PheeNet

MJPEG IP Camera

User Manual Version 2.1.7.1

MJCAS-210IR

Owner's Record

The model and serial numbers are located at the bottom. Record these numbers in the spaces provided below. Refer to these numbers whenever you call upon your dealer regarding this product.

Model No. _____ Serial No. _____

WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.

For AC Adaptor to avoid electrical shock, do not open the cabinet. Refer servicing to qualified personnel only.

For customers in the U.S.A.

This equipment has been tested and found to comply with the limits for a digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

– Reorient or relocate the receiving antenna.
– Increase the separation between the equipment and receiver.
– Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
– Consult the dealer or an experienced radio/TV technician for help.

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

The shielded interface cable recommended in this manual must be used with this equipment in order to comply with the limits for a digital device pursuant to Part 15 of FCC Rules.

Declaration of Conformity

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) this device may not cause harmful interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation.

NOTICE TO USERS

Table of Contents

Overview

This user's guide explains how to operate the Infra-Red (IR) IP Camera from a computer. Basically, the user's guide is written to be read on the computer display. However, users might consider printing it out to access easily and read it before you operate the MJPEG IR IP Camera.

Introduction

This MJPEG IR IP Camera is an inexpensive fully scalable surveillance technology. Because the MJPEG IR IP Cameras can be plugged in to your existing computer network infrastructure, you will potentially save thousands of dollars on unnecessary cabling. By using IR technology, this MJPEG IR IP Camera is not only working on day but also on night.

The MJPEG IR IP Camera is accessible via the LAN or Internet connection. Connect your MJPEG IR IP Camera directly to a computer network or DSL modem, and with a standard Web browser you get instant, on demand video streams. Within minutes you can set up the MJPEG IR IP Camera to capture a video sequence to a PC. Live video image can be uploaded to a website for the world to see or made available only to select users on the network.

Features:

- **High quality 1/3" Sony CCD sensor**
- **Composite video output**
- **High-Light LED offers greater image quality and longer life span**
- **30M/50M IR distance**
- **JPEG video compression**
- **Remote-Control via Internet Explorer**
- **Support statistic and dynamic IP address**
- **DDNS and PPPoE**
- **Multi-channel control software for surveillance application**
- **On-line firmware upgrade**

Application:

- **Remote monitoring**
- **Surveillance**

Minimum System Requirement

- **Microsoft Internet Explorer 5.0 or later**
- **VGA Monitor resolution 1024 x 768**
- **Pentium 4 1.3GHz or above**
- **Memory Size: 256MB or above**
- **Windows ME, 2000, XP, or 2003**

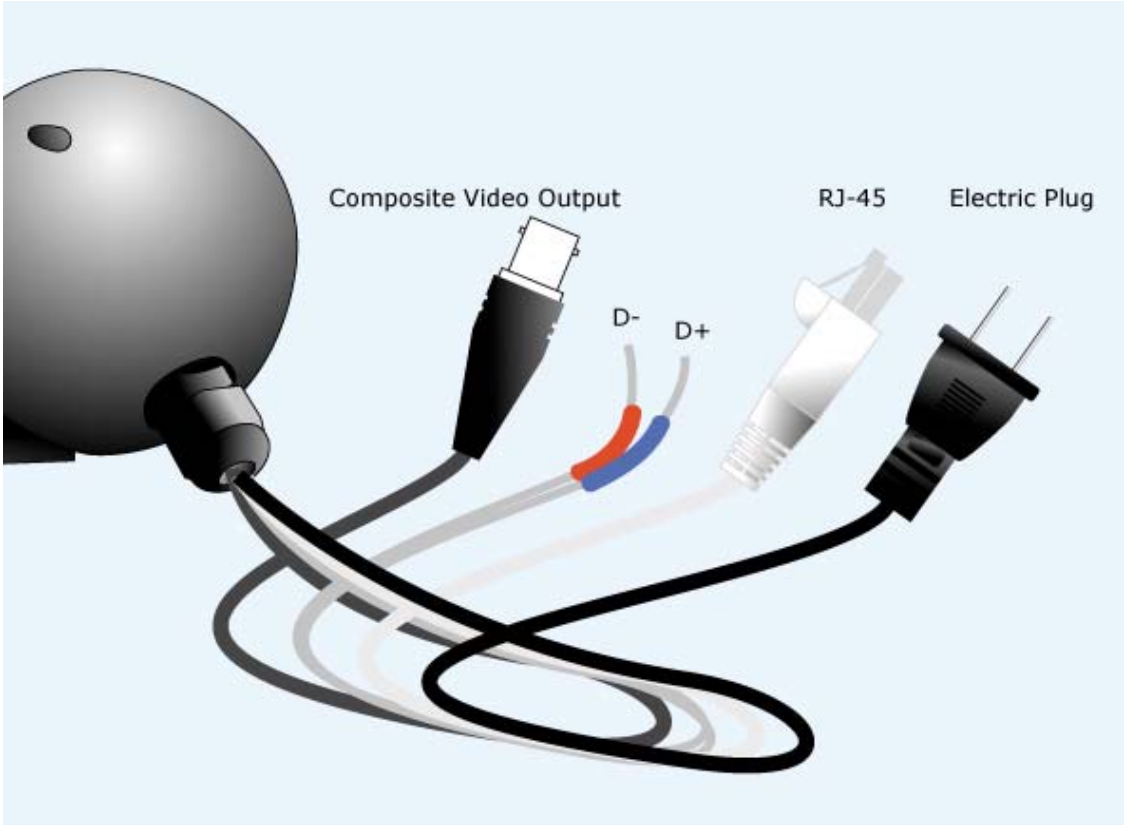
Package Contents

User can find the following items in the package:

- MJPEG IR IP Camera x 1
- RS-485 terminal x 1
- Installation software and manual CD x 1
- Quick installation guide

If any of the above items are missing, please contact your dealer immediately.

Connections



Rear Panel Connections:

1. RS-485: To connect to an indoor/outdoor Pan/Tilt scanner unit.

Definition of the RS-485:
Orange: D-
Blue: D+

2. LAN port: To connect to PC or Hub.

The LAN socket is an RJ-45 connector for connections to 10Base-T Ethernet or 100Base-TX Fast Ethernet cabling. This Ethernet port built NWay protocol can detect or negotiate the transmission speed of the network automatically. Please use Category 5 "straight through" cable to connect the MJPEG IR IP Camera to a 100Mbps Fast Ethernet network switch or hub.

3. AC power cord & Local Video out (BNC port)
The AC power input and video output cable are located on the MJPEG IR IP Camera's back panel. The input power is 85~260VAC..
The MJPEG IR IP Camera also provides composite video output. User can use BNC video cable to connect the MJPEG IR IP Camera with a TV monitor or VCR.

Hardware Installation

1. Fix IR camera to desired location with wall mount fixture

2. Plug-in Network Cable into Ethernet port
Connect an Ethernet cable to the LAN socket located on the MJPEG IR IP Camera's back panel and attach it to the network.

3. Connect RS485 two wires to RS485 D+ and D- (if you need to control PT scanner)

4. Plug-in Power cable into power socket

5. Connect Video BNC connector to a local TV (for checking camera viewing angle)

6. Done

Once you have installed the MJPEG IR IP Camera well, the status LED will turn on. It means the system is booting up successfully. Furthermore, if you have a proper network connection, and access to the MJPEG IR IP Camera, the 10/100M LAN LED will flash

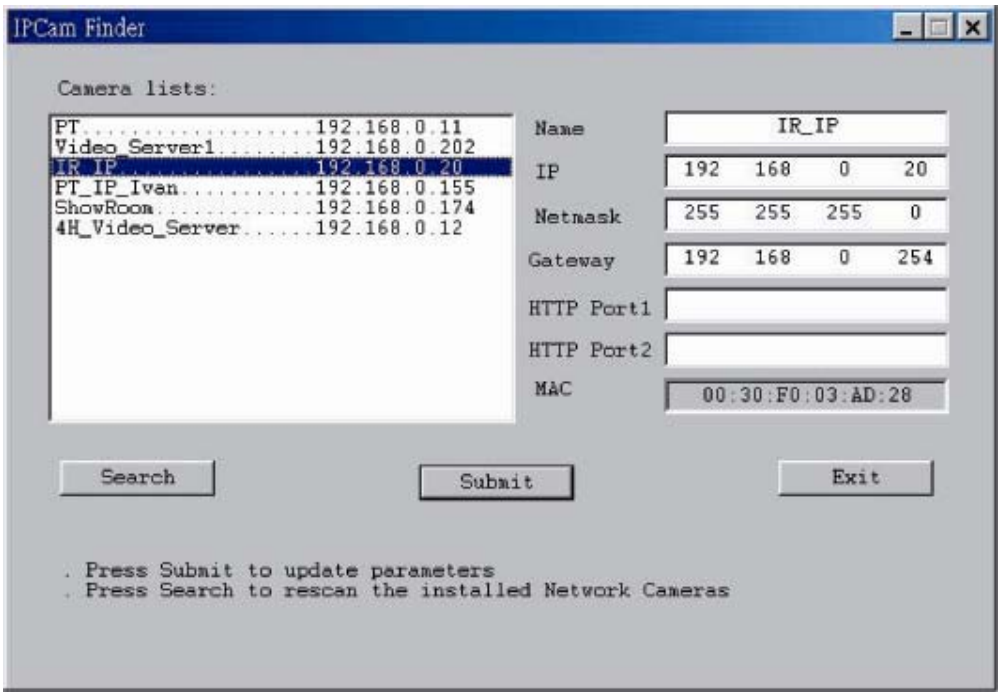
Logging in to Homepage

Before Operation

Install the IP Address of MJPEG IR IP Camera

When you installed your MJPEG IR IP Camera on your LAN environment, you may execute IPFINDER.EXE to discover MJPEG IR IP Camera's IP address.

IPCam Finder program (IPFINDER.EXE) is used to scan the Installed MJPEG IR IP Camera, setting the MJPEG IR IP Camera Name, IP address settings and so on.



Using your mouse to select any one of the MJPEG IR IP Cameras within your LAN environment, you can find out its IP address and other IP parameters as follows:

1. Edit the Name of this MJPEG IR IP Camera. Note that use "_" or "-" to replace "space" character to separate the name string. For example, "Dome_IP" or "Dome-IP" will be right. However "Dome IP" will not work here.
2. Might be needed to update the IP address of this MJPEG IR IP Camera. (Power recycling i might be necessary)
3. Might be needed to update the Gateway Address. (Power recycling might be necessary)
4. Might be needed to update the Network Mask (255.255.255.0). (Power recycling might be necessary)
5. Might be needed to modify the port number 1 of HTTP access. (Power recycling might be necessary)
6. Might be needed to modify the port number 2 of HTTP access. (Power recycling might be necessary)
7. 'Submit' it.

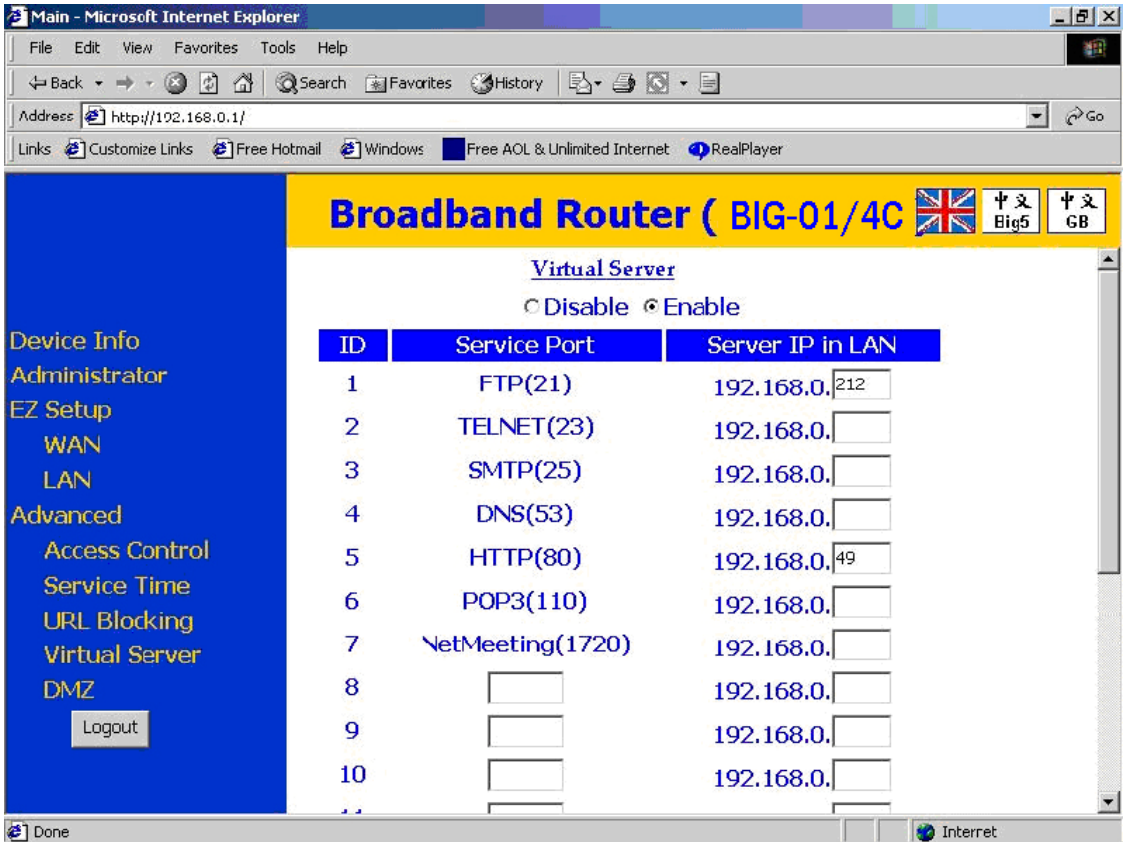
Click "submit", the IP information of this MJPEG IR IP Camera will be updated after seconds

Install the MJPEG IR IP Camera with an ADSL Router

If the MJPEG IR IP Camera was installed on the LAN with an ADSL router, then the MJPEG IR IP Camera can get a dynamic IP address from the DHCP server. However, if the MJPEG IR IP Camera wants to be access from the WAN, its IP address needs to be setup as fixed IP, also the Virtual Server function of ADSL router needs to be setup as follows:

1. Setup the MJPEG IR IP Camera as Fixed IP, such as *192.168.0.49*.
2. Enter the administrator page of ADSL router. (Use BIG-01/4C as an example).
3. Enter the Virtual Server Page.
    a. Setup the mapping of *HTTP Port (80)* to *192.168.0.49*.
    b. Restart the ADSL router.

Then the MJPEG IR IP Camera can be access from WAN by the ADSL WAN IP Address.



First time uses the MJPEG IR IP Camera

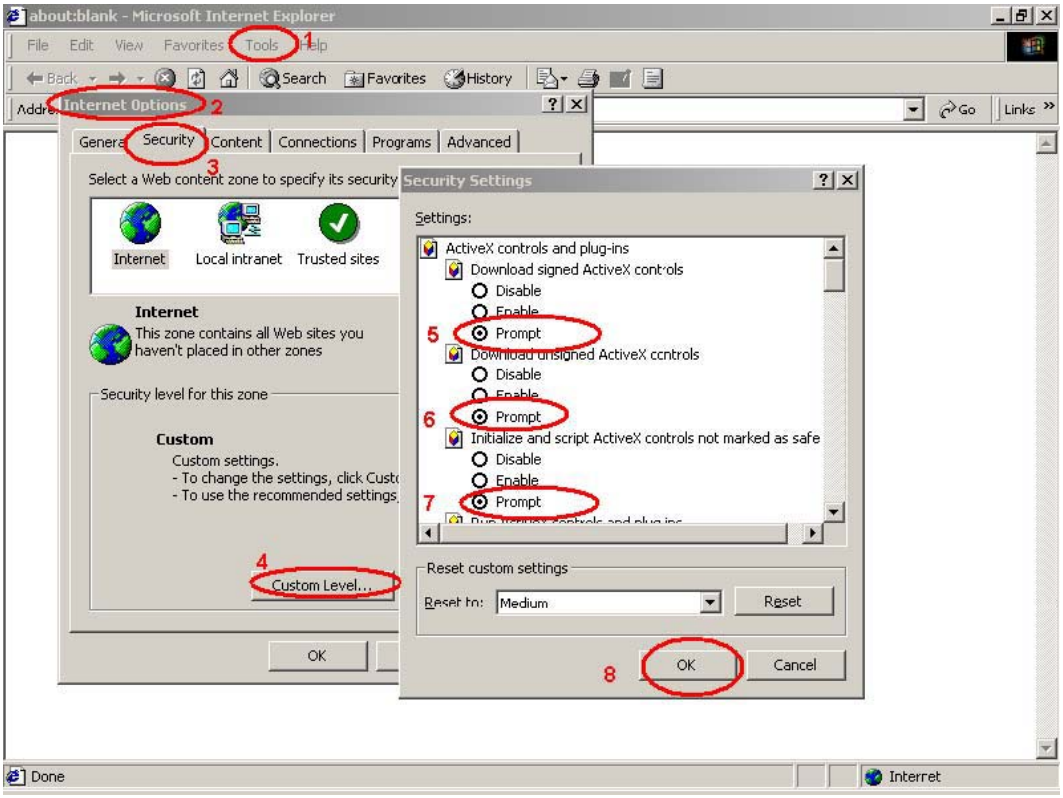
The MJPEG IR IP Camera web page communicates with the MJPEG IR IP Camera using an ActiveX control. The ActiveX control must be downloaded from the MJPEG IR IP Camera and installed on your PC. Your Internet Explorer security settings must allow for the web page to work correctly. To use the MJPEG IR IP Camera, user must setup his IE browser as follows:

From your IE browse ➔ "Tools" ➔ "Internet Options…" ➔ "Security" ➔"Custom Level…", please setup your "Settings" as follow.

Set the first 3 items

- *Download the signed ActiveX controls*
- *Download the unsigned ActiveX controls*
- *Initialize and script the ActiveX controls not masked as safe*

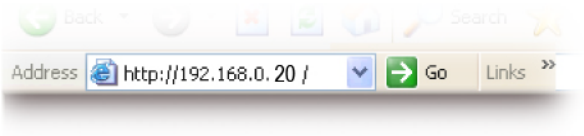
To *Prompt*



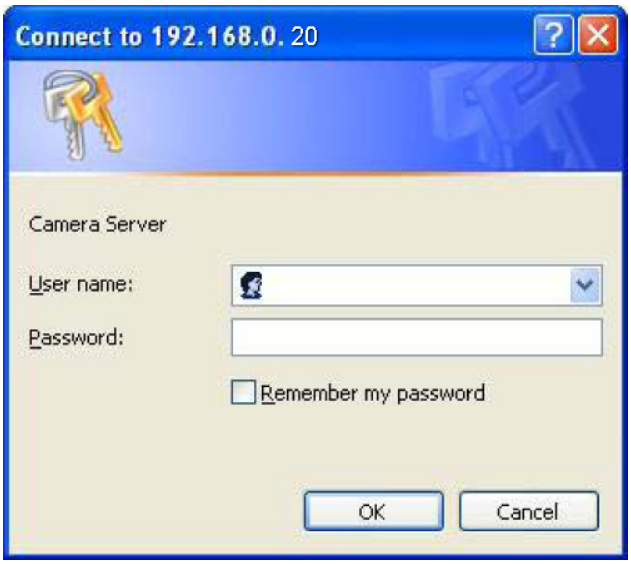
By now, you have finished your entire PC configuration for MJPEG IR IP Camera.

