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# **Network Camera**

## **User's Manual**



**Version: 1.2**

**Date: 04/10/2007**

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## 1. Preface

PiXORD P405 is a CMOS network Camera. It builds in web server. User views real-time video via IE browser. P405 supports MPEG-4 video compression which provides smooth and high quality video. The video can be stored in the SD card, and can be playback remotely.

P405 is an easy-to-use network camera which is designed for home security application.

## 2. Product Specifications

- MPEG-4 compression
- Supports SD card for local recording
- Wireless network connection (Optional)
- 2-way audio
- Online firmware upgrade
- Real-time video recording
- Compatible with Microsoft Windows Media Player

Hardware		
CPU		ARM 9 ,32 bit RISC
RAM		64MB
ROM		8MB
Image sensor		1/4" CMOS
Microphone		Built-in
Network		
Ethernet		10/100 Base-T
Network Protocol		HTTP, TCP/ IP, SMTP, FTP, PPPoE, DHCP, DDNS, NTP
Wireless (Optional)		
	Wireless	802.11b/g
	WEP	64/128 bit
System		
Video Resolution		640x480, 320x240, 160x120
Video adjust		Brightness, Contrast, Saturation, Hue
Image snapshot		Yes
Full screen monitoring		Yes
Compression format		MPEG-4
Video bitrate adjust		CBR, VBR
Motion Detection		Yes, 3 different areas
Triggered action		Mail, FTP, Save to SD card
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)
Video format		AVI
Video playback		Yes
Delete files		Yes
Web browsing requirement		
OS		Windows 2000, XP, 2003, Microsoft IE 6.0 or above
Hardware	Suggested	Intel-C 2.0GHz, RAM: 512MB, Graphic card: 64MB
	Minimum	Intel-C 1.6GHz, RAM: 256MB, Graphic card: 32MB

## 3. Product Installation

### A. Hardware Installation

1. Connect power adaptor



2. Connect Ethernet cable



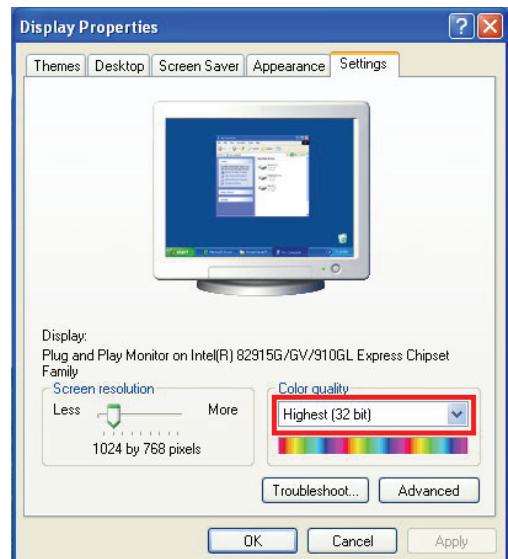
3. Set up the network configurations according to the network environment. For further explanation, please refer to chapter 6, “Network Configuration for P405”.

### B. Monitor Setting

1. Right-Click on the desktop. Select [Properties]



2. Change color quality to “Highest (32bit)”.



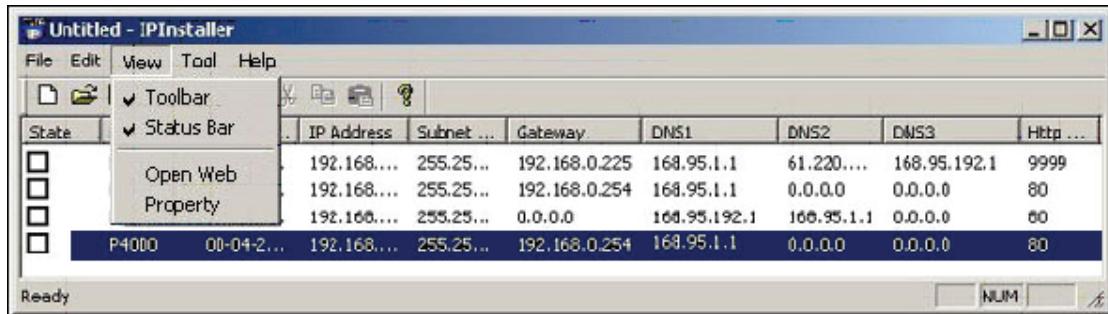
## C. IP Assignment

IP Installer is a utility that provides an easier, more efficient way to configure the IP address and network settings of the network camera. It even provides a convenient way to set the network settings for multiple devices simultaneously using the batch setting function. Moreover, IP Installer can save the network settings for all devices as a backup and restore them when necessary.

