
Wireless P/T 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 Network Camera, an 802.11N Wireless LAN.

Using enhanced H.264 technologies, the Network Camera is able to stream high quality video and audio directly to your PC. The high compression capabilities of H.264 reduce network bandwidth requirements to amazingly low levels.

With built-in PIR sensor and White Light LEDs, the Network camera can provide home security and illumination around 5 meters long under low light conditions in a simple, economical manner.

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.

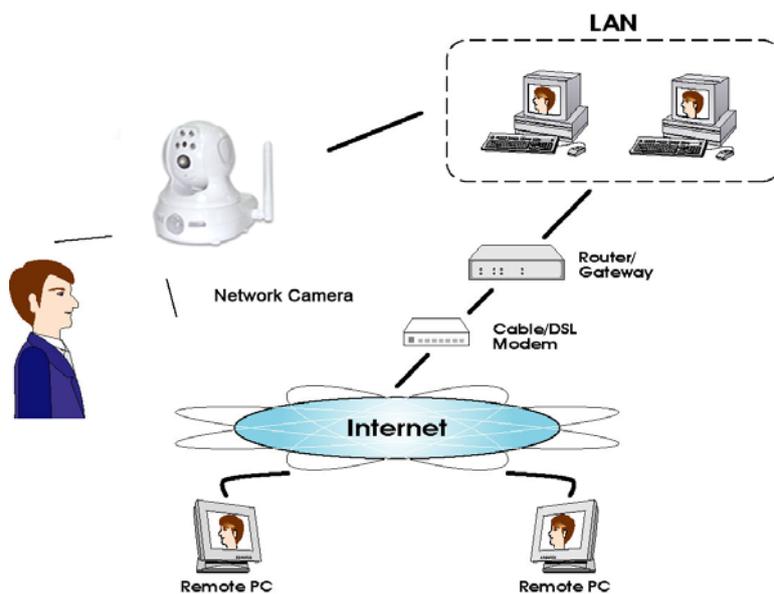


Figure 1: Network Camera

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.

- **Dual Video Support.** The Network Camera can support H.264, MPEG4 and MJPEG video for different image compression.
- **Stream Live Video to Multiple Users.** The video 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 detected, 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.
- **Syslog Support.** If you have a Syslog Server, the Network Camera can send its log data to your Syslog Server.
- **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.
- **PIR (Passive Infrared Sensor) Support.** The Network Camera is embedded with a PIR Sensor, which senses infrared light radiating from human bodies in its field of view. This feature is very helpful in enhancing home security systems.
- **White Light LEDs Support.** Each Network Camera has 4 white light LEDs. The LEDs can provide illumination around 5 meters long, that can help to output a better video quality while under low-light conditions such as indoors, on cloudy days, or in the morning or evening. The white light can be used to deliver warning as well.

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.
- **SMB Client Support.** With Server Message Block Protocol (SMB protocol) support, the client applications in a computer can read, create, and update files on the remote server.
- **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 10 users can view the video simultaneously.
- ***Password-Protected Configuration.*** Configuration data can be password protected, so that it only can be changed by the Network Camera Administrator.

Wireless Features

- ***Supports 11n Wireless Stations.*** The 802.11n Draft standard provides for backward compatibility with the 802.11b standard, so 802.11n, 802.11b and 802.11g Wireless stations can be used simultaneously.
- ***Wired and Wireless Network Support.*** The Network Camera supports either wired or wireless transmission.
- ***WEP Support.*** Full WEP support (64/128 Bit) on the Wireless interface is provided.
- ***WPA/WPA2 Support.*** The WPA Personal/WPA2 Personal standard is also supported, allowing advanced encryption of wireless data.
- ***WPS Support.*** WPS (Wi-Fi Protected Setup) can simplify the process of connecting any device to the wireless network by using the push button configuration (PBC) on the Wireless Access Point, or entering a PIN code if there's no button.

Physical Details - Network Camera

Front - Network Camera

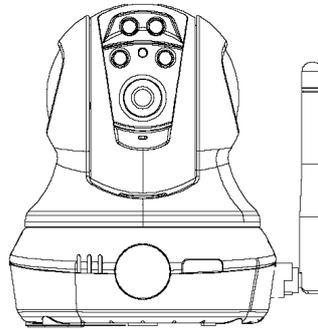


Figure 2: Front Panel

White Light LEDs	These White Light LEDs are designed for the supply of backlighting while under the low-light environments. The LEDs can be turned on by <i>Event Trigger</i> when the light is insufficient. They can also be manually turned on/off on the <i>View Video</i> Screen.
Day/Night Sensor	This is hardware sensor to detect LUX.
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.
Power LED (Green)	On - Power on. Off - No power. Blinking - The <i>Power</i> 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, Amber)	On (Green) - Wireless or LAN connection is available. Off - Wireless or LAN is not connected. Blinking (Green) - Data is being transmitted or received via the LAN or Wireless connection. On (Amber) - If the LED is on for 5 seconds, the WPS is not processing successfully. Blinking (Amber) - WPS function is being processed.
PIR Sensor	The PIR sensor is designed for human body detection.
Privacy Button	On (Green) - The privacy button is in use. Off - The privacy button is not activated.

Rear - Network Camera

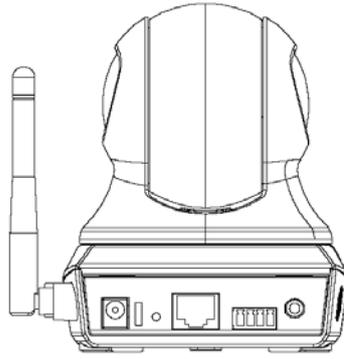


Figure 3: Rear Panel

- 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 12V power adapter here. Do not use other power adapters; doing so may damage the camera.
- 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.
- **Reset to manufacturer default valued and reboot.** When pressed and held over 10 seconds, the settings of Network Camera will be set to their default values.
- Note:**
- After this procedure is completed, all LEDs will blink three times to confirm that the reset was completed successfully.
- WPS Button** Push the WPS button on the device and on your other wireless device to perform WPS function that easily creates an encryption-secured wireless connection automatically.
- **WPS PBC Mode.** When pressed and released (less then 3 seconds), the Network Camera will be in the WPS PBC mode (Auto link mode).
 - **WPS Pin Code Mode.** When pressed and held for over 3 seconds (less than 10 seconds), the Network Camera will be in the WPS Pin Code mode.
- Note:** WPS function is only available either in WPA or WPA2 Personal encryption mode.
- LAN port** Use a standard LAN cable to connect your Network Camera to a 10/100BaseT hub or switch.
- Note:**
- Plugging in 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.

**Digital
Input/Output**

The GPIO terminal block includes 1 input port and 1 output port.

Speaker Out

If required, an external speaker can be plugged in here.

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. Antenna
3. Power adapter
4. Camera Mount Kit

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 wireless model, other Wireless devices must be compliant with the IEEE802.11b, IEEE802.11g or IEEE802.11n specifications. All Wireless stations must use compatible settings.



The default Wireless settings are:

Mode: Infrastructure

SSID: ANY

Wireless Security: Disabled

Domain: USA (USA Area)

Eu (Europe Area)

Channel No.: Auto

Installation - Network Camera

1. Assemble the Camera

Screw the supplied antenna to the mounting point on the rear.
Attach the Camera Mount to the camera.

2. Connect the LAN Cable

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



For the Wireless Model, this will disable the Wireless Interface. The Wireless and LAN interfaces cannot be used simultaneously. Using the LAN interface is recommended for initial configuration. After the Wireless settings are correct, the Wireless interface can be used.

The first time you connect to the camera, you should connect the LAN cable and configure the Network Camera with appropriate settings. Then you can unplug the LAN cable and power off the camera. The Network Camera will be in wireless interface when you power on the camera again.

3. Power Up

Connect the supplied 12V 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.

NOTE: Do not force the Pan/Tilt part of the Network Camera to twist, otherwise it may cause internal gear set damages.

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 **NetworkCamera.exe** in the root folder.
 - You will see the *Welcome* screen shown below.
 - Click the *Setup Camera* 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.