Access the MJPEG IR IP Camera from the Internet Explorer for the first time

1. Start the web browser on the computer and type the IP address of the MJPEG IR IP Camera you want to monitor as below:



The Login Window of the MJPEG IR IP Camera is displayed:



2. Type in your login name and password under "USERNAME" and "PASSWORD" textbox.

For the first time use (default value), input the

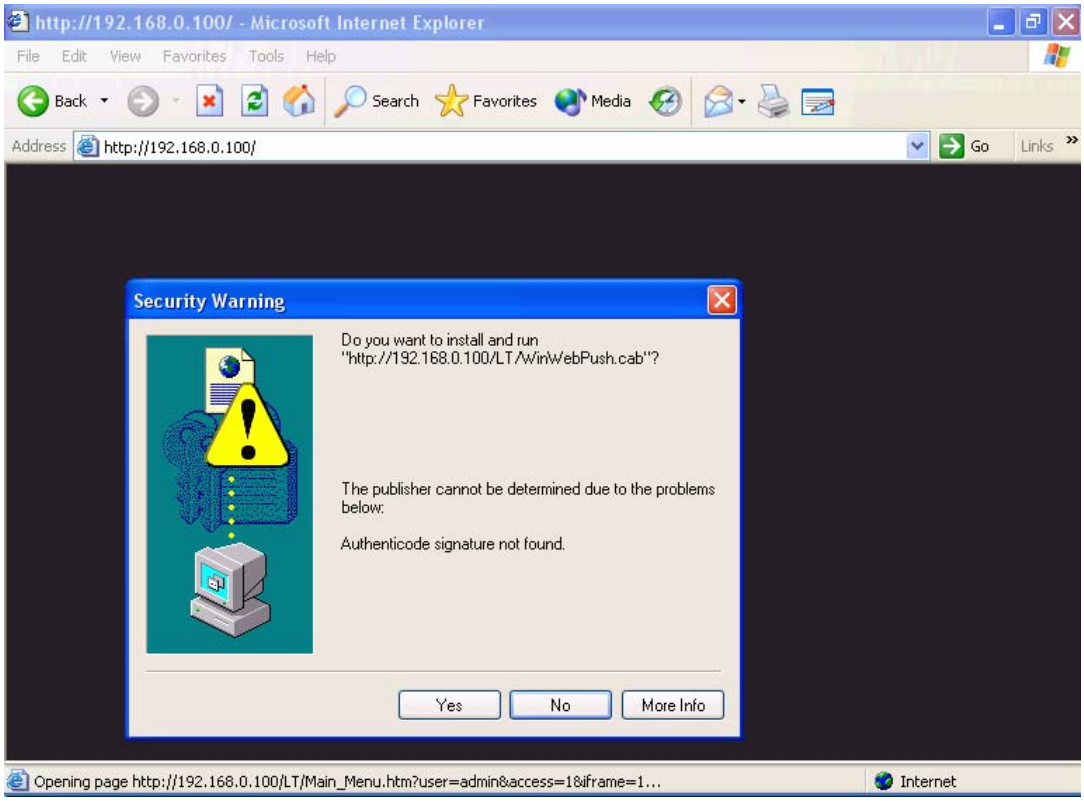
User Name : **admin**

Password:

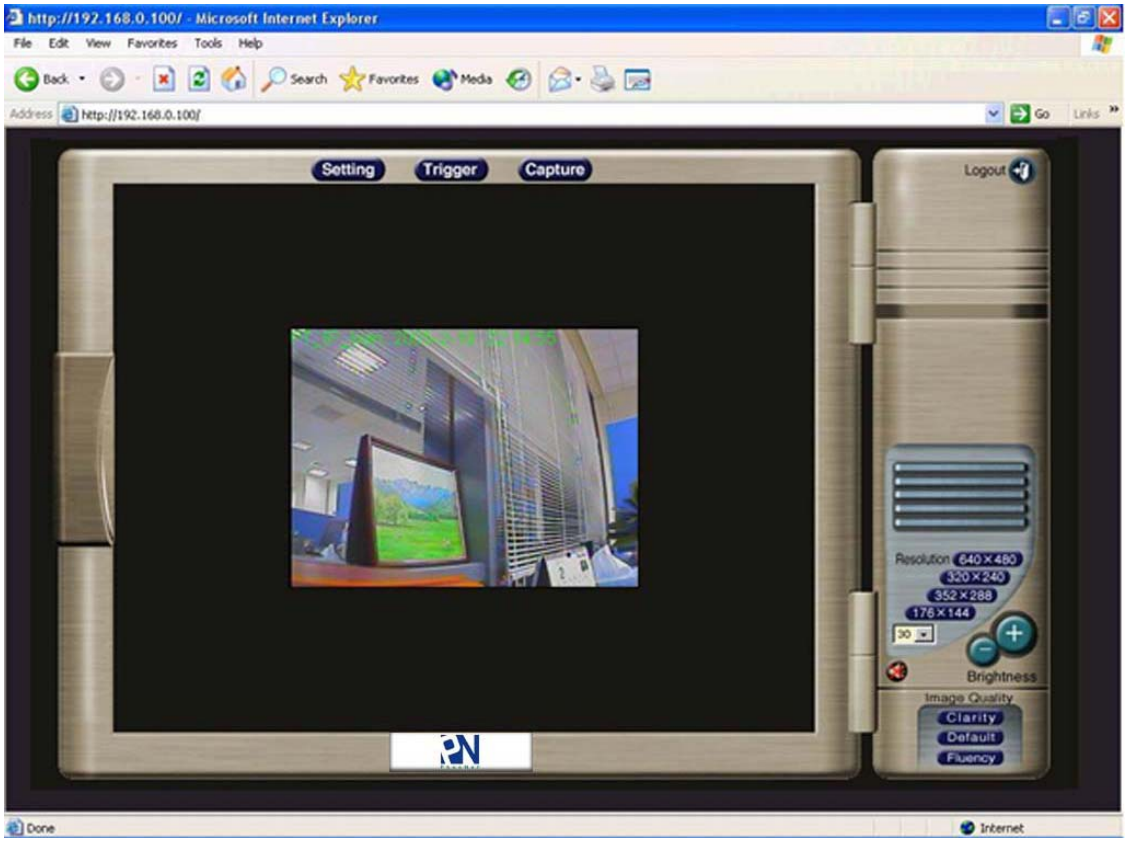
That's, type in "**admin"** on the "USERNAME" as a default name and leave PASSWORD textbox blank. Click "OK" button to start the main menu.

Now, you login to the MJPEG IR IP Camera as a full-authorized administrator. You can enter "Setting" to change the password and setup "Administrator" or "User" authority. Please refer to "Setting" ➔ "User" and "IP Filter".

3. The IE Web Page will display the "Security Warning" window, select "Yes" to install and run the ActiveX control into your PC.



4. Display the image. After the ActiveX control was installed and ran, the first image will be displayed.



Logging in as an ordinary User

For ordinary user usage, "Setting", "Trigger", and "Capture" will be not available. On the right side of the screen, there are lots of controls and function buttons. If "Remote camera control" is turned off by the administrator, then those control and function buttons will not be available as well.

For the rest of this user guide, it is assumed that the "Remote camera control" will be turned on for normal operation.

Logging in as an Administrator

If you log in the MJPEG IR IP Camera as the Administrator, you can perform all the settings provided within the software. The Administrator may be logged in at any time, regardless of the number of the users being accessed.

Operating the MJPEG IR IP

Camera

Start-up screen will be as follow no matter an ordinary users or an administrator.

Viewing Area: Images from the MJPEG IR IP Camera

Control Panel

Control Panel Area: MJPEG IR IP Camera Manipulation and image quality control

Item	Button	Meaning
1	Camera direction	Control camera up/down/left/right and home position **Note:** It's useful if MJPEG IR IP Camera is carried by a P/T scanner. Otherwise, this function is not available.
2	Camera speed	Adjust camera speed up / down **Note:** It's useful if MJPEG IR IP Camera is carried by a P/T scanner. Otherwise, this function is not available.

3	Preset / Recall mode	Preset: Set up camera to fixed locations before operation Recall: Drive camera position to preset location During preset mode, click the number and a dialogue box for the inquiry of location name input will appear. **Note:** It's useful if MJPEG IR IP Camera is carried by a P/T scanner. Otherwise, this function is not available.
4	Preset / Recall camera locations	Preset or Recall camera 1~16 location(s) Ex. If you press 5, then the camera will move to preset location 5. **Note:** It's useful if MJPEG IR IP Camera is carried by a P/T scanner. Otherwise, this function is not available.
5	Camera tour on / off	Turn on or off the camera tour. Camera tour is comprised by series of preset locations. **Note:** It's useful if MJPEG IR IP Camera is carried by a P/T scanner. Otherwise, this function is not available.
6	Auto pan on / off	Turn on or off the auto pan of camera. While auto pan is on, the camera will swing the camera from leftmost to rightmost tour and then from rightmost to leftmost cyclically. **Note:** It's useful if MJPEG IR IP Camera is carried by a P/T scanner. Otherwise, this function is not available.
7	Video resolution	Adjust Video resolution MJPEG IR IP Camera provides 4 resolutions: 640x480, 352x288, 320x240, 176x144 For NTSC camera: 320x240 is suitable For PAL camera: 352x288 and 176x144 are suitable However, all resolution are available for NTSC and PAL camera
8	Video brightness adjustment	Adjust video brightness of camera
9	Frame rate adjustment	Adjust video frame rate via scrolling the listed numbers: 1, 5, 10, 15, 20, 25, 30
10	Audio On/Off	Turn on/off audio output function. Note: This function is not available in MJPEG IR IP Camera.
11	Video quality adjustment	Adjust video quality. Clarity: Video is better but frame rate may be slower Fluency: Video is not as good as Clarity but frame rate may be higher Default: System default value

Advanced Function Area

Advanced function area: only available for administrator. It has contained three categories.

Setting	System Configuration
Trigger	Send out current message or setup activities
Capture	Capture current screen and save to HDD or other media

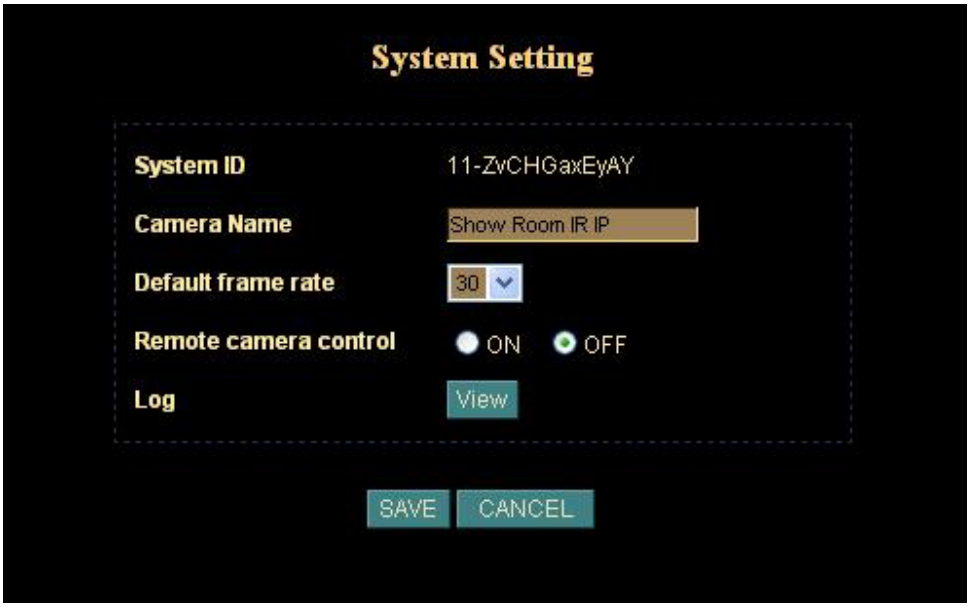
Setting menu consists of the Basic menu and the Application menu. The Basic menu is used for basic settings of the MJPEG IR IP Camera, and the Application menu is used for setting various applications according to individual. Click on each menu name to display its setting page.

Basic Setting

For the setting, you will see there are divided into two categories – Basic Setting and Application.

Basic Setting		
Symbol	Item	Action
	System	Define Frame Rate, Turn on/off "Remote camera control", and view system log file.
	Camera	Adjust camera parameters and set camera tour
	Network	Configure Network setting such as DHCP On/Off, DDNS and PPPoE
	User	Setup user name, password and login privilege
	IP Filter	Setup legal IP address of user login (This function should be used with function "User" respectively)

 System: Define Frame Rate and Turn on/off "Remote camera control"



System ID:
It's a unique number for each MJPEG IR IP Camera for identification.

Camera Name:
You can enter the name of this unit here. It's very useful to identify the specific device from multiple units. Note that use "_" or "-" to replace "space" character to separate the name string. For example, "IR_IP" or "IR-IP" will be ok and "IR IP" will not work here.

Default frame rate:
You can set up frame rate here or via right-side control panel.

For example, set the frame rate to 5 FPS, then the image will be updated for 5 frames per second, the time interval can be checked by the time displayed on the image.

Remote camera control:
Turn on "Remote camera control": users will be able to use right-side control panel vice versa.

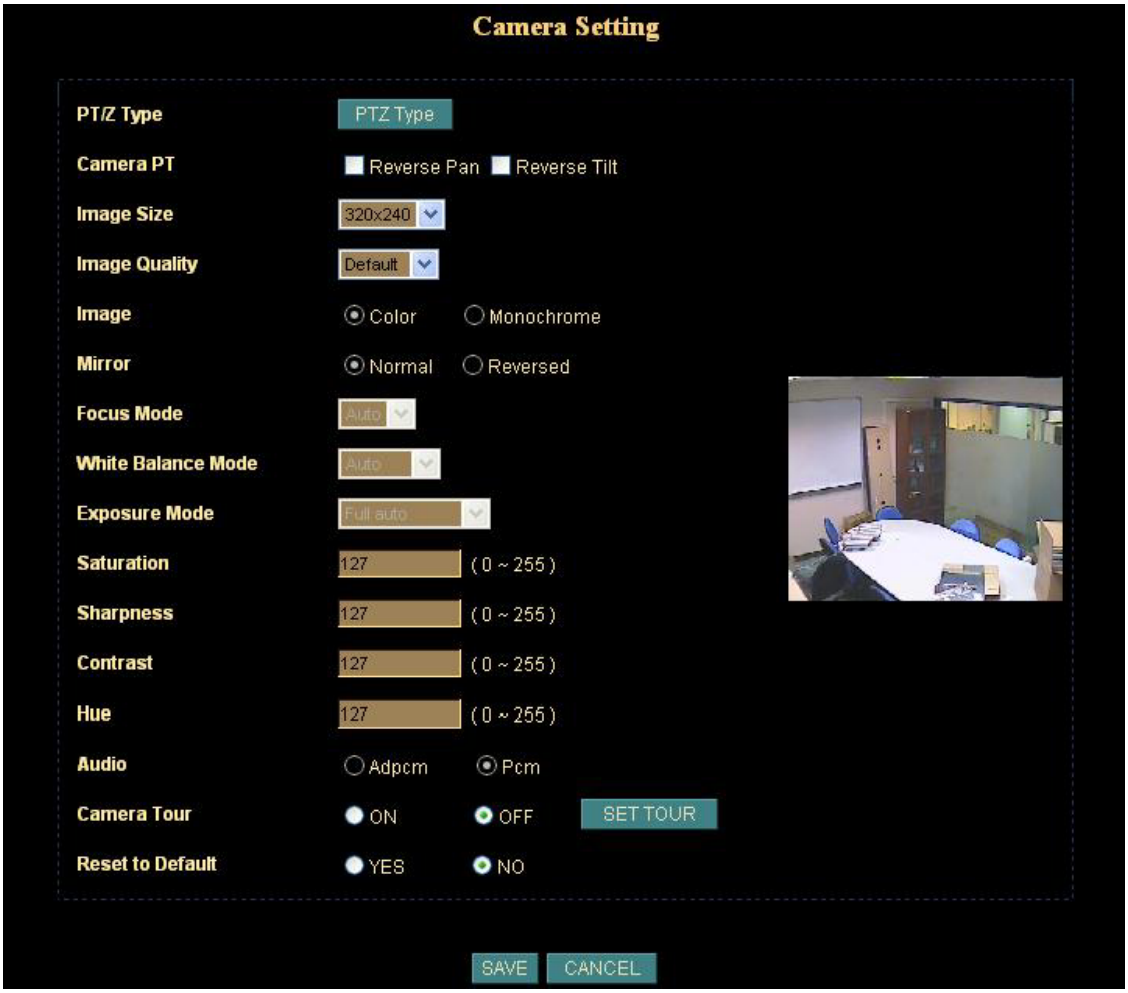
Log:
User can check the log information of the MJPEG IR IP Camera, including the *Main Info*, *Appended Info*, *Operator IP*, *Operator MAC*, and *Time*.

Select the *“View”* button to check the log file.

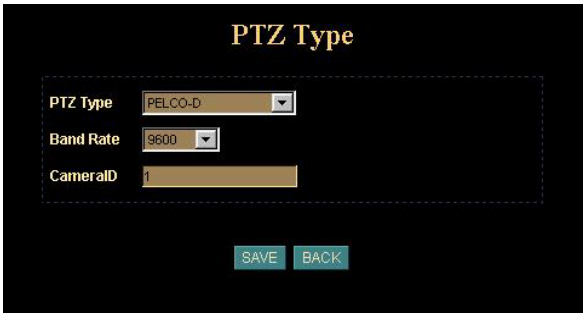
System Log

Date		IP	MAC	Event
2/18/2005 11:40	-->			System Boot
2/18/2005 11:40	-->	127.0.0.1	[]	New client
2/18/2005 11:43	-->	192.168.0.119	[00:11:2F:A4:17:30]	New client
2/18/2005 11:43	-->	192.168.0.119	[00:11:2F:A4:17:30]	Set Server Time
2/18/2005 11:46	-->	192.168.0.69	[00:02:3F:BB:F6:E0]	New client
2/18/2005 11:48	-->	192.168.0.119	[00:11:2F:A4:17:30]	Unknown log info (35)
2/18/2005 11:50	-->	192.168.0.119	[00:11:2F:A4:17:30]	Unknown log info (35)
2/18/2005 11:51	-->	192.168.0.119	[00:11:2F:A4:17:30]	Unknown log info (35)
2/18/2005 12:10	-->	192.168.0.69	[00:02:3F:BB:F6:E0]	Unknown log info (35)
2/18/2005 12:10	-->	192.168.0.119	[00:11:2F:A4:17:30]	Unknown log info (35)
2/18/2005 12:10	-->	192.168.0.69	[00:02:3F:BB:F6:E0]	Unknown log info (35)
2/18/2005 13:1	-->	192.168.0.69	[00:02:3F:BB:F6:E0]	Unknown log info (35)
2/18/2005 13:1	-->	192.168.0.69	[00:02:3F:BB:F6:E0]	Unknown log info (35)
2/18/2005 13:1	-->	192.168.0.69	[00:02:3F:BB:F6:E0]	Unknown log info (35)
2/18/2005 13:1	-->	192.168.0.69	[00:02:3F:BB:F6:E0]	Unknown log info (35)
2/18/2005 13:1	-->	192.168.0.69	[00:02:3F:BB:F6:E0]	Unknown log info (35)
2/18/2005 13:2	-->	192.168.0.69	[00:02:3F:BB:F6:E0]	Unknown log info (35)
2/18/2005 13:2	-->	192.168.0.69	[00:02:3F:BB:F6:E0]	Unknown log info (35)
2/18/2005 13:2	-->	192.168.0.69	[00:02:3F:BB:F6:E0]	Unknown log info (35)
2/18/2005 13:2	-->	192.168.0.69	[00:02:3F:BB:F6:E0]	Unknown log info (35)
2/18/2005 13:2	-->	192.168.0.69	[00:02:3F:BB:F6:E0]	Unknown log info (35)
2/18/2005 13:2	-->	192.168.0.69	[00:02:3F:BB:F6:E0]	Unknown log info (35)
2/18/2005 13:6	-->	192.168.0.69	[00:02:3F:BB:F6:E0]	Unknown log info (35)
2/18/2005 13:6	-->	192.168.0.69	[00:02:3F:BB:F6:E0]	Unknown log info (35)

 Camera: Adjust Camera parameters



PTZ Type:
The Video Server can connect to P/T or P/T/Z camera and control those devices thru RS485 bus. There are a lot of cameras supported and will add more models in future.



Camera PT:
User can control the direction of Pan and Tilt as wish.
Reverse Pan: Check this option to reverse pan direction.
Reverse Tilt: Check this option to reverse tilt direction.

Image Size:
MJPEG IR IP Camera provides 4 resolutions:

- 176x144
- 320x240
- 352x288
- 640x480

Image Quality:
The MJPEG IR IP Camera provide 3 quality setting,
Clarity: Video is better but frame rate may be slower
Fluency: Video is not as good as Clarity but frame rate may be higher
Default: System default value.

Note: The value on the list box display the current setting of the current image, when you make a new selection, the value on the list box will be changed until you save the new setting.

Image, Mirror, Focus Mode, White Balance Mode, Exposure Mode:
These functions are available for PTZ MJPEG IR IP Camera and Video Server only. It's not functional for this model.

