Network Camera

ALL2200 Network Camera

ALL2210 Wireless Network Camera

User's Guide

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Chapter 1
Introduction

1

This Chapter provides details of the Network Camera's features, components and capabilities.

Overview

The Network Camera has an Integrated Microcomputer and a high quality CMOS digital-Image-Sensor, enabling it to display high quality live streaming video over your wired LAN, the Internet, and for the ALL2210, an 802.11g Wireless LAN.

Using enhanced MPEG-4 technologies, the Network Camera is able to stream high quality video and audio directly to your PC. The high compression capabilities of MPEG-4 reduce network bandwidth requirements to amazingly low levels.

A convenient and user-friendly Windows program is provided for both viewing and recording video. If necessary, you can even view video using your Web Browser, on a variety of software platforms.
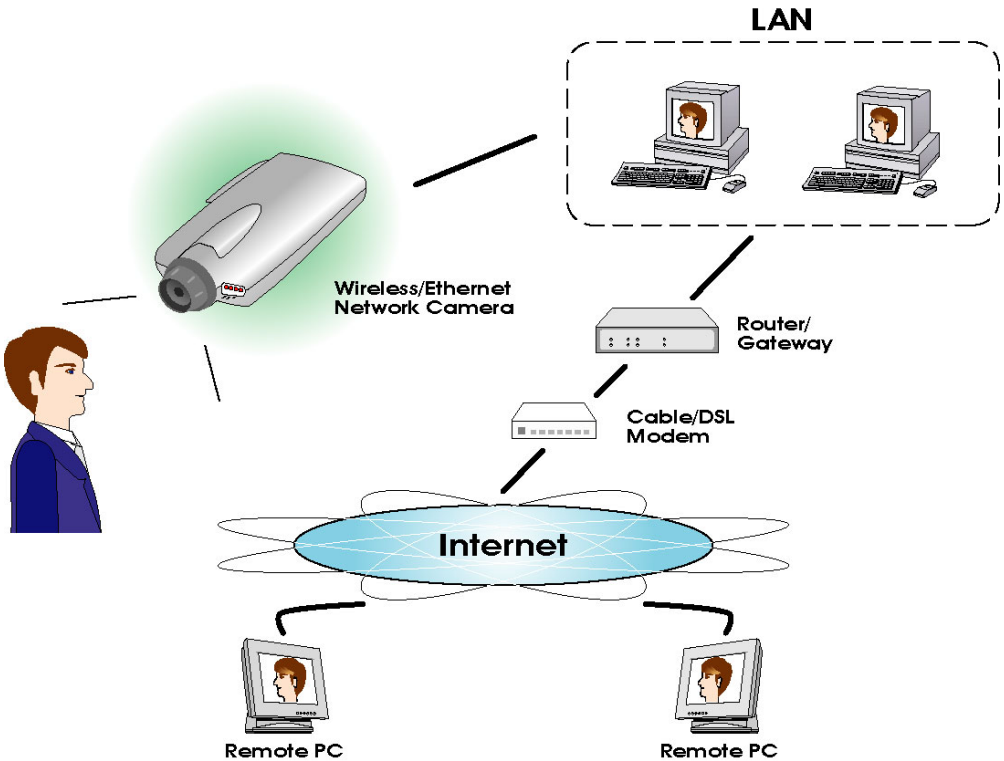

Figure 1: Network Camera

Features

- **Standalone Design.** The Network Camera is a standalone system with built-in CPU and Video encoder. It requires only a power source and a connection to your LAN or Wireless LAN.

- **Suitable for Home, Business or Public Facilities**. Whether for Home, Business or Public Facility surveillance, or just for entertainment and fun, the Network Camera has the features you need.

- **Multi-Protocol Support.** Supporting TCP/IP networking, SMTP (E-mail), HTTP and other Internet related protocols, the Network Camera can be easily integrated into your existing network.

- **Easy Configuration.** A Windows-based Wizard is provided for initial setup. Subsequent administration and management can be performed using a standard web browser. The administrator can configure and manage the Network Camera via the LAN or Internet.

- **Viewing/Recording Utility.** A user-friendly Windows utility is provided for viewing live video. For periods when you are absent, or for scheduled recording, this application also allows you to record video to an ASF file on your PC. The recorded files are in a standard Windows Media format, and thus usable by a wide variety of programs if required.

- **Motion Detection.** This feature will send you an E-mail when motion is detected. The Network Camera will compare consecutive frames to detect changes caused by the movement of large objects. This function only works indoors due to the sensitivity of the CMOS sensor. If desired, a short video can be included as an attachment to the E-mail.

- **Audio Support.** You can listen as well as look! Audio is included with the video if desired. You can use either the built-in microphone or an external microphone.

Internet Features

- **User-definable HTTP port number**. This allows Internet Gateways to use "port mapping" so the Network Camera and a Web Server can share the same Internet IP address.

- **DDNS Support.** In order to view video over the Internet, users must know the Internet IP address of the gateway used by the Network Camera. But if the Gateway has a dynamic IP address, DDNS (Dynamic DNS) is required. Since many existing Gateways do not support DDNS, this function is incorporated into the Network Camera.

- **NTP (Network-Time-Protocol) Support.** NTP allows the Network Camera to calibrate its internal clock from an Internet Time-Server. This ensures that the time stamp on Video from the Network Camera will be correct.

Security Features

- **User Authentication.** If desired, access to live video can be restricted to known users. Users will have to enter their username and password before being able to view the video stream. Up to 20 users can be entered.

- **Password-Protected Configuration**. Configuration data can be password protected, so that it only be changed by the Network Camera Administrator.

Wireless Features (ALL2210 only)

- **Standards Compliant.** The Wireless Router complies with the IEEE802.11g (DSSS) specifications for Wireless LANs.
- **Supports both 802.11b and 802.11g Wireless Stations.** The 802.11g standard provides for backward compatibility with the 802.11b standard, so both 802.11b and 802.11g Wireless stations can be used simultaneously.
- **Speeds to 54Mbps.** All speeds up to the 802.11g maximum of 54Mbps are supported.
- **Wired and Wireless Network Support.** The ALL2210 supports both wired and wireless transmission.
- **WEP Support**. Full WEP support (64/128 Bit) on the Wireless interface is provided.
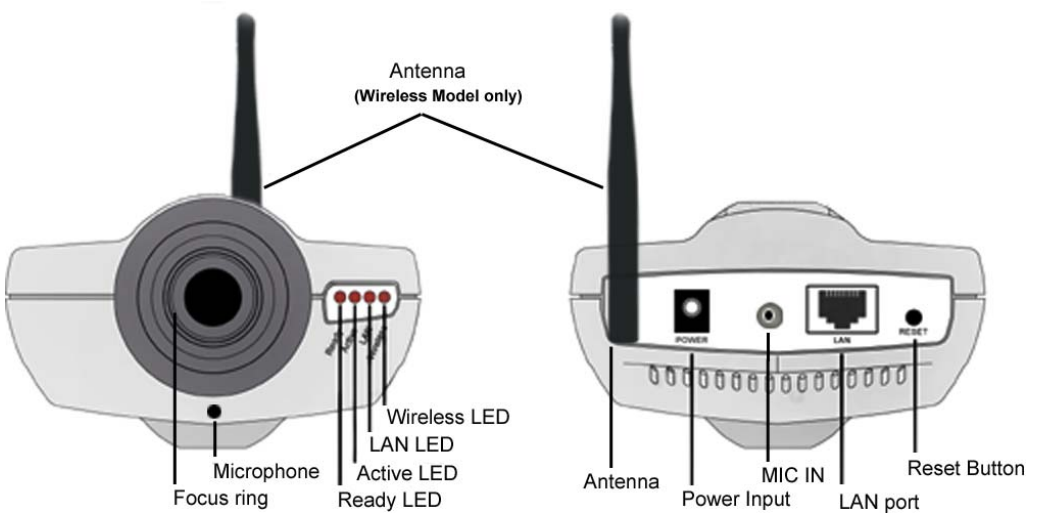
Physical Details

Figure 2: Network Camera

Front Panel

Focus Ring	Normally, it is not necessary to adjust the focus. The default focus range is from 1 meter (3 feet) to infinity. If the image is not clear, try adjusting the focus.
Microphone	The built-in microphone is mounted on the front. There is also a connection for an external microphone on the rear. Connecting an external microphone will disable the built-in microphone.
Ready LED	**On** - Power on.
	Off - No power.
	Blinking - The *Ready* LED will blink during start up. This will take 15 to 20 seconds.
Active LED	**Off** - Idle.
	Blinking - Network Camera is providing a live video stream to at least one viewer.

LAN LED	**On** - LAN port is connected to a hub or switch.
	Off - LAN port is not connected.
	Blinking - Data is being transmitted or received via the LAN port.
Wireless LED	**(ALL2210 only)**
	On - Wireless interface is active.
	Off - Wireless interface is not available.
	Blinking - Data is being transferred via the Wireless interface.

Rear Panel

Antenna	Attach the supplied antenna here. The antenna is adjustable; best results are usually obtained with the antenna positioned vertically.
Power Input	Connect the supplied power adapter here.
MIC In	If required, an external microphone can be attached here. Attaching a microphone here will disable the built-in microphone on the front. Microphones designed to be used with PCs are usually compatible with this microphone input.
LAN port	Use a standard LAN cable to connect your Network Camera to a 10/100BaseT hub or switch. **Note:** On the ALL2210, attaching the LAN cable will disable the Wireless interface. Only 1 interface can be active at any time.
Reset Button	This button has two (2) functions:

- **Restore Default IP Address**. When pressed and released, the Network Camera will reset its IP address to the default value of 192.168.0.99.

