WebEye B106 User's Guide

* This manual is for WebEye B106 firmware version 1.4.0. If your WebEye has the later version of firmware, please download the last updated user's guide from WebGate's homepage (www.webgateinc.com)

System Requirements

■ **For WebEye**

- Network: 10 Base-T LAN
  (Leased line, xDSL, Cable Modem, ISDN) or PSTN

■ **For a PC to access WebEye**

- Processor: Pentium II and above
- RAM: 64MB and more
- OS: Windows 98/NT/2000
- Screen Resolution: 1024 X 768 pixels and above
- Network: 10 Base-T LAN or PSTN
- Web Browser: MS Internet Explorer 5.0 and above
  NS Navigator 4.7 and above

WebGate Inc.

FCC Compliance Statement

Caution : Any changes or modifications in construction of this device which are not expressly approved the party responsible for compliance could void the user's authority to operate the equipment.

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

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

CAUTION

Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type.
Disposal of used batteries according to the general recommendations against the environmental pollution.

Important Notice

1. WebEye B106 is not weatherproof. Please note the environmental specifications that are included in the manual. For outdoor usage, equip a weatherproof case to protect the WebEye B106 from water, moisture, or extreme temperature changes (higher or lower than the specifications noted below). The WebEye B106 can be cleaned by gently wiping with a clean dry cloth

2. Be sure to use the DC adapter that is provided by Web Gate Inc. Connecting WebEye B106 directly to an AC current may cause damage to the WebEye.

3. Be cautious in handling WebEye B106 Physical shock such as dropping the unit may damage the WebEye B106 and void warranty.

4 The WebEye B106 is made of aluminum. Be sure that it is fastened tightly during installation to avoid any human injuries. Make sure to place away from the reach of children.

5. If WebEye B106 does not operate properly, please contact your WebGate distributor for after sales service. Unauthorized personnel are prohibited from disassembling the product. Disassembly will automatically result in void of service warranty.

6. Camera surveillance laws may differ for each country and from province to province. Contact the local region representative to avoid any violations and to apply for authorized purposes only.

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I. Introduction

- **What is WebEye B106?**

  The WebEye B106 is a network CCTV camera server solution with an integrated Internet server, image compression device, flash memory, and many other features. No other hardware is necessary for use. The WebEye B106 relays video source from a CCTV camera to network and provides real time images over networks and the Internet. Simply provide power and connect LAN cable and video cable to the WebEye B106.

- **Features and Benefits**

  Ease of Use – WebEye B106 requires either Netscape Navigator 4.7 (or higher) or Microsoft Internet Explorer 5.0 (or higher) for use. Windows 2000 is recommended for best results. Connect WebEye B106 to the Internet and it is ready for use.

  Compatible with most Systems and Protocols – WebEye B106 supports TCP/IP networking, SMTP, HTTP and other Internet-related protocols. In addition, the WebEye B106 can be used in mixed operating system environments, such as Windows, UNIX, Macintosh and OS/2. WebEye B106 also integrates easily into other Internet/Intranet applications and CGI scripts.

  Simple Administration - WebEye B106 can be configured and managed directly from its own web page. Moreover, as new upgrades become available, it is easy to upgrade WebEye B106 remotely over the network.

  Wavelet Image Format - Unlike many other products that need to fracture image files prior to broadcast, the WebEye B106 delivers complete, highly compressed pictures in Wavelet format. Wavelet has image compression rates 30-300% higher than standard JPEG.

  External Device Connection - External devices such as IR-sensors, switches, alarm relays and external video input can be connected to WebEye B106 via six auxiliary Input ports.

  User's Programmable Space – WebEye B106 contains 4.5MB of configurable Flash Memory for user-programmable and user-configurable space. Because WebEye B106 also acts as a server, this space can be used to create a personal web page.

  Embedded Linux Operating System – WebEye B106 uses an embedded Linux operating system within its 32bit RISC CPU. Linux is based on UNIX and is one of the most stable operating systems available. There is very little chance of the operating system crashing.

II. Product Description

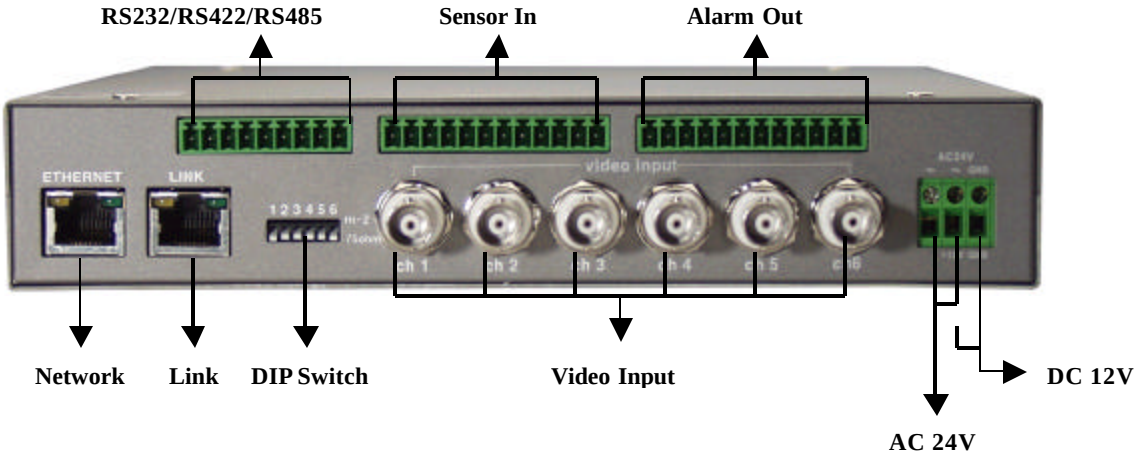
1. WebEye B106

1) Contents

* Unpack and check all the items as below.

Item	Description	Remarks
WebEye B106	Network server for CCTV camera	
Manual	WebEye B106 User's Guide Quick reference guide	Provided on CD Printed material
Crossover Cable	1 m crossover cable	Red-colored
Direct Cable Adapter & Power Cable	2 m direct cable DC 12V, 1.0A	White-colored
Accessories	19 inch-brackets for rack Screw for bracket Screw for rack Plate	2 8 2 1
CD ROM title	Setup program and manual	

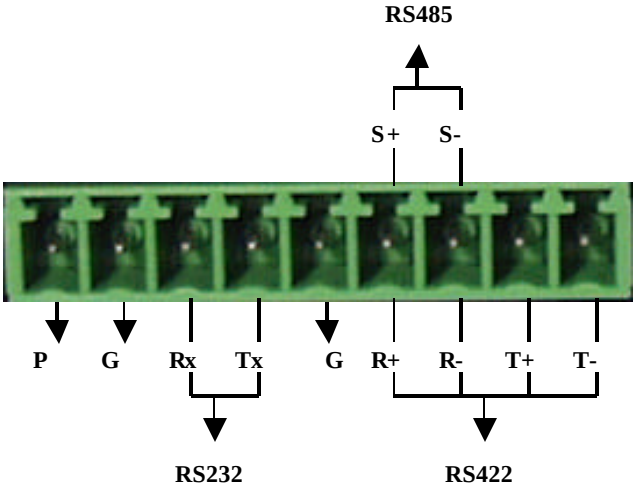
2) WebEye B106 View and Descriptions



Connector Name		Description	Remark
DIP switch		To designate video signal termination of 'Video Input' BNC connector	
BNC connector	CH1, CH2, CH3, CH4, CH5, CH6	To input video signal through a coaxial cable	
AC 24V		To connect a power supply unit of 24V AC	
DC 12V		To connect a power supply unit of 12V DC	
RJ-45 Ethernet port		To connect 10 Base-T Ethernet cable	
Link port		Stackable up to three boxes only with one IP	

RS232/RS422/RS485	To communicate between external devices. These pins are for devices that satisfy RS-232, RS422, or RS485	
Sensor In	To input video signal through 6 coaxial cables	
Alarm Out	To output video signal through 6 coaxial cables	

3) RS232/RS422/RS485 Descriptions



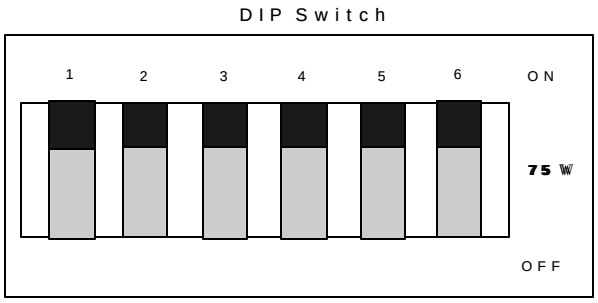
Connector Name	Description	Remark
Power	To supply power to external devices	
Ground	To ground cables of power, communication, etc.	
RS-232	To communicate between WebEye B106 and external devices such a CCTV camera, WebEye A10 (An audio transmission kit), or an external modem. These pins are for devices that satisfy RS-232C protocol, and they are consisted in RX and TX.	
RS-422	To communicate between WebEye B106 and a CCTV camera that satisfies RS-422 protocol. They are half-duflex. It is consisted in R+, R-, T+, and T-.	
RS-485	To communicate between WebEye B106 and a CCTV camera that satisfies RS-485 protocol. They are consisted in S+ and S-.	

