PLANET
Networking & Communication

User's Manual

Industrial Internet Video Server

► **IVS-2120**

www.PLANET.com.tw

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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, for example, use only shielded interface cables when connecting to computer or peripheral devices. Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Federal Communication Commission (FCC) Radiation Exposure Statement

This equipment complies with FCC radiation exposure set forth for an uncontrolled environment. In order to avoid the possibility of exceeding the FCC radio frequency exposure limits, human proximity to the antenna shall not be less than 20 cm (8 inches) during normal operation.

Safety

This equipment is designed with the utmost care for the safety of those who install and use it. However, special attention must be paid to the dangers of electric shock and static electricity when working with electrical equipment. All guidelines of this and of the computer manufacture must therefore be allowed at all times to ensure the safe use of the equipment.

CE Mark Warning

This is a Class B product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.

WEEE Regulation

To avoid the potential effects on the environment and human health as a result of the presence of hazardous substances in electrical and electronic equipment, end users of electrical and electronic equipment should understand the meaning of the crossed-out wheeled bin symbol. Do not dispose of WEEE as unsorted municipal waste; they should be collected separately.

Revision

User's Manual for PLANET Industrial Internet Video Server
Model: IVS-2120
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Chapter 1. Product Introduction

1.1. Package Contents

The following items should be contained in the package:

- IVS-2120 x 1
- Quick Installation Guide x 1
- User's Manual CD x 1
- A/V cable x 1
- Wall package

Note	1. If any of the above items are missing, please contact your dealer immediately. 2. Although the IVS-2120 supports AC or DC power source, please note power input is within the power range of the IVS-2120.

1.2. Product Description

Built-in SFP Transceiver to Extend Transmission Distance

PLANET IVS-2120 one-channel PoE Internet Video Server offers the highly-efficient H.264 video compression, which greatly reduces bandwidth without compromising image quality. When the IVS-2120 and the other side of the device are inserted with a fiber module, the maximum transmission distance can be extended by up to 20km. Its industrial, rugged design, which includes a -30 to 60 degrees C operating temperature, IP30 form factor protection and industrial certifications, make the IVS-2120 suitable for harsh environments.

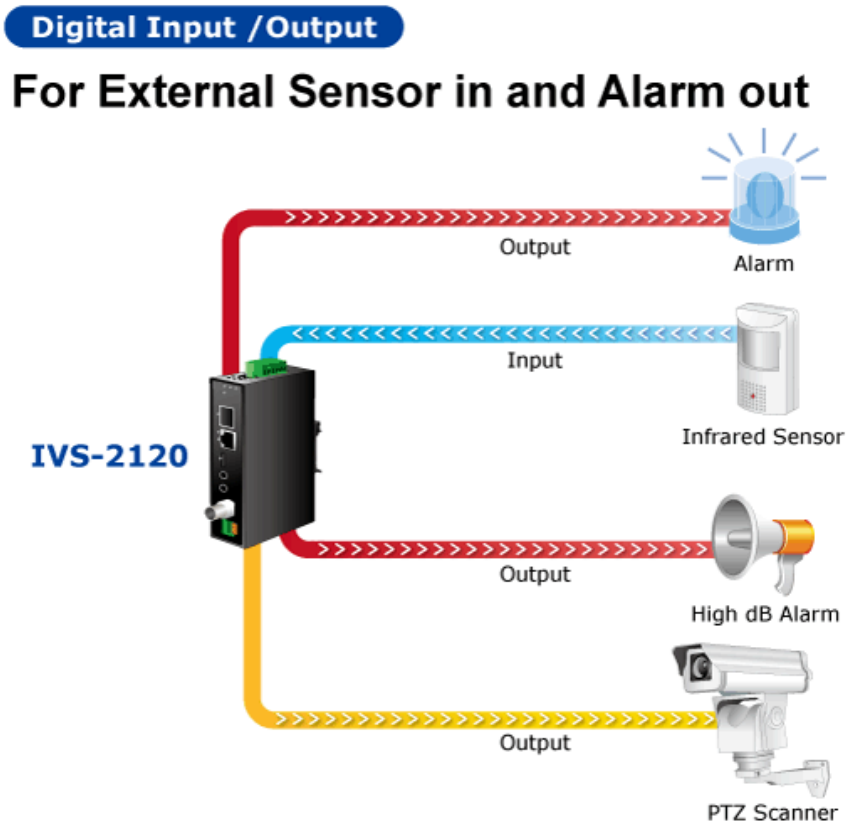
It provides an easy and high-quality solution to integrating analog CCTV cameras into the IP-based video surveillance system. The IVS-2120 is the ideal choice for casinos, airports, traffic surveillance, prisons or anywhere an analog surveillance system is already installed and full frame rate is needed.

Full Frame Rate in All Resolutions

The IVS-2120 supports H.264, MPEG-4, and M-JPEG compression formats to deliver excellent picture quality in 4CIF (D1) resolutions at 30/25 (NTSC/PAL) frames per second (fps). It also can deliver multiple, individually configurable video streams simultaneously at full frame rate in all resolutions, meaning several video streams can be configured with different compression formats, resolutions and frame rates for different needs.

Advanced Event Management

The IVS-2120 supports a number of advanced features that increase monitoring flexibility and capabilities, including AV out to perform the Two-way audio function, micro SD/SDHC card slot for local storage, RS-485 for connection to an optional pan/tilt enclosure and input/output port for connecting external sensor devices such as door sensors and light relays to enable real-time alarm notification and event management.



Dual Power Source and Temperature Detection Functionality

The IVS-2120 comes with IEEE 802.3af Power over Ethernet (PoE) and dual power source (AC and DC) which is the best redundancy solution. The IVS-2120 has a built-in temperature detector to show the temperature inside the unit. The IVS-2120 is ONVIF-compliant and therefore interoperable with other brands in the market. As it includes 64-CH central management software, the IVS-2120 is indisputably the top choice for reliable and high-performance surveillance.

1.3. PRODUCT FEATURES

➢ Video / Audio

- H.264 / MPEG-4 and M-JPEG video compression simultaneously
- Simultaneous multi-stream support
- Up to 30/25fps (NTSC/PAL) for all profiles
- 3DNR (3D Noise Reduction) to improve picture quality at low lux
- 2-way audio support with enhanced audio quality
- Event trigger by audio detection

➢ Network and Configuration

- Auto MDI/MDI-X supported
- Compliant with IEEE 802.3af PoE interface for flexible deployment(IVS-H125P only)
- Supports both IPv6 and IPv4 protocols
- Compliant with IEEE 802.8 FDDI interface for flexible deployment
- RTSP / UPnP / 3GPP / HTTPS protocols selectable

➢ Easy Installation & Management

- ONVIF compliant for interoperability
- Built-in Samba client for NAS
- 3GPP for 3G mobile remote applications
- Long range of DC power source
- RS-485 interface for P/T scanner control
- Built-in micro SD/SDHC card slot for on-board storage
- Digital Input / Output for integration with sensors and alarms
- Cam Viewer 3 Central management software supported

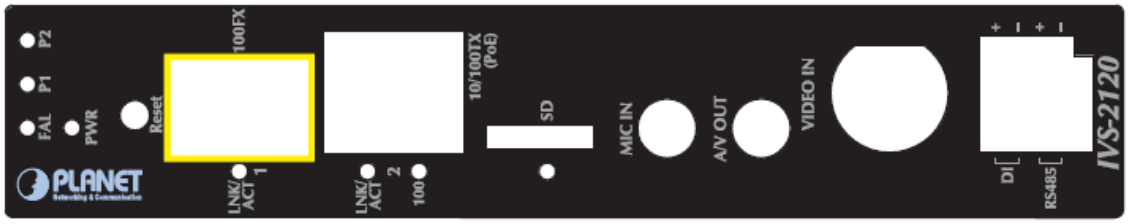
1.4. Product Specifications

Model	IVS-2120
Image	
Video Compression	H.264 / MPEG-4 / M-JPEG
Video Resolution	4CIF , CIF, QCIF
Frame Rate	30/25fps (NTSC/PAL) in all resolutions
Image Setting	AE, AWB 3D noise reduction Color, brightness, sharpness, contrast Mirror / Flip 8 Privacy Masks Text, time and date overlay
Streaming	Simultaneous multi-profile streaming Streaming over UDP, TCP, or HTTP HTTPS M-JPEG streaming over HTTP (server push) Supports 3GPP mobile surveillance (MPEG4) Controllable frame rate and bandwidth Constant and variable bit rate (MPEG4/H.264) ROI
Audio	
Audio Streaming	Two-way audio
Audio Compression	RTSP: G.711 64kbps, G.726 32kbps 3GPP: AMR
Microphone	External microphone input
Audio Output	Adjustable audio output gain
Network and Configuration	
Standard	IEEE 802.3 10Base-T IEEE 802.3u 100Base-TX IEEE 802.3u 100Base-FX SFP
Protocol	IPv4, IPv6, TCP/IP, UDP, HTTP, HTTPS, SMTP, FTP, NTP, DNS, DDNS, DHCP, ARP, Bonjour, UPnP, RTSP, RTP, RTCP, IGMP, PPPoE, 3GPP, ICMP, Samba, SNMP
Security	Password protection, IP address filtering, HTTPS encrypted data transmission, user access log
Users	20 clients on-line monitoring at the same time
System Integration	
Application Programming Interface	Open API for software integration ONVIF Compliant
Alarm Triggers	Intelligent video motion detection, audio detection and external input
Alarm Events	File upload via FTP, Samba to NAS, SD card or email

	Notification via email, HTTP, and TCP External output activation Audio alerting output Pre- and post-alarm buffering
Environment Specifications	
Power Requirements	IEEE 802.3af Class 3 48 VDC and 24 VAC max. Redundant power with polarity reverse protection function
Power Consumption	3W (Max.)
Operating Temperature	-30 ~ 60 degrees C
Operating Humidity	20 ~ 80% (non-condensing)
Weight	448g
Dimensions (W x D x H)	135 x 87 x 32 mm
Enclosure	IP30 metal case
Installation	DIN rail kit and wall mount ear
Emission	CE, FCC
Connectors	10/100Mbps Ethernet, RJ-45 100Base-FX SFP BNC connector, 75 ohm impedance Terminal block for 1 alarm input and 1 output RS-485 interface for pan/tilt scanners control External mic input Composite video / audio output Micro SD/SDHC card (max. 32GB, Class 6) Factory default reset

Chapter 2. Hardware Interface

2.1. Front Panel



FAL	If either Power1 (P1) or Power2 (P2) is connected, the FAL LED will light on. For the FAL LED to light off, both P1 and P2 need to connect to power source.
P1	When Power1 connects to power source, the LED will light on.
P2	When Power2 connects to power source, the LED will light on.
PWR	This LED will always light on when the IVS-2120 is turned on.
Reset	This button is hidden in the pinhole. This button is used to restore to all the factory default settings. Sometimes restarting the IVS-2120 will make the system back to a normal state. If the system still got problems after restart, user can restore to the factory default settings and install it again. To restore the device, please follow the steps below: a. Insert the paper clip or any proper tool and press and hold the button down continuously. b. Hold it at least for 5 seconds and release the tool to get the device restored to the default settings and reboot again. Note: Restoring to the factory default setting will lose all the previous settings including IP address forever. User needs to run the PLANET IP Wizard II program to search the device and configure it to let the device work properly again.
100FX	When SFP transceiver connects to SFP receiver, the LINK/ACT LED will light on.
10/100TX (PoE)	When RJ-45 cable connects to switch or PC, the LINK/ACT LED will light on. If network speed is 100Mbps, the LED will also light on.
SD	When micro SD card is inserted into the slot and the IVS-2120 is writing data to micro SD card, the SD LED will light on.
Mic. in	Connect an external microphone to the IVS-2120.
A/V Out	Audio/Video-out jack allows this device to output audio and video signal. Use the attached A/V cable to connect A/V device where white cable is for audio and yellow cable is for video.

Note

1. The white jack is used for audio output, and yellow jack is used for video output.
2. The IVS-2120 could determine whether the monitor uses NTSC or PAL format signal, and output the fitting video format to monitor automatically. Please connect the video jack (yellow) with the monitor properly before powering on the machine.

DI / RS-485

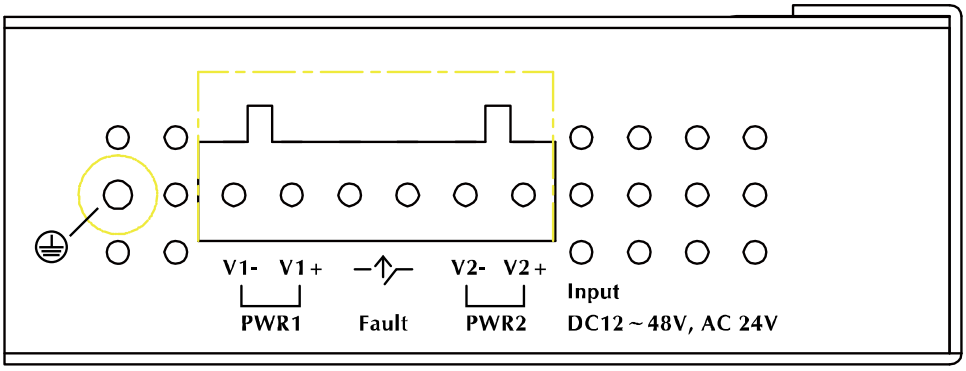
The IVS-2120 provides a general I/O terminal block with one digital input and one output for device control. It has 4 pins that from left to right there are DI+, DI- , D+ terminal of RS-485 and D- terminal of RS-485.

Name	Number	Function
DI+	1	Digital signal input with positive voltage
DI-	2	Digital signal input with negative voltage
485+	3	RS485 data +
485-	4	RS485 data -

Note

The input voltage range of DI+ is DC 13~30V; maximum current is DC 8mA.

2.2. Left-hand side Panel



Power / DO

This IVS-2120 provides dual power source for redundancy. The IVS-2120's built-in bridge rectifier output varies in accordance so that the polarity can be ignored. Just pay attention to its power range only.

Name	Number	Alias	Function
V1-	1	PWR1	Power1 input, input range is DC 12V~48V and AC 24V.
V1+	2		
DO-	3	Fault	When both PWR1 and PWR2 are

			PWR1 and PWR2 are connected will DO be in the open circuit. Whenever an event like motion detection is triggered, DO will be in the closed circuit. If either PWR1 or PWR2 is connected, DO will be in the closed circuit.
V2-	5	PWR2	Power2 input, input range is DC 12V~48V and AC 24V.
V2+	6		

Note

1. User can see the LED power status on the front panel to know which power source is being connected to the IVS-2120.
2. Please note DC input power must not go over the range

2.3. Hardware Installation

1. **Attach video source to IVS-2120**

   To use the IVS-2120, user must supply video source to the IVS-2120. Connect the BNC terminal of the camera to the IVS-2120 video input and make sure to power on the camera first.

2. **Attach audio source to the IVS-2120 (optional)**
   If user needs both video stream and audio stream, then the audio source should be attached to the IVS-2120. Connect the audio device's line output to the IVS-2120's Mic-in and make sure to power on your camera or audio device first.

3. **Plugging Ethernet cable into RJ-45 connector**
   Connect an Ethernet cable to the LAN socket located on the IVS-2120 panel and attach it to the network.

4. **Plugging SFP module into 100FX slot (option)**
   Use fiber cable to connect to another SFP module. Please note that fiber cable needs cross connection to another SFP module.

5. **Connect RS-485 D+ and D- (optional)**
   When users like a camera with P/T/Z function, they usually need to connect their communication port (for camera control) through RS-485. After RS-485 is correctly connected to D+ and D-, the remote users can control the camera movement through internet.

6. **Connect power source to PWR1 or PWR2 by terminal block. The IVS-2120 also obtains power from PoE switch over RJ-45 cable.**

7. **Done.**

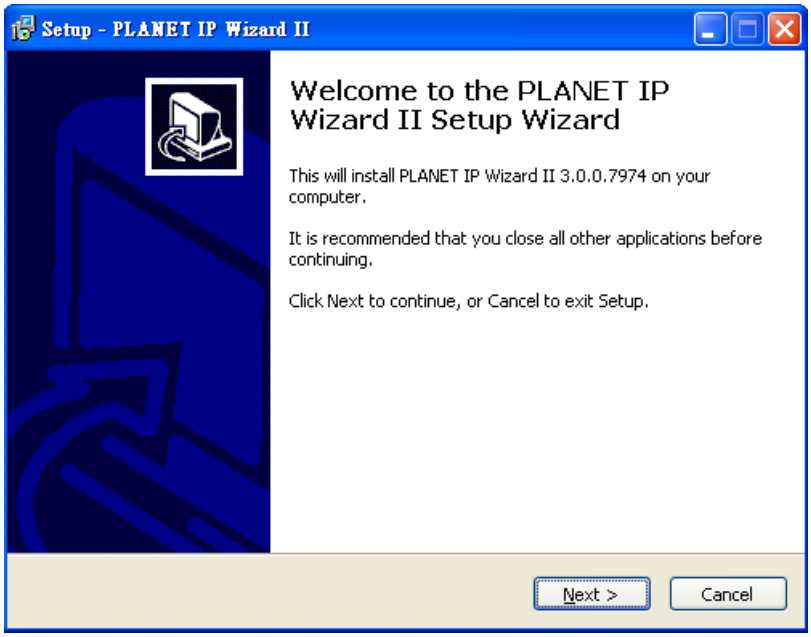
Chapter 3. Initial Utility Installation

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 IP Wizard II can search the Internet Video Server in the network that will help you to configure some basic setting before you start advanced management and monitoring.

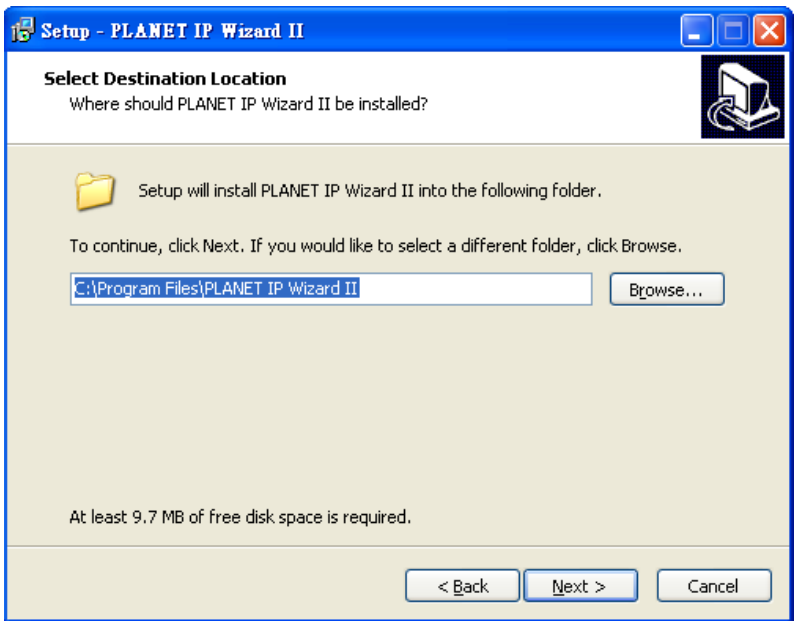
1. Insert the bundled CD into the CD-ROM drive to launch the auto-run program. Once completed, a welcome menu screen will appear.
2. Click the "IP Wizard II" hyperlink; you will see the dialog box as below.

> Note
>
> *If the welcome screen does not appear, click "Start" at the taskbar. Then, select "Run" and type "D:\Utility\IP Wizard II\setup.exe", assume D is your CD-ROM drive.*

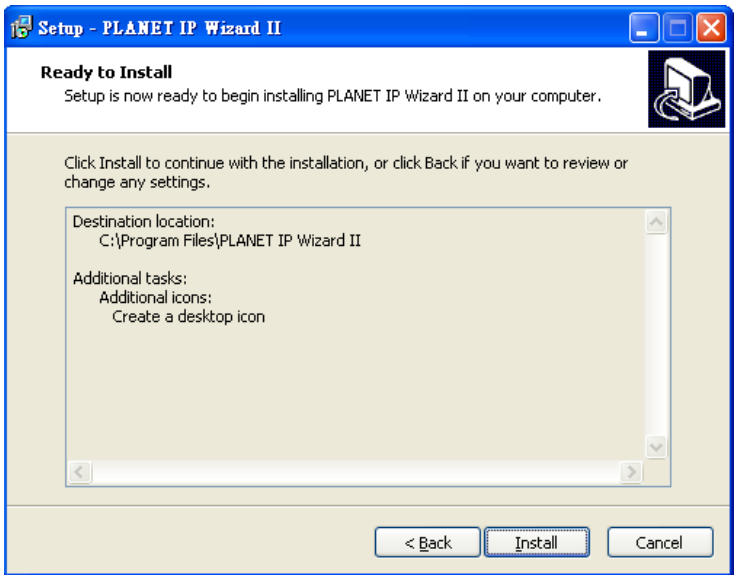
3. The "Welcome to the InstallShield Wizard for PLANET IP Wizard II" prompt will display on the screen and click "**Next**" to continue.



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

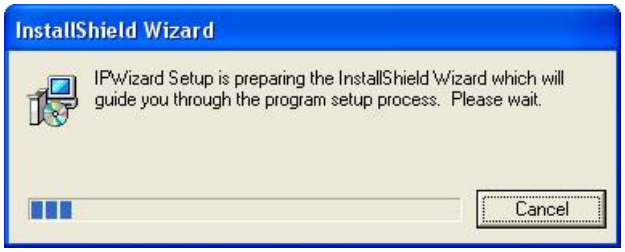


5. Please click "**Install**" to start the installation.



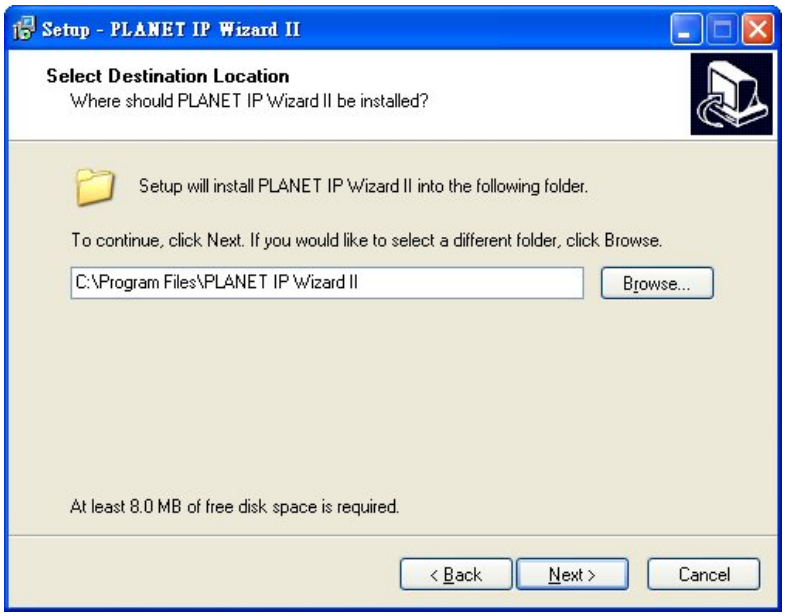
6. Please click "**Finish**" to complete the installation and launch program immediately.

