ALL2201 Network Camera

ALL2211 Wireless Network Camera

ALL2250 Wireless Network Camera

User's Guide

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P/N: 9560W60030

Document Version: 1.0

Chapter 1
Introduction

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 Network Camera, 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.

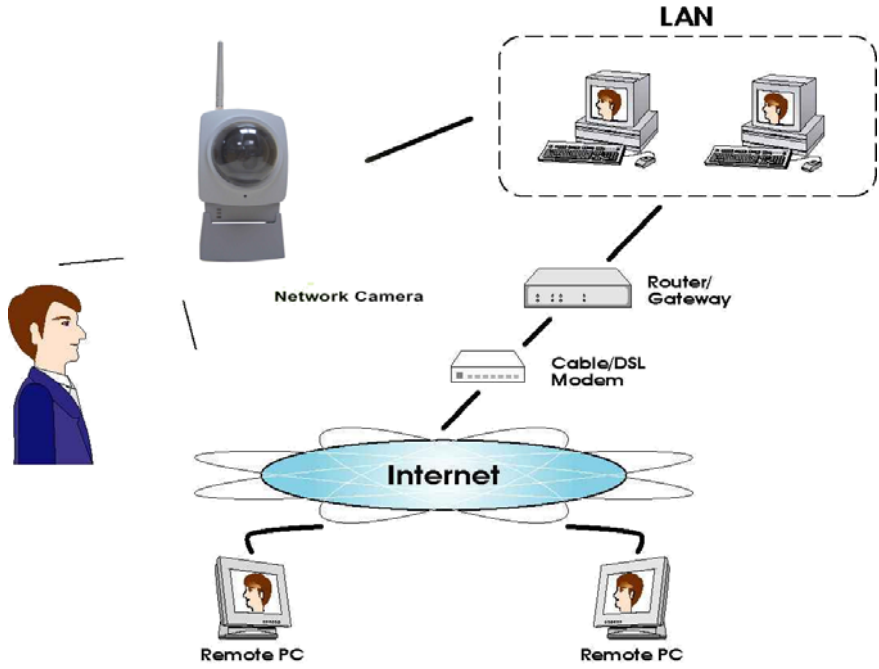


Figure 1: Network Camera

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.
- ***Stream Live Video to Multiple Users.*** The MPEG4 encoder and HTTP server built into the camera generate a ready-to-view video stream. Just connect to the camera using your Web browser or the provided Windows utility to view live video.

- ***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 can detect motion in the field of view. 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. When motion is detection, an E-mail alert can be sent, or some other action may be triggered.
- ***Flexible Scheduling.*** You can limit access to the video stream to specified times using a flexible scheduling system. The Motion Detection feature can also have its own schedule, so it is active only when required.
- ***Audio Support.*** You can listen as well as look! Audio is encoded with the video if desired. You can use either the built-in microphone or an external microphone.
- ***PoE Support.*** **(ALL2201* only)** You can use PoE (Power over Ethernet) to provide power to the Network Camera, so only a single cable connection is required.

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 (ALL2250* and ALL2211* only)

- ***Standards Compliant.*** The Network Camera complies with the IEEE802.11g (DSSS) specifications for Wireless LANs.
- ***Supports both 802.11b and 802.11g Standards.*** The Network Camera supports both 802.11b and 802.11g standards.
- ***Speeds to 54Mbps.*** All speeds up to the 802.11g maximum of 54Mbps are supported.
- ***Wired and Wireless Network Support.*** The Network Camera supports either wired and wireless transmission.
- ***WEP Support***. Full WEP support (64/128 Bit) on the Wireless interface is provided.
- ***WPA-Personal Support***. The WPA-Personal (WPA1) standard is also supported, allowing advanced encryption of wireless data.

Models

This manual covers the following Network Camera models. Details of the LEDs are in this Chapter. Further details of each model are contained in *Appendix A - Specifications*.

Model Name	Description
ALL2201*	Wired Network Camera with PoE (Power over Ethernet)
ALL2211*	Wireless Network Camera with IEEE 802.11g
ALL2250*	Pan/Tilt Wireless Network Camera with IEEE 802.11g

Physical Details - Network Camera

Front - Network Camera

Lens	No physical adjustment is required or possible for the lens, but you should ensure that the lens cover remain clean. The image quality is degraded if the lens cover is dirty or smudged.
Microphone	The built-in microphone is mounted on the front and center. There is also a connection for an external microphone on the rear. Connecting an external microphone will disable the built-in microphone.
Power LED (Green)	**On** - Power on. **Off** - No power. **Blinking** - The *Power* LED will blink during start up. This will take 15 to 20 seconds.
Active LED (Green)	**Off** - No user is viewing the camera. **Blinking** - User(s) is viewing the camera.
Network LED (Green)	**On** - Wireless or LAN connection is detected. **Off** - Wireless or LAN connection is not detected **Blinking** - Data is being transmitted or received via the LAN or Wireless connection.

Rear - Network Camera

Power Input	Connect the supplied power adapter here. Do not use other power adapters; doing so may damage the camera.
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:** • Attaching the LAN cable will disable the Wireless interface. Only 1 interface can be active at any time. • The LAN cable should only be connected or disconnected when the camera is powered OFF. Attaching or detaching the LAN cable while the camera is powered on does NOT switch the interface between wired and wireless.
Reset Button	This button is recessed; you need a pin or paper clip can be used to depress it. It can be activated at any time the camera is in the "ready" mode. • **Restore Default IP Address**. When pressed and released, the Network Camera will reset to DHCP Client. • **Restore Default IP Address, Administrator ID, and**

Administrator password. When pressed and held for 3 seconds, the *IP address*, *Administrator ID*, and *Administrator Password* settings will be set to their default values.

- IP address: DHCP Client
- Administrator ID: `administrator`
- Administrator Password: null (no password)

Note:

After this procedure is completed, the *Power* 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. Network Camera
2. Camera Mount
3. Antenna (ALL2250 and ALL2211 only)
4. Power adapter
5. Installation CD-ROM
6. Quick Installation Guide
7. Ethernet Cable

Chapter 2
Basic Setup

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

System Requirements

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

Installation - Network Camera

1. Assemble the Camera

For the ALL2250 and ALL2211 Network Camera, screw the supplied antenna to the mounting point on the top. The antenna is adjustable; best results are usually obtained with the antenna positioned vertically.

2. Connect the LAN Cable

Connect the Network Camera to a 10/100BaseT hub or switch, using a standard LAN cable.

For the ALL2250 and ALL2211 Network Camera, this disables the Wireless Interface, because only one interface can be active.

The LAN cable should only be connected or disconnected when the camera is powered OFF. Attaching or detaching the LAN cable while the camera is powered on does NOT switch the interface between wired and wireless.

The default Wireless settings are:

Mode: Infrastructure
ESSID: ANY
Wireless Security: Disabled
Domain: USA
Channel No.: Auto

3. 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 *Power* LED will turn on briefly, then start blinking. It will blink during startup, which takes 15 to 20 seconds. After startup is completed, the *Power* LED should remain ON.

- The *Network* LED should be ON.

For more information, refer to *Physical Details - Network Camera* in Chapter 1.

Using PoE (Power over Ethernet)

The ALL2201 Network Camera supports PoE (Power over Ethernet). To use PoE:

1. Do not connect the supplied power adapter to the Network Camera.
2. Connect one end of a standard (category 5) LAN cable to the Ethernet port on the Network Camera.
3. Connect the other end of the LAN cable to the **powered** Ethernet port on a suitable PoE Adapter. (12V DC, 1A)
4. Connect the **unpowered** Ethernet port on the PoE adapter to your Hub or switch.
5. Connect the power supply to the PoE adapter and power up.
6. Check the LEDs on the Network Camera to see it is drawing power via the Ethernet connection.

Setup using the Windows Wizard

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 5 - Web-based Management***.

Setup Procedure

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

Figure 2: Welcome Screen

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

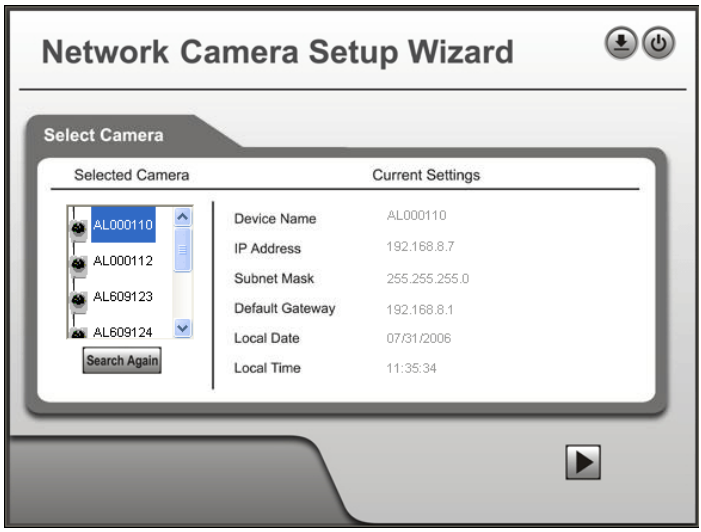


Figure 3: Camera List Screen

- 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. You will be prompted to enter the *Administrator Name* and *Administrator Password*, as shown below.
   - If using the default values, enter **`administrator`** for the name, and leave the password blank.
   - Otherwise, enter the *Administrator Name* and *Administrator Password* set on the ***Maintenance*** screen.

Figure 4: Password Dialog

4. On the following **IP Address Settings** screen, shown below, choose *Fixed IP Address* or *Dynamic IP Address*.

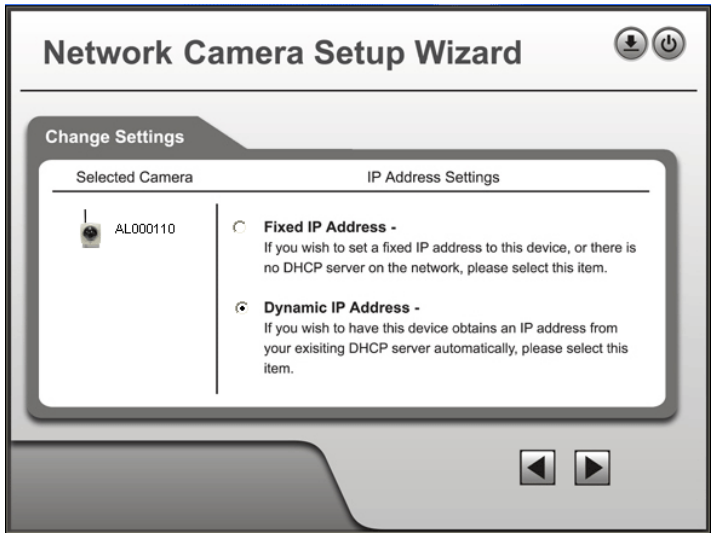


Figure 5: Fixed or Dynamic IP Selection

- *Fixed IP Address* is recommended, and can always be used.
- *Dynamic IP Address* 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.

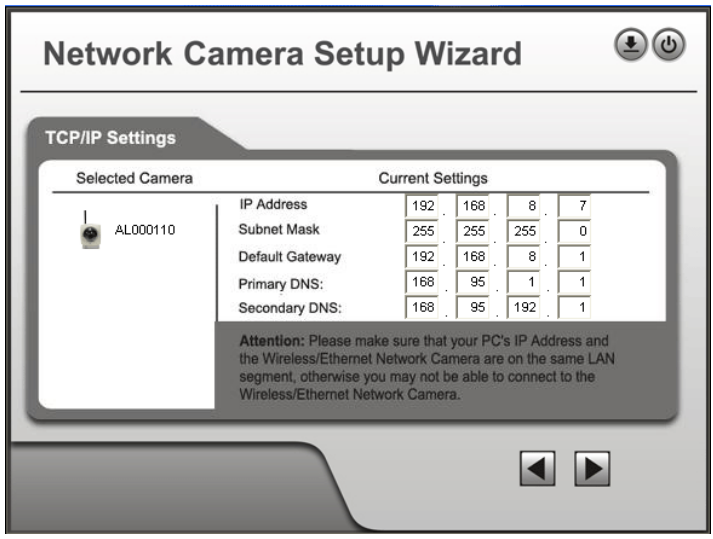


Figure 6: TCP/IP Settings

- 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 the ALL2250 and ALL2211 Network Cameras, the following **Wireless Settings** screen is displayed next.

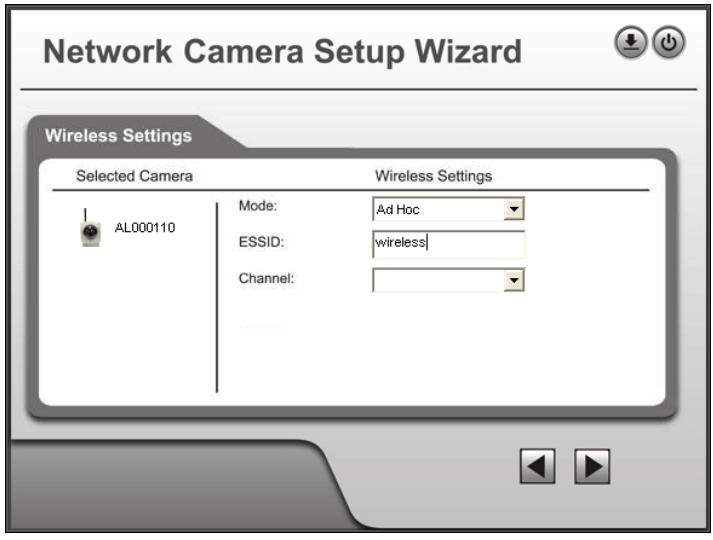


Figure 7: Wireless Settings

- **Mode** - If you have an Access Point, select *Infrastructure*. Otherwise, select *Ad-hoc*.
- **ESSID** - Enter the value used by your other Wireless devices.

- **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 **Security** screen, shown below, choose *Disabled, WEP or WPA-PSK*. (WPA-PSK is not available for Ad-hoc Wireless Networks.)

