Viewing Live Video Using WebCam

With Microsoft Internet Explorer at the remote PC, it is possible to view live videos, download and play back video files, manage systems within the security network, control PTZ camera and I/O devices via the WebCam server.

Before starting the WebCam, make sure your system meets the following minimum requirements:

OS	Windows 2000, Windows XP, Server 2003
CPU	Pentium 4, 2.0G
Memory	256MB RAM
Hard Disk	60GB
VGA	NVIDIA GeForce II 32MB, 1024x768 screen resolution
Network	TCP/IP
Web Browser	IE6.0, Netscape Navigator (with limited functionality)
DirectX	Version 9.0 or above

Configuring WebCam Server

GV-System is built-in with a web sever.   Click the **Network** button, and then select **WebCam Server** to display the following Server Setup dialog box.

WebCam Server Settings

The Server Setup dialog box contains these tabs: (1) General, (2) Server, (3) Video, (4) RPB, (5) Audio, (6)JPG and (7) 3G.

[General]
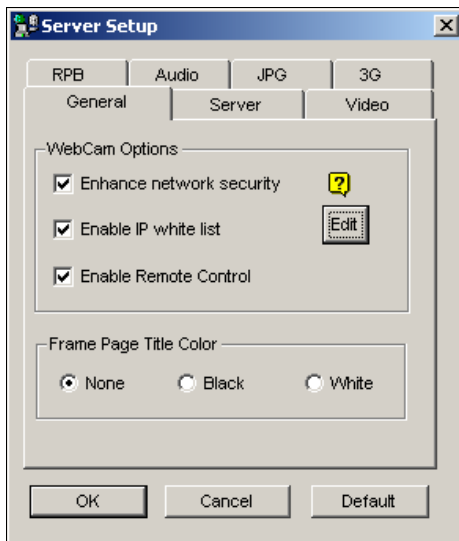
Figure 6-1   *Server Setup- General*

[WebCam Options]

■ **Enhance network security:**   Check this item to enhance network security on WebCam.
Please note when the feature is enabled, the users using earlier version than 8.0 cannot access
WebCam applications any more.

■ **Enable IP White List:**   Create a list of IP addresses allowed to connect to WebCam.   For
details, see *IP White List Settings* later in this chapter.

■ **Enable Remote Control:**   Check this item to use **Remote Configuration** and **Enable/Disable
I/O** functions on WebCam.

[Frame Page Title Color]   Select the color of date, time and camera stamps on the frame.

[Server]
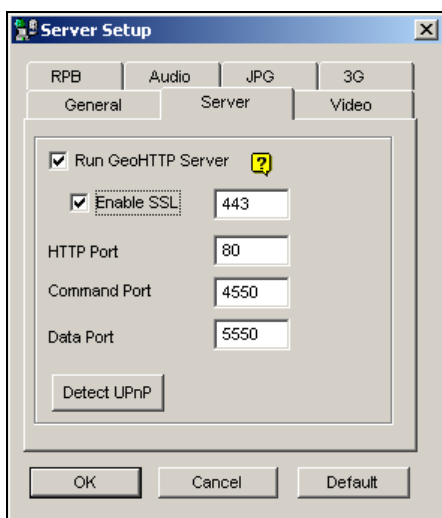
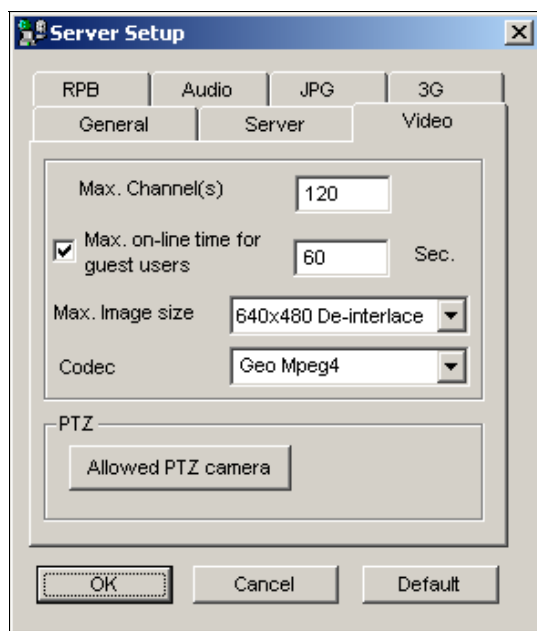***Figure 6-2***   *Server Setup- Server*

[Run GeoHTTP Server]   Enable Geo-developed HTTP server or use your own HTTP server.

Command Port is the port used to access WebCam, and Data Port is the port used to transfer data

over Internet.

[Enable SSL]   Enable the Secure Sockets Layer (SSL) protocol to ensure the security and privacy of

Internet connection.

[Detect UPnP]   For details, see *UPnP Settings* later in this chapter.

[Video]

Figure 6-3   *Server Setup- Video*

- ■   **Max. Channel(s):**   Specify the number of channels allowed to access WebCam, with the upper
  limit of 200 channels.
- ■   **Max on-line time for guest users:**   Specify the time length allowed for a guest user to connect
  to WebCam. The time range is between 10 to 3600 seconds.
- ■   **Max Image size:**   Select a resolution.   The default resolution on WebCam is 320 x 240.   If you
  want to apply the 640 x 480 (De-interlace) or 720 x 480 (De-interlace) resolution, you also have to
  configure Video Source.   Click the **Configure** button on the main screen, and then select **Video
  Source**.   In the Video Resolution field, select 640 x 240 or higher resolutions, and then click **OK**
  to apply.
- ■   **Codec:**   WebCam provides two codec options: Geo Mpeg4 and Geo H264.
- ■   **Allowed PTZ camera:**   The option allows you to control selected PTZ cameras at a remote
  computer.   Click the button and select the desired PTZ cameras to work on WebCam.

[RPB]
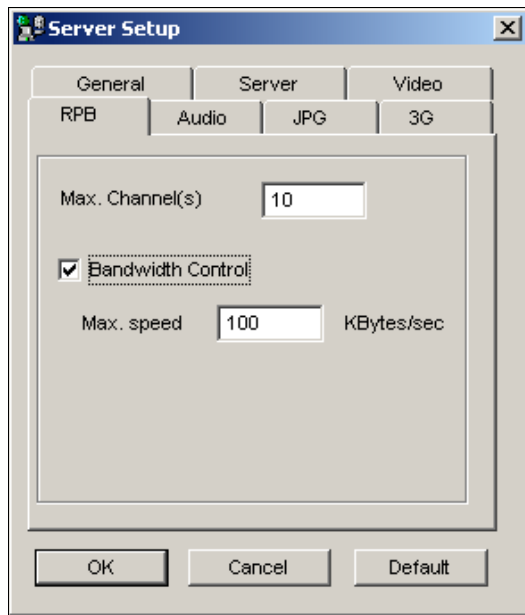
Figure 6-4 *Server Setup- RPB*

This feature is used to prevent overloading on slower networks.

■ **Max. Channel(s):**   Specify the number of channels allowed to download to a client PC.

■ **Bandwidth Control:**   Enable and specify the rate of data to be transferred over network.   The option effectively controls the bandwidth being used by the WebCam server.

[Audio]

Connecting Audio Devices

Via WebCam, you can access live audio at a remote site and talk to the server site.   This feature is useful when the remote site requires speaking to the personnel at the server site in case of emergency. Before using this feature, make sure all the necessary hardware are in place:

1. If you purchase a BNC connector GV-System, connect the audio extend card to the system (see Chapter 2 in the *Installation Guide*).   If you purchase a D-type connector GV-System, audio extension cable lines should come available with the D-Type extension cables.   For GV-1000, the audio card must be purchased separately.
2. Make sure your sound card is already inside the computer.   Connect a multimedia speaker to the audio output of your computer's sound card.
3. Connect a desktop microphone to the input of the audio extension card (or cable line).

## Audio Setup
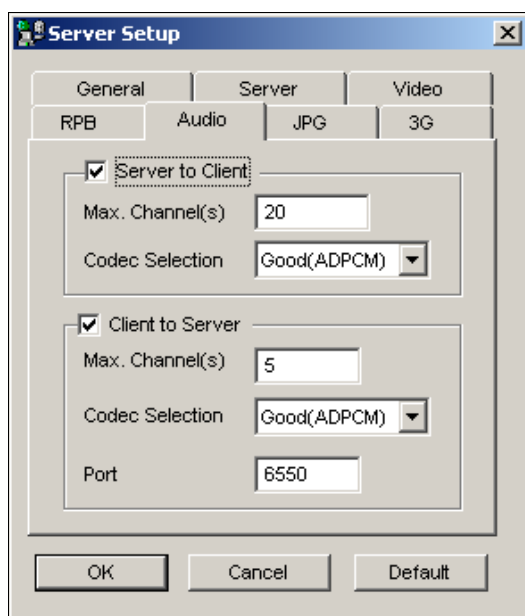
Figure 6-5 *Server Setup- Audio*

[Server to Client] Allows a client PC to access live audio from the server site.

■ **Max. Channel(s):** Enter the number of client PCs allowed to access live audio, with the upper limit of 40 PCs.

■ **Codec Selection:** Select the audio codec. ADPCM requires 4KByte bandwidth, while G.723 requires only 0.66KByte bandwidth. But ADPCM offers much better audio quality than G.723.

[Client to Server] Allows a client PC to speak to the server site.

■ **Max. Channel(s):** Enter the number of client PCs allowed to speak to the server site, with the upper limit of 20 PCs.

■ **Codec Selection:** The same as the above Codec Selection.

■ **Port:** The default audio port is 6550.

Note: If your server site is installed a firewall, configure the port settings in the firewall as 4550, 5550, 6550 and 80.

[JPG]
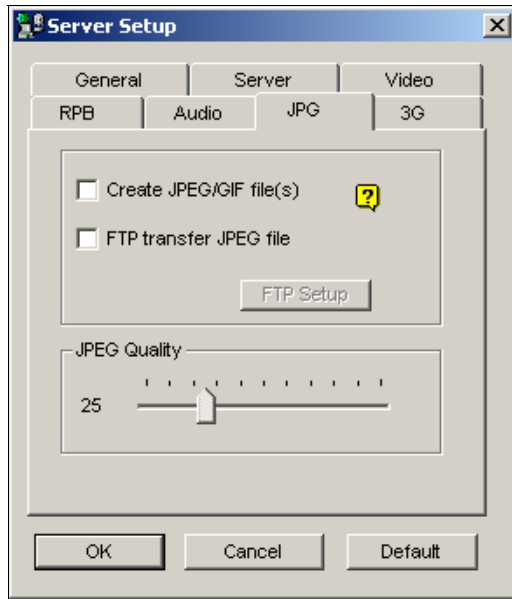
Figure 6-6   *Server Setup- JPG*

■ **Create JPEG/GIF file(s):**   Allows the connection to G-View (see *Connecting G-View to GV-Server*, later in this chapter), i-Mode (see *I-Mode Phone*, later in this chapter), and JPEG Image Viewer (see *JPEG Image Viewer*, later in this cheater).   If the feature is enabled, use the slide bar to adjust JPG image quality.   The bigger the number (sliding it towards right), the better the image quality and the bigger image file size.

■ **FTP Transfer JPEG file:**   Allows you to view the recording files in a folder tree structure.   For details, see *FTP Server Settings*, later in this chapter.

Note: The Create JPEG/GIF file(s) item will not be available when you enable **Enhance Network Security** in Figure 6-1.

[3G]

These settings allow you to stream video and audio on your 3G-enabled mobile phone.   For more information on 3G mobile phone connection, please check our website.
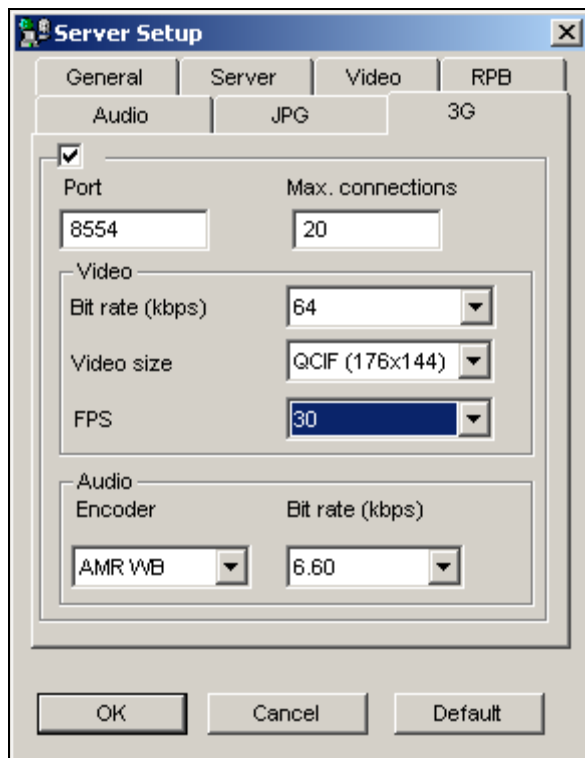
Figure 6-7

- ■ **Port:**   The default communication port is 8554.
- ■ **Max. Connections:**   Specify the number of users that can connect to this server.   Set the number to be between 1 and 20.