4) Description on LED of Ethernet Port

Yellow LED: This LED indicates the status of data transmission. After power is supplied, it is on for the first 4-5 seconds and then it goes off. And it blinks continuously when a user access WebEye and WebEye transmits data.

Green LED: This LED indicates the status of networking. After power is supplied, it is on for the first 1-2 seconds, and then it blinks once at every one second as long as the network is connected.

5) Descriptions on DIP Switches



To configure the function of the six coaxial cable ports at the rear of WebEye B106.

You can configure the relevant channels with each switch.
If you connect two CCTV cameras to Video Inputs and monitor real time video through 1 and 2 channels, place the two DIP switches (marked with No. 1 and 2) at upper position 'ON' and the others at lower position 'OFF'. If you connect six CCTV cameras to Video Inputs and monitor real time video through all channels, place all of six DIP switches at upper position 'ON'.

III. WebEye B106 Installation Summary, Connection & Placing

1. Installation Summary

- Connect Ethernet and Power to WebEye on local network for configuration.
- Install WebEye Setup Program into a PC on local network.
- Assign an IP address to WebEye and configure administrator's condition.
- Configure user's condition.
- Place WebEye, re-connect power and Ethernet.

2. Connecting

- Connect Ethernet line to the Ethernet port in the rear.
- Connect the power supply.
- Confirm that the LED of the Ethernet port blinks.

IV. Installing WebEye B106 Setup Program

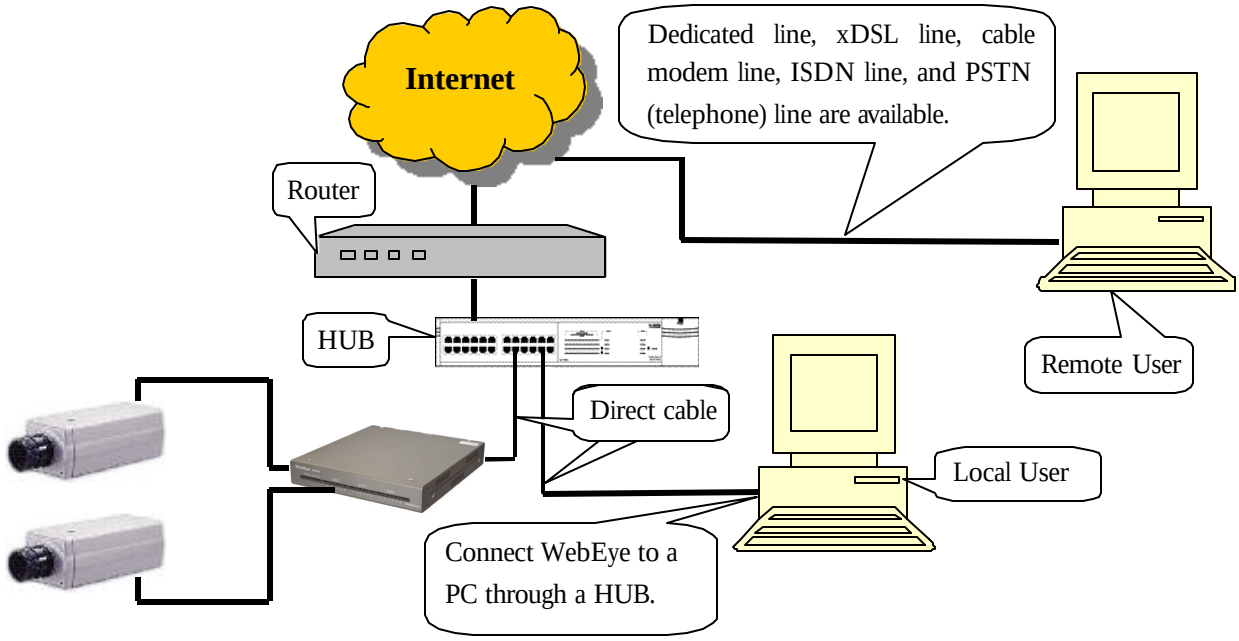
- Insert the WebEye Setup disk.
- Drag the WebEye Setup icon onto the desktop.
- Double-click on the icon.

V. Assigning IP Address and Configuring Administrator's Condition

1. Connecting WebEye B106 to a PC

1) Connecting WebEye B106 on Internet or LAN

Use the direct cable (white colored one) to connect WebEye B106 to Internet or LAN. With this connection, remote users will not be able to access WebEye until local user configures WebEye's network setting.



2. Assigning IP address and Configuring administrator's condition with Setup program

1) Starting Setup Program for WebEye B106

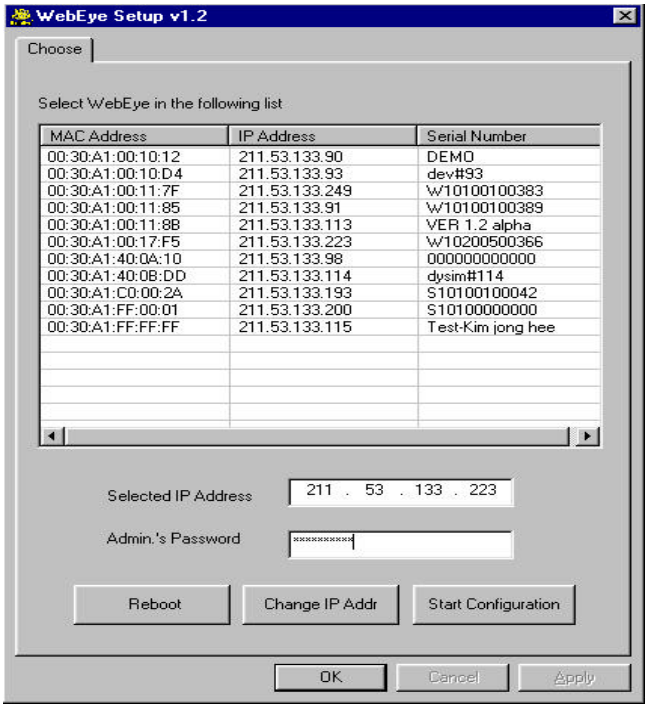
Click the "WebEyeSetup.exe" file on your PC. When the Setup Program is executed, the setup program detects and shows every WebEye connected on the local network.

From the WebEyes listed, select one to assign a new IP address. (Default is 211.53.133.92) To choose a WebEye, click on its MAC Address or IP addres

When a WebEye is selected, its IP address will appear in the 'Selected IP Address' box. Type a password in the "Admin's Password" box to change the IP address, reboot WebEye, or start configuration.

The default password is "admin".

To change the IP address, enter the Admin's password and click "Change IP Addr." Enter the new IP address and click "OK."



2) Configuring Administrator's Conditions

To access the WebEye's Administrator's Page from the Setup Menu, enter the admin.'s password and click the "Start Configuration" button. (For more detailed information, refer to Chapter VII "Configuring Administrator's Condition at Homepage")

3. Assigning IP Address with ARP command

1) Using ARP in Windows 98 and NT

When using WebEye with Windows 98 and Windows NT, follow the steps below.

- Open a DOS window and type the following commands.

```
arp  -s  <WebEye IP address>  <WebEye Ethernet address>
ping  -t  <WebEye IP address>
```

- Example

```
arp  -s  192.168.1.3  00-40-8c-10-00-86
ping  -t  192.168.1.3
```

2) Verifying Installation

After successfully completing the above procedures, the following message (or similar) will appear on the screen:

```
Request timed out
:
Request timed out
Reply from 200.243.232.178: bytes=32 time=2ms TTL=255
Reply from 200.243.232.178: bytes=32 time=2ms  TTL=255

Ping statistics for 200.243.232.178:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milliseconds:
    Minimum = 1ms, Maximum = 2ms, Average = 1ms
```

If the above “ping” reply does not appear, press 'F3' and 'Enter' keys. Normally “Request timed out” messages appear 7 times before replying properly.

Once the above “ping” reply appears press <Ctrl>+<C> keys to make it stop.

When the “ping” replies stops, data loss may range from 0% to 99%. This is normal. If the statistic shows ‘100% loss’, check the following criterions: (a) network line and connection status are stable; (b) IP address assigned to WebEye is available; (c) PC and WebEye have the same local network IP address. Same local IP address of C grade network means that first 3 sets of numbers are the same but the fourth set is different. For example 192.168.1.2 and 192.168.1.3 are in the same local network. (If there is a ‘Network Mask’ on the network, this can be an exception. For detailed information on IP, refer to appendix 4)

VI. Accessing WebEye B106 Homepage & Monitoring Real-time Image

After assigning WebEye an IP address, the WebEye can be configured within its self- contained homepage through any standard Web browser on a local network.

1. Starting Web browser

Start the web browser and enter the WebEye IP address. This will access the WebEye login homepage.

2. Login page

1) ID and password

The login page allows only registered WebEye users to view images from WebEye. To connect to WebEye and view real-time images, follow the login procedures.