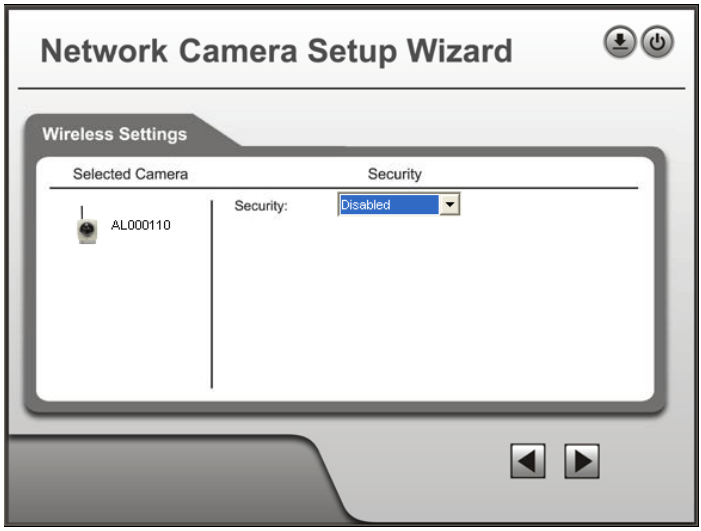


Figure 8: Security Screen

8. If you chose **WEP(64 or128)**, the following screen is shown below.

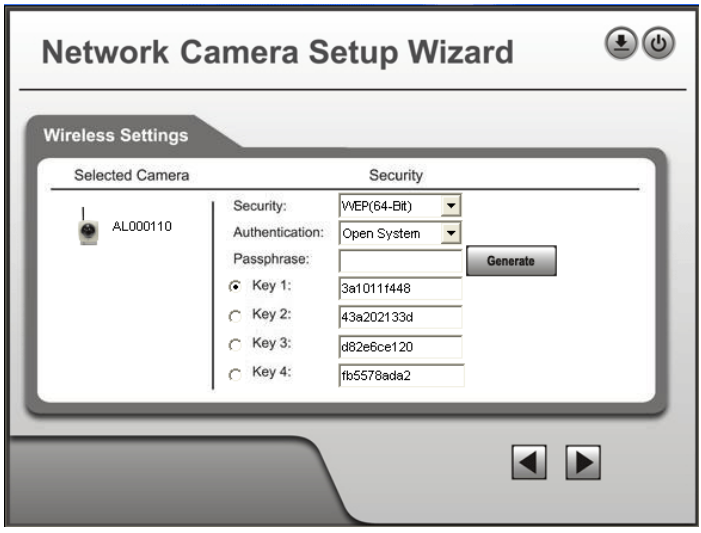


Figure 9: WEP Key Settings

- **Authentication** - 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.

9. If you chose the **WPA-PSK** option, the following screen is shown next.

Figure 10:WPA-PSK Settings

- **Encryption -** Select the desired option. Wireless Stations must use the same method.
- **Pre-Shared Key -** Enter the key value. Data is encrypted using a key derived from the network key. Other Wireless Stations must use the same network key. The PSK must be from 8 to 63 characters in length.

Click *Next* to continue to the following screen.

10. 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.

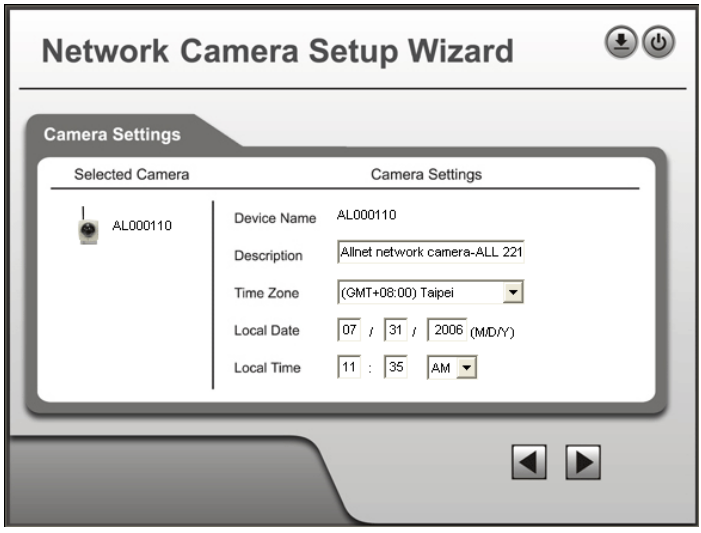


Figure 11: Camera Settings

11. The next screen, shown below, displays all details of the Network Camera.
    - Click *Next* if the settings are correct
    - Click *Back* to modify any incorrect values.

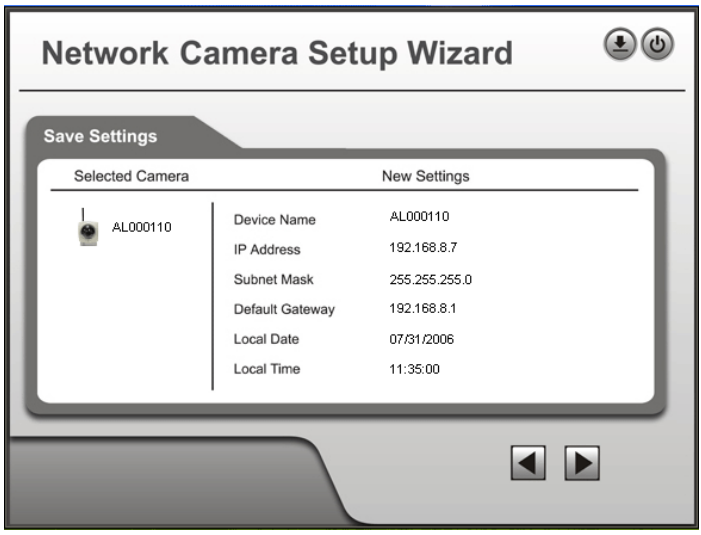


Figure 12: Save Settings

12. After clicking *Next*, you will see the screen below.

Figure 13: Final Screen

Clicking the *Install Utility* button will install the Viewing/Recording utility described in ***Chapter 6 - Windows Viewing/Recording Utility***.

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

Chapter 3
Viewing Live Video

This Chapter provides basic information about viewing live video.

Overview

After finishing setup via the Windows-based Wizard, all LAN users can view live video using Internet Explorer on Windows.

This Chapter has details of viewing live video using Internet Explorer.

But many other powerful features and options are available:

- To view multiple cameras simultaneously, or record video (either interactively or by schedule), you should install the Windows Viewing/Recording utility. Refer to ***Chapter 6 - Windows Viewing/Recording Utility*** for details on installing and using this program.
- The camera administrator can also adjust the Video Stream, and restrict access to the video stream to known users by requiring viewers to supply a username and password. See ***Chapter 4 - Advanced Viewing Setup*** for details.
- To make Live Video from the camera available via the Internet, your Internet Gateway or Router must be configured correctly. See *Making Video available from the Internet* in ***Chapter 4 - Advanced Viewing Setup*** for details.

Requirements

To view the live video stream generated by the Network Camera, you need to meet the following requirements:

- Windows ME/98SE, Windows 2000, Windows XP.
- Internet Explorer 5.5 or later.

Connecting to a Camera on your LAN

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

1. Use the Windows utility to get the IP address of the Network Camera.
2. Start Internet Explorer.
3. In the Address box, enter "HTTP://" and the IP Address of the Network Camera.
4. When you connect, the following screen will be displayed.

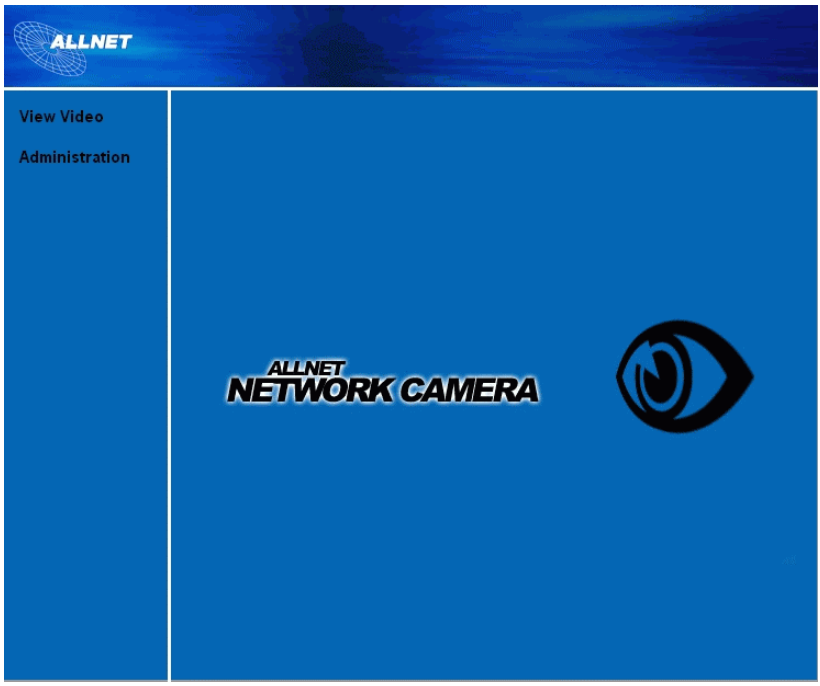


Figure 14: Home Screen

5. Click *View Video*.
6. If the Administrator has restricted access to known users, you will then be prompted for a username and password.
   Enter the name and password assigned to you by the Network Camera administrator.
7. The first time you connect to the camera, you will be prompted to install an ActiveX component (OCX or CAB file), as in the example below.
   You must install this ActiveX component (OCX or CAB file) in order to view the Video stream in Internet Explorer.
   Click the "Yes" button to install the ActiveX component.

Figure 15: ActiveX OCX Prompt

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

Connecting to a Camera via the Internet

You can NOT connect to a camera via the Internet unless the camera Administrator has configured both the camera and the Internet Gateway/Router used by the camera.

See *Making Video available from the Internet* in ***Chapter 4 - Advanced Viewing Setup*** for details of the required configuration.

Also, you need a broadband Internet connection to view video effectively. Dial-up connections are NOT supported.

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

1. Obtain the following information from the Administrator of the camera you wish to connect to:
   - Internet IP Address or Domain Name of the camera.
   - Port number for HTTP connections.
   - Login (username, password) if required.
2. Start Internet Explorer.
3. In the Address box, enter the following:

   `HTTP://Internet_Address:port_number`

   Where `Internet_Address` is the Internet IP address or Domain Name of the camera, and `port_number` is the port number used for HTTP (Web) connections to the camera.

   Examples using an IP address:

   `HTTP://203.70.212.52:1024`

   Where the Internet IP address is `203.70.212.52` and the HTTP port number is `1024`.

   Example using a Domain Name:

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

   Where the Domain name (using DDNS in this example) is `mycamera.dyndns.tv` and the HTTP port number is `1024`.

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

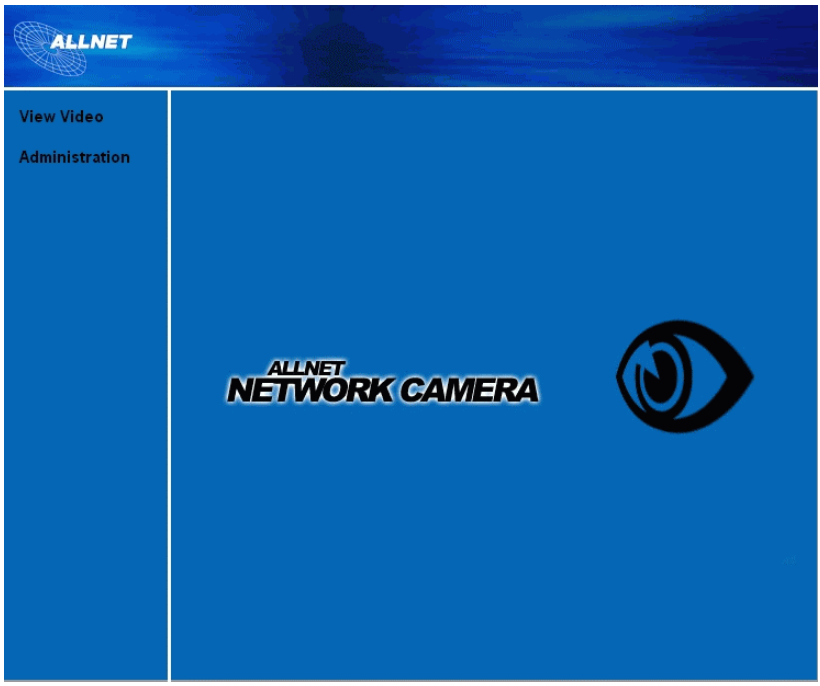


Figure 16: Home Screen

5. Click *View Video*.
6. If the Administrator has restricted access to known users, you will then be prompted for a username and password.
   Enter the name and password assigned to you by the Network Camera administrator.
7. The first time you connect to the camera, you will be prompted to install an ActiveX component (OCX or CAB file), as in the example below.
   You must install this ActiveX component (OCX or CAB file) in order to view the Video stream in Internet Explorer.
   Click the "Yes" button to install the ActiveX component.

Figure 17: ActiveX OCX Prompt

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

Viewing Live Video

After installing the ActiveX component, you be able to view the live video stream in its own window, as shown below.

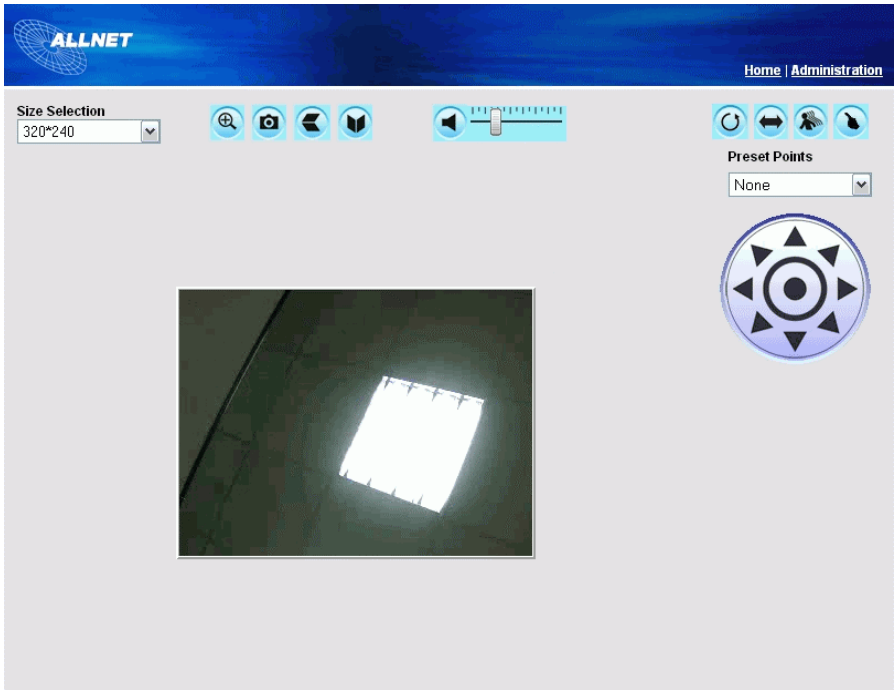


Figure 18: View Video Screen

There are a number of options available on this screen, accessed by select list, button or icon. See the table below for details.

