INSTRUCTION MANUAL Ver 1.5

1CH IP VIDEO SERVER / MPEG4 Series

Firmware Ver. 1.2.1a

CONTENTS

About This Document

This document is for IP Video Server (IVS) firmware version 1.2.1a or higher and there might be some different contents from IVS firmware version 1.2.1a or lower.

If an administrator has previous knowledge of networking, please follow the Quick Start Guide.

If an administrator is new to networking and has no previous knowledge of the subject, please follow the step-by-step procedures for configuring, installing, and accessing your IP Video Server (IVS).

Please follow the entire walk-through without skipping any steps. The walk-through was designed to teach the typical inexperienced home user how to configure their IVS using the simplest techniques and terminology. Some of these techniques may actually be considered inaccurate, but should suit the needs of most home users. Consult the FAQ and Appendices for further information when required.

If after following the walk-through and exhausting all literature, please contact our Support Center for technical support.

Notes Before Starting

- This product is only compatible with current versions of the Microsoft Windows OS.
- This product operates with Microsoft's Internet Explorer only.
- You must have ActiveX controls enabled on your browser, found in the Options menu.
- Some pop-up blockers may block legitimate configuration screens, please disable these blockers when configuring the IVS.
- Some hardware manufacturers include a cable/DSL modem, router/firewall, and Ethernet switch in one device.
- If you have no available ports on your router (with integrated switch) you can purchase a 10/100 Ethernet switch to "expand" your Local Area Network
- The crossover cable is not wired as a typical straight-through network cable. This cable (or any crossover) should be used for initial setup of the IVS via a PC/laptop.
- Please temporarily disconnect any proxy servers associated with Internet Explorer while configuring the IP Video Server.

Modification and Development

The Linux-based operating system and flash memory file system enable advanced users and application developers to customize the IP Video Server. An SDK developer kit is available for users to interface ActiveX controls and other applications.

Attempts to modify the IVS will void all warranties and will not be supported by the manufacturer or its seller. Further development tools and documentation for assistance may be accessible in future releases. We strongly recommend that inexperienced users DO NOT modify the firmware of IVS.

The manufacturer or its seller will not be held accountable in a user's attempt to modify the IVS that renders the unit inoperable or otherwise.

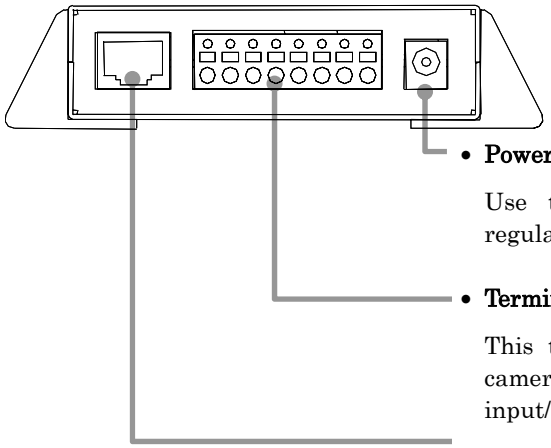
Installation

This may be installed as a standalone unit or as a supplement to an existing surveillance system.

Physical connection is utilizing 10/100 base-T Ethernet compatible UTP network cable with RJ-45 connector. Install directly using NTSC or PAL video cameras using BNC connectors.

Product Description

❑ Front Panel



- **Power Supply Connector**

  Use the power jack to connect your regulated 12Volts DC power adapter.

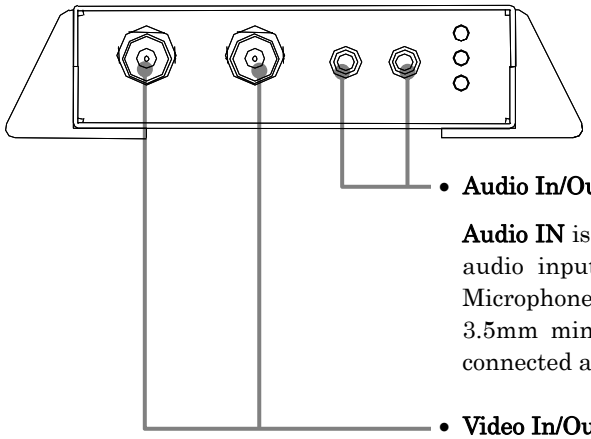
- **Terminal Block**

  This terminal block is used for pan/tilt camera, keyboard and sensor input/output.

- **Network Connector**

  This RJ-45 connector is for network connection and designed to operate on 10 or 100 Mbps Ethernet network.

❑ Rear Panel



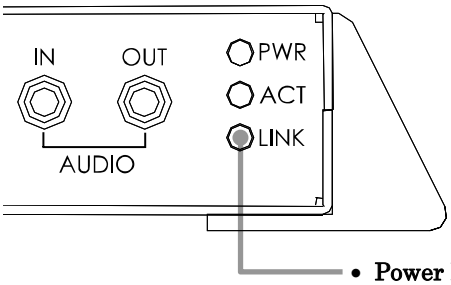
- **Audio In/Out Connect**

  Audio IN is monaural 3.5mm mini socket for audio input (to be connected to Amplified Microphone). **Audio OUT** is monaural 3.5mm mini socket for audio output (to be connected amplified speaker).

- **Video In/Out Connect**

  Each video input/output is connected using a BNC connector. Physical connections are made using RG-59 coaxial video cable; maximum cable length must be shorter than 800 feet. These provide the connections for virtually any TV systems type; PAL, SECAM or NTSC and devices such as CCTV cameras, Monitors, VCR, DVR, and Camcorders etc.

❑ Top View



- **Power LED**

  This red light becomes illuminated when 12V DC power is supplied to the unit. This indicator should always be lit when in use. If it is not lit or flashes when power is supplied, the Video Server is not operating properly.

- **Active LED**

  When in use, this Yellow indicator should always be flashing or flickering. During reboots or power cycling, it may take several seconds for the unit to initialize and illuminate the indicator.

- **LINK LED**

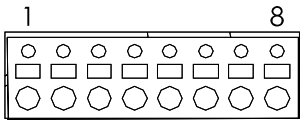
  This green indicator should be flashing or glowing during normal operation. During a reboot or power cycling, it may take up to 30 seconds to initialize, negotiate your network speed, and begin operation at 10 or 100Mbps. If this light is not lit after 30 seconds of operation, check the network cable to ensure a proper connection. When a proper connection is met, the green indicator should immediately glow.

❑ Bottom View

- **Reset Switch**

Return all settings to their factory defaults. Care must be taken since you will lose all data made previously.

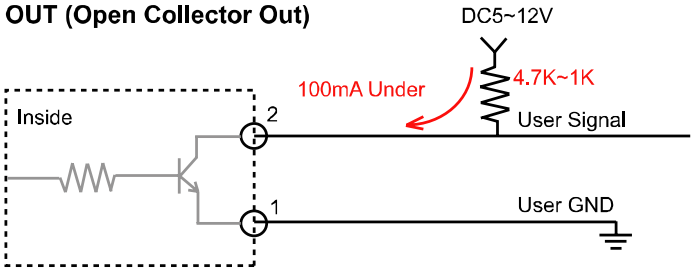
❑ Terminal Blocks



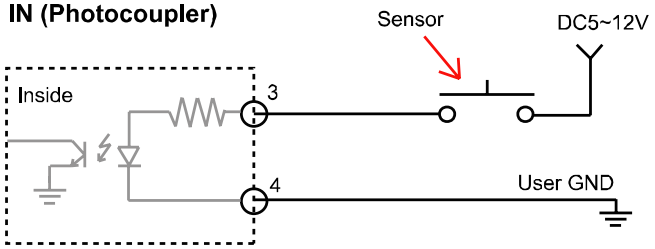
Terminal block is used to connect the pan/tilt unit, keyboard and sensor input/output via RS-485.

Pin	Signal	Remarks
1	GND	
2	OUT1	Open Collector
3	COM	Sensor Common
4	SEN1	Sensor GND
5	D+	AUX
6	D−	AUX
7	D+	PTZ
8	D−	PTZ

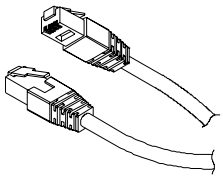
OUT (Open Collector Out)



IN (Photocoupler)



❑ Crossover Cable



- The crossover cable is not wired as a typical straight-through network cable. This cable (or any crossover) should be used for initial setup of the IVS via a PC/laptop. After initial setup of IVS, use straight-through cable in normal operation.

DDNS Registration

If you have DYNAMIC IP service from your Internet Service Provider (ISP), you can't tell what current IP address of video server is. To solve this problem, you have to register to our DDNS service.

At first, we recommend, you have to check if you are using dynamic addressing. If so, please, register your IP Video Server on our DDNS website before you configure, setup, or install the IVS.

Even though your IP is not dynamic, you will get a benefit if you register to DDNS. In this case, you just remember "alex.net4c.net/gate1" instead of complicated series of number like http://201.23.4.76:8078.

For more detail information, please contact our Support Center.

※ To register IVS or IP Camera to DDNS, you should know the Serial No of your IVS. The serial no can be found in "IP Status" menu of Admin Tool.

※ To use a public DDNS service called DtDNS, you can find detail information on how to use this service. (Please, visit its web site : http://www.dtdns.com)

Quick Start

Please follow the steps below to complete the initial setup of the IP Video Server (IVS)

ⓘ Please do not power on the IVS until instructed.

ⓘ Temporarily disable any proxy servers configured in Internet Explorer

ⓘ If connecting the IVS directly to a modem, power down and reset the modem. Leave the modem powered down until configurations are finalized with the IVS and the IVS has been correctly connected to the modem.

① You will need to access a PC/laptop and should configure that PC in order to communicate with the IVS. Record the current TCP/IP properties of that PC (IP address, subnet mask, gateway, DNS, etc)

ⓘ If your PC obtains its IP address automatically, then there is no need to record any information.

② Change the IP address of that host PC to 192.168.1.11 and subnet mask to 255.255.255.0 (leave all other entries blank)

③ Connect the IVS to your PC's Ethernet port via the supplied crossover cable (it does not matter what end is used for the PC)

④ Power on the IVS using the supplied power adapter.

⑤ After 1 minute of power, verify a solid POWER indicator, a flashing ACTIVE indicator, and a flashing or solid LINK indicator. After the corresponding indicator lights are properly displayed, open Internet Explorer.

⑥ Type - http://192.168.1.80 (the default IP of the IVS) into your address bar.

⑦ Default ID/Password to access IVS are both the word: admin

⑧ Familiarize yourself with the Viewer Interface Screen.

⑨ Locate the TCP/IP configuration under Administration Tools. Supply the same ID and Password to enter Administration Tools (admin:admin)

⑩ Under "Network Type" select STATIC. You will only select Dynamic or PPPoE if you are connecting the IVS directly to your cable/DSL/Broadband modem and your Internet Service Provider is supplying you a dynamic or PPPoE address.

