

# USER MANUAL

## MEGA-PIXEL IP CAMERA



# I. Preface

With this progressive scan CCD Mega-Pixel IP camera & web server built in. User can view video via IE browser. It supports MPEG-4 & JPEG video compression which provides smooth and high video quality.

With user friendly interface, it is an easy-to-use IP camera which is designed for security application.

## II. Product Specifications

- Mega-Pixel (SXGA Resolution)
- Power over Ethernet (option)
- True Day/ Night Function
- Mechanism IR Cut Filter available
- MPEG4/ MJPEG Compression Format
- 2-way audio
- Support Cell phone/PDA/3GPP
- Dual Streaming
- SDK for Software Integration
- 
- Free Bundle 36 Channel Recording Software

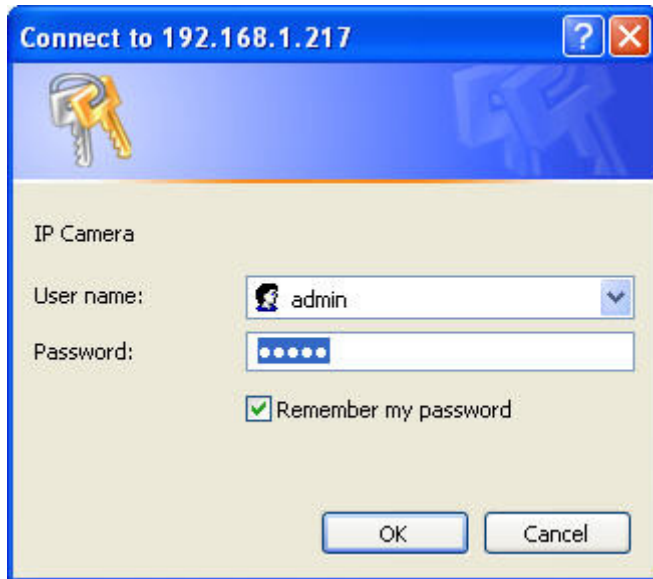
### Specifications

Hardware	
CPU	ARM 9 ,32 bit RISC
RAM	64MB
ROM	16MB
Image sensor	1/3" SONY Progressive CCD
Sensitivity	
Lens Type	CS Mount
Support DC IRIS	Yes
ICR	Mechanism IR Cut Filter

I/O	2 in/ 2out
RS-485	Yes
Video Out	1
Mode	Test mode: Video ON Network OFF
	Normal mode: Network ON
Microphone	Built-in
Audio Out	1
Power over Ethernet	Yes
Power Consumption	LAN: DC 12V, 450mA
Operating Temperature	-10 °C ~45 °C
Dimensions (WxHxD)	65 x 58 x 131.5 mm
Weight	450g
<b>Network</b>	
Ethernet	10/ 100 Base-T
Network Protocol	HTTP, TCP/ IP, SMTP, FTP, PPPoE, DHCP, DDNS, NTP , 3GPP
<b>System</b>	
Video Resolution	MJPEG: 1280x960, 640x480
	MPEG4: 640x480, 320x240, 160x120
Video adjust	Brightness, Contrast, Saturation, Hue
Dual Streaming	Yes
CCD Setting	AES, BLC, AGC, Day/ Night (Auto)
Image snapshot	Yes
Full screen monitoring	Yes
Compression format	MPEG-4/ MJPEG
Motion Detection	Yes, 3 different areas
Triggered Action	Mail, FTP
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 (Duplex Support)
<b>Client system requirements</b>	


## IV. Live Video

Start a IE browser, type the IP address of the IP camera 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 IP CAMERA ◦ The following program interface shows.



1.  : Get into the administration page



2. : Video Snapshot

3. Shows how many people connect to this IP camera
4. Show system time, video resolution, and video refreshing rate
5. IP CAMERA 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 IP CAMERA side.
6. Control the relay which is connected to this camera.

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.




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.

## V. Configuration



Click  to get into the administration page. Click  to go back to the live video page.



