

1.3 Megapixel IP Camera

User Manual

Ver2.1

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1. Software Version

The IP Camera's current software version is as follows:

Time Released	Version
Aug, 2008	d20080825NS

2. Overview

The IP Camera features a 1.3 Megapixel progressive scan image sensor that delivers unparalleled image quality. Utilizing progressive scan sensor, it produces images of rapid moving objects with minimum motion blurring. Dual streaming enables users to view both MJPEG images and MPEG-4 video to achieve superior image quality and conserve bandwidth. And with ultra high resolution, users can monitor critical areas with greater detail like never before.

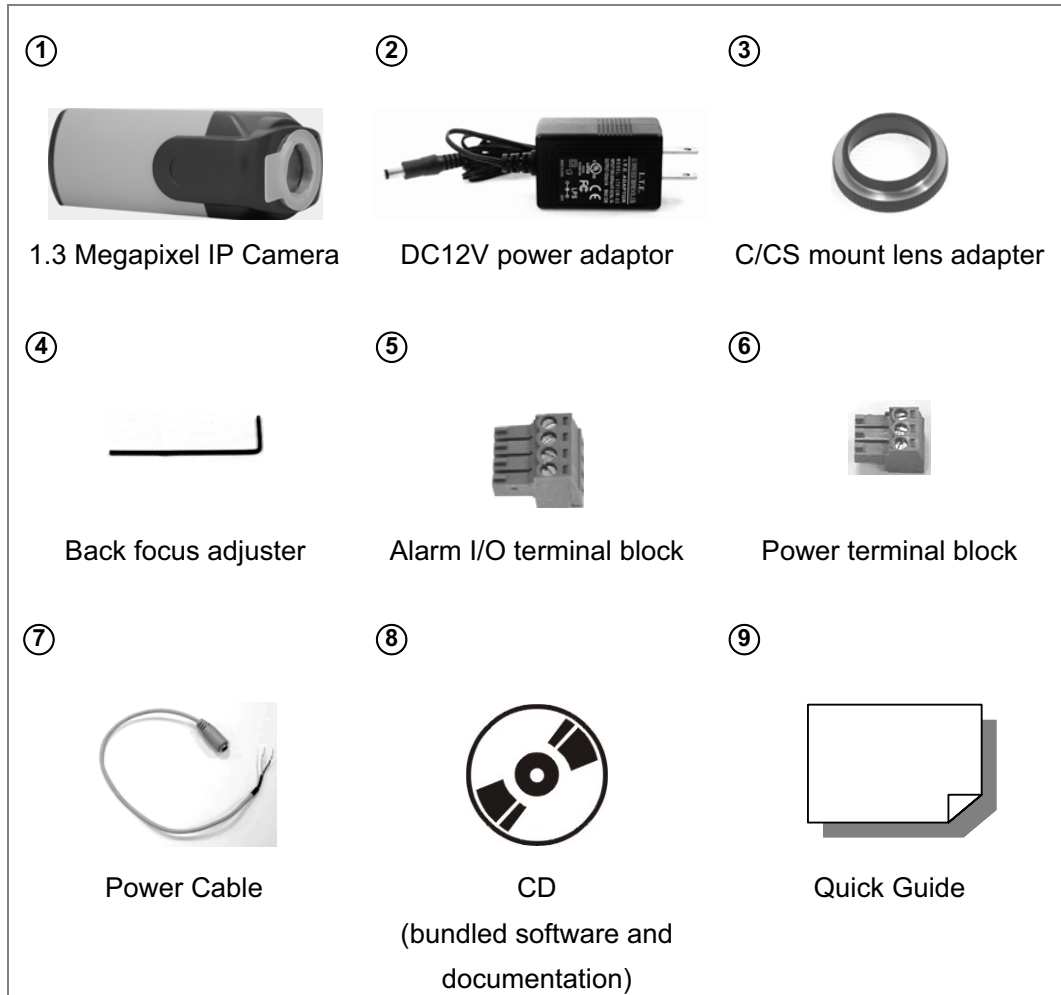
2.1 Features

- 1/3" Sony Progressive scan CCD/CMOS sensor
- Dual streaming: MJPEG & MPEG-4
 - MJPEG up to 1280x960 @ 15 fps
 - MPEG-4 up to 640x480 @ 30 fps
- Day/Night function (ICR); Optional
- Power over Ethernet (802.3af)
- WDR (Wide Dynamic Range); Optional
- Motion Detection
- Digital slow shutter
- Varifocal lens 3.3~12mm
- Two-way audio support
- Up to 12x Digital Zoom
- Backlight Compensation
- Auto Exposure
- Flickerless mode
- 10/100 Ethernet with RJ-45 connector
- Low light sensitivity 0.2 lux @ F1.2
- Compact size and light weight
- Free bundled CMS software

*Features might be different from model selection.

2.2 Package Contents

The 1.3 Megapixel IP Camera's standard package contains the items as shown below. Contents will vary among different models. Please check the list as follows for details.



- **C/CS Mount Lens Model (DC 12V, PoE)**

Package Contents: 1, 2, 3, 4, 5, 8, 9

- **C/CS Mount Lens Model (AC 24V)**

Package Contents: 1, 3, 4, 6, 7, 8, 9

- **Varifocal Lens Model (DC 12V, PoE)**

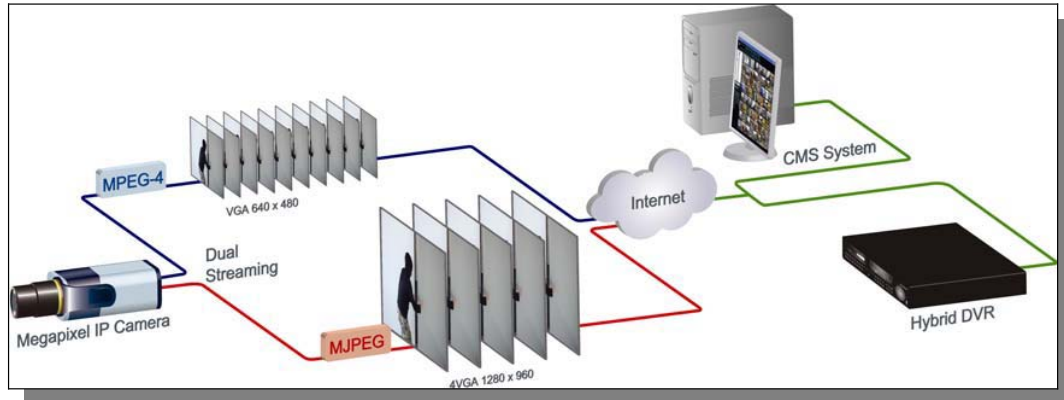
Package Contents: 1, 2, 5, 8, 9

- **Varifocal Lens Model (AC 24V)**

Package Contents: 1, 6, 7, 8, 9

2.3 IP Surveillance System Architecture

The figure below illustrates the system architecture of the IP Camera. It is capable of MJPEG and MPEG-4 dual streaming for flexible application.



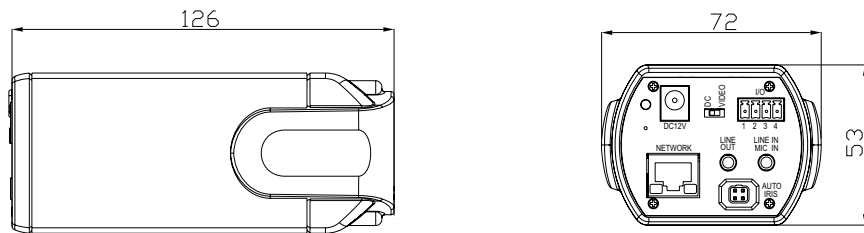
3. Introduction of IP Camera

This chapter will provide the camera dimensions for reference before installation. Definition of each connector on the camera's rear board will also be specified.

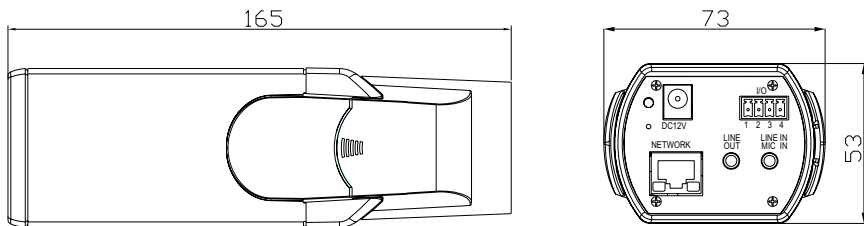
3.1 Camera Dimensions

The IP Camera's dimensions are shown as below.

C/CS Mount Lens Model



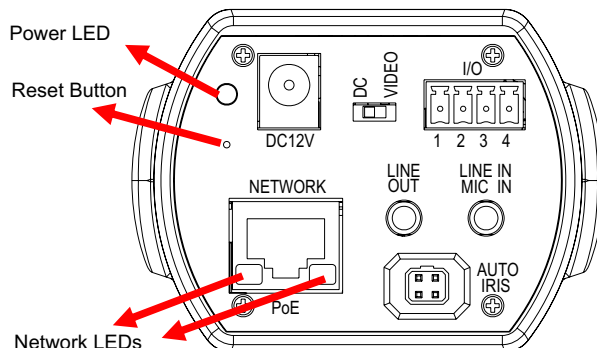
Varifocal Lens Model



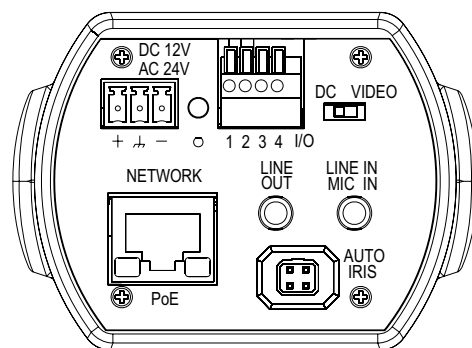
3.2 Connectors on the Rear Board

The diagram below shows the IP Camera's rear board. Definition for each connector will be given as follows.

DC 12V/PoE Model



AC 24V Model



Power LED

Green link light indicates good power connection.

Reset Button

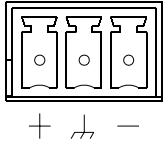
Press and hold the button for 5 seconds, and then the camera will restart. After around 30 seconds, reconnect the camera by entering its default IP address: 192.168.0.250, in the URL bar.

DC 12V Connector

DC 12V power connection

AC 24V/DC 12V Connector (AC 24V Model)

Please refer to the table below for wiring of AC 24V and DC 12V camera with the supplied power cable.

	+	AC 24V: Power-1	DC 12V: Power
	~	AC 24V: Earth GND	DC 12V: Reserved
	-	AC 24V: Power-2	DC 12V: GND

Video/DC Switch

The switch is only functional when using an Auto Iris lens. Set the switch to “Video” if use a Video Drive lens, and set it to “DC” when using a DC Drive lens.

Auto Iris Lens Connector

For use with auto iris lens

I/O Terminal Connector

For alarm connection (see section [4.2: IP Camera Installation — Alarm Application](#))

Line Out & Line In / Mic In ports

For two-way audio transmission

Network (with PoE Option) Connector

RJ-45 connector for LAN connection

For the camera supporting Power over Ethernet (PoE), it can use the power from the RJ-45 cable connection.

Network LEDs

Green link light indicates good network connection.

Orange activity light flashes for network activity indication.

4. Preparations for IP Camera Setup

This chapter outlines information about system requirements for IP Camera operation, procedures of camera connection, and login to the camera.

4.1 System Requirements

To perform the IP Camera via web browser, please ensure your PC is in good network connection, and meet system requirement as described below.

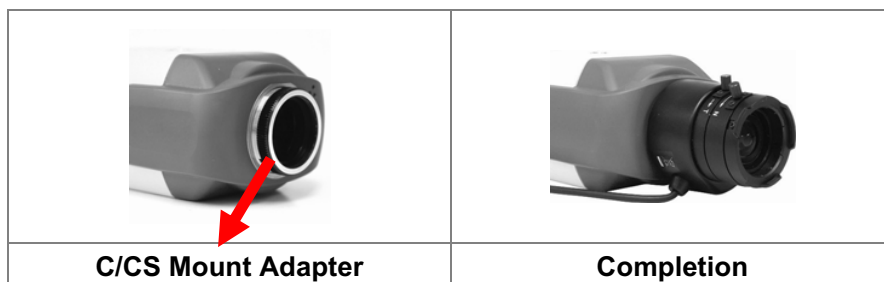
Items	Minimum Requirement
Personal Computer	1. Intel Pentium IV, 3 GHz or higher, Intel Core2 Duo, 2 GHz or higher 2. 1 GB RAM or more 3. AGP graphics card 64 MB RAM, Direct Draw
Operating System	Windows VISTA or Windows XP
Web Browser	Microsoft Internet Explorer 6.0 or later
Network Card	10Base-T (10 Mbps) or 100Base-TX (100 Mbps) operation
Viewer	ActiveX control plug-in for Microsoft IE

4.2 Installation

Please follow the instructions below to complete IP Camera installation.

Lens Mounting: C/CS Mount Lens Model

If use C-Mount lens, after removing the camera's plastic cover, users need to mount the supplied C/CS mount adapter (in the IP Camera package) to the camera. Then attach the lens onto the C/CS mount adapter, as the illustrations shown below.



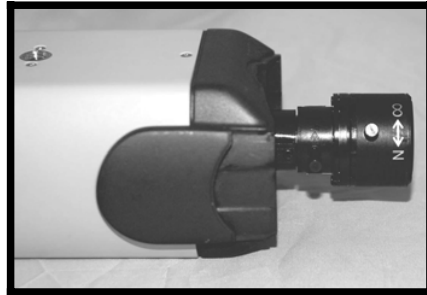
Zoom/Focus Adjustment: Varifocal Lens Model

When using the varifocal lens camera, to adjust zoom/focus, please refer to the instructions as follows:

Step 1: Pull out the lens shield.



Step 2: Adjust zoom/focus.



Step 3: Place the lens shield back.

Power Connection

Please refer to section **3.2 Connectors on the Rear Board** for power wiring. Additionally, if using PoE, make sure Power Sourcing Equipment (PSE) is in use in the network.

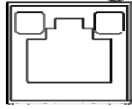
Ethernet Cable Connection

Use of Category 5 Ethernet cable is recommended for network connection; to have best transmission quality, cable length shall not exceed 100 meters. Connect one end of the Ethernet cable to the RJ-45 connector of the IP Camera, and the other end of the cable to the network switch or PC.



NOTE: In some cases, you may need use an Ethernet crossover cable when connecting the IP Camera directly to the PC.

Check the status of the link indicator and activity indicator LEDs; if the LEDs are unlit, please check LAN connection.

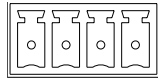


Green Link Light indicates good network connection.

Orange Activity Light flashes for network activity indication.

Alarm Application

The camera equips one relay input and one relay output for alarm application. Refer to alarm pin definition below to connect alarm devices to the IP Camera if needed.



1. Output+
2. Output-
3. Input+
4. Input-

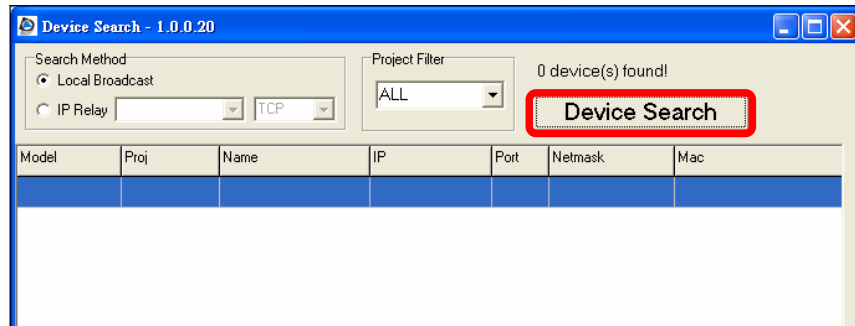
4.3 Accessing IP Camera

For initial access to the IP Camera, users can search the camera through the installer program: DeviceSearch.exe, which can be found in “DeviceSearch” folder in the supplied CD.

