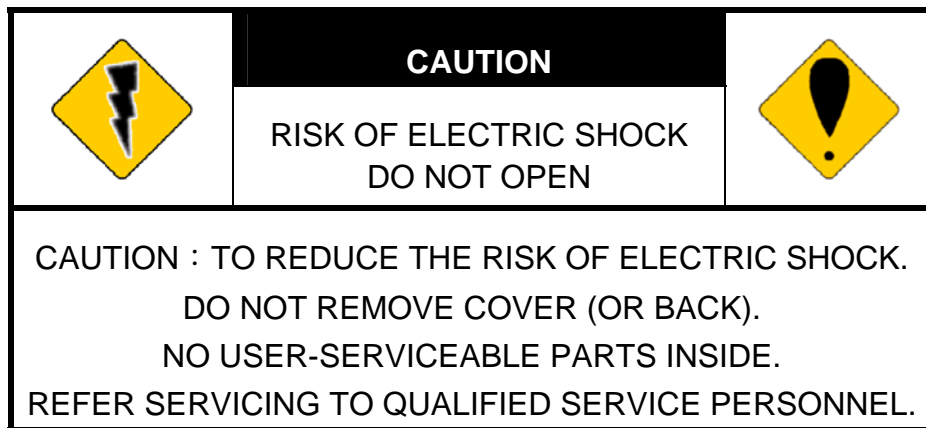# User Manual

1Ch Video Server

WARINGS

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MISTURE.
DO NOT INSERT ANY METALLIC OBJECT THROUGH VENTILATION GRILLS.

CAUTION

	CAUTION	
	RISK OF ELECTRIC SHOCK DO NOT OPEN	
CAUTION：TO REDUCE THE RISK OF ELECTRIC SHOCK. DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.		

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Content

V1.0_2009/08/31

I. Preface

Video Server is a 1 channel video server with the web server built in. User views real-time video via IE browser. Video Server supports H.264/ MPEG-4 (3GPP Only)/ JPEG video compression which provides smooth and high video quality. The video can be stored in the SD card, and playback remotely.

With user friendly interface, it is an easy-to-use video server which can connect any kind of analogue camera to fit the customer's need.

II. Product Specifications

- 1-CH Input
- H.264/ MJPEG/MPEG4 (3GPP only) compression
- SD card backup
- 2-way audio
- Support Cell Phone/PDA/3GPP
- 3 Streaming
- Power Over Ethernet available
- SDK for Software Integration
- Wireless (Optional)
- Free Bundle 36 ch recording software

Specifications

Hardware	
CPU	ARM 9 ,32 bit RISC
DDR2	256MB
Flash	16MB
Video in	1 in BNC connector
Video Looping Input	1
Audio in/ out	1 in/ 1 out
I/O	2 in/ 2 Relay out (COM. & N.O. & N.C.) Relay Out: DC 24V@1A AC 110V@0.5A
RS-485	1, for PTZ control
RS-232	YES
Power Over Ethernet	YES (optional)

Power Consumption		DC 12V, 350mA, 4W
Dimensions		134mm (W) x 42mm (L) x 107mm (D)
Network		
Ethernet		10/ 100 Base-T
Network Protocol		HTTP, TCP/ IP, SMTP, FTP, PPPoE, DHCP, DDNS, NTP, UPnP, 3GPP
Wireless (Optional)		
	Wireless	802.11b/g
	Security	WEP,WPA-PSK,WPA2-PSK
System		
Video Resolution		NTSC - 720x480, 704x480,352x240, 176x120 PAL – 720x576, 704x576, 352x288, 176x144
Video adjust		Brightness, Contrast, Saturation, Hue, Sharpness
Triple Streaming		Yes
Image snapshot		Yes
Full screen monitoring		Yes
Privacy Mask		Yes, 3 different areas
Compression format		H.264/ JPEG/ MPEG4 (3GPP only)
Video bitrates adjust		CBR, VBR
Motion Detection		Yes, 3 different areas
Triggered action		Mail, FTP, Save to SD card, Relay
Pre/ Post alarm		Yes, configurable
Security		Password protection
Firmware upgrade		HTTP mode, can be upgraded remotely
Simultaneous connection		Up to 10
Audio		Yes, 2-way
SD card management		
Recording trigger		Motion Detection, IP check, Network break down (wire only),schedule, Alarm
Video format		AVI, JPEG
Video playback		Yes
Delete files		Yes
Web browsing requirement		
OS		Windows 2000, XP, 2003, Microsoft IE 6.0 or above

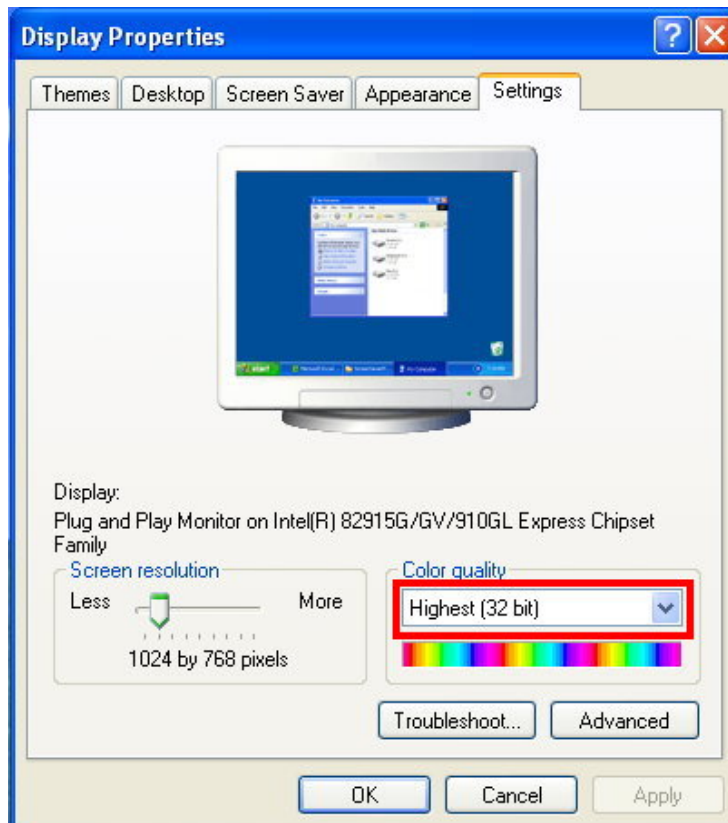| Hardware	Suggested	Intel Dual Core 1.66G,RAM: 1024MB, Graphic card: 128MB
	Minimum	Intel-C 2.8G, RAM: 512MB, Graphic card: 64MB

III. Product Installation

A. Monitor Setting

i. Right-Click on the desktop. Select " Properties"

ii. Change color quality to highest (32bit).

B. Hardware Installation

B-1: Hardware Connection
    i.   Connect power adaptor

    ii.   Connect Video Server to PC or network with Ethernet cable

    iii.   Set up the network configurations according to the network environment. For further explanation, please refer to chapter VI, "Network Configuration for Video Server".

B-2: I/O Control Instruction

I/O terminal connector – used in application, for e.g., motion detection, event triggering, alarm notifications. It provides the interface to:

Digital Input (GND+Alarm) – An alarm input for connecting devices that can toggle between an open and closed circuit, for example: PIRs, door/window contacts, glass break detectors, etc. When a signal is received the state changes and the input becomes active.