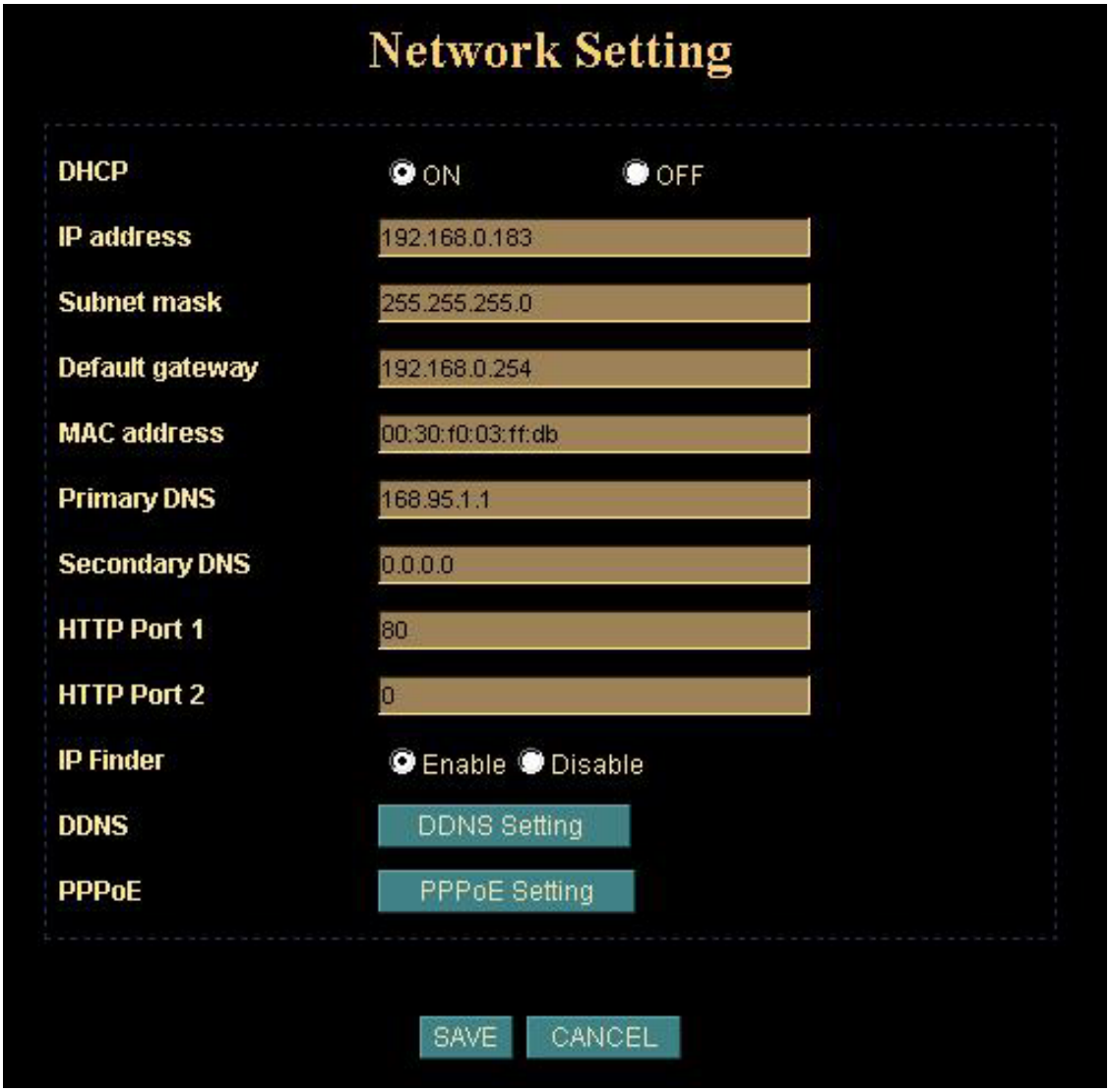
Saturation, Sharpness, Contrast, Hue:
To control the camera, key in these values respectively.

Audio:
This function is not available for this model.

Camera Tour:
This function is not available for this model.

Reset to Default:
Restore the values of these pages to factory default value.

 Network: Configure Network setting such as DHCP On/Off, DDNS and PPPoE



DHCP:
DHCP: Stands for Dynamic Host Configuration Protocol.

"*DHCP ON*" is default network setting of the MJPEG IR IP Camera, when a MJPEG IR IP Camera is joined into the LAN, it will issue the DHCP packets to request an IP address that is dynamically assigned by the DHCP server. If it can not get a DHCP address on a limited tries, the MJPEG IR IP Camera will assigned a default IP address as the default IP address.

IP address, Subnet mask, Default gateway, Primary DNS, Secondary DNS:
If you turn DHCP OFF, then you need to enter those network parameters by yourself.

Note: User need to reboot the MJPEG IR IP Camera to make this setting to take effect.

HTTP Port 1:
Users could assign the port number of http protocol, and the WAN users should follow the port number to login. If the http port1 is not assigned as 80, users have to add the port number in back of IP address. For example: http://211.223.36.58:12000. If the http port1 is assigned as 80, users do not have to add the port number in the back of IP address.

HTTP Port 2:
The function is the same as http port 1. It's the second choice of the port number.

Current implementation supports 2 HTTP port setting, the Http port 1 set to 80, the Http port 2 is not defined. The user can access the IPCam by

http://xx.xx.xx.xx/, or

http://xx.xx.xx.xx:xxxx/ to access the IPCam.

Suggest keeping the Http port 1 as 80 to make sure the IPCam can be accessed by the default HTTP port setting access on the LAN. http://xx.xx.xx.xx/

If multiple IPCams are installed on the LAN, also required to be accessed from the WAN, then the Http port 2 can be changed as the virtual server port mapping to support multiple IPCams.

Note: If you just want to reboot system without change anything. You could click SAVE button directly, then system will reboot again without any setting changed.

IP Finder:
User can use IPCam Finder software program to find MJPEG IR IP Cameras on the LAN. User also can set related parameters of MJPEG IR IP Camera by IPCam Finder. However if administrator does not allow related parameters to be modified by IPCam Finder, then disable this option.

DDNS:
DDNS: Stands for Dynamic Domain Name Server

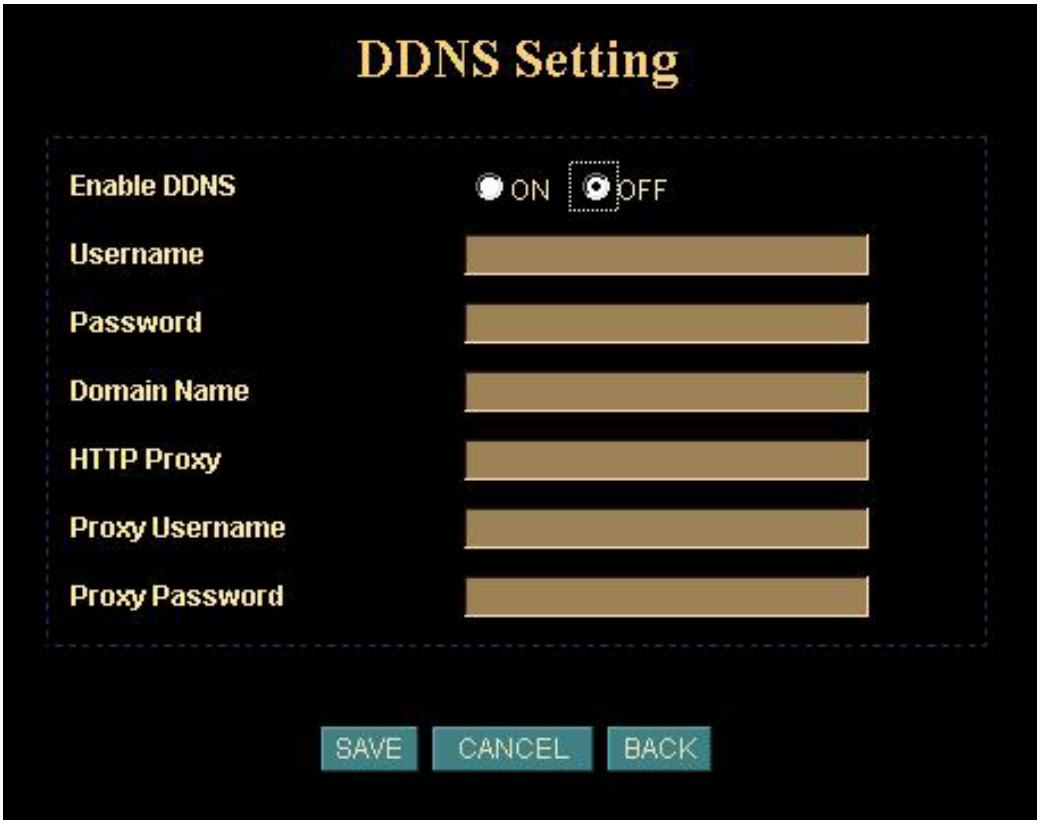
The MJPEG IR IP Camera supports DDNS. DDNS allows the MJPEG IR IP Camera to use an easier way to remember naming format rather than an IP address. The name of the domain is like the name of a person, and the IP address is like his phone number.

On the Internet we have IP numbers for each host (computer, server, router, and so on), and we replace these IP numbers to easy remember names, which are organized into the domain name. As to ADSL environment, most of the users will use dynamic IP addresses. If users want to set up a web or a FTP server, then the Dynamic Domain Name Server is necessary. For more DDNS configuration, please consult your local dealer.

Your Internet Service Provider (ISP) provides you at least one IP address which you use to connect to the Internet. The address you get may be static, meaning it never changes, or dynamic, meaning it's likely to change periodically. Just how often it changes, depends on your ISP. A dynamic IP address complicates remote access since you may not know what your current WAN IP address is when you want to access your network over the Internet. The solution to the dynamic IP address problem comes in the form of a dynamic DNS service.

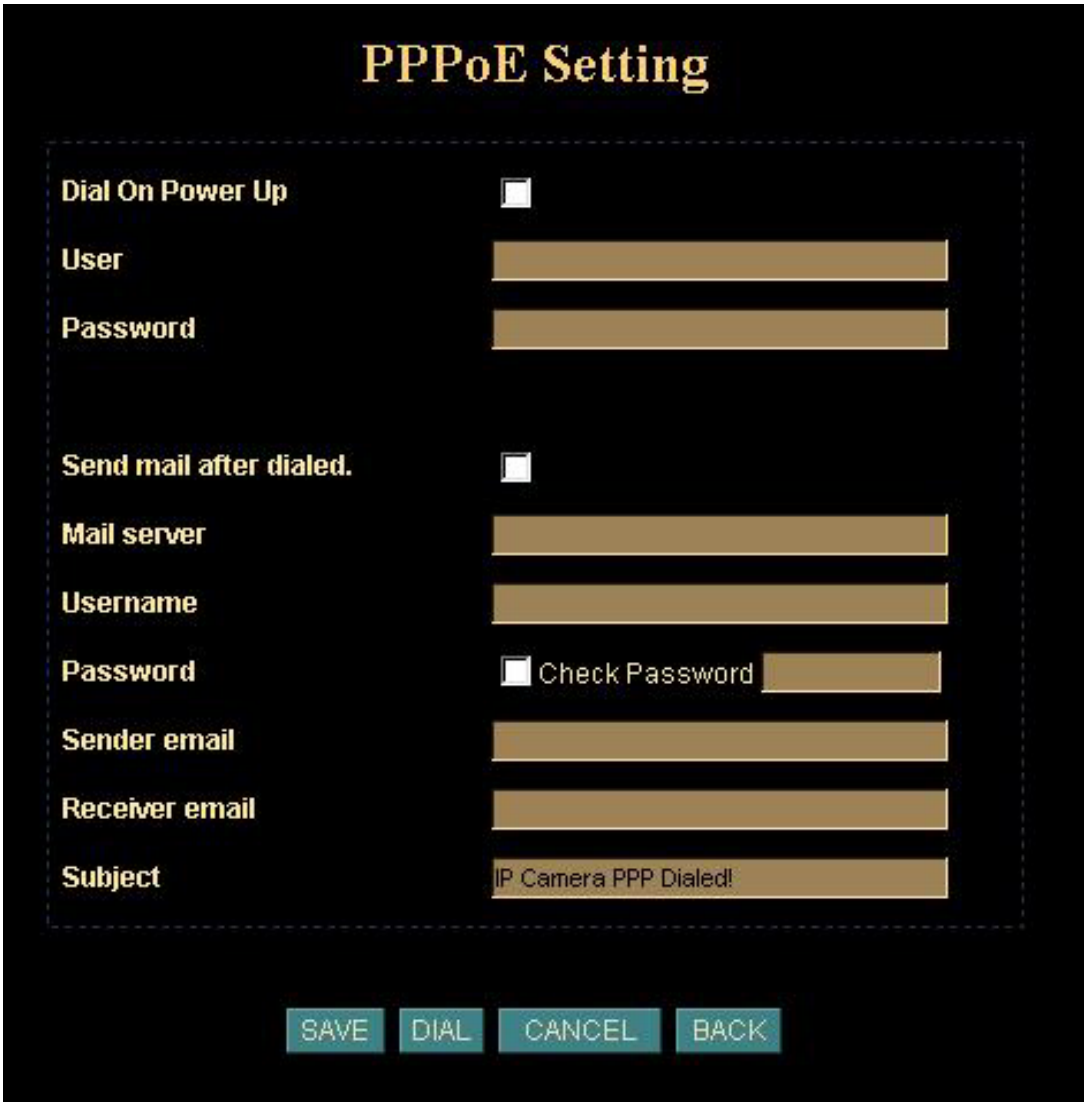
The Internet uses DNS servers to lookup domain names and translates them into IP addresses. Domain names, such as www.veo.com, are just easy to remember aliases for IP addresses. A dynamic DNS service is unique because it provides a means of updating your IP address so that your listing will remain current when your IP address changes. There are several excellent DDNS services available on the Internet and best of all they're free to use. Two such services you can use are www.no-ip.com and www.DynDNS.org. You'll need to register with the service and set up the domain name of your choice to begin using it. Please refer to the home page of the service for detailed instructions.

A DDNS service works by uploading your WAN IP address to its servers periodically. Your gateway-router may support DDNS directly, in which case you can enter your DDNS account information into your router and it will update the DDNS servers automatically when your IP address changes. Please consult your router's documentation for more information. If your router does not support DDNS, you can run a small client utility on any PC on your network which will perform the updating. The client utility is usually provided for free by the service.



PPPoE:
PPPoE: Stands for Point to Point Protocol over Ethernet

A standard builds on Ethernet and Point-to-Point network protocol. It allows a local PC with xDSL or cable connects with broadband network. Also this local PC gets a dynamic IP address. For more PPPoE and Internet configuration, please consult your local dealer or ISP.



The MJPEG IR IP Camera can directly connect to the ADSL, however, it should be setup on LAN environment to setup the PPPoE information, and then connect to the ADSL modem. Power on again, then the MJPEG IR IP Camera will dial on to the ISP connect to the WAN through the ADSL modem.

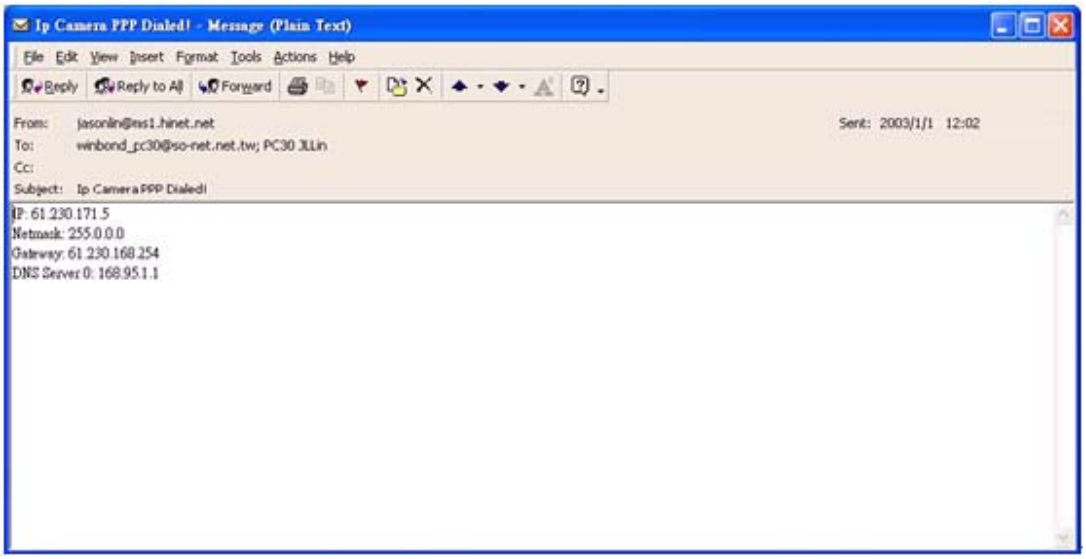
The procedures are

- Connect to the LAN by DHCP or Fixed IP
- Access the MJPEG IR IP Camera, enter Setting ➔ Network.
- Check the radio button of "PPPoE Setting".
- If the ADSL Modem and MJPEG IR IP Camera were connected on a hub, after the MJPEG IR IP Camera information were inputted, and then you can press "Dial" to

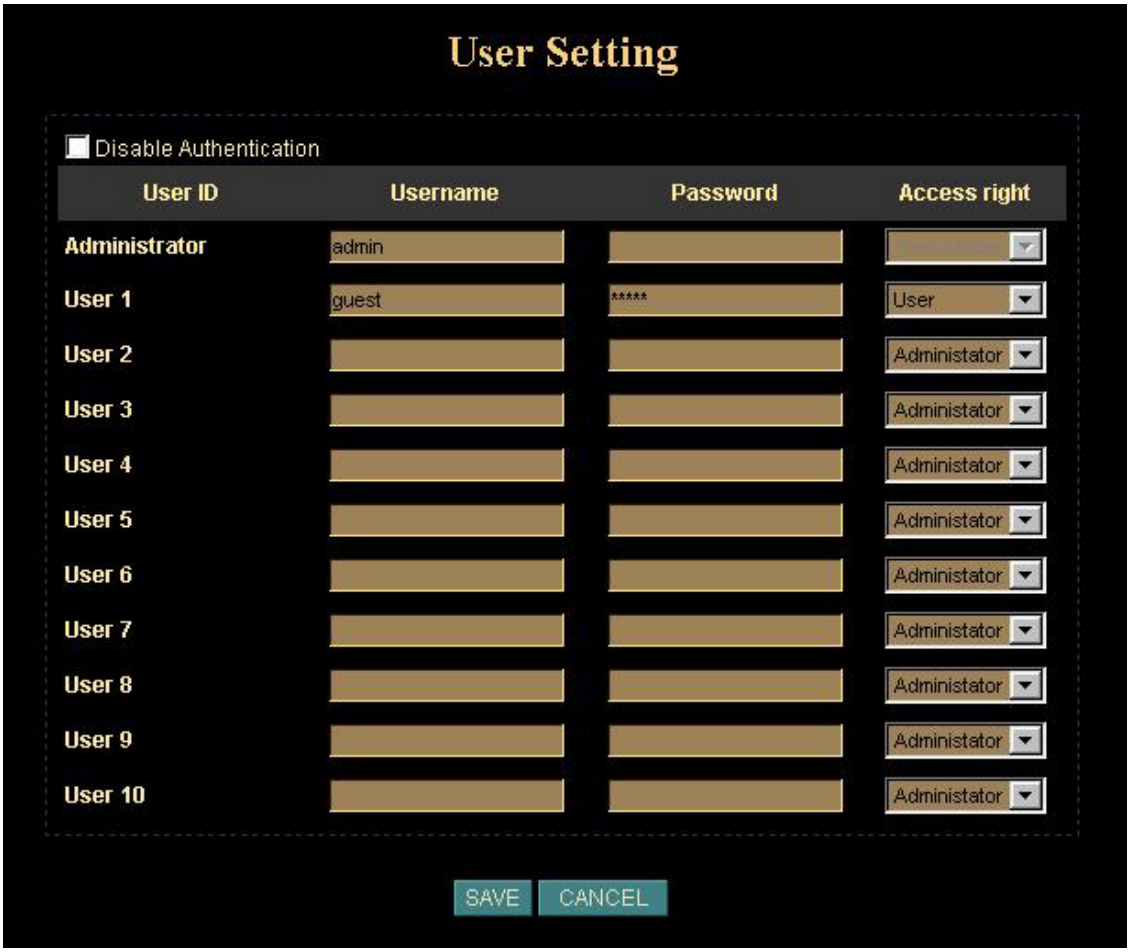
do the PPPoE dial.