[Video]
- ■ **Bit rate (kbps):**   Select a proper bit rate for video file transmission.   Larger bit rate means better quality, but it also required larger bandwidth.
- ■ **Video Size:**   Select **QCIF (176x144)** or **sub-QCIF (128x96)** for transmission.   Larger video size means better quality, but it also requires larger bandwidth.
- ■ **FPS:**   Specify the number of frames to be transferred per second.

[Audio]
- ■ **Encoder:**   For narrowband users, select **AMR**; and for wideband users, select **AMR WB**.
- ■ **Bit rate (kbpts):**   Select a proper rate for audio file transmission.

Note: To enable 3G services on your mobile phone, consult your network operator.

IP White List Settings

The feature lets you create a list of IP addresses only which are allowed to connect to the WebCam server.   To enable the function, follow the steps below.

1. On the main screen, click the **Network** button, and then select **WebCam Server** to display the Server Setup dialog box (see Figure 6-1).
2. In the General tab, check the **Enable IP white list** option, and then click the **Edit** button.   This IP White List window appears.
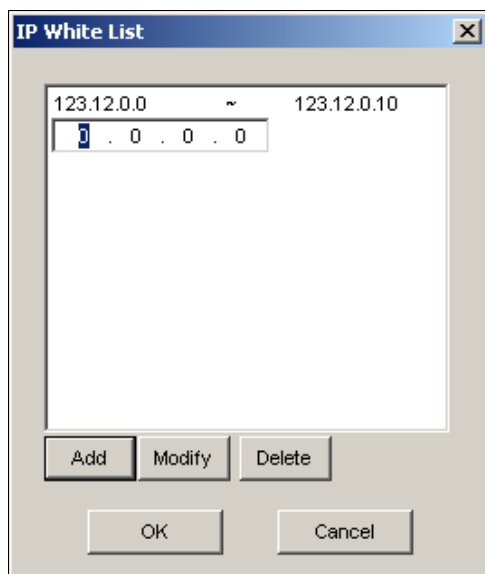
Figure 6-8   *IP White List*

3. Click **Add** to enter an IP address or a range of IP addresses.   For this example, only the IP range from 123.12.0.0 to 123.12.0.10 is allowed to connect to WebCam.
4. Click **Modify** to change a created IP address.   Click **Delete** to delete a created IP address.   Click **OK** to apply the settings.

UPnP Settings

WebCam Server supports UPnP technology (Universal Plug and Play) to allow automatic port configuration to your router.

In order for UPnP to be enabled, the following must be true:

● Windows XP Service Pack 2 is required.
● Windows XP must be configured to use UPnP (see below)
● UPnP must be enabled on your router (consult your router's documentation)

Enabling UPnP in Windows XP

1. Go to Windows Start, click **Start** button, point to **Settings**, and select **Network Connections**.
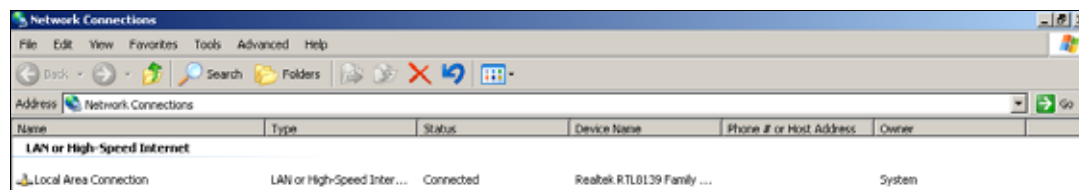
    This window appears.

Figure 6-9

2. Right-click one **Local Area Connection**, select **Properties**, and click the **Advanced** tab.
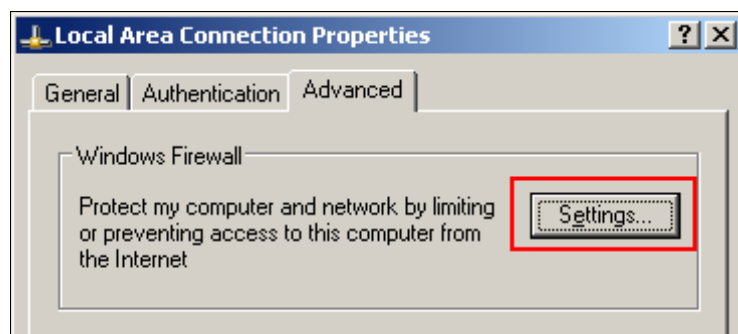
    This dialog box appears.

Figure 6-10

3. Click the **Settings** tab, and click **Exceptions** tab.   This dialog box appears.
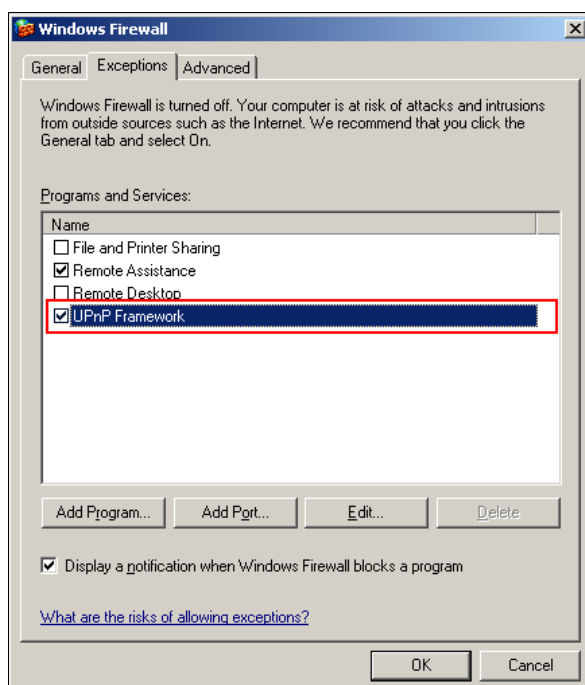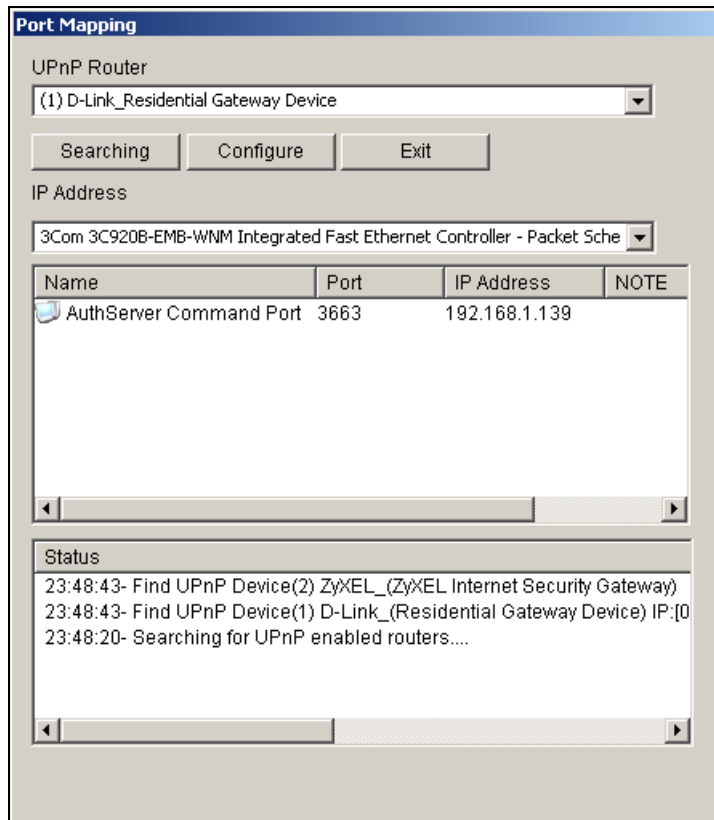

Figure 6-11

4. Check **UPnP Framework**, and click **OK**.

Enabling UpnP in WebCam

1. On the main screen, click the **Network** button, select **WebCam Server**, and click the **Server** tab. The Server Setup dialog box appears (see Figure 6-2).

2. Click **Detect UPnP**.   This dialog box appears.
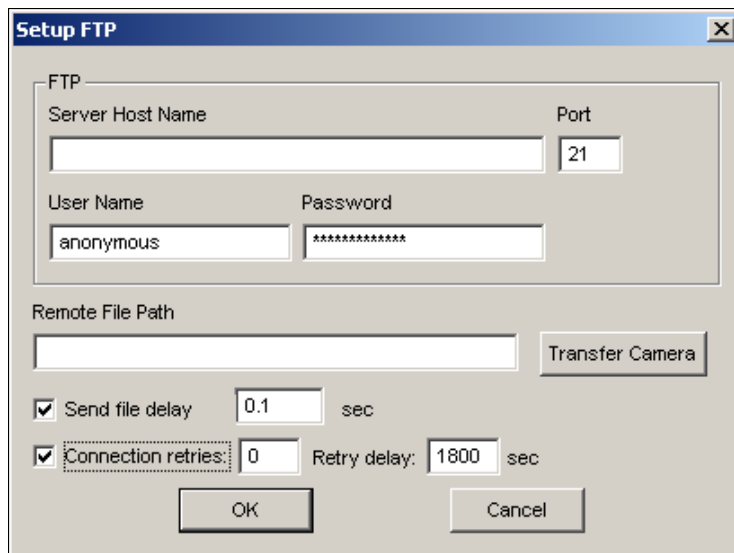

Figure 6-12

3. Click **Searching** to search the UPnP-enabled routers.

4. If your server is installed with more than one router, select a desired one from the UPnP Router drop-down list.

5. If you server is installed with more than one network adapter, select a desired one from the IP Address drop-down list.

6. Click **Configure** to automatically configure the communication ports on the router.

Tip: If you don't use the default ports, modify the related ports in the Server Setup dialog box (See Figure 6-2) and then click **OK**.   Re-open the dialog box and follow above steps to configure your router.

Note: UPnP technology now is also available in other remote applications: Control Center, Center V2, Remote Playback, Authentication Server, VSM and TwinDVR.

FTP Server Settings

The option of FTP transfer JPEG file allows you to access the recording files in a folder tree at a client computer installed with the FTP server.   In Figure 6-6, select the **FTP transfer JPEG file** option, and then click the **FTP Setup** button to display the following dialog box.

Figure 6-13   FTP Setup

1.   In the Server Host Name field, enter the IP address or domain name of the FTP server.   Keep the port setting as default at 21.
2.   Enter a valid user name and password to access the FTP server.
3.   Specify a file path to save the recording files on the FTP server.
4.   Click the **Transfer Camera** button and assign which camera's files to be transferred to the FTP server.
5.   In the Send File Delay field, specify the time of updating JPEG files from the GV-System to the FTP server.   The time range is from 0.1 to 10 sec.
6.   In the Connection Retries field, specify the number of retries when the FTP connection fails (Max：999).   In the Retry Delay field, specify the interval between each retries (Max：9999 sec.).
7.   Click **OK** to apply above settings.

Starting WebCam at the Client PC

Once the WebCam server at the GV-System is enabled, it is then possible to view images using a web browser at a client PC or from a remote site.   Microsoft Internet Explorer will be used as the browser through the entire chapter.

1.   To start the connection, open an IE browser.

2. Type the IP address or the domain name of the GV-System to display the following window.


Figure 6-14   *WebCam Compression Selection*

- ■ **MPEG4 Encoder Viewer:**   Provides the most complete functionality of the WebCam applications, allowing you to view up to sixteen cameras from different GV-Systems.
- ■ **JPEG Image Viewer:**   Provides least features but is suitable for the users with limited bandwidth, for example, users viewing with Apple Mac, and operating systems using Netscape Navigator.
- ■ **Remote Play Back:**   Downloads history files from the GV-System onto the client PC.
- ■ **Emap:**   Accesses the Emap files.
- ■ **Remote Control:**   Accesses the GV-System settings.

3. For the purpose of this demo, select MPEG 4 Encoder, and then click the **Submit** button to display the following window.


