IP-1614GII
IP Cameras Products Series

User Manual &
Installation Guide

Version: 1.0
Date: March 2, 2006

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1. Product Overview

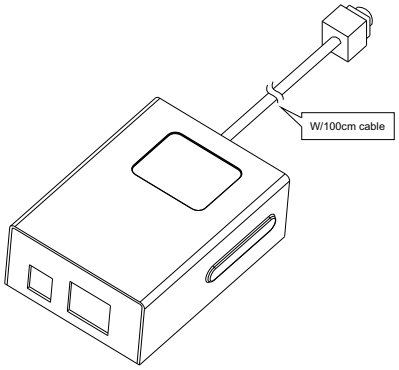
What is IP Cameras?

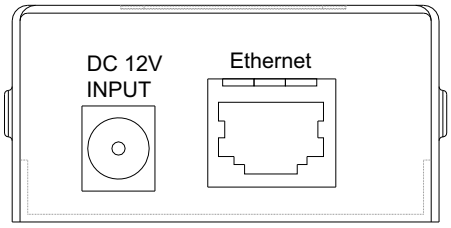
IP Cameras is designed for intranet & internet use. Users can view image or change configurations via built-in web server. The two-layer user-validation prevents any illegal user to monitor or change configuration once user validation is enabled

Product Features

IP Cameras	CPU: 32 Bits RISC Processor. 16Mb Flash, 64Mb SDRAM Linux OS TCP/IP network remote Video transmission system High performance JPEG/MJPEG compression Built-in Web sever Built-in DHCP Client Built-in Motion Detection Frame Rate Control Administrator / User level password protection Snapshots On-line firmware upgrade Frame Rate: NTSC: 30 frame/sec

2. Physical Connections

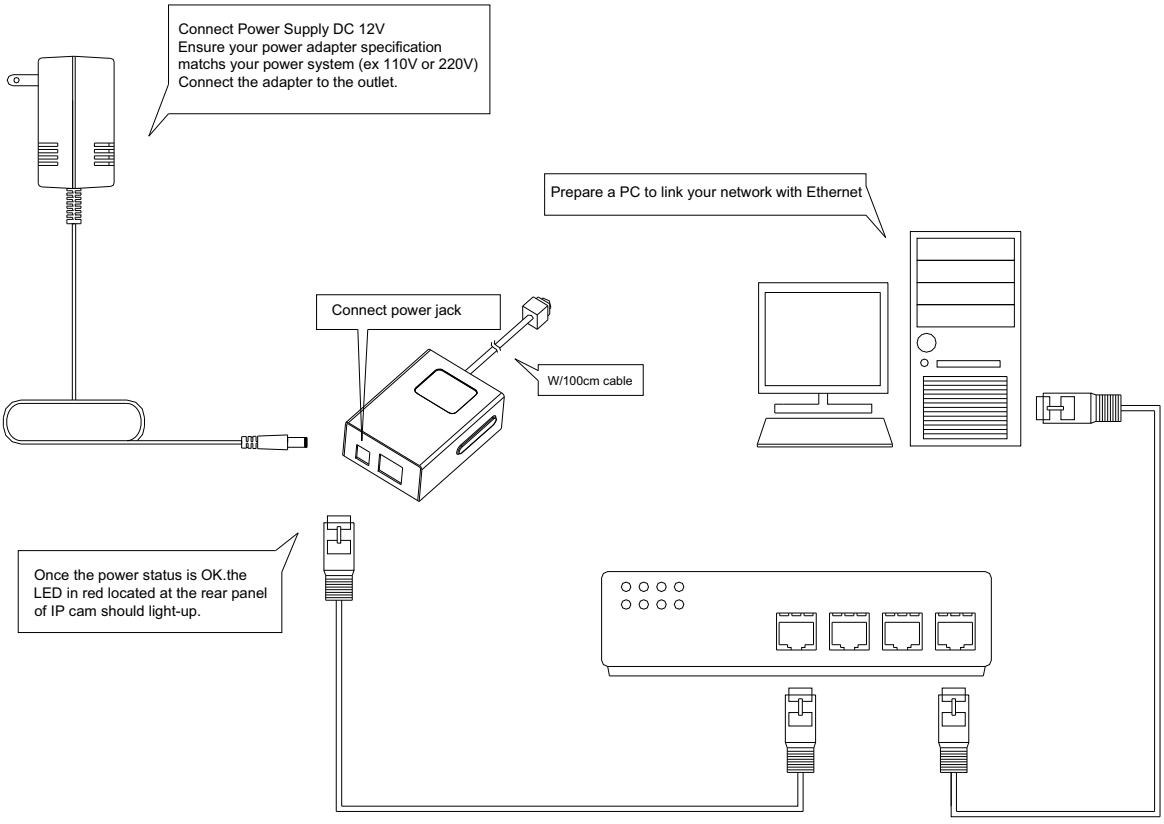




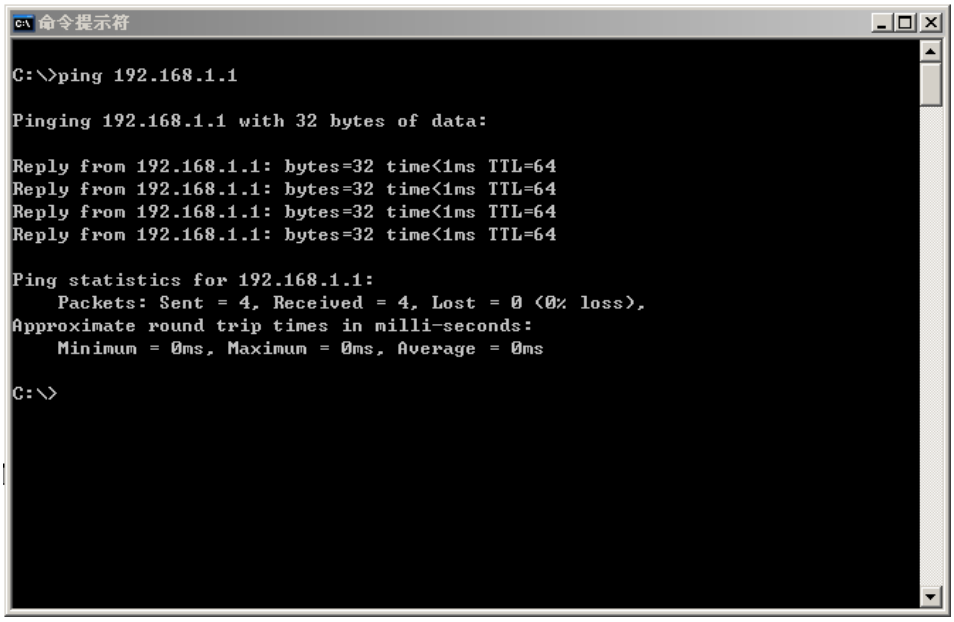
Side Panel Connections **Front Panel Connections**

IP-R1614GII

3. Installation



Network connectivity check



Please check your network connectivity before you start install the product. Confirm the link status of your LAN is OK. You may try use the following way to check the network.

Assuming you are under Microsoft Windows 2000 desktop, Click on Start button, Programs, Accessories, Command Prompt，Then there will be a blank window appear to wait command input. Please key in the following command to test the network status.