- Input the "User" and "Password" fields by the account and password provided by the ISP.
- If the check box of "Send Mail after dialed" was checked, then the "MailServer" and "User on the MailServer" field need to be filled.
- If the mail server needs authentication, then the check box of "Password" needs to be checked, and password information need to inputted.
- Also the "Sender email", "Receiver email" needs to be inputted.
- The "Subject" field can be modified too.
- Select "Save" to save the setting.

If the PPPoE option "Send mail after dialed", then when PPPoE dialed up to ISP, a mail that contains the Dialup IP Address/ Netmask/ Gateway address/ DNS Server address will be mailed to preset e-Mail address.



 User: Setup user name, password and login privilege



Disable Authentication: If user checks this option, MJPEG IR IP Camera or Video Server will not check username and password any more while user log into the system.

User only can input or modify the password of "Administrator". The username of "Administrator" is fixed as "admin"

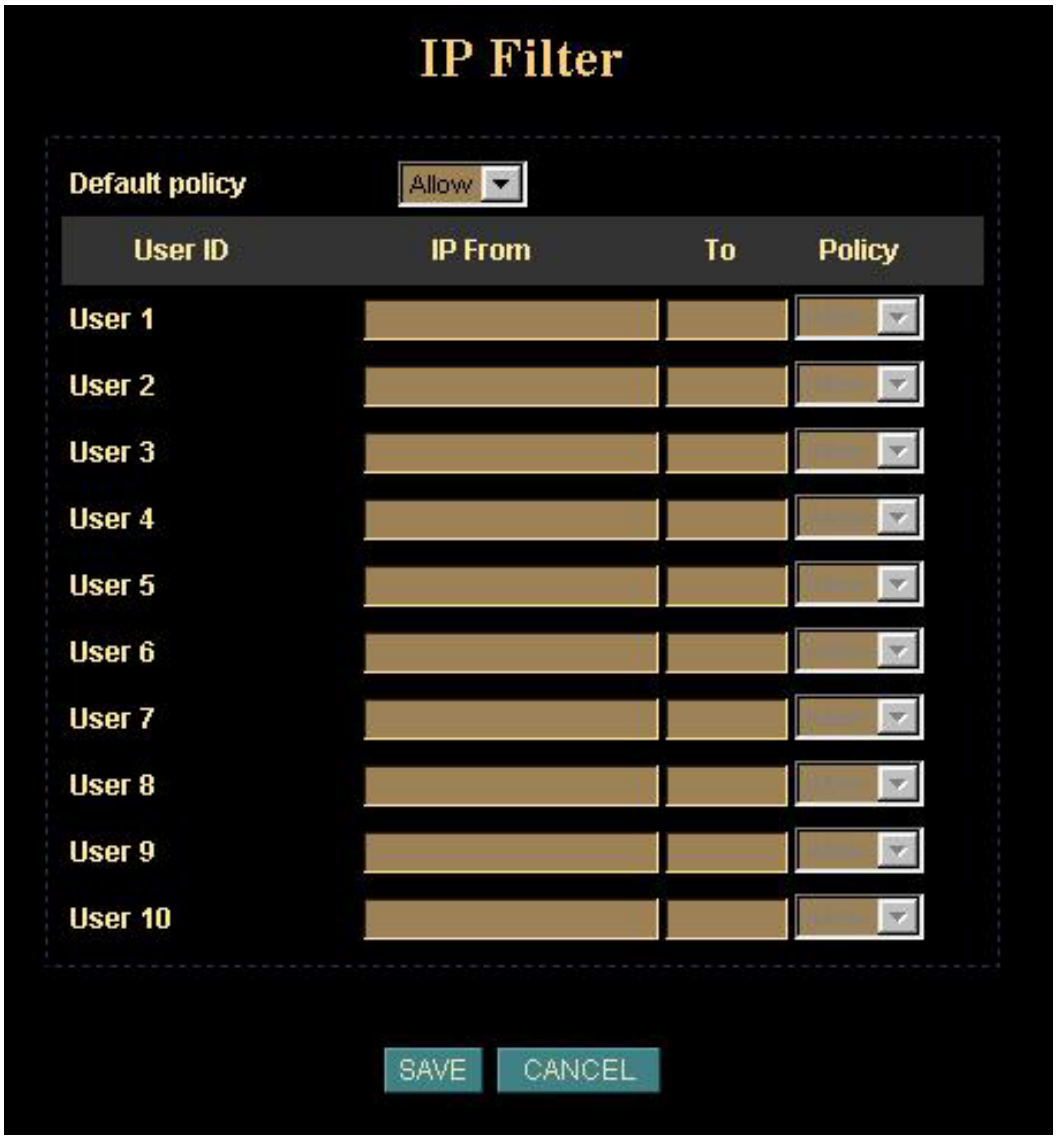
You can set up to 10 different usernames and passwords. Although there are 10 sets only, you may have one group of people use one username and password to login. Every one set of username and password can be acted as an Administrator or just a normal user.

Select "Save" to save the setting.

 IP Filter: Setup user login right (This function should be used with function "User" respectively).

You can enter 10 different user's IP address which are allowing enter or disregarding by the MJPEG IR IP Camera.

You should configure "User" before "IP Filter". Each "User" username and password matches with one "IP Filter" user.



Select "Save" to save the setting.

Function Notification

The page of user setting is very closely related to the IP filter settings. While the administrators are setting these two pages, they should notice that login authorities are not only based on the login names but also the range of IP addresses. Administrators could reject login users according to both login names and IP addresses. We setup several examples to explain the logical relations between login names and the IP policy. The users login in the name of "admin" have the most power. System will always accept no matter how IP filter setting was set.

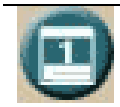
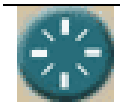
-1-.
(User page) Login name 1= 12345, Password=12345, Access Authority=whatever
(IP filter page) Default Policy=Allow, login name1 comes from 192.168.0.A to B=Allow
That is, when the remote users login in the name of 12345 and come from the IP addresses 192.168.0.A to 192.168.0.B, login will be successful. If these users did not come from the IP addresses A to B, login access will be rejected.

-2-.
(User page) Login name 1= 12345, Password=12345, Access Authority=whatever
(IP filter page) Default Policy=Allow, login name1 comes from 192.168.0.A to B=Deny
That is, when the remote users login in the name of 12345 and come from the IP addresses 192.168.0.A to 192.168.0.B, login will be denied. If these users did not come from the IP addresses A to B, login access will be successful.

-3-.
(User page) Login name 1= 12345, Password=12345, Access Authority=whatever
(IP filter page) Default Policy=Deny, login name1 comes from 192.168.0.A to B=Allow
That is, when the remote users login in the name of 12345 and come from the IP addresses 192.168.0.A to 192.168.0.B, login will be successful. If these users did not come from the IP addresses A to B, login access will be rejected.

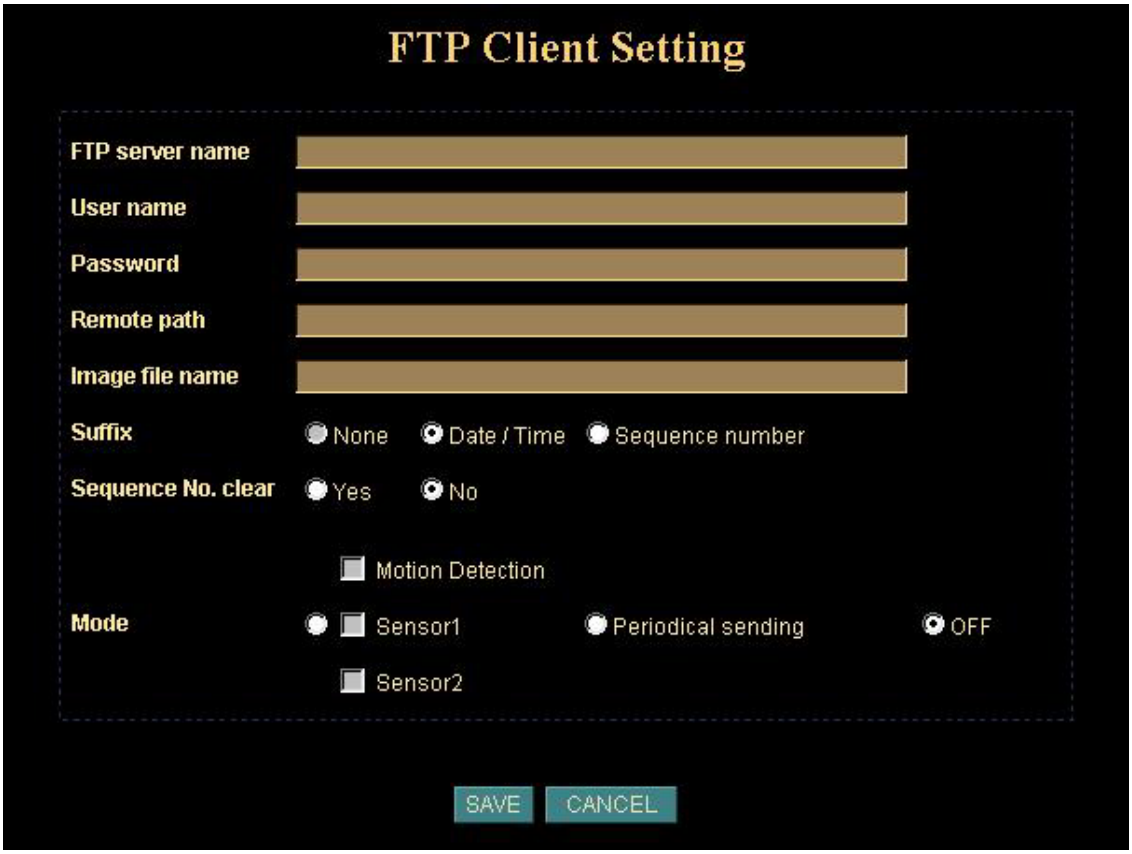
-4-.
(User page) Login name 1= 12345, Password=12345, Access Authority=whatever
(IP filter page) Default Policy=Allow, login name1 comes from 192.168.0.A to B=Allow
That is, login of all the login names will be rejected except the login name "admin".

Application Setting

Application		
Symbol	Item	Action
	FTP Client	Setup the MJPEG IR IP Camera as a client site and configure Server site in order to upload images to server
	SMTP	Setup Mail configuration
	Schedule	Set the schedule to enable motion detection or CF card recording
	Motion Detection	Setup motion detection area and sensor sensitivity
	Time Setting	Setup the MJPEG IR IP Camera time configuration
	Popup	Setup event message while motion or sensors has been activated
	Firmware Upgrade	Firmware upgrade
	Factory Default	Recall the MJPEG IR IP Camera factory default setting
	Reboot	Reboot this device

 FTP Client: Setup the MJPEG IR IP Camera as a client site and configure Server site in order to upload images to server

When alarm was enabled, user can send the captured images to the pre-set FTP server.



Entering server name and your login username and password, you will be able to upload those previous captured image to the FTP server. You can also send data to the server according to different situation such as by event or by period.

FTP server name:
Type the FTP server name to upload still images, or the IP address of the FTP server.

User name:
Type the user name for the FTP server.

Password:
Type the password for the FTP server.

Remote path:

Type the path to the destination.

Image file name:
Type the basic file name you want to assign to the images when sending to the FTP server.

Suffix:
Select the suffix to add to the file name.

- **None:**
  No suffix is added. The basic file name is assigned to the image to be sent to the FTP server.

- **Date/Time:**
  The date/time suffix is added to the file name. The date/time suffix consists of lower two-digits of year (2 digits), month (2 digits), date (2 digits), hour (2 digits), minute (2 digits), second (2 digits) and consecutive number (2 digits), thus 14-digit number is added to the file name.

- **Sequence number:**
  A consecutive number is added to the basic file name. A number of up to 10 digits between 0000000000 to 4294967295 is added to the file name.

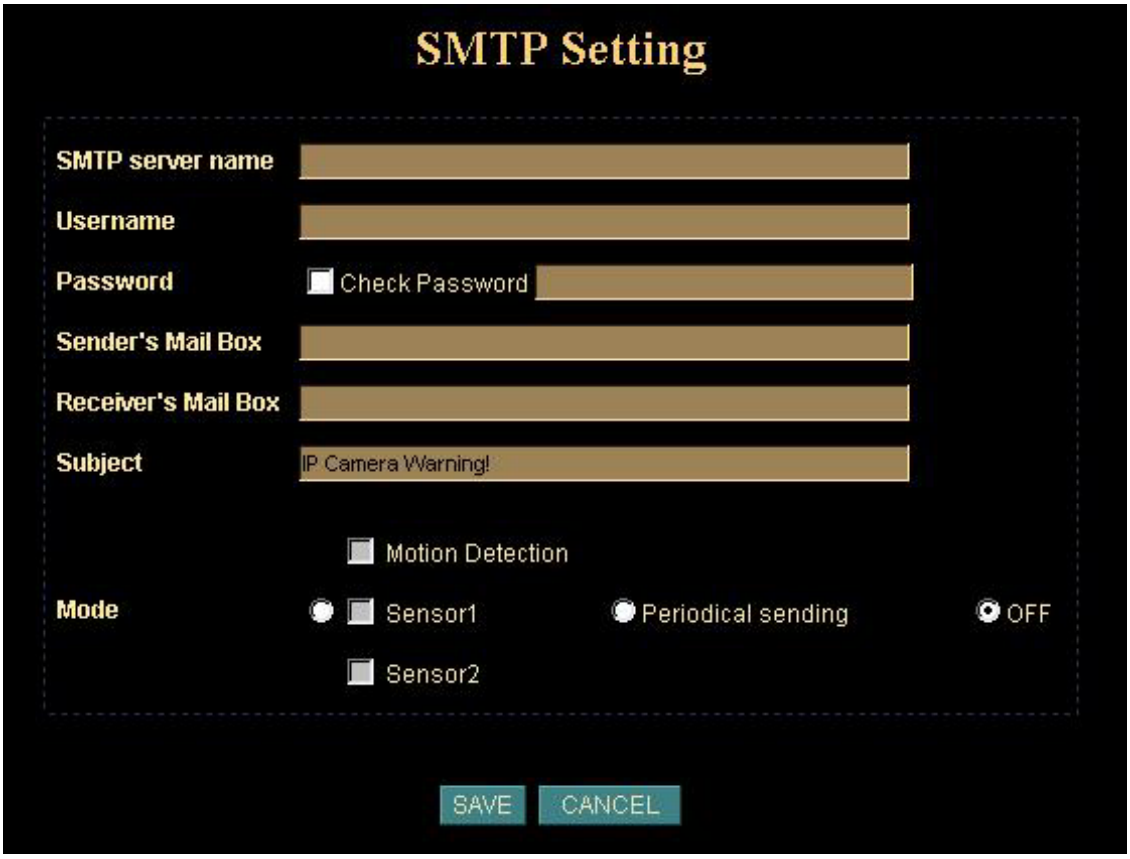
Sequence No. clear:
Reset the sequence number to 0000000000.

Mode:
Send a captured image via three different situations – via event such as motion detected or sensor1/2 activated or send it periodically or off.

Select "SAVE" to save the setting.

 SMTP: Setup Mail configuration

When alarm was enabled, user can setup the mail to send the captured images to the pre-set mail address.



You may setup SMTP mail parameters for future event-message receiving such as motion detected or sensor activated.

SMTP server name:
Type the SMTP server name up to 64 characters, or the IP address of the SMTP server.

User name:
Type the user name for the SMTP server.

Password:
Type the password for the SMTP server.

Sender's e-mail address:
Type the sender's E-mail address.

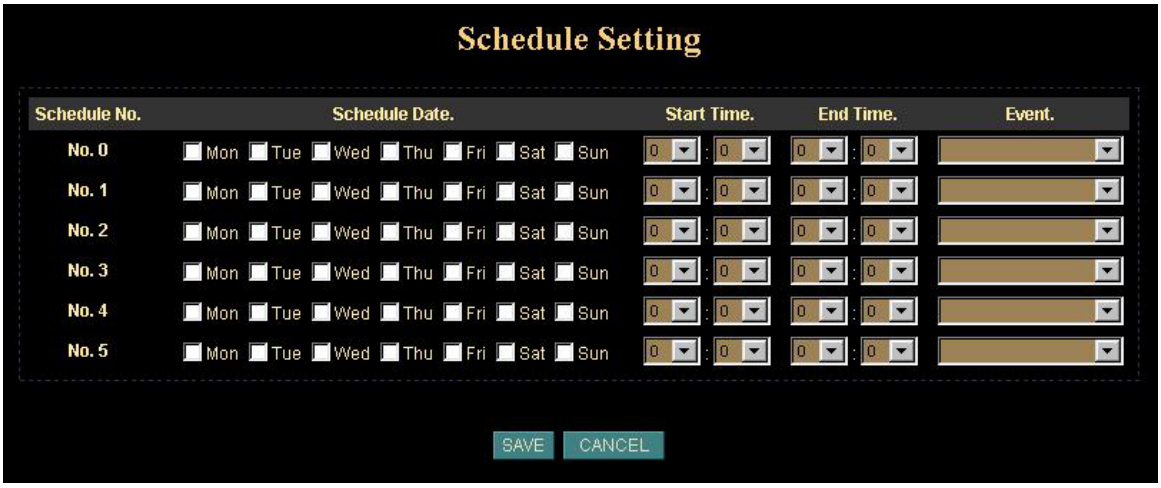
Receiver's e-mail address:
Type the receiver's e-mail address. This address is used for reply mail. **Note**: you can key in multiple receiver's email address at the time.

Subject:
Type the subject/title of the E-mail up to 64 characters.

Mode:
Send a captured image via three different situations – via event such as motion detected or sensor1/2 activated or send it periodically or off.

Select "SAVE" to save the setting.

 Schedule: Setup event schedule



The schedule setting is used to set the time schedule for events. The event may be "Star Motion Detection" or others. There are 6 schedules to be programmable.

Select "SAVE" to save the setting.

 Motion Detection: Setup motion detection area and sensor sensitivity

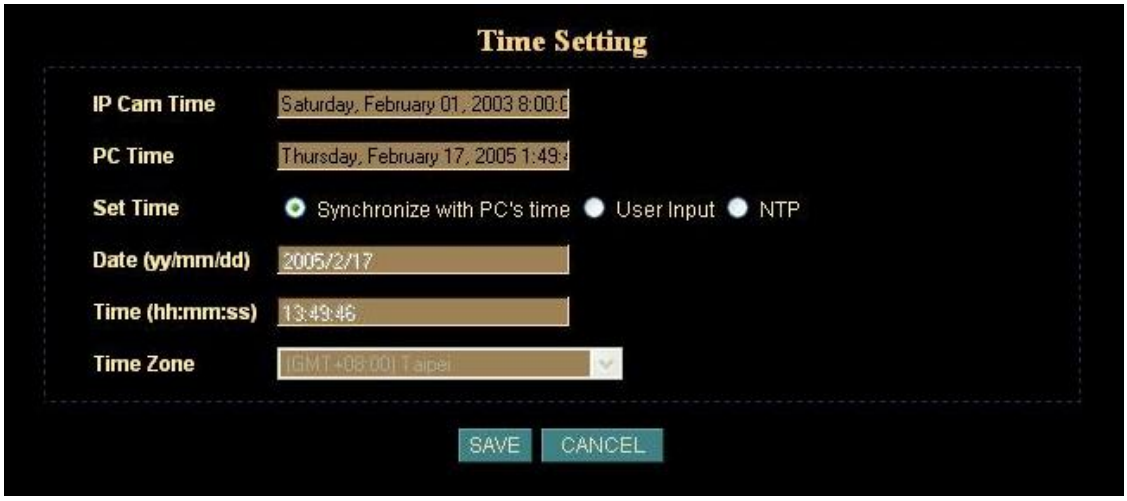
The motion detection is implemented by a patented software algorithm, it runs on the MJPEG IR IP Camera, due to a larger processing power of motion detection, the overall performance of MJPEG IR IP Camera will be degraded; the frame rate may be reduced.

You can enable or disable motion detection. If your enable motion detection, you can also setup detection sensitivity from one of three sensitivity levels.

By dragging mouse position on the image, you can see a red-box area which is the motion detection area according to your sensitivity.

Time Setting: Setup the MJPEG IR IP Camera time configuration

You can setup the MJPEG IR IP Camera time or make it synchronized with PC or remote server. Also, you may select your time zone in order to synchronize time locally.