ⓘ If you have a network with other devices (such as PC/laptop, etc.) or a router, you will NEVER select Dynamic or PPPoE.

⑪ Configure the IVS's TCP/IP settings as you would any other PC on your network, providing a proper IP address, subnet mask, default gateway, and DNS server.

ⓘ If this is standalone unit with a direct connection to a cable/DSL/Broadband modem then input the addresses you have received from your ISP. If you received no IP address from your ISP, please select Dynamic or PPPoE and choose the proper settings.

⑫ The IVS utilizes five TCP ports - a Web Server Port for utilizing Internet Explorer, a Video Server Port, a Control Server Port, Audio ports. A Web Server Port is for utilizing Internet Explorer, a Video Server port is to support the streaming video, and a Control Server Port is to transmit to control command. Also Audio Port are to transmit and to receive Audio data. If this IVS will be directly attached to a cable/DSL/Broadband modem or has been assigned a static IP from your ISP, then leave the default port settings. If you are installing the IVS on a network, you must define a Web Server Port other than 80. The other ports, a Video Server Port, a Control server Port, and 2 Audio Ports can remain unchanged.

⑬ If the IVS is connected to a network which utilizes a router, you must have Port Forwarding configured on your personal router to forward both the Web Server Port and Video Server Port to the IP address you have assigned the IVS.

⑭ After configuring Port Forwarding on your router (if necessary), you may then access your IVS on your local network by opening Internet Explorer and specifying the IP address and Web Server Port that you have assigned to the IVS.

ⓘ Examples: http://192.168.0.200:8888 or http://24.106.88.123

ⓘ If you left your Web Server Port set to 80, then you don't need to specify the port in the Address Bar when accessing your IVS

⑮ Access your IVS via the Internet :

- ❑ If you used a static IP address assigned by your ISP
  - i) Open Internet Explorer.
  - ii) Type the IP of the IVS.
  - iii) If you use a router, type the routers' static IP and the web port number of the IVS.
- ❑ If you have a dynamic address provided by your ISP
  - i) Open Internet Explorer and visit the DDNS website.
  - ii) Register the IVS.
  - iii) Reboot the IVS.
  - iv) Give the DDNS server 2 minutes to locate your IVS's IP information.
  - v) Click the refresh button in the Internet Explore.
  - vi) After your camera is connected, select your camera.

IP Video Server Initial Setup via a Crossover Cable

This section provides a guide on how to connect the IVS to your PC/laptop for initial setup.

Please follow the instructions in the order they appear, without skipping steps. Do not supply power to the IP Video Server, until instructed.

In order to access the IP Video Server's firmware you will need to connect the Video Server directly to a PC or laptop computer via the supplied crossover cable.

① Before you begin, you must determine the current network/INTERNET (TCP/IP) settings on the PC or laptop you plan to setup the IP Video Server. Jot down your entries below for quick reference.

ⓘ For information on how to determine your currents settings, see Appendix A

Current TCP/IP Settings	
IP Address	
Subnet Mask	
Default Gateway	
Primary DNS Server	
Secondary DNS Server (Option)	

② In order for the IP Video Server to communicate with your PC, you have to change your PC's IP address and subnet mask

ⓘ We recommend that you change your IP address to 192.168.1.11 and change the subnet mask to 255.255.255.0
Leave all other entries (Default Gateway, DNS Servers, etc.) blank.

ⓘ For information on how to change your IP address and subnet mask, see Appendix B

③ After you have made the changes to your IP address and subnet mask, you may then attach the IP Video Server to your PC via the supplied crossover cable. Plug-in either end of the crossover cable into the PC's network card and the other end into your IP Video Server.

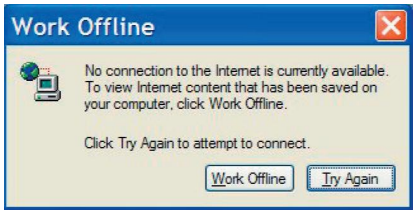
④ After connecting the PC and IP Video Server (IVS) using the crossover cable, power on the IVS by plugging in the power supply shipped with the IVS.

⑤ No longer than 1 minute after powering on the IVS, verify that the POWER indicator light is solid, the ACTIVE indicator light is flashing, and the 10M indicator light is flickering or solid. If they are not, please read the FAQ.

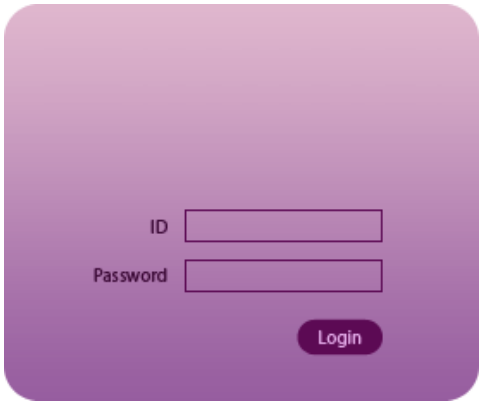
⑥ Now you will be able to access the viewer software within the IVS

ⓘ Open Internet Explorer and type the IP address of 192.168.1.80 (default IP of the IVS from the factory) into the Address Bar of the web browser (as seen below). Press Enter.

ⓘ If a message appears after pressing "Enter" similar to the image depicted below, choose "Try Again". This message will vary depending on the operating system.



⑦ Now you will be able to see the login screen for the IP Video Server.



ⓘ The 3 authorities are available: Administrator, Operator and Viewer. The authority setup is available in Admin. Tools.

- Viewer — Only monitoring is allowed.
- Operator — Monitoring, PTZ Control and Digital In/Out Control are allowed.
- Administrator — All functions are allowed.

⑧ The default ID and Password are both the word “admin” (without the “”)

⑨ If at any time you are prompted to download ActiveX controls, you must click ‘Yes’, all content is safe.

ⓘ You will have to click “Yes” button on the dialog box. This allows your video to be displayed in Internet Explorer.

Guide to Network Setup

Please configure the IVS at the location of its installation. You must determine your network scenario in order to configure the IVS with the proper TCP/IP settings. This tutorial will guide you through the process. Before actually configuring the IVS, determine what settings you will apply. Record those settings that you will use to configure your IVS for reference.

When configuring your IVS, treat the IVS as another PC on your network. You will assign it several addresses and other TCP/IP properties to match your current network.

This step-by-step tutorial will teach what IP addresses and network configurations you should assign your IVS based upon your network scenario.

① Before you begin, you will need to locate any information and settings that you have received from your Internet Service Provider (ISP). You may need to refer to these IP addresses at a later time during the configuration.

ⓘ If you were not given any IP addresses or the ISP was responsible for the setup and installation of your Internet connection on your PC or network, then please go to step ②

ⓘ If you are not using a router on your network, your "Current TCP/IP Settings" (from the previous section) and "Assigned IP Addresses from My ISP" will be exactly the same

Assigned IP Address	
IP Address	
Subnet Mask	
Default Gateway	
Primary DNS Server	
Secondary DNS Server (Option)	

Static ☐
Dynamic ☐
PPPoE ☐

② You must determine whether the IP address that you were assigned from the ISP is STATIC, DYNAMIC, or using PPPoE. At this moment, you are only concerned about the ISP. Did they provide you with a STATIC, DYNAMIC, or PPPoE address? If you are unsure, please contact your ISP.

③ Configure your IVS's TCP/IP settings for network connectivity by selecting Administration Tools from the main interface and selecting TCP/IP located on the left of the Administration Tools screen.

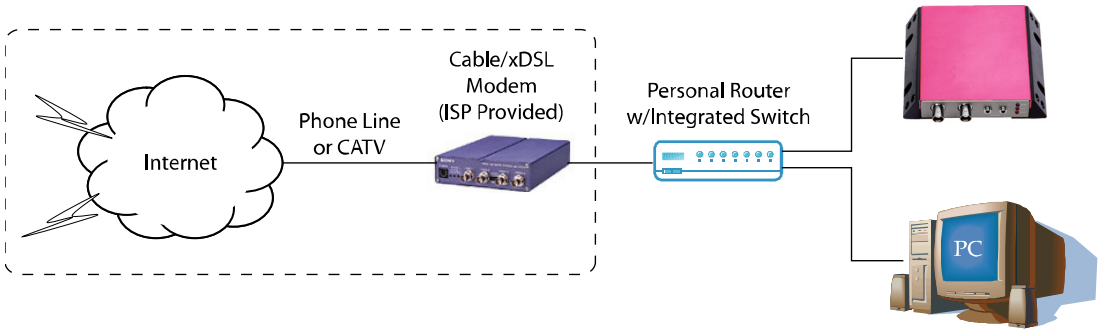
④ If prompted for an ID and Password, use "admin" for both entries.

The default web port number is 80. If your ISP blocks port 80 you must use a value between 1025-30000. Please consult your ISP and determine if they block TCP port 80.

⑤ Depicted below are several basic network scenarios. Determine which scenario describes your network. If your network does not match one of the scenarios below and are unsure how to setup your IVS, please contact your network administrator, then call our Support Center.

ⓘ Dash line box signifies areas of tour network that you can't control. Only the ISP has access to these devices.

Case A : Dynamic IP or PPPoE + Personal Router [Most SOHO]



Configure your IVS's TCP/IP properties as follows :

❑ Network Type
- STATIC (even though you have Dynamic IP from your ISP, use STATIC on the IVS)

❑ Internet Address
- A private IP address such as 192.168.0.200 [Example]

ⓘ You need to assign the IVS an IP address, just as you would assign a PC.

ⓘ The IP address you assign must be unique to your network as well as match your network. For information how to choose a unique IP and match your network please read the FAQ.

ⓘ The IP address you assign the IVS must be a private IP. For information on how to chose a private IP please read the FAQ

❑ Subnet Mask
- 255.255.255.0 [Example]

ⓘ You must use the same subnet mask as the one you noted under "Current TCP/IP Settings"

❑ Default Gateway
- 192.168.0.1 [Example]

ⓘ This IP address must be the IP address of your router (private or LAN side)

ⓘ Use the same Default Gateway you noted under "Current TCP/IP Settings"

❑ Primary DNS Server
- Use the 1st DNS Server from "Assigned IP Address from My ISP"

ⓘ If you did not receive any IP addresses from your ISP, please contact them and acquire the IP address of their DNS server.

❑ DDNS Server
- Use the DDNS server

ⓘ This is the same site you will register with later to accommodate dynamic IP from your ISP.

❑ Web Server Port
- 8888

ⓘ Do NOT use the default port 80, you must change this number.

ⓘ You may select any number between 1025 ~ 30000.

❑ Control Server Port
- 7777

ⓘ You may select any number between 1025 ~ 30000.

❑ Video Server Port
- 7778

ⓘ You may select any number between 1025 ~ 30000.