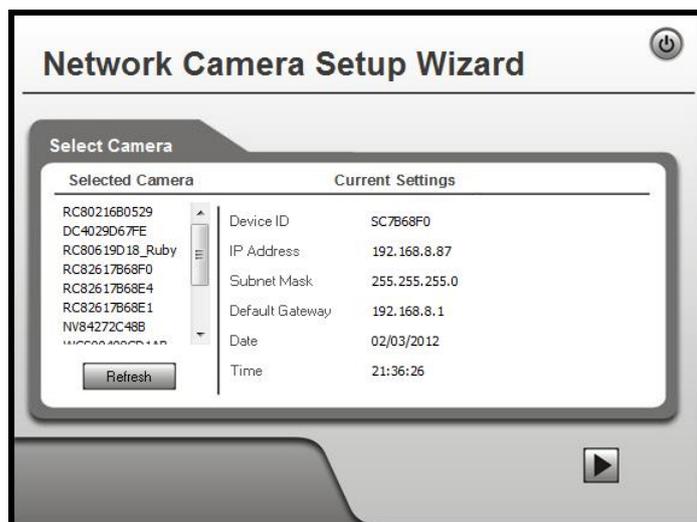


Figure 5: Camera List Screen

- 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. 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 6: Password Dialog

4. 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 7: Camera Settings

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

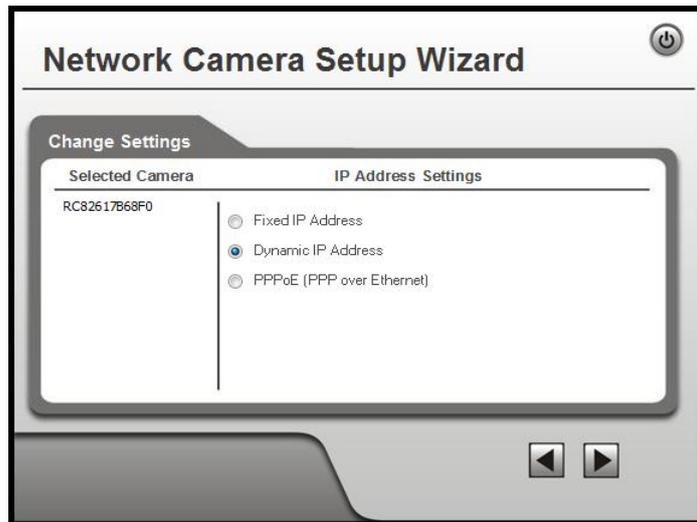


Figure 8: IP Address Settings

- *Fixed IP Address* is recommended, and can always be used.
- *Dynamic IP Address* can only be used if your LAN has a DHCP Server.
- *PPPoE (PPP over Ethernet)* is the most common login method, widely used with DSL modems.

Click *Next* to continue.

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

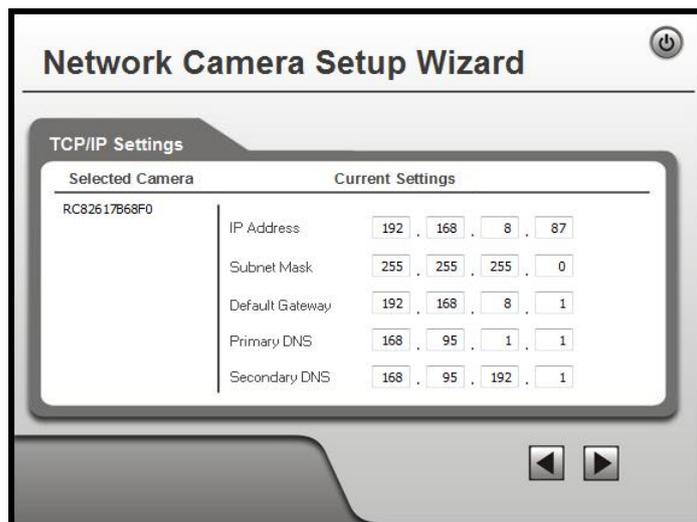


Figure 9: TCP/IP Settings

- 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.

7. If you chose *PPPoE*, the following **PPPoE Settings** screen will be displayed.

Network Camera Setup Wizard

PPPoE Settings

Selected Camera	Current Settings
RC82617B68F0	User Name: <input type="text"/>
	Password: <input type="password"/>

Navigation: Back, Next

Figure 10: PPPoE Settings Screen

- Enter the **User Name** provided by your ISP.
- Enter the **Password** for the user name above.

Click *Next*.

8. 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.

Network Camera Setup Wizard

Camera Settings

Selected Camera	New Settings
RC82617B68F0	Device Name: RC82617B68F0
	IP Address: 192.168.8.87
	Subnet: 255.255.255.0
	Default Gateway: 192.168.8.1
	Date: 02/03/2012
	Time: 21:36:26

Navigation: Back, Next

Figure 11: Save Settings

- Click *OK* to confirm that you want to save the new settings. If you want to cancel your changes, click *Cancel*.



Figure 12: Confirm Screen

- After clicking *OK*, you will see the screen below.

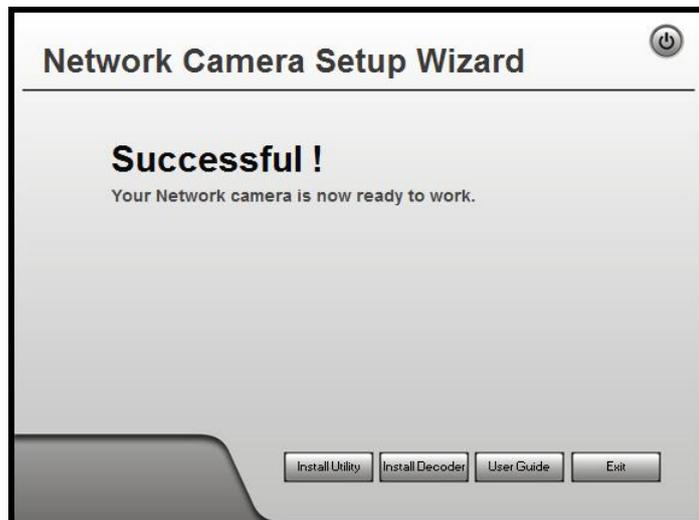


Figure 13: Final Screen

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

Chapter 3

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:

- 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 2000, Windows XP, Windows 7.
- Internet Explorer 6 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.

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

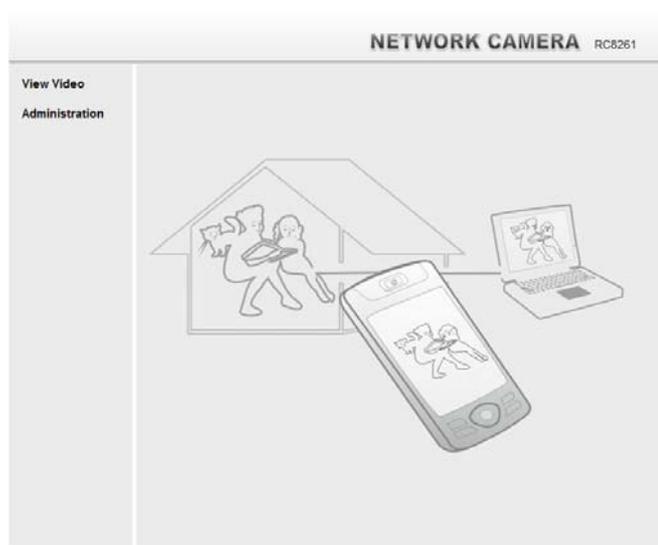


Figure 16: Home Screen

- Click *View Video*.
- 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.
- 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

- 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 will be able to view the live video stream in its own window, as shown below.

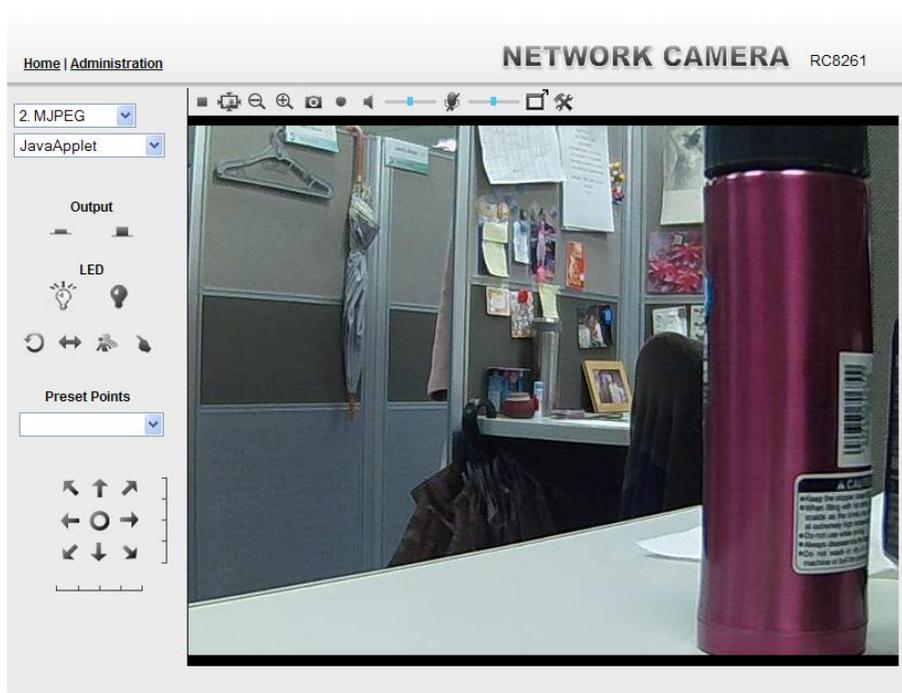


Figure 18: View Video Screen

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

Note: The options can only be configured while using IE browser. Other browsers can just view the video rather than configuration.

