

LevelOne

CamCon Camera Server

FCS-5004 / FCS-5008

User Manual



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FCC STATEMENT

The LEVELONE CamCon Camera Server 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 according to 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 is found 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 or device
- Connect the equipment to an outlet other than the receiver's
- Consult a dealer or an experienced radio/TV technician for assistance

IMPORTANT NOTE

Read Instructions

Before the unit is operated, please read all the safety and operating instructions.

Power Sources

Only operate this unit with the type of the power source specified by the manufacturer.

Servicing

Please contact qualified technicians for any service requests. Do not attempt to service the unit yourself, as opening the cover may expose you to dangerous voltage and other hazards.

Warning

To prevent fire or shock, do not expose this equipment to rain or moisture. Do not place heavy items on the unit.

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Part I

CamCon Camera Server

FCS-5004

FCS-5008

1. Overview of CamCon Camera Server

1.1 About CamCon Camera Server(CCS)

CamCon Camera Server is the next generation of digital, modular, and networked remote surveillance system. Besides providing functions such as real time monitoring, video recording, snap shooting and video playback, CCS also enables the expansion of external storage devices via network connection, making dynamic increase of the storage capacity extremely easy.

- **Digital**

Digitalizing remote surveillance systems is the trend of the market since it provides lots of benefits to the end users. With digitalized image files, users can now process, store, analyze and utilize enormous amount of information in the ways which were not possible before.

- **Networked**

Because of the networked nature of the server, all major tasks, including monitoring the cameras, administering the server, and storing image files, can now be performed via the ubiquitous web browser. In addition, the CCS can be setup to use ADSL and DDNS services, and allow the administrator to monitor and administer the server remotely via the Internet.

- **Modular**

Remote surveillance system's functions can be modularized to three major parts: image capturing, data storing, and monitoring. The combination of a CamCon Camera Server with a remote storage device, and a remote monitoring center provides a solution that makes the most effective use of hardware.

- CamCon Camera Server FCS-5004: A 4-Channel Surveillance Server with management functions.
- CamCon Camera Server FCS-5008: A 8-Channel Surveillance Server with management functions.

Note: Unless specified for some reason, the CamCon Camera Server mentioned below applies to CamCon Camera Server **FCS-5004**.

Please regard **FCS-5008** as a combination of two FCS-5004 plus one CamCon Manager FCS-9002 software. Please refer to the features of FCS-5004 and CamCon Manager FCS-9002.

1.2 Features

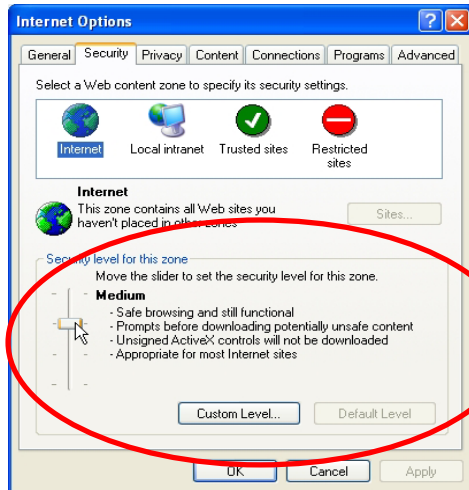
- Surveillance over IP in a plug and play way
- Operates with a CamCon Manager to create a complete network surveillance system
- Superior image quality (30 fps max for one camera)
- Supports up to 4 surveillance cameras or PTZ cameras
- Records digital images up to 30 seconds before the alarm is triggered
- Supports 1/16x to 16x playback speed
- Supports multicast mode
- Uses IE (version 5.0 or above) to quickly complete the system configuration
- Supports remote system software upgrade

1.3 System Requirements

CamCon Camera Server

- Black and white or color camera (NTSC or PAL standard)
- Networking Requirements
RJ-45 Ethernet connection and a dynamic or static IP address
- Client side personal computer requirements:
Pentium II or above desktop or laptop computer
VGA card (Recommended resolution: 1024x768 pixels)
Microsoft Windows 98 SE or above
Internet Explorer version 5.0 or above

Note: In Internet Options of Internet Explorer, Security level for this zone has to be set to Medium or lower.



1.4 Package Contents

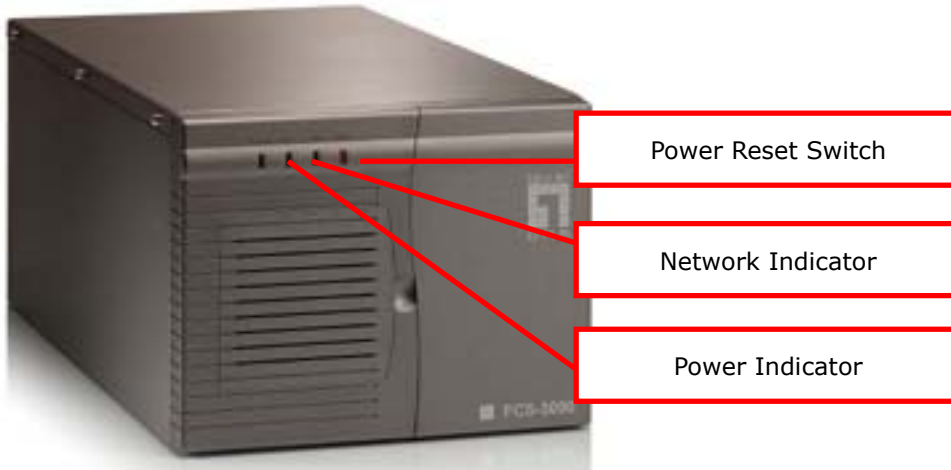
CamCon Camera Server

- CamCon Camera Server
- Power Cord
- One CAT-5 Ethernet Cable
- CamCon Administrator/Watcher/Browser (CD-ROM)

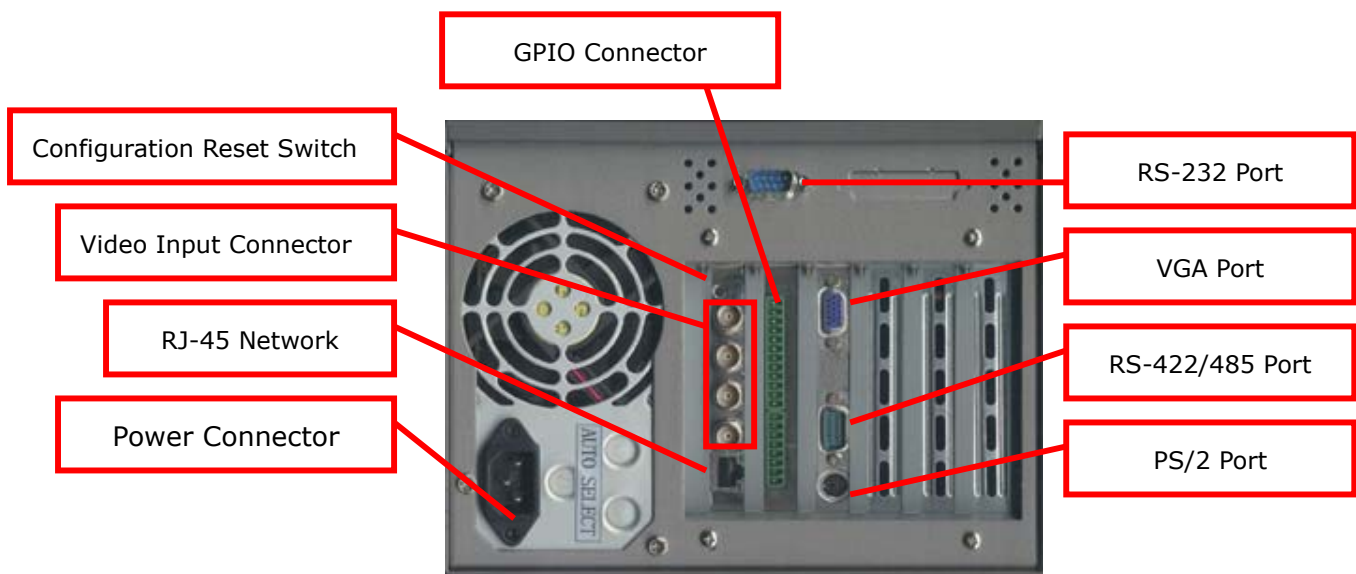
1.5 System Overview

CamCon Camera Server 5004

- **Front View**



- **Rear View**



Note:

- The "VGA Port" and the "PS/2 port" connectors are used only to maintain the server.
- Starting from the top, the "Video Input Connectors" are for camera 1 to camera 4.
- "RS-232 Port" is only used to connect PTZ cameras. Please refer to Appendix D for further information.
- There are two standards for television communication -- NTSC (National Television Standards Committee) and PAL (Phase Alternate Line). Therefore, if the cameras connected to the system have been replaced, please reboot the system.

1. Installing CamCon Camera Server

2.1 Default Network Configuration of the Server

By default, the CCS is set up to obtain its IP address and other TCP/IP network protocol settings from a DHCP server. If no DHCP server is found on the network, the CamCon Camera Server will use the following default settings instead:

IP Address: 192.168.0.1

Subnet Mask: 255.255.255.0

Please login in the server with the default administrator account using the following information:

User name: administrator

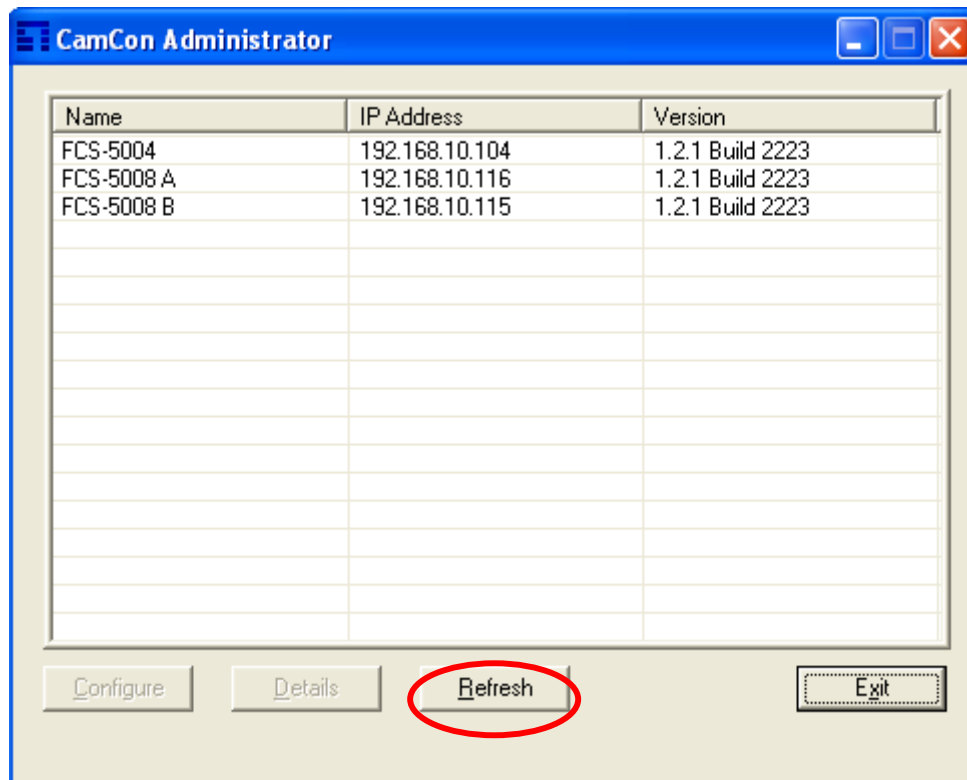
Password: admin

If you want to reset the administrator password and network configuration to the factory default settings, use a sharp object to press the configuration reset switch located in the front of the server for 5 seconds. You will hear beeps when the reset has been completed.

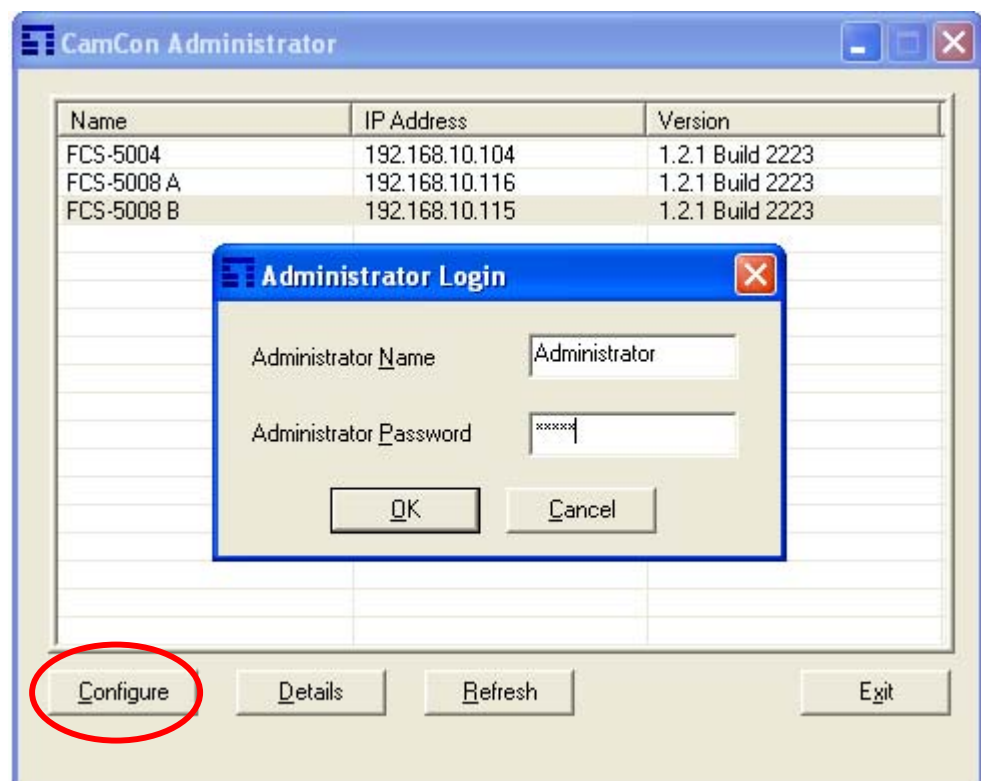
2.2 Installing the CamCon Camera Server

Connect cameras to the CamCon Camera Server first, and then follow the instructions to install your server. If you are not familiar with network settings, consult your Internet service provider (ISP) or network administrator to get the details of the network configuration.

- **Connecting the server to a LAN with DHCP server**
 - i. Please connect the server to the LAN with the enclosed CAT-5 Ethernet cable.
 - ii. Connect the power cord and turn on the server.
 - iii. Please run the CamCon Administrator utility in the enclosed CD-ROM.



- iii. Click on the "Refresh" button, and select the server you wish to configure.
- iv. Click on the "Configure" button to configure the server.
- v. Enter the user name and password. (The default password is "admin").



- vi. Select "Use Fixed IP Address" and enter the TCP/IP networking setting.

The image shows a "Basic Configuration" window with a blue title bar and a red close button. It contains two main sections: "System" and "TCP/IP".

System Section:

- Name:** FCS-5004
- Date (mm/dd/yyyy):** 11 / 10 / 2003
- Time (hh:mm:ss):** 16 : 09 : 42

TCP/IP Section:

- ☐ Obtain the IP address automatically (DHCP)
- ☒ Use Fixed IP Address
- IP Address:** 192 . 168 . 0 . 1
- Subnet Mask:** 255 . 255 . 255 . 0
- Gateway:** 0 . 0 . 0 . 0

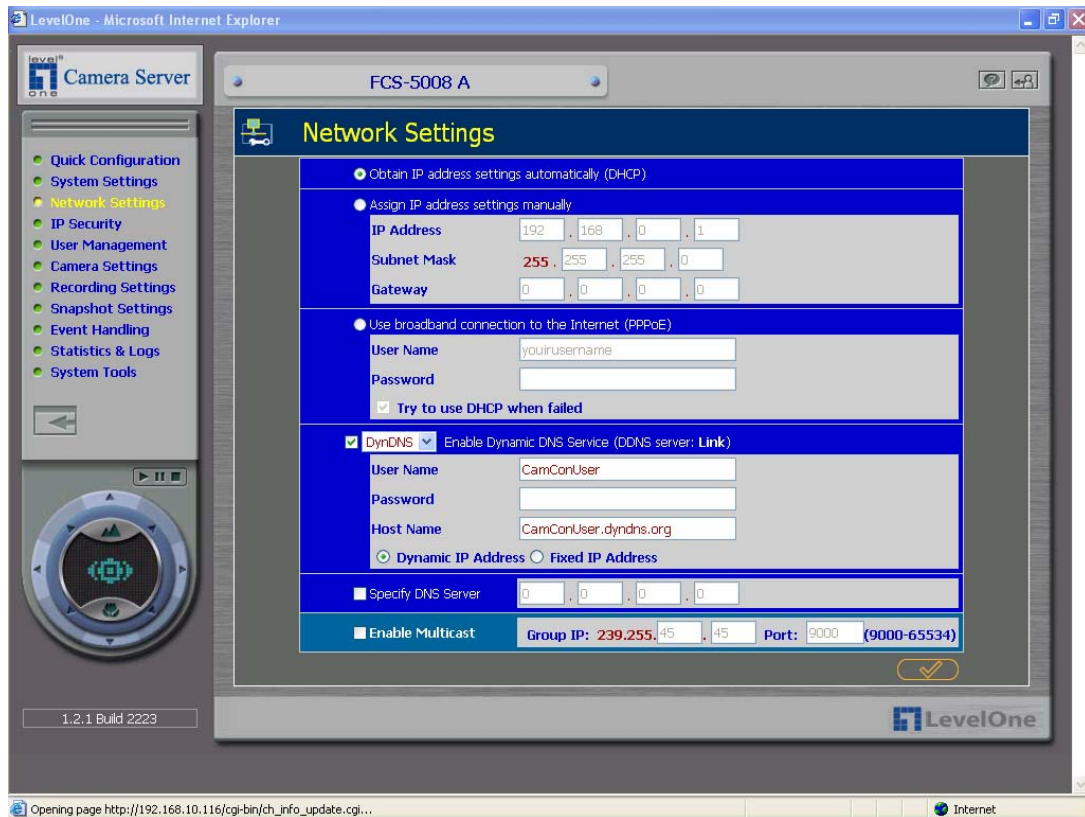
At the bottom are "OK" and "Cancel" buttons.

- vii. Click on the "OK" button and restart the server.
- viii. Start the web browser and enter the CamCon Camera Server's IP address in the location field.

- **Connecting to the Internet using ADSL service**

- i. If the CamCon Camera Server connects to the Internet through ADSL (i.e. dynamic IP is used), it is recommended that you use the Dynamic DNS service in order to connect to the CamCon Camera Server with an easy-to-remember Internet server name. Please register for an account name on www.dyndns.org to obtain a user name, password and a domain name. (For the detailed step-by-step tutorial, please refer to Appendix B).
- ii. Please refer to "Appendix C - Connect a Personal Computer to the CamCon Camera Server" section to connect the CamCon Camera Server to the personal computer.

- iii. Click on the setting icon located on the left column of the screen. In the setup page, choose the "Network Settings" and select the "Use broadband connection to the Internet (PPPoE)", and then enter the correct user name and password to connect to the ADSL.
- iv. Check the "Enable Dynamic DNS Service" box, and enter the user name, password, and host name. Select "dynamic IP address".



- v. Click on the "OK" button and wait a few seconds for the CamCon Camera Server to apply the new network configuration.
- vi. Shut down the server and use a network cable to connect the CamCon Camera Server and the ADSL modem.
- vii. Restore your personal computer's network settings and restart the CamCon Camera Server.
- viii. Enter the host name you have registered at www.dyndns.org in the web browser. When you have completed the settings for the CamCon Camera Server successfully, you can access the CamCon Camera Server administration page.

2. Installing CamCon Camera Software

Follow the steps below for installing CamCon Browser:

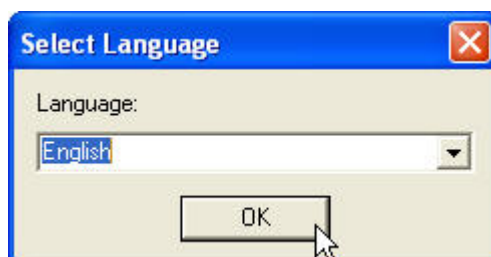
Step 1

Browse the CD-ROM for CamCon Browser installation. Click CamCon Browser on the screen.