- **Restore Default IP Address, Administrator ID, and Administrator password**. When pressed and held or 3 seconds, the *IP address*, *Administrator ID*, and *Administrator Password* settings will be set to their default values.
  - IP address: 192.168.0.99
  - Administrator ID: administrator
  - Administrator Password: null (no password)

Note:

After this procedure is completed, the *Ready* LED will blink three times to confirm that the reset was completed successfully.

Package Contents

The following items should be included: If any of these items are damaged or missing, please contact your dealer immediately.

1. The Network Camera
2. Installation CD-ROM
3. Quick Installation Guide
4. Power adapter
5. Base, Stand and Swivel Connector
6. Extender Unit
7. Mounting Screws
8. Antenna (ALL2210 only)

1. Camera Unit

Ethernet Network Camera
2200

Wireless Network Camera
2210

2. Installation CD
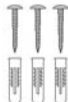
3. Quick Installation Guide

4. Power Adapter

5. Base, Stand and Swivel Connector

6. Extender Unit
(For wall mounting)

7. Mounting Screws

8. Antenna

(Wireless Model only)

Chapter 2
Basic Setup

2

This Chapter provides details of installing and configuring the Network Camera.

System Requirements

- To use the LAN interface, a standard 10/100BaseT hub or switch and network cable is required.
- To use the Wireless interface on the ALL2210, other Wireless devices must be compliant with the IEEE802.11b or IEEE802.11g specifications. All Wireless stations must use compatible settings.
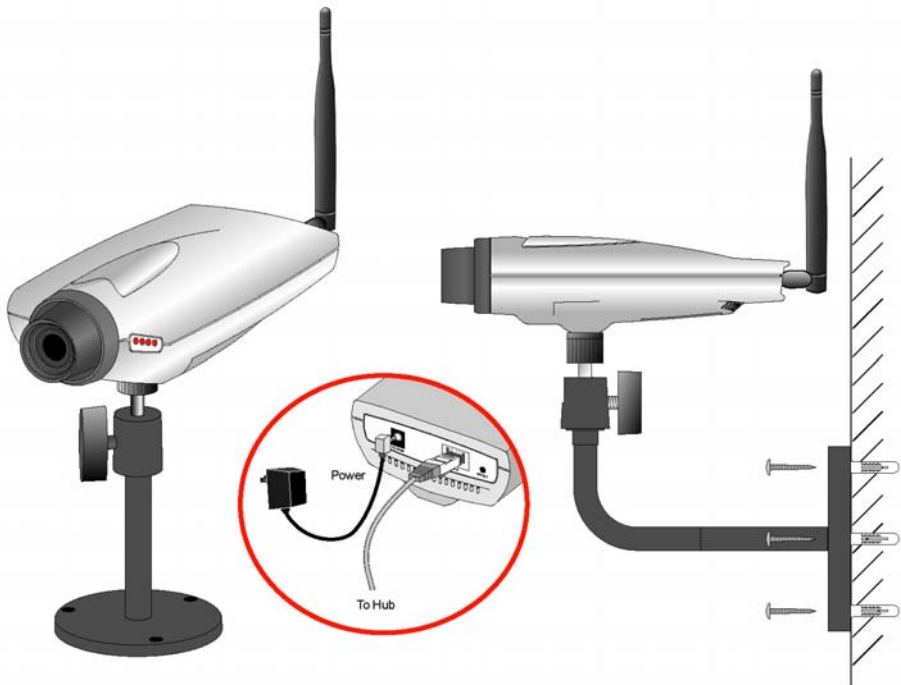
Installation

Figure 3: Network Camera Installation

1. Mount the Camera on the supplied Base and Stand.

For the ALL2210, screw the supplied antenna to the mounting point on the rear.

Join the Base, stand and swivel connector to the camera, as shown in the diagram above.

2. Connect the LAN Cable

Connect the Network Camera to a 10/100BaseT hub or switch.

3. Adjust the Antenna

On the ALL2210, screw the antenna to the rear mounting point, and set the antenna to the upright position to improve wireless reception.

4. Power Up

Connect the supplied power adapter to the Network Camera and power up. Use only the power adapter provided. Using a different one may cause hardware damage.

4. Check the LEDs

- The *Ready* LED will turn on briefly, then start blinking. It will blink during startup, which takes 15 to 20 seconds.
  After startup is completed, the *Ready* LED should remain ON.
- The *Active* LED should be OFF.
  It will flash when anyone is viewing live video.
- Either the *LAN* LED OR the *Wireless* LED should be ON.

For more information, refer to *Front Panel* in Chapter 1.

Setup

Initial setup should be performed using the supplied Windows-based setup Wizard. This program can locate the Network Camera even if its IP address is invalid for your network. You can then configure the Network Camera with appropriate TCP/IP settings for your LAN.

Subsequent administration can be performed with your Web browser, as explained in *Chapter 3 - Web-based Administration*.

Setup Procedure

1. Insert the supplied CD-ROM into your drive. If the setup program does not start automatically, run **Netcam_Setup.exe** in the root folder.

    *   You will see the *Welcome* screen shown below.
    *   Click the *Setup* button to start the setup Wizard

Figure 4: Welcome Screen

2. The next screen, shown below, will list all the Network Cameras on your LAN.
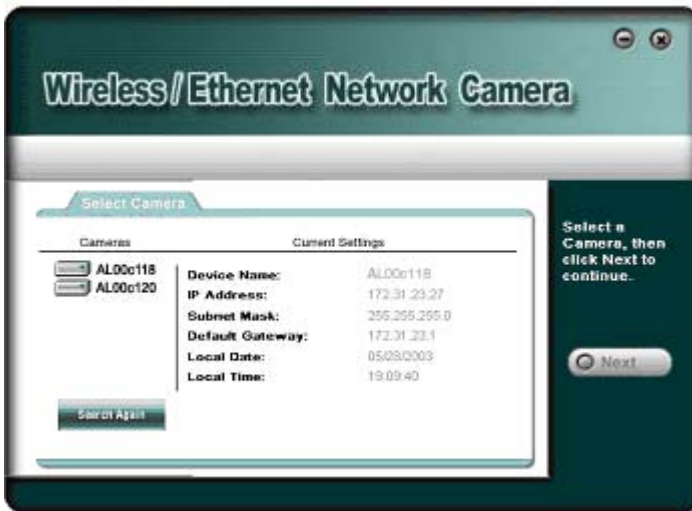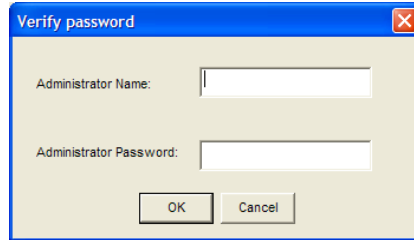

Figure 5: Camera List Screen

- Select the desired Camera from the list on the left. The current settings for the selected Camera will be displayed in the table on the right.
- Click *Next* to continue.

3. If the *Administrator ID* and *Password* have been set, you will be prompted to enter them, as shown below.

   - If using the default values, enter **administrator** for the name, and leave the password blank.

   - Otherwise, enter the *Administrator ID* and *Password* set on the *User* screen.
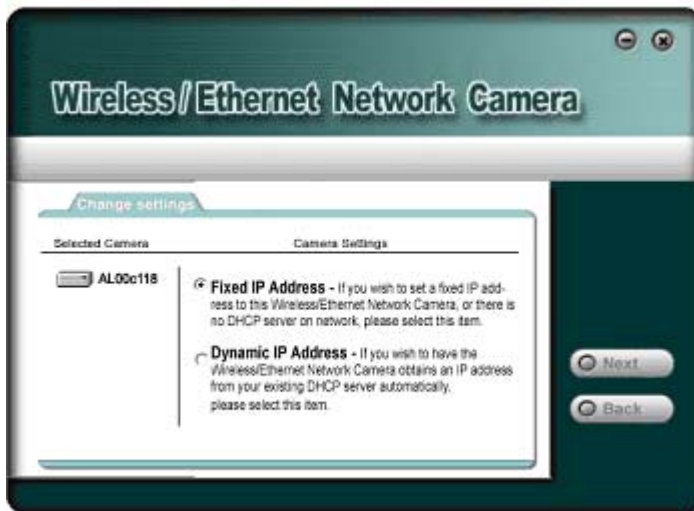
Figure 6: Password Dialog

The Administrator ID and password can be set on the "User" screen of the Web interface. The Web interface can be accessed via the "Web UI" button on the final screen of the Wizard.

4. On the following TCP/IP screen, shown below, choose *Fixed IP* or *Dynamic IP*.

Figure 7: Fixed or Dynamic IP Selection

- *Fixed IP* is recommended, and can always be used.
- *Dynamic IP* can only be used if your LAN has a DCHP Server.

   Click *Next* to continue.

5. If you chose *Fixed IP Address*, the following **TCP/IP Settings** screen will be displayed.

Figure 8: TCP/IP Settings

- Enter an unused **IP Address** from within the address range used on your LAN.

- The **Subnet Mask** and **Default Gateway** fields must match the values used by PCs on your LAN.

- The **Primary DNS** address is required in order to use the E-mail alert or Dynamic DNS features. Enter the DNS (Domain Name Server) address recommended by your ISP.

- The **Secondary DNS** is optional. If provided, it will be used if the Primary DNS is unavailable.

Click *Next* to continue.

6. For Wireless cameras, the following **Wireless Settings** screen is displayed next.

Figure 9: Wireless Settings

- **Mode** - If you have an Access Point, select *Infrastructure*. Otherwise, select *Ad-hoc*.