If after installing the OCX, the video still cannot be viewed, please install the decoders to solve this problem. You can install it from the following screens:

- Supplied Windows-based setup Wizard
- View Video Screen (preferred)

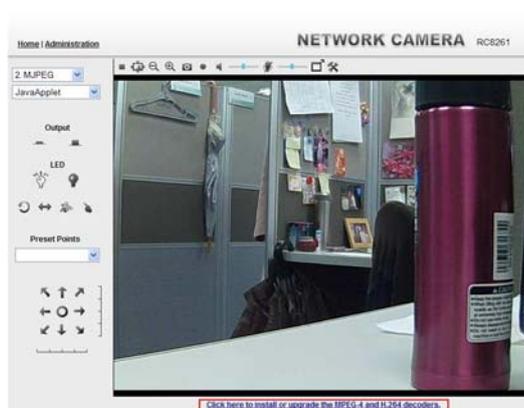


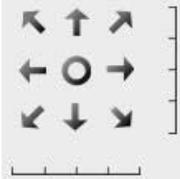
Figure 19: Install Decoders

- Motion Detection Screen

General Options

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

	Streaming. Use this drop-down list to select the desired streaming.
	Full Size. When using high-resolution mode (1280*720), click this button to see the full size of the image.
	Select the desired option from the drop-down list.
	Use this icon to start/stop viewing.
	Use this icon to make the image back to original size.
	Zoom Out. A digital zoom out feature is available. To zoom out the window, click this icon.
	Zoom In. A digital zoom in feature is available. To zoom in the window, click this icon.
	Snapshot. Click this to take a single JPEG "snapshot" image of the current video.
	Speaker On/Off. Use this button to turn the PC's speaker on or off.
	Microphone On/Off. Use this button to toggle the microphone on or off.
	Volume. If Speaker or Microphone is enabled, use this slider to adjust the volume.
	Full Screen Display. Click this button to see the full screen of the image.
	Setup. Select the desired folder to save the file.
	ON. Click this to set the output I/O port to ON mode.
	OFF. Click this to set the output I/O port to OFF mode.
	LED ON. Click this to turn on the White Light LEDs. Note: If the LEDs are turned on manually, the LEDs will still be lighted even the interval time is over.
	LED OFF. Click this to turn off the White Light LEDs.
	Camera Patrol. Move through the Preset positions in the sequence defined by the Camera Administrator.
	Camera Auto Pan. Click this to have the camera moved from left to right automatically.
	Motion Detection. Click this button to have the camera moved to the Motion Detection Preset position.

	<p>Direct P/T. Use this to move the camera to the Pan/Tilt position directly.</p>
	<p>Preset Points. Select the desired Preset points.</p>
	<p>Move Control. 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. Or you can drag the vertical or horizontal slider bar to have quicker movement of the Network Camera to the desired position.</p>

Chapter 4

Advanced Viewing Setup

4

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.

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

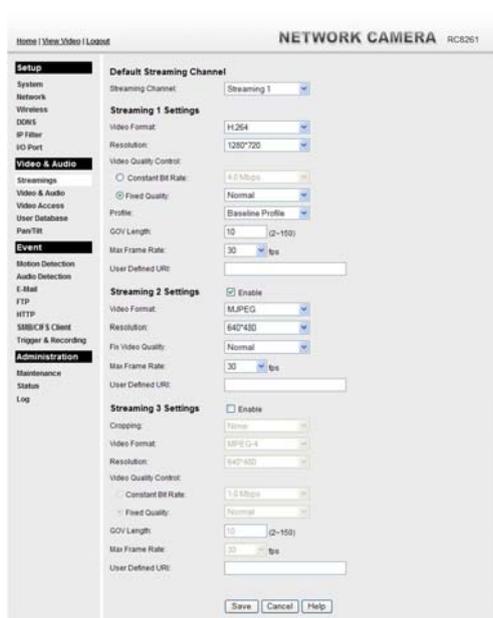


Figure 20: Video & Audio Screen

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

Default Streaming Channel	Select the default channel for streaming from the drop-down list.
Streaming 1 Settings	
Video Format	Select the desired format from the list.
Resolution	Select the desired video resolution format.
Video Quality Control	<ul style="list-style-type: none"> • Constant Bit Rate: Select the desired bit rate. The default is set to 1.0 Mbps. • Fixed Quality: Select the desired option. The default fix quality is set to Normal.
Profile	<p>This is only for H.264 format only. There are 3 options:</p> <ul style="list-style-type: none"> • Baseline Profile • Main Profile • High Profile
Fixed Video Quality	This option is for MJPEG format only. Select the desired option. The default fix quality is set to Normal.
GOV Length	Adjust the GOV interval in frame base. "2" means 1 I frame and 1 P Frame. "3" means 1 I frame and 2 P Frames. Enter the desired value between 2 and 150.
Max. Frame Rate	Select the desired Maximum frame rate for the video stream. The default value is 30 .
User Defined URI	You may enter the URI up to 32 characters long for accessing the live video from camera through cell phone connection.
Streaming 2/3 Settings	
Enable	Check the box if you want to enable the streaming.
Cropping (Streaming 3 Only)	Choose the desired option as required.
Video Format	Select the desired format from the list.
Resolution	Select the desired video resolution format.
Video Quality Control	<ul style="list-style-type: none"> • Constant Bit Rate: Select the desired bit rate. The default is set to 1.0 Mbps. • Fixed Quality: Select the desired option. The default fix quality is set to Normal.
Profile	<p>This is only for H.264 format only. There are 3 options:</p> <ul style="list-style-type: none"> • Baseline Profile • Main Profile • High Profile
Fixed Video Quality	This option is for MJPEG format only. Select the desired option. The default fix quality is set to Normal.
GOV Length	Adjust the GOV interval in frame base. "2" means 1 I frame and 1 P Frame. "3" means 1 I frame and 2 P Frames. Enter the desired value between 2 and 150.

Max. Frame Rate	Select the desired Maximum frame rate for the video stream. The default value is 30 .
User Defined URI	You may enter the URI up to 32 characters long for accessing the live video from camera through cell phone connection.

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



The image shows a configuration interface with two rows of settings. The first row is labeled 'User Access:' and contains a checkbox labeled 'Enable Security Checking'. The second row is labeled 'Video Access:' and contains a checkbox labeled 'Enable Scheduled Video Access'. Both checkboxes are currently unchecked.

Figure 21: 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.

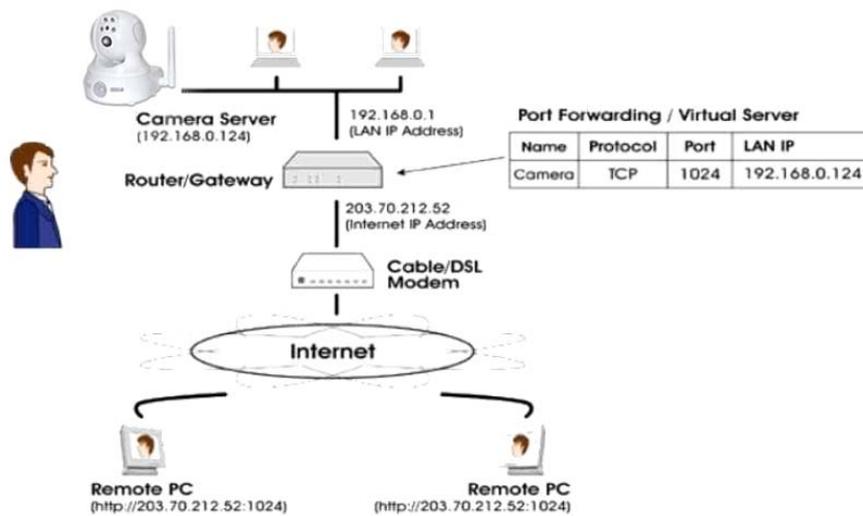


Figure 22: Connecting via the Internet



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 to 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 *HTTP/HTTPS Secondary Port* is 1024/1025. 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 23: Network Screen

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.
3. Both Router and Camera should use the same port number for DDNS service.

Home | View Video | Logout

NETWORK CAMERA RC8261

Setup

System

Network

Wireless

DDNS

IP Filter

I/O Port

Video & Audio

Streamings

Video & Audio

Video Access

User Database

Pan/Tilt

Event

Motion Detection

Audio Detection

E-Mail

FTP

HTTP

SMB/CIFS Client

Trigger & Recording

Administration

Maintenance

Status

Log

Enable DDNS

Service Provider:

Domain (Host) Name:

Account/E-Mail:

Password/Key:

Check WAN IP Address:

Starting at Hour(s) Minute(s)

Figure 24: DDNS Screen

4. 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.
Example: <http://normanyu123456789.dyndns.org:6016>
normanyu123456789.dyndns.org is domain host name. 6016 is the port number.