7. Insert the bundled CD into the CD-ROM drive to launch the auto-run program. Once completed, a welcome menu screen will appear.
8. Click the "IP Wizard II" hyperlink; you will see the dialog box as shown below.



9. The "Welcome to the InstallShield Wizard for PLANET IP Wizard II" prompt will display on the screen and click "**Next**" to continue.

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



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

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

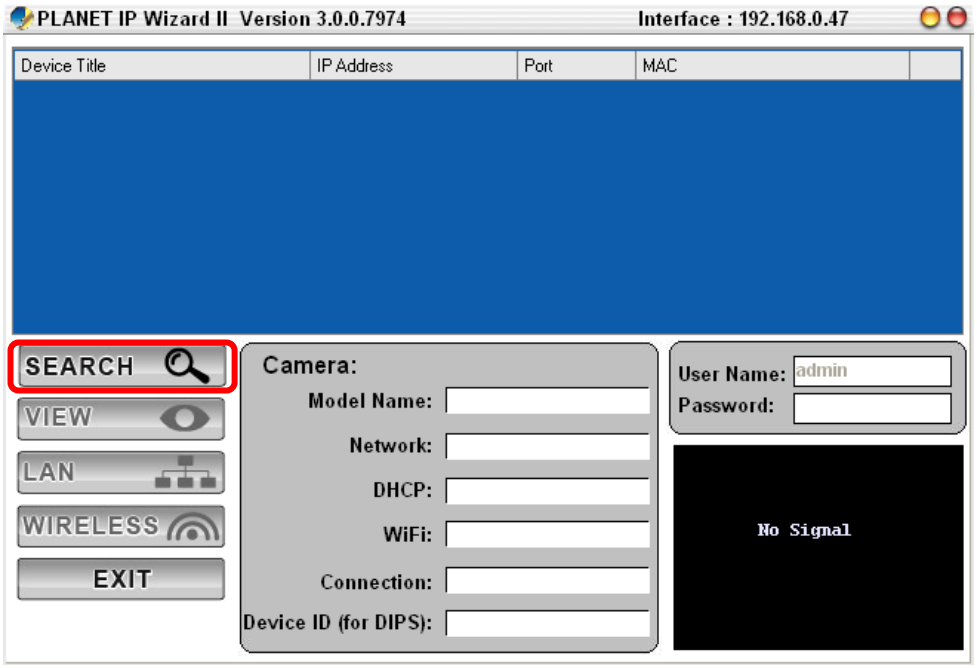
3.1. Preparation

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

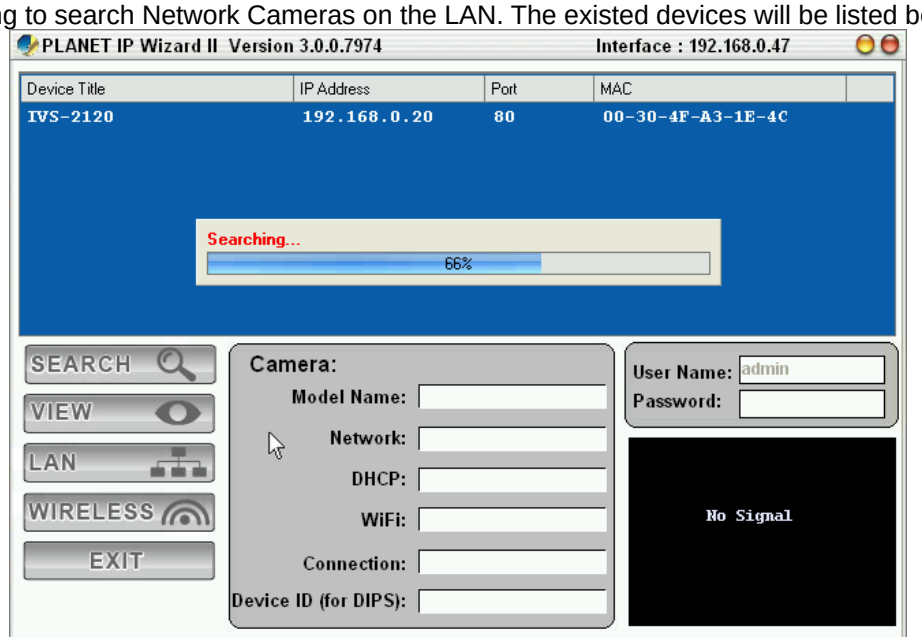
3.1.1. Search and View by PLANET IP Wizard II

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

✓ Search

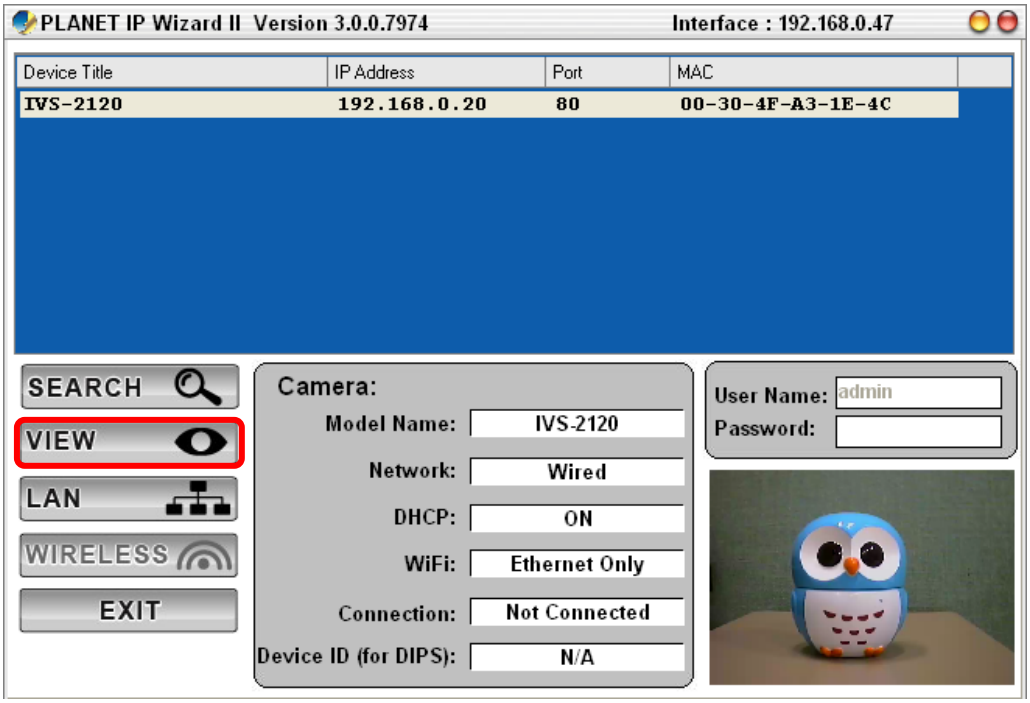


When launching the PLANET IP Wizard II, a search window will pop up. PLANET IP Wizard II is starting to search Network Cameras on the LAN. The existed devices will be listed below.

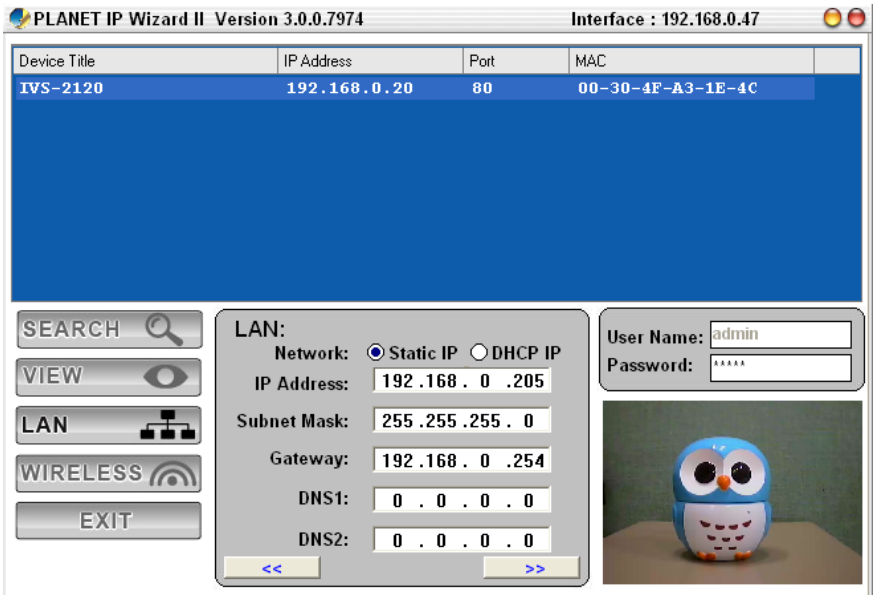


View

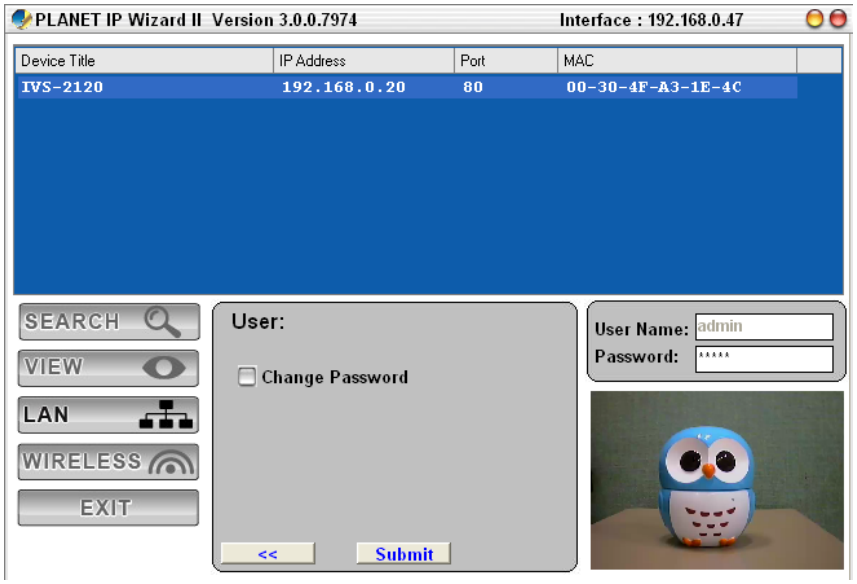
If PLANET IP Wizard II finds network devices, **View** button will be available. Please select the device you want to view and click the **View** button. Then you could see the video from camera directly. Furthermore you can double-click the left button of mouse to link to the network device by browser.



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. Related settings will be carried out 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 to go back to the 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 shown below.



After keying in a new username and password, click "**Submit**" button to perform your setting accordingly. Click "**<<**" button to go back to the previous page. The default user name and password are both "**admin**".

3.2. Using UPnP of Windows XP or Vista or Win7

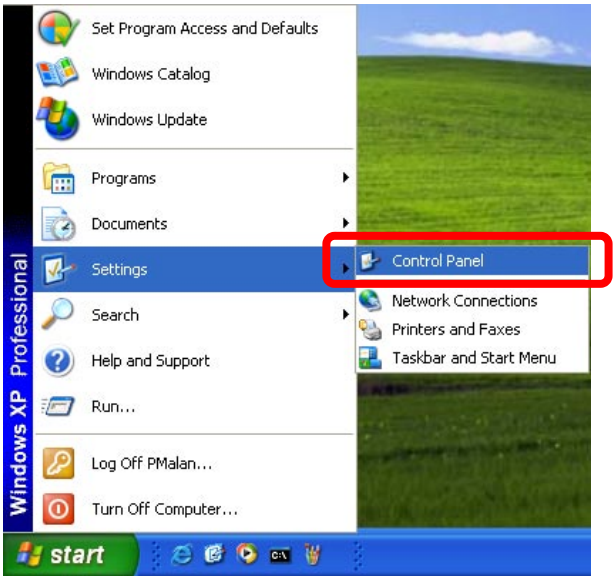
UPnP™ is short for Universal Plug and Play, which is a networking architecture that provides compatibility among networking equipment, software, and peripherals. This device is an UPnP enabled device. If the operating system, Windows XP, of your PC is UPnP enabled, the device will be very easy to configure.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

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

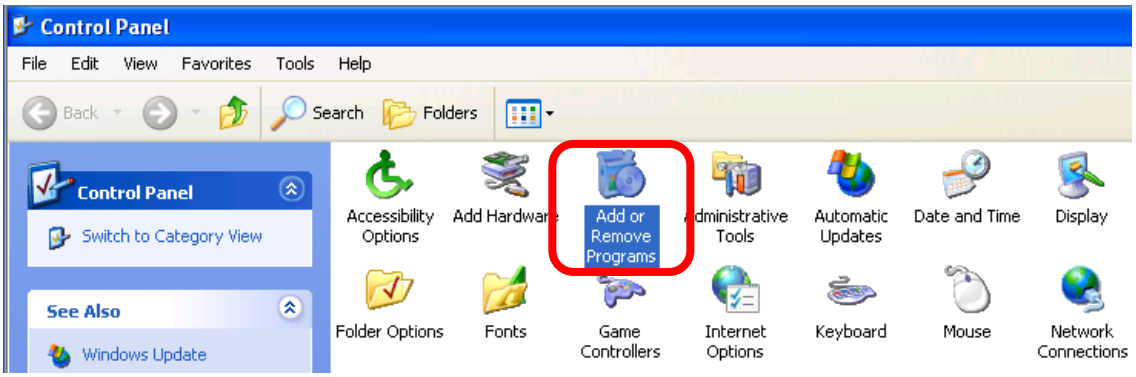
3.2.1 Win XP

To discover your device, go to your Computer and click Network.

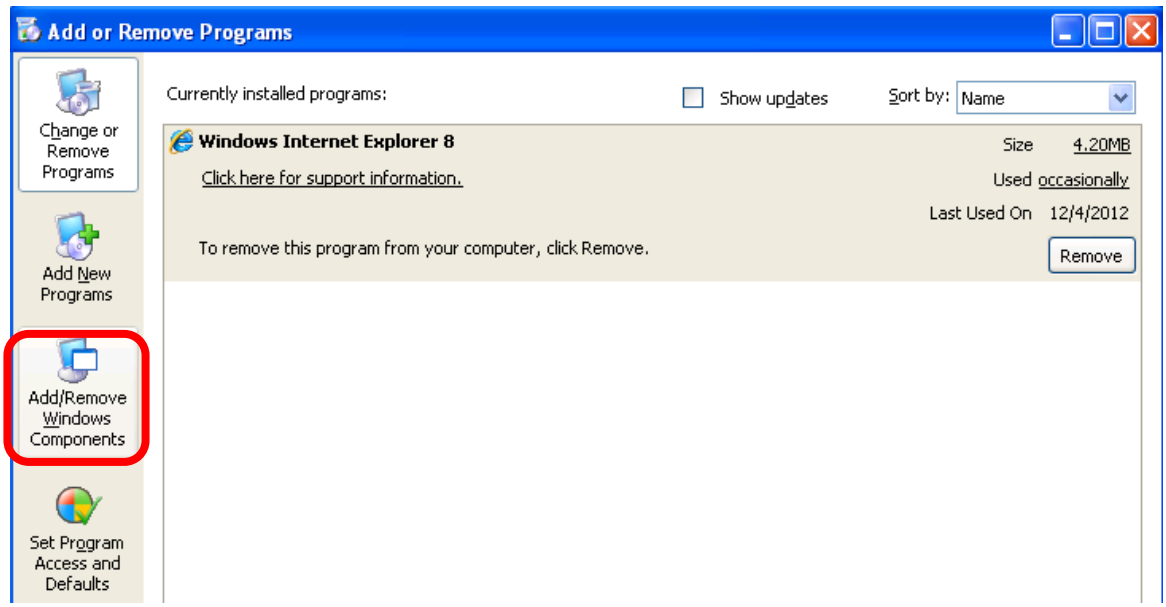
Go to **Start > Settings**, and Click **Control Panel**.



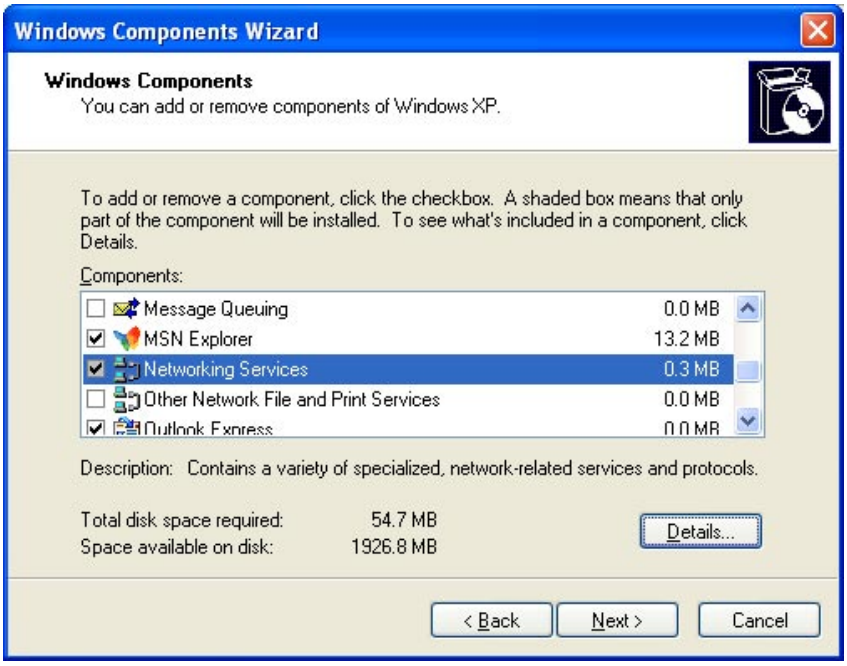
The "**Control Panel**" will display on the screen and double-click "**Add or Remove Programs**" to continue.



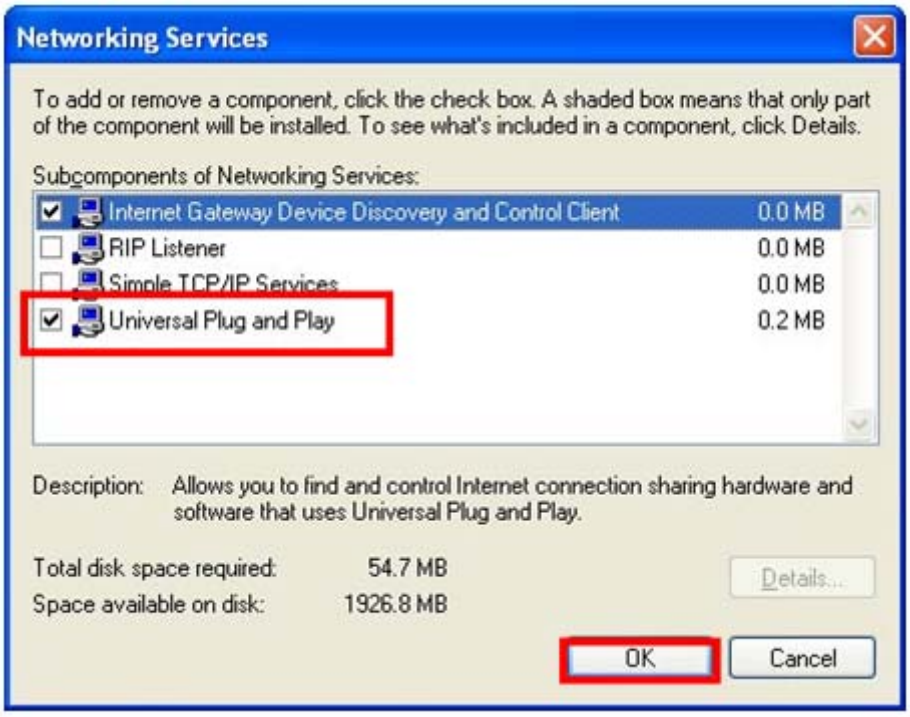
The "Add or Remove Programs" will display on the screen and click **Add/Remove Widows Components** to continue.



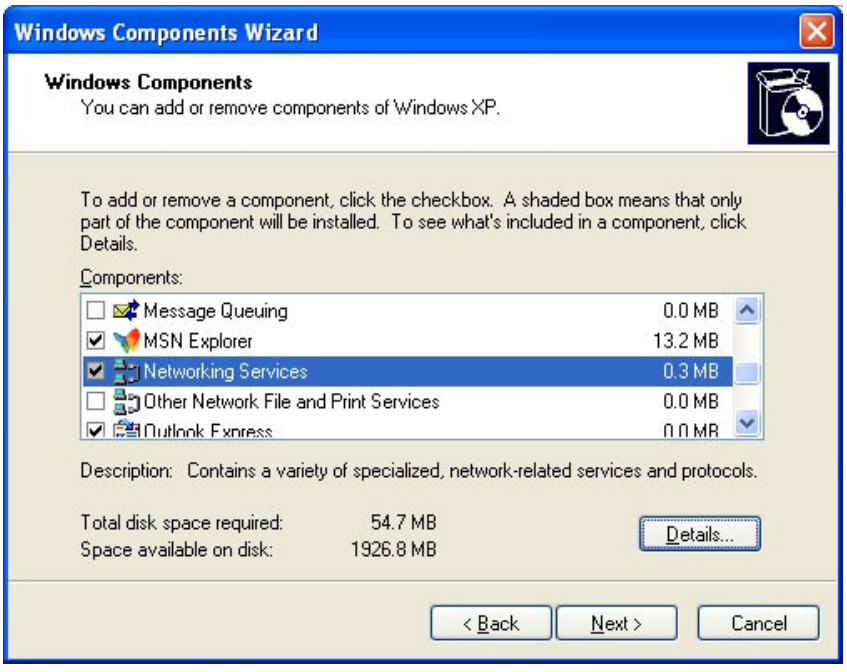
The following screen will appear, select "**Networking Services**" and click "**Details**" to continue.



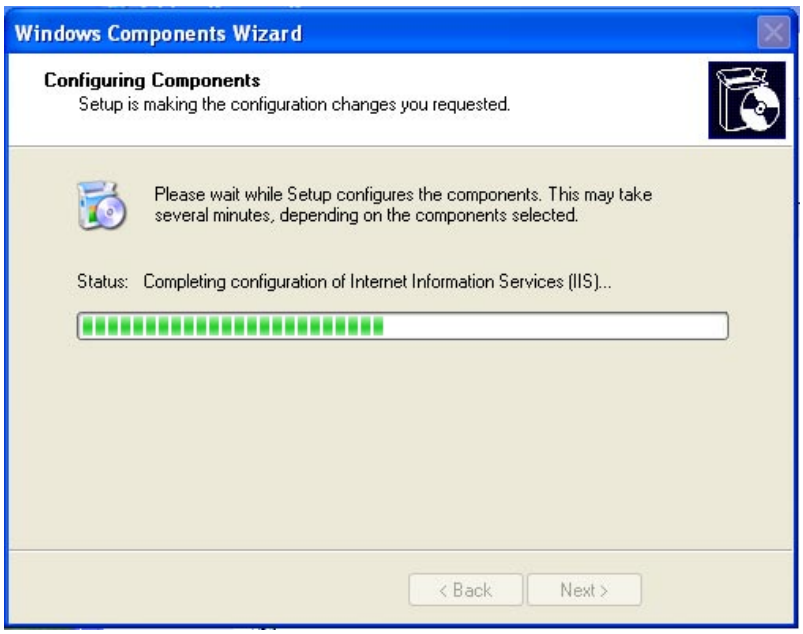
The "Networking Services" will display on the screen, select "**Universal Plug and Play**" and click "**OK**" to continue.