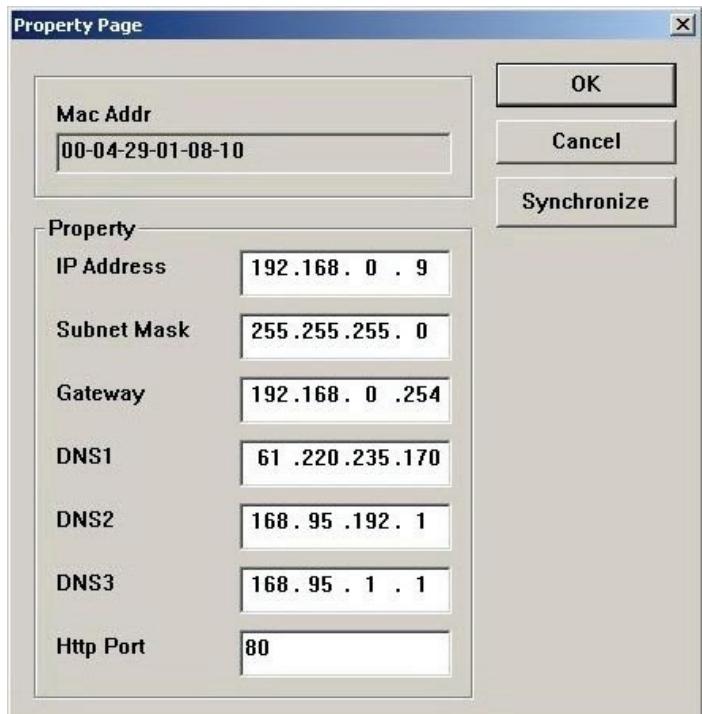
- Always consult your network administrator before assigning an IP address to your server in order to avoid using a previously assigned IP address.
- Ensure the network camera is powered on and correctly connected to the network.
- MAC Address: Each network camera has a unique Ethernet address (MAC address) shown on the sticker of the camera.
- One final note, although the IP Installer is able to find and configure any network camera on the LAN except those that are behind a router, it is a good idea to set the host PC to the same subnet. In order to connect to the Web-based user interface of the network camera, the host PC must be in the same subnet. For more information about subnets, please consult your network administrator.

1. Use the software, “IP Installer” to assign the IP address of P405. The software is in the attached software CD.
2. Click “IP Installer” from the CD menu to start the installation.

3. Once IP Installer has been successfully installed on the computer, double click the IP Installer icon on the desktop, or select it from **Start > Programs > PiXORD Corporation > IP Installer > IP Installer.**
4. The IP Installer window is displayed below. Click the menu bar **Tool > Search Network Device** to search the network camera in the LAN.
5. From the list, select the device with the MAC Address that corresponds to the device that is to be configured.
6. Double click the item to open the Property Page dialog box for the selected device or click the menu bar **View > Property**.



7. After filling in the properties, click **[Synchronize]** button to complete the configuration settings and save in the network camera and PC immediately. If click **[OK]** button, the configuration is only be saved in the PC.



8. To access the Web-based UI of the selected unit, run the **View > Open Web** on the menu bar.
9. If the device has been configured correctly, the default Web browser will open to the home page of the selected device.

## D. Install ActiveX Control

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



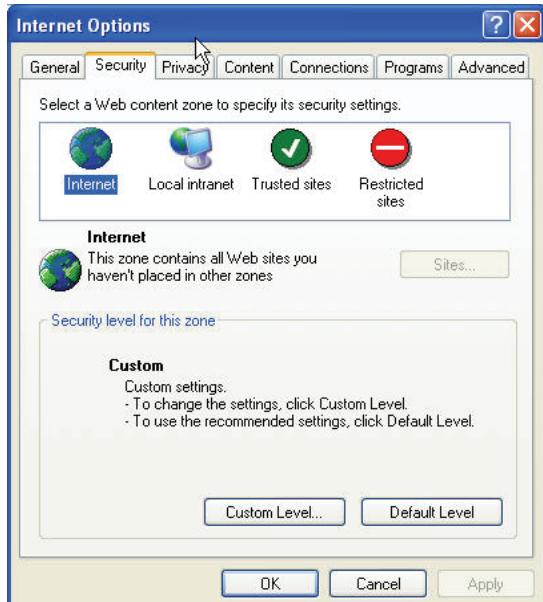
If the installation failed, please check the security setting for the IE browser.

1. IE → Tools → Internet Options... → Security Tab → Custom Level... → Security Settings → Download unsigned ActiveX controls → Select “Enable” or “Prompt”.
2. IE → Tools → Internet Options... → Security Tab → Custom Level... → Initialize and script ActiveX controls not marked as safe → Select “Enable” or “Prompt”.