General Options

These options are always available, regardless of the type of camera you are connected to.

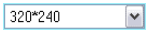


Image Size. Use this drop-down list to select the desired video size.

Zoom. A digital zoom feature is available. To zoom in on a section of the window, click this icon. Then use your mouse to select the section you want to magnify. Click the icon again to disable the zoom feature.

Snapshot. Click this to take a single JPEG "snapshot" image of the current video.

Flip. Click this to have the image swapped top-to-bottom.

Mirror. Click this to have the image swapped left-to-right.

Audio On. This icon is displayed if audio is On. Click on the icon to turn audio Off.

Volume. If audio is enabled, use this slider to adjust the volume.

Camera Patrol. For ALL2250, move through the Preset positions in the sequence defined by the Camera Administrator.

Camera Auto Pan. For ALL2250, click this to have the camera moved from left to right automatically.

Motion Detection. For ALL2250, click this button to have the camera moved to the Motion Detection Preset position.

Direct P/T. For ALL2250, use this to move the camera to the Pan/Tilt position directly.

Preset Points. For ALL2250, select the desired Preset points.

Move Control. For ALL2250, use this to move the camera to the desired position. There may a short delay after clicking the desired icon. You should wait a couple of seconds rather than click again.

Chapter 4

Advanced Viewing Setup

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

Introduction

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* feature

Adjusting the Video Image

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

- **Image Type** - Select the desired type.
- **Resolution** - Select the desired size. The larger sizes require greater bandwidth.
- **Quality Control** - This determines the degree of compression applied to the Video stream. Higher quality requires greater bandwidth.
- **Frame Rate** - You can determine the frame rate required by the video stream.
- **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.
- **Color Balance** - Select the correct color balance for your environment.
- **Exposure** - Adjust the brightness of the image, if the *Auto-Exposure* does not give satisfactory results.
- **Sharpness** - Select the desired option for the sharpness.
- **Microphone** - Enable audio by checking this checkbox. Using Audio will increase the bandwidth requirements slightly.
- **Flip** - This setting will swap the image top-to-bottom.
- **Mirror** – This setting will swap the image left-to-right.
- **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.

To Adjust the Video Image:

1. Connect to the Web-based interface of the Network Camera. (See ***Chapter 5 - Web-based Management*** for details.)
2. Select *Administration*, then *Video Image*. You will see a screen like the example below.

Figure 19: Video Image Screen

3. Make the required adjustments, as explained below, and save your changes.
4. Select *For Computer Use* or *For Mobile Devices Use*.

Encoding	
Image Type	Select the desired type: • MPEG-4 gives smooth motion and high quality images, but the video image quality will deteriorate if insufficient bandwidth is available. • MJPEG requires more bandwidth than MPEG-4, but if the bandwidth is insufficient, the frame rate will drop, and the image quality will remain at the same level.
Resolution	Select the desired video resolution format. The default resolution is set to 320*240.
Quality Control	Select the desired option: • Fix BIT Rate: Select the desired fix bit rate. The default bit rate is set to 1.2 Mbps. • Fix Quality: Select the desired fix quality. The default fix quality is set to Normal. Note: Higher image quality requires more bandwidth.
Desired Frame Rate	Select the desired frame rate for the camera. Reducing this will lower the amount of bandwidth required by the camera.

Power line frequency	Select the power line frequency (50Hz or 60Hz) used in your region, to improve the picture quality under florescent lighting.
Adjustment	
Color Balance	Select the desired option to match the current environment and lighting.
Exposure	If necessary, you can adjust the exposure to obtain a better image. For example, if the camera is facing a bright light, the image may be too dark. In this case, you can increase the exposure.
Sharpness	Select the desired option for the sharpness. You can select a Sharpness value between -3 and 3.
Options	
Microphone	Enable audio by checking this checkbox. Using Audio will increase the bandwidth requirements slightly.
Flip	The Flip setting will swap the image top-to-bottom. If the camera is mounted upside-down on the ceiling, check both the Flip and Mirror settings to have the image rotated to the correct position.
Mirror	The Mirror setting will swap the image left-to-right. If the camera is mounted upside-down on the ceiling, check both the Flip and Mirror settings to have the image rotated to the correct position.
Time Stamp	If enabled, the current time will be displayed on the Video image.
Text Overlay	Enable this setting if you want text to be displayed on the Video image, and enter the desired text - up to 20 characters. This feature is often used to identify each camera when multiple cameras are installed.

Controlling User Access to the Video Stream

By default, anyone can connect to the Network Camera and view live Video at any time.

If desired, you can limit access to scheduled times, and also restrict access to known users.

To Control User Access to Live Video:

1. Connect to the Web-based interface of the Network Camera. (See ***Chapter 5 - Web-based Management*** for details.)
2. Select *Administration*, then *Video Access.*
3. Set the desired options for **Access**.

Access

If the Video Access is enabled, users cannot connect using either their Web Browser or the Windows utility. However, viewing video is still possible by logging in as the Administrator.

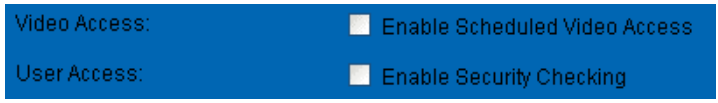


Figure 20: Controlling User Access

See ***Chapter 5 - Web-based Management*** for further details about using the *Video Access* and *User Database* screens.

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. You will need to configure your Router or Gateway to allow connections from the Internet to the camera.

Router/Gateway Setup

Your Router or Gateway must be configured to pass incoming TCP (HTTP) connections (from Internet 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.

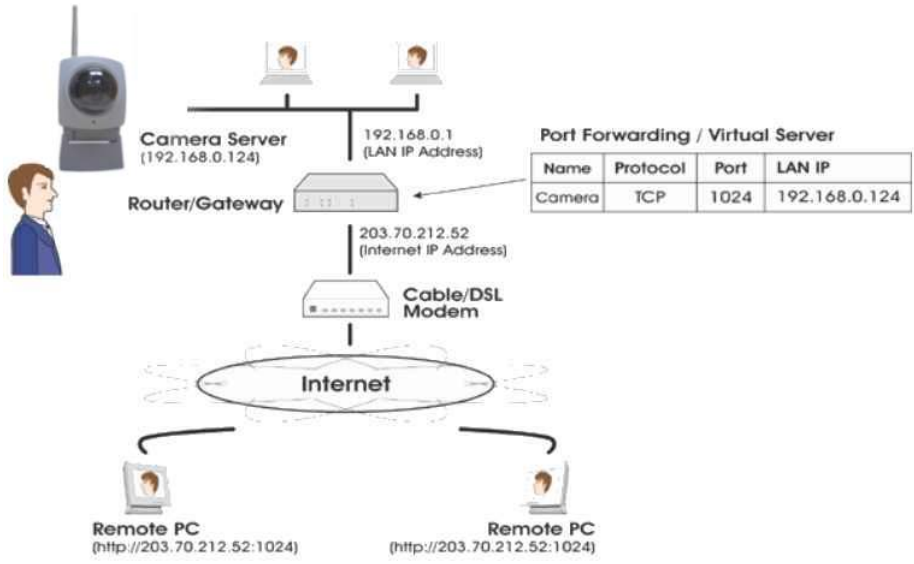


Figure 21: Connecting via the Internet

Note!

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

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.

HTTP 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 *Secondary Port*.

The default *Secondary Port* 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 22: Secondary Port

See ***Chapter 5 - Web-based Management*** for further details on using the ***Network*** screen.

Viewers need to know this port number in order to connect and view live Video, so you must inform viewers of the correct 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 ***DDNS*** screen of the Network Camera.

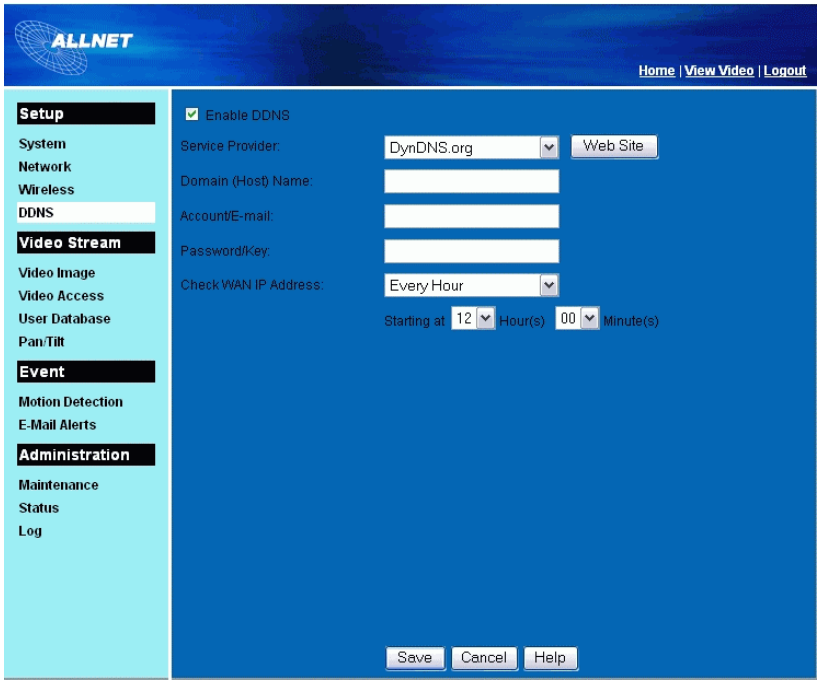


Figure 23: DDNS Screen

3. Operation is then automatic:
   - The Network Camera will 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 the camera using the Domain Name allocated by the DDNS service provider.

Viewing Live Video via the Internet

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

Viewing Live Video Using your Web Browser

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

Enter the Internet address of the Router/Gateway, 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 "Secondary 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 "Secondary Port" number on the Network Camera is `1024`.

Viewing Live Video with the Viewing/Recording Utility

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

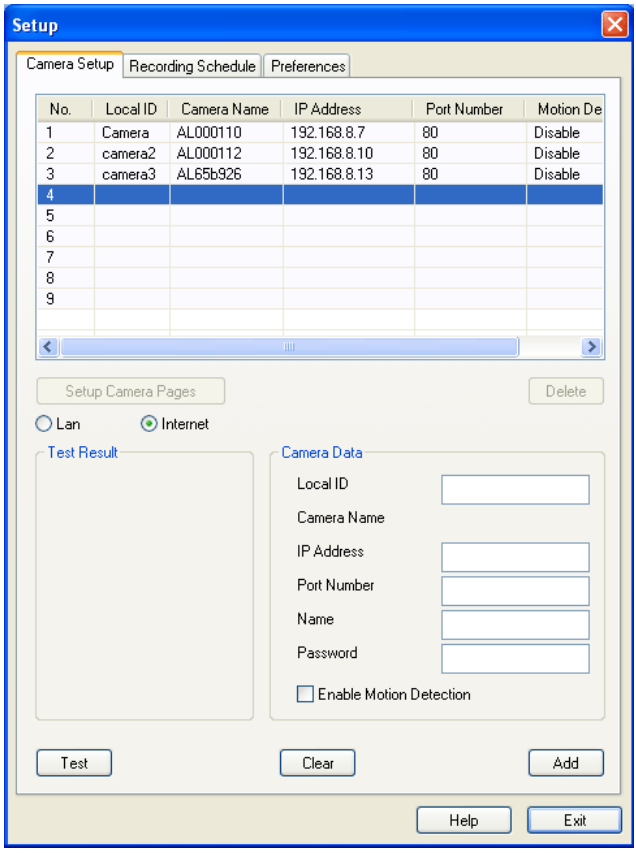


Figure 24: Add Camera from Internet

See ***Chapter 6 - Window Viewing/Recording Utility*** for full details on using the Windows Viewing/Recording utility.

Motion Detection Alerts

The *Motion Detection* feature can generate an Alert 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 Alerts

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

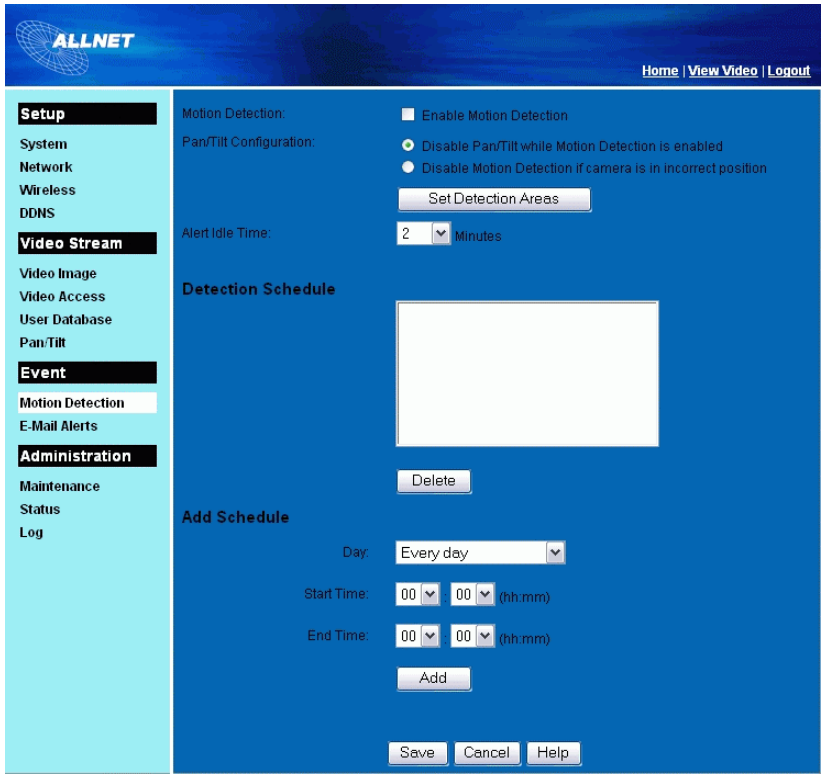


Figure 25: Motion Detection

1. Enable the *Motion Detection* feature.
2. For ALL2250 Network Camera, select the desired option to resolve conflict between the Pan/Tilt and Motion Detection features.
3. Click the *Set Detection Areas* button, and set the area or areas of the video image to be examined for movement. You can define up to 4 areas, and set the motion threshold individually for each area.
4. If using a schedule, define the desired schedule.
5. Save your changes.