The screenshot shows the IP Camera web interface configuration page. On the left is a sidebar menu with categories: System (containing System Information, User Management, System Update), Network (containing IP Setting, PPPoE, DDNS), A/V Setting (containing Image Setting, Video Setting, Audio), and Event (containing Event Setting, I/O Setting, Mail & FTP, Log List). The main content area is titled 'System Information' and contains the following settings:

- Server Information**
  - Server Name: HLC-81N PM
  - MAC Address: 00:0F:00:00:23:1B
  - Language: ☒ English ☐ 繁體中文 ☐ 简体中文
- OSD Setting**
  - ☒ Enabled ☐ Disabled
  - Position: ☐ Top-Left ☐ Top-Right ☐ Bottom-Left ☒ Bottom-Right
- Time Setting**
  - Server Time: 2008/11/10 14:16:36 Time Zone: GMT+08:00
  - Date Format: ☒ yy/mm/dd ☐ mm/dd/yy ☐ dd/mm/yy
  - Time Zone: GMT+08:00
  - ☐ NTP :
    - NTP Server : 198.123.30.132
  - ☐ Synchronize with PC's time
    - Date : 2008/11/10
    - Time : 14:15:26
  - ☐ Manual
    - Date : 2008/11/10
    - Time : 14:15:4
  - ☒ The date and time remain the same

An 'Apply' button is located at the bottom right of the configuration area.

# A.System

## i、System Information

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

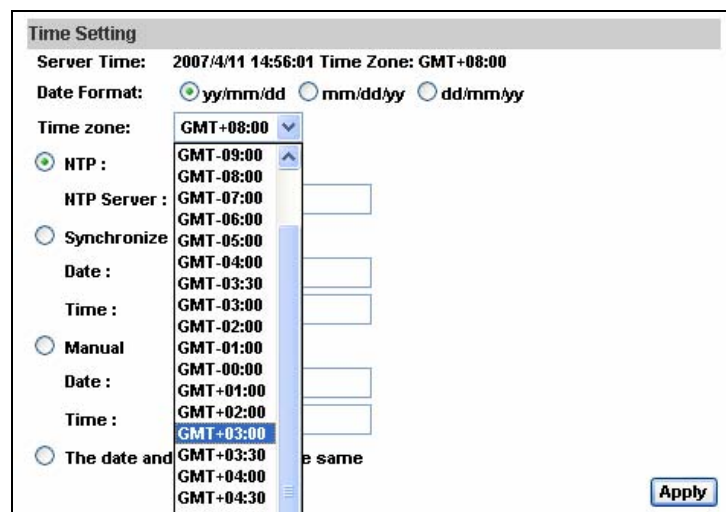
1. Server Name : This is the Camera name. This name will show on the IP Installer.
2. Select language : There are English, Traditional Chinese, and Simplified Chinese to select. When change, it will show the following dialogue box for the confirmation of changing language.



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



- 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

IP CAMERA supports three different users, administrator, general user, and anonymous user.

The screenshot shows the 'User Management' interface. At the top, there's a section for 'Anonymous User Login' with radio buttons for 'YES' and 'NO' (selected), and a 'Setting' button. Below this is the 'Add User' section with input fields for 'Username:', 'Password:', and 'Confirm:', followed by an 'Add/Set' button. At the bottom is a 'User List' table.

Username	User Group	Modify	Remove
admin	Administrator	Edit	

- Anonymous User Login :  
Yes : Allow anonymous login  
No : Need user name & password to access this IP camera
- Add user :  
Type the user name and password, then click "Add/Set".
- Click "edit" or "delete" to modify the user.

The screenshot shows a 'User Setup' dialog box within a Microsoft Internet Explorer window titled 'User\_Setting - Microsoft Internet Explorer'. The dialog has input fields for 'Username:' (containing 'admin'), 'Password:', and 'Confirm:', and an 'OK' button.



iii 、 System update :

**System Update**

**Firmware Upgrade**

Firmware Version: V3.2.12

New Firmware:

**Reboot System**

**Factory Default**

**Setting Management**

Save As a File: Right click the mouse button on Setting Download and then select Save As to save current system's setting in the PC.