Synchronize the time with PC's time:
This is the default time adjust mode, the check box of *"Synchronize with PC's time"* would be checked by default.

Press *"SAVE"* button to do the time synchronization with PC time.

After the "SAVE" button was set, the MJPEG IR IP Camera time will be synchronized as PC's time. From the setting, the Server's time is the same as PC's time.

Change the time manually:
The following steps can change the time manually

1. Select the check box of *"User Input"*
2. Change the date according to the *"yyyy/mm/dd"* format.
3. Change the time according to the *"hh:mm:ss"* by 24 hours format.
4. Select the new time zone setting.
5. Select the *"Adjust"* button to adjust the time.

The time was changed by checking the "Server: " time field.

Get Time from a NTP server:
Select "*NTP*" Button

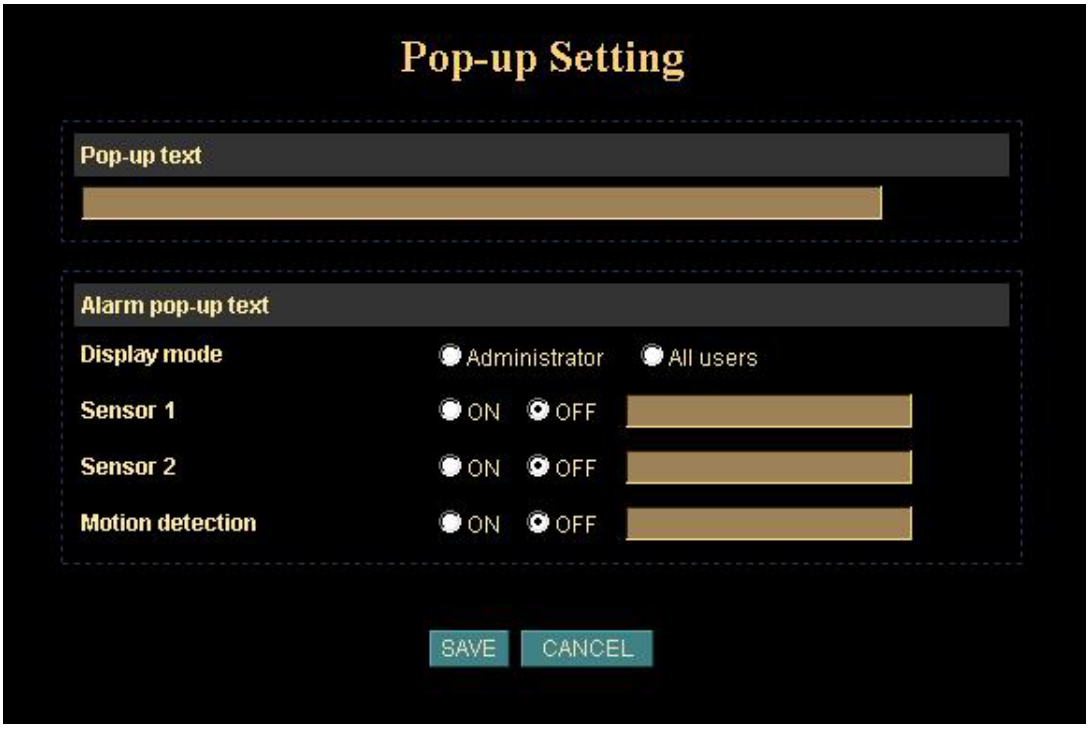
Key in the NTP server's IP address.

Press "SAVE" to activate it.

After the MJPEG IR IP Camera gets the time from NTP server, it will update the MJPEG IR IP Camera's time field.

 Popup: Setup event message while motion or sensors has been activated

When any one of alarms enabled, and one of them detected, then a message window will be displayed on the screen.



You can have output message in case of events activated such as sensors or motion detection to warn user.

Firmware upgrade:

The MJPEG IR IP Camera supports firmware upgrades (the software that controls the operation in the MJPEG IR IP Camera). We would supply the latest firmware version for upgrade. Please contact your dealer for the latest version.

Download the latest firmware file from our website. Unzip this firmware file to binary file and store it into your PC. The file name should be **RZ.BIN** or similar for the MJPEG IR IP Camera. Then follow the steps as bellows carefully:

1. Close all other application programs which are not necessary for firmware update.

2. Disable Motion Detection function.

3. Disable Camera Tour function.

4. Set the video resolution to 176 x 144 or smaller.

5. Set the frame rate to 1 fps.

6. Select "Firmware update"

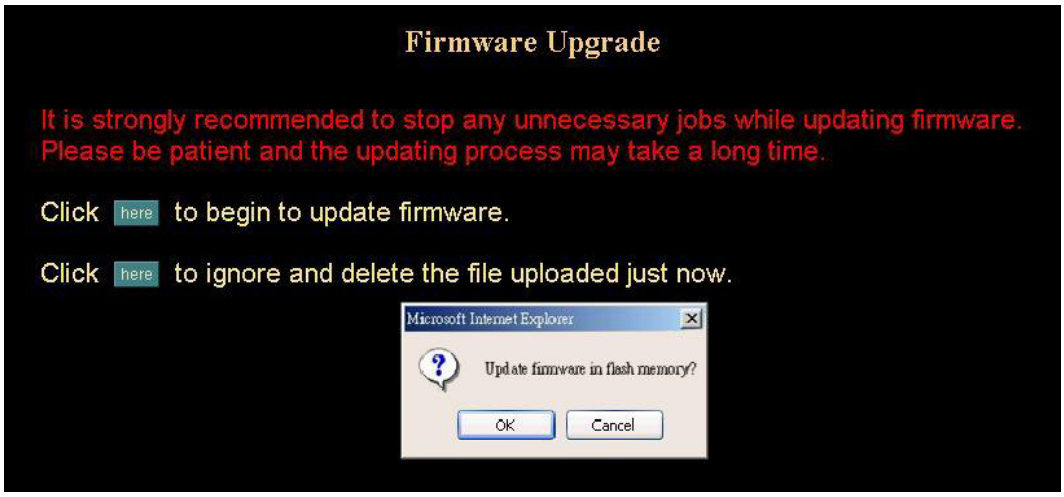
7. The Firmware Upgrade menu will appear:

8. Select the Firmware binary file. (It must be make sure that the Firmware only apply to

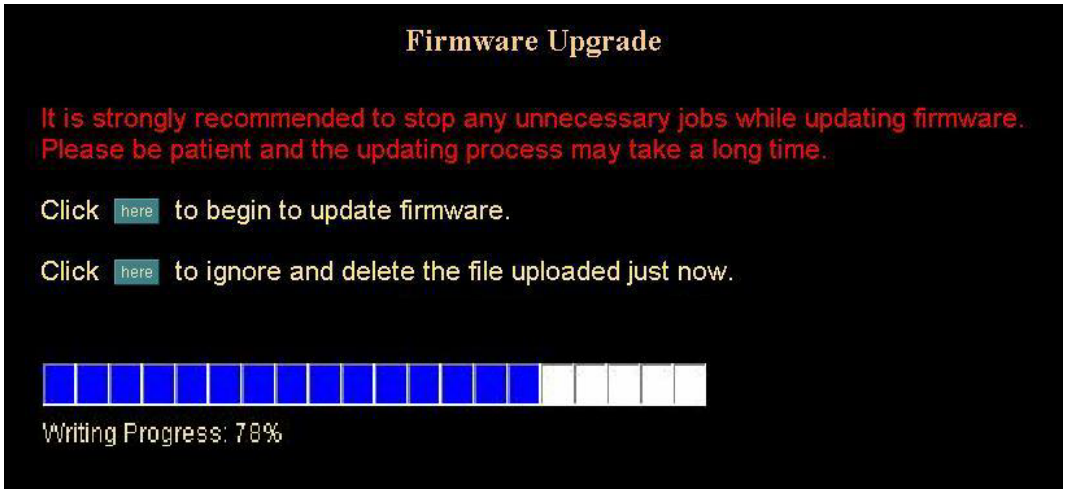
MJPEG IR IP Camera, once update, it will be burned into FLASH ROM of system.)

9. Once the firmware file was selected, select "Upload".

10. Press the *"here"* button to begin to upgrade firmware.



11. Press the *"OK"* button to continue.



The upgrade progress status information will be displayed on the screen.

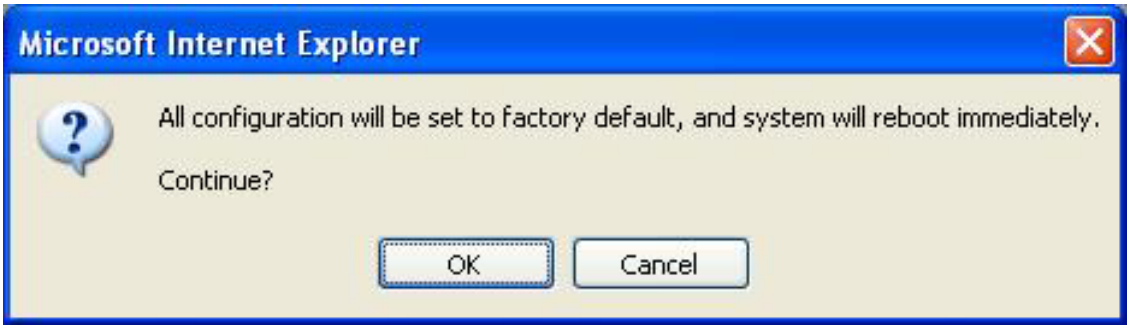
Warning: The download firmware procedure can not be interrupted. If the power and/or network connection are broken during the download procedure, it might possibly cause serious damage to the MJPEG IR IP Camera. Suggest that do not upgrade firmware via Wireless LAN due to high error rate possibly.

Please be aware that you should not turn off the power during updating the firmware and wait for finish message.

Once the upgrading process completed, the MJPEG IR IP Camera will reboot the system automatically.

Note: please wait for 20 seconds, and then you can connect to MJPEG IR IP Camera again.

 Factory Default: Recall the MJPEG IR IP Camera factory default setting



The *"Factory Default"* button will restore to the factory default configuration, all information changed and saved on the flash will be lost, and restored to the factory default setting.

You will be prompt before restore to factory default setting.

Select *"OK"* to continue, or *"Cancel"* to abort it.

 Reboot: Reboot the MJPEG IR IP Camera by hardware reset

The *"Reboot"* button will reboot the MJPEG IR IP Camera. It's useful while the MJPEG IR IP Camera got problem.

You will be prompt before restore to factory default setting.

Select *"OK"* to continue, or *"Cancel"* to abort it.

Trigger

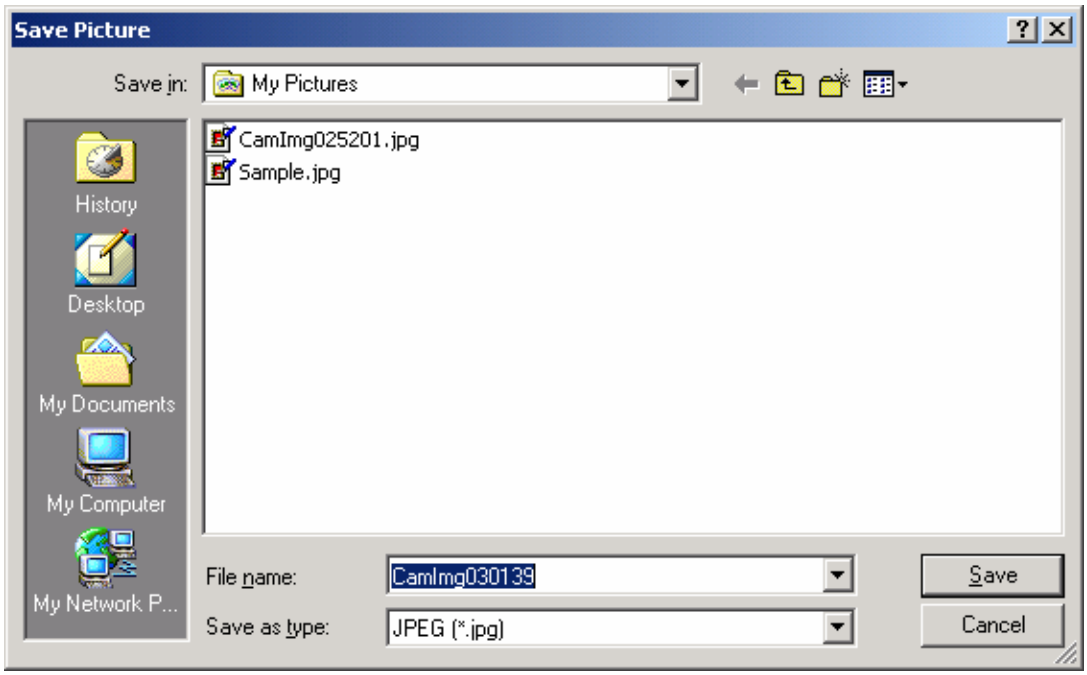
You can send an image or output a trigger to control the alarm output, using Trigger section on the main page.

Action	Meaning
FTP	Upload a captured image to server
Mail	Mail captured image to specific mail address

Noted:
This function is available for logging-in as an administrator only.

Capture

You can capture current image and save it to storage media. The image is saved in the JPEG format.



Noted:
This function is available for logging-in as an administrator only.

RightMouseButton of ActiveX Control

On the view of video, the plug-in ActiveX control support a lot of functions by clicking the right mouse button. This feature only supports on the ActiveX control within Microsoft® Internet Explorer.

On the ActiveX control, right click the RightMouseButton, then a menu pop-up. This menu provides feature that are unique to the ActiveX control. These functions include

- *"View",*
- *"Splits",*
- *"Rotate",*
- *"Quality",*
- *"Resolution",*
- *"Image Recording…",*
- *"Save Current Picture As …"*

…

View Menu

"*Resizable*"

Make the image is resizable, but "Actual size disable", the "Splits" is supported on this mode.

"*Actual size* "

Make the image show as the actual size, the "*Splits*" function does not work on this mode.

"StatusBar"

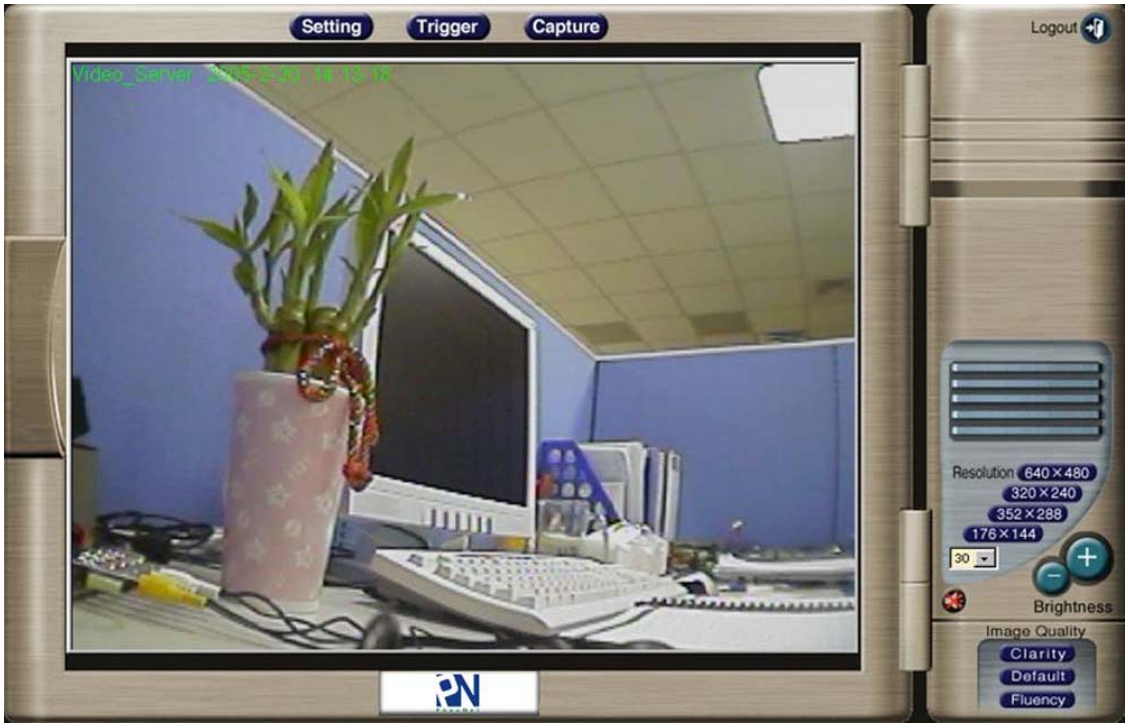
A status bar display on the button of the image.

"View"

It makes the image resizable.

After the *"Resizable"* was selected, the border of the image changed to resizable border.

After the "*Actual size*" was selected, the image will displayed as the actual size, in this example, the image displays as a 640 x 480 pixels.



After the "*Statusbar*" was selected, a status bar will be displayed on the bottom of the image. It displays

• *Status*
Open/Close camera status

• *Resolution*
704x576, 640x480, 320x240, 352x288, 176x144, 160x120 (PAL)
640x480, 320x240, 352x288, 176x144, 160x120 (NTSC)

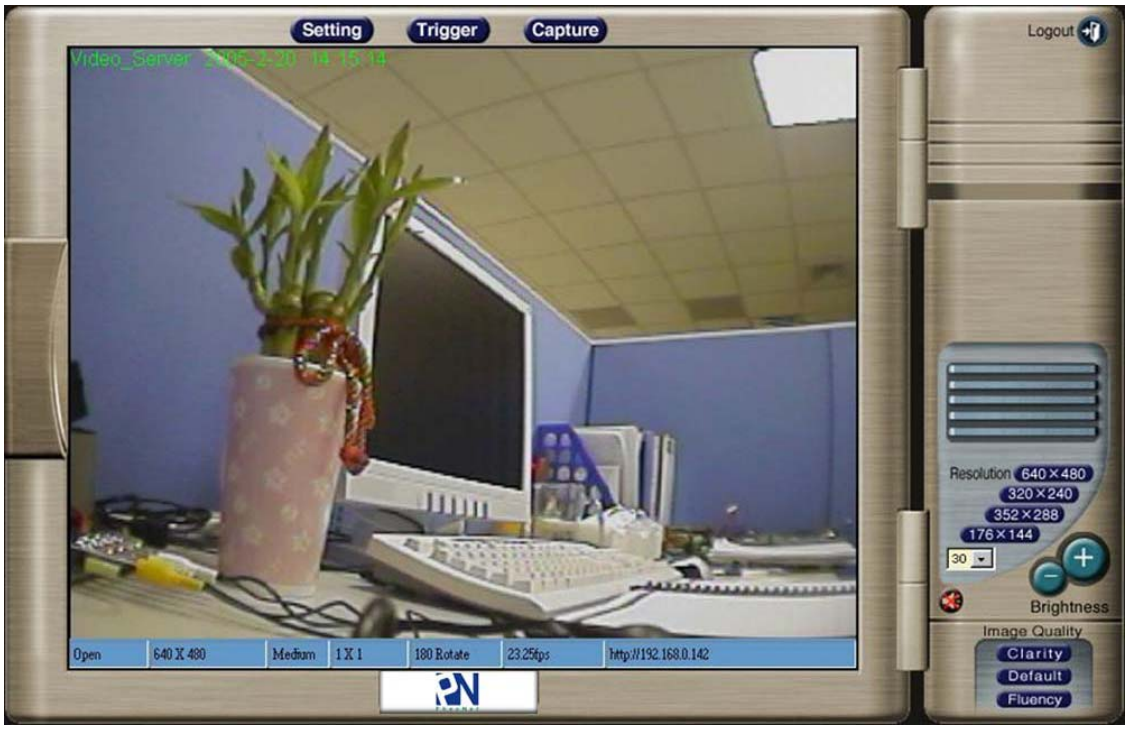
• *Quality*
Highest, High, Medium, Low, Lowest

• *Split*
1x1, 2x2, 3x3, 4x4

• *Rotate*
- Normal: *"Rotate 0",* the defau state.
- Rotate: "*Rotate 180*", rotate the image by 180 degree; used on the camera was up side down mounted.
- Flip Vertical : Flip the image vertically.
- Flip Horizontal : Flip the image horizontally.