6. Select the *E-Mail Alerts* screen to have alerts sent by E-mail:
   - Enable and enter at least one (1) E-mail address
   - Select or enter the desired options for *Video Attachment, Show "From" as* and *Subject* fields.
   - Enter details of the SMTP Server used to send the E-mail.

If the Motion Detection feature is enabled, but E-mail is not enabled, then the only action when motion is detected is to log this event in the system log.

Chapter 5
Web-based Management

This Chapter provides Setup details of the Network Camera's Web-based Interface. This Chapter is for the Camera Administrator 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 ***Chapter 2 - Basic Setup***.

Connecting to Network Camera

- 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. Use the Windows utility to get the IP address of the Network Camera.
2. Start your WEB browser.
3. In the *Address* box, enter "HTTP://" and the IP Address of the Network Camera.
4. You will then be prompted for a username and password.
   - If using the default values, enter **`administrator`** for the name, and leave the password blank.
   - Otherwise, enter the *Administrator ID* and *Administrator Password* set on the ***Maintenance*** screen.

Welcome Screen

When you connect, the following screen will be displayed.

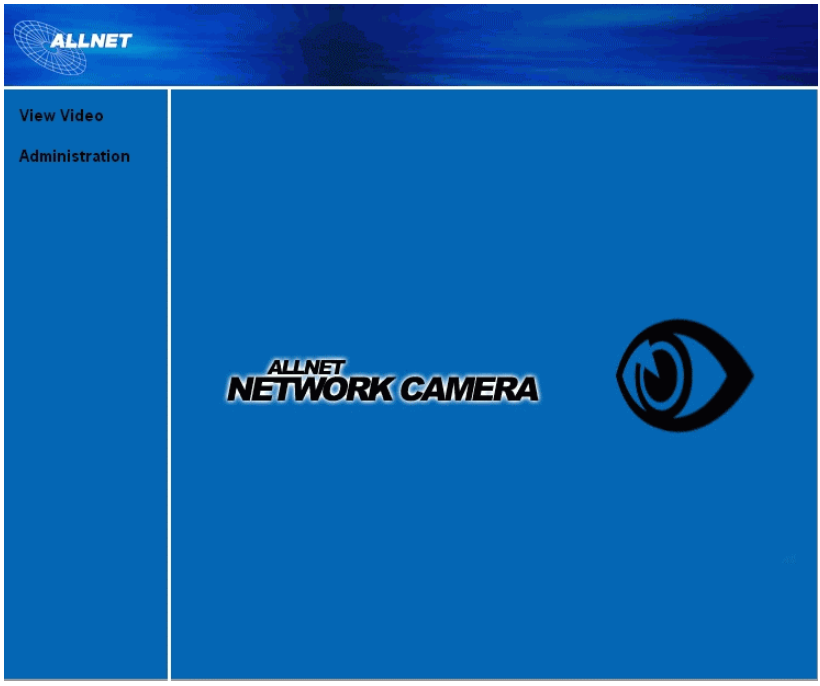


Figure 26: Welcome Screen

The menu options available from this screen are:

- **View Video** - View live Video using your Web Browser. See ***Chapter 3 - Viewing Live Video*** for details.
- **Administration** - Access the Administration menu.

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:

Setup

- **System**
- **Network**
- **Wireless (ALL2250 and ALL2211 only)**
- **DDNS**

Video Stream

- **Video Image**
- **Video Access**
- **User Database**
- **Pan/Tilt (ALL2250 only)**

Event

- **Motion Detection**
- **E-Mail Alerts**

Administration

- **Maintenance**
- **Status**
- **Log**

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.

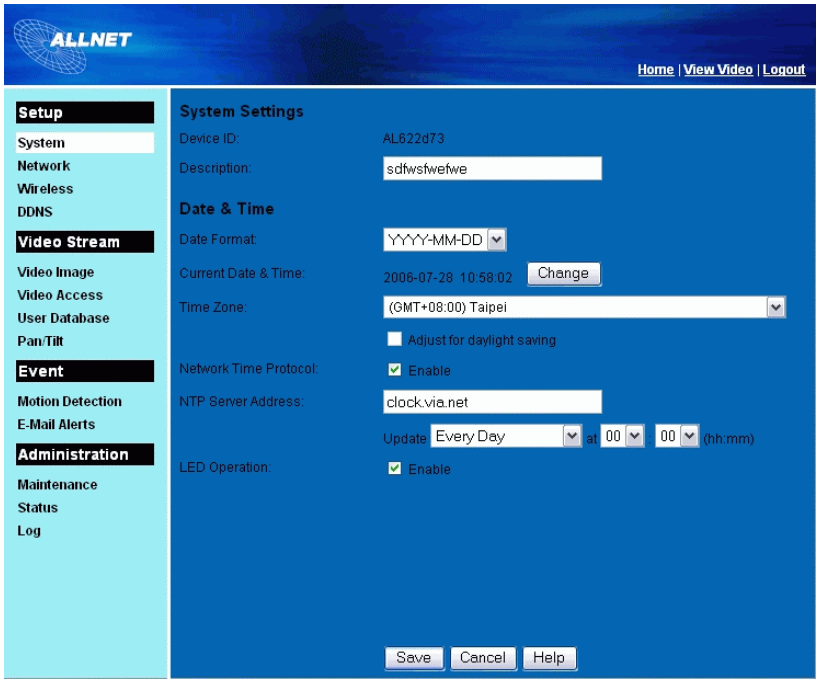


Figure 27: System Screen

Data - System Screen

System Settings	
Device ID	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.
Date & Time	
Date Format	Select the desired date format, it will also be used to display the date and time as an overlay on the video image. The abbreviations used to predefine the date formats are list as follows: • YYYY-MM-DD = Year-Month-Day, e.g. 2006-01-31 • MM/DD/YYYY = Month/Day/Year, e.g. 01/31/2006 • DD/MM/YYYY = Day/Month/Year, e.g. 31/01/2006
Current Date & Time	This displays the current date and time on the camera. If it's not correct, click the **Change** button to modify the date/time settings. This button will open a sub-screen where you have 2 options: • Set the camera's date and time to match your PC. • Enter the correct date and time.

Time Zone	Choose the Time Zone 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**.
Network Time Protocol	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.
NTP Server Address	Enter the address for the desired NTP server.
Update	The Schedule determines how often the Network Camera contacts the NTP Server. Select the desired options.
LED Operation	Enable this if you want to use this function.

Network Screen

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

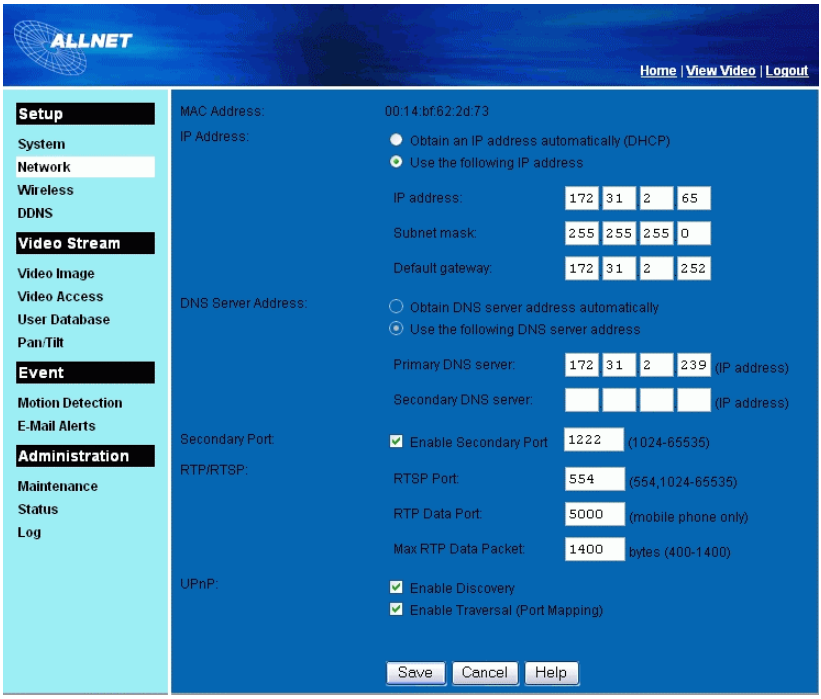


Figure 28: Network Screen

Data - Network Screen

Network	
MAC Address	It displays the current MAC address.
Obtain an IP Address Automatically	If selected, the Network Camera will obtain its IP address and related information from a DHCP Server. Only select this option if your LAN has a DHCP Server.
Use the following IP Address	If selected, you must assign the following data to the Network Camera. • **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. • **Default Gateway** - Use the same value as PCs on your LAN.
Obtain DNS server address automatically	If selected, the Network Camera will use the DNS address or addresses provided by the DHPC server. This option is only available if the IP address setting is *Obtain an IP address Automatically*.
Use the following DNS server address	**Primary DNS server** - Use the same value as PCs on your LAN. Normally, your ISP will provide this address. **Secondary DNS server** - This is optional. If entered, this DNS will be used if the Primary DNS does not respond.

Secondary Port	This sets the port number for HTTP (Web) connections to the Camera, whether for administration or viewing video. • If enabled, you can connect using either port 80 or the Secondary port. You must enter the Secondary port number (between 1024 to 65535) in the field provided. Note that when using a port number which is not 80, you must specify the port number in the URL. For example, if the Camera's IP address was 192.168.1.100 and the Secondary port was 1024, you would specify the URL for the Camera as follows: http://192.168.1.100:1024
RTSP Port	The RTSP (Real Time Streaming Protocol), a standard for connected client(s) to control streaming data (MPEG-4) over the World Wide Web. If desired to change, enter the RTSP Port number (between 1024 to 65535) in the field provided. The default RTSP Port is 554.
RTP Data Port	The RTP (Real-Time Transport Protocol), an Internet protocol used for transmitting a single real-time multimedia data such as audio and video to a select group of connected clients. The RTSP uses RTP to format packets of multimedia content. The Network Camera's data Port number has been pre-configured and can be used for multi casting, and does not normally need to be re-configured. If the port number does need to be changed, please contact your network administrator. If desired to change, enter the data Port number (between 1024 to 65534) in the field provided.
Max RTP Data Packet	If desired to change, enter the Max RTP Data Packet Length (between 400 to 1400 bytes) in the field provided.
UPnP	
Enable Discovery	If enabled, the Network Camera will broadcast its availability through UPnP. UPnP compatible systems such as Windows XP will then be able to detect the presence of the Network Camera.
Enable Traversal	If enabled, HTTP connections (from your Web Browser or the Viewer and Recorder utility) can use secondary port instead of port 80 (the standard HTTP port) to access the camera.

Wireless Screen (ALL2250 and ALL2211 only)

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

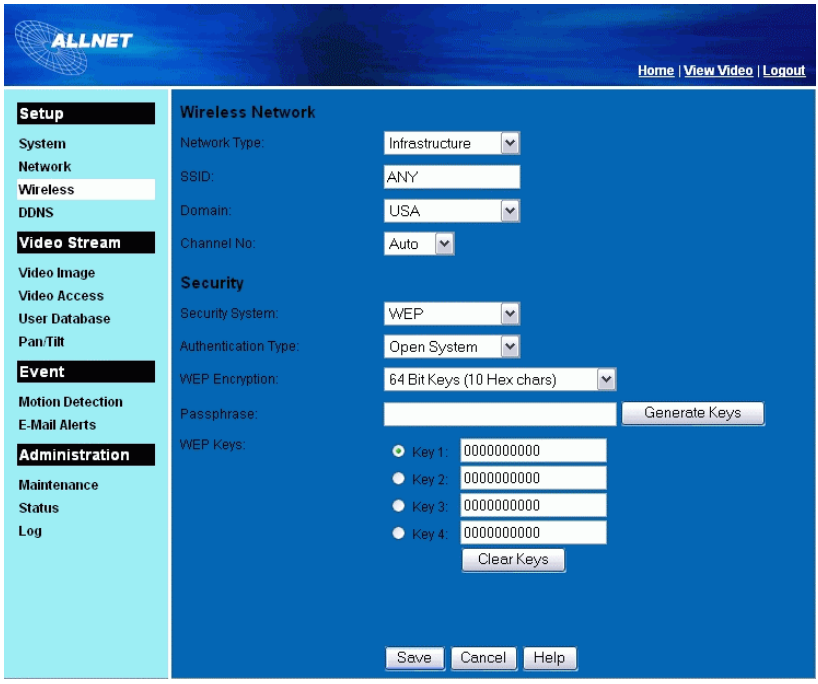


Figure 29: Wireless Screen

Data - Wireless Screen

Wireless Network	
Network Type	This determines the type of wireless communication used by the Network Camera. • If you have an Access Point, select *Infrastructure*. • Otherwise, select *Ad-hoc*.
SSID	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.

Security	
Security System	Select the desired option, and then enter the settings for the selected method: • **Disabled** - No security is used. Anyone using the correct SSID can connect to your network. • **WEP** - The 802.11b standard. Data is encrypted before transmission, but the encryption system is not very strong. • **WPA-Personal** - Like WEP, data is encrypted before transmission. WPA is more secure than WEP, and should be used if possible. WPA Personal is the version of WPA which does NOT require a Radius Server on your LAN.
WEP	
Authentication Type	Normally this can be left at the default value of "Automatic." If that fails, select the appropriate value - "Open System" or "Shared Key." Check your wireless card's documentation to see what method to use. **Note:** In *Infrastructure* mode, either setting will normally work, since most Access Points can use both methods.
WEP Encryption	Select the WEP Encryption level: • 64 Bit Keys (5 ASCII chars) • 64 Bit Keys (10 Hex chars) • 128 Bit Keys (13 ASCII chars) • 128 Bit Keys (26 Hex chars)
Passphrase	Enter a word or group of printable characters in the Passphrase box and click the "Generate Keys" button to automatically configure the WEP Key(s). If encryption strength is set to 64 bit, then each of the four key fields will be populated with key values. If encryption strength is set to 128 bit, then only the selected WEP key field will be given a key value.
WEP Keys	• Use the radio buttons to select the default key. • Enter the key value you wish to use. Other stations must have the same key values. • Keys must be entered in Hex. Hex characters are the digits (0 ~ 9) and the letters A ~ F. • Click *Clear Keys* to set the Keys to be blank.
WPA-Personal	
WPA Shared Key	Enter the key value. Data is encrypted using a key derived from the network key. Other Wireless Stations must use the same network key. The PSK must be from 8 to 63 characters in length.