Relay output (COM +N.O.) – An output to Relay switch, for example: LEDs, Sirens, etc

Digital Input

Alarm Input

1. GND (Ground) : Initial state is LOW

2. Alarm : Max. 50mA, 12VDC

Relay Output

1. COM: (Common)

2. N.O. (Normally Open): Max. 1A, 24VDC or 0.5A, 125VAC

GND	
ALARM	ALARM IN
COM	
N.O.	Relay Out
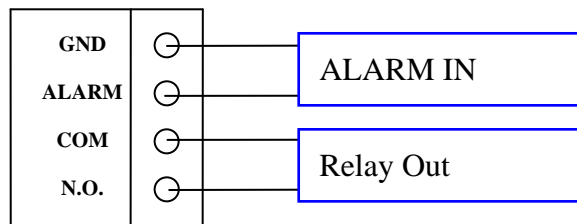
B-2   Relay Connection:

Digital Input connection

GND	
ALARM	**Door/Window Contacts**
COM	
N.O.	
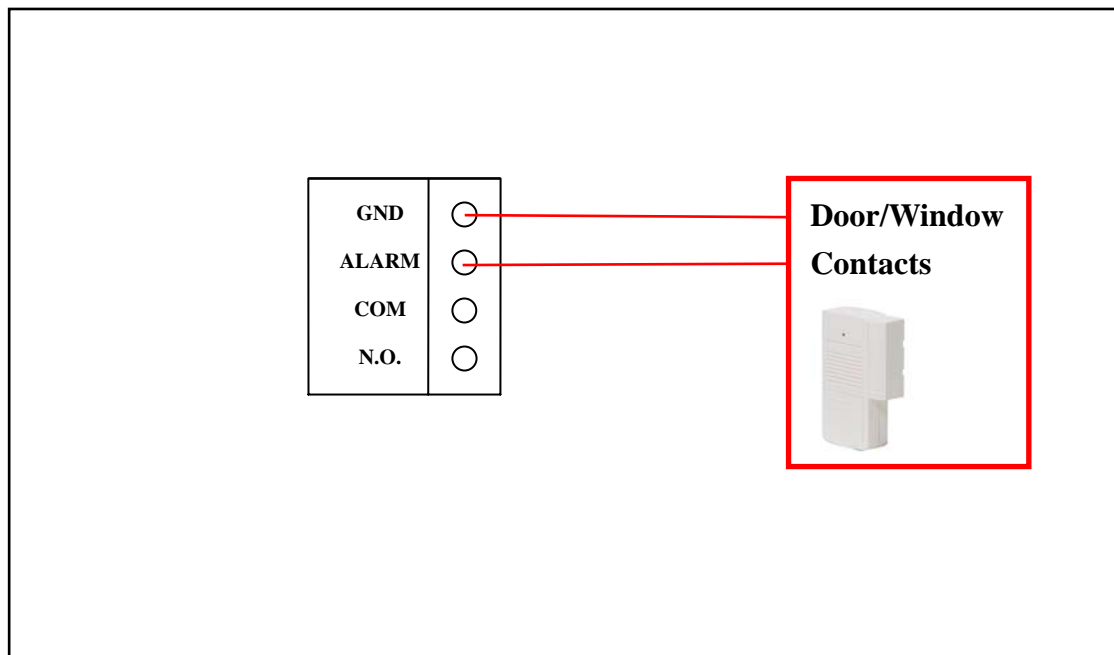
Relay Output Connection
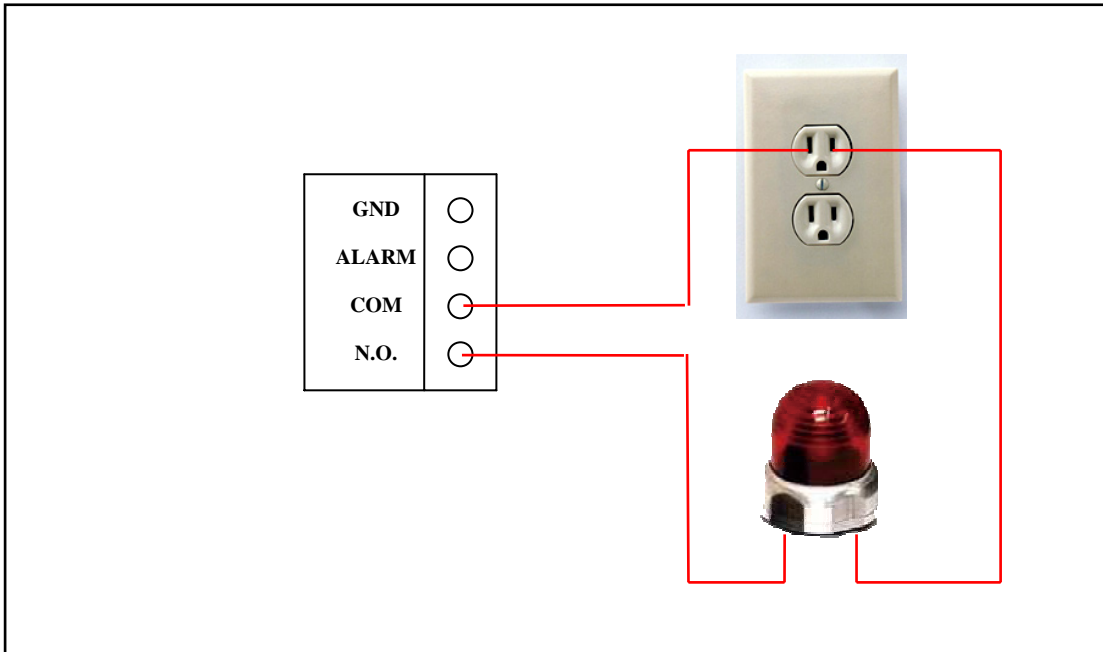
C. IP Assignment

i.   Use the software, "IP Installer" to assign the IP address of Video Server. The software is in the attached software CD.

ii. There are two languages for the IP installer
   a. IPInstallerCht.exe：Chinese version
   b. IPInstallerEng.exe：English version

iii. There are 3 kinds of IP configuration.
   a. Fixed IP (Public IP or Virtual IP)
   b. DHCP (Dynamic IP)
   c. Dial-up (PPPoE)

iv. Execute IP Installer

v.   For Windows XP SP2 user, it may popup the following message box. Please click "Unblock".

vi.   IP Installer configuration：
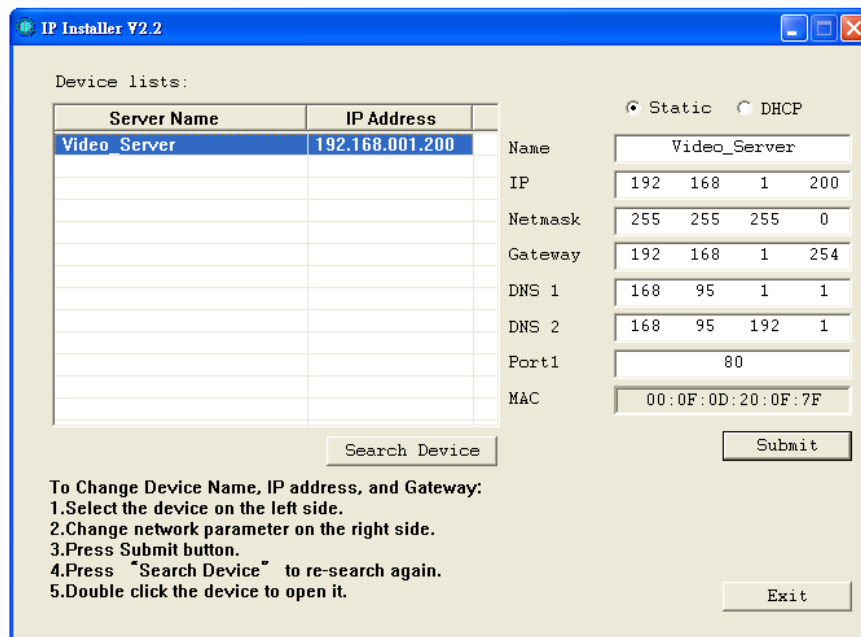
vii.   IP Installer will search all IP Devices connected on Lan. The user can click "Search Device" to search again.

viii.   Click the Video Server listed on the left side. The network configuration of this Video Server will show on the right side. You may change the "name" of the Video Server to your preference (eg: Office, warehouse). Change the parameter and click "Submit" then click "OK". It will apply the change and reboot the Device.
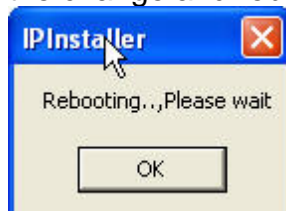
ix.   Please make sure the subnet of PC IP address and Video Server IP address are the same.

