



INTELLINETTM
N E T W O R K S O L U T I O N S

Internet Camera

501583



User Manual

For firmware 1.66 and above

Version: 1.66

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1. Introduction

Thank you for choosing the Internet Camera. This Camera sends live video through the Internet to a web browser or camera viewer anywhere in the world! This compact, self-contained unit lets you keep an eye on your home, your kids, and your workplace—whatever's important to you.

How does the Camera do all of this? Unlike standard “web cams” that require an attached PC, the Internet Camera can connect directly to a network. The Motion JPEG video compression produces a high quality, high-frame rate, 640 x 480 video stream.

The included Camera Viewer utility lets you record the video stream to your local hard drive, “live” or on a predetermined schedule.

Use the instructions in this Guide to help you integrate the Camera into your network. These instructions should be all you need to get the most out of the Internet Camera.

2. Package Content

- One Internet Camera
- One Power Adapter
- One Camera Stand
- One 100cm. Category 5 Ethernet Cable
- One Quick Installation Guide
- One CD (Including Manual/Utility/Driver)

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

3. System Requirement

System requirement for PC, MAC or Notebook PC to access the Internet Camera are:

- OS System: Windows 98SE, Me, NT, 2000, XP, Server 2003
- CPU: Intel Pentium III 750MHz above or Intel Celeron 1GHz above
- Memory Size: 128MB (256MB recommended)

- VGA Card Resolution: 800 x 600 or above

4. Hardware Installation

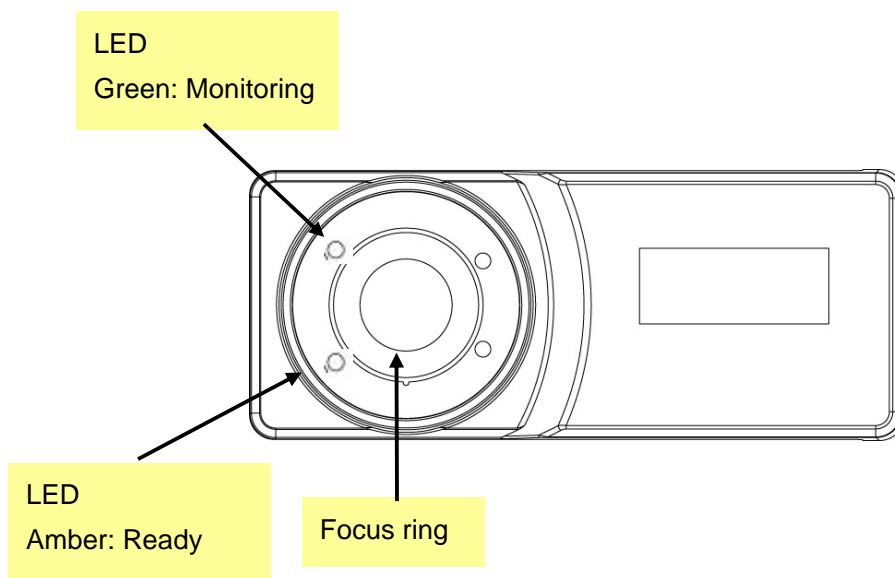
4.1. LED and Focusing

The Camera head and its focus ring allow you to modify the aim and focus of the Camera. To adjust the Camera's focus, rotate the dark focus ring.

There are two LEDs indicating the camera status.

Monitoring: When someone is viewing the camera, the LED will light.

Ready: When the camera is power on and ready for access, the LED will light.



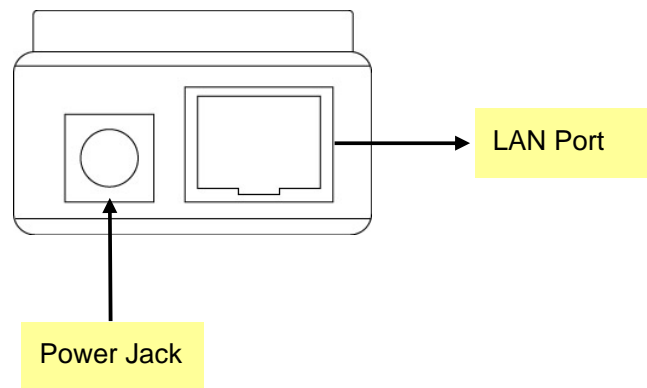
4.2. Camera Ports

The Camera features two ports and a Reset button.

Power: The Power port is where you will connect the power adapter.

LAN: The LAN port is where you will connect the Ethernet network cable.

Reset: The Reset button is what you will press if you need to reset the Camera to factory default settings. Insert a paper clip into the hole. Then press the button and hold it in for five seconds.



4.3. Installation Procedure

1. Unpack the Internet Camera package and verify that all the items listed in the Chapter 2 are provided.
2. Connect the Internet Camera to your network by attached the network cable from the switch/router to the UTP port of the Internet Camera.
3. Connect the power adapter to the Internet Camera and plug the power adapter to power outlet. The Internet Camera will be powered on. When the Internet Camera is ready, the Ready LED will show orange color.

Note: It is highly recommended to use the power adapter shipped with the Internet Camera, do NOT use any other power adapter from any sources.

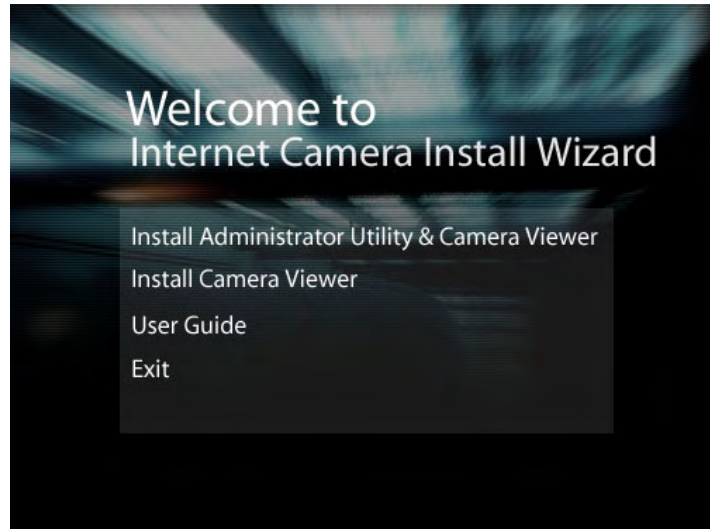
5. Software Installation

Follow the simple steps below to run the Install Wizard to guide you quickly through the Installation process. The following installation is implemented in Windows XP. The installation procedures in Windows 98SE/Me/2000/Server 2003 are similar.

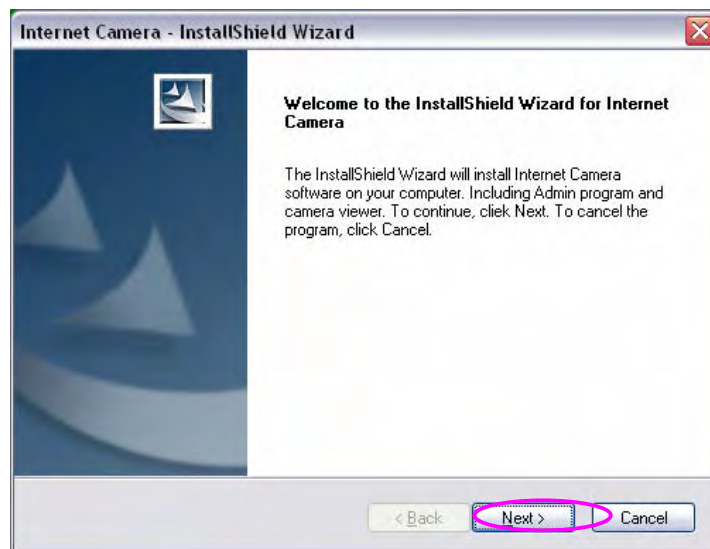
1. Insert the CD shipped along with the Internet Camera into your CD-ROM drive. The "Autorun.exe" program should be executed automatically. If not, run "Autorun.exe"

manually from “Autorun” folder in the CD.

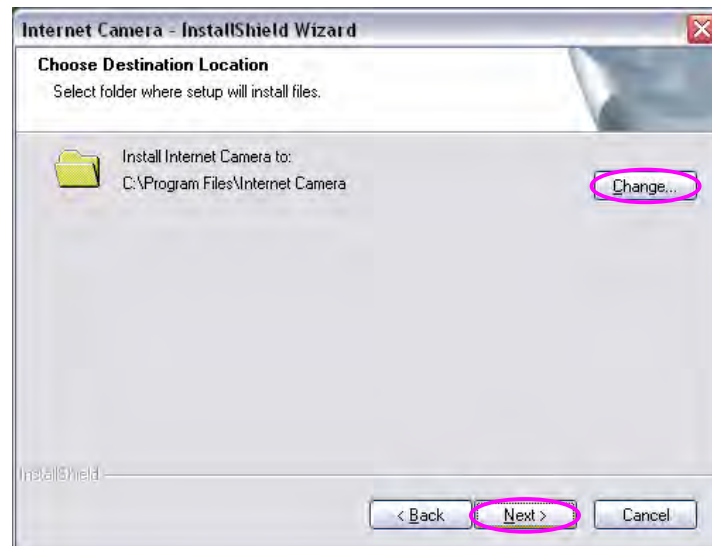
2. The Install Wizard will show four selections, select the program you want to install or click “Exit” to install the program later. The following installation steps are the demonstration of “Install Administrator Utility & Camera Viewer”.



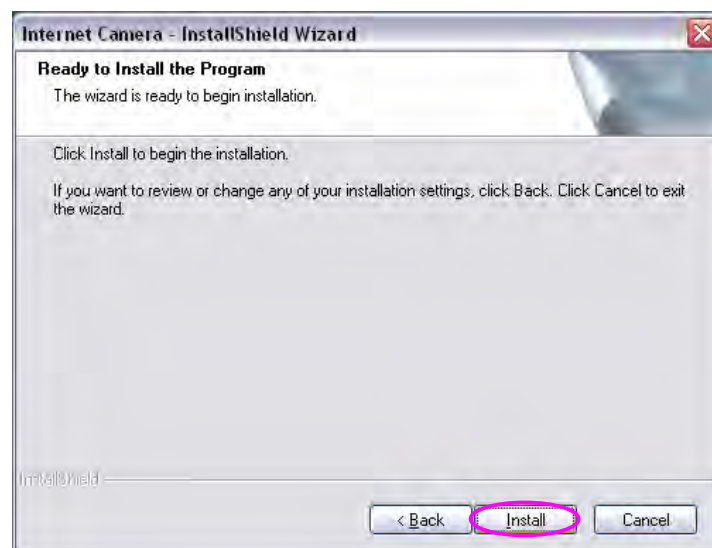
3. The system will start the installation procedures. Click “Next” to continue installation.



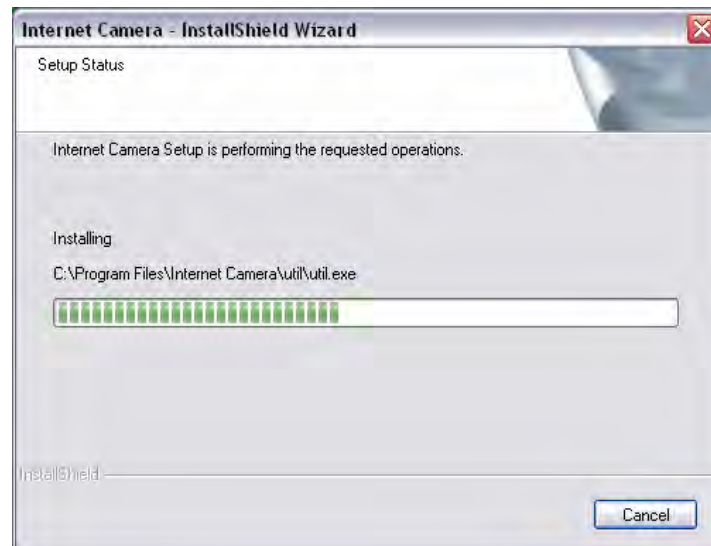
4. If you wish to install the software program in an alternate location, click “Change”; otherwise click “Next” to move on to the next step.



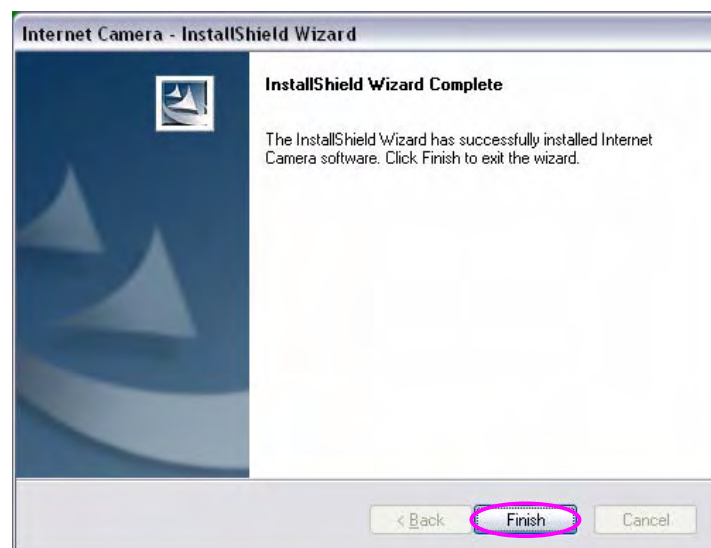
5. Click “Install” to start installing the program.



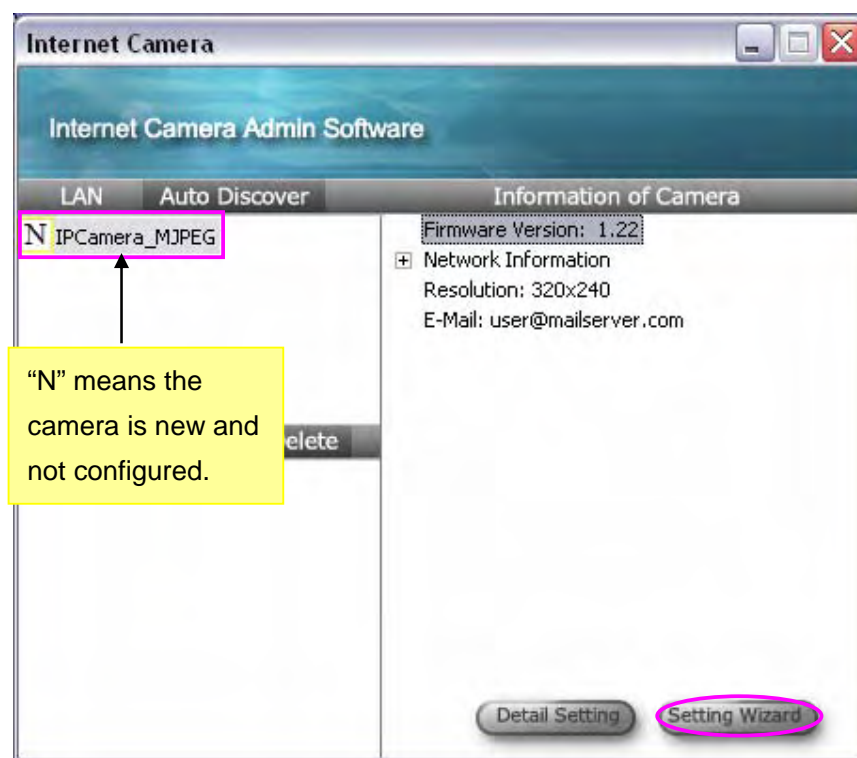
6. The system will install the program automatically.