Figure 6-15   *Select Internet Connection*

1. Select the type of Internet Connection you're using.   Modem users are limited to Single Window, while broadband users have the option of 2 Windows or Multi View.   For this demo, select **Single Window**, and then click the **Submit** button.
2. Your IE browser starts loading the MPEG4 Encoder interface.   When the loading is completed, click the **Play** button and type a valid user ID and password.
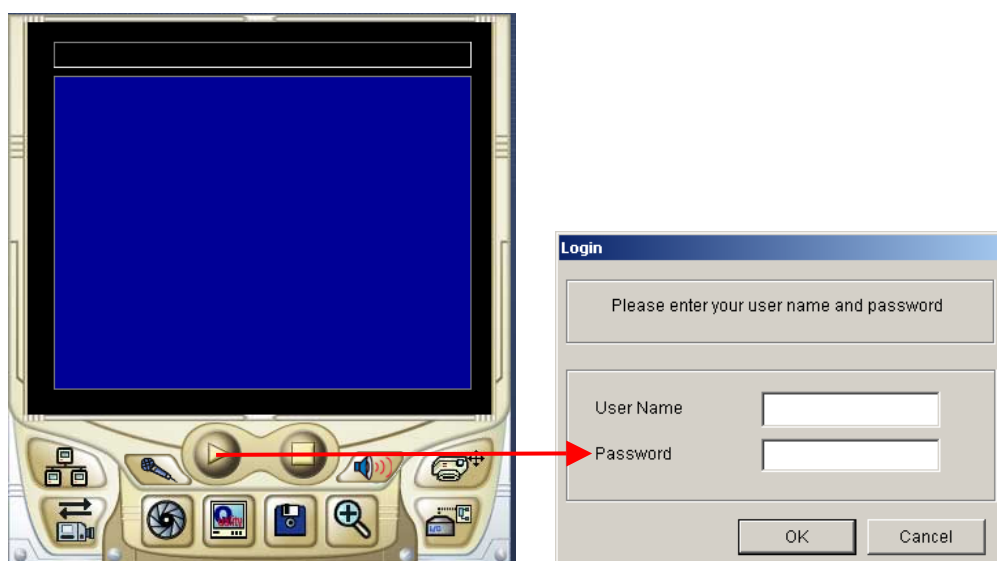
Figure 6-16 *Entering a valid ID and password*

3. If the **Enhance network security** option was selected in WebCam Options (see Figure 6-1), you will be prompted to enter a security code.   In this example, enter *4qhtfa,* and then click **OK**.

4. If the connection is established, you will see video streaming in the MPEG4 Encoder Viewer.
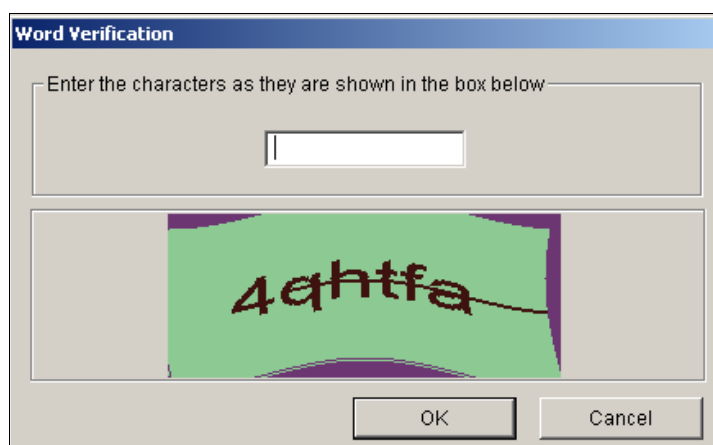
Figure 6-17 *Enter a security code*

Single View MPEG 4 Encoder Viewer
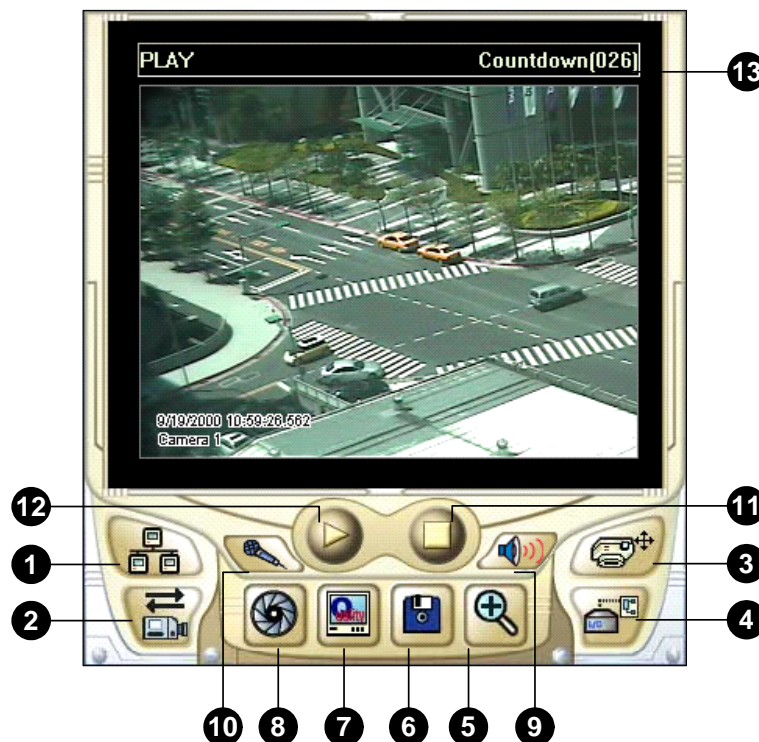
Figure 6-18 *Single View MPEG4 Encoder Viewer*

The controls in the Single View Viewer:

No	Name	Description
1	Change Server	Brings up these options: Alarm Notify, Data Rate Configure, Remote Config, Change Server, Show Camera Name and Enable DirectDraw.
2	Change Camera	Selects the desired camera for display.
3	PTZ Control	Displays the PTZ control panel.
4	I/O Control	Displays the I/O control panel.
5	Full Screen	Switches to full screen view.
6	File Save	Saves live video in the local computer.
7	Change Quality	Adjusts video quality in 4 levels.
8	Snapshot	Takes a snapshot of the displayed live video.
9	Speaker	Enables live audio from the remote GV-System.
10	Microphone	Enables speaking to the remote GV-System.
11	Stop	Terminates the connection to the remote GV-System.
12	Play	Connects to the remote GV-System.
13	Countdown Timer	Indicates the remaining time when you log in as Guest. When the time is up, you will be logged out automatically.

Administrating Host Server

This option allows you to add, edit, and remove a GV Server from the Host drop-down list.   The drop-down list is used to switch the connection to a different GV Server listed inside.   Click the **Change Server** button (No.1, Figure 6-18) to display the following dialog box.

The Host
drop-down list
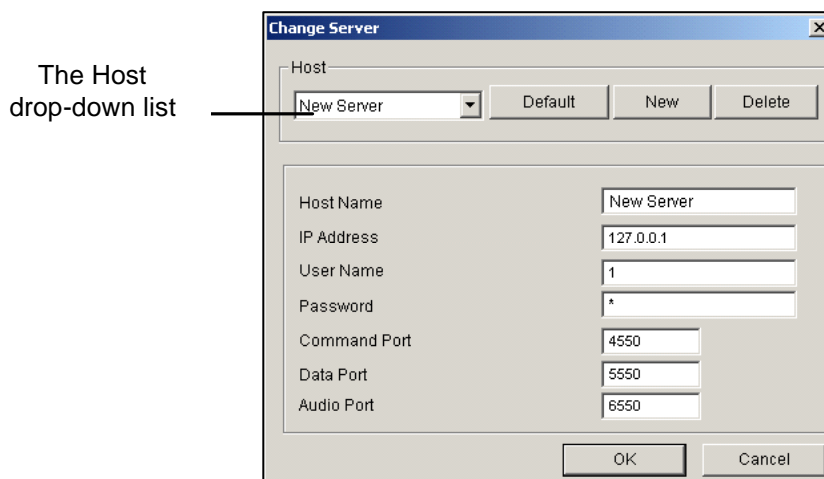
Figure 6-19   *Change Server*

[Adding Host Server]   To add a host server to the drop-down list, click the **New** button.   In Host Name field, type a name to identify the designated GV Server.   Type the IP address or domain name of the GV- Server.   Type a valid user name and password with privilege to use this function.   Leave all port settings as defaults at 4550, 5550, and 6550 respectively unless otherwise necessary.   Click the **OK** button.   Then the created GV Server will appear in the drop-down list.

[Editing Host Server]   Select the GV Server you wish to edit from the Host drop-down list.   All information of the selected server will be displayed.   Change the information in the fields as required and click the **OK** button.   Then the information is updated and connection is switched to the edited GV Server.

[Removing Host Server]   Select the GV Server you wish to remove from the Host drop-down list, and then click the **Delete** button to remove it.

Taking a Snapshot from a Live Video

Click the **Snapshot** button (No. 8, Figure 6-18) to display the following Snapshot window.   Click the **Print** button to print out the displayed image.   Or click the **Save** button to save this image in a client PC.
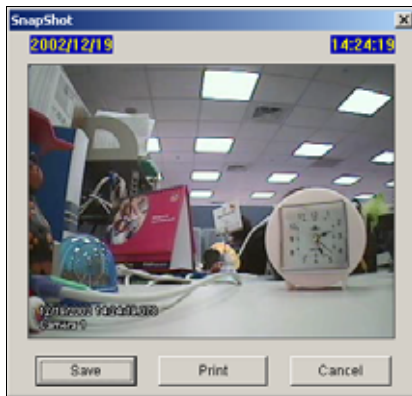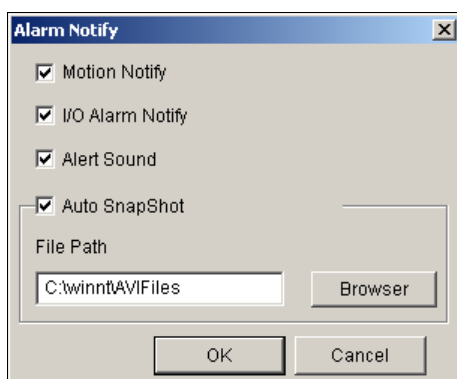
Figure 6-20   Take a Snapshot

Pop-up Setup

The Single View MPEG4 Encoder Viewer can be set to pop up as soon as motion is detected or I/O devices are triggered.   To enable the function, follow the steps below.

1. Click the **Change Server** button (No. 1, Figure 6-18), and then select **Alarm Notify** to display the following dialog box.

Figure 6-21   Alarm Notification

- ■ **Motion Notify:**   The Viewer will pop up as soon as motion is detected.
- ■ **I/O Alarm Notify:**   The Viewer will pop up as soon as I/O devices are triggered.
- ■ **Alert Sound:**   Enable the computer noise alarm on motion and alarm activation.
- ■ **Auto Snapshot:**   The program will take a snapshot every 5 seconds on motion and alarm activation.
- ■ **File Path:**   Assign a path to save the snapshots.

2. Click **OK** to apply the above settings.
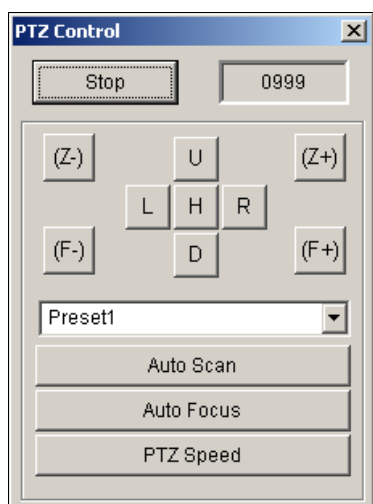3. Minimize your IE browser to test the pop-up function.

Exporting Video

Click the **File Save** button (No. 6, Figure 6-18) to save video in a client PC.   Files saved in AVI format are playable at third party viewers.

PTZ Control

Click the **Camera Select** button to select one PTZ camera, and then click the **PTZ Control** button (No. 3, Figure 6-18) to bring up the PTZ control panel.

***Figure 6-22***   *PTZ control panel*

One PTZ camera only allows one user to control at a time.   If several users are trying to control the same PTZ camera at the same time, the Single View viewer will give the priority to the first login user and then to the next user in queue.   Each user will be given 60 seconds to control the PTZ camera. The Timer at the upper right corner informs the user of the remaining time of control or the total waiting time.

The supervisor is given the highest priority to control the PTZ camera and won't be restrained by 60-second time limit.   When the supervisor logs in WebCam, the Timer shows 999.

The **PTZ Speed** button in the lower part allows you to configure the speed of a PTZ camera up to five levels.