Device Search Software Setup

Step 1: Double click on the program Device Search.exe (see the icon below); its window will appear as shown below. Then click the “Device Search” button.



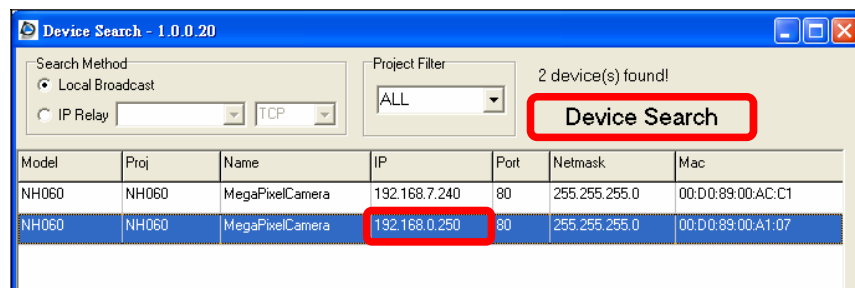


Step 2: The security alert window will pop up. Click “Unblock” to continue.

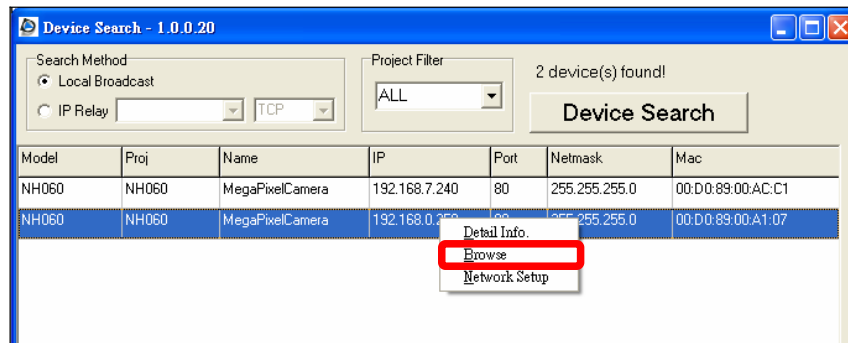


Device Search

Step 3: Click “Device Search” again, and all the finding IP devices will be listed in the page, as shown in the figure below. The IP Camera’s default IP address is: **192.168.0.250**.



Step 4: Double click or right click and select “Browse” to access the camera directly via web browser.



Step 5: Then the prompt window of request for entering default username and password (as shown below) will appear for login to the IP Camera.



The default login ID and password for the Administrator are:

Login ID	Password
Admin	1234



NOTE: ID and password are case sensitive.



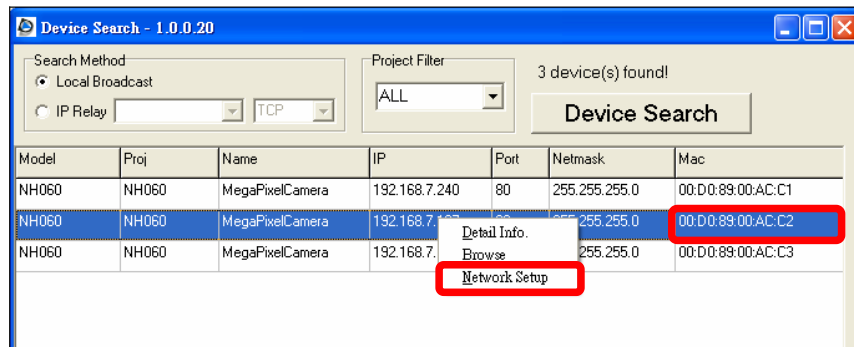
NOTE: It is strongly advised that administrator's password be altered for the security concerns. Refer to section [5.2.2 Security](#) for further details.

Additionally, users can change the IP Camera's network property, either DHCP or Static IP directly in the device finding list. Refer to the following section for changing the IP Camera's network property.

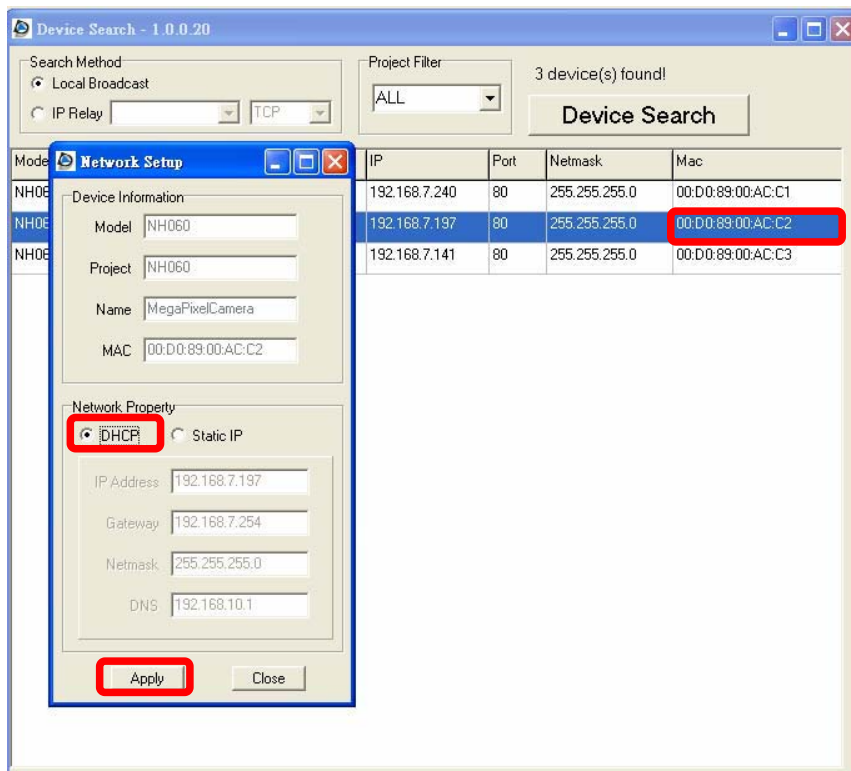
Example of Changing IP Camera's Network Property

Users can directly change an IP Camera's network property, ex. from static IP to DHCP, in the finding device list. The way to change the IP Camera's network property is specified below:

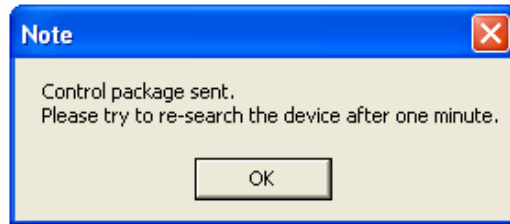
Step 1: In the finding device list, click on the IP Camera that you would like to change its network property. On the selected item, right click and select "Network Setup." Meanwhile, record the IP Camera's MAC address, for future identification.



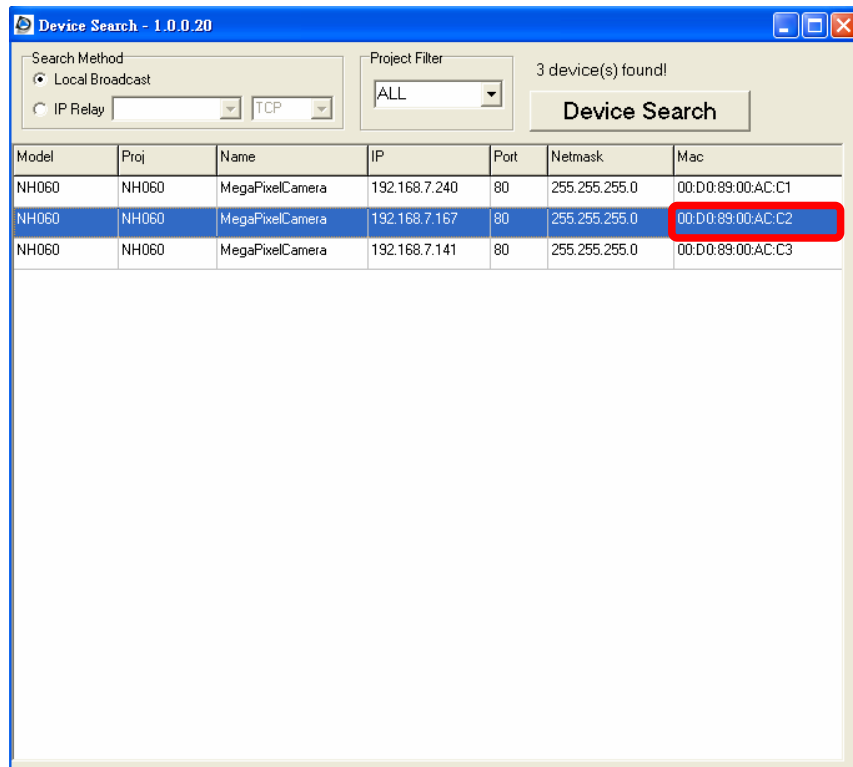
Step 2: The "Network Setup" page will come out. Select "DHCP," and press "Apply" button down the page.



Step 3: Click “OK” on the Note of setting change. Wait for one minute to re-search the IP Camera.



Step 4: Click the “Device Search” button to re-search all the devices. Then select the IP Camera with the correct MAC address. Double click on the IP Camera, and the login window will come out.



Step 5: Enter User name and Password to access the IP Camera

Installing DC Viewer Software Online

For the initial access to the IP Camera, a client program, DC Viewer, will be automatically installed to your PC when connecting to the IP Camera.

If the Web browser doesn't allow DC Viewer installation, please check the Internet security settings or ActiveX controls and plug-ins settings (see [Appendix B: Internet Security Settings](#)) to continue the process.

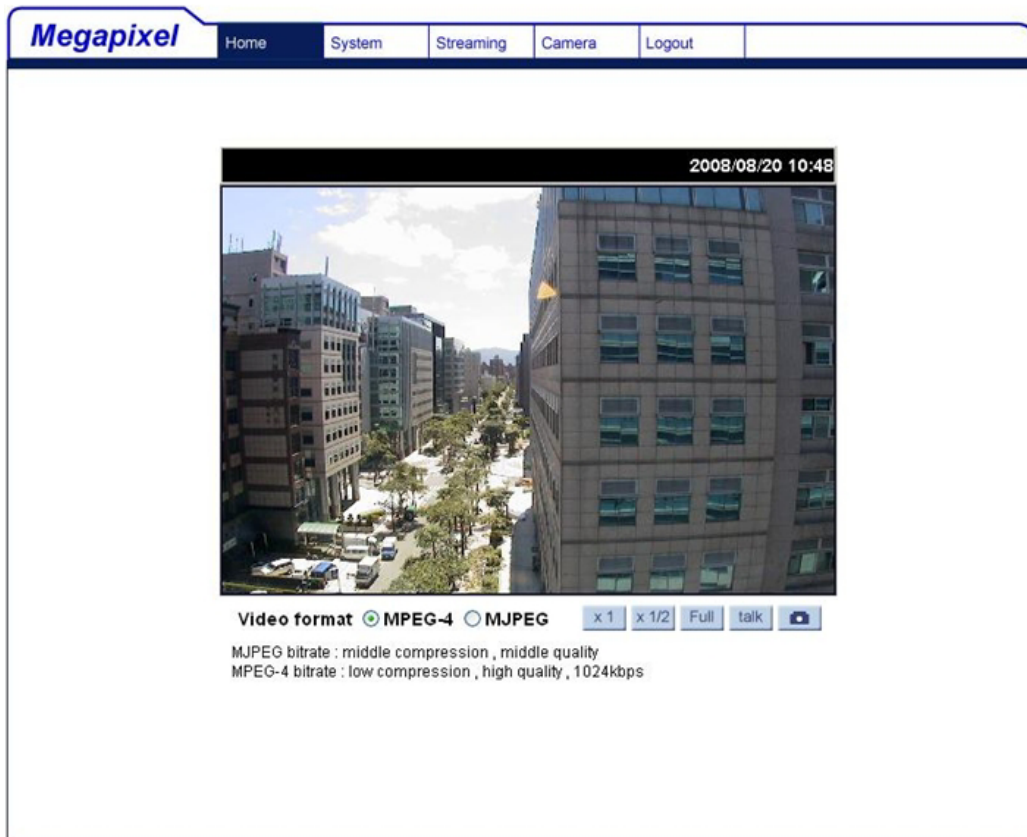
The Information Bar (just below the URL bar) may come out and ask for permission to install the ActiveX Control for displaying video in browser (see the figure below). Right click on the Information Bar and select “Install ActiveX Control...” to allow the installation.



Then the security warning window will pop up. Click “Install” to carry on software installation.

Click “Finish” to close the DC Viewer window when download is finished. For the detailed software download procedure, please refer to [Appendix C: DC Viewer Download Procedure](#).

Once login to the IP Camera, users will see the Home page as shown below:



Administrator/User Privileges

“Administrator” represents the person who can configure the IP Camera and authorize users access to the camera; “User” refers to whoever has access to the camera with limited authority, i.e. entering Home and Camera setting pages.

Image and Focus Adjustment

The image displays on the Home page when successfully accessing to the IP Camera. Adjust zoom and focus as necessary to produce a clear image.

5. Configuration & Operation

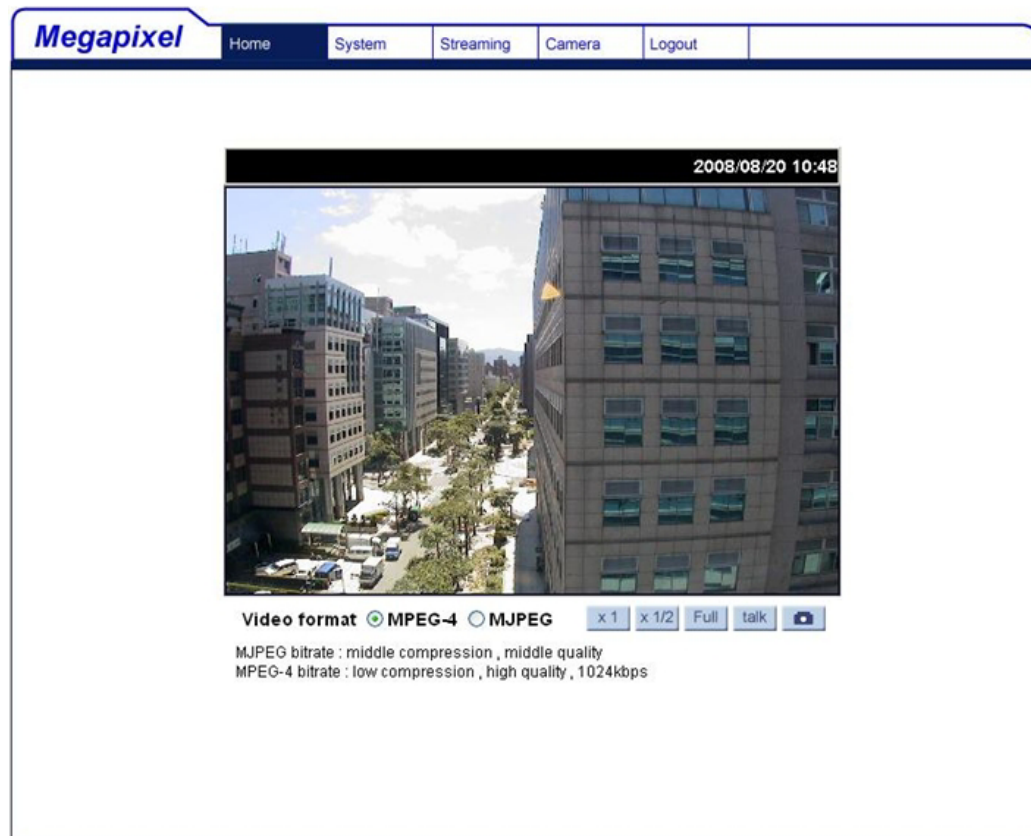
The IP Camera is provided with a user-friendly browser-based configuration interface, and a free bundled CMS (Central Management System) for record and playback video. In this chapter, information about main page introduction, system related settings and camera settings will be described in detail.