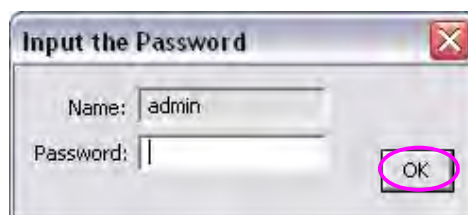
7. Click "Finish" to complete the software installation.



8. When the installation is completed. The system will auto run "Administrator Utility". On the Internet Camera first page, the cameras found in the network are listed in the left window. Choose the one you want to configure and click "Setting Wizard" to proceed.



9. Please enter the default password "1234" and click "OK" to login to the IP setup page.



10. Internet Camera is working through the network (TCP/IP Protocol). The IP address setting must be correct, or you cannot access to the camera. The wizard program will detect the IP address status of your network automatically and suggest a free IP address for the Camera. You can accept the suggested value or enter the value manually. If you enter the value manually, please be aware that the “Subnet Mask” must be the same for both the camera and the PC. Click “Finish” to apply the configuration.

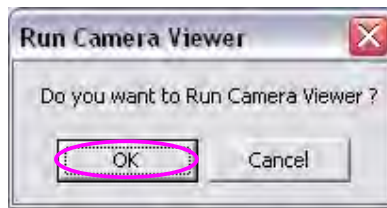


The image shows a Windows-style dialog box titled "Internet Camera Config Wizard". It contains several input fields for network configuration. The "Internet Camera Name" field is set to "IPCamera_MJPEG". The "IP Address" field is set to "192.168.2.250". The "Subnet Mask" field is set to "255 . 255 . 255 . 0". The "Gateway" field is set to "0 . 0 . 0 . 0". The "Video Port" field is set to "4321". At the bottom right, there are two buttons: "Cancel" and "Finish". The "Finish" button is highlighted with a red oval.

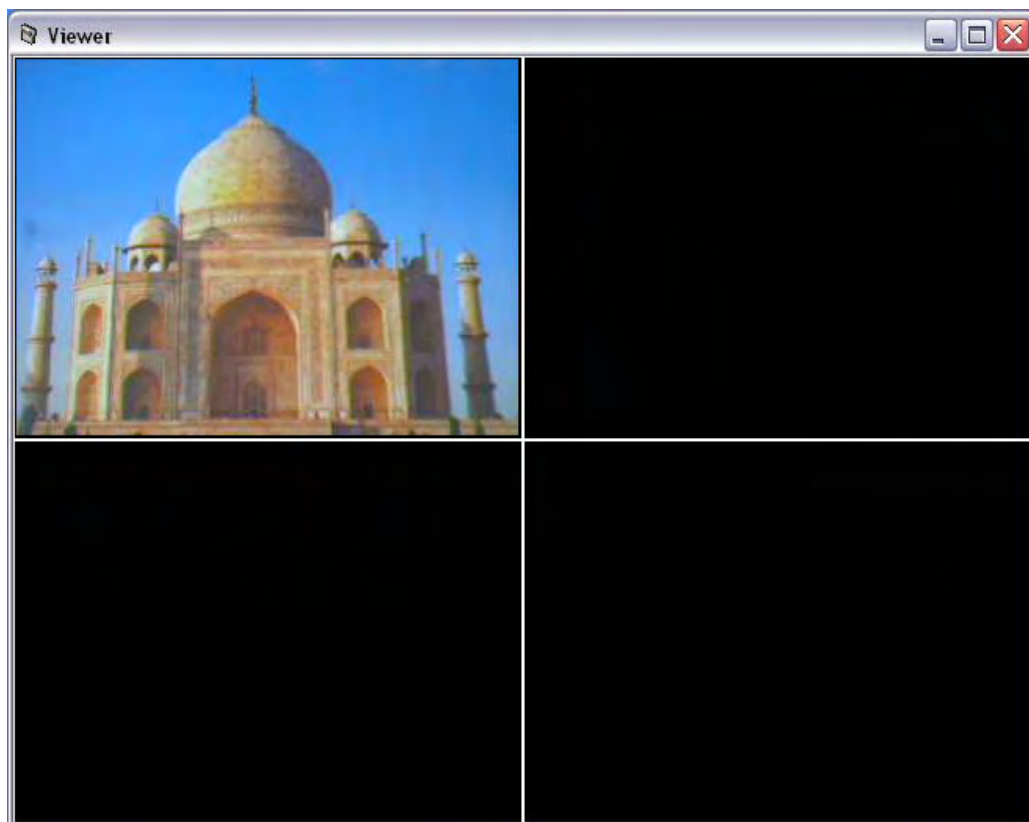
Internet Camera Name:	IPCamera_MJPEG
IP Address:	192.168.2.250
Subnet Mask:	255 . 255 . 255 . 0
Gateway:	0 . 0 . 0 . 0
Video Port:	4321

Buttons: Cancel, Finish

11. This wizard will pop up a window to ask you if you want to run the “Camera Viewer” and see the video of the Camera immediately. Select “OK” to run “Camera Viewer”.



12. The "Camera Viewer" will show the video automatically. Congratulations, you can use the camera through the network to view the video from now on.




6. Using the Administrator Utility

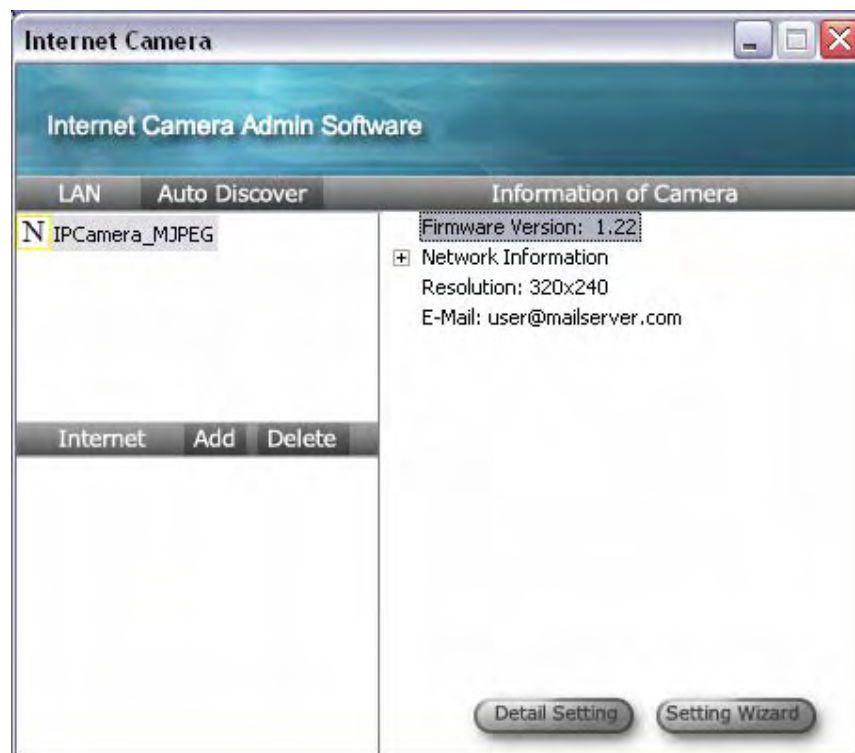
The Administrator Utility allows users to search and setup the cameras located within the Intranet or on the Internet. From the utility, users can view all the information of the selected camera; furthermore, it provides a setting wizard, which can guide users to add the camera to the network easily and promptly.

There are two ways to run the Administrator Utility as follows.

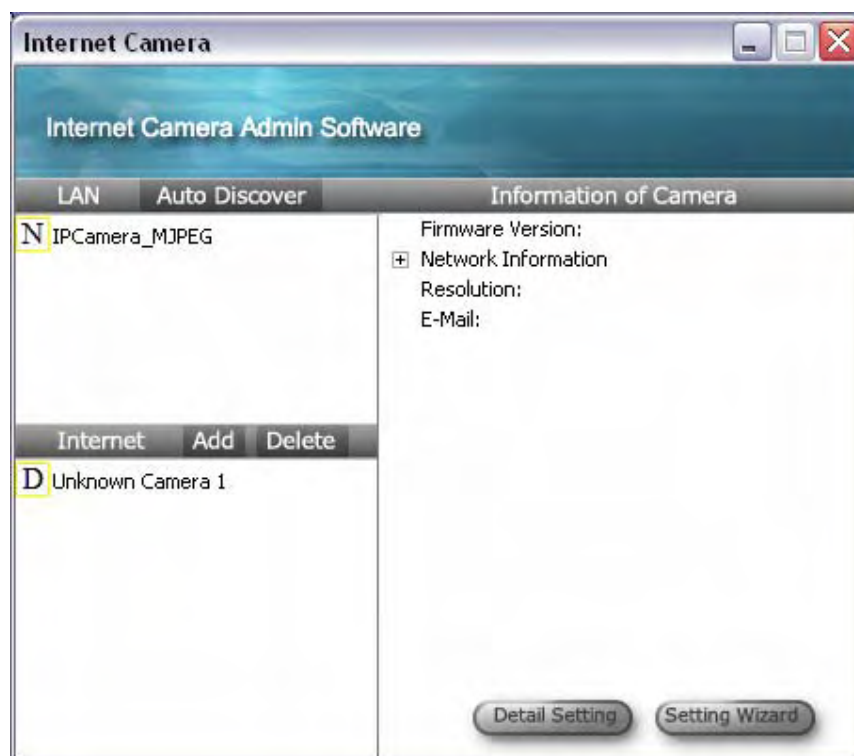
1. Click “Start”, select “Programs\IP Camera\Admin Utility” to run the utility.

2. Click the “IP Camera Admin” icon  to run the utility.

Once the utility is started, it will search all the cameras within the network. To do more settings, please refer to the description in the following sections.



6.1. General Setting




LAN


Auto Discover

Click the button will search the camera within the network automatically.

Camera List

The list shows the camera name and the setup status of the camera.

 IPCamera_MJPEG It means the camera is in the default setting.

 IPCamera_MJPEG It means the camera is configured before.

Internet



Add

Click “Add” will appear a window for you to enter the IP Address of the camera on the Internet.

Delete

Click “Delete” to delete the camera from the list.

Internet

Camera List	The list shows the camera name and the connect status of the camera.
 Unknown Camera 1	It means the camera is disconnected or not in the Internet.
 IPCamera_MJPEG	It means the camera is connected.

Information of Camera

Camera Information	It displays all information of the selected camera. The information includes firmware version, network information, IP Address, UPnP setting, DDNS setting, Resolution and E-mail setting, etc.
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Camera Setting

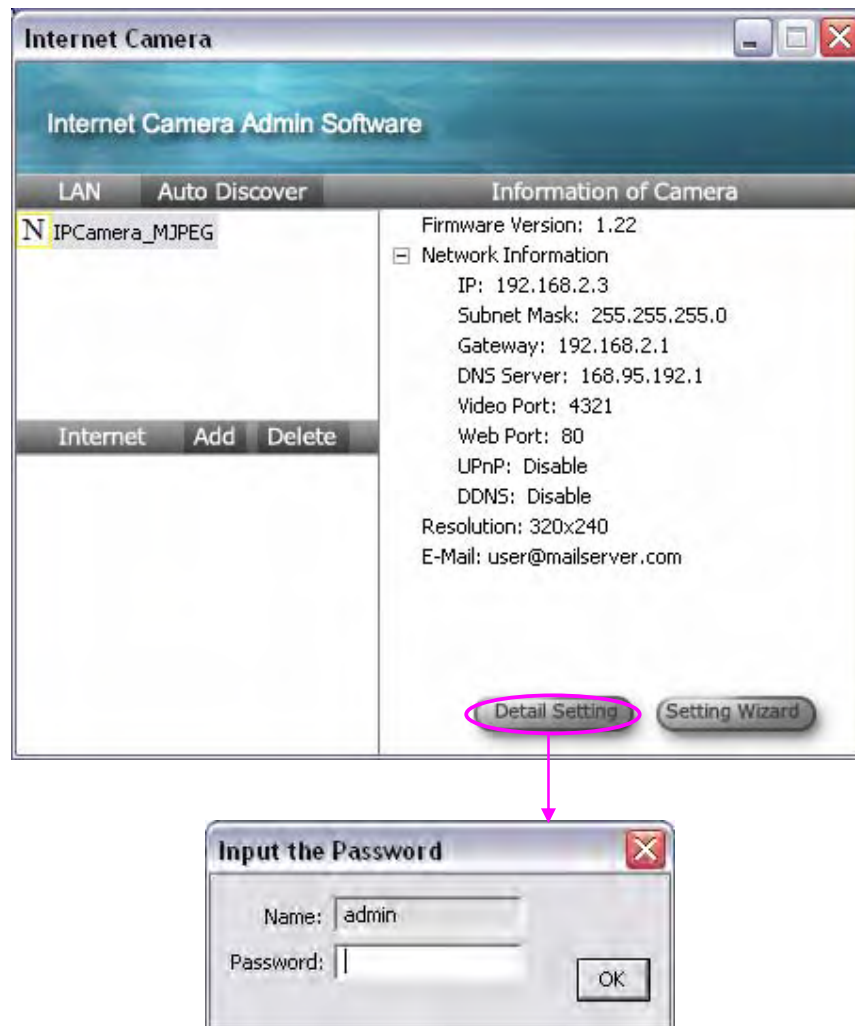
Detail Setting	Click “Detail Setting” to do more setting of the camera such as IP address, Resolution, password and firmware upgrade, etc.
Setting Wizard	Click “Setting Wizard” to setup the necessary setting for the camera.

6.2. Detail Setting

When you click the “Detail Setting”, a screen will pop up for you to enter the “Administrator Name” and “Password”. The default value is as follows.

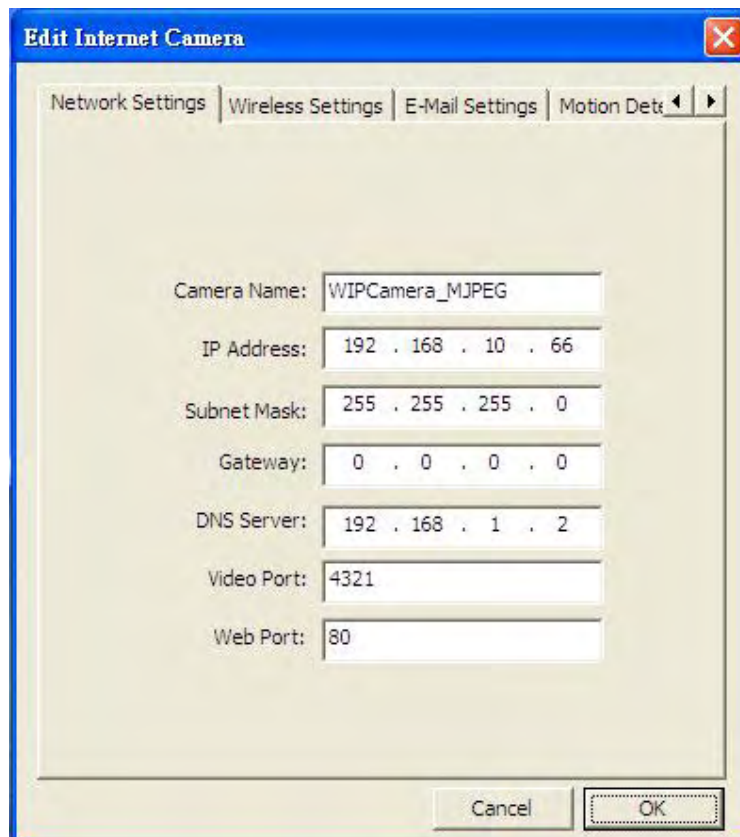
Name: “**Admin**”

Password: “**1234**”



If the name and password you enter are correct, you can start to setup the camera.

