
iCAMView

User Manual

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Chapter 1: Introduction

Section 1. Features

iCAMView is a compact stand-alone web-server capable of remote video surveillance. It can be accessed from anywhere in the world via a standard browser by entering the IP, account and password. Each system can simultaneously support any two combinations of USB PC cameras be it regular, infrared or pan-tilt. With its built-in web-server, iCAMView can stream video images directly to the Internet without have to go thru a computer. iCAMView features a Windows-based software that allows the user to archive streaming video directly into the hard-drive. The same software also allows the user to monitor multiple cameras on one screen.

Features:

- Built-in Web Server
- 10/100Mbps Fast Ethernet Network Access
- Support Any Java-Enabled Web Browser
- LCD display shows the IP address, Subnet Mask and Gateway
- 32-Bit RISC CPU
- 1MB Flash Memory
- 8MB Dynamic Memory
- Support Up to 30 Remote Viewers for each camera
- Allow Up to 8 User Accounts and Passwords
- 5.3VDC 1A Maximum
- Operating Temperature: 0°C ~ 60°C
- Operating Humidity: 10% ~ 90%
- Dimensions: 48mm x 63mm x 21m
- Weight: 75g
- For Indoor Use. Protective housing required for use
- Network Protocol: HTTP, TCP/IP, UDP, SMTP, PPPoE, Dynamic DNS, DNS Client, SNTP, BOOTP, DHCP, FTP, SNMP
- Support All USB PC Camera with VIMICRO ZC0301 Plus processor built-in
- Resolution: 640 x 480, 320 x 240, 160 x 120.
- Frame Rate: Up to 20fps in 320 x 240
- MJPEG Compression
- 2 USB Ports for PC Cameras
- USB 1.1 & 2.0 compliant
- Can combine with two different PC cameras
- Support Pan/Tilt and Infrared USB PC Camera

Section 2. iCAMView as a Remote Surveillance System

Once iCAMView is installed, the user can check any of the connected PC

cameras using a standard web browser. The user can monitor and control these cameras simply by entering the IP address (set-up required with Netility) of the iCAMView from anywhere in the world as long as there is an Internet connection available. For instance, the user can be in Australia but is able to monitor his factory production in China and if he likes checks on his branch office located in Singapore, all this simultaneously.

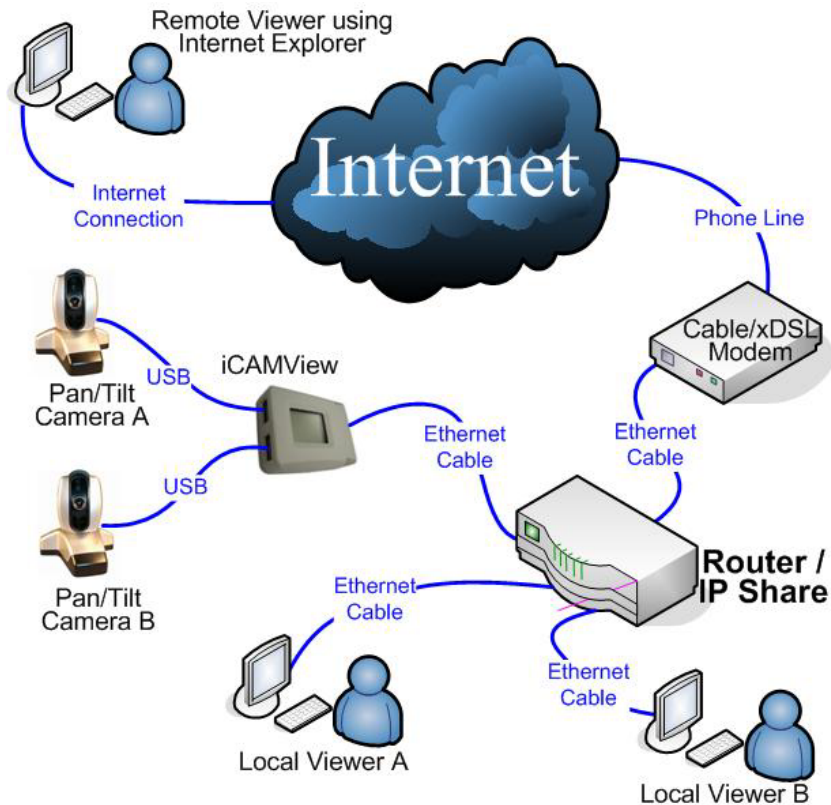


Fig.1 iCAMView Network Diagram

Section 3. Package Contents

Your iCAMView package should contain the following items;

1. iCAMView,
2. iCAMView Utility CD, which contains;
 - a. iCAMView Utility: to configure IP address, update the firmware, etc.
 - b. iMultiView: Windows platform to monitor multiple iCAMView.
 - c. Time Server: Time adjustment utility.
 - d. Adobe Acrobat 5.0 Reader.
 - e. iCAMView user manual, and
 - f. Camera Windows Driver
3. 5.3V DC Adapter

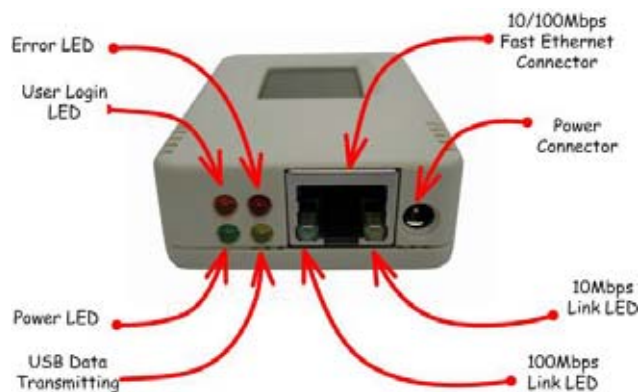


Fig.2 iCAMView Front View



Fig.3 iCAMView Back View

LED Status Indicators on iCAMView		
Light color	Signal definition	Condition description
Green	Power state	On: Normal power
Red	Error Condition	On: Error condition occurred
Orange	Logon state	On: When there is user logon and receive the image.
Yellow	USB data activity	Flash when there is data transmit/receive on the USB.

Fig.4 iCAMView Status LED Indicator

Light indicators on iCAMView LAN Port LED	
Light color	Condition description
Green	On: Internet correspond speed is 100M Flash: Data transmitting/receiving
Yellow	On: Internet correspond speed is 10M Flash: Data transmitting/receiving

Fig.5 iCAMView LAN LED Indicators

Chapter 2: Installation Procedure

Before you start using iCAMView, you will need to set-up both the hardware and software. The following is a flow chart on the installation procedure:

5 iCAMView set-up completed

4 Use Internet Explorer (>5.0) to access iCAMView Web Manager (Chapter 5).

3 Install iCAMView Utility (Chapter 4) and iMultiView (Chapter 6)

2 Connect Network cable to ROUTER / HUB / xDSL modem

1 Connect iCAMView, USB Camera and the Network cable (Chapter 3)

Chapter 3: iCAMView, USB Camera and the Network

The following details the installation procedure for iCAMView.

Section 1. Installation Procedure

Step 1:

Connect the PC camera into the USB port of iCAMView.



Step 2:

Connect the iCAMView to LAN by using the Ethernet UTP port.



Step 3:

Connect DC power adapter output into iCAMView socket, and plug the DC power input into the wall socket



Step 4:

The LCD will display the IP, Subnet Mask and Gateway IP. Use a WEB browser to login into the iCAMView IP address.



The icon on the LCD shows that a USB camera is connected.



The LCD display shows that two USB cameras are attached to the iCAMView.



Warning:

Please make sure the input Voltage and Frequency of the DC power adapter (DC 5.3V) is correct before plugging into the power outlet!

Chapter 4: Using iCAMView Utility to Setup IP & Update Firmware

Section 1. Installing iCAMView Utility

1. Insert the enclosed iCAMView CD into the CD-ROM drive. iCAMView setup will auto run. The following menu will show up. Click on the buttons on the left to installation the programs you want.



iCAMView Utility - This is a program that helps the user perform quick installation. It will detect the current configuration and take the user thru the necessary network setup.

- a. Click the button to commence installation.
- b. After installation is completed, iCAMView Utility group will appear in Windows 'Start' 'Program Group'. Click this to start the program.



Fig.7 iCAMView Utility Group

iMultiView - This is a windows based program designed to allow user to control a large number of iCAMView websites located either in a LAN or on a WAN.

Read User's Manual - Click to read iCAMView's User Manual. You will need Adobe Acrobat Reader v5.0 or higher.

Adobe Acrobat Reader v5.0 - This will install Acrobat Reader v5.0 on your local hard drive.

Sun Java / ActiveX - Install Sun Java for viewing the video image by Java, or install the OCX for viewing by ActiveX.

Section 2. Using iCAMView Utility

When you start-up iCAMView Utility, it will search and list all available Network Card on your system (if more than one is installed). Select the Network adaptor that you are currently using and click "OK".

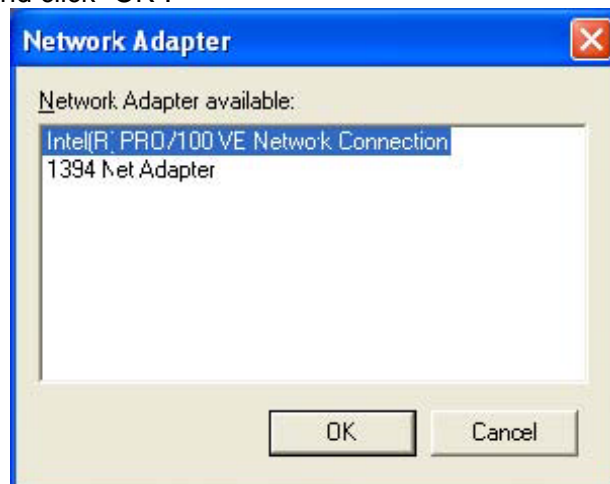


Fig.8 iCAMView Utility Network Adaptor Selection on Start-up

The iCAMView Utility main menu is shown below. The selection menu is located on the left. The Serial Number, current Firmware and IP Address of every iCAMView connected to the LAN will be displayed on the table to the right.

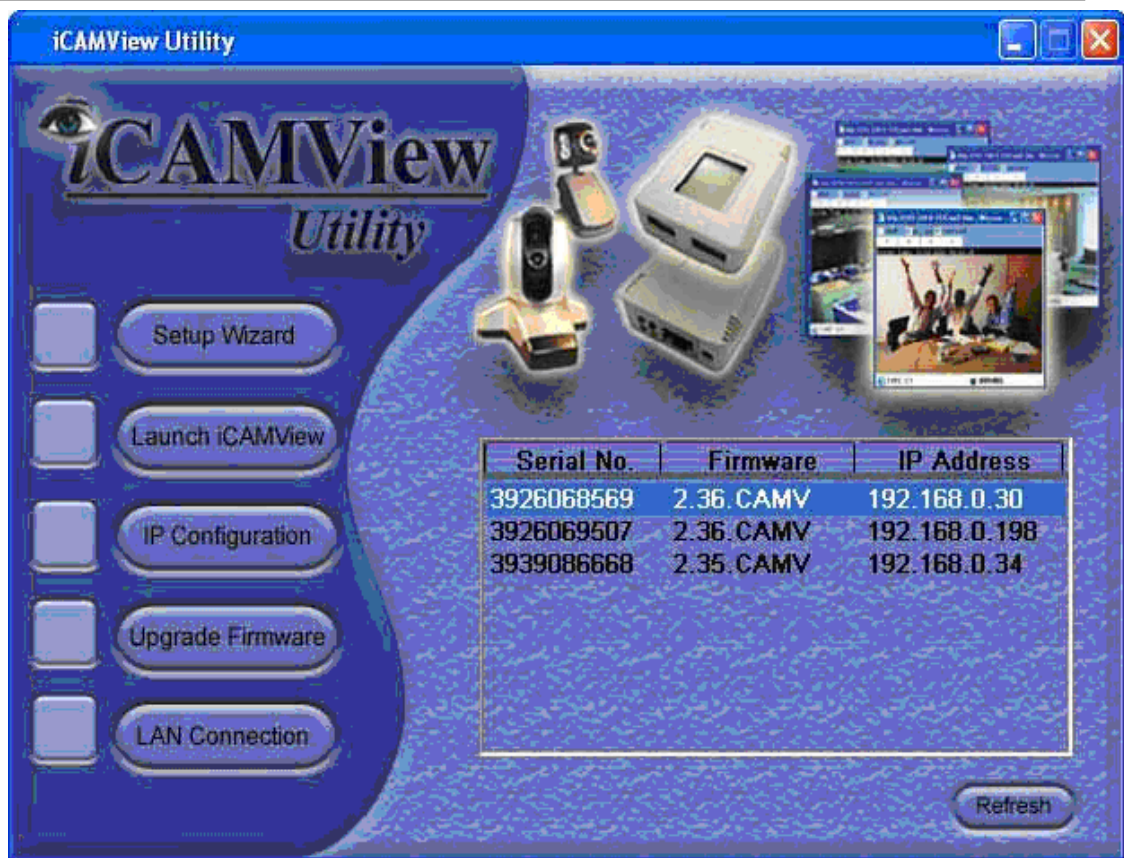


Fig.9 iCAMView Utility Main Menu

2.1 Setup Wizard

Use "Setup Wizard" to take you thru the basic configurations necessary to start using iCAMView.

1. Click to highlight the iCAMView on the right that you want to configure.
2. Click on "Setup Wizard".
3. iCAMView Setup Wizard will initiate to take you thru the installation.



4. Enter the necessary camera configurations. Choose the appropriate frequency (Indoor 60 Hz, Indoor 50 Hz or Outdoor) to prevent flickering on the video feed. Enter a name for the camera in the "Location" box to easily identify it.
5. Click "Next >" to configure the Network Connection.



“Obtain an IP address by DHCP”

Choose this if you do not know your basic Network Configurations

“Use the following IP Address”

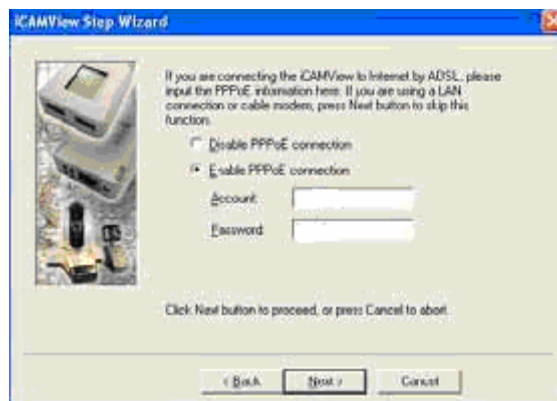
Enter an appropriate internal IP Address, Subnet Mask and Gateway for iCAMView (Refer to Appendix C for an explanation of IP Addresses)

“Obtain an IP address by Bootp”

Allow iCAMView to obtain an IP address using Bootp protocol.

6. Click “Next >” to proceed to xDSL/Cable modem setup.

This section has to be configured to allow iCAMView to access the Internet through an xDSL.



Select “Enable PPPoE connection” and enter your account and password details as provided by your ISP. Otherwise, leave it at the default “Disable PPPoE connection”



7. Click “Next >” to proceed with DDNS setup or registration



You will need to setup this section if you are using a Dynamic IP



If you do not already have a Domain Name registered with your ISP, select from one of the 4 Free DDNS service providers (3322.org, dhs.org, dyndns.org or myddns.org). Follow the link to the respective free service providers to register a Domain Name and obtain a User Name and Password. Enter these details in the boxes provided

8. Click “Next >” to create an administrator account and password.



An administrator account is necessary to ensure privacy. If you do not set one, iCAMView can be viewed by anyone on the web.

WARNING: Do not lose the administrator account and password. Once set, you will not be able to configure iCAMView without the administrator account and password.

9. Click “Next >” to upload these configuration to iCAMView.



10. Click "Next >" to save and restart iCAMView with the new configurations.



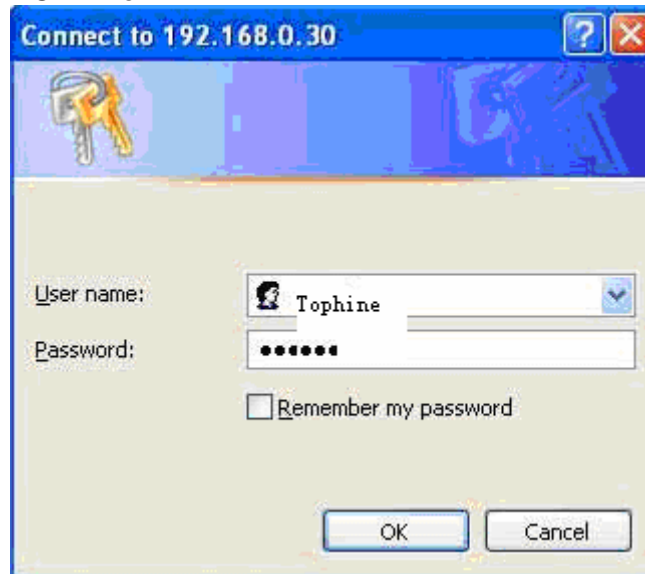
2.2 Launch iCAMView

Once you have finished with the above Setup Wizard, either click "Launch iCAMView" or double click on the iCAMView listed on the table to launch it.