The same Subnet:

Video Server IP address: 192.168.1.210

PC IP address: 192.168.1.110

Different Subnets:

Video Server IP address: <u>192.168.2</u>.210

PC IP address: <u>192.168.1</u>.110

To Change PC IP address:

Control Panel→Network Connections→Local Area Connection Properties→Internet Protocol (TCP/IP) →Properties

Please make sure your Video Server and PC have the same Subnet. If not, please change Video Server subnet or PC IP subnet accordingly.
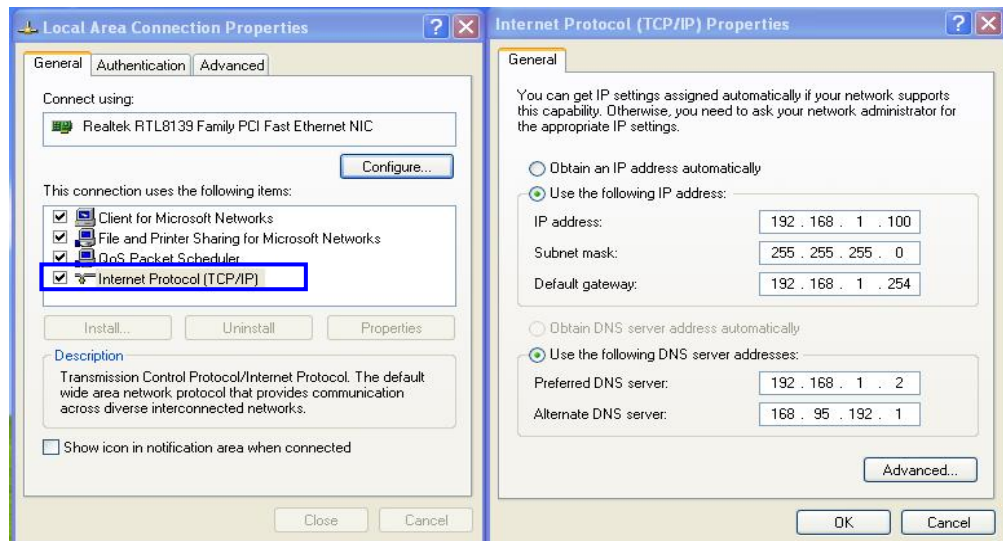
x.   A quick way to access remote monitoring is to left-click the mouse twice on a selected Video Server listed on "Device list" of IP Installer. An IE browser will be opened.
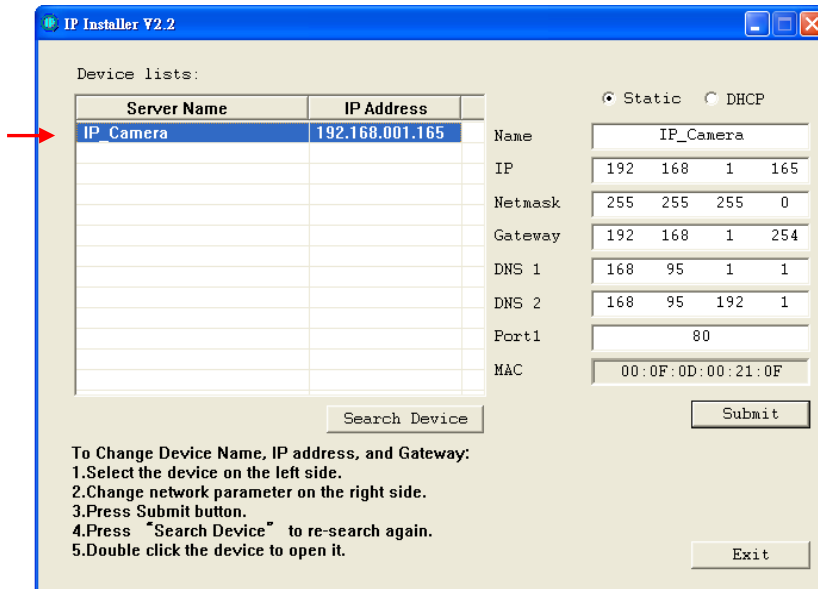
xi.   Then, please key in the default "user name: admin" and "password: admin".
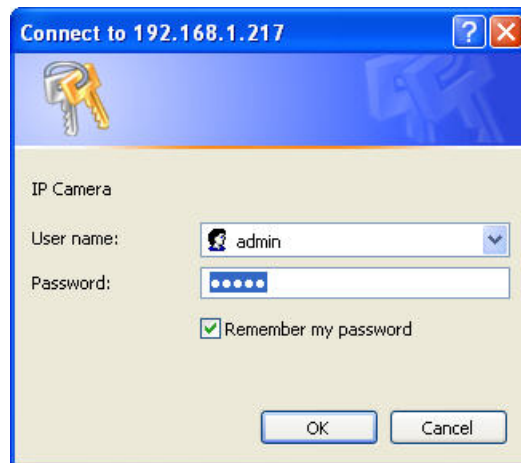
D.   Install ActiveX control:

For the first time to view the video via IE, it will ask you to install the ActiveX component.

If the installation failed, please check the security setting for the IE browser.

  i.   IE → Tools → Internet Options… → Security Tab → Custom Level… → Security Settings → Download unsigned ActiveX controls→ Select "Enable" or Prompt.
  ii.   IE → Tools → Internet Options… → Security Tab → Custom Level… →Initialize and script ActiveX controls not marked as safe → Select "Enable" or Prompt.