The default name and password for the user is "**guest**." The default Admin username and password is "**admin**." Both may be changed at the Admin page, but neither the ID nor password can be more than nine characters long.

2) Behind Firewall

If the PC is connected on a network where firewall is, real time image will not be viewed properly because video TCP port of WebEye is blocked.

To connect Server Push Viewer directly at WebEye homepage, click on 'Behind Firewall' menu.

3) WebEye Plug-in for Netscape user

To monitor real-time images using Netscape Navigator, the WebEye Plug-in program is needed. This can be downloaded from the login page by clicking "Download WebEye Plug In Now!". When connecting WebEye for the first time or having Plug-in program of lower version, download it.

4) WebEye Active-X for MS Explorer User

Systems using Microsoft Explorer require Active-X Control program. The program will usually be installed automatically when a user accesses a WebEye. A pop-up window will appear for Active-X installation, click "yes." If images still do not appear after installation, check the "c:\windows\download program files" folder (for Windows 2000 NT, the directory is c:\WINNT\download program files).

5) WebEye Java Applet for Macintosh or Unix system User

Java Applet viewer is for systems that do not use MS Windows. Macintosh OS or Unix can be used with the Java Applet viewer. Java Applet viewer requires java virtual machine that should already be installed on user's computer.

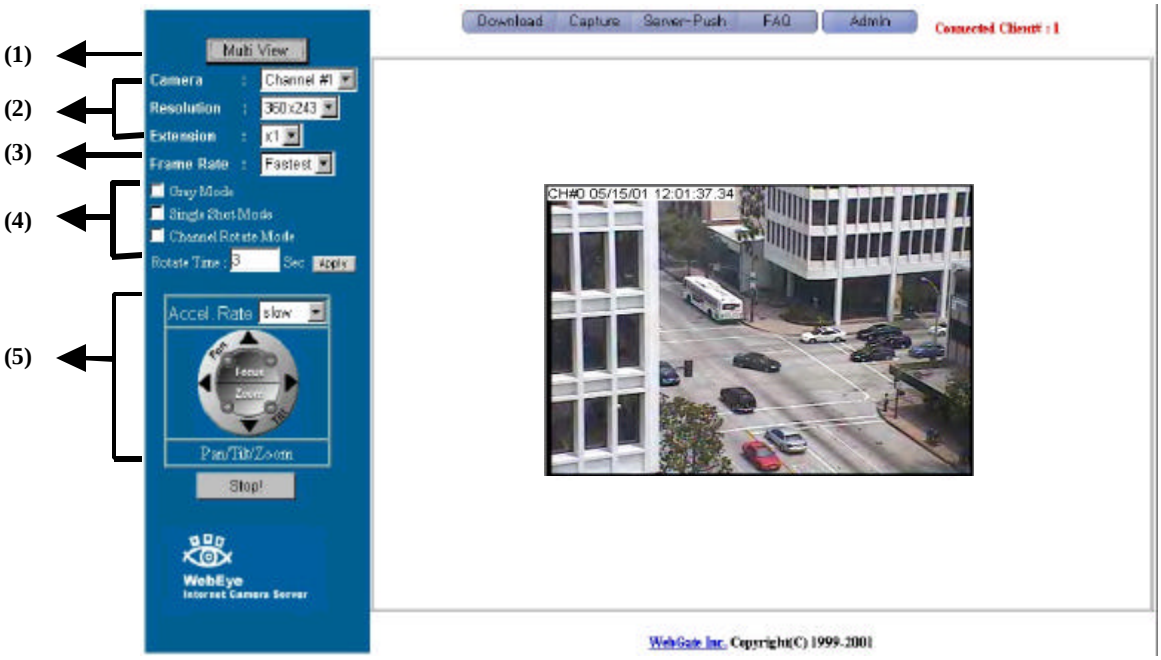
6) FAQ

Frequently asked questions and answers are provided here for troubleshooting. If user has other questions, please contact WebGate Inc. through http://www.webgateinc.com

3. Various viewers in WebEye homepage

There are 3 viewers for real-time monitoring in the WebEye homepage: Default Viewer, Server-Push Viewer, and Java Applet Viewer. An administrator may set 3 different viewers as main viewer. (Default Simple Viewer, Default Multi Viewer, and Server Push Viewer)

1) Real time monitoring through Default Single Viewer



At default viewer, a user may configure image transmission method and control integrated PTZ mechanism of a CCTV camera. The PTZ control panel is activated in some seconds depending on network speed.

(1) Single View / Multi View

The "Multi View" allows the monitoring of other images from additional cameras connected to the WebEye. If you can press the "Multi View", you can view six images simultaneously. Please note that transmission speed cannot exceed 30 fps, and additional images will make overall transmission speed slow. "Single View" monitors a single channel.

(2) Image Control

Resolution

Select the level of resolution from 5 levels (720x486, 720x243, 360x243, 180x121, 90x60). Higher-resolution images are larger file sizes and are transmitted at slower speed.

Expansion

Expansion enlarges the image from 1X to 4X. However, expansion (2X to 4X) does not increase image's resolution, hence the clarity of an expanded image will not be as good as the original.

Frame rate

To control image transmission speed. "Fastest," will receive images at the fastest speed possible within the network environment. The transmission speed is dependent on the network line's capacity and user PC's

performance. WebEye can transmit up to 30 frames per second, but total frames transmitted by all 6 channels cannot surpass the maximum rate of 30 fps.

(3) Camera selection

Select cameras to monitor. User may select one specific camera or all 6 cameras.

(4) Transmission Control

Gray Mode On

Images are displayed in black and white. Images can be transmitted at a higher speed under gray mode.

Single Shot Mode On

When this button is clicked, one frame of image is reproduced. Therefore, no other images may be viewed.

Channel Rotate Mode On

Images are viewed one after another as channel number. It may be configured by second.

(5) Play Control

Pan/Tilt

To move the direction of external camera to where to want to see.

Zoom

To zoom the image in and out.

Focus

To control and optimize the image's focus.

Accel. Rate

To control the moving speed of the Pan / Tilt mechanism There are three settings, denoted by the small graphic located between the "+" and "—" signs. "Accel." does not control zooming speed. This can be adjusted with the mouse.

Play/Stop: WebEye generates and transfers the real-time images as soon as it is accessed. To stop transferring images, click the "Stop" button. To resume transfer, click "Play" button.

(6) Other Function Buttons

Download

To download updated versions of Netscape Plug-in program for WebEye.

Capture

To save a frame of still image transmitted from WebEye. A still image can be saved as a format of bitmap (*.bmp) or Wavelet method file (*.eye). Wavelet compression image file can be decompressed and reproduced on Internet browsers such as Netscape or Explorer.

Server-Push

To go to the server-push viewer.

FAQ

It lists frequently asked questions and answers.

Admin

To access administration page. (Refer to Chapter VII 'Configuring Administrator's Configuration at Homepage')

(7) Convenient pop-up menu

A small window of 5 menus appears when you click the right button of the mouse. However only users who are permitted can utilize the functions such as 'Quality Box', 'Focus Sensitivity', and 'Image Quality'. 'Image Info' and 'Save File As' menus are permitted to any user. And the results of the four functions except 'Save As File' are to be affected in every image that is transmitted to all users. (For detailed information, refer to 'User account management' in Chapter VII). And in server push viewer, only 'Image Info' and 'Save As File' menus are supported.

Image Info

You may decide the color (black or white) of the information that is shown on the left top of the image. And you may leave out the information.

Quality Box

This is to set a certain area clear and remained area dull. You can overcome insufficient network bandwidth with this function, because the file size is reduced with unfocused area. Quality Box is to be set like under written description.

- Choose 'New QBOX' button.
- Place mouse cursor on a certain point of real time image where to start QBOX.
- Click and drag the mouse point.

Focus sensitivity

You may configure movement degree of zoom mechanism. The sensitivity is from Level 0 to Level 9. By selecting 'Level 9', user zooms in or out at the largest degree. A user who has 'PTZ control' right may utilize this menu.

Image quality

It is to set image quality. The image quality is from Level 0 to 9. If user chooses the 'Level 9', WebEye sends the finest image. However, transmission frame rate will be reduced because of large sized data. If user chooses 'Level 0', WebEye sends dullest image but fast. A user who has 'Video control' right may utilize this menu.

Save File As

It is to save a frame of still image as an electric file. A still image can be saved as bitmap (*.bmp) file or Wavelet format file (*.eye). Wavelet formatted image file is to be reproduced on Internet browsers such as Internet Explorer or Netscape Navigator as long as the PC is installed Active-X or Plug-in program.

(8) Placing a company logo and hyper-linking

The WebGate company logo, located on the left bottom of the viewer, can be replaced with a different company logo. This logo can then be used as a hyper-link to a company web page.

2) Real time monitoring through Default Multi Viewer

(1) Single View / Multi View

You can select a mode between single view and multi view. The button is toggled between the two functions.

(2) Play/Stop

WebEye generates and transfers six real-time images as soon as it is accessed. To stop transferring images, click the "Stop" button. To resume transfer, click "Play" button.

