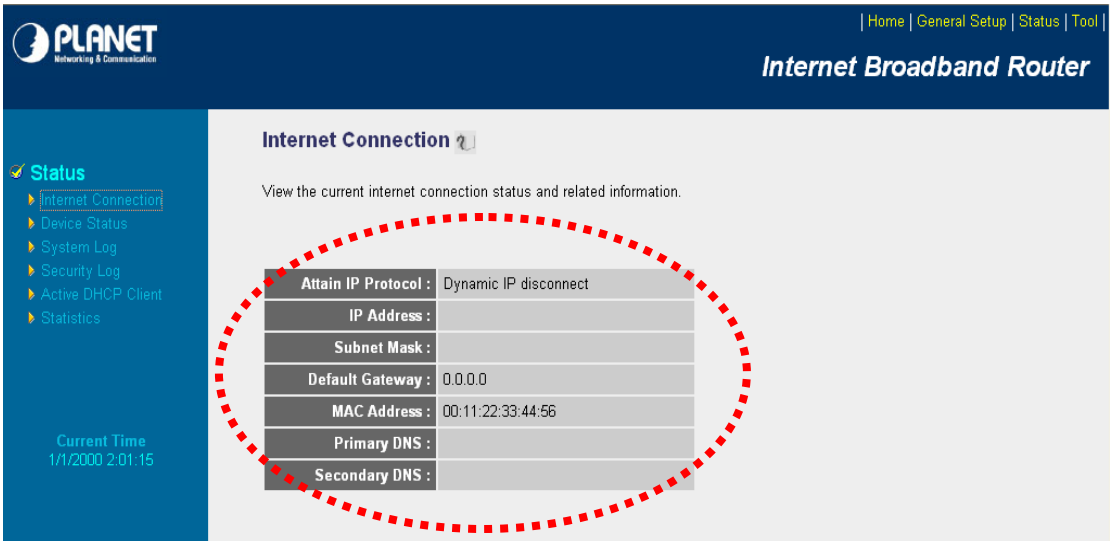
1. Assign a local/fixed IP address to your device

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

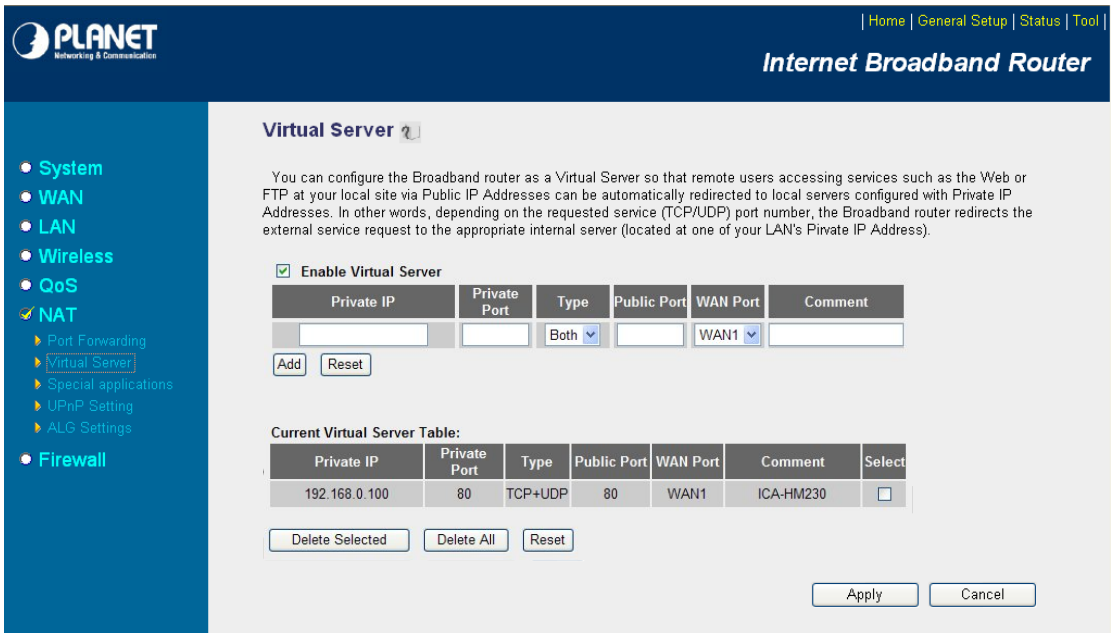
The firewall security features built into the router and most routers prevent users from accessing the video from the device over the Internet. The router connects to the Internet over a series of numbered ports. The ports normally used by the device are blocked from access over the Internet. Therefore, 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:
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.
Install this device	
LAN / Power 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. • If the problem is not solved, the device might be faulty. Contact your dealer for further help.
The network cabling is required for the device.	The device uses Category 5 UTP cable allowing 10 and/or 100 Base-T networking.
The device will be installed and work if a firewall exists on the network.	If a firewall exists on the network, port 80 is open for ordinary data communication. The HTTP port and RTSP port need to be opened on the firewall or NAT router.
The username and password for the first time or after factory default reset	Username = **admin** and leave password 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 II program or by UPnP discovery or set the device to default by Reset