C:\>ping 192.168.1.1 [Enter]

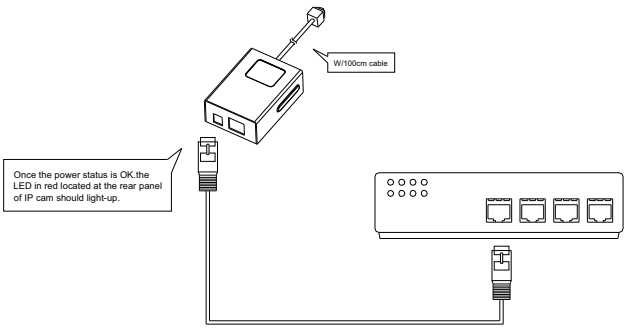
***Note: the target IP address given above may be correct in common scenarios, if your network is not configured by IP segment 192.168.1.x, please change the IP Address to a valid address in your local network. Any difficulties please contact your network administrator for assistance.**

If your network status is OK, the result of above command should like following

Pinging 192.168.1.1 with 32 bytes of data:
Reply from 192.168.1.1 bytes=32 time=10ms TTL=64
…

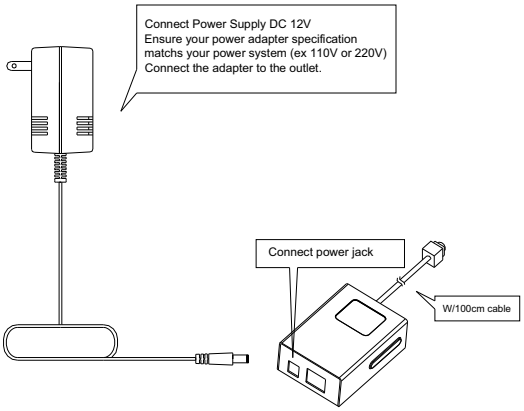
If you have confirmed your network connectivity is OK, Please proceed to next part of installation guide, otherwise, contact your network administrator to recover the problem.

Connect IP cam to network



Connect IP cam to your hub/switch by using a normal RJ45 cable, plug the RJ45 cable into the Ethernet connector locate at the rear panel of the IP cam, another side connect to your hub/switch.

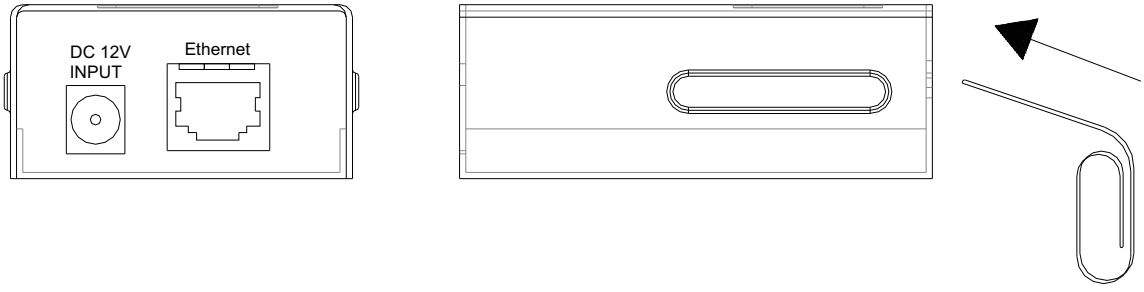
Connect Power Supply



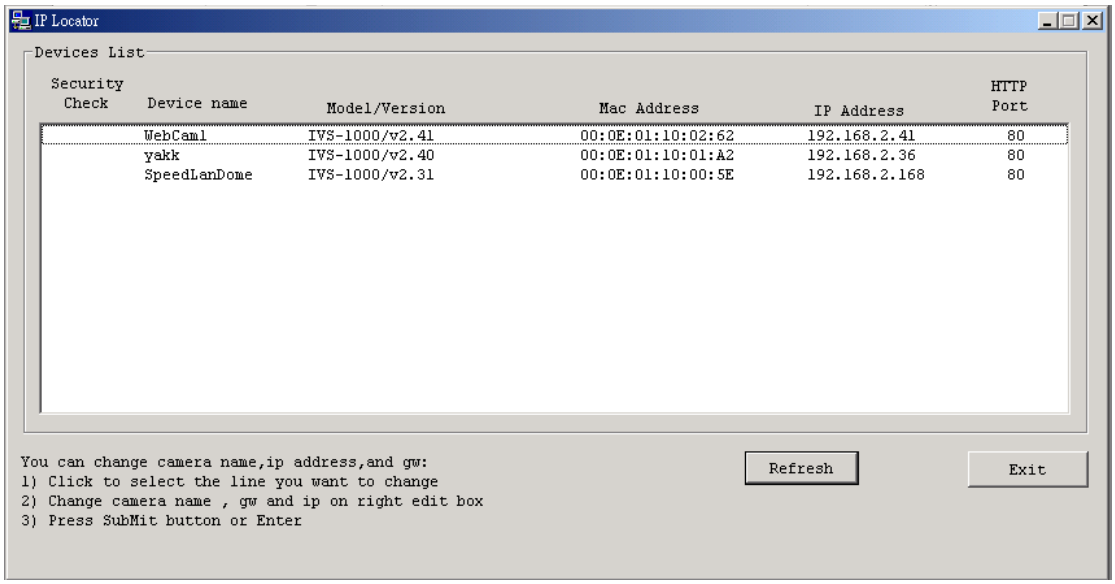
Connect the IP cam and power source with the adapter provided, plug the power adapter into the DC 12V Connector. Once the power status is OK, the LED in red located at the rear panel of IP cam should light-up.

How to reset

Load IP Cam Default Settings



Start your first time network monitoring



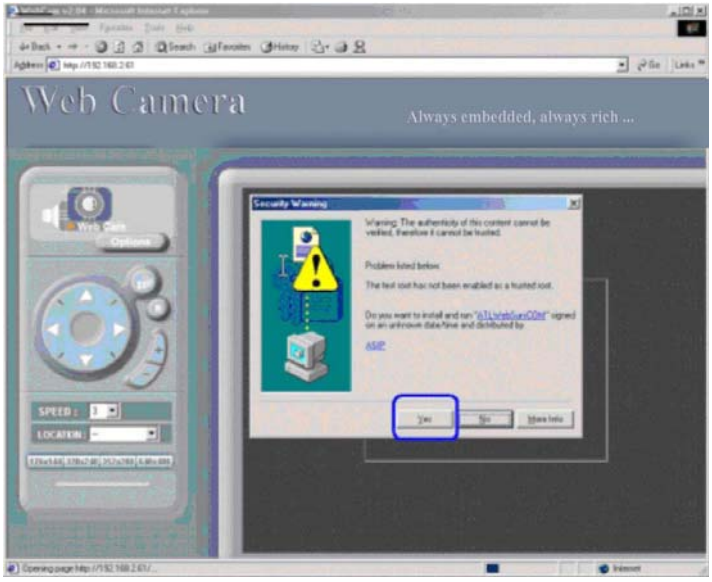
Run the "IPLocator" utility, the newly connected IP cam will be listed in the application window. Please remember its' IP address.
Open an Internet Explorer Window input the following address into the address textbox:

http://**[IP cam IP Address provided by IPLocator]**

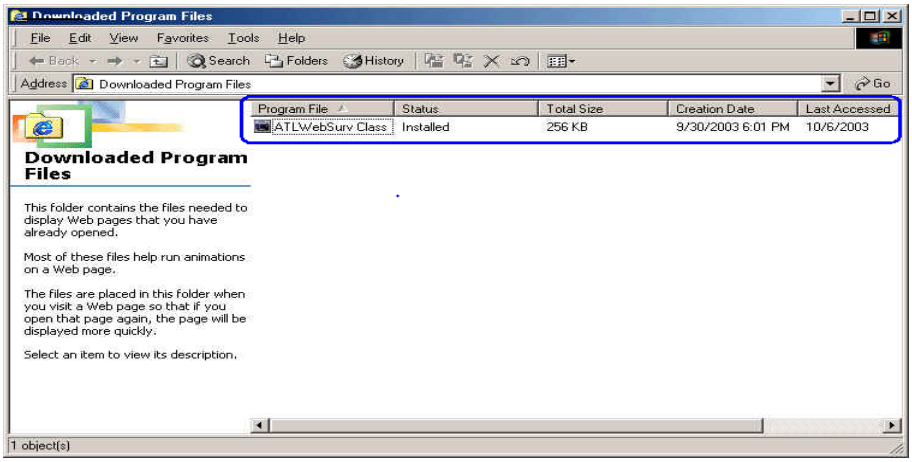
After you press on the enter key, the main working interface and video picked by the camera should appear after a short period. The installation steps are completed. You may now start your first network monitoring experience.
Note: when you first time enter the working interface, the browser may ask whether to install a COMWebSurv component, which is used to communicate with our IP cam product, PLEASE CHOOSE YES to install, otherwise the monitoring function may not work.