1
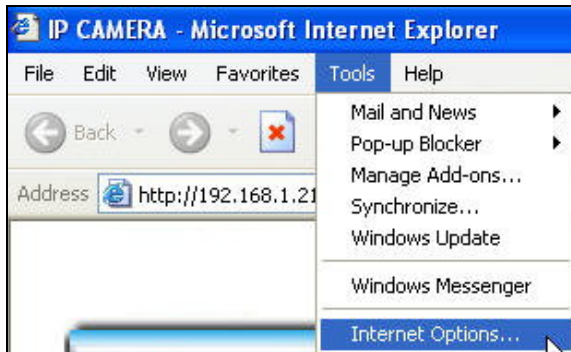
2
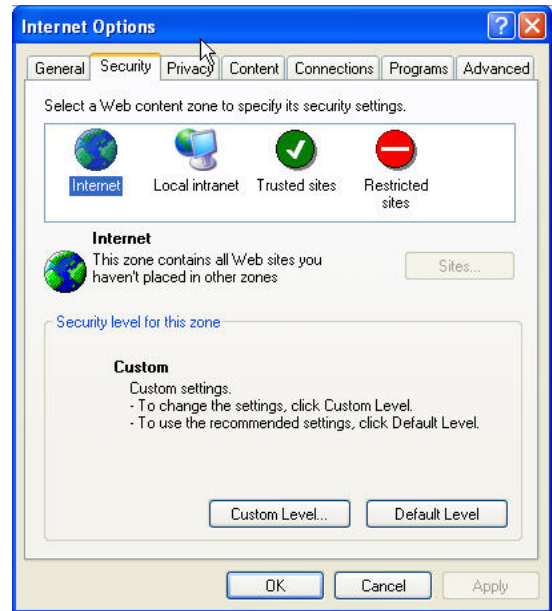
3

4
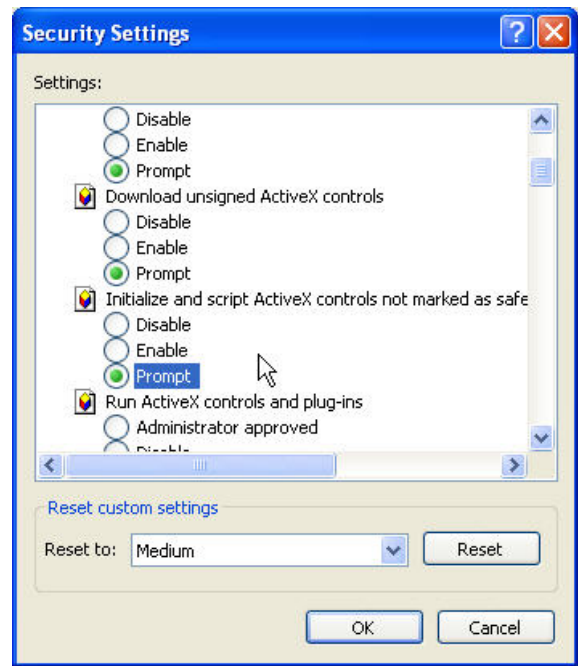
5

When popup the following dialogue box, click "Yes".
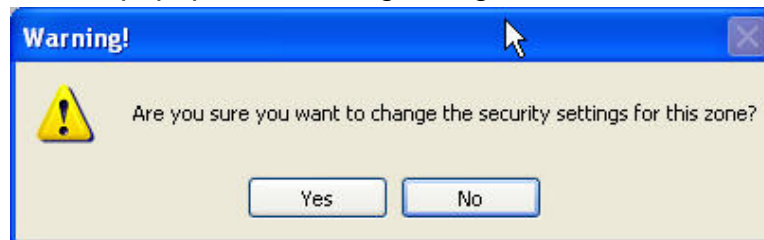
IV. Live Video

Start a IE browser, type the IP address of the Video Server in the address field. It will show the following dialogue box. Key-in the user name and password. The default user name and password are "**admin**" and "**admin**".
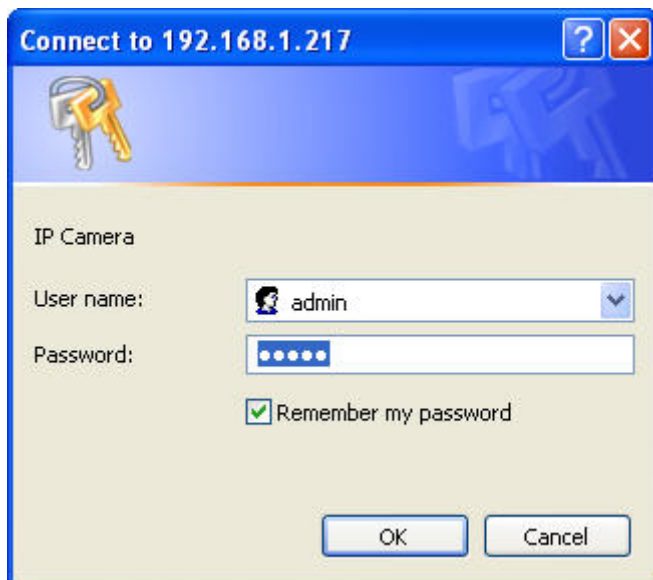
When connect to the Video Server。The following program interface shows.
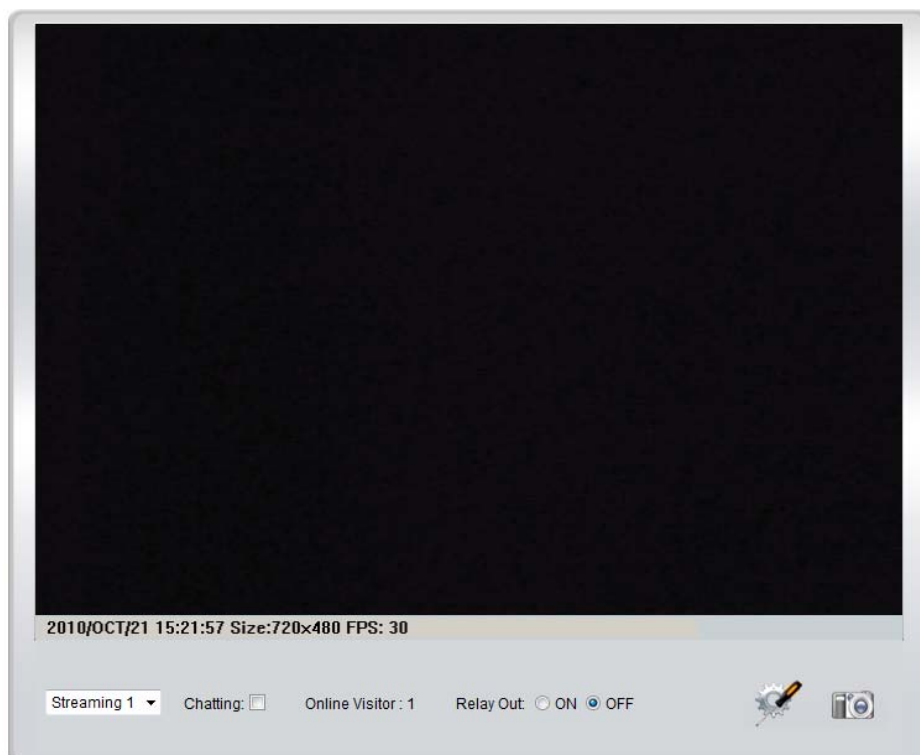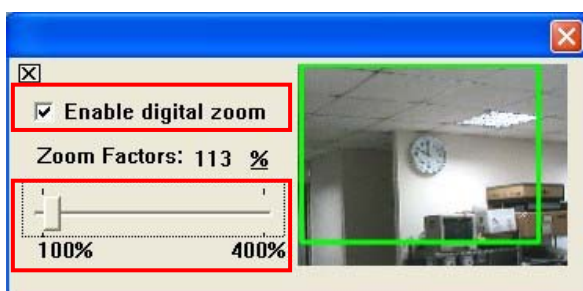
1. ：Get into the administration page

2. ：Video Snapshot

3. Shows how many people connect to this Video Server
4. Show system time, video resolution, and video refreshing rate
5. Video Server supports 2-way audio. Click the "Chatting" check box. Then you can use microphone which connect to the PC to talk to server side, which is Video Server side.
6. Control the relay which is connected to this video server.
7. Select PTZ protocol to control the PTZ camera which is connected to this video server. The PTZ function will be slightly different depends on which protocol to use.