I/O Control

The new interface provides real-time graphic displays of camera and I/O status, and alarm event. Additionally, you can force output, as well as enable and disable I/O devices to the remote GV-System. Click on the **I/O Control** button (No. 4, Figure 6-18) to bring out the I/O control panel.
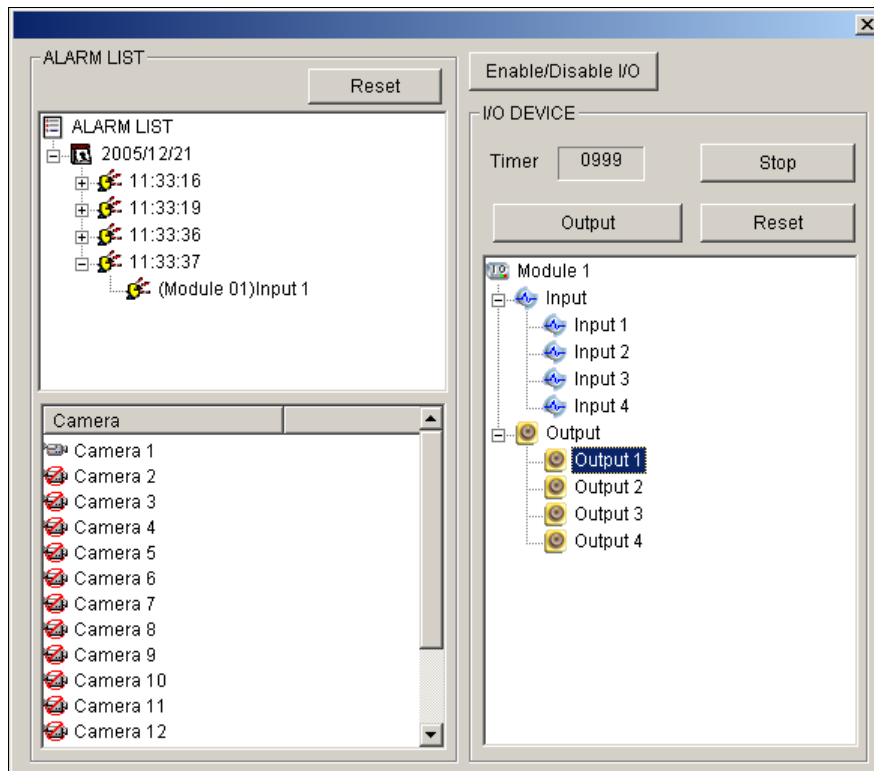
Figure 6-23   *I/O Control*

The alarm status is displayed in three levels.   The first level indicates date, second indicates time, and the third indicates alarm ID.   Clicking the **Reset** button will clear the alarm list.

To initiate an output device, click the **Enable** button, highlight an output and then click the **Output** button.   The Timer functions the same as in the PTZ control panel.   Each user will be given 60 seconds of control time while the supervisor has 999 seconds.   Clicking the **Stop** button will stop the operation and turn over the control privilege to the next user waiting online.

If you want to enable or disable I/O devices to the remote GV-System, click the **Enable/Disable I/O** button.   For this, the remote GV-System must grant the privilege first.   Enable the **Enable Remote Control** option in Figure 6-1.

Two-Way Audio

To make two-way audio possible, both hardware and software must be properly set up and installed. For the instructions on setup and installation, refer to *Audio Settings* in this chapter.   Click the **Speaker** button (No. 9, Figure 6-18) to access live audio from the server site, and click the **Microphone** button (No. 10, Figure 6-18) to speak to the server site.   When both buttons are enabled, you can perform two-way communication between the client computer and the server site.

Data Rate Configuration

When sounds seem to pause or break up, you can configure Data Rate to improve the situation.

Click the **Change Server** button (No. 1, Figure 6-18) and select **Data Rate Configure** to display the following window.   Moving the slide bar to the Low direction will decrease the frame rate but increase the audio performance; moving the slide bar to the High direction will increase the frame rate but decrease the audio performance.
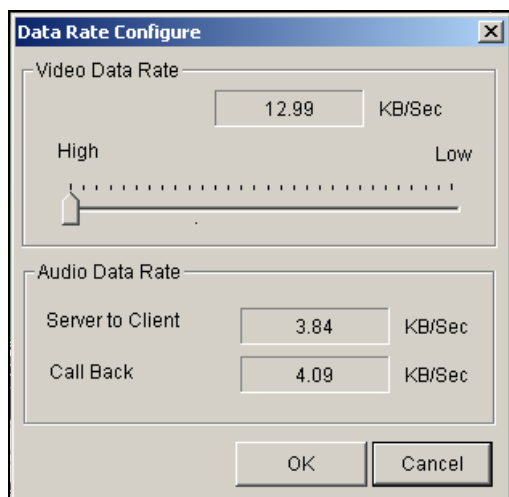

Figure 6-24   *Data Rate Configuration*

DirectDraw Setup

The DirectDraw setting is enabled by default.   Some VGA cards might not support DirectDraw and can produce distorted frames.   In this case, disable the function from the **Change Server** button (No. 1, Figure 6-18).

Remote Configuration

Remote Configuration allows you to adjust video images, start/stop recording, enable/disable I/O monitoring and activate/deactivate schedules to the remote GV-System.   For this, the remote GV-System must grant the privilege first.   See the **Enable Remote Control** option in Figure 6-1.

Click the **Change Server** button (No. 1, Figure 6-18) and select **Remote Config** to display the following dialog box.
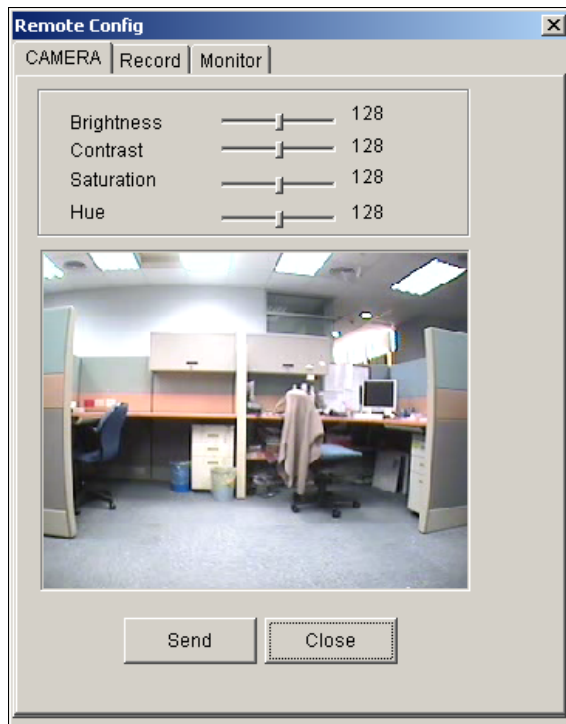
Figure 6-25   *Remote Config Dialog Box*

[Camera]   Move the slide bars (Brightness, Contrast, Saturation and Hue) to adjust video attributes.
Click the **Send** button to apply the changes to the remote GV-System.

[Record]   Check the desired cameras to start or stop recording to the remote GV-System.

[Monitor]   Enable I/O and Schedule monitoring to the remote GV-System.   Click the **Send** button to
apply the settings.

Multi View MPEG 4 Encoder Viewer

Multi View is a multi-channel MPEG4 Encoder Viewer, allowing users to view 4, 8, and 16 live cameras
simultaneously.   Because multiple channels require a large amount of data to be transferred over
Internet, this function is limited to broadband users only.

To start Multi View, follow these steps:

1. Follow the instructions of *Starting WebCam at the Client PC* in this chapter until the Select Internet
   Connection window appears.

2. Select **DSL/CABLE/T-1**, choose **Multi View**, and then click the **Submit** button.   First time users
   will be prompted to install the Multi View applications.   Select **Yes**, and then follow the instructions
   to complete the installation.

3. When the Login dialog box appears, enter a valid user ID and password, and then click **OK**.   This displays the following Multi View window.
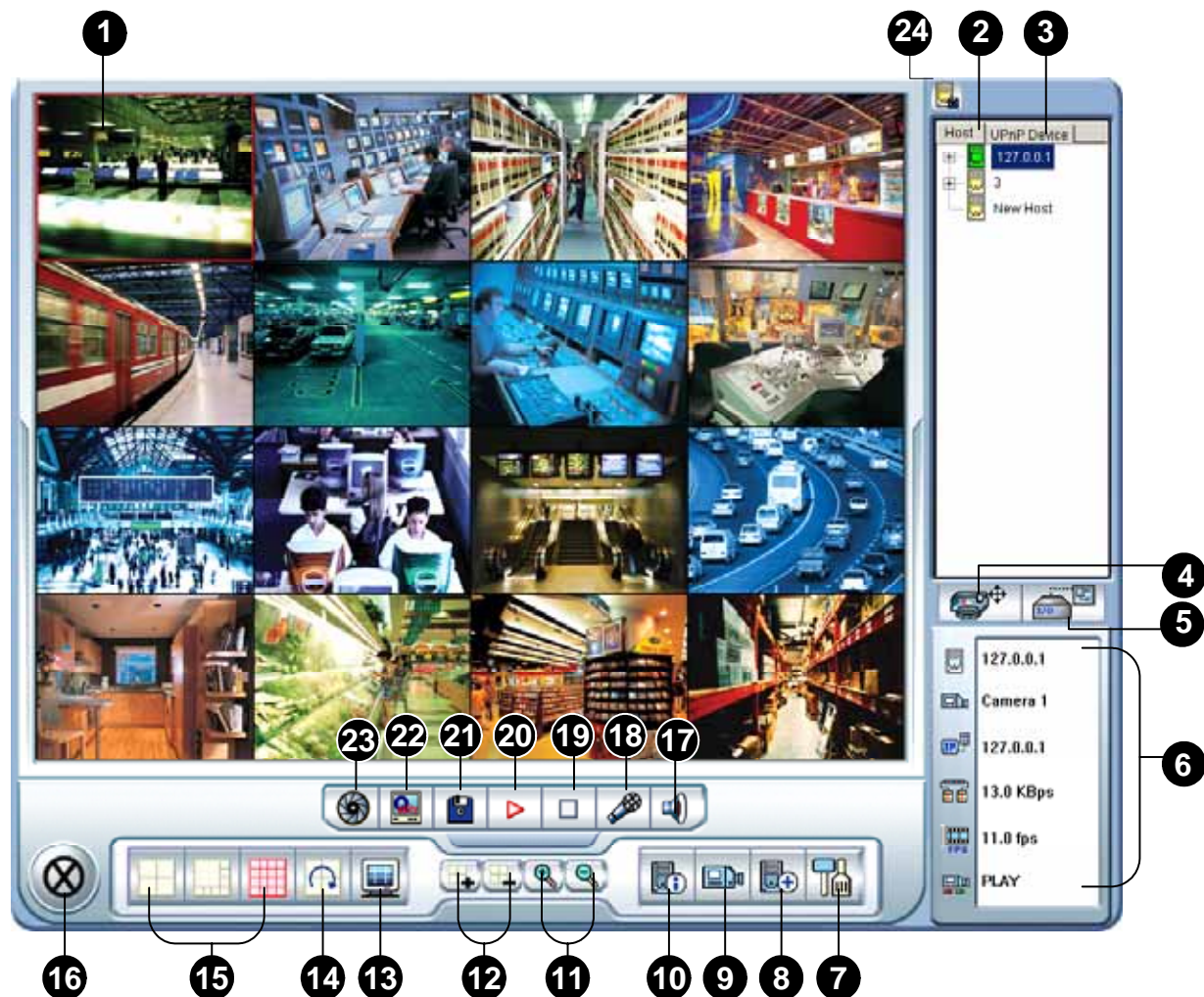
Figure 6-26   *The Multi View Window*

The controls in the Multi View:

| No	Name	Description
1	Monitoring Window	Displays live video.
2	Host Server	Displays connected GV-Systems and their available cameras.
3	UPnP Device	Displays all hosts on the same LAN.
4	PTZ Control	Displays the PTZ control panel.
5	I/O Control	Displays the I/O control panel.
6	Channel Status	Indicates the general information of the selected channel.
7	Configure	Accesses system settings of the Multi View.
8	Edit Host	Adds, deletes or modifies GV-Systems.
9	Camera Status	Displays the camera status of the connected GV-Systems.
10	Host Information	Displays the general information of the connected GV-Systems.
11	Zoom in and out	Zooms in or out the selected channel.

12	Add/Remove Channel	Adds or deletes the channels for video polling. Click the **Add or Remove Channel** button and then click the desired channel to add to or remove from the video polling.
13	Full Screen	Switches to a full screen view.
14	Video Polling	Rotates through the selected channels.
15	Screen Divisions	Sets screen divisions to 4, 8 or 16.
16	Exit/Minimize	Closes or minimizes the Multi View window.
17	Speaker	Enables speaking to a remote GV-System.
18	Microphone	Enables live audio from a remote GV-System.
19	Stop	Terminates the connection to a GV-System.
20	Play	Establishes the connection to a GV-System.
21	Save	Saves live video.
22	Quality	Changes video resolution.
23	Snapshot	Takes a snapshot of the selected channel.
24	Save Camera to Multiple Host	Saves the selected cameras and to create a Multiple Host.

Working With the Host Server Window

The Host Server window displays a list of available GV Servers.   The server icons indicate available servers and the camera icons indicate all cameras included in the selected server.   To connect to a server site:

1. Click a monitoring window, which will be highlighted in red frame.
2. Double-click on a camera icon, and then its corresponding video will be loaded to the selected monitoring window.