New Setting File:

- 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 the settings in this IP camera.
- 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

IP Camera supports DHCP and static IP.

IP Setting	
<b>IP Assignment</b>	
<input type="radio"/> DHCP	
<input checked="" type="radio"/> Static	
IP Address:	192.168.1.217
Subnet Mask:	255.255.255.0
Gateway:	192.168.1.254
DNS 0:	168.95.1.1
DNS 1:	168.95.192.1
<b>Port Assignment</b>	
Web Page Port:	80
Video Port :	7070
Audio In Port :	7071
Audio Out Port :	7072
<input type="button" value="Apply"/>	

- DHCP : Using DHCP, IP CAMERA will get all the network parameters automatically.
- Static IP : Please type in IP address, subnet mask, gateway, and DNS manually.
- Port Assignment: user may need to assign different port to avoid conflict when setting up IP assignment.

### ii、 PPPoE :

PPPoE	
<b>PPPoE Setting</b>	
<input type="radio"/> Enabled	<input checked="" type="radio"/> Disabled
Username:	
Password:	
<b>Send mail after dialed</b>	
<input type="checkbox"/> Enabled	
Subject:	PPPoE From IPcam
<input type="button" value="Apply"/>	

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 :

It supports DDNS (Dynamic DNS) service.

a. DynDNS :

The screenshot shows the 'DDNS' configuration page. At the top is the title 'DDNS'. Below it is the 'DDNS Setting' section. There are two radio buttons: 'Enabled' (unselected) and 'Disabled' (selected). Below the radio buttons are four input fields: 'Provider:' with a dropdown menu showing 'dyndns.org', 'Hostname:', 'Username:', and 'Password:'. Below these is a 'Schedule Update:' field with the value '1440' and the unit 'Minutes'. Below the input fields is a 'State' section with a dropdown menu showing 'Idle'. To the right of the 'State' dropdown is an 'Apply' button. Below the 'Apply' button is a 'Note:' section with two numbered points. Point 1 states that the 'Schedule Update' feature is designed for IP products behind ICS or NAT devices, with update ranges from 5 to 5000 minutes, and 0 for off. Point 2 states that the hostname will be blocked by DynDNS.org if the update frequency is more than once every 5 minutes to 60 minutes, and that a 1440-minute update is recommended.

**DDNS**

**DDNS Setting**

☐ Enabled ☒ Disabled

Provider: dyndns.org ▼

Hostname:

Username:

Password:

Schedule Update: 1440 Minutes

**State**

Idle ▲ ▼

**Apply**

**Note:**

1. Schedule Update: Feature of DDNS schedule update is designed for IP products which installed behind the ICS or NAT devices. Update range from every 5 (minutes) to 5000 (minutes) and 0 remain to off.

2. Please note that the hostname will be blocked by DynDNS.org if schedule update is more than once every 5 minutes to 60 minutes. In general, schedule update in every 1440 minutes is recommended.

1. Enable this service
2. Key-in the DynDNS server name, user name, and password.
3. Set up the IP Schedule update 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 :

The screenshot shows the 'DDNS' configuration page. At the top is a header 'DDNS'. Below it is a section 'DDNS Setting'. In this section, there are two radio buttons: 'Enabled' (which is unselected) and 'Disabled' (which is selected). Below the radio buttons are three input fields: 'Provider:' with a dropdown menu showing 'ddns.camddns.com', 'Username:' with an empty text box, and 'Schedule Update:' with a text box containing '1440' and the unit 'Minutes' to its right. Below these fields is a 'State' section with a dropdown menu showing 'Idle'. To the right of the 'State' dropdown is an 'Apply' button. Below the 'Apply' button is a 'Note:' section containing two paragraphs of text.

**DDNS**

**DDNS Setting**

☐ Enabled ☒ Disabled

Provider: ddns.camddns.com

Username:

Schedule Update: 1440 Minutes

**State**

Idle

Apply

**Note:**

1. Schedule Update: Feature of DDNS schedule update is designed for IP products which installed behind the ICS or NAT devices. Update range from every 5 (minutes) to 5000 (minutes) and 0 remain to off.
2. Please note that the hostname will be blocked by DynDNS.org if schedule update is more than once every 5 minutes to 60 minutes. In general, schedule update in every 1440 minutes is recommended.