DDNS Screen

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 ***DDNS*** 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 Address* 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.

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

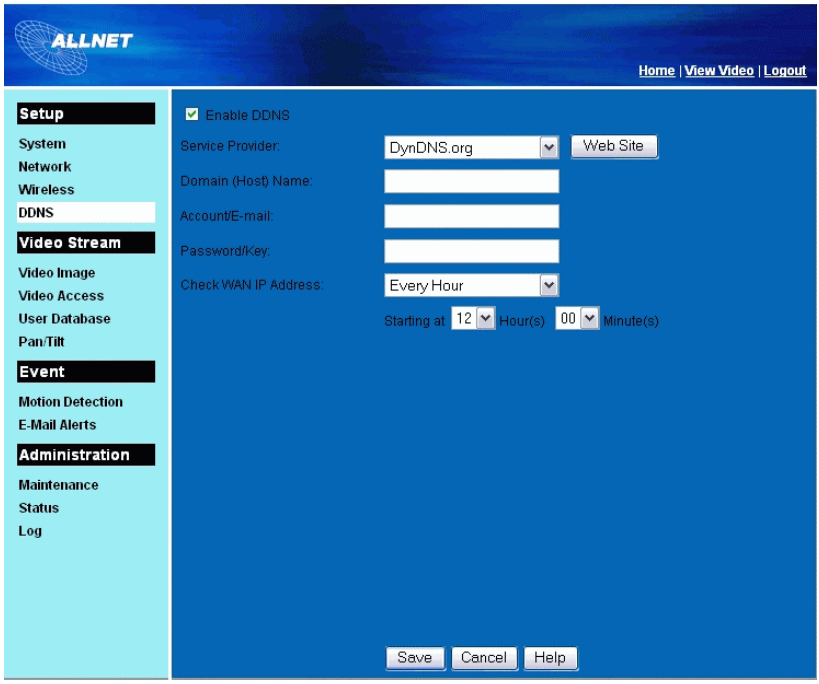


Figure 30: DDNS Screen

Data - DDNS Screen

DDNS	
Enable DDNS	Enable 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.
Web Site Button	Click this button to open a new window and connect to the Web site for the selected DDNS service provider.

Domain (Host) Name	Enter the Domain Name (Host Name) allocated to you by the DDNS Server provider.
Account/E-mail	Enter the login name for the DDNS account.
Password/Key	Enter the password for the DDNS account.
Check WAN IP Address	Set the schedule for checking if the Internet IP address has changed. If the IP address has changed, the DDNS Server will be notified. NOTE: If the DDNS Service provided some software to perform this IP address update or notification, you should NOT use this software. The update is performed by the camera.

Video Image Screen

This screen is displayed when the *Video Image* menu option is clicked.

Select the desired type:

- For Computer Use: If selected, you must assign desired "Encoding" values for computer viewing use.
- For Mobile Devices Use: If selected, the "Encoding" values (Resolution, Quality Control, Desired Frame Rate) will also be assigned for the best mobile viewing use.
  Note: The image type will set to the MPEG-4, and the resolution will set to 160*128.

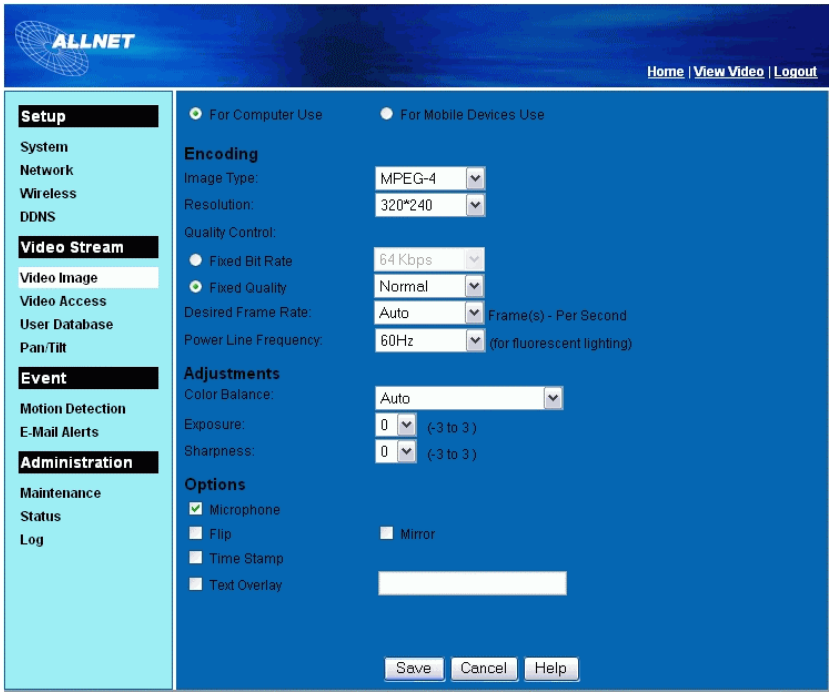


Figure 31: Video Image Screen

Data - Video Image Screen

Encoding	
Image Type	Select the desired type: • MPEG-4 gives smooth motion and high quality images, but the video image quality will deteriorate if insufficient bandwidth is available. • MJPEG requires more bandwidth than MPEG-4, but if the bandwidth is insufficient, the frame rate will drop, and the image quality will remain at the same level.
Resolution	Select the desired video resolution format. The default resolution is set to 320*240.

Quality Control	Select the desired option: • Fix BIT Rate: Select the desired fix bit rate. The default bit rate is set to 1.2 Mbps. • Fix Quality: Select the desired fix quality. The default fix quality is set to Normal. Note: Higher image quality requires more bandwidth.
Desired Frame Rate	Select the desired frame rate for the camera. Reducing this will lower the amount of bandwidth required by the camera.
Power line frequency	Select the power line frequency (50Hz or 60Hz) used in your region, to improve the picture quality under florescent lighting.
Adjustment	
Color Balance	Select the desired option to match the current environment and lighting.
Exposure	If necessary, you can adjust the exposure to obtain a better image. For example, if the camera is facing a bright light, the image may be too dark. In this case, you can increase the exposure.
Sharpness	Select the desired option for the sharpness. You can select a Sharpness value between -3 and 3.
Options	
Microphone	Enable audio by checking this checkbox. Using Audio will increase the bandwidth requirements slightly.
Flip	The Flip setting will swap the image top-to-bottom. If the camera is mounted upside-down on the ceiling, check both the Flip and Mirror settings to have the image rotated to the correct position.
Mirror	The Mirror setting will swap the image left-to-right. If the camera is mounted upside-down on the ceiling, check both the Flip and Mirror settings to have the image rotated to the correct position.
Time Stamp	If enabled, the current time will be displayed on the Video image.
Text Overlay	Enable this setting if you want text to be displayed on the Video image, and enter the desired text - up to 20 characters. This feature is often used to identify each camera when multiple cameras are installed.

Video Access Screen

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

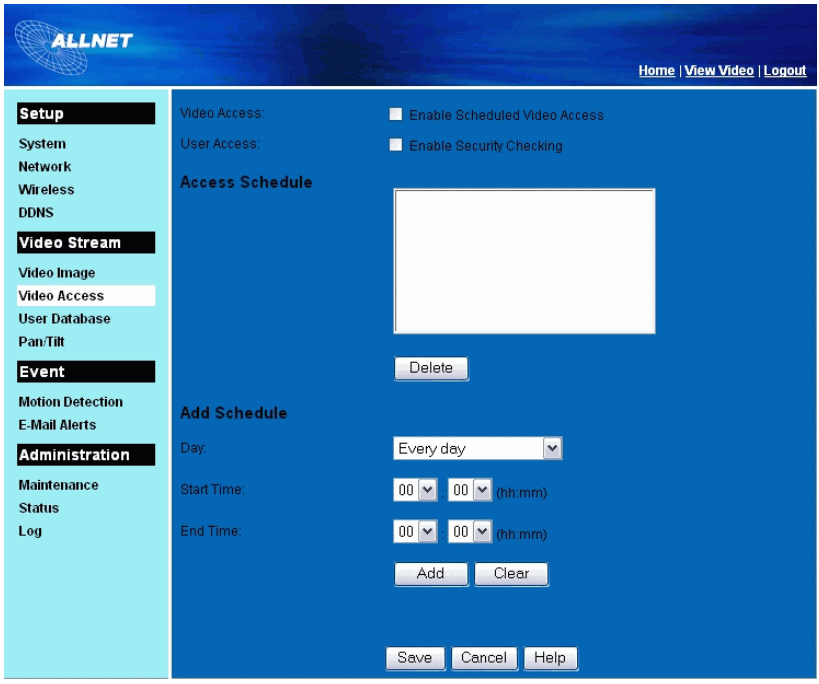


Figure 32: Video Access Screen

Data - Video Access Screen

Video Access	
Enable Scheduled Video Access	• If enabled - Camera is available during the scheduled periods, and unavailable at other times. If this option is selected, you need to define a schedule. If no schedule is defined, this option is always disabled. • If disabled - The option will remain disabled until you enable it. Note that regardless of which setting is chosen, the Administrator can ALWAYS access the camera and view live video.
User Access	
Enable Security Checking	• If disabled - No login required, users do not have to provide a username and password when they connect to the camera to view video. • If enabled - Require login, users will be prompted for a username and password when they connect to the camera to view video. The camera administrator must use the "User Database" menu option to create the desired users.
Access Schedule	
Scheduled Periods	This displays all periods you have entered into the database. If you have not entered any periods, this list will be empty.
Delete	Use this button to delete the selected item in the list.

Add Schedule	
Day	Choose the desired option for the schedule.
Start Time	Enter the start time using a 24 hr clock.
End Time	Enter the end time using a 24 hr clock.
Add	Click this button to add a new schedule.

User Database Screen

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

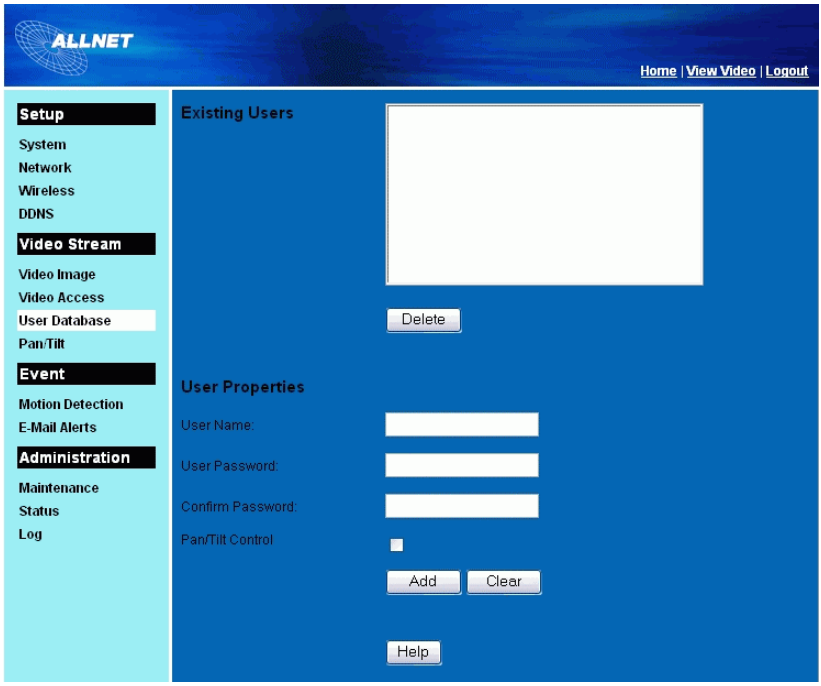


Figure 33: User Database Screen

Data - User Database Screen

Existing Users	
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.
Delete Button	Use the button to manage the user database.
User Properties	
User Name	Enter the name for the user 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.
User Password	The password for this user.
Confirm Password	Re-enter the password for the user, to ensure it is correct.
Pan/Tilt Control (ALL2250 only)	This allows the camera to Pan (move left-right) and Tilt (move up-down).
Add Button	Click this button to add a new user, using the data shown on screen.
Clear Button	Use this button to clear the input fields, ready to add a new user.

Pan/Tilt Screen (ALL2250 only)

This screen is displayed when the *Pan/Tilt* option on the *Administration* menu is clicked.

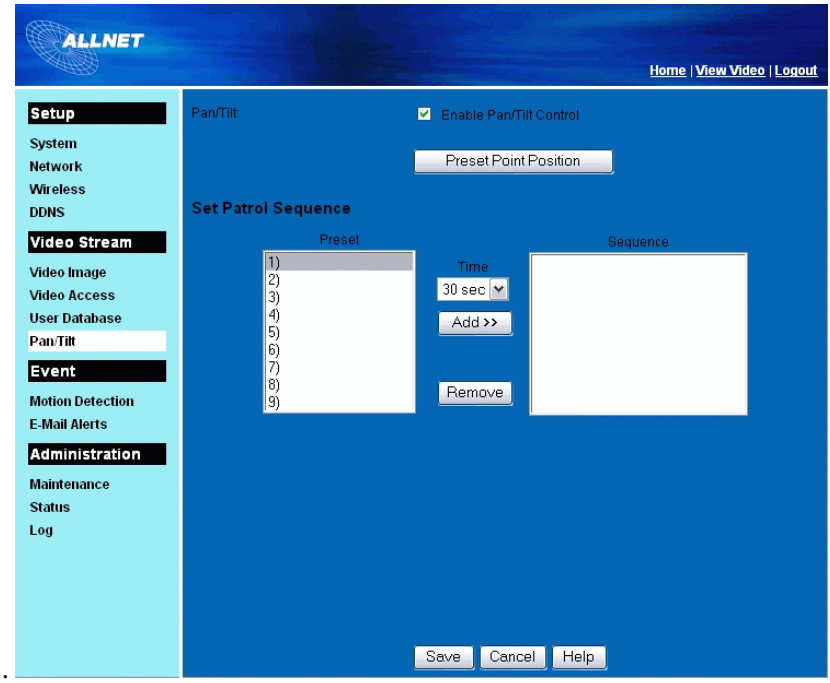


Figure 34: Pan/Tilt Screen

Data – Pan/Tilt Screen

Pan/Tilt	
Enable Pan/Tilt Control	Enable to select the desired option to control who one can use the camera's Pan/Tilt function.
Preset Point Position	Click this button to define the preset point position.
Set Patrol Sequence	
Set Patrol Sequence	This feature determines how the camera will move when it is set to "Rotate". You can set a number of Preset Positions; the camera will go to the first position, then move through the list of present positions until it is finished. The camera will stop at the last position in the list. To create the Preset Sequence, select the desired Preset Position in the left column, and click the "Add >>" button. Repeat until the desired sequence is complete. Note that you can add the same Preset Position more than once; this can be used to make the camera stay longer at one position. To delete a position from the Sequence, select the desired position and click the "Remove" button.
Time	This determines how long the camera will stay at each position while executing the sequence. Set this to the desired value.