6.2.1. Network Setting



The screenshot shows a window titled "Edit Internet Camera" with a blue title bar and a red close button. Inside, there are four tabs: "Network Settings" (selected), "Wireless Settings", "E-Mail Settings", and "Motion Det". The "Network Settings" tab contains several input fields:

- Camera Name: WIPCamera_MJPEG
- IP Address: 192 . 168 . 10 . 66
- Subnet Mask: 255 . 255 . 255 . 0
- Gateway: 0 . 0 . 0 . 0
- DNS Server: 192 . 168 . 1 . 2
- Video Port: 4321
- Web Port: 80

At the bottom right, there are "Cancel" and "OK" buttons.

Network Setting

- | | |
|----------------------|--|
| Internet Camera Name | The default camera name is "WIPCamera_MJPEG". It is recommended to name a meaningful name for the camera. |
| IP Address | Enter an unused IP Address within the IP address range used on your LAN. If the IP Address of your LAN is from the 192.168.2.1 to 192.168.2.254, you can set an unused IP Address from the range for the camera, for example: 192.168.2.250.
The default IP of camera is 192.168.2.3 |
| Subnet Mask | The Subnet Mask field must match the subnet setting on your LAN. For example: 255.255.255.0. |

Gateway	The Gateway is used to forward frames to destinations in a different subnet on the Internet. The Gateway setting must be the same with the gateway used by the PCs on your LAN.
DNS Server	DNS Server (Domain Name Server) that translates names to IP addresses. Set the same DNS Server as the PCs on your LAN.

Network Setting

Video Port	The Video Port is used to transmit or receive the video streaming in the network. The default port setting is "4321". If you want to view the video from the camera, the port setting should be correct.
Web Port	This camera support web connection, the default web port is 80. Since the web server may use port 80, you can use a different port for the camera. If you change the web port from 80 to 8080, you must type http://192.168.2.3:8080 to connect the camera through the web browser.

6.2.2. E- Mail Setting

The screenshot shows a web-based configuration window titled "Edit Internet Camera". It has four tabs: "Network Settings", "Wireless Settings", "E-Mail Settings" (which is selected), and "Motion Det". The "E-Mail Settings" tab contains the following fields and options:

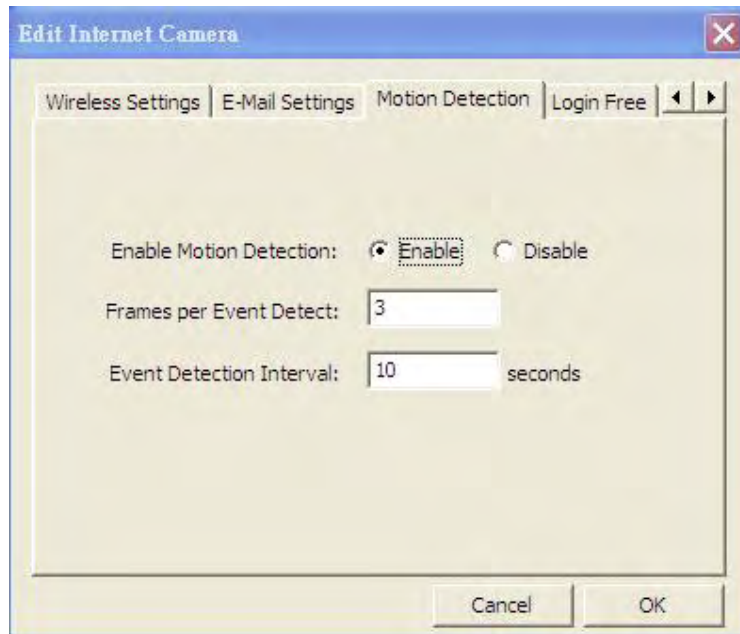
- Recipient E-Mail Address:** A text box containing "simonkao@edimax.com.tw".
- SMTP Server:** A text box containing "ms.edimax.com.tw".
- Sender E-Mail Address:** A text box containing "simonkao@edimax.com.tw".
- SMTP Authentication:** Two radio buttons, "Enable" and "Disable". The "Disable" button is selected.
- Username:** An empty text box.
- Password:** An empty text box.

At the bottom right of the window are "Cancel" and "OK" buttons.

E-Mail Setting

Recipient E-Mail Address	This camera supports "Snap Shot" function. You can snapshot a picture and send the picture by E-Mail. Enter the E-Mail Account for receiving the picture.
SMTP Server	Enter the SMTP(Simple Mail Transfer Protocol) Server for the E-Mail sending. (Some of the free E-mail service provider will refuse the register of camera)
Sender E-Mail Address	IC-1001 & IC1001Wg do not support this function. Please use the Web to do firmware upgrade.
SMTP Authentication	Enable your SMTP Authentication and put in your username and password or Disable it.

6.2.3. Motion Detection



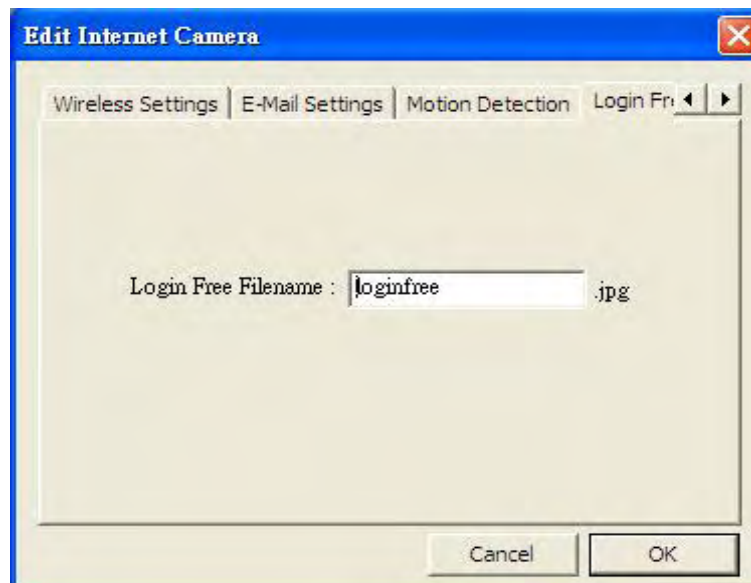
Motion Detection

Enable Motion Detection Enable or Disable the Motion Detection Function.

Frames per Event Detect Setup the quantity of the Frames per event.(between1 to 10).

Event Detection Interval Setup seconds Time between event to next event. (between1 to 120 seconds).

6.2.4. Login Free



Login Free

Login Free Filename


Set up the login free file name for your Login free function

What is Login free?

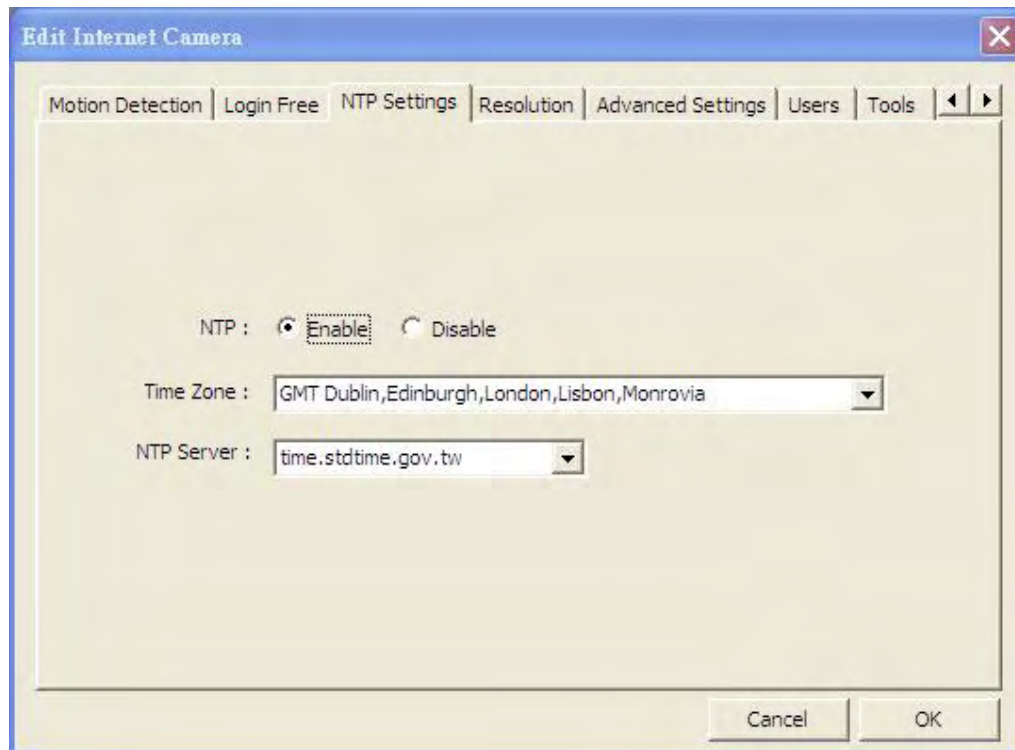
For example: IF your IP address is 192.168.2.1. When you enable and put you file name 888.

Than you can link to below web

address :<http://192.168.2.1/888.jpg> to see the picture of camera

and push  to re-flash the picture. This function is unlimited the quantity of user.

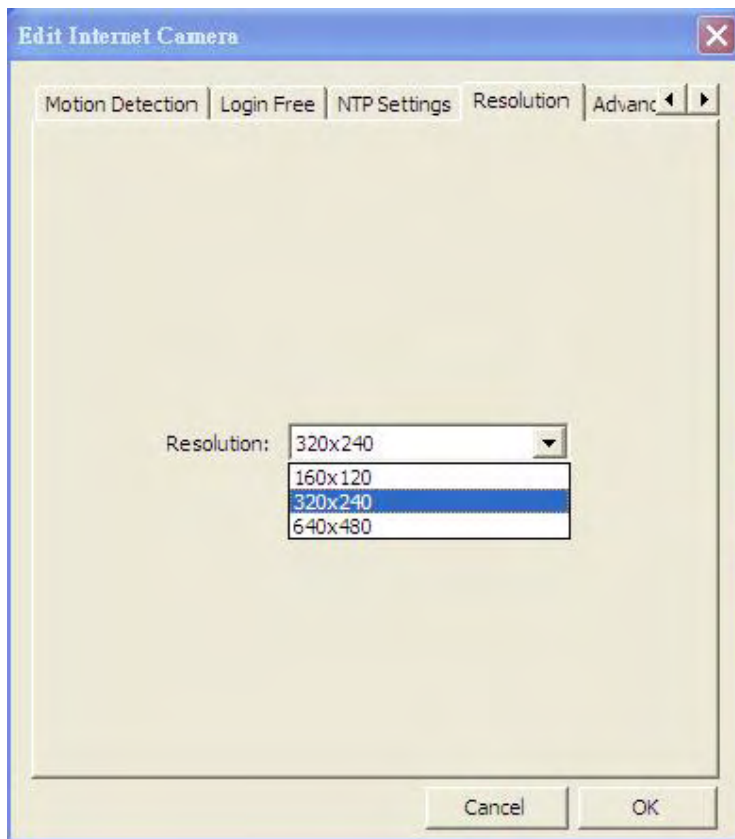
6.2.5. NTP Setting



NTP Setting

NTP	Network Time Protocol
Time Zone	Select the Time zone for your location For example: GMT Dublin,Edinburgh,London,Lisbon,Monrovia
NTP Server	Select the NTP server 1. time.stdtime.gov.tw 2. time-a.nist.gov 3. tick.usno.navy.mil

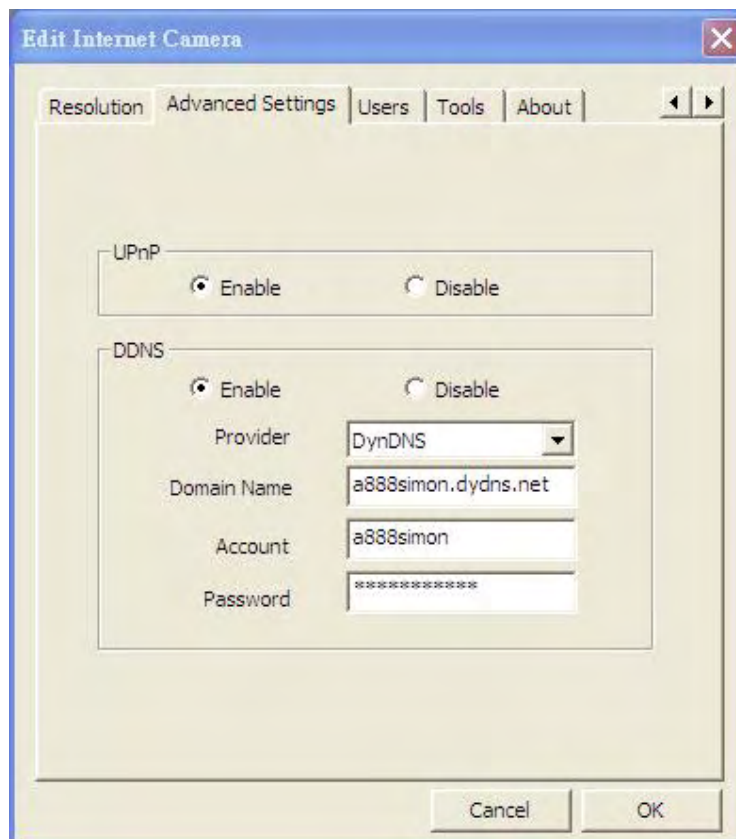
6.2.6. Resolution



Resolution

Resolution Select the desired video resolution format. Larger resolution requires more bandwidth. 640 x 480 is "VGA" format. 320 x 240 is "CIF" format 160 x 240 is QCIF format..

6.2.7. Advanced Setting



Advanced Setting

UPnP When the UPnP function is enabled, the camera can be detected by UPnP compliant system such as Windows XP. The camera will be displayed in the Neighborhood of Windows XP, so you can directly click the camera to view the video through web browser.