How to visit the built-in web

Launch your Internet Explorer (I.E. 6.0 or above) first, then type the IP cam's url. (i.e. http://192.168.1.100). The user validation is disabled as default, no login is necessary. The user is same as the system administrator(Default : root/pass).
For the first time user visits the IP Cam, the ActiveX(ATLWebSurvCOM) will be downloaded to the **[Downloaded Program File]**. Be sure to click the button **[Yes]** as below.
Notes: Call your system administrator if you have not enough privilege to download the ActiveX. (i.e. Users should be the administrator to download the ActiveX for Windows 2000/XP operation system)



You can find the ActiveX ATLWebSurvCOM will be downloaded to the **[Downloaded Program File]** folder. The above dialog will pop automatically once new ActiveX is available(i.e. after firmware upgrade)

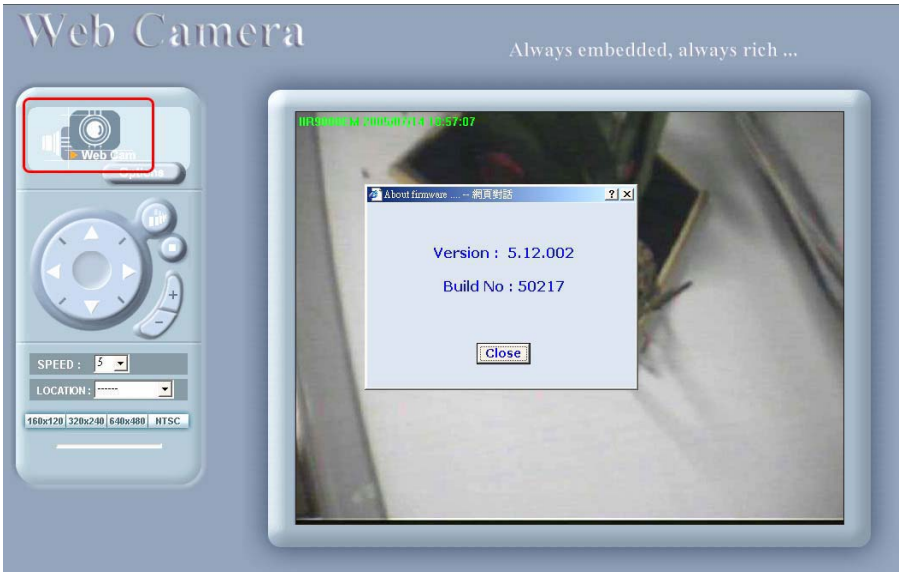


About the User Interface of IP Cam

The upper window is for company logo display (i.e. This is a generic version. The company logo leaves blank). The left side of the window is the control panel. The right window is for image display. (Please switch to full screen mode when the resolution is set to VGA mode)

How to check the firmware version

Click the WebCam icon and you will read the firmware version



How to change the configurations

The system administrator: root is the one who has the privilege to change system configuration if user validation is enabled. The following window will appear when you click [Options] icon in the control panel (left side of the window). The follow is the description & field definition.

[System]:

Server Info: Server Model and Firmware Version

Device Name: the name of hardware device.

Video Mode: Video Mode (NTSC or PAL)

Time Zone: Time Zone Setting

Display Option

Show Camera Name: Show Camera Name on Display

Show Date Time: Show Date Time on display

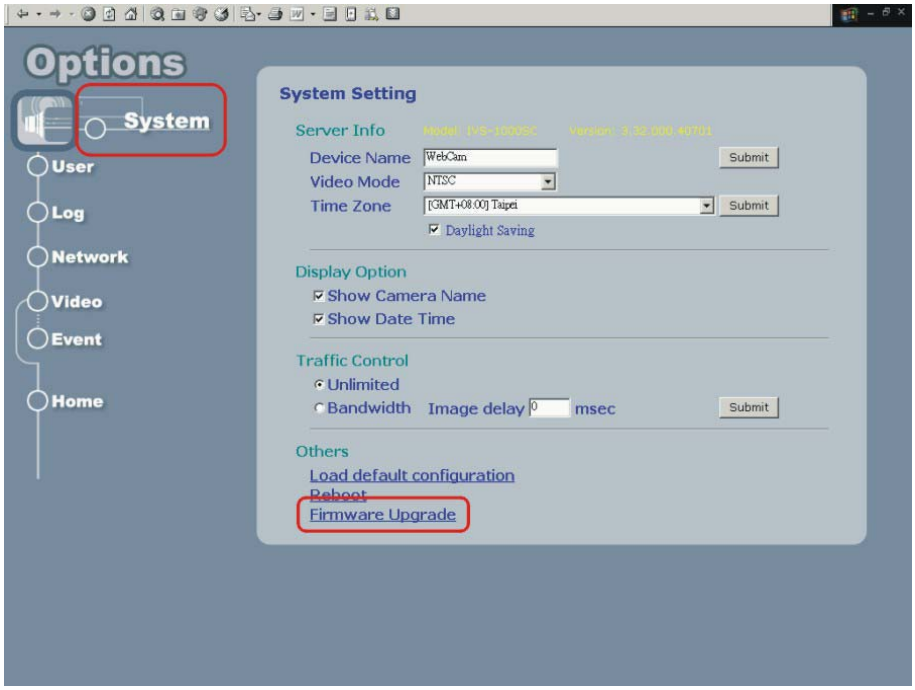
Traffic Control: Bandwidth Setting

Others

Load default configuration: Load the factory default.

Reboot: Reboot the hardware remotely.

Firmware Upgrade : Upload & upgrade the IP cam firmware.

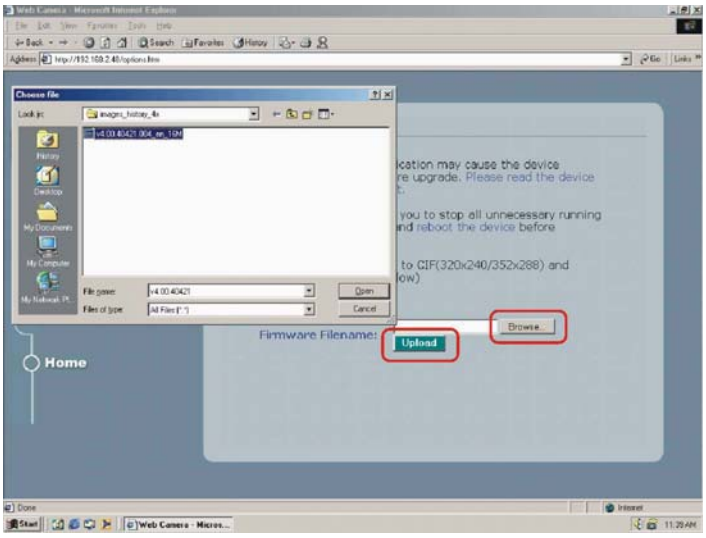


[Firmware Upgrade]: Please follow the standard procedure to upgrade firmware.

Step 0: Stop all unnecessary running application in your PC.