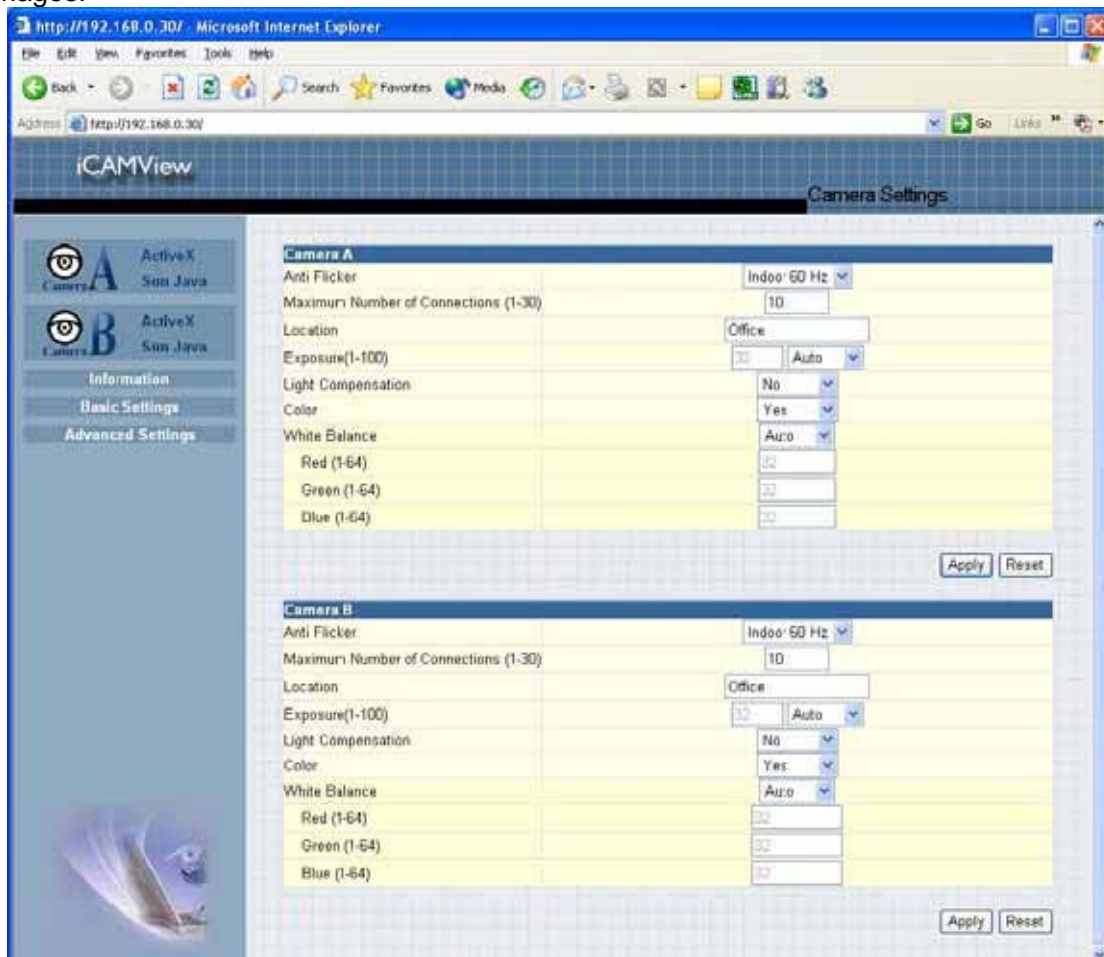
Once you have done the above, the iCAMView login screen will appear. Key in the administrator account number and password entered earlier (if you did not input one, then just press ENTER or click on the “OK” button).

Click either one to Launch iCAMView.



A login dialog box titled "Connect to 192.168.0.30". It features a blue header bar with a question mark and close button. Below the header is a decorative banner with a key icon. The main area contains a "User name:" label with a dropdown menu showing "Tophine", a "Password:" label with a masked input field of seven dots, and an unchecked checkbox labeled "Remember my password". At the bottom are "OK" and "Cancel" buttons.

The iCAMView webpage will appear. Click ActiveX for Camera A to view the video images.



A screenshot of the iCAMView web interface in a Microsoft Internet Explorer browser window. The address bar shows "http://192.168.0.30/". The page has a blue header with "iCAMView" and "Camera Settings". On the left is a sidebar with icons for "Camera A" and "Camera B", each with "ActiveX" and "Sun Java" options, and links for "Information", "Basic Settings", and "Advanced Settings". The main content area displays settings for "Camera A" and "Camera B". Each camera section includes: "Anti Flicker" (set to "Indoor 60 Hz"), "Maximum Number of Connections (1-30)" (set to "10"), "Location" (set to "Office"), "Exposure(1-100)" (set to "Auto"), "Light Compensation" (set to "No"), "Color" (set to "Yes"), "White Balance" (set to "Auto"), and three color balance sliders for "Red (1-64)", "Green (1-64)", and "Blue (1-64)". Each section has "Apply" and "Reset" buttons at the bottom right.

2.3 IP Configuration

This section allows you to determine IP address configuration for iCAMView.

Select the iCAMView on the right display screen, and then click “IP Configuration”. This will bring up the IP Address Configuration window. There are two tabs;

- IP Address
- Advanced (for port setting configuration)

2.3.1 IP Address

Use this section to set the IP Address of iCAMView.

When using iCAMView for the first time, it is advisable to choose the “Using Static IP Address” option. For this option, the user will have to enter an IP Address, Subnet Mask and Gateway of their choice (refer to Appendix C for IP address explanation).

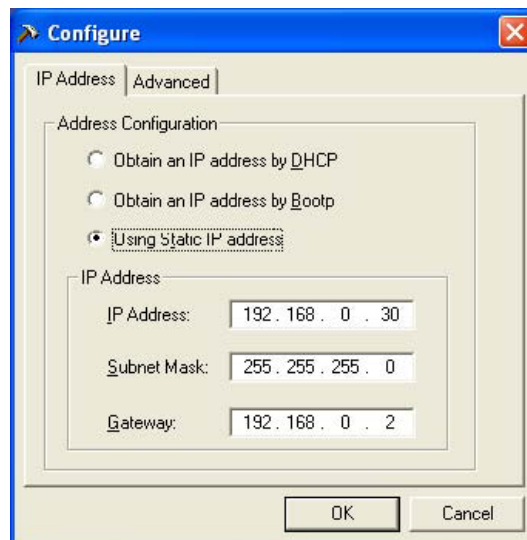


Fig.10 IP Configuration: Set an IP Address for iCAMView

Once the IP Address is set, you will be able to connect to iCAMView webpage by entering this IP Address into a standard browser.

“Obtain an IP address by DHCP or BOOTP”

The IP address, Subnet Mask and Gateway is acquired directly and assigned automatically by the system.

2.3.2 Advanced

This section sets security password against unauthorised access to devices thru iCAMView Utility.

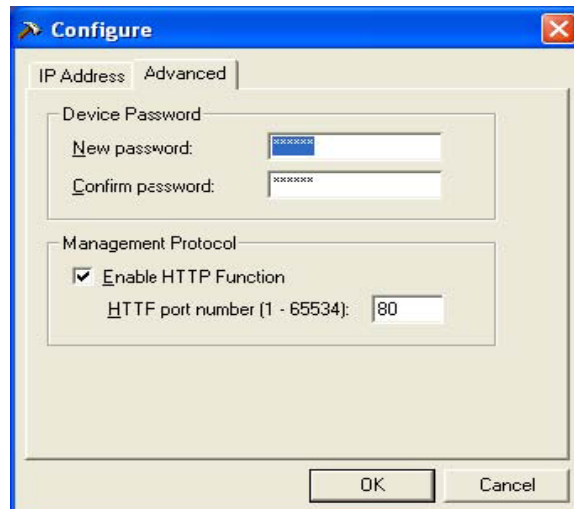


Fig.11 IP Configuration: iCAMView Advanced settings

i. Device Password

Use this to set an access password to the individual device. Once set, the user must enter the password to access the device. In addition, the IP Address will not be shown on the right display panel of iCAMView Utility.



iCAMView Utility will request for the “Input Device Password” when you click either “Setup Wizard”, “Launch iCAMView” or “IP Configuration”



WARNING: Do not lose this password. If the password is lost, you can not access the device to make changes. To remove the password, you must first enter a valid “Input Device Password”, go to “Device Password” and delete the entries, click “OK”.

ii. Management Protocol

The administrator can determine the parameter settings when providing access via HTTP (web) to iCAMView. For security reasons, the administrator can choose to use either an open or advanced port setting to control these access. The default values are set to port number 80 for HTTP. Once the HTTP port number is set to another port (other than 80), the full IP Address must be entered in order to access the Website.

For example:

If a value of 61 is set as the HTTP port number, then `http://192.168.0.177:61` must be entered as the web address in order to access iCAMView website.

Uncheck to disable this function.

Devise Password not set.

Devise Password enabled. IP Address hidden.

2.5 LAN Connection

To switch to another Network Adaptor, click on “LAN Connection”.

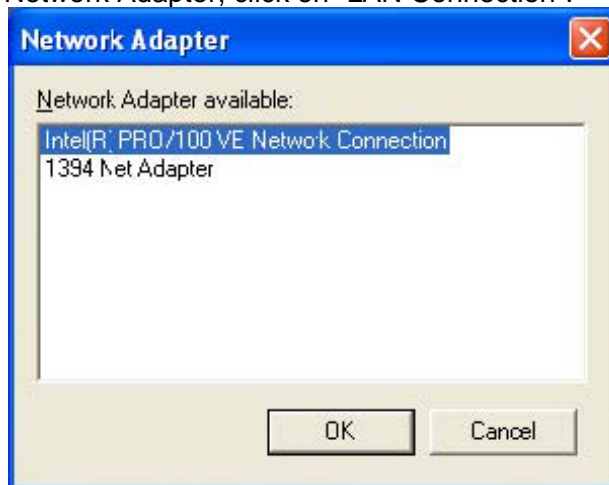


Fig.13 Netility version examined

2.6 Refresh

iCAMView Utility automatically searches for any iCAMView connected to the LAN. However, the user can do a manual search by click the “Refresh” icon located at the bottom right of the menu.

Chapter 5: iCAMView Web Manager

Section 1. Introduction

After you have setup the hardware and set an IP address for iCAMView, you will then be able to go to iCAMView web site to monitor and control the PC cameras. All you have to do is enter the new IP address into any web browser.

1. Start the Web Brower (Netscape or Internet Explore)

-
2. Enter the iCAMView IP Address that was set earlier using "Setup Wizard" (e.g. 211.21.67.51) and press ENTER
 3. A login screen will appear. Enter the Administrator User Name and Password if you have set these in the "Setup Wizard". Otherwise, just press ENTER.



Fig.15 iCAMView Login screen

Section 2. iCAMView Web Manager Interface

The iCAMView webpage main menu is divided into two sections. The selection menu on the left and display menu on the right. The selection menu consists of the following options:

2.1 Web-Camera Selection

2.2 Information

2.3 Basic Settings

2.4 Advanced Settings

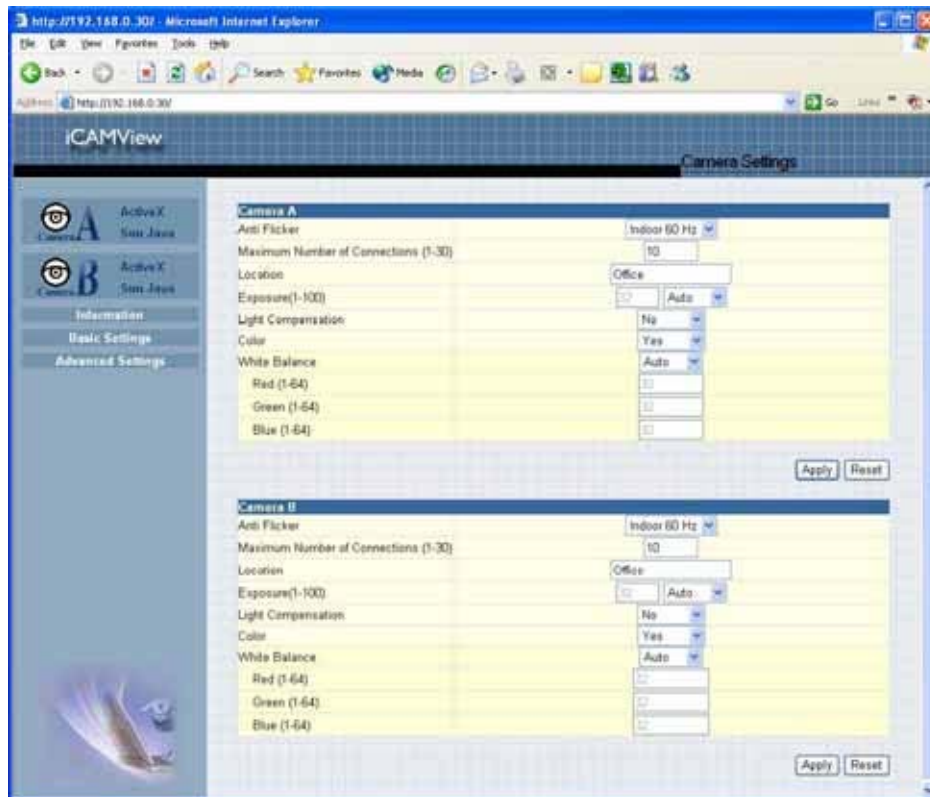


Fig.16 iCAMView Main Menu

When using iCAMView for the first time, you must set the following to ensure that iCAMView works smoothly;

- Set the necessary parameters in the "Configuration" menu. In particular, the "Anti Flicker" under "Camera Settings" should be set to 50Hz or 60Hz (change this to 60Hz or 50Hz / Outdoor if video output continues to flicker).
- That the USB PC camera lens is adjusted for best results.

By default the above Camera Settings page is displayed when you login.

2.1 Web-Camera Selection

Click on either "ActiveX" or "Sun Java" from Camera A or B to view the camera images.



By default the first USB camera connected to iCAMView will be denote as "Camera A"
Click "Camera B" to view camera B.

Note: ActiveX can only function on Windows platform and a plug-in has to be installed on the client's computer. If this is prohibited for safety reasons you will have to use Sun Java to view the video feed. Sun Java also allows users who are not using Windows based Operating System to view the video feed.

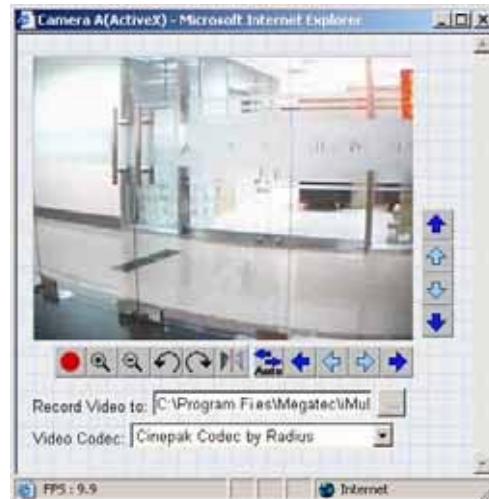
Once you click on "Camera A" the following image will appear.

Make sure to adjust the USB camera lens for best picture results.


Click on the controls along the Window to control the camera.

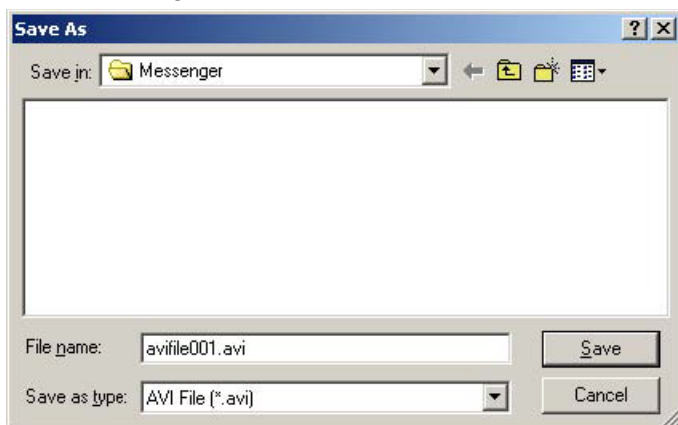
Note:

The pan and tilt controls will only work with cameras which has this function built-in.