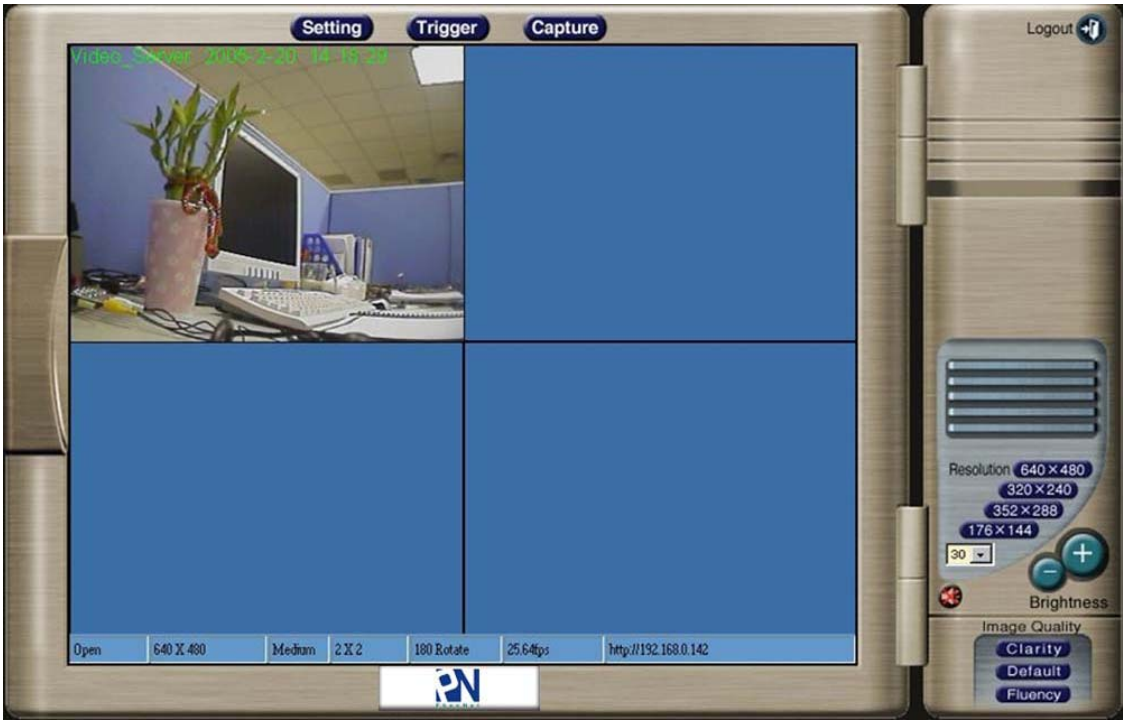
• *Frame Rate*

• *URL*

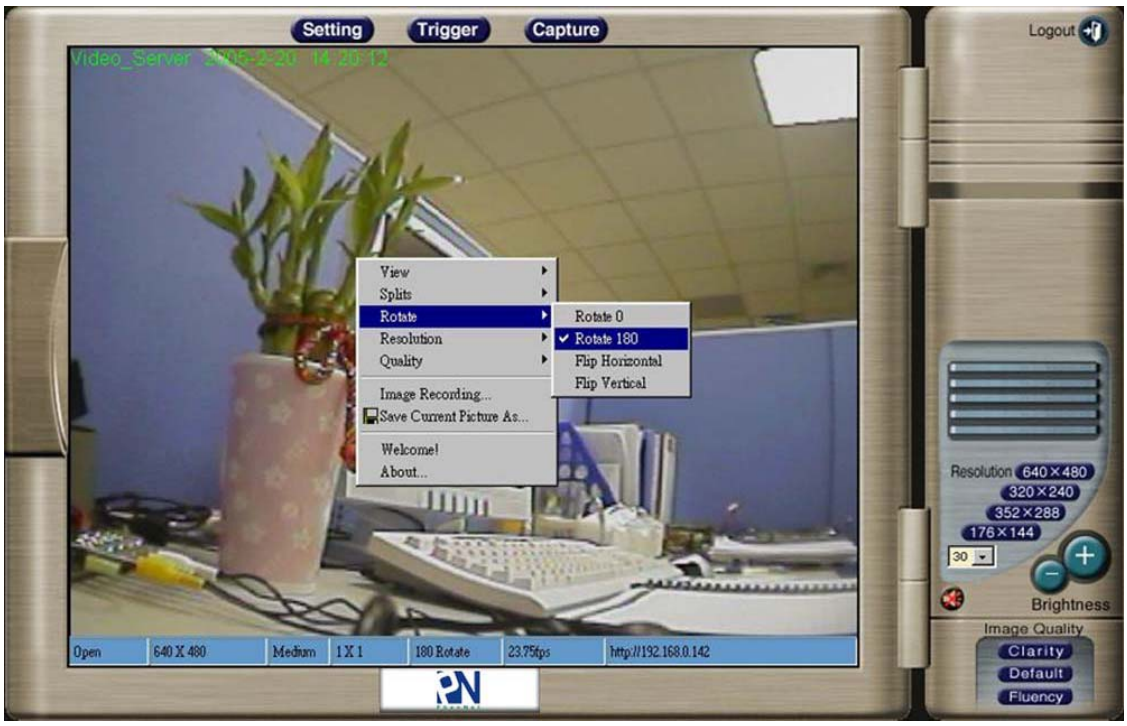


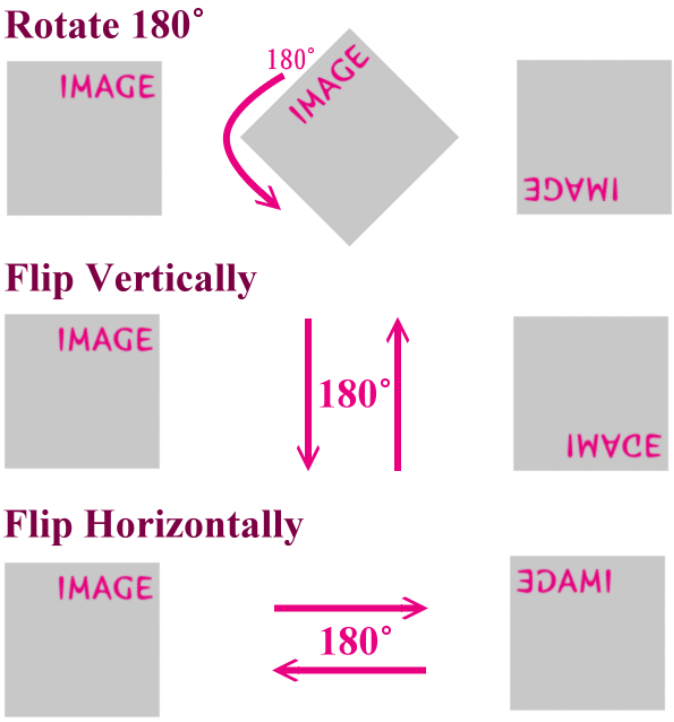
"Split"

This function is used to support 4CH Video Server. Therefore, it's not so useful in Speed Dome MJPEG IR IP Camera.



"Rotate"





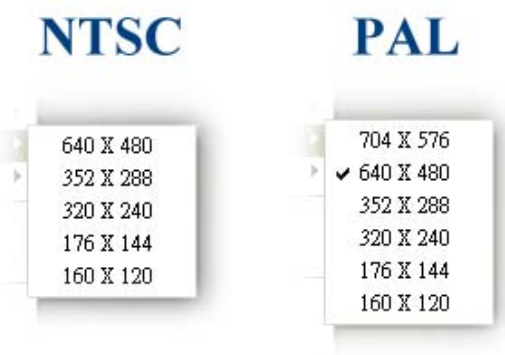
After the "*Rotate 180*" was selected, the image will be overturned from 0 to the angle 180.

After the "*Flip Vertical*" was selected, the image will be overturned vertically.

After "*Flip Horizontal*" was selected, the image will be overturned horizontally.

"Resolution"
If MJPEG IR IP Camera type is NTSC, it will have 5 choices of resolution: 640x480, 352x288, 320x240, 176x144, and 160x120. While users control the PAL type of the MJPEG IR IP Camera, they could have 6 choices of resolution: 704x576, 640x480, 352x288, 320x240, 176x144, and 160x120.

The control method is the same as control panel's *"Quality*".

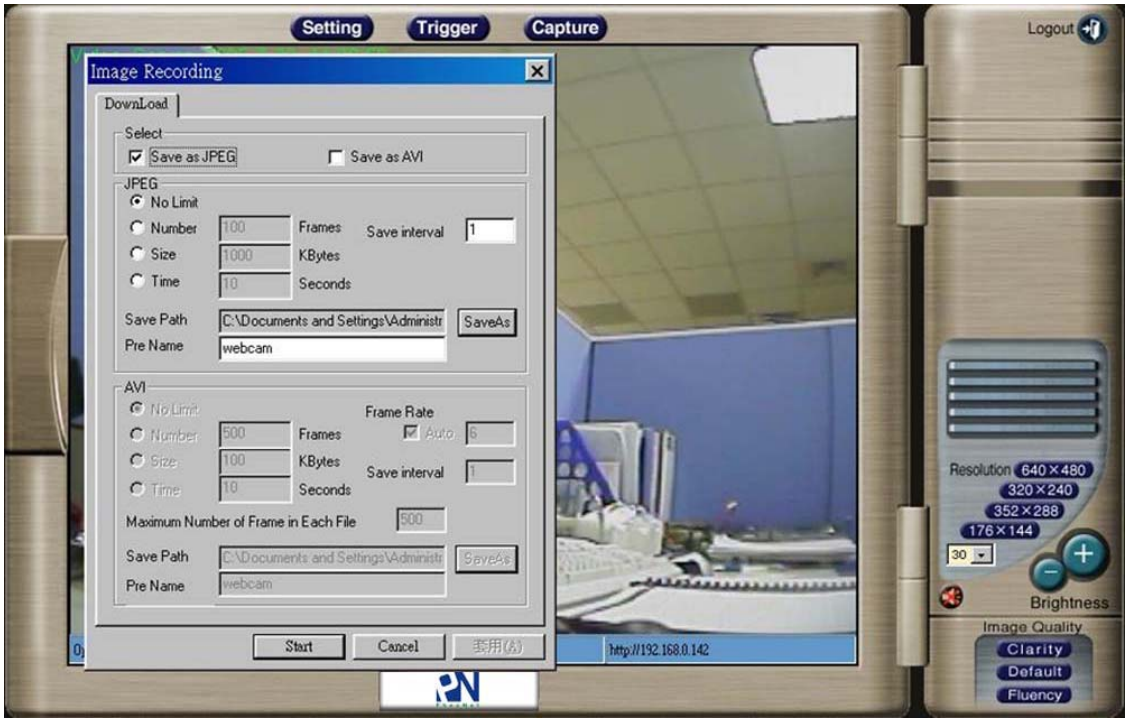


"Quality"
Highest (The same as "Clarity" on control panel)
High
Medium (The same as "Default" on control panel)
Low
Lowest (The same as "Fluency" on control panel)

The control method is the same as control panel's *"Quality*".

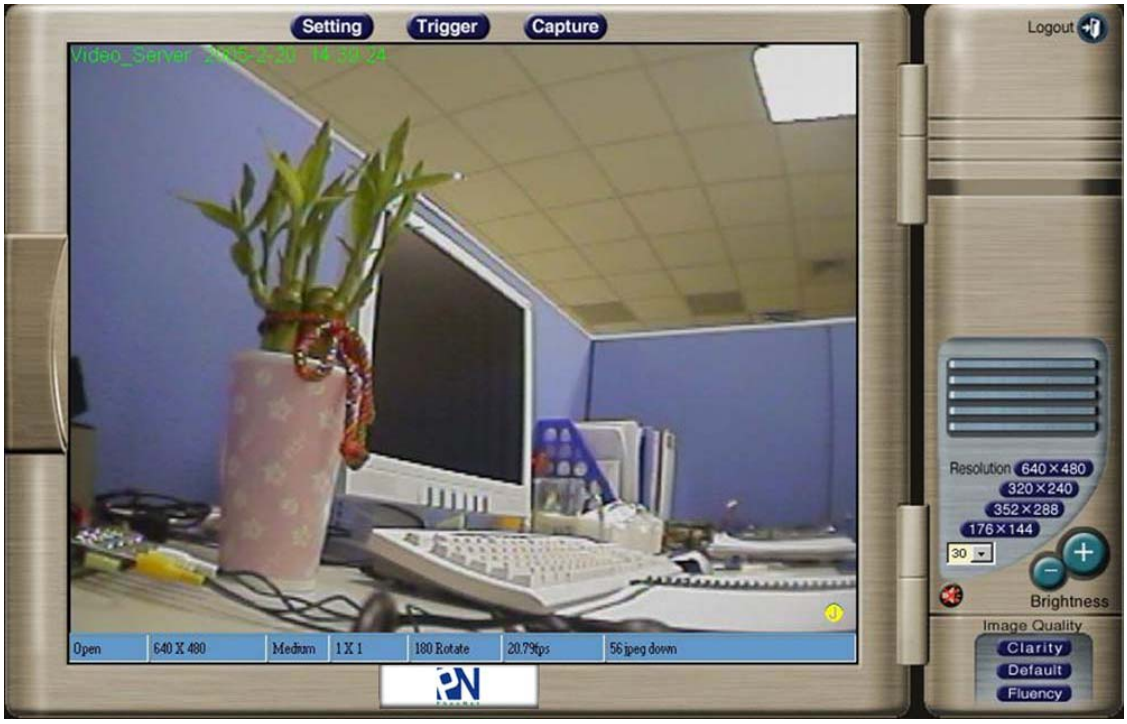
"Image Recording…-> Save as JPEG"

Select "*Image Recording…"*
The "Image Recording" pop-up window displays, select
"Save as JPEG"
Input the "*Download Number*" for the number of images desire to be saving, or "*Download No Limit*" to save the images continuous, until the "*Stop Image Recording*" is selected.
Select *"SaveAs*" , the pop-up window to select the save path and file name prefix, select *"Save*" to continue.



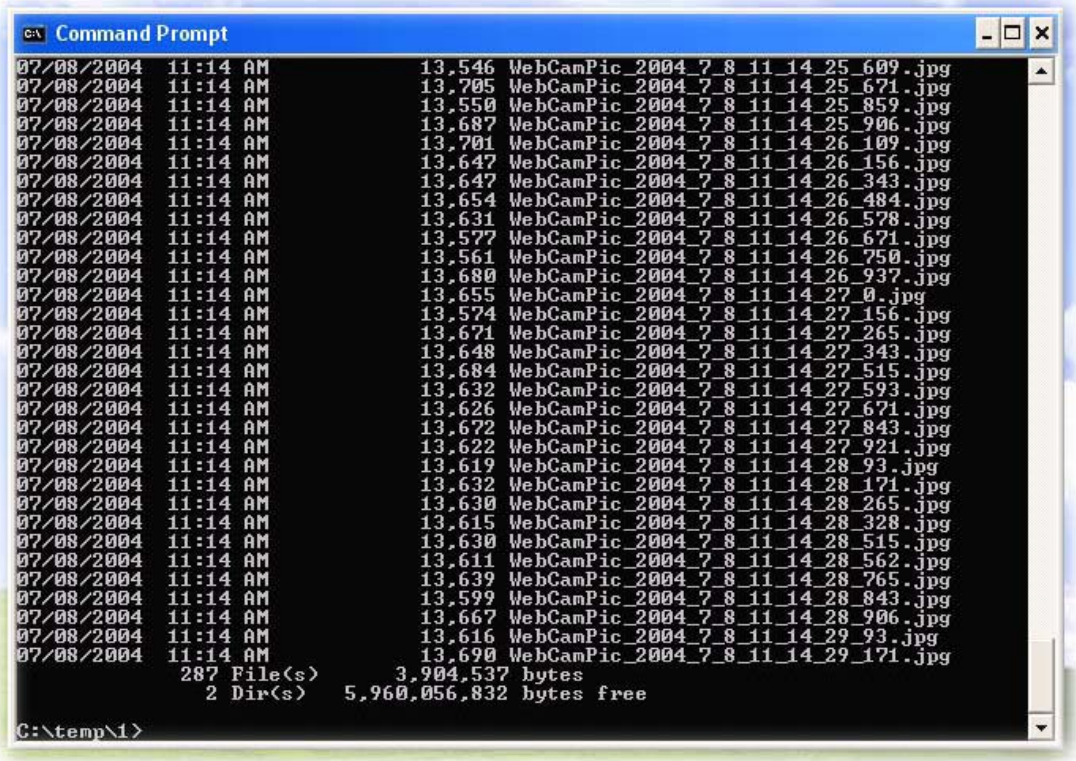
Select "*Start*" to do the images download and save as JPEG files into the local PC.

During the download and save as JPEG files process, the yellow mark will be displayed on the right-down position to indicate the saving as JPEG files operation.



Before the "*Download Number*" of images is reached, or "*Download No Limit*", select "*Stop Image Recording*" to stop the image recording process.

After "*Stop Image Recording*", list the files, these files are named as file_name_prefixed_yyyy_mm_dd_hh_mm_ss_ms.jpg



"Image Recording…-> Save as AVI"

1. Select "*Image Recording…"*

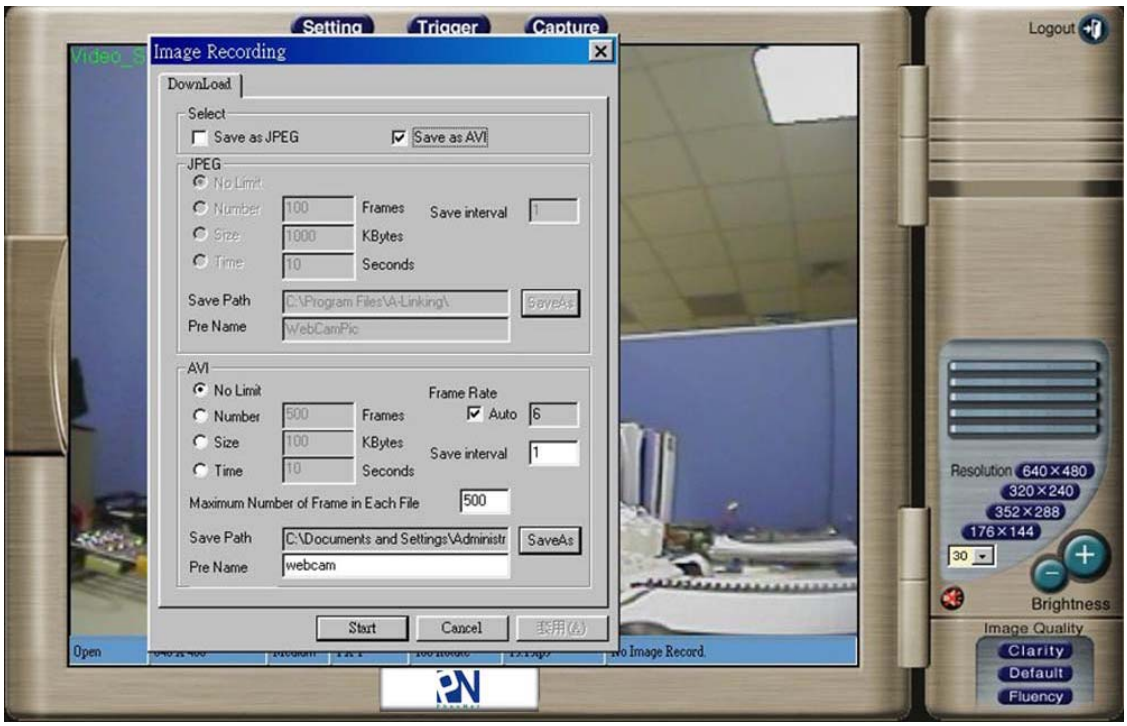
2. The "Image Recording" pop-up window displays, select

3. "*Save as AVI*"

4. Input the "*Avi Frame*" and "*Max Jpeg Num*" on each AVI file, until the "*Stop Image Recording*" is selected. "*Avi Frame*" is the frame rate setting of the recorded AVI file.