For further information about CMS software, please refer to [Chapter 6: CMS Software Introduction](#) and CMS user manual.

5.1 Browser-based Viewer Introduction

The figure below shows the main page of the IP Camera user interface.

At the bottom of the main page, users can adjust video display size (x1, x1/2 and full screen), select a kind of video format (MPEG-4 and MJPEG), talk to the remote site (see [5.3.2 Security](#)) and save MJPEG snapshots (see [5.3.9 Snapshot](#)).



There are five tabs: Home, System, Streaming, Camera and Logout on the top panel.

Home

Users can monitor live video of the targeted area.

System setting

Administrator can set host name, system time, root password, network related settings, etc. Further details will be interpreted in section [5.3 System Related Settings](#).

Streaming setting

Administrator can modify video resolution and rotate type and select audio compression mode in this page.

Camera setting

Users can adjust various camera parameters, including <Exposure>, <White Balance>, <Brightness>, <Sharpness>, <Contrast> and <Digital Zoom>.

Logout

Click on the tab to relogin the IP Dome Camera with another username and password.

5.2 Home Page

In the Home page, there are several function buttons right down the displayed image.



Screen Size Adjustment

Image display size can be adjusted to x1/2 and full screen.

Digital Zoom Control

In the full screen mode, users can implement digital PTZ by right clicking the mouse, rotating the mouse wheel (for zoom in/out), and drag the mouse into any direction.

Talk

Talk function allows the local site talks to the remote site. Please refer to section [5.3.2 Security: Add user > Talk/Listen for further details](#). This function is only open to "User" who has been granted this privilege by the Administrator.

Snapshot

Press the button, and the MJPEG snapshots will automatically be saved in the appointed place. The default place of saving snapshots is: C:\.

5.3 System Related Settings

The figure below shows all categories under the “**System**” tab. Each category in the left column will be explained in the following sections.



NOTE: The “System” configuration page is only accessible by Administrator.

Megapixel Home System Streaming Camera Logout

System

System

Security

Network

DDHS

Mail

FTP

Application

Motion detection

Snapshot

Iris adjustment

View log file

View user information

View parameters

Factory default

Software version

Software upgrade

System

Host Name : MegaPixelCamera

☒ Sync With Computer Time

PC date: 2008/07/07 [yyyy/mm/dd]

PC time: 17:44:54 [hh:mm:ss]

☐ Manual

Date: 2007/01/01 [yyyy/mm/dd]

Time: 00:00:00 [hh:mm:ss]

Save

5.3.1 Host Name and System Time Setting

Press the first category: <System> in the left column; the page is shown as below.

The screenshot shows the Megapixel camera web interface. The top navigation bar includes 'Home', 'System', 'Streaming', 'Camera', and 'Logout'. The left sidebar lists various settings categories, with 'System' highlighted by a red rectangle. The main content area is titled 'System' and contains the following fields:

- Host Name :** A text input field containing 'MegaPixelCamera'.
- Sync With Computer Time:** A radio button that is selected (indicated by a green dot).
- PC date:** A text input field containing '2008/07/07' with a placeholder '[yyyy/mm/dd]'.
- PC time:** A text input field containing '17:44:54' with a placeholder '[hh:mm:ss]'.
- Manual:** A radio button that is unselected.
- Date:** A text input field containing '2007/01/01' with a placeholder '[yyyy/mm/dd]'.
- Time:** A text input field containing '00:00:00' with a placeholder '[hh:mm:ss]'.
- Save:** A button located below the time input field.

Host Name

The name is for camera identification. If alarm function (see [5.3.7 Application](#)) is enabled and is set to send alarm message by Mail/FTP, the host name entered here will display in the alarm message.

Sync With Computer Time

Select the item, and video date and time display will synchronize with the PC's.

Manual

The Administrator can set video date, time and day manually. Entry format should be identical with that shown next to the enter field.

5.3.2 Security

Click the category: <Security>, and the page is shown as the figure below.

The screenshot shows the Megapixel web interface. The left sidebar contains a list of menu items: System, Security (highlighted with a red box), Network, DDNS, Mail, FTP, Application, Motion detection, Snapshot, Iris adjustment, View log file, View user information, View parameters, Factory default, Software version, and Software upgrade. The main content area has a top navigation bar with tabs: Home, System, Streaming, Camera, and Logout. Below the tabs, the 'Security' section is active. It contains three sub-sections: 'Admin Password' with fields for 'Admin password' and 'Confirm password' (both masked with dots) and a 'Save' button; 'Add User' with fields for 'User name' and 'User password', checkboxes for 'I/O access' (checked), 'Camera control', 'Talk', and 'Listen', and an 'Add' button; and 'Manage User' with a 'User name' dropdown menu (showing '-- no user --') and 'Delete' and 'Edit' buttons.

Root password

Change the administrator's password by inputting the new password in both text boxes. The input characters/numbers will be displayed as dots for security purposes. After clicking <Save>, the web browser will ask the Administrator for the new password for access. The maximum length of the password is 14 digits.



NOTE: The following characters are valid: A-Z, a-z, 0-9, !#\$%&'-.@^_~.

Add user

Type the new user's name and password and click <Add> to add the new user. Both user name and password can be up to 16 characters. The new user will be displayed in the user name list. There is a maximum of twenty user accounts. Each user can be assigned the privileges of “**Camera control**”, “**Talk**” and “**Listen**”.

- **I/O access**

This item supports fundamental functions that enable users to view video when accessing to the camera.

- **Camera control**

This item allows the appointed User to change camera parameters on the Camera Setting page.

- **Talk/Listen**

Talk and Listen functions allow the appointed user in the local site (PC site) communicating with, for instance, the administrator in the remote site.



NOTE: The IP Mini Fixed Dome Camera does not have Talk function.

Manage User

Delete user

To delete a user, pull down the user list, and select the user name you wish to delete. Then click <Delete> to remove it.

Edit user

Pull down the user list and select a user name. Click <Edit> to edit the user's password and privilege.



NOTE: It is required to enter the User password as well as select the function open to the user. When finished, click <Save> to modify the account authority.

http://192.168.7.234/lang1/server_editaccount.html - Micr...

User name [user]

User password [password]

☒ I/O access ☐ Camera control

☐ Talk ☐ Listen

Save Close

http://192.168.7.234/lang1/server_editaccount.html - Micr...

User name [user]

User password

☒ I/O access ☒ Camera control

☐ Talk ☒ Listen

Save Close

5.3.3 Network

Click <Network> in the left column, and the page will display as shown below.

Megapixel Home System Streaming Camera Logout

System

Security

Network

DDNS

Mail

FTP

Application

Motion detection

Snapshot

Iris adjustment

View log file

View user information

View parameters

Factory default

Software version

Software upgrade

Network

☐ Get IP address automatically

☒ Use fixed IP address

General

IP address 192.168.7.234

Subnet mask 255.255.255.0

Default gateway 192.168.7.254

Primary DNS 0.0.0.0

Secondary DNS 0.0.0.0

HTTP

HTTP port 80

Save

Users can choose to use fixed IP address or dynamic (DHCP) IP address. The following is descriptions for the two ways of setting IP address.

Get IP address automatically (DHCP)

The camera's default setting is **"Use fixed IP address"**. Please refer to the previous section [4.3 Accessing IP Camera](#) for login with the default IP address.

If select **"Get IP address automatically"**, after the IP Camera restarts, users can search it through the installer program: DeviceSearch.exe, which can be found in "DeviceSearch" folder in the supplied CD.



NOTE: Please make the record of the IP Camera's MAC address, which can be found in the label of the camera, for identification in the future.

Use fixed IP address

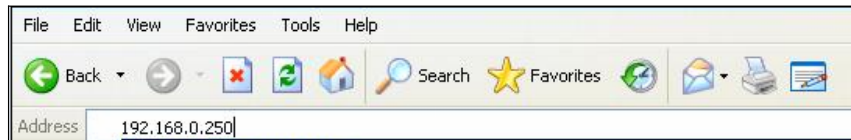
To setup static IP address, select **"Use fixed IP address"** and move the cursor to the IP address blank (as indicated below) and insert the new IP address, ex. 192.168.7.234; then go to the Default gateway (explained latter) blank and change the setting, ex. 192.168.7.254. Press "Save" to confirm the new setting.

The screenshot shows the Megapixel web interface with the following configuration details:

Field	Value
IP address	192.168.7.234
Subnet mask	255.255.255.0
Default gateway	192.168.7.254
Primary DNS	0.0.0.0
Secondary DNS	0.0.0.0
HTTP port	80

The **Save** button is located at the bottom right of the configuration area.

When using static IP address to login to the IP Camera, users can access it either through "DeviceSearch" software (see [4.3 Accessing IP Camera](#)) or input the IP address in the URL bar and press "Enter".



General

- **IP address**
This is necessary for network identification.
- **Subnet mask**
It is used to determine if the destination is in the same subnet. The default value is "255.255.255.0".
- **Default gateway**
This is the gateway used to forward frames to destinations in different subnet. Invalid gateway setting will fail the transmission to destinations in different subnet.
- **Primary DNS**
Primary DNS is the primary domain name server that translates hostnames into IP addresses.
- **Secondary DNS**
Secondary DNS is a secondary domain name server that backups the primary DNS.

HTTP

- **HTTP port**
This can be other than the default port 80. Once the port is changed, the user must be notified the change for the connection to be successful. For instance, when the Administrator changes the HTTP port of the IP Camera whose IP address is 192.168.0.100 from 80 to 8080, the user must type in the web browser "http://192.168.0.100:8080" instead of "http://192.168.0.100".

5.3.4 DDNS

Dynamic Domain Name System (DDNS) allows a DNS name to be constantly synchronized with a dynamic IP address. In other words, it allows those using a dynamic IP address to be associated to a static domain name so others can connect to it by name.

The screenshot shows the Megapixel web interface. The top navigation bar includes links for Home, System, Streaming, Camera, and Logout. The left sidebar contains a menu with the following items: System, Security, Network, DDNS (highlighted with a red box), Mail, FTP, Application, Motion detection, Snapshot, Iris adjustment, View log file, View user information, View parameters, Factory default, Software version, and Software upgrade. The main content area is titled 'DDNS' and contains the following text: 'Dynamic DNS' and 'Use Dynamic DNS If You Want To Use Your DDNS Account.' Below this text is a checkbox labeled 'Enable DDNS'. To the right of the checkbox are four input fields: 'Provider' (a dropdown menu showing 'DynDNS.org(Dynamic)'), 'Host name', 'Username/E-mail', and 'Password/Key'. A 'Save' button is located at the bottom right of the form.

Enable DDNS

Check the item to enable DDNS.

Provider

Select one DDNS host from the provider list.

Host name

Enter the registered domain name in the field.

Username/E-mail

Enter the username or e-mail required by the DDNS provider for authentication.

Password/Key

Enter the password or key required by the DDNS provider for authentication.

5.3.5 Mail

The Administrator can send an e-mail via Simple Mail Transfer Protocol (SMTP) when an alarm is triggered. SMTP is a protocol for sending e-mail messages between servers. SMTP is a relatively simple, text-based protocol, where one or more recipients of a message are specified and the message text is transferred. The configuration page is shown as follows:

The screenshot shows the Megapixel web interface. The top navigation bar includes 'Home', 'System', 'Streaming', 'Camera', and 'Logout'. The left sidebar contains a list of menu items: System, Security, Network, DDNS, Mail (highlighted with a red box), FTP, Application, Motion detection, Snapshot, Iris adjustment, View log file, View user information, View parameters, Factory default, Software version, and Software upgrade. The main content area is titled 'Mail' and contains an 'SMTP' section with the following fields:

- 1st SMTP (mail) server
- 1st SMTP account name
- 1st SMTP password
- 1st recipient email address
- 2nd SMTP (mail) server
- 2nd SMTP account name
- 2nd SMTP password
- 2nd recipient email address
- Sender email address

A 'Save' button is located at the bottom right of the SMTP configuration section.

Two sets of SMTP can be configured. Each set includes SMTP Server, Account Name, Password and E-mail Address settings. For SMTP server, contact your network service provider for more specific information.

5.3.6 FTP

The Administrator can set as sending alarm message to a specific File Transfer Protocol (FTP) site when an alarm is triggered. Users can assign alarm message to up to two FTP sites. The FTP setting page is shown below. Enter the FTP details, which include server, server port, user name, password and remote folder, in the fields. Press “Save” when finished.

Megapixel Home System Streaming Camera Logout

System
Security
Network
DDNS
Mail
FTP
Application
Motion detection
Snapshot
Iris adjustment
View log file
View user information
View parameters
Factory default
Software version
Software upgrade

FTP

Built-in FTP server port: 21

1st FTP server:

1st FTP server port: 21

1st FTP user name:

1st FTP password:

1st FTP remote folder:

☐ 1st FTP passive mode

2nd FTP server:

2nd FTP server port: 21

2nd FTP user name:

2nd FTP password:

2nd FTP remote folder:

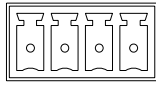
☐ 2nd FTP passive mode

Save

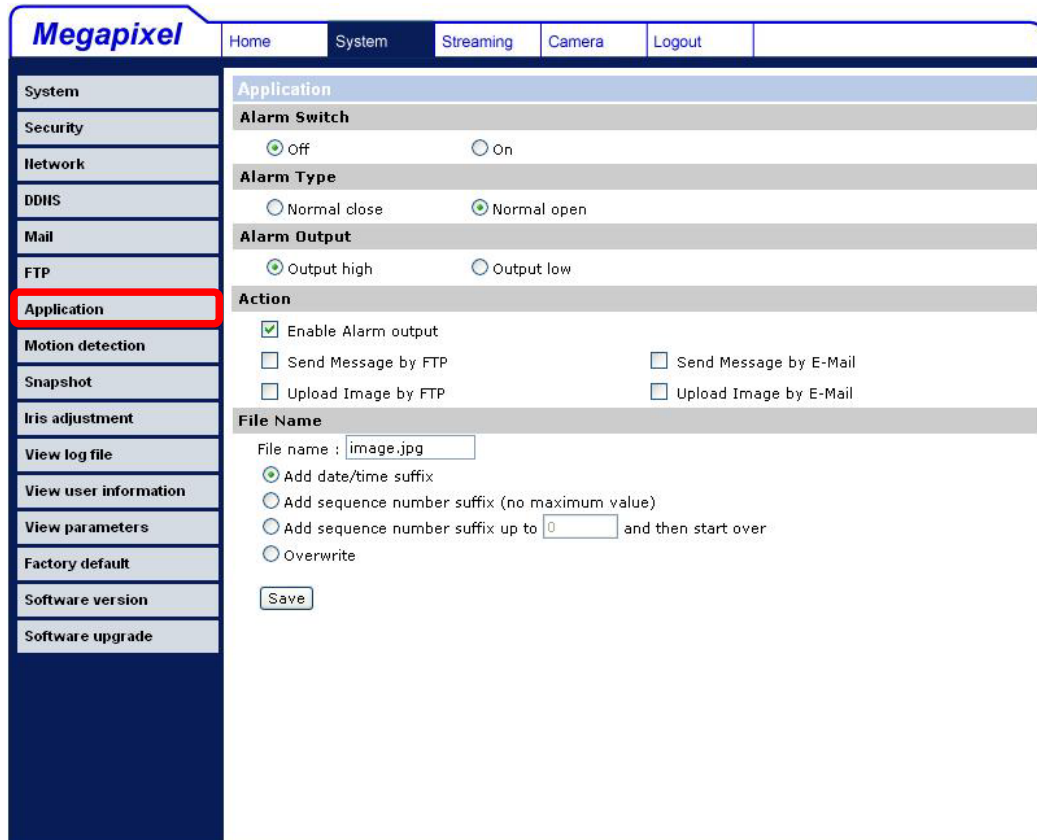
5.3.7 Application (Alarm Settings)

The IP Camera equips one relay input and one relay output for cooperating with alarm system to catch events' images. Refer to alarm pin definition below to connect alarm devices to the IP Camera if needed. The alarm configuration page is also shown below.