Click  to record the current image to the selected directory. The default directory is C:\Program Files\Tophine \iMultiView

To change the saved location and filename. Click  and the "Save As" window will pop up. Choose an alternate location and filename. Click the "Save" button to confirm changes.



To change Video Codec, click 

Note: The availability of Codec depends on whether the individual user has it installed on the PC or not. Download and install Windows MediaPlayer9 to enable MPEG4 codec.



Digital Zoom In, Digital Zoom Out



Rotate Left, Rotate Right



Flip the image vertically.



Auto Pan the camera

Pan Left by 5 deg / Pan Left by 1 deg.

Pan Right by 1 deg / Pan Right by 5 deg.

Tilt Up by 5 deg / Tilt Up by 1 deg.

Tilt Down by 1 deg / Tilt Down by 5 deg.

2.2 Information

The "Information" tab contains the following subsections;

2.2.1 System Status,

2.2.2 Current Connections and

2.2.3 Event Log.

2.2.1 System Status

This section displays all the information relating to iCAMView.

i. System Information

This section shows iCAMView System Information such as the Hardware and Firmware Version, the serial number, current / local System Time, the system name, contact, location and uptime. These values are either provided by iCAMView or set by user.

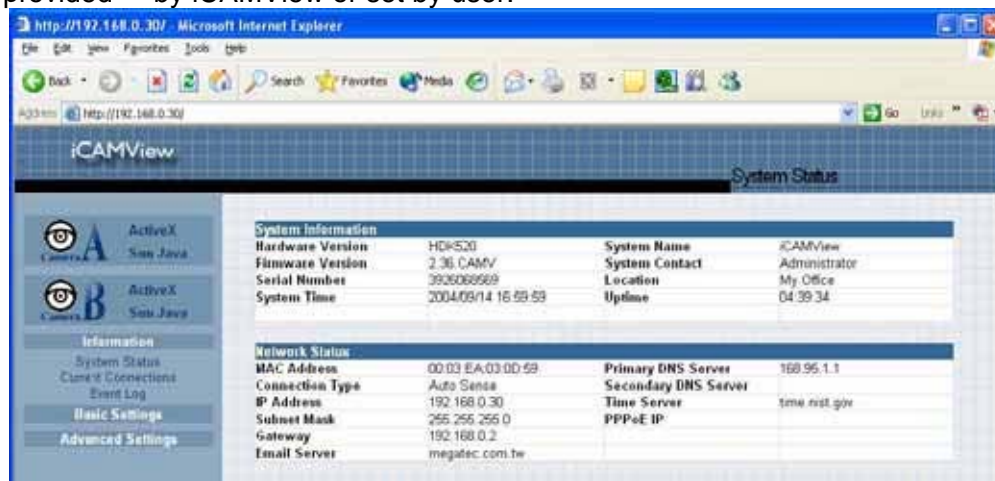


Fig.17 iCAMView System Status

ii. System Information

This section shows iCAMView Network settings. The MAC Address is unique to every iCAMView. All the other values are set by the user in Setup Wizard.

2.2.2 Current Connections

This section will show all the users currently viewing either Camera A or Camera B. It also lists, the login time, and total bytes received. The user has an option to block the IP or even disable the account of any errant viewer. The administrator privilege will be required for this feature. A total of 10 connections can be displayed at the same time.

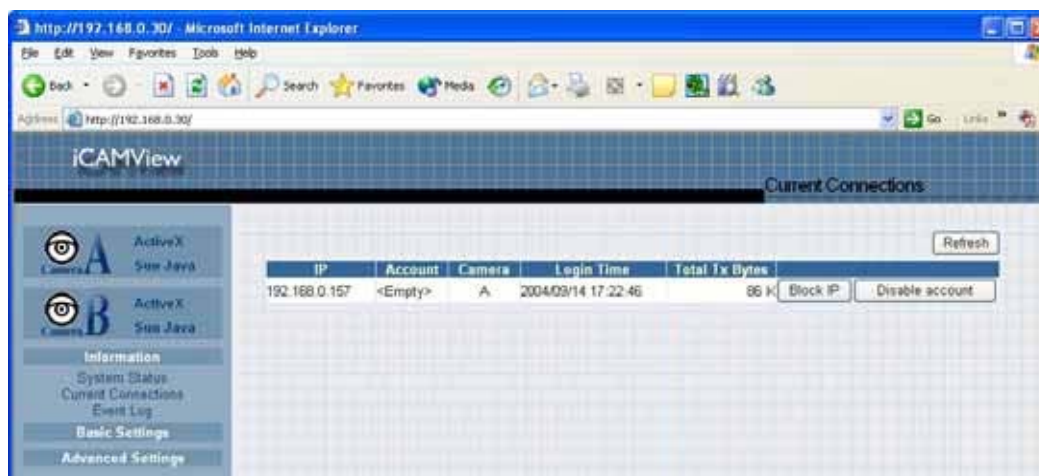


Fig.18 iCAMView Current Connections

2.2.3 Event Log

This section will keep a record of all events that occurred in iCAMView. The user can Refresh, Clear or Save the log file. There is also an option to sort the logs according to "Level" or "Type"

iCAMView can log up to 2,000 events

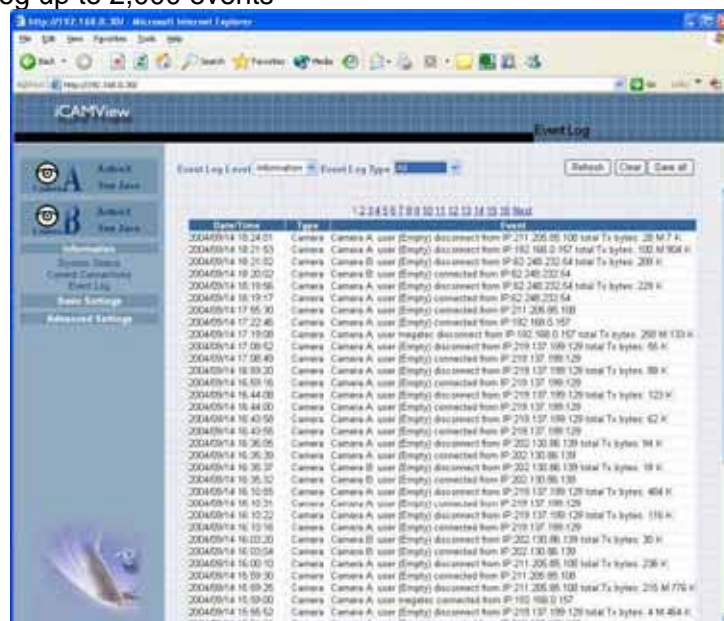


Fig.19 iCAMView Event Log

2.3 Basic Settings

Please ensure that each of the following option is set correctly. Otherwise, iCAMView may not work properly.

2.3.1 Camera Settings

2.3.2 Network

2.3.3 Account Settings

2.3.4 Camera Settings

Use this section to set up the USB camera.

i. Setting up Camera A (Similar with Camera B)

Camera A	
Anti Flicker	Indoor 60 Hz
Maximum Number of Connections (1-30)	10
Location	Office
Exposure (1-100)	32 Auto
Light Compensation	No
Color	Yes
White Balance	Auto
Red (1-64)	32
Green (1-64)	32
Blue (1-64)	32
Apply Reset	

Fig.20 Individual Camera Configuration

“Anti Flicker”

Choose between 50Hz, 60Hz or Outdoors. Note: If you do not choose the right frequency, the image will flicker or lines will appear on the images.

“Maximum Number of Connections (1-30)”

Use this to limit the number of users that can connect to this camera.

“Location”

Enter a suitable location / name for the camera.

“Exposure (1-100)”

Set this to “Auto”, or Click “Manual” to fix the exposure.

“Light Compensation”

Choose “Yes” and iCAMView will increase the lighting of the image. This is useful when monitoring indoors.

Choose “No” if you do not want iCAMView to adjust the light and view the images as is.

“Color”

Choose “Yes” for color and “No” for black and white display.

“White Balance”

Choose “Auto” to let iCAMView make auto adjustment. To adjust this manually, select “Manual” from the drop down menu, and then enter a suitable number for Red, Green and Blue.

Click “Apply” to save changes. Otherwise, all changes will be lost.

2.3.2 Network

This option determines the iCAMView Network settings.

i. IP Address

These items were all setup earlier in Setup Wizard. Enter new addresses and click “Apply” to change.

IP Address	
IP Address	192.168.0.30
Subnet Mask	255.255.255.0
Gateway	192.168.0.1
Obtain an IP address*	By manual

Fig.21 iCAMView IP Address Settings

“IP Address”

This item determines iCAMView IP Address.

“Subnet Mask”

This item sets iCAMView Subnet Mask. The value is normally 255.255.255.0

“Gateway”

This item is to set iCAMView Gateway.

“Obtain an IP address”

This allows the user to choose either to set iCAMView IP Address manually or via DHCP. iCAMView will reboot after the above settings have been changed.

ii. DNS Server IP

DNS Server IP	
Primary DNS Server IP	192.168.0.1
Secondary DNS Server IP	

Fig.22 iCAMView IP DNS Server IP

“Primary DNS Server IP”

This item sets iCAMView primary DNS Server IP address.

“Secondary DNS Server IP”

This item sets iCAMView secondary DNS Server IP address. iCAMView will use the secondary DNS Server IP address if the Primary DNS Server IP address is not working.

iii. Port Number

Port Number	
Http Port number	80
Communication to Camera Port number	9001

Fig.23 iCAMView Port Settings

“HTTP Port Number”

By default the port number is 80

“Communication to Camera Port Number”

By default the port number is 9001

iv. Ethernet

Ethernet	
Connection Type*	Auto Sense

Fig.24 iCAMView Ethernet Settings

“Connection Type”

This item sets the communication speed between iCAMView and the Network. iCAMView will reboot after “Connection Type” is changed.

v. Dynamic DNS

Dynamic DNS	
Services Provider	None
Domain Name	
Login Name	
Login Password	

Fig.25 iCAMView Dynamic DNS Settings

“Service Provider”

The iCAMView can be configured to register the current IP to a dynamic DNS provider. This will enable you to locate iCAMView's IP every time the IP changed due to an ADSL connection redial. Before you use this function, you will have to register with either one of these four service providers;

- None (Select this to disable the DDNS function)
- 3322.org
- dhs.org
- dyndns.org
- myddns.com

“Domain Name” :Enter the Domain Name you have created from one of the four websites.

“Login Name” : Enter your login name for the above domain name. You only have to configure once.

“Login Password”: Enter your password. You only have to configure once.

vi. PPPoE

Use this option to allow iCAMView to directly dial-up using your xDSL modem and connect to the Internet. Once set-up, iCAMView will be able to stream the video images directly to the Internet without going thru a IP router.

PPPoE	
When Connection should be made	Disabled
Disconnect xDSL when	Never
Login Name	
Login Password	

Fig.26 iCAMView PPPoE setting

“When Connection should be made”

The user has a choice of;

- Disabled : Default setting. iCAMView does not dial in
- Connect always : iCAMView will automatically dial in.

“Login Name”

Enter your login name

“Login Password”

Enter your password

2.3.3 Account Settings

This section allows you to set up to eight (8) user account with different permissions for iCAMView.

i. User Account

“User Name” : Determine the username of visitors who can log in. The administrator can set up to 32 case sensitive character names.

“Password” : Set a password for the visitor’s account. The administrator can set up to 32 case sensitive passwords.

“Permission” : Determine the permission level to one of “Administrator”, “Operator”, “Viewer” or “No Access”

Administrator: This permission allows the user full access including write permission to all the sections.

Operator: This permission level allows the user access to iCAMView menus, but without the permission to amend them. The administrator can also set “Permit Hours” here for seeing camera.

Viewer: This permission level allows the user to access iCAMView at specific time as set in “Permit Hours” for seeing camera. The user does not have write permission and only access the “Web Cam” and “Information” section.

No Access: This is to revoke either of the above two permission levels given to a user. And make the user account disable.

WARNING: If you did not setup the Administrator account in Setup Wizard; you **MUST** now set an Administrator permission level **BEFORE** setting either “Operator”, “Viewer” or “No Access”. Failure to do so will result in you being locked out of iCAMView Web Manager!

“IP Filter”

Visitor can only login from the IP address specified here for security consideration. You can restrict a user access only from 192.168.1.0/24 by setting up “192.168.1.*”. Otherwise, leave it as “*.*.*.*” to allow the user to login from any place.

User Name	Password	Permission	IP Filter	Max. FPS	Permit Hours
Tophine	*****	Administrator	***	10	Configure
		Operator	***	5	Configure
guest	*****	Viewer	***	10	Configure
		No Access	***	10	Configure
		No Access	***	10	Configure
		No Access	***	10	Configure
		No Access	***	10	Configure
		No Access	***	10	Configure

Apply Reset

Fig.27 iCAMView User Account Settings

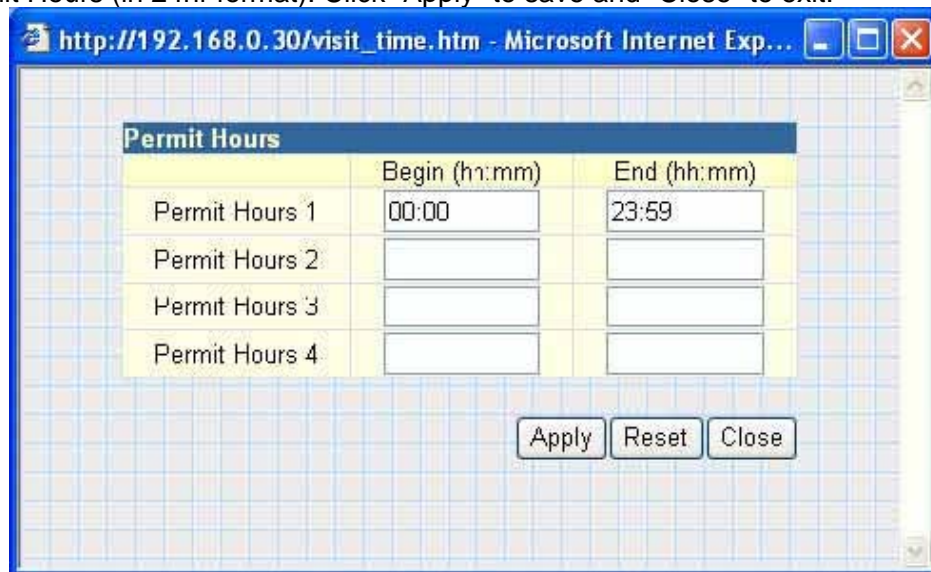
“Max FPS”

This allows the administrator to determine the frames per second (“FPS”) allocated to each type of account. By limiting the FPS, the administrator can manage the limited bandwidth available. The administrator can set a figure between 1 to 20 and unlimited FPS.

“Permit Hours”

When the Permission level is set to either “Operator” or “Viewer”, the Administrator can configure and determine the time to which either permission level can access the camera.

Click “Configure” to bring up the following window. You can set up to 4 different Permit Hours (in 24hr format). Click “Apply” to save and “Close” to exit.



Permit Hours	Begin (hh:mm)	End (hh:mm)
Permit Hours 1	00:00	23:59
Permit Hours 2		
Permit Hours 3		
Permit Hours 4		

Apply Reset Close

Fig.28 iCAMView Permit Hours Configuration

2.4 Advanced Settings

Please ensure that each of the following option is set correctly. Otherwise, iCAMView may not work properly.

2.4.1 Event Notification

2.4.2 Motion Detection

2.4.3 Image Recording

2.4.4 Email / FTP

2.4.5 System Settings

2.4.6 Language

2.4.7 About

2.4.1 Event Notification

This section determines the type of event an email is sent by iCAMView. iCAMView can send notifications to up to 8 email recipients. Note: You must have Administrator

privilege to edit this section.