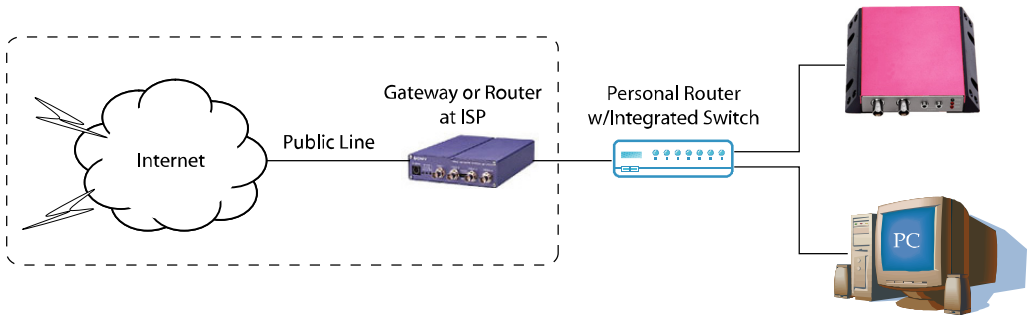
❑ Audio Transmit Server Port
- 7779

ⓘ You may select any number between 1025 ~ 30000.

❑ Audio Receive Server Port
- 7780

ⓘ You may select any number between 1025 ~ 30000.

Case B : Static(Fixed) IP + Personal Router [Efficient]



Configure your IVS's TCP/IP properties as follows :

❑ Network Type
- STATIC

❑ Internet Address
- A private IP address such as 192.168.0.200 [Example]

ⓘ You need to assign the IVS an IP address, just as you would assign a PC.

ⓘ The IP address you assign must be unique to your network as well as match your network. For information how to choose a unique IP and match your network please read the FAQ.

ⓘ The IP address you assign the IVS must be a private IP. For information on how to chose a private IP please read the FAQ

❑ Subnet Mask
- 255.255.255.0 [Example]

ⓘ You must use the same subnet mask as the one you noted under “Current TCP/IP Settings”

❑ Default Gateway
- 192.168.0.1 [Example]

ⓘ This IP address must be the IP address of your router (private or LAN side)

ⓘ Use the same Default Gateway you noted under “Current TCP/IP Settings”

❑ Primary DNS Server
- Use the 1st DNS Server from “Assigned IP Address from My ISP”

ⓘ If you did not receive any IP addresses from your ISP, please contact them and acquire the IP address of their DNS server.

❑ DDNS Server
- Use the DDNS server

ⓘ This is the same site you will register with later to accommodate dynamic IP from your ISP.

❑ Web Server Port • 8888

ⓘ Do NOT use the default port 80, you must change this number.

ⓘ You may select any number between 1025 ~ 30000.

❑ Control Server Port • 7777

ⓘ You may select any number between 1025 ~ 30000.

❑ Video Server Port • 7778

ⓘ You may select any number between 1025 ~ 30000.

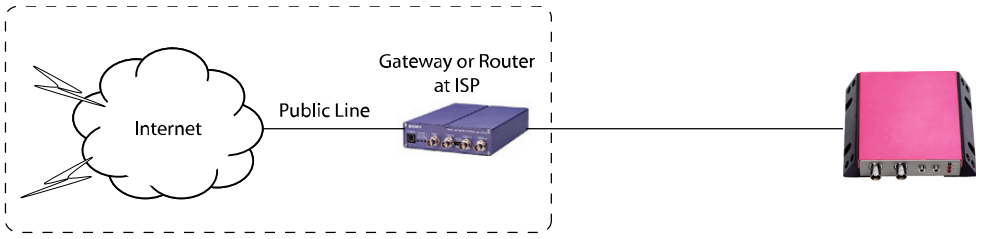
❑ Audio Transmit Server Port • 7779

ⓘ You may select any number between 1025 ~ 30000.

❑ Audio Receive Server Port • 7780

ⓘ You may select any number between 1025 ~ 30000.

Case C : Static(Fixed) IP [Dedicated line directly to the IP Video Server



Configure your IVS's TCP/IP properties as follows :

❑ Network Type
- STATIC

❑ Internet Address
- A static IP address received from your ISP, such as 24.107.88.125 [Example]

ⓘ You need to assign the IVS an IP address, just as you would assign a PC.

❑ Subnet Mask
- Subnet mask assigned from your ISP, such as 255.255.255.240 [Example]

❑ Default Gateway
- 24.107.88.113 [Example]

ⓘ Use the assigned default gateway from your ISP

❑ Primary DNS Server
- Use the 1st DNS Server from “Assigned IP Addresses from My ISP”

ⓘ If you did not receive any IP addresses from your ISP, please contact them and acquire the IP address of their DNS server.

❑ DDNS Server
- Use the DDNS sever

ⓘ This is the same site you will register with later to utilize our DDNS service.

❑ Web Server Port
- 80 [default]

ⓘ You may select any number between 1025 ~ 30000.

❑ Control Server Port
- 7777

ⓘ You may select any number between 1025 ~ 30000.

❑ Video Server Port • 7778

ⓘ You may select any number between 1025 ~ 30000.

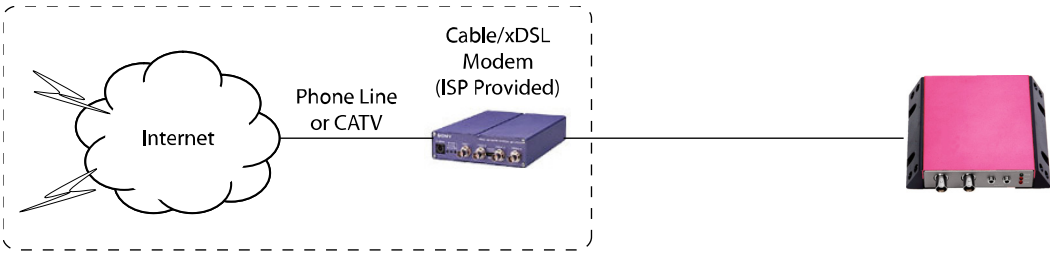
❑ Audio Transmit Server Port • 7779

ⓘ You may select any number between 1025 ~ 30000.

❑ Audio Receive Server Port • 7780

ⓘ You may select any number between 1025 ~ 30000.

Case D : Dynamic IP + DSL/Cable Modem [Connected directly to the IP Video Server]



Configure your IVS's TCP/IP properties as follows :

❑ Network Type
- DYNAMIC

❑ DDNS Server
- Use the DDNS server

ⓘ This is the same site you will register with later to accommodate dynamic IP from your ISP.

❑ Web Server Port
- 80 [default]

ⓘ You may select any number between 1025 ~ 30000.

❑ Video Server Port
- 7777

ⓘ You may select any number between 1025 ~ 30000.

❑ Video Server Port
- 7778

ⓘ You may select any number between 1025 ~ 30000.

❑ Audio Transmit Server Port
- 7779

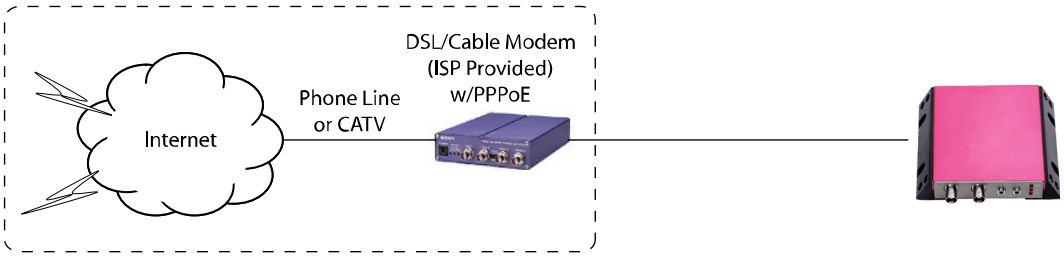
ⓘ You may select any number between 1025 ~ 30000.

❑ Audio Receive Server Port
- 7780

ⓘ You may select any number between 1025 ~ 30000.

ⓘ When connecting the IVS directly to a modem, power down and reset the modem. Leave the modem powered down until configurations are finalized with the IVS and the IVS has been correctly connected to the modem. Then power on the modem, followed by the IVS.

Case E : PPPoE + DSL Modem [Connected directly to the IP Video Server]



Configure your IVS's TCP/IP properties as follows :

❑ Network Type
- PPPoE

❑ User ID
- Use the User ID or Username you received from your ISP for this direct connection

❑ User Password
- Use the Password you received from your ISP for this direct connection

❑ DDNS Server
- Use the DDNS server

ⓘ This is the same site you will register with later to utilize our DDNS service

❑ Web Server Port
- 80 [default]

ⓘ You may select any number between 1025 ~ 30000.

❑ Control Server Port
- 7777

ⓘ You may select any number between 1025 ~ 30000.

❑ Video Server Port
- 7778

ⓘ You may select any number between 1025 ~ 30000.

❑ Audio Transmit Server Port
- 7779

ⓘ You may select any number between 1025 ~ 30000.

❑ Audio Receive Server Port
- 7780

ⓘ You may select any number between 1025 ~ 30000.

Port Forwarding

After entering the correct TCP/IP settings you will be ready for "Port Forwarding" (Cases A, B).

- ❑ Please record the TCP/IP settings of your IVS for future reference. You may need this information to access your IVS and to configure "Port Forwarding".

IVS TCP/IP Settings	
IP Address	
Subnet Mask	
Default Gateway	
Primary DNS Server	
DDNS Server	
Web Server Port	
Control Server Port	
Video Server Port	
Audio Transmit Server Port	
Audio Receive Server Port	

- ❑ **After clicking "Apply" the system will prompt for a reboot. Please allow the system 30 seconds to reboot and accept the changes. After 30 seconds, close the configuration screen. The view will display "Trying to Reconnect". If the ACTIVE light on the IVS has gone off and is now back on again flashing, then the IVS has rebooted. After the system reboots completely, remove the power supply from the unit and close Internet Explorer.**
- ❑ Return your PC/Laptop TCP/IP properties to their original settings.
- ❑ Before installing the IVS, you must use "Port Forwarding" on your personal router (Cases A, B). You will need to forward 5 ports:

  - Web Server Port you assigned to the IVS.
  - Control Server Port you assigned to the IVS.
  - Video Server Port you assigned to the IVS.
  - Audio Transmit Server Port you assigned to the IVS.
  - Audio Receive Server Port you assigned to the IVS.

  Both of these ports will be forwarded to the IP address you assigned to the IVS.
  In the example above, you would forward:

  - 8888 → 192.168.0.200
  - 7777 → 192.168.0.200
  - 7778 → 192.168.0.200
  - 7779 → 192.168.0.200
  - 7780 → 192.168.0.200

ⓘ For information on how to use "Port Forwarding" please read Appendix C

Starting IP Video Server

After correctly forwarding the Web Server Port and the Video Server Port through your router (if applicable), you may then install the IVS in a proper location.