Alarm Pin Definition



1. Output+
2. Output-
3. Input+
4. Input-



Megapixel Home System Streaming Camera Logout

System
Security
Network
DDNS
Mail
FTP
Application
Motion detection
Snapshot
Iris adjustment
View log file
View user information
View parameters
Factory default
Software version
Software upgrade

Application

Alarm Switch
☒ Off ☐ On

Alarm Type
☐ Normal close ☒ Normal open

Alarm Output
☒ Output high ☐ Output low

Action
☒ Enable Alarm output
☐ Send Message by FTP ☐ Send Message by E-Mail
☐ Upload Image by FTP ☐ Upload Image by E-Mail

File Name
File name :
☒ Add date/time suffix
☐ Add sequence number suffix (no maximum value)
☐ Add sequence number suffix up to and then start over
☐ Overwrite

Alarm Switch

The Administrator can enable or disable the alarm function.

Alarm Type

Select an alarm type, “Normal close” or “Normal open,” that corresponds with the alarm application.

Alarm Output

Define alarm output signal “high” or “low” as the normal alarm output status according to the current alarm application.

Action (Multi-option)

The Administrator can specify alarm actions that will take when the alarm is triggered. All options are listed as follows:

- **Enable Alarm Output**

Select the item to enable alarm relay output.

- **Send Alarm Message by FTP/E-Mail**

The Administrator can select whether to send an alarm message by FTP and/or E-Mail when an alarm is triggered.

- **Upload Image by FTP**

Select this item, and the Administrator can assign a FTP site and configure various parameters as shown in the figure below. When the alarm is triggered, event images will be uploaded to the appointed FTP site.

The screenshot shows the Megapixel web interface with the 'System' menu on the left and the 'Application' tab selected. The 'Alarm Switch' configuration page is displayed. The 'Action' section is highlighted with a red box, showing the following options:

- ☒ Enable Alarm output
- ☐ Send Message by FTP
- ☐ Send Message by E-Mail
- ☒ Upload Image by FTP
 - FTP address: FTP1
 - Pre-trigger buffer: 5 frames
 - Post-trigger buffer: 5 frames
 - ☐ Continue image upload
 - ☒ Upload for 1 sec
 - ☐ Upload during the trigger active
 - Image frequency: Max. fps
- ☐ Upload Image by E-Mail

Below the 'Action' section, the 'File name' field is set to 'image.jpg'. The 'Add date/time suffix' option is selected. The 'Add sequence number suffix up to' field is set to 0. The 'Save' button is at the bottom.

- **Upload Image by E-Mail**

Select this item, and the Administrator can assign an e-mail address and configure various parameters as shown in the figure below. When the alarm is triggered, event images will be sent to the appointed e-mail address.

Megapixel Home System Streaming Camera Logout

System
Security
Network
DDNS
Mail
FTP
Application
Motion detection
Snapshot
Iris adjustment
View log file
View user information
View parameters
Factory default
Software version
Software upgrade

Application

Alarm Switch
☒ Off ☐ On

Alarm Type
☐ Normal close ☒ Normal open

Alarm Output
☒ Output high ☐ Output low

Action
☒ Enable Alarm output
☐ Send Message by FTP
☐ Send Message by E-Mail
☐ Upload Image by FTP
☒ Upload Image by E-Mail

Upload Image by E-Mail
E-Mailaddress: E-Mail 1
Pre-trigger buffer: 5 frames
Post-trigger buffer: 5 frames
☐ Continue image upload
☒ Upload for 1 sec
☐ Upload during the trigger active
Image frequency: Max. fps

File Name
File name: image.jpg
☒ Add date/time suffix
☐ Add sequence number suffix (no maximum value)
☐ Add sequence number suffix up to 0 and then start over
☐ Overwrite
Save



NOTE: Make sure SMTP or FTP configuration has been completed. See section [5.3.5 Mail](#) and [5.3.6 FTP](#) for further details.

File Name

Enter a file name in the blank, ex. image.jpg. The uploaded image's file name format can be set in this section. Please select the one that meets your requirements.

- **Add date/time suffix**
File name: imageYYMMDD_HHNNSS_XX.jpg
Y: Year, M: Month, D: Day
H: Hour, N: Minute, S: Second
X: Sequence Number
- **Add sequence number suffix (no maximum value)**
File name: imageXXXXXXX.jpg
X: Sequence Number
- **Add sequence number suffix (limited value)**
File Name: imageXX.jpg
X: Sequence Number

The file name suffix will end at the number being set. For example, if the setting is up to “10,” the file name will start from 00, end at 10, and then start all over again.

- **Overwrite**

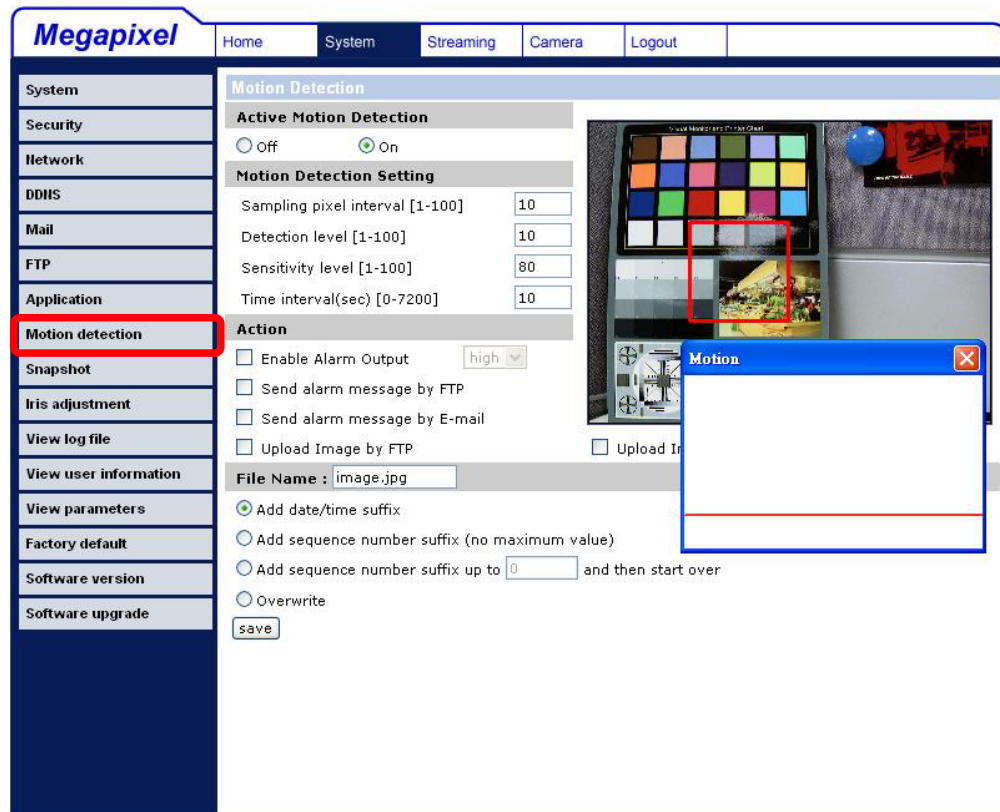
The original image in the FTP site will be overwritten by the new uploaded file with a static filename.

Save

After complete all the settings mentions above, please click on the Save button to save all the settings in this page.

5.3.8 Motion Detection

Motion Detection function allows detecting suspicious motion and triggering alarms when motion volume in the detected area reaches/exceeds the determined sensitivity threshold value.



In the Motion Detection setting page, there is a red frame right on the displayed image and a motion indication window on the top of the image; see the figure shown above. The red frame is for defining the motion detection area. To change the size of the area, move the mouse cursor to the edge of the red frame and draw it outward/inward. Move the mouse to the center of the red frame can shift the frame to the intended location. As for the motion indication window, when motion is detected, signals will be shown in it.

Detailed settings of Motion Detection are described as follows:

Active Motion Detection

You will be able to turn on/off Motion Detection in System section. Default setting is Off.

Motion Detection Setting

Users could adjust various parameters of Motion Detection in this section.

- **Sampling pixel interval [1-100]:**
The default value is 10, which means system will take one sampling pixel for every 10 pixel.
- **Detection level [1-100]:**
The default level is 10. The item is to set detection level for each sampling pixel; the smaller the value, the more sensitive it is.
- **Sensitivity level [1-100]:**
The default level is 80, which means if 20% or more sampling pixels are detected differently, system will detect motion. The bigger the value, the more sensitive it is. Meanwhile, when the value is bigger, the red horizontal line in the motion indication window will be lower accordingly.
- **Time interval (sec) [0-7200]:**
The default interval is 10. The value is the interval between each detected motion.

Action (Multi-option)

The Administrator can specify alarm actions that will take when motion is detected. All options are listed as follows:

- **Enable Alarm Output**
Select the item to enable alarm relay output.
- **Send Alarm Message by FTP/E-Mail**
The Administrator can select whether to send an alarm message by FTP and/or E-Mail when motion is detected.
- **Upload Image by FTP**
Select this item, and the Administrator can assign a FTP site and configure various parameters as shown in the figure below. When motion is detected, event images will be uploaded to the appointed FTP site.

Megapixel	Home	System	Streaming	Camera	Logout
------------------	------	--------	-----------	--------	--------

System	Motion Detection Active Motion Detection ☐ Off ☒ On Motion Detection Setting Sampling pixel interval [1-100] 10 Detection level [1-100] 10 Sensitivity level [1-100] 80 Time interval(sec) [0-7200] 10 Action ☒ Enable Alarm Output high ☐ Send alarm message by FTP ☐ Send alarm message by E-mail ☒ Upload Image by FTP FTP address FTP1 Pre-trigger buffer 5 frames Post-trigger buffer 5 frames ☐ Continue image upload ☒ Upload for 1 sec ☐ Upload during the trigger active Image frequency Max. fps File Name : image.jpg ☒ Add date/time suffix ☐ Add sequence number suffix (no maximum value) ☐ Add sequence number suffix up to 0 and then start over ☐ Overwrite save
--------	--

- **Upload Image by E-Mail**

Select this item, and the Administrator can assign an e-mail address and configure various parameters as shown in the figure below. When motion is detected, event images will be sent to the appointed e-mail address.



NOTE: Make sure SMTP or FTP configuration has been completed. See section [5.3.5 Mail](#) and [5.3.6 FTP](#) for further details.

File Name

The uploaded image's filename format can be set in this section. Please select the one that meets your requirements.

Save

Click the Save button to save all the Motion Detection settings mentioned above.

The figure below shows how it is displayed when motion is detected.

Megapixel

Home

System

Streaming

Camera

Logout

System

Security

Network

DDNS

Mail

FTP

Application

Motion detection

Snapshot

Iris adjustment

View log file

View user information

View parameters

Factory default

Software version

Software upgrade

Motion Detection

Active Motion Detection

Off

On

Motion Detection Setting

Sampling pixel interval [1-100]

10

Detection level [1-100]

10

Sensitivity level [1-100]

80

Time interval(sec) [0-7200]

10

Action

Enable Alarm Output

high

Send alarm message by FTP

Send alarm message by E-mail

Upload Image by FTP

Upload Image

File Name : image.jpg

Add date/time suffix

Add sequence number suffix (no maximum value)

Add sequence number suffix up to 0 and then start over

Overwrite

save

39

5.3.9 Snapshot

The IP Dome Camera supports MJPEG snapshot function. Users can specify a storage location for the snapshots. The default setting is: C:\. Once confirm the setting, press “Save,” and all the snapshots will be saved in the designate location.

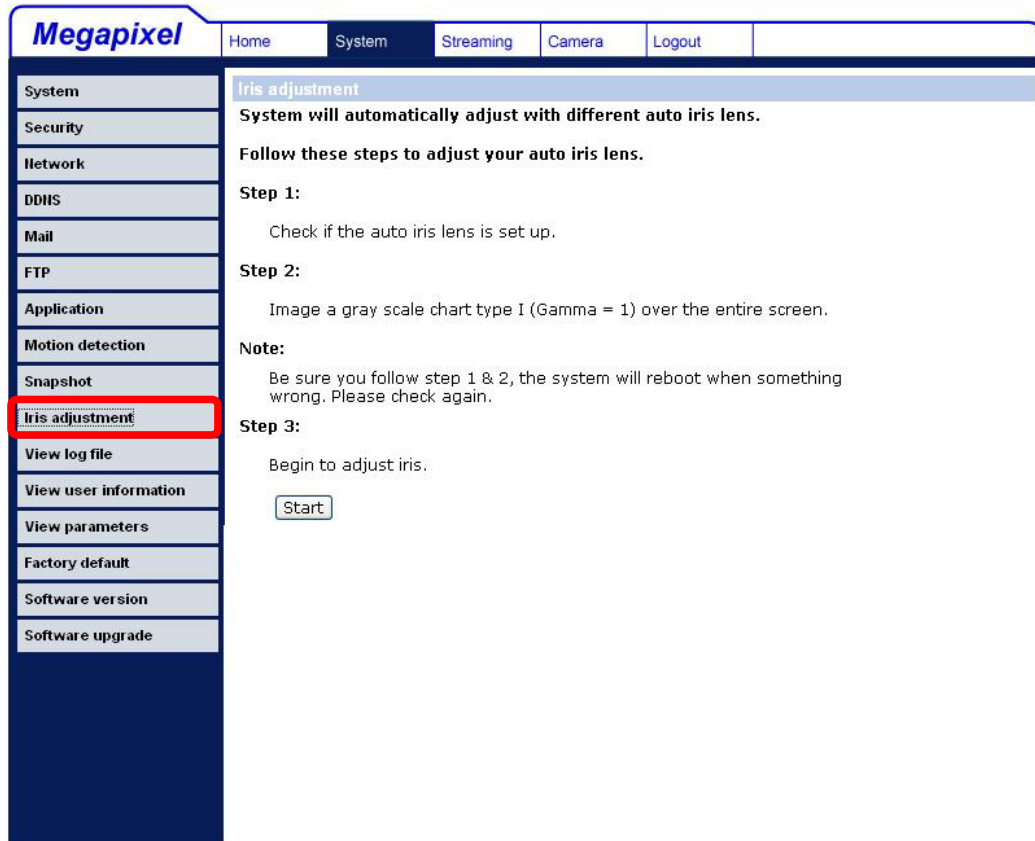


NOTE: If the specified file folder is indicated as invalid, please check its name and ensure it not containing characters such as spaces.

The screenshot shows the Megapixel web interface. The top navigation bar includes links for Home, System, Streaming, Camera, and Logout. On the left, a vertical menu lists various system settings: System, Security, Network, DDNS, Mail, FTP, Application, Motion detection, Snapshot (highlighted with a red box), Iris adjustment, View log file, View user information, View parameters, Factory default, Software version, and Software upgrade. The main content area is titled 'Snapshot' and contains the text 'All images stored at: C:\' followed by a 'Select' button. Below this, a 'Save' button is highlighted with a red box.

5.3.10 Iris Adjustment

Users could adjust auto iris lens when different lens is selected to install on the camera. The iris adjustment page is shown below.



Please follow the steps below to adjust iris.

Step 1: Check if the auto iris lens is set up ready.

Step 2: Image a gray scale chart type 1(Gamma = 1) over the entire screen.

Step 3: Press “Start” button and began to adjust iris.

5.3.11 View Log File

Click on the link to view the system log file. The content of the file provides useful information about configuration and connections after system boot-up.