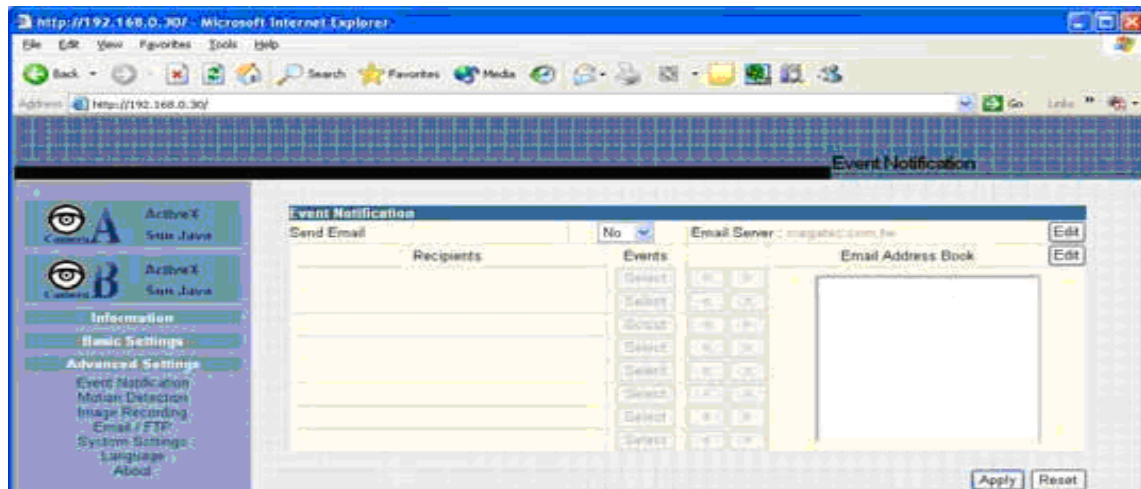


Fig.29 iCAMView Event Notification Page

i. Event Notification

“Send Email”

To activate Event Notification, you will need to set “Send Email” to “Yes”. Select “No” if you do not wish to send out any notification.



“Email Server”

A valid “Email Server” with username and password (if authentication is required) must be made available for this feature to work. If you do not have this setup, or wish to change the settings, click on “Edit”.

“Email Address Book”

There must be at least one valid email address in the address book. The default email is just a sample. If you wish to add or delete entries in your address book, click “Edit”.

“Recipients”

iCAMView can send email notification to up to 8 valid email accounts. To add an email to the recipient list, click  . To remove, click  .

“Events”

This section determines the events that the selected recipients will be notified of by email. There are three types of events, Information, Warning and Error. Click



to select from the list of events you wish these recipients to be notified of.

Information	Yes	No
Start up	<input checked="" type="radio"/>	<input type="radio"/>
PPPoE connection successful	<input checked="" type="radio"/>	<input type="radio"/>
Registration with DDNS server completed	<input checked="" type="radio"/>	<input type="radio"/>
User login	<input checked="" type="radio"/>	<input type="radio"/>
User logout	<input checked="" type="radio"/>	<input type="radio"/>
Image recording of camera A	<input checked="" type="radio"/>	<input type="radio"/>
Image recording of camera B	<input checked="" type="radio"/>	<input type="radio"/>
Warning	Yes	No
Server address can not be resolved	<input checked="" type="radio"/>	<input type="radio"/>
Connection with Email server failed	<input checked="" type="radio"/>	<input type="radio"/>
Connection with FTP server failed	<input checked="" type="radio"/>	<input type="radio"/>
FTP server has no response	<input checked="" type="radio"/>	<input type="radio"/>
FTP server connection closed abnormally	<input checked="" type="radio"/>	<input type="radio"/>
Connection with DDNS server failed	<input checked="" type="radio"/>	<input type="radio"/>
DDNS server has no response	<input checked="" type="radio"/>	<input type="radio"/>
DDNS server connection closed abnormally	<input checked="" type="radio"/>	<input type="radio"/>
Connection with time server failed	<input checked="" type="radio"/>	<input type="radio"/>
Motion detect camera A	<input checked="" type="radio"/>	<input type="radio"/>
Motion detect camera B	<input checked="" type="radio"/>	<input type="radio"/>
Error	Yes	No
Server address was not specified	<input checked="" type="radio"/>	<input type="radio"/>
Authorization failed, cannot login to Email server	<input checked="" type="radio"/>	<input type="radio"/>
Invalid username or password entered for FTP server	<input checked="" type="radio"/>	<input type="radio"/>
FTP server no such file or directory	<input checked="" type="radio"/>	<input type="radio"/>
Invalid username or password entered for DDNS server	<input checked="" type="radio"/>	<input type="radio"/>
Registration with DDNS server failed	<input checked="" type="radio"/>	<input type="radio"/>
DDNS domain name does not exist	<input checked="" type="radio"/>	<input type="radio"/>

Select All Clear All Apply

Fig.30 iCAMView Event Selection List

By default, all the events are selected; you must click "Apply" to activate them. Close the window to return to the Event Notification Page. Click "Apply" to save your settings.

iCAMView will send you the following email notification depending on which event you have selected.

Note: The image recording and motion detection notification function here will send an email notification WITHOUT any pictures attached. For email notification with images, the administrator has to setup the Image Recording Page and Motion Detection Page under Advanced Settings.

Samples;

2.4.2 Motion Detection

This page allows the administrator to set motion detection functions for the cameras.

i. Camera A (or Camera B)

“Enable”

To activate motion detect, the administrator has two options;

- “Always On” or
- “On Schedule”, the administrator can set up to 4 different time slots for motion detection.

“Detection Sensitivity”

This will determines level of change before motion capture is triggered.

“Send image every”

Select a value between 1 to 5 seconds.

“Stop sending emails after ## email(s) or image idle for ## second(s)”

iCAMView will stop sending on the lower of the two conditions. You can set between 1, 3, 5, 7 and 10 seconds. Emails can be set from 1 to 99999 pieces, or

0 for stop sending email only when image idle occurred.

“Schedule”

If set to “On Schedule” in the above section, the administrator can then input the four preferred schedule time slots for motion detection. Time must be entered in 24hr format.

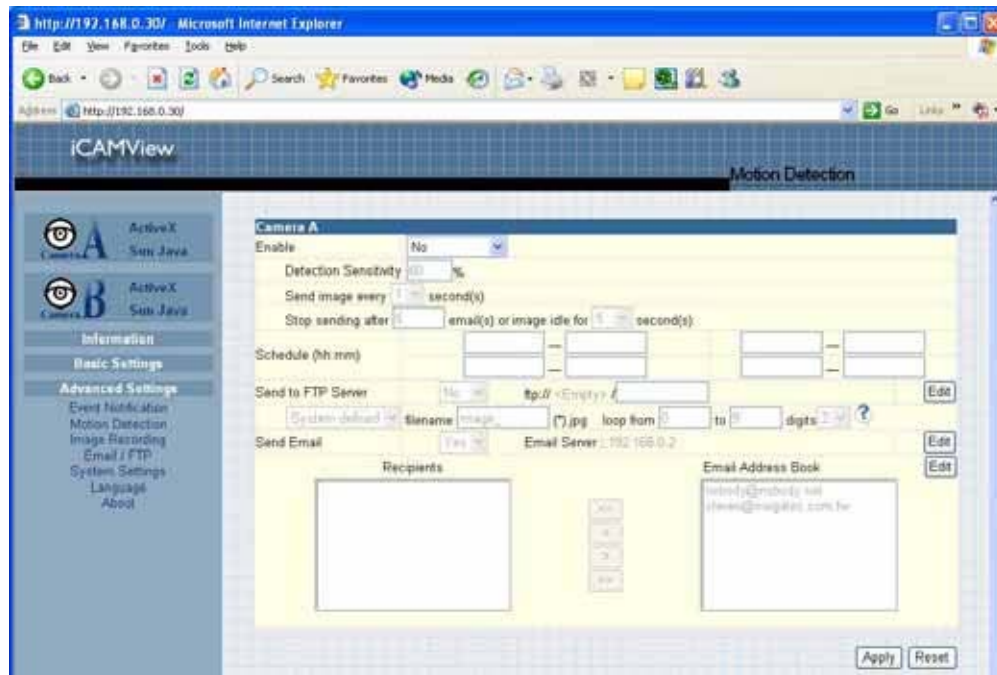


Fig.35 iCAMView Motion Detection Page

“Send to FTP Server”

This option allows the administrator to send and store the motion detected images on a FTP site. This is useful for future reference and recording purpose. Click “Yes” to activate.

“ftp://<empty>/<folder>”

This box allows the administrator to determine the file location within the FTP site.

If you have not entered a FTP server, the above will be left <empty>.

To setup the FTP server, click “Edit” to go to the Email / FTP Page. Once you have entered the FTP server, login name and password, click “Apply” and then Click on “Motion Detect” to return here.

Enter a directory or folder name in <folder>. Click “Apply” when done.

“System Defined / User Defined”

The administrator can also determine to either have the system automatically assign the filenames for the pictures saved. Or assign these filenames.

“Filename”


Give the motion detected JPG images a standard filename prefix, to be followed by looping number suffix.

“Loop from ## to ##”

This will determine the number of suffixes preceding the above filename. Once the last number is reached, the first file will be replaced by the most current image.

“Digits”

This will determine the number of digits assignable for the above number suffix. The administrator can choose to assign between 1 to 6 digits.

Click  for an example.

“Send Email”





To send an email notification of Motion Detection with image, choose “Yes”, otherwise choose “No”


“Email Server”

The administrator will have to set this up. Otherwise, click “Edit” to go to the Email / FTP Page to make the necessary configuration. Click on Motion Detection to return here.

“Recipient” & “Email Address Book”

The administrator can determine who shall receive email notification. To add to the recipient list, either double click on the email in the address book or click

 . To add all the email address at once, click  . To remove an entry click  , or  to remove all entries from the recipient list.

Click  to confirm and save the above settings.

2.4.3 Image Recording

Image recording allows the user to receive an image to either their email account or to a FTP server. The images will be sent over a predetermined interval and a certain period.

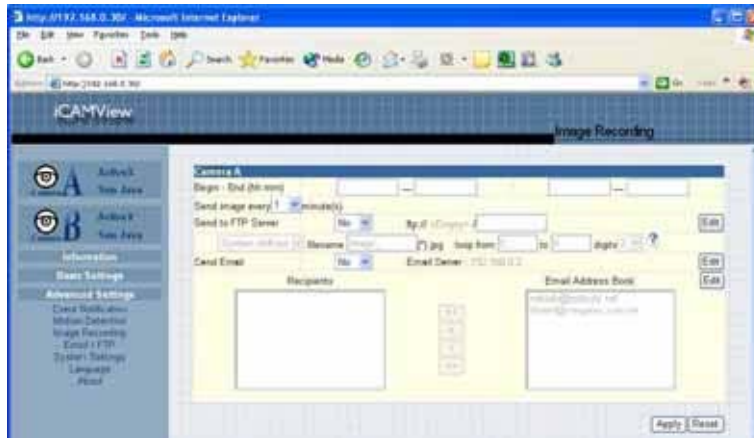


Fig.37 iCAMView Image Recording Page

i. Camera A (or Camera B)

“Begin – End (hh:mm)”

The administrator can determine up to 2 time slots when Image Recording is active. The time is in 24hrs format.

“Send image every ## minute(s)”

The administrator can determine the exact interval at which iCAMView capture and send an image. Choose among 1, 3, 5, 7 and 10 minutes.

“Send to FTP Server” & “Send Email”

This is similar to the function available in Motion Detection Page. Please refer to section 2.4.2 for details.

2.4.4 E-mail / FTP

This section sets up the necessary Email and FTP server information. The administrator will have to enter a valid Account Name and Password to the Email server and/or FTP server. This information is necessary to allow email notification and ftp file sending features in Advanced Settings.

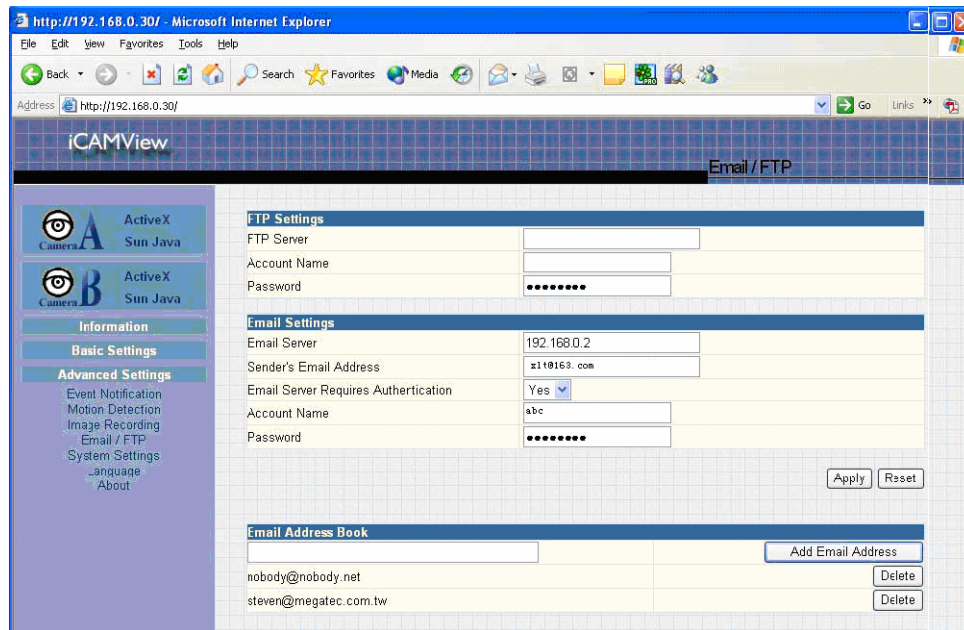


Fig.39 iCAMView Email / FTP Page

i. FTP Settings

“FTP Server”

The administrator will have to enter the FTP server address here.

“Account Name”

Enter the FTP account name here

“Password”

Enter the corresponding password.

Click “Apply” to save the above settings.

ii. Email Settings

“E-mail Server”

The administrator will have to enter the Email server address here.

“Sender’s Email Address”

This will determines iCAMView’s Email address.

“Email Server Requires Authentication”

If set to “YES”, the administrator will have to provide the account name and password in order to access the Email server. Otherwise, enter “NO”.

“Account Name”

Enter the account name or login name to the Email server.

“Password”

Enter the password for the above account name.

Click “Apply” to save the above changes.

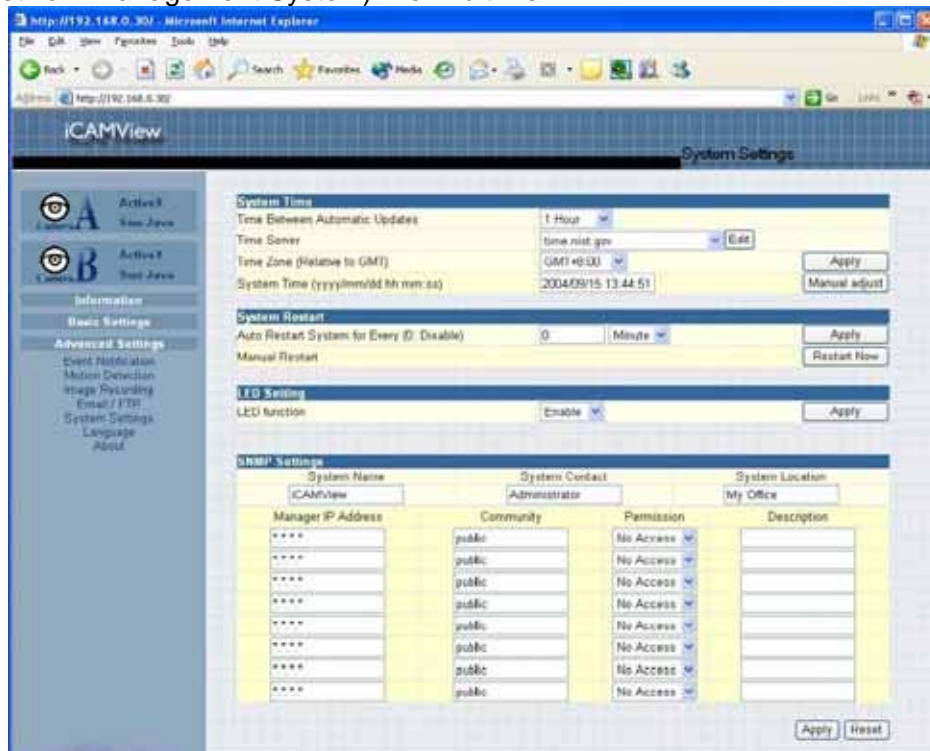
iii. Email Address Book

Enter an Email address in the box provided and click “Add Email Address”. The new email address will be added to the list. The administrator can store up to 20 email addresses here.

To delete an Email address, just press “Delete”.