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.

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.

Note: The Motion Detection settings can only be configured while using IE browser.

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.

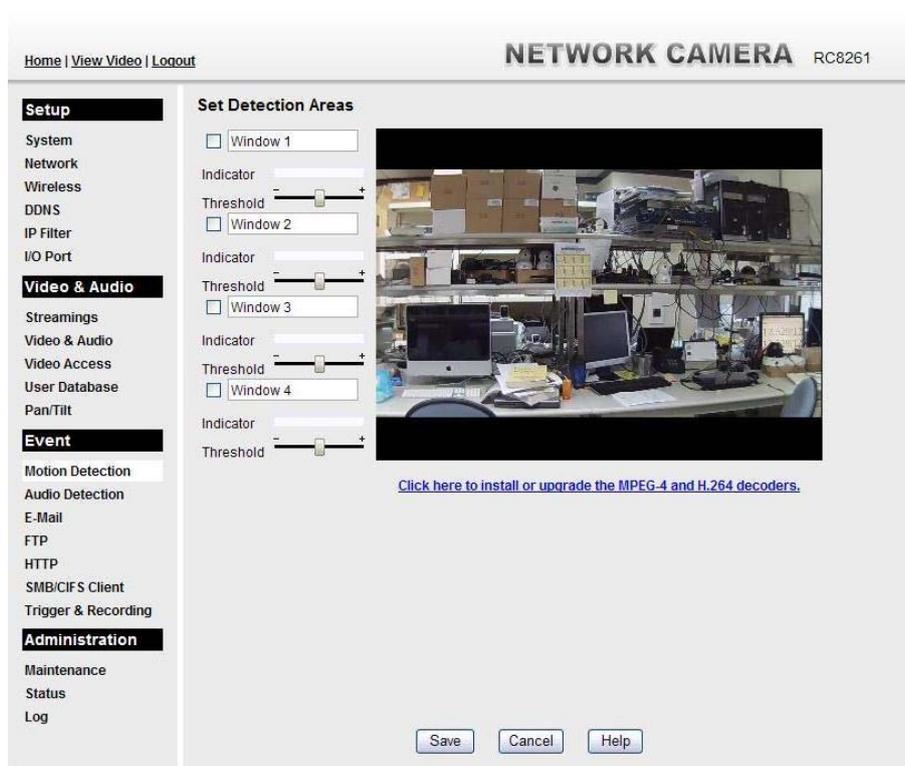


Figure 25: Motion Detection

1. Enable the *Motion Detection* feature.
2. 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.
3. If using a schedule, define the desired schedule in *Event Trigger* screen.
4. Save your changes.
5. Select the *E-Mail* 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

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
- DDNS
- IP Filter
- I/O Port

Video Stream

- Streamings
- Video & Audio
- Video Access
- User Database
- Pan/Tilt

Event

- Motion Detection
- Audio Detection
- E-Mail
- FTP
- HTTP
- SMB/CFS Client
- Trigger & Recording

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 ID for the Network Camera.
Camera Name	Enter the desired 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	<p>Select the desired date format, it will also be used to display the date and time as an overlay on the video image.</p> <p>The abbreviations used to predefine the date formats are list as follows:</p> <ul style="list-style-type: none"> • 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	<p>This displays the current date and time on the camera.</p> <p>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:</p> <ul style="list-style-type: none"> • Set the camera's date and time to match your PC. • Enter the correct date and time.
Time Zone	<p>Choose the Time Zone for your location from the drop-down list.</p> <p>If your location is currently using Daylight Saving, enable the Adjust for daylight saving checkbox.</p> <p>You must UNCHECK this checkbox when Daylight Saving finishes.</p>
Network Time Protocol	<p>Enable or disable the Time Server feature as required.</p> <p>If Enabled, the Network Camera will contact a Network Time Server at regular intervals and update its internal timer.</p>
NTP Server Address	<p>Enter the address for the desired NTP server.</p>
Update	<p>The Schedule determines how often the Network Camera contacts the NTP Server.</p> <p>Select the desired options.</p>
LED Operation	<p>Enable this if you want to use this function.</p>
Privacy Button	<p>If Enabled, click the <i>Privacy</i> button will stop uploading the stream without turning the camera off. Click the button one more time to continue uploading.</p>

Network Screen

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

The screenshot shows the 'NETWORK CAMERA' configuration interface for device RC8261. The page has a navigation menu on the left with sections: Setup (System, Network, Wireless, DDNS, IP Filter, I/O Port), Video & Audio (Streamings, Video & Audio, Video Access, User Database, Pan/Tilt), Event (Motion Detection, Audio Detection, E-Mail, FTP, HTTP, SMB/CIFS Client, Trigger & Recording), and Administration (Maintenance, Status, Log). The 'Network' option is selected. The main content area is titled 'NETWORK CAMERA RC8261' and contains the following settings:

- Internet Connection Type:** It takes effect only when network is Ethernet or Wireless. Set to 'Obtain Address Automatically (DHCP)'.
- DNS Server Address:** Obtain DNS server address automatically (selected) or Use the following DNS server address.
- WINS Address:** It takes effect only when the "SMB/CIFS" is enabled. Obtain WINS address automatically (selected) or Use the following WINS address.
- HTTP/HTTPS:** Administrator: HTTP (dropdown), Viewer: HTTP. HTTP Secondary Port: 1024 (1024-65535).
- RTP/RTSP:** RTSP Port: 554 (554, 1024-65535); RTP Data Port: 5000 (1024-65494, even values only); Max RTP Data Packet: 1400 bytes (400-1400).
- Multicast RTP/RTSP:** Enable Multicast. Video Address: 224.2.0.1 (Streaming 1 only); Video Port: 2240 (1024-65534, even values only); Audio Address: 224.2.0.1; Audio Port: 2244 (1024-65534, even values only); Time to Live: 16 (1-255).
- UPnP:** Enable Discovery; Enable Traversal (Port Mapping).
- Bonjour:** Enable Bonjour Service.
- QoS:** Enable QoS Mode (for Video and Audio); DSCP: 32 (0-63).

Buttons at the bottom: Save, Cancel, Help.

Figure 28: Network Screen

Data - Network Screen

Network	
Internet Connection Type	<p>There are 3 connection types:</p> <ul style="list-style-type: none"> • Obtain Address Automatically (DHCP): 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. • Static IP Address: If selected, you must assign the following data to the Network Camera. <ul style="list-style-type: none"> • 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. • PPPoE (PPP over Ethernet): This is the most common login method, widely used with DSL modems. Normally, your ISP will have provided some software to connect and login. This software is no longer required, and should not be used. <ul style="list-style-type: none"> • Username - The user name (or account name) provided by your ISP. • Password - Enter the password for the login name above.
Obtain DNS server address automatically	<p>If selected, the Network Camera will use the DNS address or addresses provided by the DHCP server. This option is only available if the IP address setting is <i>Obtain an IP address Automatically</i>.</p>
Use the following DNS server address	<p>Primary DNS server - Use the same value as PCs on your LAN. Normally, your ISP will provide this address.</p> <p>Secondary DNS server - This is optional. If entered, this DNS will be used if the Primary DNS does not respond.</p>
WINS Address	<p>There are 2 options:</p> <ul style="list-style-type: none"> • Obtain WINS address automatically - If selected, the Network Camera will obtain its IP address from DHCP server. • Use the following WINS address - Enter the IP address of your WINS server.

HTTP/HTTPS	<p>This sets the port number for HTTP/HTTPS connections to the Camera, whether for administration or viewing video.</p> <p>The HTTP (HyperText Transfer Protocol) is used for the standard of transferring files (text, graphic images and other multimedia files) on the World Wide Web. The default HTTP port is 1024.</p> <p>HTTPS (Hypertext Transfer Protocol Secure) can provide more secure communication with the SSL/TLS protocol, which support data encryption to HTTP clients and servers. The default HTTPS port is 1025.</p> <p>The Secondary port can be used for DDNS, other service and when more than 2 cameras are in use.</p> <p>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.</p> <p>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:</p> <p style="text-align: center;">http://192.168.1.100:1024</p>
RTP/RTSP	<p>The RTSP (Real Time Streaming Protocol), a standard for connected client(s) to control streaming data (MPEG-4) over the World Wide Web. Enter the RTSP Port number (between 1024 and 65535) in the field provided. The default RTSP Port is 554.</p> <p>The RTP (Real Time Transport Protocol), an Internet protocol for transmitting real-time data such as audio and video.</p> <p><i>Max RTP Data Packet</i> field will let users limit the size of the file. Enter the desired value between 400 and 1400.</p> <p>Note: RTSP and RTP settings are for cell phone only.</p>
Multicast RTP/RTSP	
Enable Multicast	Enable the feature as required.
Video Address	Enter the address of video (Streaming 1 only).
Video Port	Enter the desired value (between 1024 to 65534) in the field provided. The number you entered must be even values.
Audio Address	Enter the address of the audio.
Audio Port	Enter the desired value (between 1024 to 65534) in the field provided. The number you entered must be even values.
Time to Live	Enter the desired length of time, if the packets fail to be delivered to their destination within. The Time to Live you entered must be in-between 1 to 255.
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.
Bonjour	
Enable Bonjour Service	If enabled, the Network Camera can be accessed through a "Bonjour" enabled browser, such as Microsoft Internet Explorer (with a Bonjour plug-in) or Safari browser. You can also find other Bonjour-enabled devices on your network.
QoS	
Enable QoS Mode	If enabled, the throughput level (for Video and Audio) is guaranteed through QoS (Quality of Service).
DSCP	Enter the desired value of Differentiated Services Code Point (DSCP). The value must be between 0 and 63.