① Locate the serial number located on the label attached to the bottom of the IVS, you will need this for DDNS registration.

② Connect a device to the IVS (camera, DVR, Pan/Tilt/Zoom, etc.) and supply power to the device.

③ Connect the IVS to your router or cable/DSL modem (per your network scenario) via a Cat5/5e UTP Ethernet network cable.

④ Supply power to the IVS.

⑤ After 30 seconds, verify the IVS indicators:

- POWER Solid
- ACTIVE Flashing
- LINK Flickering/Solid

⑥ After configuring Port Forwarding on your router (if necessary), you may then access your IVS on your local network by opening Internet Explorer and specifying the IP address and Web Server Port that you have assigned to the IVS.

ⓘ Examples: http://192.168.0.200:8888 or http://24.106.88.123

ⓘ if you left your Web Server Port set to 80, then you don't need to specify the port in the Address Bar when accessing the IVS.

⑦ Access your IVS via the Internet:

❑ If you use Case B or C

i) Open Internet Explorer.

ii) Type the IP of the IVS.

❑ If you use Case A, D, E

i) Open Internet Explorer.

ii) Visit the DDNS website.

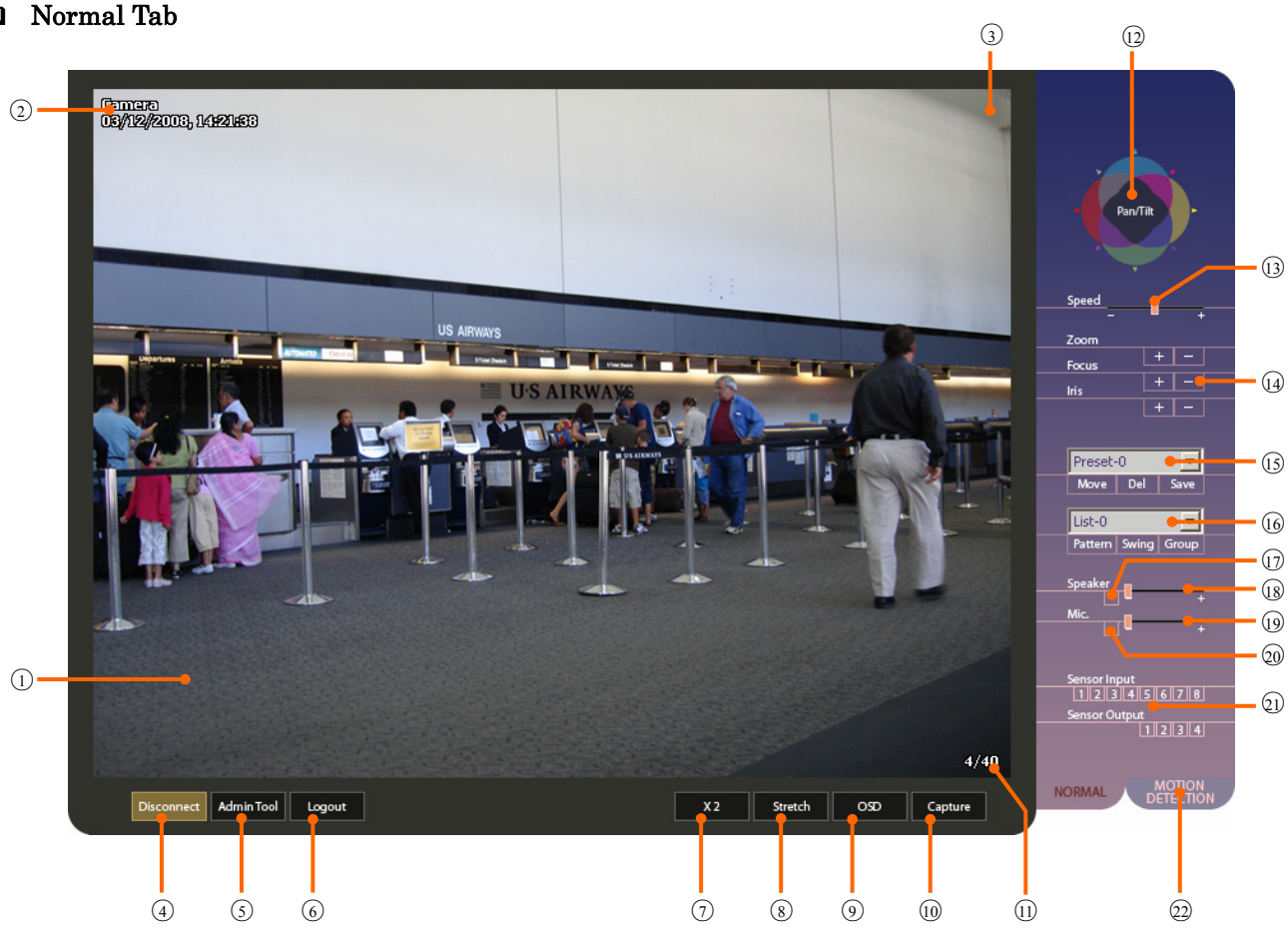
iii) Register the IVS.

iv) Give the DDNS server 10 minutes (MAX) to locate your IVS's IP information. You may reboot the server to send an immediate request to our DDNS server.

v) After your camera is connected, select your camera.

Web Viewer Screen

❑ Normal Tab



This section is designed to familiarize you with the main interface of the IVS. Displaying the OSD and Digital Zoom are only taking place on the local machine, not on the video server itself. To make global changes on the video server and its video, you must login as an administrator.

① Camera Image Display

② OSD - Camera Name / Date / Time

③ OSD - This indicator displayed represents the function caption when a specific user logs on.

- G = Guest User : Video monitoring only

④ Click this icon to disconnect or connect from the server.

⑤ Click this icon to enter Administration Tools.

⑥ Click this icon to logout.

⑦ 2× Digital Zoom

⑧ Stretch will fit the video to the viewer window regardless of resolution. In essence this provides:

- 720×480 resolution : 2× digital zoom effect
- 352×240 resolution : no change

⑨ OSD (On Screen Display) : Click this icon to display the captions.

⑩ Click this icon to save an image.

⑪ Shows current number of users connected as:
[Current number of users connected / maximum number of users connected].

⑫ Use these arrows to control a PTZ device.

⑬ Speed option for Speed Dome Camera or PTZ devices.

⑭ Zoom, Focus, and Iris functions for PTZ devices that support the listed functions.

⑮ Presets used by some PTZ devices that support preset directions and zoom.

⑯ Pattern, Swing and Group functions for the Pan/Tilt camera that support the listed functions.

⑰ This button enables to listen Audio stream from IVS.

⑱ Volume control for speaker out of your computer.

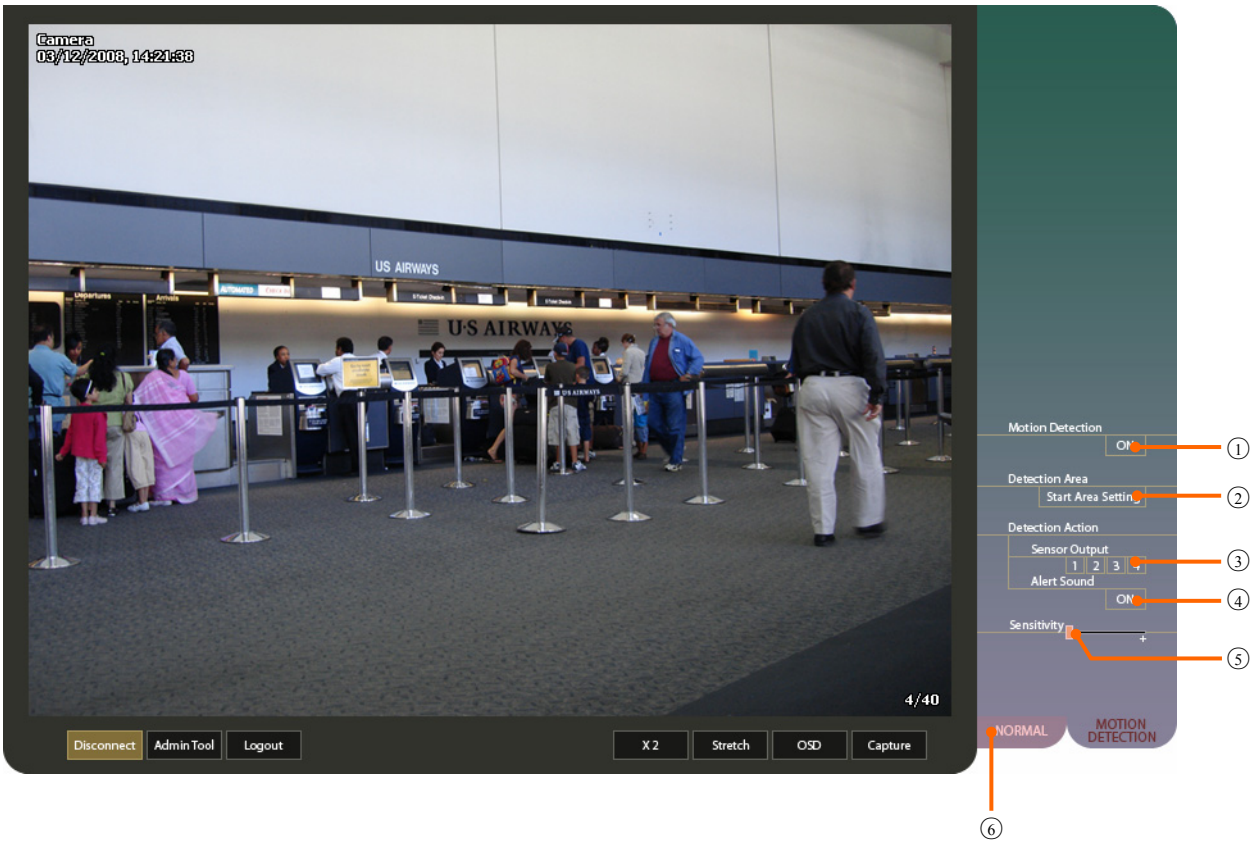
⑲ Volume control for MIC in your computer.

⑳ This button enables to send Audio stream to IVS from your MIC.

㉑ Digital Inputs status and Digital Outputs control.

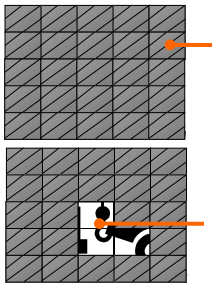
㉒ Motion Detection Tab to open motion detection setup.

❑ Motion Detection Tab



① This button activates or stops motion detection. “Detection Area setting” bellow must be done in advance.