(3) Camera selection

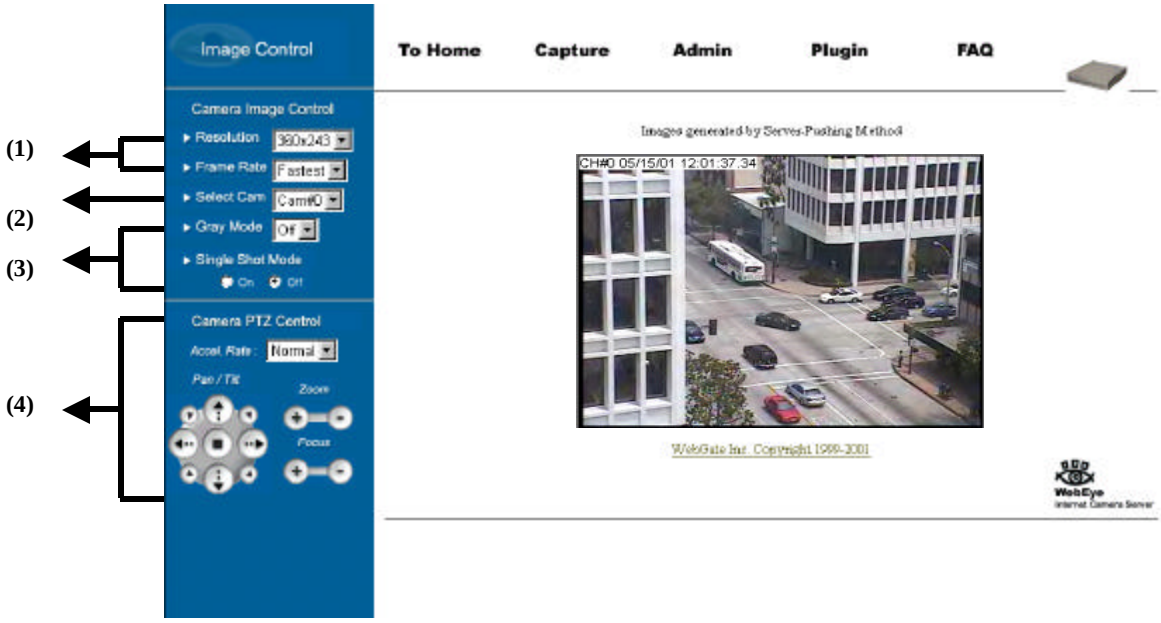
Select the camera to configure a frame rate.

(4) Frame Rate

Control image transmission speed. "Fastest," will receive images at the fastest speed possible within the network environment. The transmission speed is dependent on the network line's capacity and user PC's performance.

3) Real time monitoring through Server Push Viewer

If WebEye is installed on a network where firewall is, you may access WebEye through server-push viewer to monitor real-time images.



(1) Image Control

'Progressive Mode' image transmission menu is not supported.

Resolution

Select the level of resolution from 5 levels (720x486, 720x243, 360x243, 180x121, 90x60). Higher-resolution images are larger file sizes and are transmitted at slower speed.

Frame Rate

Control image transmission speed from 5 levels (fastest, 10fps, 5fps, 3fps, 1fps). "Fastest," will receive images at the fastest speed possible within the network environment.

(2) Camera
Select cameras to monitor. User may select one specific camera to monitor real-time image.

(3) Transmission Control
On this viewer, "Progressive Mode" and "Channel Rotate Mode On" menus are not available.

Gray Mode
Images are displayed in black and white. Images can be transmitted at a higher speed under gray mode.

Single Shot Mode
When this button is clicked, one frame of image is reproduced. Therefore, no other images may be viewed.

(4) Play Control
Pan/Tilt: To move the direction of external camera to where to want to see.

Zoom: To zoom the image in and out.

Focus: To control and optimize the image's focus.

Accel. Rate: To control the moving speed of the Pan / Tilt mechanism.

(5) Convenient pop-up menu
'Quality Box', 'Focus Sensitivity', and 'Image Quality' menus are not supported.

Image Info
You may decide the color (black or white) of the information that is shown on the left top of the image.

Save File As
It is to save a frame of still image as an electric file. A still image can be saved as bitmap (*.bmp) file or Wavelet format file (*.eye).

(6) To Home
This button returns to the default viewer.

(7) Capture
This button is to save a frame of still image transmitted from WebEye. This function is the same with 'Save File As' menu.

(8) Admin
It is to access administration page. (Refer to Chapter VII 'Configuring Administrator's Configuration at Homepage')

(9) Plug-in
Click on the "Plugin" link to download the latest version of the Netscape WebEye Plug-in. This is only necessary for those who use Netscape Navigator.

(10) FAQ
User may refer FAQ for trouble-shooting in installing or running WebEye.

VII. Configuring Administrator's Condition at WebEye B106 Homepage

This page is for administrator. Administrator may control operating status remotely. This page can be accessed through Setup program by clicking 'Start Configuration' button.

1. Administrator Login

1) Accessing through setup program

Select WebEye by clicking on the MAC address or IP address. Then type in the administrator's ID and password (Default ID and password are 'admin'), and click "Start Configuration" button. The setup program automatically connects to the Admin page of WebEye Homepage.

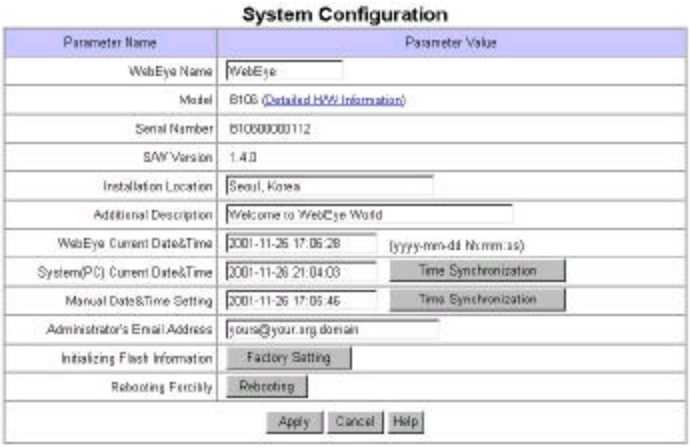
2) Accessing through Web browser

On Web browser, a user may access WebEye login page with its IP address. In the login page, a user may key in administrator's ID and password or a normal user's ID and password. With any of ID and password, the user may access real time image viewer page.

2. Configuring Administrator's Condition at Homepage

1) System Configuration

This page is to set name, date & time, location, and description of one's WebEye. Model, serial number, and software version appear automatically.



(1) WebEye Name

The name is to be used to register the WebEye on a certain server, if dynamic IP address is used. Therefore it is very important to set a proper name for user to find the WebEye in the dynamic IP registration list. (For detailed information, refer to 'Dynamic IP Registration Service for ISDN, xDSL User')

(2) Model

By clicking 'Detailed H/W Information', administrator may view the detailed hardware information such as maximum numbers of channel, serial port, digital input, digital output, etc. The model name is marked automatically.

(3) Installation Location & Additional Description

The information is to show in the real time image viewer page as well as in a dynamic IP registration list.

(4) Date & Time

There are three date & time menus. In "WebEye Current Date & Time" panel, the date and time that is set in the WebEye appears. In "System (PC) Current Date & Time" panel, the same date and time that is set in user's PC appears.

(5) Administrator's E-mail Address

In this panel, administrator records one's e-mail address. If administrator put a 'contact' menu of e-mail communication on real time image viewer page, the linked email address to the 'contact' menu is to be synchronized with this.

(6) Initialize Flash Info

This will initialize almost all the information saved on Flash Memory. However Date & Time, Model, Serial Number, and IP configuration of "System Configuration", and Video Signal Type of "Video Configuration" menus will not be changed.

(7) Rebooting

If WebEye has any problems, administrator can reboot it without adjusting power supply. This button works as on/off switch.

2) User Configuration

This page is to configure IDs and passwords of an administrator and 5 users.

User Configuration

User ID	User Account	Password	Re-Type Password	Access Rights
Administrator	admin	*****	*****	All
User 1	guest1	******	******	All
User 2	guest2	*****	*****	Video Control
User 3	guest3	*****	*****	PTZ Control
User 4	guest4	*****	*****	None
User 5	guest5	*****	*****	None

Apply Cancel Help

(1) User Account

There are one administrator's account and 5 users' accounts. Account name can be changed.

(2) Password

If you want to open your WebEye to everyone, you may not change default user's ID and password. However you should change administrator's ID and password as unique ones.

(3) Access Rights

Administrator may give or take users' right of PTZ control and video control. With default setting, administrator has both right of PTZ control and video control and normal user doesn't have any right.

- **Video control**: This is to control pop-up menus such as image quality level and QBOX settings.
- **PTZ control**: This is to control 'Focus Sensitivity' in pop-up menu and to control PTZ mechanism of a CCTV camera.

3) Network Configuration

This page is to define network type and set network addresses of WebEye.

(1) DHCP Client Protocol

DHCP (Dynamic Host Configuration Protocol) is to manage host address on a network. With this protocol, every host on a LAN may share limited official IP address for Internet access. In other words, every host on a LAN may lease official IP address from DHCP server temporarily.