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.

## C.A/V Setting

### i、Image Setting

Camera

2008/NOV/10 14:31:50

**Image Setting**

Brightness:  0 / 32 / 64

Contrast:  0 / 128 / 255

Hue:  -128 / 0 / 127

Saturation:  0 / 128 / 255

Sharpness:  0 / 128 / 255

Default

**CCD Setting**

Auto Electronic Shutter: 1/100s(Flicker-less) ▼

Automatic Gain Control:  0 / 2048 / 2048

Day & Night: 2: Black & White ▼

AWB: 00: AWB MODE ▼

E-Zoom: x1 ▼

IRIS Level:  -6 / -2 / +6

Flip: No reverse/rotation ▼

Default

Adjust “Brightness”, “Contrast”, “Hue”, “Saturation” and “Sharpness” to get clear video.

Automatic gain control, night mode, and IRIS Level are adjustable as well in CCD setting.

### ii、Video Setting

JPEG Setting: Basic mode.

MPEG-4 Setting: Basic mode, Advanced mode, and 3GPP mode.

a. JPEG Setting :

Video Setting	
<b>JPEG Setting</b>	
Resolution:	VGA - 640x480
Quality:	Standard
Video Frame Rate:	10 FPS
Video System:	NTSC
RTSP Path:	jpeg      ex:rtsp://<<IP>>/jpeg      No Audio

1. Resolution :

There are 2 resolutions to choose.

VGA - 640x480	▼
SXGA - 1280x960	
VGA - 640x480	

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

Picture display frame per second

Max 30 frames/second (1280x960 Max FPS :15)

4. Access Name: RTSP output name

b. MPEG-4 Advanced Mode :

MPEG-4 Setting	
<input type="radio"/> Basic Mode <input checked="" type="radio"/> Advanced Mode <input type="radio"/> 3GPP Mode	
Resolution:	VGA - 640x480
Bitrate Control Mode:	<input checked="" type="radio"/> CBR <input type="radio"/> VBR
Video Quantitative:	5
Video Bitrate:	1Mbps
Video Frame Rate:	10 FPS
GOP Size:	1 X FPS    GOP = 10
RTSP Path:	mpeg4      ex:rtsp://<<IP>>/mpeg4      No Audio
<input type="button" value="Apply"/>	

1. Resolution :

There are 3 resolutions to choose.



2. Bitrate Control Mode

There are CBR [ Constant Bit Rate ] and VBR [ Variable Bit Rate ] to use.

CBR : 32Kbps~2Mbps – Increase CBR to increase the picture quality; 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

Max 30 frames/second (640x480 Max FPS :30)

4. GOP Size

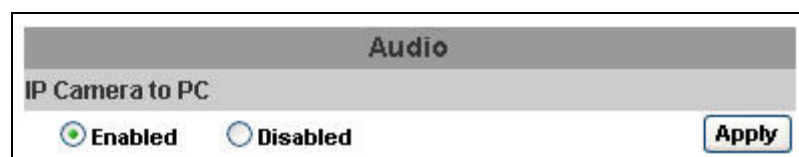
It means "Group of Pictures". The higher the GOP is, the better the quality is.

5. Access Name: RTSP output connecting route

iii 、 Audio :

IP CAMERA supports 2-way audio. User can send audio from IP Camera Built-in mic to remote PC; User can also send audio from remote PC to IP Camera's external speaker.

- a. Audio from IP camera built-in mic to local PC: select "Enable" to start this function.



- b. Audio from local PC to IP Camera: Check “chatting” in the browsing page.





## D.Event List

IP CAMERA provides multiple event settings.

### i、Event Setting

**Event Setting**

Motion Detection

Area Setting: Area 1 Area 2 Area 3

Sensitivity: 5 5 5

☒ Area 1: ☐ E-mail ☐ FTP ☒ Out1 ☒ Out2

☒ Area 2: ☐ E-mail ☐ FTP ☒ Out1 ☒ Out2

☒ Area 3: ☐ E-mail ☐ FTP ☒ Out1 ☒ Out2

Subject: IP Camera Warning!

