IP NETWORK
1CH VIDEO SERVER

User's Manual

iDS-3301S

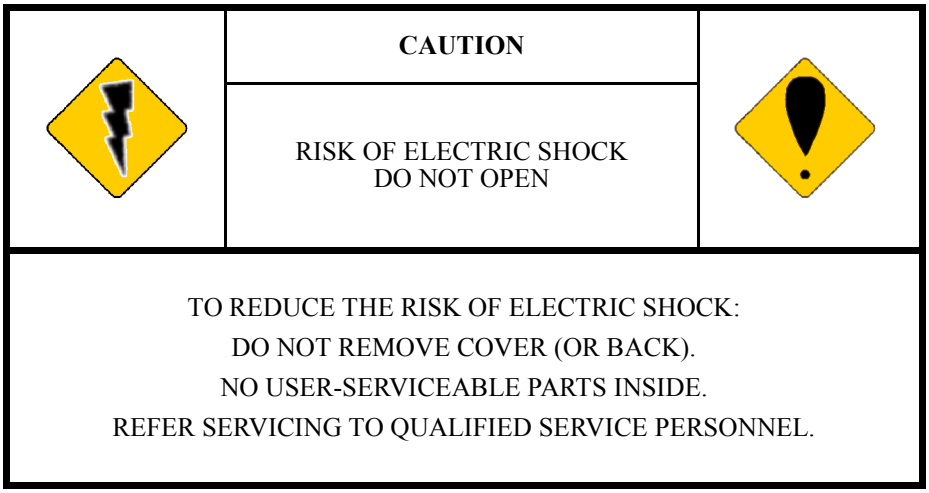
VERSION 1.0 ENGLISH

Safety Warning

To reduce the risk of fire or electric shock, do not expose this product to rain or moisture.

Do not insert any metallic object through ventilation grills.

Caution



General Notice

Product specifications are subject to change without prior notice.

Table of Content

I. Package Content

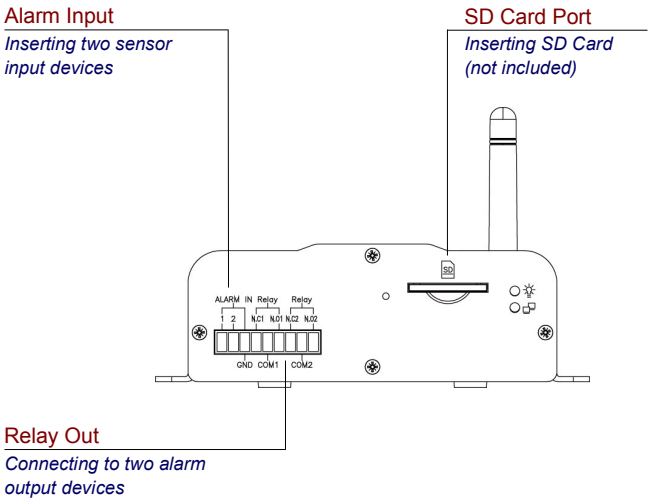
Following items can be found in each original product package:

- IP Server Main Unit
- Power Adaptor
- Network Cross-Over Cable
- Wireless Receiver (selected models only)
- Quick Guide
- Software CD

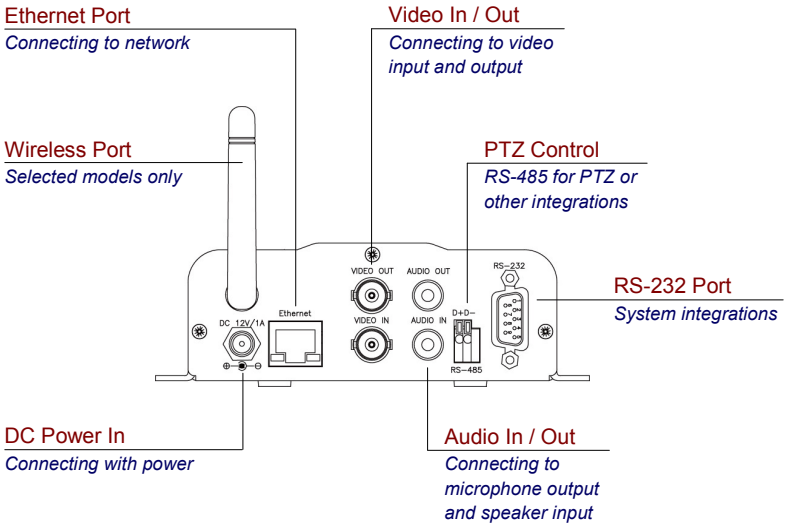
NB. SD Card disc is not included.

II. Panel View & Function

FRONT VIEW



REAR VIEW



III. Specification

VIDEO

Video Standard	H.264 & JPEG, dual streaming support
Group of Picture (GOP)	I / IP, selectable 3 levels multiplier
Data Rate	Streaming 1: 32 kbps ~ 4 Mbps CBR, 1 ~ 10 levels VBR Streaming 2: 32 kbps ~ 3 Mbps CBR, 1 ~ 10 levels VBR
Video Quality	5 lv (best, high, standard, low, lowest)
Resolution & Frame Rate	NTSC / PAL
D1	720x480 / 720x576 30/25 fps
4CIF	704x480 / 704x576 30/25 fps
CIF	352x240 / 352x288 30/25 fps
QCIF	176x120 / 176x144 30/25 fps
Video In	Composite: 1 x BNC
Video In Loop Through	Composite: 1 x BNC
Full Screen	Yes
Imaging Contour	Brightness, contrast, hue, saturation
Zooming	Digital 4X

AUDIO

Compression Format	ADPCM, bi-directional audio streaming
Audio Line Input / Output	1 / 1 RCA jack

CPU MODULE

CPU	ARM 9, 32-bit RISC
DDR2/ ROM	128MB / 8MB

ALARM

Alarm In / Out / Relay	2 x In, 2 x Relay (N.O. interval selectable), terminal block
Video Analytics	Video Motion Detection (VMD), 3 zones, 10 sensitivity lv
Triggering Reaction	Relay out, E-Mail, FTP, SD archiving
Pre / Post Event	5 / 10 sec recording
PTZ Control	RS-485, terminal block
Integration	RS-232, D-sub 9-pin

NETWORK

Protocols	3GPP, DDNS, DHCP, FTP, HTTP, NTP, PPPoE, RTSP, SMTP, TCP/IP, UDP, UPnP
Ethernet	10/100 Base-T, auto sensing, RJ-45
Wireless	IEEE 802.11b/g compliant (embedded, optional)
PoE	IEEE 802.3af compliant (embedded)
User Group	3 levels, maximum 20 users, 10 users simultaneously
Encryption	WEP 64 / 128-bit, WPA, PSK

LOCAL RECORDING

SD Card Storage *	VMD, Network IP check, network disconnection recording (wired model only)
Format	AVI (H.264/ JPEG), JPEG
Control	Playback, File management

REMOTE RECORDING

Mobile Surveillance	3G (M-PEG4)/ 3G Symbian / iPhone/ Blackberry
Web Surveillance	Web browser, manual, VMD, AVI, snapshot, playback
Professional Surveillance	iNVR Basic 36 surveillance system (iNVR Pro 36 optional)

GENERAL

Unit Configuration	Via web browser (reboot, factory default, date/time synchronization, OSD overlay)
Profile Management	Configuration values export & import
Firmware	HTTP mode, remote update
Authentication	ID, Password
Log Listing	System, VMD, Alarm
Certification	CE, FCC

MECHANICAL

Dimension (HxWxD)	134.0 x 42.0 x 107.0 mm
Weight	400 g

ELECTRICAL

Input Voltage	DC 12V, front LED indicator
Power Consumption	Wired: 350mA, 4.2W; Wireless: 450mA, 4.5W

BROWSING REQUIREMENT

OS	Microsoft Windows 2000 / XP / 2003 / Vista / Windows7
CPU	Intel Celeron 1.66 GHz, 1024 MB RAM
Graphic	128 MB
Web Browser	Microsoft Internet Explorer 6.0 or above

ENVIRONMENTAL

Operating	0˚C ~ 45˚C
Storage	-30˚C ~ 60˚C
Humidity	0 ~ 80% RH non-condensing

IV. Installation

This chapter contains following four main sections:

A. Display

B. Hardware

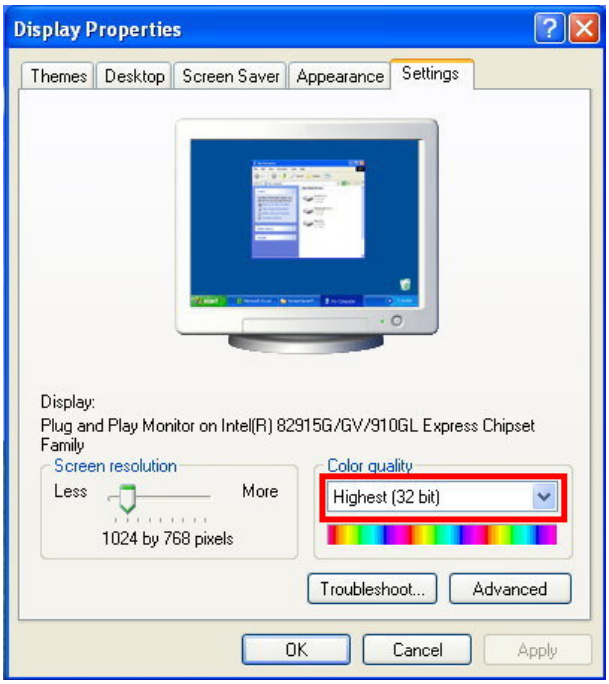
C. IP Manager

D. ActiveX Control

A. Display

a. On desktop, right-click mouse, then select [Properties].