(2) Select Network Interface

This is to select proper network interface with which WebEye is connected. If WebEye is connected with

Network Configuration

Parameter Name	Parameter Value
DHCP Client Protocol	Disable Enable
Select Network Interface	Ethernet xDSL(PPPoE) PSTN(Dial Out)

Internet dedicated line, cable modem line or on LAN environment, you should select network interface as 'Ethernet'. If WebEye is connected on xDSL line that needs PPPoE process to connect on Internet, administrator should select 'xDSL (PPPoE)'.

(3) Ethernet Interface

Administrator may configure IP address, subnet mask, broadcast address, gateway address, and DNS addresses of WebEye. For broadcast address, administrator may set it automatically by clicking 'Get From Netmask' button after assigning IP address and subnet mask.

Ethernet Interface

Parameter Name	Parameter Value
IP Address	211.53.133.114
Netmask	255.255.255.0
Broadcast Address	211.53.133.255 Get From Netmask
Gateway IP Address	211.53.133.1
Select MTU Size	1500 Bytes
Ethernet(MAC) Address	00:30:A1:40:0B:DD
DNS1 Server IP Address	0.0.0.0
DNS2 Server IP Address	0.0.0.0
DNS3 Server IP Address	0.0.0.0

This interface is mainly used for Internet dedicated line and LAN, and sometimes for xDSL line as it is explained on 'DHCP Client Protocol' setting.

MTU Size: Depending on network type, administrator may set data packet size with this menu to utilize the network at most effectively.

DNS Server IP Address: This is used when you register your WebEye on dynamic IP registration list of WRS (WebEye Registration Server). WRS has its domain name of 'webeye.to' and the domain name is registered on DNS servers on the world.

(4) xDSL Interface

If WebEye is connected on xDSL line and needs PPPoE process, administrator should select network interface as 'xDSL (PPPoE)'. And administrator should configure user ID and password for PPPoE. ID and password may be acquired from the ISP that installed the line.

XDSL Interface

Parameter Name	Parameter Value
User ID	
Password	
Assigned IP Address	Unassigned

(5) PSTN Interface

If WebEye is to be connected on Internet through PSTN (Public Switched Telephone Network) based on PPP, administrator should select network interface as 'PSTN (Dial-out)'. This interface is for WebEye to connect to ISP through telephone line for Internet connection. In this case, WebEye is connected to dial-up modem with a serial cable unlike other interfaces such as 'Ethernet' or 'xDSL (PPPoE)'.

PSTN Interface

Parameter Name	Parameter Value
User ID	
Password	
Assigned IP Address	Unassigned
Phone	Phone Number: Dial prefix :
Disconnect Time	0 secs after event
Script Enable	Disable Enable
Login Script	End End End End End End End End End End

Apply Cancel Help

There are two methods for users to access WebEye through PPP connection. And being seen from WebEye, one is that WebEye dials out and the other is that WebEye is dialed in through dial-up modem.

Dial-out 1: It is for WebEye to make dial-up progress to connect to ISP for PPP connection. WebEye dials up to ISP according to the event that is configured at administration page of 'Application Configuration'. After PPP connection is made, WebEye sends e-mail or file. The process is as follows.

- WebEye dials up to ISP to connect on Internet.
- ISP asks information for login such as ID, password, etc, and WebEye answers to corresponding questions.
- ISP makes PPP connection to WebEye and assigns an IP (official dynamic/fixed IP) to WebEye.
- WebEye access Internet and send e-mail or file to pre-defined person or FTP server.

Dial-out 2 While WebEye makes PPP connection to send e-mail or file, administrator may open to common users to access WebEye through Internet. For this purpose administrator should set WebEye to register itself on WRS (WebEye Registration Server). For detailed information on WRS service, please refer to 'Dynamic IP Registration Service' configuration page in this manual.

- WebEye dials up to ISP to connect on Internet.
- ISP asks information for login such as ID, password, etc, and WebEye answers to corresponding questions.
- ISP makes PPP connection to WebEye and assigns an IP (official dynamic/fixed IP) to WebEye.
- WebEye connects to WRS (WebEye Registration Server) and list itself on the list. (More detailed information on WRS, please refer to Dynamic IP Registration Service in this manual.)
- Users access Internet homepage of 'WebEye Dynamic IP Registration Server' (www.webeye.to) and find out the WebEye in the list.
- Users access WebEye to monitor real-time image on Internet.

Dial-in: It is for a user to make PPP connection to WebEye with his PC that connects on Internet through dial-up modem. Detailed process is as follows. With this connection, only one user can access WebEye at the same time.

- A user dials up to the modem that is connected to WebEye.
- WebEye makes PPP connection to the user's PC and assign an IP (private IP) to the PC. In this case, WebEye assigns an IP address that is in the same local network compared to its own IP address.
- Users access WebEye homepage through web browser by entering WebEye's IP address to monitor real-time image.

Below items especially user ID, password, and phone number are used for WebEye to connect ISP based on standard PPP.

ID/Password: It is to put proper user ID and password for connecting to ISP.

Phone: It is to put telephone number of ISP. If a prefix needs in dialing (e.g. 9), you should mark tick on the menu and put the prefix the following square.

Disconnect Time: WebEye maintains connection for some while there is action such as sending e-mail or files. And when the action is stopped, WebEye disconnects after sometime. This is to configure how long WebEye maintains the connection after any action doesn't occur.

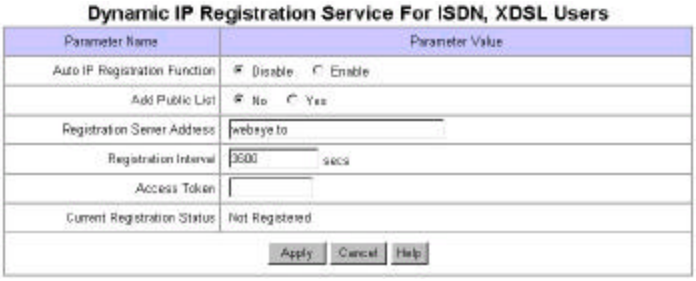
Login Script: If your telephone line needs special login script to connect ISP, you should enable 'Script Enable' menu and describe the login script. At the section, there are some commands to describe script.

- End: To end the login process.

- Wait for: To wait for a certain signal.
- Wait for Prompt: To wait for prompt.
- Send: To send after described script.
- Send CR (Carriage Return): It has the same effect to press 'Enter' key in the script.
- Send User ID: To send the ID that is described in 'User ID' square.
- Send Password: To send the password that is described in 'Password' square.
- Delay: To delay for a certain seconds that is described the following square.

4) Dynamic IP registration service for ISDN and xDSL users

This page is to register WebEye on dynamic IP registration server.



If WebEye is installed on a network of dynamic IP address (floating IP address), administrator should register the WebEye on dynamic IP registration server to give common users simple connectivity. If not, no one can access the WebEye through Web browser. It is because that no one knows IP address which one can access the WebEye with.

To solve the problem, WebGate runs a server making a list of WebEyes that have dynamic IP addresses. On the server, WebEye registers its information such as name, location, and description, so that common users may detect a certain WebEye. Name, location and description are assigned at 'System Configuration' page. If administrator does not change them, the WebEye will register default information on the list, and it will be very difficult to point out and access a certain WebEye. The list is on an Internet homepage of WebEye (www.webeye.to).

(1) Auto IP Registration Function

Administrator may register one's WebEye by enabling 'Auto IP Registration Function'. Registration process is that WebEye detects IP addresses from DHCP server and informs the detected IP addresses to dynamic IP registration server.

(2) Registration Server Address

This is to configure a server address for registration. The registration server to be used for Dynamic IP registration should be installed proper S/W, developed by WebGate Inc.

(3) Registration Interval

Dynamic IP addresses are commonly used with xDSL, ISDN or Cable Modem lines. In order to maintain continuous connectivity, user should reset the 'Registration Interval' at a shorter time interval than the default value.

(4) Add Public List

There are two registration systems. One is to register on a public list and the other is on a private list.

(5) Access Token

Access token is a password and it is used when you register your own WebEye on a list 'User's WebEye' out of all WebEyes on WRS(WebEye Registration Server).

5) How to find a registered WebEye in WebEye Internet homepage

On WebGate Internet homepage (http://www.webgateinc.co.kr), there are menus to find WebEye that is registered on WRS (WebEye Registration Server).

(1) Sign up membership

To search your WebEye out o f a public list or a private list, sign up membership first. You may sign up on the server through 'Membership' menu.

(2) Finding WebEye from public list

To access WebEye that is registered on public list, you may find it through 'WebEye Service' or 'Public WebEye List' menus. Once click 'WebEye Service' or 'Public WebEye List' menu, you may find 'WebEye list of WRS (WebEye Registration Server)'.

(3) Finding WebEye from private list

To access WebEye that is registered on private list, you should make your own WebEye list before. You may make the list through 'Searching WebEye' menu of 'WebEye Service'.