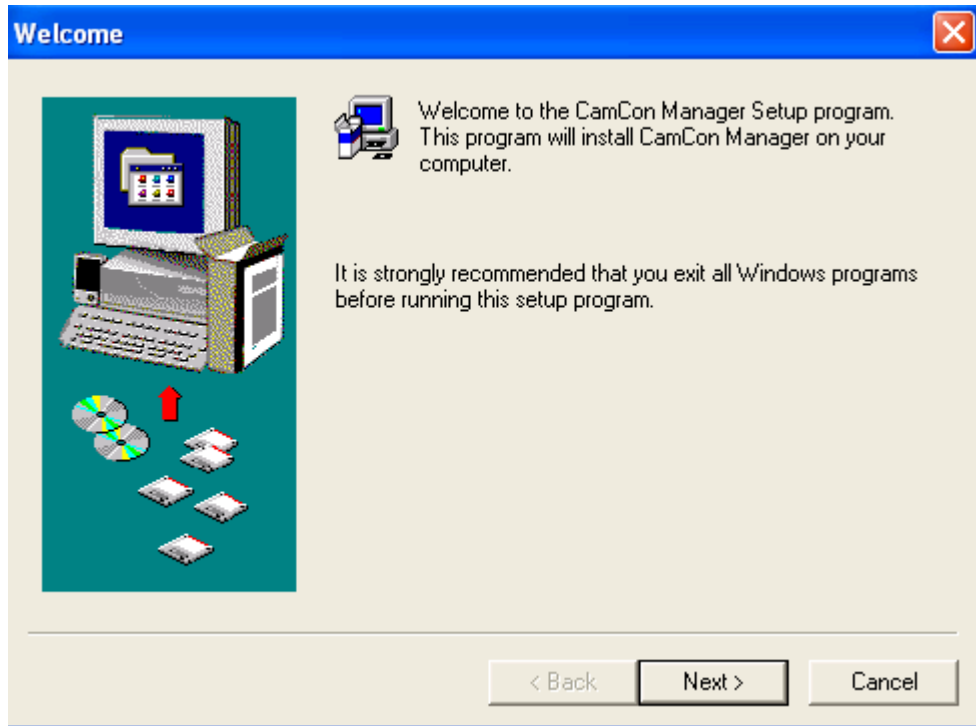
Step 2

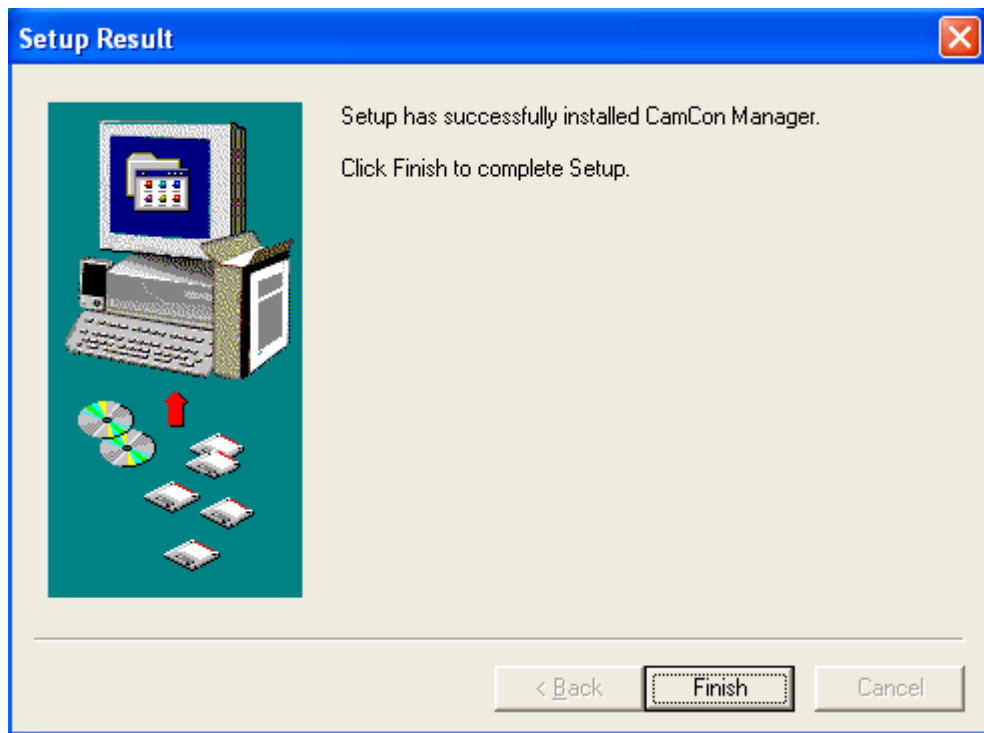
Select the language for CCS: English, Simplified Chinese and Traditional Chinese. Then click OK.



Step 3

Follow the instructions of all pop-up screens and click Next to proceed.
Then click Finish to complete the setup.





After the setup process, you will find the shortcuts for CamCon Browser, CamCon Watcher and CamCon Administrator. You can then start using CamCon Camera Server.



The following table briefly describes the functions of CamCon Browser, CamCon Watcher and CamCon Administrator. For more detailed description, please refer to chapters 4-6, Part I of the user manual.

Field	Description
CamCon Browser	To monitor all cameras of multiple CamCon Camera Servers
CamCon Watcher	To view recorded data of all cameras
CamCon Administrator	To find all available CamCon Camera Servers installed on the system

3. Using CamCon Camera Server

After you have set up the network settings of the CamCon Camera Server and successfully connected to the network, you can use the web browser (Microsoft Internet Explorer version 5.0 or above; version 5.5 is recommended) to view live video and playback the recorded video files.

4.1 Entering the Monitoring Page

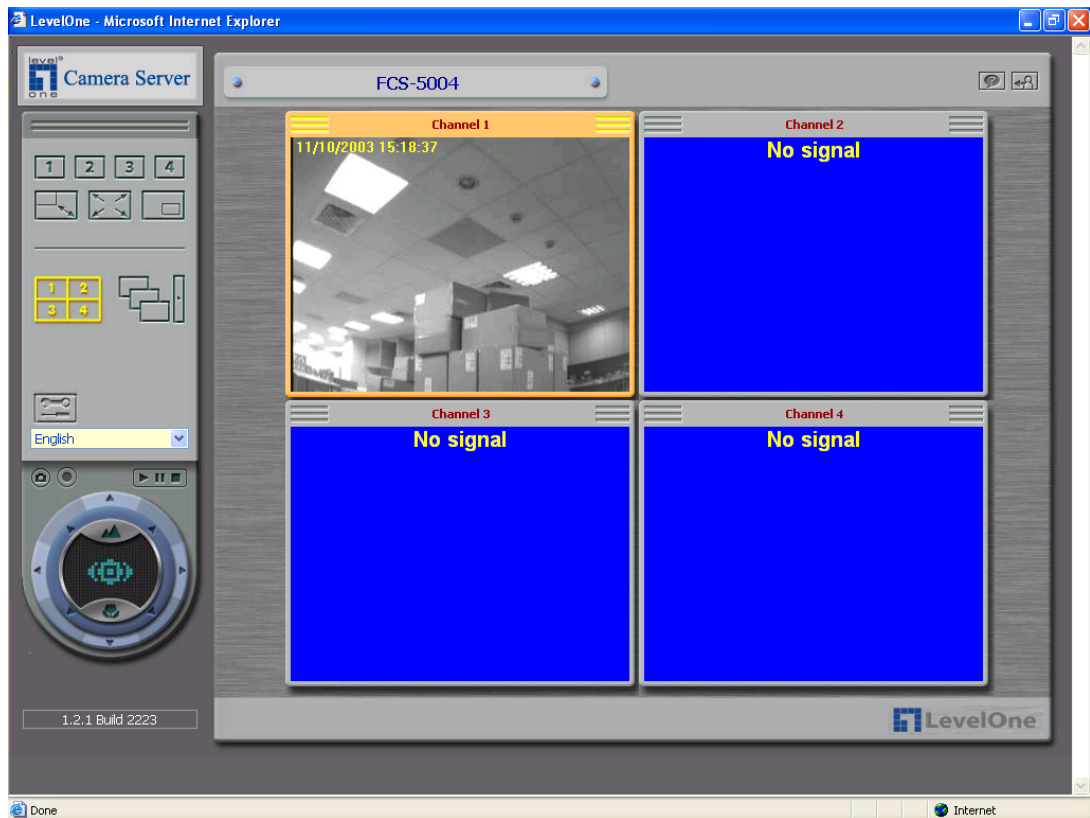
Users can use one of the following ways to access the monitoring page of the CamCon Camera Server.

- Enter the IP address of the CamCon Camera Server in the web browser and press Enter.
- Start the accompanying CamCon Administrator utility, and double click on the listed desired server entry.

When the browser displays the CamCon Camera Server login page, enter the user name and password to login to CamCon Camera Server.



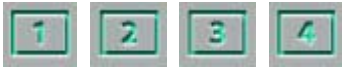





Upon successful login to the server, the following monitoring page should be displayed on the screen.




Note: If the monitoring page is displayed improperly, shut down the anti-virus software first (if any), and then refresh the page.


4.2 Display Mode

You can select the desired display mode for the monitoring page.


Field	Description
	View Single Camera
	Adjust Window Size
	Full-Screen Mode
	Picture in Picture Mode
	Quad Mode
	Sequential Mode

4.3 Recording Videos

Click on the  button to record the selected camera's live video

to the computer. Click on the  button again to stop the recording. The recorded files can be saved as ivg or avi format. Users can play the files with Windows Media Player.

4.4 Taking Snapshots

Click on the  button to save a still image file to the computer.

4.5 Miscellaneous Messages

When the server cannot display live video for a particular camera, the corresponding video window will display an error message. The possible messages are listed below :

- **Connecting**

If Multicast is enabled, it may take longer to establish a connection.

- **Disconnected**

Make sure that the network cable between the personal computer and the server is connected.


- **No Signal**

Check the camera's power supply and the connection to the server.

- **No Privilege**

The account used to login to the server does not have the privilege to view the camera, login to the server again using an account which is authorized to view the cameras.

4.6 System Warnings

When the CamCon Camera Server cannot function normally, the monitoring page will show a warning icon  to inform the system administrator the current status of the server. Double click the warning icon to view the detailed description about the warning. The possible errors include:

- **System Error**

Some system errors may have occurred, restart the server. If the server still fails to function normally after rebooting, please contact the technical support for further assistance.

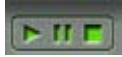
- **Connection to the Storage Device has been Interrupted**

The server fails to send video files to the storage device when the connection between the server and the storage device is interrupted. If the connection cannot be resumed in time, the buffer will overrun and an interruption in the image files stored will occur.

- **Storage Device is almost Full**

When the storage device is almost full, the system will generate this warning message to notify the system administrator of the condition.

4.7 Playback Video Files




To playback video files recorded, click on the  button to enter the video playback page. You should see the following screen:




You can choose the camera you wish to view from the pull-down menu. For further instructions, please refer to the "Using CamCon Camera Server – Playback" section.

- **Select Video Files**

You can select the following options to play video files:





	Select files stored on the remote storage device by specified period of time.
	Select files recorded due to some certain triggered events.
	Select files stored on this computer.

- **Save Video Files**

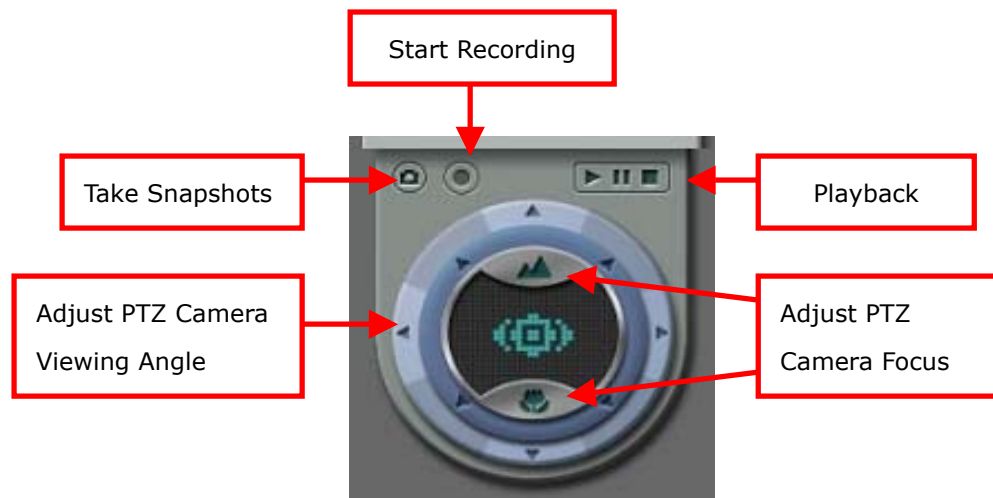
After you have selected the files stored on the remote storage device, you can click on the  button to store the files to this computer.

- **Play Video Files**



You can use the following controls to play the video:

	Play
	Stop
	Frame by Frame Playback
	Select Playback Rate

4.8 Other Function Buttons



Functional keys of PTZ camera

1. : Adjust focusing lenses to minimize scope.
2. : Adjust focusing lenses to maximize scope.
3. Click other buttons properly can turn PTZ camera lenses.

4. Configuring CamCon Camera Server

Once you have installed CamCon Camera Server and other hardware, and connected it to the network, you can use the web browser to manage CamCon Camera Server (supports only Microsoft Internet Explorer 5.0 or above; Microsoft Internet Explorer 5.5 is recommended).

5.1 Accessing the Administration Page

The user can access the CamCon Camera Server administration page by one of the following methods:

- Enter the IP address of the CamCon Camera Server in the location bar of the web browser and press Enter.
- Run CamCon Administrator, and double click on the server you wish to configure in the list of servers acquired.
- When the web browser connects to the CamCon Camera Server administration page, it will prompt you for the user name and password of the administrator. Enter the correct information to continue the administration process.



- The default administrator account information is shown below:

User name: administrator

Password: admin

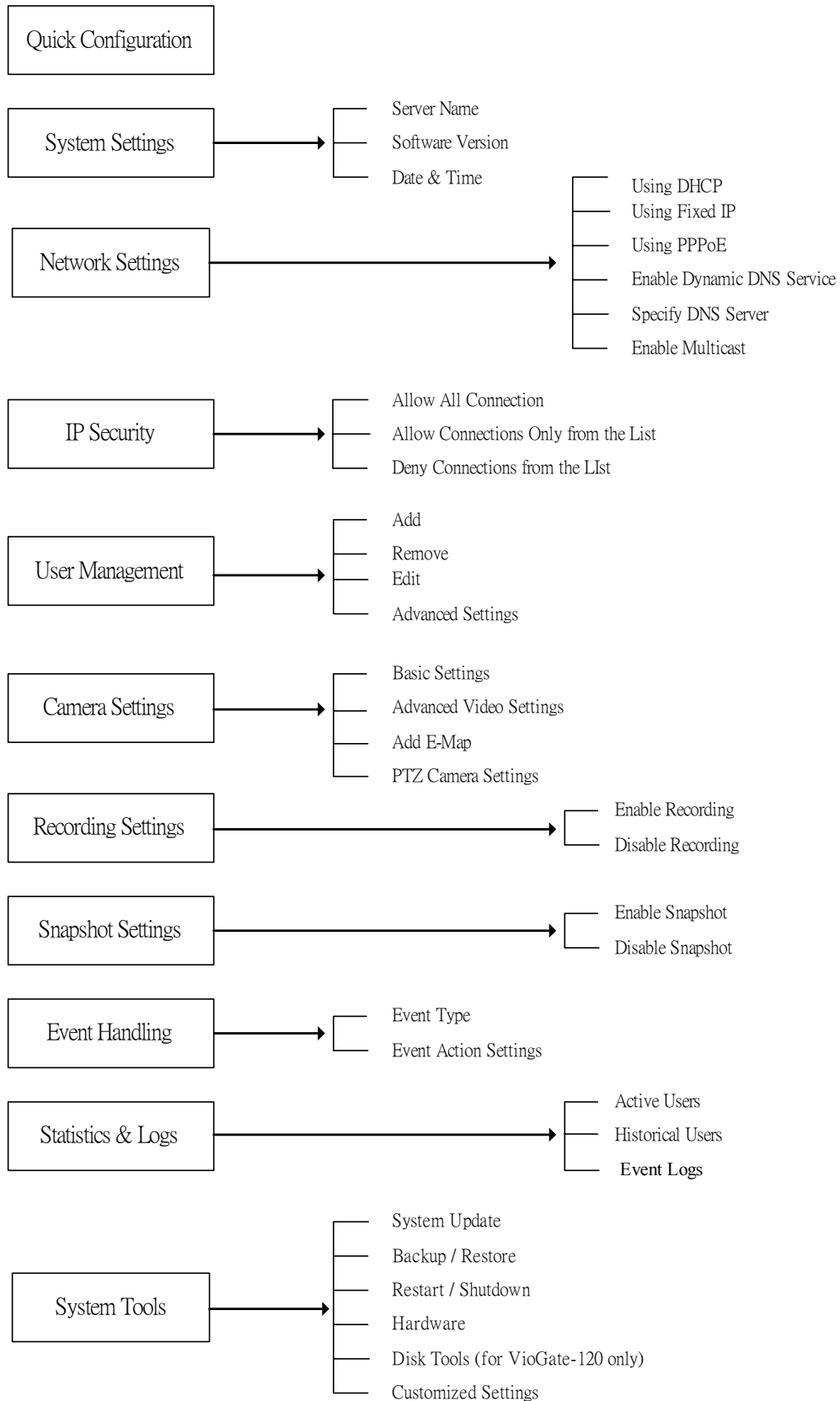
- After you have successfully logged in to the server, click on the



located on the left column of the monitoring page to enter the system configuration page.

5.2 System Configuration

The System Configuration section comprises eleven sections listed below:



5.3 Quick Configuration

When you start the CamCon Camera Server for the first time, follow the 9 steps of Quick Configuration to complete basic CamCon Camera Server system configuration. The 9 steps are:

- Enter the name and description of this server.
- Change the password of the administrator.
- Set up the network configuration.
- Adjust the time settings.
- Add users to access this server.
- Assign the descriptive name for each camera.
- Configure the recording settings.
- Configure the snapshot settings.
- Quick configuration complete.

According to different system configurations, the system setup may take from 3 minutes to 10 minutes to finish.

Note: It is recommended that you backup these configuration settings after completing quick configuration to avoid system crash.

5.4 System Settings

You can set up some basic information about the system such as the server name, date and time. You can also verify the current software version on this page.

- **Server Name**

You have to choose a unique server name for the CamCon Camera Server so that it can be identified quickly on the network. Server name can contain up to 20 characters, including the alphanumeric characters, dash (-), underline (_) and Chinese characters. However, the following characters are unacceptable:

" , ; \ : | * ? > < ' ` [] / %

You can also assign a short description of up to 126 characters for the CamCon Camera Server, e.g. the administrator's name,

department name, or the location of the server. The description is helpful for users to locate CamCon Camera Servers reside within the same subnet by CamCon Administrator software.

- **Date and Time**

Select the correct time zone according to the location of the server, and adjust the date and time accordingly. If you enter invalid date and time settings, you may encounter the following problems:

- If you are using the browser to view the live video, the time displayed within it will not be the same as the time shown on the personal computer.
- Incorrect date and time information will be displayed when you try to play the recorded video files or view the event logs.

5.5 Network Settings

Select the method the CamCon Camera Server uses to connect to the network, and decide whether to enable the multicast function. You need to understand the configuration of your network to enter the correct setting. If you are uncertain about how your server connects to the external network or you have questions on TCP/IP settings, contact your network administrator for assistance.

- **Obtain IP address settings automatically (DHCP)**

Often used in conjunction with cable modem and corporate networks, the system will obtain IP address and other TCP/IP information automatically. If your network supports Dynamic Host Configuration Protocol (DHCP), the CamCon Camera Server will obtain the IP address and other TCP/IP information automatically from the DHCP server.

- **Assign IP address settings manually**

Use the specified IP address setting. Often used in ADSL permanent connection service. You have to manually specify the IP address and other settings. If the server's external

network uses ADSL service to connect to the Internet, specify the valid IP address provided by the Internet Service Provider (ISP). You have to enter the following settings:

- **IP address**

IP address is a sequence of binary number, normally of 4 sets of digits separated by periods, used to identify a server on the network.

- **Subnet Mask**

Subnet Mask is used to group computers belonging to the same local area network. Similar to IP address, it is normally represented by 4 sets of digits separated by periods.

- **Gateway**

Gateway address generally refers to the IP address of the node connecting the LAN to the Wide Area Network (WAN) or the Internet. If you do not wish to set up any gateway address information, enter 0.0.0.0 as the gateway address.

- **Use broadband connection to the Internet (PPPoE)**

PPPoE is often used in dial-up ADSL broadband service. You have to use the account user name and password provided by the ISP to connect to the Internet successfully.

- **Enable Dynamic DNS service**

Note: If you assign IP address settings manually to connect to the Internet, and also want to enable the dynamic DNS service, you have to specify a DNS server.