	button.
PLANET IPWizard II 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 II program cannot detect device over a router. • If IP address is not assigned to the PC which running PLANET IPWizard II program, then PLANET IPWizard II program cannot find device. Make sure that IP address is assigned to the PC properly. • Antivirus software on the PC might interfere with the setup program. Disable the firewall of the antivirus software during setting up this device. • Check the firewall setting of your PC or Notebook.
Internet Explorer does not seem to work well with the device	Make sure that your Internet Explorer is version 6.0 or later. If you are experiencing problems, try upgrading to the latest version of Microsoft's Internet Explorer from the Microsoft webpage.
PLANET IPWizard II 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.
Access this device	
Cannot access the login page and other web pages of the Video Server from Internet Explorer	• Maybe the IP Address of the Network Camera is already being used by another device or computer. To confirm this possible problem, disconnect the Network Camera from the network first, and then run the PING utility to check it out. • Maybe due to the network cable. Try correcting your network cable and configuration. Test the network interface by connecting a local computer to the Video Server 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 Video Server 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 Video Server must be in the same class of the private IP address on the LAN. • Make sure the http port used by the Video Server, default=80, is forward to the Video Server's private IP address. • The port number assigned in your Video Server might not be available via Internet. Check your ISP for available port.

	● The proxy server may prevent you from connecting directly to the Video Server, 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 Video Server from the Internet with the global IP address of the router and port number of Video Server. ● Some routers reject the global IP address to access the Video Server on the same LAN. Access with the private IP address and correct port number of Video Server. ● When you use DDNS, you need to set Default Gateway and DNS server address. ● If it's not working after above procedure, reset Video Server to default setting and installed it again.
Image or video does not appear in the main page.	● To check the source analog camera is powered and make sure it could output the pictures to Video Server properly. ● To check the video cable is connect with source analog camera and video-in jack of Video Server properly. ● The first time the PC connects to Video Server, 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.
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.
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 H: Product Specification

Product	IVS-H120
Video Specification	
Video Encoder	H.264 / MPEG-4 / M-JPEG
Video Resolution	D1, CIF, QCIF
Frame Rate	30fps for all resolution
Audio Specification	
Audio Codec	G.726 / AMR
Audio I/O	Audio line in / out (for 2-way audio application)
Hardware Specification	
Digit I/O	DI x 1 / DO x 1
RS-485	For motor dome control
BNC Port	1 x BNC connector
Video Input	75 ohm impedance
Network and Configuration	
Network Interface	1 x RJ-45, Ethernet 10Base-T/100Base-TX
Network Standard	IEEE 802.3 / IEEE 802.3u
Network Protocol	TCP/IP, HTTP, SMTP, FTP, NTP, DNS, DDNS, DHCP, ARP, Bonjour, UPnP, RTSP, RTP, PPPoE, 3GPP, ICMP, Samba
Browser / Software	Microsoft ® Internet Explorer 6.0 or later, Cam Viewer Plus Lite/Pro
Motion Detection	10 area definable
Environment Specifications	
Power Requirement	5V DC, 2A
Dimension (W x D x H)	94 x 70 x 26 mm
Weight	210g
Power Consumption	2.5W (Max.)
Operating Temperature	0 ~ 40 Degree C
Operating Humidity	20 ~ 80% (non-condensing)
Emission	CE, FCC

EC Declaration of Conformity

For the following equipment:

*Type of Product : 1-Channel Internet Video Server (H.264)
*Model Number : IVS-H120

* Produced by:
Manufacturer's Name : **Planet Technology Corp.**
Manufacturer's Address: 11F, No 96, Min Chuan Road,
Hsin Tien, Taipei, Taiwan, R.O.C.

is herewith confirmed to comply with the requirements set out in the Council Directive on the Approximation of the Laws of the Member States relating to Electromagnetic Compatibility Directive on (89/336/EEC).
For the evaluation regarding the EMC, the following standards were applied:

EN 55022	1998+A1:2000+A2:2003: Class B
EN 61000-3-2	2002+ 2:2005
EN 61000-3-3	1995+A1:2001
EN 55024	1998+A1:2001+A2:2003
EN 61000-4-2	2001
EN 61000-4-3	2002
EN 61000-4-4	2004
EN 61000-4-5	2004
EN 61000-4-6	2001
EN 61000-4-11	2004

Responsible for marking this declaration if the:

☒ **Manufacturer** ☐ **Authorized representative established within the EU**

Authorized representative established within the EU (if applicable):

Company Name: **Planet Technology Corp.**

Company Address: **11F, No.96, Min Chuan Road, Hsin Tien, Taipei, Taiwan, R.O.C**

Person responsible for making this declaration

Name, Surname **Jonas Yang**

Position / Title : **Product Manager**

Taiwan	**11th Sep., 2009**	Jonas
Place	*Date*	*Legal Singnatur*