First time users will only see one server icon as no additional servers are created yet.   For the details of adding new servers to the Host Server window, refer to *Creating a Quick Connection to a Host Server,* later in this chapter.
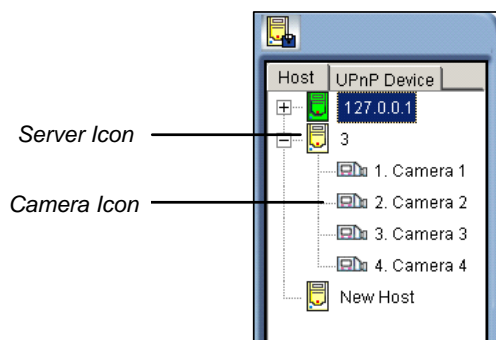
Figure 6-27   *The Host Server Window*

Working with Hosts on the Same LAN

With UPnP technology, MutliView can detect all hosts on the same LAN, without the need of user configuration.

1. On the Host window, click the **UPnP Device** tab for detection. The blue icon means WebCam Server is activated at the host while the white icon means WebCam Server is not enabled

2. Double-click one host for connection. A valid ID and password are required.

Note: For UPnP detection, the host needs to open TCP port 5201 and the MultiView site needs to open UDP port 5200.

Exporting Video

You can save live videos in a client computer. The files in AVI format are playable at the third party viewer. Click the **Save** button, and then select all or several cameras to start recording. For the folder path, see Figure 6-31.

Taking a Snapshot from a Live Video

Click a desired channel, and then click the **Snapshot** button to take a snapshot of live video.

PTZ Control

1. Select a PTZ capable camera from the monitoring window, or double-click it on the Host Server window.
2. Click the **PTZ Control** button (No. 4, Figure 6-26).
3. Turn the switch to the **ON** position.
4. Use the directional, zoom-in, zoom-out, focus-in, focus-out buttons to control the PTZ camera.

The Timer has the same functions as the one in the Single View MPEG4 Encoder Viewer. The supervisor is given the highest priority to control PTZ in Multi View and won't be restrained by 60-second time limit. When the supervisor logs in Multi View, the Timer will show 999.

The **Option** button lets you direct the PTZ camera to a preset position and configure the speed of the PTZ camera up to five levels.
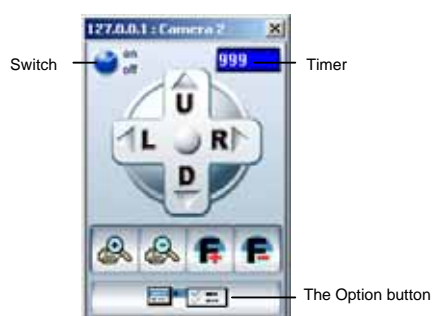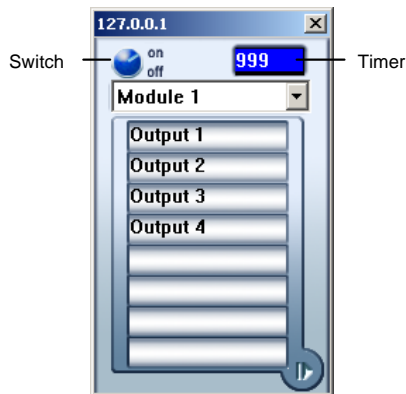

Figure 6-28 PTZ control panel

Output Control

1. Click the **I/O Control** button (No. 5, Figure 6-26).

2. Turn the switch to ON position,

3. Select a module from the drop-down list.   Each module provides 4 to 16 connected relay output devices.

4. Click the **Output (x)** button to enable the output device.

Figure 6-29   *I/O Control Panel*

Channel Status Information

When choosing a camera from the Host Server window or the monitoring window, the general information of the selected camera will be displayed in the Channel Status Window as shown below.
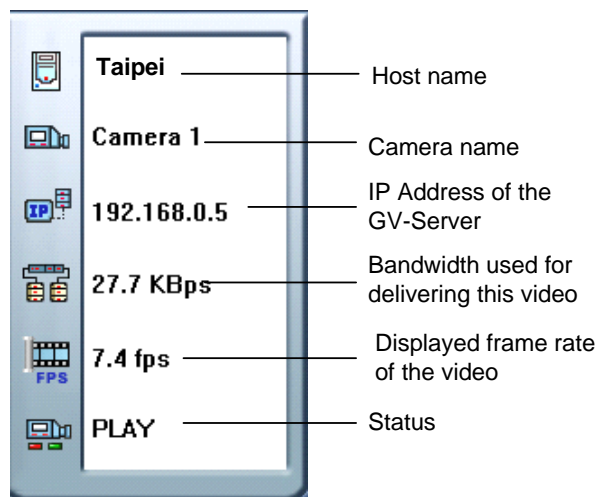
Figure 6-30   *The Channel Status window*

Camera Polling Function

To add cameras to the polling group:

1. Click the **Add Channel** button, and then click the monitoring windows.   The selected windows will be framed in red color.

2. Click the **Video Polling** button.   The application will rotate the selected cameras in the specified time.   To configure the polling time, see Figure 6-31.

To remove one camera from the polling group, click the **Remove Channel** button, and then click its monitoring window.

Two-Way Audio

The two-way audio in Multi View functions similarly to the one in Single View MPEG4 Encoder Viewer. See T*wo-Way Audio* earlier in this chapter for further details.

Multi View Configuration

Click the **Configure** button (No. 7, Figure 6-26) to display the following window.

Figure 6-31   *The Configure Window*

- **Initial Screen:**   Select screen divisions at startup.
- **Polling Time:**   Specify the camera polling time from 1 to 60 seconds.
- **Server Status Refresh Time:**   Specify the refresh time to update the host information.
- **Camera Status Refresh Time:**   Specify the refresh time to update the camera information.
- **Folder Path:**   Specify a path to save recorded files.
- **Max Video Clip:**   Specify the maximum time length of each recorded file to be 30 or 60 minutes. The default time length is 30 minutes.
- **Caption:**   Select what kind of caption to display on the monitoring window.
  ID: camera ID; **Name:** camera name; **No:** no display.
- **Enable DirectDraw:**   The DirectDraw is enabled by default.   Some VGA cards might not support DirectDraw and can produce distorted frames.   In this case, disable this function.
- **Fast Key:**   Click the **View** button to display the fast key table of the Multi View.   Refer to *Fast Key Reference* later in this chapter.

Creating a Quick Connection to a Host Server

To create a quick connection to a new host server, click the **Edit Host** button (No. 8, Figure 6-26).

This displays the following window.
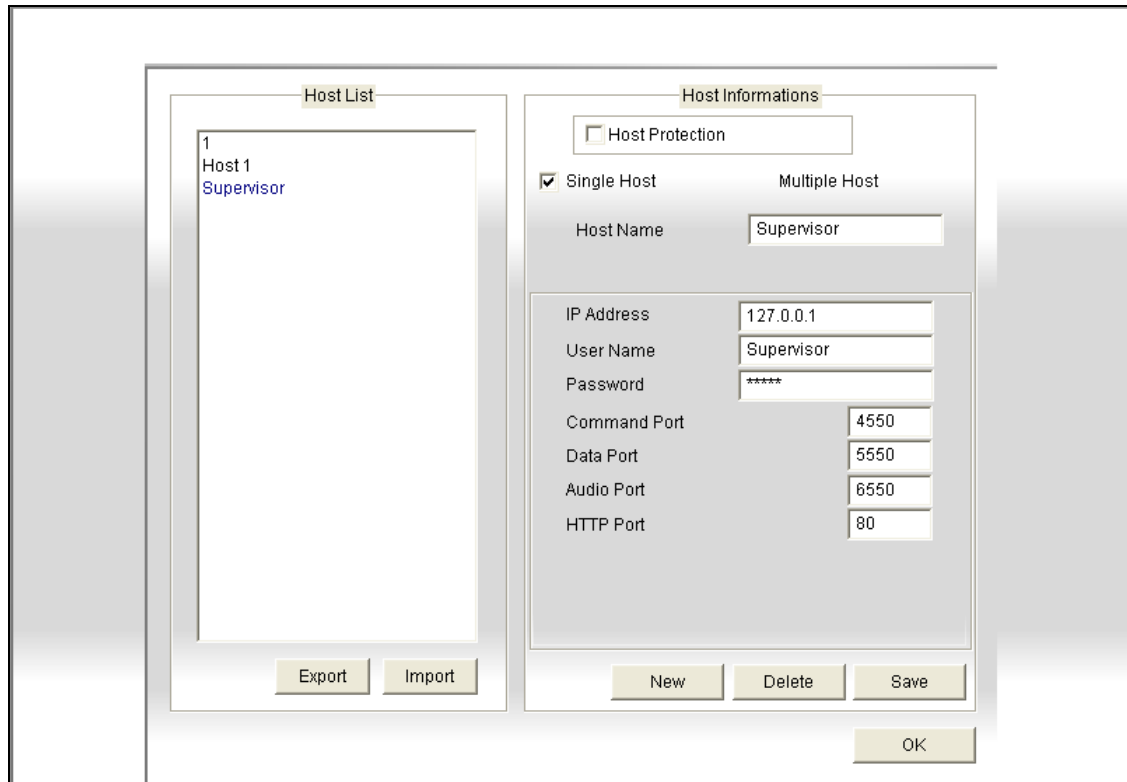
Figure 6-32   *The Edit Host Window*

[Host List]   When a host server is created, it will appear in the Host List section at the left side. Each server can be identified by its given host name.   Clicking on the host name and its information will be displayed in the Host Information section.

[Adding Host Server]   Click the **New** button and all fields in the window will be cleared.   In the Host Name field, type a name to identify the designated GV Server.   Type the IP address or domain name of the GV Server.   Type a valid user name and passwords with privilege to use this function.   Leave all port configuration as defaults at 4550, 5550, 6550, and 80 respectively unless otherwise necessary. Click the **Save** button, and then the GV Server will appear in the Host List section with the given ID name.

[Editing Host Server]   Select the GV Server you wish to edit in the Host List section.   All information of the selected server will be displayed in the Host Information section.   Change the information as required and click the **Save** button.

[Removing Host Server]   Select the GV Server you wish to remove from the Host List section, and click the **Delete** button.

Creating a Multiple Host

You can create a multiple host including the camera channels all from different IP addresses.   There are two methods to create a multiple host: the manual creation of a multiple host; the quick creation of a multiple host.

Manual Creation of a Multiple Host

1.   Click the **Edit Host** button (No. 8, Figure 6-26) to display the Edit Host window (Figure 6-32), and then click the **New** button to create a new host.

2.   Check **Multiple Hosts** to display the following window.
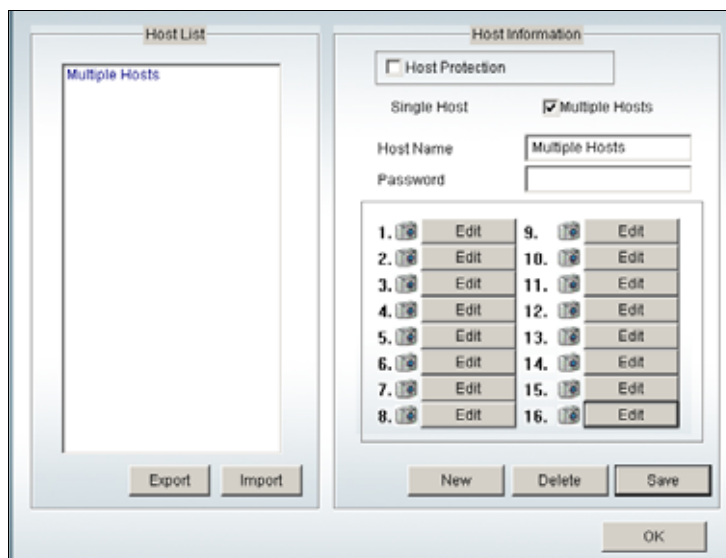
Figure 6-33   *Creating a multiple host*

3.   In the Host Name field, enter a desired name to identify the multiple host.

4.   To set up each camera channel of the multiple host, click the **Edit** tab one at a time.

5.   Alternatively, you can click and drag the created camera channel from the Host Server window (Figure 6-27) to each **Edit** tab.

6.   When you click the **Edit** tab, you will see the following window.
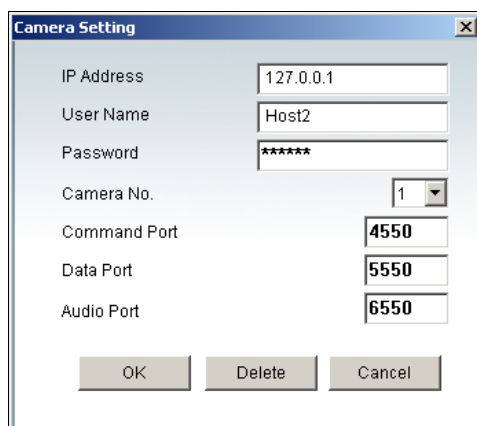
Figure 6-34   *Camera Setting*

7.   Enter the IP address, user name and password of a remote host.

8.   In the Camera No. drop-down list, select one desired camera channel from the remote host.

9.   Let the port settings match those of the remote host, or keep them as defaults

10. Click **OK**.

The icon of the created multiple host in the Host Server window is yellow, while others are blue.