Double-click the video, it will change to full screen mode. Press "Esc" or double-click the video again, it will change back to normal mode.
Right-Click the mouse on the video, it will show a pop-up menu.
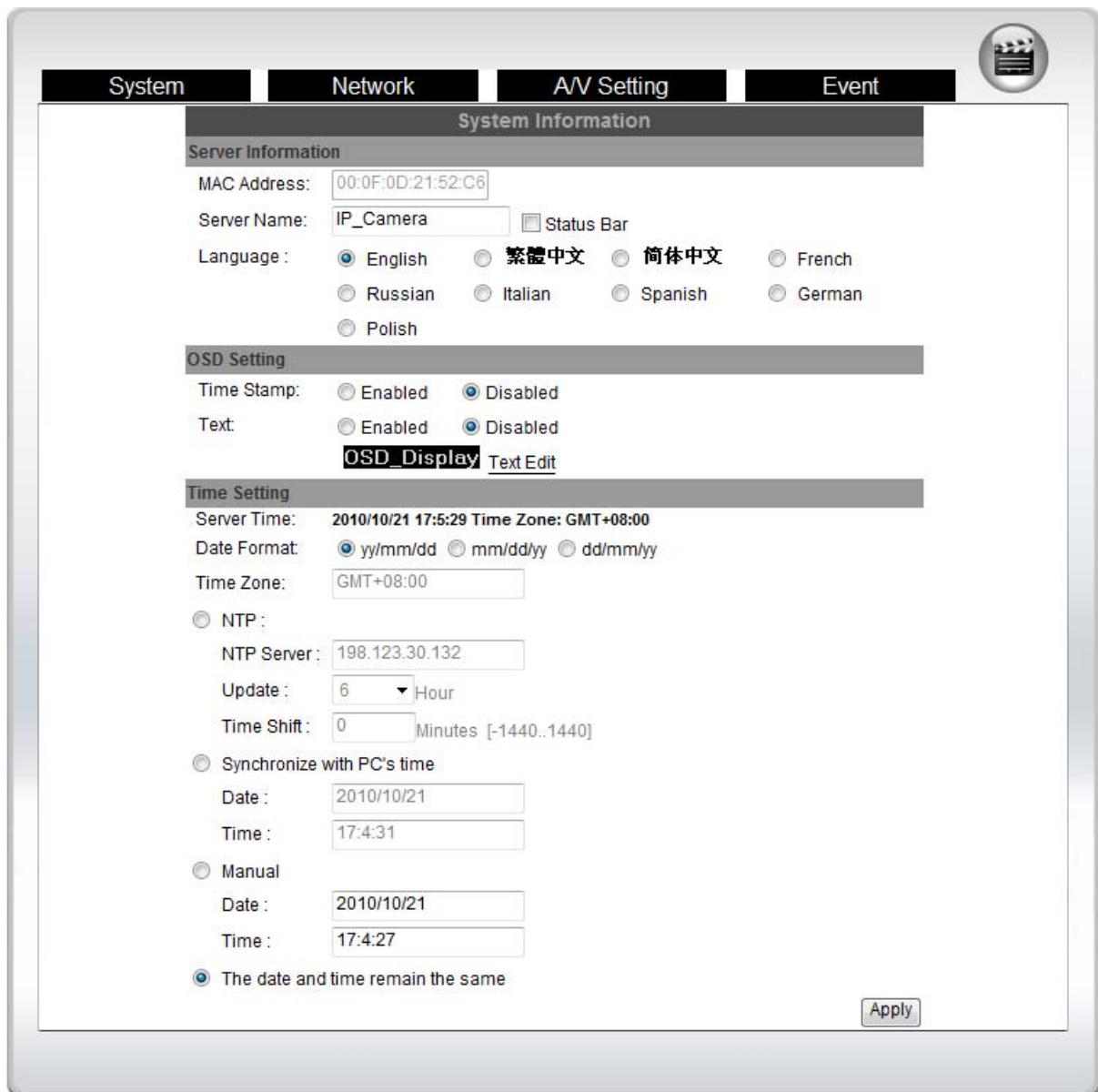
Snapshot
Record Start
Mute
Full Screen
Zoom

1. Snapshot：Save a JPEG picture
2. Record Start：Record the video in the local PC. It will ask you where to save the video. To stop recording, right-click the mouse again. Select "Record Stop". The video format is AVI. Use Microsoft Media Player to play the recorded file.
3. Mute：Turn of the audio. Click again to turn on it.
4. Full Screen：Full-screen mode.
5. Zoom : Enable zoom-in and zoom-out functions. Select "Enable digital zoom" option first within the pop-up dialogue box and then drag and drop the bar to adjust the zoom factors.

V. Video Server Configuration

Click [icon] to get into the administration page. Click [icon] to back to the live video page.

A.System

i、 System Information

   a. Server Information：Set up the camera name, select language, and set up the camera time.

      1. Server Name：This is the Video Server name. This name will show on the IP Installer.

      2. Select Language：There are English, Traditional Chinese, and Simple Chinese to select. When change, it will show the following dialogue box for the confirmation of changing language.

   b. Overlay Setting: select a position where date & time showing on screen.

   Moreover, click Text Edit can entry to adjust the OSD contents which is including Size and Alpha of text. Finally, click Upgrade button to reserve the setting.

   c. Server time setting：Select options to set up time - "NTP",

"Synchronize with PC's time", "Manual", "The date and time remain the same".

ii、 User Management

Video Server supports three different users, administrator, general user, and anonymous user.

a. Anonymous User Login：

Yes：Allow anonymous login

No：Need user name & password to access this Video Server

b. Add user：

Type the user name and password, then click "Add/Set".

Note: Allow guest to login as a Guest. Guest is only allowed to browse the page.

c.   Click "edit" or "delete" to modify the user.

iii、 System update：

a.　To update the firmware online, click "Browse…" to select the firmware. Then click "Upgrade" to proceed.

b.　Reboot system：re-start the IP camera

c.　Factory default：delete all settings and restore defaults system.

d.　Setting Management：User may download the current setting to PC, or upgrade from previous saved setting.

　　1.　Setting download:
　　　　Right-click the mouse button on Setting Download → Select "Save AS…" to save current IP CAM setting in PC → Select saving directory → Save

　　2.　Upgrade from previous setting
　　　　Browse → search previous setting → open → upgrade → Setting update confirm → click **index.html**. to return to main page

B.Network

i、 IP Setting

Video Server supports DHCP and static IP.

a. DHCP：Using DHCP, IP Vandal Dome will get all the network parameters automatically.

b. Static IP：Please type in IP address, subnet mask, gateway, and DNS manually.

c. Port Assignment: user may need to assign different port to avoid conflict when setting up IP assignment.

    1. Web Page Port: setup web page connecting port and video transmitting port (Default: 80)

    2. RTSP Port: setup port for RTSP transmitting (Default: 554)

    3. RTP Start and End Port: in RTSP mode, you may use TCP and UDP for connecting. TCP connection uses RTSP Port (554). UDP connection uses RTP Start and End Port.

d.   UPnP

This IP camera supports UPnP, If this service is enabled on your computer, the camera will automatically be detected and a new icon will be added to "My Network Places."

Note: UPnP must be enabled on your computer.

Please follow the procedure to activate UPnP

1.   open the Control Panel from the Start Menu
2.   select Add/Remove Programs
3.   Select Add/Remove Windows Components and open Networking Services section
4.   Click Details and select UPnP to setup the service
5.   The IP device icon will be added to "MY Network Places"
6.   User may double click the IP device icon to access IE browser

ii、 PPPoE：

Select "Enabled" to use PPPoE.