The screenshot displays the Megapixel web interface. On the left is a vertical navigation menu with the following items: System, Security, Network, DDNS, Mail, FTP, Application, Motion detection, Snapshot, Iris adjustment, View log file (highlighted with a red rectangle), View user information, View parameters, Factory default, Software version, and Software upgrade. The top navigation bar includes links for Home, System, Streaming, Camera, and Logout. The main content area is titled 'System log' and contains a scrollable text box with the following log entries:

```
[Mon Jan 1 00:00:31 2007] --Network interface initialized start
[Mon Jan 1 00:00:01 2007] --Network interface initialized end
[Mon Jan 1 00:00:01 2007] --Host IP = 192.168.0.250
[Mon Jan 1 00:00:01 2007] --Subnet Mask = 255.255.255.0
[Mon Jan 1 00:00:01 2007] --Gateway = 192.168.0.254
[Mon Jan 1 00:00:01 2007] --MAC address = 00:D0:89:AA:BB:CC
[Mon Jan 1 00:00:14 2007] --connect by Admin@192.168.0.66
[Mon Jul 7 17:42:07 2008] --connect by Admin@192.168.7.199
[Tue Jul 8 09:05:34 2008] --connect by Admin@192.168.6.164
[Tue Jul 8 09:13:15 2008] --connect by Admin@192.168.7.199
[Tue Jul 8 09:31:17 2008] --connect by Admin@192.168.7.55
[Tue Jul 8 09:37:14 2008] --connect by Admin@192.168.7.55
[Tue Jul 8 09:41:30 2008] --connect by Admin@192.168.7.55
```

5.3.12 View User Information

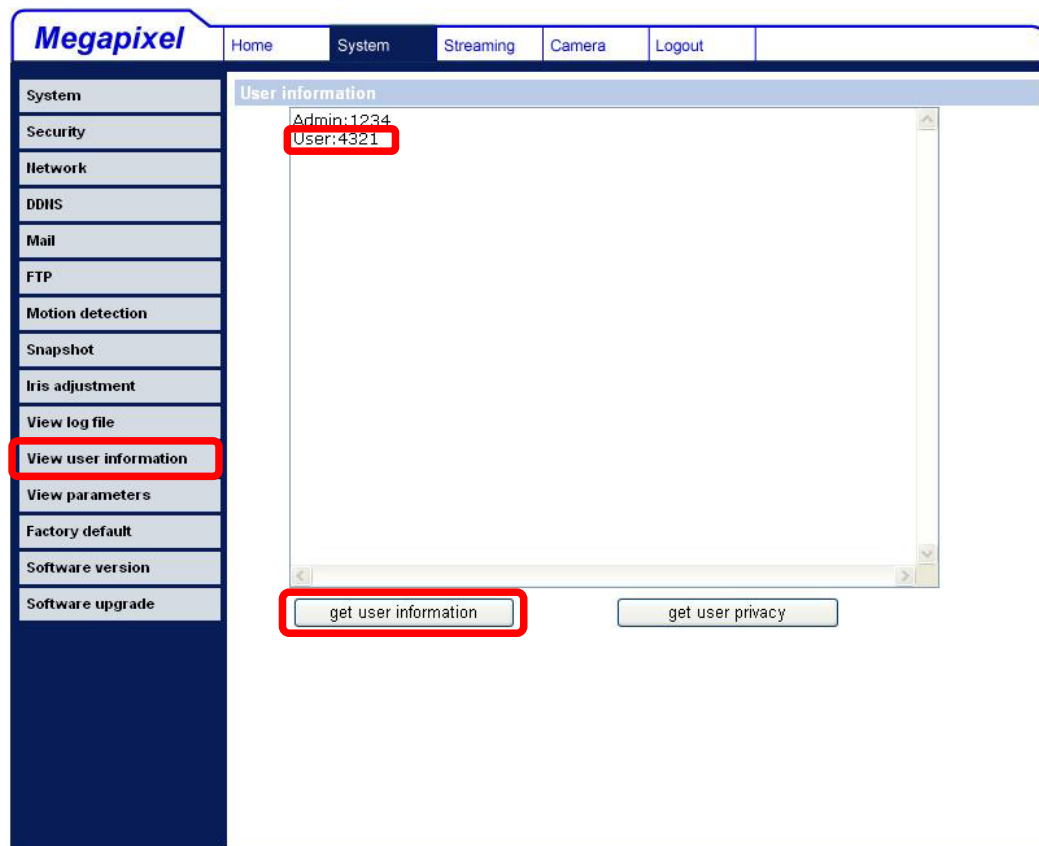
The Administrator can view each added user's login information and privileges (see 5.3.2 Security).

View User Login Information

All the users in the network will be listed in the "User information" zone, as shown below. As the figure below shows:

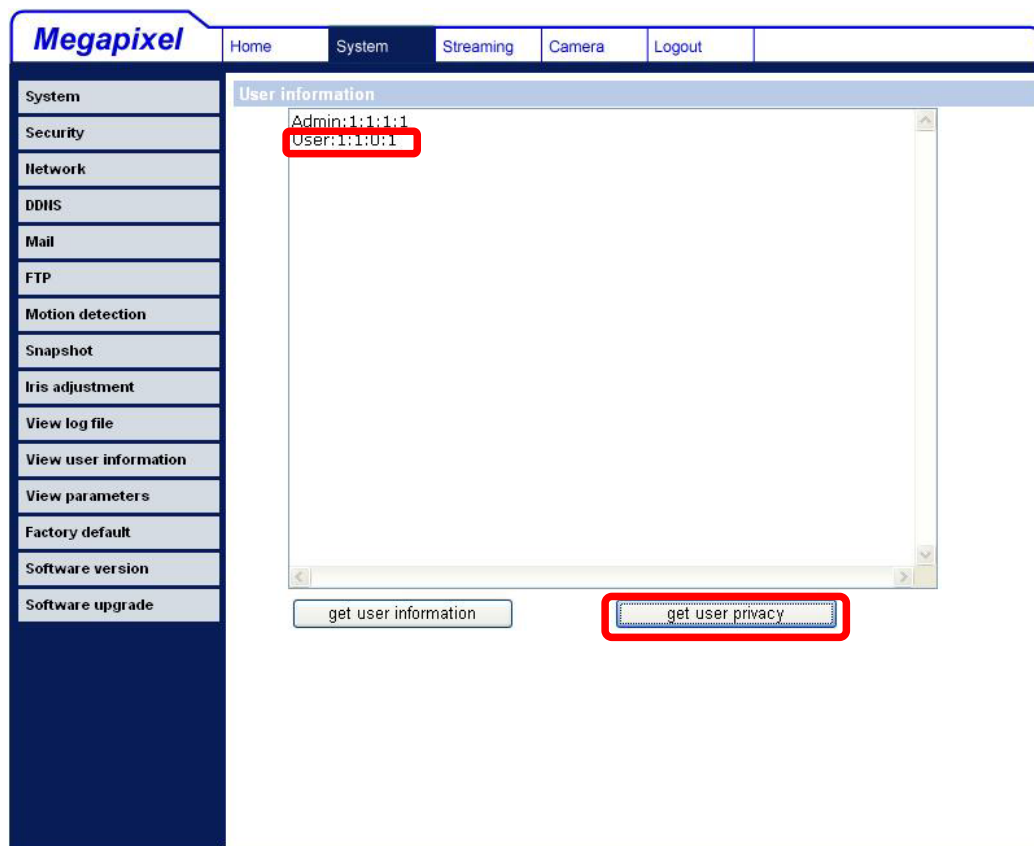
User: 4321

It indicates that one user's login username is: User, and password is: 4321.



View User Privilege

Press "get user privacy" down the page, and the Administrator can view each user's privileges.



As the figure above shows:

User: 1:1:0:1

1:1:0:1= I/O access : Camera control : Talk : Listen (see [5.3.2 Security](#))

☒ I/O access	☒ Camera control
☐ Talk	☒ Listen

Therefore, it denotes the user is granted privileges of I/O access, Camera control and Listen.

5.3.13 View Parameters

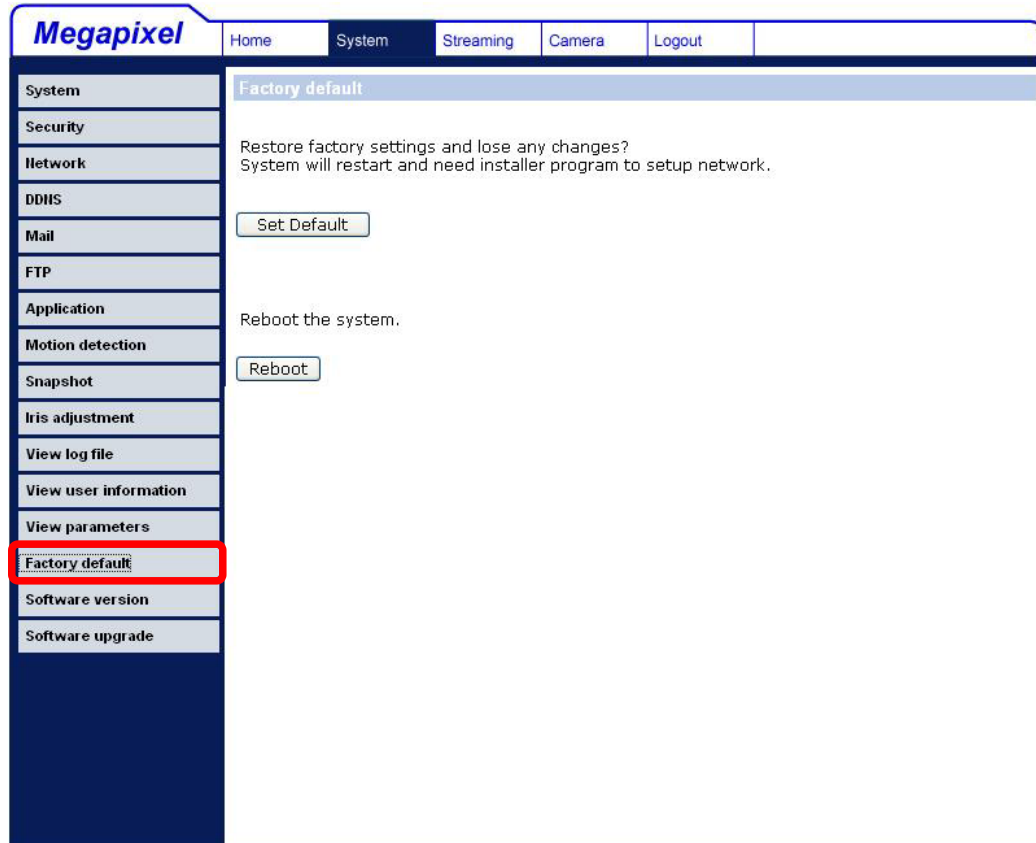
Click on this item to view the entire system's parameter setting.

The screenshot displays the Megapixel web interface. The top navigation bar includes links for Home, System, Streaming, Camera, and Logout. The left sidebar contains a list of system management options: System, Security, Network, DDNS, Mail, FTP, Application, Motion detection, Snapshot, Iris adjustment, View log file, View user information, View parameters (highlighted with a red rectangle), Factory default, Software version, and Software upgrade. The main content area, titled 'Parameter list', shows the 'Mega Pixel Camera Initial Configuration File' with the following settings:

```
=====
[Camera setting]
=====
exposure mode = <auto>
exposure value = <18>
shutter speed = <56>
white balance mode = <auto>
white balance value = <45>
backlight compensation = <off>
brightness value = <0>
sharpness value = <128>
contrast value = <128>
digital zoom value = <1>
```

5.3.14 Factory Default

The factory default setting page is shown as below. Follow the instructions to reset the IP camera to factory default setting if needed.



Set Default

Click on the “Set Default” button to recall the factory default settings. Then the system will restart in 30 seconds.



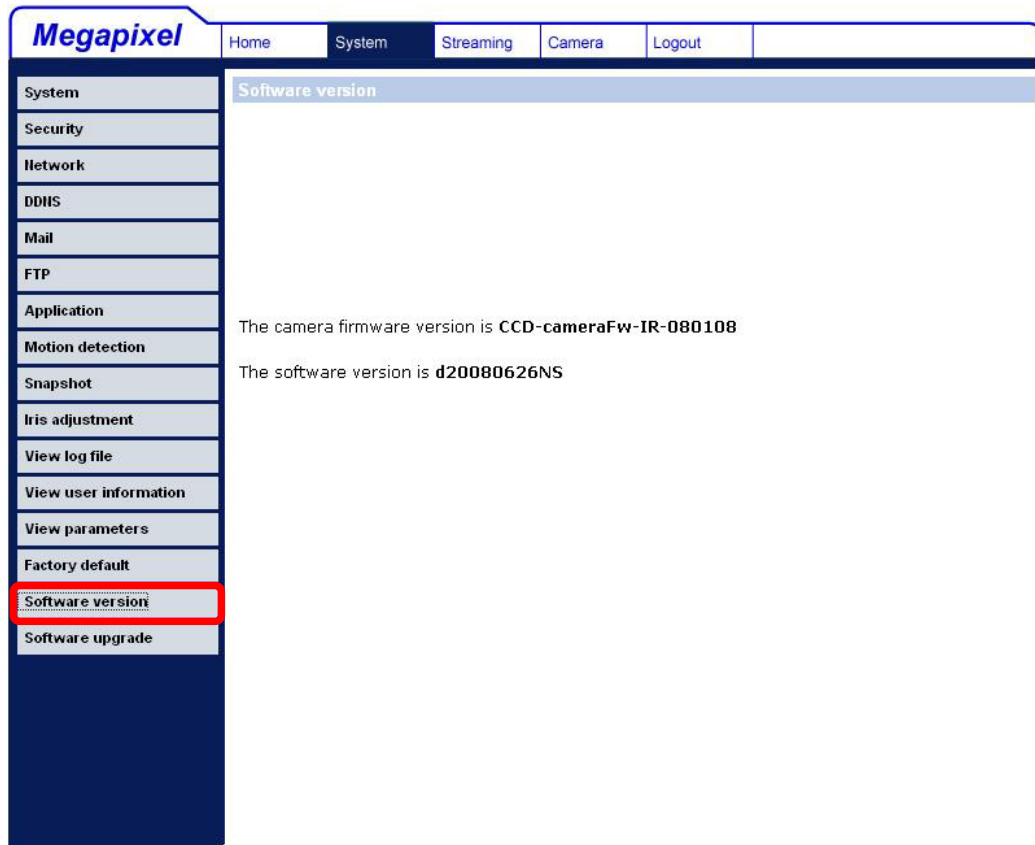
NOTE: The IP address will be restored to default.

Reboot

Click on the “Reboot” button, and the system will restart without changing current settings.

5.3.15 Software Version

The current software version is displayed in the software version page, which is shown as the figure below.



5.3.16 Software Upgrade

Software upgrade can be carried out in the “Software Upgrade” page, as shown below.

The screenshot displays the Megapixel web interface. The top navigation bar includes links for Home, System, Streaming, Camera, and Logout. A left sidebar lists various system settings: System, Security, Network, DDNS, Mail, FTP, Application, Motion detection, Snapshot, Iris adjustment, View log file, View user information, View parameters, Factory default, Software version, and Software upgrade (which is highlighted with a red border). The main content area is titled 'Upgrade' and provides instructions for software upgrading. It outlines three steps: Step 1 involves uploading a binary file using a text input field and a 'Browse...' button; Step 2 involves selecting a binary file from a dropdown menu, with 'userland.jffs2' currently selected; and Step 3 involves clicking an 'Upgrade' button to start the process.



NOTE: Make sure the upgrade software file is available before carrying out software upgrade.

The procedure of software upgrade is like the following:

Step 1: Click “Browse” and select the binary file to be uploaded, ex. Userland.jffs2.