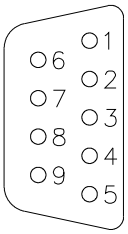
b. Go to [Settings], on [Color Quality], change color quality of display to 32 bit.



B. Hardware

a. Connect IP Server directly to PC or network with Ethernet cable provided.

b. Connect third-party alarm input and relay output devices to I/O terminal blocks located on front panel. Connect third-party PTZ to RS-485 port located on rear panel. Connect RS-232-based, third-party devices to RS-232 port located on rear panel for system integrations. Function of each RS-232 pin is described in the followings:



1.12V	4.X	7.OUTPUT2
2.ALARM1	5.GND	8.OUTPUT3
3.ALARM2	6.OUTPUT1	9.OUTPUT4

For locations of I/O, RS-485, and RS-232 ports, please refer to diagram drawn in <**Panel View & Function**>.

c. Provide electricity to IP Server with power adaptor provided.

C. IP Manager

IP Manager is a smart and convenient application aimed at assisting individual users for assigning IP addresses for IP Server in just a few mouse clicks. It is available in Software CD provided in the package.

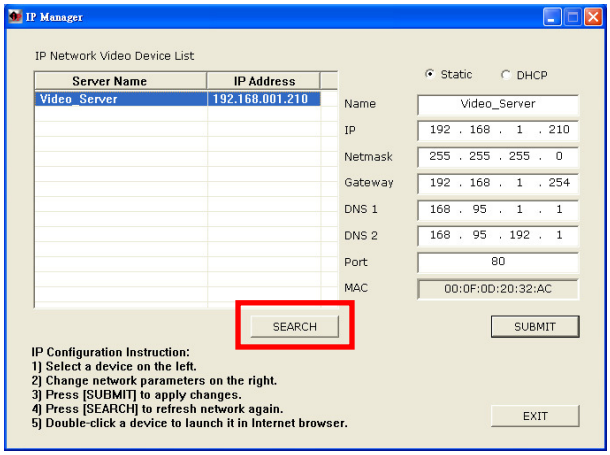
IP Manager can configure three types of IP instantly:

- Fixed IP (public IP or virtual IP)
- DHCP (dynamic IP)
- Dial-up (PPPoE)

a. Double-click IP Manager icon in order to execute.

b. Unblock Windows Firewall alert if you are using Windows XP SP2 or above.

c. IP Manager Graphic User Interface.



IP Manager will search all IP Servers connected to the current network. Or users can click [SEARCH] to refresh the network again.

Default IP is **192.168.1.210**.

d. Modify IP parameters.

Click one of the IP Servers listed on the left menu. The network parameters of this particular IP Server will be shown on the right menu. Users may change *Name* of IP Sever with personal attachment (e.g., office, warehouse, etc).

After changing all required parameters, click [SUBMIT] to apply the changes.

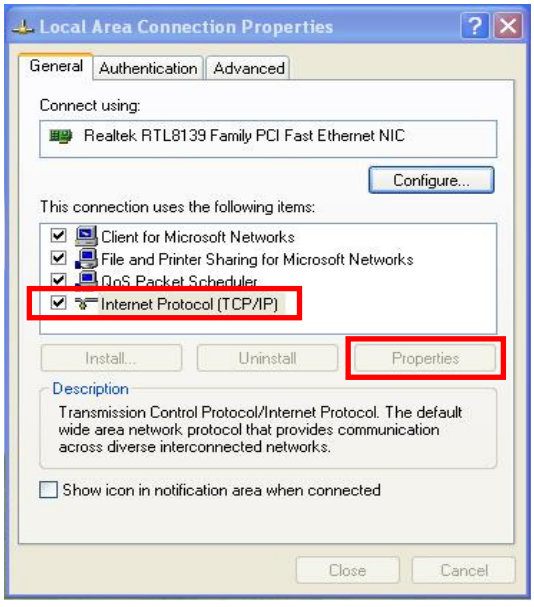
Finally click [OK] in order to re-boot the device.

e. Subnet.

It is extremely important that both PC and IP Server must locate within the **SAME SUBNET**. An example is provided in the followings:

If both have the SAME subnet:
IP SEVER: 192.168.1.210
PC: 192.168.1.100

If both DO NOT have the same subnet:
IP SERVER: 192.168.2.210
PC: 192.168.1.100



If your PC and IP Server *DO NOT* locate within the same subnet, please follow steps described below accordingly:

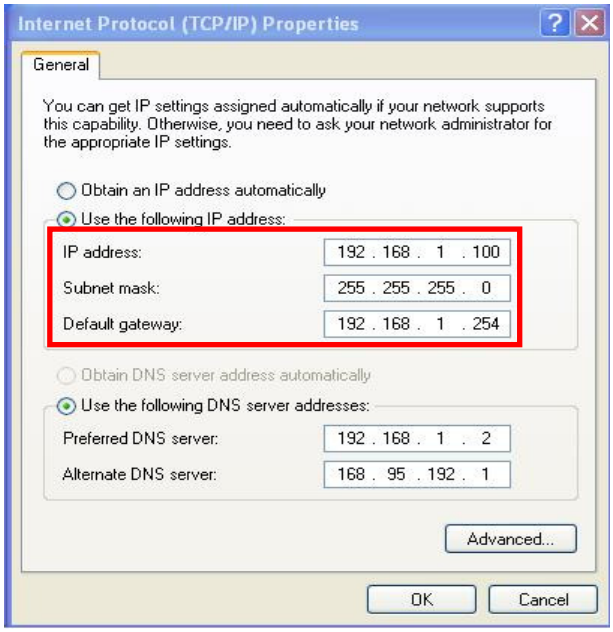
1. Locate Windows OS setting window for TCP/IP:

[Control Panel] > [Network Connections] >
[Local Area Connection] > [Properties] >
[Internet Protocol (TCP/IP)]

Double-click on [Internet Protocol (TCP/IP)] or click on [Properties] in order to change settings.

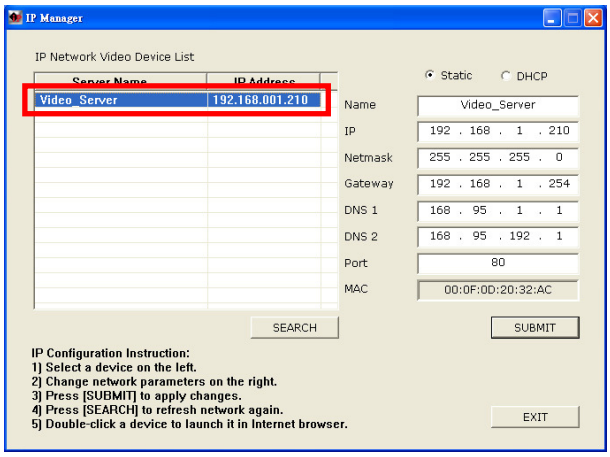
2. Modify *Subnet Mask* values.

Make sure both IP Server and PC have identical values.

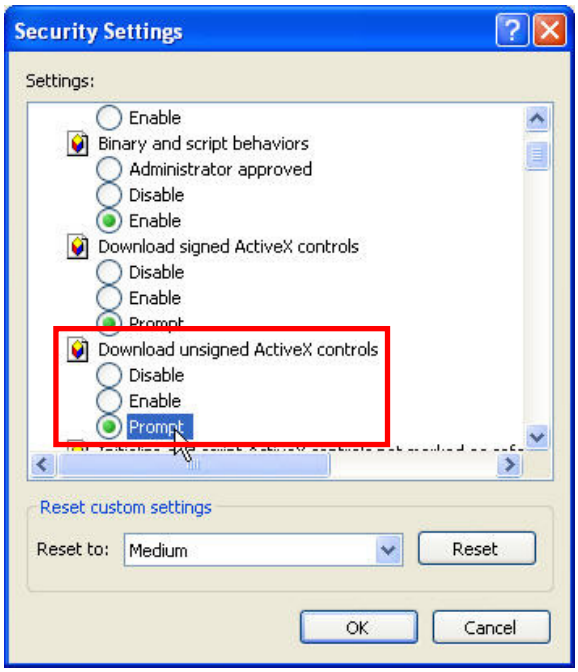


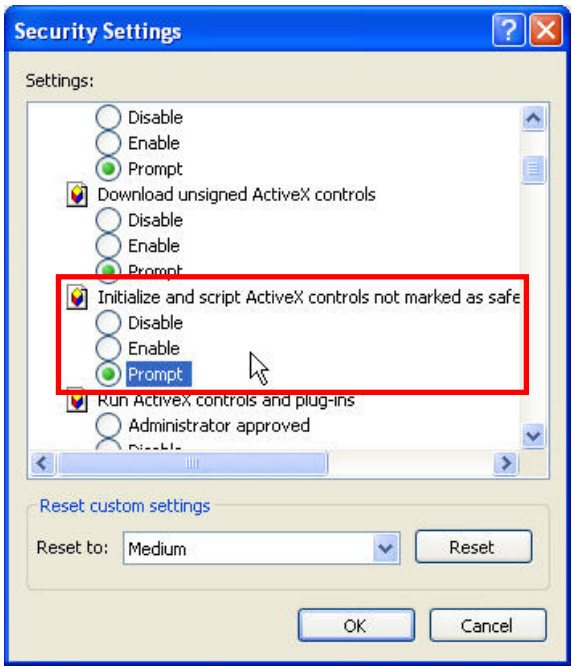
f. Launch IP Server.

The easiest way to access IP Server remotely is by double-clicking on a selected IP Server listed on [IP Network Device List] on IP Manager. After that, IP Server will be launched in a standard Internet browser such as Microsoft Internet Explorer.