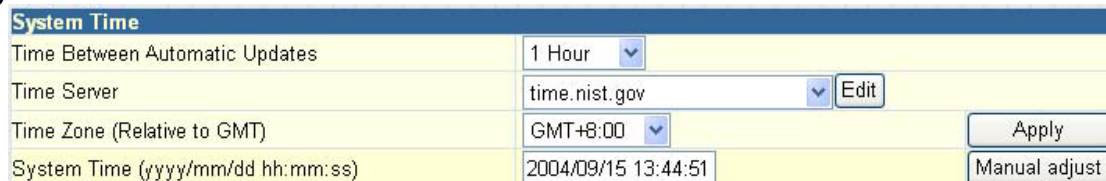
2.4.5 System Settings

This page allows the administrator to set iCAMView SNMP settings so it can be used by a NMS (Network Management System) like iMultiView.



The screenshot shows the iCAMView System Settings page. The left sidebar has a navigation menu with links: ActiveX, Basic Settings, Advanced Settings, Event Notification, Motion Detection, Image Retention, Email / FTP, System Settings, Language, and About. The main content area is titled 'System Settings' and contains several sections: 'System Time' with fields for 'Time Between Automatic Updates' (1 Hour), 'Time Server' (time.nist.gov), 'Time Zone (Relative to GMT)' (GMT+8:00), and 'System Time' (2004/09/15 13:44:51); 'System Restart' with 'Auto Restart System for Every (0) Disable' and 'Manual Restart'; 'LED Setting' with 'LED function' set to 'Enable'; and 'SNMP Settings' with a table for 'System Name', 'System Contact', 'System Location', 'Manager IP Address', 'Community', 'Permission', and 'Description'. The table has 8 rows, all with 'public' community and 'No Access' permission.

i. System Time



The close-up shows the 'System Time' section. It includes a dropdown for 'Time Between Automatic Updates' (1 Hour), a text field for 'Time Server' (time.nist.gov) with an 'Edit' button, a dropdown for 'Time Zone (Relative to GMT)' (GMT+8:00) with an 'Apply' button, and a text field for 'System Time (yyyy/mm/dd hh:mm:ss)' (2004/09/15 13:44:51) with a 'Manual adjust' button.

Fig.41 System Time

“Time Between Automatic Updates”

The administrator can set an interval for time synchronization. Select either 1, 3, 12 hours or 1, 10 & 30 days.

“Time Server”

Choose the nearest Time Server to your iCAMView location. The administrator can choose from the list of a maximum of 30 Time Servers.

To add a new Timer Server the administrator must first make space by deleting some Time Servers. Once this is done, the add dialog box will appear as below. Click “Back” to return to the System Settings Page.

Time Server	
time.nist.gov	Delete
time.windows.com	Delete
ntp0.cs.mu.OZ.AU	Delete
ntp1.cs.mu.OZ.AU	Delete
ntp1.pads.ufrj.br	Delete
clock.uregina.ca	Delete

Fig.42 List of Time Server

“Time Zone (Relative to GMT)”

Select the appropriate time zone for your area. Click “Apply” to save.

“System Time (yyyy/mm/dd hh:mm:ss)”

This section is to manually set iCAMView System Time. The format is pre-determined to: yyyy/mm/dd hh:mm:ss. Click “Manual Adjust” to save any manual changes.

ii. System Restart

System Restart	
Auto Restart System for Every (0: Disable)	0 Minute Apply
Manual Restart	Restart Now

Fig.43 Auto Restart setting

“Auto Restart System Every”

The administrator can choose to restart iCAMView at certain intervals (choose between minutes and hours only). This will ensure that iCAMView will work smoothly. Click “Apply” to save changes.

“Manual Restart”

Click “Restart Now” to restart the system immediately.

iii. LED Settings

LED Setting	
LED function	Enable Apply

“LED function”

The administrator can enable or disable the LED (except the Power LED) on iCAMView here. Click “Apply” to save settings.

iv. SNMP Settings

SNMP Settings			
System Name		System Contact	
iCAMView		Administrator	
System Location		My Office	
Manager IP Address	Community	Permission	Description
****	public	No Access	
****	public	No Access	
****	public	No Access	
****	public	No Access	
****	public	No Access	
****	public	No Access	
****	public	No Access	
****	public	No Access	

"System Name"

This is to give iCAMView a name identifiable in a SNMP network.

"System Contact"

This is to give the administrator a name.

"System Location"

This is to set iCAMView location.

"Manager IP Address"

This set the IP address where the administrator can manage iCAMView from. It is valid for up to 8 IP addresses. To manage iCAMView from any IP addresses leave it as *.*.*.*.

"Community"

This is to set a Community name for NMS. The community name has to be the same as that set in NMS.

"Permission"

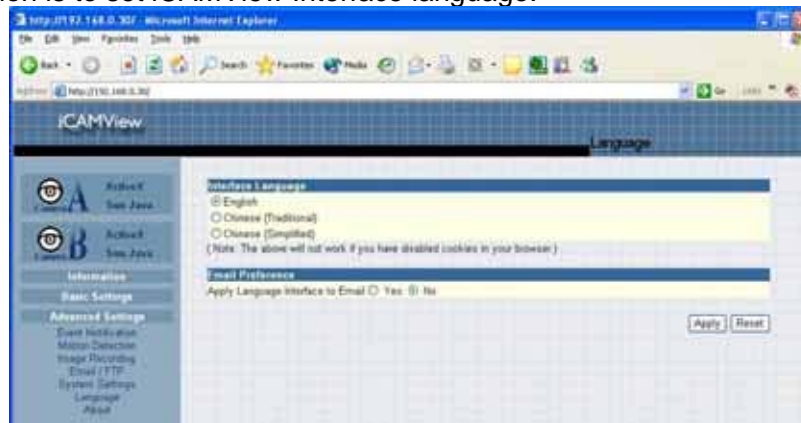
This is to set the administrator's authority. Options are Read, Read/Write, and No Access.

"Description"

This is for an administrator to make notes.

2.4.6 Language

Use this section is to set iCAMView Interface language.



i. Interface Language

At the moment, the administrator can only choose between; English, Chinese (Traditional) and Chinese (Simplified).

ii. Email Preference

Click "Yes" to apply language interface to Email notification.

2.4.7 About

The administrator can use this section to check firmware information, save/restore settings, upgrade firmware and see manufacturer's details.

i. About

This section gives crucial information about iCAMView's Firmware Version, Hardware Version and Serial Number. These are required information for service calls.

ii. Save / Restore Settings

“Save current Configuration”

Click “Save” to save the current settings and configuration to your PC. The text file will have a default format of YYYY_MMDD_####.cfg. The administrator can change this, if necessary.

“Restore previous configuration”

This function is only available if a setting has been saved initially. Browse to the location where the file is saved and click “Restore”

“Reset to factory default”

This function will reset all settings to its default value.

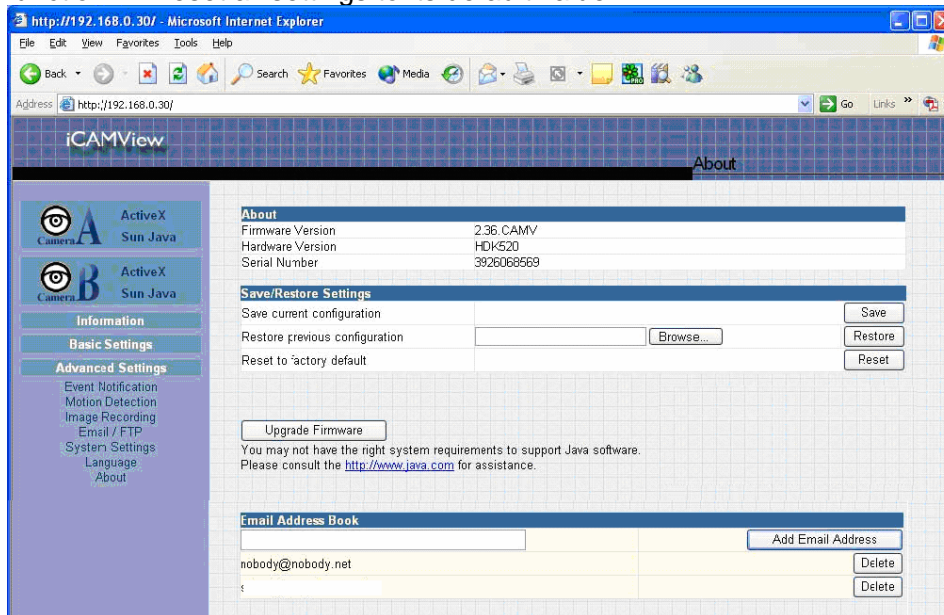


Fig.44 iCAMView About Page

Chapter 6: iMultiView

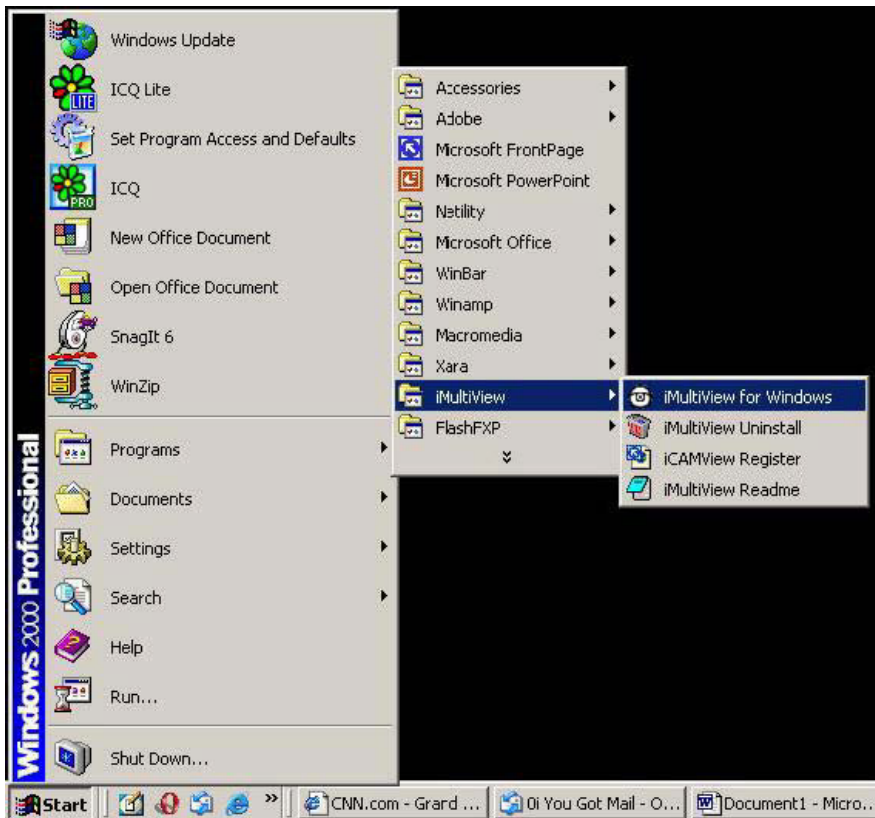
iMultiView is a program to manage multiple iCAMViews in a network. It is able to detect the IP's of all the iCAMViews installed, and display them in a list form for easy management.

Section 1. Installing iMultiView

Click on setup.exe and follow the installation wizard

After installation, there will be a iMultiView group in the Windows Start group

Click “iMultiView” “iMultiView for Windows” to start using iMultiView.



Section 2. Using iMultiView

After the iMultiView program start up the following main windows will be displayed.

iMultiView						
Device View System Help						
Enumerate	Add Device	Delete D...	Setting	Monitor	View	Event Log Options
Ip Address	Port	Camera	Host Name	Startup Time	Manager	Location
192.168.0.31	9001	Camera A	CamView	3-21-48:2	Administrator	My Office
192.168.0.30	9001	Camera A	CamView	4-21:16:59	Administrator	My Office1

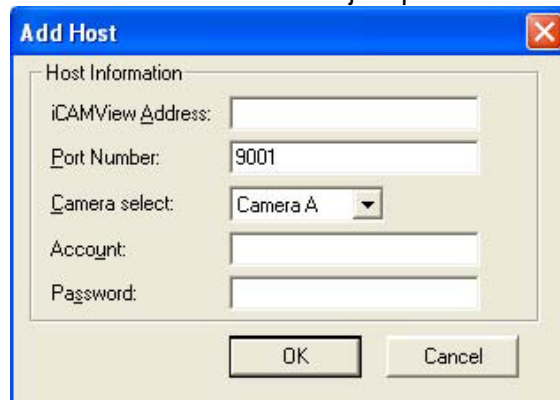
2.1 Device



Start iMultiView and press the "Enumerate" button, iMultiView will start a search for all the iCAMView on network and list them in the main window.



Manually adds the iCAMView to be monitored. Enter the assigned iCAMView IP Address. Port Number by default is 9001. You will have to enter the account and password if one has been set earlier. Otherwise just press “OK”.



The 'Add Host' dialog box contains the following fields:

- Host Information:
- iCAMView Address: [Text Field]
- Port Number: [Text Field, value: 9001]
- Camera select: [Dropdown Menu, value: Camera A]
- Account: [Text Field]
- Password: [Text Field]
- Buttons: OK, Cancel

Once detected, the following will show in the main window:

Host Address	Port	Camera	Host Name	Startup Time	Manager	Location
 192.168.0.30	9001	Camera A	CamView	1-7:11:26	Administrator	My Office

This shows that the camera is online and active.

Host Address	Port	Camera	Host Name	Startup Time	Manager	Location
 192.168.0.31	9001	Camera A	CamView	1-0:55:15	Administrator	My Office

This shows that the camera is off-line

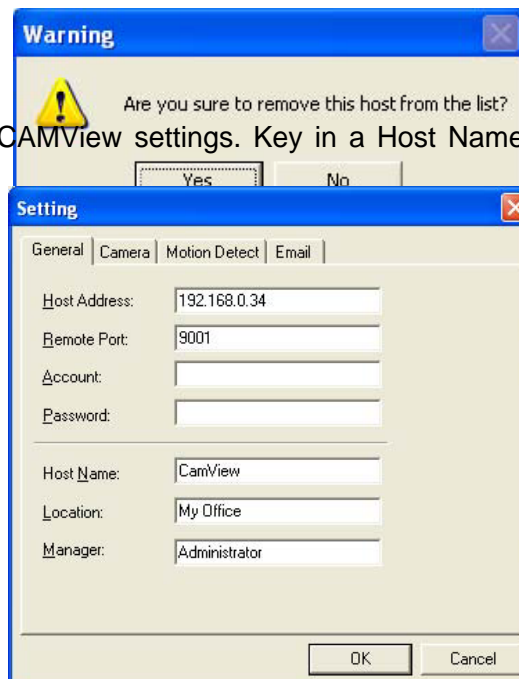


Highlight the iCAMView to be deleted from iMultiView's list. Click “Yes” to confirm deletion of selected iCAMView.

:



Display the General iCAMView settings. Key in a Host Name and Location for the camera.