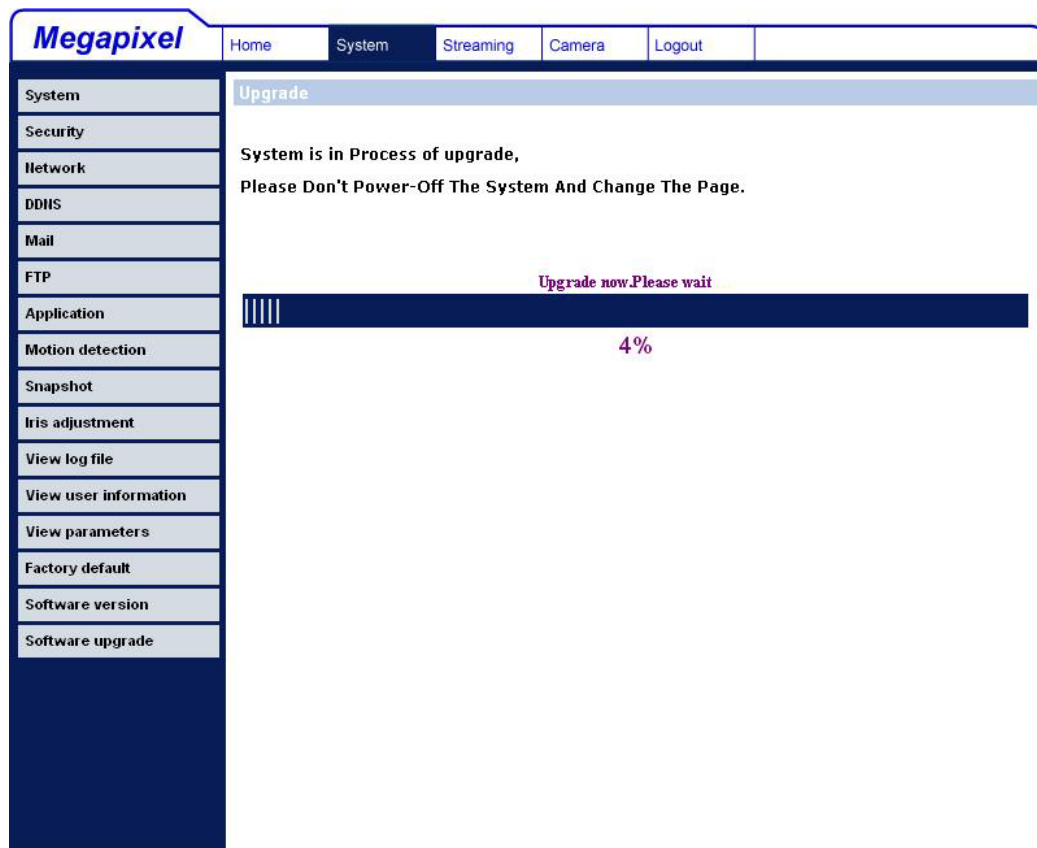
The screenshot shows the Megapixel web interface. On the left is a dark blue sidebar with a menu containing: System, Security, Network, DDNS, Mail, FTP, Application, Motion detection, Snapshot, Iris adjustment, View log file, View user information, View parameters, Factory default, Software version, and Software upgrade. The top navigation bar includes: Home, System, Streaming, Camera, and Logout. The main content area is titled 'Upgrade' and contains the instruction 'Follow These Steps To Do The Software Upgrade'. It outlines three steps: Step 1: Upload the binary file, with a text input showing 'C:\userland\userland.jffs2' and a 'Browse...' button highlighted with a red rectangle; Step 2: Select binary file you want to upgrade, with a dropdown menu showing 'userland.jffs2'; and Step 3: Click the upgrade button to start the upgrade process, with an 'Upgrade' button below.



NOTE: Do not change the upgrade file name, or the system will fail to find the file.

Step 2: Pull down the upgrade binary file list and select the file you want to upgrade; in this case, select “userland.jffs2.”

Step 3: Press “Upgrade”. The system will first check whether the upgrade file exists or not, and then begin to upload the upgrade file. Subsequently, the upgrade status bar will display on the page. When it runs to 100%, the upgrade process is finished.



After the upgrade process is finished, the viewer will return to Home page, and operation can continue.

5.4 Video and Audio Streaming Settings

Press the tab "Streaming" in the top of the page, and the configurable video and audio items will display in the left column. In Streaming, the Administrator can configure specific video resolution, video compression mode, video protocol, audio transmission mode, etc. Further details of these settings will be specified in the following sections.

5.4.1 Video Resolution and Rotate Type

The video setting page is show as below:

Megapixel Home System **Streaming** Camera Logout

Video Format

Video Resolution :

- ☒ MJPEG 1280x960 (15fps) + MPEG-4 VGA (15fps)
- ☐ MJPEG 1280x960 (15fps) + MPEG-4 QVGA (15fps)
- ☐ MJPEG 1280x960 (15fps) + MPEG-4 CIF (15fps)
- ☐ MJPEG 1280x960 (15fps) + MPEG-4 QCIF (15fps)
- ☐ MJPEG 640x480 (30fps) + MPEG-4 VGA (30fps)
- ☐ MJPEG 640x480 (15fps) + MPEG-4 VGA (15fps)

Video Rotate Type :

- ☒ Normal video
- ☐ Flip video
- ☐ Mirror video
- ☐ 180 degree rotate

Video Resolution

The IP Camera provides various video dual streaming formats like the following:

- MJPEG 1280x960 (15fps) + MPEG-4 VGA (15fps)
- MJPEG 1280x960 (15fps) + MPEG-4 QVGA (15fps)
- MJPEG 1280x960 (15fps) + MPEG-4 CIF (15fps)
- MJPEG 1280x960 (15fps) + MPEG-4 QCIF (15fps)
- MJPEG 640x480 (30fps) + MPEG-4 VGA (30fps)
- MJPEG 640x480 (15fps) + MPEG-4 VGA (15fps)

Click “Save” to confirm the setting.

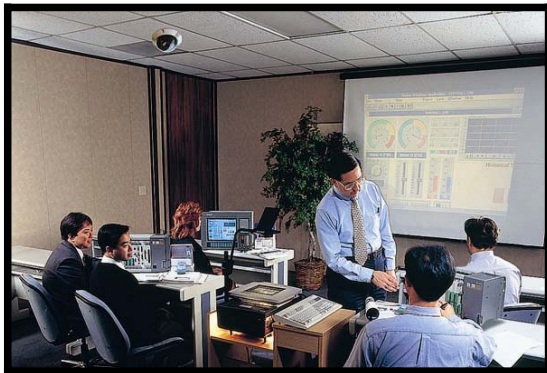
Video Rotate Type

Users can change video display type if necessary. Selectable video rotate types include Normal, Flip, Mirror and 180 degree. Differences among these types are illustrated as below.

Suppose the displayed image of IP camera is shown as the figure below.



To rotate the image, users can select “Flip”, for instance. Then the displayed image will be reversed as shown below.



The following is descriptions for different video rotate type.

- **Flip**
If select <Flip>, the image will be rotated vertically.
- **Mirror**
If select <Mirror>, the image will be rotated horizontally.
- **180 Degree**
Selecting <180 Degree> will make the image 180° counter-/clockwise inversed.

Click “Save” to confirm the setting.

5.4.2 Video Compression

Users can select a proper MJPEG/MPEG-4 compression mode in the video compression page (see the figure below), depending on the application.

Megapixel Home System Streaming Camera Logout

Video Format

Video Compression

Video OCX Protocol

Video Frame Skip

Audio

Video Compression

MJPEG Compression setting :

- ☐ high compression , low bitrate , low quality
- ☐ middle compression , default
- ☒ low compression , high bitrate , high quality

MPEG-4 Compression setting :

- ☐ 128kbps , highest compression , lowest quality
- ☐ 256kbps , default
- ☐ 512kbps
- ☒ 1024kbps , lowest compression , highest quality

☒ **Display compression information in the home page**

MJPEG compression settings include:

- high compression, low bitrate, low quality
- middle compression, default
- low compression, high bitrate, high quality

MPEG-4 compression settings include:

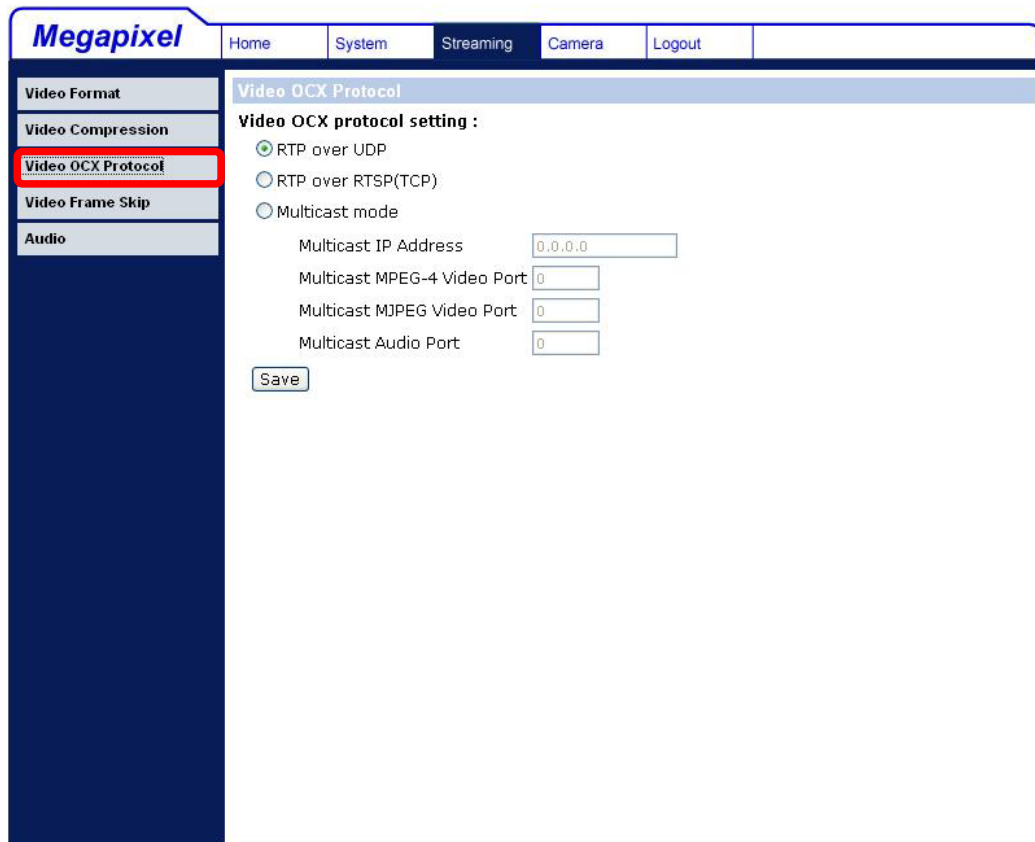
- 128 kbps , highest compression , lowest quality
- 256kbps , default
- 512kbps
- 1024kbps , lowest compression , highest quality

Users can also decide whether to display compression information in Home page.

Click “Save” to confirm the setting.

5.4.3 Video OCX Protocol

In the Video OCX protocol setting page, users can select RTP protocol using UDP or TCP transport, for streaming media over the network. In the case of multicast networking, users can select the Multicast mode. The page is shown as follows.



The screenshot shows a web interface for the Megapixel Video OCX Protocol settings. The top navigation bar includes links for Home, System, Streaming, Camera, and Logout. The left sidebar contains a menu with options: Video Format, Video Compression, Video OCX Protocol (highlighted with a red box), Video Frame Skip, and Audio. The main content area is titled 'Video OCX Protocol' and contains the following settings:

- Video OCX protocol setting :**
 - ☒ RTP over UDP
 - ☐ RTP over RTSP(TCP)
 - ☐ Multicast mode
- Multicast IP Address:
- Multicast MPEG-4 Video Port:
- Multicast MJPEG Video Port:
- Multicast Audio Port:
-

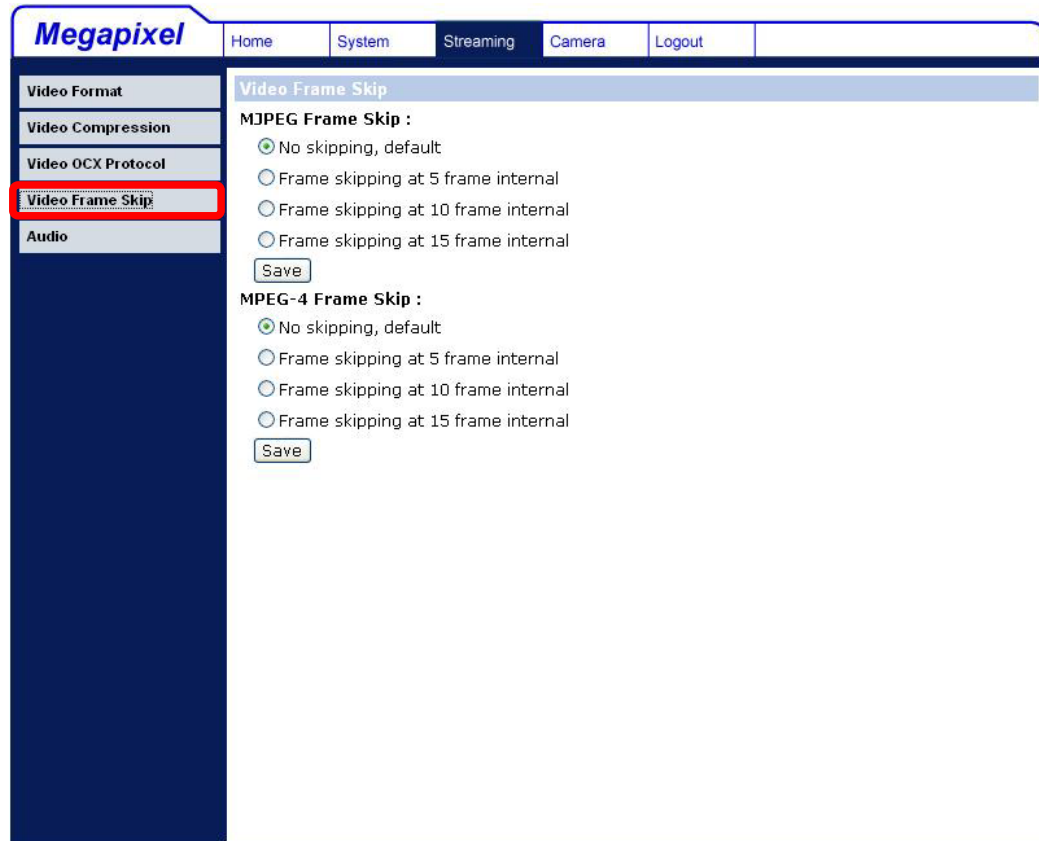
Video OCX protocol setting options include:

- RTP over UDP/RTSP(TCP)
Select a mode according to your data delivery requirements.
- Multicast Mode
Enter all required data, including multicast IP address, MPEG-4 video port, MJPEG video port and audio port, into each blank.

Click “Save” to confirm the setting.

5.4.4 Video Frame Skip

Video frame skipping is for saving bandwidth, if necessary. The setting page is shown as below.



The screenshot shows the Megapixel web interface. The top navigation bar includes links for Home, System, Streaming, Camera, and Logout. On the left sidebar, the 'Video Frame Skip' option is highlighted with a red box. The main content area is titled 'Video Frame Skip' and contains two sections: 'MJPEG Frame Skip' and 'MPEG-4 Frame Skip'. Each section has four radio button options: 'No skipping, default' (selected), 'Frame skipping at 5 frame internal', 'Frame skipping at 10 frame internal', and 'Frame skipping at 15 frame internal'. A 'Save' button is located at the bottom of each section.

MJPEG/MPEG-4 Frame Skip options include:

- No skipping, default
- Frame skipping at 5 frame internal (lowest frame loss rate)
- Frame skipping at 10 frame internal
- Frame skipping at 15 frame internal (highest frame loss rate)



NOTE: Higher frame skipping rate will decrease video smoothness.