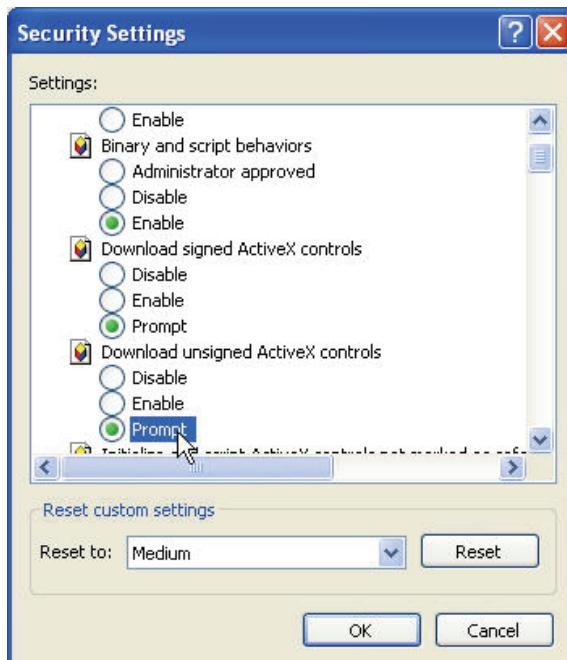
1



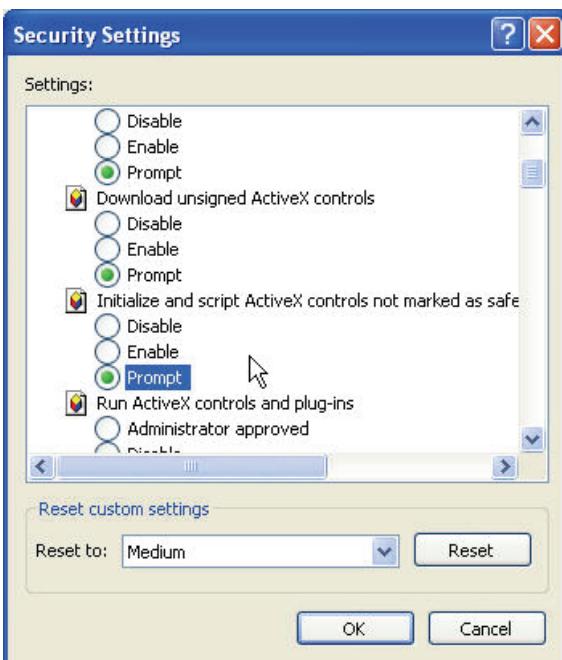
2



3

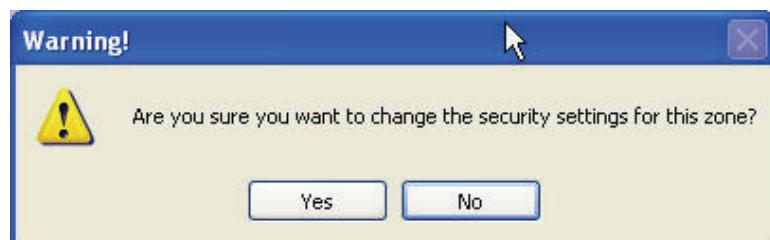


4



5

When popup the following dialogue box, click [Yes].



## 4. Live Video

Start the IE browser, type the IP address of the network camera in the address field. It will show a dialogue box. Key-in the user name and password. The default user name and password are “admin” and “admin”.



When connect to the P405. The following GUI shows.



- ① Languages: Select the language to display the user interface. There are English, Traditional Chinese, and Simplified Chinese can be selected.
- ② Size: Select the resolution to display the live video.
- ③ [Snap Shot]: Video Snapshot.
- ④ [Configuration]: Get into the administration page.
- ⑤ Chatting: P405 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 P405 side.

- ⑥ Shows how many users connect to this network camera.
- ⑦ Show system time, video resolution, and video refreshing rate.

Double-click the video, it will change to full screen mode. Press [Esc] key or double-click the video again, it will change back to normal mode.