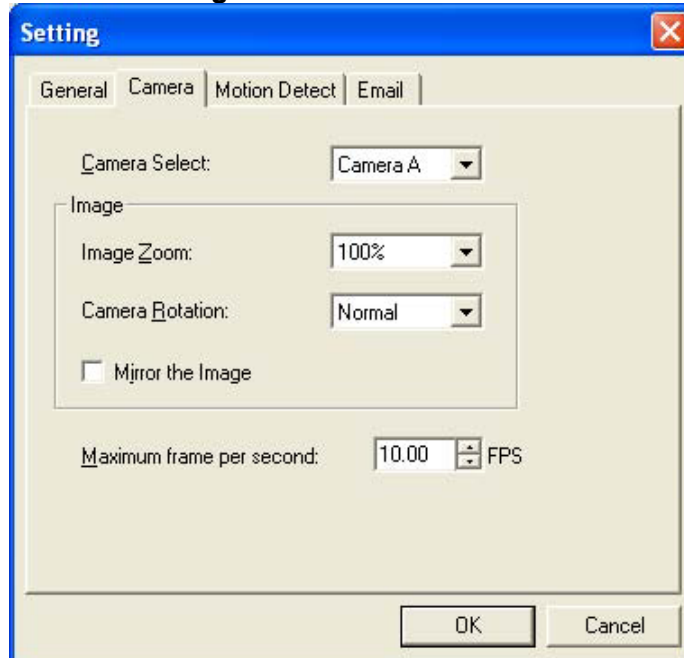
The 'Warning' dialog box contains:

- Warning icon
- Text: Are you sure to remove this host from the list?
- Buttons: Yes, No

The 'Setting' dialog box contains the following tabs and fields:

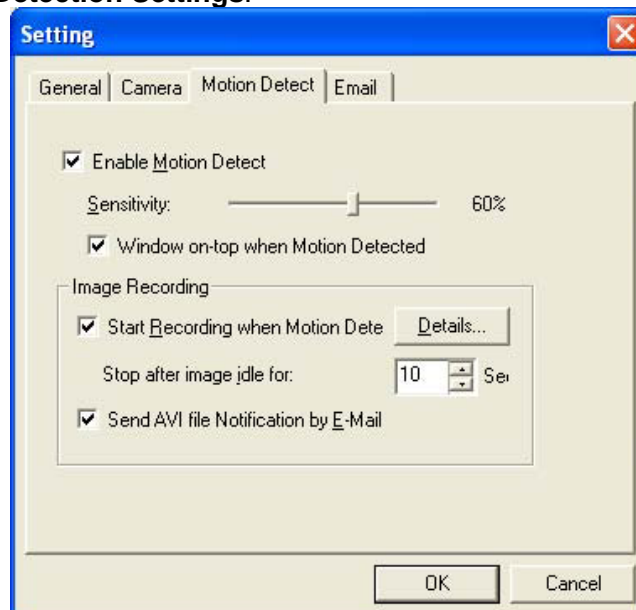
- Tabs: General, Camera, Motion Detect, Email
- General tab fields:
 - Host Address: [Text Field, value: 192.168.0.34]
 - Remote Port: [Text Field, value: 9001]
 - Account: [Text Field]
 - Password: [Text Field]
 - Host Name: [Text Field, value: CamView]
 - Location: [Text Field, value: My Office]
 - Manager: [Text Field, value: Administrator]
- Buttons: OK, Cancel

Display the current Camera settings.



- | | |
|---------------------------|---|
| Camera Select: | Select either camera A or B |
| Image Zoom: | Resize the window to between 25% and 200% |
| Camera Rotation: | Rotate the image if necessary |
| Mirror the Image: | To mirror the image. |
| Maximum frame per second: | Select from 0.01 fps to a maximum of 30.00 fps. |

Display the Motion Detection Settings.



Enable Motion Detect: Click the checkbox to enable Motion Detection.
Note: This function requires the Camera Window be active. Click “Monitor” to activate the Window.
Sensitivity: Choose from 0% to 100% (very sensitive)

Image Recording

Click Start Recording when Motion Detected to enable the feature. Click the “Details..” button for the following option;

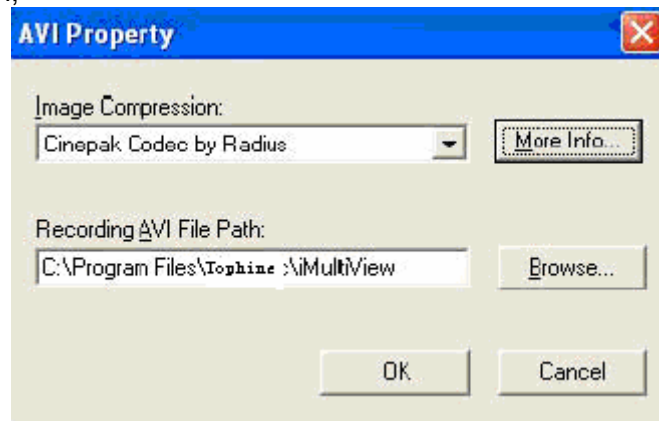
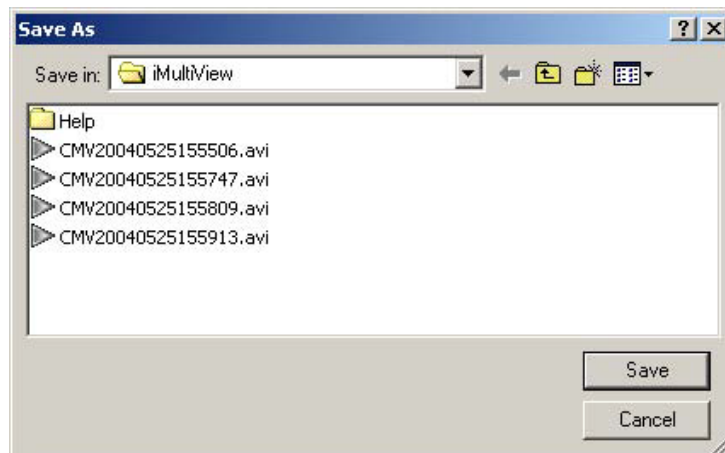


Image Compression: Choose from the list of available compressions.
Note: This list is dependent on the Codec that is available / installed on the local PC.

Recording AVI File Path: Location where the file will be recorded to. By default, it is recorded to c:\Program Files\Tophine \iMultiView.
Click “Browse” to change the file location.

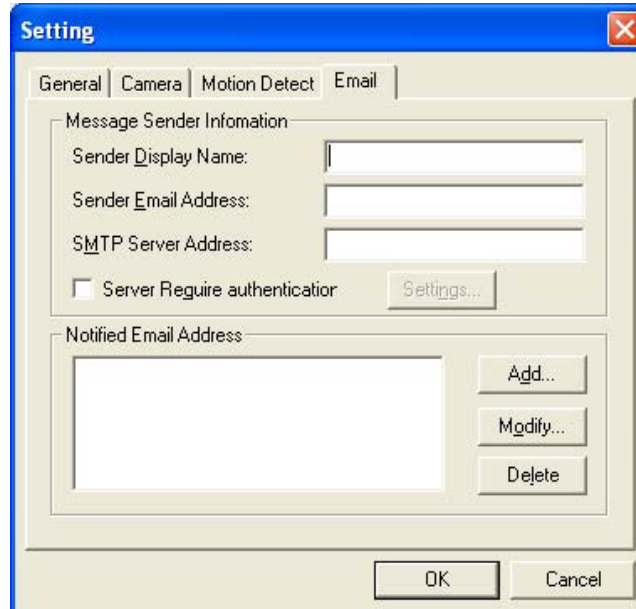


Recorded files are save using the following file extension;
CMV[year][month][date][hour][minute][seconds]. The time here denote the record start time. **Note:** Use the “Detail View” to check the record stop time. You can change the display view or add a new folder here.

Stop after idle for: Set the value between 1 to 100 seconds

Send AVI file Send an AVI file via email in the event any motion is detected.
Notification by Email:

Configure Settings for Email Notification

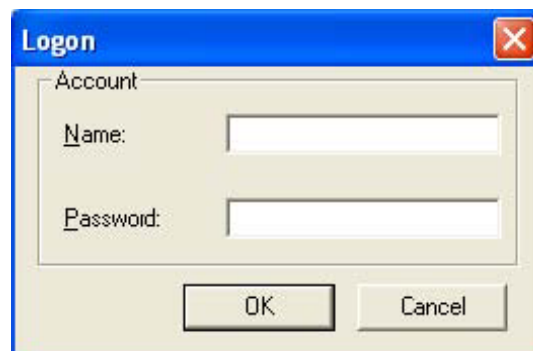


The 'Setting' dialog box has four tabs: General, Camera, Motion Detect, and Email. The 'Email' tab is selected. It contains two main sections: 'Message Sender Information' and 'Notified Email Address'. The 'Message Sender Information' section includes three text input fields: 'Sender Display Name:', 'Sender Email Address:', and 'SMTP Server Address:'. Below these is a checkbox labeled 'Server Require authentication' and a 'Settings...' button. The 'Notified Email Address' section features a large empty list box with three buttons to its right: 'Add...', 'Modify...', and 'Delete'. At the bottom of the dialog are 'OK' and 'Cancel' buttons.

You will need to configure the “Message Sender Information” in order for iCAMView to send emails.

Server Require Authentication

Click “settings...”

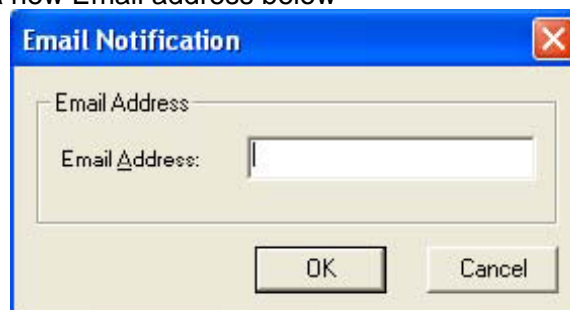


The 'Logon' dialog box has a single tab labeled 'Account'. It contains two text input fields: 'Name:' and 'Password:'. Below these fields are 'OK' and 'Cancel' buttons.

Enter your Account Name and Account Password if your Server Requires Authentication.

Notified Email Address

Click “Add...” and enter a new Email address below



The 'Email Notification' dialog box has a single tab labeled 'Email Address'. It contains one text input field labeled 'Email Address:'. Below the field are 'OK' and 'Cancel' buttons.

Click “Modify...” to modify the entered Email Address

Click “Delete” to remove an email address from the notification list.



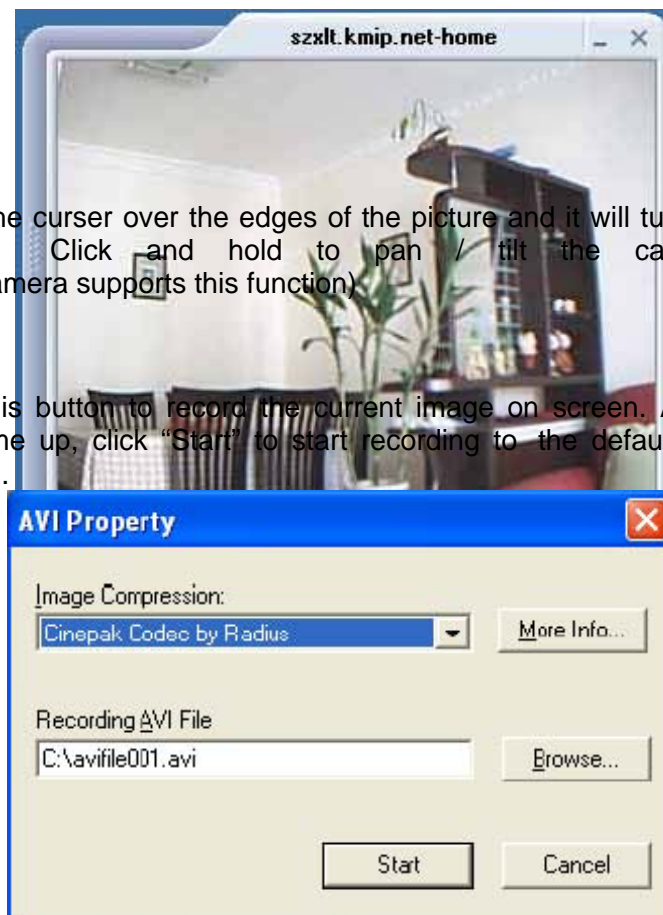
Highlight the iCAMView in the main windows display, and click “Monitor” to view the video stream.

:

Move the cursor over the edges of the picture and it will turn into an arrow. Click and hold to pan / tilt the camera (if the camera supports this function)



Click this button to record the current image on screen. A window will come up, click “Start” to start recording to the default file and location.



Flip the image vertically



Rotate Left, Rotate Right



Click this to bring up the Setting windows.



Click this to switch to full screen view. Double click to switch back to current view.



Click and drag to resize the window and it's contents.



Click the left side of the viewing window to bring out more control features.



Clicking once will cause the camera to pan left by 1 deg.

Click and hold and the camera will pan increasingly faster to the left.



Clicking once will cause the camera to pan right by 1 deg.

Click and hold and the camera will pan increasingly faster to the left.



Click once to tilt the camera up by 1 deg.

Click and hold and the camera will tilt increasingly faster upwards.



Click once to tilt the camera down by 1 deg.

Click and hold and the camera will tilt increasingly faster downwards.



Auto Pan (if camera which support this function)

2.2 View



Large icon display

Ip Address	Port	Camera	Host Name	Startup Time	Manager	Location
192.168.0.31	9001	Camera A	CamView	3-22:3:8	Administrator	My Office
192.168.0.30	9001	Camera A	CamView	4-21:32:6	Administrator	My Office1

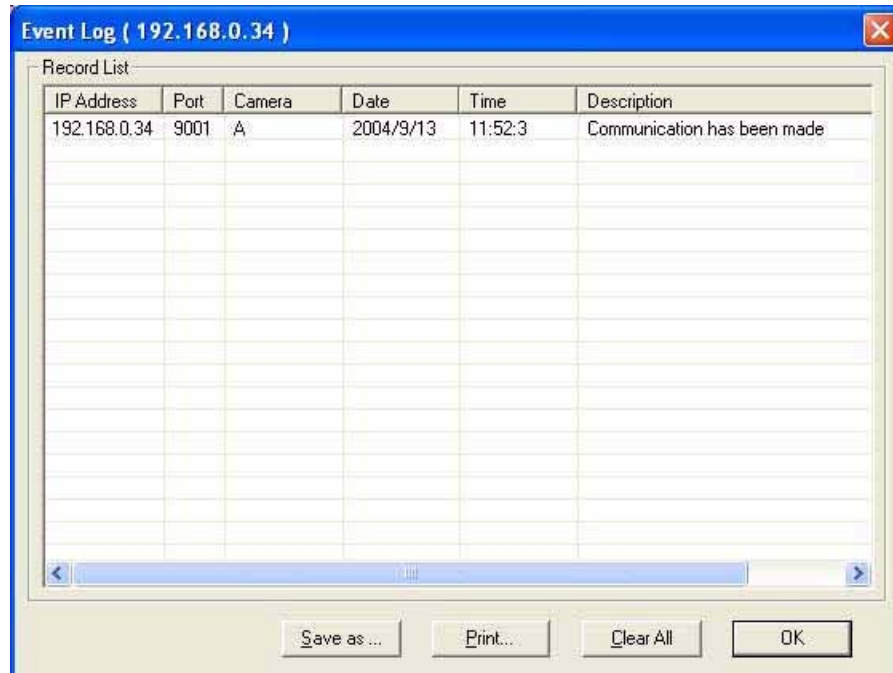
Small icon display

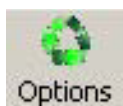
2.3 System



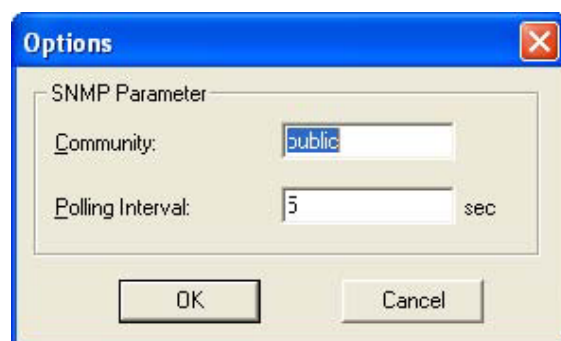
Display the Event Log (IP address, Port, date, Time, description of event) of the selected iCAMView.

:





Set the SNMP Parameter.



2.4 Drag-and-Drop Feature

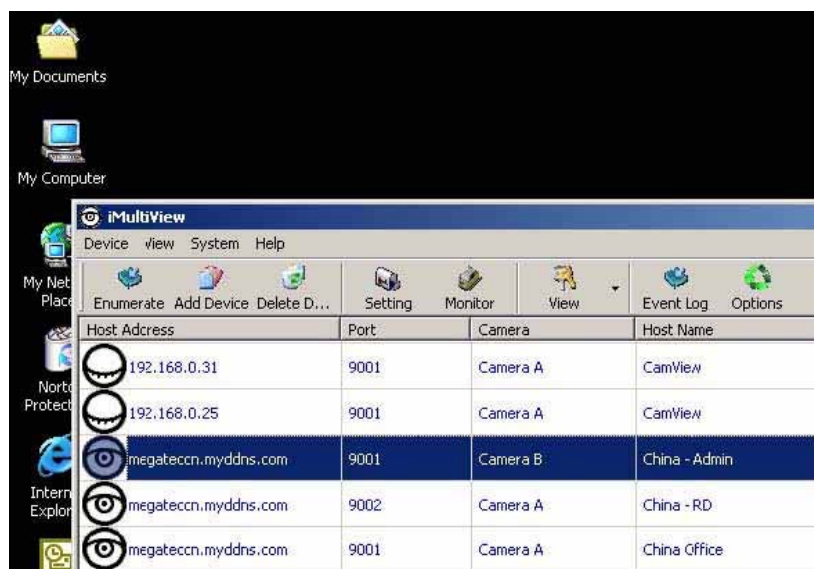
iMultiView also feature a “Drag-and-Drop to Desktop” feature. Double click the icon on your desktop to view the images immediately. Useful if you are monitoring multiple cameras at a time.