Interval: 10 sec a period of time between every two motions detected.

Record File

File Format: AVI File(with Record Time Setting)MPEG4

Record Time Setting

Pre Alarm: 5 sec Post Alarm: 10 sec

Apply

#### a. Motion Detection :

IP CAMERA 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, and trigger the relay. 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 Time Setting :

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

### ii、I/O Setting

IP CAMERA supports 2 input/ 2 output. When input is triggered, it can send the video to some specific mail addresses, transmit the video to remote ftp server and trigger the relay.

I/O Setting	
<b>Input Setting</b>	
Input 1 Sensor:	<input type="button" value="H.O"/>
Input 1 Action:	<input type="checkbox"/> E-mail <input type="checkbox"/> FTP <input type="checkbox"/> Out1 <input type="checkbox"/> Out2
Input 2 Sensor:	<input type="button" value="H.O"/>
Input 2 Action:	<input type="checkbox"/> E-mail <input type="checkbox"/> FTP <input type="checkbox"/> Out1 <input type="checkbox"/> Out2
Subject:	<input type="text" value="GPIO In Detected!"/>
Interval:	<input type="button" value="10 sec"/>
<b>Output Setting</b>	
Mode Setting:	<input checked="" type="radio"/> OnOff Switch <input type="radio"/> Time Switch
Interval:	<input type="button" value="10 sec"/>
<input type="button" value="Apply"/>	

### iii 、 Mail & FTP

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

Mail & FTP	
<b>Mail Setting</b>	
Mail Server:	<input type="text"/>
Username:	<input type="text"/>
Password:	<input type="text"/>
Sender's Mail:	<input type="text"/>
Receiver's Mail:	<input type="text"/>
Bcc Mail:	<input type="text"/>
<b>FTP Setting</b>	
FTP Server:	<input type="text"/>
Username:	<input type="text"/>
Password:	<input type="text"/>
Port:	<input type="text" value="21"/>
Path:	<input type="text" value="/"/>
<input type="button" value="Apply"/>	

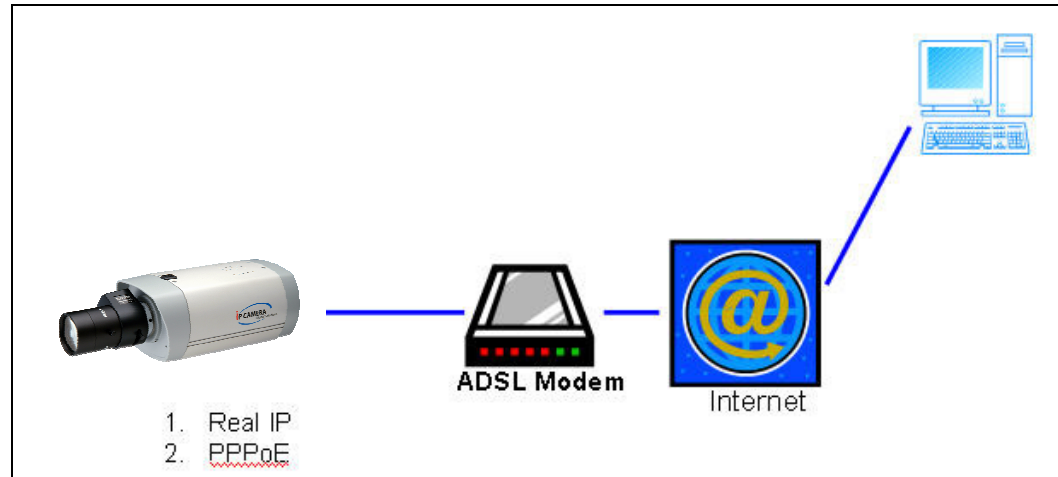
### iv 、 Log List

Log List	
System Logs	<a href="#">Logs</a>
Motion Detection Logs	<a href="#">Logs</a>
I/O Logs	<a href="#">Logs</a>
All Logs	<a href="#">Logs</a>

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.