- **Authentication Type** - Select the value used on your LAN.

- **ESSID** - Enter the value used by your other Wireless devices.

- **Domain** - Select the domain to match your location.

- **Channel** - For *Ad-hoc* mode, select the channel used by your other Wireless devices. (For Infrastructure mode, the Access Point determines the channel used.)

7. Click *Next* to continue to the **WEP Key Settings** screen, shown below.

Figure 10: WEP Key Settings

- **WEP Encryption** - Select the option used on your Wireless LAN.
- **Keys** - If using WEP, the default key must match the key used on your other Wireless stations. The other keys are optional.
  You can enter the key value directly, or generate a key by entering a string into the **Passphrase** field, and clicking the **Generate** button.

Click *Next* to continue to the following screen.

8. This screen allows you to enter a suitable **Description**, and set the correct **Time Zone**, **Date**, and **Time**. Make any desired changes, then click *Next* to continue.

Figure 11: Camera Settings

9. The next screen, shown below, displays all details of the Network Camera.
   - Click *Save* if the settings are correct

- Click *Back* to modify any incorrect values.
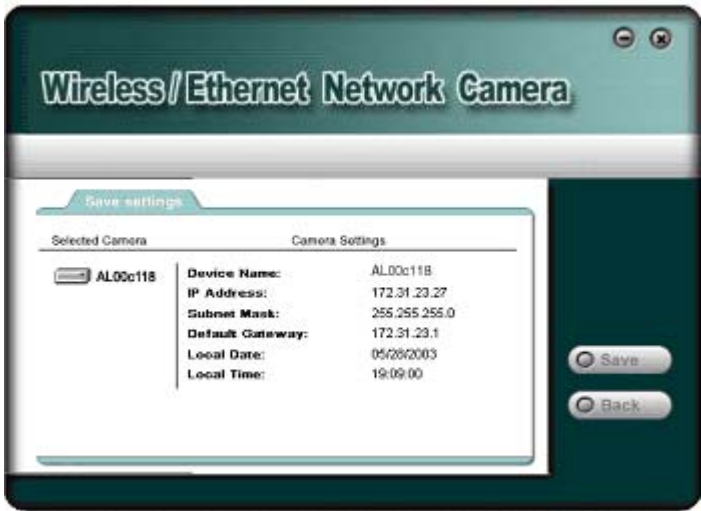
Figure 12: Save Settings

10. After clicking *Save*, you will see the screen below.

Figure 13: Final Screen

If desired, you can click the *Web UI* button to connect to the camera using your Web Browser.

11. Click *Exit* to end the Wizard.
    Setup is now complete.

Advanced Viewing Setup

3

This Chapter provides information about the optional settings and features for viewing video via the Network Camera. This Chapter is for Administrators only.

Introduction

After finishing setup via the Windows-based Wizard, the Network Camera can immediately be used by all users on your LAN.

Refer to *Chapter 5 - Viewing & Recording* for details on viewing and recording live video.

This chapter describes some additional settings and options for viewing live Video:

- Adjusting the video image
- Controlling user access to the live video stream
- Making video available from the Internet
- Using the *Motion Detection/E-mail* feature

Adjusting the Video Image

If necessary, the Network Camera Administrator can adjust the Video image. Settings are provided for:

- **Image size** - Select the desired size. The larger sizes require greater bandwidth.
- **Image quality** - This determines the degree of compression applied to the Video stream. Higher quality requires greater bandwidth.
- **Power Line frequency** - Select 50Hz or 60Hz power line frequency, as used in your region. The correct setting will improve the picture quality under florescent lighting.
- **Exposure** - Adjust the brightness of the image, if the *Auto-Exposure* does not give satisfactory results.
- **Color Adjustment** - Red, Green, Blue intensity can be adjusted.
- **Image Rotation** - If enabled, the image is rotated 180°. This is useful if the camera is mounted upside-down on the ceiling.
- **Time Stamp** - If enabled, the time will be displayed on the Video image.
- **Text Overlay** - If enabled, up to 20 characters can be superimposed on the Video image. This is useful for identifying the camera.
- **Audio** - If desired, audio can be included in the video stream.

To Adjust the Video Image:

1. Connect to the Web-based interface of the Network Camera. (See *Chapter 4 - Web-based Management* for details.)
2. On the *Administration* menu, select *Image*. You will see a screen like the example below.

Figure 14: Image Screen

3. Make the required adjustments, as explained below, and save your changes.

Video Settings	
Resolution	Select the desired video resolution. The default resolution is set to 320*240.
Image Quality	Select the desired image quality. The default Image Quality is set to Normal. Note: Higher image quality requires more bandwidth.
Power line frequency	Select the power line frequency (50Hz or 60Hz) used in your region, to improve the picture quality under florescent lighting.
Adjustment	
Brightness	Select *Automatic* or *Manual*. The default is set to Automatic in which the camera will automatically adjust the brightness based on the current environment. Select Manual, if you want to adjust the brightness manually. You can then enter the desired value.
Red, Green, Blue	Adjust these color settings to the preferred values. Note: When *Automatic is selected*, this setting will not take effect.
Default Button	Clicking this will set all the *Adjustment* fields to their default values. You must click "Apply" to save these changes.

Options	
Image Rotation	This option should be used if the camera is mounted upside-down on the ceiling. In this situation, enable this check box to rotate the Video image to the correct orientation.
Time Stamp	Enable the check box if you want the time to be displayed on the Video image.
Text Display	If you want text to be displayed on the Video image, enable this feature by checking the checkbox. You can enter text up to 20 characters. This feature is often used to identify camera when multiple camera are installed.
Audio	If you want audio to be included with the video, enable this option. Some bandwidth will be allocated to the audio stream. In some situations, this may affect the quality of the video.

Controlling User Access to the Video Stream

By default, all users can connect to the Network Camera and view live Video.

If desired, you can limit access to known users, by requiring each user to login to the Network Camera with their individual username and password.

To Enable this feature:

1. Connect to the Web-based interface of the Network Camera. (See *Chapter 4 - Web-based Management* for details.)
2. On the *Administration* menu, select *User.*
3. Select the setting *Allow access by Only users in database*, as shown below.

Figure 15: User Screen

4. To add users to the database, click the *Add* button, and enter the name and password for each user.

Operation

- When each user connects, they will be prompted for their username and password. They must enter the name and password defined on the User screen above.
- If using the Windows Viewing/Recording utility, the username and password can be entered into the program, so that users do not need to provide the login data each time.

Making Video available from the Internet

If your LAN is connected to the Internet, typically by a Broadband Gateway/Router and Broadband modem, you can make the Network Camera available via the Internet.

Network Camera Setup
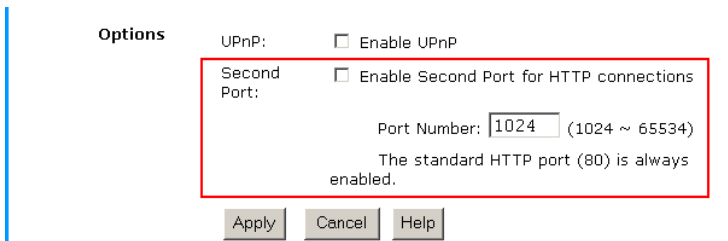
The Network Camera configuration does NOT have be changed, unless:

- You wish to change the port number from the default value (1024).
- You wish to use the DDNS (Dynamic DNS) feature of the Network Camera.

Second Port Configuration

Normally, HTTP (Web) connections use port 80. Since the Network Camera uses HTTP, but port 80 is likely to be used by a Web Server, you can use a different port for the Network Camera. This port is called the "Second Port". (The first port is port 80.)

The default "Second Port" number is 1024. If you prefer to use a different port number, you can specify the port number on the Network Camera's *Network* screen, as shown below.

Figure 16: Network Screen

The *Network* screen is part of the Web-based Administration interface. See ***Chapter 4 - Web-based Management*** for further details on using this interface.

> **Viewers need to know this port number in order to connect and view live Video, so you must inform viewers of the current port number.**

DDNS (Dynamic DNS)

Many internet connections use a "Dynamic IP address", where the Internet IP address is allocated whenever the Internet connection is established.

This means that other Internet users don't know the IP address, so can't establish a connection.

DDNS is designed to solve this problem, by allowing users to connect to your LAN using a domain name, rather than an IP address.

To use DDNS:

1. Register for the DDNS service with a supported DDNS service provider. You can then apply for, and be allocated, a Domain Name.
2. Enter and save the correct DDNS settings on the *Network* screen of the Network Camera.

Figure 17: DDNS Settings - Network Screen

3. Operation is then automatic:

   - The Network Camera will then automatically contact the DDNS server whenever it detects that the Internet IP address has changed, and inform the DDNS server of the new IP address.

   - Internet users can then connect to your LAN using the Domain Name allocated by the DDNS service provider.

Router/Gateway Setup

Your Router or Gateway must be configured to pass incoming TCP (HTTP) connections (from Viewers) to the Network Camera. The Router/Gateway uses the *Port Number* to determine which incoming connections are intended for the Network Camera.