To let Internet users use a domain name to connect to the CamCon Camera Server, activate the dynamic domain name service. Apply for an account and register a dynamic domain name at a dynamic domain name service provider. (For detailed information, please refer to appendix B). After you have registered a dynamic domain name and completed the

setup, the CamCon Camera Server will automatically update the dynamic IP address information with the service provider's server.

- **Specify DNS Server**

To assign a specific DNS server, enter its IP address here.

- **Enable Multicast**

Multicast enables the server to send a message to multiple clients simultaneously.

5.6 IP Security

You can use this function to create a connection list that the system uses to decide whether to accept or deny connection from a particular network or specific IP address. You may choose one of the following options to restrict access to the server:

- **Allow all connections** (default setting)

All connections to the server will be allowed.

- **Allow connections only from the following list**

Only the connections made by the computers on the list will be accepted.

- **Deny connections from the following list**

The connections made by the computers within the list will be denied.

Note: When you are setting up the connection lists, make sure the computer you are using is included in the list of hosts which allow your computer to make connections. Otherwise the server will disconnect the connection when you apply the new setting. Select the proper setting before applying any new ones.

5.7 User Management

This function allows you to maintain user accounts and configure account privileges for effective management of server's access. The server can provide services to any authorized user. To effectively manager different user's privileges, you have to register and configure user accounts and account privileges. The system includes the following built-in account name and password. You will not be able to delete or rename this account.

User name: administrator

Password: admin

You can create new user if you need to. It is required to provide the following information to create a new user.

- **User name**

The user name can contain up to 32 characters. It is case-insensitive, and double-byte characters (for example, Chinese, Japanese, Korean, etc.) are acceptable, but cannot contain the following characters :

" , ; \ : | * ? > < ' ` [] / %

- **Password**

The password can contain up to 16 characters (case-sensitive). A password longer than 6 characters is more secure for not being guessed by others.

- **Advanced User Settings**

You may configure the following permissions to a registered user account:

- **Monitoring**

Allows the user to view the live video from assigned cameras.

- **Playback**

Allows the user to view the recorded video of the assigned cameras.

- **Camera PTZ Control**

If the attached camera supports PTZ functions, users can control the Pan/Tilt/Zoom functions of the assigned camera.

- **System Administration**

The user will have the privilege to change all system settings.

5.8 Camera Settings

You can perform the following preference settings for the camera:

- Specify camera name (exclude " , ; \ : | * ? > < ' ` [] / %)
- Adjust video resolution
- Select image compression ratio
- Adjust capturing frame rate

You can perform the following additional image settings on the advance video setting page:

- Brightness
- Contrast
- Hues
- Saturation

- **P/T/Z Camera**

If the camera connecting to the system has the P/T/Z function, the user can operate it with the control unit on the monitoring page. To use the P/T/Z function, please configure the following settings:

- **Dome ID**

Enter the ID of the P/T/Z camera. Please refer to the user manual of the camera.

- **Mode**

If the Auto mode is selected, the camera will turn clock-wise automatically. Or you can select Manual mode, and the camera will stay still unless you control it through the monitoring page.

- **Protocol**

Please refer to the camera's manual and select the proper protocol. If the protocol that the camera uses is not listed, please check with the technical support.

Note: The system supports 6 PTZ protocols (DynaColor, SONY VISCA, Meriti Lilin, Panasonic WV-CS564, Honeywell GC-655, Honeywell GC-755).

5.9 Recording Settings

Before recording function is enabled, the live video shown on the web page will not be saved. The recording function should be enabled to save the video files first and then the video playback function can be activated. The system supports multiple intervals scheduled recording function.

- **Recording Mode**

- **Continuous Recording**

The system will continuously record the video stream to the storage.

- **Scheduled Recording**

The system will start the recording function according to the specified day, starting time and the ending time. The system also supports overnight scheduled recording. For instance, when the user sets the start time for recording as 6 pm on Monday and the end time as 9 am, the system will automatically defines end time as the following day, i.e.

Tuesday.

- **Storage Settings**

To support more reliable storage feature, the system provides two storages with fault tolerance function. Once the current storage fails to save files and the idle time runs up, the system will automatically switch to the other storage and continue the saving task, so it is guaranteed that the recording or snapshot taking won't be interrupted. Please choose one of the following storage types, and enter respective information according to the storage type.

- **Local**

This option allows you to record the file in the attached Hard disk in the CamCon Camera Server. This feature is for future upgrading purpose and not available for now.

- **NAS**

If you choose to use NAS (Network Attached Storage) as the external storage device, you have to provide its IP address, a valid user name and the corresponding password to access the server.

- **Windows**

If CamCon Camera Server is set to save files to a share folder on a Windows 2000 server, you have to provide its IP address, a valid user name and the corresponding password to access the server.

- **Unix/Linux**

If you choose to save files to a Unix or Linux server through NFS service, you have to provide the server's IP address.

- **FTP**

If you set the CamCon Camera Server to save files to a FTP server, you have to provide the server's IP address, a valid user name, and the corresponding password to access the server. If the FTP server uses a particular port, you have to set the correct port number.

- **Storage Path**

Please enter two different paths to store the recorded video files and snapshot image files respectively for easy management.

Note:

1. If you save the video files using the FTP service, please make sure you enter a valid existing path. Otherwise you will not be able to save the files.
2. Both the recorded files and the snapshot files are stored in the same selected storage path.

- **Handling of Storage Space Full**

When the available storage space falls under a specified limit, you can choose one of the following actions:

- Overwrite the oldest recorded files
- Stop saving the newly recorded files

When the “Overwrite the oldest recorded files” option is selected, your storage device must be able to store at least 2 hours worth of video files, which takes around 5 GB of storage space.

Note: If you choose to store the files on a FTP server, the system will not be able to detect the amount of available space on the FTP server. Therefore, you will not be able to set the limit for determining storage space full. The system will start overwriting or stop saving files when there is no available space on the FTP server.

5.10 Snapshot Settings

To reduce the storage usage, you can select to take snapshot instead of recording video since it takes less storage space. If you enable the snapshot function, the system will take snapshot of the assigned camera on an interval that you’ve specified. The system supports multiple intervals scheduled snapshot taking function.

- **Snapshot Mode**

- Continuous Snapshot
The system will continuously take snapshots.
- Scheduled Snapshot
The system will start taking snapshots according to the day, starting time and the ending time that you've specified.

- **Storage Settings**

Please enter two different paths to store the recorded video files and snapshot image files respectively for easy management. To support more reliable storage feature, the system provides two storages with fault tolerance function. Once the current storage fails to save files and the idle time runs up, the system will automatically switch to the other storage and continue the saving task, so it is guaranteed that the recording or snapshot taking won't be interrupted.

Note:

1. If you save the video files using the FTP service, please make sure you enter a valid existing path. Otherwise you will not be able to save the files
2. Both the recorded files and the snapshot files are stored in the same selected storage path.

- **Handling of Storage Space Full**

When the available storage space falls under a specified limit, you can choose one of the following actions:

- Overwrite the oldest snapshot files
- Stop saving the newly snapshot files

Note: If you choose to store the files on a FTP server, the system will not be able to detect the amount of available space on the FTP server. Therefore, you will not be able to set the limit for determining storage space full. The system will start overwriting or stop saving files when there is no available space on the FTP server.

5.11 Event Handling

When an event occurs, the system will automatically trigger corresponding alarms to react to unusual conditions, and ensure that the system can correctly capture, record video files. The events are listed below:

- Motion Detection
- Video Input Loss
- Network Failure
- Hardware Failure
- Storage Connection Failure
- Storage Space Full
- Alarm Input 1, 2, 3, 4

Note: If you choose to store the files on an FTP server, the CamCon Camera Server will not be able to detect the amount of available space on the FTP server. Therefore, you will not be able to set the percentage for the "Storage Space Full" event.

5.12 Event Action Settings

You can perform multiple event actions for a single event, and connect GPIO devices to generate alarms.

- Recording
- Snapshot
- Alert E-mail
- Alert SMS (Short Message Service)
- Alarm Buzzer
- Alert Client PC Notification
- Alarm Output 1, 2, 3, 4

5.13 Statistics and Logs

You can view a list of active user, historical users and event logs as a reference for the system administrator or for system diagnostic purpose.

- **Active Users**

Displays information of all currently active users online.

- **Historical Users**

Displays information of all users who ever logged onto the system.

- **Event Logs**

Displays all information, warnings and errors of event logs.
The system provides the backup function of the event logs.

5.14 System Tools

You can use the following system tools to conveniently configure and manage your CamCon Camera Server.

- **System Update**

Performs system software updates. Please ensure the correctness of the update image file before proceeding with the update. The current settings will remain unchanged even though the system is upgraded. To update the system software, download the updated image from the product support web site.

- **Backup/Restore**

You can backup your current system settings, user accounts information to your computer. You can also perform the restore operation using a previously backed-up file, or reset the system to its default factory setting.

- **Restart/Shutdown**

Choose to restart or shutdown the CamCon Camera Server. If you choose to shutdown the system, please turn off the power switch located on the back of the CamCon Camera Server.

- **Hardware**

Choose to enable or disable the hardware Configuration Reset Switch. The default setting is to "Enable". If it is enabled, the system administrator account's password and network configuration will be reset to their default values when the user presses down on the reset button for 5 seconds. In addition, the server will accept all connections if the configuration reset switch is pressed.


Note: The system reset button is located above the Video Input Connector.

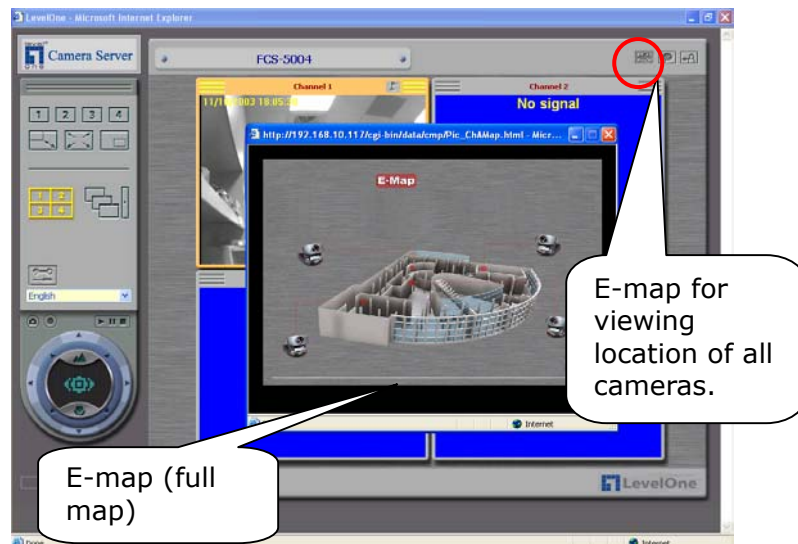
Note: If the configuration reset switch is disabled in the **System Tools – Hardware Settings** page, you will not be able to reset administrator password and network configuration using this function; in this case, please write down your administrator password and keep it in a safe place.


- **Customized Settings**

This option enables you to upload customized personal settings for the following items:

- **Electronic Map:** The system supports e-map function. You can upload a particular e-map to identify the location of each camera by clicking specific buttons on the e-map.

- ✓ **Full map:** You can upload a full map for viewing the location of all cameras. Upon successful uploading, an icon  will be shown on the right of the e-map.



- ✓ **Channel map:** You can also upload a map or viewing the location of particular cameras. After uploading, an icon  will be displayed on the screen which links to the corresponding electronic map of that camera.



5. Using CamCon Watcher/Administrator/Browser



If you choose to record image files by the CamCon Camera Server, the server will automatically save video files (with .ivg as the extension) to the specified storage device. The video files will have the following filename format: yyyy-mm-dd hh-mm-ss.ivg. You can connect to the server and copy the video files to your personal computer and launch the CamCon Watcher to view the file content.

6.1 Using CamCon Watcher

Double click the CamCon Watcher shortcut to launch the CamCon Watcher. You should see the following screen:



Playing Video Files

Click the  button and the  button to select and delete the video files you wish to play.

Use the function buttons located on the down left corner of the screen to play, pause, stop, and skip the video files.

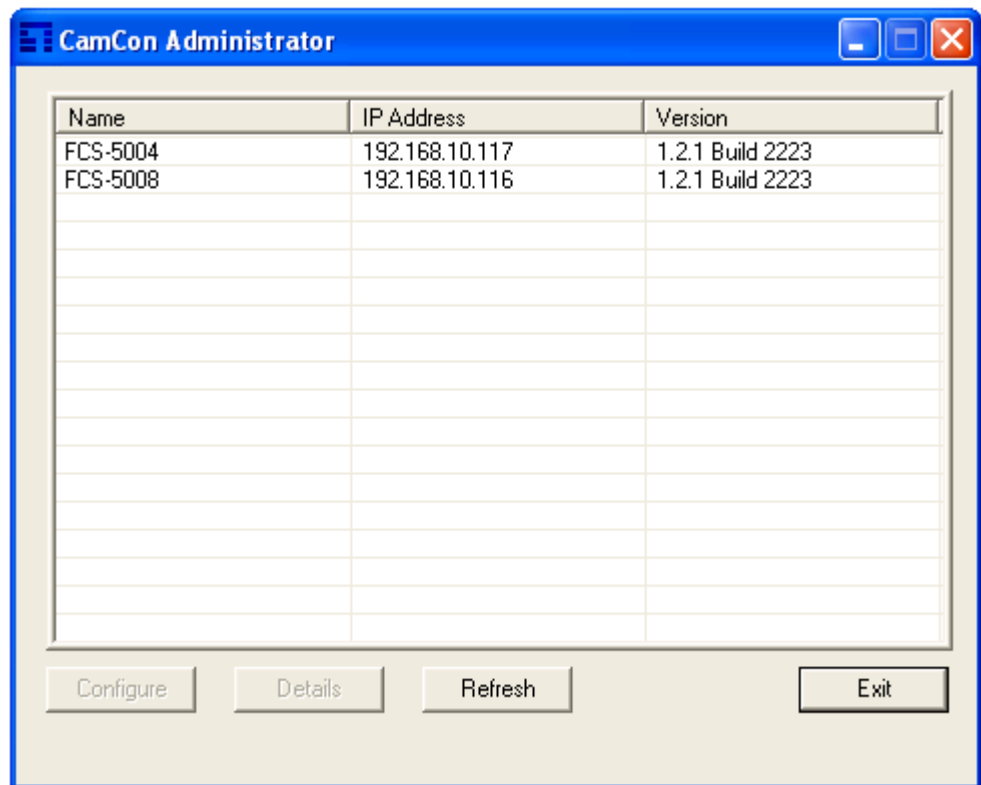
Select the numbers located on the left column of the screen to adjust the playback speed.

Click on the  button or the  button to change the window

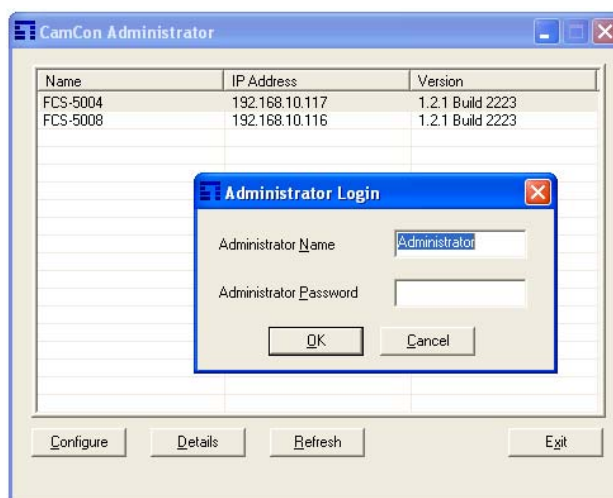
size.

6.2 Using CamCon Administrator

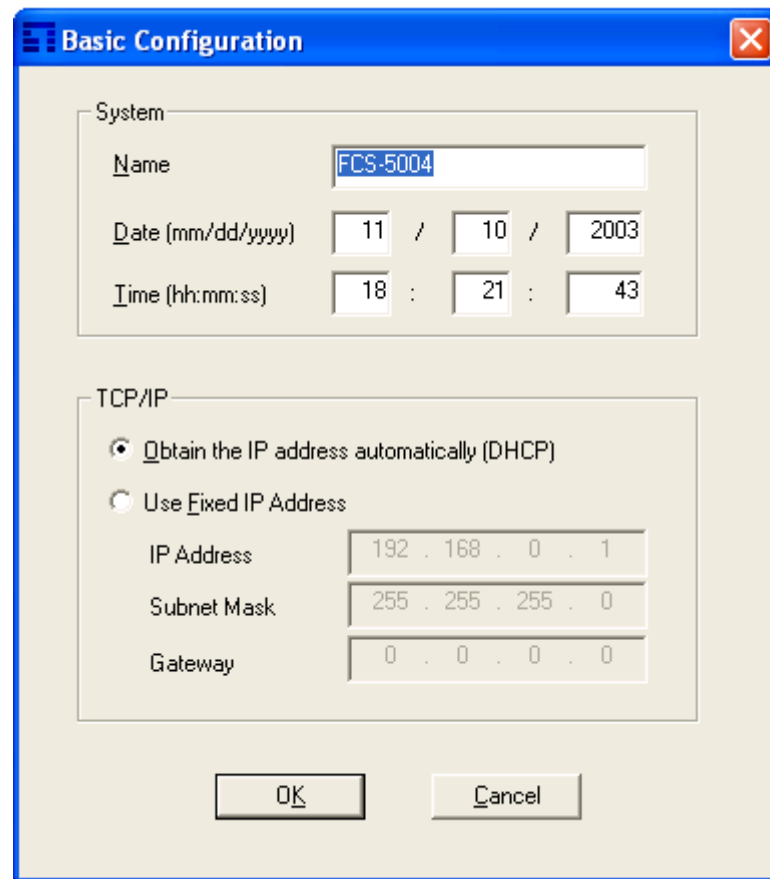
Double click the CamCon Administrator shortcut to launch the CamCon Administrator. You should see the following screen:



Click on server name and click "Configure". Enter the Administrator Name and Password.



Enter the information for configuration and click OK.




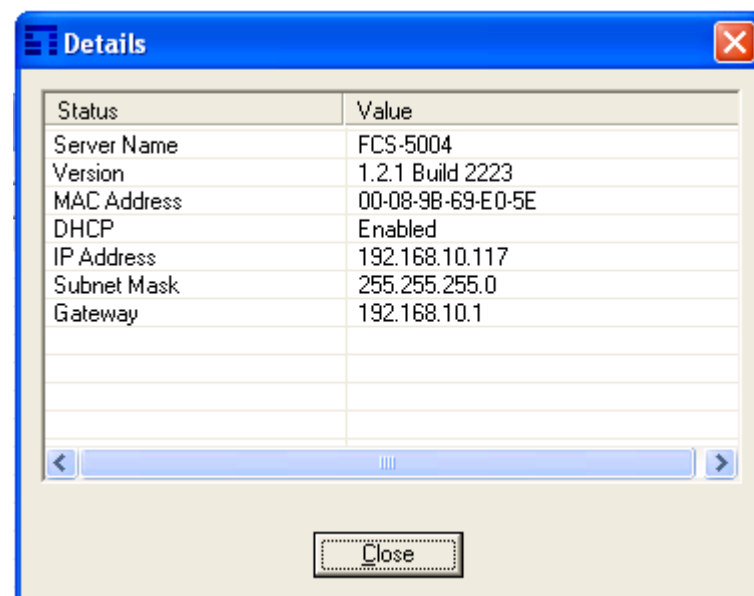
The 'Basic Configuration' dialog box is shown with a blue title bar and a close button. It contains two sections: 'System' and 'TCP/IP'. The 'System' section has fields for Name (FCS-5004), Date (11 / 10 / 2003), and Time (18 : 21 : 43). The 'TCP/IP' section has two radio buttons: 'Obtain the IP address automatically (DHCP)' (selected) and 'Use Fixed IP Address'. Below the radio buttons are three rows of IP address fields: IP Address (192 . 168 . 0 . 1), Subnet Mask (255 . 255 . 255 . 0), and Gateway (0 . 0 . 0 . 0). At the bottom are 'OK' and 'Cancel' buttons.

System	
Name	FCS-5004
Date (mm/dd/yyyy)	11 / 10 / 2003
Time (hh:mm:ss)	18 : 21 : 43

TCP/IP	
<input checked="" type="radio"/> Obtain the IP address automatically (DHCP)	
<input type="radio"/> Use Fixed IP Address	
IP Address	192 . 168 . 0 . 1
Subnet Mask	255 . 255 . 255 . 0
Gateway	0 . 0 . 0 . 0

OK Cancel

When you click , the following screen will appear, which shows the detailed information of the selected CamCon Camera Server item.