Please click "**Next**" to continue.

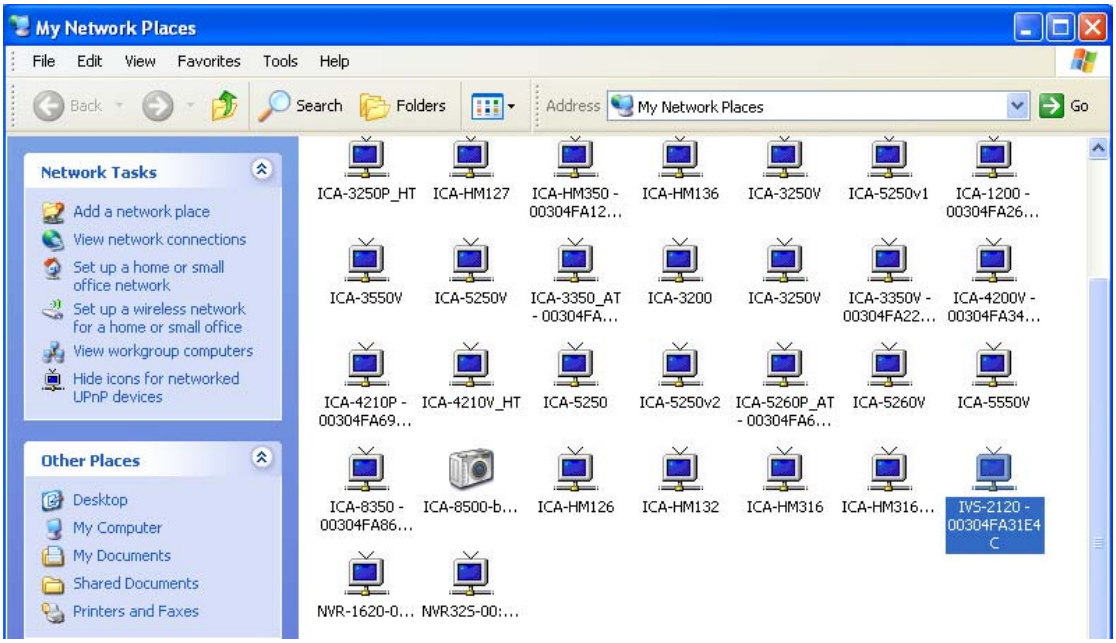


The program will start installing the UPnP automatically. You will see the pop-up screen below. Please wait while Setup configures the components.



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

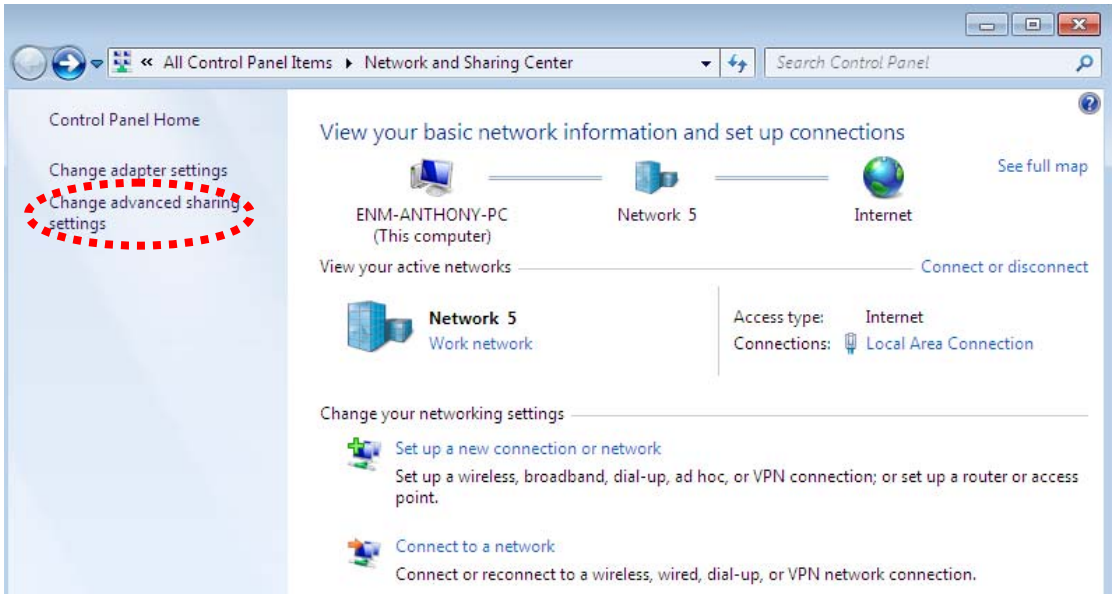
Double-click "**My Network Places**" on the desktop, and the "My Network Places" will display on the screen. Double-click the UPnP icon with Internet Camera to view your device in an internet browser.

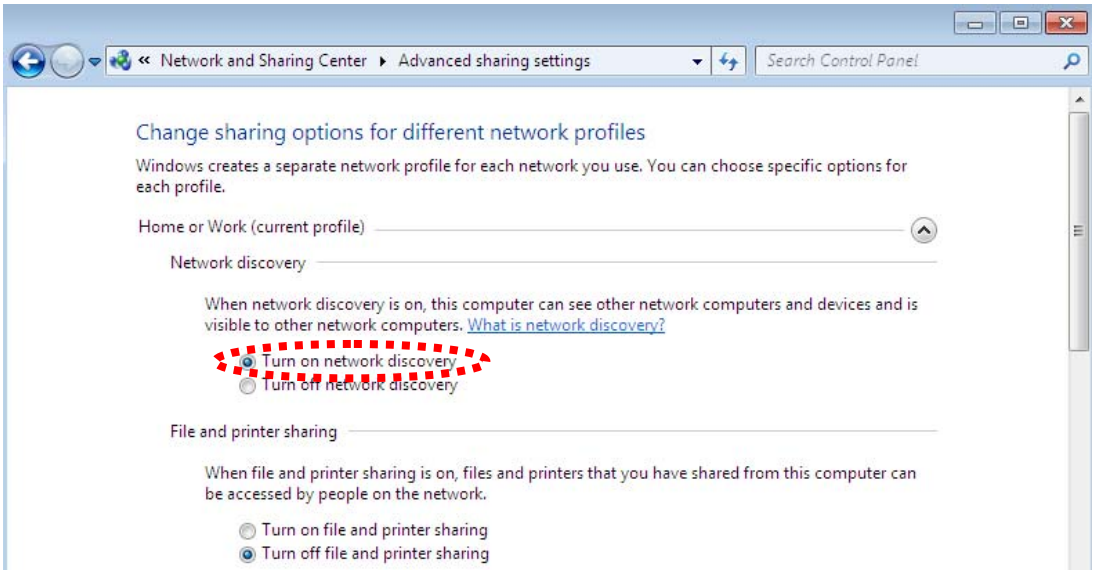


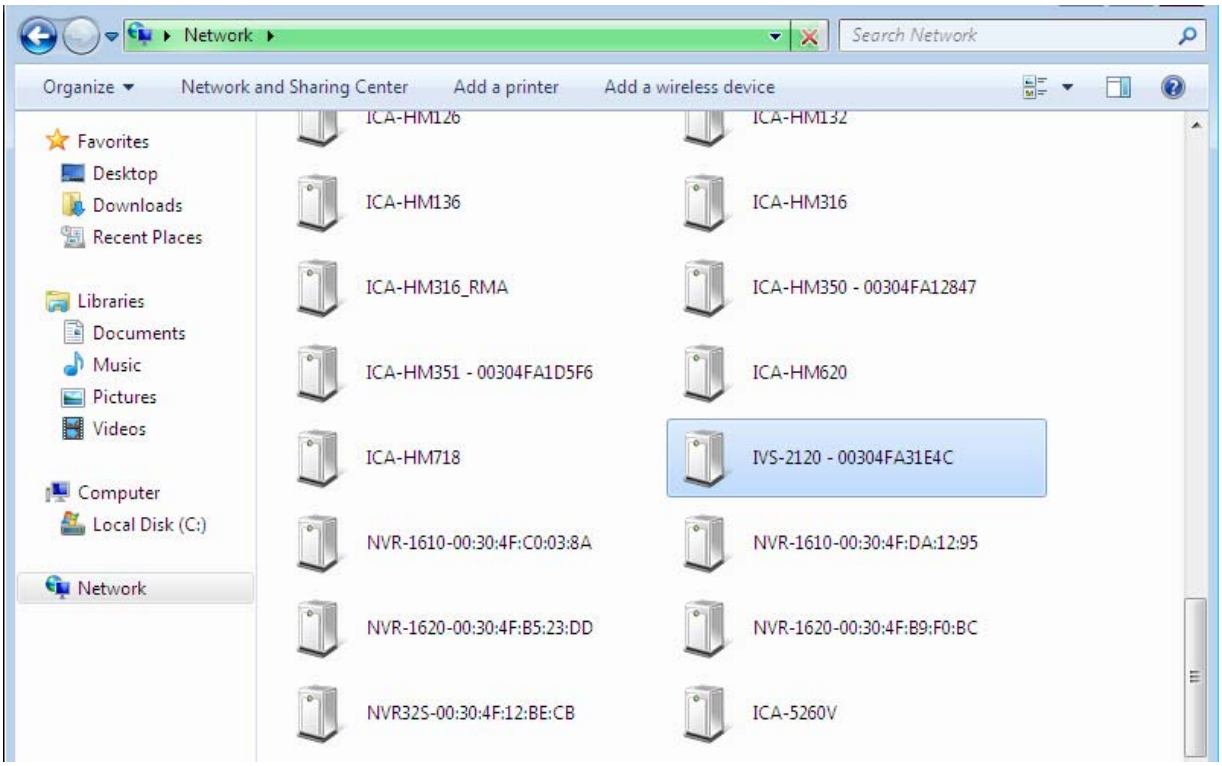
3.2.2 Windows 7

Go to **Start > Control Panel > Network and Internet > Network and Sharing Center**, if network discovery is off; click the arrow button to expand the section.

Click Turn on network discovery, and then click Apply. If you are prompted for an administrator password or confirmation, type the password or provide confirmation.







3.3 Setting up ActiveX to use the Internet Camera

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

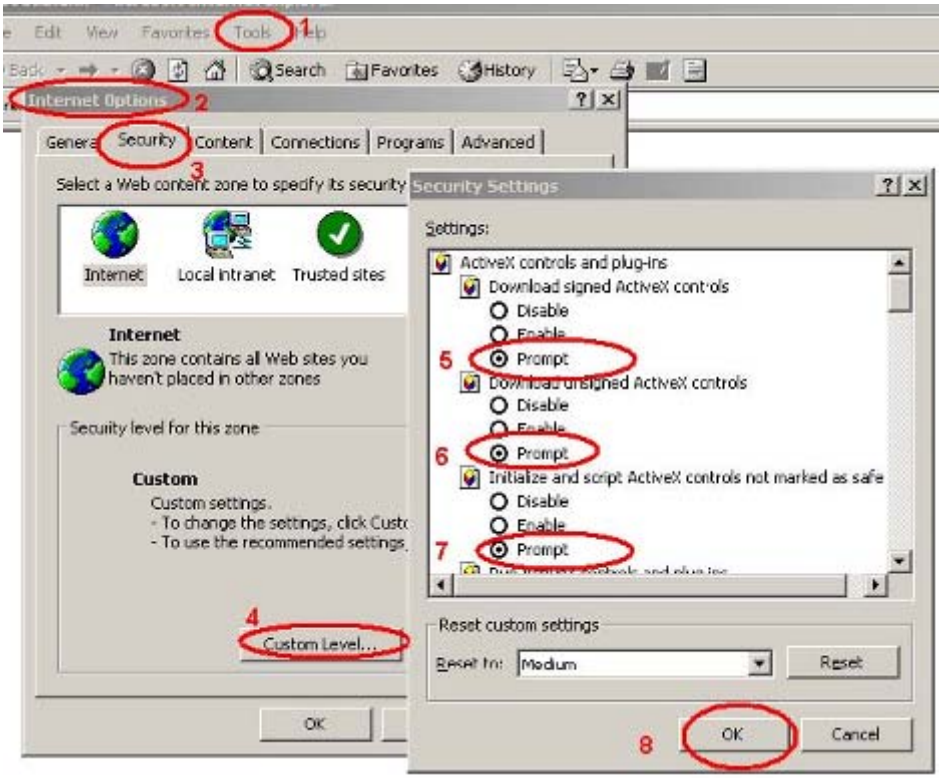
3.3.1 Internet Explorer 6 for Windows XP

From your IE browse ➔ "Tools" ➔ "Internet Options…" ➔ "Security" ➔"Custom Level…",

please set up your "Settings" as follows:

Set the first 3 items

- Download the signed ActiveX controls
- Download the unsigned ActiveX controls
- Initialize and script the ActiveX controls not masked as safe to Prompt



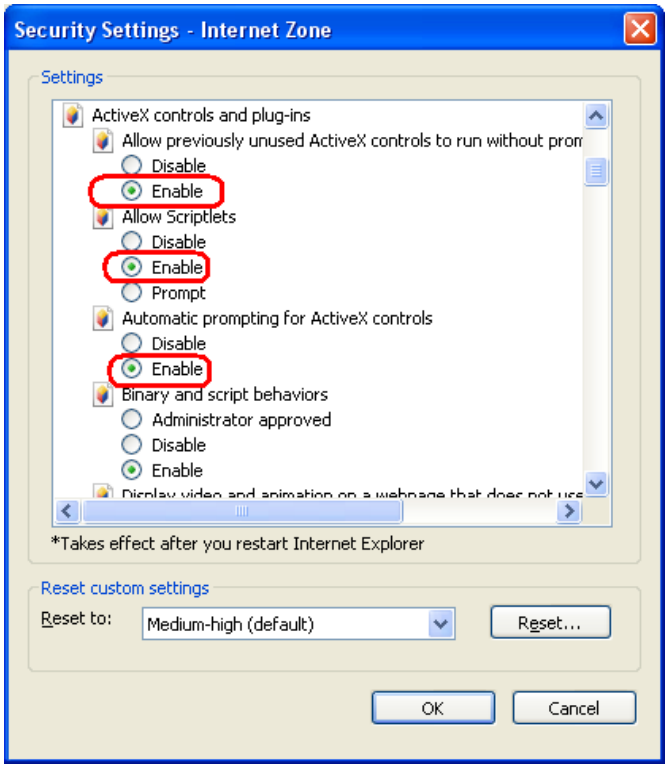
By now, you have finished your entire PC configuration for Internet Camera.

3.3.2 Internet Explorer 7 for Windows XP

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

Set the first 3 items

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

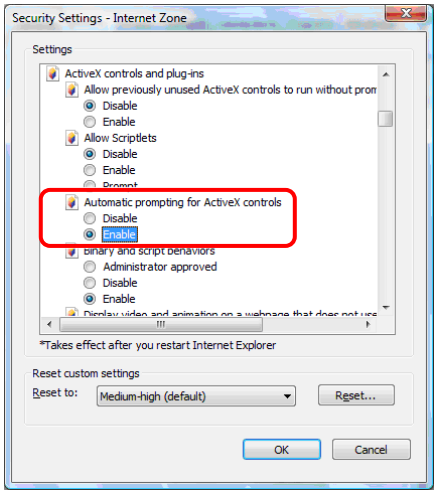


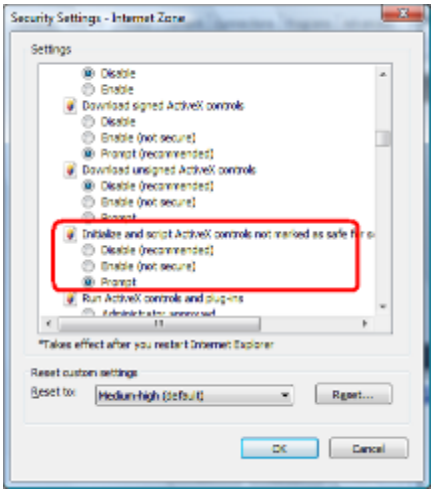
By now, you have finished your entire PC configuration for Internet Camera.

3.3.3 Internet Explorer 7 for Windows Vista

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

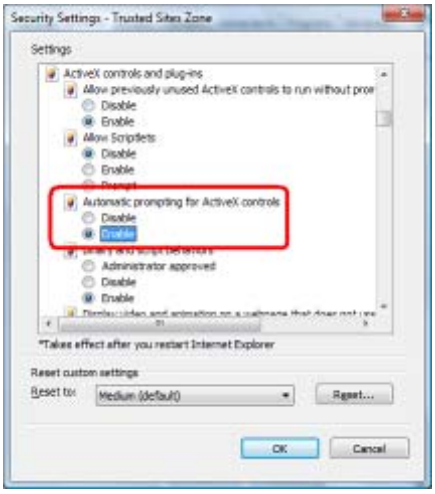
- Enable "Automatic prompting for ActiveX controls"
- Prompt "Initialize and script active controls not marked…."

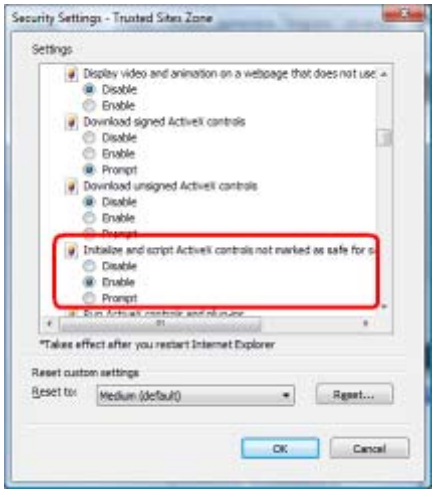




From your IE browse ➔ "Tools" ➔ "Internet Options…" ("Security" ("Trusted Sites" ("Custom Level…", please set up your "Settings" as follows:

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





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

Chapter 4. Installation Guide

4.1. System Requirements

The Internet Camera is monitoring on all Windows operating systems whose requirements are shown below for a better video performance.

Network Interface	10/100Base-TX Ethernet
Monitoring System	Recommended for Internet Explorer 8.0 or later
System Hardware	· CPU: Intel® Core™ i3 Processor or faster · Memory Size : 2GB or more · VGA card resolution : 1920 x 1080 or higher · VGA card memory : 1GB or above

Note

1. *The listed information is the minimum system requirements only. Actual requirement will vary depending on the nature of your environment.*
2. *The IVS-H125 and IVS-H125P can be managed by PLANET IP Wizard II if you want to configure more detailed information and settings of PLANET IP Wizard II software, please refer to the CD-ROM folder "**D:\Utility\IP WizardII\setup.exe**", assuming D is your CD-ROM drive.*

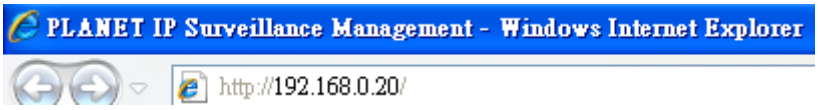
4.2. Before You Begin

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

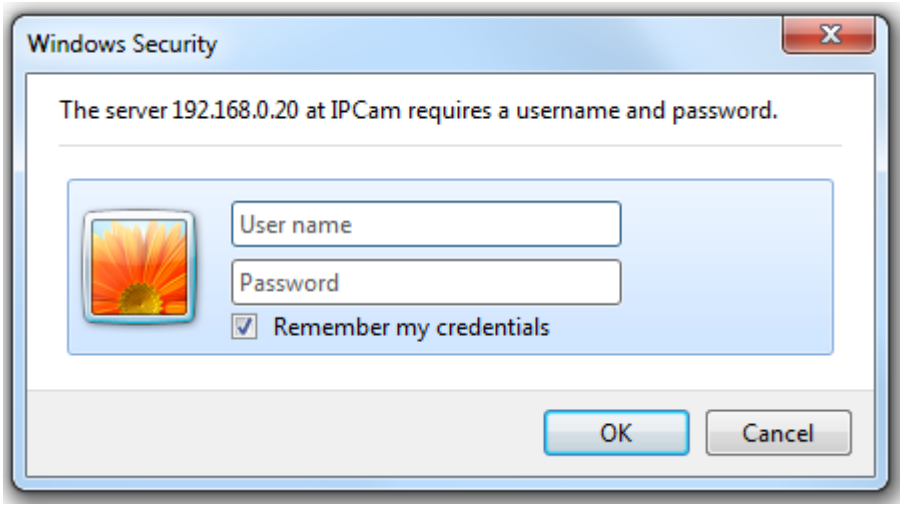
Connecting to Internet Camera

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

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

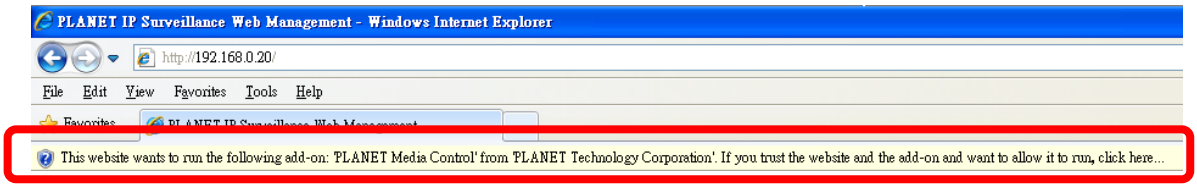


The login window of Internet Camera will appear,
Default login **username and password** are both **admin.**

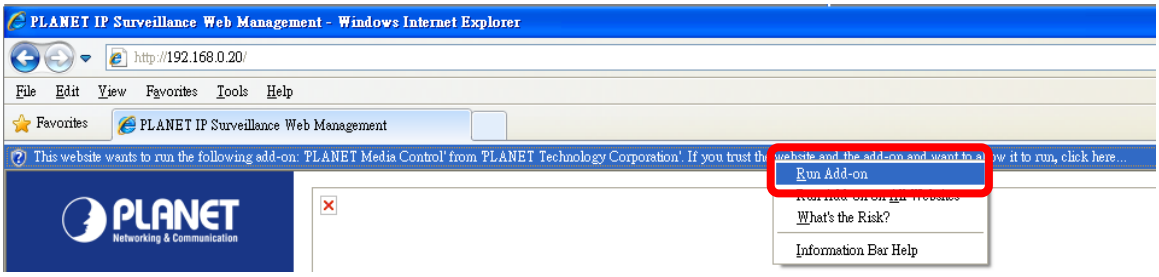


If the User name and Password have been changed with PLANET IP Wizard II, please enter the new User name and Password here.

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



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



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

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

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

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

Chapter 5. Web Configuration for Live View

5.1 Live View

Start-up screen will be like the one shown below whether you are an ordinary user or an administrator.