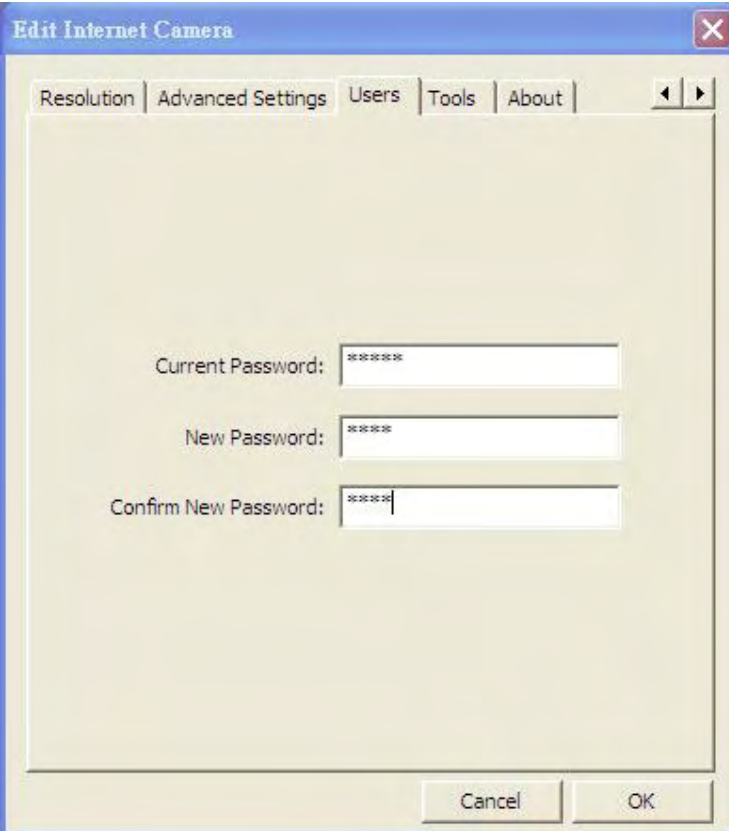
DDNS Many internet connections use a "Dynamic IP address", where the Internet IP address is allocated dynamically whenever the Internet connection is established. Internet users should know the IP Address of the camera when they want to connect to the camera every time. DDNS is designed to solve this problem, by allowing users to connect to your LAN using a domain name, rather than an IP address.

Enable/Disable	Enable or disable DDNS function of the camera.
Provider	Several companies provide DDNS service. This camera supports the service from DynDNS who is one of the DDNS providers.

Advanced Setting

Domain Name	The domain name given by DynDNS is "registername.dyndns.com". Enter the domain name that you register for the camera from DynDNS web site.
Account	Enter the login name for the DDNS service.
Password	Enter the password for the DDNS service.

6.2.8. User



The screenshot shows a window titled "Edit Internet Camera" with a close button (X) in the top right corner. Below the title bar is a tabbed interface with five tabs: "Resolution", "Advanced Settings", "Users", "Tools", and "About". The "Users" tab is currently selected. The main area of the dialog contains three password input fields, each preceded by a label: "Current Password:", "New Password:", and "Confirm New Password:". Each input field contains a series of dots, indicating a masked password. At the bottom right of the dialog are two buttons: "Cancel" and "OK".

User

Current Password	Enter the current password of the camera.
New Password	Enter the new password you want to use for the camera.
Confirm New Password	Retype the new password to confirm the setting.

6.2.9. Tools

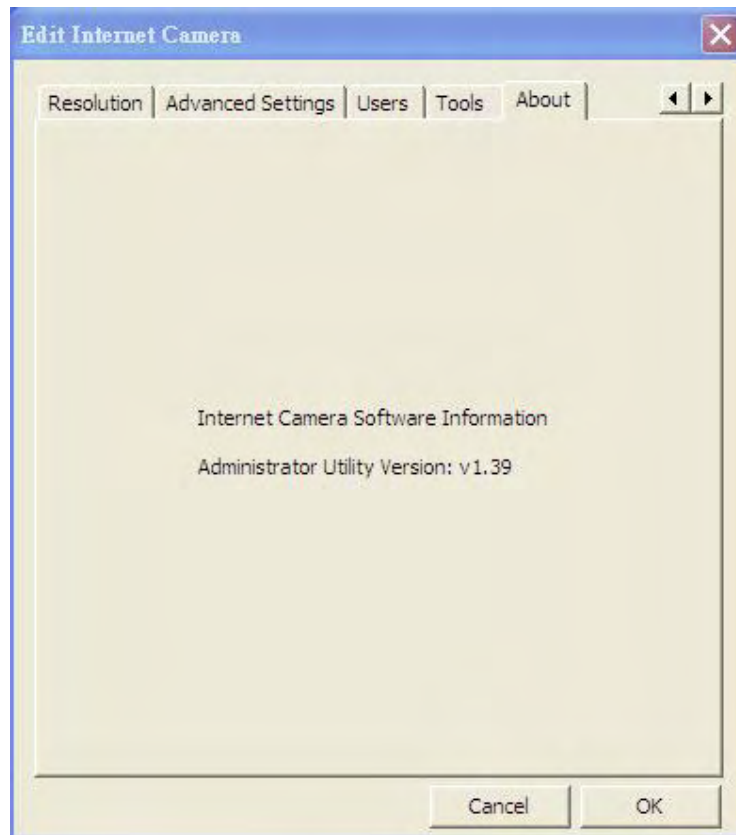


Tools	
Firmware Version	Display current firmware version. The utility is not allowed users to upgrade firmware. Please upgrade firmware in the Web Management.
Reset to Default	If you want to reset the camera, click this button. The default settings of the camera are as follows. Camera Name: "WIPCamera_MJPEG" IP Address: "192.168.2.3" Subnet Mask: 255.255.255.0 Administrator Name: "Admin" Password: "1234" Video Port: "4321" Web Port: "80"

LED Light Off

Turn off the LED Light of Camera

6.2.10. About



About

Administrator Utility
Version


Display current Administrator Utility Version.

6.3. Setting Wizard

When you click the “Setting Wizard”, a screen will pop up for you to enter the “Administrator Name” and “Password”. The default value is as follows.

Name: “**Admin**”

Password: “**1234**”

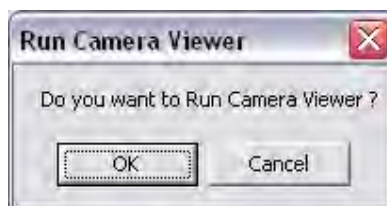
A small dialog box titled "Input the Password" with a red close button in the top right corner. It contains two text input fields: "Name:" with the value "admin" and "Password:" which is empty. An "OK" button is located at the bottom right of the dialog.

If the name and password you enter are correct, you can start to setup the camera.

A larger dialog box titled "Internet Camera Config Wizard" with a red close button in the top right corner. It contains several text input fields: "Internet Camera Name:" with the value "IPCamera_MJPEG", "IP Address:" with the value "192.168.2.250", "Subnet Mask:" with the value "255 . 255 . 255 . 0", "Gateway:" with the value "0 . 0 . 0 . 0", and "Video Port:" with the value "4321". At the bottom, there are "Cancel" and "Finish" buttons.

Setting Wizard

Internet Camera Name	The default camera name is "IPCamera_MJPEG". It is recommended to enter a meaningful name for the camera.
IP Address	<p>The wizard will auto setup an available IP Address to the camera. For example: if the IP address of the network is 192.168.2.x, the wizard will search an unused IP Address from 192.168.2.250 to 192.168.2.0 and assign the camera an available IP Address.</p> <p>You are allowed to enter another IP Address to change the setting.</p>
Subnet Mask	<p>The wizard will auto search the Subnet Mask setting of the network and set the camera in the same Subnet Mask.</p> <p>You can enter another Subnet Mask to change the setting.</p>
Gateway	<p>The wizard will auto search the Gateway setting of the network and set the camera to use the same Gateway.</p> <p>You can enter another Gateway to change the setting.</p>
Video Port	It defines the video stream port. The default value is "4321".
Cancel	Click "Cancel" to stop wizard setting.
Finish	Click "Finish" to complete the camera setting.




When you finish the camera setting, you can click "Ok" to run the "Camera Viewer" immediately or click "Cancel" to run the "Camera Viewer" later.

7. Using the Camera Viewer

The Camera Viewer Utility allows users to view video from up to four cameras. It also allows users to manual/schedule record video and playback the recording file. The status of camera viewing such as frame rate, video received, and etc. are also recorded in time.

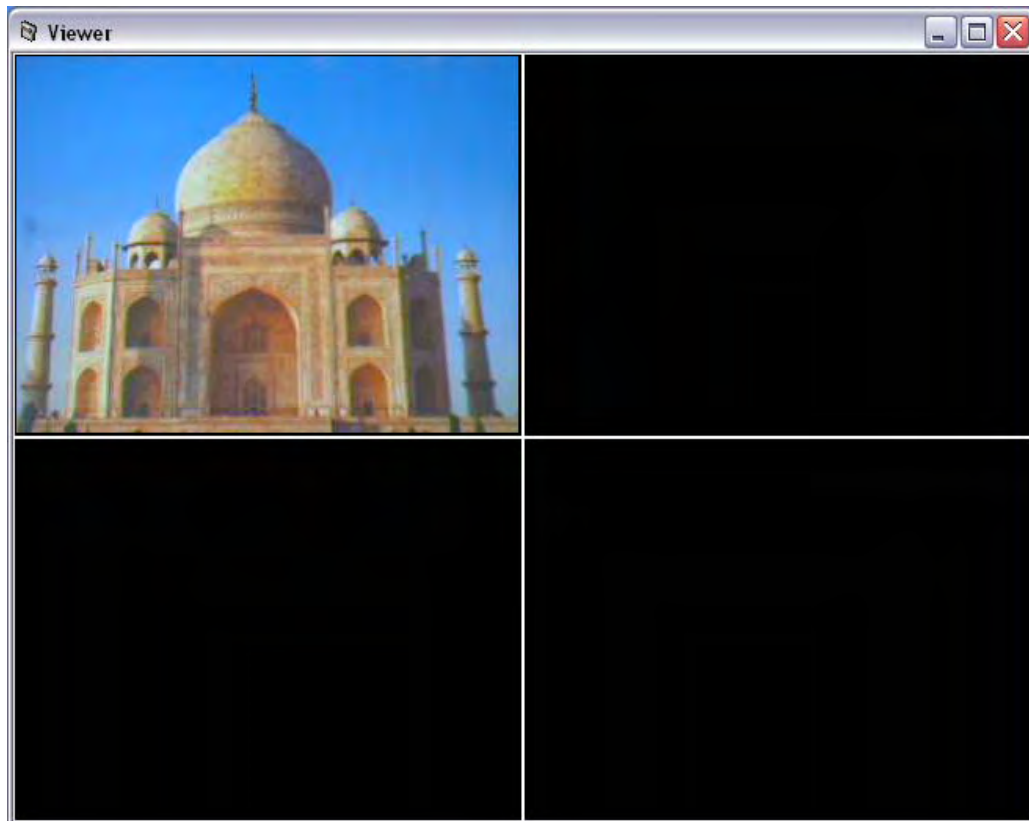
There are three ways to run the Camera Viewer Utility as follows.

1. Click "Start", select "Programs\IP Camera\Camera Viewer" to run the utility.
2. Click the "IP Camera Viewer" icon  to run the utility.
3. Click "Setting Wizard" from Administrator Utility and follow the instructions in the utility.

7.1. Panel Introduction

In the beginning when you start the Camera Viewer, you would see a Control Panel and a four division Viewer window.





7.2. Camera Buttons



Camera Buttons

Camera



Click one of these four cameras will connect to the selected camera that you want to view and configure. If you want to remove the camera from the viewer, please right click the icon and select "Cancel Camera x".

7.3. Camera Status

There is a status bar shown different color to indicate the status of each Internet Camera.



Camera Status

Yellow

It means that there is no camera set to connect.

Blue

It means that the camera is connected and playing the live video.

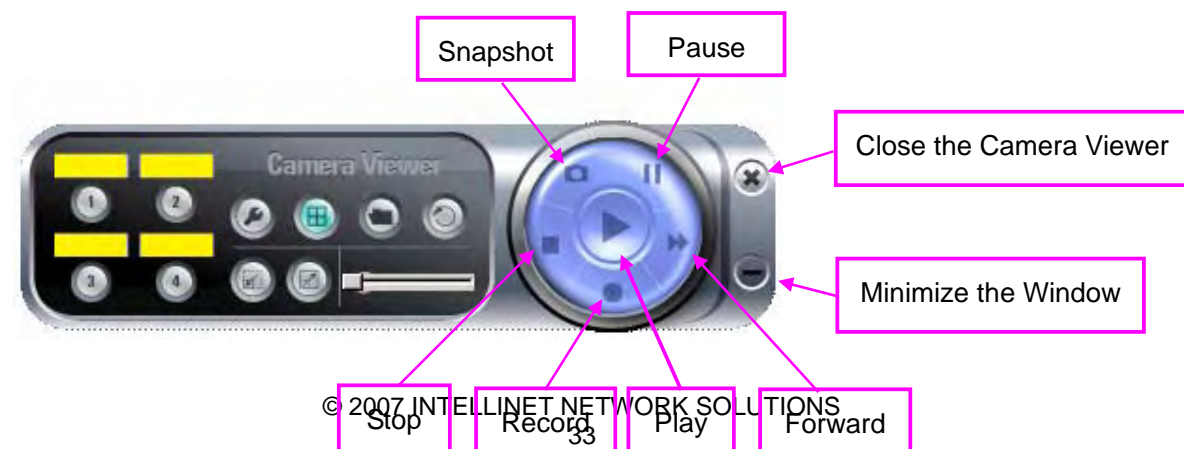
Pink

It means that the camera is not connected now.

Red

It means that the camera is recording.

7.4. Control Buttons



Control Buttons

Play



The “Play” button is an intelligent play user-interface. In the normal display mode and the Internet Camera is disconnected, clicking on the “Play” can make the viewer connect to the Internet Camera. In the playback mode, clicking on the “Play” can play the video in the normal speed.

Stop



The “Stop” button is an intelligent play user-interface. In the normal display mode and the Internet Camera is connected, clicking on the “Stop” can make the viewer disconnect the camera. In the playback mode, clicking on the “Stop” can stop playing the video.

Pause



The “Pause” button provides you a way to pause the current video display. When the displaying video is paused, click on the “Play” again to resume the video display.

Forward



The “Forward” button to forward the speed of display when playback the recording file. Click the button at a time will increase the playing speed one time.

Snapshot



Click “Snapshot” will make the viewer to take a snapshot of the video and save the picture as a bitmap file in the hard disk. (You can set the directory for storing these bitmap files at the Section 7.8.4)

Record



By clicking on “Record” you can record video immediately.

7.5. Video Recording

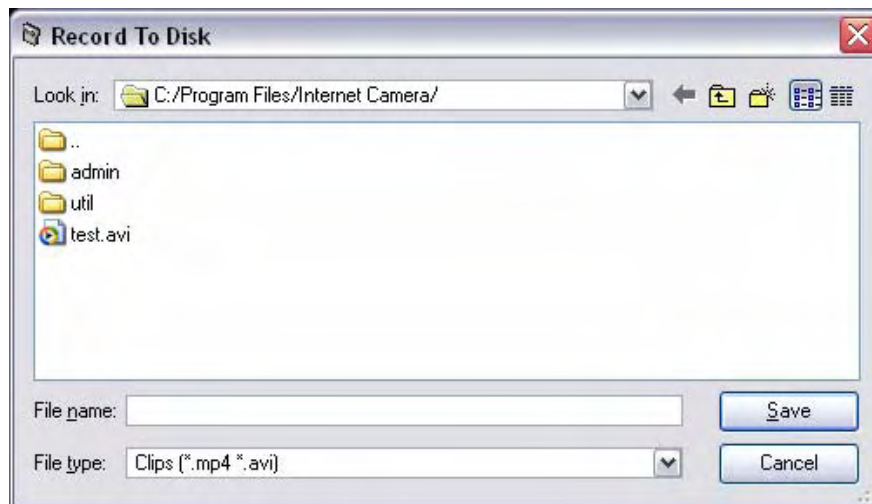
This utility allows you record the video in AVI format files. There are two ways of video recording – Manual Recording and Schedule Recording.