The 'Details' dialog box is shown with a blue title bar and a close button. It contains a table with two columns: 'Status' and 'Value'. The table lists the following information: Server Name (FCS-5004), Version (1.2.1 Build 2223), MAC Address (00-08-9B-69-E0-5E), DHCP (Enabled), IP Address (192.168.10.117), Subnet Mask (255.255.255.0), and Gateway (192.168.10.1). Below the table is a horizontal scrollbar and a 'Close' button.

Status	Value
Server Name	FCS-5004
Version	1.2.1 Build 2223
MAC Address	00-08-9B-69-E0-5E
DHCP	Enabled
IP Address	192.168.10.117
Subnet Mask	255.255.255.0
Gateway	192.168.10.1

Close

6.3 Using CamCon Browser

Double click the CamCon Browser shortcut to launch the CamCon Browser.



Enter the default user name and password to login CamCon Browser.

User Name: user

Password: user

CamCon Browser is a software which allows you to view multiple CamCon Camera Servers in your network environment.

But you can't revise the configuration by using CamCon Browser.

You have to purchase CamCon Manager to achieve that.

Please refer to the section **Using CamCon Manager** of the user manual for operation CamCon Browser.

6. CamCon Camera Server Client Viewer ActiveX Control

The CamCon Camera Server Client Viewer ActiveX Control is a standard ActiveX control that uses Microsoft® ActiveX and Component Object Model (COM) technology. This ActiveX control provides the interface for web page script or other OLE control container program use the functions of CamCon Camera Server client. Instead of browsing web page provided by CamCon Camera Server server, this ActiveX control can help you to easily build up your own client application or client web page.

7.1 System Requirements

IBM or IBM-compatible PC

Windows 98 SE, Windows ME, Windows 2000, or Windows XP

7.2 Installation Instruction

Run "VGActiveXSetup.exe" to install the software.

After the setup program complete, all files will be installed to:

"[Program Files] \LEVELONE\CamCon Client Viewer Control\"

Note: [Program Files] is the path of Windows Program Files folder. The typical path is "C:\Program Files".

The setup program also creates a shortcut of a demo html file. You can open it to see if this ActiveX control has been installed correctly.

7.3 Un-installation Instruction

To remove this software, please do the following steps:

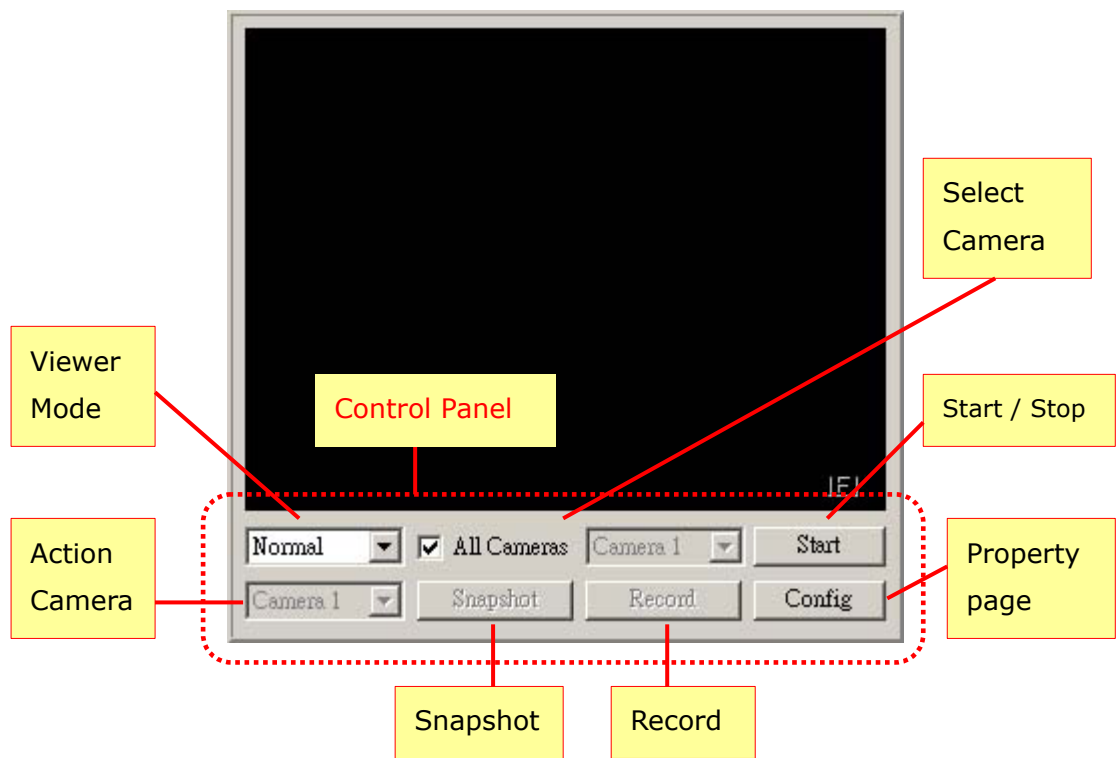
- Open the Control Panel by choosing Settings from the Start

Menu.

- Open the "Add/Remove Program" and select "CamCon Client Viewer ActiveX Control" from the list.
- Click on the "Add/Remove" button and follow the instructions to complete un-installation.

7.4 Usage

Open "demo.htm" in a web browser to see this ActiveX control in an html file. Click on the "Start" button to see a demo of the CamCon Camera Server.



CamCon client Viewer ActiveX Control resides in the so-called "control panel". User can manipulate most of CamCon client's functions by using the buttons and Windows controls on it. The following lists the functions / commands available:

- **Viewer Mode**

You can set the viewer mode to Normal mode (include: 4 camera and single camera), Sequential camera mode, Multiview

(Picture-in-Picture) mode and Play video file mode.

- **Select Camera**

In Normal mode and Multiview mode, you can choose the camera you want to see.

- **Start / Stop**

To start live video or start playing a video file. After the video playback starts, you can also use this button to stop it.

- **Action Camera**


You can use this combo-box to choose the camera for snapshot or recording.

- **Snapshot and Recording Function**

After you click on these buttons, a dialog box will pop up and prompt you for the filename to store the snapshot photos or video clips.

- **Property Page**

You can use this button to request the property page at runtime.

Control panel can be hidden and invoked in any time. By clicking on the right mouse button on the client area of this control panel, a popup menu will show up that allows you to switch and the control panel display  state. (If the menu-item is checked, it means the control panel is visible; if it's not checked, it means the control panel is hidden).

The image shows a 'General' configuration dialog box for the CamCon Client Viewer ActiveX Control. It contains the following fields and options:

- Server Host:** A text input field with a dotted placeholder.
- Port:** A text input field containing the value '80'.
- Input by IP:** A checkbox that is currently unchecked.
- Authentication:**
 - Username:** A text input field containing 'administrator'.
 - Set Password:** A checkbox that is unchecked, followed by a password input field with masked characters.
- Live Video Mode:**
 - Four radio buttons: **Normal** (selected), **Sequence**, **Multiview**, and **Playback**.
 - Camera View Select:** A checkbox labeled 'All Cameras' (checked) and a dropdown menu showing 'Camera 1'.
 - Sub Camera Select:** A dropdown menu showing 'Camera 1'.
- Show Control Panel:** A checked checkbox.
- Show Config Button:** A checked checkbox.
- Auto Start Live Video (Not For Runtime):** An unchecked checkbox.

At the bottom of the dialog are three buttons: **OK**, **Cancel**, and **Apply**.

CamCon Client Viewer ActiveX Control provides an easy way to invoke its property page dialog, especially during the run-time. (Just click on the button "Config" in control panel). This property page helps the user configure the ActiveX control to a friendly user interface without using a property browser or using a program language. The property page is the same one that is displayed during the design-time mode.

7.5 Object Interface

CamCon Client Viewer ActiveX Control uses the concept of objects to expose programming functions. Users can start viewing live video or other functions of CamCon Camera Server client by issuing a simple programming statement. The complete list of the programming interface is described in following section "Object Interface List".

7.6 Web Support

To let users distribute the ActiveX control on their own web page to browsing client machine, a "DDC Asia CO.,LTD." signed cabinet file is

also included in this package. It can be embedded in a web page by using the following html tag:

```
<object classid="clsid:66635D2F-A488-4B6A-A323-3CB36098EE1F"
id="VGCliviewer" width="332" height="310"
<CODEBASE="http://[server url]/VGClivw.cab#Version=[ver. no]">
  <param name="_Version" value="65536">
  <param name="_ExtentX" value="8784">
  <param name="_ExtentY" value="8202">
  <param name="_StockProps" value="0">
  <param name="ServerPort" value="80">
  <param name="ServerHost" value="192.68.0.1">
  <param name="ViewMode" value="0">
  <param name="AutoStart" value="0">
  <param name="ShowControlPanel" value="1">
  <param name="Username" value="guest">
  <param name="Password" value="guest">
  <param name="CameraView" value="-1">
  <param name="SubCameraView" value="0">
</object>
```

** [server url] is the url path that contains the cabinet file of CamCon Camera Server Client Viewer ActiveX control.

** [ver. no] is a version string of the form #Version=a,b,c,d.

a: High-order word of the major version of the component available at the specified URL.

d: Low-order word of the major version of the component available at the specified URL.

c: High-order word of the minor version of the component available at the specified URL.

d: Low-order word of the minor version of the component available at the specified URL.

Note: If a, b, c and d are all set to -1 (#Version=-1,-1,-1,-1), the component is downloaded from the server if the release date is later than the installation date on the client computer. If the component is installed on the client computer and the release date is the same or earlier than the installation date, only an HTTP header transaction occurs.

If the client computer has a newer version of the Viewer installed, no download will occur.

7.7 Object Interface List

Properties		
[Name]	[Range]	[Note]
BSTR ServerHost		CamCon Camera Server server URL
long ServerPort	1 - 65535	CamCon Camera Server server port
long ViewMode	0 - 3	View Mode: 0: Normal live video 1: Sequential camera live video 2: Multiview live video (Picture in picture) 3: Playback files
boolean AutoStart		Indicates if this control should start automatically while being activated
boolean ShowControlPanel		Indicates if control panel will displayed
BSTR Username		Username to logon CamCon Camera Server
BSTR Password	[Input-only]	Password to logon CamCon Camera Server
Long CameraView	-1 - 3	Main Camera selection. The value is depend on the ViewMode property: a. In Normal mode: -1 indicates show 4 camera, 0 – 3 indicates select viewing camera 1 – camera 4 b. In Multiview mode: -1 is not allowed, 0 – 3 indicates select viewing camera 1 – camera 4 c. In other mode, this property is ignored
long SubCameraView	0 - 3	Sub Camera selection. The value is only use in Multiview mode.

long Language	0 – 2 0: ENG, 1: CHT, 2: CHS	UI language, currently only support 3 languages: English, Traditional Chinese and Simplified Chinese. This property should not be set during live video or file playback running.
boolean LoopFile		Indicates whether to play file repeatedly.
boolean ShowConfigButton		Indicates whether the configuration button should be visible.

Methods		
[Name]	[Param]	[Note]
boolean Start()		Start live video or select file to playback
void Stop()		Stop live video or file playing
void Logout()		Same as method 'Stop'. Besides, after this method was called, current user account will no more valid.
boolean Snapshot(long Camera, BSTR Filepath)	Camera: 0 – 3 Filepath: Full file path to save snapshot frame.	Take a snapshot of one of camera. Camera = 0 means 1st camera view.
long Record(long Camera, BSTR Filepath)	Camera: 0 – 3 Filepath: Full file path to save recording video.	Recording live video of one of camera. Camera = 0 means 1st camera view.
boolean IsRecording(long Camera)	Camera: 0 – 3	Indicate whether the specified camera is under recording. Camera = 0 means 1st camera view.
void StopRecord(long Camera)	Camera: 0 – 3	Stop recording of specified camera. Camera = 0 means 1st camera view.
boolean PlayFile (BSTR	Filepath: File path	Play a single video file. The

Filepath)	of CamCon Camera Server video file.	parameter can be ignored. This method will fail if ActiveX control is under live streaming or playing other file. You must stop first then call this method.
-----------	-------------------------------------	--

Example:

Start / Stop live video:

First, set the property ServerHost and ServerPort to the URL and port number of CamCon Camera Server-100 respectively. Assign the viewing mode to the ViewMode property and simply call Start.

Ex.

```
VGCliViewer.ServerHost = "172.17.13.73";
VGCliViewer.ServerPort = 80;
VGCliViewer.ViewMode = 0;
VGCliViewer.Start();
```

To stop live video, call Stop method in anytime.

Ex.

```
VGCliViewer.Stop();
```

7. Maintenance

CamCon Camera Server has been specially designed to keep running for 24 hours a day, 7 days a week and to be ready at all times. It is also robust to protect against system crashes caused by power loss. This section provides a general maintenance overview.

8.1 Shutdown/Restart the Server

To shutdown/restart the server, please open the administration web page and go to **System Tools – Restart** page. Follow the instructions to restart or shutdown the system. If you choose to shutdown the system, please turn off the power switch located on the front of the CamCon Camera Server.

8.2 Reset the Administrator Password & Network Settings

If you accidentally forget the administrator password, you will not be able to perform any administration work on the server. In this case, you can reset the administrator password and network configuration to the factory default.

- Use the tip of a pen to depress the configuration reset button on the back of the server and hold it for about 5 seconds until the beep.
- The network configuration will be reset, and you may need to re-configure some or all of the network settings.
- Use a web browser to connect to CamCon Camera Server. Enter the System Administration using the following login name and password. You can then perform system administration.

User name: administrator

Password: admin

Note: If the configuration reset button is disabled on the **System Tools – Hardware Settings** page, you will not be able to reset administrator password and network configuration using this function; in this case, please write down your administrator password and keep it

in a safe place.

8.3 Update the System

Enter the System Administration page by a web browser, and have the system updated in the System Tools – System Update page. Before updating the system, please make sure that the image file that you are about to update is the correct version and read through the instruction carefully.

8.4 Restore to Factory Defaults

To restore the factory default settings, please use a web browser to connect to CamCon Camera Server. Go to the system Administration and restore the configurations in the System Tools – Backup/Restore page.

Part II

CamCon Manager

FCS-9000

FCS-9002

FCS-9004

1. Overview of the CamCon Manager

CamCon Manager is a centralized management application designed to provide centralized management for multiple servers. It is available as an optional extension. Not only does it enhance the functions of existing servers, it also eases the task of configuring multiple servers on the network.

Note: Unless specified for some reason, the CamCon Camera Server mentioned below applies to CamCon Manager **FCS-9000** which allows you to view and modify all the settings of multiple(unlimited) CamCon Camera Servers.

FCS-9002 allows you to manage two FCS-5004 or FCS-5008.

FCS-9004 allows you to manage four FCS-5004 or FCS-5008.

1.1 About CamCon Manager

- **Virtual Surveillance Centre**

Using CamCon Manager to connect to all the servers, your surveillance centre's location is not restricted to any particular place. The surveillance centre can be anywhere you choose.

- **Managing Unlimited Number of Multiple Cameras**

With CamCon Manager, you can now control all the servers on the network, and simultaneously browse 20 cameras.

- **Configurable Viewing Page**

The application supports single camera, quad, 9-way, 12-way, 16-way, 20-way, picture in picture, sequential mode, etc. In each mode you can freely add the cameras you wish to view.

- **Effortlessly Configure Multiple Servers**

The built-in Apply to All Servers, lets you configure multiple servers on the network in a single click.

Note:

FCS-9002 can only configure/view maximum 2 servers

simultaneously, and does not support 20-way viewing mode.

FCS-9004 can only configure/view maximum 4 servers simultaneously.

1.2 Features

- **Multiple Server Auto Detection**

Using the CamCon Manager, any IP surveillance administrator can easily detect all servers within the local network and manually include other servers outside the network into the same management scope.

- **Central Configuration for Multiple Server**

Should the administrator need to configure various parameters across all servers, CamCon Manager can save time by universally setting the updated configuration to all servers within the system. The administrator can update firmware, set up server time, add or delete a user, alter network and camera settings, assign video recording locations across all IP surveillance servers under management control effortlessly and much more besides.

- **Configurable Viewing Page of Selected Cameras**

Supervisors can pick up images from any camera within any IP surveillance server to configure a personal viewing page on demand. With the feature, specific group monitoring in any surveillance environment is on call at a click of the mouse. Users can set up a group-viewing page including any camera highlighting the same scenario. For example, cash counters, warehouse doors and network operation centers are some of the places where a supervisor might need to use a group view.

- **E-Map Function**

E-Map function enables a convenient handling of multiple cameras and GPIO (general input and output) devices with a simple drag-and drop procedure on the electronic map of the area under detection.

- **System Requirements**

Pentium III 1GHz(or higher) CPU with at least 128MB of RAM.
(Recommended resolution: 1024x768 pixels)

- **Package Contents**

- CamCon Manager CD-ROM x1 (Manual file included)
- KeyPro x 1

2. Installing CamCon Manager

Please insert the installation CD into the CD-ROM, the system will auto-play the CD, and you should see the following screen:

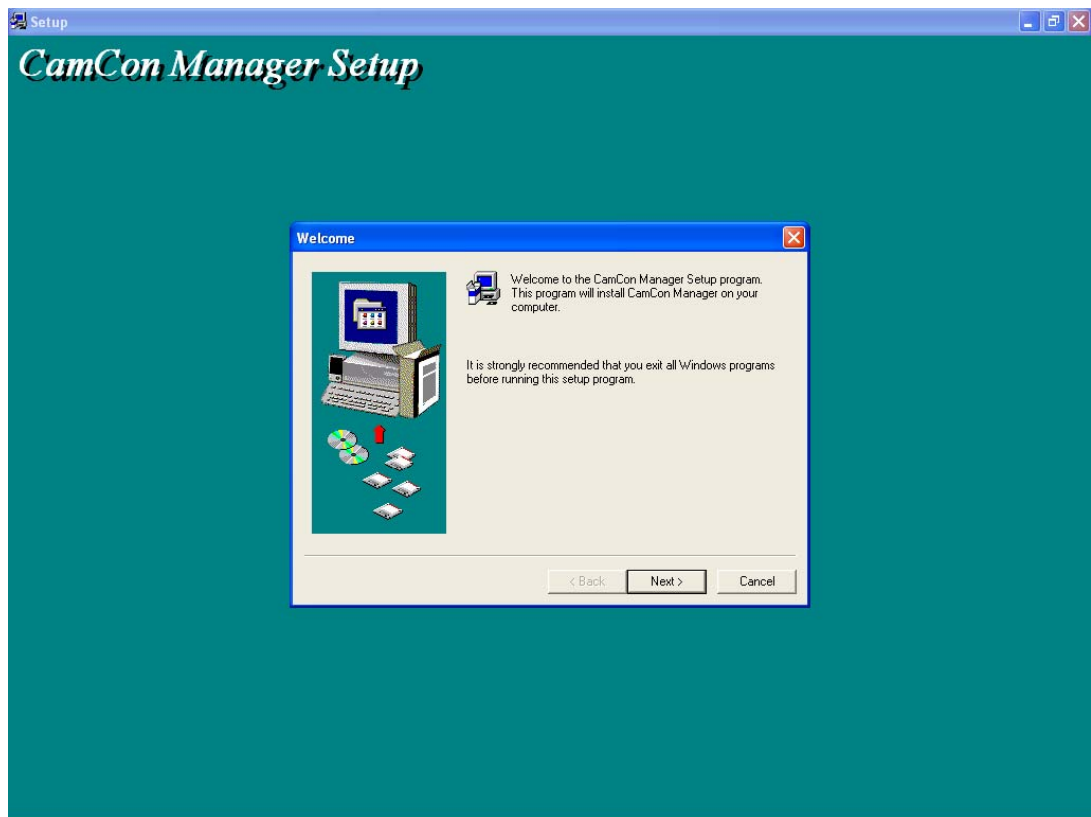


3

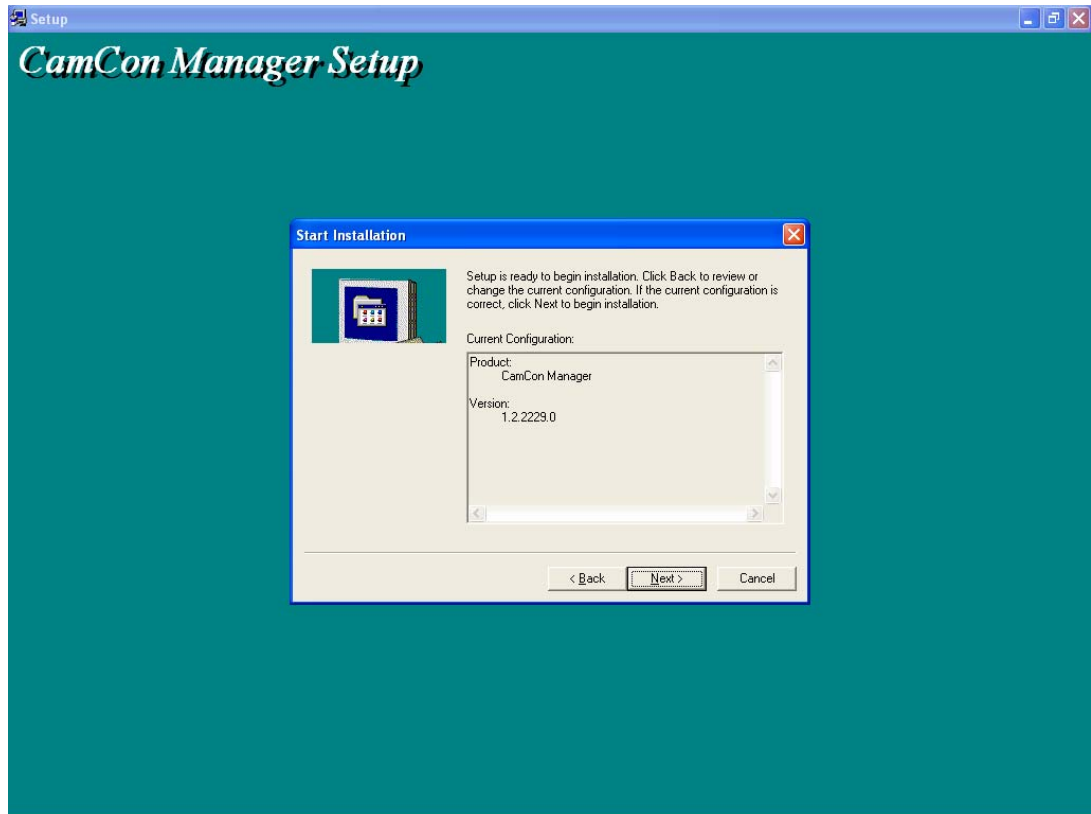
Please choose Install CamCon Manager to install CamCon Manager software.