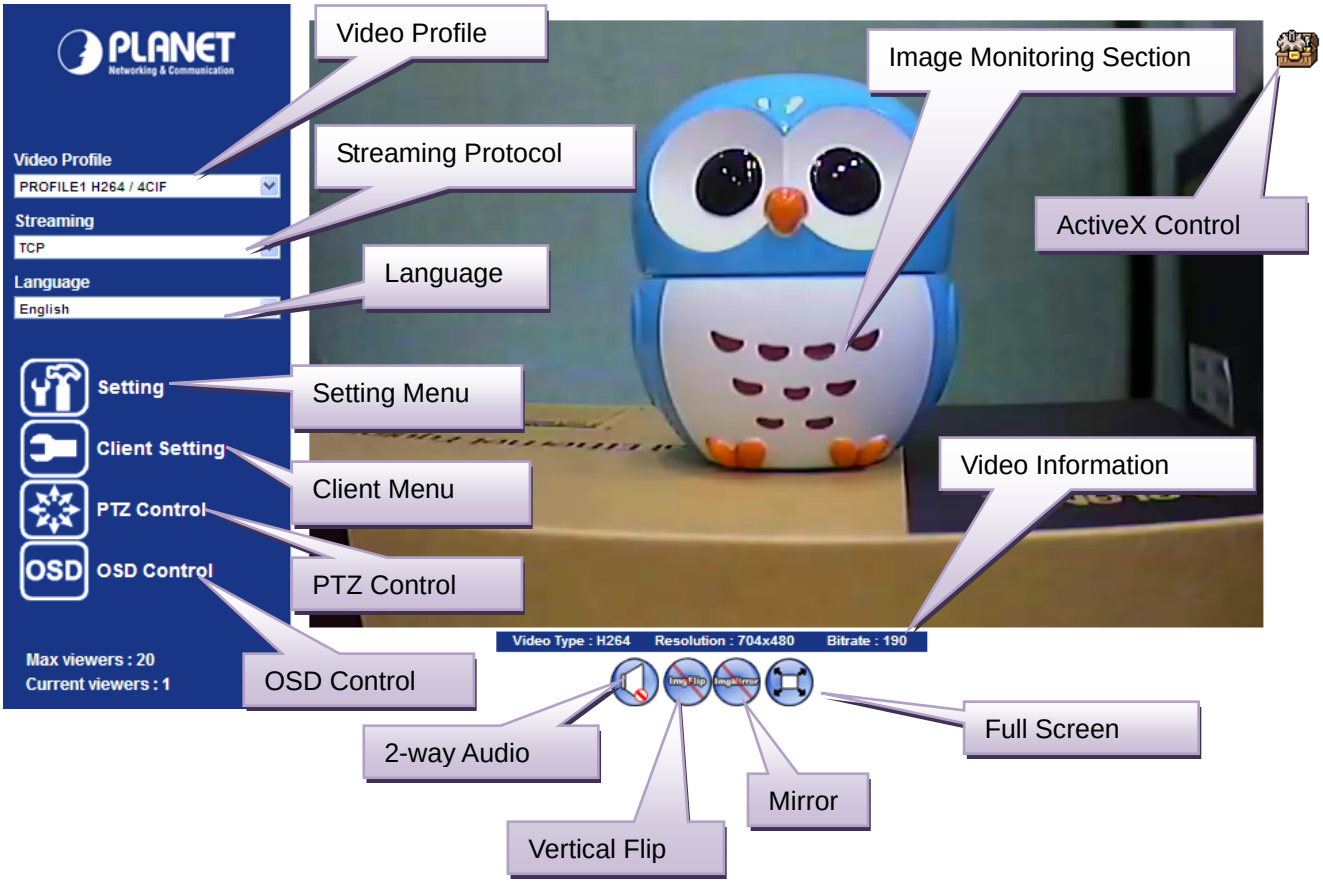


Image Monitoring Section:	The image shot by the Video Server is shown here. The date and time are displayed at the top of the window.
Video Profile:	The Video Server supports multi-profile for three simultaneous compressions -- H264, MEPG-4 and M-JPEG. User can choose the proper and/or preferred profile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

	 : Enable audio uploading function.
Vertical Flip	 : Enable video to rotate when camera hangs from ceiling
Mirror	 : Enable video to rotate when camera hangs from ceiling
ActiveX Control:	The plug-in ActiveX control supports a lot of functions by clicking the left mouse button. Note that this feature only supports the ActiveX control within Microsoft® Internet Explorer.
Setting Menu:	This function is detailed setting for the camera that is only available for user being logged into the camera as an administrator.

Item	Action
Network	Configure Network settings such as IPv6, HTTPS, DHCP, DDNS, 3GPP, PPPoE and UPnP.
Camera	Adjust camera parameters.
System	Configure system information, date and time, maintenance, and view system log file.
Video	Configure bit rate and frame rate of video profiles.
Audio	Configure audio parameters.
User	Set up user name, password and login privilege.
Protocol	Set up ONVIF and SNMP configuration.
E-mail	Set up e-mail configuration.
Event Detection	Set up event detection.
Storage	Status and configuration of SD card and Samba server.
Continuous Recording	Files list inside the SD Card and Samba server.
Recording List	Files list inside the SD Card.

	Event Server	Set up FTP/TCP/HTTP/Samba server for event
	Event Schedule	Configure the schedule while event being 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:	
OSD Control:	Choose the corresponding model for OSD control	

5.2. 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 and then a menu pops up. This menu provides features that are unique to the ActiveX control. These features include:

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

5.2.1. Digital Zoom

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

5.2.2. 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 and select **OK** to continue.

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

5.2.3. 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 and select **OK** to continue.

After recording is stopped, list the file named as Video_yyyymmddhhmmss_000.avi

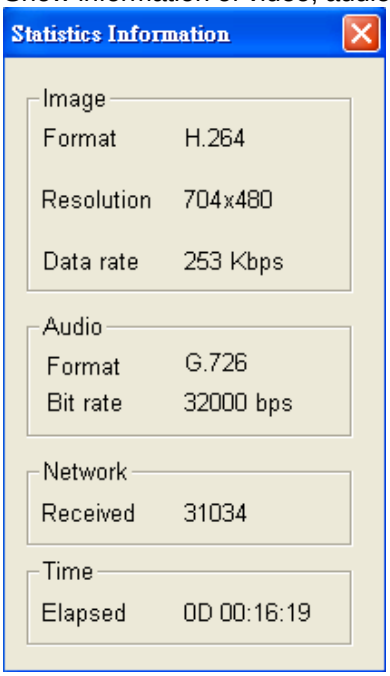
The AVI files can be displayed by the standard Windows Media Player, but it needs the DixectX 9.0 or later version to be installed.

5.2.4. Volume

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 to mute the speaker output.

5.2.5. Statistics

Show information of video, audio and system up time.



5.2.6. About

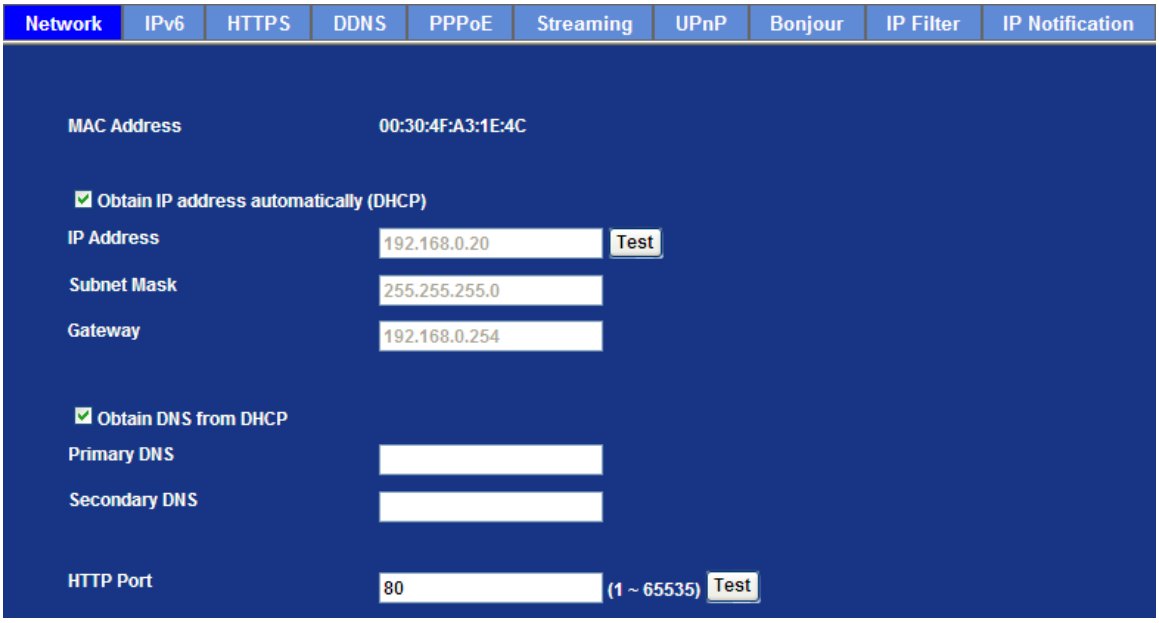
Click **About** to show the ActiveX information

Chapter 6. Configuration & Operation

6.1. Network Configuration

6.1.1 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 like 192.168.0.20. If you do not select "Obtain an IP address automatically", then you need to enter these network parameters by yourself.
IP Address	This address is a unique number that identifies a computer or device on the WAN or LAN. These numbers are usually shown in groups separated by periods, for example: 192.168.0.200
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 optional.
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 the 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 finished, please click "OK" to save and enable the setting.

6.1.2. IPv6 Function

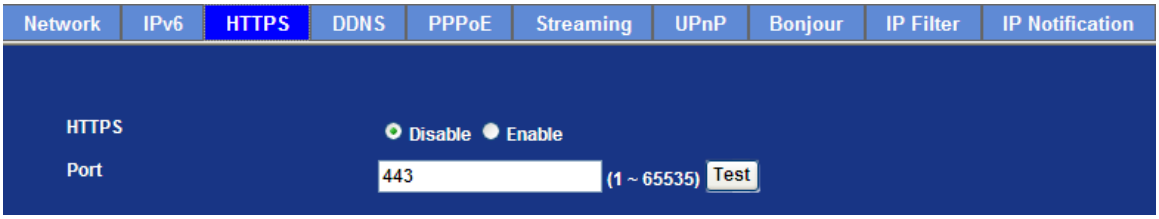
Internet Protocol version 6 (IPv6) is called the "IP Next Generation" (IPng), which is designed to fix the shortcomings of IPv4, such as data security and maximum number of user addresses. It is backward compatible and thus expected to slowly replace IPv4, with the two existing side by side for many years.

IPv6	To enable or disable the IPv6 function here.

6.1.3. HTTPS

HTTPS: Stands for Hypertext Transfer Protocol Secure

HTTPS is a combination of the Hypertext Transfer Protocol with the SSL/TLS protocol to provide encrypted communication and secure identification of a network web server. HTTPS connections are often used for sensitive transactions in corporate information systems. The main idea of HTTPS is to create a secure channel over an insecure network. This ensures reasonable protection from eavesdroppers and man-in-the-middle attacks, provided that adequate cipher suites are used and that the server certificate is verified and trusted.



HTTPS	To enable or disable the HTTPS service here. Note that the HTTPS function of this device is not only encrypted the web content but also audio/video data.
Port	Choose the HTTPS port. The default value is 443.

6.1.4. DDNS Server

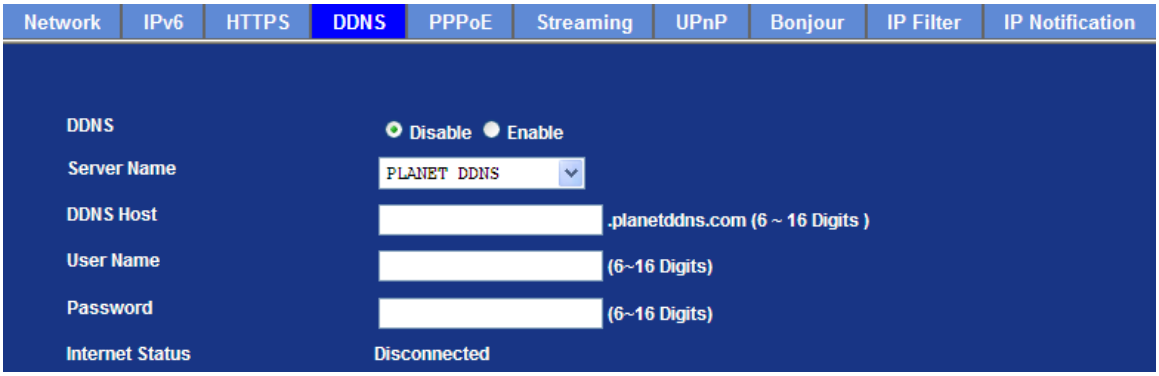
Stands for Dynamic Domain Name Server

The device supports DDNS If your device is connected to xDSL directly. You might need this feature. However, if your device is behind a NAT router, you will not need to enable this feature. Because DDNS allows the device to use an easier way to remember naming format rather than an IP address. The name of the domain is like the name of a person, and the IP address is like his phone number. On the Internet we have IP numbers for each host (computer, server, router and so on), and we replace these IP numbers to easy remember names, which are organized into the domain name. As to xDSL environment, most of the users will use dynamic IP addresses. If users want to set up a web or an 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 with 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 look up domain names and translates them into IP addresses. Domain names are just easy to remember aliases for IP addresses. A dynamic DNS service is unique because it provides a means of updating your IP address so that your listing will remain current when your IP address changes. There are several excellent DDNS services available on the Internet and best of all they're free to use. One such service you can use is www.DynDNS.org. You'll need to register with the service and set up the domain name of your choice to begin using it. Please refer to the home page of the service for detailed instructions or refer to Appendix E for more information.



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.

6.1.5. PPPoE

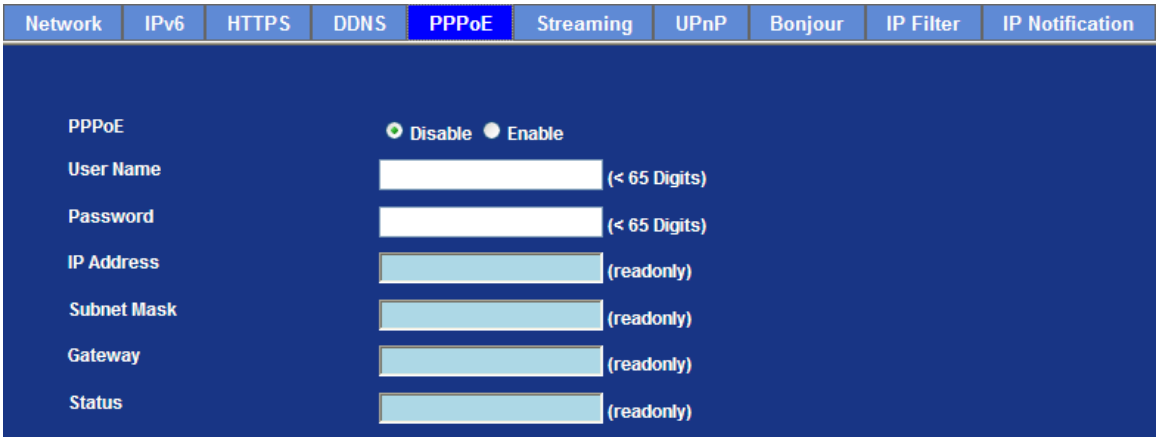
PPPoE: Stands for Point to Point Protocol over Ethernet

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

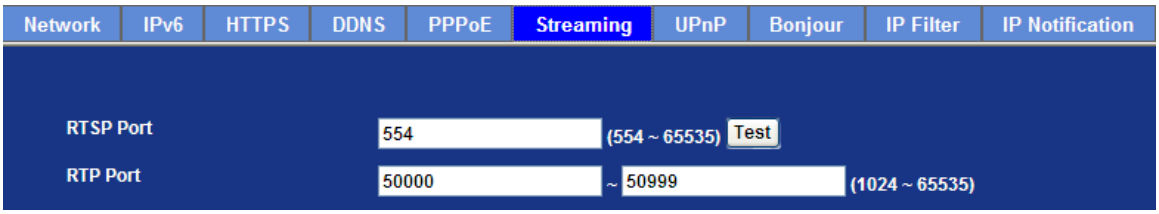
- Connect to a LAN by DHCP or Fixed IP
- Access the device, enter **Setting ➔ Network ➔ PPPoE** as below



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.

6.1.6. 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

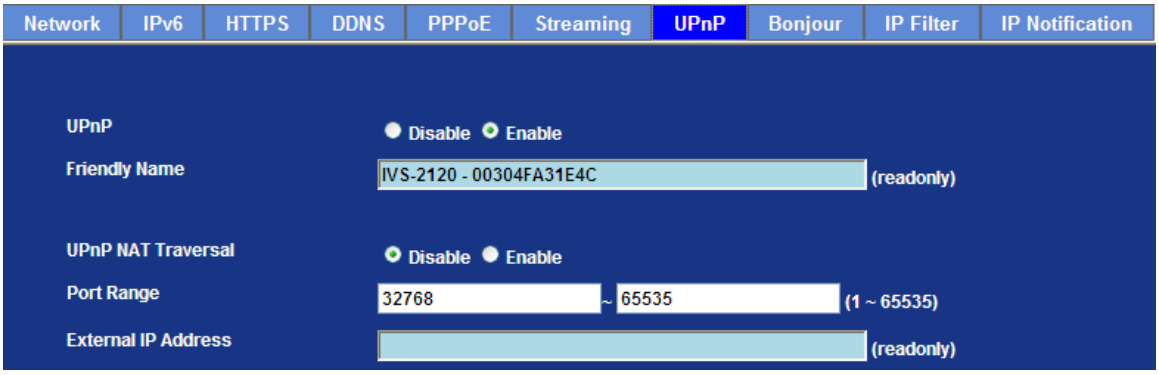
1. To use the 3GPP function, in addition to previous section, you might need more information or configuration to make this function work.
2. The Video Server must be set as Multi-profile mode, not Mega-pixel mode. Otherwise this device cannot serve 3GPP stream.
3. To use the 3GPP function, it strongly 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.

6.1.7. 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.

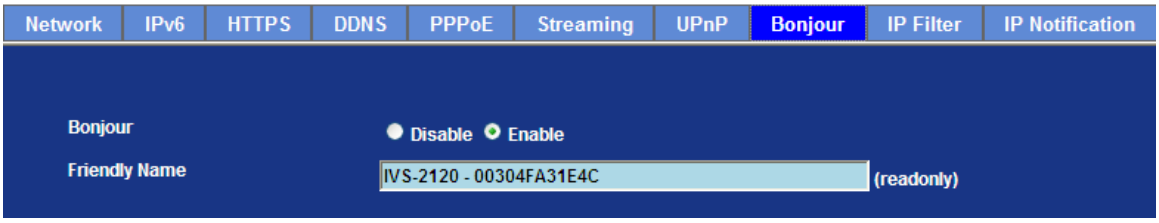


UPnP:	To enable or disable the UPnP service here.

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.

6.1.8. Bonjour

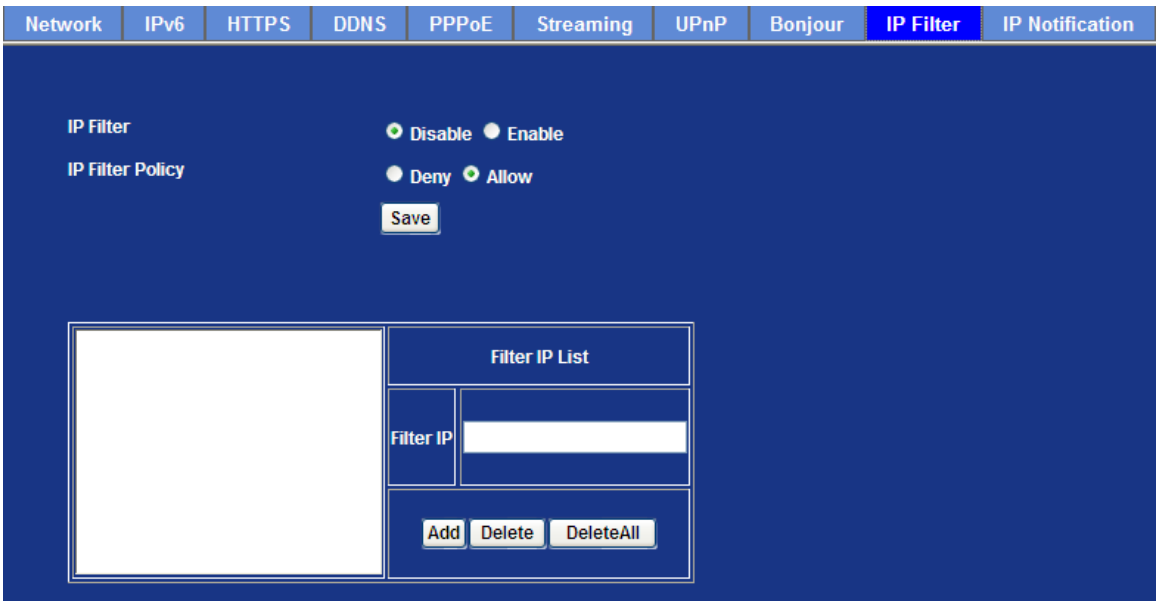
The Bonjour service allows IP camera can be discovered with Apple Safari browser applied, once the option enable the IP camera will be show the Friendly Name in the Bonjour bookmarks menu of Safari browser.



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

6.1.9. IP Filter

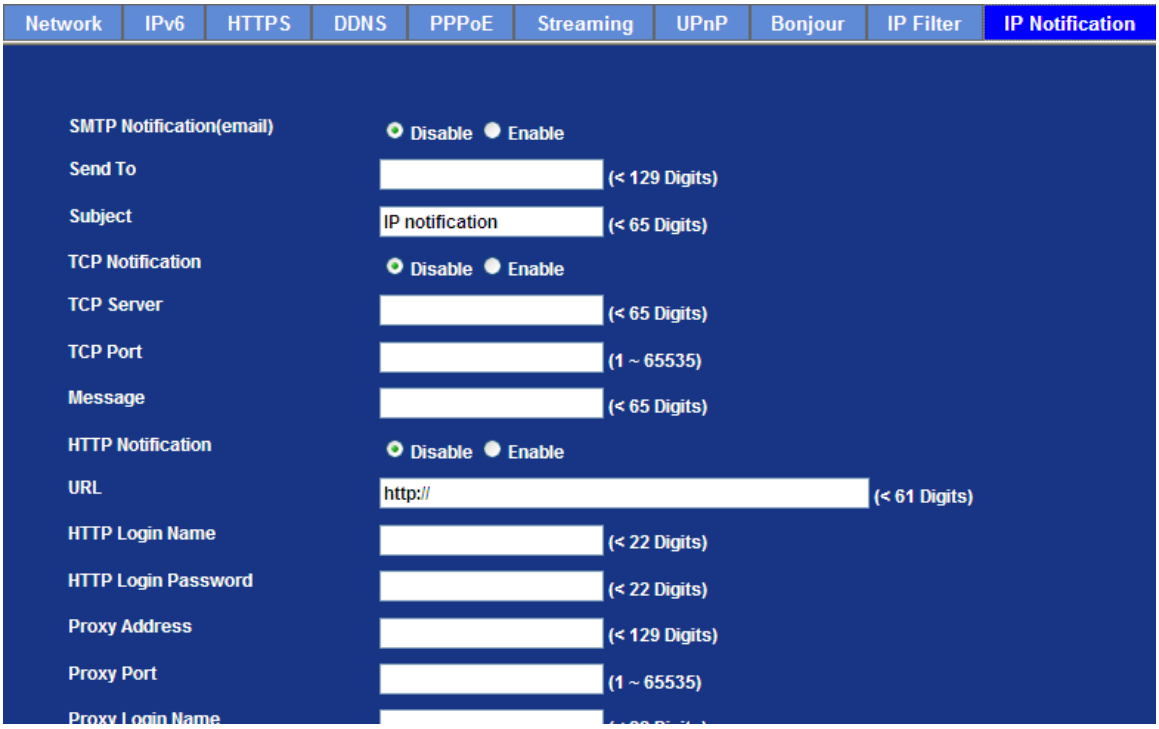
You can enter a different user's IP address which allows enter or deny by the device.