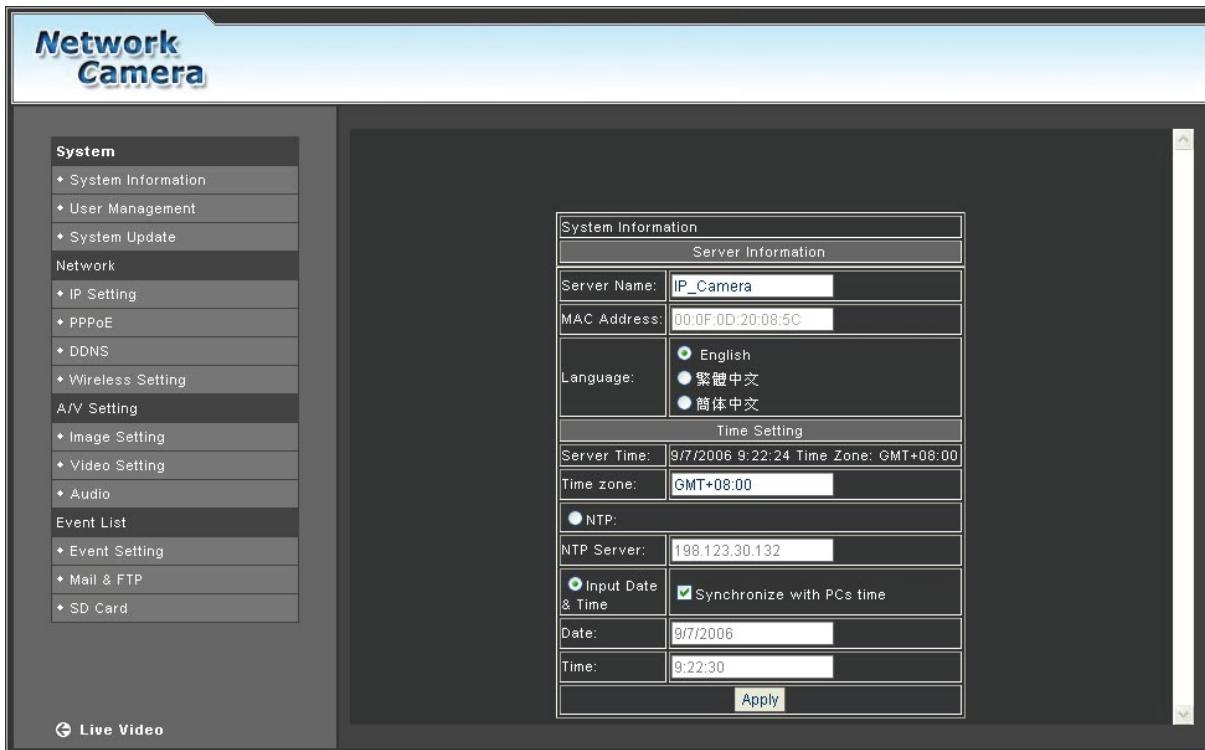
Right-Click the mouse on the video, it will show a pop-up menu.



1. [Snapshot]: Save the video as a jpg 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, and select [Record Stop]. The saved video format is AVI. Use Microsoft Media Player to play the recorded file.
3. [Mute]: Turn off the audio. Click again to turn on it.
4. [Full Screen]: Full-screen mode.

# 5. Configuration

Click [Configuration] to get into the administration page. Click [Live Video] to back to the live video page.



## A. System

### 1. System Information

Set up the camera name, select language, and set up the camera time.

- a. Server Name: This is the Camera name. This name will show on the IP Installer.
- b. Select language: There are English, Traditional Chinese, and Simplified Chinese can be selected. When change, it will show a dialogue box for the confirmation of changing language.



- c. Server time setting: Use NTP or Input Date & Time manually.
- d. Click [Apply] to save the settings.

System Information	GMT+04:30	GMT+05:00
	GMT+05:30	action
Server Name:	GMT+05:45	
	GMT+06:00	
MAC Address:	GMT+06:30	
	GMT+07:00	
	GMT+08:00	
Language:	GMT+09:00	
	GMT+09:30	
	GMT+10:00	
	GMT+11:00	
	GMT+12:00	
Server Time:	GMT+13:00	Time Zone: GMT+08:00
Time zone:	GMT+08:00	
<input checked="" type="radio"/> NTP: NTP Server: 198.123.30.132		
<input checked="" type="radio"/> Input Date & Time	<input type="checkbox"/> Synchronize with PCs time	
Date:	9/7/2006	
Time:	9:24:19	
<b>Apply</b>		

## 2. User Management

P405 supports three different user groups: administrator, general user, and anonymous user.

User Management			
Anonymous User Login		<input checked="" type="radio"/> YES	<input type="radio"/> NO
<input type="radio"/> Setting			
Add User			
User Name			
Password			
Confirm Password			
<b>Add/Set</b>			
User List			
Username	User Group	Modify	Remove
admin	Administrator	Edit	
q	Guest	Edit	Remove

a. Anonymous User Login:

Yes: Allow anonymous login.

No: Need user name & password to access this network camera.

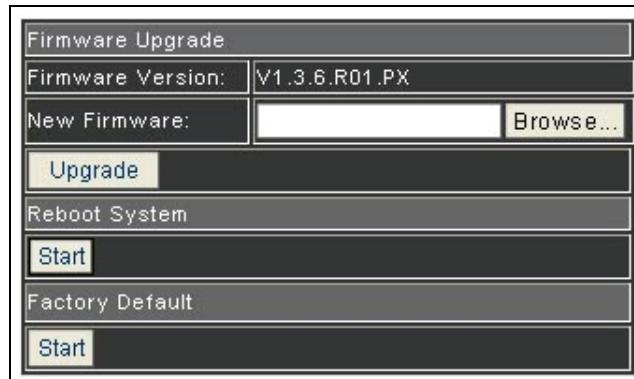
b. Add user:

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

c. Click [Edit] or [Remove] to modify the user.



### 3. System Update



To update the firmware online, click [Browse...] to select the firmware file. Then click [Upgrade] to the procedure.

Reboot system: Re-start the network camera

Factory default: Delete all the settings in this network camera and backs to the factory default values.