Note: When installing CamCon Manager, CamCon Watcher and CamCon Administrator will be installed as well. Please install the KeyPro before installing CamCon Manager, or CamCon Manager will not be installed successfully.

After running the installation program; you should be see the following screen:



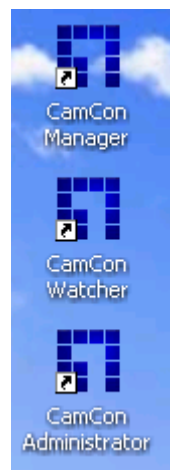
Follow the on-screen instructions to complete the installation.



3. Using CamCon Manager

3.1 Start Using CamCon Manager

When the CamCon Manager is installed, the system will automatically create CamCon Manager, CamCon Administrator, and CamCon Watcher shortcuts on your desktop.



Please double click on the CamCon Manager shortcut to login to CamCon Manager. The login screen should look like this:



Please enter the default username and password to login to CamCon Manager:

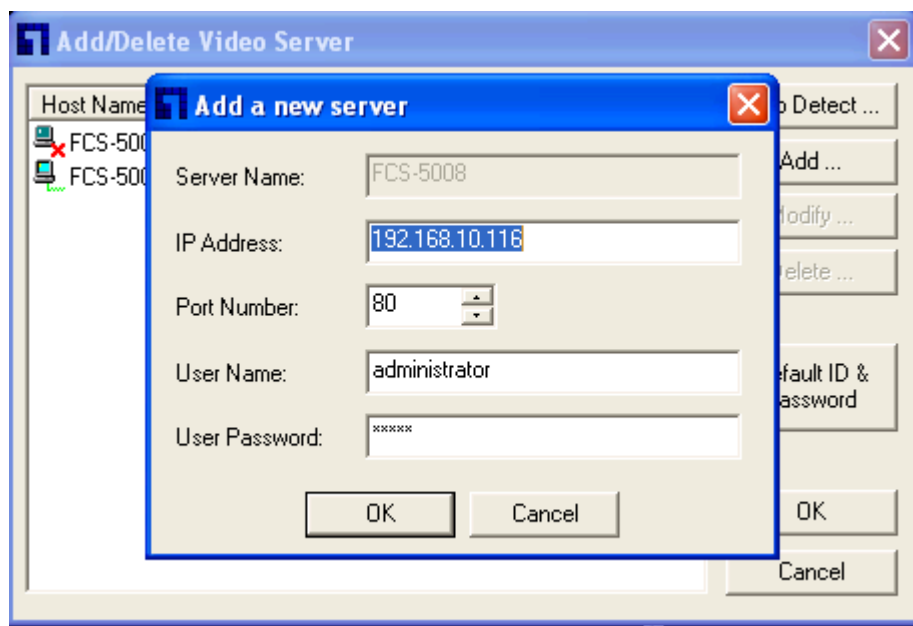
User name: administrator

Password: admin

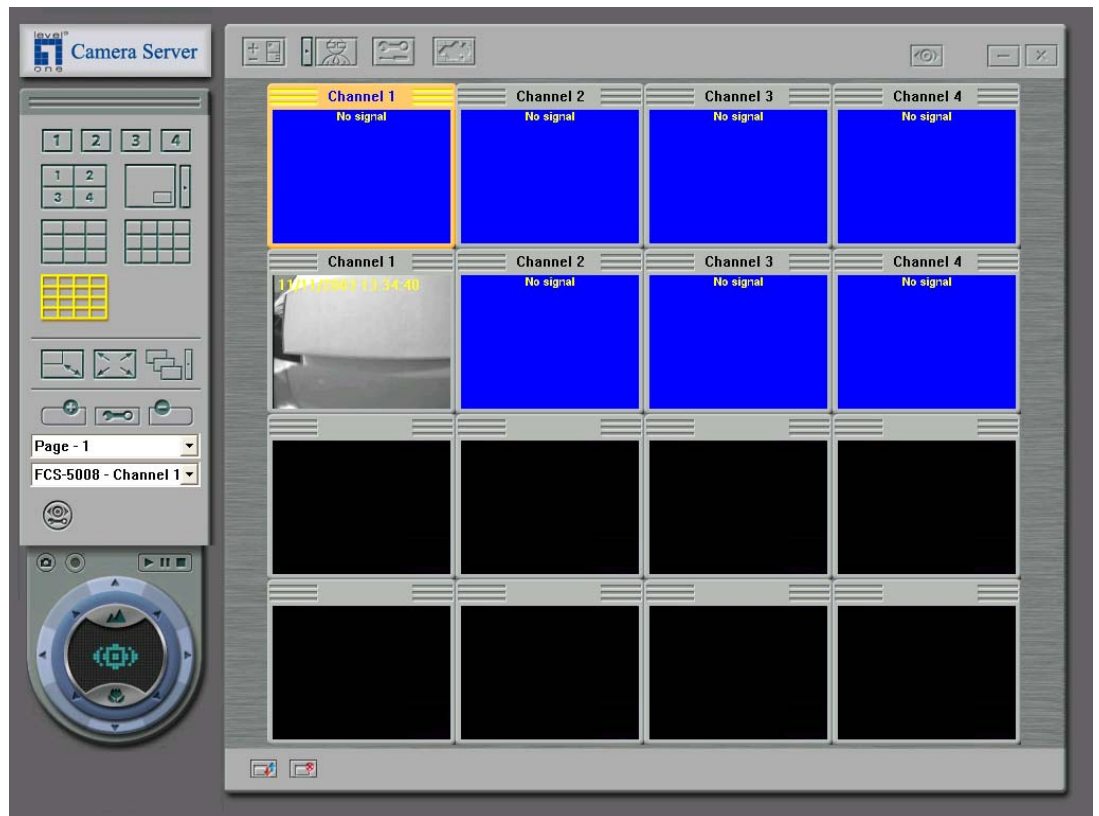
When you logged in to the CamCon Camera Server for the first time, the system will automatically search for servers in the same subnet. Please enter various servers' administrator passwords to connect to the servers (The default administrator password for the servers is "admin"). After the system has finished searching the same subnet for servers, you can also add additional servers by clicking on the "Add" button and manually enter the server IP and the administrator password (CamCon Manager uses the default administrator username "administrator" to connect to the servers).

Later, when you login to the system again, the system will automatically connect to various servers, and won't search for servers again.

The screen for connecting to the server shown as below:



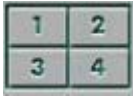
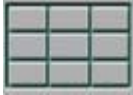



After connected to the server, you should see a screen similar to this:



Display Mode

To suite your needs, you can use the function keys on the left column to change the display mode.

	View Single Camera
	Adjust Frame Size
	Full-Screen Mode
	Sequential Display
	Picture in Picture Mode

	Quad Mode
	9-way Mode
	12-way Mode
	16-way Mode
	20-way Mode

Double click on the image frame to switch between "Viewing Single Camera", "Adjust Frame Size", and "Full-Screen" modes.




When using Picture in Picture mode, you can freely select up to 3 children cameras. Double click on the child camera will switch the child camera with the parent camera.

Using sequential mode, you can configure the cameras switching frequency.

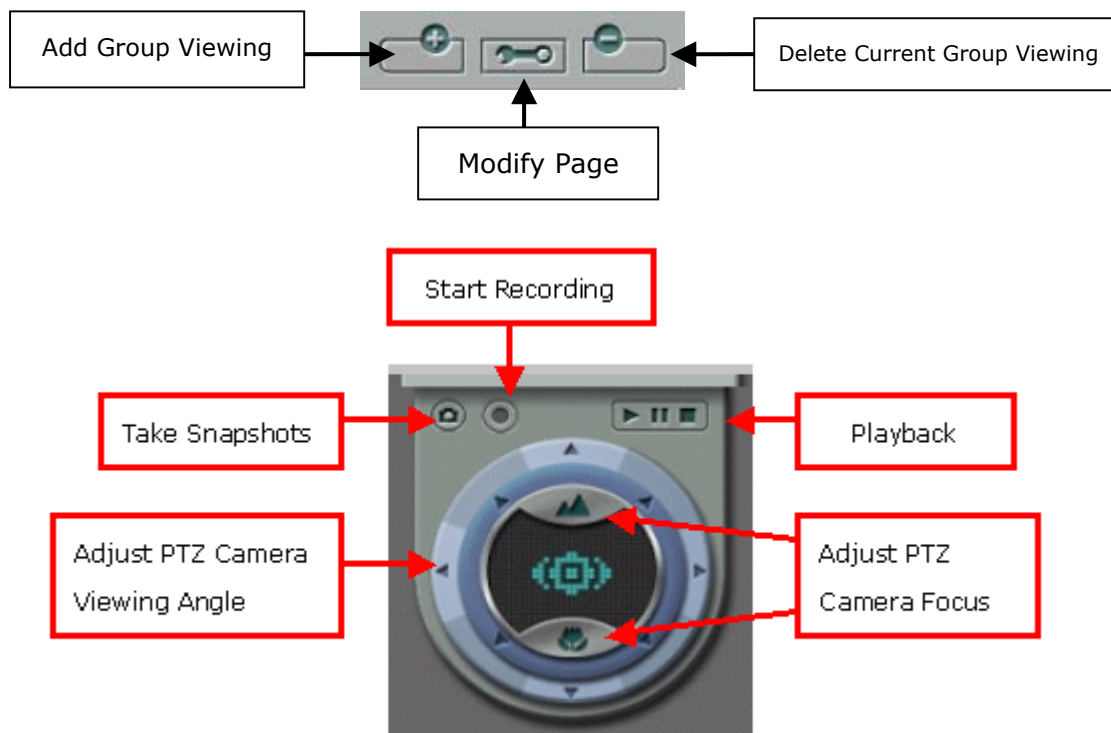
Note: "20-way" mode is supported by FCS-9000 and FCS-9004 only.

3.2 Configure Viewing Page



You can use the following toolbar to combine various cameras into one group-viewing page and named the resulting page. Please refer to the following steps on how to construct a group-viewing page.

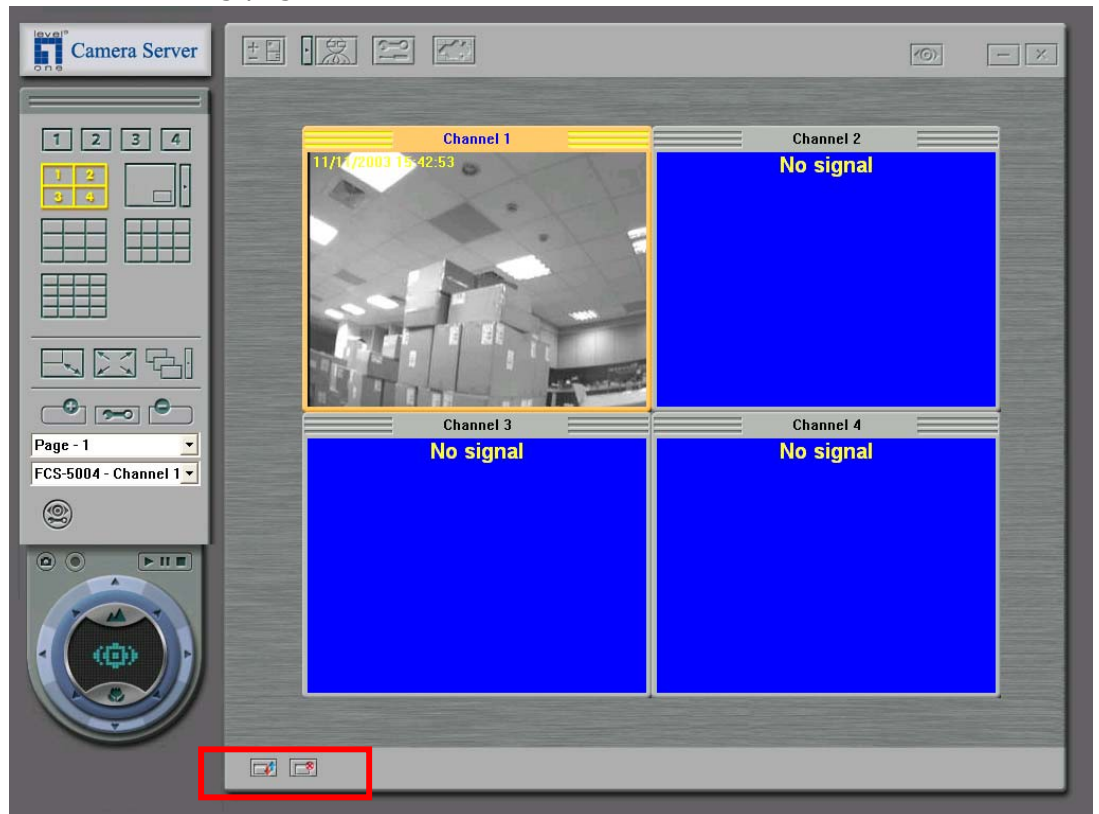
- Select an existing page or create a new group-viewing page to edit.
- Select the image frame of which you wish to change its video source. The selected frame's border will be changed to orange.
- Select the desired video source.
- Repeat step 2 and 3 for every desired image frames.
- Click  to give the viewing page a name to finish the editing process.
- To delete the selected viewing page, click .
- To modify master settings, click .

3.3 Other Function Buttons



3.4 Sorting and Removing Cameras

To arrange the cameras in order, click . To remove a camera from the viewing page, select the camera and click .



3.5 Switching Modes and Changing Username/Password

To switch from the administrator mode to user mode, click



(administrator mode). The user mode logo



will appear.

Note: This option is not available for CamCon Browser.



After clicking on the button, please enter the username and password and click on OK to confirm.



Administrator Name:

Password:

Retype password:

OK Cancel

3.6 Adding and Deleting Video Server

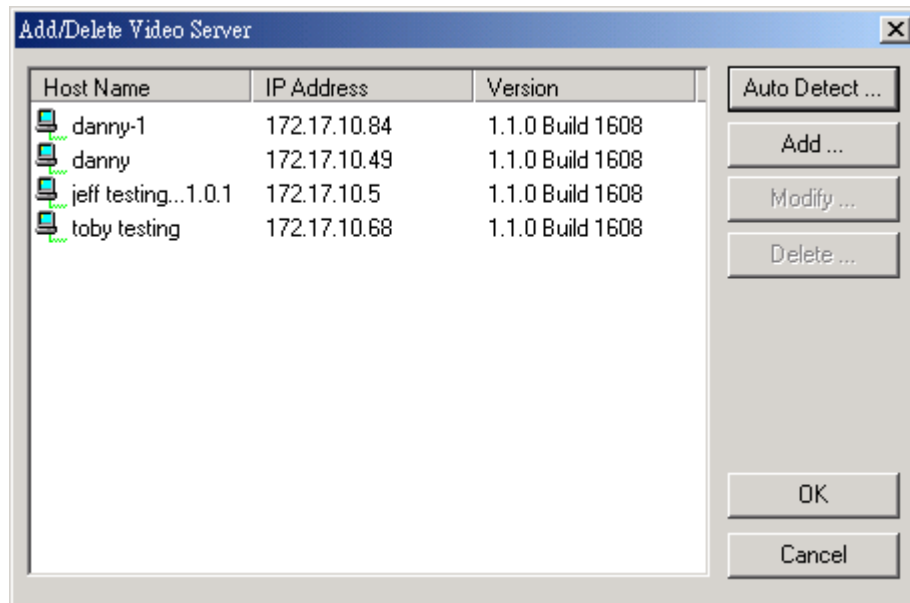
You can use this setting to add or delete the servers in the list.

Please click



to enter System Setting.


When the server cannot successfully connect to a particular server, that server will be marked by a red "x".



- **Auto Detect**
System will start searching for all servers in the same subnet.
- **Add**
Manually add a server to view and configure by entering the server IP, port number and the administrator's password.
- **Modify**
When you cannot successfully connect to a particular server, you can change the server's IP address, port number and the administrator's password to restore the connection.
- **Delete**
Delete the connection data for a particular server. This action will also terminate the connection between the system and the server.

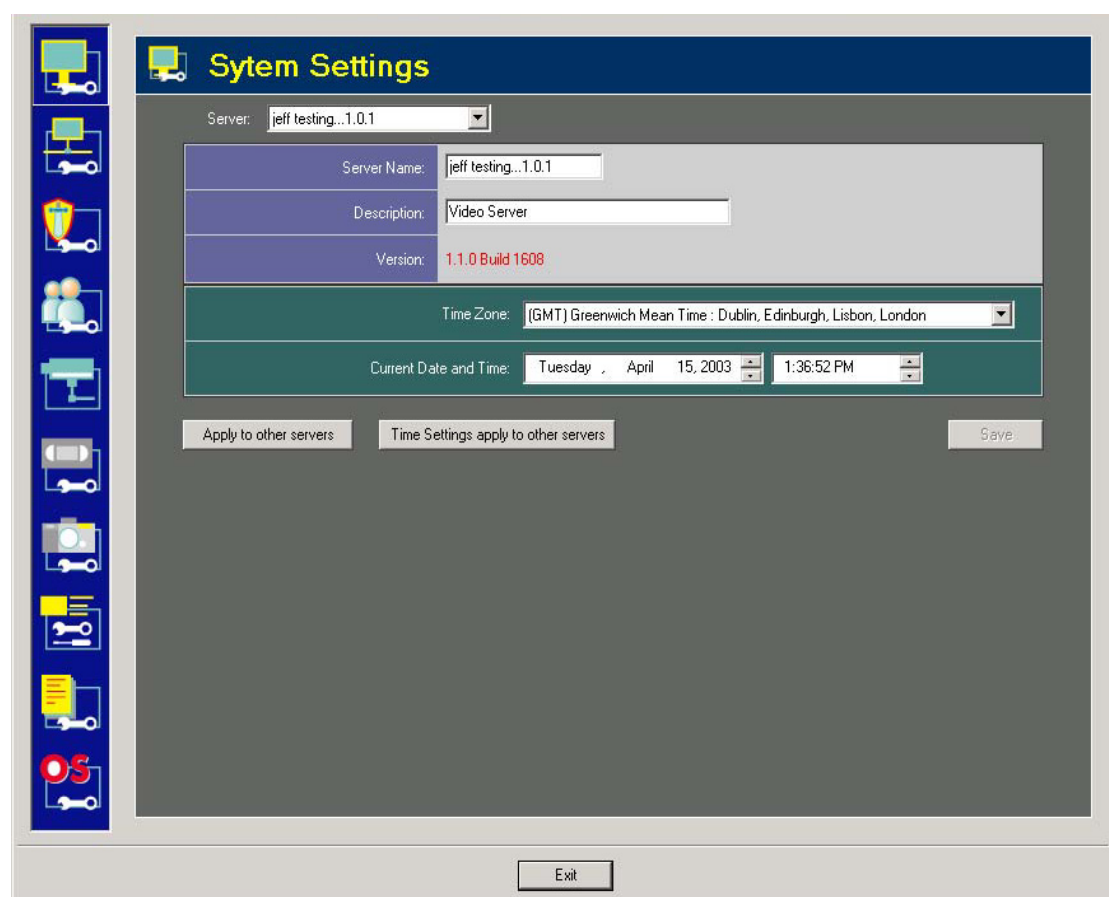
3.7 Modify Multiple CamCon Camera Server System Settings

You can simultaneously change system settings for multiple

connected servers. Click on the  button to open the system configuration window as follows:

Note:


1. This option is not available for CamCon Browser.
2. The snapshot icon will not be displayed on the page when (i) no CamCon Camera Servers are connected to the system or (ii) the users logged on to the system do not have the authorization to view the selected servers.