Preset Point Position Screen

This screen is displayed when the *Preset Point Position* button on the ***Pan/Tilt*** screen is clicked.

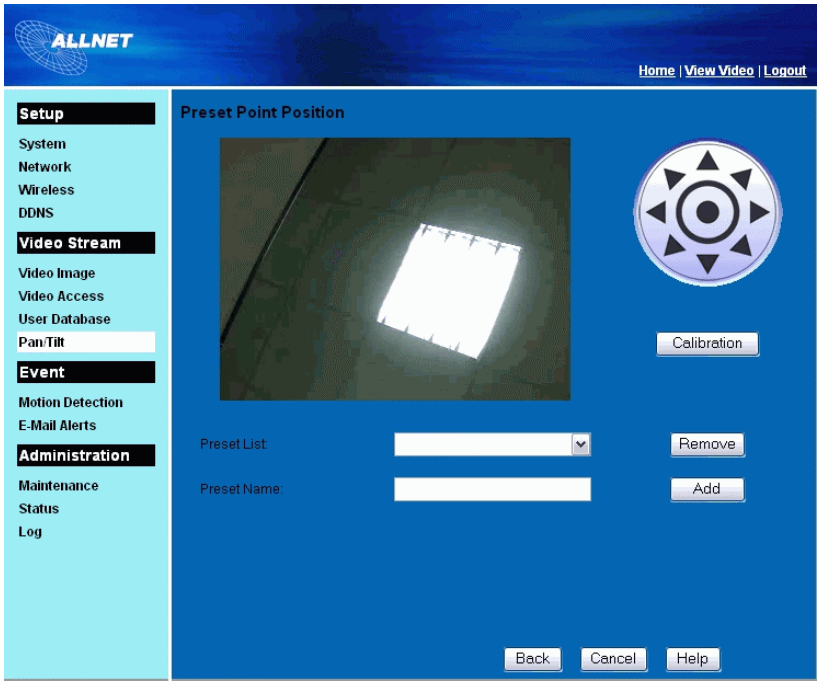


Figure 35: Preset Point Position Screen

Data - Preset Point Position Screen

Set Position	Set the desired position through adjusting the control panel.
Calibration	Click this button to reset the calibration of Pan/Tilt area.
Preset List	Select the desired Preset. The screen will update with the current data for the selected Preset Position.
Preset Name	Enter a suitable name for the Preset Position. If no name is entered, the preset will have a number only.

Motion Detection Screen

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

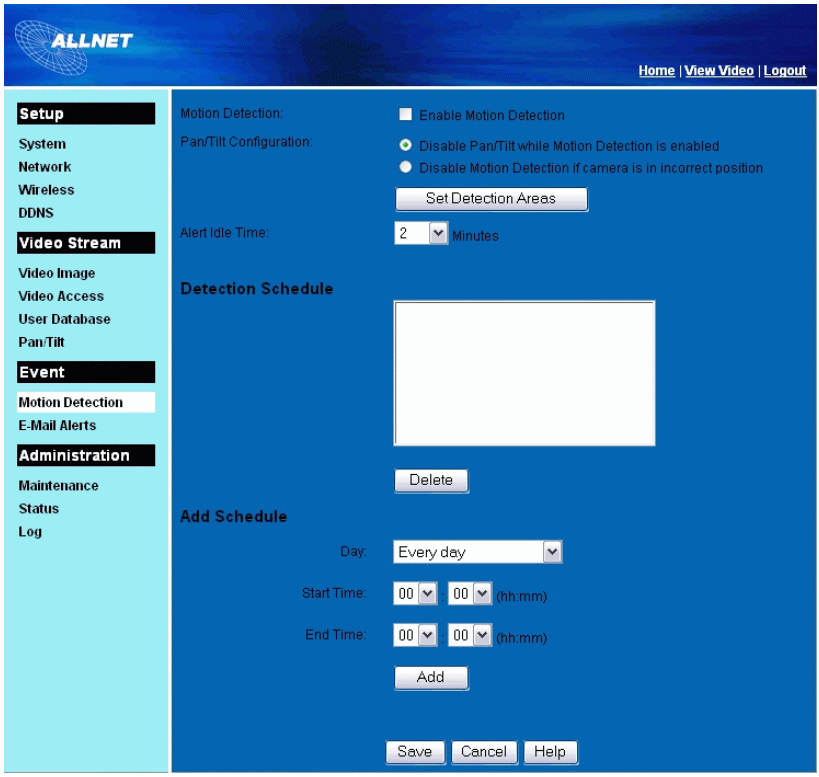


Figure 36: Motion Detection Screen

Data - Motion Detection Screen

Motion Detection	
Motion Detection	Alerts can be sent when motion is detected. Select the desired option: • Disable - Motion detection alerts are disabled. • Enable - Motion detection alerts are enabled during the scheduled periods. Note: If Motion Detection Alerts are enabled, you must enable and configure either the E-mail or SMTP Server sections in order to have an alert sent.
Pan/Tilt Configuration (ALL2250 only)	This option is only available if your camera is fitted with a Pan/Tilt control. If available, select the desired option to resolve conflict between the Pan/Tilt and Motion Detection features.
Set Detection Areas Button	Click this button to enter the motion detection screen. You can set the area or areas of the video image to be examined, and adjust the threshold of detection for each area. 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.

Alert Idle Time	Use this to ensure your E-mail inbox or SMTP Server is not flooded with alerts. Select the desired time delay between alerts.
Detection Schedule	
Scheduled Periods	This displays all periods you have entered into the database. If you have not entered any periods, this list will be empty.
Delete Button	Use this button to delete the selected item in the list.
Add Schedule	
Day	Choose the desired option for the schedule.
Start Time	Enter the start time using a 24 hr clock.
End Time	Enter the end time using a 24 hr clock.
Add	Click this button to add a new schedule.

E-Mail Alerts Screen

This screen is displayed when the *E-Mail Alerts* option on the *Administration* menu is clicked.

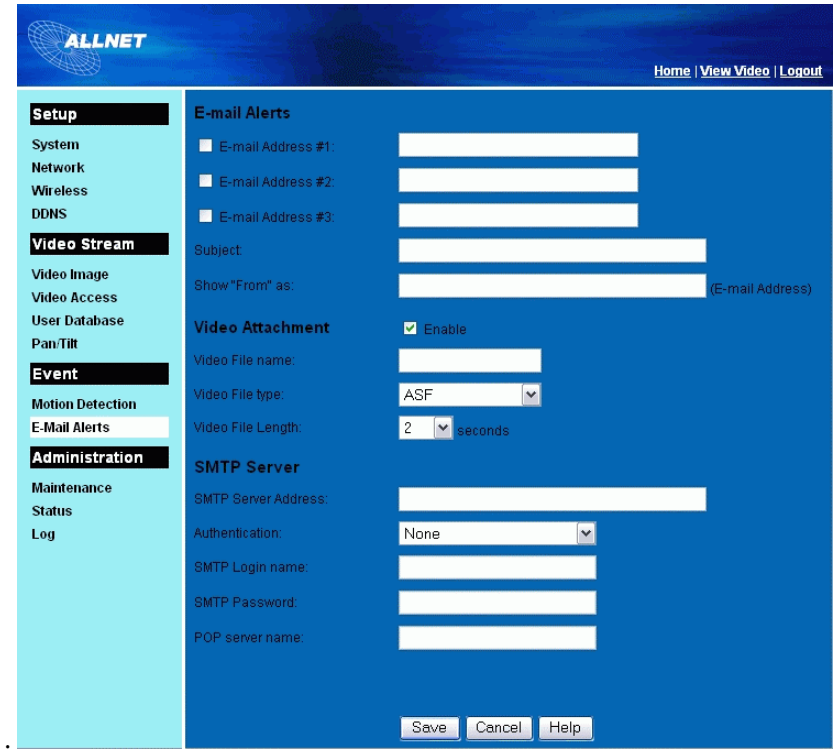


Figure 37: E-Mail Alerts Screen

Data – E-Mail Alerts Screen

E-Mail Alerts	
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.
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.
Show "From" as	Enter the E-mail address to be shown in the "From" field when the E-mail is received.
Video Attachment	
Video Attachment	Enable this if you want to send a Video file as an attachment with the E-mail alert.
Video File Name	Enter a suitable name for the Video file.
Video File Type	Select the desired type for the video file.
Video File Length	Select the desired length. The size of the file depends on this setting, and also the Video size and degree of compression.

SMTP Server	
SMTP Server Address	Enter the address of the SMTP (Simple Mail Transport Protocol) Server to be used to send E-Mail.
Authentication	Select the desired Authentication type for the SMTP Server.
SMTP Login name	Enter your login name for the SMTP Server.
SMTP Password	Enter your password for the SMTP Server.
POP server name	Enter the name for the POP Server.

Maintenance Screen

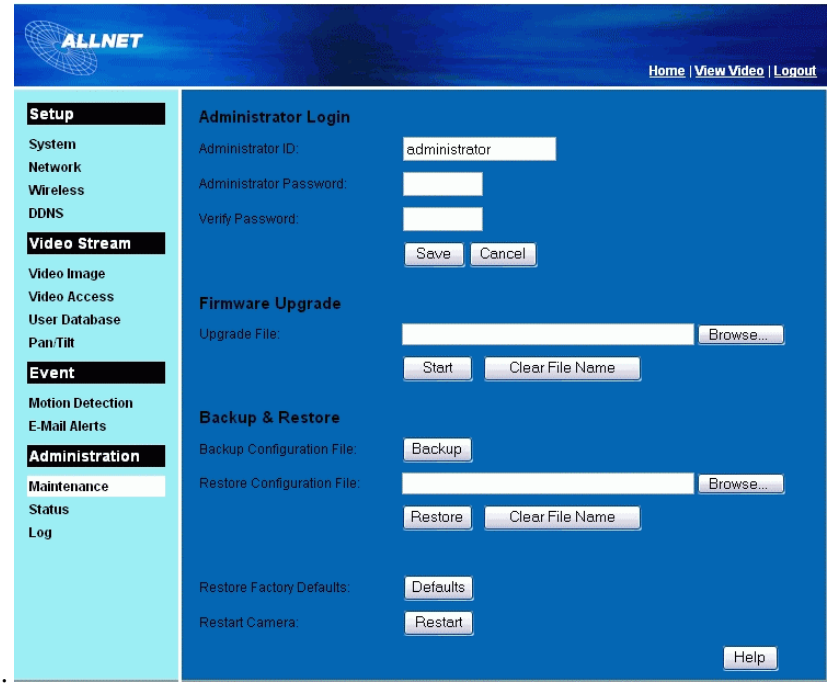


Figure 38: Maintenance Screen

Data - Maintenance Screen

Administrator Login	
Administrator ID	Enter the name for the Administrator here. Spaces, punctuation, and special characters must NOT be used in the name.
Administrator Password	The password for the Administrator.
Verify Password	Re-enter the password for the Administrator, to ensure it is correct.
Firmware Upgrade	
Upgrade File	Click the "Browse" button and browse to the location on your PC where you stored the Firmware file. Select this file.
Start	Click this button to start the Firmware. When the upgrade is finished, the Network Camera will restart, and this management connection will be unavailable during the restart.
Clear File Name	This does NOT stop the Upgrade process if it has started. It only clears the input for the "Upgrade File" field.

Backup & Restore	
Backup Configuration File	Click *Backup* button to save the current configuration information to a text file.
Restore Configuration File	Click *Restore* button to reinitialize the camera to load the new updated software. Do this after loading the upgrade file.
Clear File Name	This does NOT stop the Restore process if it has started. It only clears the input for the "Restore Configuration File" field.
Buttons	
Defaults	Click *Defaults* button to reloads all default settings on the camera.
Restart	Click *Restart* button to restarts the camera.

Status Screen

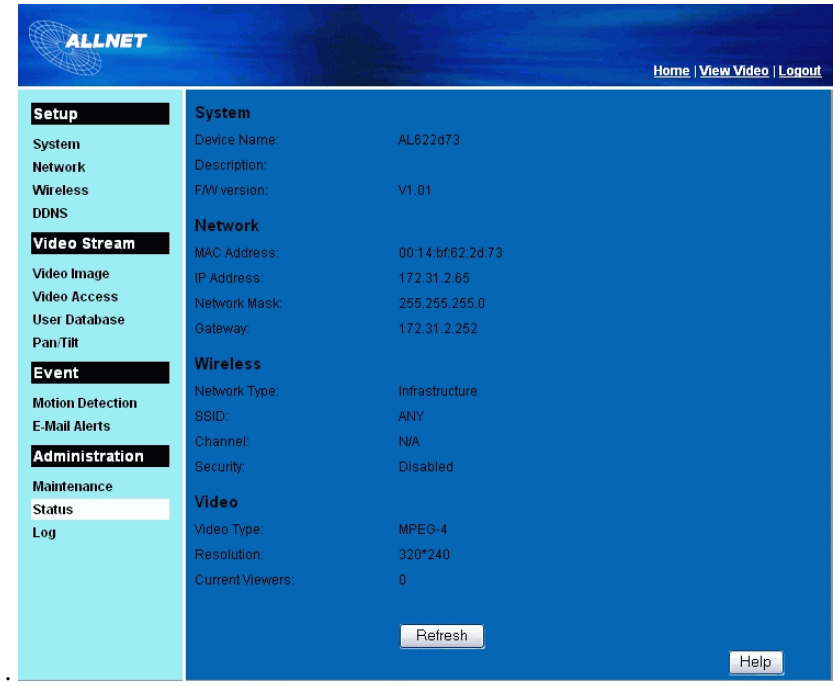


Figure 39: Status Screen

Data - Status Screen

System	
Device Name	This shows the name of the Network Camera.
Description	This shows the description of the Network Camera, such as location.
F/W version	The version of the current firmware installed.
Network	
MAC Address	The current IP address of the Network Camera.
IP Address	The IP Address of the Network Camera.
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 (ALL2250 and ALL2211 only)	
Network Type	This shows the Network Type currently in use (Ad-hoc or Infrastructure).
SSID	This displays the wireless SSID.
Channel	This shows the wireless channel currently used.
Security	The current security setting for Wireless connections.
Video	
Video Type	This displays the compression type of the video stream (e.g. MPEG-4).