This feature is normally called *Port Forwarding* or *Virtual Servers*, and is illustrated below. The Port Forwarding/Virtual Server entry tells the Router/Gateway that incoming TCP connections on port 1024 should be passed to the Network Camera. If necessary, check the user manual for your Router/Gateway for further details.
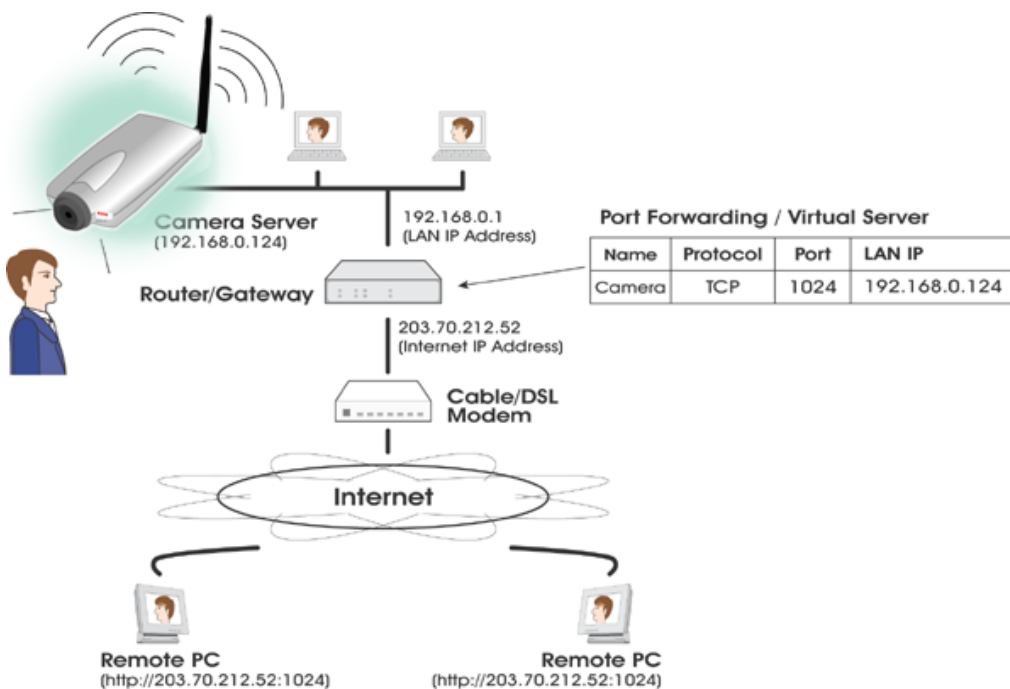
Figure 18: Connecting via the Internet

> **The "Port" for the *Port Forwarding / Virtual Server* entry above is the "Second Port" number specified on the *Network* screen of the Network Camera.**

Viewing via the Internet

Clients (viewers) will also need a broadband connection; dial-up connections are NOT recommended.

Using the Windows Viewing/Recording Utility

If using the Windows Viewing/Recording Utility, the details of the Network Camera must be entered on the *Internet* tab of the *Add Camera* screen.

Figure 19: Add Camera from Internet

You can then select the camera in the *Cameras* list on the main screen, and click *View* to establish a connection and view live video.

See *Chapter 5 - Viewing and Recording* for full details on using the Windows Viewing/Recording utility.

Using your Web Browser

If using your Web browser, you need to know the address of the camera (either the Internet IP address or the Domain name) and the correct port number.

Enter the address of the Network Camera, and its port number, in the *Address* (or *Location*) field of your Browser.

Example - IP address:

        HTTP://203.70.212.52:1024

Where the Router/Gateway's Internet IP address is `203.70.212.52` and the "Second Port" number on the Network Camera is `1024`.

Example - Domain Name:

        HTTP://mycamera.dyndns.tv:1024

Where the Router/Gateway's Domain name is `mycamera.dyndns.tv` and the "Second Port" number on the Network Camera is `1024`.

See *Chapter 5 -Viewing and Recording* for further details of viewing Video using either the Windows Viewing/Recording utility or your Web Browser.

Motion Detection/E-mail Alerts

The *Motion Detection* feature will capture a short video and send it to your E-mail address when motion is detected.

The Network Camera will compare consecutive frames to detect changes caused by the movement of large objects.

But the motion detector can also be triggered by:

- Sudden changes in the level of available light
- Movement of the camera itself.

Try to avoid these situations. The motion detection feature works best in locations where there is good steady illumination, and the camera is mounted securely. It cannot be used outdoors due to the sensitivity of the CMOS sensor.

To Use Motion Detection/E-mail Alert

Using the Web-based interface on the Network Camera, select the *E-mail* screen, then configure this screen as described below.

Figure 20: Motion Detection/E-mail Alert

1. Check the box *Send E-mail Alert when Motion Detected*.
2. Enter at least one (1) E-mail address

3. In the **Show "From" as** field, enter the E-mail address you wish to display as the sender, when you receive the mail. This should be a genuine E-mail address, otherwise spam filters may block your mail.

4. Enter a suitable *Subject* for the E-mail.

5. Enter the address of the SMTP Server in the *Outgoing Mail SMTP Server* field.
    If the SMTP Server requires a "login" in order to send mail, check the box *My Mail Server Requires Authentication* and enter your login name and password.

6. In the E-mail Video section, select the desired options

    - **Delay between E-mails** is used to prevent your E-mail inbox being flooded with E-mails. Select the desired time interval.

    - **Motion Sensitivity** determines how readily the motion detection sensor is activated. You can select the sensitivity, and also select the areas of the image to be examined. **Note**: You must select at least one area. If you don't, the motion detection will never be triggered, and no E-mail alerts will ever be sent.

7. In the **E-mail Video** section, select the desired options

    - Set **Include Video** to "Yes" if you want to include a video with the E-mail.

    - Set **Video Length** as desired. Note that if using higher resolution and lower compression, even a short video file could be quite large.

8. Save (Apply) your changes.

Chapter 4
Web-based Management

4

This Chapter provides Setup details of the Network Camera's Web-based Interface. This Chapter is for Administrators only.

Introduction

The Network Camera can be configured using your Web Browser. The Network Camera must have an IP address which is compatible with your PC.

The recommended method to ensure this is to use the supplied Windows-based Wizard, as described in the previous chapter.

Connecting to Network Camera

- If you have run the Windows-based setup Wizard, the final screen provided a button *Web UI*. Clicking this button will immediately connect to the Network Camera, using your Web Browser.

- If using only your Web Browser, use the following procedure to establish a connection from your PC to the Network Camera:

- Once connected, you can add the Network Camera to your Browser's *Favorites* or *Bookmarks*.

Connecting using your Web Browser

1. Start your WEB browser.
2. In the *Address* box, enter "HTTP://" and the IP Address of the Network Camera, as in this example, which uses the Network Camera's default IP Address:

   ```
   HTTP://192.168.0.99
   ```
3. If the *Administrator ID* and *Password* have been assigned, you will then be prompted for a username and password. Enter the name and password you assigned.

Home Screen

When you connect, the following screen will be displayed.
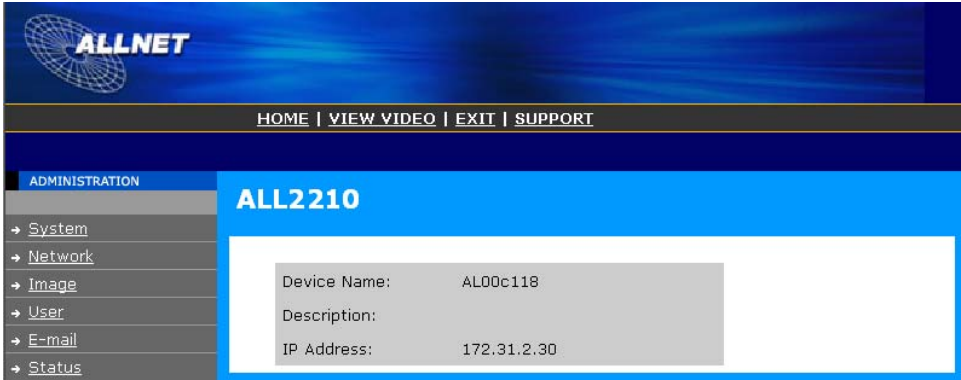
Figure 21: Welcome Screen

The menu options available from this screen are:
- **View Video** - View live Video using your Web Browser.
- **Administration** - Access the Administration menu.
- **Exit** - Terminate the connection to the Network Camera.

These options are explained in the following sections.

View Video Screen

This screen is displayed when you click the link *View Video in your Browser*.
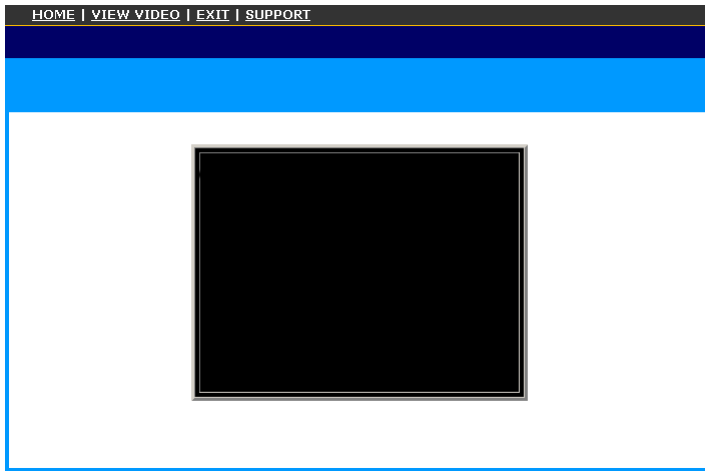
Figure 22: View Video Screen

- If using Internet Explorer on Windows, you may see a prompt regarding an "OCX" file, like the example below.
  You must install this OCX file in order to view the Video. Click "Yes".
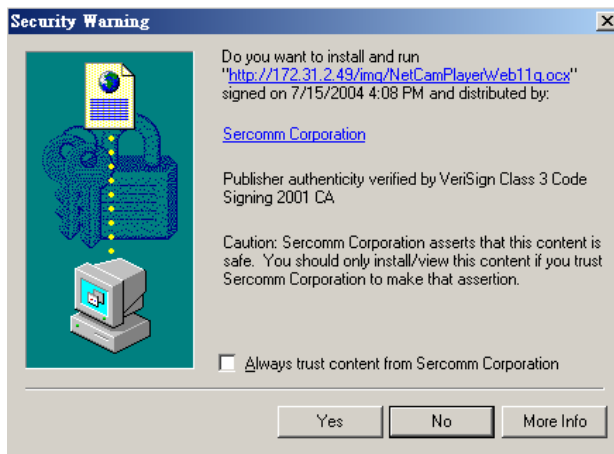
Figure 23 ActiveX OCX Prompt

- Video will start playing automatically. There may be a delay of a few seconds while the video stream is buffered.