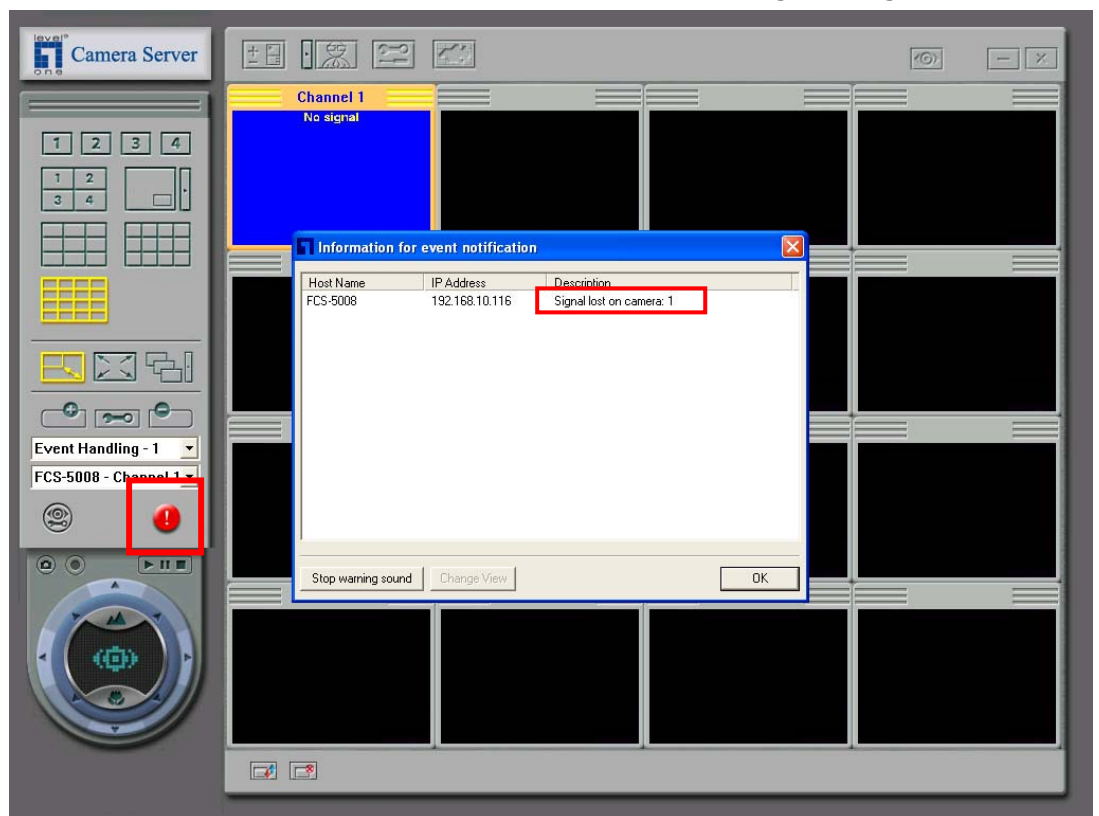


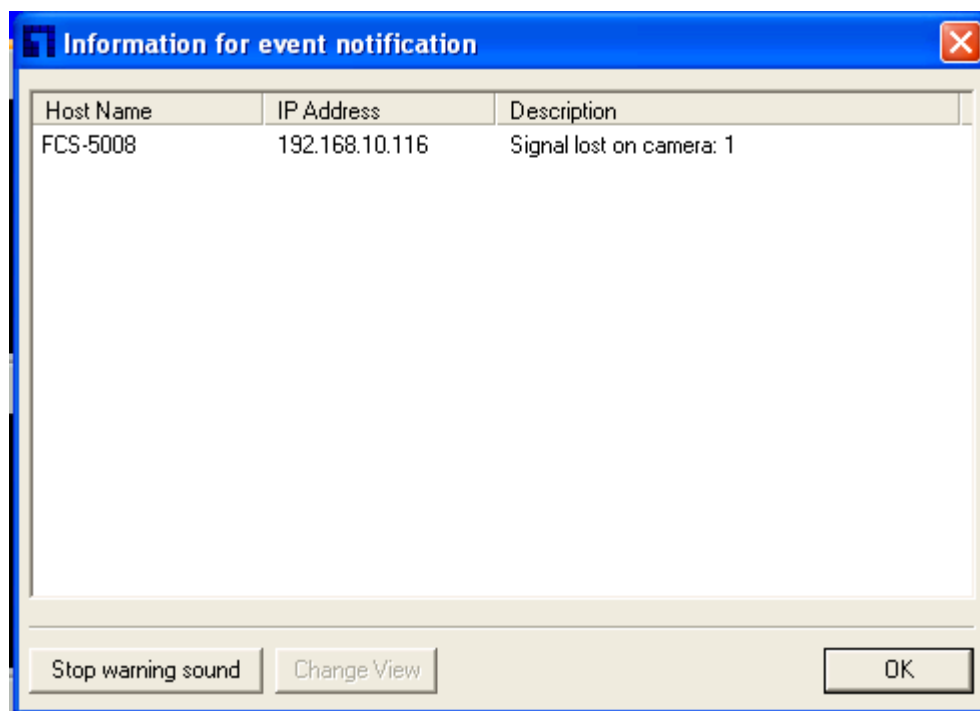
You can use the icons on the left column to select the options you wish to configure. Before saving the settings, please make sure you've selected the servers you intended to configure.

For the details on changing the server's various settings, please refer to the "Configuring CamCon Camera Server" section.

3.8 Warning Messages

When any server cannot operate normally, and the "PC Client Notification" has been selected, the monitoring page will show a warning icon  to alert the system administrator to the current status of the server. Meanwhile, the system will automatically switch to the screen of the camera, which has triggered the event. Move the mouse cursor over the warning icon to view a brief message, or double click on the icon to view the details of the warning message.






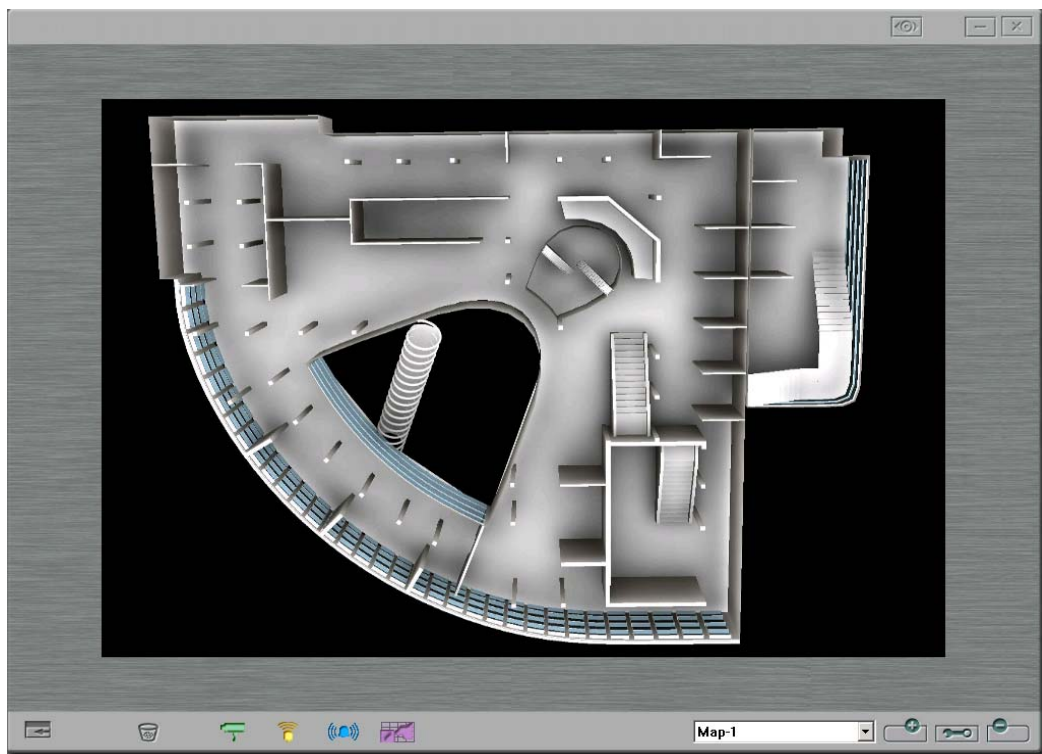
4. E-Map Function

E-Map function enables a convenient handling of multiple cameras and GPIO (general input and output) devices with a simple drag-and-drop procedure on the electronic map of the area under monitoring. With E-map function, users can:


- upload and modify electronic maps of the monitoring area
- add, remove and monitor cameras and GPIO devices
- create or remove shortcuts for electronic maps
- define the alert system in cases when a motion within the area or a signal connection is detected etc.

Note: User mode supports viewing monitoring channels and GPIO devices only.

Click  on the channel-viewing screen to enter the electronic map mode. A default map of a floor layout will be shown. Users can add or remove more electronic maps in this mode.

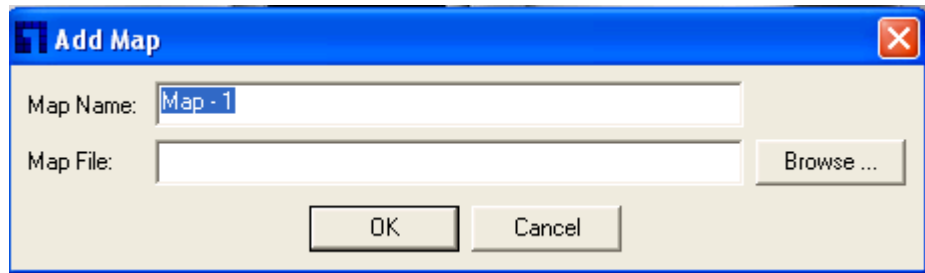


4.1 Adding a New Map

Click . Enter the name for the map or use the default name.

Then browse to find the electronic map file and click OK.

Note: The maximum resolution of each map uploaded is 1,000x660 pixels. The recommended resolution of the map is 800x600 pixels.

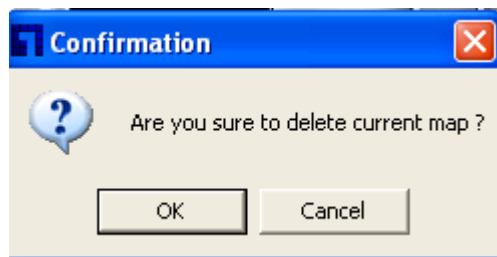


4.2 Deleting a Map

Select a map to be deleted from the pull-down menu and click



Click OK to confirm.



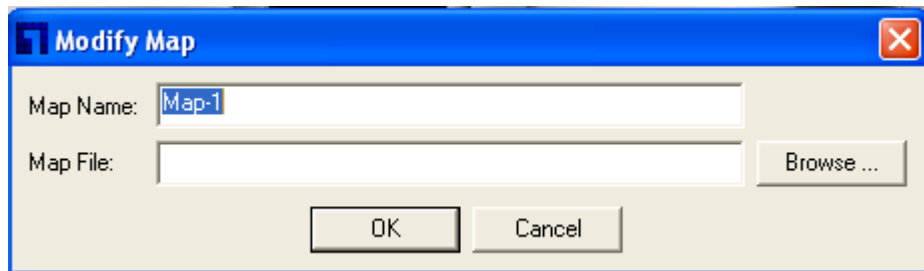
4.3 Modifying a Map

To rename or replace a map, select a map from the pull-down menu.

Then click .






Enter the new name of the map or replace the map with another file.



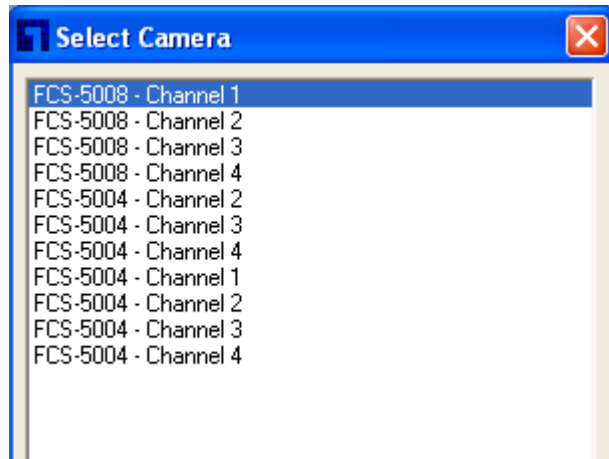
Note: When a map is replaced with a smaller size one, all cameras and GPIO devices previously placed on the screen will be removed.

4.4 Adding Cameras and GPIO Devices

To add a camera, alarm input and alarm output devices on an electronic map, drag the corresponding icons to the appropriate location on the map.

Button	Description
	Camera
	Alarm Input
	Alarm Output


Select the appropriate camera or item for each device and click OK.

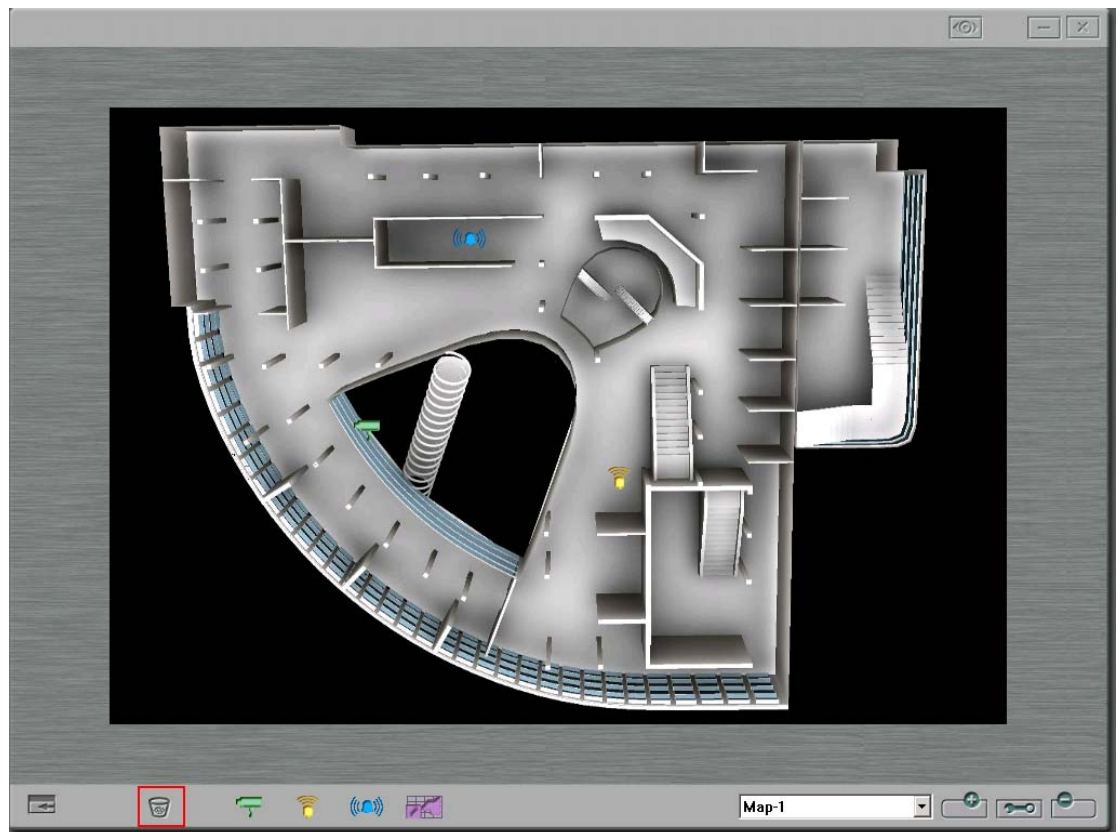


To view the status of the devices, double click the icons on the map.

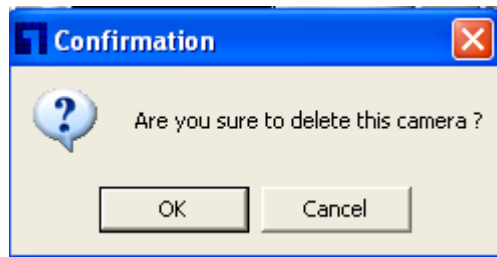
4.5 Removing Cameras and GPIO Devices

To remove cameras and GPIO devices from a map, drag the


corresponding icons from the map to the trash icon .

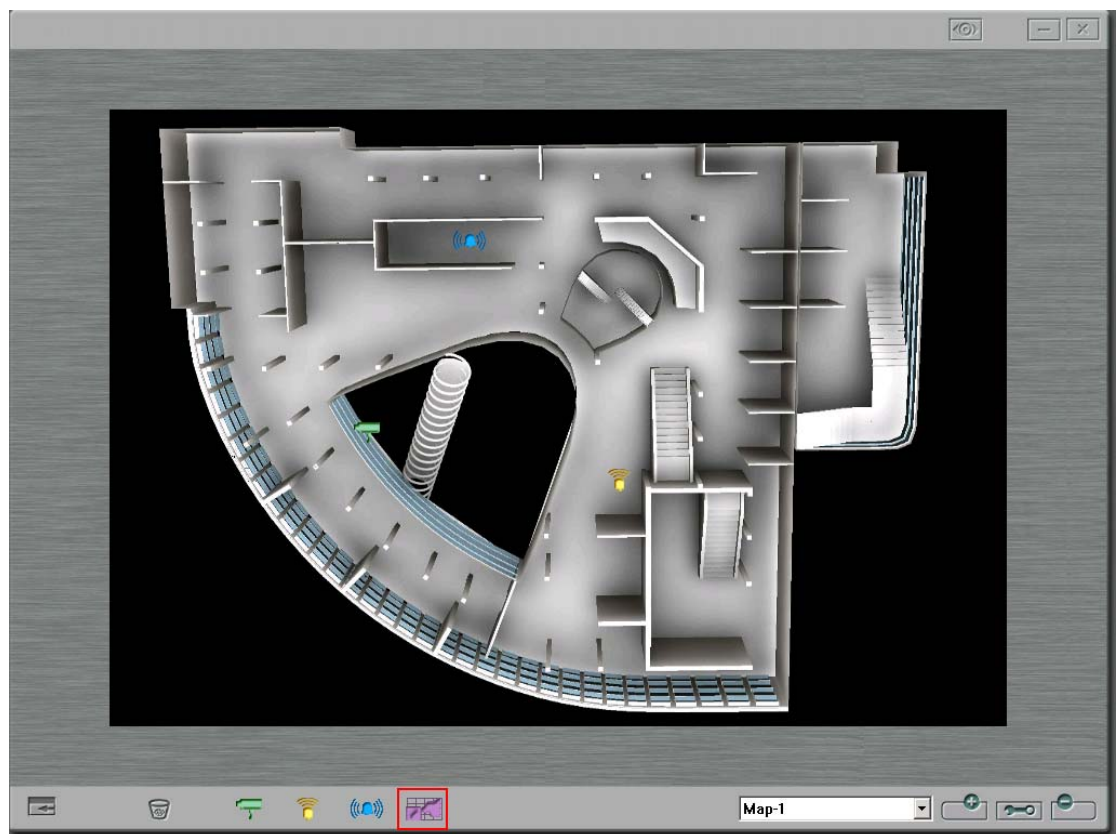


Click OK to confirm the deletion.

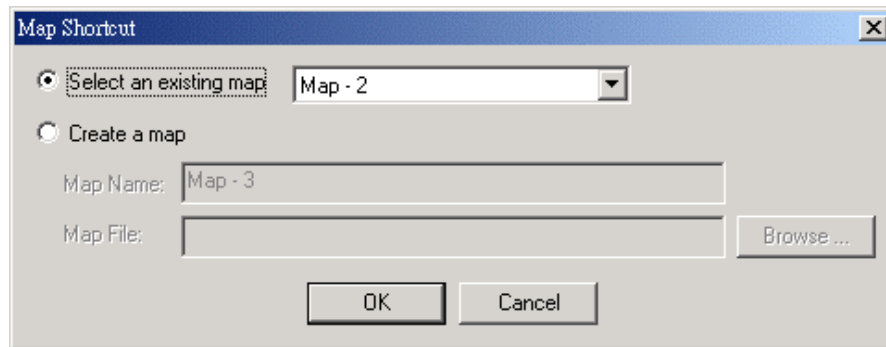


4.6 Adding an Electronic Map Shortcut

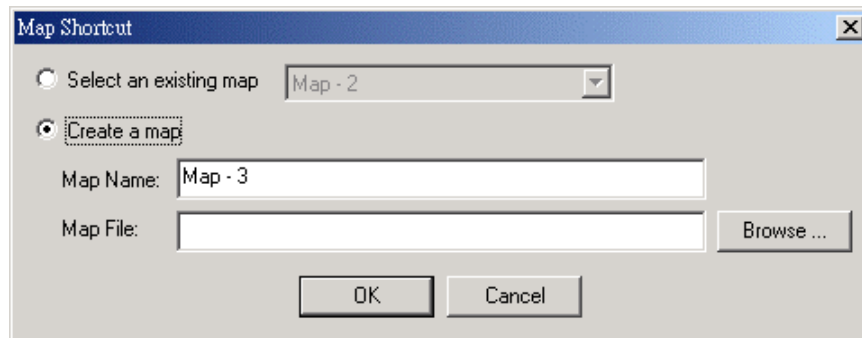
To add an electronic map shortcut on a map, drag the  icon to the appropriate location on the map.