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

6.1.10. 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.



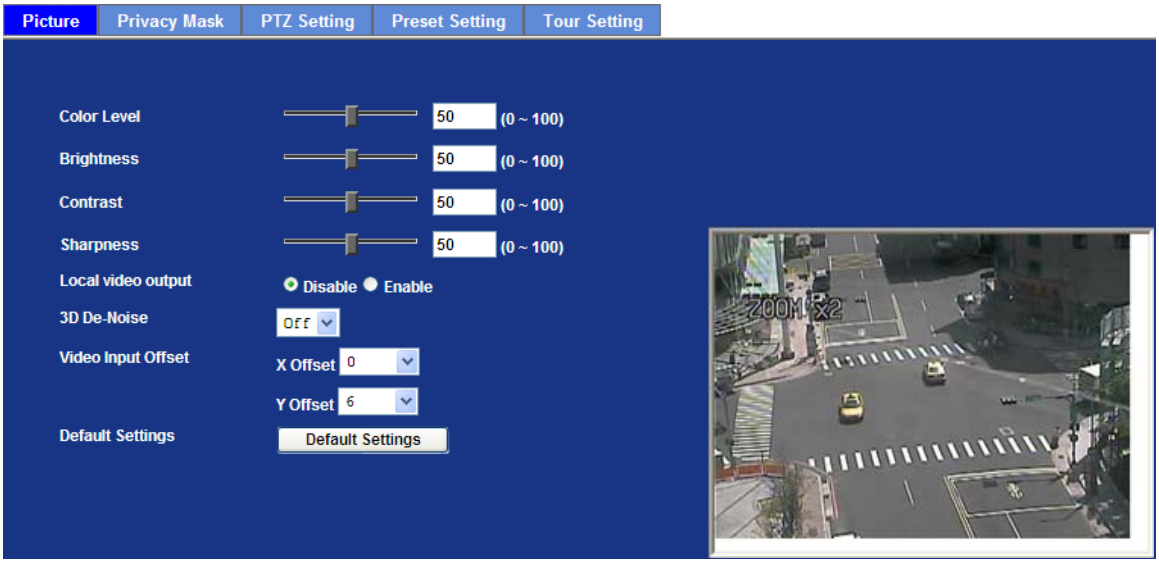
SMTP Notification (e-mail):	If enable this function, then the "**Send to**" and "**Subject**" field need to be filled.
Send To:	Type the receiver's e-mail address. This address is used for reply mail.
Subject:	Type the subject/title of the E-mail.
TCP Notification:	If enable this function, then the "**TCP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

6.2. Adjusting Camera Configuration

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

6.2.1. Picture

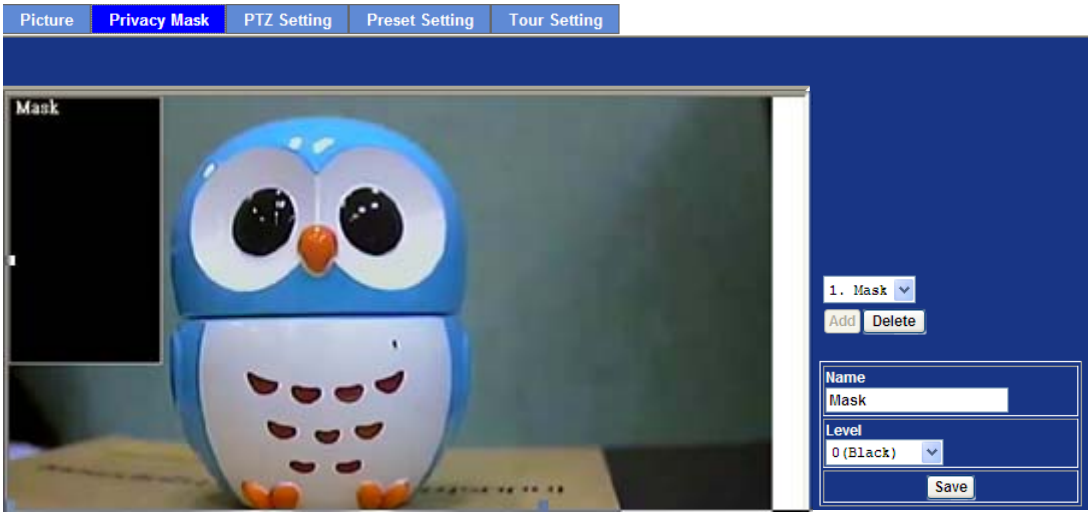


Color Level	Large value will be colorful.
Brightness:	Large value will brighten camera.
Contrast:	Large value will contrast camera heavily.
Sharpness:	Large value will sharpen camera.

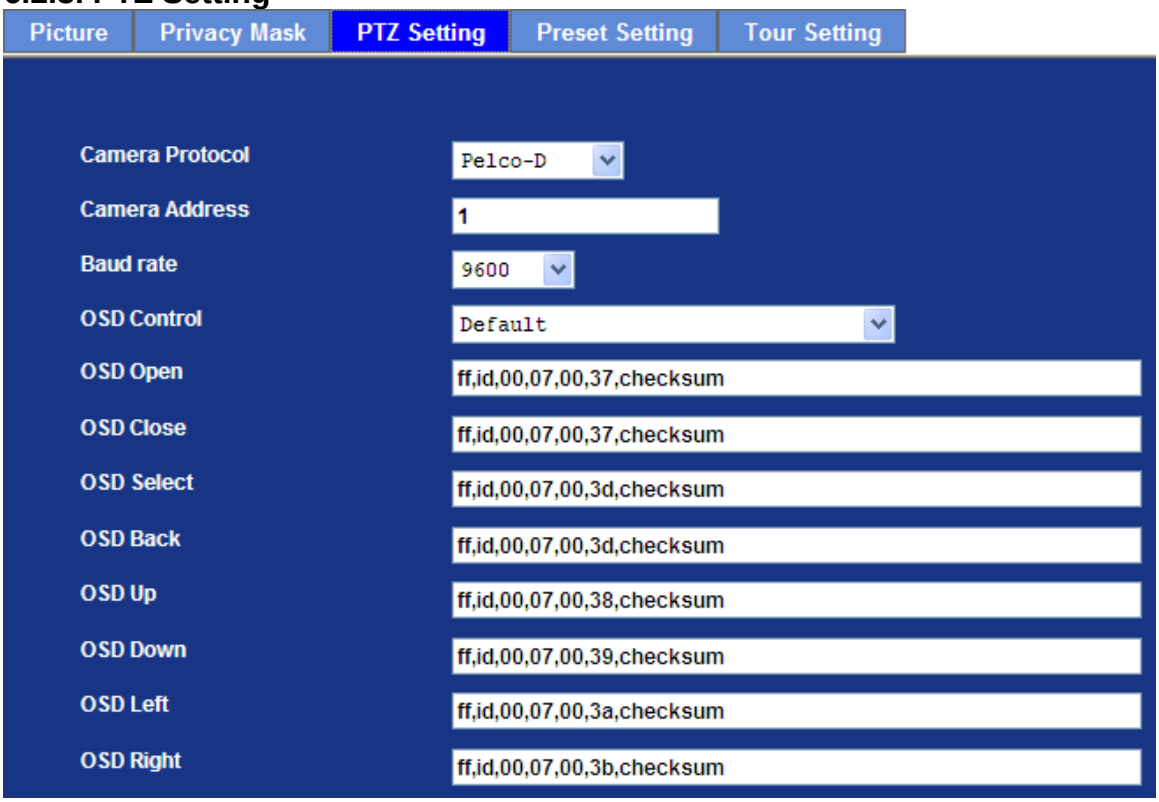
Local Video Output:	Enable or disable the local video output. It's useful for camera installation to check view angle and focus. However, it will save power and heat if disable this function. It will recommend user to disable this function once camera installed well.
3D De-Noise:	De-Noise can remove or lower unwanted noise and preserve fine details and edges.
Video Input Offset:	Use to adjust start point of captured video.
Default Settings:	Restore to factory image settings.

6.2.2. Privacy Mask

Use this page to specify privacy mask window 1 to window 8 and set the name and gray level for selected window.



6.2.3. PTZ Setting



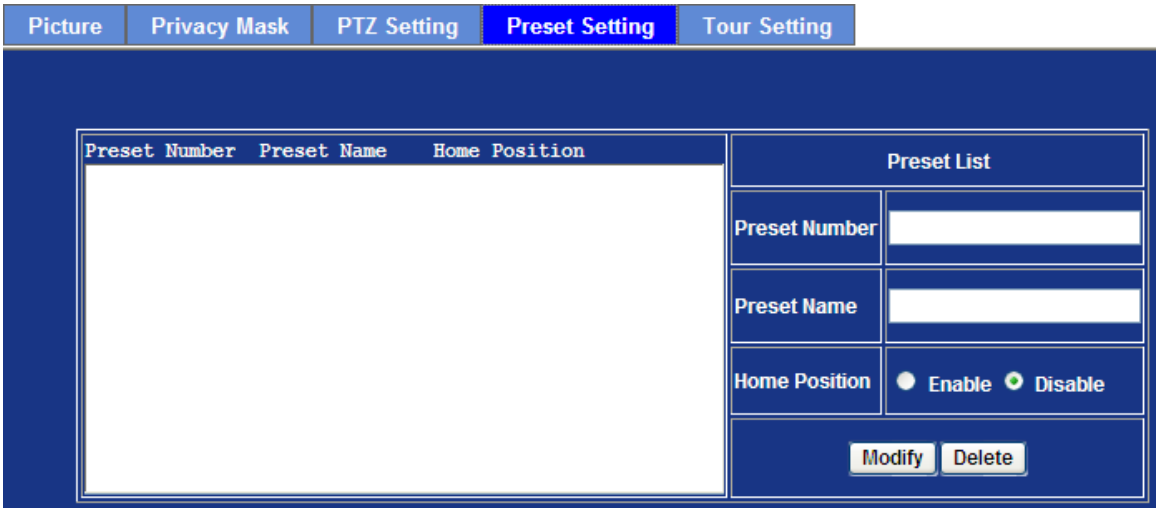
This page allows user to modify the RS485 interface according to the P/T scanner.

Camera Protocol	This device can connect to a PTZ camera or speed dome camera and controls them thru RS-485 interface.
Camera Address	This is the camera ID set in PTZ camera or speed dome camera. Note: Please DO NOT change the default value if unnecessary. If so, user needs to check and set value properly for both sides.
Baud Rate	If user needs to change these parameters, he needs to check and set value properly for both network module and P/T scanner. Note: Please DO NOT change the default value if unnecessary. If so, user needs to check and set value properly for both sides.
OSD Control	Choose the corresponding model for OSD control
OSD Open	Control commands for Open function.
OSD Close	Control commands for Close function.
OSD Select	Control commands for Select function.
OSD Back	Control commands for Back function.

OSD Up	Control commands for Up function.
OSD Down	Control commands for Down function.
OSD Left	Control commands for Left function.
OSD Right	Control commands for Right function.

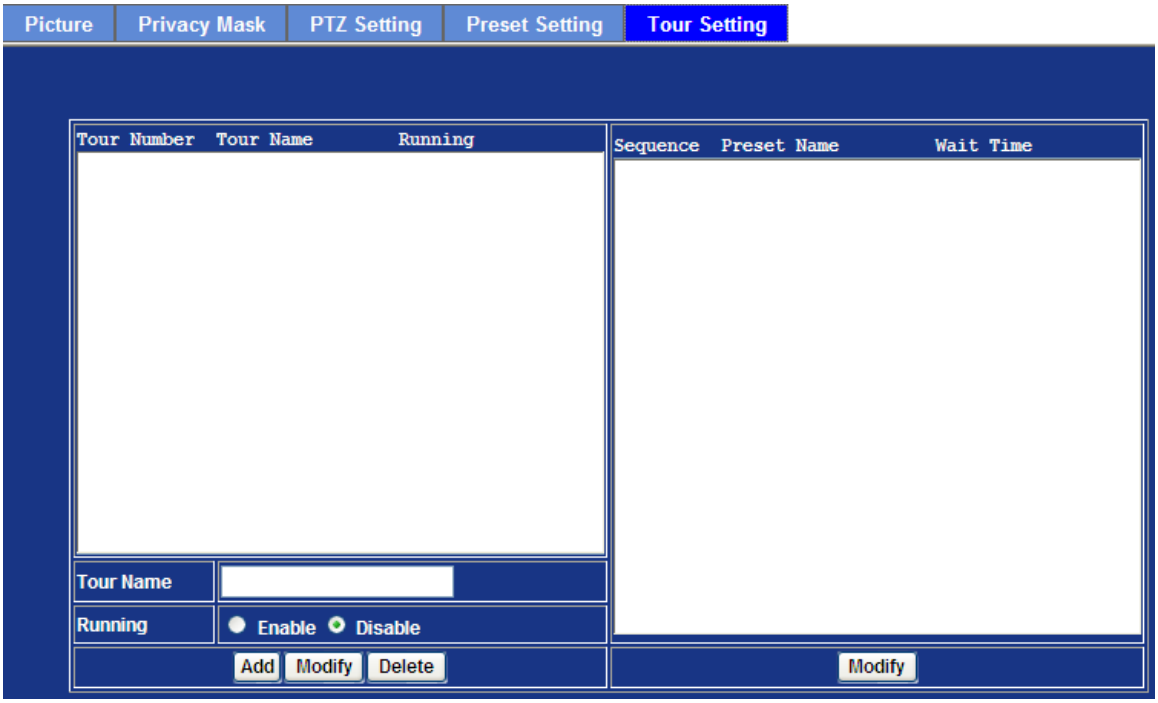
6.2.4. Preset Setting

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



6.2.5. Tour Setting

Up to 64 positions can be preset, and the camera can be programmed 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.

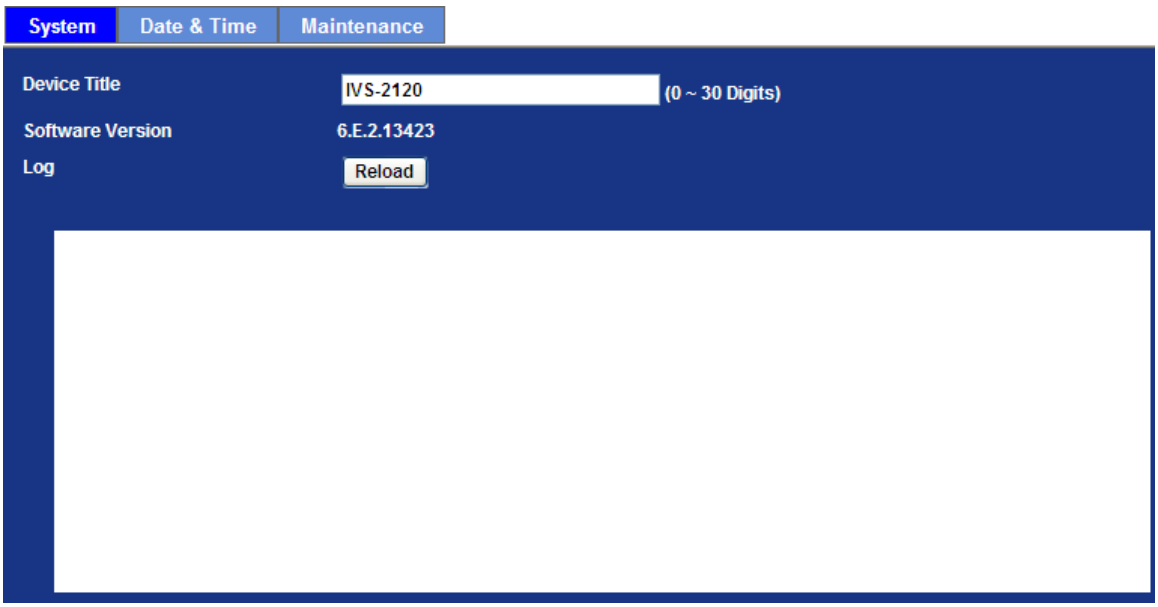
Note

To use the camera tour function, user must preset some camera positions first. The maximum number of preset points is 64.

6.3. System

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

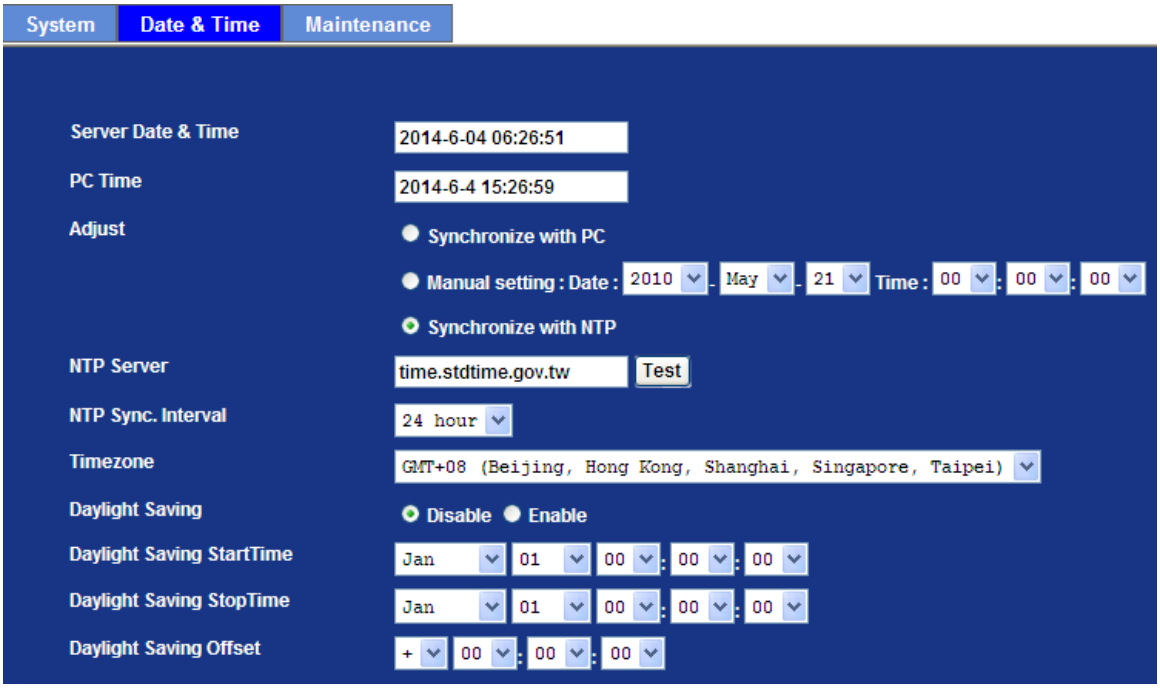
6.3.1. System



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.
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.

6.3.2. Date & Time

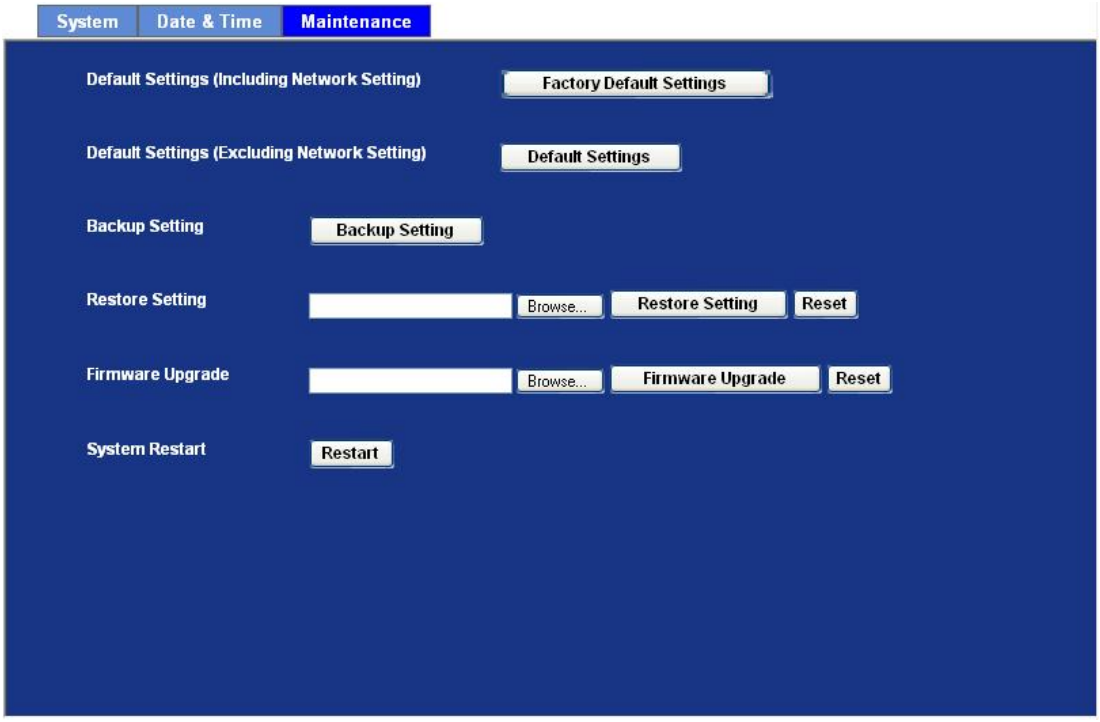
User can set up the time setting of Video Server and make it synchronized with PC or remote NTP server. Also, you may select the correct time zone of your country.



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:	Set up the date and time of daylight saving start time.	
Daylight Saving Stop Time:	Set up the date and time of daylight saving stop time.	

Daylight Saving Offset:	Set up the date of daylight saving offset.

6.3.3. Maintenance



Default Settings (Including 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.

Make sure that the Firmware only applies to this device. Once updated, it will be burned into FLASH ROM of system.

6. Once the firmware file is selected, select "Upgrade".
7. The upgrade progress information will be displayed on the screen.
8. A message will be shown while the firmware is upgraded. Once the upgrading process completes, the device will reboot the system automatically.
9. Please wait for 80 seconds, and then you can use PLANET IP Wizard 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 waiting for finish message.