Quick Creation of a Multiple Host

1.   Click on a desired monitoring window, which will be highlighted in the red frame.

2.   Click and drag a camera from the Host Server window.   The selected camera then displays in the highlighted monitoring window.

3.   Repeat the step 1 and 2 to configure other monitoring windows for different cameras.

4.   Click the **Save Camera to Multiple Host** button (No. 24, Figure 6-26) to create the multiple host. .

Camera Status

To show the camera status of the selected GV Server, click the **Camera Status** button to display the following window.   "Camera ON" indicates the camera is active.   "No Privilege" means you're not authorized to view this camera.   Clicking the **View** button will bring up a small window displaying the selected camera's video.   Clicking the **Refresh** button will refresh the information in this window.
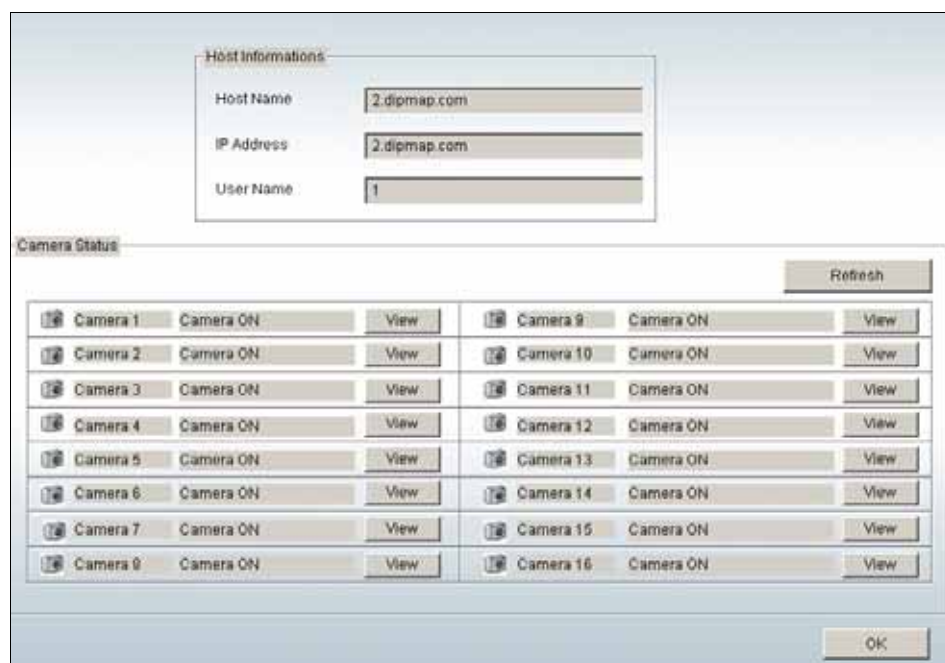
Figure 6-35   *The Camera Status Window*

Host Information

Click the **Host Information** button (No.10, Figure 6-26) to display the following window.   The Host
Information window contains the following three categories.   Use the control tabs to toggle among
them.
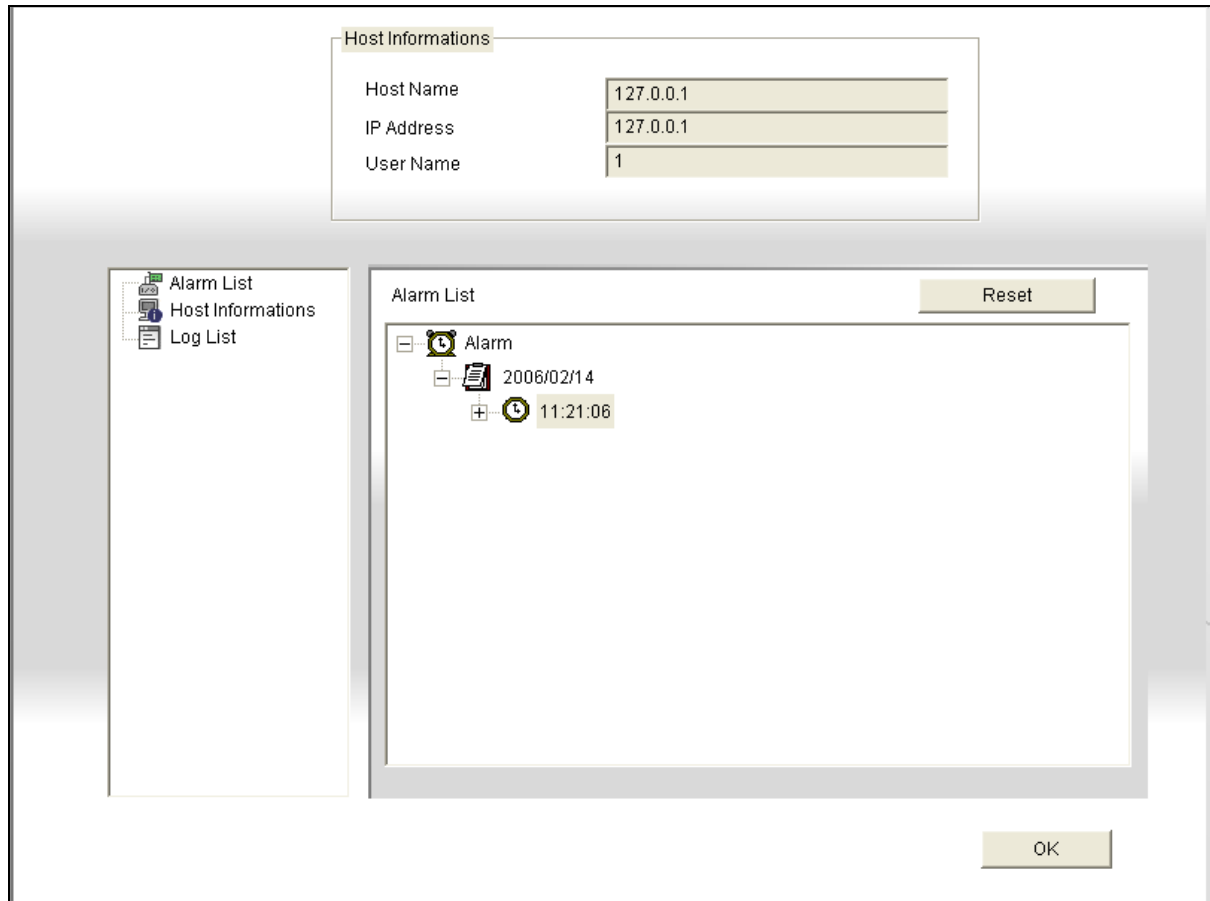
Figure 6-36   *The Host Information Window*

[Alarm List]   Displays a list of alarm events occurred in the selected **GV Server**.   Clicking the **Reset**
button will clear the listed events.   New events will be generated until the alarms of the local site are
invoked.

[Host Information]   The upper section shows the general information of the connected GV Server.
The lower section shows the number of MPEG4, RPB, and audio channels currently serving over the
Internet.

[Log List]   Displays a history of login and logout information.

JPEG Image Viewer

JPEG Image Viewer is a cross-platform viewer, practicable on Mac OS, Netscape, and Microsoft IE browsers.   Continuously receiving JPEG images from GV-System and limited to the single camera view, the viewer is an ideal tool for the users with limited Internet bandwidth.   For this application, the **Create JPEG/GIF File(s)** option must be enabled (see Figure 6-6), while the **Enhance Network Security** option must be disabled (see Figure 6-1).

To start the JPEG Image Viewer, follow these steps:

1.   Open an Internet browser from a client PC.
2.   Enter the IP address or domain name of the GV-System to display the WebCam Compression Selection window (see Figure 6-14).
3.   Select **JPEG Image Viewer**, and then click **Submit**.   A valid ID and password are required.
4.   The JPEG Image Viewer window appears.
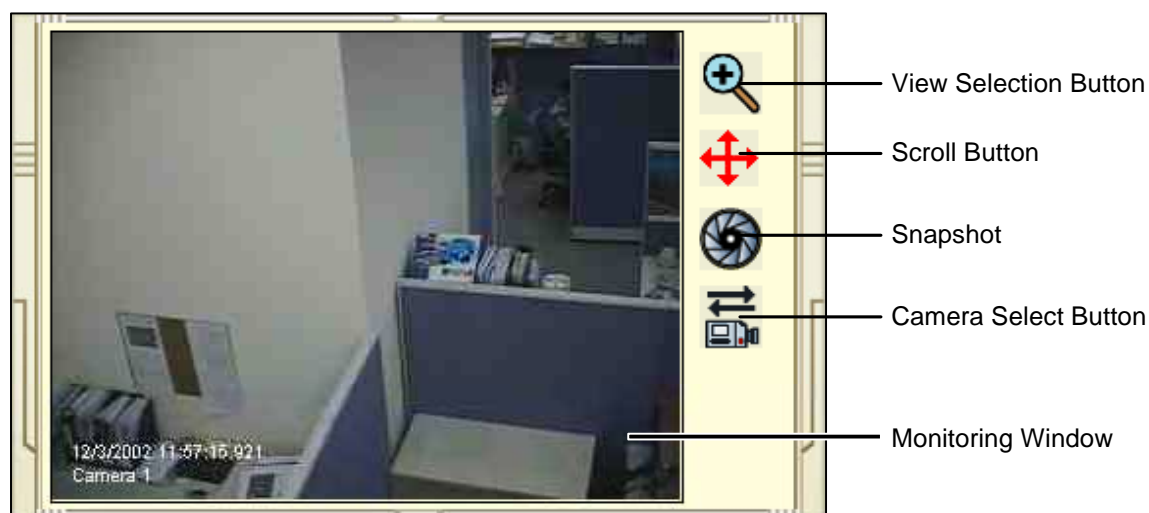
Figure 6-37   *JPGE Image Viewer*

Remote Playback on WebCam

The WebCam Remote Playback (RPB) is a web-based application, allowing you to play back recorded video or audio files of the connected GV-System.

To start WebCam RPB:

1. Follow the steps in *Starting WebCam at the Client PC* earlier in this chapter until the WebCam Compression Selection window appears (see Figure 6-14).

2. Select **Remote Playback**, and then click the **Submit** button to display the following RPB window.

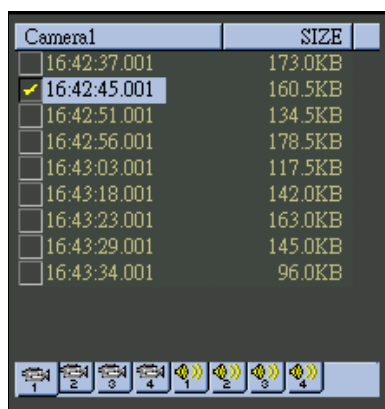3. Click the **Play** button to log in the application.   A valid ID and password are required here.
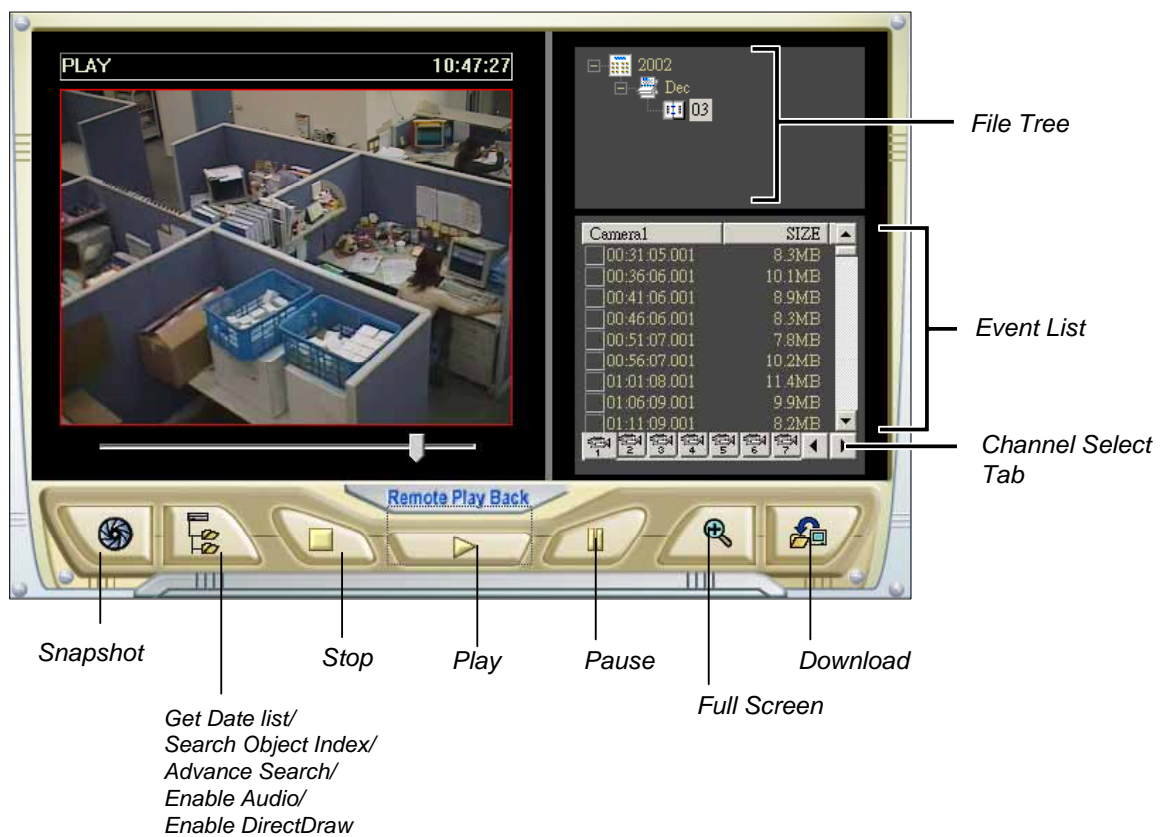
Figure 6-38   *The Remote Playback Window*

Searching and Playing Back Recorded Files

The WebCam RPB allows you to play back video and audio files.   Audio files are only available when your system is equipped with the optional audio recording function.