Resolution	The image size of the video stream.
Current Viewers	This shows how many viewers are currently viewing the Video stream.
Buttons	
Refresh	Update the log and any other data on screen.

Log Screen

This screen displays a log of system activity.

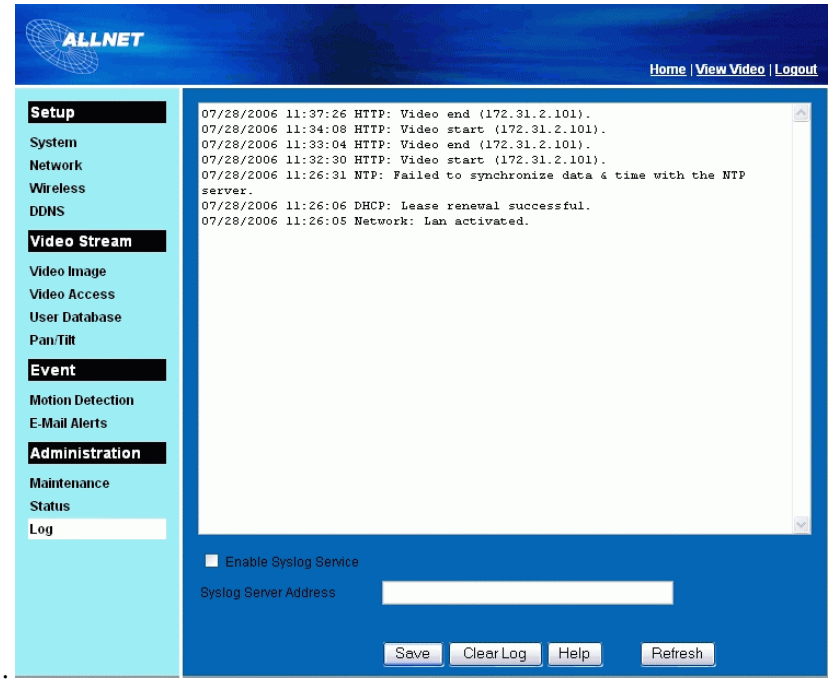


Figure 40: Log Screen

Data - Log Screen

Log	
System Log	This is a log of system activity.
Enable Syslog Service	Check the box to enable the System Log Service feature.
Syslog Server Address	Enter the address of the Syslog Server.
Clear Log	Click this button to restart the log.
Refresh Button	Click this to update the data shown on screen.

Chapter 6
Windows Viewing/Recording Utility

This Chapter describes how to view and record the live video stream generated by the Network Camera, using the supplied Windows utility.

Overview

The recommended method to view video is to use the supplied Windows Viewing/Recording utility. This utility also allows you to record the video streams, either interactively or using a schedule.

Installation

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

Figure 41: Welcome Screen

2. Click the *Install 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.

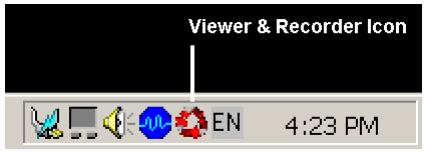


Figure 42: System Tray Icon

This Icon has the following functions:

- **Double-click** - This will display the version number.
- **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.

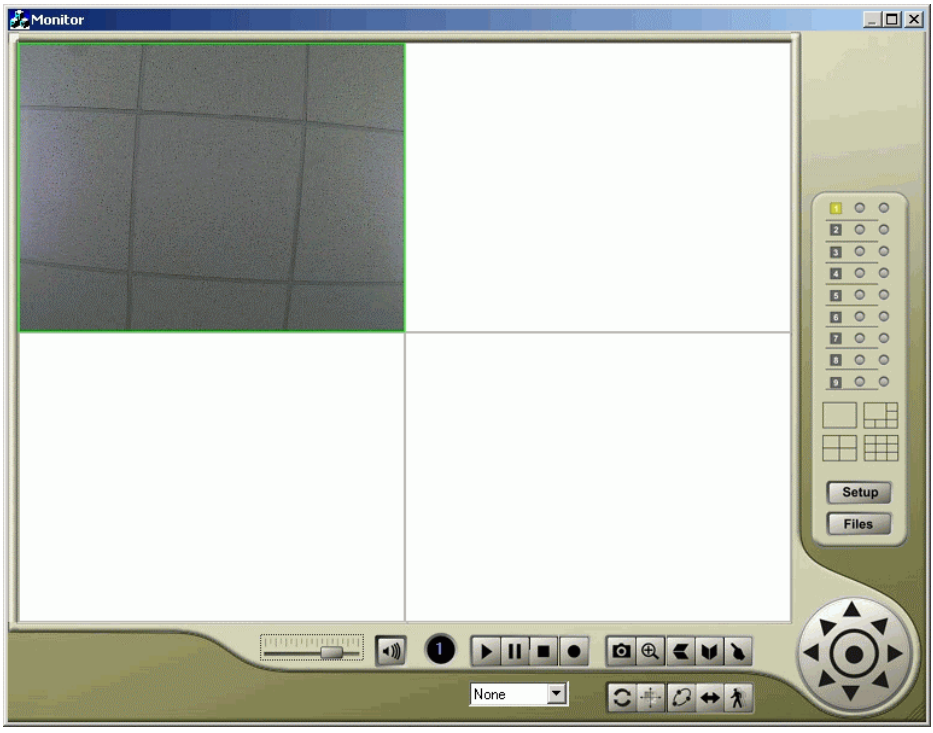


Figure 43: Main Screen

If no cameras have been defined, no video will be displayed. See the following section for information on defining a camera. Note that each Camera is given a number (Channel Number).

Camera Setup

To define a camera and associate it with a *Channel Number*.

1. Click the *Setup* button on the main screen. You will see a screen like the example below.

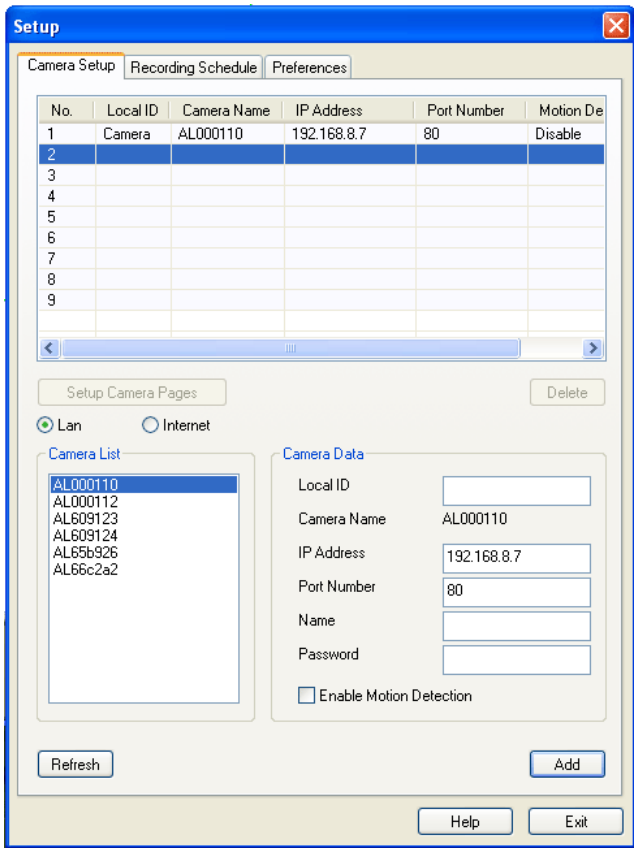


Figure 44: Camera Setup Screen

2. Select the desired *Channel* number in the left (*No.*) column.
3. There are 2 radio buttons, for *LAN* or *Internet*. The default is *LAN*. See the following section for details of the *Internet* option.
   - The *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.
4. To associate a camera with the current *Channel*:
   - Select a camera in the list on the left.
   - Enter the value of *Local ID*.
   - Check that the *Camera Data* shown on the right is correct. See below for details.
   - Click the *Add* button. The camera will now appear in the *Channel List*.

Camera Data - LAN

Local ID	This is the name you gave to this camera. This field must be entered.
Camera Name	This is the default name for the Network Camera, and cannot be changed.

IP 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.
Setup Camera Pages	Click this button to connect the Web-based interface of the Camera
Enable Motion Detection	Check this if you want the Camera to have the feature enabled.

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* button. You will see a screen like the example below.

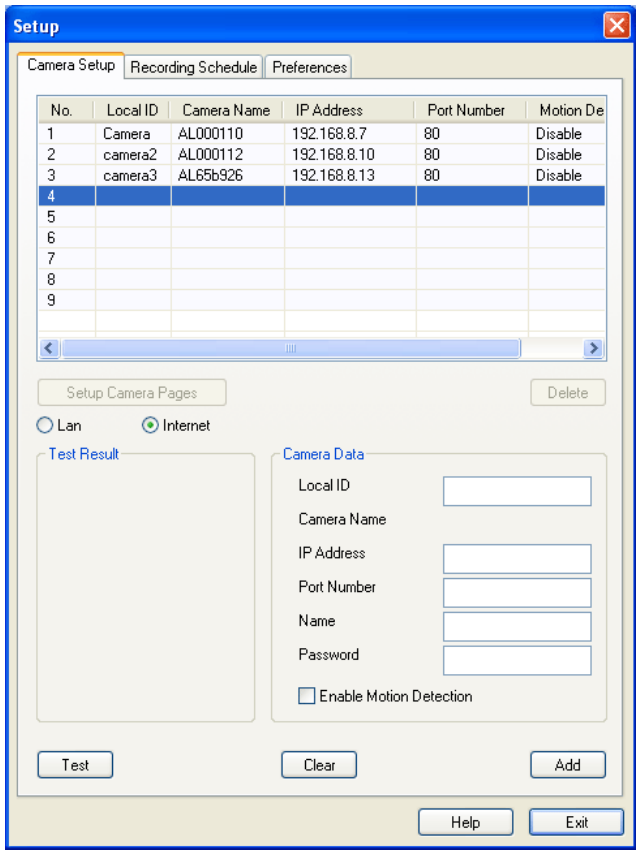


Figure 45: Add Camera from Internet

To associate a camera with the current *Channel*:

1. Enter the *Camera Data* on the panel on the right. See below for details.
2. If desired, click the *Test* button to check that a connection and login can be performed successfully. Note that if the remote LAN does not currently have an Internet connection, or the remote camera is not on-line, the test will fail because no connection is possible.
3. Click the *Add* button. The camera will now appear in the *Channel List*.

Camera Data - Internet

Local ID	This is the name you gave to this camera. This field must be entered.
Camera 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.
IP 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 for connections via the Internet The 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 Camera Administrator has not enabled this option, the *Login* fields can be left blank. • Otherwise, you must enter the username and password allocated to you by the Camera Administrator.
Setup Camera Pages	Click this button to connect the Web-based interface of the Camera
Enable Motion Detection	Check this if you want the Camera to have the feature enabled.

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.

Main Screen

You can view live video in the main screen. The built-in software can let you view up to 9 cameras on a single computer screen at one central location.

The Icons allow you to control the cameras and video streams.

Speaker Volume - For Cameras that feature audio, click this bar and move its endpoint to raise or lower the volume.

Sound On/Off. One of these icons will be displayed.

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.

Channel Indicator. This indicates the current channel (camera).

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

Pause. Use this to temporarily stop the connection to the camera

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

Record. Click this to start recording the current video stream.
While recording, this button will be blue. To stop recording, click the **Stop** button.

Snapshot. Click this to take a single JPEG "snapshot" image of the current video.

Zoom Camera. A digital zoom feature is available. To zoom in on a section of the window, click this icon. Then use your mouse to select the section you want to magnify. Click the icon again to disable the zoom feature.

Flip Video. Click this to have the image swapped top-to-bottom.

Mirror Video. Click this to have the image swapped left-to-right.

Direct Pan/Tilt. For ALL2250, use this to move the camera to the Pan/Tilt position directly.

Preset Position. For ALL2250, select the desired Preset position.

Refresh. For ALL2250, update the Preset position list. This has no effect unless during the viewing session, another user or the Camera Administrator has renamed one or more of the Preset positions.

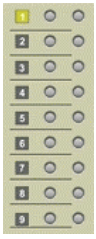
Create Preset Points. For ALL2250, define (or re-define) a Preset position. The Camera Administrator can choose whether or not this option is available.

Patrol. For ALL2250, move through the Preset positions in the sequence defined by the Camera Administrator.

Auto Pan. For ALL2250, click this to have the camera moved from left to right automatically.

Motion Detection. For ALL2250, click this button to have the camera moved to the Motion Detection Preset position.

Move Control. For ALL2250, use this to move the camera to the desired position. There may a short delay after clicking the desired icon. You should wait a couple of seconds rather than click again.



Channel (Camera) Selection.
Use this to select the desired Channel (Camera) by clicking on the top row. This panel also indicates the status of the camera.

- The first row indicates if the camera is available.
  Yellow indicates the camera is available.
  Red indicates that the camera is currently unavailable.
- The middle row indicates if a recording is in progress.
  Gray indicates no recording.
  Blue indicates recording is in progress.
- The bottom row indicates if Motion Detection is in progress.
  Gray indicates this feature is not enabled.
  Red (blinking) indicates Motion Detection is in progress.

Screen Layout. Use this to select the number of Channels (Cameras) to be displayed on screen.

Click this button to open the Setup Window.

Click this button to open the File Finder, which allows you to browse through the previously saved files.

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 settings to ensure they are suitable for your PC.

Recording Schedule

To set the Recording Preferences, click the ***Recording Schedule*** tab on the *Setup* screen. You will see a screen like the example below.