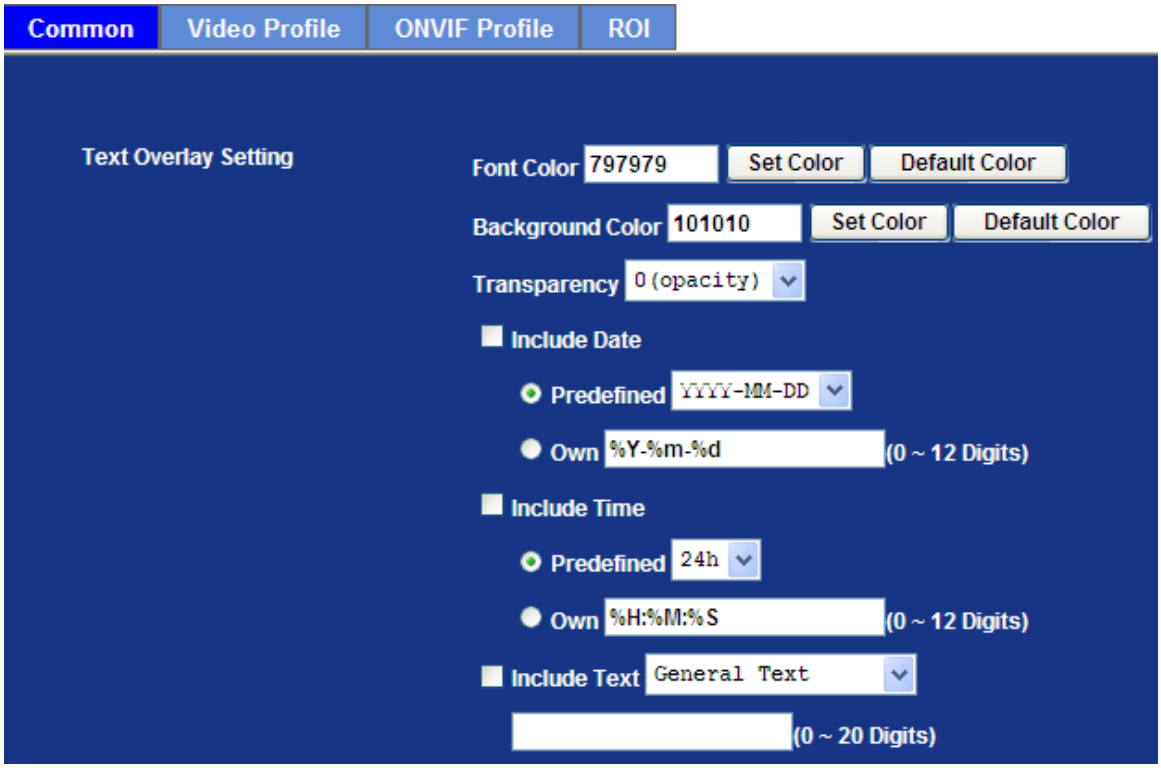
Furthermore, do not try to upgrade new firmware if it's not necessary.

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

6.4. Video

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

6.4.1. Common



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

6.4.2. Video Profile

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

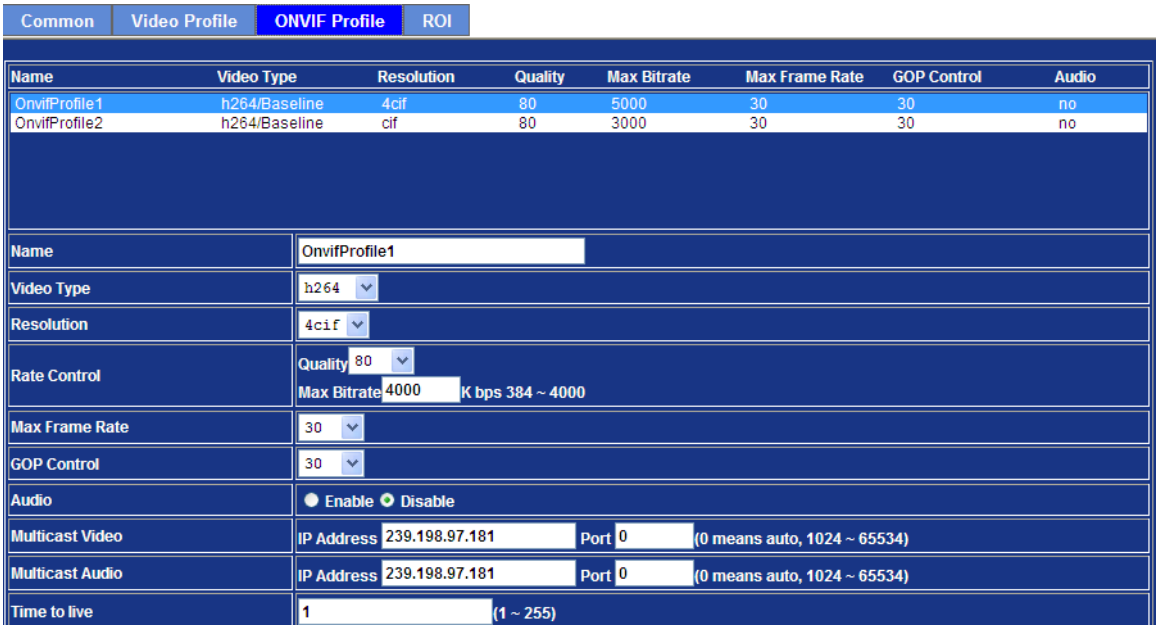
Name:	To assign a name to the selected profile.
Video Type:	There are three video types: H.264, MPEG4 and MJPEG.
Resolution:	There are three resolutions in each profile: 4CIF, CIF and QCIF.
Rate Control:	Defines the rate control method of this profile. There are two options: Constant Bit Rate (CBR) or 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.
Multicast:	Enable or disable the multicast function.
Multicast Video:	IP address and port for multicast video streaming of the selected profile.
Time to live	Time to live (TTL) is a mechanism that limits the lifespan of data in a computer or network. Once the prescribed event count or timespan has elapsed, data is discarded. TTL prevents a data packet from circulating indefinitely.
Always Enable Multicast	Multicast streaming is always enabled or by request.

Warning!!!

To enable the multicast streaming, make sure your Intranet does support multicast function. Otherwise, your Intranet may encounter network storm seriously.

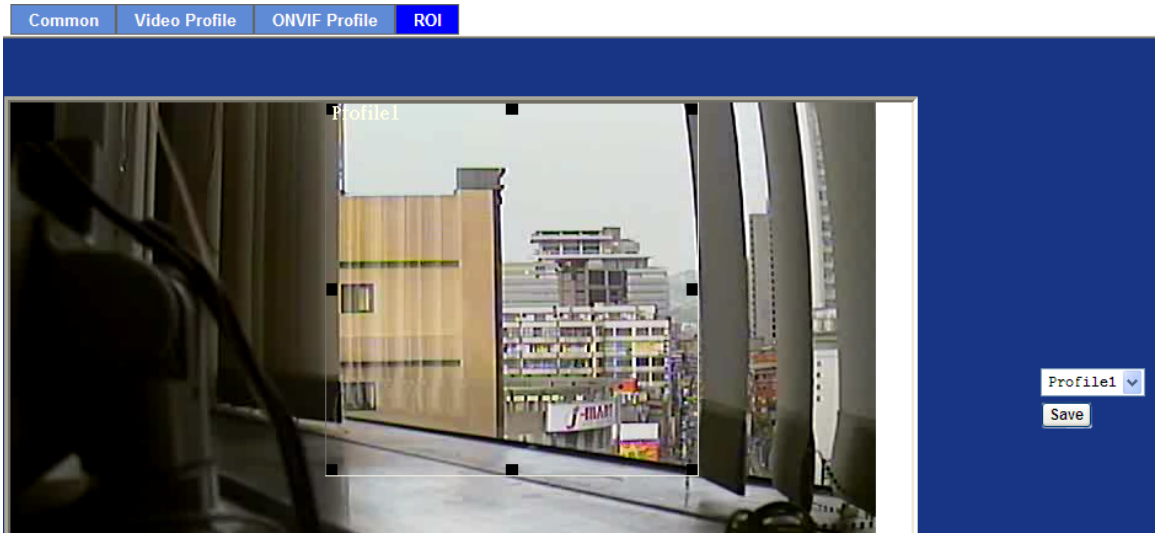
6.4.3. ONVIF Profile

ONVIF protocol defines profile of video streams. The NVR, CMS and/or VMS are connected to this device via ONVIF protocol. Use this page to define parameters of video streams.



6.4.4 ROI

ROI means Region of Interest. Use this page to specify location of ROI windows. Only the maximum resolution profiles can be defined as ROI. In this model, ROI is disable in default, need go to Video Profile page enable ROI of profile first. There are two profile can be set ROI in this model.

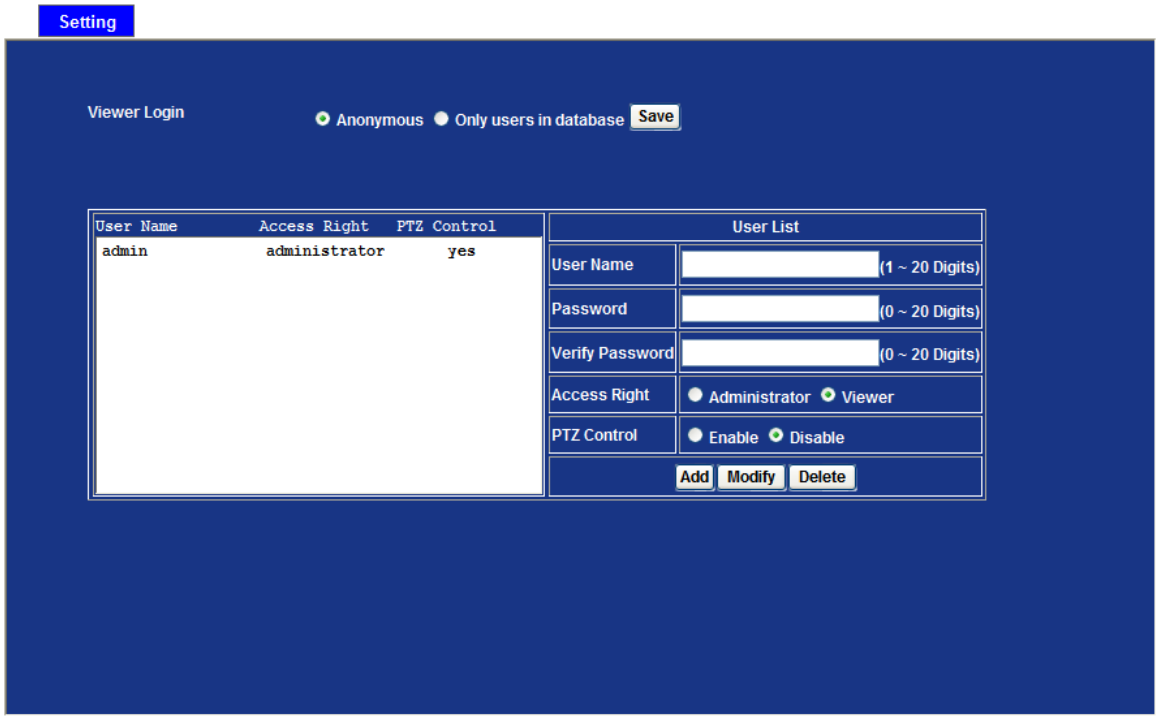


6.5. Audio Configuration

Audio	To enable or disable audio function.
Audio Type	To select G711 or G726 for *audio* coding.
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.

6.6. User Privilege Access Configuration

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



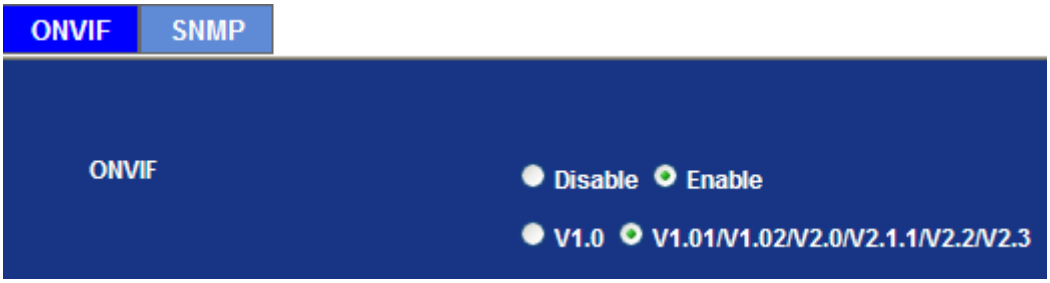
Viewer Login:	Select "Anonymous" to allow any one viewing the video once connected. Otherwise, only users in database can view the video after login.
Access Right:	Administrator can access every function in this device. However, Viewers only can view the video and access limited function.
PTZ Control	Authorize this user to control PTZ function or not.
Add, Update and Remove User Account:	Manage the user's account of viewer user.

6.7. Protocol

Use this menu to select enable or disable ONVIF and set up SNMP configuration.

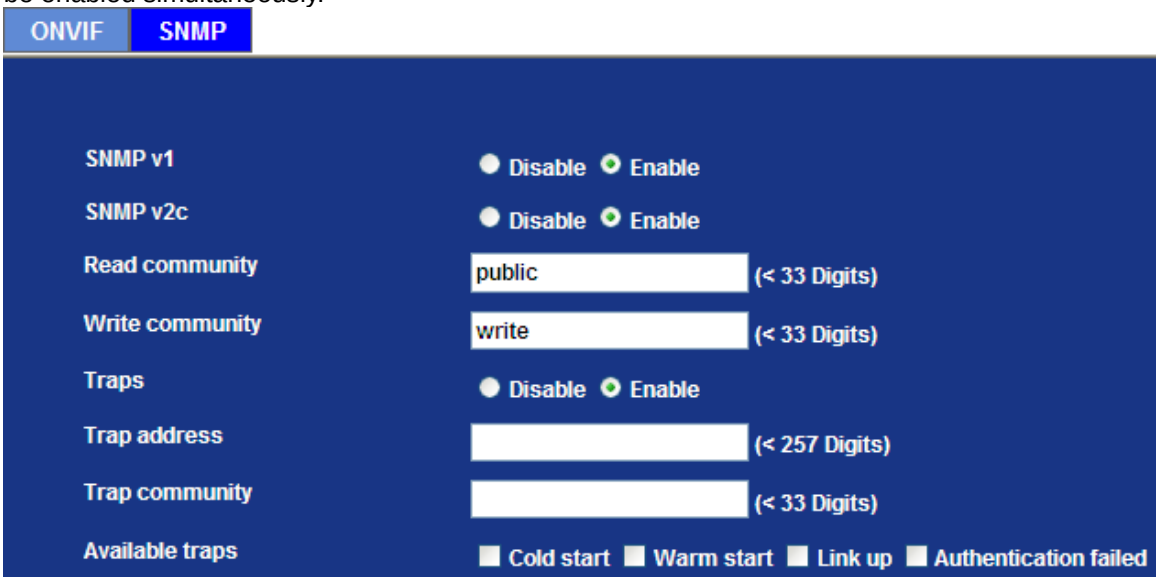
6.7.1 ONVIF

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



6.7.2 SNMP

SNMP provides a simple framework for administering networked hardware. To manage the IP camera, you have to prepare an MIB browser or similar tools first. SNMPv1and SNMPv2c can be enabled simultaneously.



6.8. E-mail Configuration

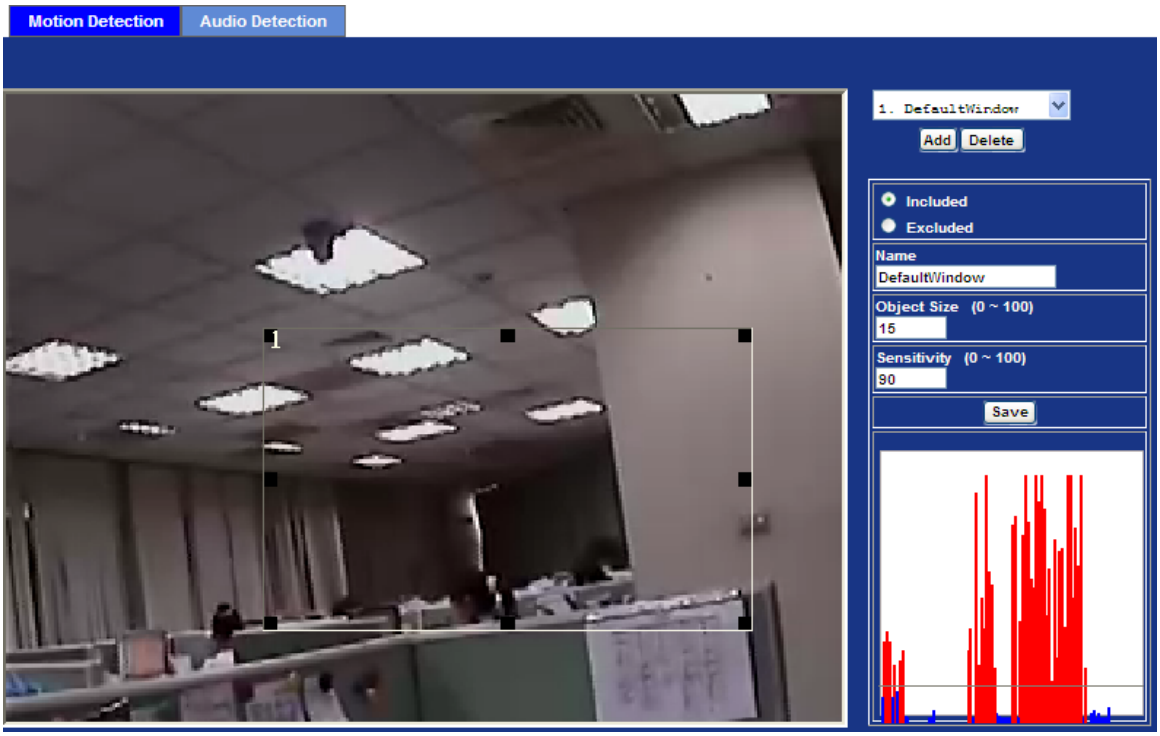
You may set up SMTP mail parameters for further operation of Event Schedule. That's, if users want to send the alarm message out, it will need to configure parameters here and also add at least one event schedule to enable event triggering.

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.
SSL	Enable SSL function or not.
SMTP Authentication	Select the authentication required when you send an e-mail. **Disable:** If no authentication is required when an e-mail is send. **Enable:** If authentication is required when an e-mail is sent.
Authentication User Name	Type the user name for the SMTP server if Authentication is Enable.
Authentication Password	Type the password for the SMTP server if Authentication is Enable.
E-mail From	Type the sender's E-mail address. This address is used for reply e-mails.
E-mail To	Type the receiver's e-mail address.
E-mail Subject	Type the subject/title of the e-mail.

6.9. Event Detection

Use this menu to specify motion detection window 1 to window 10 and set the conditions for

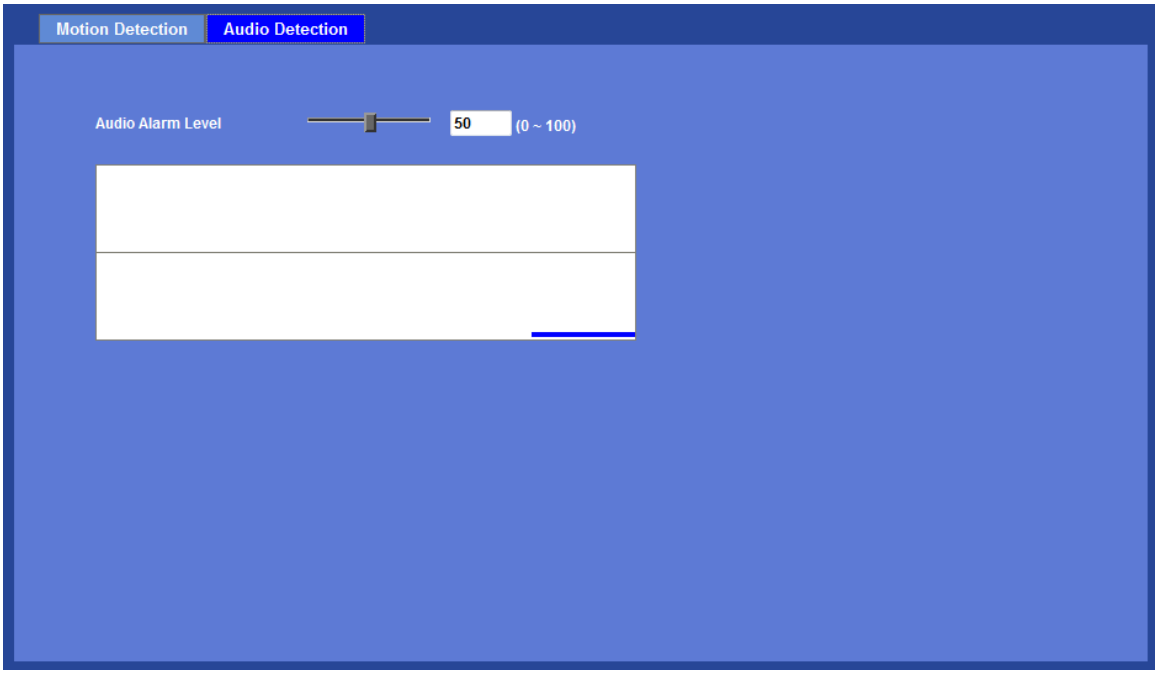
detection while observing a captured image.



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.

6.10. Audio Detection

Audio detection alarm can be used as a complement to motion detection. Since audio detection can react to events in areas too dark for the video motion detection functionality to work properly. In addition, it can be used to detect activity in areas outside of the camera's view.

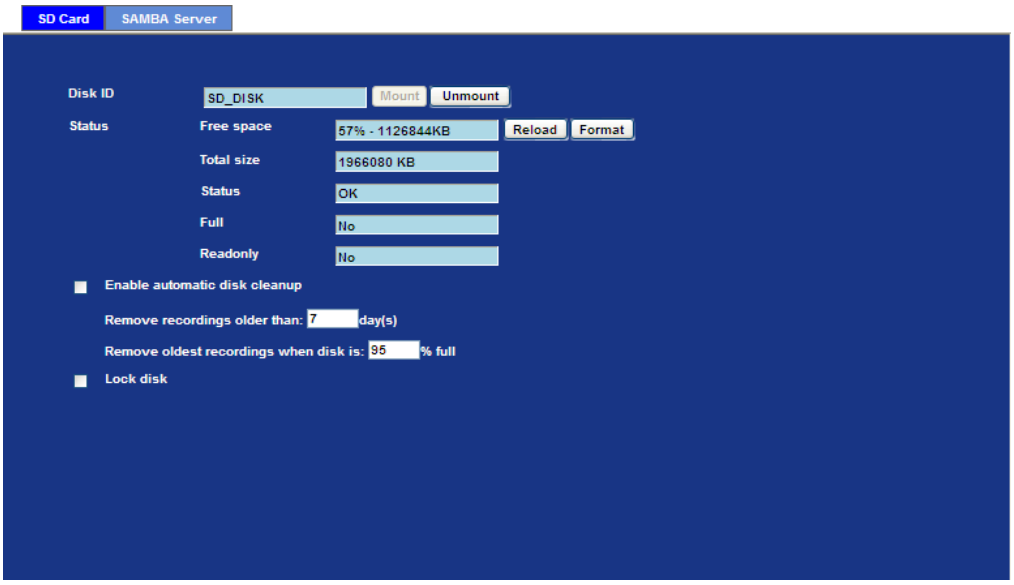


Audio Alarm Level:	Define the sensitivity value of audio detection. The lower value will be more sensitivity.