② This button activates or stops motion detection target area setup mode.
[How to Setup]
(a) By clicking or dragging of mouse in the main view, you can create or erase the masks on the main view.
(b) Motion detection is effective in the **Unmasked Area**.
(c) Stop and save setting by clicking [Start Area Setting] button.



③ These buttons assign counter action of alarm sensor output if motion is detected. For example, if you assign [2] button and a buzzer is connected to corresponding output relay of alarm module, buzzer will be turned on for a while when motion is detected at the designated area of interested.

④ This activates the alert sound function. If you send your own wave file to your video server, it will play back the wave file though the audio out socket when motion is detected.

⑤ This define up the sensitivity of motion detect. Move small box toward the+ direction

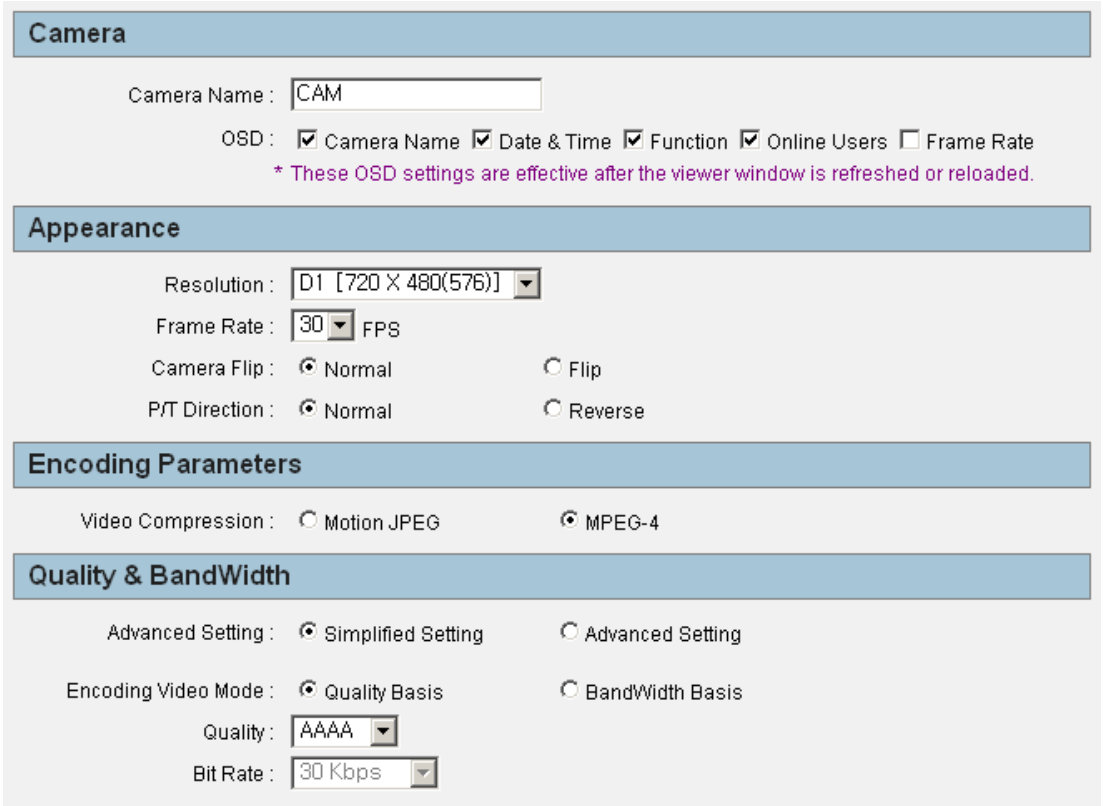
⑥ Return to Normal mode i.e. exit from motion detection setup and return to PTZ control tab.

This section is provided to familiarize the user with the administration tools. Intuitive options are not explained in detail.

All the changes on Administration Tools take effect immediately. These settings will be global, affecting the view of all users currently logged on. However, OSD items selections are effective only after you refresh the viewer windows or restart the internet Explorer.

All settings are always saved in the video server even when you close the viewer program or you turn off the Power of the video server. If you lost your password, you must press the reset button to return all setting to its factory defaults.

Video Tool

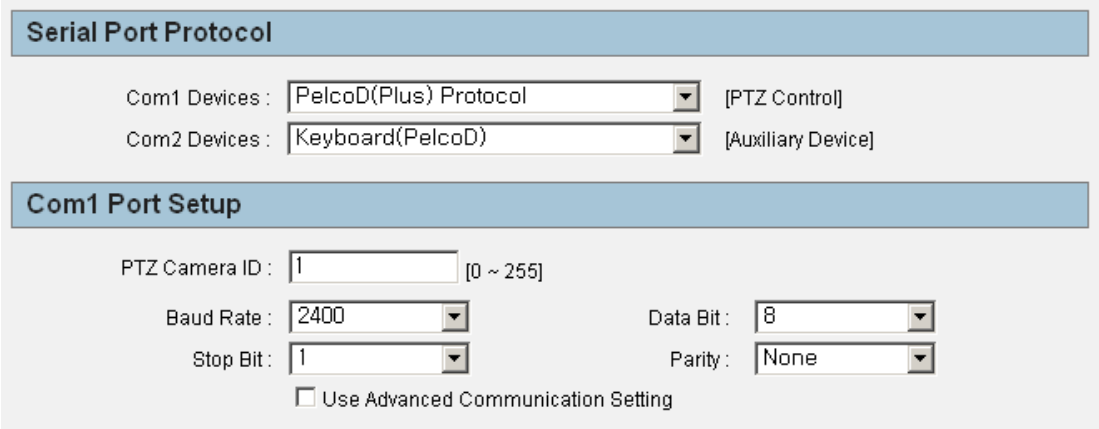


❑ Camera Name — For easy identify the cameras, you can freely assign a name to the device or camera connected to the IVS. This will change the camera name on OSD. (Maximum 15 characters available)

❑ OSD — Select OSD items displayed on the screen. This will effect only after refresh site or restart your internet explorer.

❑ Resolution	Select the resolution (or video size) of the viewer screen.
❑ Frame Rate	Maximum frame rate of video to limit the traffic occupied.
❑ Camera Flip	Flip the video orientation. (i.e. Turn the video upside down.)
❑ P/T Direction	Define the direction of Pan/Tilt motion.
❑ Video Compression	Choose the video compression method form Motion JPEG and MPEG-4 formats.
❑ Simplified Setting and Advanced Setting	In fact, these two has same concepts. However, the **Simplified Setting** is described in terms of simple and easy expressions to help nonprofessional users. If you are professional and want to set delicately, choose **Advanced Setting**.
❑ Encoding Video Mode	In **Quality Basis mode**, you can select video encoding and streaming in the viewpoint of video quality rather than bandwidth occupied. In this case, Bandwidth can be traded off to meet your video quality requirement under some network environments. (This mode is same as VBR mode in Advanced setting) In **Bandwidth Basis mode**, you can select video encoding and streaming in the viewpoint of Bandwidth rather than video quality displayed. In this case, quality can be traded off to meet your bandwidth requirement under some network environments. (This mode is same as CBR mode in Advanced setting)
❑ Quality	This setting is available only Quality Basis mode. The quality level can be selected from 5 grades **"A", "AA", "AAA", "AAAA", "AAAAA".** It is noted that if you select Advanced Setting mode, you can define more grades (1 ~ 31).
❑ Bit Rate	This setting is available only Bandwidth Basis mode. The bandwidth can be select one of 10 values between 30Kbps to 5100Kbps. It is noted that you can select from more than 170 steps in Advanced Setting.

Control Tool



❑ Com1 Devices — For PTZ devices only. Select the PTZ control protocol.

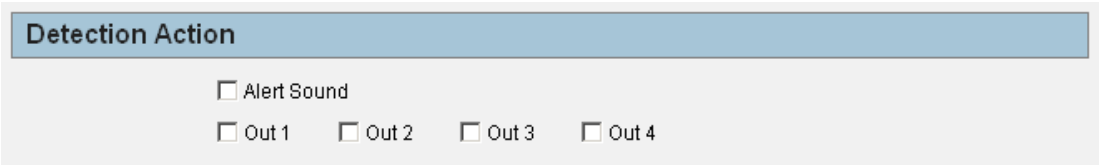
❑ Com2 Devices — For Digital I/O module and Keyboard. Select the module type.

❑ PTZ Camera ID — For PTZ Device Address Setup. 0 ~ 255 are available.

❑ Baudrate, Data Bit, Stop Bit, Parity Bit — This setup is only for the non-standard protocols. Sometimes, PTZ protocol of some manufacturers requires communication settings different from those of the standard. To meet these special settings, click the check box of "**Use Advanced Communication Setting"** bellow.

❑ Use Advanced Communication Setting — Used to adjust Baud Rate, Data Bit, Stop Bit, and Parity Bit of the selected protocol. Do not use if the select protocol is standard.

Motion Detection Tool

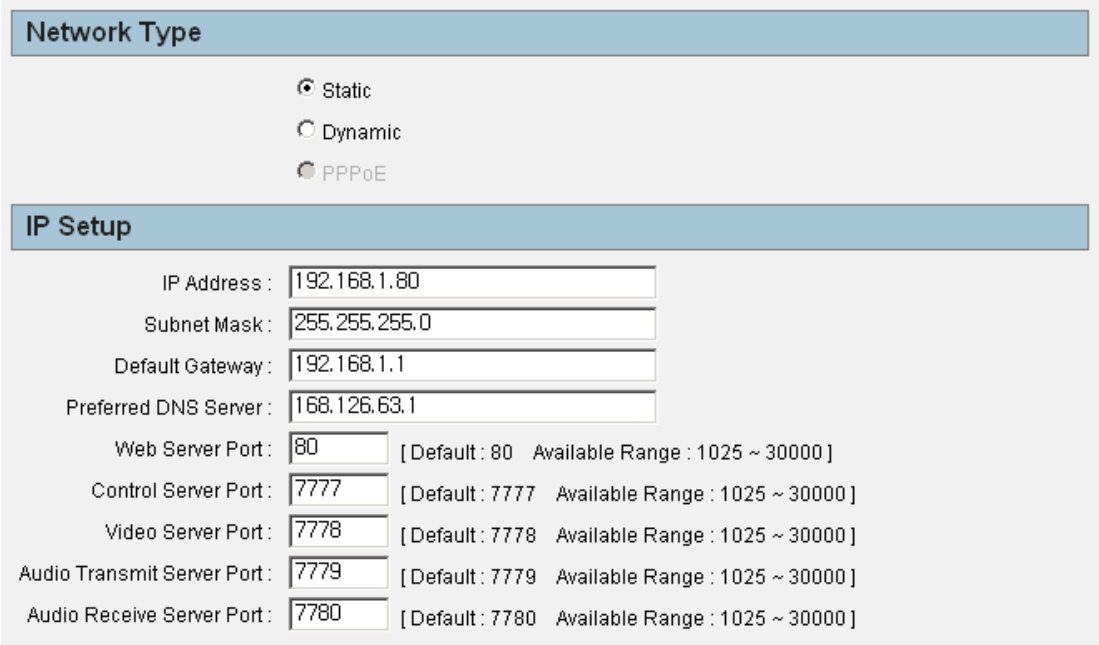


❑ Detection Action Set up the reaction of IVS when motion detected.