1. Click the **Get Data List** button and then select **Get Date List**.   This loads the recorded data from the **GV-System**.
2. Select a date in the File Tree.
3. All video files recorded within the selected date range will be listed in the following Event List window.

Figure 6-39   *Event List*

4. Select one camera or audio channel from the **Channel Select** tabs.
5. Select one video file from the Event List, and then click the **Play** button to play it.

Synchronizing Audio with Video Playback

To synchronize audio with video playback, click the **Get Data List** button and then select **Enable Audio**.

DirectDraw Setup

The DirectDraw setting is enabled by default.   Some VGA cards might not support DirectDraw and can produce distorted frames.   In this case, disable the function from the Get Data List button.

Searching Object Index

You can locate and play back the Object Index files through the WebCam RPB.   For the details of Object Index, see *Retrieving Images Using Object Index* in Chapter 1.

1. Click the **Get Data List** button, and then select **Search Object Index**.   This window appears.
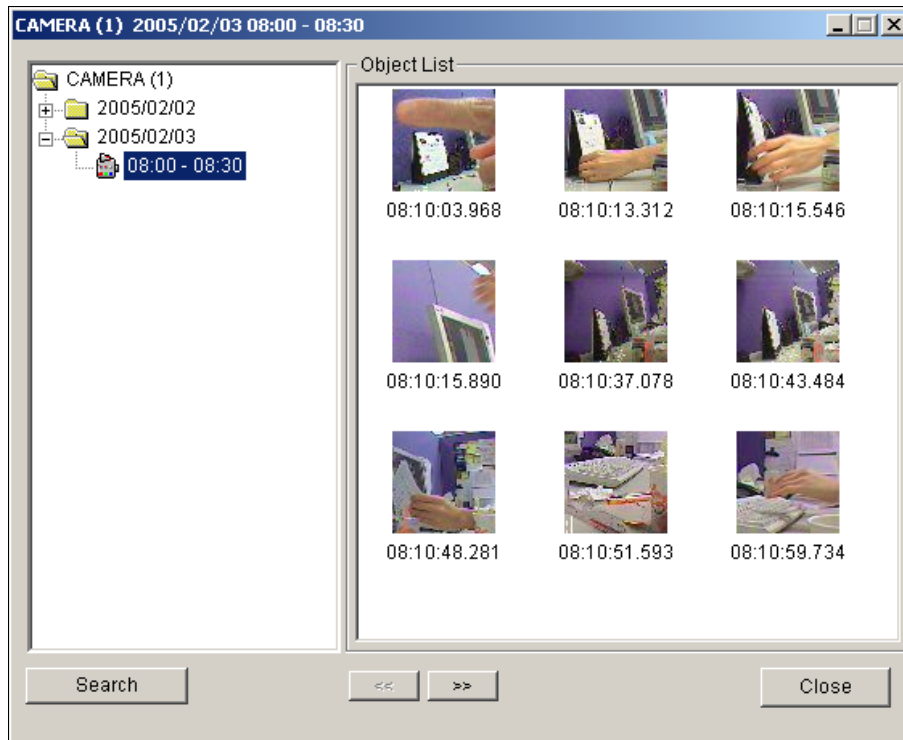

Figure 6-40   *The Search Object Index Window*

2. Click the **Search** button.   The Search window appears.
3. Select the desired cameras, and then click **Search**.   The found files will display in the left side of the Search Object Index window.
4. Expand the files to access the thumbnail view.
5. Double-click one displayed image.   The related video will play on the RPB.

Advanced Search

The advanced search function in the WebCam RPB lets you easily locate an event by search criteria.

The search results can be displayed in a text form and/or a statistic chart.   Click the **Get Data List**

button, and select **Advance Search** to open the following advanced search window.
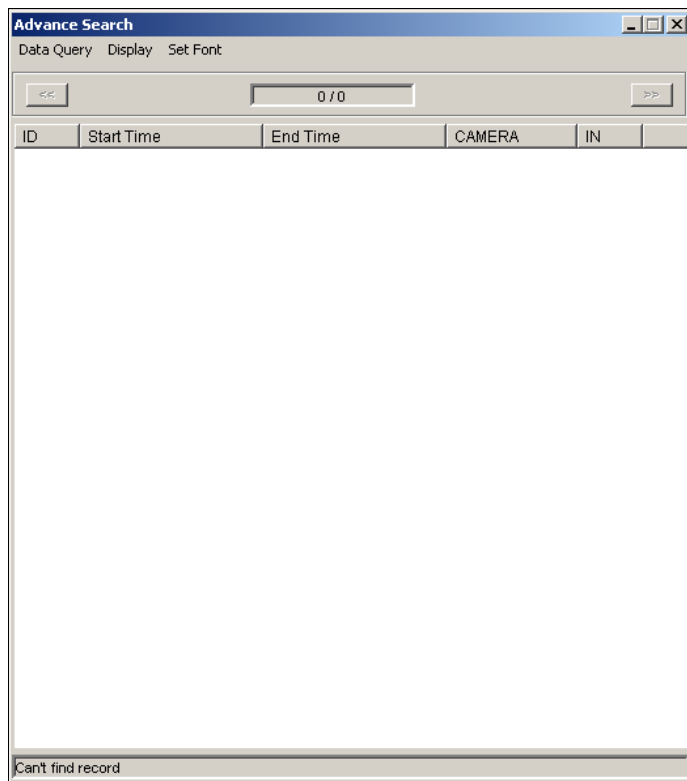
Figure 6-41   Advanced Search

[Display]   This option on the menu bar lets you choose which way to display search results: a text form or a statistic chart.

[Data Query]   To locate an event, click **Data Query** on the menu bar.   The selections included inside are: (1) Monitor, (2) System, (3) Login, (4) Counter and (5) POS.   The five categories are based on those of System Log in the Main System (see *System Log* in Chapter 1), so that you can locate any event type recorded in System Log.

■   **Monitor/System/Login/Counter:**   The four selections let you locate an event about monitoring, system, login/logout and counter status.   The dialog boxes of the four selections are similar, so we take Monitor as an example below.

Click **Data Query** on the menu bar, and select **Monitor** to display the following window.   Define your search condition in each field, and click **OK** to start searching.
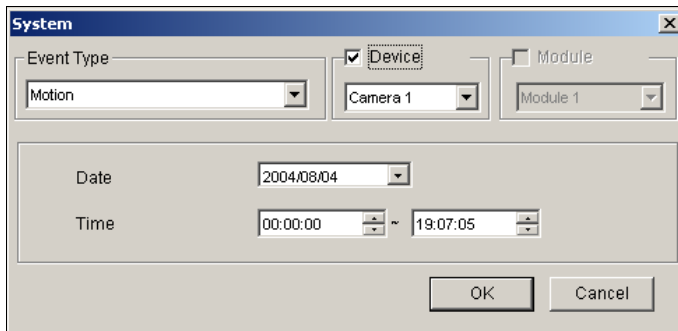
Figure 6-42   *Locating a system event*

■   **POS:**   The selection lets you locate a desired POS transaction event.   Click **Data Query** on the menu bar and select POS to display the following window.
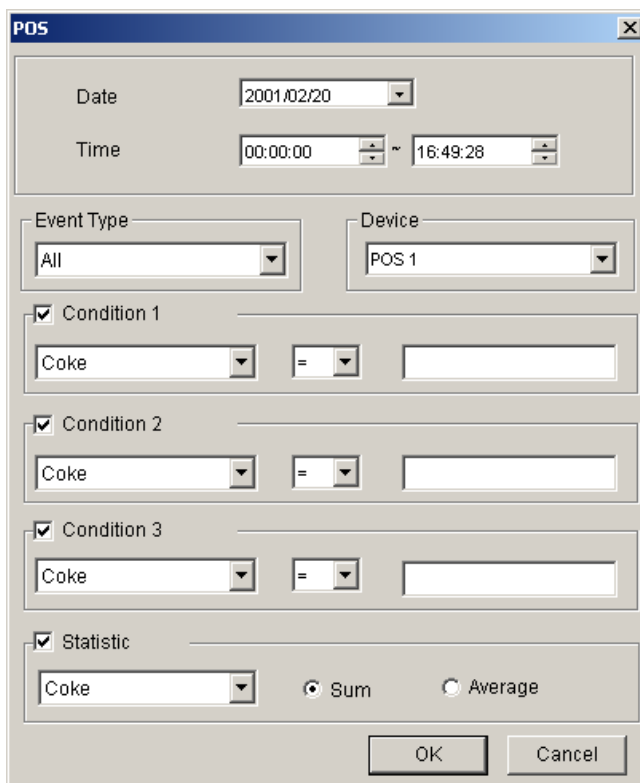
Figure 6-43   *Locating a POS event*

Restrict your search to a certain date, time, event type, POS system, transaction item (content), and price amount (value).   Then click **OK** to start searching.   For this example, we like to search all the transaction types related to Coke, registered in the device POS 4, from 00:00:00 to 13:43:19 on 2004/07/13.   Its price amount may be *greater than or equal to* (>=) 1 and *less than or equal to* (<=) 99.

If we select the **Statistic** option and click **OK** here, we will get the sum or the average price of all the discovered transaction events, not a list of these events.

Remote Control Using Remote Desktop

The WebCam Remote Control function is based on Microsoft's Remote Desktop platform.   To start
this feature, your GV-System must be run on Windows XP Professional with Microsoft Remote
Desktop properly set up.   The client PC can be Windows XP, Windows 2000, or Windows Server
2003.

To use the Remote Control:

1.   Follow the steps in *Starting WebCam at the Client PC* earlier in this chapter until the WebCam
      Compression Selection window appears. See Figure 6-14.

2.   Select **Remote Control**, and then click the **Submit** button.   This screen appears.

Figure 6-44   Remote desktop control

3.   Type the IP address or domain name of the GV-System you wish to control, and then click the
      Connect button.   A valid user name and password are required.

If logging in successfully, you will see the desktop of the GV-System you want to control.

Note:

1.   The Enable Directdraw Overlay option in the Main System must be disabled.

2.   The DSP card cannot support this function.

Remote Viewing with PDA

G-View is a remote view application for Pocket PC device.   It can run on PDA using Windows CE or Microsoft Pocket PC operating system.

G-View Installation

G-View is included in the Surveillance System Software CD.   This application should be installed in a PDA device with Microsoft Pocket PC operating system.

1. Plug your PDA via USB or COM port to a computer installed with **Microsoft ActiveSync** (The Microsoft ActiveSync program should come with your PDA software CD. Consult your PDA user's manual).
2. Run **Microsoft ActiveSync** in the connected computer.   Make sure both the PDA and computer are synchronized.
3. Insert the Surveillance System Software CD to the computer.   It will run automatically and pop up a window.
4. Select the item of **Install V8.0.0.0 System**, and then click **PDA Viewer for WinCE**.
5. Follow the on-screen instructions to complete the installation.

Connecting G-View to GV-Server

Once G-View is installed into your PDA, you can use it to monitor your GV Server.   Make sure your PDA has wireless LAN adapter properly in place with access to the Internet.

1. Execute **G-View** in your PDA.
2. Click the **Connect** button located at the lower left corner.   This displays the Login screen.
3. Type the IP address of the GV Server you wish to connect, enter a valid username and password, and then click the **OK** button.