5.4.5 Audio Mode and Bit Rate Settings

The audio setting page is shown as below. In the Audio page, the Administrator can select one transmission mode and audio bit rate.

The screenshot shows the Megapixel web interface. The top navigation bar includes links for Home, System, Streaming, Camera, and Logout. The left sidebar lists configuration options: Video Format, Video Compression, Video OCX Protocol, Video Frame Skip, and Audio (highlighted with a red box). The main content area is the Audio settings page. It features a 'Transmission Mode' section with five radio button options: Full-duplex (Talk and listen simultaneously), Half-duplex (Talk or listen, not at the same time), Simplex (Talk only), Simplex (Listen only), and Disable (selected). Below this is a 'Bit Rate' section with a dropdown menu currently set to 'uLAW' and a 'Save' button.

Transmission Mode

- **Full-duplex (Talk and Listen simultaneously)**
In the Full-duplex mode, the local and remote sites can communicate with each other simultaneously, i.e. both sites can speak and be heard at the same time.
- **Half-duplex (Talk or Listen, not at the same time)**
In the Half-duplex mode, the local/remote site can only talk or listen to the other site at a time.
- **Simplex (Talk only)**
In the Talk only Simplex mode, the local/remote site can only talk to the other site.

- **Simplex (Listen only)**

In the Listen only Simplex mode, the local/remote site can only listen to the other site.

- **Disable**

Select the item to turn off the audio transmission function.

Bit Rate

Selectable audio transmission bit rate include 16 kbps (G.726), 24 kbps (G.726), 32 kbps (G.726), 40 kbps (G.726), uLAW (G.711) and ALAW (G.711). Both uLAW and ALAW signify 64 kbps but in different compression formats. Higher bit rate will let higher audio quality and require bigger bandwidth.

Click “Save” to confirm the setting.

5.5 Camera Settings

The figure below is the Camera configuration page. Details of each parameter setting are described as follows.



5.5.1 Exposure Setting

The Exposure pull-down menu is shown as follows:



The exposure is the amount of light received by the image sensor and is determined by the width of lens diaphragm opening (iris adjustment), the amount of exposure by the sensor (shutter speed) and other exposure parameters. With this item, users can define how the Auto Exposure function works.

Each exposure mode is specified as follows:

Full Auto Mode

In this mode, the camera's Shutter Speed, IRIS and AGC (Auto Gain Control) control circuits work together automatically to get consistent video output level.

Auto Flickerless (50Hz)/(60Hz) Mode

Television scanning (PAL & NTSC) and power supply systems (AC 50 & 60 Hz) are not the same in different countries and regions. Users might find flickering situation displayed on the screens because the devices are working under different frequency systems. With Auto Flickerless function, users could reduce the symptom.

Manual Mode

In this mode, users can select a number between 1 and 15, which represents shutter speed ranging from 1/4 to 1/10000 sec; bigger number means slower shutter. Once change the setting, press <SET> to confirm the new setting.

Fixed Shutter Mode

In this mode, fixed shutter speed could be selected from the draw-down menu. The range is provided from 1.5 to 1/10000 sec. and total 17 different shutter

speed could be chose Users could select suitable shutter speed based on the camera environment.

5.5.2 White Balance Setting

The White Balance pull-down menu is shown as follows:



A camera needs to find reference color temperature, which is a way of measuring the quality of a light source, for calculating all the other colors. The unit for measuring this ratio is in degree Kelvin (K). Users can select one of the White Balance Control modes according to the operating environment. The following table shows the color temperature of some light sources for reference.

Light Sources	Color Temperature in K
Cloudy Sky	6,000 to 8,000
Noon Sun and Clear Sky	6,500
Household Lighting	2,500 to 3,000
75-watt Bulb	2,820
Candle Flame	1,200 to 1,500

Auto Mode

In this mode, white balance works within its color temperature range and calculates the best-fit white balance.

Indoor/outdoor Mode

Select for indoor or outdoor mode.

Manual Mode

In this mode, users can change the White Balance value manually. Users can select a number between 1 ~ 11, and press <SET> to confirm the new setting.

5.5.3 Backlight Setting



Based on various lighting situations, users could select to turn on or off the function of backlight compensation to optimize the video quality. The default value of Backlight is Off.

5.5.4 Brightness Setting



Users can adjust the image's brightness by adjusting the item. To increase video brightness, select a bigger number. Press <SET> to confirm the new setting.

5.5.5 Sharpness Setting



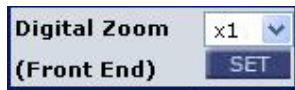
Increasing the sharpness level can make the image looked sharper; especially enhance the object's edge. Press <SET> to confirm the new setting.

5.5.6 Contrast Setting



Camera image contrast level is adjustable; please select ranging from 1 to 11.

5.5.7 Digital Zoom Setting



The camera's digital zoom is adjustable from x1 to x12 at VGA resolution. Press <SET> to confirm the new setting.

5.5.8 IR Function (Optional)



With the IR function, the camera can still catch clear image at night time or in low light conditions. Users can set IR function to Auto, On or Off mode. The default setting is Auto. Press <SET> to confirm the new setting.

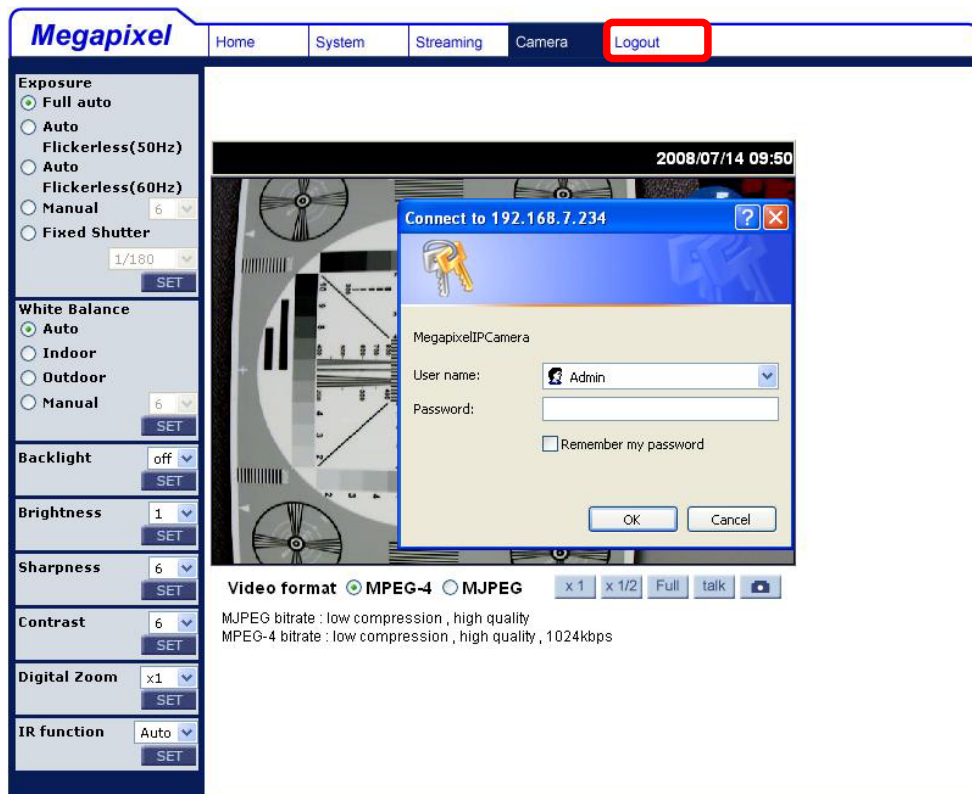
5.5.9 WDR Function (Optional)



The Wide Dynamic Range (WDR) function is for solving high contrast or changing light issues so that enhances better video display. Press <SET> to confirm the new setting.

5.6 Logout

Press the tab “Logout” in the top of the page, and the login window will pop up. This enables login with another user name.

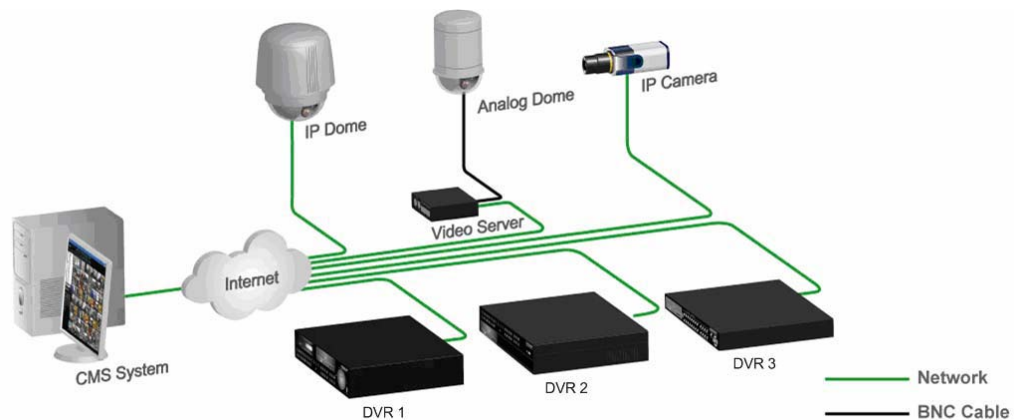


6. CMS Software Introduction

The IP camera bundles Central Management System (CMS) software. Offering powerful functionalities via intuitive interface, it is a centralized monitoring solution of your video surveillance equipments.

It gives the user access to monitor multiple IP cameras and Digital Video Recorders (DVRs), and allows the user to simultaneously monitor 64 sites per group (up to 10 groups) within several clicks.

For further information on CMS software, please refer to the supplied CD.



Appendix A: Technical Specifications

C/CS Mount Lens Model

Camera				
Image Sensor		1/3" Sony Progressive CCD	1/3.8" Sony Progressive CMOS	1/4" Sony Progressive CCD
Picture Elements		1280(H) x 960(V)	1280(H) x 960(V)	659(H) x 494(V)
Resolution		>700 TVL	>700 TVL	N/A
Minimum Illumination		0.02ux @ F 1.2 (Color) 0.001 lux @ F1.2 (B/W)	0.06ux @ F 1.2 (Color) 0.005 lux @ F1.2 (B/W)	0.02 lux @ F 1.2 (Color) 0.001 lux @ F1.2 (B/W)
Shutter Speed		1.5~ 1/10000 sec.	1.5~1/15000 sec.	1/1.5 ~ 1/10000 sec.
White Balance		Manual / ATW (1500 ~ 15000K)		
Lens				
C/CS mount Lens		Video drive & DC drive (switchable)		
Operation				
Video Compression		MPEG-4 / MJPEG		
Video Streaming		Simultaneous MPEG-4 and MJPEG video stream (dual stream)		
Resolution		MPEG-4: VGA, QVGA, CIF, QCIF MJPEG: 1280x960(4 VGA), VGA		MPEG-4: VGA, QVGA, CIF, QCIF MJPEG: 640x480(VGA)
Frame Rate		MPEG-4 30fps@VGA, MJPEG 15fps@1280x960		MPEG-4 30fps@VGA, MJPEG 30fps@VGA
Image Setting	Brightness	Manual		
	Exposure	Auto / Manual		
	Sharpness	Manual		
	Contrast	Manual		
	White Balance	Auto / Manual / Indoor / Outdoor		
	Digital Zoom	1x ~ 12x		
	Rotation	Flip, Mirror, and 180° Rotate		
Audio	Two-way Audio	Line out, Line in/Mic in		
	Compression	G.711 / G.726		
Alarm	Input	5V 10kΩ pull up		
	Output	Photo relay output 300VDC/AC		
Network				
Interface		10/100 Ethernet (RJ-45)		
Protocol		TCP/IP, UDP, RTP, RTSP, HTTP, ICMP, FTP, SMTP, DHCP and IGMP		
Password Levels		User and Administrator		
Internet Browser		Internet Explorer (6.0+)		

User Account		20		
Mechanical				
Lens Mounting		C/CS mount / Varifocal board mount		
Connectors	Power	DC Jack		
	Ethernet	RJ-45		
	Audio	Stereo phone jack, ∅ 3.5mm		
	Alarm	4 pins terminal block, pitch 3.5mm		
	Auto Iris	Video drive & DC drive		
LED Indicator		Power, Link, ACT		
General				
Operating Temperature		0°C ~ 50°C		
		Humidity: 10% to 90%, no condensation		
Power Source		DC12V/PoE/AC24V		
Power Consumption		4.2W (max. 350mA@DC12V)	3W (max. 250mA@DC12V)	3.6W (max. 300mA@DC12V)
Certificate		CE, FCC, RoHS compliant		
Dimension		125 x 70 x 52 mm (L x W x H) (w/o lens)		
Weight		250 g (0.55 lb)		

Varifocal Lens Model

Camera							
Image Sensor		1/3" Sony Progressive CCD		1/3.8" Sony Progressive CMOS			
Picture Elements		1280(H) x 960 (V)		1280(H) x 960 (V)			
Resolution		>700 TVL		>700 TVL			
Minimum Illumination		0.2 lux @ F1.2		0.6 lux @ F1.2			
Shutter Speed		1.5~ 1/10000 sec.		1.5~1/15000 sec.			
White Balance		Manual / ATW (1500 ~ 15000K)					
Lens							
Varifocal Lens		Max Aperture		Wide F1.4, Tele F2.9			
		Lens Focal Length		F= 3.3 ~ 12 mm			
Angle of View		Wide end		Diagonal 125.7° / Horizontal 89.8°		Diagonal 82.7° / Horizontal: 63.6°	
		Tele end		Diagonal 29.9° / Horizontal 23.9°		Diagonal 22.4° / Horizontal: 17.9°	
Iris Control		Auto/Manual					
Operation							
Video Compression		MPEG-4 / MJPEG					
Video Streaming		Simultaneous MPEG-4 and MJPEG video stream (dual stream)					
Resolution		MPEG-4: VGA, QVGA, CIF, QCIF MJPEG: 1280x960(4 VGA), VGA					
Frame Rate		MPEG-4 30fps@VGA, MJPEG 15fps@1280x960					
Image Setting		Brightness		Manual			
		Exposure		Auto / Manual			
		Sharpness		Manual			
		Contrast		Manual			
		White Balance		Auto / Manual / Indoor / Outdoor			
		Digital Zoom		1x ~ 12x			
		Rotation		Flip, Mirror, and 180° Rotate			
Audio		Two-way Audio		Line out, Line in/Mic in			
		Compression		G.711 / G.726			
Alarm		Input		5V 10kΩ pull up			
		Output		Photo relay output 300VDC/AC			
Network							
Interface		10/100 Ethernet (RJ-45)					
Protocol		TCP/IP, UDP, RTP, RTSP, HTTP, ICMP, FTP, SMTP, DHCP and IGMP					
Password Levels		User and Administrator					
Internet Browser		Internet Explorer (6.0+)					

User Account		20	
Mechanical			
Lens Mounting		C/CS mount / Varifocal board mount	
Connectors	Power	DC Jack	
	Ethernet	RJ-45	
	Audio	Stereo phone jack, □ 3.5mm	
	Alarm	4 pins terminal block, pitch 3.5mm	
	Auto Iris	Video drive & DC drive	
LED Indicator		Power, Link, ACT	
General			
Operating Temperature		0°C ~ 50°C Humidity: 10% to 90%, no condensation	
Power Source		DC12V/PoE/AC24V	
Power Consumption		4.2W (max. 350mA@DC12V)	3W (max. 250mA@DC12V)
Certificate		CE, FCC, RoHS compliant	
Dimension		164.5 x 72.5 x 52 mm (L x W x H)	
Weight		310 g (0.68lb)	

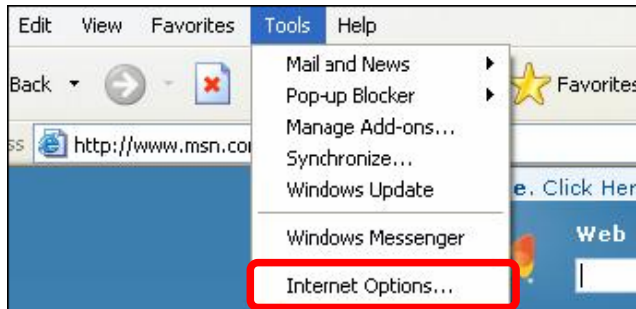
Appendix B: Internet Security Settings

If ActiveX control installation is blocked, please either set Internet security level to default or change ActiveX controls and plug-ins settings.