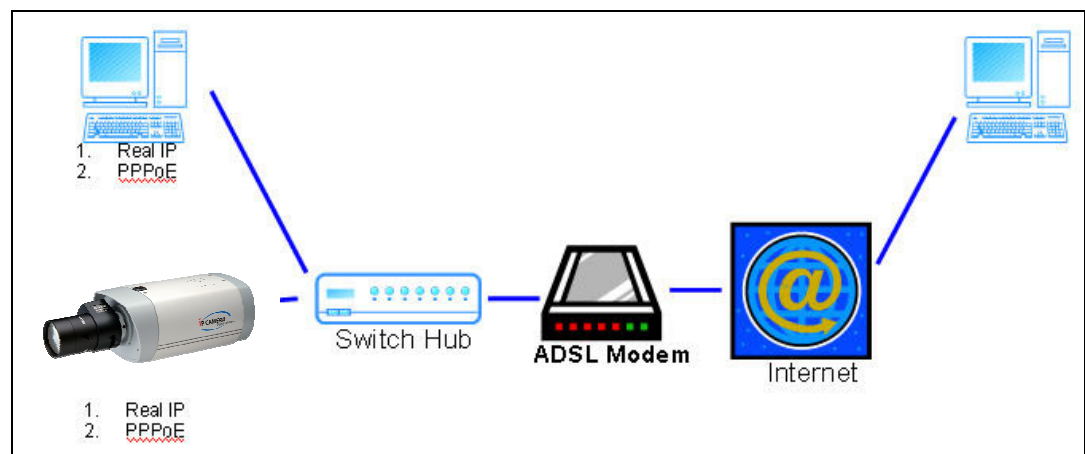
## VI. Network Configuration

### i、 Configuration 1 :



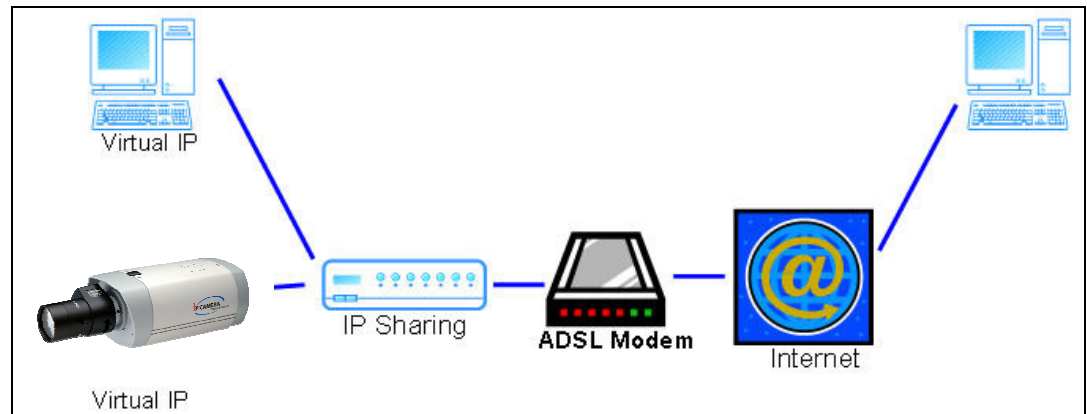
- a. Internet Access : ADSL or Cable Modem
- b. IP address : One real IP or one dynamic IP
- c. Only IP CAMERA connects to the internet
- d. For fixed real IP, set up the IP into IP CAMERA. For dynamic IP, start PPPoE.

### ii、 Configuration 2 :



- a. Internet Access : ADSL or Cable Modem
- b. IP address : More than one real IP or one dynamic IP
- c. IP CAMERA and PC connect to the internet
- d. Device needed : Switch Hub
- e. For fixed real IP, set up the IP into IP CAMERA 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. IP CAMERA and PC connect to the internet
- d. Device needed : IP sharing
- e. Use virtual IP, set up port forwarding in IP sharing.