Select an existing map from the pull-down menu, and then click OK.




You can also add a new file for map shortcut. Click **Create a map** and enter the map name. Then browse to find the file and click OK.

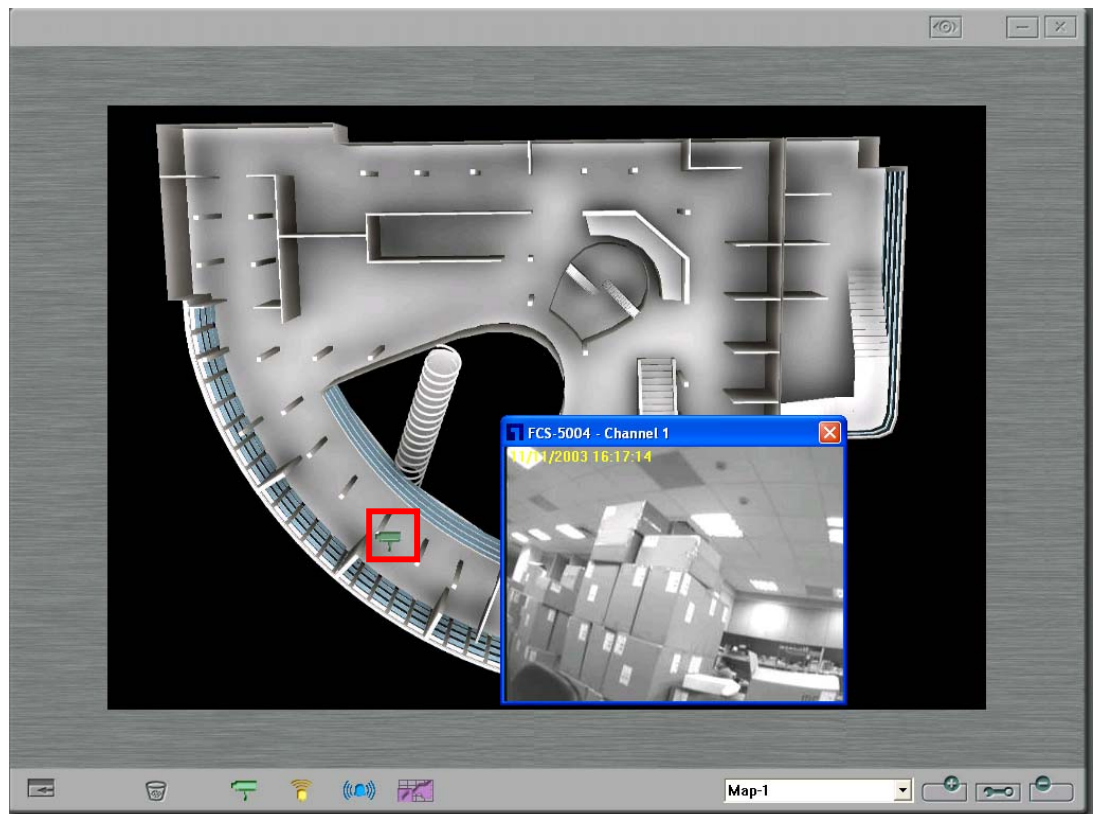


4.7 Removing an Electronic Map Shortcut



To remove an electronic map, drag the  icon to .

4.8 Viewing Monitoring Cameras

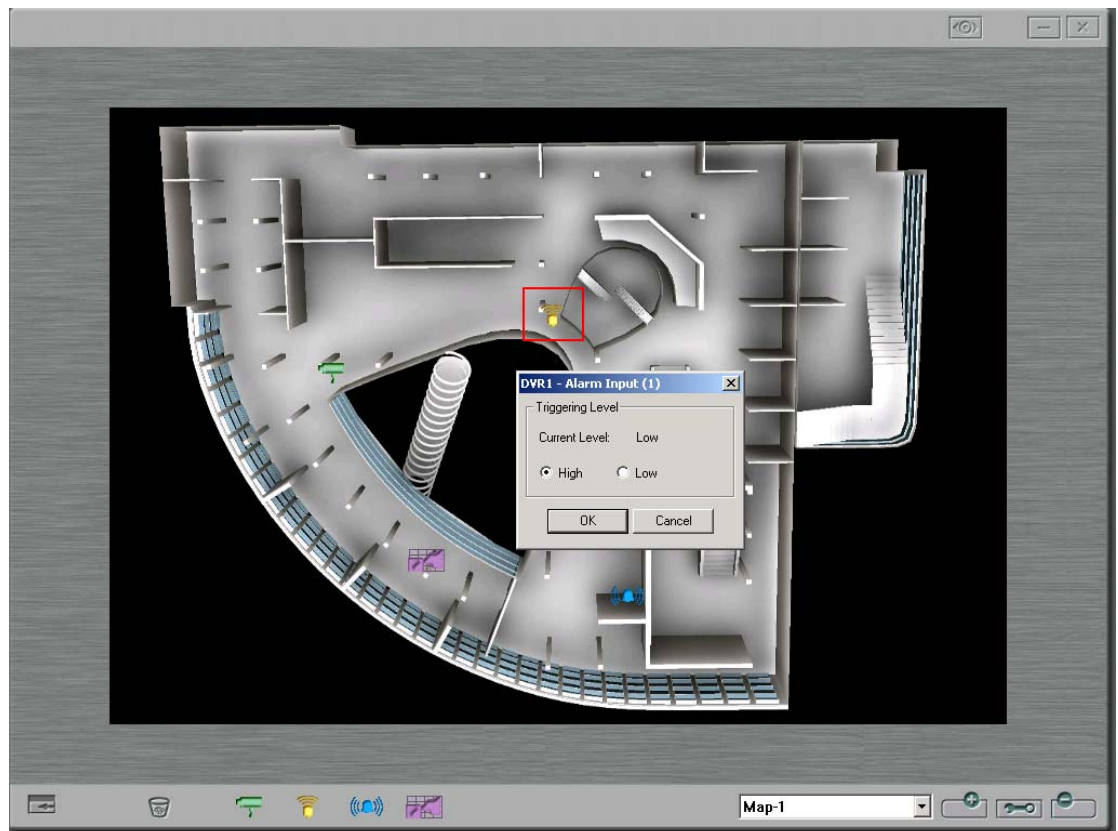
To view a monitoring camera, double click  and the monitoring page will be shown.



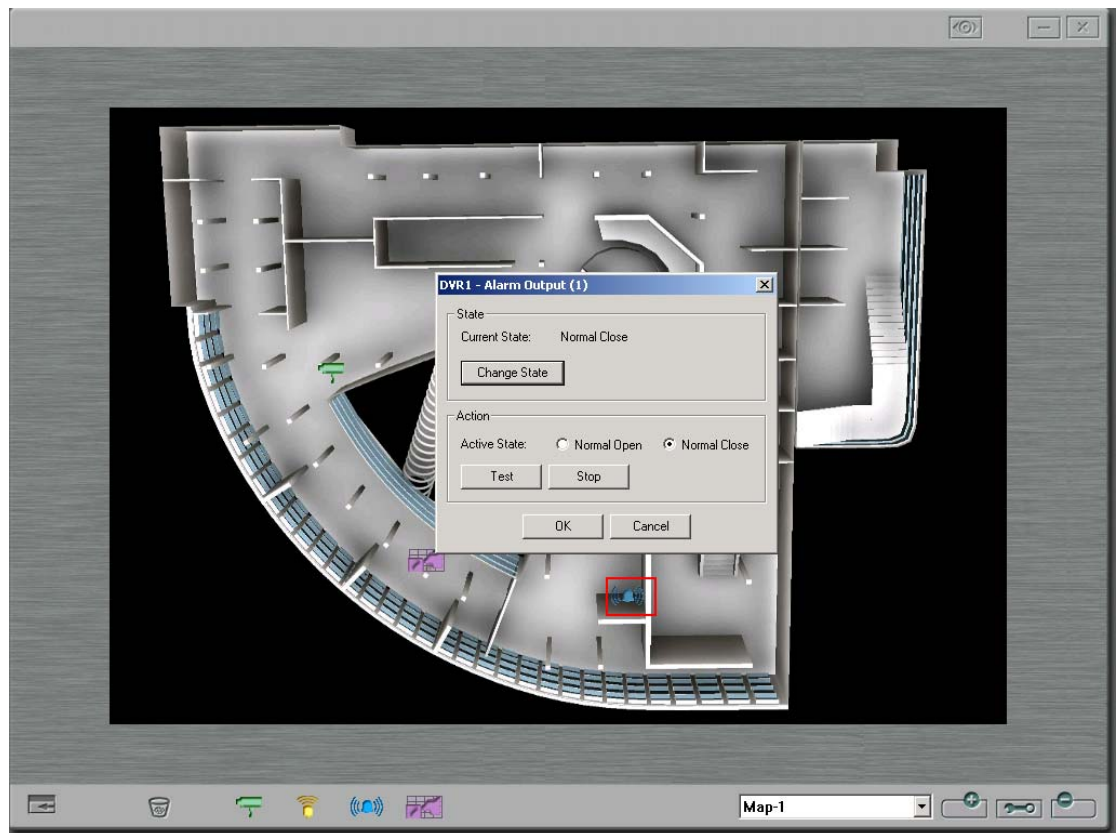
4.9 Viewing GPIO Devices Status

To view the status of GPIO devices, click  or .

Alarm Input Device




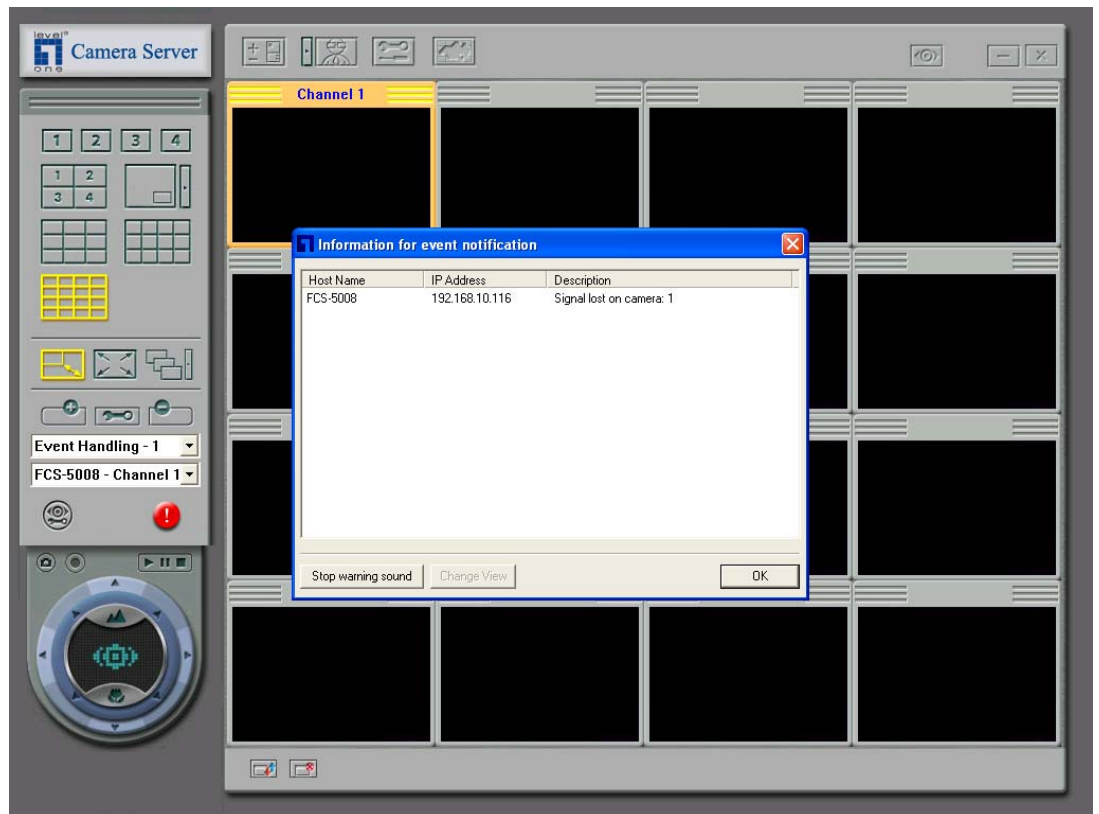
Alarm Output Device



4.10 Event Handling

Alerts from cameras or GPIO devices will be activated when an event takes place, e.g. movement of an object or disconnection of signal is

detected. A  signal will blink to alert that an event has taken place. Double click the signal to view the system message.



Appendix A: Terms and Glossary

TCP/IP (Transmission Control Protocol/Internet Protocol)

TCP/IP was originally developed by the Defense Department of the US to allow dissimilar computers to talk. Today, as many of us know, this protocol is used as the basis for the Internet. Because it must span such a large distance and cross multiple, smaller networks, TCP/IP is a routable protocol, meaning it can send data through a router on its way to its destination. In the long run, this slows things down a little, but this ability makes it very flexible for large networks

DHCP (Dynamic Host Configuration Protocol)

It's a method for assigning a permanent Internet Protocol (IP) addresses or on the fly to individual computers in an organization's network. Usually is performed by a DHCP server.

FTP (File Transfer Protocol)

This is a method of moving files from system to system using TCP/IP with FTP application.

DHCP IP

A dynamic IP address is assigned to your computer by your ISP's server so that other computer servers can find your computer when you are connected to the Internet. This IP address changes because whatever your computer reconnects to the Internet, a different IP address will be assigned to your machine.

Static IP

It is an IP address assigned to your computer permanently. It's a series of digits used to identify your computer and looks something like this: 185.182.12.4

PPPoE (Point-to-Point Protocol over Ethernet)

The Point-to-Point Protocol over Ethernet (PPPoE) feature allows a PPP session to be initiated on a simple bridging Ethernet connected to the client. The session is transported over the ATM link via encapsulated Ethernet-bridged frames. The session can be terminated at either a local exchange carrier central office or an Internet service provider (ISP) point of presence.

DNS (Domain Name System)

Domain Name System identifies each computer as a network node on the Internet using an Internet protocol address system to translate from domain name to IP address and vice-versa.

DDNS (Dynamic Domain Name System)

Dynamic DNS (DDNS) service enables clients and servers to automatically register themselves in the database without needing administrators to manually define records.

Multicast

Multicast is the technique that allows network data from a single source to be simultaneously transmitted to a selected set of destinations (this set is also called a *host group*). One main advantage of multicast is that it saves network bandwidth by sending only one copy of data over the network.

Appendix B: Registering a Dynamic Domain Name

Introduction

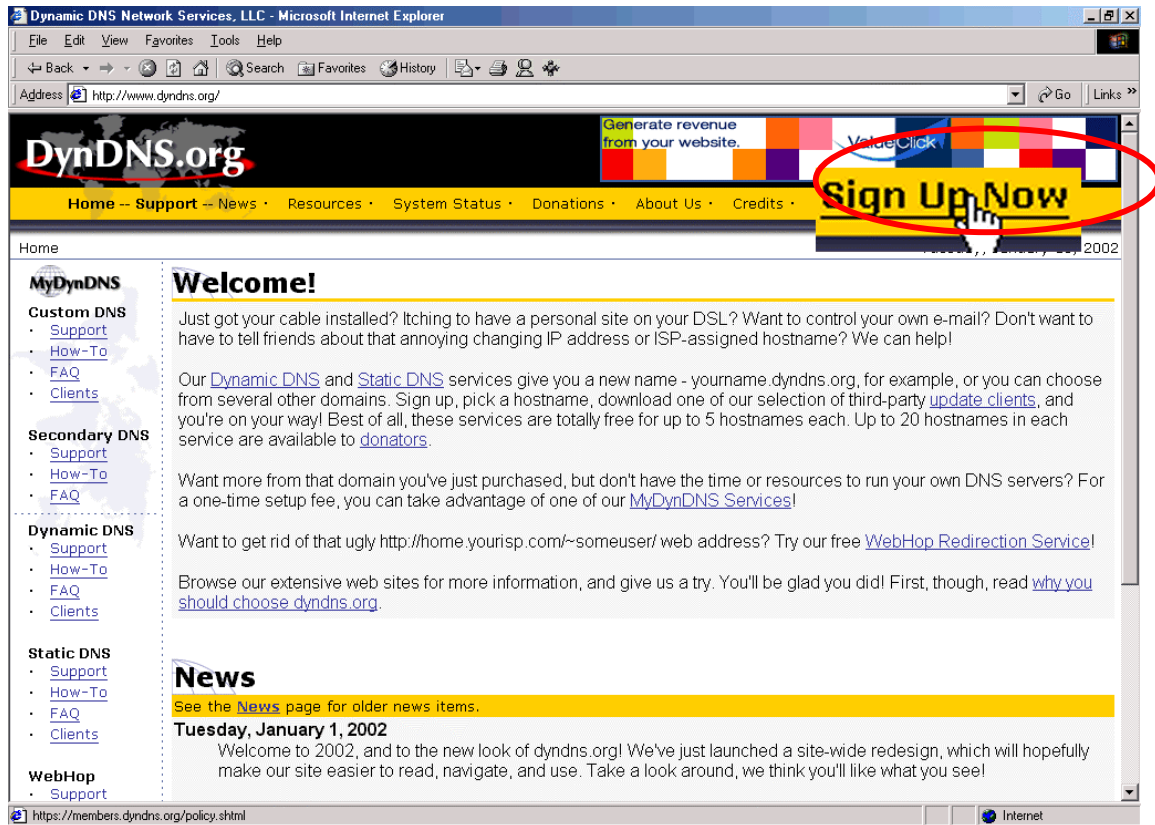
Your CamCon Camera Server supports the DDNS service provided by the following providers: DynDNS, ODS, DHS, and DyNS. For example, you can go to the web site of DynDNS (<http://www.dyndns.org/>) and register for a dynamic domain name. Configure and activate the DDNS service, then the Internet users will be able to access your CamCon Camera Server via this dynamic domain name. When the ISP assigns a new WAN IP address, CamCon Camera Server will update the new address to the DynDNS server automatically.

Registration Procedure

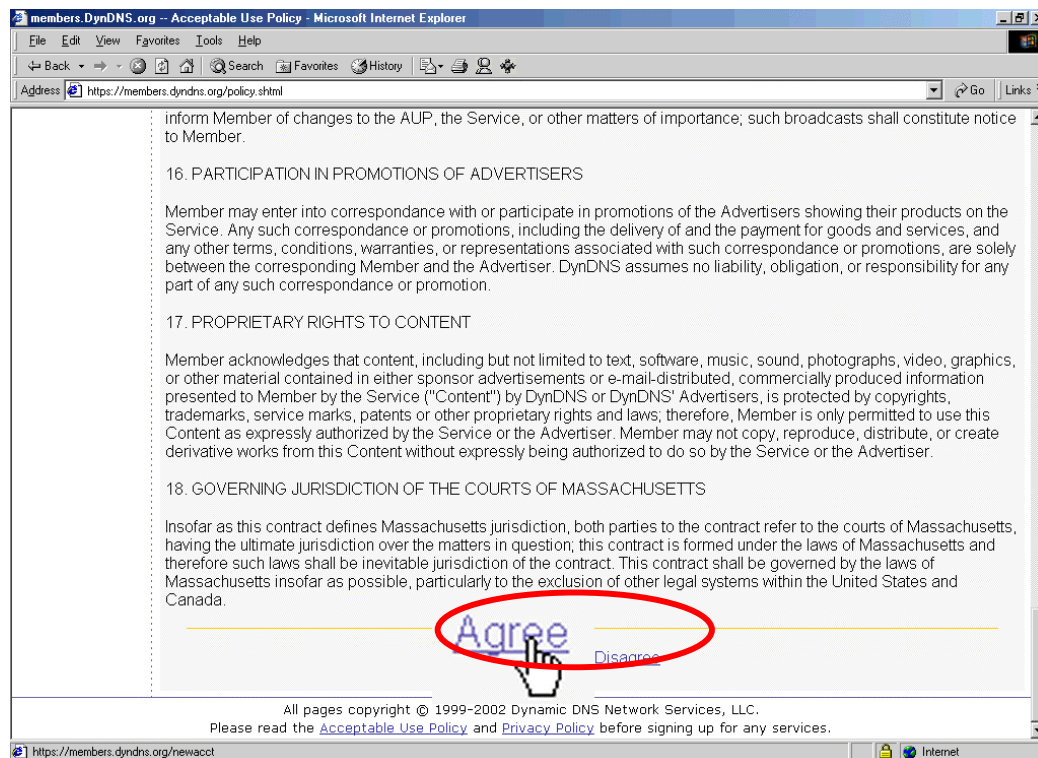
Please follow the steps below to register a dynamic domain name:

Note: This guide is for reference only. If there are any changes, please refer to the instructions or documents on the web site.