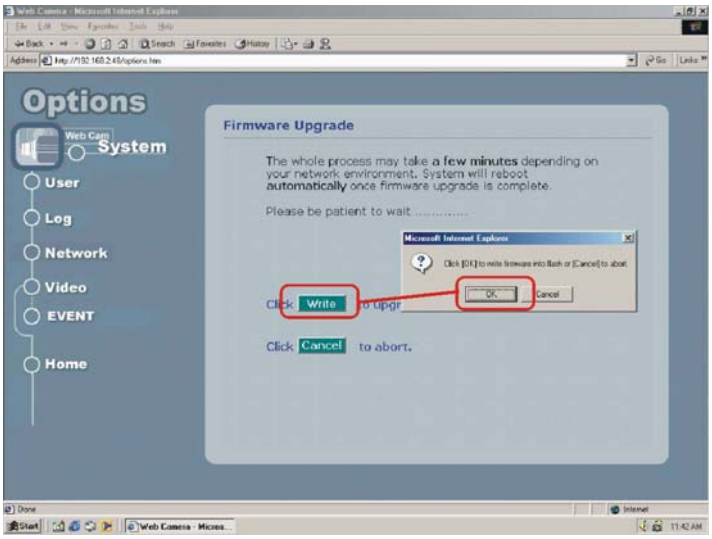
Step 1: Uncheck the **[Browse..]** and **[Upload]** motion images in the Motion Detection Setting and reboot the hardware. **Note: You have to make all event setting to be disable, before you do this step.**

Step 2: Upload the firmware: Be sure to upload the correct firmware. Wrong firmware may cause your IP cam malfunction. It's possible to take a few minutes to upload the firmware into memory depending on the network environment. Since too many unknown situation may occur in the Internet, we strongly recommend you to upgrade firmware in the Intranet.



Step 3: Write firmware to your IP cam. It will take a few minutes to write firmware into flash. The IP cam will reboot automatically when writing firmware is complete. Please DO NOT reboot the device manually.

Note: Any interrupt during writing will cause the IP cam malfunction. The UPS may prevent the power failure problem.



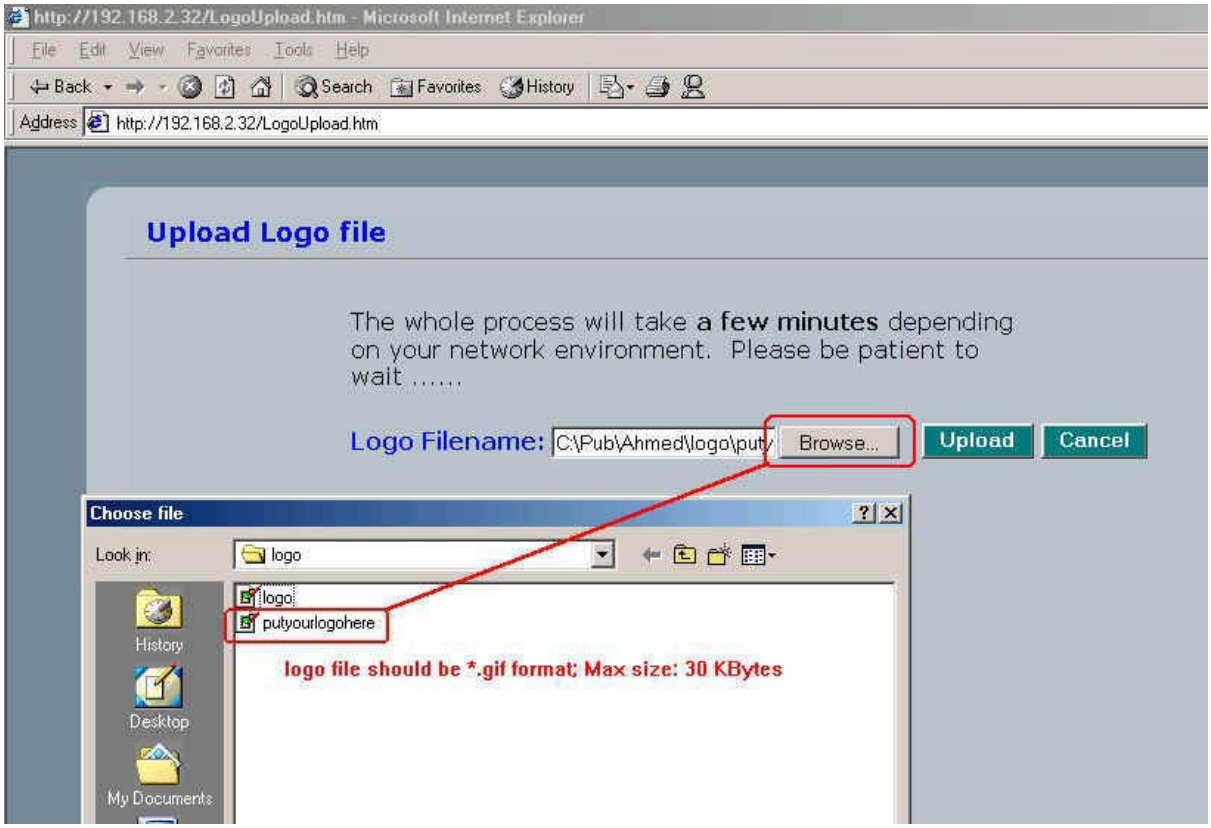
How to change User Logo

We allow you to use your own logo from version v3.0. User logo will not be erased when you upgrade firmware in the future. The detailed procedures are as follows:

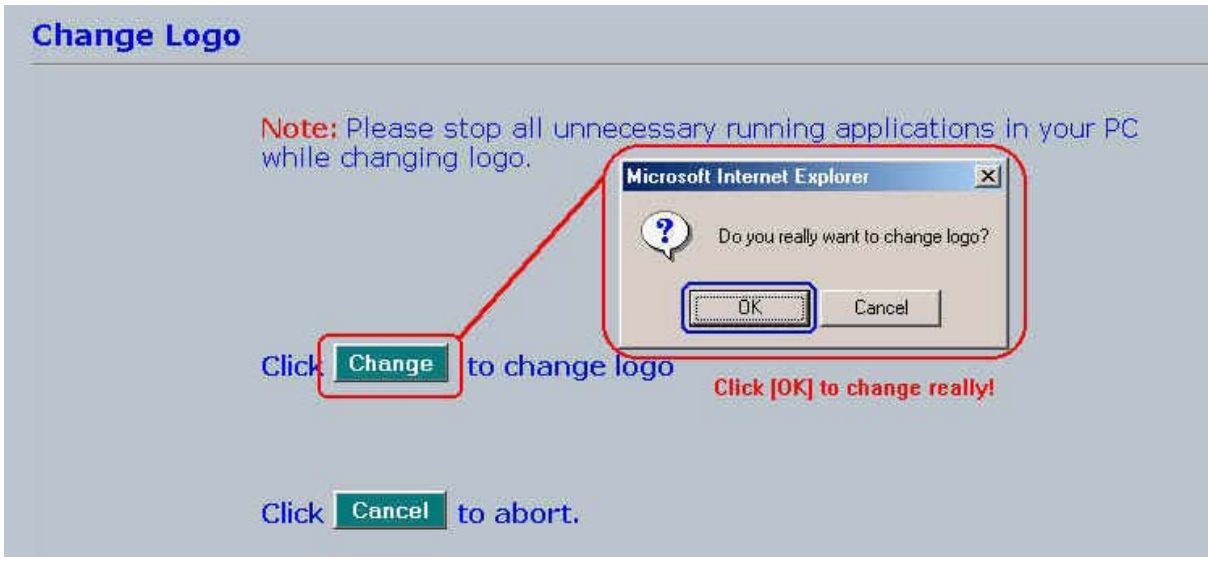
Step1: Type http://Video ServerIP/LogoUpload.htm

Step 2: Browser the logo file to use and upload to upload it.

Note: The file format must be gif and the max size is 30 K bytes.