6.11. Storage Configuration

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

6.11.1. SD Card

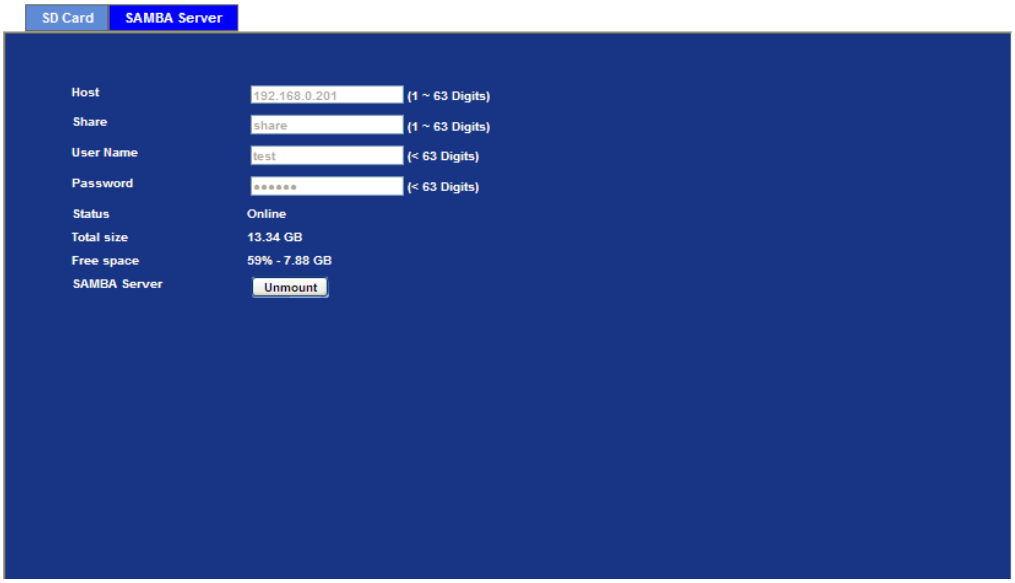


Enable automatic disk cleanup	Delete old recorded files while the conditions are reached as below.

Remove recordings order than	Delete old files by days.
Remove oldest recordings when disk is	Delete old files by left capacity.
Lock disk	Lock the SD card. Once SD card is locked, all files can't be deleted.

6.11.2. SAMBA Server

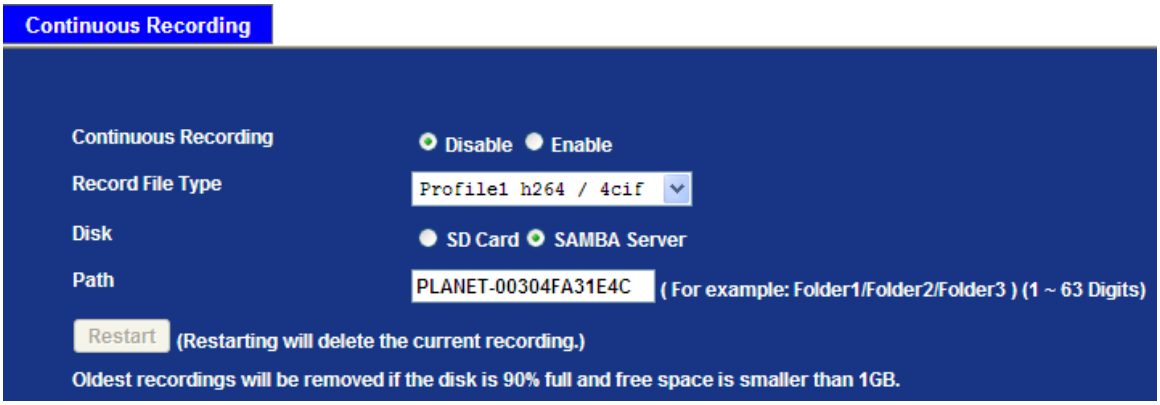
This page shows the status of SAMBA server. You may set up related parameters to manage the remote SAMBA server.



Host	Type the SAMBA server domain name or the IP address of the SMTP server.
Share	Type the share folder of remote SAMBA server which the camera will upload files to this space.
User Name	Delete old files by left capacity.
Password	Type the password for the remote SAMBA server.

6.12. Continuous Recording

The camera can continuously record video stream into files and save them on attached SD card or remote SAMBA server.

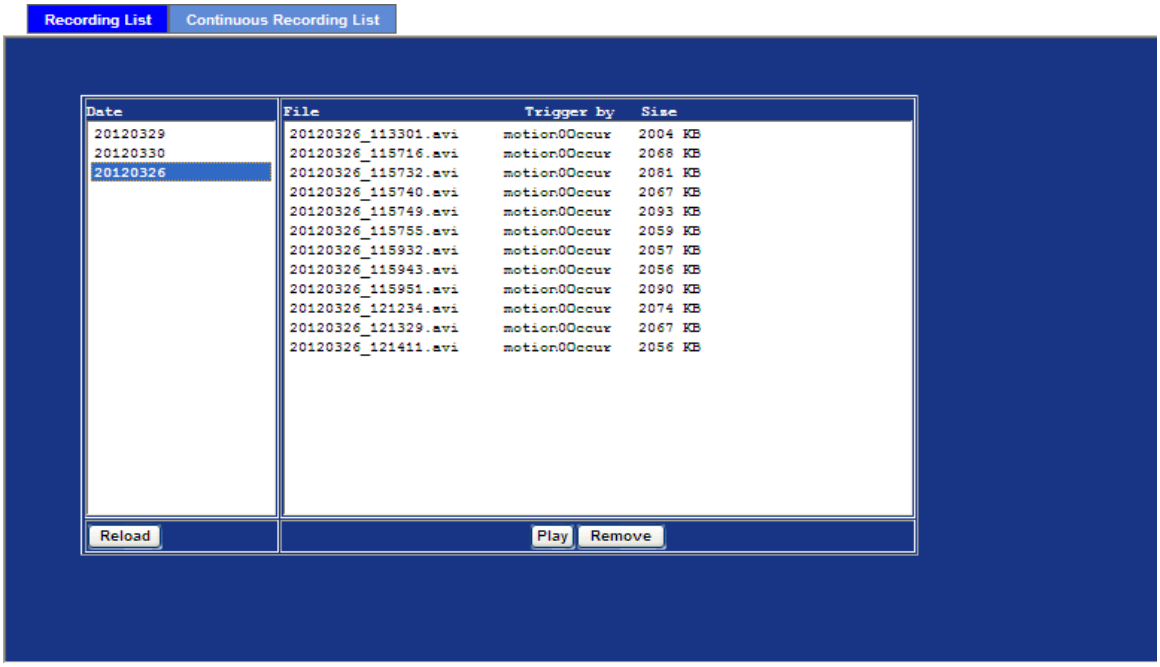


Continuous Recording	Enable or disable this function.
Record File Type	Choose a video profile to record.
Disk	Save recorded files on SD card or remote SAMBA server.
Path	Define the folder path for the recorded files.
Restart	Be careful. Clicking this button will delete all continuous files recorded on SD card or remote SAMBA server.

6.13. Recording List

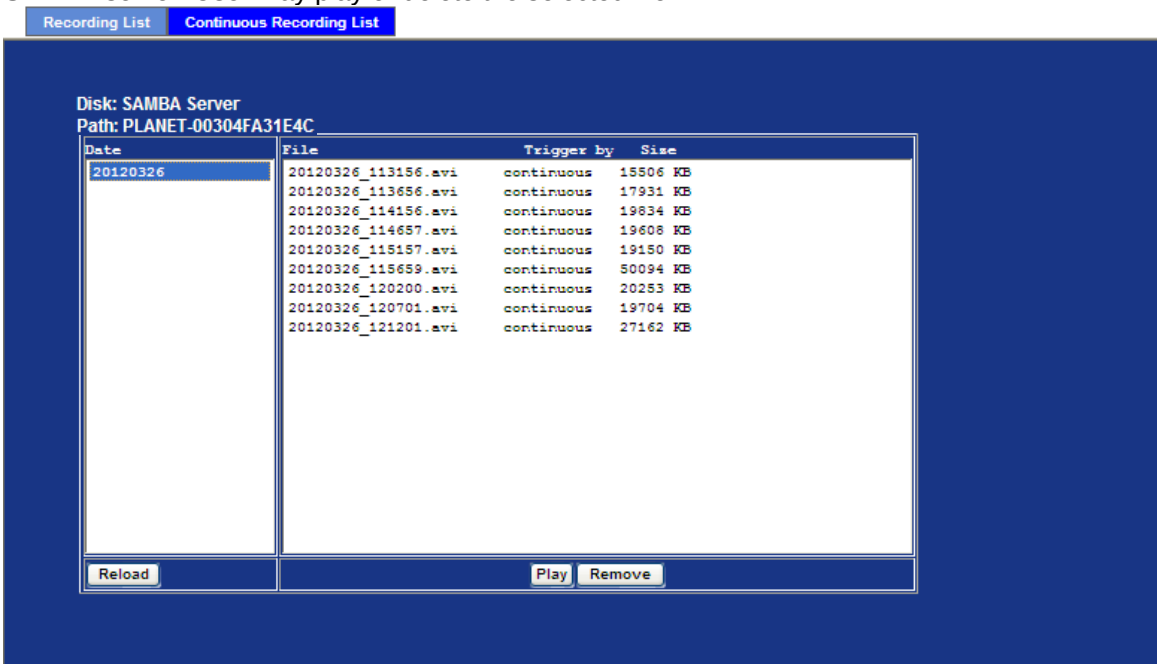
6.13.1. Recording List

This page only shows the event recording files which are stored on SD card. User may play or delete the selected file.



6.13.2. Continuous Recording List

This page only shows the continuous recording files which are stored on SD card or remote SAMBA server. User may play or delete the selected file.



6.14. Event Server Configuration

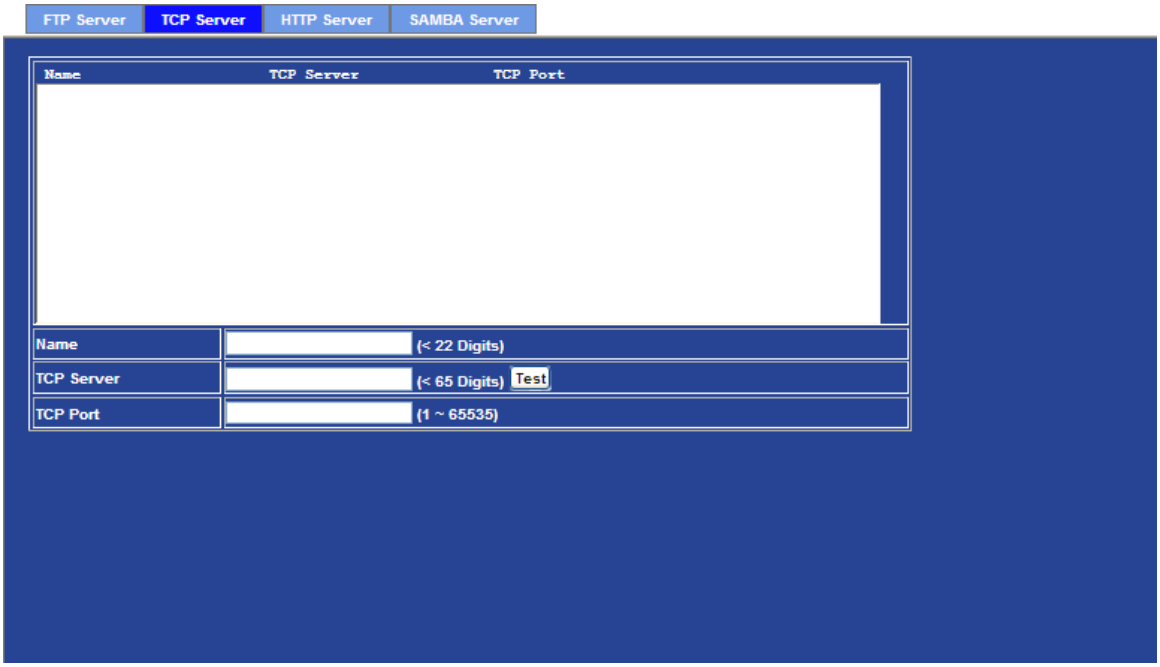
6.14.1. FTP Server

You may set up 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 he wishes. 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 as to 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.

6.14.2. TCP Server

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



Name	User can specify multiple TCP servers as he wishes. 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.

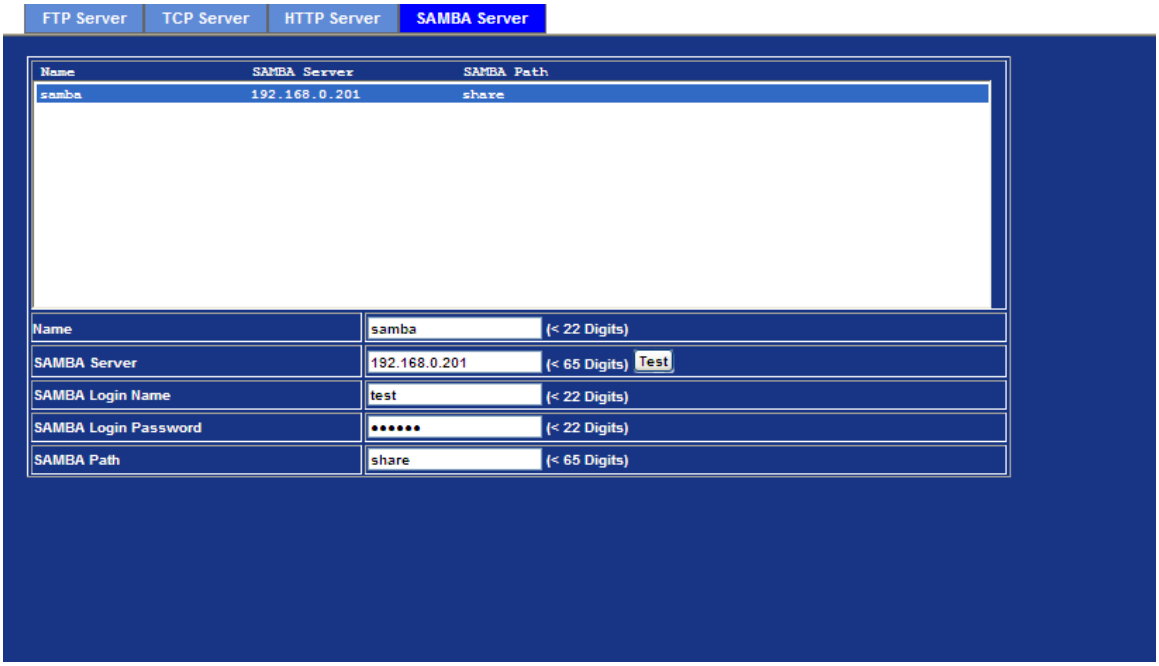
6.14.3. HTTP Server

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

Name	User can specify multiple HTTP servers as he wishes. 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 as to 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.

6.14.4. SAMBA Server

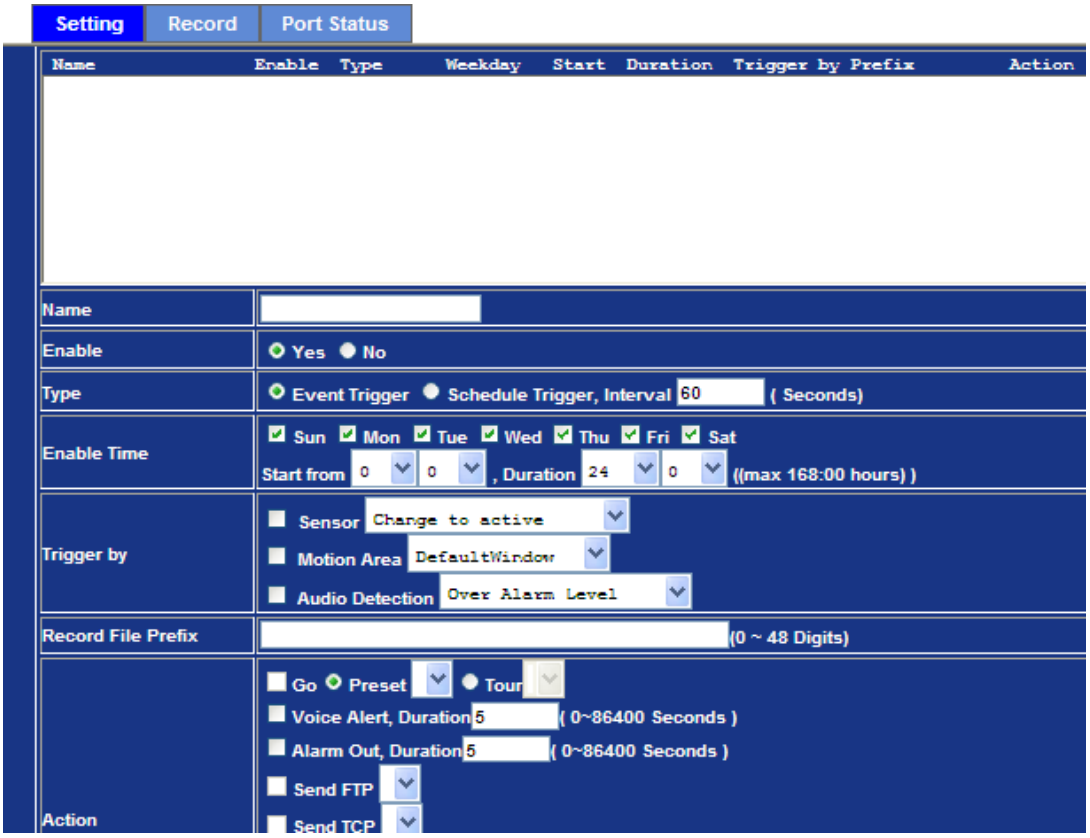
The device also can send video stream to specified SAMBA server. Most of the time, the SAMBA server will be another PC or NAS server.



Name	User can specify multiple HTTP servers as he wishes. 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 as to 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.

6.15. Event Schedule Configuration

This menu is used to specify the schedule of Event or Schedule Trigger and activate the actions provided by this device. The Schedule Trigger will be activated at a user-defined interval.



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.
Record File Prefix	Define the prefix of recorded filename
Action	Define the actions once event triggered.

Example1.

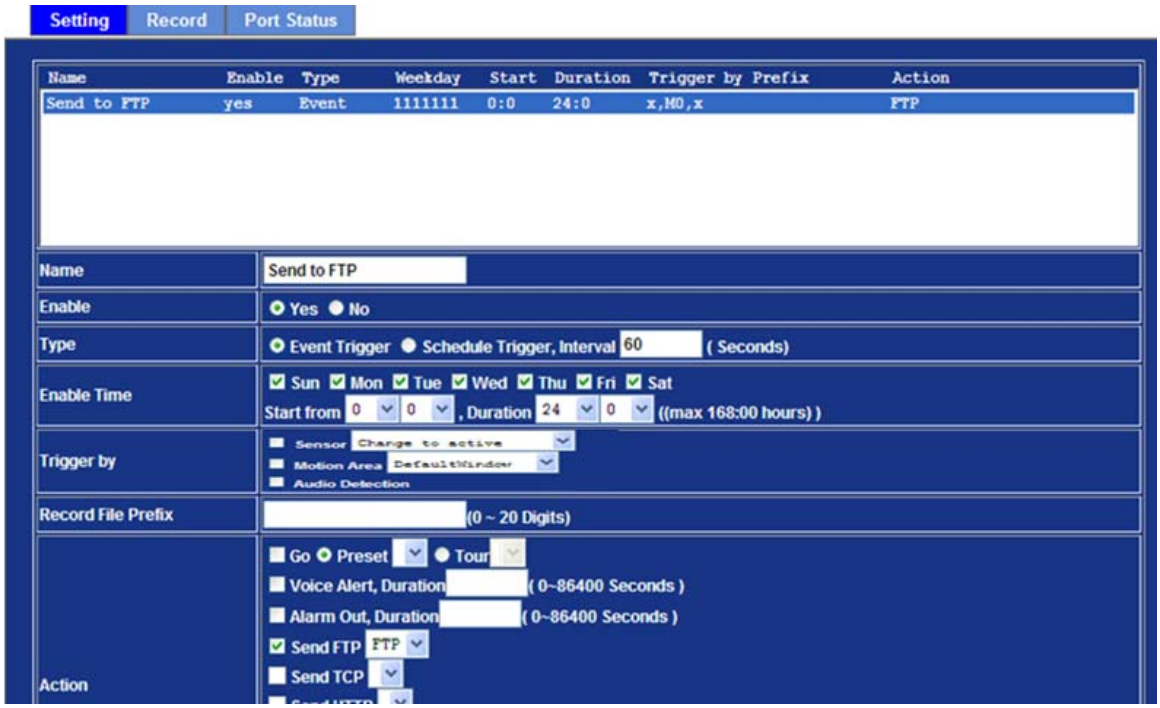
Send file to FTP server by motion triggered always:

Step 1 Select event trigger

Step 2 Enable time: start from 00:00 to 24:00 every day

Step 3 Trigger by: Motion Area (Added in Object Detection page)

Step 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

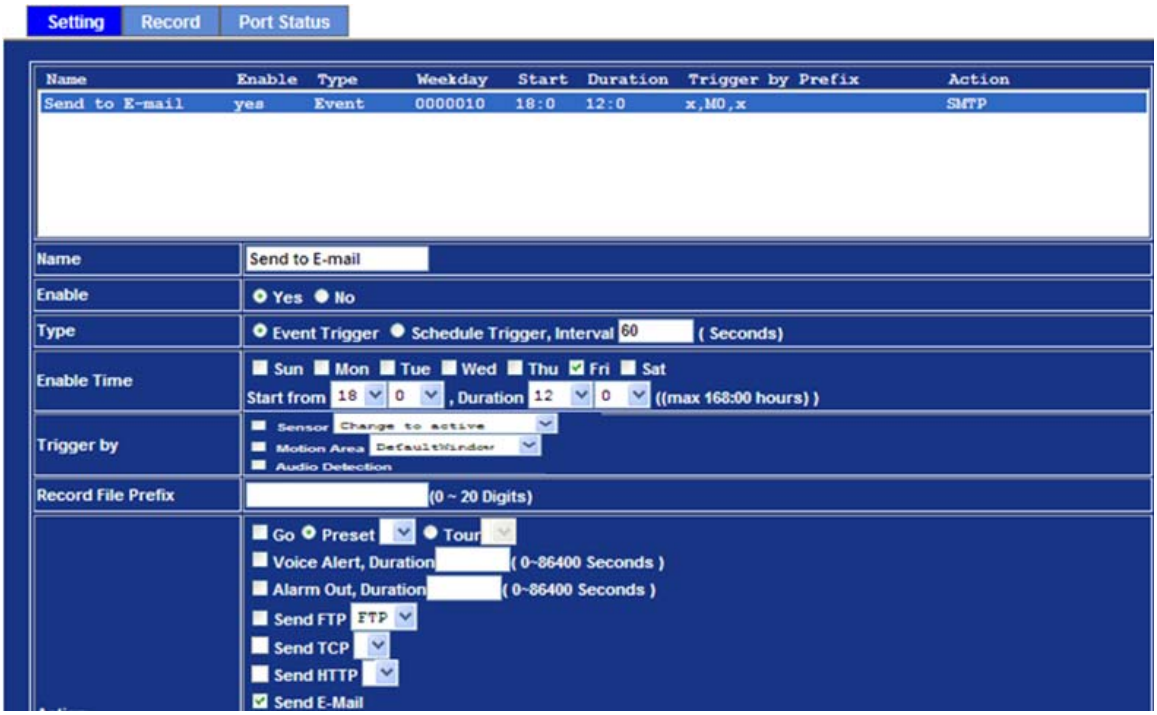
Step 1 Select event trigger.