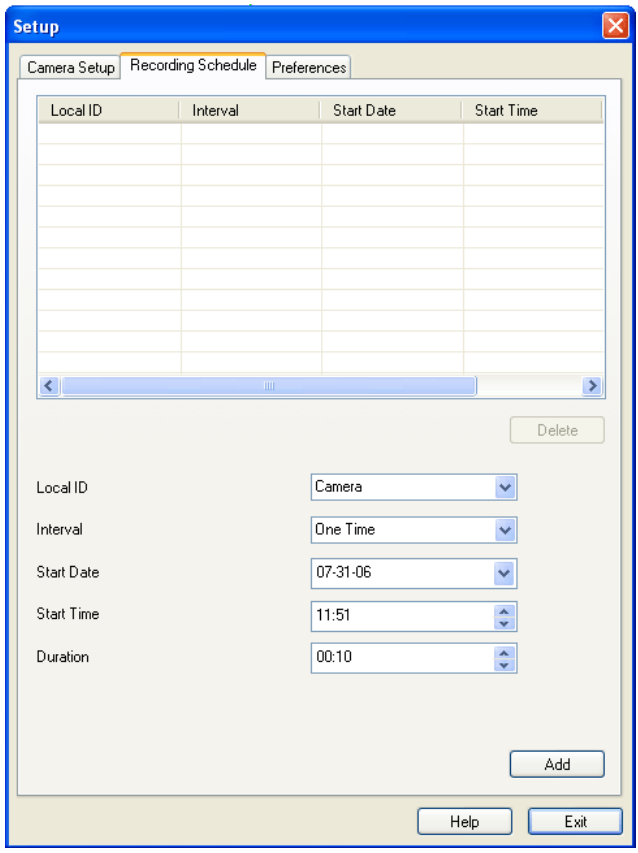


Figure 46: Recording Schedule

If necessary, change these settings to suit your environment.

Local ID. This is the name you gave to this camera. This field must be entered.

Interval. Decide which days you want the Camera to record. Select the appropriate Interval from the drop-down list.

Start Date. Select the date you want the recording begin.

Start Time. Select the time you want the recording begin.

Duration. Select how ling you want the recording to be.

After you have made your selections, click the **Add** button to save the new scheduled recording, and you will see it appears in the recording list.

Preferences

This screen is displayed after clicking the *Preferences* tab on the *Setup* screen. If necessary, change these settings to suit your environment.

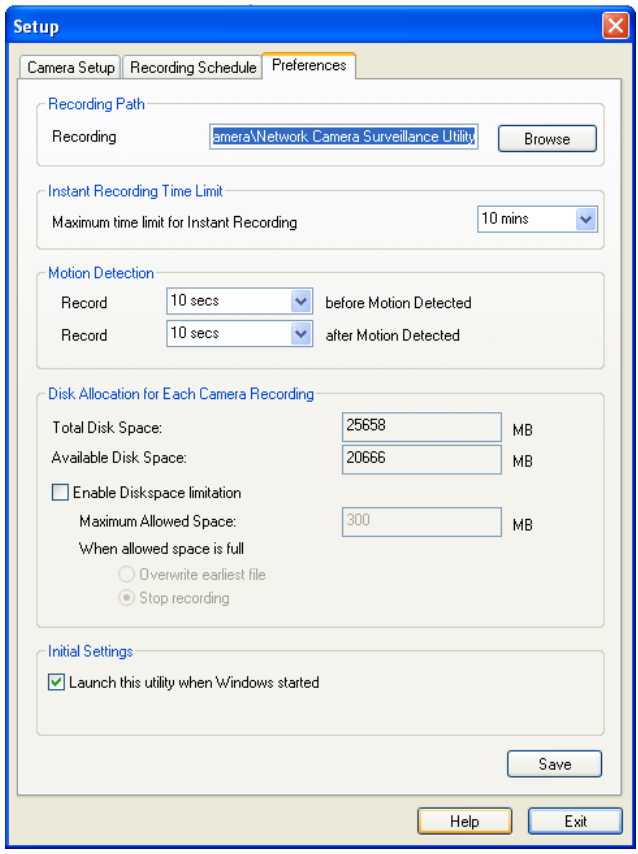


Figure 47: Preferences Screen

Data - Preferences

Recording Paths	
Recording	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.
Instant Recording Time Limit	
Maximum time limit for Instant Recording	This sets the maximum size of a recording which is started by clicking the *Record* button on the ***main*** screen. If the recording is not stopped manually, it will be terminated after the time period indicated here.

Motion Detection	
Record before Motion Detected	Set the time so the Utility will start recording the certain time before the Utility detects motion in a Camera's field of view.
Record after Motion Detected	Set the time so the Utility will stop recording the certain time after the Utility detects motion in a Camera's field of view.
Disk Allocation for Each Camera Recording	
Total Disk Space	This displays the total size of the disk selected for storing recordings.
Available Disk Space	This displays the available space of the disk selected for storing recordings.
Enable Disk space limitation	Enable this if you wish to limit the disk space used by video recordings.
Maximum Allowed Space	Enter the maximum amount of disk space which can be used for video recordings. Note: The value can not be less than 300MB.
When allowed space is full.	Select the desired option for the behavior when the disk space limit is reached. • **Overwrite earliest file** - The utility will overwrite the old files if the space is not enough for recording. • **Stop Recording** - If the disk space limit is reached, no further recording is done.
Initial Settings	
Launch this utility when Windows started	Check this to have this utility start when Windows starts.

Using File Finder

To access the saved files of the Camera, click **Files** button in the Main screen, then you will see the following screen.

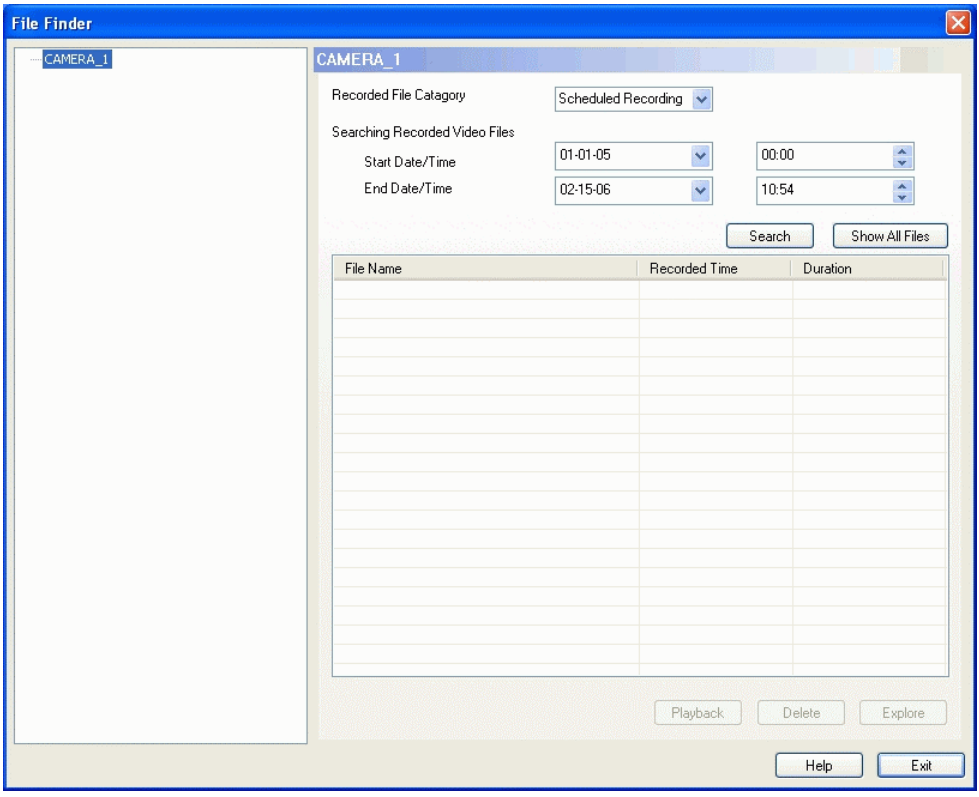


Figure 48: File Finder Screen

Searching Recorded Video Files

Recorded File Category. Select the type of the recorded file from the drop-down list that you wish to view.

Start Date/Time. The date and time the recording will be made.

End Date/Time. The date and time the recording will be ended.

Search. Click this button then it will display the list of files according to the search criteria.

Show All Files. This will display all of your recorded files.

Playback. To play a recorded file, select the file and click this button.

Delete. To delete a recorded file, select the file and click this button.

Explore. If the desired file is not listed, click this button to browse for it.

Chapter 7
Troubleshooting

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.

Note! If the Network Camera can not get the IP address from the DHCP server, the IP address will be set to 192.168.0.99/255.255.255.0.

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 *Maintenance* 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 camera to send the E-mail will not accept mail. (This is to prevent span being sent from the server.). Try using a different SMTP server, or contact your ISP to see if SMTP access is being blocked.

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, or adjusting the *Quality Control* setting on the ***Video Image*** screen. Video created will the lower settings will contain less detail; this is the trade-off for using less bandwidth.

Appendix A
Specifications

ALL2201

Model	Network Camera
Dimensions	107mm (W) * 135mm (H) * 42mm (D)
Operating Temperature	0° C to 40° C
Storage Temperature	-20° C to 70° C
Network Protocols:	TCP/IP, DHCP, SMTP, NTP, HTTP, UPnP (Discovery only)
Network Interface:	1 Ethernet 10/100BaseT (RJ45) LAN connection
LEDs	3
Power Adapter	12V/1A DC External

ALL2211

Model	Network Camera
Dimensions	107mm (W) * 135mm (H) * 42mm (D)
Operating Temperature	0° C to 40° C
Storage Temperature	-20° C to 70° C
Network Protocols:	TCP/IP, DHCP, SMTP, NTP, HTTP, UPnP (Discovery only)
Network Interface:	1 Ethernet 10/100BaseT (RJ45) LAN connection
Wireless interface	IEEE 802.11b/802.11g compatible, Infrastructure/Ad-hoc mode, WEP/WPA-Personal security support, roaming support
LEDs	3
Power Adapter	5V/2.5A DC External

ALL2250

Model	Network Camera
Dimensions	107mm (W) * 136mm (H) * 66mm (D)
Operating Temperature	0° C to 40° C
Storage Temperature	-20° C to 70° C
Network Protocols:	TCP/IP, DHCP, SMTP, NTP, HTTP, UPnP (Discovery only)
Network Interface:	1 Ethernet 10/100BaseT (RJ45) LAN connection
Wireless interface	IEEE 802.11b/802.11g compatible, Infrastructure/Ad-hoc mode, WEP/WPA-Personal security support, roaming support
LEDs	3
Power Adapter	5V/2.5A DC External

Regulatory Approvals

CE Approvals

The Network Camera meets 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

This is a Class B product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

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Network Camera copyright information

Package source codes	License
bootloader	GPL
arm-linux 2.6.5	GPL
arm-linux-gcc 3.4.1 library	LGPL
DM9000 lan driver	GPL
Busy-box	GPL
boa-0.94.13a	GPL
ez-ipupdate	GPL
dhcpd-1.3.22	GPL
boa-0.94-13e11	GPL
WPA_supplicant (ALL2250 and ALL2211 only)	GPL
cron	Public domain (BSD & Lineo http://www.lineo.com/)
ntp-4.1.71	Public domain (http://www.ntp.org/)
libupnp-1.2.1	Intel (http://upnp.sourceforge.net/)

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Version 2, June 1991

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Preamble

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Appendix B
Streaming Video/Audio Solution

Overview

Streaming video is a sequence of "moving images" that are sent in compressed form over the Internet and displayed by the viewer as they arrive. With streaming, a Web user does not have to wait to download a large file before seeing the video or hearing the sound. Instead, the media is sent in a continuous stream and is played as it arrives.

Streaming Video/Audio through Network Camera

To snapshot a JPEG image from the Network Camera with specified resolution and quality:

http://<ip>/img/snapshot.cgi?[size=<value>][&quality=<value>]

Size = 1(160*128)

2(320*240)

3(640*480)

Quality = 1(Very low)

2(Low)

3(Normal)

4(High)

5(Very high)

To stream M-JPEG video from the Network Camera (M-JPEG mode only)

http://<ip>/img/mjpeg.cgi or http://<ip>/img/video.mjpeg

To stream video through the RTP/RTSP protocol from Network Camera (MPEG-4 mode only)

rtsp://<ip>/img/media.sav

Note: Users need to specify the desired protocol in the players.

To snapshot a JPEG image (160*128, very low quality) through a mobile phone:

http://<ip>/img/mobile.cgi

Germering, August, 2006

EC – Declaration of conformity

for

ALL2201 Network Camera

This equipment conforms with the requirements of the Council Directive
89/336/EEC and 99/5/EC on the approximation of the laws of the member states relating to electromagnetic compatibility.

The safety advice in the documentation accompanying the products shall be obeyed. The conformity to the above directive is indicated by the CE sign on the device.

The ALLNET ALL2201 Network Camera conforms to the European Directives 89/336/EEC and 99/5/EC. This equipment meets the following conformance standards:

EMC: EN 50022: 1998 (A1: 2000, A2: 2003, Class B)|
EN 61000-3-2: 2000, EN 61000-3-3: 1995 (A1: 2001)
EN 55024: 1998 (A1: 2001, A2: 2003)

This equipment is intended to be operated in all countries.

This declaration is made by

ALLNET Computersysteme GmbH
Maistr. 2
82110 Germering

and can be downloaded from http://www.allnet.de/ce-certificates/ .

Germering, August, 2006

EC – Declaration of conformity

for

ALL2211/2250 Wireless Network Camera

This equipment conforms with the requirements of the Council Directive
89/336/EEC and 99/5/EC on the approximation of the laws of the member states relating to Radio and Telecommunication Terminal Equipment and the mutual recognition of their conformity.

The safety advice in the documentation accompanying the products shall be obeyed.
The conformity to the above directive is indicated by the CE sign on the device.

The ALLNET ALL2211/2250 Wireless Network Camera conforms to the European Directives 73/23/EEC and 89/336/EEC and 99/5/EC.
This equipment meets the following conformance standards:

EMC:	**EN 50022: 1998 (A1: 2000, A2: 2003, Class B)**
	EN 61000-3-2: 2000, EN 61000-3-3: 1995 (A1: 2001)
	EN 55024: 1998 (A1: 2001, A2: 2003)
R&TTE:	**EN 300 328 V1..6.1 (2004-11),**
	EN 301 489-1 V1.5.1 (2004-11), EN 301 489-17 V1.2.1 (2002-08)
LVD:	**EN 60950-1:2001**

This equipment is intended to be operated in all countries.

This declaration is made by

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