Alert Sound : Audio Out through the Audio out jack of IVS.

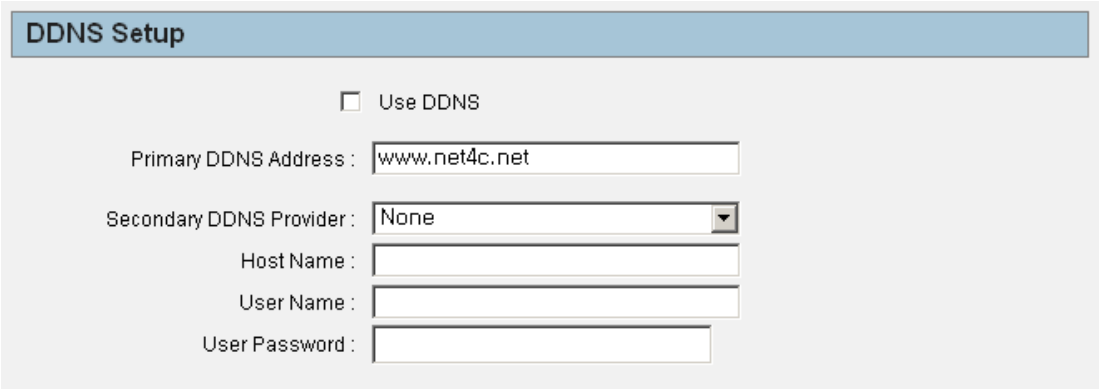
Out 1 ~ 4 : Select output relay numbers in the Sensor Alarm I/O module connected with IVS.

TCP/IP Tool



❑ Network Type	Select a Static or Dynamic address scheme that is used by the Internet Service Provider (not the addressing scheme used by a personal router).
❑ Internet Address	Input a value to assign an IP address to the IVS.
❑ Subnet Mask	Input a value to assign a subnet mask to the IVS.
❑ Default Gateway	Input the IP address of the default gateway.
❑ Primary DNS Server	Input the IP address of an ISP's DNS server.
❑ Web Server Port	Assign a TCP port number to assign a Web Interface port number to the IVS. This port is used for transmitting ActiveX program to web browser based viewer.
❑ Video Server Port	Assign a TCP port number to assign a Video Server port number to the IVS.
❑ Control Server Port	Assign a port number for control server. This port is used for camera control.
❑ Audio Transmit Server Port	Assign Audio data send server port number.
❑ Audio Receive Server Port	Assign Audio data receive server port number.

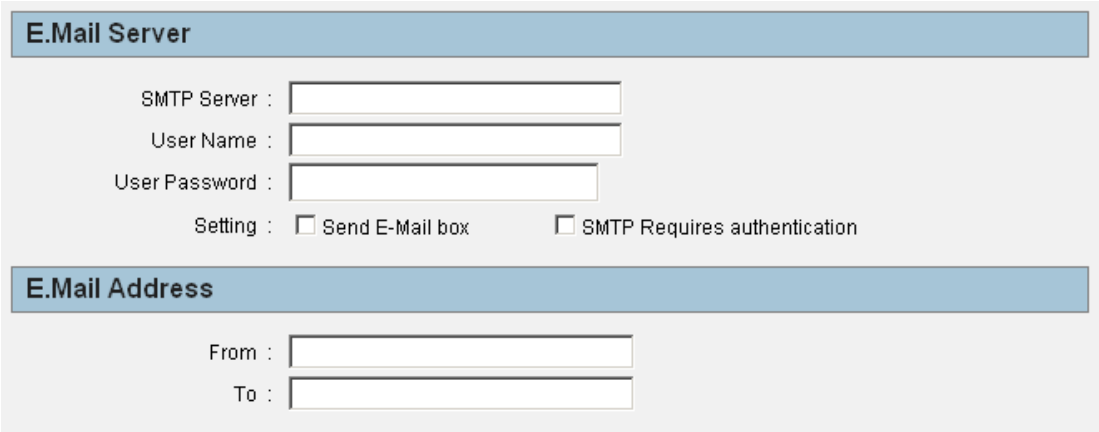
DDNS Tool



❑ Use DDNS	If you check this box, **DDNS** updating is enabled. (primary and secondary)
❑ Primary DDNS Address	Assign DDNS address. (default. **www.net4c.net**)
❑ Secondary DDNS Provider	Select DDNS Provider. Currently, **DtDNS** is available.
❑ Host Name	Type the host name registered in DDNS service (i.e. Host name in **DtDNS**)
❑ User Name	Type user name used for DDNS service (i.e. User Name(ID) registered in **DtDNS**)
❑ User Password	Type the password used for DDNS service (i.e. Password registered in **DtDNS**)

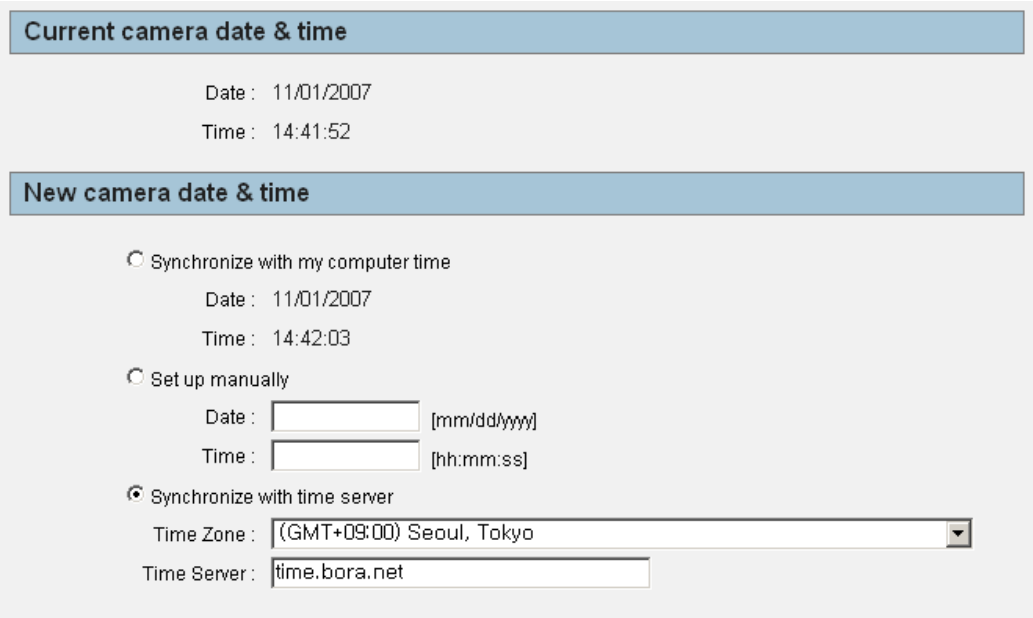
SMTP Tool

This function is used to email the specified email recipient and notify that individual of the IP address / web port number used to access the IVS. This email function is only activates on power-on reset time of IVS.



❑ SMTP Server	Enter an SMTP server to send email.
❑ User Name	Input user name used for SMTP authentification to access the mail server.
❑ User Password	Input the password used for SMTP authentification to access the mail server.
❑ Send E-Mail box	If this check box is set to on, email function is enabled.
❑ SMTP requires auth.	Check this box if the mail server requires SMTP authentification.
❑ From	Input the email address of sender. The email address should be admitted to the SMPT sever.
❑ To	Input the email address of receiver.

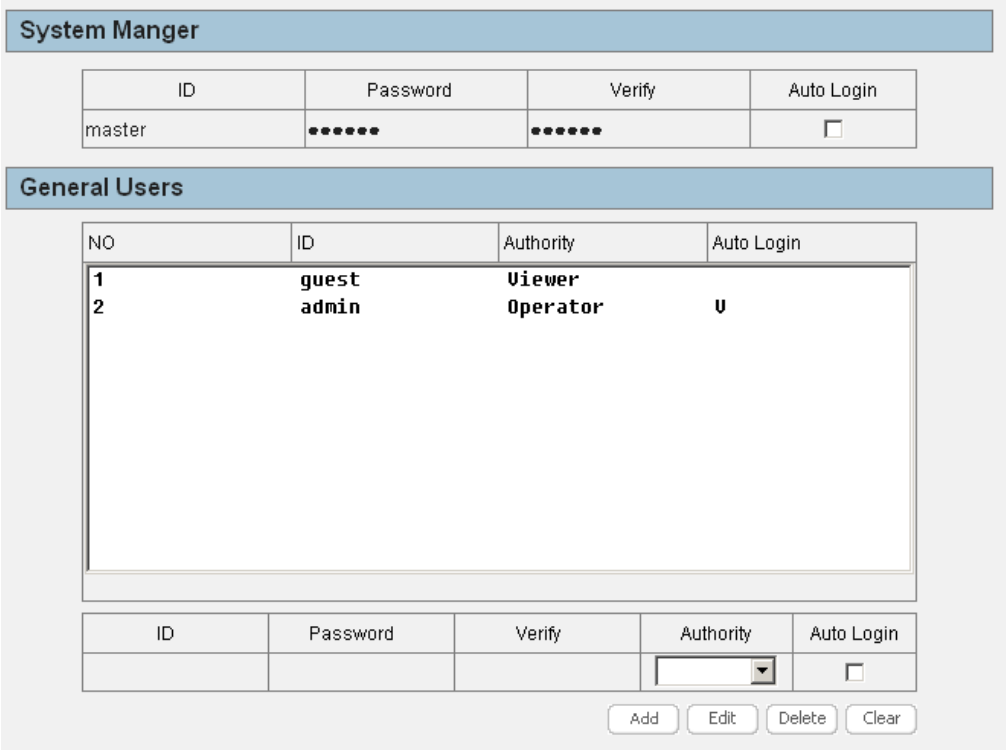
Date & Time Tool



❑ Current Date/Time It shows the current Date/Time setting of IVS.

❑ New Date/Time Select the method of Date/Time setting. Date/Time can be set by local computer or time server or manual.

Users Tool



❑ System Manager — Specify an ID and Password for the System Administrator of the IVS. The System Administrator will have all rights and privileges to manage the system.

ⓘ After changing Administrator's ID and Password, IVS should be booted to apply new ID and Password.

❑ General Manager — Give access privileges up to 40 separate user accounts.

ⓘ Only 40 users may be logged on simultaneously, regardless of what user identities are logged on.

❑ To add a user — Input an ID and Password, verify Password, select Authority, click ADD.

❑ To edit a user — Select the user from the list of users, make necessary changes, click EDIT.