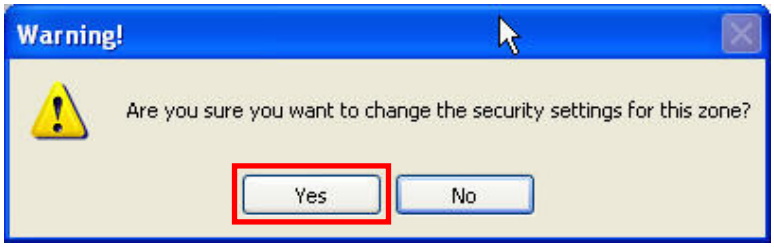


Or alternatively, you may open an Internet browser and enter IP address of IP Server in the [Address Bar] directly.





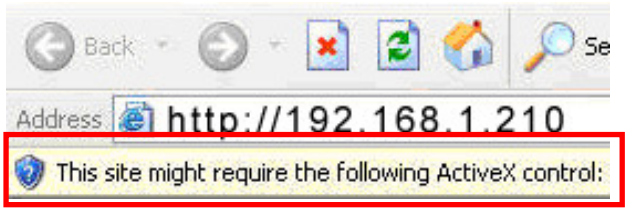
Finally you will be prompt for following dialogue window, asking you to confirm security changes made to Internet browser. Click [Yes] to continue.



D. ActiveX Control

a. Accept ActiveX Control to be installed.

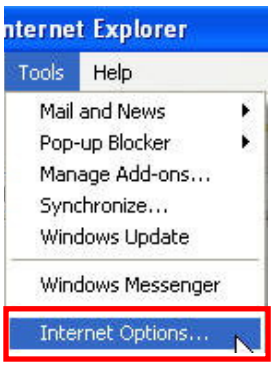
For first access of IP Server in this particular PC, Internet browser will request you the permission to install an ActiveX Control provided by IP Server.

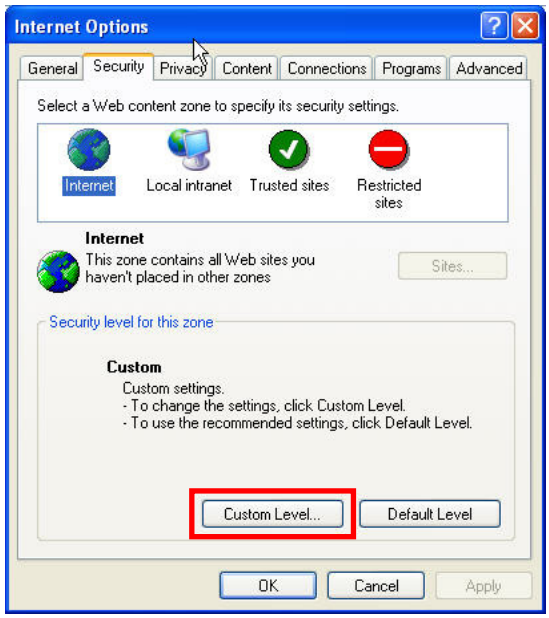


b. Security Level of Internet Browser.

If installation has been failed, please verify *Security Setting* of Internet browser. Following is an example for Microsoft Internet Explorer:

Internet Explorer > [Tools] > [Internet Options] > [Security] > [Custom Level…] > [Security Settings].





Locate the following options and select [Enable] or [Prompt] for both of them:

- *Download unsigned ActiveX control*
- *Initialize and script ActiveX controls not marked as safe*

See examples shown on the following page:

V. IP Viewer

IP Viewer is a web-based surveillance platform designed for remote surveillance purposes such as real-time display, playback, and management. It has already been embedded inside of each IP Server, user is not required to install any additional software in order to operate it.

This chapter contains four sections and will describe initialization and basic operations of IP Viewer:

A. Login ID & Password

B. Graphic User Interface

C. On-Screen Operations

D. Pan/Tilt/Zoom Control

A. Login ID and Password

After successful configurations of IP parameters and installation of ActiveX Control, launch IP Server in an Internet browser again, user will be bringing into IP Viewer for user-identity authentication.

To log-in, enter factory-default *User Name* and *Password* carefully:

Default *User Name* is **admin**
Default *Password* is **admin**

Note that, both User Name and Password are ***case sensitive***.

Remember my password. For extra security, Do NOT click especially if you are using a public PC.

B. Graphic User Interface

Now you shall see IP Viewer main graphic user interface (GUI) as shown below. Primary functions of IP Viewer is to display real-time video streaming and provide complete system configurations of IP Server remotely.

1	Real-time display
2	Snapshot an evidence
3	Recording
4	Digital zoom
5	Playback SD archives
6	System configuration
7	Status bar
8	Pan/Tilt/Zoom control
9	Dual streaming channel
10	Bi-directional audio communication
11	Online visitor
12	Alarm relay output 1 & 2

1. ***Real-Time Display*** panel shows live streaming of video information remotely.
2. ***Snapshot an Evidence*** of important event in still JPEG format.
3. ***Recording*** as AVI files continuously. For details, see next section.
4. ***Digital Zoom*** for bringing up an area of interest closely. For details, see next section.
5. ***Playback SD Archives*** of important events captured and stored in local SD Card medium.
6. ***System Configuration*** for user accounts, system, network, video, audio, events, etc.
7. ***Status Bar*** shows system time, video resolution, and current video frame rate.
8. ***Pan/Tilt/Zoom Control*** enables maneuvering of such functions. See ***P/T/Z Control*** section.
9. ***Dual Streaming Channel*** enables secondary viewing device (such as mobile or PDA phones) to receive real-time streaming at lower-yet-appropriate frame rate per second. This feature is available only if ***Streaming 2*** is being enabled in ***Video*** setting.
10. ***Bi-directional Audio Communication*** enables full-duplex voice communication between local and remote surveillance sites. To speak, click on [Communication] box. To listen, enable ***Incoming Audio*** in ***Audio*** setting.
11. ***Online Visitor*** shows number of users are currently accessing this IP Server.
12. ***Alarm Relay Output*** enables manual activation of alarm relay-out devices.

C. On-Screen Operations

There are five more features available on the main GUI.

Right-click mouse on the real-time video, then a pop-up menu will show up as follows:

Snapshot. This is identical to ***Snapshot an Evidence*** function described above.

Record Start. This is identical to ***Recording*** button shown on the main GUI. *Continuous manual recording* (round-the-clock, RTC) of both audio (if enabled) and video streams in standard AVI format in the PC. You will be prompt for the location where is used to save file in the PC.

To avoid single AVI file being oversized that cannot be opened by PC, IP Server will save continues recording in next, new AVI file every 15 minutes automatically.

To stop recording, right-click mouse again, then select [Record Stop].

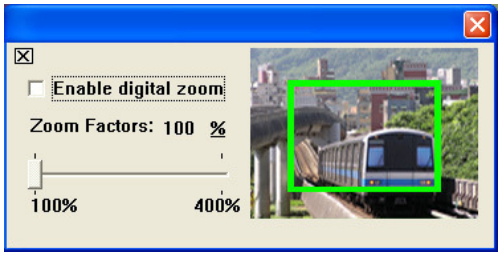
You may ***playback*** recorded AVI files via a standard *Microsoft Media Player* on any third-party PC without having required to install third-party video codec in advance.

Mute. Turn off the audio. Click again to turn it on.

Full Screen. Simply double-click on the real-time video, it will be enlarged into *full-screen mode*. Press [Esc] on keyboard or double-click the real-time video again, it will be returned back to *normal mode*.

Or select [Full Screen] on the pop-up menu in order to operate.

Zoom. IP Server provides 4X digital zooming. This is identical to ***Digital Zoom*** button shown on the main GUI.



Click on [Enable digital zoom] in order to activate this function. Drag on [Percentage Bar] in order to select appropriate zooming size (1~4X). Drag the [Green Block] in order to zoom-up a particular area of interest on real-time display.

D. Pan/Tilt/Zoom Control

Real-time Pan/Tilt/Zoom control interface is available on the main GUI of IP Viewer.

First, on [Model], select a third-party PTZ protocol best describe your third-party PTZ connected via RS-485 port. **Available functions will vary by brands and models defined by their respective manufacturers.** Then, setup [Camera ID] and [Baud Rate] for connection.

To operate, click on ***applicable*** control icons for your third-party PTZ shown on the interface:

1. ***Navigation Cursor*** for manual control of PTZ directions. To operate, select one of the directions. To return to factory default position, click on home button.

2. ***Auto Pan*** allows automatic movement of PTZ horizontally.

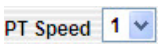
3. ***Auto Patrol*** allows automatic guarding of ***preset patrol points*** in a sequence.

4. ***Optical Zoom*** allows zooming in or out of zoom lens module.

5. ***Focus Control*** allows better focus of targeting object.

6. ***Auto Focus*** allows automatic adjustment of lens focus.

7. ***Auto Iris*** allows automatic adjustment of lens iris.



8. ***PT Speed*** allows adjustment of panning and tilting speed. Default: 5. Range: 0 ~ 5.