## B. Network

### 1. IP Setting

IP Setting		
IP Assignment		
<input checked="" type="radio"/> DHCP		
<input checked="" type="radio"/> Static	IP Address:	192.168.2.200
	SubnetMask:	255.255.255.0
	Gateway:	192.168.2.254
	DNS 0:	168.95.1.1
	DNS 1:	168.95.192.1
Port Assignment		
Web Page Port:	80	
Video Port:	7070	
Audio In Port:	7071	
Audio Out Port:	7072	
<input type="button" value="Apply"/>		

P405 supports DHCP and static IP.

- Static IP: Type IP address, subnet mask, gateway, and DNS manually.
- DHCP: Using DHCP, P405 will get all the network parameters automatically.

### 2. PPPoE

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

- a. Select [Enabled] to use PPPoE.
- b. Key-in Username and password for the ADSL connection.
- c. 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.

### 3. DDNS

P405 supports DDNS (Dynamic DNS) service.

- a. DynDNS:

DDNS	
DDNS Setting	
<input checked="" type="radio"/> Enabled	<input type="radio"/> Disabled
Hostname:	dyndns.org
Hostname:	<input type="text"/>
Username:	<input type="text"/>
Password:	<input type="text"/>
Schedule Update:	5
Status	
Idle	
<input type="button" value="Apply"/>	
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.	

- i. Select [Enable] to enable this service
- ii. Key-in the DynDNS server name, user name, and password.
- iii. Set up the IP refreshing rate in “Schedule Update” field.
- iv. Click [Apply].

b. Camddns service:

DDNS

DDNS Setting

<input checked="" type="radio"/> Enabled	<input type="radio"/> Disabled
Hostname:	ddns.camddns.com
Username:	
Schedule Update:	5

Status

Idle

Apply

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.

- i. Key-in user name.
- ii. Set up the IP refreshing rate in “Schedule Update” field.
- iii. Click [Apply].

c. DDNS Status

This field will display the message to indicate the status of DDNS:

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

## 4. Wireless Setting (This feature is optional)

This feature supports 802.11 b/g wireless connection.

- Mode: Follow the wireless AP you use to set up the parameter in this field.
- Operation Mode: Select “Auto”, it will detect the wireless mode, or you can select by yourself.
- SSID: Select “Default” is recommended.
- Security: P405 supports “WEP” and “WPA-PSK” security encryption.

Wireless Setting			
Status of Wireless Networks			
SSID	Mode	Security	Signal strength
PIXORD	Infrastructure	WEP	
default	Infrastructure	WEP	
pixord-wireless	Infrastructure	WEP	
LF1	Infrastructure	OFF	
Sollerion IEEE 802.11b LAN	Infrastructure	WEP	
WISH	Infrastructure	OFF	
IM	Infrastructure	WEP	

Wireless Setting	
MAC Address:	00:11:E2:08:5A:77
Mode:	Infrastructure
Operation Mode:	Auto
SSID:	Default
Security:	None

**Apply**

Wireless Setting	
MAC Address:	00:11:E2:08:5A:77
Mode:	Infrastructure
Operation Mode:	Auto
SSID:	Default
Security:	WEP

WEP Setting	
Authentication:	Open System
Encryption:	64 bit
Key Type:	HEX (10 character max)
Key 1:	<input type="text"/>
Key 2:	<input type="text"/>
Key 3:	<input type="text"/>
Key 4:	<input type="text"/>

**Apply**

Wireless Setting	
MAC Address:	00:11:E2:08:5A:77
Mode:	Infrastructure
Operation Mode:	Auto
SSID:	Default
Security:	WPA-PSK

WPA-PSK Setting	
Encryption:	TKIP
PreSharedKey:	(ASCII format, 8~63)

**Apply**

## C. A/V Setting

### 1. Image Setting



- Adjust "Brightness", "Contrast", "Hue", "Saturation" and "AE Reference" to get clear video.
- It will get clear vision in low light condition, when "Day / Night" is enabled. The frame rate will slow down when this mode is "On".

## 2. Video Setting

### a. Basic Mode

Video Setting	
Video Setting	
<input checked="" type="radio"/> Basic Mode	<input type="radio"/> Advanced Mode
Resolution:	VGA - 640x480
Quality:	Standard
Video System:	60 Hz
<b>Apply</b>	

#### i. Resolution

There are 3 resolutions to choose.

- VGA – 640X480
- CIF – 320X240
- QCIF – 160X120

#### ii. Quality

There are 5 levels to adjust, the higher the quality is, the bigger the file size is.

#### iii. Video System

- Please select “60Hz” if you are in America, Taiwan...
- Please select “50Hz” if you are in Europe, China...

b. Advanced Mode

Video Setting	
Video Setting	
<input checked="" type="radio"/> Basic Mode	<input checked="" type="radio"/> Advanced Mode
Resolution:	VGA - 640x480
Bitrate Control Mode:	<input checked="" type="radio"/> CBR <input type="radio"/> VBR
Video Quantitative:	Q=10
Video Bitrate:	1.5Mbps
Video Frame Rate:	30 FPS
GOP Size:	1 X FPS <input type="radio"/> GOP = 30
Video System:	60 Hz
<input type="button" value="Apply"/>	

i. Resolution

There are 3 resolutions to choose.