Key-in Username and password for the ADSL connection.

Send mail after dialed：When connect to the internet, it will send a mail to a specific mail account. For the mail setting, please refer to "Mail and FTP" settings.

iii、 DDNS：

Video Server supports DDNS (Dynamic DNS) service.

a.　　DynDNS：

1.　Enable this service

2.　Key-in the DynDNS server name, user name, and password.

3. Set up the IP refreshing rate.
4. Click "Apply"
5. If setting up IP schedule update too frequently, the IP may be blocked. In general, schedule update every day (1440 minutes) is recommended.

b. Camddns service：

1. Please enable this service
2. Key-in user name
3. IP Schedule update is default at 5 minutes
4. Click "Apply".

c. DDNS Status
1. Updating：Information update
2. Idle：Stop service
3. DDNS registration successful, can now log by http://<username>.ddns.camddns.com：Register successfully.
4. Update Failed, the name is already registered：The user name has already been used. Please change it.
5. Update Failed, please check your internet connection：Network connection failed.
6. Update Failed, please check the account information you provide：The server, user name, and password may be wrong.

iv、 Wireless Setting (Wireless Network Optional)

Supports 802.11 b/g wireless connection.

Notice：Wireless network and Ethernet network use the same IP, the user has to unplug Ethernet cable, if Ethernet cable is not unplug, wireless setting can not be executed.

a.　　Status of Wireless Networks：

scan all wireless services.

b.　　Wireless Setting：

1. **Mode**：There are Infrastructure and Ad-hoc. Infrastructure is for connecting with the router. Ad-hoc is for connecting with PC. There is "Channel" to select only when user uses Ad-hoc mode.

e.g. If one PC's channel is 1, the other's channel has to 1, too.

2. **SSID**：Based on AP setting.
3. **Channel**：This is only be used when the user selects Ad-hoc mode in order to avoid conflict.
4. **Security**：It supports "None", "WEP", "WPA-PSK" security encryption based on the setting of the Router.

5. **WEP：**

- Authentication：There are Open System and Shared Keys, it is based on different encryptions. This has to be the same as the Router's setting.
- Encryption：There are 64 bits and 128 bits. This is based on Key Type based on the Router's setting.
- Key Type：There are HEX and ASCII. When selecting HEX, the user only can input 0~9 characters and use A, B, C, D, E, and F.
- When selecting ASCII, the user can input any character. (Case sensitive)
- Key 1~4：Based on Key Type to input characters.

6. **WPA-PSK**

- Encryption：There are TKIP and AES.
- Pre-Shared Key：Allow any characters. (Case sensitive)

C.A/V Setting

  i、 Image Setting
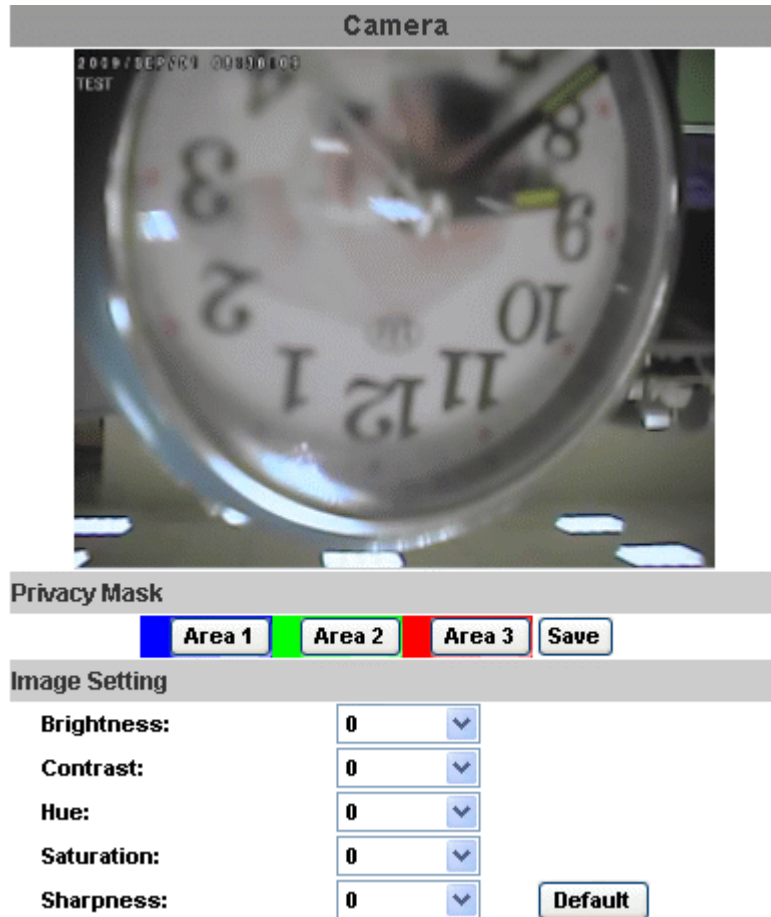
    For the security purpose, there are three areas can be setup for privacy mask. Click Area button first and pull a area on the above image. Finally, click Save button to reserve the setting.

    Adjust "Brightness", "Contrast", "Hue", "Saturation" to get clear video.

  ii、 Video Setting

    User may select 3 streaming output simultaneously:

    Streaming 1 Setting: Basic mode and Advanced mode

    Streaming 2 Setting: Basic mode, Advanced mode

    3GPP Streaming Setting

    a. Streaming 1 Basic Mode：

1. Resolution：

    There are 4 resolutions to choose.

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

2. Quality：

    There are 5 levels to adjust:

    Best/ High/ Standard/ Medium/ Low

    The higher the quality is, the bigger the file size is.

    Also not good for internet transmitting

3. Video Frame Rate：The video refreshing rate per second.

4. Video Format：H.264 or MJPEG.

5. RTSP Path: RTSP output name

b.   Streaming 1 Advanced Mode：

1. Resolution：

    There are 4 resolutions to choose.

		NTSC	/	PAL
D1	–	720×480	/	720×576

<table>
<tr><td>4CIF</td><td>–</td><td>704×480</td><td>/</td><td>704×576</td></tr>
<tr><td>CIF</td><td>–</td><td>352×240</td><td>/</td><td>352×288</td></tr>
<tr><td>QCIF</td><td>–</td><td>176×120</td><td>/</td><td>176×144</td></tr>
</table>

2. Bitrate Control Mode

There are CBR〔Constant Bit Rate〕 and VBR〔Variable Bit Rate〕to use.

CBR：32Kbps~4Mbps – Increase CBR to increase the picture qulity; vise versa

VBR：1(Low)~10(High) – Compression rate, the higher the compression rate, the lower the picture quality is; vise versa. The balance between VBR and network bandwidth will affect picture quality. Please carefully select the VBR rate to avoid picture breaking up or lagging.

3. Video Frame Rate

Picture display frame per second

NTSC: Max 30 frames/second   PAL: Max 25 frames/second

4. GOP Size

It means "Group of Pictures". The higher the GOP is, the better the quality is.

5. Video Format：

There are 2 Video Format to choose

H.264 or MJPEG.

6. RTSP Path: RTSP output connecting route

c.   Streaming 2 Basic Mode：

1. Resolution：

There are 4 resolutions to choose.