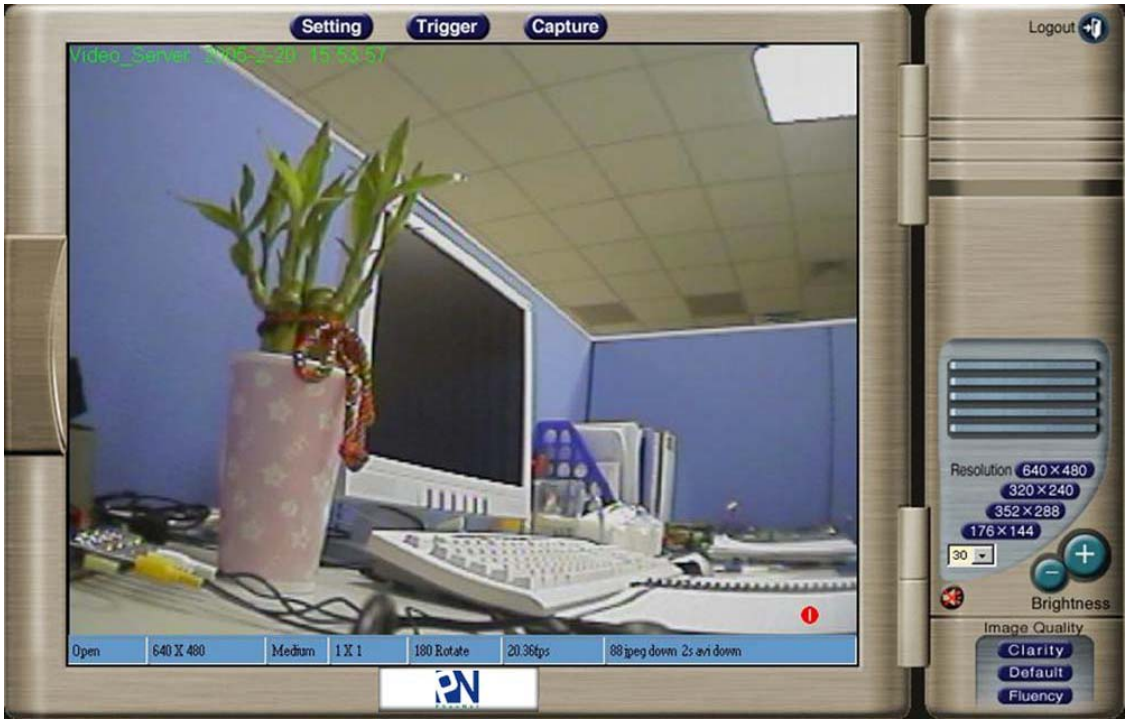
5. For each AVI file, the maximum saved images in each file are specified in *"Max Jpeg Num"*, once the saves image on each AVI file are reached by this number, then a new AVI file will created to save the following images, until the "*Stop Image Recording*" is selected.

6. Select *"SaveAs*", the pop-up window to select the save path and file name prefix, select *"Save*" to continue.



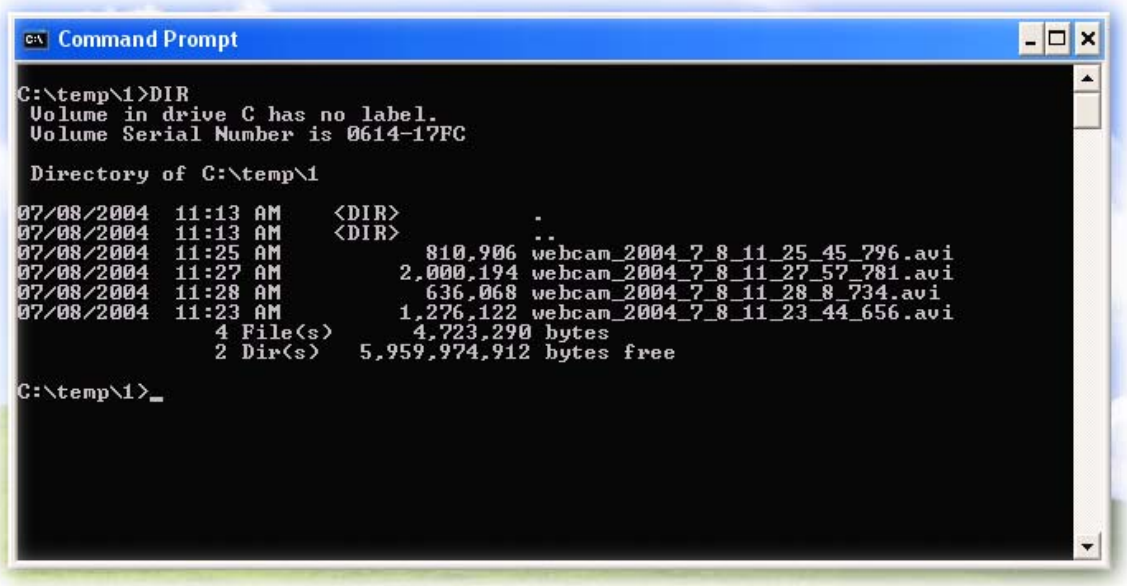
Select "*Start*" to start the AVI files recording.

During the AVI file recording, a red icon displays on right-down position of the image to indicate the AVI saving process.

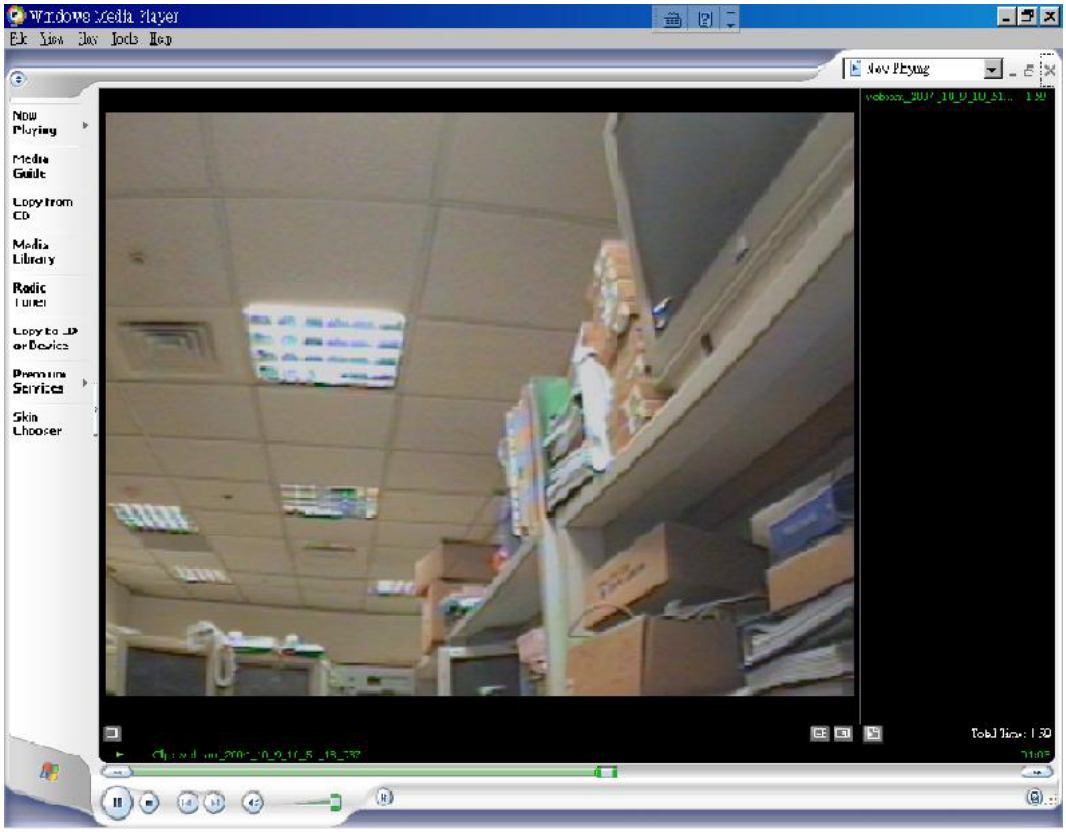


Press the "*Stop Image Recording*" to stop the save as AVI process.

After the "*Stop Image Recording*", list the file on the selected saved directory, the file were saved by the filename_prefix_date_time.avi.



The AVI files can be display by the standard Windows Media Player, but it needs the DixectX 9.0 or higher version to be installed.

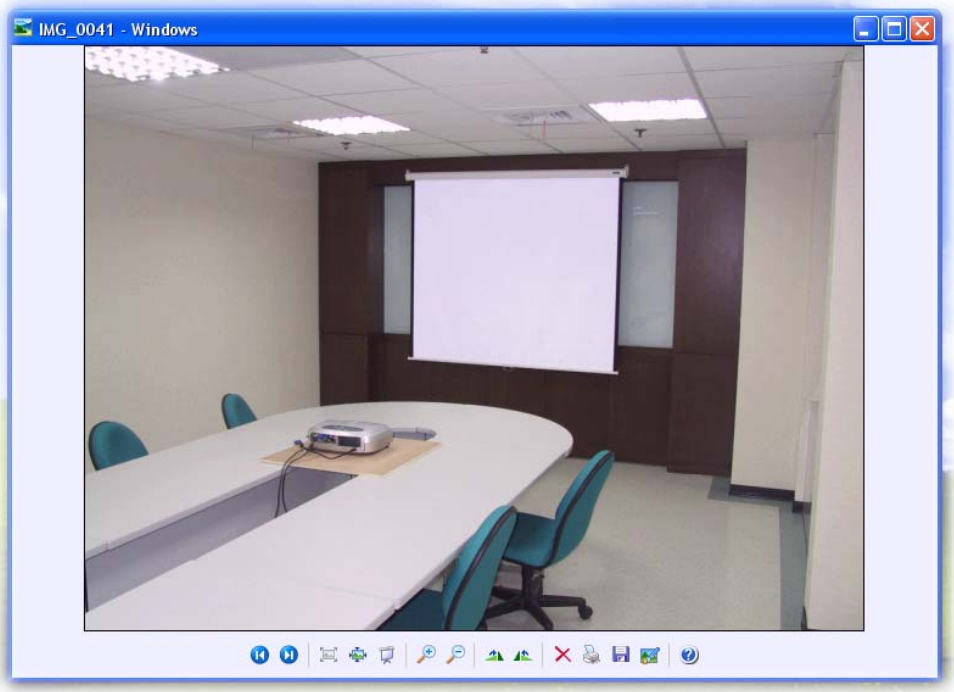


"Save Current Picture As …"

Use the "Save Current Picture As …" to save the current display image into the local PC.

Input the saved "*File name*", select "*Save*"

If you like to retrieve the saved image, select the file to display the saved image by using any one of graph editing tools.


IMG_0041 - Windows

Appendix A: Troubleshooting & Frequently Asked Questions

Question	Answer or Resolution
Features	
The video and audio codec is adopted in the MJPEG IR IP Camera.	The MJPEG IR IP Camera utilizes JPEG compression to providing high quality images. JPEG is a standard for image compression and can be applied to various web browsers without the need to install extra software. The audio codec is ADPCM compression.
The maximum number of users access MJPEG IR IP Camera simultaneously.	The maximum number of users is depend on the total bandwidth accessed to MJPEG IR IP Camera from clients. The data throughout of MJPEG IR IP Camera is around 5~6Mbps. Therefore, the maximum number of connected clients is varying by settings of resolution and frame rate. Obviously, the performance of the each connected client will slow down when many users are logged on.
The MJPEG IR IP Camera can be used outdoors or not.	The MJPEG IR IP Camera is not weatherproof. It needs to be equipped with a weatherproof case for outdoors using. However, equipped with a weatherproof case will disable the audio function of MJPEG IR IP Camera.
Install MJPEG IR IP Camera	
Status LED does not light up.	• Check and confirm that the standard AC adaptor, included in packaged, is used. Secure the power connector and re power it on again. • If the problem is not solved, the MJPEG IR IP Camera might be faulty. Contact your dealer for further help.
The network cabling is required for the MJPEG IR IP Camera.	The MJPEG IR IP Camera uses Category 5 UTP cable allowing 10 and/or 100 Base-T networking.
The MJPEG IR IP Camera will be installed and work if a firewall exists on the network.	If a firewall exists on the network, port 80 is open for ordinary data communication. The MJPEG IR IP Camera uses port 80(default) only. This port (or the port you specify from the Configuration screen if you change the default port) needs to be opened on the firewall.
The username and password for the first time or after factory default reset	Username = **admin** and leave password blank. Note that it's all case sensitivity.
Forgot the username and password	Follow the steps below. **1.** Restore the factory default setting by press pressing and holding down more than 8 seconds when power on

	MJPEG IR IP Camera. **2.** Reconfigure the MJPEG IR IP Camera.
Forgot the IP address of the MJPEG IR IP Camera.	Check IP address of MJPEG IR IP Camera by using the IP Finder program.
IP Finder program cannot find MJPEG IR IP Camera.	• Re power the MJPEG IR IP Camera if cannot find the unit within 1 minutes. • Do not connect MJPEG IR IP Camera over a router. IP Finder program cannot detect MJPEG IR IP Camera. • If IP address is not assigned to the PC which running IP Finder program, then IP Finder program cannot find MJPEG IR IP Camera. Make sure that IP address is assigned to the PC properly. • Antivirus software on the PC might interfere with the setup program. Disable the firewall of the antivirus software during setting up MJPEG IR IP Camera.
Internet Explorer does not seem to work well with the MJPEG IR IP Camera	Make sure that your Internet Explorer is version 5.0 or later. If you are experiencing problems, try upgrading to the latest version of Microsoft's Internet Explorer from the Microsoft webpage at: http://www.microsoft.com/windows/ie.
IP Finder program fails to save the network parameters.	• Don't leave any space in the name field. Use underline, "_", or dash, "-" to replace the space, " ". • Network may have trouble. Confirm the parameters and connections of the MJPEG IR IP Camera.
Access MJPEG IR IP Camera	
Cannot access the login page and other web pages of MJPEG IR IP Camera from Internet Explorer	• Maybe the IP Address of the MJPEG IR IP Camera is already being used by another device or computer. To confirm this possible problem, disconnect the MJPEG IR IP Camera from the network first, and then run the PING utility to check it out. • Maybe due to the network cable. Try correcting your network cable and configuration. Test the network interface by connecting a local computer to the MJPEG IR IP Camera via a crossover cable. • Make sure the Internet connection and setting is ok. • Make sure enter the IP address of Internet Explorer is correct. If MJPEG IR IP Camera has a dynamic address, it may have changed since you last checked it. • Network congestion may prevent the web page appearing quickly. Wait for a while. The IP address and Subnet Mask of the PC and MJPEG IR IP Camera must be in the same class of the private IP address on the LAN. • Make sure the http port used by the MJPEG IR IP Camera, default=80, is forward to the MJPEG IR IP Camera's private IP address. • The port number assigned in your MJPEG IR IP Camera might not be available via Internet. Check your ISP for

	available port. • The proxy server may prevent you from connecting directly to MJPEG IR IP Camera, set up not to use the proxy server. • Confirm that Default Gateway address is correct. • The router needs Port Forwarding feature. Refer to your router's manual for details. • Packet Filtering of the router may prohibit access from an external network. Refer to your router's manual for details. • Access MJPEG IR IP Camera from the Internet with the global IP address of the router and port number of MJPEG IR IP Camera. • Some routers reject the global IP address to access MJPEG IR IP Camera on the same LAN. Access with the private IP address and correct port number of MJPEG IR IP Camera. • When you use DDNS, you need to set Default Gateway and DNS server address. • If it's not working after above procedure, reset MJPEG IR IP Camera to default setting and installed it again. • If the problem is not solved, the MJPEG IR IP Camera might be faulty. Contact your dealer for further help.
Image or video does not appear in the main page.	• The first time the PC connects to MJPEG IR IP Camera, a pop-up **Security Warning window** will appear to download ActiveX Controls. When using Windows NT, Windows 2000 or Windows XP, log on with an appropriate account that is authorized to install applications. • Network congestion may prevent the Image screen from appearing quickly. You may choose lower resolution to reduce the required bandwidth.
Check the MJPEG IR IP Camera's ActiveX is installed on your computer	Go to C:\Windows\Downloaded Program Files and check to see if there is an entry for the file "**WebWatch Class"**. The status column should show "Installed". If the file is not listed, make sure your Security Settings in Internet Explorer are configured properly and then try reloading the MJPEG IR IP Camera's home page. Most likely, the MJPEG IR IP Camera ActiveX control did not download and install correctly. Check your Internet Explorer security settings and then close and restart Internet Explorer. Try to browse and log in again.
Internet Explorer displays the following message: "Your current security settings prohibit downloading ActiveX controls".	Setup the IE security settings or configure the individual settings to allow downloading and scripting of *unsigned* ActiveX controls.
The MJPEG IR IP Camera work locally but not externally.	• Might be caused from the firewall protection. Check the Internet firewall with your system or network administrator. The firewall may need to have some settings changed in order for the MJPEG IR IP Camera to be accessible outside your LAN. • Make sure that the MJPEG IR IP Camera isn't conflicting with any other web server running on your LAN.

	• Check the configuration of the router settings allow the MJPEG IR IP Camera to be accessed outside your local LAN.
The unreadable characters are displayed.	Use the operating system of the selected language. Set the Encoding or the Character Set of the selected language on the Internet Explorer.
Frame rate is slower than the setting.	• The traffic of the network and the object of the image affect the frame rate. The network congestion causes frame rate slower than the setting. • When more than one client were viewing, the frame rate becomes slower. • Ethernet switching hub can smooth the frame rate especially in viewing on the Multi-Camera screen.
Blank screen or very slow video when audio is enabled.	• Your connection to the MJPEG IR IP Camera does not have enough bandwidth to support a higher frame rate for the streamed image size. Try reducing the video streaming size to 176x144 or 320x240 and/or disabling audio. • Audio will consume 32 to 64 kbps. Disable audio to improve video. Your Internet connection may not have enough bandwidth to support streaming audio from the MJPEG IR IP Camera.
Image Transfer on e-mail or FTP does not work.	• Default Gateway and DNS server address should be set up correctly. • If FTP does not work properly, ask your ISP or network administrator about the transferring mode of FTP server.
Pan/Tilt, Zoom and Focus do not work. (including Click to Center and Preset Positioning)	• Click **[Refresh]** on the Internet Explorer when the communication stops with the MJPEG IR IP Camera. The image will refresh. • Other clients may be operating Pan/Tilt. • Pan/Tilt operation has reached the end of corner. • The Pan/Tilt operation may be locked by turning off **Remote Camera Control**.
Pan/Tilt, Zoom and Focus do not work smoothly.	There may be a slight delay when you are using the Pan/Tilt feature in conjunction with streaming audio and video. If you find that there is a significant delay while panning or tilting the camera, try disabling the audio streaming and/or reducing the video streaming size.
Video Quality of MJPEG IR IP Camera	
The focus on the MJPEG IR IP Camera is bad.	• The lens is dirty or dust is attached. Fingerprints, dust, stain, etc. on the lens can degrade the performance of the Automatic Focusing feature (for PTZ model). Clean the lens with lens cleaner. Or adjust the camera focus manually (for PT model) • Manual focusing may be set. Press appropriate one of the Focus buttons at the operation panel (for PTZ model). • Blurred images may have been registered when registering or modifying the preset button or home position button. Adjust the focus in manual focusing again, or press the Auto Focus button (for PTZ model). • The image may be out of focus, if the object is too near, or depending on the zoom position. Move the object off MJPEG

	IR IP Camera, or adjust the zoom position (for PTZ model). • Some objects are difficult to focus on by Auto Focus button. Press the Auto Focus button and put it into operation again. When the objects are still out of focus, adjust the focus using manual focusing, or change the objects using Pan/Tilt operation or Zooming features (for PTZ model).
The color of the image is poor or strange.	• Adjust White Balance (for PTZ model). • To insure the images you are viewing are the best they can be, set the Display property setting (color quality) to 16bit at least and 24 bit or higher if possible within your computer. •The configuration on the MJPEG IR IP Camera image display is incorrect. You need to adjust the image related parameters such as brightness, contrast, hue and saturation properly.
Image flickers.	• Wrong power line frequency makes images flicker. Make sure the NTSC or PAL format of your MJPEG IR IP Camera. • If the object is dark, the image will flicker. Make the condition around the MJPEG IR IP Camera brighter.
Noisy images occur.	The video images might be noisy if the MJPEG IR IP Camera is located in a very low light environment. Make the condition around the MJPEG IR IP Camera brighter.
Miscellaneous	
How to Reboot the MJPEG IR IP Camera	If you just want to reboot system without change anything. Go to **Network** page and click SAVE button directly, then system will reboot again.
Can not play the recorded AVI file	Have installed Microsoft®'s DirectX 9.0 or later and use the Windows Media Player 9 or later to play the AVI filed recorded by the ActiveX.