- VGA – 640X480
- CIF – 320X240
- QCIF – 160X120

ii. Bitrate Control Mode

There are CBR (Constant Bit Rate) and VBR (Variable Bit Rate) to use.

- CBR : 64Kbps~4Mbps
- VBR : Q=3~30

iii. Video Frame Rate

The video refreshing rate per second.

iv. GOP Size

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

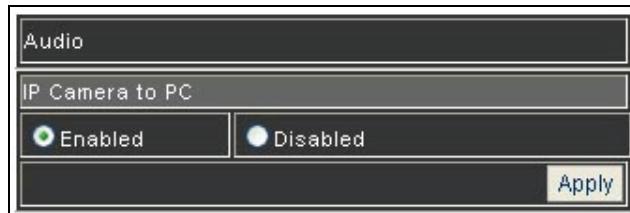
v. Video System

- Please select “60Hz” if you are in America, Taiwan...
- Please select “50Hz” if you are in Europe, China...

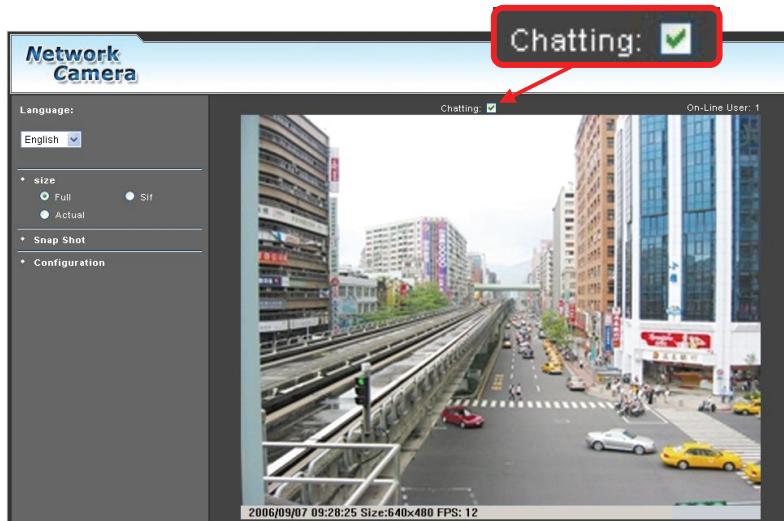
### 3. Audio

P405 supports 2-way audio.

- For network camera to local PC, select [Enabled] to start this function.



- For local PC to network camera, check "Chatting" in the browsing page.



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

## D. Event List

P405 provides multiple event settings.

### 1. Event Setting



#### a. Motion Detection

P405 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 save video to local SD card.

To set up the motion area, click [Area 1:], [Area 2:] or [Area 3:] button. Using mouse to drag the area on the video. Click [Apply] when you finish one area

setting, and then set up another area if necessary.

To enable the motion detection, enable the check box of area, and then select the actions when the motion is triggered.

b. Network IP Check

For the use of recording software, P405 supports the detection of this connection. Whenever the connection is down, it records the video to SD card to make sure the video recording is continuous. To use this function:

- i. Select [Enabled].
- ii. Key in the IP address of the PC which is installed the recording software.
- iii. Select the interval time between the network detections.
- iv. Check the check box of “Save to SD card”
- v. Click [Apply] button.

This function is only enabled in wire connection.

## 2. Mail & FTP

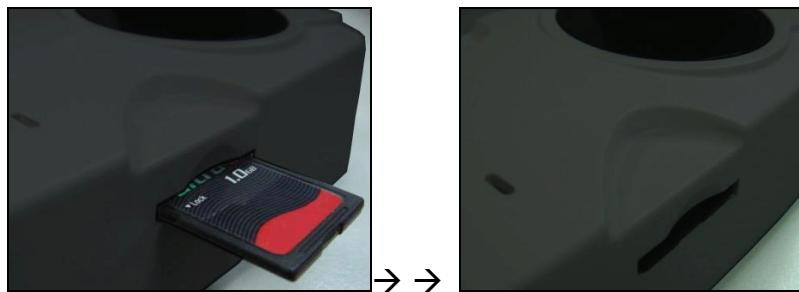
To send out the video via mail or ftp, please set up the configuration first.

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

### 3. 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 P405 slightly, such as affecting the frame rate of the video.



#### a. Playback

Play back					
20060906	20060908	20060909	20060911	20061001	20070906
SD Card: << 13M / 240M >>					

- i. It will show the capacity of the SD card. Click the date listed on this page, it will show the list of the video.