<table>
<tr><td></td><td></td><td>NTSC</td><td>/</td><td>PAL</td></tr>
<tr><td>D1</td><td>–</td><td>720×480</td><td>/</td><td>720×576</td></tr>
<tr><td>4CIF</td><td>–</td><td>704×480</td><td>/</td><td>704×576</td></tr>
</table>

<pre>
            CIF   –   352×240   /   352×288
            QCIF   –   176×120   /   176×144
</pre>

2. Quality：

There are 5 levels to adjust:

Best/ High/ Standard/ Medium/ Low

The higher the quality is, the bigger the file size is. Also not good for internet transmitting

3. Video Format：H.264 or JPEG

4. RTSP Path: RTSP output connecting route

d. Streaming 2 Advanced Mode：

1. Resolution：

There are 4 resolutions to choose.

<pre>
                    NTSC   /   PAL
        D1   –   720×480   /   720×576
        4CIF   –   704×480   /   704×576
        CIF   –   352×240   /   352×288
        QCIF   –   176×120   /   176×144
</pre>

2. Bitrate Control Mode

There are CBR〔Constant Bit Rate〕 and VBR〔Variable Bit Rate〕to use.

CBR：32Kbps~4Mbps (the higher the CBR is, the better the video quality is)

VBR：1~10 (Compression Rate)
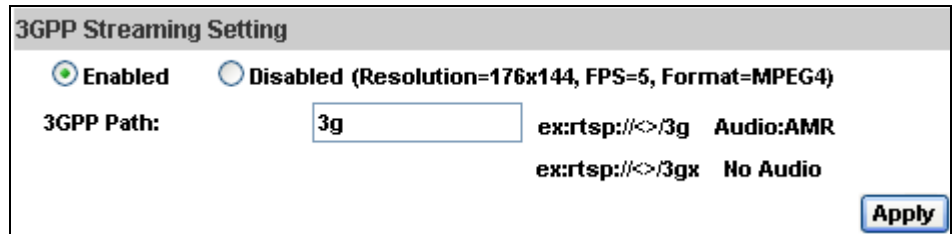
3. Video Frame Rate

The video refreshing rate per second.

4. GOP Size

It means "Group of Pictures". The higher the GOP is, the better

the quality is.

5. Video Format：H.264 or JPEG
6. RTSP Path: RTSP output name

e. 3GPP Streaming Setting mode:

3GPP default value is Resolution=176x144， 5FPS，Format=MPEG4

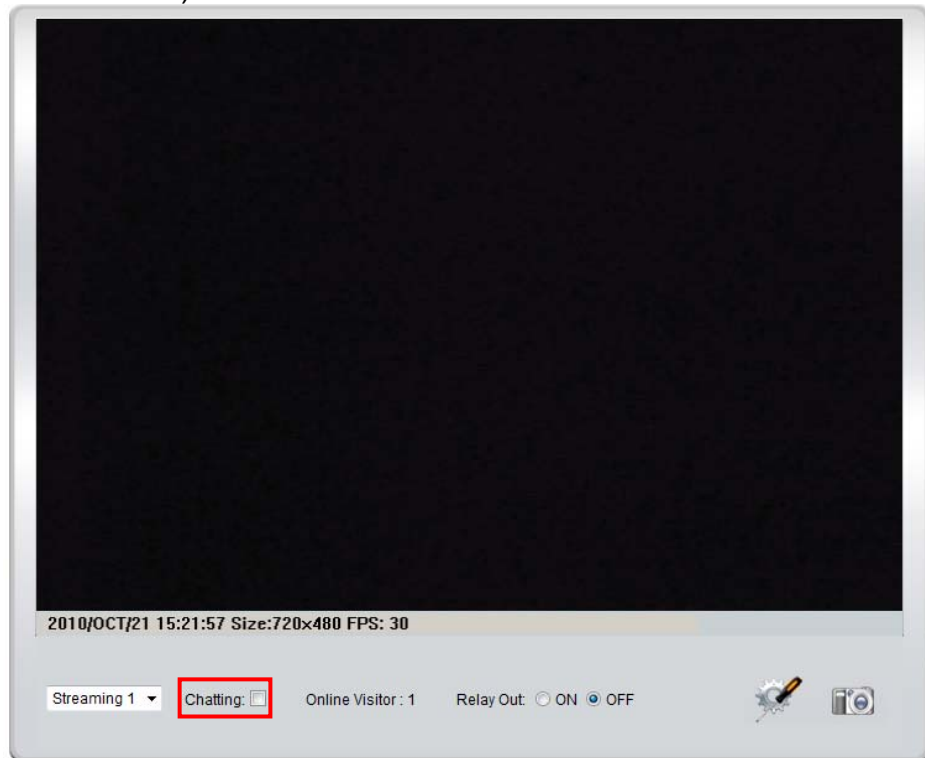1. Enable or Disable 3GPP Streaming
2. 3GPP: 3GPP output name

iii、 Audio：

Video Server supports 2-way audio.

a. From video server to local PC, select "Enable" to start this function (When enabled, you can send audio via external mic in the IP Camera)

b. From local PC to Video Server, check "chatting" in the browsing page (You will need a mic to send audio from local PC to IP Camera)

2010/OCT/21 15:21:57 Size:720×480 FPS: 30

Streaming 1 ▾   Chatting: ☐   Online Visitor : 1   Relay Out: ○ ON ⦿ OFF

The Audio will not be smooth when enable SD card recording function simultaneously.

D.Event List

Video Server provides multiple event settings.

ⅰ、 Event Setting

a. Motion Detection：

Video Server allows 3 areas motion detection. When motion is triggered, it can send the video to some specific mail addresses, transmit the video to remote ftp server, trigger the relay, and save video to local SD card. To set up the motion area, click "Area Setting". Using mouse to drag and draw the area. The same operation for area 2 and 3.

b. Record File Setting: IP CAMERA allows 3 different types of recording file to change its record size.

When motion/alarm is triggered, there are 3 different types of

record mode.

1. AVI File (With Record File Setting)
2. Multi-JPEG (With Record File Setting), only with JPEG compression format.
3. Single JPEG (Single File with Interval Setting)

c. Record Time Setting：

Pre Alarm and Post Alarm setups for video start and end time when motion detected, I/O, or other devices got triggered.

Note: Pre/Post Alarm record time is base on record time setting and IP Cam built-in Ram memory. Limited by IP Cam built-in Ram Memory, When information is too much or video quality set too high, it will cause recording frame drop or decrease on post alarm recording time.

d. Network Dis-connected

When the network is down, it will save the video to local SD card. This function is only enabled in wire connection.

e. Network IP check

When the connection is down, it records the video to SD card. Make sure the video recording is continuous. To use this function, key in the IP address of the PC which has recording software installed. Enable the function of "Save to SD card", then click "Apply". **The interval of two video files on SD card is fixed with 30 seconds.**

ii、 Schedule

a. Schedule: After complete the schedule setup, the camera data will be recorded according to the schedule setup.

b. Snapshot: After enable the snapshot function, user can select the storage position of snapshot file, the interval time of snapshot and the reserved file name of snapshot.

iii、 I/O Setting

Video Server supports 2 input/ 2 Relay output. When input is triggered, it can send the video to some specific mail addresses, transmit the video to remote ftp server, trigger the relay, and save video to local SD card.

iv、 Mail & FTP

To send out the video via mail of ftp, please set up the configuration first.

v、 Log List

Sort by System Logs, Motion Detection Logs and I/O Logs. In addition, System Logs and I/O Logs won't lose data due to power failure.

vi、 SD card
Please Insert SD card before use it. Make sure pushing SD card into the slot completely.