My WebEye List: You may maintain your own WebEye registering it on this list. When you login this homepage, WRS (WebEye Registration Server) detects and shows all the WebEyes that you listed appear on your own list.

Search and Append: This menu is to append a certain WebEye on your own list. You may append WebEye on your own list as follows.

- Key in serial number (W100000000000), MAC address (e.g. 00:00:00:00:00:00), and access token of a certain WebEye in the box.
- Click 'Append' menu.
- WRS (WebEye Registration Server) search a corresponding WebEye with the conditions from both the 'Public List' and 'Private List' and registers the WebEye on your own list.

6) Security Configuration

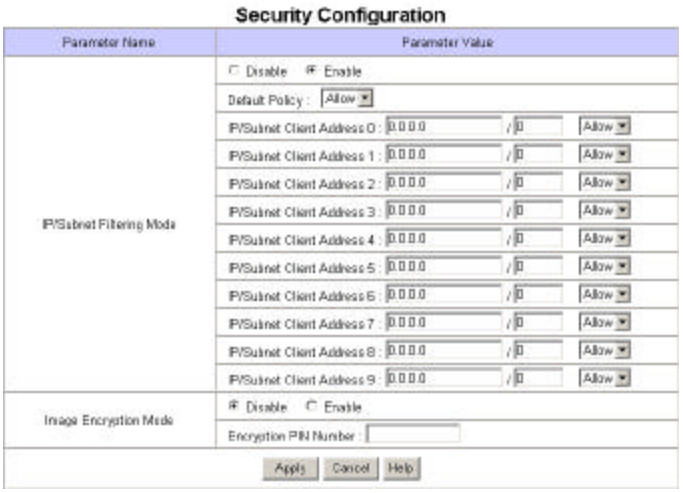
This is to filter a certain IP addresses from accessing WebEye based on network masking.

(1) IP/Subnet Filtering Mode

You may allow or deny a certain user to access your WebEye with enabling this menu.

Default Policy

This is to decide the principle of 'IP/Subnet Filtering Mode' between allow and deny.



How to register allowed/denied user in the list

Network masking is to mask network ID for every existing IP address in the world. Therefore the IP addresses that have the same network ID are to be applied with a command of 'Allow' or 'Deny'. The masked bits are

considered as network ID.

Note: To explain and understand easily on IP address, the first byte of IP address is marked as X1 in this manual. And X2 is for the second byte, X3 is for the third byte, and X4 is for the fourth byte.

IP address is constructed as follows.

IP address construction in binary number of each bit																															
xxxxxxxx (8 bit): X1								xxxxxxxx (8 bit): X2								xxxxxxxx (8 bit): X3								xxxxxxxx (8 bit): X4							
2^7	2^6	2^5	2^4	2^3	2^2	2^1	2^0	2^7	2^6	2^5	2^4	2^3	2^2	2^1	2^0	2^7	2^6	2^5	2^4	2^3	2^2	2^1	2^0	2^7	2^6	2^5	2^4	2^3	2^2	2^1	2^0
E.g. IP address in binary: 11000000. 10101000. 00000001. 00001101 (It is equal to 192.168.1.13) * Binary number 1 means to take the equivalent decimal number (2^7, 2^5, etc) and 0 means to disregard it.																															

IP address construction in decimal number of each byte																															
xxx (0-255: 1 byte): X1								xxx (0-255: 1 byte): X2								Xxx (0-255: 1 byte): X3								Xxx (0-255: 1 byte): X4							
128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1
E.g. IP address in decimal: 192. 168. 1. 13 (It is equal to 11000000. 10101000. 00000001. 00001101) * Binary number 1 means to take the equivalent decimal number (2^7, 2^5, etc) and 0 means to disregard it.																															

Network masking point is to be expressed with decimal number from 0 to 31. IP address is consisted in 4 bytes. 4 bytes are 32 bits. Network is to be masked on every bit from the first bit to the 32nd bit. Masked bit is marked with binary number '1', and the corresponding bits out of provided IP address are defined as network ID for IP filtering.

Network masking point (0 to 31)																															
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	0
E.g. Network masking on the 8th bit (8): 11111111. 0000000. 00000000. 00000000 (255.0.0.0) E.g. Network masking on the 16th bit (16): 11111111. 11111111. 00000000. 00000000 (255.255.0.0) E.g. Network masking on the 24th bit (24): 11111111. 11111111. 11111111. 00000000 (255.255.255.0) E.g. Network masking on the 32nd bit (0): 11111111. 11111111. 11111111. 11111111 (255.255.255.255)																															

According to masking point, masked network ID is to be different out of the same IP address. For example, if IP address is described as 192.168.1.13 (11000000.10101000.00000001.00001101) with masking point 24 (255.255.255.0), the IP addresses whose IP address is consisted with '11000000.10101000.00000001.xxxxxxxx' (2^8 (256) pieces of IP addresses) will be allowed or denied from WebEye.

If you describe an IP address as 192.168.1.13 and put masking point 26 (255.255.255.192), the masked bits are the first 26 digits and network ID masked as '11000000.10101000.00000001.00'. In this case, the IP addresses whose IP address is consisted with '11000000.10101000.00000001.00xxxxxx' (2^6 (64) pieces of IP addresses) will be applied with a command of 'Allow' or 'Deny'.

Applied IP address number according to masking point																															
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	0
2^{31}	2^{30}	2^{29}	2^{28}	2^{27}	2^{26}	2^{25}	2^{24}	2^{23}	2^{22}	2^{21}	2^{20}	2^{19}	2^{18}	2^{17}	2^{16}	2^{15}	2^{14}	2^{13}	2^{12}	2^{11}	2^{10}	2^9	2^8	2^7	2^6	2^5	2^4	2^3	2^2	2^1	2^0
E.g. Masking point 8: 2^{24} pieces of IP addresses are applied E.g. Masking point 16: 2^{16} pieces of IP addresses are applied E.g. Masking point 24: 2^8 pieces of IP addresses are applied E.g. Masking point 0: 2^0 pieces of IP address (itself) is applied																															

Though masking point is to be any bit out of 32 bits, it is common to point on the bits of host ID part. If the masking point is placed on network ID part, the range is expanded compared to the provided IP address.

Network class is divided as follows. D and E class networks are not to be used by normal user.

Class	Decimal number of X1 byte	Network ID	Host ID
A	0 to 127	X1	X2, X3, X4
B	128 to 191	X1, X2	X3, X4
C	192 to 223	X1, X2, X3	X4
D	224 to 239	For Multicasting utilization	
E	240 to 255	Reserved for specific utilization	

In C class network, the applied number of IP addresses with network masking is as below when you mask on host ID part (X4: the fourth byte).

Masking on X4 Byte								Remark	Host ID number
25	26	27	28	29	30	31	0	Masking Point	
128 (128)	64 (192)	32 (224)	16 (240)	8 (248)	4 (252)	2 (254)	1 (255)	Decimal Number (Accumulated Value)	
Masked	Free	Free	Free	Free	Free	Free	Free	7 digits are free	$2^7 = 128$
Masked		Free	Free	Free	Free	Free	Free	6 digits are free	$2^6 = 64$
Masked			Free	Free	Free	Free	Free	5 digits are free	$2^5 = 32$
Masked				Free	Free	Free	Free	4 digits are free	$2^4 = 16$
Masked					Free	Free	Free	3 digits are free	$2^3 = 8$
Masked						Free	Free	2 digits are free	$2^2 = 4$
Masked							Free	1 digits are free	$2^1 = 2$
Masked								No free digit	$2^0 = 1$

The most common case is to make subnet through network masking, and it is to divide a network into some smaller network. If provided IP address is 192.168.1.2, you may divide the whole network into 2 sub-networks and allow or deny only the IP addresses that belong to one of sub-networks.
With setting as follows, The IP address of 192.168.1.2 is divided into two sub-networks and allow for the IP address out of the first sub-network to assess WebEye.

- Default Policy: Deny
- IP address: 192.168.1.2
- Masking: 25 (255.255.255.128)
- Then only the IP addresses from 192.168.1.0 to 192.168.1.127 are to access WebEye, while the IP addresses from 192.168.1.128 to 192.168.1.255 and any other IP address are to be denied accessing WebEye.

Changing IP address can reverse the result. If you set IP address as 192.168.1.130, only the IP addresses from 192.168.1.128 to 192.168.1.255 are to access WebEye. And the IP addresses from 192.168.1.0 to 192.168.1.127 and any other IP address are to be denied accessing WebEye. You may refer below table to figure out masking point from network information that is given from your ISP or network administrator.