2006/09/06			<input type="button" value="Del"/>
Time	Video	Event Type	<input type="checkbox"/>
01:51:09	<a href="#">015109n.avi</a>	IP Check Failure	<input type="checkbox"/>
01:51:40	<a href="#">015140n.avi</a>	IP Check Failure	<input type="checkbox"/>
01:52:11	<a href="#">015211n.avi</a>	IP Check Failure	<input type="checkbox"/>
01:52:41	<a href="#">015241n.avi</a>	IP Check Failure	<input type="checkbox"/>
01:53:13	<a href="#">015313n.avi</a>	IP Check Failure	<input type="checkbox"/>
01:53:44	<a href="#">015344n.avi</a>	IP Check Failure	<input type="checkbox"/>
01:54:16	<a href="#">015416n.avi</a>	IP Check Failure	<input type="checkbox"/>
01:54:46	<a href="#">015446n.avi</a>	IP Check Failure	<input type="checkbox"/>
01:55:17	<a href="#">015517n.avi</a>	IP Check Failure	<input type="checkbox"/>
01:55:49	<a href="#">015549n.avi</a>	IP Check Failure	<input type="checkbox"/>
<a href="#">1</a> <a href="#">2</a> <a href="#">3</a> <a href="#">4</a> <a href="#">5</a> <a href="#">6</a> <a href="#">7</a> <a href="#">8</a> <a href="#">9</a> <a href="#">10</a> <a href="#">11</a> <a href="#">12</a> <a href="#">13</a> <a href="#">14</a> <a href="#">15</a>			

- ii. The video format is AVI. Click the video to start Windows Media Player to play it.
- iii. To delete the video, check it, and then click **Del**. When the SD card is full, it will remove the earliest video automatically.

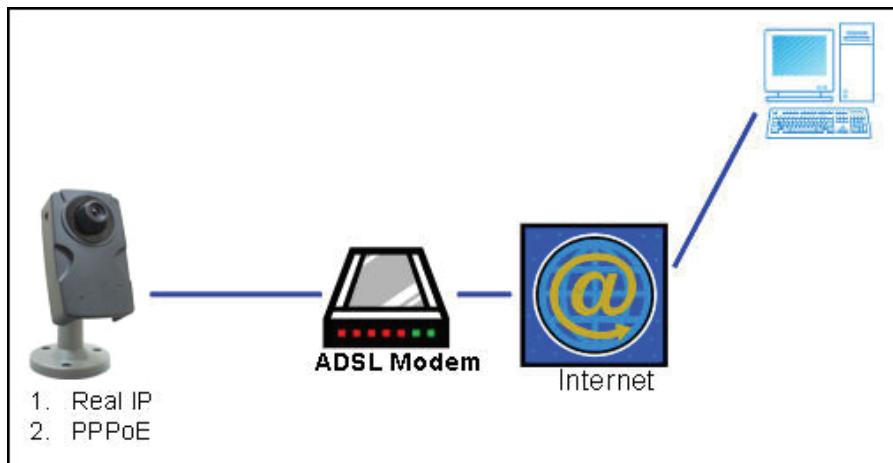
b. Record Setting

Record Setting	
Record Setting	
Pre Alarm:	5 sec ▾
Post Alarm:	5 sec ▾
Apply	

The Pre/ Post Alarm are adjustable in P405.