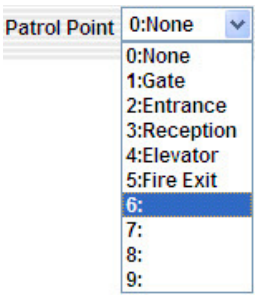
9. ***Patrol Point*** provides two functions: (1) allows PTZ to move to one of the preset locations in just one-click of button, and (2) established a sequence for PTZ to patrol automatically (please refer to ***Auto Patrol*** above). To setup, please refer to followings:

   01. Select a Preset Point. Range: 1 ~ 9 (Point 0 is not applicable).

   02. In *Name* block, enter a *meaningful* name (e.g., main entrance) for the point.

   03. Click on in order to apply the name for the point. To delete, click on button.

   04. All preset points will be listed in the menu. To operate, select a point to move to.

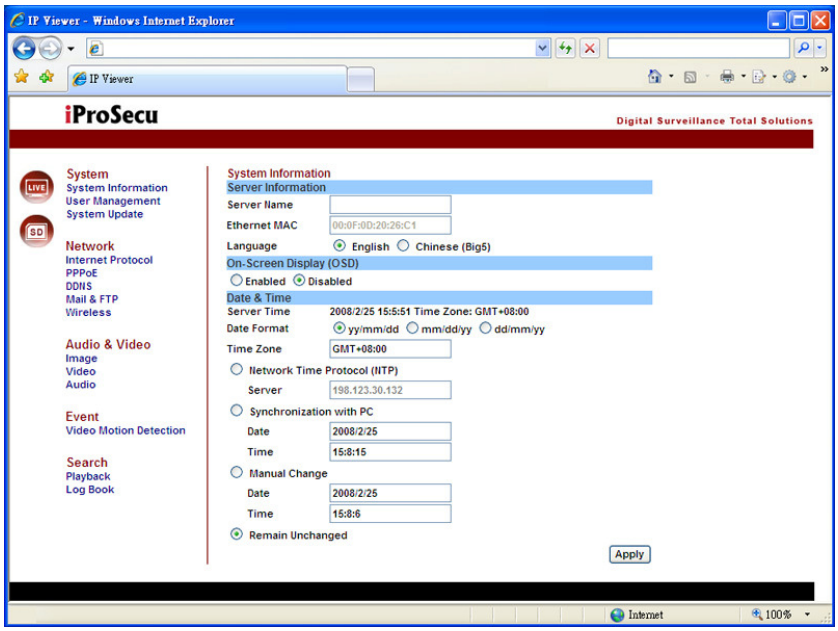


VI. System Configuration

This chapter will provide detailed surveillance settings for IP Viewer.

On IP Viewer, click [System Configuration] button as shown below in order to enter:

After successful entering, a setting page will be shown on Internet browser:



Once you have finished settings, click [Live] icon shown below in order to return to real-time display of IP Server:

There chapter contains five main sections and will detail complete system configurations thoroughly:

A. System

B. Network

C. Audio & Video

D. Event

E. Search

A. System

This section contains three main portions as follow:

a. System Information

b. User Management

c. System Update

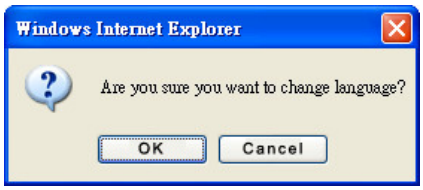
a. System Information.

1. Server Information.

You may set up camera name, language, and date/time in this section.

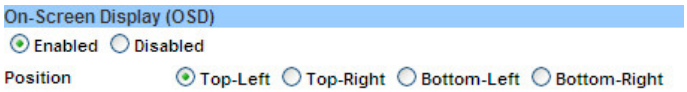
Server Name. This is the name of IP Server and will also displays on *IP Manager*.

Ethernet MAC. This is MAC address for Ethernet module and is **NOT** for wireless module (optional).



Select language. You may change language of setup menu in this section. After selection, following dialogue window will pop up, and click [OK] to confirm the change.

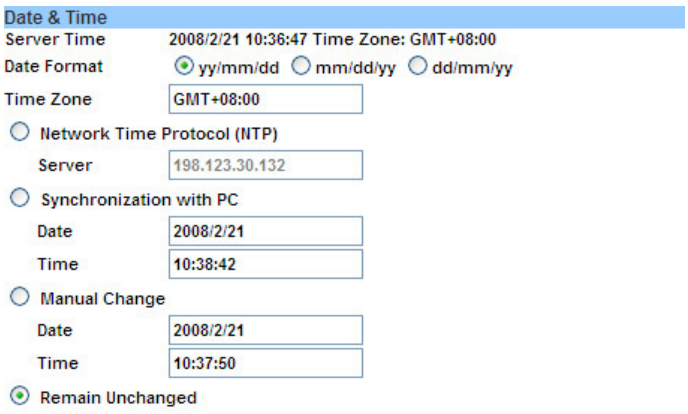
2. On-Screen Display (OSD) Setting.



Click on [Enabled] in order to display date/time on real-time display screen. Location of OSD is customisable.

3. Date & Time.

You may set up *date format*, *time zone*, *methods of date/time adjustment* in this section.

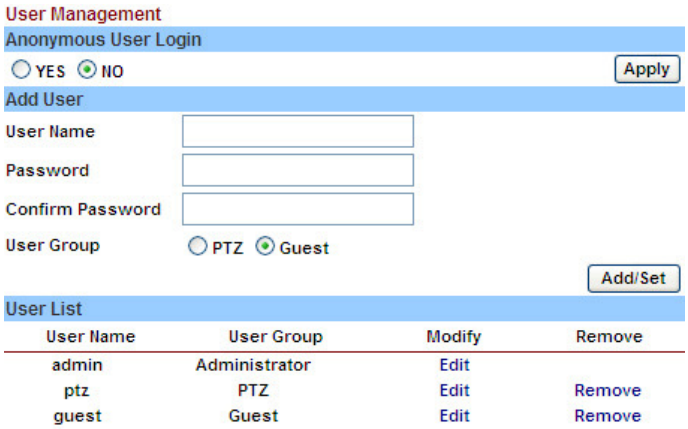


To adjust date/time, user may either synchronize with NTP Server or PC, or may enter manually.

Finally, click on [Apply] to effect the changes.

b. User Management.

You may setup user authority and manage multiple account information in this section:



IP Server supports four levels of user authority: administrator, guest, PTZ guest, and anonymous user.

1. Anonymous User Login.

Select [Yes] to allow anonymous login. Select [No] to request *User Name* and *Password* when accessing IP Server. *Anonymous User* is not allowed to enter ***System Configuration*** pages.

2. Add User.

Enter new set of *User Name* and *Password*, then click [Add/Set].

If guest account's *User Name* entered is already existing, click [Add/Set], the new Password entered will override. This method, however, does not apply to administrator account.

Guest/PTZ Guest User is also not allowed to enter ***System Configuration*** pages.

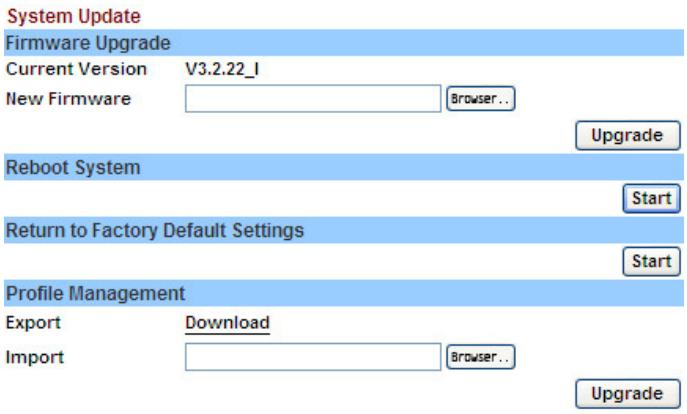
IP Server accepts maximum *20 registered user accounts* and *10 simultaneous user login*.

3. User List.

All registered user accounts will be listed in this section. You may click [Edit] or [Remove] to modify each account. If you click [Edit], following dialogue window will pop up. You will be allowed to modify *User Name* and *Password* again.

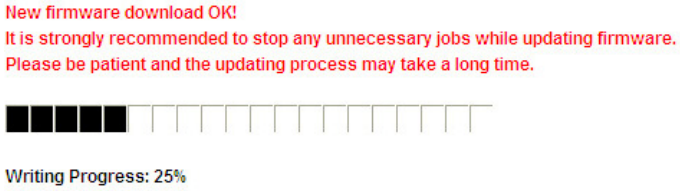
For extra security, you are recommended to change your password every 30 days.

c. System Update.



1. Firmware Upgrade.

To update firmware remotely, click [Browse…], and select the location of firmware file from PC. Then click [Upgrade] to proceed. Follow online instructions to continue.



2. Reboot System.

Click [Start] to re-boot IP Server.

3. Return to Factory Default Settings.

Click [Start] to delete and return all settings of this IP Server back to factory default values.

4. Profile Management.

Profile Management allows export and import of configurations values of IP Server. For one, you may backup current settings for future use. For another, you will save a lot of time configuring more than one IP Server of identical or similar settings.

Export. Right-click on [Download] in order to [Save As] a file in PC.

Import. Click on [Browse…] in order to overwrite configuration file saved in the past or from another IP Server. Click [Upgrade] then follow the rest of online instructions to continue.

B. Network

This section contains five main portions as follow:

a. Internet Protocol

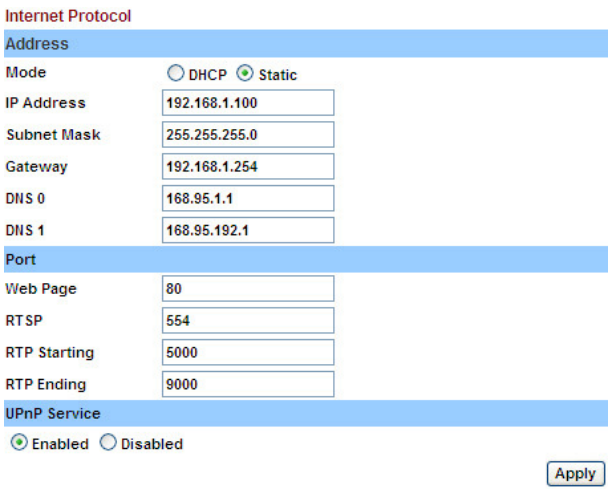
b. PPPoE

c. DDNS

d. Mail & FTP

e. Wireless (optional)

a. Internet Protocol.



1. Address.

IP Server supports both DHCP and Static connection modes.

DHCP. By using DHCP, IP Server will receive all the network parameters automatically.

Static IP. Enter IP information in corresponding blocks manually.

2. Port.

Enter port information under this section if it is so required. Default port for IP Server is 80.