Manual Recording

You can manually record the video stream into an assigned video file.

Click “Record”, then the “Record to Disk” window will pop up. Assign the path and file name that you want to save and click “Save”, then the viewer utility will start to record the video stream. If you want to stop recording, click “Stop”.

Note: Before manual recording, you have to click the camera button to select the Internet Camera that you want to record first and make sure that the viewer is successfully connecting to the Internet Camera.



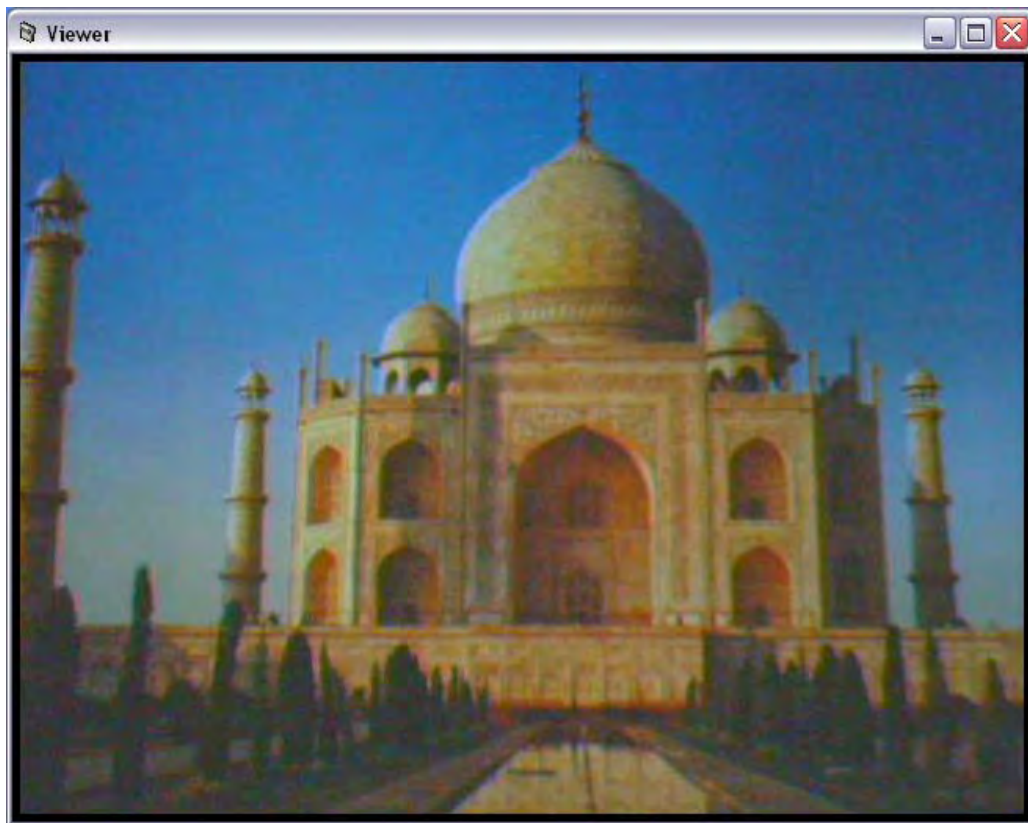
Schedule Recording

You can assign a schedule and let this viewer automatically recording the video stream into video files. Please refer to Section 7.8 to see how to setup schedule for the recording. The file name of the recorded video file is the start time of recording. For example, the file name “IPCamera_MJPEG_2004-10-8-23-56-40.avi” was started to record at 2004/10/8 23:56:40.

7.6. Change Resolution

The Internet Camera supports two resolution, 640x480 (VGA) and 320x240 (CIF). You can change the resolution of each Internet Camera by clicking the resolution button.

Note: Before changing the resolution of the Internet Camera, you have to select the Internet Camera by clicking the camera button first. If you change the resolution of an Internet Camera, other clients that are viewing the same Internet Camera simultaneously will also see the video with the changed resolution, too.



Resolution

VGA

Change the resolution to 640x480 (VGA) mode.




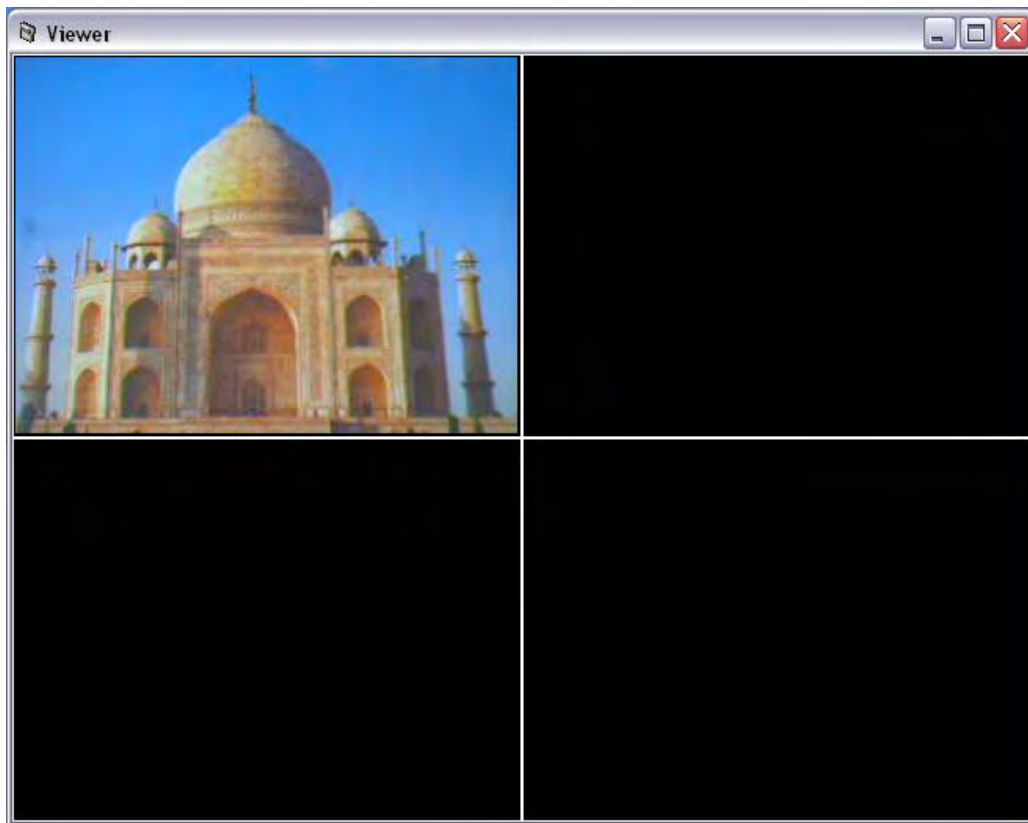
CIF

Change the resolution to 320x240 (CIF) mode.




7.7. View Four Cameras Simultaneously

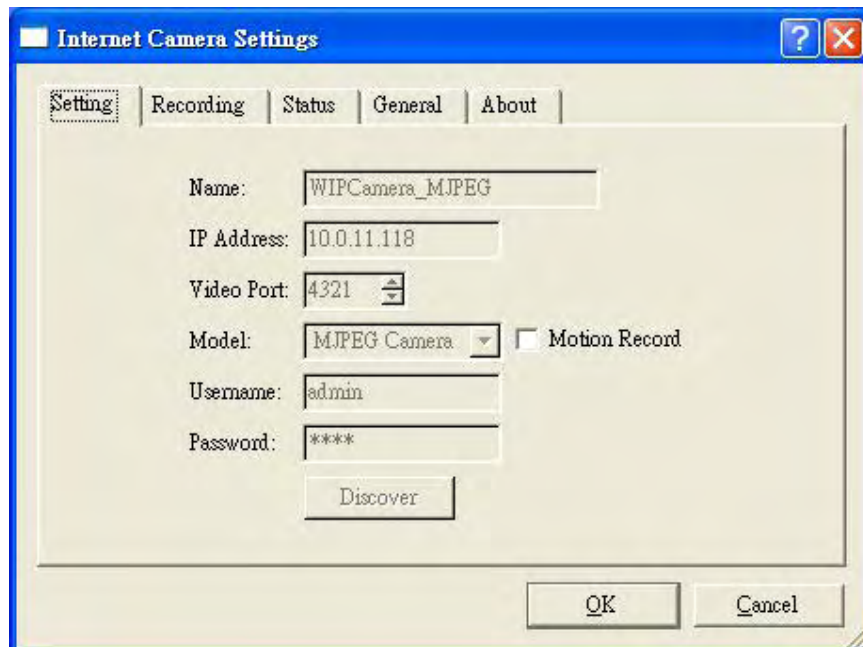
Click the four division button  can view the 4 cameras simultaneously in a four-division window. When



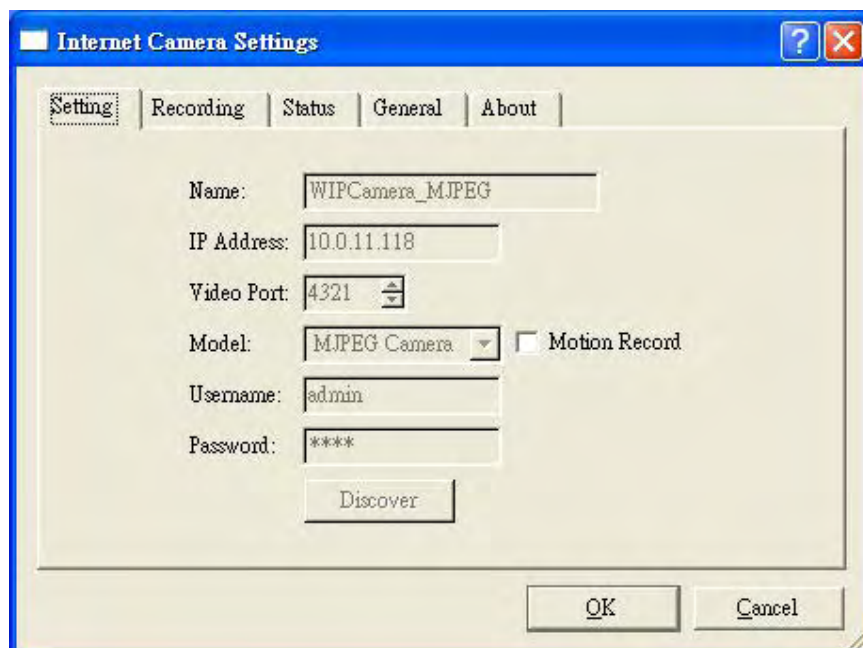
7.8. Viewer Utility Setting

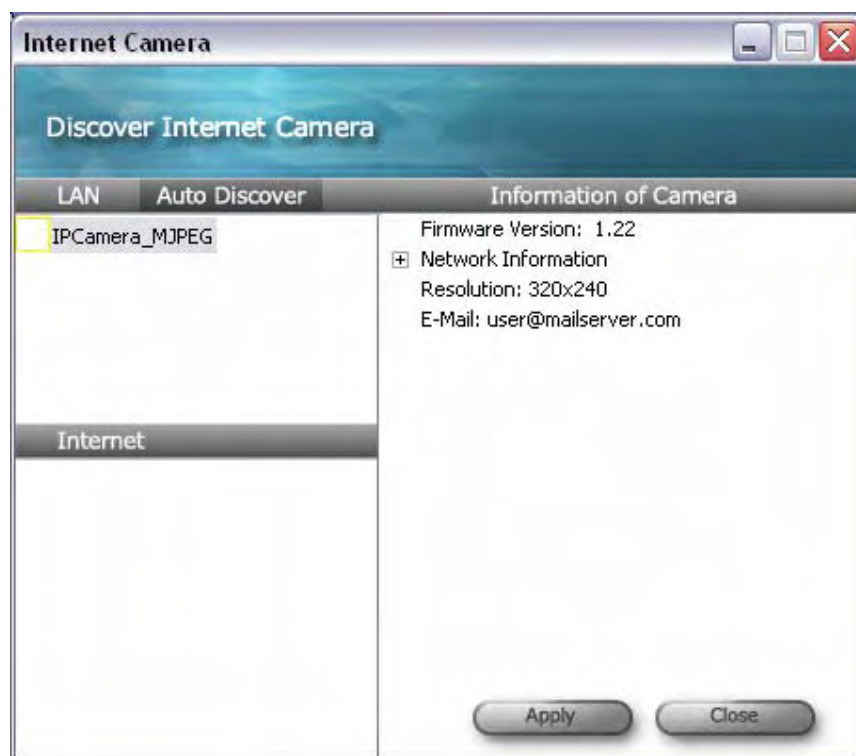
Click the “Setting” , then the setting window of the Internet Camera will pop up.

Note: When you want to change the settings such as IP Address, Video Port, etc. in the “Setting” option, you must disconnect the Internet Camera first by clicking the “Stop”.



7.8.1. Setting





Setting

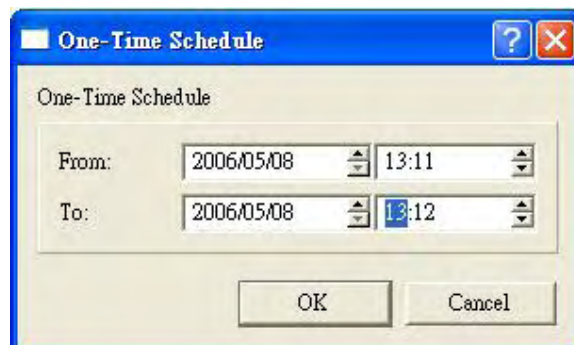
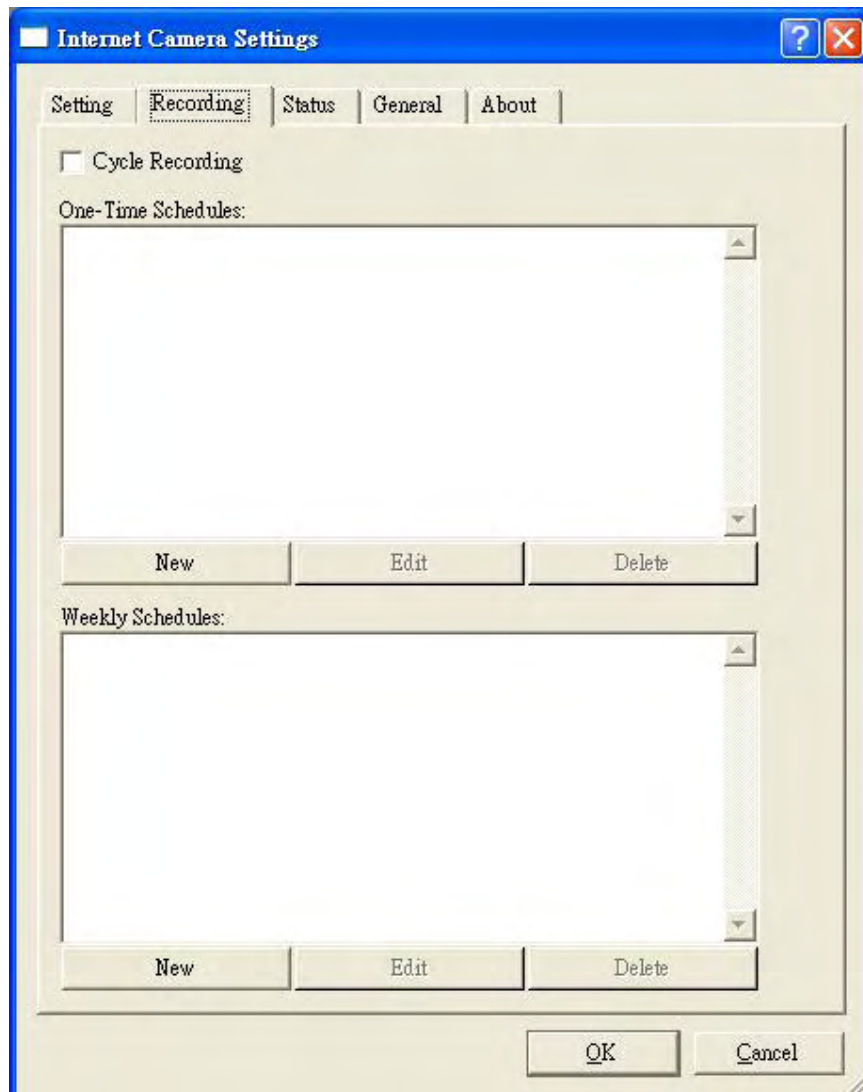
Name	It is not required to fill the camera name for connecting camera. It is for users to identify the camera.
IP Address	IP address/Domain name of the Internet Camera.
Video Port	The number of service port used by the Internet Camera.
Model	Select "MJPEG Camera" (This camera only supports Motion JPEG).
Username	The user name for login into the Internet Camera. By default, the user name is "Admin".
Password	The password for login into the Internet Camera. By default, the password is "1234".
Discover	Click "Discover", then camera auto-discover windows will pop up. The window will show all the discovered cameras on LAN