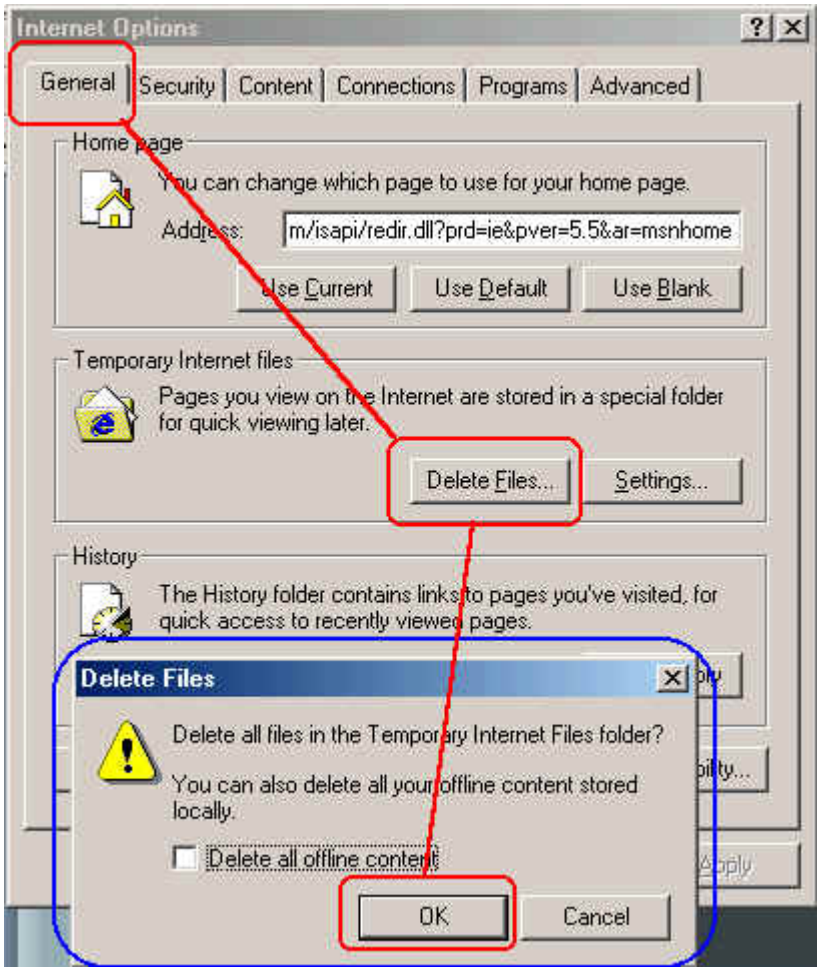
Step 3: Click [Change] button to write logo file into flash memory.



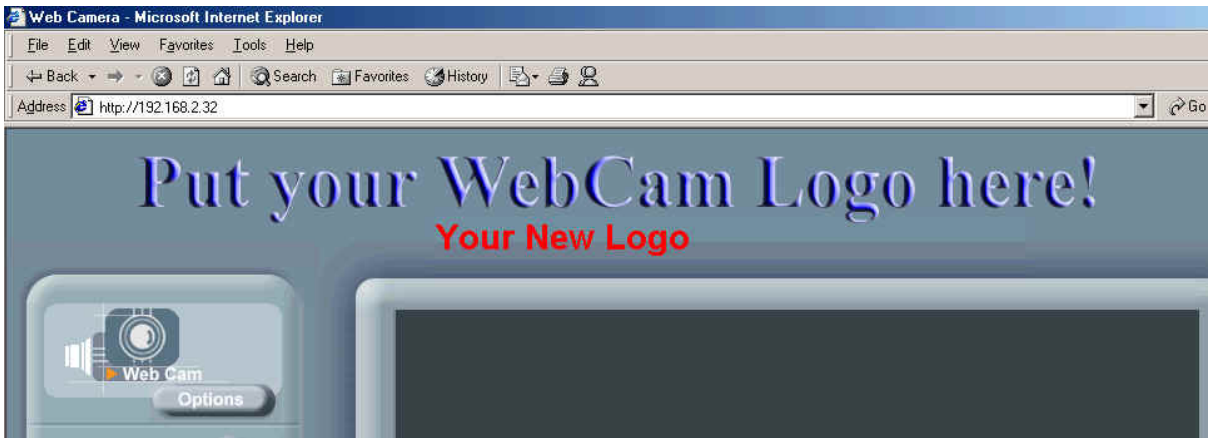
Step 4: Reboot Video Server once ChangeLogo is complete.

Step 5: You have to clear the [Temporary Internet files] to take changes effect since there is always some catch in the I.E. Please click [Tools] [Internet Options..] on the top bar.

Step 6: Clear [Temporary Internet files] as follows.



Step 7: Refresh I.E. (Click F5) to take changes effect. You will see you new logo below.



How to disable and enable user logo

Type: http://Video ServerIP/SetOEM.cgi?LOGO=0 to turn off the user logo

or http://Video ServerIP/SetOEM.cgi?LOGO=1 to turn on the user logo

User Management

The administrator(root) has the privilege to manage users if User Validation is enabled. Here are the configurations available & field definition.

[User]:

User validation

Yes : Enable user check

No : Disable user check

Add/Modify User: To create new user or modify existing user password

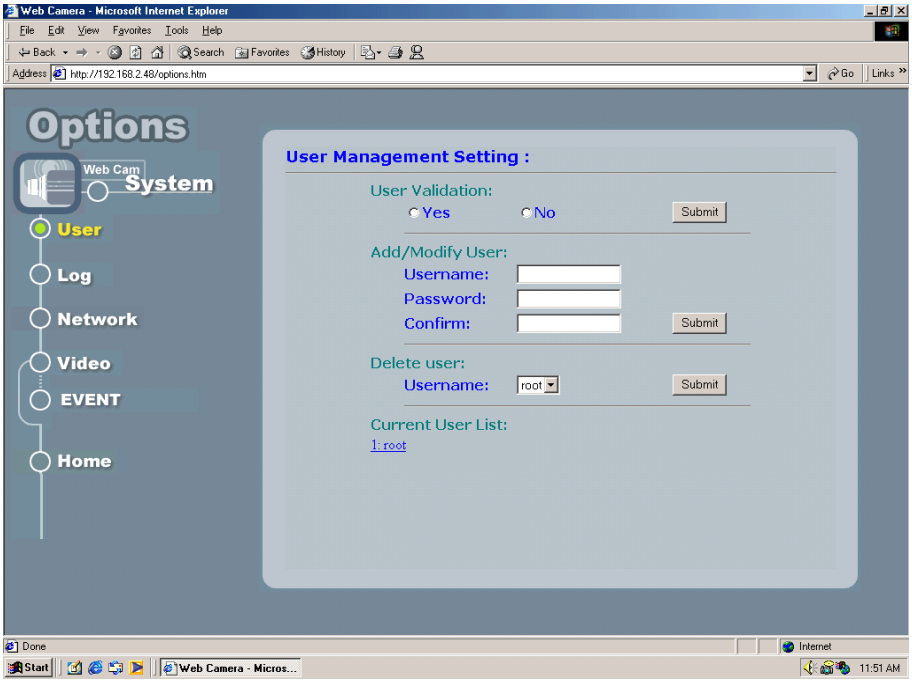
Username : user name

Password: user password

Confirm : user password confirmation

Delete user: To delete existing user

Current User List: The users in the IP cam



Log

The system log will be listed in the window when you click **[Log]** icon.