Administration Menu

Clicking on *Administration* on the menu provides access to all the settings for the Network Camera.

The *Administration* menu contains the following options:

* **System** - Description Date / Time, and NTP
* **Network** - All network and Wireless settings
* **Image** - Adjust the Video image
* **Users** - Administrator login, User Access, and user database.
* **E-mail** - E-mail Alerts and E-mail Video
* **Status** - Current Status information.

System Screen

After clicking *Administration* on the main menu, or selecting *System* on the *Administration* menu, you will see a screen like the example below.

Figure 24: System Screen

Data - System Screen

System Settings	
Device Name	This displays the name for the Network Camera.
Description	This field is used for entering a description, such as the location of the Network Camera.
Time	Enter the current time.
Date	Enter the current date.
Timezone	Choose the timezone for your location from the drop-down list.
	If your location is currently using Daylight Saving, enable the *Adjust for daylight saving* checkbox. **You must UNCHECK this checkbox when Daylight Saving finishes**.

NTP (Network Time Protocol)	
Time Server	Enable or disable the Time Server feature as required. If Enabled, the Network Camera will contact a Network Time Server at regular intervals and update its internal timer.
Server Address	Enter the address for the desired NTP server.
Update Schedule	The Schedule determines how often the Network Camera contacts the NTP Server. Select the desired options.

Network Screen

This screen is displayed when the *Network* menu option is clicked.

Note: Only the ALL2210 contains the **Wireless** settings.

Figure 25: Network Screen

Data - Network Screen

IP Setting

Obtain Address Automatically	If selected, the ALL2210 will obtain its IP address and related information from a DHCP Server. Only select this option if your LAN has a DHCP Server.

Fixed IP Address	If selected, you must assign the following data to the ALL2210. • **IP Address** - Enter an unused IP address from the address range used on your LAN. • **Subnet Mask** - Use the same value as PCs on your LAN. • **Gateway** - Use the same value as PCs on your LAN. • **Primary DNS Address** - Use the same value as PCs on your LAN. Normally, your ISP will provide this address. • **Secondary DNS Address** - This is optional. If entered, this DNS will be used if the Primary DNS does not respond.
Wireless Setting (ALL2210 only)	
Mode	The *Connection Mode* determines the type of wireless communication used by the ALL2210. • If you have an Access Point, select *Infrastructure*. • Otherwise, select *Ad-hoc*.
Authentication Type	Select the appropriate value - *Open System* or *Shared Key*, as used on your LAN. **Note:** In *Infrastructure* mode, either setting will normally work, since most Access Points can use both methods.
ESSID	This must match the value used by other devices on your wireless LAN. **Note! The SSID is case sensitive.**
Domain	Select your region from the drop-down list.
Channel No.	• In *Infrastructure* mode, this setting is ignored. The Network Camera will use the Channel set on the Access Point. • For *Ad-hoc* mode, select the Channel you wish to use on your Network Camera. Other Wireless stations should use the same setting. • If you experience interference (shown by lost connections and/or slow data transfers) you may need to experiment with different channels to see which one is the best.
WEP	This shows the current WEP setting. • This must match other Wireless stations on your LAN. • Click the *Configure WEP* button to change the WEP settings if required.
DDNS	
DDNS Enable/Disable	Enable or disable the DDNS function, as required. Only enable this feature if you have registered for the DDNS Service with a DDNS Server provider.
Service Provider	Choose a service provider from the list.
Host Name	Enter the host name (Domain Name) allocated to you by the DDNS Server provider.
Account	Enter the login name for the DDNS account.
Password	Enter the password for the DDNS account.

Check WAN IP Schedule	Set the schedule for checking if the Internet IP address has changed. If the IP address has changed, the DDNS Server will be notified.
Options	
UPnP	Enable UPnP support if required. If Enabled, the Network Camera will broadcast its availability using UPnP. UPnP compatible systems such as Windows XP will then be able to detect the presence of the Network Camera.
Second Port	Enable this feature if required. If enabled, then HTTP connections (using your Web Browser or Media Player) can use this port number instead of the standard HTTP port 80. • If you already have a Web Server on your LAN, then you should enable the Second Port, and use this port number instead of port 80. • If enabled, enter the desired port number to use for connections to the Network Camera. The default is 1024.

Using DDNS (Dynamic DNS)

Many internet connections use a "Dynamic IP address", where the Internet IP address is allocated whenever the Internet connection is established.

This means that other Internet users don't know the IP address, so can't establish a connection.

DDNS is designed to solve this problem, as follows:
- You must register for the DDNS service with a DDNS service provider. The DDNS Service provider will allocate a Domain Name to you upon request.
- The DDNS settings on the *Network* screen above must be correct.
- The Network Camera will then contact the DDNS server whenever it detects that the Internet IP address has changed, and inform the DDNS server of the new IP address. (The *Check WAN IP Schedule* determines how often the Network Camera checks if the Internet IP address has changed.)

This system allows other internet users to connect to you using the Domain Name allocated by the DDNS service provider.

WEP Screen

This screen is accessed by clicking the *Configure WEP* button on the *Network* screen. An example WEP screen is shown below.

Figure 26: WEP Screen

Data - WEP Screen

WEP Encryption	
WEP Encryption	Select the option used on your Wireless LAN. • **None** - This is the default. If selected, data is NOT encrypted before being transmitted. • **64 Bit Encryption** - If selected, data is encrypted, using the default key, before being transmitted. You must enter a default key. Other Wireless stations must be set to use 64 Bit Encryption, and have the same Key value in the same position in their key table. • **128 Bit Encryption** - If selected, data is encrypted, using the default key, before being transmitted. You must enter a default key. Other Wireless stations must be set to use 128 Bit Encryption, and have the same Key value in the same position in their key table.
Passphrase	The *Passphrase* feature will generate a Key from the phrase you enter, which may be easier than entering keys in Hex (0~9 and A~F). To use the *Passphrase* feature, enter the desired Passphrase in the field provided, and click the *Generate* button.
Default Key	Select a key to be used as the default key.
Key Value	If WEP Encryption is used, you must enter at least one key value, for the *Default Key*. All transmissions are encrypted using the *Default Key*. Other wireless stations must use the same key value in the same position in their key table. (It does not have to be selected as the default key.) The other key values are optional, and are used only for decrypting

data. This allows you to use different keys for transmitting and receiving, if required.

When inputting a key value, follow these rules:

- For 64 Bit Encryption, keys must be 10 characters.
- For 128 Bit Encryption, keys must be 26 characters.
- Keys must be entered in Hex.
  Hex characters are A ~ F, and 0 ~ 9.

Image Screen

This screen is displayed when the *Image* menu option is clicked.
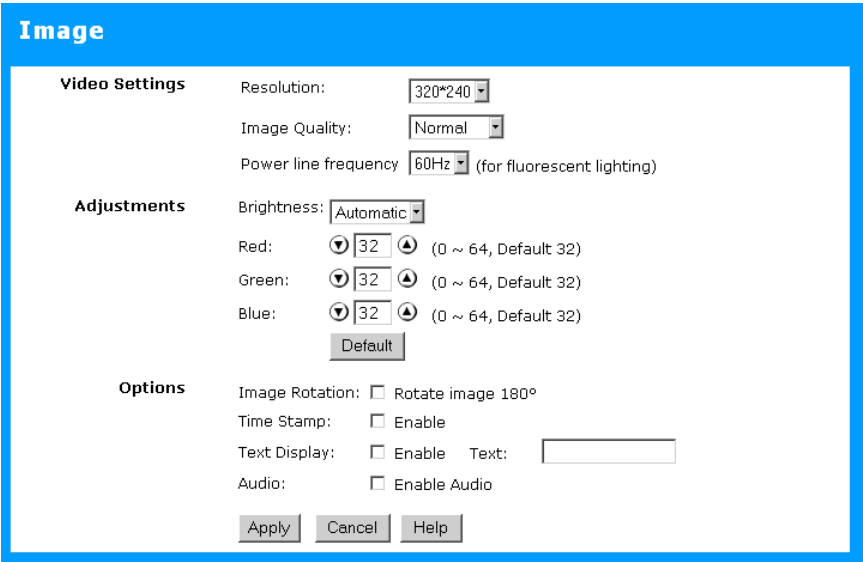
Figure 27: Image Screen

Data - Image Screen

Video Settings	
Resolution	Select the desired video resolution format. The default resolution is set to 320*240.
Image Quality	Select the desired image quality. The default Image Quality is set to Normal. Note: Higher image quality requires more bandwidth.
Power line frequency	Select the power line frequency (50Hz or 60Hz) used in your region, to improve the picture quality under florescent lighting.
Adjustment	
Brightness	Select *Automatic* or *Manual*. The default is set to Automatic in which the camera will automatically adjust the brightness based on the current environment. Select Manual, if you want to adjust the brightness manually.
Red, Green, Blue	Adjust these color settings to the preferred values. Note: When *Automatic is selected*, this setting will not take effect..