Note：The use of the SD card will affect the operation of the Video Server slightly, such as affecting the frame rate of the

a. Playback：

1. It will show the capacity of the SD card. Click the date listed on this page. It will show the list of the video.

| 2006/04/17			Del
Time	Video	Event Type	☐
09:05:22	090522f.avi	Network Dis-connected	☐
09:05:52	090552f.avi	Network Dis-connected	☐
09:06:22	090622f.avi	Network Dis-connected	☐
09:06:52	090652f.avi	Network Dis-connected	☐
09:07:22	090722f.avi	Network Dis-connected	☐
09:07:52	090752f.avi	Network Dis-connected	☐
09:08:22	090822f.avi	Network Dis-connected	☐
09:08:51	090851f.avi	Network Dis-connected	☐
09:09:21	090921f.avi	Network Dis-connected	☐
09:09:51	090951f.avi	Network Dis-connected	☐
	1 2 3 4 5		

2. The video format is AVI. Click the video to start Microsoft Media Player to play it.

3. To delete the video, check it, then click Del . When the SD card is full, it will remove the oldest video automatically.
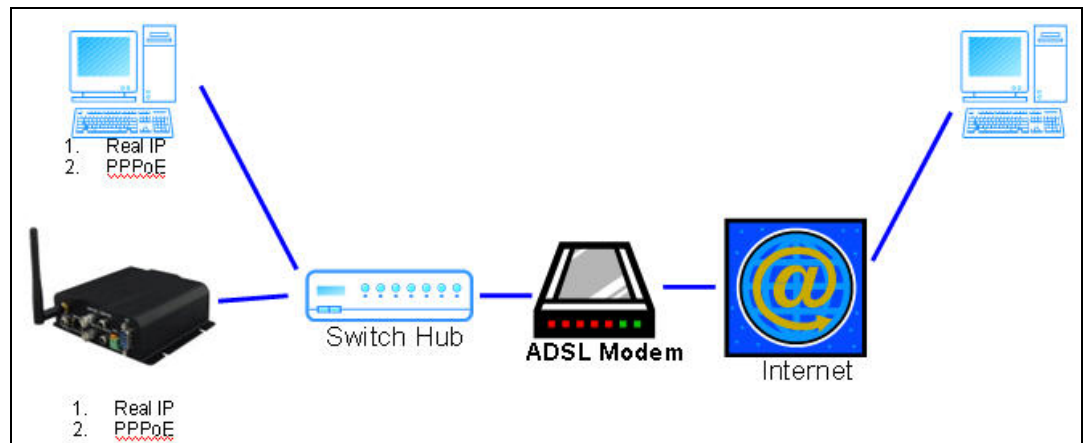
VI. Network Configuration

   i、   Configuration 1：
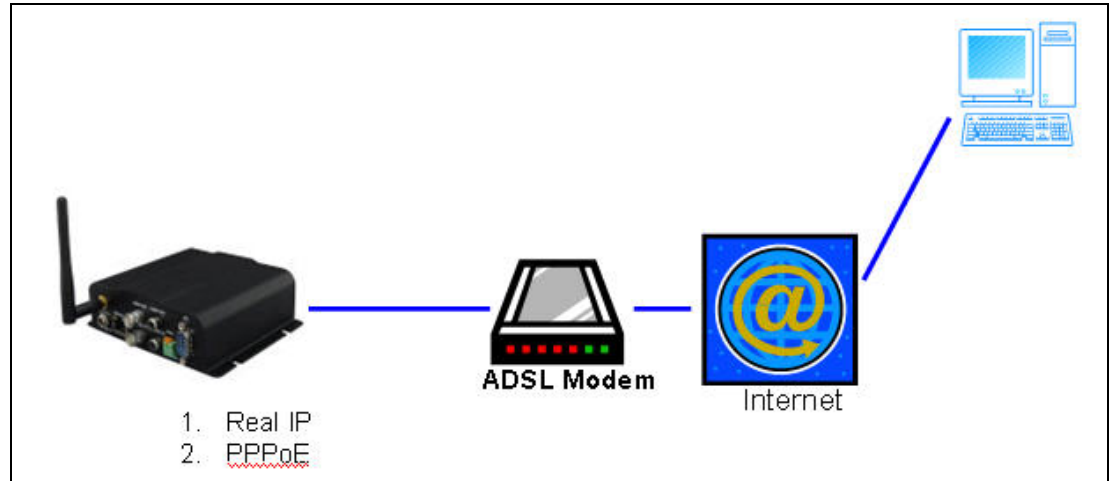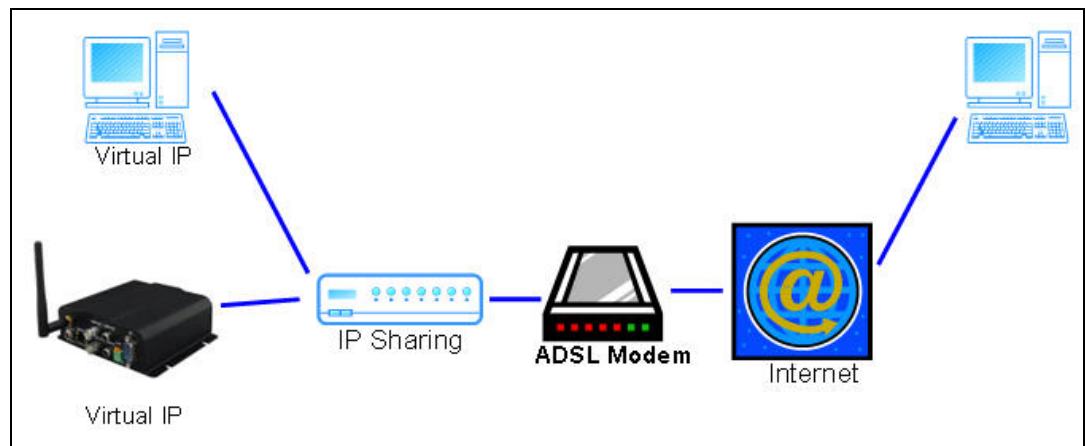

   A.   Internet Access：ADSL or Cable Modem
   B.   IP address：One real IP or one dynamic IP
   C.   Only Video Server connects to the internet
   D.   For fixed real IP, set up the IP into Video Server. For dynamic IP, start PPPoE.

   ii、   Configuration 2：

   a.   Internet Access：ADSL or Cable Modem
   b.   IP address：More than one real IP or one dynamic IP
   c.   Video Server and PC connect to the internet
   d.   Device needed：Switch Hub
   e.   For fixed real IP, set up the IP into Video Server and PC. For dynamic IP, start PPPoE.

iii、 Configuration 3：

a. Internet Access：ADSL or Cable Modem
b. IP address：one real IP or one dynamic IP
c. Video Server and PC connect to the internet
d. Device needed：IP sharing
e. Use virtual IP, set up port forwarding in IP sharing.

VII. Factory Default

i、 To recover the default IP address and password, please follow the following steps.

ii、 Remove power and press and hold the button in the back of Video Server.

iii、 Power on the Video Server. Don't release the button during the system booting.

iv、 It will take around 30 seconds to boot the Video Server.

v、 Release the button when Video Server finishes proceed.

vi、 Re-login the Video Server using the default IP (http://192.168.1.210), and user name (admin), password (admin).

VIII. Package contents

i、 Video Server

ii、 Adaptor

iii、 Ethernet Cable

iv、 CD title (User manual, IP installation Utility)

Appendix I

SD Card Recommended：

SanDisk 128M	Transcend 128M 80X
SanDisk 256M	Transcend 256M 80X
SanDisk 512M	Transcend 512M 80X
SanDisk 1G	Transcend 1G 80X
SanDisk 2G	Transcend 2G 80X
SanDisk 4G	Transcend 4G 80X