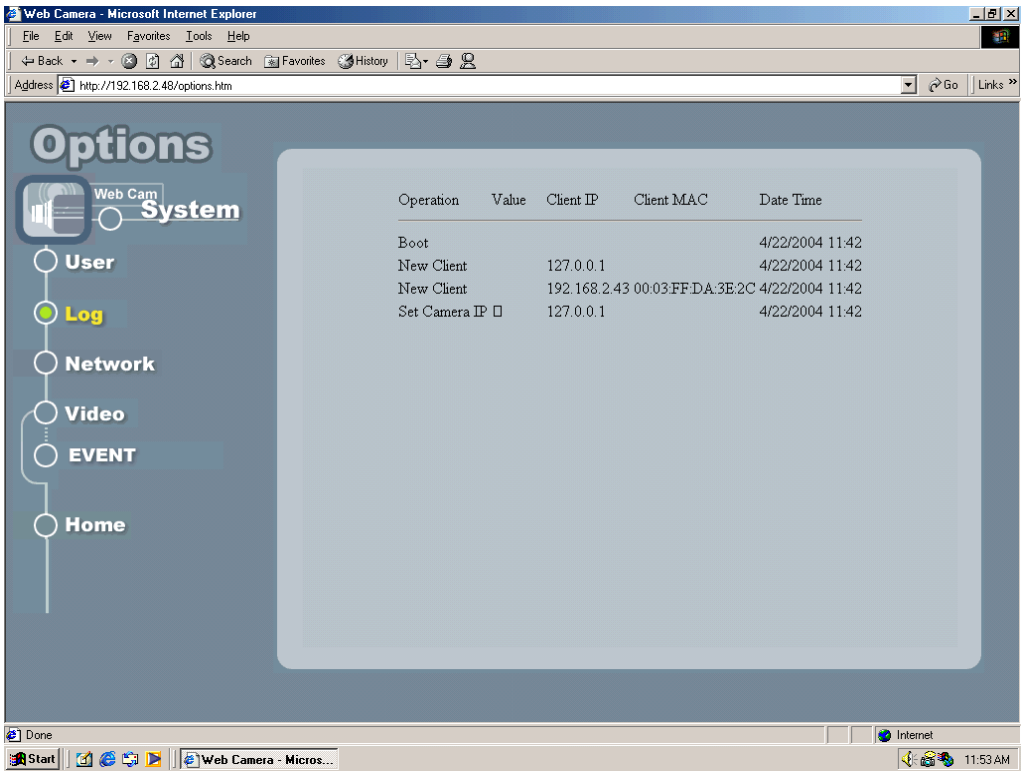
Operation: The operation which user operates

Value: The value to change

Client IP: The IP address of client PC

Client MAC: The mac address of client PC

Datetime: date-time which operation occurs



Network

Allows administrator(root) to change network setting when you click **[Network]** icon.

IP Setting: Please consult you networking manager for the following values

Manual: To set network setting manually.

DHCP: To let IP cam get network setting from DHCP server automatically.

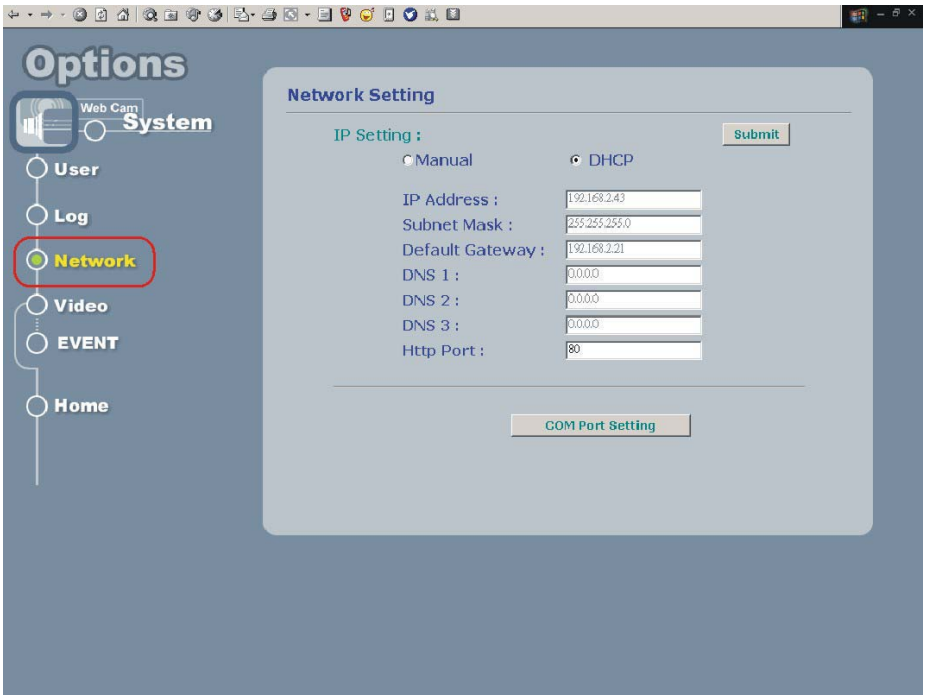
IP Address: IP address of IP cam

Subnet mask: Subnet mask of IP cam

Default Gateway: Default gateway of IP cam

DNS 1/2/3: DNS Server IP if necessary

Http Port: Change the http port of built-in web server (default 80).
(i.e. range 80, 1025 ~ 65535)



Video

Allows administrator(root) to change Image Setting, Traffic Control or Motion Detection.

Image Setting

Quality: Image Quality (Low/Normal/Good/Fine/Excellent)

Images Size: 160x120/176x144/320x240/352x288/640x480/704x576

Rotation: Nomal/180 degree (Upside down)

Advanced: Image preference adjustment

Brightness: Adjust image brightness

Contrast: Adjust image contrast

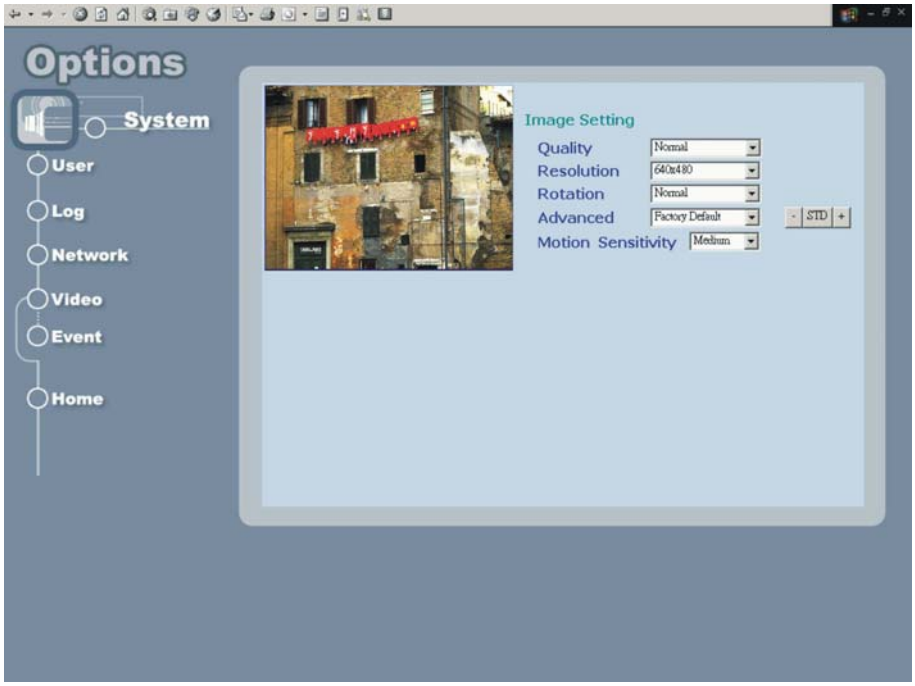
Hue: Adjust image hue

Saturation: Adjust image saturation

Traffic Control

Unlimited: To send out image at full speed. (up to 30 frames per second)

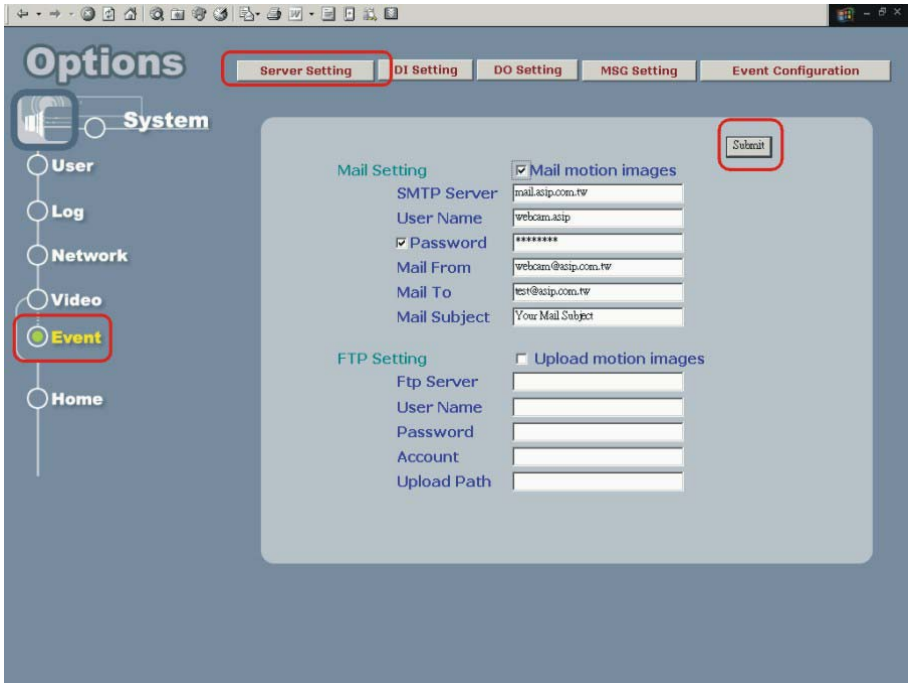
Frame per second: Delay to send image every x second(mini-second)



Event

This Option contains three major functions: Server Configuration, GPIO Configuration and Event Configuration

Server Configuration: User can setup Ftp and Mail services that provides the actions in Event setting.