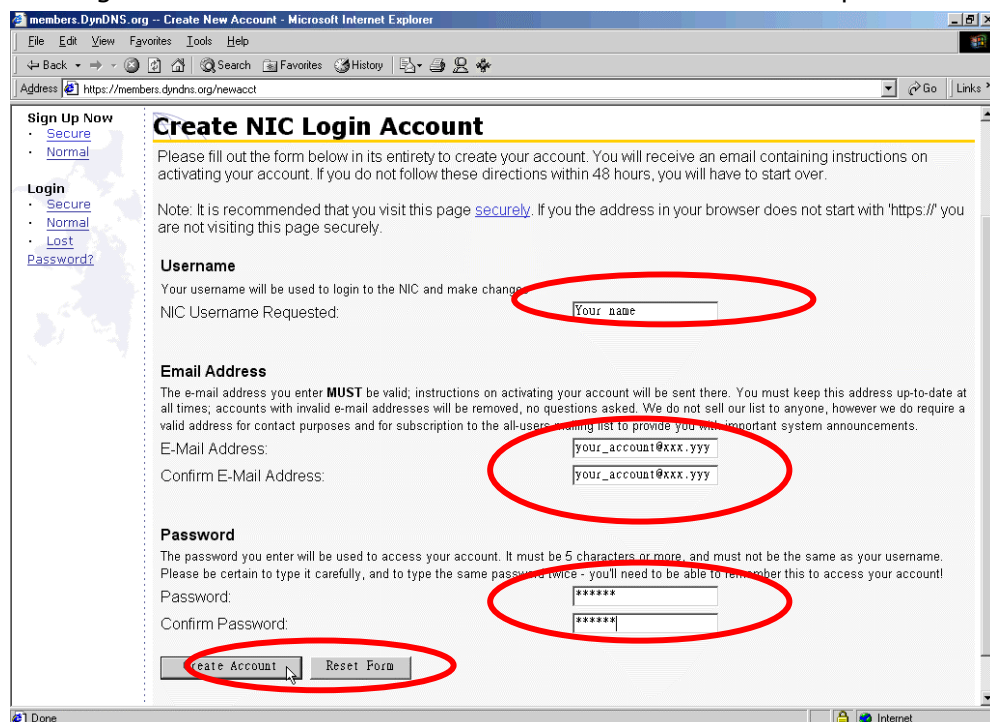
Open the browser and connect to <http://www.dyndns.org>. Click on "Sign Up Now" to begin the registration process.



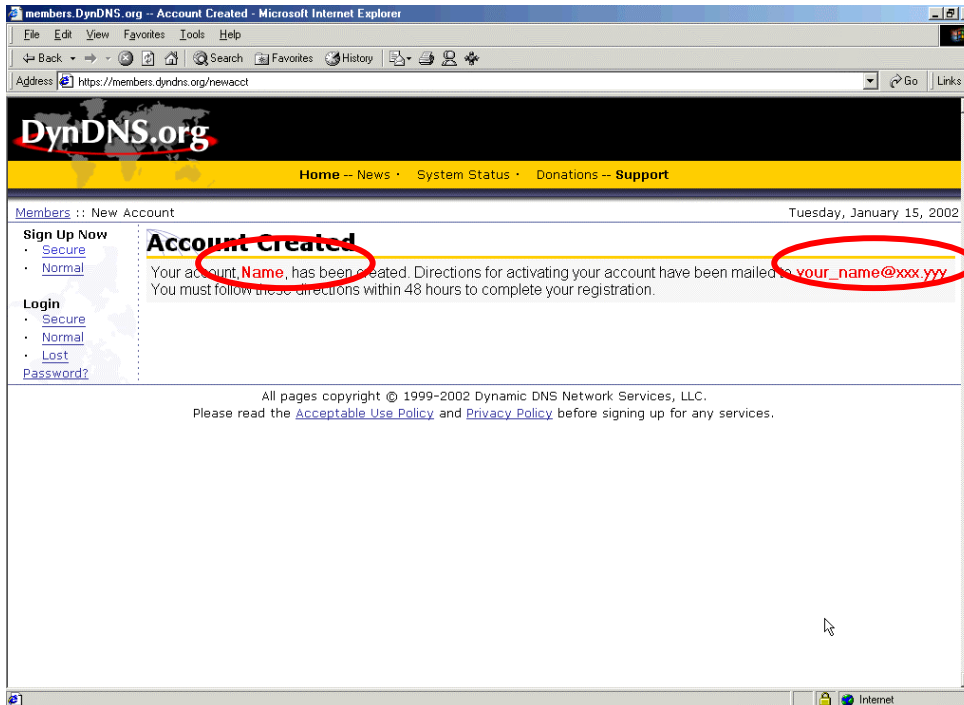
Click on "Agree" if you accept the service agreement.



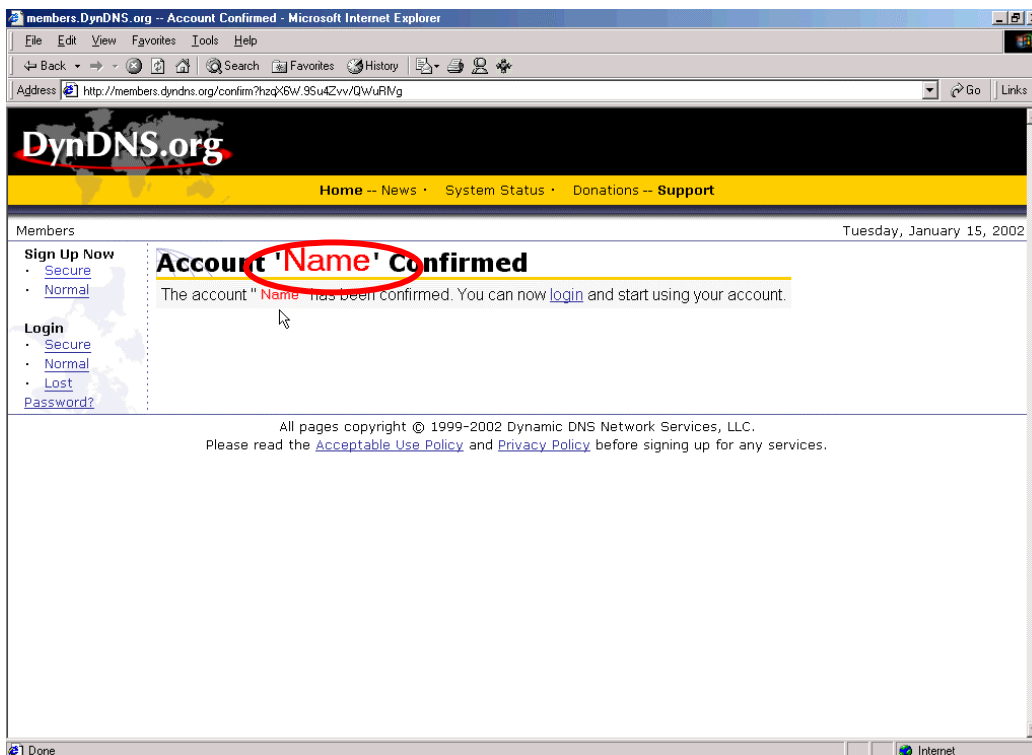
Enter the user name, email address and password to create a DDNS service account. You will need to enter the same user name and password in the **Network Settings · DDNS Service** page of the Disk On-line Server system administration. Please verify your email address to receive the confirmation message from the server. Then click on "Create Account" to proceed.



If the following web page appears on the screen, your account has been successfully created and a confirmation message has been sent to your -mail address. Please follow the instructions in the e-mail to activate your account within 48 hours.



When you have finished the process of confirmation, a new screen will appear and you can apply for your own dynamic domain name.



Appendix C: Connect a Personal Computer to the CamCon Camera Server

Please prepare a crossover Ethernet cable, and connect the computer to the server.

Please modify your PC's network settings such that your PC resides in the same subnet as the CamCon Camera Server. If the CamCon Camera Server's default network setting has not been changed, simply modify your PC's network setting to the following settings:

IP address: 192.168.0.2

Subnet Mask: 255.255.255.0

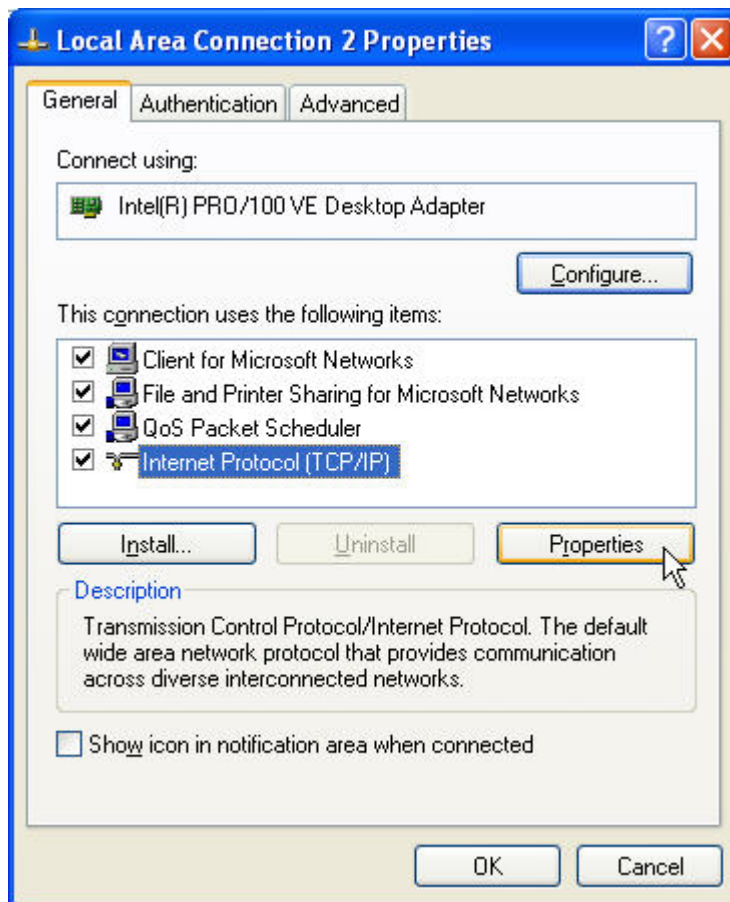
Take the **Windows XP** for example, a step-by-step instruction follows:

Right click on the "My Network Places" shortcut located on the desktop, and choose "Properties".

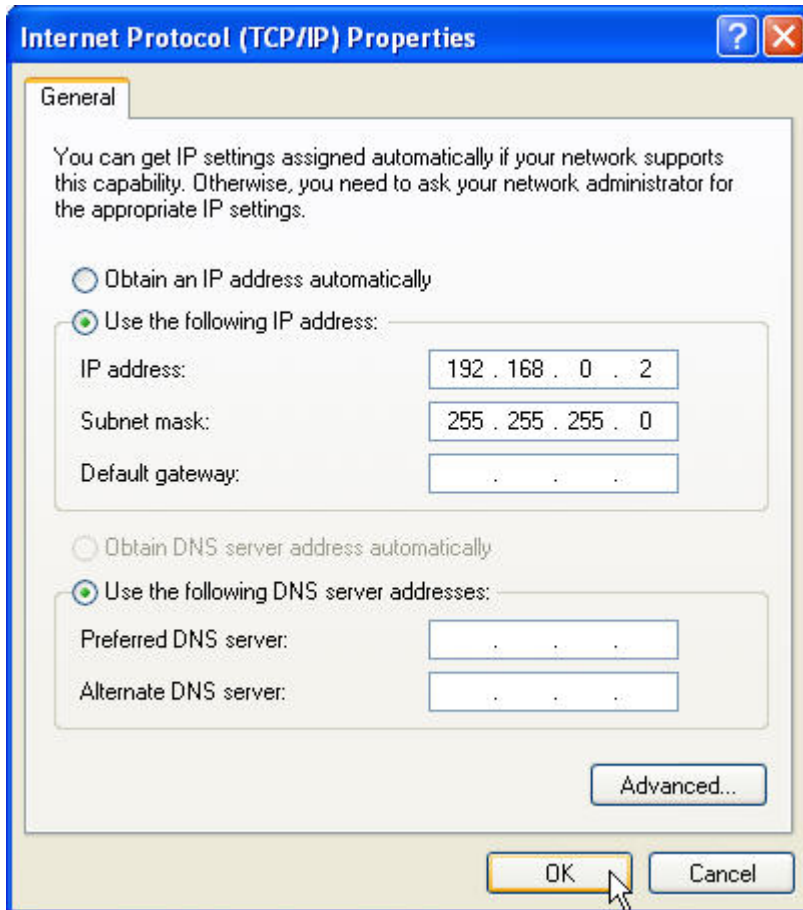


Right click on your network device, and choose "Properties".

Highlight the Internet Protocol (TCP/IP), and choose "Properties".



Setup the IP address and subnet mask fields as the following:



Restart your personal computer.

Start up your web browser (Internet Explorer), and enter 192.168.0.1 in the address bar.

If you successfully connect to the CamCon Camera Server, the web page will automatically prompt you for the user name and the password. Please enter the default user name and password:

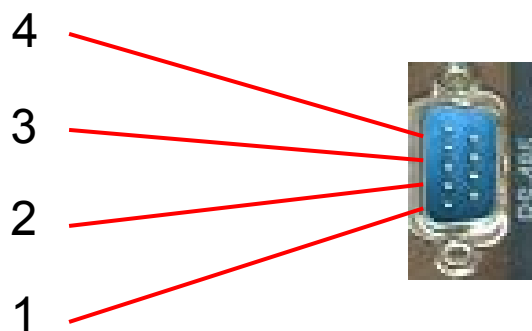
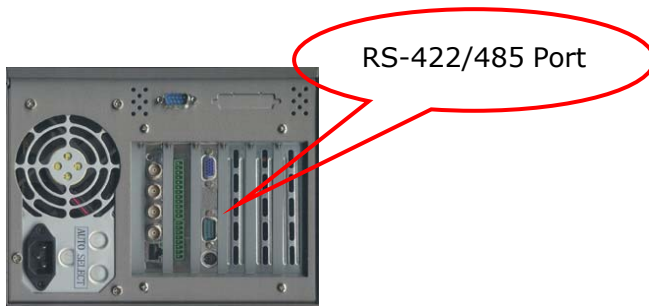
User name: administrator

Password: admin

After authentication, you will see the monitoring page.

Appendix D: Connecting with the RS-422/485Port

If you wish to connect the PTZ camera using the RS-422/485 port , you will need a cable to connect the camera to the server, and you will also need a D-type 9p connector on the server side.

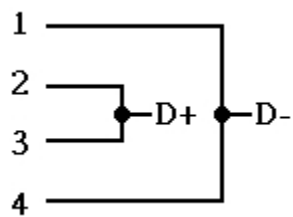


RS-422

Pin No.	Definition
1	TX -
2	TX +
3	RX +
4	RX -

RS-485

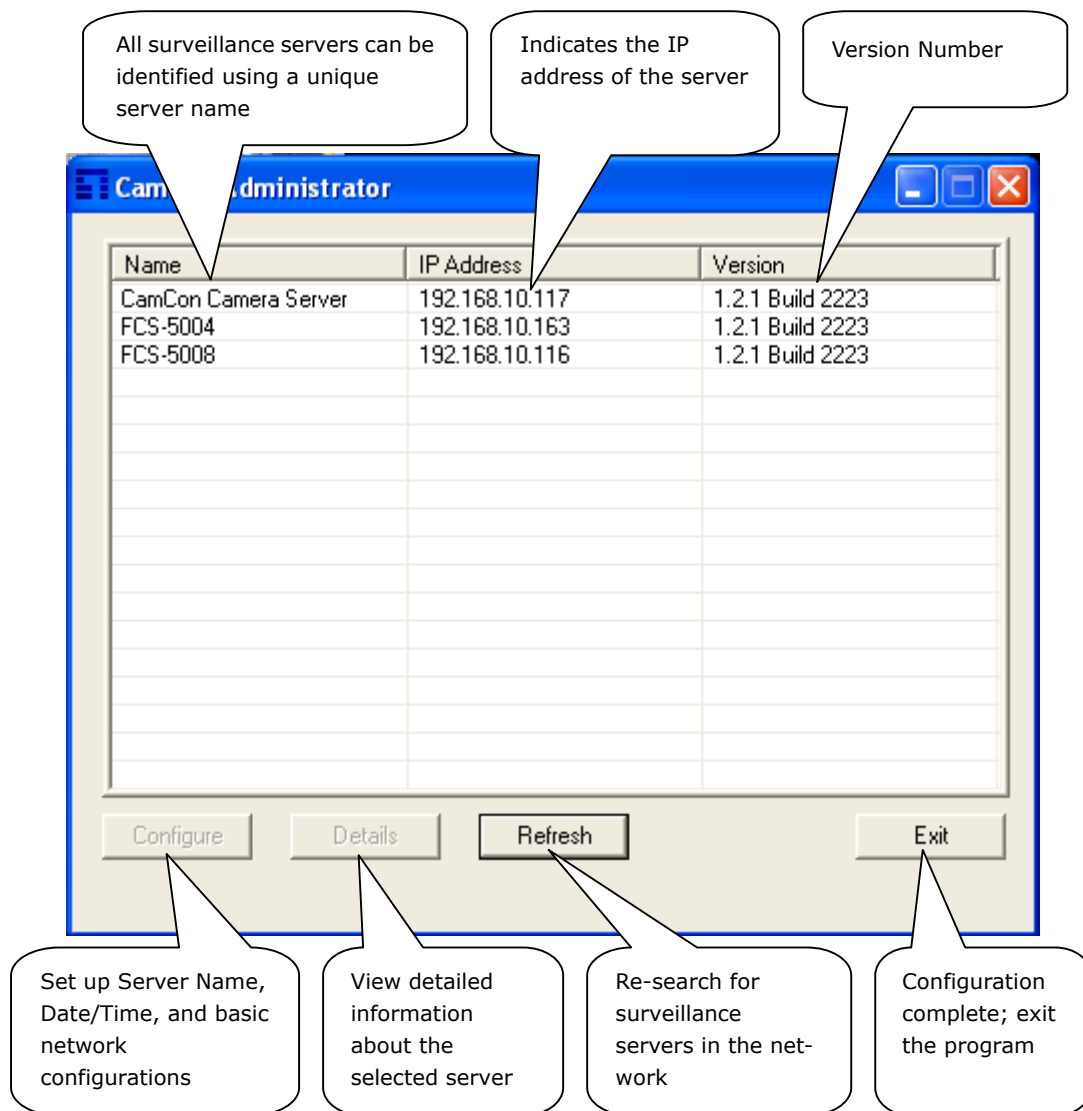
Please cross pin 2 and 3 to D+ and 1 and 4 to D- as shown in the following diagram.
You only need to connect the D+ and D- to the camera to create the connection.



Appendix E: CamCon Administrator

CamCon Administrator shows the list of the available surveillance servers within the local network and displays the basic information such as servers' names, workgroups and IP addresses. The user may also set up the server name, date/time, and basic network configuration of the surveillance server via this program.

Screenshot



Appendix F: Using CamCon Camera Server with IP Sharing Router

Configuration for the virtual server on an IP sharing router connecting to CamCon Camera Server: A fixed IP address mapping approach.

If the CamCon Camera Server FCS-5004/5008 is in the same network with an IP sharing router using one fixed IP address. Then, it can be accessed via some assigned ports of the virtual server on the IP sharing router mapping to the given ports on CamCon Camera Server. Please assign two different ports for monitoring the live video on the CamCon Camera Server and playing the recorded video files.

In this case, the following settings of the configuration for the virtual server on the IP sharing router should be reset:

- **Monitoring the live video**

The user can assign any available port on the IP sharing router to map to the port 80 on the CamCon Camera Server.

- **Playing the recorded video files**

The user can assign only the port 21 on the IP sharing router to map to the port 21 on the CamCon Camera Server.