Default Button	Clicking this will set all the *Adjustment* fields to their default values. You must click "Apply" to save these changes.
Options	
Image Rotation	This option should be used if the camera is mounted upside-down on the ceiling. In this situation, enable this check box to rotate the Video image to the correct orientation.
Time Stamp	Enable the check box if you want the time to be displayed on the Video image.
Text Display	If you want text to be displayed on the Video image, enable this feature by checking the checkbox. You can enter text up to 20 characters. This feature is often used to identify camera when multiple camera are installed.
Audio	If you want audio to be included with the video, enable this option. Some bandwidth will be allocated to the audio stream. In some situations, this may affect the quality of the video.

User Screen

This screen is displayed when the *User* option on the *Administration* menu is clicked.

Figure 28: User Screen

Data - User Screen

Admin Login	
Administrator ID	• Enter the name for the Administrator here. Spaces, punctuation, and special characters must NOT be used in the name. • The name is case insensitive (case is ignored), so you can not have 2 names which differ only by case.
Password	The password for the Administrator.
Verify Password	Re-enter the password for the Administrator, to ensure it is correct.
User Access	
Allow access by	• Everyone - Anyone can view the Video stream. • Only users in database - Allow viewing only by people in the user database. If selected, users will be prompted for a User Name and Password when they attempt to view the Video.
User Database	
User List	This displays all users you have entered into the User database. If you have not entered any users, this list will be empty.
Buttons	Use the *Add*, *Delete*, and *Modify* buttons to manage the user database.

Add/Modify User Screen

This screen is displayed when the *Add* or *Modify* button on the **User** screen is clicked. It is used to enter details of each user.

Figure 29: Add/Modify User Screen

Data - Add/Modify User

User Name	Enter the name for the user. Spaces, punctuation, and special characters must NOT be used in the name.
	Also, names are case-insensitive (case is ignored), so you can NOT use 2 names with the same spelling and different case.
User Password	The password for the user above.
Confirm Password	Re-enter the password, to ensure it is correct.

E-mail Screen

If desired, you can use the E-mail feature to have an E-mail sent to you whenever motion is detected. Note that because of the sensitivity of the CMOS digitizer, the motion detection feature is not usable in situations where the level of illumination may change rapidly. In this situation, the change in light intensity will trigger the motion detection.

Figure 30: E-mail Screen

Data – E-mail Screen

E-Mail Alerts	
Enable	Check the box to enable the E-Mail Alert feature. E-mails are sent when motion is detected. **Note:** Motion detection can be triggered by rapid changes in lighting condition, as well as by moving objects. For this reason, it should only be used indoors.
E-mail Address	Enter at least one (1) E-Mail address; the 2nd and 3rd addresses are optional. The E-mail alert will be sent to the E-mail address or addresses specified here.

Show "From" as	Enter the E-mail address to be shown in the "From" field when the E-mail is received.
Subject	Enter the desired text to be shown as the "Subject" for the E-Mail when it is received. Subject can not exceed 48 alphanumeric characters.
Outgoing Mail SMTP Server	Enter the address of the SMTP (Simple Mail Transport Protocol) Server to be used to send E-Mail. If the SMTP Server requires a "login" in order to send mail, check the box *My Mail Server Requires Authentication* and enter your login name and password for the SMTP Server. (This is usually the same as the POP3 Server used to receive E-mail.)
Delay between E-mails	Use this to ensure your E-mail inbox is not flooded with E-mail alerts. Select the desired time delay between E-mail alerts.

Motion Detection	• Sensitivity
	   Select the desired option to suit your environment. If covering a large area, you usually need higher sensitivity, since a moving object will take only a small portion of the image.
	• Areas of the image to be examined
	   Use the checkboxes to determine which areas of the image are examined for motion. You can also use the "Select All" and "Select None" buttons if desired.

E-mail Video	
Include Video	Set to "yes" to include a short video in your E-mail alert.
Video Length	Select the desired length. The size of the file depends on this setting, and also the Video size and degree of compression.

Status Screen

Figure 31: Status Screen

Data - Status Screen

System	
Device Name	This shows the name of the ALL2210.
Description	This shows the description of the ALL2210, such as location.
F/W version	The version of the current firmware installed. You can upgrade the Firmware by clicking the **Upgrade Firmware** button. You need to obtain the firmware upgrade file first.
Network	
MAC Address	The current IP address of the Network Camera.
IP Address	The IP Address of the ALL2210.
Network Mask	The network mask associated with the IP address above.
Gateway	The IP Address of the remote Gateway associated with the IP Address above.
Wireless (ALL2210 Only)	
Network Type	It shows the Network Type currently is use (Ad-hoc or Infrastructure).
SSID	This displays the wireless SSID.
Channel	This shows the wireless channel currently used.

Encryption	This shows if the WEP Encryption is Enabled or Disabled.
Video	
Resolution	The image size of the video stream.
Current Viewers	This shows how many viewers are currently viewing the Video stream.
Log	
System Log	This is a log of system activity.

Upgrade Firmware Screen

This screen is displayed when you click the *Upgrade Firmware* button on the Status screen.

Figure 32: Upgrade Firmware Screen

This screen allows you upgrade the Firmware (software) in your Network Camera. Before using this screen, your must download the upgrade file to your PC.

Then follow this procedure:

1. Click the *Browse* button, and locate the upgrade file.
2. Select this file, and click OK. The filename will then appear in the *Upgrade File* field.
3. Click the *Start Upgrade* button to transfer the file to the Network Camera and start the upgrade procedure.

Note:

- The upgrade may take several minutes.
- When the upgrade is completed, the Network Camera will restart. This will cause any existing connections to be terminated. Any users viewing or recording the video will see this as an error.

Chapter 5
Viewing & Recording

5

This Chapter describes how to view and record the live video stream generated by the Network Camera.

Overview

The recommended method to view video is to use the supplied Windows Viewing/Recording utility.

Installation

1. Insert the supplied CD-ROM into your drive. If the setup program does not start automatically, run **Netcam_Setup.exe** in the root folder. You will see the *Welcome* screen shown below.

Figure 33: Welcome Screen

2. Click the *Client Utility* button to start the installation of the Viewing/Recording Utility.
3. Follow the prompts to complete the installation.

System Tray Icon

When started, the program will create an icon in the Windows system tray on the taskbar, as shown below.
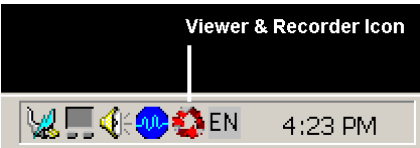
Figure 34: System Tray Icon

This Icon has the following functions:

- **Animation** - If a recording is in progress, this icon will be animated. Otherwise, it is stationary.
- **Hover** - Hovering your mouse over this icon will generate a pop-up informing you of the current status.
- **Double-click** - This will display the main screen, shown below.
- **Right Click** - This provides a menu which allows you to view program details, view the main screen, or terminate the program.

Main Screen

When started, a screen like the example below will be displayed.
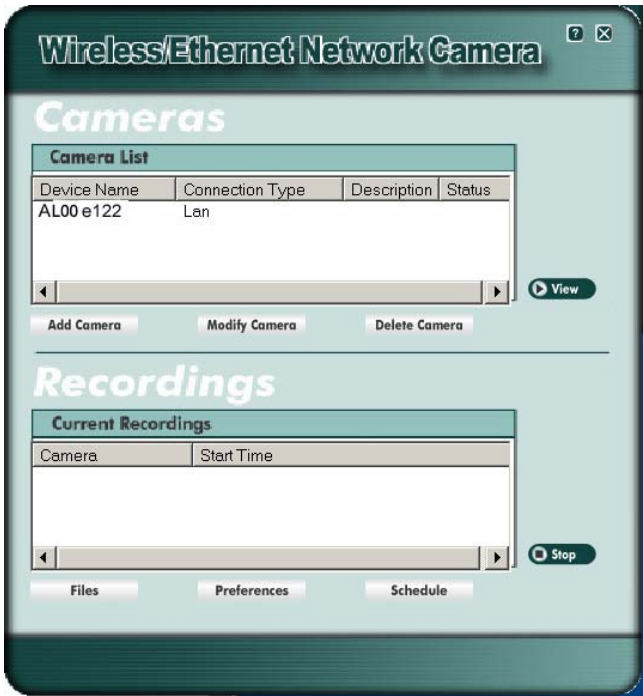
Figure 35: Main Screen

Cameras - Camera List

- The *Camera List* displays all Network Camera you have defined. If you have not defined any cameras, this list will be empty. For each listed camera, the following data is shown:

- *Device Name* - The name of the camera
- *Connection Type* - This will be either "LAN" or "Internet", indicating the type of connection used to connect to the camera.
- *Description* - If the Camera administrator has entered a description, it will be displayed here.
- *Status* - Normally, this will be blank. If a connection error arises, this will be indicated here.

- Click the *Add Camera* button to add a Network Camera. See the following section for further details.
- Once some cameras are listed, you can select one and then use the *Modify Camera*, *Delete Camera* and *View* buttons.
- To view live video, select a camera and click the *View* button.

Recordings - Current Recordings

This panel lists all scheduled recordings currently in progress.

Any recording currently in progress can be terminated by selecting it and clicking the *Stop* button.

Adding Cameras to the Camera List

To add a camera to the *Camera List*, click the *Add Camera* button on the main screen. You will see a screen like the example below.