See figure below:

Allows administrator(root) to configure the mail & ftp setting once motion detected

Mail Setting: if check on Mail motion images, Device will send motion images

Mail Server: Name or IP of Mail server

Username: User name

Password: User password (Password will be validated if checked)

Mail From: Mail sender

Mail To: Mail receiver

Mail Subject: Mail subject

FTP Setting: if check on Mail motion images, Web DVR will upload motion images

FTP Server: FTP Server

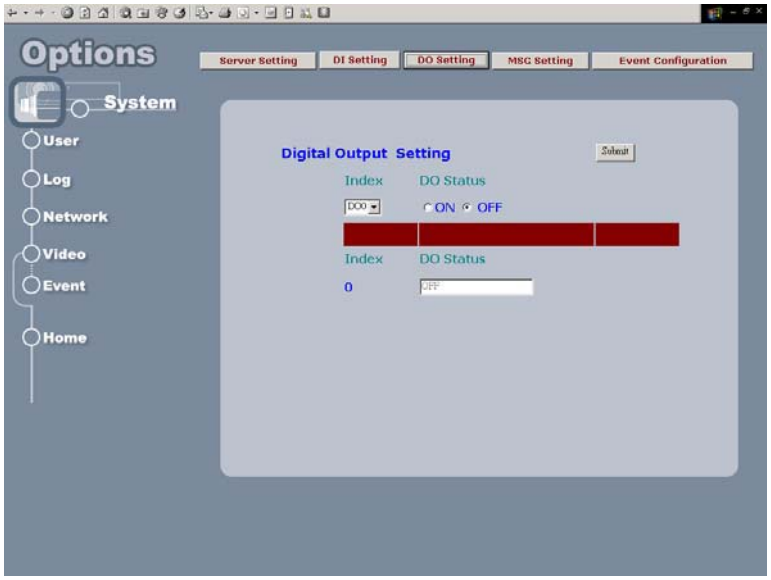
Username: User name

Password: User password

Upload Path: Images upload path

GPIO Configuration : Allow user to define types of digital input and their status.
See Figure below**:**

DO Configuration:



Index: the Index of digital output

DO Type: define type of digital input to : **[Normal Open]** or **[Normal Close]**

DO Status: Disable the DO or Enable it.

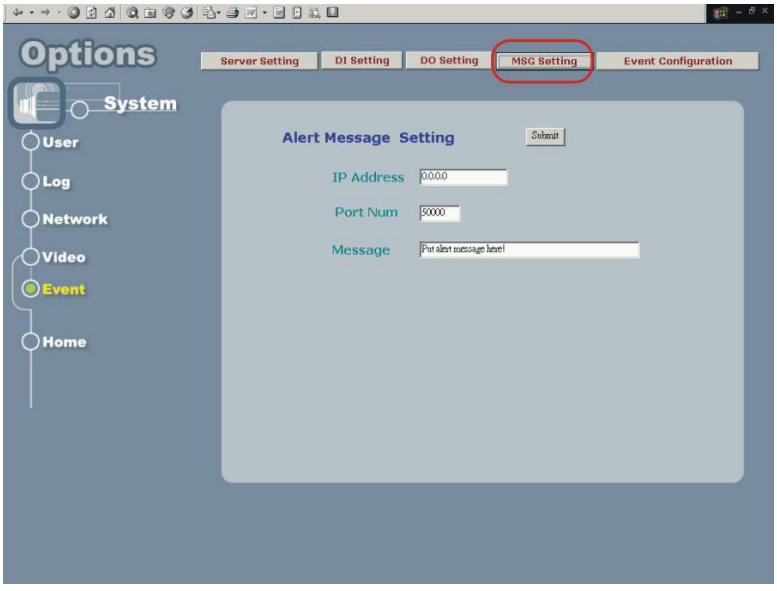
MSG Setting:

Alert Message function provides user the ability to send message to a remote server. Device manager can assign ip address , port number and message for remote server. Thus, Remote server can collect related alert messages via network when events are triggered.

[IP Adderss]: Server's IP adderss.

[Port Num]: Http port Number.

[Message]: Message string.



Event Configuration: User can select Event Index to locate Event (range from 0-2) and also decide to enable or disable this event. Three parts of event setting will be discussed below: **[Trigger condition]**, **[Delay time]**, and **[Trigger Action]**

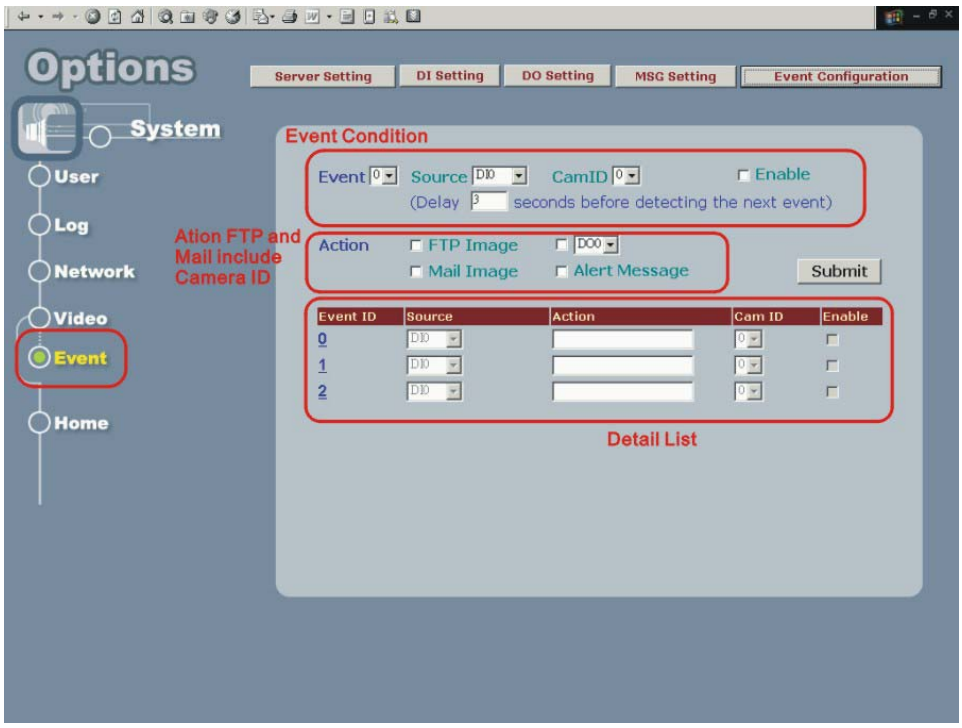
[Source]: The **[Input Type]** contains DI0, DI1 and Motion Detection

[Eanble]: Select to Enable the Input Type that you selected.

[Delay time]: Duration that ignores same event trigger. Range from (1-30) sec

[Action]: Including FTP, MAIL, DO and MSG.

After System accepts trigger condition, related actions can be launched. FTP and MAIL will send image to remote area, thus; [Camera] is necessary for user to specify. DO is related to its index to specify which digital output (Only 0 is enable). MSG can send a string to remote server via TCP protocol which will be released soon.