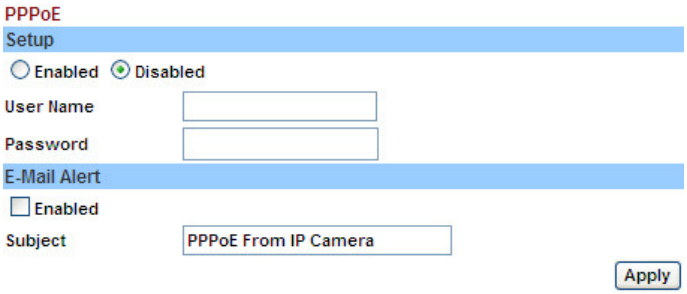
RTSP/RTP ports are designated for 3GPP mobile surveillance. RTP may start from 1024 and end from 1025, and both may not exceed 10000. Consult this section with your local telecom service provider.

3. UPnP Service.

Click [Enabled] if your router supports *network UPnP* (universal plug and play). IP Server will be shown up in **Windows My Network Place** automatically without using IP Manager to detect and launch.

Finally, click [Apply] to effect the changes.

b. PPPoE.



1. Setup.

IP Server supports PPPoE method of Internet connection via ADSL modem.

Click [Enabled] in order to activate. Enter ADSL dial-up *User Name* and *Password* in corresponding blocks.

2. E-Mail Alert.

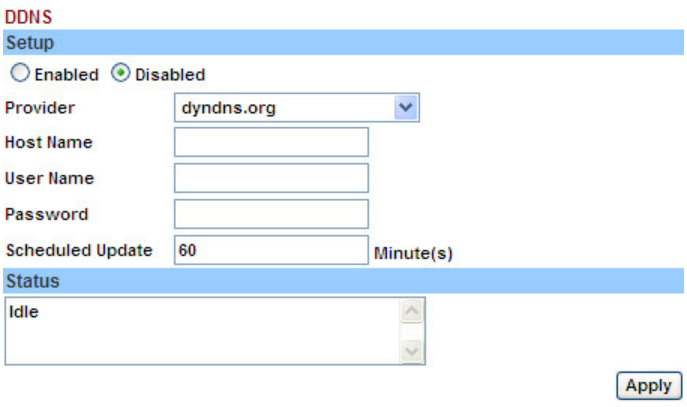
This is a *system security alert* feature. When Internet connection via PPPoE method is being established, IP Server will send an e-mail notification to a user-specified e-mail account.

Click on [Enabled] in order to activate. You may also modify e-mail title in [Subject] line.

For settings over e-mail, please refer to ***Mail & FTP*** settings.

Finally, click [Apply] to effect the changes.

c. DDNS.



For IP Server installed behind ICS or NAT devices, DDNS (Dynamic DNS) service is required.

1. Setup.

Click on [Enabled] in order to activate DDNS support.

Provider. Select a service provider then enter required account information in corresponding blocks.

Scheduled Update. Most free DDNS service providers (e.g., DynDNS.org) have restriction for frequency of use per period of time. You shall not make schedule timing *too frequent*, otherwise *Host Name* may be blocked. Recommended refreshing interval is *every 1,440 minutes* (i.e., once a day).

2. Status.

This section will display status of DDNS connection. Below are typical system messages:

Updating. Service information is being updating.

Idle. Currently not in service.

DDNS registration successful, can now log by http://<username>.ddns.camddns.com. Register successfully. You may proceed login.

Update Failed, the name is already registered. The user name has already been used. Please change it. You shall provide different *User Name*.

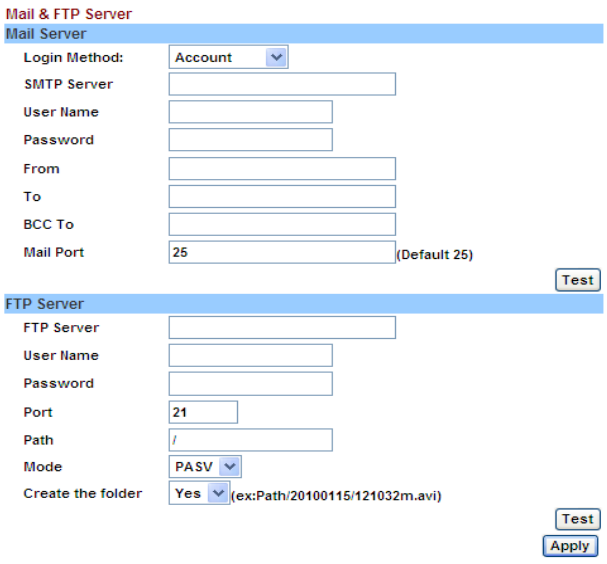
Update Failed, please check your internet connection. Network connection failed. Check your network connection again.

Update Failed, please check the account information you provide. The server, user name, and password may be wrong. Check your server and account information again.

Finally, click [Apply] to effect the changes.

d. Mail & FTP.

This section allows users to set up e-mail account and FTP server [PORT/PASV] in order to receive *alert messages* and *graphic evidences* from IP Server.



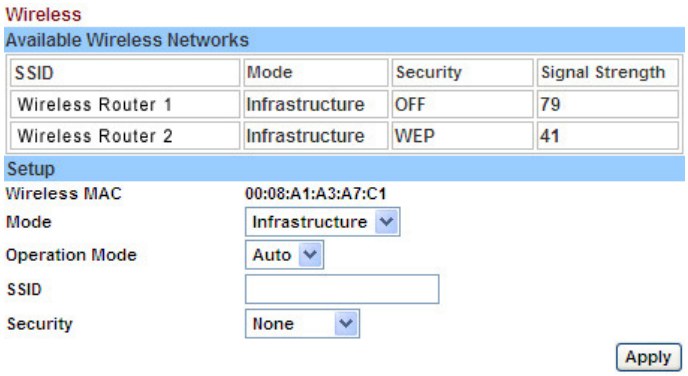
Finally, click [Apply] to effect the changes.

e. Wireless.

Please note, wireless network feature is available only to selected models, and is based on IEEE 802.11 b/g protocols.

Following steps will guide you through setup procedures for wireless connection:

1. Connect IP Server directly to PC with cross-over network cable provided in the package.
2. Use IP Manager to detect IP Server. *Modify IP information that is identical with parameters set in wireless Router.* Finally click [Submit] to apply changes and reboot IP Server.
3. Use IP Manager to detect IP Server and then launch IP Viewer in standard Internet browser.
4. Enter [System Configuration] then click [Wireless], and following setup window will be shown:



5. Available Wireless Networks.

IP Server will display all wireless Routers it detected in this table. Make sure your wireless Router is detected and listed.

6. Setup.

Please make sure all data are identical between IP Server and wireless Router.

Wireless MAC. This is MAC address for wireless module and is **NOT** for Ethernet module.

Mode. Infrastructure Mode is for connecting with Router and ***Ad-Hoc Mode*** is for connecting with PC.

Operation Mode. Selections for IEEE 802.11 ***b*** or ***g***. If you are not sure, please select ***Auto***.

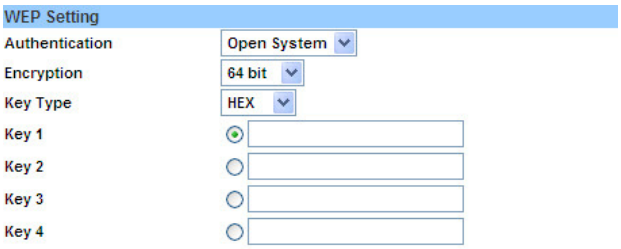
SSID. This refers to ***network ID*** of IP Server. It can be the name of IP Server or can be different, as long as it is *identical with SSID registered in wireless Router*.

Channel. This setting is available only under *Ad-Hoc mode*. Channel refers to channel number on wireless device, and it must be identical among IP Server, PC, and wireless Router.

Security. IP Server provides industry's most advanced encryption protection over wireless transmission. Supported methods include: ***WEP*** and ***WPA-PSK***.

Once again, encryption setting over IP Server has to be identical with wireless Router's.

WEP Setting.



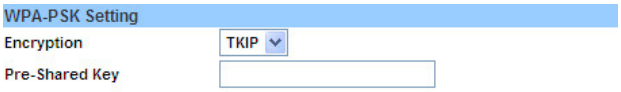
Authentication. Either **Open System** or **Shared Keys**. Please refer to your wireless Router. If you are not sure, select ***Auto***.

Encryption. Either **64-bit** or **128-bit**. Please refer to your wireless Router.

Key Type. *Key* may be regarded as set of passwords to access wireless connection. *Either* **HEX** or **ASCII**. By selecting HEX type, you may only use numbers from 0 to 9 and letters from A to F, and minimum length is 10 for 64-bit and 26 for 128-bit. By selecting ASCII type, you may input any ***case-sensitive*** characters and minimum length is 5 for 64-bit and 13 for 128-bit.

Key 1~4. Based on *Key Type*, enter keys in these blocks.

WPA-PSK Setting.



Encryption. Either **TKIP** or **AES**. Please refer to your wireless Router.

Pre-Shared Key. Enter ASCII-format key in this block. All numbers and characters are allowed and are ***case sensitive***.

Finally, click [Apply] to effect the changes. Close IP Viewer. Detach cross-over network cable between IP Server and PC.

Now you may use IP Manager to detect wireless network and then to launch IP Server in IP Viewer wirelessly. Or you may enter IP address in Internet browser in order to launch IP Viewer directly and wirelessly.

C. Audio & Video

This section contains three main portions as follow:

a. Image

b. Video

c. Audio

a. Image.

This section allows you to fine tune image reproduction quality digitally.

Real-Time Preview Window

Preview. Real-Time Preview Window shown above helps you to preview the changes.

Contour. You may fine tune ***Brightness***, ***Contrast***, ***Hue, and Saturation*** levels. Click [Default] if you would like to discard changes made this time and return to factory default values.

Advanced Parameters.