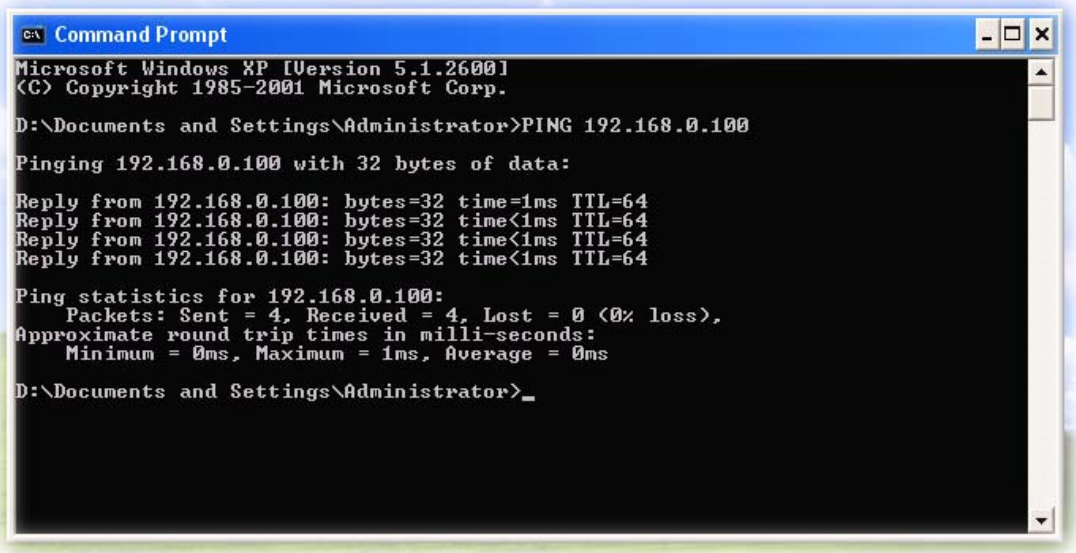
Appendix B: PING IP Address

The PING (stands for Packet Internet Groper) command is used to detect whether a specific IP address is accessible by sending a packet to the specific address and waiting for a reply. It's also a very useful tool to confirm MJPEG IR IP Camera installed or if the IP address conflicts with any other devices over the network.

If you want to make sure the IP address of MJPEG IR IP Camera, utilize the PING command as follows:

- Start a DOS window.
- Type ping x.x.x.x, where x.x.x.x is the IP address of the MJPEG IR IP Camera.

The replies, as illustrated below, will provide an explanation to the problem.



If you want to detect any other devices conflicts with the IP address of MJPEG IR IP Camera, also can utilize the PING command but you must disconnect the MJPEG IR IP Camera from the network first.

Appendix C: Bandwidth Estimation

The frame rate of video transmitted from the MJPEG IR IP Camera depends on connection bandwidth between client and server and quality setting of server. Here is a guideline to help you roughly estimate the bandwidth requirements form your MJPEG IR IP Camera.

Image bandwidth is approximately equal to the average frame rate in frames per second multiplied by the average frame data size in kilobits. Frame data size, or the number of bits comprising a single video frame varies a great deal from depending on scene complexity, lighting conditions, camera noise, etc. The table shown below is reference figures. Actual results generated by the MJPEG IR IP Camera may be varying.

Image Resolution	Average range of Data Sizes
176 x 144 (QCIF)	20 – 40k bit
320 x 240 (QVGA)	56– 92k bit
352 x 288 (CIF)	64 – 112k bit
640 x 480 (VGA)	160 – 320k bit

For example, streaming 2 fps of 320 x 240 video requires 112 to 184 kbps (kilobits per second). Therefore, with a 128K upload connection; you will typically see 3 to 6 frames per second with 176 x 144 resolution and 1 to 2 frames per second with 320 x 240 resolution without audio stream.

> **Note:** Audio streaming also takes bandwidth around 32 kbps to 64kbps. Most ADSL/Cable modem upload speeds may not even reach up to 128 kbps. Thus, you may not be able to receive any video while streaming audio on a 128 kbps or lower connection. Even though the upload speed is more than 128kbps, for optimal video performance, disabling audio streaming will get better video performance.

Appendix D: Specifications

Model	MJCAS-210IR (30M)	MJCAS-210IR (50M)
Horizontal Resolution	380 TV Lines	
Image Device	1 / 3" Color CCD image sensor	
Scanning System	NTSC : 525 lines 2 : 1 interlace / PAL : 625 lines 2 : 1 interlace	
Scanning Frequency	NTSC : 15,734 Hz (H) , 60 Hz (V) / PAL : 15,625 Hz (H) , 50 Hz (V)	
Effective Pixels	NTSC:537(H) × 505(V) / PAL:537(H) × 597(V)	
Electronic Shutter	NTSC : 1 / 60 – 100,000 sec / PAL : 1 / 50 – 100,000 sec	
Power Supply	85 ~260V AC	
Sensitivity	0.05 Lux,0Lux at IR on	
Signal to Noise	More than 48 dB	
Gain Control	AGC	
White Balance	Auto 2000°K ~ 10000°K	
BLC	Auto	
Gamma Correction	0.45	
SYNC System	Internal	
Lens	6mm Standard	25mm
Video Output	Composite 1.0 Vp-p at 75 ohm	
IR LED	High-light led × 12pcs	High-light led × 12pcs With condensing lens
IR View Angle	View angle : 80° , Beam spread : 20° / per LED	
IR Wavelength	850 mm	
IR Distance	25 ~ 30 M	50 M
IR Status	Under 10 Lux by CDS auto control	
LED Life	More than 20,000 hours	
Protection Class	IP-66 classification	
Power Consumption	IRon:280mA,IROFF:100mA	IRon:280mA,IROFF:100mA
Construction	Aluminum with sunshield IP66 weatherproof	
Temperature	Operating : -20 to 50 ℃ , Storage : -30 to 60 ℃	
Dimensions	95 (Φ) × 200 (L)	95 (Φ) × 200 (L)
Wight	1.32 Kgs	1.32 Kgs
IP		
Codec	JPEG, 3 levels	

Resolution	640*480, 352*288, 320*240, 176*144
Frame Rate	Up to 30fps for all resolutions
Compatibility	Windows ME, 2000, XP, 2003
LAN I/F	10/100M
Notification	Email, FTP
OS	Linux
Type Of IP Address	Static or Dynamic
Firmware Upgrade	Ethernet
Security	2 Levels, Administrator or user
Viewer	Microsoft® Internet Explorer 5.5 or later
IP Filtering	Yes
Networking Protocol	TCP/IP, HTTP, SMTP, FTP, NTP, DNS, DDNS, ARP and DHCP
Communication Protocol	PPPoE

Appendix E: Time Zone Table

GMT stands for Greenwich Mean Time which is the global time that all time zones are measured from.

(GMT-12:00) International Date Line West
(GMT-11:00) Midway Island, Samoa
(GMT-10:00) Hawaii
(GMT-09:00) Alaska
(GMT-08:00) Pacific Time (US & Canada); Tijuana
(GMT-07:00) Arizona
(GMT-07:00) Chihuahua, La Paz, Mazatlan
(GMT-07:00) Mountain Time (US & Canada)
(GMT-06:00) Central America
(GMT-06:00) Central Time (US & Canada)
(GMT-06:00) Guadalajara, Mexico City, Monterrey
(GMT-06:00) Saskatchewan
(GMT-05:00) Bogota, Lima, Quito
(GMT-05:00) Eastern Time (US & Canada)
(GMT-05:00) Indiana (East)
(GMT-04:00) Atlantic Time (Canada)
(GMT-04:00) Caracas, La Paz
(GMT-04:00) Santiago
(GMT-03:30) Newfoundland
(GMT-03:00) Brasilia
(GMT-03:00) Buenos Aires, Georgetown
(GMT-03:00) Greenland
(GMT-02:00) Mid-Atlantic
(GMT-01:00) Azores
(GMT-01:00) Cape Verde Is.
(GMT) Casablanca, Monrovia
(GMT) Greenwich Mean Time : Dublin, Edinburgh, Lisbon, London
(GMT+01:00) Amsterdam, Berlin, Bern, Rome, Stockholm, Vienna
(GMT+01:00) Belgrade, Bratislava, Budapest, Ljubljana, Prague
(GMT+01:00) Brussels, Copenhagen, Madrid, Paris
(GMT+01:00) Sarajevo, Skopje, Warsaw, Zagreb
(GMT+01:00) West Central Africa
(GMT+02:00) Athens, Istanbul, Minsk
(GMT+02:00) Bucharest
(GMT+02:00) Cairo
(GMT+02:00) Harare, Pretoria
(GMT+02:00) Helsinki, Kyiv, Riga, Sofia, Tallinn, Vilnius
(GMT+02:00) Jerusalem
(GMT+03:00) Baghdad
(GMT+03:00) Kuwait, Riyadh
(GMT+03:00) Moscow, St. Petersburg, Volgograd
(GMT+03:00) Nairobi

(GMT+03:30) Tehran
(GMT+04:00) Abu Dhabi, Muscat
(GMT+04:00) Baku, Tbilisi, Yerevan
(GMT+04:30) Kabul
(GMT+05:00) Ekaterinburg
(GMT+05:00) Islamabad, Karachi, Tashkent
(GMT+05:30) Chennai, Kolkata, Mumbai, New Delhi
(GMT+05:45) Kathmandu
(GMT+06:00) Almaty, Novosibirsk
(GMT+06:00) Astana, Dhaka
(GMT+06:00) Sri Jayawardenepura
(GMT+06:30) Rangoon
(GMT+07:00) Bangkok, Hanoi, Jakarta
(GMT+07:00) Krasnoyarsk
(GMT+08:00) Beijing, Chongqing, Hong Kong, Urumqi
(GMT+08:00) Irkutsk, Ulaan Bataar
(GMT+08:00) Kuala Lumpur, Singapore
(GMT+08:00) Perth
(GMT+08:00) Taipei
(GMT+09:00) Osaka, Sapporo, Tokyo
(GMT+09:00) Seoul
(GMT+09:00) Yakutsk
(GMT+09:30) Adelaide
(GMT+09:30) Darwin
(GMT+10:00) Brisbane
(GMT+10:00) Canberra, Melbourne, Sydney
(GMT+10:00) Guam, Port Moresby
(GMT+10:00) Hobart
(GMT+10:00) Vladivostok
(GMT+11:00) Magadan, Solomon Is., New Caledonia
(GMT+12:00) Auckland, Wellington
(GMT+12:00) Fiji, Kamchatka, Marshall Is.
(GMT+13:00) Nuku'alofa

Appendix F: DDNS Application

1. Preface

If you have a Cable modem, xDSL, ISDN or Dialup, this is a great way to host your own ***Web Server, FTP Server, Mail Server, MJPEG IR IP Camera*** or other TCP/IP Service. Get your own domain like www.yourname.com*, www.yourname.com.tw* etc. (Note:This domain must be registered with Internic via registration authorities such as Network Solutions, DirectNIC, Register.com etc). Your domain name's dynamic IP address is automatically tracked by a DDNS server.

Host your own ***Web Server, FTP Server, Mail Server, MJPEG IR IP Camera*** and much much more no matter what your computer's IP address may be and even if you have dialup, DSL or cable modem internet connection where your computer's IP address changes all the time!! DDNS service supports all top level domain names including but not limited to .com, .net, .org, .to, .uk etc.

2. Ethernet Network Environment

Normally, DDNS services is only necessary for the users that could only obtain dynamic IP addresses. As to the users that could obtain the static valid IP address, they do not usually have to apply the DDNS service. Before we decide if DDNS is necessary for the users, we have to check what kind of Ethernet network environment we have to install our MJPEG IR IP Camera or IP camera on.

(1) Environment of Fixed Valid IP Network

If users could obtain valid IP addresses, they could save the effort to apply DDNS service. Because the IP address in this environment is fixed, users could input the IP address or domain name of demo site directly in the IE browser.

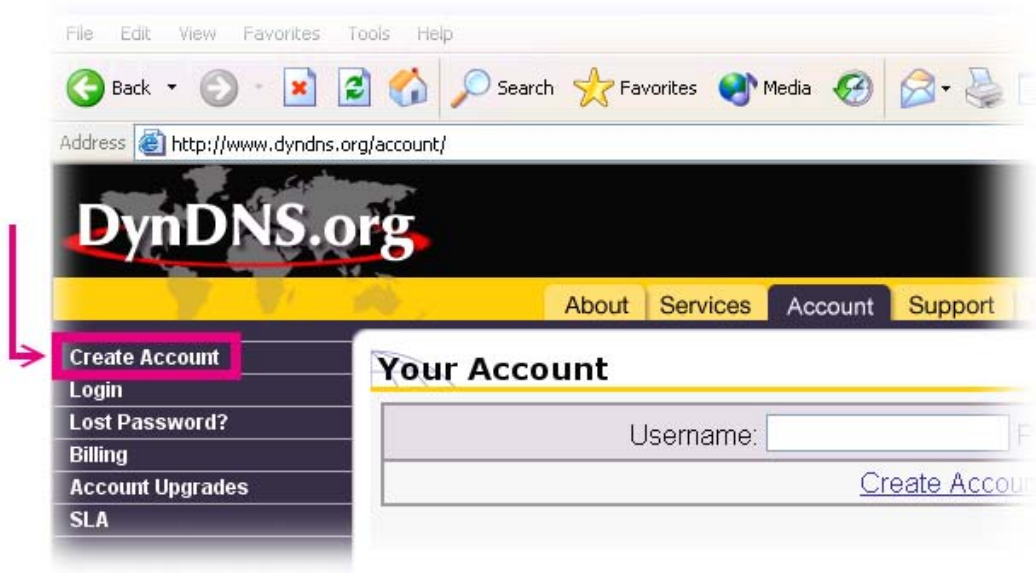
(2) Environment of Dynamic IP Network

If users is under a environment of dynamic IP network (Dial-up ADSL), they have to apply a domain name in advance. Then apply DDNS service. Finally setup the necessary information of DDNS and PPPoE of the MJPEG IR IP Camera or IP camera in order to let the outside administrator be able to access through internet.

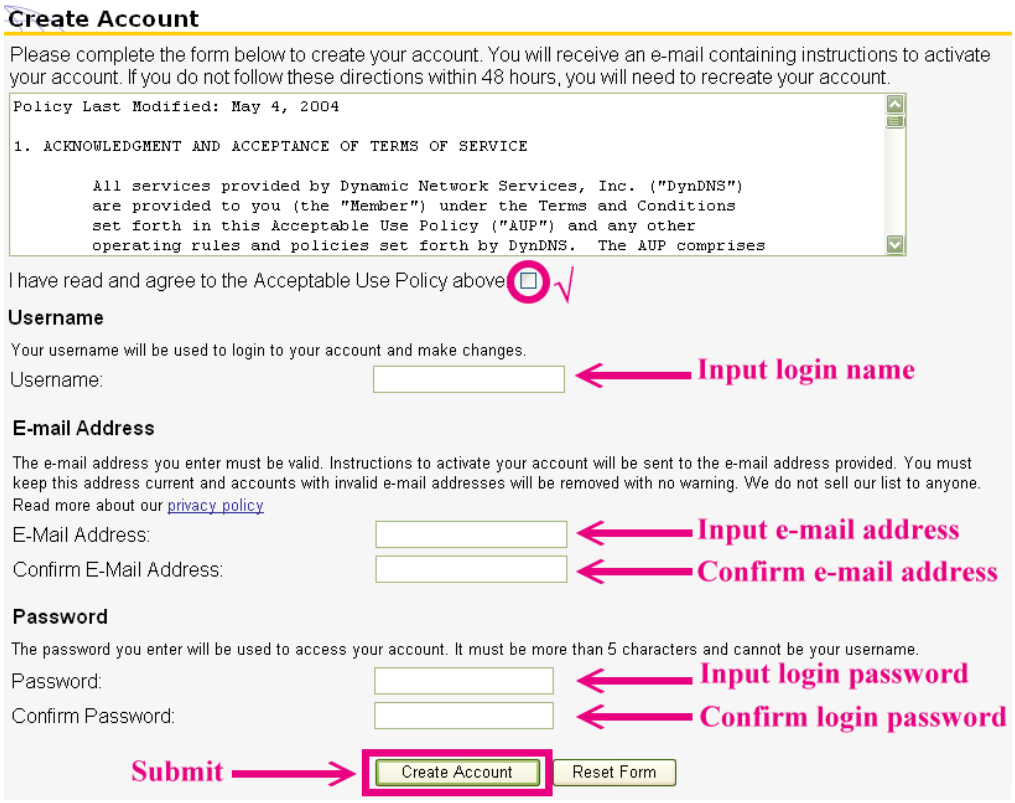
3. Application Steps—DDNS & Domain Name

(1). Visit the following web site : http://www.dyndns.org/ (Pink No.1)
(2). Click "Account" (Pink No. 2)

(3). After the columns show up at the left side, click "Create Account".



(4). Fill the application agreement and necessary information.
a. Input Name
b. E-mail input and confirmation
c. Password input and confirmation
d. Submit all the input information and finish creating a account

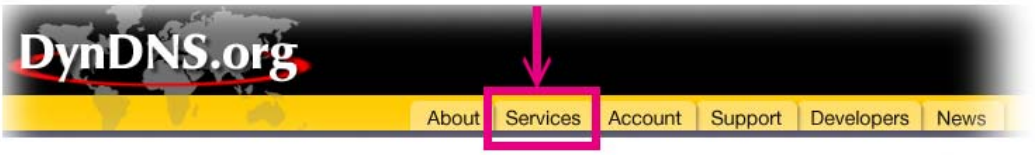


(5). Check your e-mail mailbox. There will be an e-mail with a title "Your DynDNS.org Account Information ". Click the hyperlink address to confirm the DDNS service that you just applied. Then DDNS you applied activated.

(6). Enter the web page http://www.dyndns.org/ again. Input your username and password that you just applied to login administration interface of DDNS service.

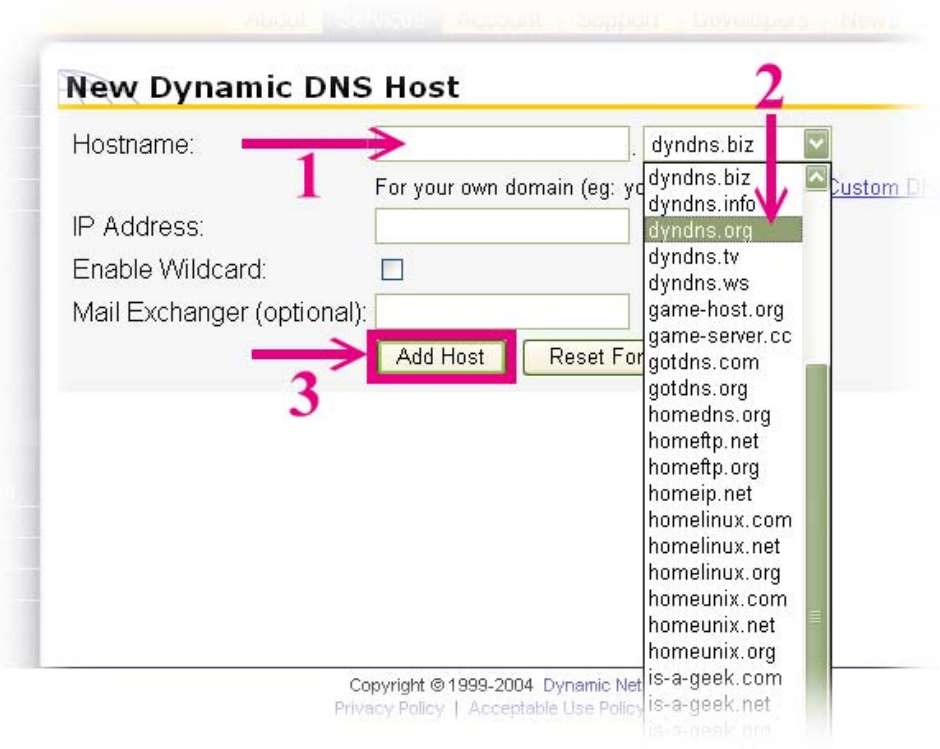
(7). If the correct username and password are input, you can see the following picture at the top-right of the login page.

(8). Click the "Services".



(9). Click the " Dynamic DNS " and then click the "Add a host".

(10). We could create a domain name without any charge at this step. First, we input the host name. (Pink No.1) Then we pick a domain that is easy to remember. (Pink No.2) Finally, click the "Add Host" to submit the domain name information. (Pink No.3)



4. Setup the DDNS and PPPoE

At last, users have to enter the web page of MJPEG IR IP Camera or IP camera and setup the necessary information of DDNS and PPPoE after the application of DDNS service. Please check the user manual to access the DDNS and PPPoE pages. After saving the modification, restart the device. The external users could browse the MJPEG IR IP Camera or IP camera by the input of their domain name.