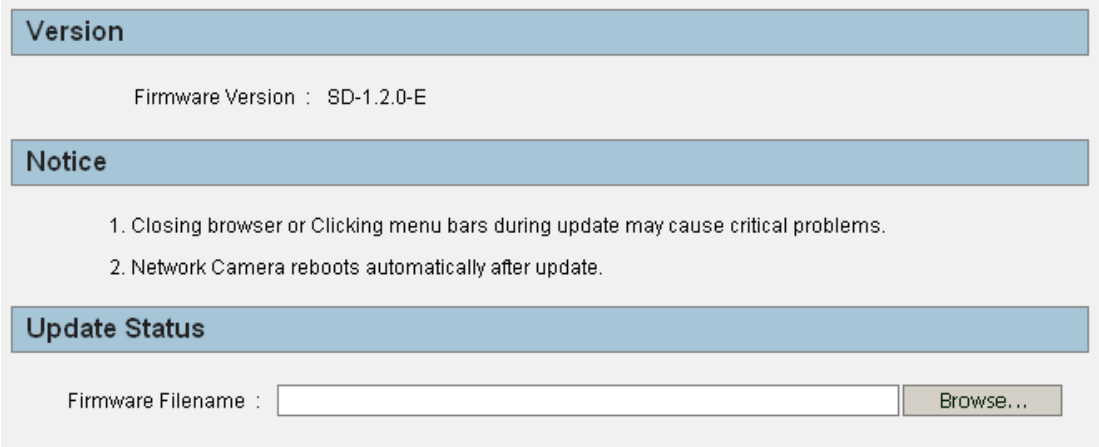
❑ To delete a user — Select the user from the list of users, click DELETE.

❑ Operator Authority — This privilege gives the user rights to operate the PTZ controls.

❑ Viewer Authority — This privilege gives the user rights to operate only the icons associated with digital 2× zoom, stretch, OSD, and video capture. These options only affect that current user. The changes made there will have no effect on the other users logged on.

❑ Auto Login — Only one user/administrator may have Auto Login enabled. When the video server is accessed, it will bypass the login screen and logon automatically.

Firmware Update Tool



❑ Version — Shows the current firmware version.

❑ How to upgrade — Click [Browse…] button and select the latest version of the firmware. Its file name should be ***.bin.

Click [Update Start] button. It will start upgrading its firmware. IVS will re-boot automatically as soon as it finish the upgrade process.

ⓘ **After upgrade, its system configuration should be set to factory default.**

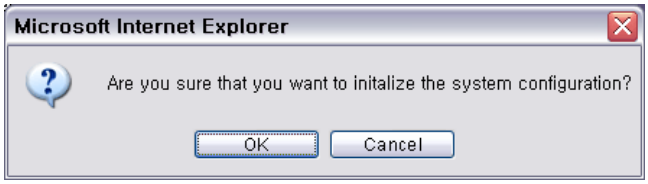
ⓘ **Connect IVS to a computer directly with a crossover Ethernet cable.**
Do not use internet to upgrade. There may be unexpected disconnection on internet during upgrade and it may cause fatal system damage.

ⓘ **Do not close browser or click menu during update. It may cause fatal system damage.**

Default Set Tool

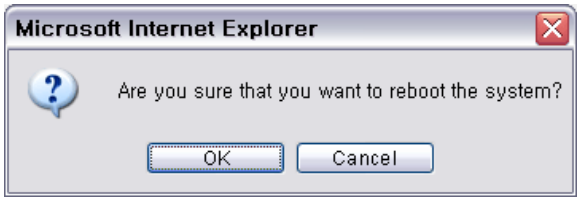
Reset its system configuration to the factory defaults.

Note) After initializing, all information should be deleted. Please re-consider before initializing.



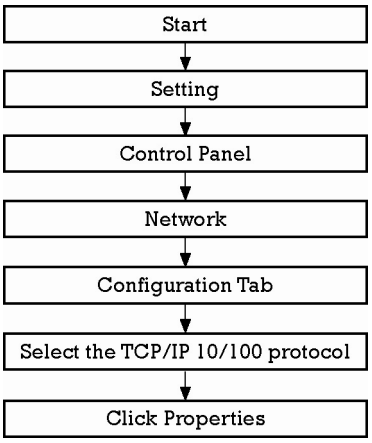
Rebooting Tool

Re-boots IVS.



A：Current TCP/IP Settings

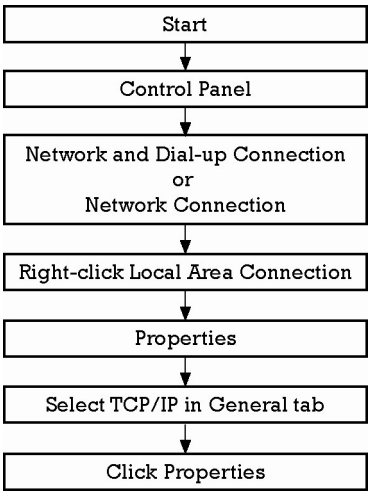
❑ For Windows 98 / ME Users



- Note the settings under the IP Address, DNS Configuration, and Gateway tabs

ⓘ If your IP settings are obtained automatically, you could use the MS-DOS prompt (or Command Prompt) to determine your IP address. For information on how to do this, please read the FAQ.

❑ For Windows 2000 or Windows XP

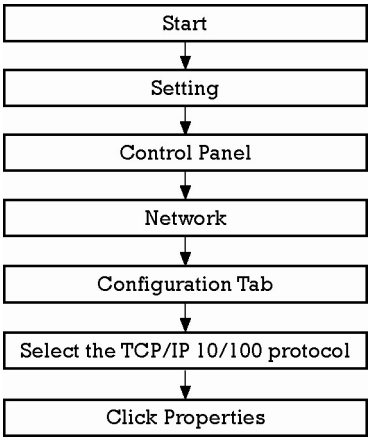


- Under the “General” tab of the TCP/IP Properties you will see your IP address information.

ⓘ If your IP settings are obtained automatically, you could use the MS-DOS prompt (or Command Prompt) to determine your IP address. For information on how to do this, please read the FAQ.

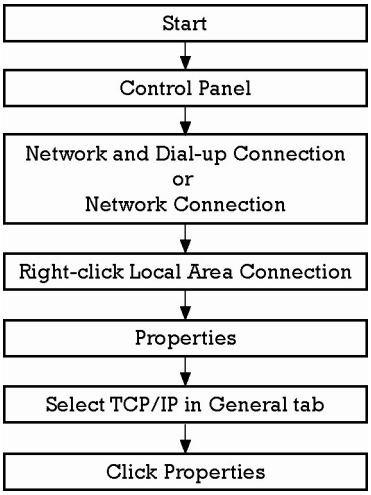
B : Changing your computer's IP address and subnet mask

❑ For Windows 98 / ME Users



- Select 'Use the following IP address' and change the IP address and Subnet Mask.

❑ For Windows 2000 or Windows XP



- Select 'Use the following IP address'

C : Port Forwarding

After assigning the IVS a web server port and video server port you must use Port Forwarding (for cases A, B)

Please consult your router's user guide on how to correctly configure Port Forwarding.

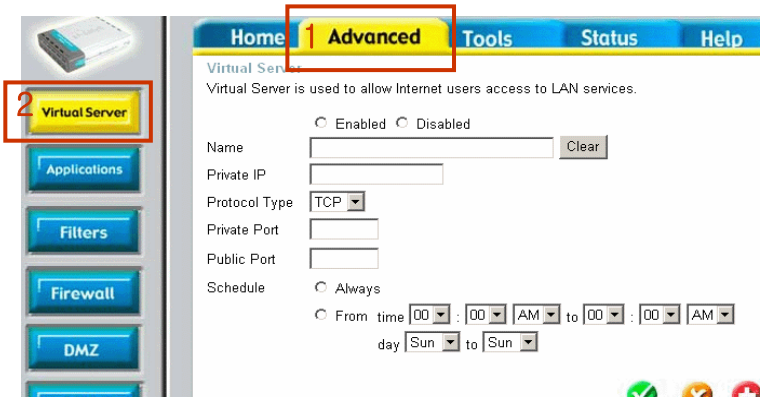
For your convenience, we have provided two example configurations.

❑ For D-Link DI-604 broadband routers:

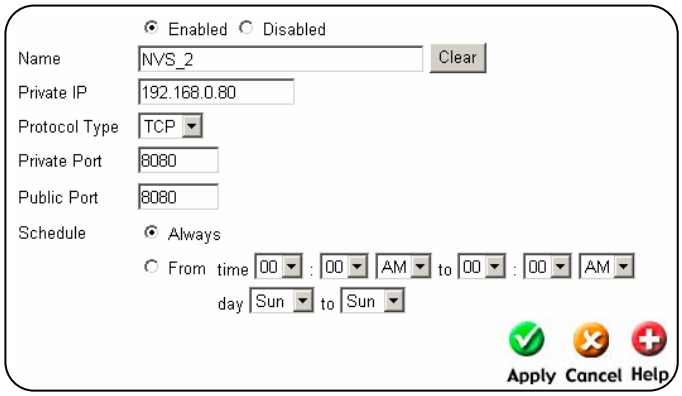
① Open a web browser and type http://192.168.0.1 into your Address bar. (the default IP address to access the router)

② You will have to supply your User Name and Password to log onto the router. Default from factory. (User Name: admin Password: [leave blank])

③ Select the advance tab and click "Virtual Server" menu.



④ Click "Apply" button after inputting proper values. The example is as below



• Enabled / Disabled	Select “Enabled”.
• Name	Input IVS name.
• Private IP	Input IVS address.
• Protocol Type	Select “TCP”.
• Private Port / Public Port	Input IVS Web Server Port.
• Schedule	Select “Always”

⑤ If 'Setting Saved' shows, click [Continue] button.

⑥ With the same method as above, add Video Server Port and 2 Audio Ports.

⑦ The Web Server Port, Video Server Port and 2 Audio Ports shows in "Virtual Server List" as below.