Wireless Screen

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

Figure 29: Wireless Screen

Data - Wireless Screen

Wireless Network	
Site Survey	Click the "Site Survey" button and select from a list of available APs.
WSC PIN Code	It displays the WSC PIN code number for the camera.
Network Type	This determines the type of wireless communication used by the Network Camera. <ul style="list-style-type: none"> • If you have an Access Point, select <i>Infrastructure</i>. • Otherwise, select <i>Ad-hoc</i>.
SSID	This must match the value used by other devices on your wireless LAN. The Default is ANY . Note! The SSID is case sensitive.
Domain	Select your region from the drop-down list.

Channel No.	<ul style="list-style-type: none"> • In <i>Infrastructure</i> mode, this setting is ignored. The Network Camera will use the Channel set on the Access Point. • For <i>Ad-hoc</i> 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	<p>Select the desired option, and then enter the settings for the selected method:</p> <ul style="list-style-type: none"> • Disabled - No security is used. Anyone using the correct SSID can connect to your network. This is default. • WEP - The 802.11b standard. Data is encrypted before transmission, but the encryption system is not very strong. • WPA/WPA2 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	<p>Select the appropriate value - "Open System" or "Shared Key". Check your wireless card's documentation to see what method to use.</p> <p>Note: In <i>Infrastructure</i> mode, either setting will normally work, since most Access Points can use both methods.</p>
WEP Encryption	<p>Select the WEP Encryption level:</p> <ul style="list-style-type: none"> • 64 Bit Keys (10 Hex chars) • 128 Bit Keys (26 Hex chars) • 64 Bit Keys (5 ASCII chars) • 128 Bit Keys (13 ASCII chars)
Passphrase	<p>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.</p>
WEP Keys	<ul style="list-style-type: none"> • 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 <i>Clear Keys</i> to set the Keys to be blank.
WPA/WPA2 Personal	
Shared Key	<p>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.</p>

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 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.

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	<p>Set the schedule for checking if the Internet IP address has changed. If the IP address has changed, the DDNS Server will be notified.</p> <p>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.</p>

IP Filter

The IP Filter feature allows administrator to control network camera access by filtering IP addresses. This screen is displayed when the *IP Filter* menu option is clicked.

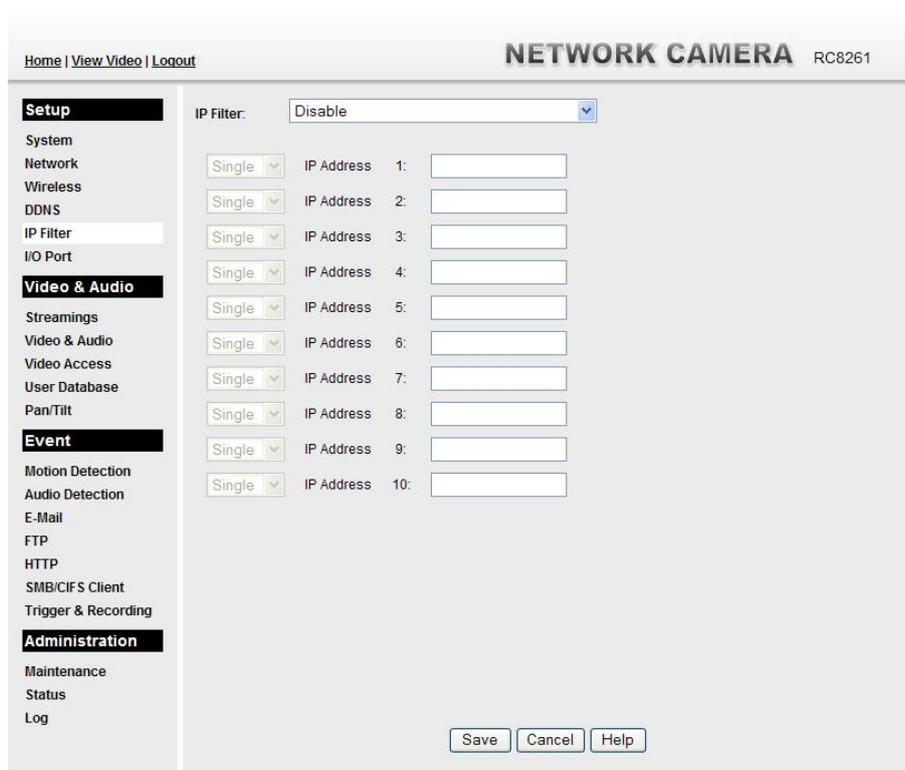


Figure 31: IP Filter Screen

Data - IP Filter Screen

IP Filter	
IP Filter	Select the desired method to perform the IP address (or addresses) filtering function.
Single/Range	Select to perform either single IP address or a range of IP addresses that you desired.
IP Address	Enter an IP address or a range of IP addresses you would like to allow or deny.

I/O Port

The Network Camera supports 1 input port and 1 output port. This screen is displayed when the *I/O Port* menu option is clicked.

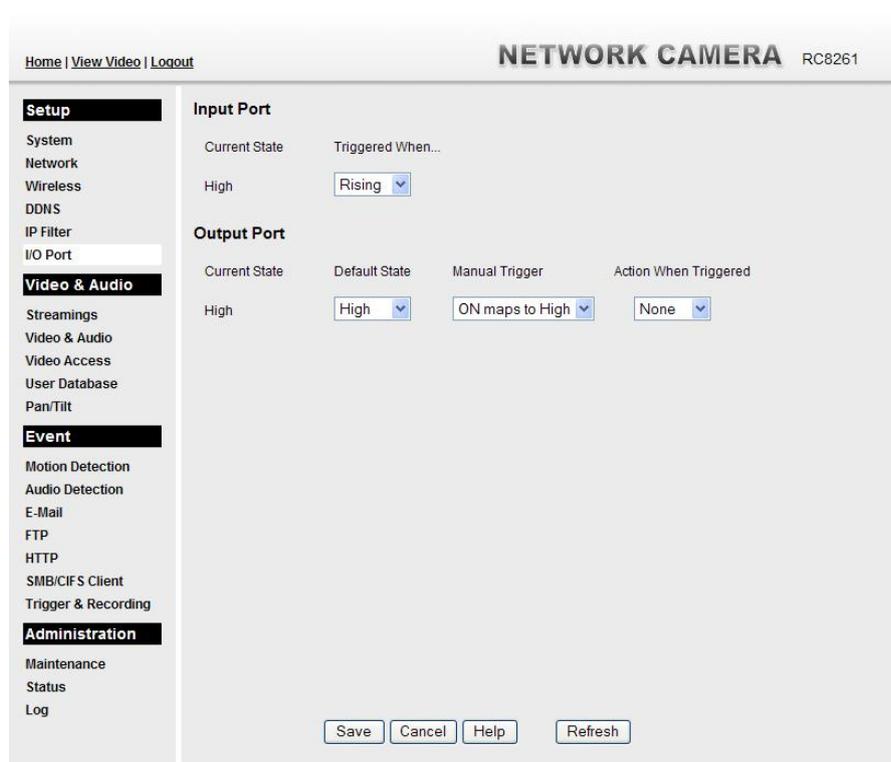


Figure 32: I/O Port Screen

Data - I/O Port Screen

Input Ports	
Current State	It indicates the current state of the input port. Once the configured state is happened, it will trigger the event actions.
Triggered When...	Select the desired State: <ul style="list-style-type: none"> • High • Low • Rising • Falling
Output Ports	
Current State	It indicates the current state of the output port.
Default State	Select the desired option from the drop-down list.
Manual Trigger	Select the option to control the output state.
Action When Triggered	If an event is happened, it will trigger the event alerting.

Streamings

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

If you want to view streaming via the cell phone:

1. Cell phone should be supported by 3GPP protocol.
2. Enter 554 for RTSP port number in the *Network* screen.
3. Both MPEG-4 and H.264 format support cell phone option.
4. Enter the following address in the URI:
RTSP:// Router IP address / User Defined URI
5. Select 15 fps for Max Frame Rate.

Note! Due to the bandwidth limitation for the cell phone usage, please set the resolution, quality and frame rate to lower values.