7.8.2. Recording

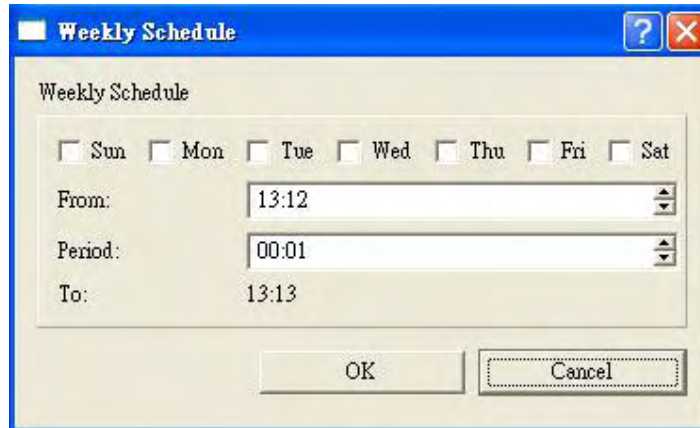
You can setup schedule for the recording here. This utility will record the video stream in the assigned file folder according to the schedule automatically. The recorded video files are AVI format.

Note:

1. The utility will only start to record the video stream when this utility is running and is successfully connecting to the Internet camera in the beginning of the schedule.
2. The schedule setting of one-time or weekly schedule should not overlap, or the recording will fail.



One-Time Schedule



Weekly Schedule

Schedule

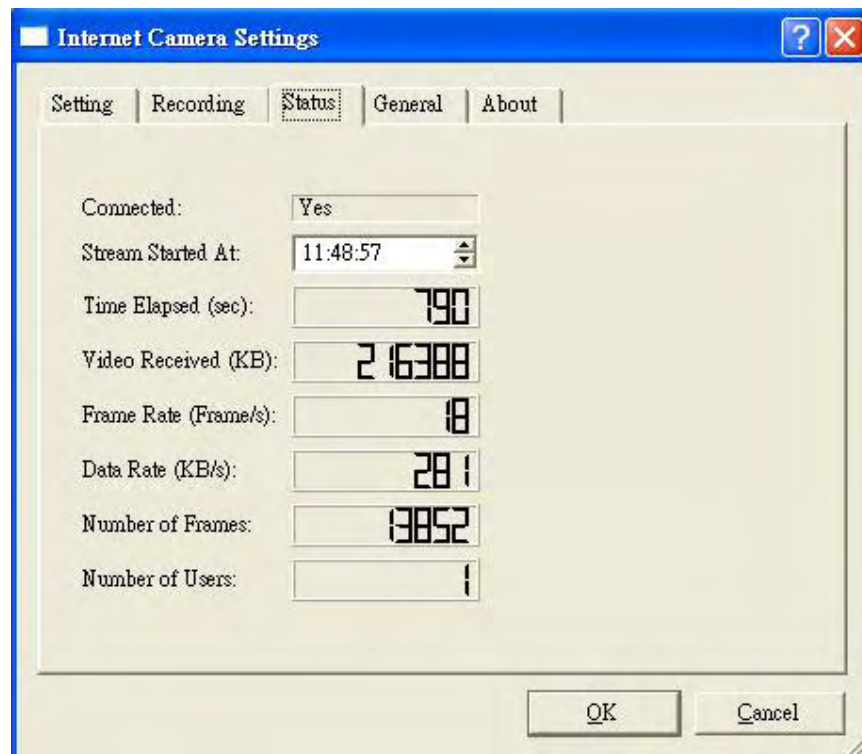
Cycle Recording	Select this item to enable cycle recording. When the Cycle Recording is enabled and the storage usage has already reached the maximum reserved storage space, the utility will automatically delete the oldest recorded video file and use the space to store the newly recorded video stream.
One-Time Schedule	You can assign a range of time and the utility will automatically record the video stream only during the period of time. The default time is 2 minutes later from the current time.
Weekly Schedule	You can assign the days in a week and the period of time in a day when you want to record the video stream. The utility will automatically record the video stream during the periods of time every week again and again.

Schedule

New	Click "New" to add a new recording schedule.
Edit	Select an existing schedule in the schedule list and click "Edit" to edit the schedule.
Delete	Select an existing schedule in the schedule list and click "Delete" to delete the schedule.

7.8.3. Status

You can see the current status information of the connection session between the utility and the Internet Camera.



Status

Connected	It displays "Yes" when the utility is connecting to the Internet Camera and displays "No" when the utility is not connecting to the Internet Camera.
-----------	--

Status

Stream Started At	The beginning time of the current connection session between the utility and the Internet Camera.
-------------------	---

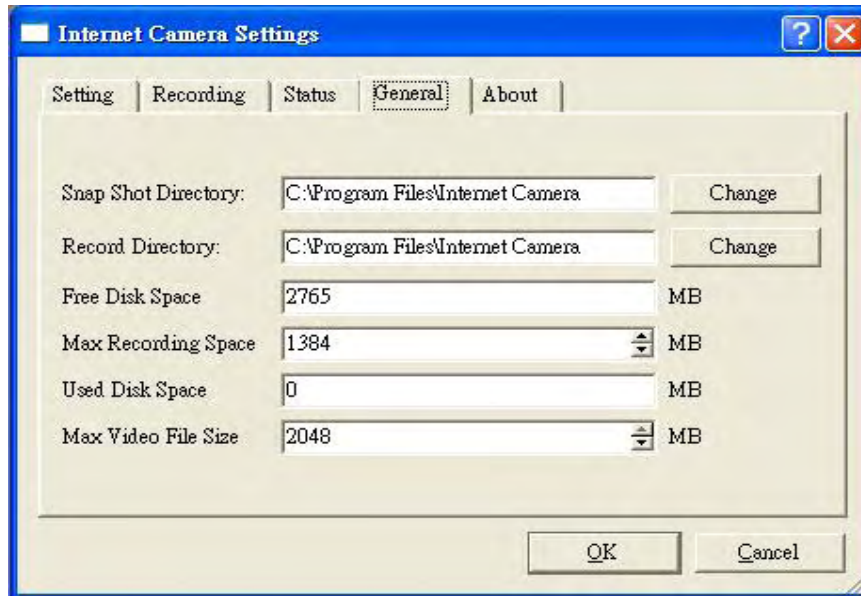
Time Elapsed	The elapsed time of the current connection session between the utility and the Internet Camera.
--------------	---

Video Received	The total size (Unit is KByte) of video stream received during the
----------------	--

	current connection session between the utility and the Internet Camera.
Frame Rate	The frame rate (frame per second) of the current video download speed from the Internet Camera to the utility.
Data Rate	The data rate (KByte per second) of the current video download speed from the Internet Camera to the utility.
Number of Frames	The total number of video frames received during the current connection session between the utility and the Internet Camera.

7.8.4. General

You can manage storage usage for this Internet Camera here.

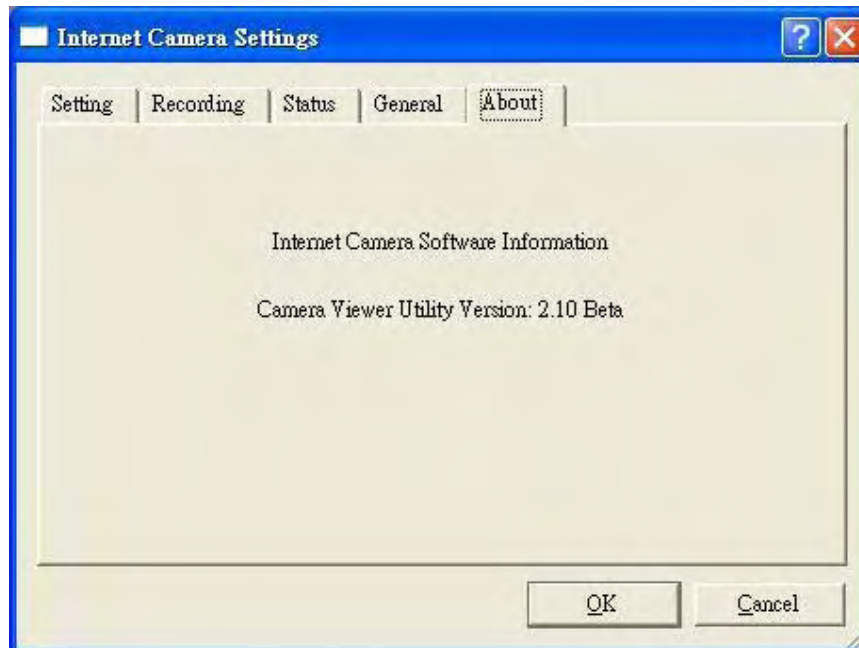


General

Snap Shot Directory	This lets you assign the directory where bitmap files will be stored when you click "Snapshot" to take pictures. The default folder is where the software program is installed, for example: "C:\Program Files\Internet Camera".
Record Directory	This lets you assign the directory where the recorded video files will be stored. The default folder is where the software program is installed, for example: "C:\Program Files\Internet Camera".
Free Disk Space	The current free disk space of the hard drive where is assigned to save recording files.
Max Recording Space	You can reserve a disk space to store the recorded video and snapshot files. If the space is run out, a message will pop up to remind you.
Used Disk Space	The current used disk space for saving the recording file.
Max Video File Size	This let you assign a maximum size of each video file. The upper bound of this value is 2 GB per file.

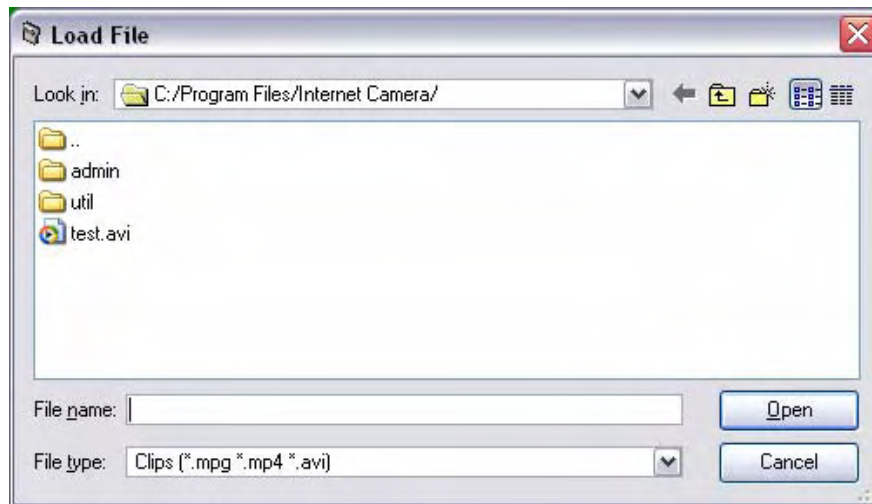
7.8.5. About

The information of software version

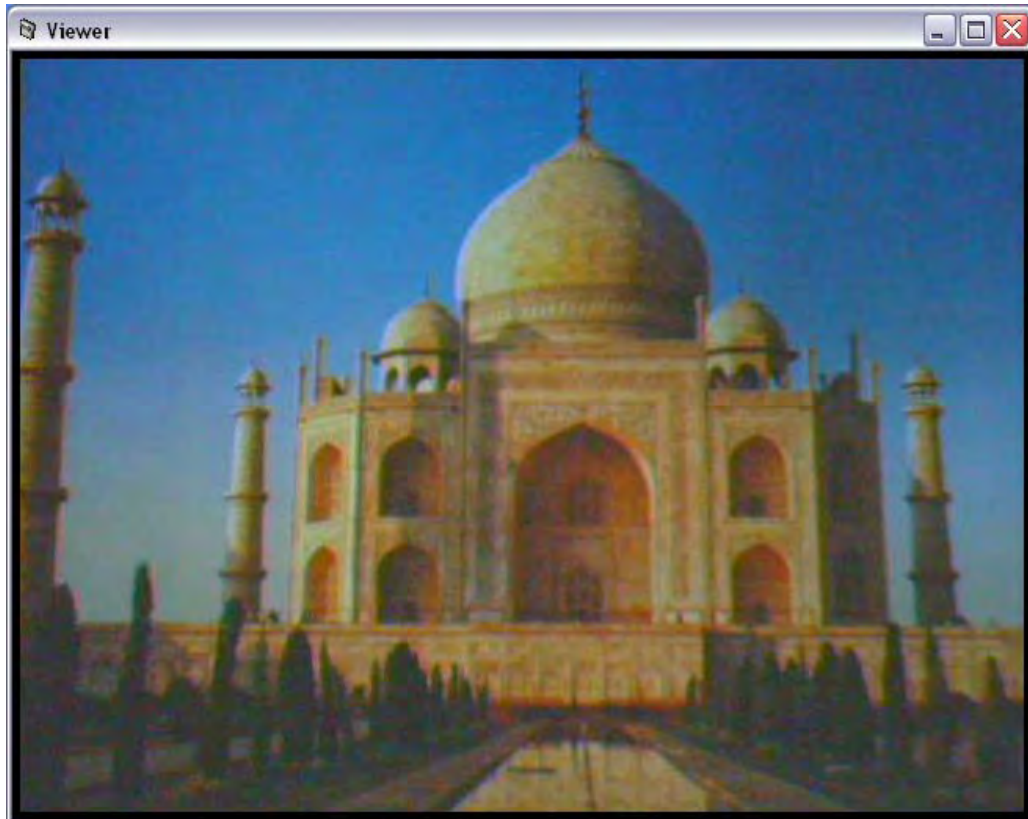


7.9. Playback

Click the “Open File” and a “Load File” window will be popped up. Select the file that you want to play.



The viewer will start to play the selected video file.



Playing Control

Play



When the video playback is in Stop state, just click “Play” and the viewer will play the video file from the beginning point. When the video playback is in Pause state, just click “Play” and the viewer will play the video file from the current pause point. When the viewer is playing with fast speed, just click “Play” to let the viewer play with the normal speed.