1. **Back Light Compensation (BLC)**
2. **Night Mode** refers to downsize of maximum video frames to be transmitted during night time. Be cause noise signals usually are very high at night or under dark, thus video size will become larger and larger, and will therefore take too much unnecessary bandwidth and HDD space. By selecting Night mode function, you can intelligently constrain maximum frames of video to be recorded per second at night time.
3. **Video Orientation.** Either flip (180 degree) or mirror (mirroring).
   Click [Default] if you would like to discard changes made this time or return to factory default values.

b. Video.

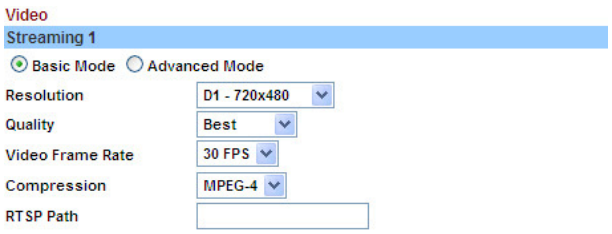
This section allows you to specify how video streaming may be compressed and transmitted over network. This IP Server supports ***dual streaming***, allowing secondary viewing device to receive real-time IP steaming at substantially low frame rates per second, while at the same time, *does not affect* settings of primary viewing channel.

Streaming 1 **Primary Viewer** which usually will consume large bandwidth level (e.g., main monitoring station like IP Viewer and iNVR surveillance system software)

Streaming 2 **Secondary Viewer** which usually *cannot enjoy* large bandwidth level (e.g., mobile device like 3GPP, 3G Symbian, and Smartphone mobile and PDA phones)

1. Streaming 1&2. There are two modes available for settings: *Basic* and *Advanced* modes.

Basic Mode.



Resolution. This refers to resolution of video and there are four sizes to choose from:

	NTSC / PAL
D1	720 x 480 / 720 x 576
4CIF	704 x 480 / 704 x 576
CIF	352 x 240 / 352 x 288
QCIF	176 x 120 / 176 x 144

Quality. This refers to quality of video streaming, and there are five levels to choose from. The higher the quality is, the bigger the files size will be.

Video Frame Rate. This refers to maximum frames can be transmitted per second (fps). Maximum rate is at *30fps for NTSC and 25fps for PAL*. In general, the higher the rate is, the better the video quality will be. As well, when video quality is higher, compression size is bigger and will take more bandwidth, thus maximum rate can be received in remote site will be less.

Video Format. IP Server supports dual codices: ***H.264*** and ***JPEG*** format. Choose one of them that is best for your network bandwidth and storage capacity.

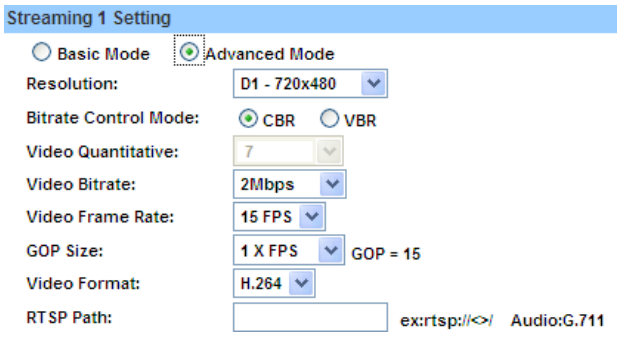
Video System. Either ***60 Hz*** (mainly NTSC) or ***50 Hz*** (mainly PAL). This will affect maximum ***Video Frame Rate*** may be transmitted.

RTSP Path. When using Smartphone device (3G Symbian, Windows Embedded, or Windows Mobile) for mobile surveillance, enter RTSP address here. Examples:

rtsp://xxx.xxx.xxx.xxx/ Streaming 1 without incoming audio
rtsp://xxx.xxx.xxx.xxx/v2 Streaming 2 without incoming audio

Please consult RTSP address with your telecom service provider.

Advanced Mode. Additional fine setting options include the followings:



Bitrate Control Mode. Either ***CBR*** (Constant Bit Rate) or ***VBR*** (Variable Bit Rate). For both of them, the higher the rate is, the better the video quality will be. Please test carefully for each bit rate level.

GOP Size. It refers to *Group of Pictures* per transmission unit. The higher the GOP is, the better the video quality will be.

3GPP Mode.

3GPP Mode is designed for mobile surveillance using 3GPP protocol. Due to limitation of protocol itself, maximum video resolution is at QCIF. If you would like to transmit larger resolution of video, please use Smartphone device (3G Symbian, Windows Embedded, or Windows Mobile) with *RTSP* setting in *Advanced Mode* (both Streaming 1 and Streaming 2). Examples:

rtsp://xxx.xxx.xxx.xxx/3g with incoming audio stream
rtsp://xxx.xxx.xxx.xxx/3gx without incoming audio stream

Please note, not all countries and telecom companies support 3GPP features necessary for *private content* streaming. Please consult this with your local telecom service provider prior to operation.

Finally, click [Apply] to effect the changes.

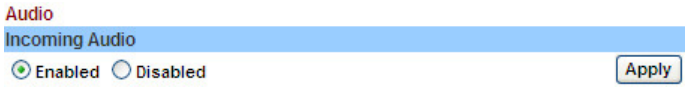
Please note, since total *video frame rate* of this IP Server is 30/25fps by hardware, total frame rates of *Streaming 1* and *Streaming 2* together *CANNOT* exceed 30/25fps.

Please note, primary viewing channel may be set as Streaming 2. That is, there is no restriction to say that Streaming 2 shall always be the low-bandwidth channel. But if you are using 3GPP connection for remote surveillance, it will always connect to Streaming 2. If you are using Smartphone device via RTSP ports for remote surveillance, either streaming channel is acceptable.

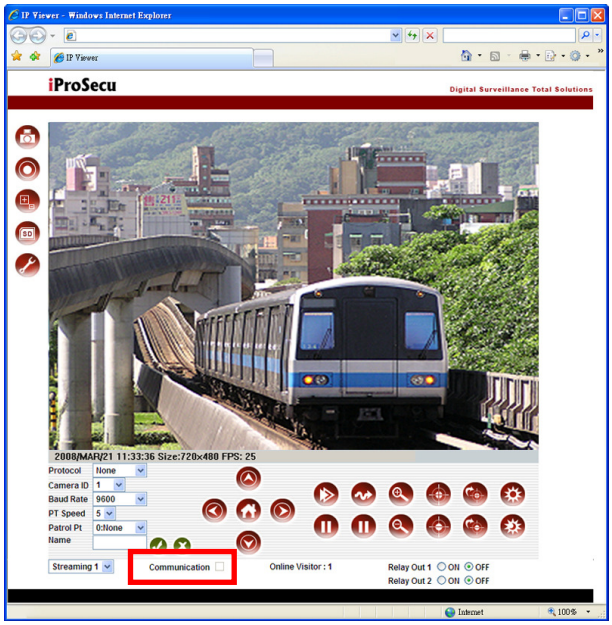
c. Audio.

This IP Server provides one *audio input port* (to microphone) and one *audio output port* (to speaker), as well it supports *bi-directional audio streaming*, thus allowing direct and simultaneous voice communication between local and remote users.

To enable audio transmission from IP Server (local) to IP Viewer (remote), click [Enabled] to activate.



To enable audio transmission from IP Viewer (remote) to IP Server (local), click [Communication] on IP Viewer real-time display window.



Please note, by enabling audio communication, it means portions of CPU resource and network bandwidth will be consumed by audio, thus *maximum video (frames per second) may be transmitted* may have to be decreased technically.

D. Event

This section contain three main portions as follow:

a. Video Motion Detection

b. Event Triggering

c. Alarm I/O

a. Video Motion Detection.

1. Setup.

Video motion detection (VMD) is a video content analytics (VCA) which can detect motion occurred in video digitally. When VMD is being detected, a series of reactions may be taken automatically.

Area. Each IP Server is eligible for three areas of VMD. Each one is represented in *different color*. To activate, click [Area 1] *button* then use mouse to drag an area on preview window.

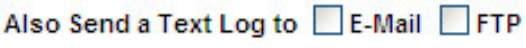
Sensitivity. This function enables sensitive level of VMD. For instance, the size of a person is very small on a public square and the size is even smaller if camera is mounted far away. Thus, the movement of this person usually cannot be sensed sharply. If you encounter similar situations, you can increase sensitivity level of VMD. The higher the sensitivity level is, the more sensitive the detection result will be.

Area 1/2/3. Check *box* of [Area 1] in order to setup method of reactions (described below) when a motion is being detected. The same method also applies to [Area 2] and [Area 3].

E-Mail. When a motion is being detected, an ***Alert Message*** with video evidence as attachment will be sent to a pre-defined e-mail account.

FTP. When a motion is being detected, video evidence will be sent to a pre-defined FTP account.

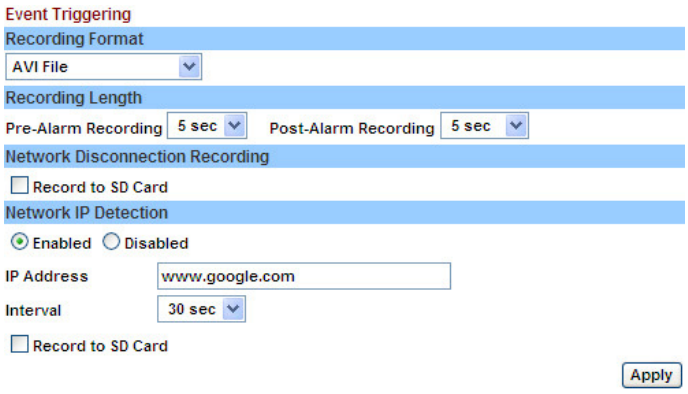
Save to SD Card. When a motion is being detected, evidence will be recorded to local SD Card storage port (video only). At the same time, you may also ***Send a Text Log*** to e-mail or FTP, notifying users that there has been an event occurred locally.