Step 1:

Select the camera location of your choice.

Step 2:

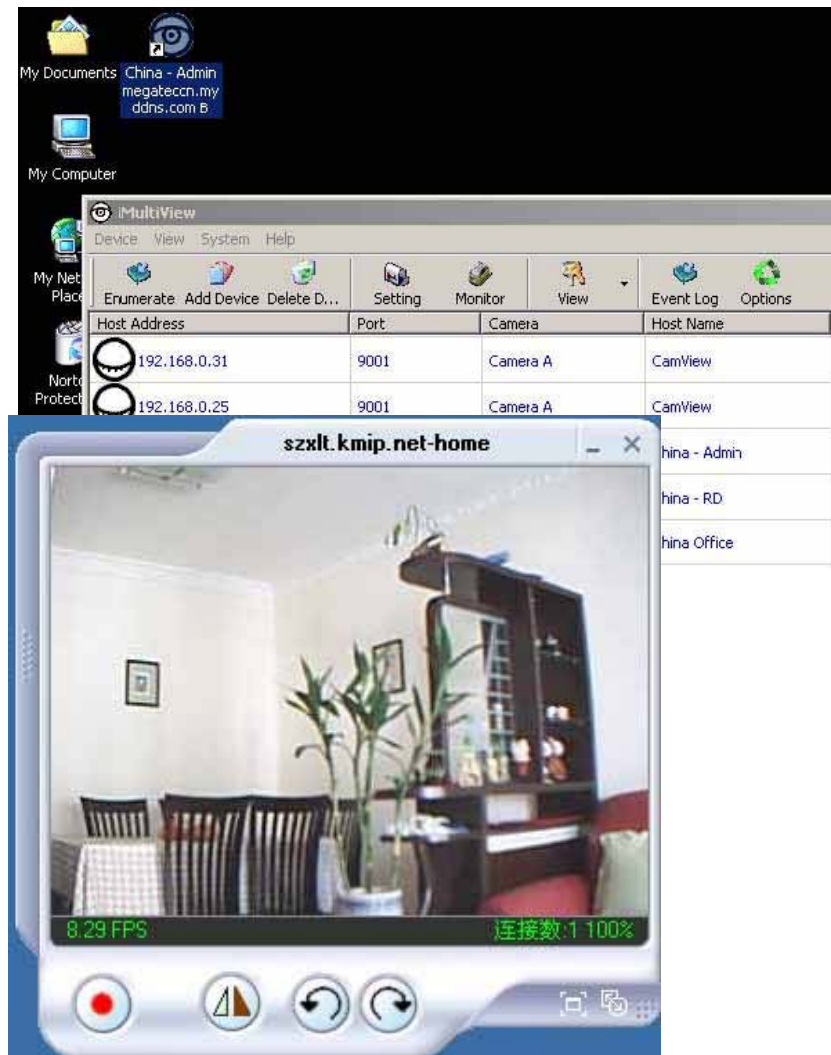
Left click, hold and drag it onto the desktop.



Release the mouse button anywhere on the desktop and a new desktop icon is created there.

Step 4:

Double click on the icon on the desktop, to view the images.



Appendix A: Router Configuration

The following section describes the initial configuration of the router and port forwarding for your router. If your router is not listed here, please refer to the manufacturer's website for assistance with configuring your router to work with iCAMView.

Port Forwarding for iCAMView

iCAMView requires certain ports to be open on your router to allow other computers on the Internet to "see" it on your internal network. Normally, your router will have the less common ports disabled or blocked by the router's built-in firewall. In order for the iCAMView applications to work properly and not be blocked, the firewall settings need to be configured. In each instance there will be a trigger port and incoming port(s), where traffic on the trigger port tells the Firewall to open the incoming ports. The iCAMView

require that TCP Port 80 and UDP 9001 (default settings) be opened to the Internet. TCP Port 80 is used for accessing the camera's homepage and UDP Port 9001 is used for authentication and video streaming.

If your Internet service Provider blocks port 80/9001, you'll need to reconfigure your camera and router to other ports such as 81/9002, 82/9003, etc. To change the port settings on the camera, you'll need to use Netility.

Follow the steps below to configure your router, depending on the router manufacturer and model. If your particular router manufacturer or model is not listed below, please contact your router manufacturer for further assistance in configuring the router.

The Following Router manufacturers and models are included in this document:

Brand	Model	Description
3Com	3C857-US	OfficeConnect Cable/DSL Gateway
	3CRWE52196	OfficeConnect Wireless Cable/DSL Gateway
Belkin	F5D6230-3	Wireless Cable/DSL Gateway Router
	F5D7230-4- 54g	Wireless DSL/Cable gateway Router
D-Link	DI-604/DI-614+/DI-624	-
	DI-704/704P	-
	DI714	-
	DI-714P+	-
Dell	TrueMobile 2300 Wireless Broadband Router	-
Linksys	BEFSR41	EtherFast Cable/DSL Router
	BEFSX41	Instant Broadband EtherFast Cable/DSL Firewall Router with 4-Port Switch/VPN EndPoint
	BEFW11S4	Wireless Access Point Router with 4-Port Switch – Version 2
Microsoft	MN-100	Wired Base Station
	MN-500	Wireless Base Station
NETGEAR	RP614	Web Safe Router
	MR814	Wireless Router
	MR314	Cable/DSL Wireless Router
	FVS318	ProSafe VPN Firewall
Proxim	ORiNOCO BG-2000 Broadband Gateway	-
Siemens	SpeedStream 2602	2-Port DSL/Cable Router
	SpeedStream 2623	Wireless DSL/Cable Router

SMC Wireless	SpeedStream 2604	4-port DSL/Cable Router
	SpeedStream 2624	Wireless DSL/Cable Router
	SMC2404WBR	Barricada Turbo 11/22 Mbps
	SMC7004VBR	Cable/DSL Broadband Router
	SMC7004CWBR	Barricada Cable/DSL Broadband Router
		Barricada Wireless Cable/DSL Broadband Router
	SMC7004AWBR	Barricade 4-port 11Mbps Wireless Broadband Router

3Com (<http://www.3com.com>)

3C857-US – OfficeConnect Cable/DSL Gateway

3CRWE52196 – OfficeConnect Wireless Cable/DSL Gateway

1. Log into your router.
2. On the main page, select **Firewalls** on the left side of the page.
3. Select the **Virtual Servers** tab at the top of the page.
4. Click **New** on the right side of the page to open the Virtual Server Settings dialog box.
5. Type in the camera's IP address in the Server IP address text box. (Look on the iCAMView IP address LCD display for the last 3 digits of the camera's IP address.)
6. Under Local Service, select **Custom**.
7. Under Custom Service Name, type in: **iCAMView**.
8. Under Specify Custom Service Ports, type in: **80, 9001**.
9. Click **Add** to save the settings. The iCAMView should now be configured to work with your router and be accessible from the internet.

Belkin (<http://www.belkin.com>)

F5D6230-3 – Wireless Cable/DSL Gateway Router

1. Log into your router.
2. On the main page, select **Virtual Server** on the left side of the page under the Securit section.
3. Enter the following information on the page:

Line #1:

Private IP:	Type in the camera's IP address . (Look on the iCAMView IP Address LCD display for the last 3 digits of the camera's IP address)
PrivatePort:	80
Type:	TCP
Public Port:	80

Line #2

Private IP: Type in the **camera's IP address**. (Look on the iCAMView IP Address LCD display for the last 3 digits of the camera's IP address)
Private Port: 9001
Type: UDP
Public Port: 9001

4. Click **Enter** to save the settings. The iCAMView should now be configured to work with your router and be accessible from the internet.

F5D7230-4 – 54g Wireless DSL/Cable gateway Router

1. Log into your router.
2. On the main page, select **Firewall** on the left side of the page.
3. Under Firewall, select **Virtual Servers**.
4. Enter the following information on the page:

Line #1

Enable: Checked in
Description: iCAMView - Webpage
Internet Port: 80 to 80
Type: TCP
Private IP address: Type in the **camera's IP address**. (Look on the iCAMView Address LCD display for the last 3 digits of the camera's IP address)
Private Port: 80 to 80

Line #2

Enable: Checked in
Description: iCAMView – Camera
Internet Port: 9001 to 9001
Type: UDP
Private IP address: Type in the **camera's IP address**. (Look on the iCAMView Address LCD display for the last 3 digits of the camera's IP address)
Private Port: 9001 to 9001

5. Click **Apply Changes** to save the settings. The iCAMView should now be configured to work with your router and be accessible from the internet.

D-Link (<http://www.dlink.com>)

DI-604/DI – 614+/DI-624

1. Log into your router
2. On the main page, click on **Advanced** at the top of the page.
3. On the left side of the page, click on **Virtual Server**. Note: Make sure DMZ host is disabled. If DMZ is enabled, it will disable all Virtual Server entries.

4. Enter the following information on the page:

Enable/Disable: Enabled

Name: iCAMView - Webpage

Private IP: Type in the **camera's IP address**, for example: 192.168.0.5

Protocol Type: TCP

Private Port: 80

Public Port: 80

Schedule: Always

5. Click **Apply** to save the settings.

6. Enter the following information on the page:

Enable/Disable: Enabled

Name: iCAMView - Webpage

Private IP: Type in the **camera's IP address**, for example: 192.168.0.5

Protocol Type: UDP

Private Port: 9001

Public Port: 9001

Schedule: Always

7. Click **Apply** to save the settings. iCAMView should now be configured to work with your router and be accessible from the internet.

DI-704/704P

1. Log into your router

2. On the main page, click on **Advanced** at the top of the page.

3. On the **Virtual Server** page, enter the following information;

For ID#1:

Service Port: 80

Service IP: Type in the **camera's IP address**, for example: 192.168.0.5

Enabled/Disabled: Enabled

For ID#2

Service Port: 9001

Service IP: Type in the **camera's IP address**, for example: 192.168.0.5

Enabled/Disabled: Enabled

4. Save your settings. iCAMView should now be configured to work with your router and be accessible from the internet.

DI714

1. Log into your router

2. On the main page, click on **Advanced** at the top of the page.

3. Click on **Virtual Server Settings** on the left side of the page.

4. Enter the camera's IP address into the Internal IP field. Under Service, select

All and then click **Submit** to save your settings. iCAMView should now be configured to work with your router and be accessible from the internet.

DI-714P+

1. Log into your router
2. On the main page, click on **Advanced** at the top of the page.
3. On the left side of the page, click **Virtual Server**.
4. Enter the following information on the page:

For ID#1:

Service Port: 80
Service IP: Type in the **camera's IP address**, for example: 192.168.0.5
Enabled/Disabled: Enabled

For ID#2

Service Port: 9001
Service IP: Type in the **camera's IP address**, for example: 192.168.0.5
Enabled/Disabled: Enabled

5. Click **Apply** to save your settings. iCAMView should now be configured to work with your router and be accessible from the internet.

Dell (<http://www.dell.com>)

TrueMobile 2300 Wireless Broadband Router

1. Log into your router
2. On the main page, click on **Advanced Settings** at the top of the page.
3. Go to the Port Forwarding section and select Custom Port Forwarding Settings.
4. Check the **Enable** box.
5. Enter the desired name or description in the **Service Name** field such as **iCAMView Web**.
6. In the **Incoming Ports** field, specify port **80** in both boxes.
7. In the **Destination IP Address** field, enter the IP address of iCAMView
8. In the **Destination MAC Address** field, enter the MAC address of iCAMView. You can find the camera's MAC address by either looking at the MAC address sticker on the bottom of the camera or by utilizing iCAMView setup utility to display the MAC address.

Linksys (<http://www.linksys.com>)

BEFSR41 – EtherFast Cable/DSL Router

BEFSX41 – Instant Broadband EtherFast Cable/DSL Firewall Router with 4-Port Switch/VPN EndPoint

BEFW11S4 – Wireless Access Point Router with 4-Port Switch – Version 2

-
1. Log into your router
 2. On the router's main page, click on **Advanced** at the top of the page.
 3. On the next page, click on **Forwarding**.
 4. Enter the following information on the page:

Line #1:

Customized Applications: iCAMView – Webpage
Ext. Port: 80 to 80
Protocol: TCP
IP Address: Type in the **camera's IP address**, for example: 192.168.0.5

Enable: Checked in

Line #2:

Customized Applications: iCAMView – Camera
Ext. Port: 9001 to 9001
Protocol: UDP
IP Address: Type in the **camera's IP address**, for example: 192.168.0.5

Enable: Checked in

5. Click on **Apply** to save the settings. iCAMView should now be configured to work with your router and be accessible from the internet.

Microsoft (<http://www.microsoft.com/hardware/broadbandnetworking>)

MN-100 – Wired Base Station

MN-500 – Wireless Base Station

1. Log into your router
2. Open the Bass Station Management Tool, and then click **Security**.
3. On the Security menu, click **Port Forwarding**, and then click **Set up persistent port forwarding**.
4. In the Enable checkbox, check in the checkbox.
5. In the Description box, type a description of the server field such as:
iCAMView Web.
6. In the Inbound port boxes, type in: **80 – 80**. (i.e. from Port 80 to Port 80)
7. In the Type box, select the protocol as **TCP**.
8. In the Private IP address box, type in the **IP Address** of the iCAMView network camera. For example, type in: 192.168.0.5.
9. In the Private port boxes, these values are automatically filled in from Step 6 and should already show **80 – 80**.
10. On the next empty line, repeat steps 4-9, except this time the Description should be **iCAMView Cam** and the Inbound/Private port boxes should be **9001 – 9001** (UDP). The protocol and private IP address should be the same.
11. Click **Apply** to save the changes you have made. iCAMView should now be configured to work with your router and be accessible from the internet.

NETGEAR (<http://www.netgear.com>)

RP614 – Web Safe Router

MR814 – Wireless Router

1. Log into your router.
2. Click **Advanced -> Port Forwarding** on the left side of the page.
3. Click Add Customer Service.
4. Enter the following information on the page:
Service Name: iCAMView – Web
Starting Port: 80
Ending Port: 80
Server IP Address: Type in the **camera's IP address**, for example: 192.168.0.5

5. Click **Apply** to save the settings.
6. Enter the following information on the page:
Service Name: iCAMView – Cam
Starting Port: 9001
Ending Port: 9001
Server IP Address: Type in the **camera's IP address**, for example: 192.168.0.5
7. Click **Apply** to save the settings. iCAMView should now be configured to work with your router and be accessible from the internet.

MR314 – Cable/DSL Wireless Router

1. Log into your router.
2. Click **Advanced** on the left side of the page.
3. Click **Ports**.
4. Enter the following information on the page:
Line #1:
Starting Port: 80
Ending Port: 80
Server IP Address: Type in the **camera's IP address**, for example: 192.168.0.5
Line #2:
Starting Port: 9001
Ending Port: 9001
Server IP Address: Type in the **camera's IP address**, for example: 192.168.0.5
5. Click **Apply** to save the settings. iCAMView should now be configured to work with your router and be accessible from the internet.

FVS318 – ProSafe VPN Firewall

1. Log into your router.
2. On the main page, click on **Add Service** on the left side of the screen.
3. Click Add Customer Service.
4. In the **Name** field enter a name for the camera, for example: **iCAMView Web**:
Type: TCP
Start Port: 81
Finish Port: 81
5. Click **Apply** to save the settings.
6. There is a bug in the NETGEAR FVS318 1.4 firmware that does not record any entry that uses port 80. If you intend to use port 80, you will initially need to enter 81 for the Start and Finish port, and then edit the entry to port back to 80. Click on **Add Service** on the left side of the screen.
7. In the **Service Table** window select iCAMView Web and click **Edit Service**.
8. Change the **Start** and **Finish** port to **80**. Click **Apply**.
9. On the main page, click on **Add Service** on the left side of the screen and then click **Add Custom Service**. In the **Name** field enter a name for the camera, for example: **iCAMView Cam**.
Type: UDP
Start Port: 9001
Finish Port: 9001
10. Click **Apply** to save the settings.
11. On the main page, click on **Ports** at the side of the screen.
 - A. Click **Add**.
 - B. For Service Name select: iCAMView Web
 - C. Action: **ALLOW always**
 - D. Local Server Address: Enter the IP address of the camera
 - E. WAN Users Address: **Any**
 - F. Click **Apply**.
12. Click Add again.
 - A. For Service name select: **iCAMView Cam**
 - B. Action: **ALLOW always**
 - C. Local Server Address: Enter the IP address of the camera
 - D. WAN Users Address: **Any**
 - E. Click **Apply**.
13. Exit the router setup program. iCAMView should now be configured to work with your router and be accessible from the internet.
Proxim (<http://www.proxim.com>)

ORiNOCO BG-2000 Broadband Gateway

1. Log into your router.
2. On the router's main page, click on **Setup** at the top of the page.
3. On the left side of the page, click on **Advanced settings -> Port Forwarding**.
4. Check in the checkbox for **Enable Port Forwarding**.
5. Click **New** on the right side of the page.
6. Enter the following information on the page:

Global Port: 80

Local Address: Type in the **camera's IP address**, for example: 192.168.0.5

Local Port: 80

Type: TCP

7. Click **Save** to save the settings.
8. Click **New** on the right side of the page.

9. Enter the following information on the page.

Global Port: 9001

Local Address: Type in the **camera's IP address**, for example: 192.168.0.5

Local Port: 9001

Type: UDP

10. Click **Save** to save the settings.

11. Click **Restart** on the left side of the page to restart your router. iCAMView should now be configured to work with your router and be accessible from the internet.