Masking Point	Masked bit (Network ID)	Netmask in decimal number
1	The first bit	128.0.0.0
2	From the first bit to the second bit	192.0.0.0
3	From the first bit to the third bit	224.0.0.0
. 8 9 . 16 17 .	. From the first bit to the 8th bit From the first bit to the 9th bit . From the first bit to the 16th bit From the first bit to the 17th bit .	. 255.0.0.0 255.128.0.0 . 255.255.0.0 255.255.128.0 .
24	From the first bit to the 24th bit	255.255.255.0
25 26	From the first bit to the 25th bit From the first bit to the 26th bit	255.255.255.128 255.255.255.192
27	From the first bit to the 27th bit	255.255.255.224
28	From the first bit to the 28th bit	255.255.255.240
29	From the first bit to the 29th bit	255.255.255.248
30	From the first bit to the 30th bit	255.255.255.252
31	From the first bit to the 31st bit	255.255.255.254
0	The 32nd bit	255.255.255.255
* Masking on 32nd bit has the same effect as masking none, and in WebEye 0 instead of 32 is used. Masking 32 bits means that all the 32 bits are network ID, and masking none means that all the 32 bits are host ID. Therefore masking all the 32 bits or none means that the provided IP address itself is applied with a command of 'Allow' or 'Deny'.		

If you want to allow only the IP addresses from 192.168.1.61 to 192.168.70, you may set as bellows.

Default Policy	Deny				
IP address	192.168.1.60	Masking	30	Policy	Allow
IP address	192.168.1.60	Masking	0	Policy	Deny
IP address	192.168.1.64	Masking	29	Policy	Allow
IP address	192.168.1.71	Masking	0	Policy	Deny

* The IP addresses in black squares can be any IP address of the sub-networks. In the first square, 192.168.1.60 to 192.168.1.63 is to be assigned. And in the second square 192.168.1.64 to 192.168.1.71 is to be assigned.

(2) Image Encryption Mode

Administrator may restrict people to receive images from one's WebEye, even though people accessed it. If 'Image Encryption Mode' is enabled and a pin number is assigned, people have to key in the assigned pin number to see image after accessing WebEye image viewers.

'Security Configuration' is a double-checking function to control accessibility, utilizing 'User Account Configuration' at the same time.

7) Video Configuration

This page is to configure every channel with various conditions.

Video Configuration For CH# 0

Parameter Name	Parameter Value
Video Channel Selection	Video Channel #0
Video Channal State Control	○ Disable ◉ Enable
Camera Color Type	◉ Color ○ Black/White
Video Signal Type	◉ NTSC ○ PAL
Camera Installation Angle	Normal
	Advanced Configuration
Apply Cancel Help	

(1) Video Channel Selection

To select which video channel to configure. In the list, there are 6 video channels.

(2) Video Channel State Control

It is to determine which channels will be enabled to send image signals to the image viewer. If a channel with an external source is disabled, no image will appear in the image viewer. However, if a channel without an external source is enabled, the overall transmission speed will go down and no image will appear. To view an image from an external source, the channel with the source must be enabled.

(3) Camera Color Type

It is to define whether images from a camera are color or Black/White (B/W). This will not change a camera's original character (color cameras can be viewed in B/W or color, but they are still "color" cameras). Rather, this is to help define external cameras, and provide information to WebEye.

(4) Video Signal Type

It is to define whether the signals of external CCTV cameras are 'NTSC' or 'PAL'.

(5) Camera Installation Angle

WebEye can always show images in right angle regardless of camera's installation position. If camera is located on the wall upside down, user can adjust image angel by selecting '90 deg.' or '270 deg.'

(6) Advanced Configuration

Calibration Parameters

Administrator can manipulate screen settings by adjusting brightness, contrast, hue, saturation, horizontal line shift, and vertical line shift from the menu. With 'Video Gain' menu, the image may be optimized without adjusting each value of other menus. However 'Video Gain' is not supported currently. It is to be supported in near future.

Caption Display Options

Administrator can configure caption on real time image with display options such as color and contents. Caption is to be made of time information, channel information, and additional explanation (user defined string).

Visual Setting Parameters

Administrator can configure QBOX and image quality level with aid of real time image. Place the mouse curse on real time image and click the right button, and pop-up menus will be viewed.

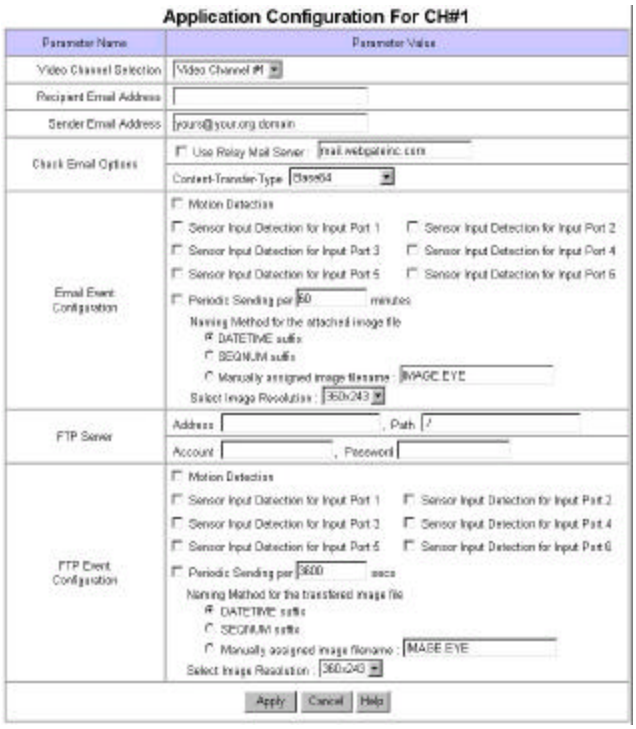
- **QBOX Parameters** : Administrator sets QBOX area with a mouse to 'click and drag'. Selected area shows in 'Left Top Placement' and 'Right Bottom Placement' panels in figures. With 'Ambient Level' menu, Administrator may set quality level of unfocused area in the image (out of the focused range).

- **Image Quality Level**: Administrator chooses image quality level from 0 to 9. Level 9 is the best quality. But transmission speed will be reduced because of larger sized data. The image level inside the

'QBOX' is the same level as is selected in this menu.

8) Application Configuration

This page is to configure e-mail and file sending functions.



(1) Select Video Channel
It is to select a video channel for configuration.

(2) Recipient E-mail Address
This is to designate a person to receive E-mail.

(3) Sender's E-mail Address
This is to put a person's e-mail address that is considered as the e-mail sender.

The e-mail sender can be a person who should take care of the situation when events occur. E-mail will be delivered to a person who is defined as a recipient in the blank of 'E-Mail Recipient'. The person who received e-mail can send a message of countermove to a person who is defined as an e-mail sender.

(4) Check E-Mail Options
Relay Mail Server: With the same problem of e-mail blocking, WebEye has a function to relay its e-mail through an available e-mail server so that e-mail can have the relay server's domain name. After activating 'User Relay Mail Server' menu, key in a server's domain name such as '@abcdefg.com'.

Content-Transfer-Type: It is to define e-mail format. E-mail servers support 'Base64' format in common, but some servers not. In the case, select the format as 'Quoted Printable'.

(5) E-Mail Event Configuration
Event source: Administrator should define the triggering event for E-mail delivery among MD (motion detection), sensor 1, sensor 2, sensor 3, sensor 4, sensor 5, and sensor 6. If administrator clicks on sensor1, e-mail is sent when the sensor1 detects events.

File name: Administrator can name the image files by one of three methods: date & time (DATETIME; e.g. IMG-CH00-2001030-223031.eye), serial number (SEQNUM; e.g. IMG-CH00-SN1.eye), or the administrator can name the file (Manually assigned filename). The image file has the extension ".eye" to enable reproduction on an Internet browser.

Image quality: Administrator may set image's resolution that is delivered by e-mail. Resolution is to be set among 90x60, 180x121, 360x243, 720x243, and 720x486. An image of 90 by 60 is of the lowest resolution and the smallest size.

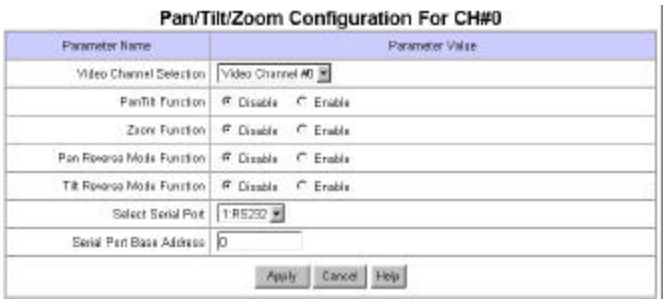
(6) FTP directory configuration
Administrator assigns FTP server address, FTP user account, FTP user password, and FTP user path to receive files when events occur.

(7) FTP event configuration

Administrator may set sending conditions, image resolution, and file name. Image resolution, filename, and sending conditions setting methods for FTP are same as that of e-mail.

9) Pan/Tilt/Zoom Configuration

This page is to decide whether to use pan/tilt/zoom control function or not and select which serial port to use.



(1) Video Channel Selection

Administrator selects a video channel for the pan/tilt/zoom mechanism. The four channels shown in the panel are the same as seen on 'Video Configuration' page.

(2) Pan Tilt Function

Administrator defines whether to utilize pan/tilt control function or not.

(3) Zoom Function

Administrator defines whether to utilize zoom control function or not.

(4) Pan Reverse Mode Function

This is to set command reverse direction against to right and left direction control arrows. This function is useful when PT driver is installed upside down.

(5) Tilt Reverse Mode Function

This is to set command reverse direction against to up and down direction control arrows. This function is useful when PT driver is installed upside down.