- The *Cameras on LAN* panel, on the left, displays all Network Camera found on your LAN. This list can be updated by clicking the *Refresh* button.
- The *Camera Data* panel, on the right, displays the data for the selected camera.
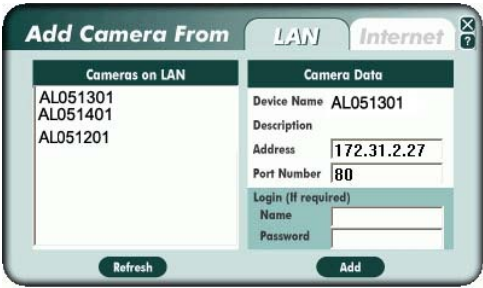
Figure 36: Add Camera from LAN

To add a camera to the *Camera List* on the main screen:
1. Select a camera in the list on the left.
2. Check that the *Camera Data* shown on the right is correct. See below for details.
3. Click the *Add* button. The camera will now appear in the *Camera List* on the main screen.

Camera Data - LAN

Device Name	This is the default name for the Network Camera, and cannot be changed.
Description	This displays the description entered by the Network Camera Administrator.
Address	The current IP address of the Network Camera.
Port Number	This will normally display "80". Only change this if requested to do so by the Network Camera Administrator.
Login	The camera Administrator can require that users provide a username and password before being allowed to view the live video. • If the Administrator has not enabled this option, the *Login* fields can be left blank. • Otherwise, you must enter the username and password allocated to your by Administrator.

> **You can add the same Camera twice, once for the LAN (using the LAN IP address), and again for the Internet (using the Internet IP address). This will allow viewing the camera whether you are on the same LAN as the camera or in a remote location.**

Adding Cameras on the Internet

If the Network Camera you wish to add is not on your LAN, but is available via the Internet, click the *Internet* tab. You will see a screen like the example below.
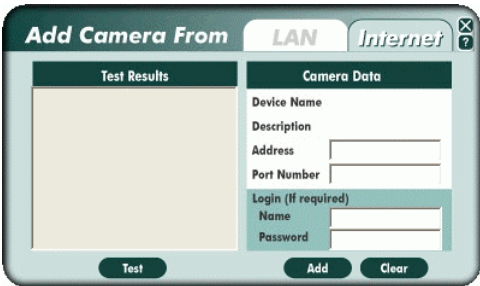
Figure 37: Add Camera from Internet

To add a camera to the *Camera List* on the main screen:
1. Enter the *Camera Data* on the panel on the right. See below for details.
2. Click the *Test* button to check that a connection and login can be performed successfully.
3. Click the *Add* button. The camera will now appear in the *Camera List* on the main screen.

Camera Data - Internet

Device Name	This is the default name for the Network Camera, and cannot be changed. This field will be displayed automatically once a connection to the Network Camera has been established.
Description	This displays the description entered by the Network Camera Administrator. This field will be displayed automatically once a connection to the Network Camera has been established.
Address	Enter the Domain Name or Internet IP address of the desired Network Camera.
Port Number	Enter the port number used by the Network Camera. The Network Camera Administrator can advise you of the port to use. The default value is 1024.
Login	The camera Administrator can require that users provide a username and password before being allowed to view the live video. • If the Administrator has not enabled this option, the *Login* fields can be left blank. • Otherwise, you must enter the username and password allocated to your by Administrator.

You can add the same Camera twice, once for the LAN, and again for the Internet. This will allow viewing the camera whether you are on the same LAN as the camera or in a remote location.

Modifying an Existing Camera

You can change the settings for an existing camera by selecting it in the *Camera* List on the main screen, then clicking the *Modify Camera* button.

You will see a screen like the example below.

Figure 38: Modify Camera

- Data on this screen is the same as for the *Add Camera* screens.
- You can use the *Test* button to button to check that a connection and login can be performed successfully.

Viewing Live Video

To view live video, select a camera in the *Camera List* on the main screen, and click the *View* button. For each camera, a new Viewing window will open, like the example below.

Figure 39 Viewing Live Video

Controls are provided to stop and start viewing, and to start recording the video stream.

Play - Use this to re-start viewing, after using the *Stop* button.

Record. Click this to start recording the current video stream. While recording, this button will be red. To stop recording, click the button again.

Stop. This will terminate the connection to the camera, halting both the viewing and the recording (if in progress).

Snapshot Click this to take a single JPEG "snapshot" image of the current video. You can use the "Preferences" to set the folder where these images are stored.

Audio. This can be used to select the Audio stream which can be heard. (Only one audio stream can be selected at any time.) If the camera does not support audio, or if audio is disabled on the camera, this option is unavailable, and a red "X" will cover this icon.

2X - Clicking this will set the viewing image to double size. The icon will then change to the "1X" icon below.

1X - Clicking this will set the viewing image to standard size. The icon will then change to the "2X" icon above.

Recording Video

You can record Video while watching, or schedule recordings to occur when you are absent. Recordings are stored in a standard Microsoft ASF file format, and can be played using Microsoft Media Player.

Before doing any recording, you should review the *Recording Preferences* to ensure they are suitable for your PC.

Recording Preferences

To set the Recording Preferences, click the *Preferences* button below the *Recordings* panel on the main screen. You will see a screen like the example below.

Figure 40: Recording Preferences

If necessary, change these settings to suit your environment.

Record File Location	This is the Drive and Folder on your PC where recorded files will be placed. You need a drive which has large amounts (Gigabytes) of free space. Click the *Browse* button to select the drive and folder.
	Note that file names are automatically assigned, using the date and time.
Snapshot File Location	This shows the location where snapshot images (still images, in JPEG format) will be stored. You can use the *Browse* button to select the desired drive and folder
Time Limit	This sets the maximum size of a recording which is started by clicking the *Record* button on the *View* screen.
	If the recording is not stopped manually, it will be terminated after the time period indicated here.

Live Recordings

You can start and stop recording from the *View* screen, using the controls provided.

Figure 41 Viewing Live Video

Play - Use this to re-start viewing, after using the *Stop* button.

Record. Click this to start recording the current video stream.
While recording, this button will be red. To stop recording, click the button
again.

Stop. This will terminate the connection to the camera, halting both the viewing
and the recording (if in progress).

Snapshot Click this to take a single JPEG "snapshot" image of the current video.
You can use the "Preferences" to set the folder where these images are stored.

Audio. This can be used to select the Audio stream which can be heard. (Only
one audio stream can be selected at any time.) If the camera does not support
audio, or if audio is disabled on the camera, this option is unavailable, and a red
"X" will cover this icon.

2X - Clicking this will set the viewing image to double size. The icon will then
change to the "1X" icon below.

1X - Clicking this will set the viewing image to standard size. The icon will then
change to the "2X" icon above.

Files

To view recorded video or snapshot (still image) pictures, click the *Files* button under the *Files* panel on the main screen, then select the desired option.
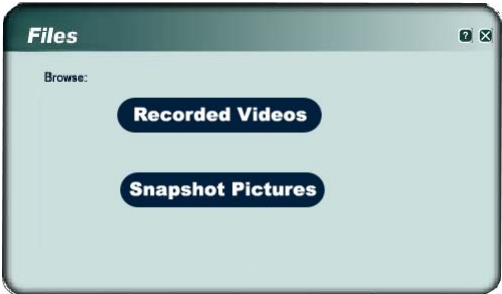
Figure 42: Files Dialog

To view a list of all recorded files, click the **Recorded Video** button, you will then see a screen like the example below.

Figure 43: Recorded Files

This list shows all of the recorded files. The following operations are supported:

- **Play** - Play the selected file using Microsoft Media Player.
- **Delete** - Delete the selected file.
- **Explore** - Open the folder containing these files, using Windows Explorer.

Scheduled Recordings

Recordings can be scheduled at any time, for any known Network Camera. (Of course, your PC must be ON at the scheduled time.)

To use this feature, click the *Schedule* button under the *Recordings* panel on the main screen. You will see a screen like the example below.

Figure 44: Scheduled Recording List

This screen lists all scheduled recordings. For each recording, the following data is shown:

- **Camera** - The camera which will be recorded.
- **Date** - The date the recording will be made. If the recording schedule is repetitive, this is the date of the next recording.
- **Time** - The time the recording will be made.
- **Type** - Indicates if the recording is *One Time*, *Everyday*, or on a particular day each week.

If a scheduled recording is selected, the *Modify* and *Delete* buttons can be used to edit or delete the selected entry.

Schedule Definition Screen

If the *Add* or *Modify* button is clicked, a screen like the following is displayed. You can then enter or modify the details of this schedule.
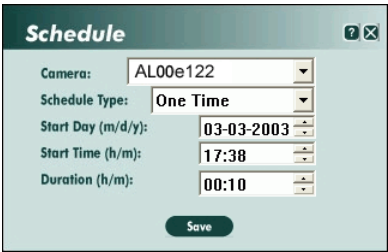
Figure 45: Schedule Definition Screen

Data - Schedule Definition

Camera	Select the camera to be used. If the desired camera is not listed, you must define by using the *Add Camera* button on the main screen.
Schedule Type	Select the desired option: • **One Time** - Only one (1) recording is made, on the specified date, at the specified time. • **Everyday** - The recording is made every day, at the specified time. The *Start Day* indicates when the first recording will be made. • **Every Sunday, Every Monday, …** - The recording is made on the

	specified day each week. The *Start Day* indicates when the schedule becomes active.
Start Day	Select the desired date. For a single recording, this is the day the recording will be made. For daily (Everyday) recordings, this is the starting date. For weekly recordings, this determines when the schedule becomes active.
Start Time	Select the desired start time.
Duration	Enter or select the desired duration of the recording.