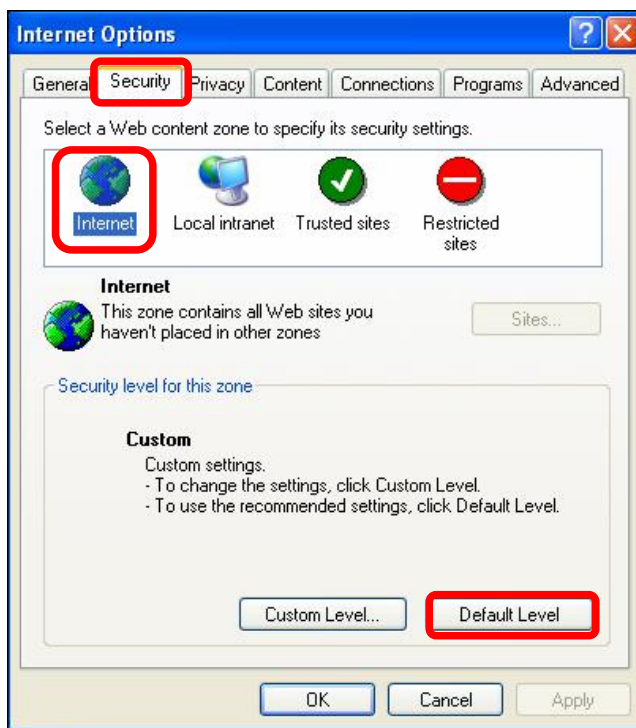
Internet Security Level: Default

Step 1: Start the Internet Explorer (IE).

Step 2: Select <Tools> from the main menu of the browser. Then Click <Internet Options>.



Step 3: Click the <Security> tab, and select <Internet>.

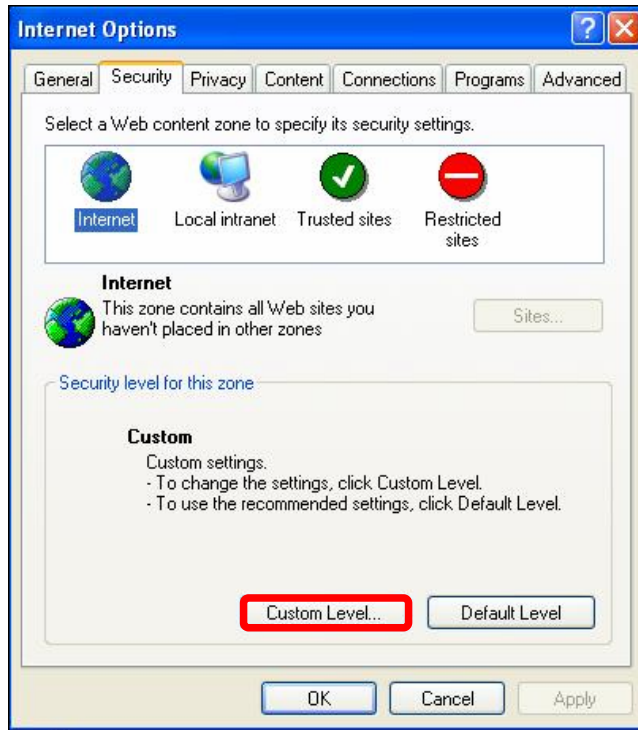


Step 4: Down the page, press “Default Level” (see the figure above) and click “OK” to confirm the setting. Close the browser window, and open a new one later when accessing the IP Camera.

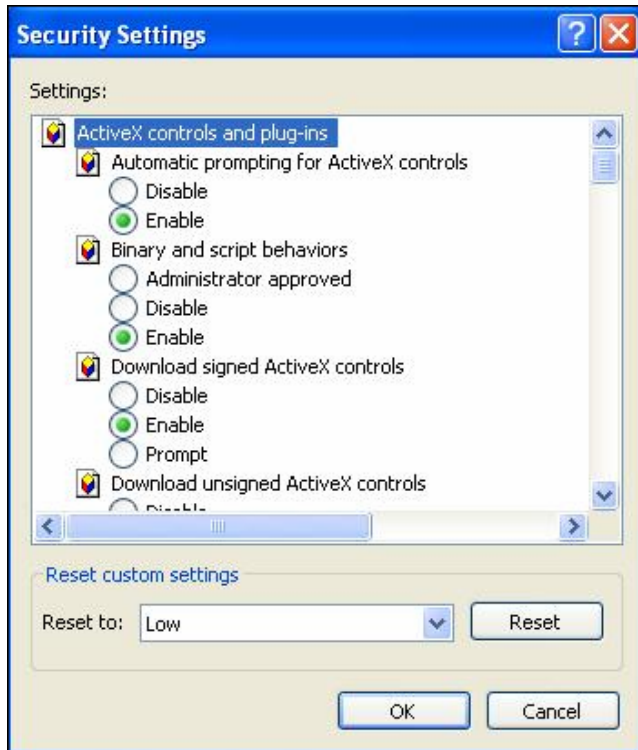
ActiveX Controls and Plug-ins Settings

Step 1~3: Refer to the previous section above.

Step 4: Down the page, press “Custom Level” (see the figure below) to change ActiveX controls and plug-ins settings.



The Security Settings screen is displayed as below:



Step 5: Under “ActiveX controls and plug-ins”, set ALL items (as listed below) to <Enable> or <Prompt>.

ActiveX controls and plug-ins settings:

1. Automatic prompting for ActiveX controls
2. Binary and scrip behaviors
3. Download signed ActiveX controls
4. Download using ActiveX controls
5. Initialize and script ActiveX not marked as safe
6. Run ActiveX controls and plug-ins
7. Script ActiveX controls marked safe for scripting

Step 6: Click <OK> to accept the settings and close the <Security> screen.

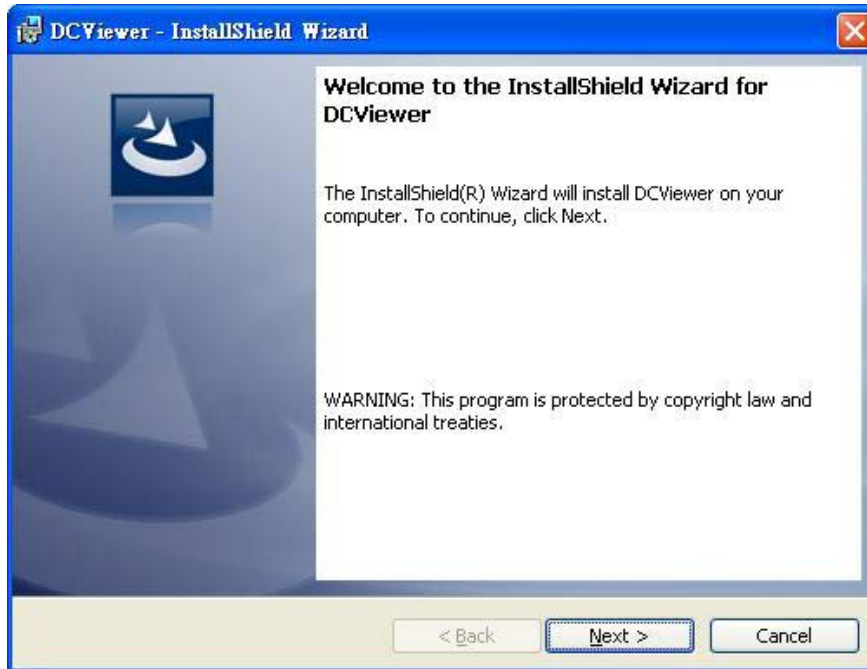
Step 7: Click <OK> to close the Internet Options screen.

Step 8: Close the browser window, and restart a new one later for accessing the IP Camera.

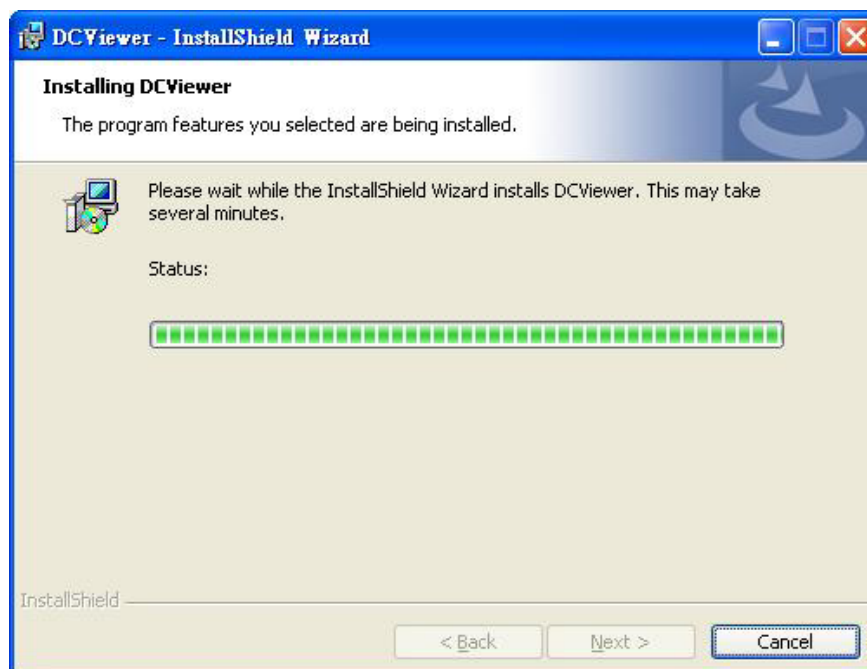
Appendix C: DC Viewer Download Procedure

The procedure of DC Viewer software download is specified as follows.

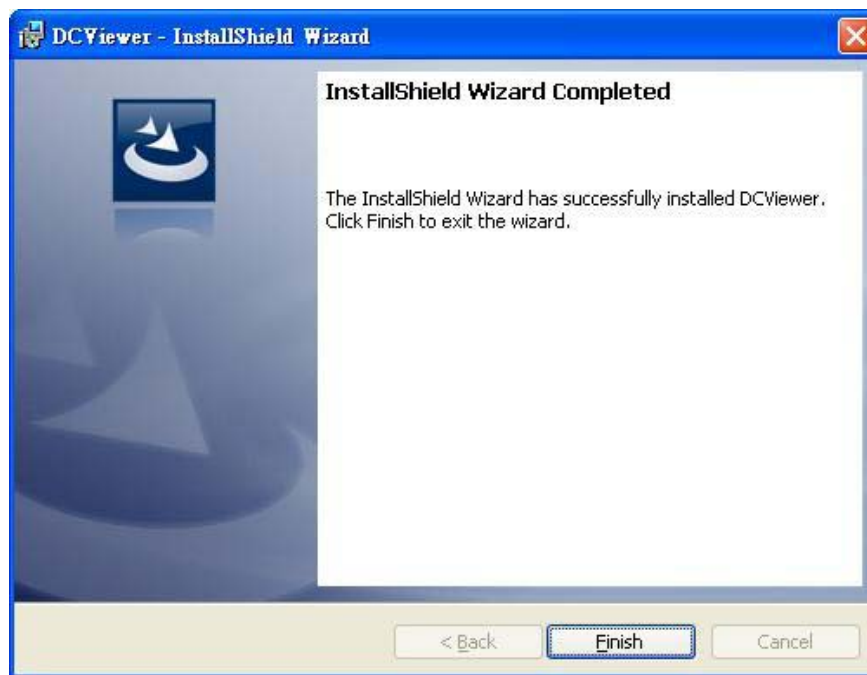
Step 1: In the DC Viewer installation page, click “Next” for starting installing.



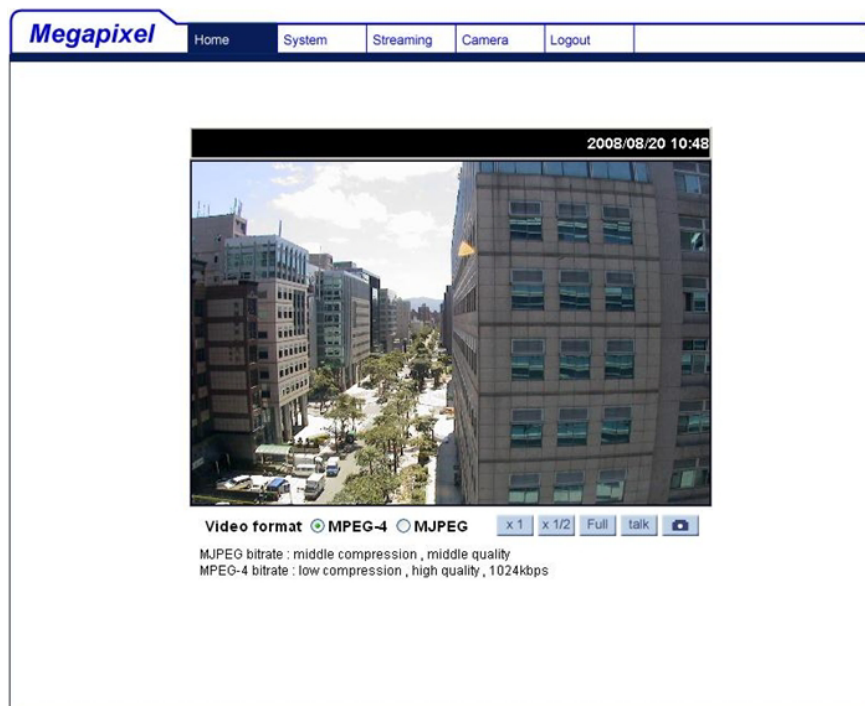
Step 2: Setup starts. Please wait for a while until the loading bar runs out.



Step 3: Click “Finish” to close the DC Viewer installation page.



Then, the IP Camera's Home page will display as follows:



Appendix D: Back Focus Adjustment

When to adjust back focus

Back Focus refers to the distance from the rear lens element to the camera focal plane. In most cases, it is required to adjust back focus only when the camera's lens cannot hold focus throughout its zoom range,

What requirements

Tools required when carrying out back focus adjustment include:

1. Back focus adjuster (in the IP Camera's package)
2. Test chart / contrasting object

How to adjust back focus

Step 1: Set the camera on a stable mount, with the test chart or object at least 75 feet (23 meters) away (or as far as possible).

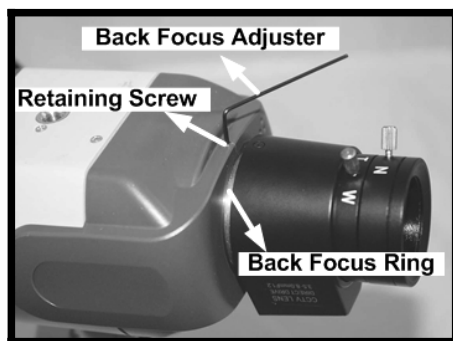
Step 2: Make sure the iris is wide open. Therefore, it is advised to keep the environment in low light condition.

Step 3: Adjust the focus to infinite far (∞).

Step 4: Turn the zoom to the extreme telephoto position, and then focus on the subject.

Step 5: Set the zoom to wide-angle position.

Step 6: Loosen the back focus ring's retaining screw with the supplied adjuster, and adjust the back focus ring for sharp picture.



Step 7: Repeat steps 3 ~ 6 until focus can stay the same throughout the zoom range.

Step 8: Tighten the back focus ring's retaining screw to fix the ring.