Home | View Video | Logout **NETWORK CAMERA** RC8261

Setup

- System
- Network
- Wireless
- DDNS
- IP Filter
- I/O Port

Video & Audio

- Streamings
- Video & Audio
- Video Access
- User Database
- Pan/Tilt

Event

- Motion Detection
- Audio Detection
- E-Mail
- FTP
- HTTP
- SMB/CIFS Client
- Trigger & Recording

Administration

- Maintenance
- Status
- Log

Default Streaming Channel

Streaming Channel: Streaming 1

Streaming 1 Settings

Video Format: H.264

Resolution: 1280*720

Video Quality Control:

Constant Bit Rate: 4.0 Mbps

Fixed Quality: Normal

Profile: Baseline Profile

GOV Length: 10 (2~150)

Max Frame Rate: 30 fps

User Defined URI:

Streaming 2 Settings

Enable

Video Format: MJPEG

Resolution: 640*480

Fix Video Quality: Normal

Max Frame Rate: 30 fps

User Defined URI:

Streaming 3 Settings

Enable

Cropping: None

Video Format: MPEG-4

Resolution: 640*480

Video Quality Control:

Constant Bit Rate: 1.0 Mbps

Fixed Quality: Normal

GOV Length: 10 (2~150)

Max Frame Rate: 30 fps

User Defined URI:

Save Cancel Help

Figure 33: Streamings Screen

Data - Streamings Screen

Default Streaming Channel	Select the default channel for streaming from the drop-down list.
Streaming 1 Settings	
Video Format	Select the desired format from the list.
Resolution	Select the desired video resolution format.
Video Quality Control	<ul style="list-style-type: none"> • Constant Bit Rate: Select the desired bit rate. The default is set to 4.0 Mbps. • Fixed Quality: Select the desired option. The default fix quality is set to Normal.
Profile	<p>This is only for H.264 format only. There are 3 options:</p> <ul style="list-style-type: none"> • Baseline Profile • Main Profile • High Profile
GOV Length	Adjust the GOV interval in frame base. "2" means 1 I frame and 1 P Frame. "3" means 1 I frame and 2 P Frames. Enter the desired value between 2 and 150.
Max. Frame Rate	Select the desired Maximum frame rate for the video stream. The default value is 30 .
User Defined URI	You may enter the URI up to 32 characters long for accessing the live video from camera through cell phone connection.
Streaming 2/3 Settings	
Enable	Check the box if you want to enable the streaming.
Cropping (Streaming 3 Only)	Choose the desired option as required.
Video Format	Select the desired format from the list.
Resolution	Select the desired video resolution format.
Video Quality Control	<ul style="list-style-type: none"> • Constant Bit Rate: Select the desired bit rate. The default is set to 1.0 Mbps. • Fixed Quality: Select the desired option. The default fix quality is set to Normal.
Profile	<p>This is only for H.264 format only. There are 3 options:</p> <ul style="list-style-type: none"> • Baseline Profile • Main Profile • High Profile
Fixed Video Quality	This option is for MJPEG format only. Select the desired option. The default fix quality is set to Normal.
GOV Length	Adjust the GOV interval in frame base. "2" means 1 I frame and 1 P Frame. "3" means 1 I frame and 2 P Frames. Enter the desired value between 2 and 150.
Max. Frame Rate	Select the desired Maximum frame rate for the video stream. The default value is 30 .

User Defined URI	You may enter the URI up to 32 characters long for accessing the live video from camera through cell phone connection.
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Video & Audio Screen

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

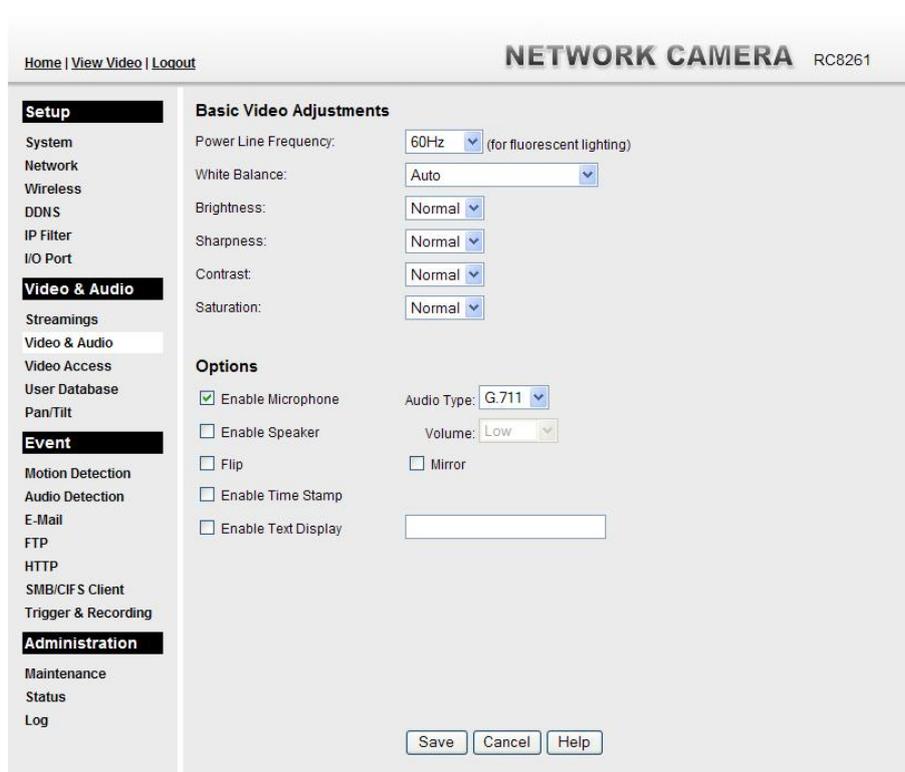


Figure 34: Video & Audio Screen

Data - Video & Audio Screen

Basic Video Adjustment	
Power Line Frequency	Select the power line frequency (50Hz or 60Hz) used in your region, to improve the picture quality under florescent lighting.
White Balance	Select the desired option to match the current environment and lighting.
Brightness	If necessary, you can adjust the brightness 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 brightness.
Sharpness	Select the desired option for the sharpness. You can select a Sharpness value between -3 and 3.
Contrast	Select the desired option for the Contrast. You can select a value between -3 and 3.
Saturation	Select the desired option for the Saturation. You can select a value between -3 and 3.

Options	
Enable Microphone	Enable audio by checking this checkbox. Using Audio will increase the bandwidth requirements slightly.
Audio Type	Select the desired audio type.
Enable Speaker	Enable speaker sound by checking this checkbox.
Volume	Choose the desired volume for the speaker.
Flip	This setting will have the image swapped top-to-bottom.
Mirror	This setting will have the image swapped left-to-right.
Enable Time Stamp	If enabled, the current time will be displayed on the Video image.
Enable Text Display	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 *Video & Audio* menu is clicked.

Figure 35: Video Access Screen

Data - Video Access Screen

User Access	
Enable Security Checking	<ul style="list-style-type: none"> If disabled (default) - No login required. Users do not have to provide a username and password when they connect to the camera for viewing video. If enabled - Require login. Users will be prompted for a username and password when they connect to the camera for viewing video. The camera administrator must use the "User Database" menu option to create the desired users.
Video Access	
Enable Scheduled Video Access	<ul style="list-style-type: none"> If enabled - Viewing video 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. <p>Note that regardless of which setting is chosen, the Administrator can ALWAYS access the camera and view live video.</p>
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 the Delete button to delete the selected item in the list.
Add New Schedule	
Day	Choose the desired option for the period.
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 period.
Clear	Use this button to clear the input fields.

User Database Screen

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

Figure 36: 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. The maximum number of users is 20.
Edit, Delete, Delete All	Use these buttons to manage the user database.
User Properties	
User Name	Enter the name for the user here. <ul style="list-style-type: none"> 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.
Control Level	Select either <i>Viewer</i> or <i>Operator</i> for the user you plan to add. (Operator level allows user to control Pan/Tilt)
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

This screen is displayed when the *Pan/Tilt* option on the *Video & Audio* menu is clicked.

Figure 37: Pan/Tilt Screen

Data - Pan/Tilt Screen

Pan/Tilt	
Enable Pan/Tilt Control	Enable the checkbox in order to use the Pan/Tilt function.
Pan/Tilt Speed	Select the desired motor speed for the Pan/Tilt control.
Degrees to move per step...	Enter the desired values in the <i>Pan</i> and <i>Tilt</i> fields to set the Pan/Tilt degrees.
Patrol	Select either <i>One time</i> or <i>Always</i> for the patrol function.
Preset Point Position	Click this button to define the preset point position.

Set Patrol Sequence	
Set Patrol Sequence	<p>This feature determines how the camera will move when it is set to either "Once" or "Always" 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.</p> <p>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.</p> <p>To delete a position from the Sequence, select the desired position and click the "Remove" button.</p>
Time	This determines how long the camera will stay at each position while executing the sequence. Set this to the desired value.