Viewing with your Web Browser

The recommended method to view live video from the Network Camera is to use the Windows utility.

However, you can also use your Web browser if necessary.

Viewing over your LAN

To establish a connection from your PC to the Network Camera:

1. Start your WEB browser.
2. In the Address box, enter "HTTP://" and the IP Address of the Network Camera, as in this example, which uses the Network Camera's default IP Address:

   `HTTP://192.168.0.99`

3. If the Administrator has enabled the user security feature, you will then be prompted for a username and password.
   Enter the name and password assigned to you by the Network Camera administrator.

4. When you connect, the following screen will be displayed.

Figure 46: Home Screen

5. Click *View Video* to see a screen like the example below.
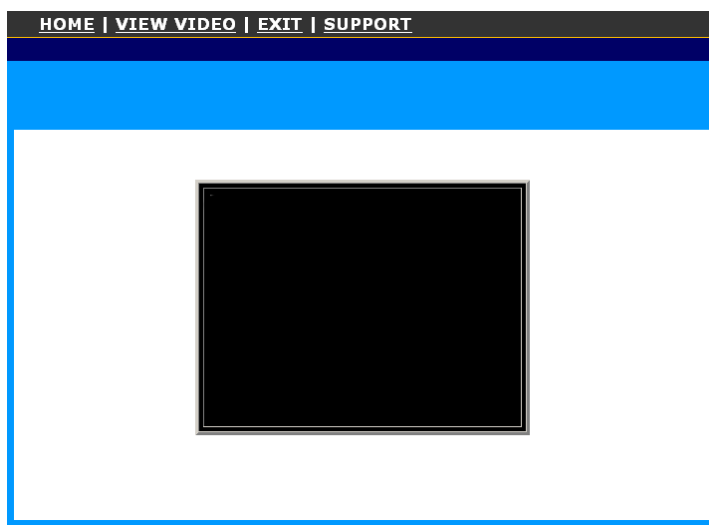
Figure 47: View Video Screen

- If using Internet Explorer on Windows, you may see a prompt regarding an "OCX" file, like the example below.
  You must install this OCX file in order to view the Video. Click "Yes".

Figure 48 ActiveX OCX Prompt

- Video will start playing automatically. There may be a delay of a few seconds while the video stream is buffered.

Viewing via the Internet

If the LAN with the Network Camera is connected to the Internet, and configured correctly, you can connect to the Network Camera via the Internet.

See *Making Video available from the Internet* in Chapter 3 for details of the required LAN configuration.

To establish a connection from your PC to the Network Camera via the Internet:

1. Obtain the Internet address and port number of the Network Camera from the Administrator.
2. Start your WEB browser.
3. In the Address box, enter the following:

   `HTTP://Internet_Address:port_number`

   Example using an IP address:

   `HTTP://203.70.212.52:1024`

   Where the Router/Gateway's Internet IP address is `203.70.212.52` and the "Second Port" number on the Network Camera is `1024`.

   Example using a Domain Name:

   `HTTP://mycamera.dyndns.tv:1024`

   Where the Router/Gateway's Internet Domain name (using DDNS in this example) is `mycamera.dyndns.tv` and the "Second Port" number on the Network Camera is `1024`.

4. If the Administrator has enabled the user validation feature, you will then be prompted for a username and password.
   Enter the name and password assigned to you by the Network Camera administrator.
5. When you connect, the following screen will be displayed.

Figure 49: Home Screen

6. Click *View Video* to see a screen like the example below.

Figure 50: View Video Screen

-   If using Internet Explorer on Windows, you may see a prompt regarding an "OCX" file, like the example below.
    You must install this OCX file in order to view the Video. Click "Yes".

Figure 51 ActiveX OCX Prompt

-   Video will start playing automatically. There may be a delay of a few seconds while the video stream is buffered.

Note:

Viewers need a broadband Internet connection to view video effectively. Dial-up connections are NOT recommended.

Chapter 6
Troubleshooting

6

This chapter covers the most likely problems and their solutions.

Overview

This chapter covers some common problems that may be encountered while using the Network Camera and some possible solutions to them. If you follow the suggested steps and the Network Camera still does not function properly, contact your dealer for further advice.

Problems

Problem 1: **I can't connect to the Network Camera with my Web Browser to configure it.**

Solution 1: It is possible that your PC's IP address is not compatible with the IP address of the Network Camera.
Use the Windows utility to configure the Network Camera with a valid IP address.

Problem 2: **The Windows utility doesn't list any Network Cameras.**

Solution 2: Check the following:

- The Network Camera is installed, LAN connections are OK, it is powered ON and startup is complete.

- Ensure that your PC and the Network Camera are on the same network segment. (If you don't have a router, this must be the case.)

- Ensure that your PC has the TCP/IP network protocol loaded. In Windows, this is done by using *Control Panel-Network*. If an entry for TCP/IP -> Network card is not listed, use *Add - Protocol - Microsoft - TCP/IP* to add it.
  You then need to select the new entry (TCP/IP -> Network card), click *Properties*, and configure the *IP Address* tab.

  - If your LAN has a DHCP Server, you can select "Obtain an IP Address automatically".

  - Otherwise, you must select "Specify an IP Address", and enter values for *IP Address*, *Subnet Mask*, and *Gateway*. All devices on your LAN must use compatible values. Remember that each device needs a **unique** IP Address, and the **same** Subnet Mask.

Problem 3 **When I try to connect to the Network Camera, I get prompted for a user name and password.**

Solution 3 You SHOULD be prompted for a user name and password if trying to access the *Administration* menu.
Enter the *Administrator ID* and *Password* set on the *User* screen.

If you are just trying to view Video, the User Name/Password prompt indicates that the Administrator has restricted access to specified users.

Ask the Administrator for your User Name and Password.

Problem 4	**I can't connect to the Network Camera using a Wireless connection.**

Solution 4   1) If a LAN cable is connected to the LAN port, the Wireless interface is disabled. Only one interface can be active.

2) Check that your PC and the Network Camera have compatible Wireless settings.

- Mode (Infrastructure or Ad-hoc) must be correct.
- ESSID must match.
- WEP settings must match.
- In Ad-hoc mode, the Channel should match, although this is often not required.

Problem 5	**Video quality may suddenly deteriorate.**

Solution 5   This can happen when an additional viewer connects to the Network Camera, overloading the camera or the available bandwidth. The image size and quality can be adjusted to cater for the required number of viewers and the available bandwidth.

Problem 6	**The motion detection feature doesn't send me any E-mails.**

Solution 6   It may be that the SMTP (Simple Mail Transport Protocol) server used by the Network Camera to send the E-mail will not accept mail from the Network Camera. Try using a different SMTP server. The Network Camera derives the address of the SMTP server from the E-mail address you enter in the *Show "From" as*: field.

Problem 7	**Using the motion detection feature, I receive E-mails which don't show any moving objects.**

Solution 7   The motion detection feature doesn't actually detect motion. It compares frames to see if they are different. Major differences between frames are assumed to be caused by moving objects.

But the motion detector can also be triggered by:

- Sudden changes in the level of available light
- Movement of the camera itself.

Try to avoid these situations. The motion detection feature works best in locations where there is good steady illumination, and the camera is mounted securely. This feature can NOT be used if the camera is outdoors.

Problem 8   The image is blurry.

Solution 8   Try cleaning the lens, and adjusting the focus ring.

Appendix A
Specifications

A

ALL2200

Model	ALL2200
Dimensions	164 mm (L) * 88 mm (W)* 54 mm (H) 6.4 inch (L) * 3.5 inch (W) * 2.1 inch (H)
Operating Temperature	0° C to 40° C
Storage Temperature	-10° C to 70° C
Network Protocols:	TCP/IP, DHCP, SMTP, NTP, HTTP
Network Interface:	1 Ethernet10/100BaseT (RJ45) LAN connection
LEDs	3
Power Adapter	5V DC External

ALL2210

Model	ALL2210
Dimensions	164 mm (L) * 88 mm (W)* 54 mm (H) 6.4 inch (L) * 3.5 inch (W) * 2.1 inch (H)
Operating Temperature	0° C to 40° C
Storage Temperature	-10° C to 70° C
Network Protocols:	TCP/IP, DHCP, SMTP, NTP, HTTP
Network Interface:	1 Ethernet 10/100BaseT (RJ45) LAN connection
Wireless interface	IEEE 802.11b/802.11g compatible, Infrastructure/Ad-hoc mode, WEP security support, roaming support
LEDs	4
Power Adapter	5V DC External

Regulatory Approvals

CE Approvals

The ALL2210 and the ALL2200 meet the guidelines of the European Union and comply with the 99/5/EEC and RTTE 99/5EG directives, including the following standards:

- EN60950
- EN300 328-2
- EN301 489-1
- EN301 489-17

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rrload	GPL
uClinux-2.4.19.uc1	GPL
busybox-0.60.3	GPL
tinylogin-1.02	GPL
inetutils-1.3.2	GPL
thttpd-2.20b-rr	See following
uClibc-0.9.5	LGPL
Lan driver (DM9000)	GPL
cgi-lib	Copyright cgi-LIB
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Ntp-4.1.0-4.src.rpm	GPL
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Dhcpcd-1.3.22-p11	GPL
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Upnpsdk-1.0.4	GPL
ez-ipupdate-3.0.11b7	GPL

thttpd License

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Author: Noel V Aguilar

Version: 1.4

Filename: cgi-lib.h

Program Library: CGI-LIB

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`http://www.geocities.com/SiliconValley/Vista/6493/`

The web page for the library is:

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