Subject. Title of Alert Message to be sent via e-mail.

Interval. This is referring to period between two VMD events. Thus IP Server will not overreact to a longer-time event. Interval between two motions detected recordings is fixed at 10~60 second.

b. Event Triggering



This section defines types and lengths of evidence to be sent to pre-defined e-mail account and FPT server.

As well, when network is disconnected, events may be recorded to local SD Card storage.

1. Recording Format.

AVI File. IP Server will send ***one clip of video evidence*** in AVI format or JPEG, with respect to pre-alarm and post-alarm recording made in ***Recording Length*** section.

Series of JPEG File(s). IP Server will send ***a series of still image evidence*** in JPEG format, with respect to pre-alarm and post-alarm recording made in ***Recording Length*** section. This feature is available only when ***Video Compression*** is set to JPEG mode.

Single JPEG File. IP Server will send ***one piece still image evidence*** in JPEG format, with respect to frequency made in ***Interval*** section.

Because the size of still JPEG is the smallest, this option is recommended for e-mail alerts or those who use mobile device (mobile and PDA phones) to receive e-mails.

2. Recording Length.

IP Server is intelligent enough to process pre-alarm and post-alarm recording so that you will never miss any important events against your interests.

Pre Alarm: **0~5 second**.
Post Alarm: **0~10 second**.

3. Network Disconnection Recording.

Important events shall always be recorded when network is not available (not able to send alert messages with video or image evidences via e-mail or FTP). Click [Record to SD Card] to enforce compulsory recording of events to local SD card storage, *even if* [Save to SD Card] is *not* enabled in ***Video Motion Detection*** section. After network is re-established, users may access to SD Card in order to *playback* events occurred during disconnected period.

AVI files at 5fps will be saved to SD Card continuously.

Please note, this feature is only available to non-wireless models.

4. Network IP Detection.

Click [Enabled] to activate IP Check function, then enter a website to be connected for testing.

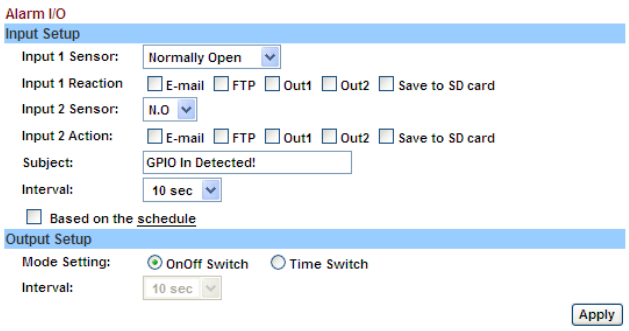
Action of each *IP Check* may be stored on SD Card for future reference. ***Interval between two recordings on SD Card is fixed at 30 second.***

Finally, click [Apply] to effect the changes.

Please note, settings over this section will apply to methods of reactions in Alarm I/O section.

c. Alarm I/O.

IP Server supports 2 x Alarm Input and 2 x Alarm Output. You may specify methods of output when input is being triggered.



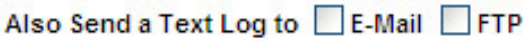
1. Input Setup.

Input 1 & 2 Sensor. Select either Normally-Open (NO) or Normally-Closed (NC) for input sensors.

Input 1 & 2 Reaction. When input sensor is being triggered, select what reactions to be undertaking: E-mail, FTP, Output No. 1 & No. 2, and Save to SD Card.

Recording Format & Recording Length. Please conduct these settings in ***Event Triggering*** section.

Save to SD Card. When a motion is being detected, evidence will be recorded to local SD Card storage port (video only). At the same time, you may also ***Send a Text Log*** to e-mail or FTP, notifying users that there has been an event occurred locally.



Subject. Title of *Alert Message* to be sent via e-mail.

Interval. The period between two triggered events. Thus IP Server will not over-react to a longer-time event. Range: 10 ~ 60 seconds.

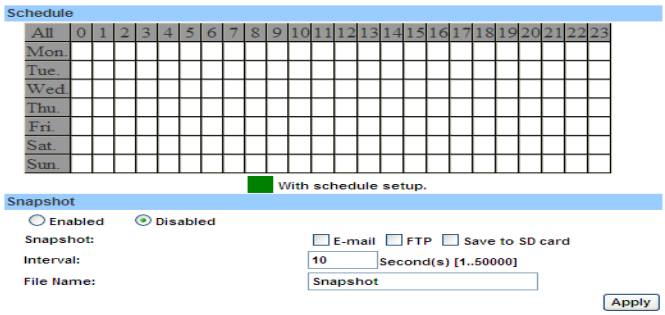
2. Output Setup.

Mode. **On/Off Switch.** Events will either turn on or off alarms repeatedly.

Time Switch. Event monitoring will be terminated after a pre-defined time interval. Interval Range: 1 ~ 60 seconds.

d. Schedule.

IP Camera supports schedule recording for **events**. You may specify the schedule by hour or day.



1. Schedule Setup.

By hour. Click the grid in table to enable the time that you want to record. Which green grid indicates enabled record, white grid indicates disabled record. Also you may click the number 0 ~ 23 to set the schedule for each day.

By day. Click Mon. ~ Sun. to set full time record for each day.

Full time record. Click "All" to enable/disable full time record.

2. Snapshot

Within the schedule, IP camera provides an additional function—Snapshot. It will capture a JPEG image and send to the E-mail, FTP server or Save to SD card to inform the user.

Interval. The period between two snapshots. Range: 1 ~ 50000 seconds.

E. Search

This section contains two main portions as follow:

a. Playback

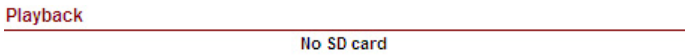
b. Log Book

a. Playback.

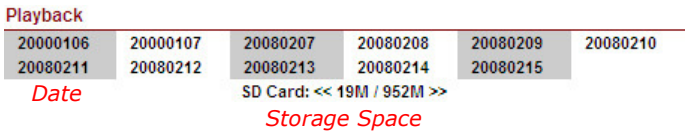
IP Server feature one SD Card storage port (card is not included in the package) for local recording. In case any events occur, you may access IP Server then search and playback SD archives for verifications.

To use, please insert a SD Card into the port completely.

When there is no SD Card inserted, playback window will be shown as follow:



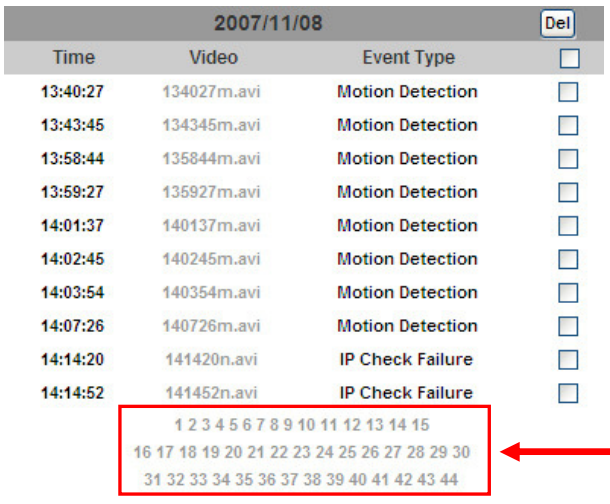
When there is a SD Card inserted and recording has proceeded, playback window will shown as follow:



Date. Recorded events are categorized by date. Click a [Date] in order to search.

Storage Space. This section shows *Used and Free Size* of inserted SD Card storage medium.

1. To playback, click on one of the dates, a list of events similar to the following will be shown:



Event types include: ***video motion detection***, ***alarm triggering*** (selected models only), ***network disconnection*** (non-wireless models only) , and ***network IP detection***.

There are 10 events per page, and there can be as many pages as SD Card space is available.

AVI files are saved in AVI format, and maybe playback by standard *Windows Media Player* without having special video codec pre-installed.

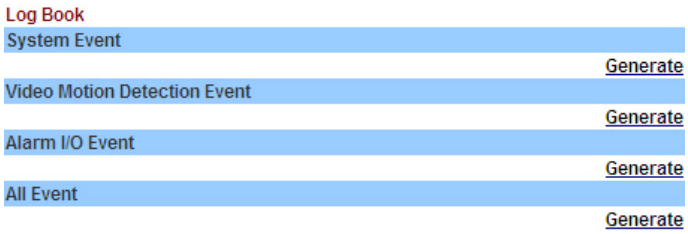
Please note, when undertaking local recording of AVI video clips to SD Card, audio is not included. In order to playback full video with audio simultaneously, please use free-bundle 36-channel advanced remote surveillance system ***NVR*** software provided in Software CD.

2. **File Management.** Check blank boxes then click [Del] in order to ***delete*** selected files from SD Card.

SD Card will *overwrite itself automatically* when available space is full. Please choose a size of SD Card that can at least record certain period of time. For instance, there is a network failure during a weekend and no technician is available, thus *no remote recording* of events to advanced NVR surveillance system is possible. In this case, you will need a SD Card for at least two days of *local recording against network failure*. For extra security, make sure you will always verify SD archives *per period of time* or whenever receive *event notifications* via e-mails.

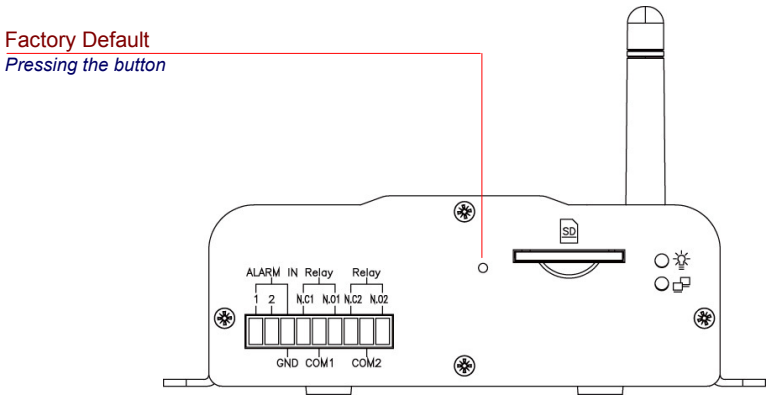
b. Log Book.