Set Preset Position Screen

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

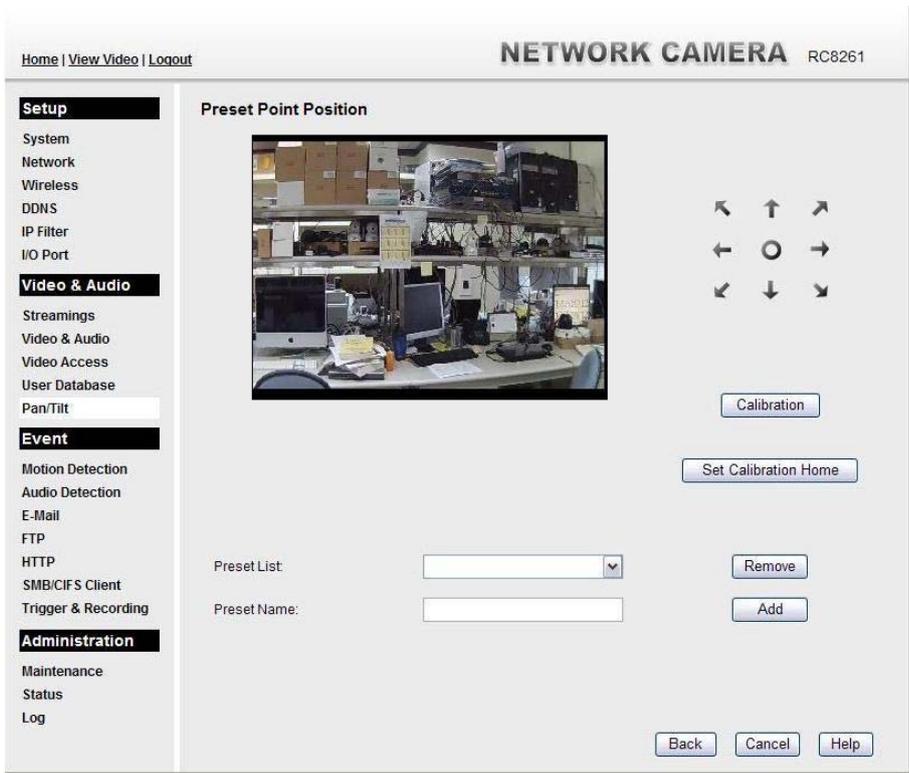


Figure 38: Preset Point Position Screen

Data - Preset Point Position

Calibration	Click this button to reset the calibration of Pan/Tilt area.
Set Calibration Home	Set the calibration to the default location.
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 *Event* menu is clicked.

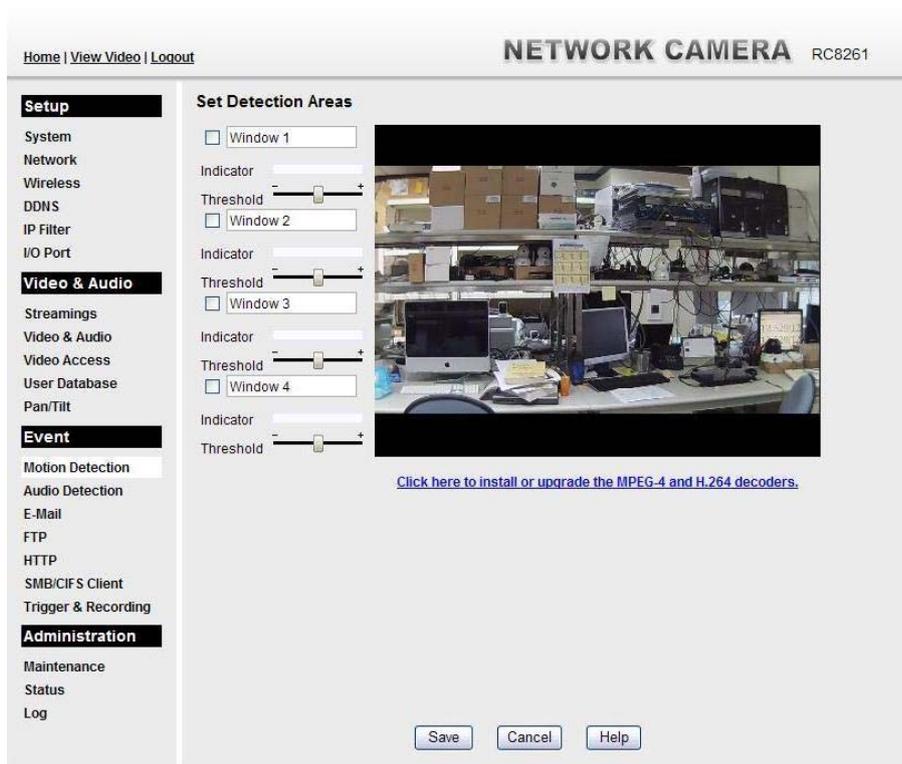


Figure 39: Motion Detection Screen

Data - Motion Detection Screen

Motion Detection	
Set Detection Areas	<p>You can set the full screen or selected areas of the video image to be examined.</p> <p>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.</p>
Indicator/Threshold	<p>Administrator needs to adjust the relation between indicator and threshold for each area.</p>

Audio Detection Screen

This screen is displayed when the *Audio Detection* option on the *Event* menu is clicked.

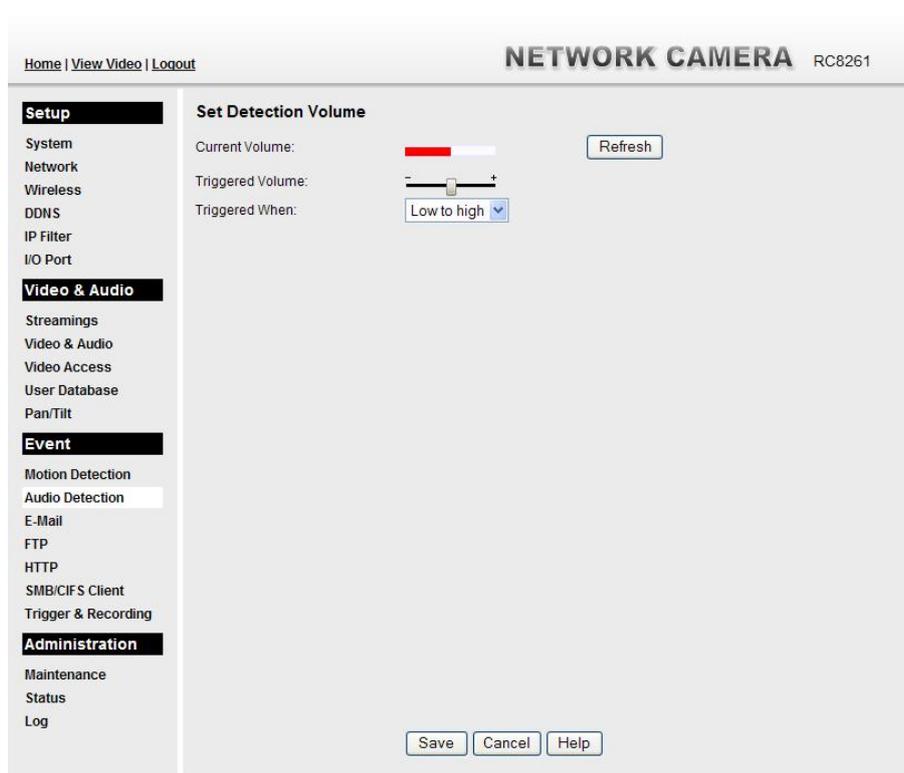


Figure 40: Audio Detection Screen

Data - Audio Detection Screen

Audio Detection	
Current Volume	It displays the current volume of the environment. Click <i>Refresh</i> to update the status.
Triggered Volume	Drag the bar to set the volume for triggering.
Triggered When	Choose the desired situation for triggering the audio detection.

E-Mail Screen

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

The screenshot shows the 'E-Mail Setup' configuration page. The left sidebar contains a menu with categories: Setup, Video & Audio, Event, and Administration. The 'Event' category is selected, and 'E-Mail' is highlighted. The main area is titled 'NETWORK CAMERA RC8261'. It features three main sections: 'Primary SMTP Server', 'Secondary SMTP Server', and 'E-Mail Setup'. Each section has input fields for SMTP Server Address, Port (default 25), Authentication (set to None), and Show "From" as (E-Mail Address). There are 'Test the Server' buttons for both primary and secondary servers. The 'E-Mail Setup' section includes three checkboxes for E-Mail Address #1, #2, and #3, each with a 'With Attachment' checkbox, and a 'Subject' input field. At the bottom are 'Save', 'Cancel', and 'Help' buttons.