Pause



When the recorded video is playing, you can click “Pause” to freeze the playback. If you want the viewer to continue playing from the current pause point, just click “Play”.

Stop



When the viewer is playing, you can click “Stop” to stop the playback. If you want the viewer to play again, just click “Play” and the viewer will play the video file from the beginning point.


Playing Control

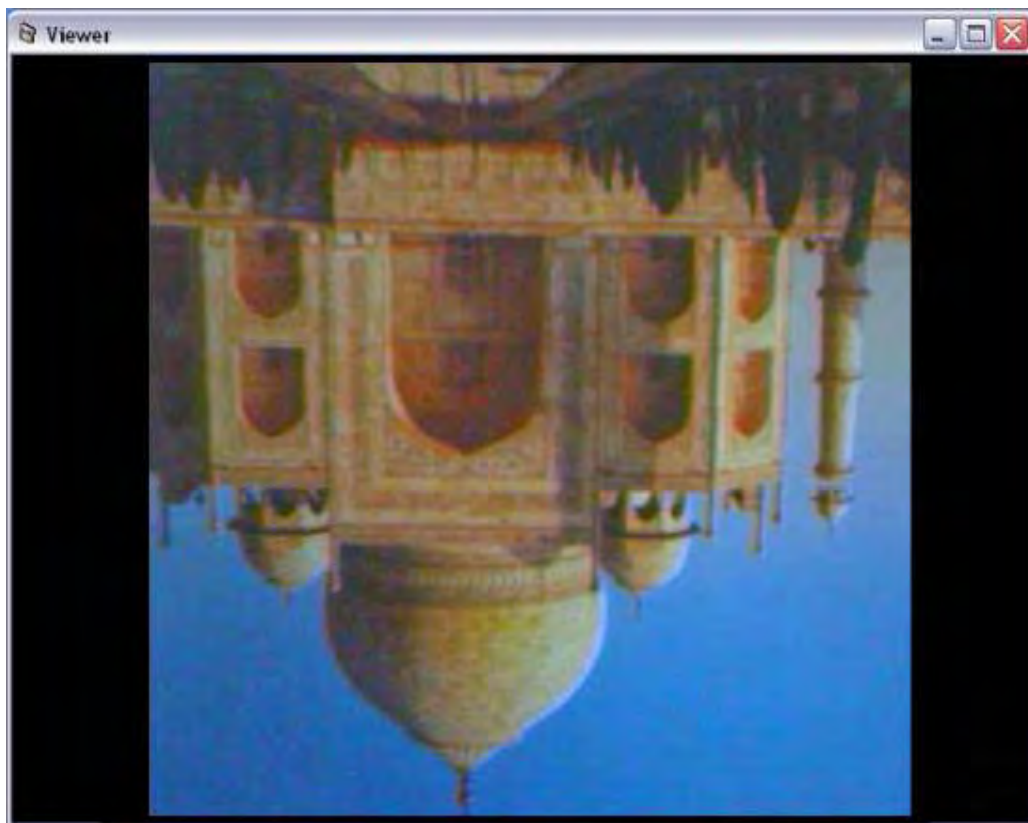
Forward



If you want the viewer to play the video file in a faster speed when the viewer is playing the video file, just click “Forward” and the viewer will double the playing speed. If you want the viewer play with the normal speed when the viewer is playing with fast speed, just click “Play”.

7.10. Rotate Video

Rotate function lets you rotate the video frame 90 of degree angle counterclockwise each time you click the “Rotate” . With this function, you can view the live video with normal and 180 degree angles counterclockwise. Below is the video with 180 of degree angle counterclockwise rotation.



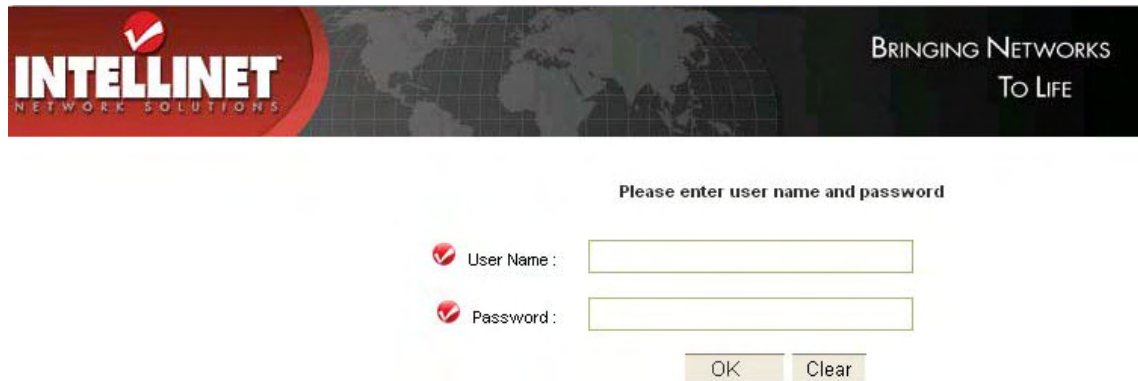
8. Web Connection and Setup

You can use the Web browser to connect the camera for viewing or setting. Open the web browser and enter the IP Address of the camera to establish a connection. The default IP Address of the camera is “**192.168.2.3**”.

When the welcome screen appears, enter the “Admin Name” and “Password”. The default values are:

Admin Name: “**admin**”

Password: “**1234**”



The image shows the login interface for Intellinet Network Solutions. At the top, there is a banner with the Intellinet logo on the left and the tagline 'BRINGING NETWORKS TO LIFE' on the right. Below the banner, the text 'Please enter user name and password' is centered. There are two input fields: 'User Name' and 'Password', each preceded by a red checkmark icon. Below the input fields are two buttons: 'OK' and 'Clear'.

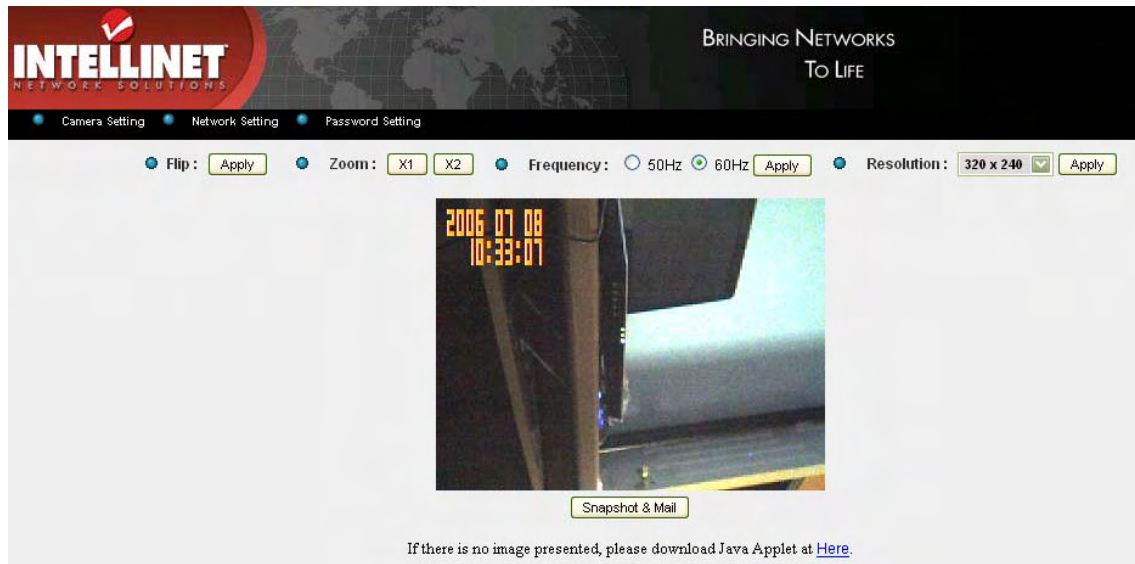
When the camera is connected, the video image will be shown up in the web screen directly. The menu options for the web control screen are as follows.

Camera Setting – View live video and adjust the video format from the menu.

Network Setting – Setup the camera functions in the menu.

Password Setting – Up to four sets of user name and password can be set here.

8.1. Camera Setting



Camera Setting

Digital Zoom	<p>It allows you to zoom in or zoom out the video size.</p> <p>Click “x2”, the image size in the display area will be magnified 2 times to the original size. In 640x480 resolution, only central area of the screen will be magnified two times. Click “x1”, the image size in the display area will be minified to the original size.</p>
Frequency	<p>Select the line frequency (50 or 60MHz) to improve the viewing quality under the fluorescent light.</p>
Resolution	<p>Select the desired video resolution format. Larger resolution requires more bandwidth. 640 x 480 is “VGA” format. 320 x 240 is “CIF” format. The default resolution is CIF format.</p>

Camera Setting

Snapshot & Mail	<p>If you want to snapshot a picture for the current video, click this</p>
-----------------	--

button. The system will send the picture to the E-Mail account you set up in the “E-Mail Setting” immediately.

Apply

Click “Apply” to validate “Frequency” or “Resolution” setting.

8.2. Network Setting

The screenshot shows the 'Internet Camera' web interface in a Microsoft Internet Explorer browser window. The address bar shows 'http://192.168.2.3/cgi/login.tgi'. The page has a navigation bar with 'Camera Setting', 'Network Setting', and 'Password Setting'. The 'Network Setting' page contains several sections:

- Change Admin Password:** Fields for Current Password, New Password, and Confirm Password, with an 'Apply' button.
- Email Setting:** Fields for E-Mail Add (user@mailserver.com) and SMTP Server (mailserver.com), with an 'Apply' button.
- IP Information:** Fields for IP Address (192.168.2.3), Subnet Mask (255.255.255.0), Gateway (192.168.2.1), DNS Server (168.95.192.1), Video Port (4321), and Web Port (80), with an 'Apply' button.
- DDNS Service:** Radio buttons for Enable and Disable (Disable is selected), a dropdown for Provider (DynDNS), and fields for Domain Name, Account, and Password, with an 'Apply' button.
- Camera Information:** Fields for Camera Name (IPCamera_MJPEG) and Firmware (IP Camera Version 1.22), with an 'Apply' button.
- UPNP:** Radio buttons for Enable and Disable (Disable is selected), with an 'Apply' button.
- Maintenance:** A 'Reset to Defaults' button, with an 'Apply' button.

Change Admin Password

Current Password Enter current password.

New Password Specify the new password you want to change to.

Confirm Password Enter the new password again for confirmation.

Apply When you finish the “Change Admin Password”, click “Apply”.

E-Mail Setting

E-Mail Address	Set up the E-Mail account as the receiver for the snapshot picture.
SMTP Server	Specify the SMTP mail server for sending E-Mail. (Some of the free E-mail service provider will refuse the register of camera)
Apply	When you finish the “E-Mail Setting”, click “Apply”.

IP Information

IP Address	Enter an unused IP Address within the IP address range used on your LAN. If the IP Address of your LAN is from the 192.168.2.0 to 192.168.2.250, you can set an unused IP Address from the range for the camera, for example: 192.168.2.250.
Subnet Mask	The Subnet Mask field must match the subnet setting on your LAN. For example: 255.255.255.0.
Gateway	The Gateway is used to forward frames to destinations in a different subnet on the Internet. The Gateway setting must be the same with the gateway used by the PCs on your LAN.
DNS Server	DNS Server (Domain Name Server) that translates names to IP addresses. Set the same DNS Server as the PCs on your LAN.
Video Port	The Video Port is used to transmit or receive the video streaming in the network. The default port setting is “4321”. If you want to view the video from the camera, the port setting should be correct.
Web Port	This camera support web connection, the default web port is 80. Since the web server may use port 80, you can use a different port for the camera. If you change the web port from 80 to 8080, you must type http://192.168.2.3:8080 to connect the camera through the web browser.
Apply	When you finish the “IP Information”, click “Apply”.

Motion Detection Function

Motion Detection If selected “Enable”, motion detection function will be activated.

Frames per Event Detect The default value is 3. That’s mean IP Camera will send 3 images to user’s email box when motion detection be activated.

Next Event Detection (secs.) The default value is 10. When motion detection be activated, IP camera will start next Motion detection process after 10 seconds.

Apply When you finish the “Motion Detection”, click “Apply”.

Login Free Function

File name The default value is “loginfree”. That’s mean user can get a snapshot image from Internet Explorer. The format is like:



IP Camera will send a snapshot image to Internet Explorer.

If user changed file name (Ex: “1234”), the URL must be changed to “http://192.168.2.3/1234.jpg”

Apply When you finish the “LoginFree” Function, click “Apply”.

Camera Information

Camera Name	The default camera name is "IPCamera_MJPEG". It is recommended to name a meaningful name for the camera.
Firmware	Display the current firmware version of the camera.
Apply	When you finish the "Camera Information", click "Apply".

DDNS Service

Enable/Disable	Enable or disable DDNS function of the camera.
Provider	Several companies provide DDNS service. This camera supports the service from DynDNS company.
Domain Name	The domain name given by DynDNS is "registername.dyndns.com". Enter the domain name that you register for the camera from DynDNS web site.
Account	Enter the login name for the DDNS service.
Password	Enter the password for the DDNS service.
Apply	When you finish the "DDNS Service" setting, click "Apply".

UPnP

Enable/Disable	Enable or disable UPnP function of the camera.
Apply	When you finish the "UPnP" setting, click "Apply".

Maintenance

Reset to Defaults	<p>To reset the camera to factory default, click "Apply". Then, follow the instruction of the screen to complete the process. The factory defaults are as follows.</p> <p>Camera Name: "IPCamera_MJPEG"</p> <p>IP Address: "192.168.2.3"</p>
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Subnet Mask: 255.255.255.0

Administrator Name: "Admin", Password: "1234"

Video Port: "4321", Web Port: "80"

8.3. Password Setting

The "Password Setting" allows users to add four user accounts who are able to view video from Camera Viewer and Web Management. These users, unlike Administrator, are not allowed to configure the camera.

The screenshot shows a web browser window titled "Internet Camera - Microsoft Internet Explorer". The address bar shows "http://192.168.2.3/cgi/login.cgi". The page has a teal header with the title "Internet Camera". Below the header is a navigation bar with three tabs: "Camera Setting", "Network Setting", and "Password Setting". The "Password Setting" tab is active. The main content area contains four user account creation sections, labeled "User 1", "User 2", "User 3", and "User 4". Each section has three input fields: "User Name", "Password", and "Confirm Password", followed by an "Apply" button. The "User 1" section is currently selected.

User 1 / 2 / 3 / 4

User Name Up to four sets of user name and password can be added. Enter the user name to be the login name to the camera.

Password Enter up to 4 digits password for the new user account.

Confirm Password Enter the password again to confirm the setting.

Apply Click "Apply" to add the user account.

9. Frequently Asked Questions

Q1: What is an Internet Camera?

A: The Internet Camera is a standalone system connecting directly to an Ethernet or Fast Ethernet network. It is different from the conventional PC Camera; the Internet Camera is an all-in-one system with built-in CPU and web-based solutions providing a low cost solution that can transmit high quality video images for monitoring. The Internet Camera can be managed remotely, accessed and controlled from any PC/Notebook over the Intranet via a web browser or camera viewer.

Q2: What algorithm is used to compress the digital image?

A: The Internet Camera utilizes JPEG image compression technology to provide high quality images. JPEG is a standard for image compression and can be applied to various web browser and application software.

Q3: Can I capture or record still images from the Internet Camera?