This section allows you to review all important events occurred to this IP Server. Types of log include: ***System***, ***Video Motion Detection***, and ***Alarm I/O***.



VII. Factory Default

In case *User Name*, *Password*, and/or *IP information* are lost, users may reset all values back to factory default. Please follow steps described below:



A. Unplug the power.

B. Press the button shown above.

C. Plug-in the power. Do not release the button during this process.

D. Hardware re-booting will take in approximately 30 seconds.

E. Release the button.

F. Use IP Manager in order to customise user-specified IP environment again:

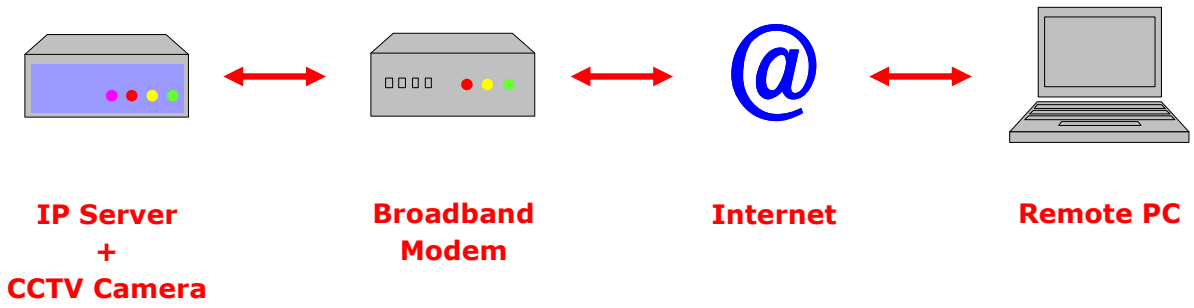
Default IP Address	**192.168.1.210**
Default User Name	**admin**
Default Password	**admin**

Appendix I

Network Environment

Following section will demonstrate three typical examples of general network planning and setting for a typical home/office environment.

A. One Fixed/Dynamic IP



Situation: Only IP Server is being connected to the Internet.

Only 1 x Fixed/Dynamic IP is available in the network.

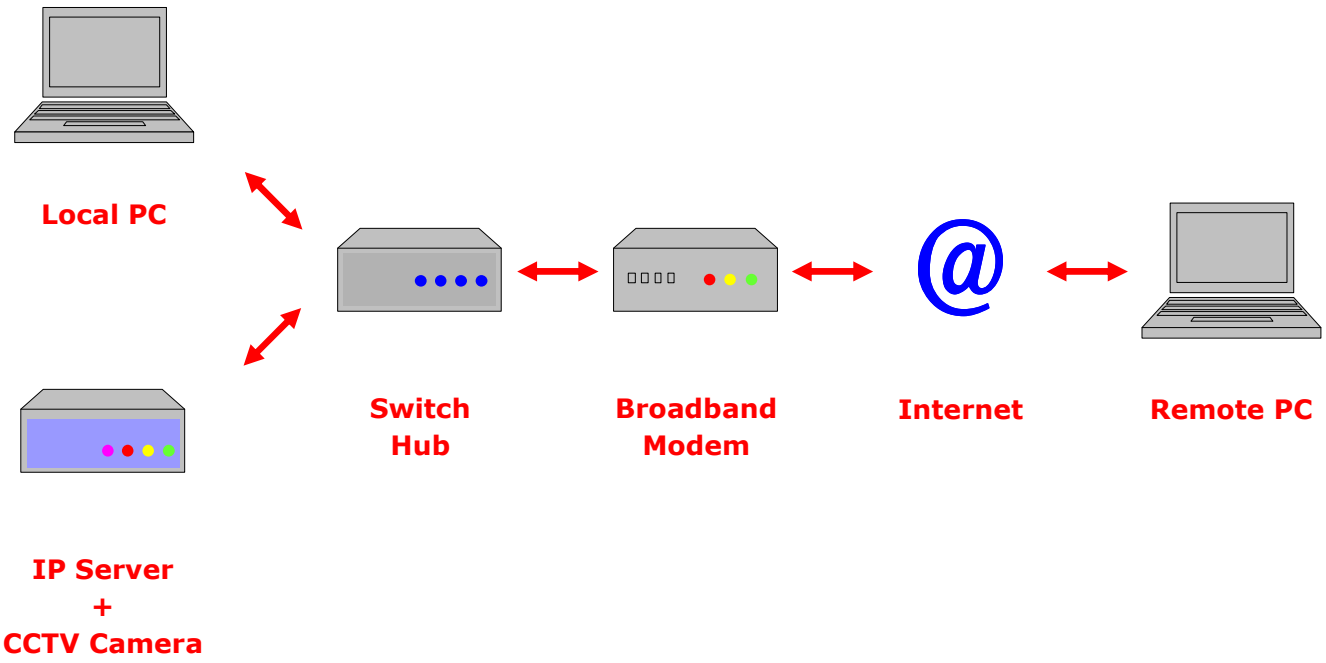
Device: 1 x ADSL/Cable Modem needed.

Connection: a. If you are using Fixed IP, enter it directly to IP Server (IP Manager).

b. If you are using Dynamic IP, use PPPoE to dial up.

Appendix I

B. Two or More Fixed/Dynamic IP



Situation: Both IP Server and Local PC are being connected to the Internet.

There are 2 (or more) x Fixed/Dynamic IP are available in the network.

Device: 1 x ADSL/Cable Modem is needed.

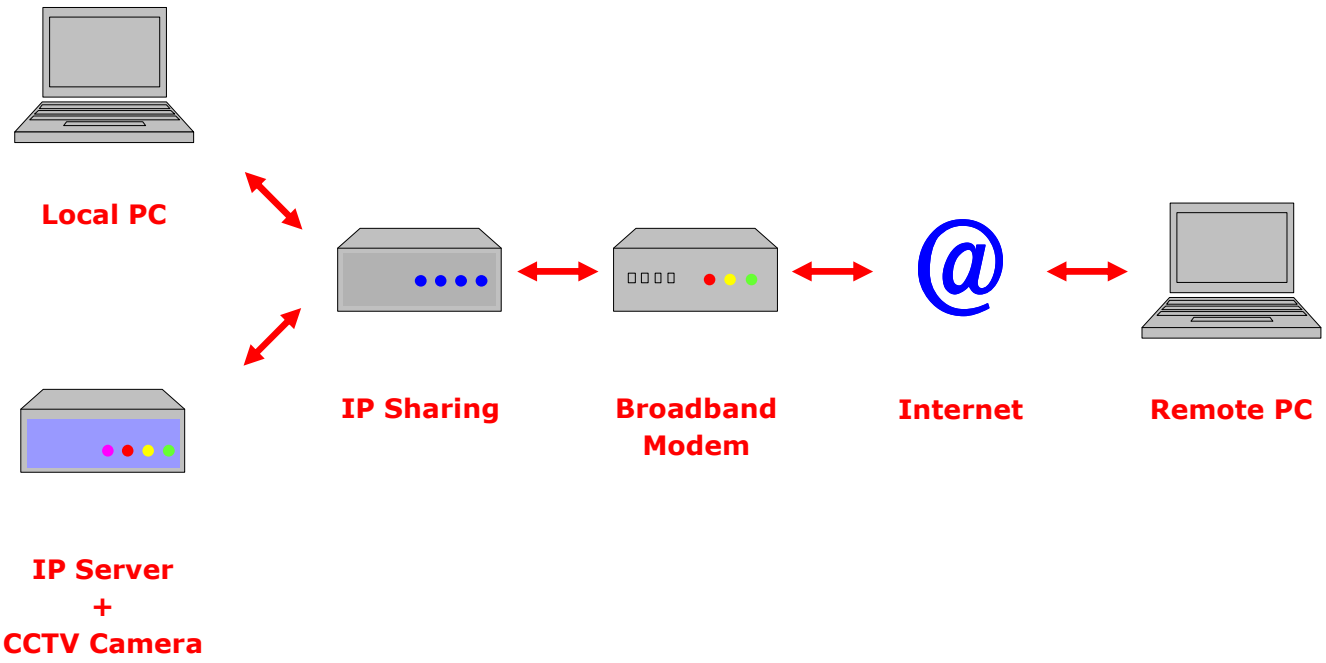
1 x Network Hub is needed.

Connection: a. If you are using Fixed IP, enter it directly to IP Server (IP Manager).

b. If you are using Dynamic IP, use PPPoE to dial up.

Appendix I

C. Virtual IP



Situation: Both IP Server and Local PC are being connected to the Internet.

Only 1 x Fixed/Dynamic IP.

Device: 1 x ADSL/Cable Modem is needed.

1 x IP Sharing device is needed.

Connection: Set up *port forwarding* in IP Sharing device.

Appendix II

Recommended SD Cards List

Users are recommended to use following SD Card brands and models:

SanDisk 128MB	Transcend 128MB
SanDisk 256MB	Transcend 256MB
SanDisk 512MB	Transcend 512MB
SanDisk 1GB	Transcend 1GB
SanDisk 2GB	Transcend 2GB
SanDisk 4GB	Transcend 4GB
SanDisk 8GB	Transcend 8GB
SanDisk16GB	Transcend 16GB

Please note, specifications of third-party items may change from time to time without prior notice, and IP Server holds no responsibility whatsoever for any incompatibility this may incur. Please contact an *authorised professional* near you for most up-to-date information.

V1.0 EN 0210 Printed in Taiwan