If logging in successfully, you will see video streaming to your PDA.   Clicking the **Stop** button can exit the G-View application.
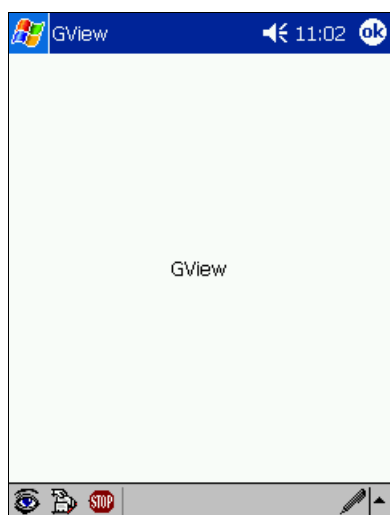
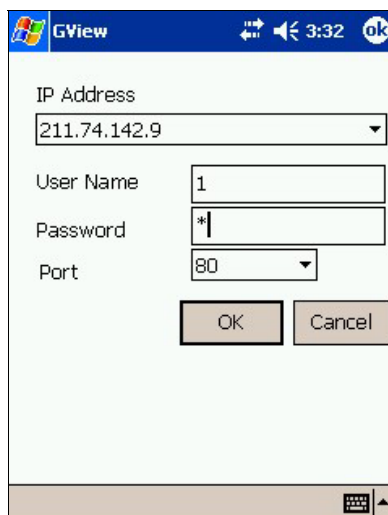*Figure 6-45   Starting G-View*   *Figure 6-46   Entering GV-server Info*

Other Functions

The major functions of G-View include live video monitoring, PTZ control, zooming control, and snapshot.
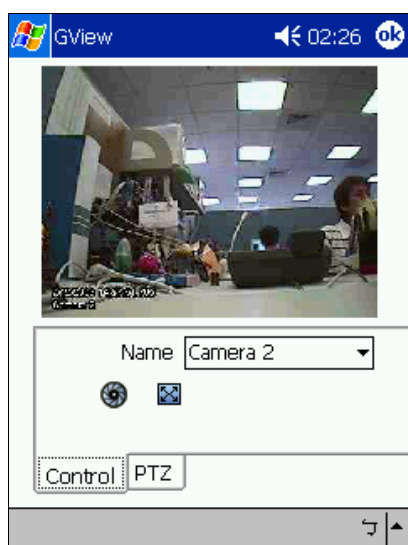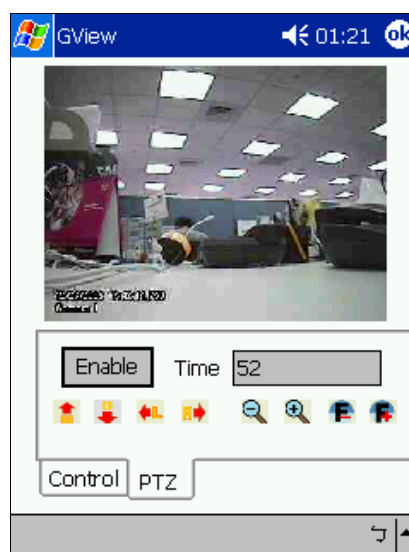

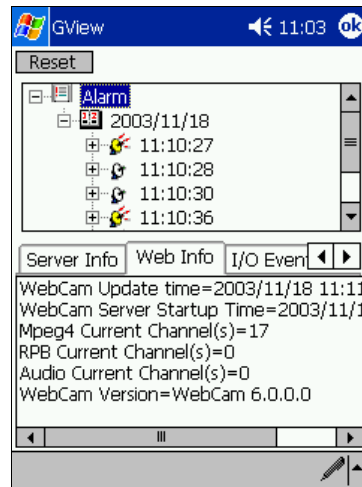*Figure 6-47   View Screen*   *Figure 6-48   PTZ Screen*

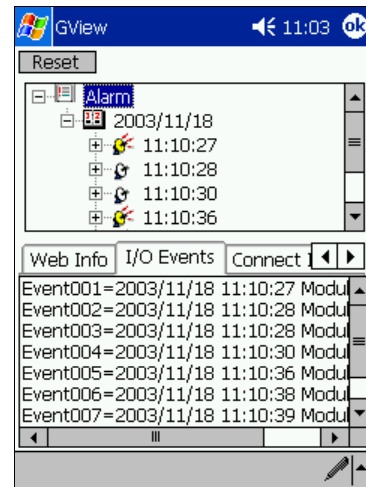| Buttons	Description
	Click to take a snapshot from the video image.
Test	Use this drop-down list to switch cameras.
	Use the two buttons for focus-in and focus-out control
	Use the two buttons for zoom-in and zoom-out control.
	Use these buttons to control left, up, down, and right of the PTZ camera.
	Click to switch to a full-screen view.

Viewing GV-Server Information

Click on the **Server Information** button to bring up the Server Info screen, which contains the following four categories of information.   You may use the control tabs to toggle between them.
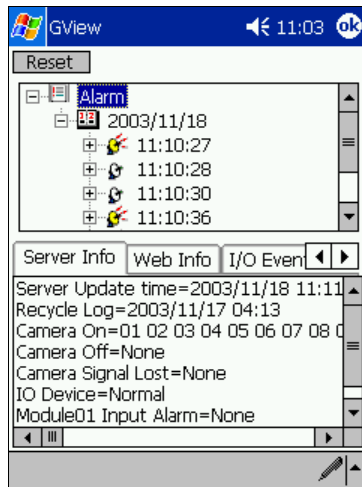
Figure 6-49   *Server Info*   **Figure 6-50**   *Web Info*   **Figure 6-51**   *I/O Events*

[Server Info]   Displays general information of the connected server.   Information in this section includes: Server update time, last data recycle date and time, which cameras are online, which cameras are off line, which camera lost video signals, the status of the connected I/O device, and connected I/O module's alarm status.

[Web Info]   Displays information of the connected WebCam server.   Information in this section includes: WebCam update time, WebCam server start time, how many MPEG4, RPB, and audio streaming channels are currently serving over the Internet, and the software version of the WebCam.

[I/O Event]   Displays a list of alarm events occurred in the selected GV Server.   The alarm status is displayed in a 3 levels file tree in the upper section of the screen.   Click **Reset** will clear the list.

[Connect Info]   Displays a history of login and logout information.

Remote Viewing with Mobile Phone

With the mobile phone capable of GPRS, you can receive live video images from your GV Server. There are three types of mobile phones supporting this application: (1) I-Mode Phone, (2) Windows-based Phone, and (3) Symbian-based Phone.

I-Mode Phone

You can monitor your GV Server remotely with

- I-Mode phone, or
- Mobile phone supporting xhtml, chtml, or html and capable of GPRS

When using i-Mode services, you do not pay for the time you connected online, but will be charged by the volume of data transmitted and/or received.   Therefore, i-Mode will NOT receive live video streaming; instead, it will receive one image at a time and will not receive another unless it is requested to do so.   To request another image, simply press the Enter key on your i-Mode phone. The images are in GIF or JPEG format with resolution of 96x72 pixels.

Activating the i-Mode Function

In the Main System, click the **Network** button, select **WebCam Server**, click the **JPG** tab, and check the **Create JPEG/GIF file(s)** as shown in Figure 6-6.   Your GV-System must use a global IP address and be accessible from the Internet.

Connecting to GV Server

After activating the i-Mode function, you can now receive live images from the GV Server via an i-Mode phone.   The interface and operation of your i-Mode phone may be different from the following example since the interface may vary from model to model.

1. Open the i-Mode menu, and select **Input Web Address**.
2. Enter the IP address of your GV-System in the Address column, and then press **OK**.
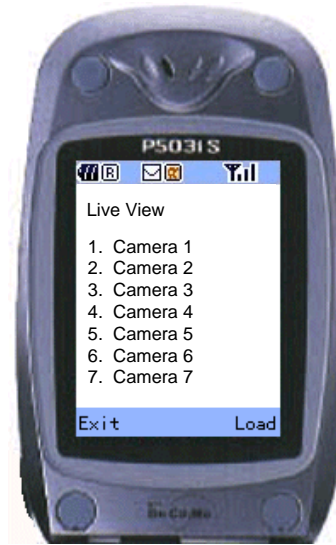

Figure 6-52   *Opening the menu*   *Figure 6-53*   *Entering the IP address of GV-server*

3. Type a valid user name and password, and then press **Submit**.

4.   Select the desired camera channel, and then press **Enter**.

Figure 6-54   *Entering the use name and password*   ***Figure 6-55***   *Selecting a camera for live view*

If you log in successfully, the i-Mode phone will start receiving live images from the GV Server.

Windows Smartphone

With the MSView application, you can monitor your GV Server remotely via a Windows-based smartphone edition 2002 and 2003.   You will experience live view when continuously receiving JPEG format images with the 160x120 resolution.

Installing MSView

1.   Insert the Surveillance System Software CD.   It will run automatically and pop up a window.

2.   Select the item of **Install V8.0.0.0 System**.

3.   Select **MS Smart Phone Viewer**, and then follow the on-screen instructions.

4.   Locate **MSView.exe** in the Smart Phone Viewer folder created in your computer.   The default

5.   directory is C:\ Smart Phone Viewer.

6.   Install **MSView.exe** to your smartphone (Consult your smartphone user's manual for how to install a program to the smartphone).

Activating the MSView Function

You must activate the MSView function in the Main System to allow the smartphone application.   The activation is the same as that in *Activating the I-Mode Function* earlier in this chapter.
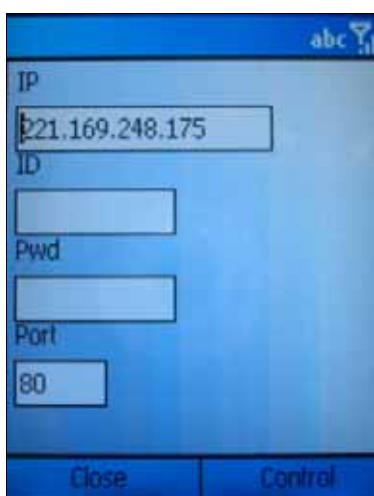
Connecting to GV Server

The following operations may vary slightly for different modules.

1.   Execute **MSView.exe** in your smartphone.   Figure 6-56 appears.
2.   Select **Control** and then **Connect**.   Figure 6-57 appears.
3.   Enter the IP address and port number of your GV Server, a login ID and password.   Select **Control** and then **Connect**.

Once the connection is established, the live image will appear.   You can use the scroll key on your smartphone to navigate camera channels.   See Figure 6-58.

Figure 6-56   *MSView Main Screen*   ***Figure 6-57***   *Entering GV Server Info*   ***Figure 6-58***   *Viewing live camera*

Other Functions

In addition to live view, MSView offers the functions, such as zooming in/out a camera view and rotating images.
Select the **MSView** option to have these features.

Symbian Smartphone

With the SSView application, it's also possible to monitor your GV Server remotely via Symbian-based smartphone edition 7.0.   You will experience live view when continuously receiving JPEG format images with the 160x120 resolution.

Installing SSView

1.   Insert the Surveillance System Software CD.   It will run automatically and pop up a window.
2.   Select the item of **Install V8.0.0.0 System**.
3.   Select **Symbian Smart Phone Viewer**, and then follow the on-screen instructions.

4. Locate **SSView.jar** in the Symbian Phone Viewer folder created in your computer.   The default
    directory is C:\Symbain Phone Viewer.

5. Install **SSView.jar** to your smartphone (Consult your smartphone user's manual for how to install a
    program to the smartphone).

Activating the SSView Function

You must activate the SSView function in the Main System to allow the smartphone application.   The
activation is the same as that in *Activating the I-Mode Function* earlier in this chapter.

Connecting to GV-Server

The following operations and screens may vary slightly for different modules.

1. Execute **SSView** in your smartphone.

2. When the message *V8.0.0.0* appears, select **Login**.   The Login screen appears.

3. Enter the IP address and port number of your GV Server, login username and password.

4. Select **Connect**.   When the message *Host Connected* appears, it means you have connected to
    your GV Server successfully.

5. Select **Image View**.   The Camera List screen appears.

6. Highlight one camera, and then select **Open Camera** for live view.

My Server

You can create, edit and remove a list of servers for a quick connection.   Select the **My Server** option,
and then select **SSView** to have these features.

Other Functions

In addition to live view, SSView offers other useful functions, such as changing camera channels,
zooming in a camera view, rotating images and seeing Server and WebCam information.   Select the
SSView option to have these features.

Fast Key Reference

The Multi View Window

Key	Function
Ctrl+Z	Minimize the MultiView window
Ctrl+I	Open the Host Information window
Ctrl+E	Open the Edit Host window
Ctrl+C	Open the Configure window
Ctrl+H	Open the Camera Status window
Ctrl+X	Close the MultiView
Ctrl+Q	Switch screen divisions
Ctrl+F	Switch to full screen view
Ctrl+S	Take a snapshot
Ctrl+M	Turn the microphone on and off
Ctrl+L	Turn the speaker on and off
F7	Start all recording
+	Zoom in the selected monitoring window
-	Zoom out the selected monitoring window

PTZ Control in Multi View

Key	Function
Home	Zoom in
End	Zoom out
Insert	Focus in
Delete	Focus out
→	Right
←	Left
↑	Up
↓	Down