4. Product Specifications

Models

IP-R1614II: IP Cameras with serial communication support

Specifications:

Items	Specifications
Model	IP-R1614GII
Power	
Supply	DC 12V , 350mA(MAX)
Consumption	~3 Watts
Networking	
Connectivity	10/100 Ethernet
Protocols	SMTP, FTP, DHCP, HTTP
Internet	Built-In HTTP Web Server, DHCP Client
Event Controls	
Trigger By	Motion Detect
Alarm Notifications	**FTP/Mail motion image, Message**
Sensor	1/4" CCD Image Sensor
Images	
Compression	JPEG/MJPEG
Bandwidth Control	Frame Rate Controls
Format	NTSC:640x480/320x240/160x120 PAL: 640x480/352x288/176x144
Frame Rate	25 fps @ 320x240 20 fps @ 352x288
Quality	5 Level Image Quality
Image adjustments	Brightness / Saturation / Contrast / Hue
Security Controls	
Access Control	Administrator / User Level Password Protection
Configuration	Http Port configurable
Log	Historical Access Log Management
Operating Environment	
Temperature	5°C~50°C(45°F~125°F)
Humidity	20% ~ 80%

LED Indications	Power, Network
Dimension	60mm(W) x 31mm(H) x 84mm(L)
Remote Viewing	Windows 98/2000/XP IE5.X or above
Lens	
Built-In Lens	3.7mm/F2.0
Cable	100 flexible cable between the mini lens and the IP CAM

5. Appendix

Dictation

TCP/IP:

Transport Control Protocol/Internet Protocol, the protocol used to transmit data between hosts in Internet, which provides data verification and error protection

Web:

World Wide Web service is used on Internet widely, It's provides interactive rich content by using a web browser

Firmware:

A program built in hardware, which is used to control the hardware, provides software level functions

MJPEG:

Motion JPEG compression algorithm, use to compress digital video

MPEG:

International standard video compression algorithm

DHCP:

Dynamic host configuration protocol, used on IP network perform IP address, gateway, DNS server assignment, etc for client computers

DNS:

Domain Name Server/Service is used to translate domain name in to IP address

LAN:

Local area network

WAN:

Wide area network, normally Internet

FTP:

File transportation protocol, used to transmit files between server and client

POP:

Post office Protocol provides Email storage and receive service

SMTP:

Simple mail transportation protocol, provides Email delivery and relay service

Hub:

Physical layer network inter-link device, which simply connect ports together and broadcasting the data packet to all the port.

Switch:

Data link layer network inter-link device, which provides end-to-end data packet forwarding,

Router:

Network layer device, which connect networks and provides the function named “Routing” to find the best way to transport data from source to destination

CGI:

Common gateway interface, a kind of program, running on a web server to provides dynamic data process function and interacts with users’ action

ActiveX:

Concept and standard gave by Microsoft, which separates program into functioning pieces named ActiveX Control. These control can be embed into users’ program to give their specific function.

Use CGI command to setup GPIO and Events

How to configure GPIO Process?

How to setup DI type in the device

http://ServerIP/SetDIType.cgi? Channel=<1>& Enable=<FALSE | TRUE>&
Type=<"NC"|"NO">

Example: Set channel 1 (Input channel) into 'NC' type
http://192.168.2.1/SetDIType.cgi? Channel=1&Type=NC&Enable=TRUE

How to get DI type in the device

http://ServerIP/GetDIType.cgi

How to get DI status into the device

http://ServerIP/GpioInput.cgi?

Example: Get channel status from channel 0 to channel 1
http://192.168.2.1/GpioInput.cgi?

How to set Do status into the device

http://ServerIP/GpioOutput.cgi? Value=ON|OF

Value - 0: LOW
1: HIGH

Example: Set channel 1 (output channel) into LOW
http://192.168.2.1/GpioOutput.cgi? Value=ON|OFF

How to Configure Event Process

How to setup event status?

http://ServerIP/SetEvent.cgi?Reset=<FALSE|TRUE>&Index=<Value>&Input_

Type=<0|1>&Enable_Flag=<FALSE|TRUE>&Action_FTP=<ON|OFF>&Action_MAIL=<ON|OFF>&Action_DO=<ON|OFF>&Action_MSG=<ON|OFF>&Action_PRESET=<ON|OFF>

Index=0~2 event index from 0 to 2
Input_Type: 0 = Digital Input, 1 = Motion detection
Enable_Flag:FALSE|TRUE, TRUE=ENABLE, FALSE=DISABLE
Action_FTP=<ON|OFF>
Action_MAIL=<ON|OFF>
Action_DO=<ON|OFF>
Action_MSG=<ON|OFF>
Action_PRESET=<ON|OFF>
Input_index=<Value>
Output_index=<Value>
Reset=<FALSE|TRUE> clean all the event
Example : Setup an Event=> DI trigger "DO" and "MAIL" in first event(that means index = 0)

http://192.168.2.1/SetEvent.cgi?Index=0&Input_Type=0&Enable_Flag=TRUE&Action_FTP=ON&Action_DO=ON

How to get event status?

http://ServerIP/GetEvent.cgi?Index=<0~2>
Index=0~2
Example: Get Event index =1
http:\\192.168.2.1\GetEvent.cgi?Index=1

Scenario: Use DI to trigger event and send images through Mail and FTP

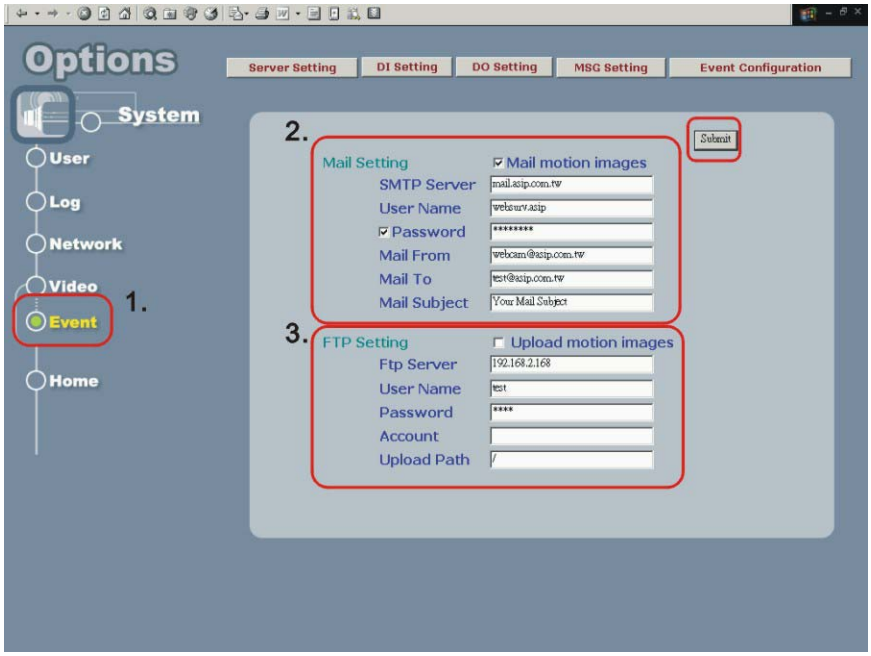
This scenario can help you to simulate use our digital input to send Mail or FTP into remote side.

Turn FTP Service on the server

Enable DI status to “ON”

Exp: http://ServerIP/SetDIType.cgi? Channel=1&Type=NC

Turn On FTP and Email



Setup Event status

http://192.168.2.1/SetEvent.cgi?
Index=0&Input_Type=0&Enable_Flag=TRUE&Action_FTP=ON&Action_MAIL=ON

Check DI type status

http://ServerIP/GetDIType.cgi
Channel = 1
Enable = 1
Type = NO

Check Event Status

http://192.168.2.38/GetEvent.cgi
Index =0, Input_Type=DI, Enable_Flag=1, Action_Type= FTP MAIL

Click on DI and you can check your mail box and FTP services