(6) Select Serial Port

It is to select a useable serial port as the character of pan/tilt/zoom control receiver.

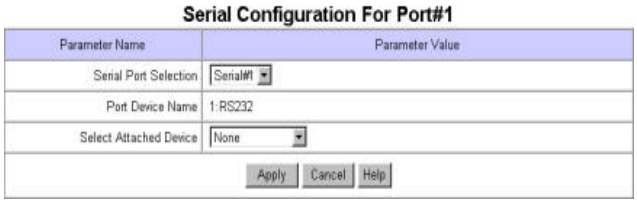
It is to select a serial port between 'Serial #1' and 'Serial #2' with which a pan/tilt/zoom control receiver is connected to WebEye. Serial #1 is RS232C interface and Serial #2 is RS422/RS485 interface.

(7) Serial Port Base Address

This menu identifies the base address for a video channel and a pan/tilt/zoom (P/T/Z) control receiver. WebEye B106 can support up to six P/T/Z devices for six separate channels when Serial #2 (RS485 Half-Duplex) is enabled. The "Serial Port Base Address" identifies each P/T/Z device to each channel. Select a channel to configure and change the "Serial Port Base Address" to correspond with the channel number.

10) Serial Port Configuration

This page is to select a communication protocol among listed ones or to set control parameters manually for each serial port.



(1) Serial Port Selection

Administrator selects a serial port to configure. WebEye B106 has two serial ports. Serial #1 is a RS232C interface port, and Serial #2 is a RS485/RS422 interface port.

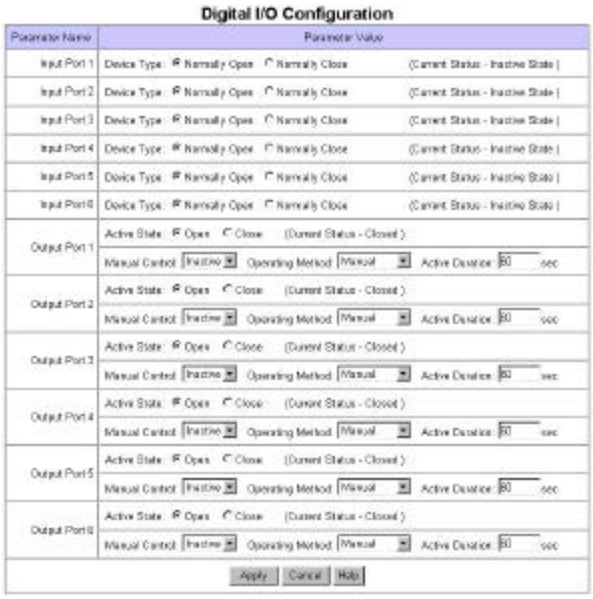
(2) Select Attached Device

Administrator selects a communication protocol that an attached external device satisfies among already listed protocols. WebGate has listed protocols of Philips, Pelco (P and D), Sensormatic, Video Technical (VTP 4x), LG (GAC-PT2), Sony (EVI-D3x), Surveyor (PT360 and TransitRCM), Sungjin (SJ3728R1), Kukjae (KRS-3200), Serim (SRP-PT1), Mitsubishi (CIT7300), and Samsung (SRX100B). Administrator may utilize any pan/tilt mechanism that satisfies already listed protocols.

Audio Device

This protocol is for WebEye A10, which is an audio transmission device connected to WebEye. For more detailed information on WebEye A10, please refer to WebEye A10 User's Guide.

11) Digital I/O Configuration



This page is to configure digital input state and control script. WebEye sends e-mails or/and files when connected external sensors detect events.

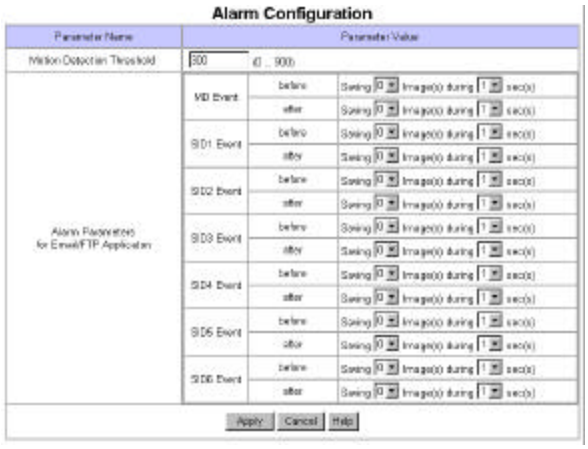
(1) Input Port 1, 2, 3, 4, 5, and 6

Administrator defines active state of 6 digital devices connected to six input ports such as infrared sensors. If normal open type device is connected to input port, select 'NO (Normally Open)'. With normal close type device, select 'NC (Normally Close)'.

(2) Output Port 1, 2, 3, 4, 5, and 6

WebEye shows current states of the 6 digital devices connected to 6 output ports. In the status panel, active state or de-active state message shows. 'De-Active State' means that connected device didn't detect any event when 'Apply' button is clicked. Though this message is not updated until 'Apply' button is clicked again, WebEye keeps on receiving status information from the connected device.

12) Alarm Configuration



This page is to set image- recording conditions during an event situation for e-mail/FTP delivered images.

(1) Motion Detection Threshold

Administrator sets the threshold for motion detection function. Threshold '0' is the most sensitive state and '900' is the least sensitive state.

(2) Alarm Parameters for E-mail / FTP Application

Administrator defines the image-recording conditions for an event, if WebEye detects events through motion detection function (MD Event) or external devices (SID1, SID2, SID3, SID4, SID5 and SID6).

13) User Custom Configuration

This page is to customize TCP ports of data transmission and default viewer composition.

(1) Web Server TCP Port

Administrator assigns a web server TCP port for user access to WebEye and data transmission from WebEye. 80th port is assigned as default value.

(2) Video Server TCP Port

Administrator assigns a video server TCP port image transmission from WebEye. 8080th port is assigned as default value.

(3) Select Main Page

Administrator assigns a viewer for the main page of WebEye. Three viewing options are available: "Default Simple Viewer", "Default Multi Viewer", and "Server Push Viewer". "Default Multi Viewer" displays images through six-divided screens.

(4) Default Viewer Editing

'Default Viewer' is designed for users to edit easily. Editable parts are as bellows.

- **Main Title**: It is to change the main title displayed at the bottom of the default viewer.
- **Logo Image Source URL**: Administrator may assign the URL of any web site from which default viewer gets a logo. The space to put a log is located on the left top of the viewer.
- **Logo Image Link URL**: Administrator may link the logo with a certain web page, such as a company or personal homepage.
- **Background Color & Foreground Color**: Ground color of default viewer can be changed. Administrator may set the color with RGB value.

14) Goto Viewer Page

This menu is to return to real time image viewer page from administration page.

(Appendix)

Detailed Specifications of WebEye B106

1. General

Hardware	
CPU	32bit RISC Embedded processor
Flash memory	8MB
RAM	16MB
ROM	64KB
OS	Embedded Linux
Video Channel	NTSC or PAL video format are supported 6Ch. Internal Video Inputs
Image Resolution	720X486, 720X243, 360X243, 180X121, 90X60
Image Compression	
Algorithm	Wavelet
Rate	20:1 ~ 300:1
Performance	
Transfer Rate	Max. 120fps (With 3KB image) Max. 30fps(NTSC) / 25 fps(PAL) (on 360X243)
Decoding Rate	2 ~ 30fps
Local Compression rate	Max. 30fps/1Ch, 6fps/6Ch
Security	Password Based User Authentication IP-filtering (Secure Mode) Image Encryption
Alarms and I/O	Motion detection Sends e-mail automatically Sends the image files through FTP automatically Software-controlled 6-alarm input 6 Digital Input (Coupler), 6 Digital Output (Relay)
MISC. function	High quality image area setting Image quality control (10 Levels) Periodic sending of images through E-Mail or FTP Gray/Progressive/Single-Shot/Channel Rotate Mode User customized home page publishing supported by FTP Audio supported through RS232 port
Power Supply	DC 12V, 1.0A via external power supply

2. Network

Browser	MS Internet Explorer V. 5.0 or higher Netscape V. 4.7 or higher JAVA Applet for non PC User (MAC or Unix)
Connector	Two 10 Based-T Ethernet (Network, Loop Stackable upto 3 boxes only with 1 IP)
Installation	Assign IP address using setup program or ARP/RARP protocols
Protocols supported	TCP/IP, HTTP, ARP, RARP, ICMP, DHCP, FTP, SMTP, PPP and PPPoE

S/W Upgrade	Flash memory allows central remote software upgrades over network using FTP or private "WebyeUpgrade" program
Management	Configuration is achieved by private setup program and Web server built in administration page.

4. Mechanical

Dimension	H x W x L = 40mm x 220mm x 240mm
Weight	1.25kg (without power supply)

5. Compatible external devices and software

PTZ control	RS-232, RS485/RS422
Sensor input	6 auxiliary inputs are supported, made of 'Opto coupler' Opto coupler stands with 3-5V and 10-20mA