Siemens (<http://www.speedstream.com>)

SpeedStream 2602 – 2-Port DSL/Cable Router

SpeedStream 2623 – Wireless DSL/Cable Router

SpeedStream 2624 – Wireless DSL/Cable Router

1. Log into your router.
2. After you are logged in, click on **Advanced Setup -> Virtual Servers**.
3. Enter the following information on the page:

Line #1:

Private IP: Type in the **camera's IP address**, for example: 192.168.0.5 (Look at iCAMView's IP Address LCD display for the last 3 digits of the camera's IP address)

Private Port: 80

Type: TCP

Public Port: 80

Line #2

Private IP: Type in the **camera's IP address**, for example: 192.168.0.5 (Look at iCAMView's IP Address LCD display for the last 3 digits of the camera's IP address)

Privateport: 9001

Type: UDP

Public Port: 9001

4. Click **Enter** to save the settings. iCAMView should now be configured to work with your router and be accessible from the internet.

SpeedStream 2604 – 4-port DSL/Cable Router

1. Log into your router.
2. After you are logged in, click on **Advanced Setup -> Virtual Servers**.
3. Under the Properties section, there are a few entries you'll need to add. Check in the checkbox for **Enable**.
4. Under the first box, next to the Enable checkbox, type in: **iCAMView Web**.
5. Under PC (Server), select your camera or the camera's IP address from the list. If the camera is not listed, select the link titled "My PC is not listed."
6. Leave Protocol as **TCP**.
7. Under Internal Port No type in: **80**
8. Under External Port No type in: **80**
9. Click on **Add** to save these settings.
10. Under the first box, next to the Enable checkbox, type in: **iCAMView Cam**.
11. Under PC (Server), select your camera or the camera's IP address from the list. If the camera is not listed, select the link titled "My PC is not listed."
12. Leave Protocol as **TCP**.
13. Under Internal Port No type in: **9001**
14. Under External Port No type in: **9001**
15. Click on **Add** to save these settings. iCAMView should now be configured to work with your router and be accessible from the Internet.

SMC (<http://www.smc.com>)

SMC2404WBR – Barricada Turbo 11/22 Mbps Wireless Cable/DSL Broadband Router

SMC7004VBR – Barricada Cable/DSL Broadband Router

SMC7004CWBR – Barricada Wireless Cable/DSL Broadband Router

1. Log into your router.
2. After you are logged in, click **NAT** on the left side of the page.
3. Click on **Virtual Server** on the left side of the page.

4. Enter the following information on the page:

Line #1:

Private IP: Type in the **camera's IP address**, for example: 192.168.0.5 (Look at iCAMView's IP Address LCD display for the last 3 digits of the camera's IP address)

Private Port: 80

Type: TCP

Public Port: 80

Line #2

Private IP: Type in the **camera's IP address**, for example: 192.168.0.5 (Look at iCAMView's IP Address LCD display for the last 3 digits of the camera's IP address)

Private Port: 9001

Type: UDP

Public Port: 9001

5. Click **Apply** to save the settings. iCAMView should now be configured to work with your router and be accessible from the Internet.

SMC7004AWBR – Barricade 4-port 11Mbps Wireless Broadband Router

1. Log into your router.

2. Click on **Virtual Server** on the left side of the page.

3. Enter the following information on the page:

For ID #1:

Service Port: 80

Private IP: Type in the **camera's IP address**, for example: 192.168.0.5 (Look at iCAMView's IP Address LCD display for the last 3 digits of the camera's IP address)

Enable: Checked in

For ID #2:

Service Port: 9001

Private IP: Type in the **camera's IP address**, for example: 192.168.0.5 (Look at iCAMView's IP Address LCD display for the last 3 digits of the camera's IP address)

Enable: Checked in

4. Click **Save** to save the settings. iCAMView should now be configured to work with your router and be accessible from the Internet.

Appendix B: Methods to Update iCAMView Firmware

You can update iCAMView's firmware using any of the following methods.

Method 1: Using Netility

-
- (1) Use “Download Firmware” function under Netility to update it

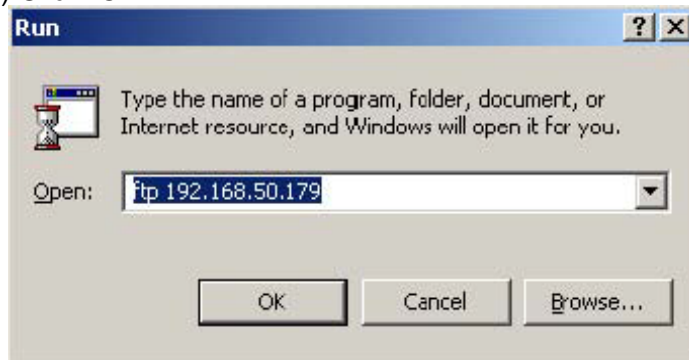
Method 2: Through iCAMView Web Page

- (1) Enter the iCAMView Web Page
(2) Goto “About”, click “update software” and you will be automatically linked to Tophine’s website for update.

Method 3: Using FTP

Windows FTP is another way to upload the latest firmware into iCAMView. You can also use other FTP client software to do this. In the following example, iCAMView IP address is 192.168.50.179

- (1) Click “Start” on Windows taskbar, then “Run..”, type in “ ftp 192.168.50.179 ”
(2) Click “OK”



- (3) The systems will requests for your User Name and Password. Enter “admin” for User Name and press “Enter”. The password is “Device Password” of Netility.

Once the User Name and Password is verified, the server will response with “230 OK” to indicate that Login is successful.

If you enter the wrong Username or Password, the server will response with “530 Not Logged in”.

- (4) FTP commands:

ls : This command request the server to list all files and sub-file in the current menu. User may finds out the firmware version of the iCAMView of its IP.

put <client’s file route> : This command ask the client to copy its specific file route to the Server point. Use this to upload the latest firmware to your iCAMView

quit : This command allow the user to logout and close the FTP connection.

Illustration: The picture shows, that the latest iCAMView firmware file uploaded from the local computer located in (c:\work\netagent\prjs\nag\2.32.DK520.bin) to the iCAMView with an IP address 192.168.50.179

```
C:\WINDOWS\system32\ftp.exe
Connected to 192.168.50.179.
220 Service ready for new user
User (192.168.50.179:(none)): admin
331 need password
Password:
230 OK
ftp> ls
200 Port command successful.
150 Opening ASCII mode data connection for file list.
2.32.DKS20.bin
226 Transfer complete.
ftp>
ftp> put c:\work\netagent\prjs\nag\2.32.DKS20.bin
200 Port command successful.
150 Opening data connection for 2.32.DKS20.bin
226 file received ok.
ftp>
ftp> 1040384 bytes sent in 3.28Seconds 317.00Kbytes/sec.
ftp> quit
name version new type OK
```

Method 4: Using IE Browser

This method uses IE to update the latest firmware. Open IE, then type in the account, password and iCAMView IP address to be updated in the following format, `ftp://<username>:<password>@<iCAMView IP address>`.

Once logged in, the current firmware and version will be displayed. Copy the latest firmware to here to complete the updating process.

There are two method to log in:

(a) **`ftp://admin:password@192.168.50.179`**

Enter the password that was set earlier using Netility.

Otherwise, enter iCAMView's default value:

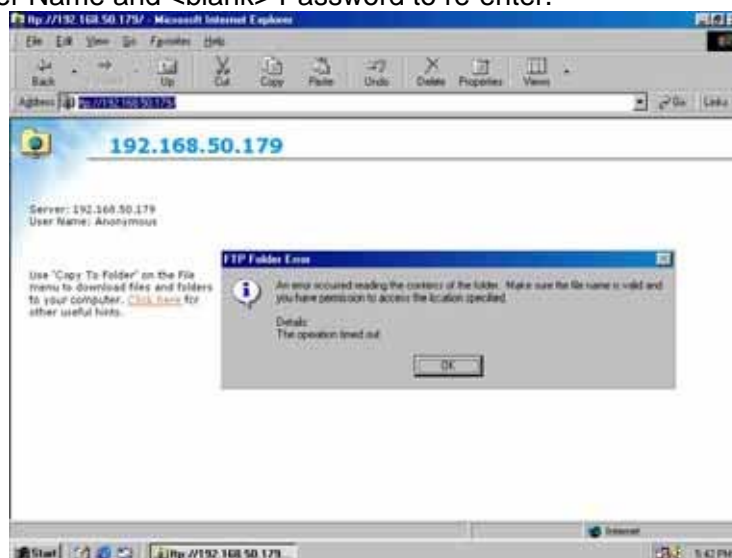
Username: admin

Password: <blank>

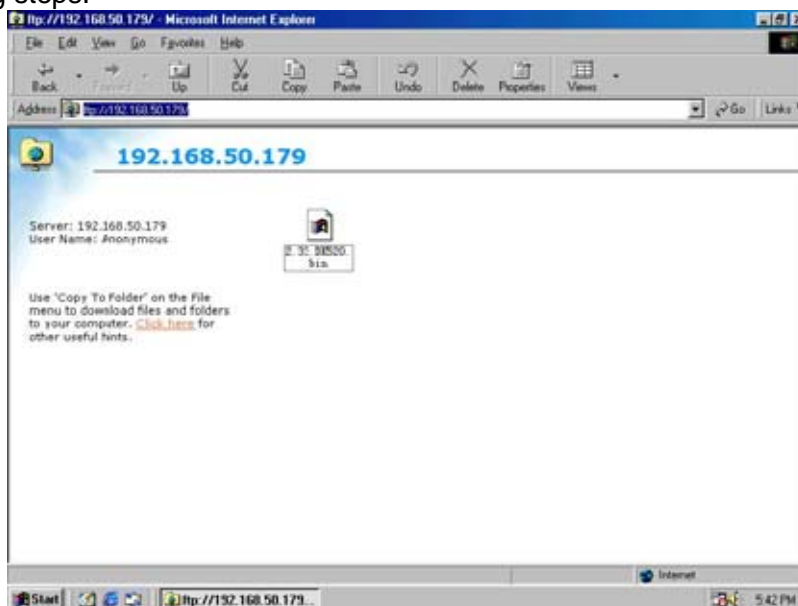
(example: <ftp://admin:@192.168.50.179>)

(b) **`ftp://192.168.50.179/`**

The follow error message will show, when the above is entered. Ignore it and select "Enter Identity" at the top left corner of file menu. Then enter "admin" as the User Name and <blank> Password to re-enter.



Once the connection has been established, the following window will be display. The user may then transfer the latest firmware here in order to complete the updating steps.



Appendix C: IP Address, Subnet and Gateway

This section discusses Communities, Gateways, IP Addresses and Subnet masking

Communities

A community is a string of printable ASCII characters that identifies a user group with the same access privileges. For example, a common community name is "public."

For security purposes, the SNMP agent validates requests before responding. The agent can be configured so that only trap managers that are members of a community can send requests and receive responses from a particular community. This prevents unauthorized managers from viewing or changing the configuration of a device.

Gateways

Gateway, also referred to as a router, is any computer with two or more network adapters connecting to different physical networks. Gateways allow for transmission of

IP packets among networks on an Internet.

IP Addresses

Every device on an Internet must be assigned a unique IP (Internet Protocol) address.

An IP address is a 32-bit value comprised of a network ID and a host ID. The network ID identifies the logical network to which a particular device belongs. The host ID identifies the particular device within the logical network. IP addresses distinguish devices on an Internet from one another so that IP packets are properly transmitted.

IP addresses appear in dotted decimal (rather than in binary) notation. Dotted decimal notation divides the 32-bit value into four 8-bit groups, or octets, and separates each octet with a period. For example, 199.217.132.1 is an IP address in dotted decimal notation.

To accommodate networks of different sizes, the IP address has three divisions – Classes A for large, B for medium and C for small. The difference among the network classes is the number of octets reserved for the network ID and the number of octets

reserved for the host ID.

Class	Value of First Octet	Network ID	Host ID	Number of Hosts
A	1-126	First octet	Last three octets	16,387,064
B	128-191	First two octets	Last two octets	64,516
C	192-223	First three octets	Last octet	254

Any value between 0 and 255 is valid as a host ID octet except for those values the InterNIC reserves for other purposes

Value	Purpose
0, 255	Subnet masking
127	Loopback testing and interprocess communication on local devices
224-254	IGMP multicast and other special protocols.

Subnetting and Subnet Masks

Subnetting divides a network address into sub-network addresses to accommodate more than one physical network on a logical network.

For example:

A Class B company has 100 LANs (Local Area Networks) with 100 to 200 nodes on each LAN. To classify the nodes by its LANs on one main network, this company segments the network address into 100 sub-network addresses. If the Class B network address is 150.1.x.x, the address can be segmented further from 150.1.1.x through 150.1.100.x

A subnet mask is a 32-bit value that distinguishes the network ID from the host ID for different sub-networks on the same logical network. Like IP addresses, subnet masks consist of four octets in dotted decimal notation. You can use subnet masks to route and filter the transmission of IP packets among your sub-networks. The value "255" is assigned to octets that belong to the network ID, and the value "0" is assigned to octets that belong to the host ID.

For the example above, if you want all the devices on the sub-networks to receive each other's IP packets, set the subnet mask to 255.255.0.0. If you want the devices on a single sub-network only to receive IP packets from other devices on its own sub-network, set the subnet mask to 255.255.255.0 for the devices on the sub-network.

Subnet Mask	Routing and Filtering
0.0.0.0	IP packets are transmitted to all devices.
255.0.0.0	IP packets are only transmitted to devices that are IP that's first octet matches the sender's IP address's first octet.
255.255.0.0	IP packets are only transmitted to devices that are IP that's first two octets match the sender's IP address's first two octets.
255.255.255.0	IP packets are only transmitted to devices that are IP that's first three octets match the sender's IP address's first three octets.

Appendix D: Glossary

The Glossary section defines the terms used in this User Manual

Term	Definition
Ethernet	Local Area Network technology, originally developed by Xerox Corporation, can link up to 1,024 nodes in a bus network. Ethernet provides raw data transfer in a rate of 10 megabits/sec. with actual throughputs in 2 to 3 megabits/sec. using a baseband (single-channel) communication technique. Ethernet uses carrier sense multiple access collision detection (CSMA/CD) that prevents network failures when two devices attempt to access the network at the same time. LAN hardware manufacturers use Ethernet protocol; their products may not be compatible.
Gateway	A computer that attaches to a number of networks and routes packets between them. The packets can be different protocols at the higher levels.
IP	Internet Protocol – The TCP/IP standard protocol defines the IP datagram as the unit of information passed across a network.
IP Address	Internet Protocol Address – A 32-bit address assigned to hosts participating in a TCP/IP network. The IP address consists of network and host portions. It is assigned to an interconnection of a host to a physical network.
MAC	Medium Access Control - The network layer between the physical and the data link layers. Specifically, the physical (hardware) address exists in this layer.
MIB	Management Information Base – The database, i.e. set of variables maintained by a gateway running SNMP
NMS	Network Management Station
OID	Object Identifier – The variables defined in a MIB
Router	A computer that manages traffic between different network segments or different network topologies. It directs the destination IP address. The network media can be different, but the higher-level protocols must be the same.
SNMP	Simple Network Management Protocol – A standard protocol used to monitor IP hosts, networks, and gateways. SNMP defines a set of simple operations that can be performed on the OIDs of the MIBs managed by the monitored Agents. It employs the UDP/IP transport layer to move its object between the Agents and the NMS
TCP/IP	Transmission Control Protocol/ Internet Protocol – A protocol suite used by more than 15 million users with a UNIX association and widely used to link computers of different kinds.