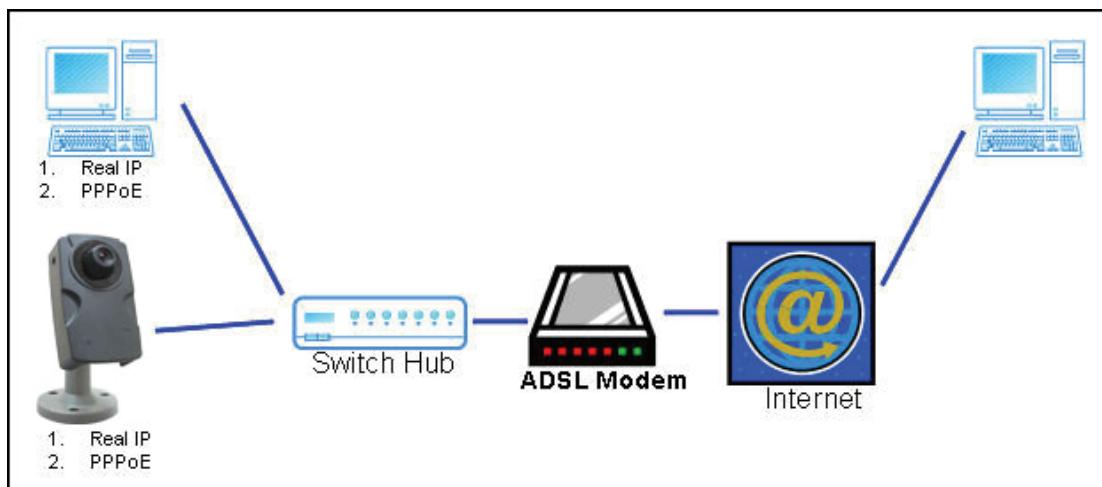
## 6. Network Configuration

### 1. Configuration 1



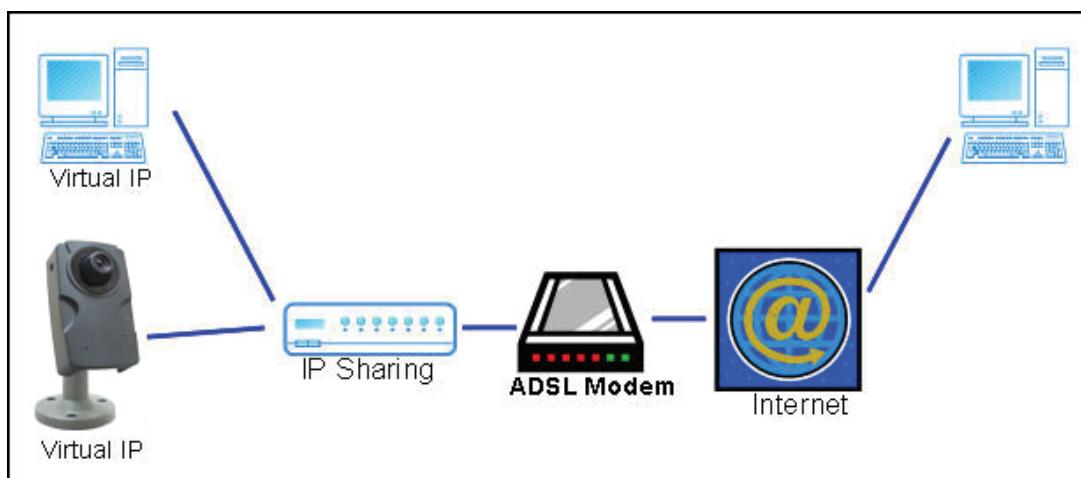
- Internet Access: ADSL or Cable Modem
- IP address: One real IP or one dynamic IP
- Only P405 connects to the internet
- For fixed real IP, set up the IP into P405. For dynamic IP, start PPPoE.

### 2. Configuration 2



- Internet Access: ADSL or Cable Modem
- IP address: More than one real IP or one dynamic IP
- P405 and PC connect to the internet
- Device needed: Switch Hub
- For fixed real IP, set up the IP into P405 and PC. For dynamic IP, start PPPoE.

### 3. Configuration 3

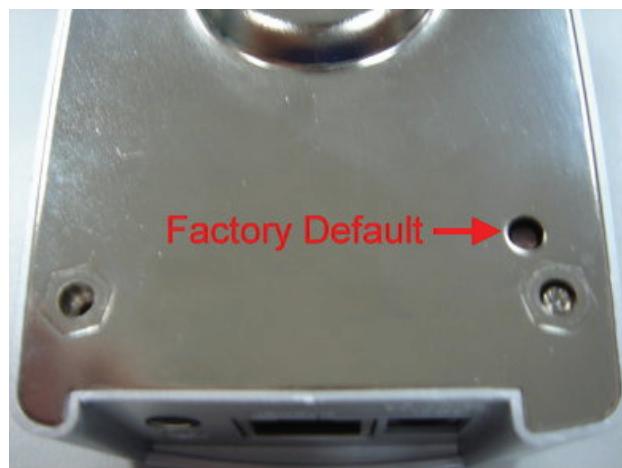


- Internet Access: ADSL or Cable Modem
- IP address: one real IP or one dynamic IP
- HLC-830 and PC connect to the internet
- Device needed: IP sharing
- Use virtual IP, set up port forwarding in IP sharing.

## 7. Factory Default

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

1. Press and hold the button in the back of P405.



2. Power on the camera. Don't release the button during the system booting.
3. It will take around 30 seconds to boot the camera.
4. Release the button when camera finishes proceed.
5. Re-login the camera using the default IP (<http://192.168.1.200>), and user name (admin), password (admin).

## 8. Package Contents

1. PiXORD P405 Network Camera
2. Adapter
3. Ethernet Cable
4. CD title (User manual, IP installation Utility)

# Appendix

## The compatible list of SD card

ADATA 4G	OK
ADATA 512M	OK
Blast 128M	OK
Canon 16M	OK
GiGATEK 128M	OK
Kingston 128M	OK
Kingston 256M	OK
Kingston 512M	OK
Kingston 64M	OK
Kingmax 256M	OK
LEXAR Media 16M	OK
Mio Ma 32M	OK
SanDisk 32M	OK
SanDisk 128M	OK
SanDisk 256M	OK
SanDisk 1G	OK
Trancend 256M	OK
Trancend 512M	OK
Panasonic 16M	OK
Panasonic 64M	OK

PRETEC 128M	OK
Photofast 256M	OK
Phast 256M	OK
PK 128M	OK
Q0000 16M	OK
READY 128M	OK
SiliconPower 128M	OK
SiliconPower 256M	OK
TEKQ 256M	OK
TEKQ 128M	OK
Toshiba 32M	OK
Toshiba 256M	OK
Toshiba 128M	OK
TwinMOS 128M	OK
TwinMOS 256M	OK
Traveler 64x2M	OK
Trancend 128M 45X	OK
UMAX 128M	OK
U-TEK 128M	OK