Virtual Servers List

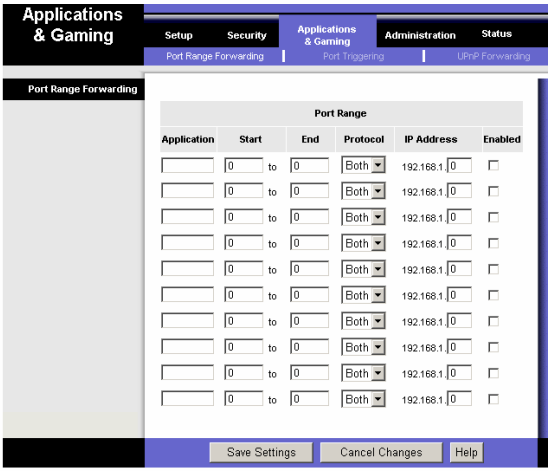
Name	Private IP	Protocol	Schedule
NVS_2	192.168.0.80	TCP 8080/8080	always
NVS_2	192.168.0.80	TCP 7777/7777	always
NVS_2	192.168.0.80	TCP 7778/7778	always
NVS_2	192.168.0.80	TCP 7779/7779	always
NVS_2	192.168.0.80	TCP 7780/7780	always

❑ For Linksys BEFSR41 Cable/DSL routers:

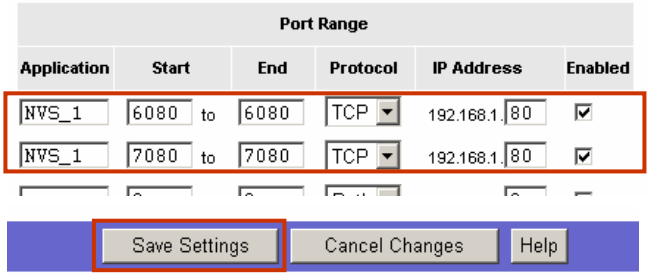
① Open a web browser and type http://192.168.1.1 into your Address bar (the default IP address to access the router)

② You will have to supply your User Name and Password to log onto the router. Default from factory (User Name:[leave blank] Password: admin)

③ Select Applications & Gaming from the menu bar.



④ Input port numbers in "Port Range" as below and click [Save Setting] button. Both of Web Server Port and Video Server Port should be added. The example is as below.



- Application — Input IVS name.
- Start / End — Input IVS Web Server Port and Video Server Port. Start should be same as End. Both of Web Server Port and Video Server Port should be added.
- Protocol — Select “TCP” in Protocol option.
- IP Address — Input IVS IP Address.
- Enabled — Check the square.

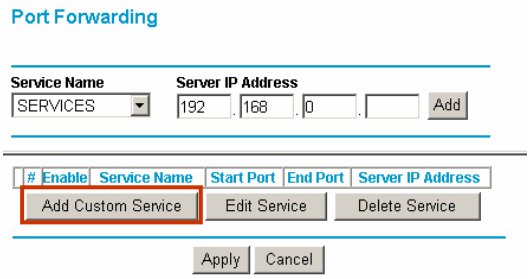
❑ For Netgear RP614 routers

① Input http://192.168.0.1 in address bar of web browser. http://192.168.0.1 is the default IP address.

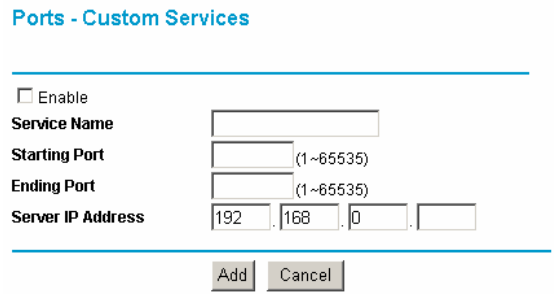
② If it asks ID and password, input admin as ID and password as password.

③ Click “Port Forwarding” in "Advanced".

④ Click "Add Custom Service" button in Port Forwarding page.



⑤ Input proper values in "Ports - Custom Services" page as below.



- Enable — Check it.
- Service Name — Input IVS name.
- Starting/Ending Port — Input IVS Web Server port. Starting Port should be same as Ending Port.
- Server IP Address — Input IVS IP Address.

⑥ Click "Add" button.

⑦ With the same method as above, add Video Server Port.

⑧ Click "Apply" button to finish Port Forwarding.

❑ I can't connect!!

In the case of a connection failure.

Modem Reboot > Modem Reboot Finished > Router Reboot > Router Reboot Finished > IVS Reboot > IVS Reboot Finish > Verify DDNS and IVS connection, if applicable.

❑ How do I choose a unique IP address that matches my network?

For your home or small office, ensure that all devices on your network are running. PING an IP address that you plan to assign to the IVS. If you receive a "Request timed out", then you may use that IP address. To ensure the IP address that you will assign the IVS matches your network, review your "Current TCP/IP Settings" that you had recorded earlier. See some examples below:

- If your "IP Address" entry in "Current TCP/IP Settings" was 192.168.0.y, and your "Subnet Mask" was 255.255.255.0 then use 192.168.0.x for your IVS's IP Address ("x" meaning any number between 2-254 that you wish, as long as it passes the "PING" test).
- If your "IP Address" entry is not a 192.168.z.y address with a "Subnet Mask" of 255.255.255.0 then please contact our Support Center.
- If your "IP Address" entry is not a 192.168.z.y address, please contact our Support Center.

❑ How do I open an MS-DOS or Command Prompt?

- Windows 98 / ME Users : Start → Programs → Accessories → MS-DOS prompt
- Windows 2000 / XP Users : Start → (All) Programs → Accessories → Command Prompt

❑ How do I "PING" an IP address?

① Open an MS-DOS (or Command) prompt

② At the prompt type - "ping xxx.xxx.xxx.xxx" (without the quotes and replace the "x"s with an IP address)

③ Press Enter

❑ How do I enable or check ActiveX on my browser

Open Internet Explorer → Tools on the menu bar → Internet Options → Security Tab → Custom Level → Scroll down and verify that you are prompted or have enabled ActiveX controls and plug-ins to be downloaded and executed. → click OK → restart browser

❑ How do I find out my IP address information if my settings were automatically detected?

- Windows 98 / ME Users

  ① Open an MS-DOS Prompt

  ② At the prompt type: "winipcfg" (without the quotation marks)

  ③ Use the drop down list to select your 10/100 Ethernet Adapter (not a PPP adapter)

  ④ Now you will see your IP Address, Subnet Mask, and Default Gateway information

  ⑤ For DNS information contact your Internet Service Provider

- Windows 2000 / XP Users

  ① Open a Command Prompt

  ② At the prompt type - "ipconfig /all" (without the quotes)

  ③ Near the end of the information supplied, should be your current IP address, subnet mask, default gateway and DNS servers

❑ How do I choose a private IP address:

Assign your IVS a private IP address that matches your current network. Below lists the ranges for private addresses:

- Private Class A address space : 192.168.0.0 - 192.168.255.255
- Private Class B address space : 172.16.0.0 - 172.31.255.255
- Private Class C address space : 10.0.0.0 - 10.255.255.255

❑ My POWER light is not on?

Power is not being supplied to the unit. Please use the power supply shipped with the unit and verify that a power source is active from the attached power outlet used to connect the adapter. You can test this by plugging in any other electrical device and verify its operation. After using the power supply shipped with the product, checking the power source, and reinserting the power connector into the IVS, please call our Support Center. The power supply may be defective.

❑ My ACTIVE light is not flashing?

Verify the power supply to the unit. Power off the unit and back on again, wait 1 minute, if the ACTIVE light still does not begin to flash, you will have to set the unit to its factory default (THIS WILL DELETE ANY CONFIGURATION AND SET THE UNIT TO THE FACTORY DEFAULTS). Power on the unit and insert the end of a paper clip into the small recessed opening on the back of the unit. Use the clip to press the button located within that opening.

❑ My LINK light is not flashing or solid?

Verify the cable connection. 99% of the time the cable's connection to the unit is causing this problem. Try using a different network cable or crossover cable (for PC connection only). Try reinserting the cable, if this still doesn't solve the problem call our Support Center.

❑ I want to prevent users from viewing my camera.

① Go into Administration Tools of the IVS.

② Click on Users

③ Delete the user or all users by deleting the ID and password associated with that user.

❑ Can I record the video?

Yes you can record, but you will need to purchase a separate software program to allow PC-based recording. This software is available by contacting your distributor or our Customer Service Center. The software named "I-PRO" will connect up to 16 separate 1-channel video servers for remote viewing, remote controlling, and remote recording without the loss of quality or size (up to 640×480 resolution).

❑ I can access the video server on my LAN, but not from the Internet.

Verify that your router (if applicable) has port forwarding properly configured. If accessing from our DDNS service, verify correct serial number. Firewall issues may prevent user access.

❑ How do I reset the unit to factory defaults?

On the underside of the unit you will find a recessed opening located near the top-left side of the label. Power ON the unit and use a paper clip to push the reset button within that opening. You should then see the ACTIVE light turn off and after a few seconds the ACTIVE light will begin to flash, signifying a successful reboot. If the ACTIVE light does not turn off after depressing the reset button, please try holding the button in for a few seconds and releasing. YOU WILL LOSE ALL DATA THAT HAD BEEN ENTERED PREVIOUSLY AND THE IVS WILL BE SET TO ITS FACTORY RESETS.

❑ Can I use the IP Video Server on my dial-up Internet connection?

No, we recommend a high-speed broadband connection of at least 128Kb/sec.

❑ I'm accessing my video server remotely over the Internet and the video stream is choppy, is this normal?

Yes. The frames per second received remotely are determined by your bandwidth capabilities both at your site where the IVS is installed and your remote location. The lower of the two sites will determine how fast your video stream is received. It is recommended to have at least a 256Kb/sec upstream connection from the site where the IVS is installed. Lower speeds will operate properly, but provide poor remote performance. The Faster the Internet connection at both ends, the faster the video stream.

❑ Can I view multiple cameras at once?

Currently the IVS supports 1 channel of video input. Typically, one camera per IP Video Server.

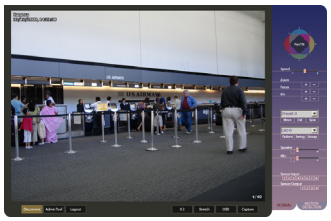
You can view multiple cameras only if the IVS is connected to another device supporting multiple cameras (DVR, multiplexer, etc.) or if you purchase the I-PRO software which will connect up to 16 separate IVS, each connected to their own camera or device.

Specifications

Model		IP Video Server
Hardware	CPU	32Bit RISC Processor
	OS	Embedded Linux
Viewer		Web Browser based Monitoring
Network	Protocol	TCP/IP
	Interface	10/100 base-T Ethernet (RJ-45)
Compression	Algorithm	MPEG-4
	Rate	NTSC : 720 x 480 @ 30 Hz PAL : 720 x 576 @ 25 Hz
Video	Input	1CH. NTSC/PAL
	Output	1CH. NTSC/PAL
	Size	720 x 480, 352 x 240
	Frame Rate	30 frame/sec (720 x 480)
Audio	Input / Output	Bidirectional
	Compression	ADPCM
Pan/Tilt Control	Communication	RS-485
	Protocol	Pelco-D etc.
Sensor I/O (option)	Communication	RS-485
	I/O	8 Inputs / 4 Outputs
Power		DC12V / 600mA
Operating Temperature		0°C ~ 40°C
Dimension		110(W) × 110(H) × 27(L) mm including bracket
Weight		Approx. 150g

* Specification & design are subject to change without notice

• Web Browser Viewer



• I-PRO Multi-Viewer