A: Yes, you are able to capture or record still images with the snapshot function from the Camera Viewer application supplied with the Internet Camera CD-ROM.

Q4: What network cabling is required for the Internet Camera?

A: The Internet Camera uses Category 5 UTP Twisted-pair cable allowing 10 Base-T and 100 Base-T networking.

Q5: Can the Internet Camera be setup as a PC-cam on the computer?

A: No, the Internet Camera is used only on Ethernet and Fast Ethernet network.

Q6: Can the Internet Camera be connected on the network if it consists of only private IP Addresses?

A: Yes, the Internet Camera can be connected to a LAN with private IP Addresses.

Q7: The focus on the Internet Camera is bad, how can I correct it?

A1: Adjust the Internet Camera focus manually.

Q8: There are no images available through the web browser.

A1: The Java Applet might be disabled, it usually happens in Windows XP SP2 and Windows Server 2003. If you are viewing the images from Internet Explorer make sure Java Applet has been enabled in the Internet Options menu (Select Advanced option and then Microsoft VM). To download the free software, please surf <http://java.com/en/index.jsp>.

10. Technical Specifications

■ Video specification

Max Resolution: 640 x 480 pixels

Sensor: 300K pixels 1/4" color CMOS sensor

Gain control: Automatic

Exposure: Automatic

White Balance: Automatic

Focal Length: 6.0 mm

Aperture: F=1.8

■ Image (Video Setting)

Image compression: Motion-JPEG Image Video

Digital 24-bit Color

Frame rate: 30fps@CIF, 20fps@VGA

Video resolution: 320x240, 640x480

■ System Hardware

LAN Connector: One RJ-45 port to connect to 10/100Mbps Ethernet

LED Indicator: Monitoring LED (Green), Ready LED (Orange)

Power Supply: 7VDC~7.5VDC, 0.5A

■ HTTP/Utility

Includes easy-to-use Viewer & Recorder utility

Provides Admin utility & WEB browser Management

View multiple cameras simultaneously - Up to 4 cameras at a time

Manual/Schedule Record, Video Playback/Stop/Forward/Pause

Supports four additional user accounts for viewing camera

Auto sending Snap Shot by E-mail

Supports Windows 98SE/ME/NT/2000/XP/2003

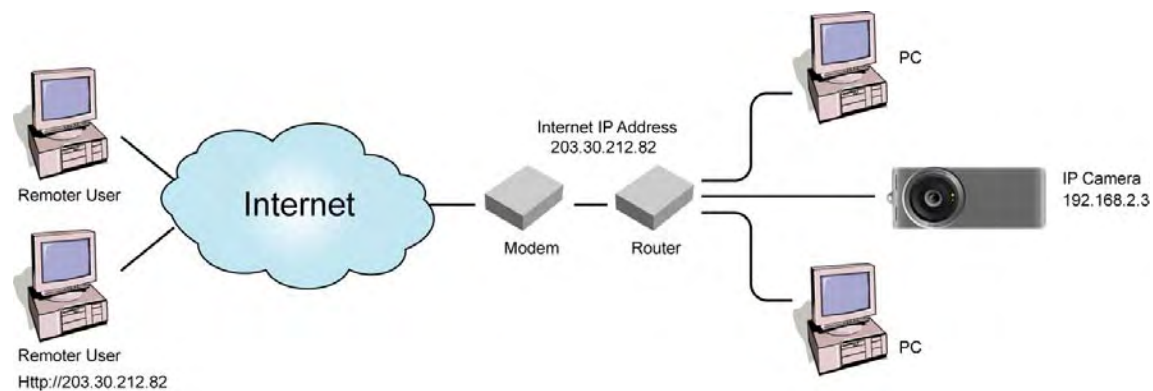
Firmware Upgradeable

■ EMI & Safety

FCC, CE, C-Tick, VCCI

Appendix A Router/Gateway Setup for Internet Viewing

To view Internet Camera across the Internet, you have to make sure Router/Gateway has configured to pass incoming TCP/UDP connections from remote PC to the Internet Camera. The Router/Gateway should set port forwarding or virtual server for the connections. Please see the illustration as below.



Router/Gateway Port Forwarding/Virtual Server Setup

Name	Protocol	Port	LAN IP
Setup 1	TCP	80	192.168.2.3
Setup 2	TCP	4321	192.168.2.3
Setup 3	UDP	13364	192.168.2.3
Setup 4	UDP	15973	192.168.2.3

Port Definition

- Setup 1 It is the port of Web port. You have to configure the protocol to "TCP".
- Setup 2 It is the port of Video port. You have to configure the protocol to "TCP".
- Setup 3 It is the port for Internet Camera and Administrator Utility

communication. The protocol setting should be "UDP".

Setup 4

It is the port for Internet Camera and Camera Viewer Utility communication. The protocol setting should be "UDP".

Viewing Internet Camera via Web Browser

Setup 1/Setup 2

If you want to view the video via Web Browser, you have to ensure the Router/Gateway has configured setup1 and setup 2. If the web port is not default port "80", but changed to 8080. The remote user has to enter <http://203.30.212.82:8080>.

Viewing Internet Camera via Camera Viewer Utility

Setup 2/Setup 4

If you want to use Camera Viewer Utility to view the camera, please make sure the Router/Gateway has configured setup2 and setup 4.

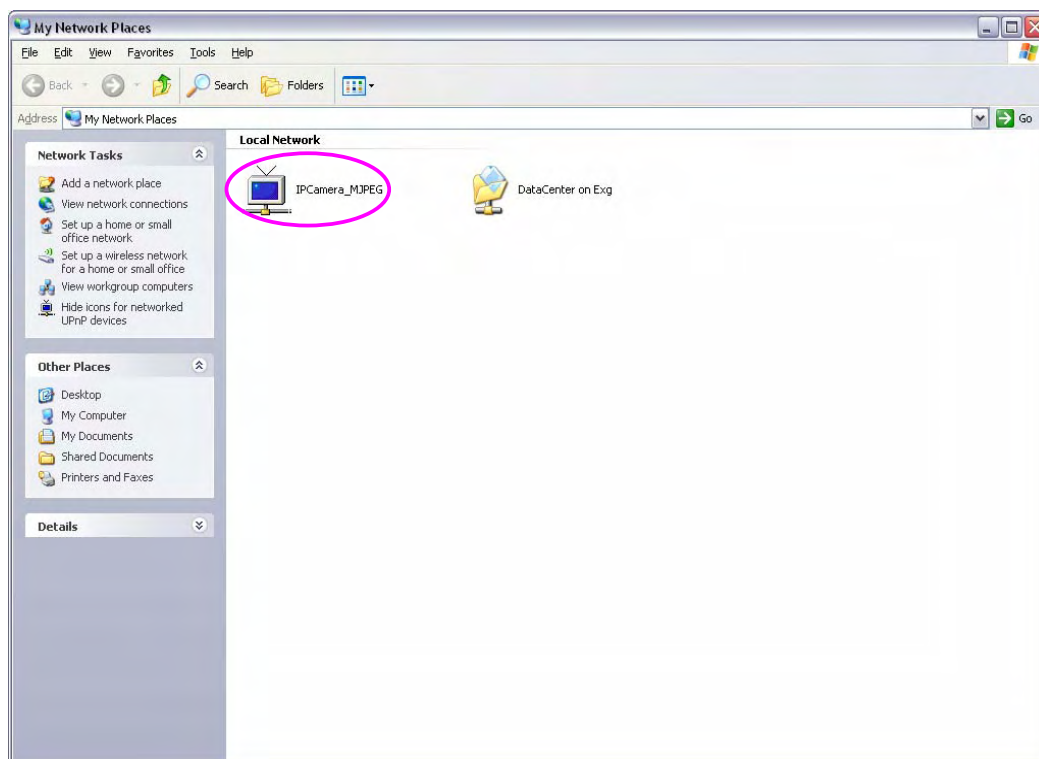
Setup Internet Camera via Administrator Utility

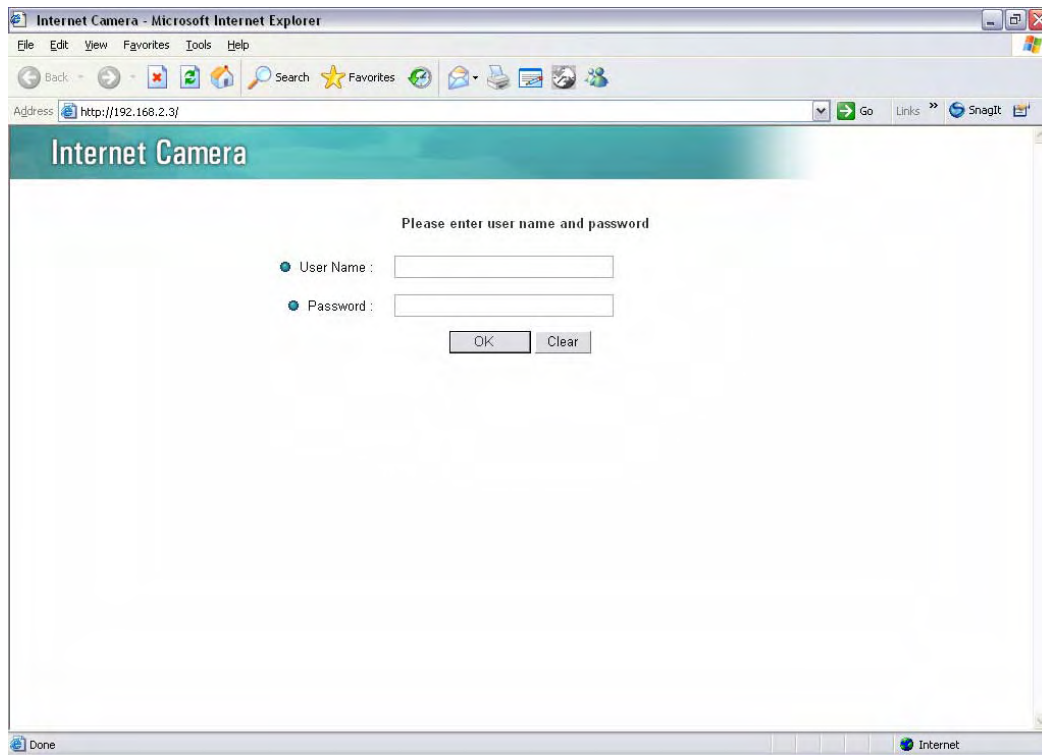
Setup 3

If you want to use Administrator Utility to configure the Internet Camera via Internet, the Router/Gateway should configure setup 3.

Appendix B Viewing via UPnP in Windows XP

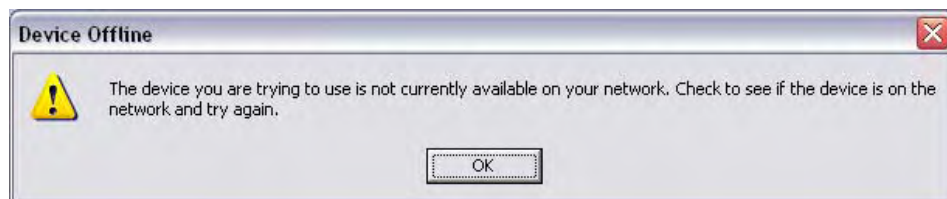
When the UPnP function is enabled, the camera can be detected by UPnP compliant system such as Windows XP. The camera will be displayed in the Neighborhood of Windows XP, so you can directly double click the camera or right click the camera and select “Invoke” to view the video through web browser.



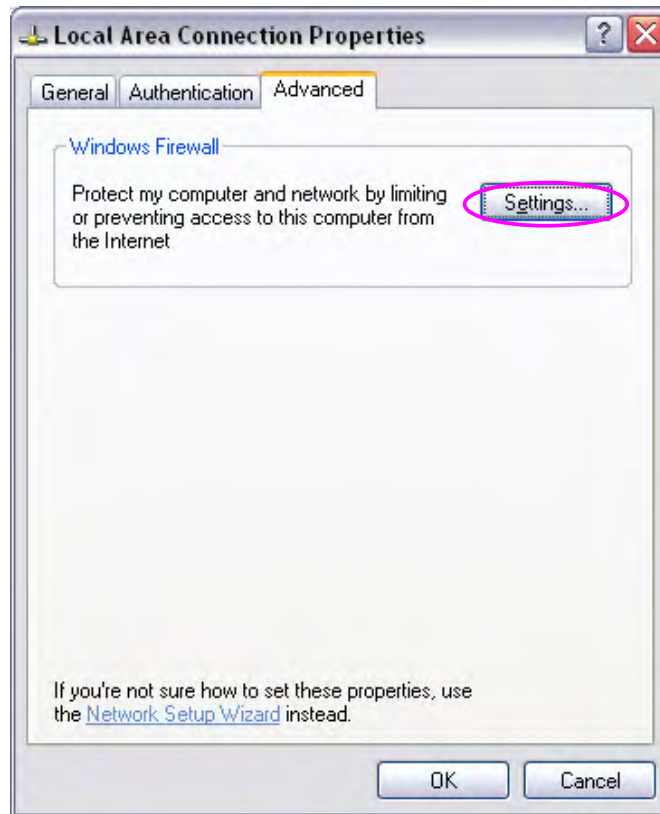


Enable UPnP in Windows XP SP2

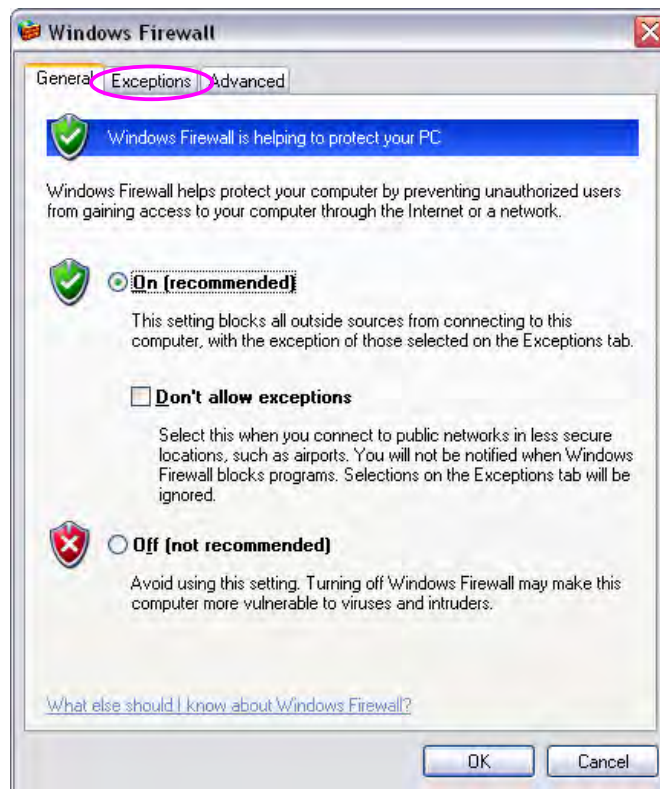
If you can't find the camera in the Neighborhood of Windows XP SP2 or you have seen the following message when you double click the camera. You have to check if UPnP function is blocked by the firewall. Please follow the steps below to enable it.



1. Go to "Start\Settings\Network Connections".
2. Right click the "Local Area Connection" and select "Properties".
3. In the "Local Area Connection Properties", select "Advanced" option menu and click "Settings".



4. The "Windows Firewall" screen will be popped up, select "Exceptions" option menu.



5. Enable "UPnP Framework" from the "Programs and Services list" and click "Ok".