Step 2 Enable time: start from Friday 18:00 and keep work in 12 hours, so it will stop on Saturday 06:00.

Step 3 Trigger by: Motion Area (Added in Object Detection page)

Step 4 Action: Send e-mail (Add in E-mail page)

i. To email address: You need to input the receiver email address.
ii. Subject: You could specify the email subject.
iii. Message: You could specify the email content.



Example3.

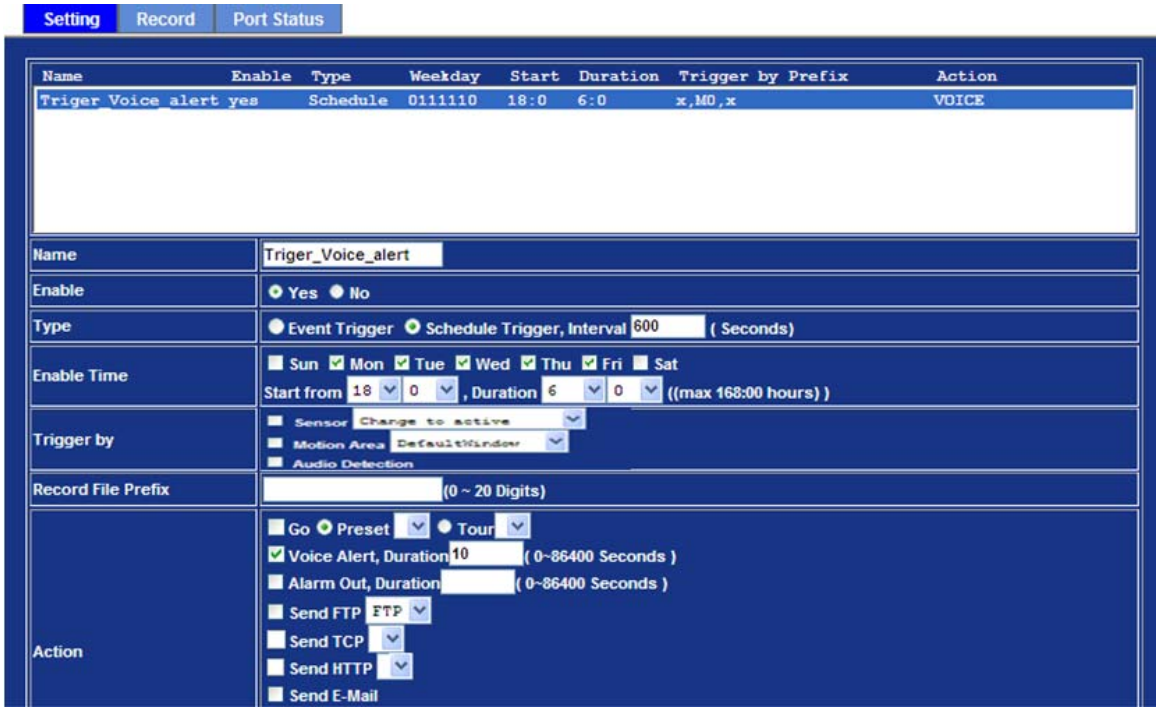
Enable Voice Alert every 10 minutes during 18:00 to 24:00 from Monday to Friday.

Step 1 Type: Select schedule trigger and interval is 10 minutes.

Step 2 Enable Time: Select Monday to Friday, and set start time from 18:00 and keep work in 6 hours.

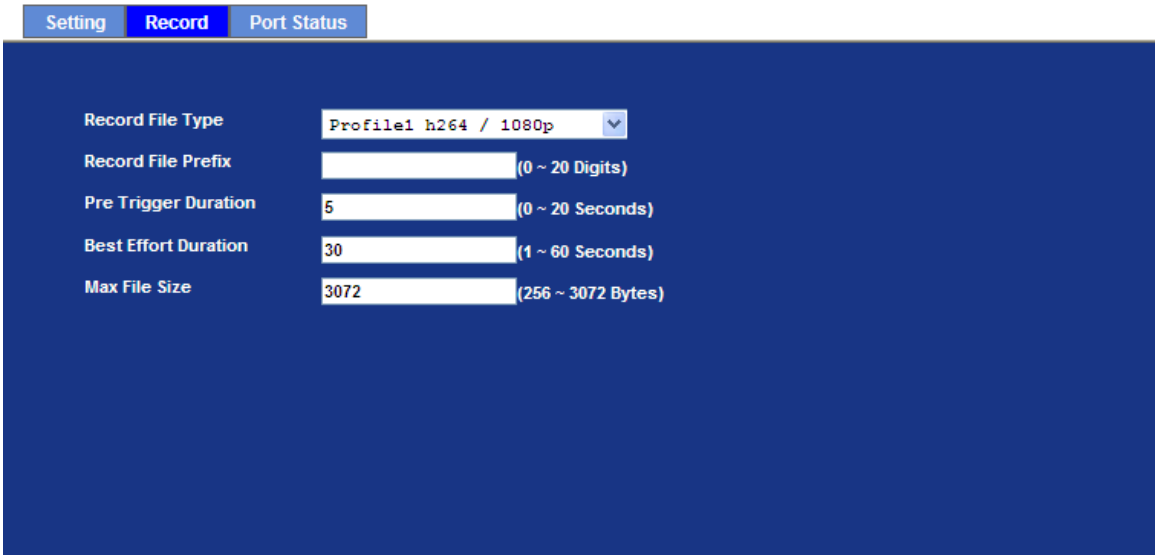
Step 3 Trigger by: You do not need to choose it, because this will be triggered every minute.

Step 4 Action: Voice Alert.



6.16. Record Configuration

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

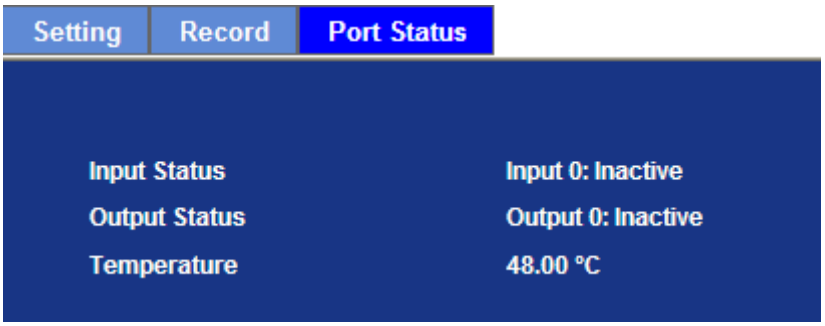


Record File Type	Choose AVI or JPEG file format for record file.
Record File Prefix	Define the prefix of recorded filename.
Pre-Trigger Duration	Define the maximum duration of pre-alarm.
Best Effort Duration	Define the best effort duration of post-alarm.

Max File Size	Define the maximum buffer size of record file.

6.17. Port Status

User can check the status of digital input and output (DIDO).



Input Status	Show either inactive or active.
Output Status	Show either inactive or active.
Temperature	Show temperature with sensor around

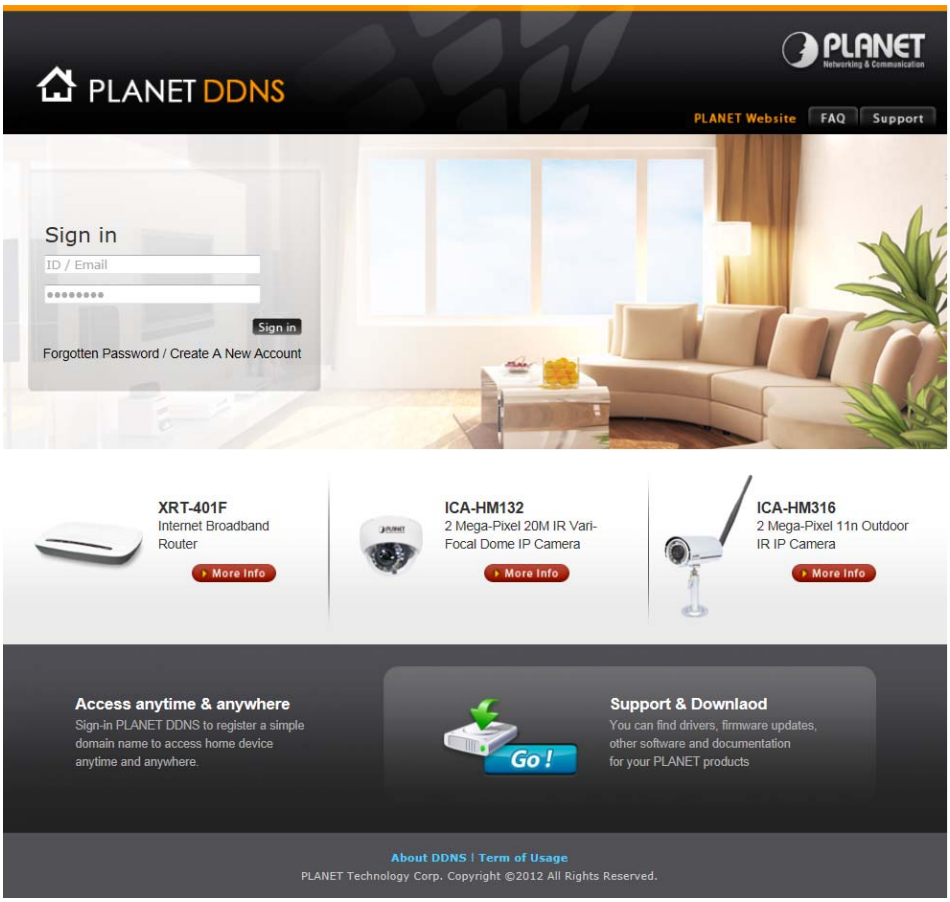
Chapter 7. PLANET DDNS Application

7.1. Configuring PLANET DDNS Steps:

Step 1 Enable DDNS option through accessing web page of the IVS-2120.

Step 2 Select on DDNS server provided and register an account if you do not use yet.

Let's take dyndns.org as an example. Register an account in http://planetddns.com



Chapter 8. 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 the device installed or if the IP address conflicts with any other device over the network.

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

- Launch a Command Prompt.
- Type ping x.x.x.x, where x.x.x.x is the IP address of the device. For example, ping

  192.168.0.20

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 Network Camera, also can utilize the PING command but you must disconnect the Camera from the network first.

Chapter 9. Bandwidth Estimation

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

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

Image Resolution	Average range of data sizes for JPEG mode	Average bit rate for MPEG4 mode	Average bit rate for H.264 mode
QCIF	6 ~ 12k byte per frame	64kbps~256kbps @ 30fps	32kbps~192kbps @ 30fps
CIF	20 ~ 40k byte per frame	384kbps~1024kbps @ 30fps	256kbps~768kbps @ 30fps
4CIF(D1)	50 ~ 150K byte per frame	768kbps~4096kbps @ 30fps	512kbps~3076kbps @ 30fps

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

Chapter 10. Configuring Port Forwarding Manually

The device can be used with a router. If the device wants to be accessed from the WAN, its IP address needs to be 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

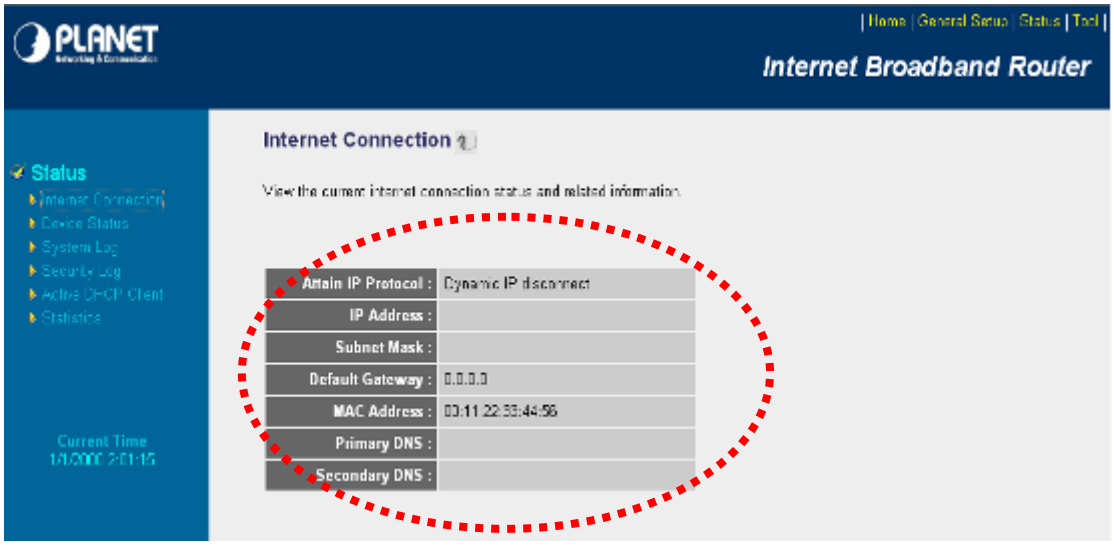
1. Assign a local/fixed IP address to your device

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

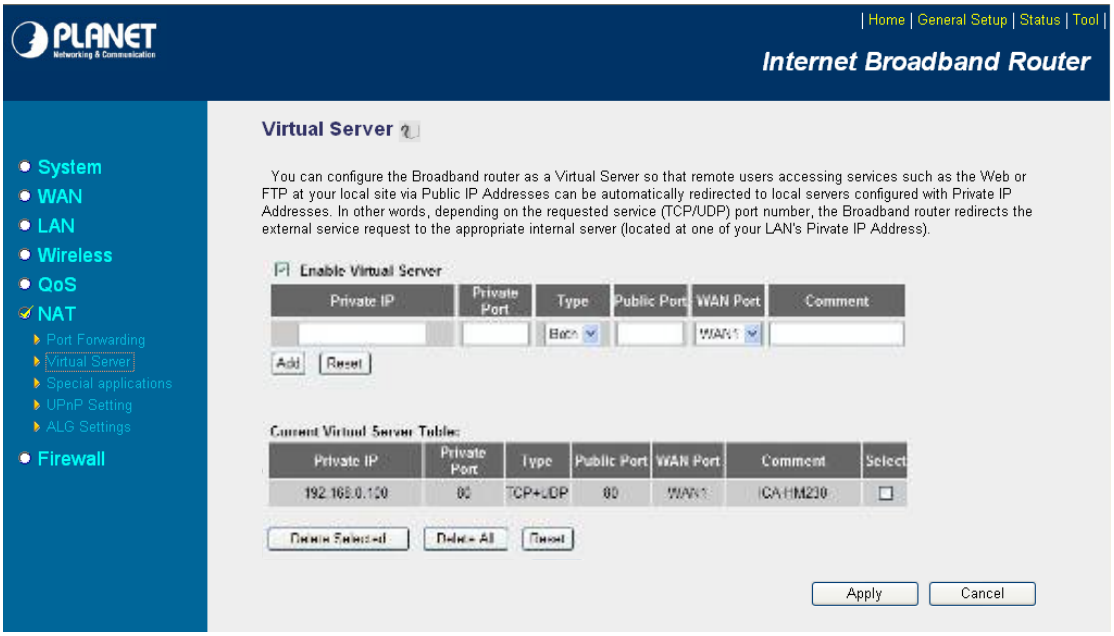
The firewall security features built into the router and most routers prevent users from accessing the video from the device over the Internet. The router connects to the Internet over a series of numbered ports. The ports normally used by the device are blocked from access over the Internet. Therefore, 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.

Chapter 11. 3GPP

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

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

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

Dialing procedure:

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

2. Use the following URL to access:

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

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

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

Chapter 12. Troubleshooting & Frequently Asked Questions

Question	Answer or Resolution
Features	
The video and audio codec is adopted in the device.	The device utilizes H.264, MPEG4 and JPEG triple compressions to provide high-quality images where H.264 and MPEG4 are standards for video compression and JPEG is a standard for image compression. The audio codec is defined as G.711/G.726 for RTSP streaming.
The maximum number of users 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 100~200Mbps for UDP mode and 50Mbps for HTTP mode. Therefore, the actual number of connected clients is varying by streaming mode, settings of resolution, codec type, frame rate and bandwidth. Obviously, the performance of the each connected client will slow down when many users are logged on.
The device can be used outdoors or not.	The device is weatherproof.
Install this device	
The network cabling is required for the device.	The device uses Category 5 or better UTP cable allowing 10 Base-T, 100 Base-TX, or 1000 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 Password = **admin**. Note that it's all case sensitivity.
Forgot the username and password	Follow the steps below. **1.** Restore the factory default setting by pressing and holding down for more than 5 seconds on the device. **2.** Reconfigure the device.
Forgot the IP address of the device.	Check IP address of device by using the PLANET IP Wizard II program or by UPnP discovery.
PLANET IP Wizard 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. IP Wizard II program cannot detect device over a router. • If IP address is not assigned to the PC which running IP Wizard II program, then IP Wizard 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 8.0 or later. If you are experiencing problems, try upgrading to the latest version of Microsoft's Internet Explorer from the Microsoft webpage.
PLANET IP Wizard II program fails to save the network parameters.	• Network may have trouble. Confirm the parameters and connections of the device.

UPnP NAT Traversal	
Cannot work with NAT router	• Maybe NAT router does not support UPnP function. Please check user's manual of router and turn on UPnP function. • Maybe UPnP function of NAT router is not compatible to the IP camera. Please contact your dealer to get the approval routers list.
Some IP cameras are working while others failed	• Maybe too many IP cameras have been installed on the LAN, and then NAT router is out of resource to support more cameras. You could turn off and on NAT router to clear out of date information inside router.
Access this device	
Cannot access the login page and other web pages of the Network Camera 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. • May be due to the network cable. Try correcting your network cable and configuration. Test the network interface by connecting a local computer to the Network Camera via a crossover cable. • Make sure the Internet connection and setting is ok. • Make sure enter the IP address of Internet Explorer is correct. If the Network Camera has a dynamic address, it may have changed since you last checked it. • Network congestion may prevent the web page appearing quickly. Wait for a while. The IP address and Subnet Mask of the PC and Network Camera must be in the same class of the private IP address on the LAN. • Make sure the http port used by the Network Camera, default=80, is forward to the Network Camera's private IP address. • The port number assigned in your Network Camera might not be available via Internet. Check your ISP for available port. • The proxy server may prevent you from connecting directly to the Network Camera, 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 Network Camera from the Internet with the global IP address of the router and port number of Network Camera. • Some routers reject the global IP address to access the Network Camera on the same LAN. Access with the private IP address and correct port number of Network Camera. • When you use DDNS, you need to set Default Gateway and DNS server address. • If it's not working after above procedure, reset Network Camera to default setting and installed it again. • If the problem is not solved, the Network Camera might be faulty. Contact your dealer for further help.
Image or video does not appear on the main page.	• The first time the PC connects to Network Camera, a pop-up **Security Warning window** will appear to download ActiveX Controls. When using Windows XP, or Vista, log on with an appropriate account that is authorized to install applications. • Network congestion may prevent the Image screen from appearing quickly. You may choose lower resolution to reduce the required bandwidth.
Check whether the device's ActiveX is installed on your computer	Go to C:\Windows\Downloaded Program Files and check to see if there is an entry for the file "**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".	Set up the IE security settings or configure the individual settings to allow downloading and scripting of ActiveX controls.
The device works locally but not externally.	• Might be caused from the firewall protection. Check the Internet firewall with your system or network administrator. The firewall may need to have some settings changed in order for the device to be accessible outside your LAN. • Make sure that the device isn't conflicting with any other web server running on your LAN. • Check the configuration of the router settings allow the device to be accessed outside your local LAN. • Check the bandwidth of Internet connection. If the Internet bandwidth is lower than target bit rate, the video streaming will not work correctly.
The unreadable characters are displayed.	Use the operating system of the selected language. Set the Encoding or the Character Set of the selected language on the Internet Explorer.
Frame rate is slower than the setting.	• The traffic of the network and the object of the image affect the frame rate. The network congestion causes frame rate slower than the setting. • Check the bandwidth of Internet connection. If the Internet bandwidth is lower than target bit rate, the video streaming will not work correctly. • Ethernet switching hub can smooth the frame rate.
Blank screen or very slow video when audio is enabled.	• Your connection to the device does not have enough bandwidth to support a higher frame rate for the streamed image size. Try reducing the video streaming size to 160x120 or 320x240 and/or disabling audio. • Audio will consume 32 kbps. Disable audio to improve video. Your Internet connection may not have enough bandwidth to support streaming audio from the device.
Image Transfer on e-mail or FTP does not work.	• Default Gateway and DNS server address should be set up correctly. • If FTP does not work properly, ask your ISP or network administrator about the transferring mode of FTP server.
Pan/Tilt does not work. (including Click to Center and Preset Positioning)	• Click **[Refresh]** on the Internet Explorer when the communication stops with the device. The image will refresh. • Other clients may be operating Pan/Tilt. • Pan/Tilt operation has reached the end of corner.
Pan/Tilt does not work smoothly.	There may be a slight delay when you are using the Pan/Tilt feature in conjunction with streaming audio and video. If you find that there is a significant delay while panning or tilting the camera, try disabling the audio streaming and/or reducing the video streaming size.
Video quality of the device	
The focus on the Camera is bad.	• The lens is dirty or dust is attached. Fingerprints, dust, stain, etc. on the lens can degrade the image quality.
The color of the image is poor or strange.	• Adjust White Balance. • To insure the images you are viewing are the best they can be, set the Display property setting (color quality) to 16bit at least and 24 bit

	or higher if possible within your computer. •The configuration on the device image display is incorrect. You need to adjust the image related parameters such as brightness, contrast, hue and sharpness properly.
Image flickers.	• Wrong power line frequency makes images flicker. Make sure the 50 or 60Hz format of your device. • If the object is dark, the image will flicker. Make the condition around the Camera brighter.
Noisy images occur.	The video images might be noisy if the device is located in a very low light environment. Make the condition around the camera brighter or turn the IR LED on.