Figure 41: E-Mail Screen

Data - E-Mail Screen

Primary/Secondary SMTP Server	
SMTP Server Address	Enter the address of the SMTP (Simple Mail Transport Protocol) Server to be used to send E-Mail.
Port	Enter the Port of the SMTP Server to be connected.
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.
Show "From" as	Enter the E-Mail address to be shown in the "From" field when the E-Mail is received.
Test the Server	Click this button to test the server connection.
Secondary SMTP	Check the box to upload to the Secondary SMTP if the camera can not connect to the primary SMTP.

E-Mail Setup	
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.
With Attachment	Enable the checkbox if you want to attaché files to the E-mail.
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.

FTP Screen

This screen is displayed when the *FTP* option on the *Event* menu is clicked.

The screenshot shows the 'NETWORK CAMERA RC8261' interface. The left sidebar contains a menu with the following items: Home | View Video | Logout; Setup (System, Network, Wireless, DDNS, IP Filter, I/O Port); Video & Audio (Streamings, Video & Audio, Video Access, User Database, Pan/Tilt); Event (Motion Detection, Audio Detection, E-Mail, FTP, HTTP, SMB/CIFS Client, Trigger & Recording); Administration (Maintenance, Status, Log). The main content area is divided into 'Primary FTP' and 'Secondary FTP' sections. Each section has input fields for 'FTP Server', 'Port' (set to 21), 'Login Name', 'Password' (masked with dots), and 'File Path Name'. There is an 'Enable Passive Mode' checkbox and a 'Test the Server' button in each section. At the bottom of the main area are 'Save', 'Cancel', and 'Help' buttons.

Figure 42: FTP Screen

Data - FTP Screen

Primary/Secondary FTP	
FTP Server	Enter the address of the FTP Server.
Port	Enter the Port of the FTP Server to be connected.
Login name	Enter your login name for the FTP Server.
Password	Enter your password for the FTP Server.
Enable Passive Mode	Check the box to enable the Passive mode feature of the FTP.
File Path Name	Enter the file path/name of the FTP.
Secondary FTP	Check the box to upload to the Secondary FTP if the camera can not connect to the primary FTP.

HTTP Screen

This screen is displayed when the *HTTP* option on the *Event* menu is clicked.

Figure 43: HTTP Screen

Data - HTTP Screen

HTTP Notification	
URL	Enter the URL of your HTTP notification server.
User Name	Enter the user name of the HTTP server.
Password	Enter the password of the HTTP server.
Proxy Server Name	Specify the proxy server name in the provided field if the camera needs to pass through a Proxy Server to do the HTTP notification.
Proxy User Name	Enter the user name for the proxy server.
Proxy Password	Enter the password for the proxy server.
Proxy Port Number	Enter the port number for the proxy server.
Method	Select the desired method of form data encoding. <ul style="list-style-type: none"> Get - It should be used if and only if the form processing is independent, which typically means a pure query form. Generally it is advisable to do so. Post - If there are problems related to long URLs and non-ASCII character repertoires, which can make it necessary to use "POST" even for independent processing.

SMB Client Screen

This screen is displayed when the *SMB Client* option on the *Event* menu is clicked.

Home | View Video | Logout

NETWORK CAMERA RC8261

Setup

- System
- Network
- Wireless
- DDNS
- IP Filter
- I/O Port

Video & Audio

- Streamings
- Video & Audio
- Video Access
- User Database
- Pan/Tilt

Event

- Motion Detection
- Audio Detection
- E-Mail
- FTP
- HTTP
- SMB/CIFS Client**
- Trigger & Recording

Administration

- Maintenance
- Status
- Log

SMB/CIFS Client

Browse SMB/CIFS Server:

Server Name:

File Path:

User Name:

Password:

Continuous Recording

Maximum duration of continuous recording file: Minutes(1-60)

Browse SMB/CIFS Server:

Server Name:

File Path:

User Name:

Password:

Figure 44: SMB Client Screen

Data - SMB Client Screen

SMB Client	
SMB Client	Enable this checkbox to use the SMB Protocol, which is a client server, request-response protocol used for read, create, and update files on the remote server.
File Path	Enter the file path of your SMB server.
User Name	Enter the user name for the SMB client account.
Password	Enter the password for the SMB client account.

Trigger & Recording Screen

This screen is displayed when the *Trigger & Recording* option on the *Event* menu is clicked.

Figure 45: Event Trigger Screen

Data - Trigger & Recording Screen

Settings	
Enable	Enable this to manage the trigger settings.
Schedule List	<p>The schedule shows all of the event types currently configured in the Network Camera, along with various information about their configuration, as listed below:</p> <ul style="list-style-type: none"> • Name - The descriptive event name set by the user. • Enable - It shows when the event at a set time will be triggered. • Trigger - It shows what kind trigger activates the event. • Action - It shows what kind of the actions will be issued when the event been triggered.
Add, Edit, Delete Buttons	Use these buttons to add, modify or delete the selected schedule in the list above.
Schedule	
Name	Enter the desired name.

Schedule	<p>Choose the desired option for the period.</p> <ul style="list-style-type: none"> • Always • Schedule • Never (Disabled)
Trigger by	<ul style="list-style-type: none"> • Motion Detection - Movement in a motion detection window can be used to trigger events. • PIR - If the PIR sensor detects a human body, it will be used to trigger events. • Input - This describes the states that the input must be in for an event to be triggered. Only one input can be used, also note that the states for the input used must first be reached before the event will be triggered. • Audio Detection - The sound detection can be used to trigger events. • HTTP CGI - The CGI commands can be used to trigger events. • Periodically • Continuously
Actions	<ul style="list-style-type: none"> • Output Port - If checked, the output port state will be activated as configured. (Output port must first be configured on the I/O Port page.) • White Light LED - If checked, the White Light LEDs will only be turned on for certain period of time when the surrounding light is under 20 lux. You can configure the time in the <i>White LED Delay Time</i> field below. • HTTP - If checked, an Instant Messaging (IM) will be delivered to the Jabber server. (Jabber server must be configured on the HTTP page.) • E-Mail - If checked, an E-Mail (with "Attachment") will be delivered to the SMTP server. (SMTP Server must be configured on the E-Mail page.) • FTP - If checked, an FTP upload will be activated to the FTP server. (FTP servers must be configured on the FTP page.) • SMB/CIFS - If checked, JPEG image(s) or video files will be uploaded to the SMB server. (SMB must first be enabled and configured on the SMB Client page.)

Motion Position

Enable Motion Detection..	If enabled, movement in a motion detection window can be used to trigger events.
Disable Pan/Tilt..	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.
Disable Motion Detection while..	If the checkbox is enabled, wrong movement in a motion detection window can not be used to trigger events. But if you enable the checkbox of <i>Go to Motion Detection position if idle</i> and select the idle time, it will be used to trigger events.

Maintenance Screen

Figure 46: 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 <i>Backup</i> button to save the current configuration information to a text file. It is suggested to backup the configuration file, in order to restore the camera easily.
Restore Configuration File	Click <i>Restore</i> 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.
Restore Factory Defaults	Click <i>Defaults</i> button to reloads all default settings on the camera.
Restart Camera	Click <i>Restart</i> button to restarts the camera.

Status Screen

Home | [View Video](#) | [Logout](#)
NETWORK CAMERA RC8261

Setup

System

Network

Wireless

DDNS

IP Filter

I/O Port

Video & Audio

Streamings

Video & Audio

Video Access

User Database

Pan/Tilt

Event

Motion Detection

Audio Detection

E-Mail

FTP

HTTP

SMB/CIFS Client

Trigger & Recording

Administration

Maintenance

Status

Log

System

Device Name: RC82617B68F0

Description:

FW version: V1.0.03

Network

MAC Address: 00:0e:8f:7b:68:f0

IP Address: 192.168.1.101

Network Mask: 255.255.255.0

Gateway:

WINS Address:

Wireless

WSC PIN Code: 80877929

Network Type: Infrastructure

SSID: ANY

Channel: N/A

Security: Disabled

Signal Strength: N/A

Streaming 1 Enabled

Video Format: MPEG-4

Resolution: 1280*720

Video Quality: Normal

Frame Rate: 30

Streaming 2 Enabled

Video Format: MJPEG

Resolution: 640*480

Video Quality: Normal

Frame Rate: 30

Streaming 3 Disabled

Video Format: MPEG-4

Resolution: 640*480

Video Quality: Normal

Frame Rate: 30

UPnP Traversal (Port Mapping)

Status: Disabled

Figure 47: 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.
WINS Address	The IP Address of the WINS server.
Wireless	
WSC PIN Dode	It displays the current WSC PIN code.
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.
Signal Strength	This shows the strength of the signal.
Streaming (1~3)	
Video Format	It displays the current format of video.
Resolution	The image size of the video stream.
Video Quality	This displays the image quality of the video stream.
Frame Rate	This displays the frame rate of the video stream.
UPnP Traversal	
Status	This displays the current status of the UPnP.
Buttons	
Refresh	Update the log and any other data on screen.

Log Screen

This screen displays a log of system activity.

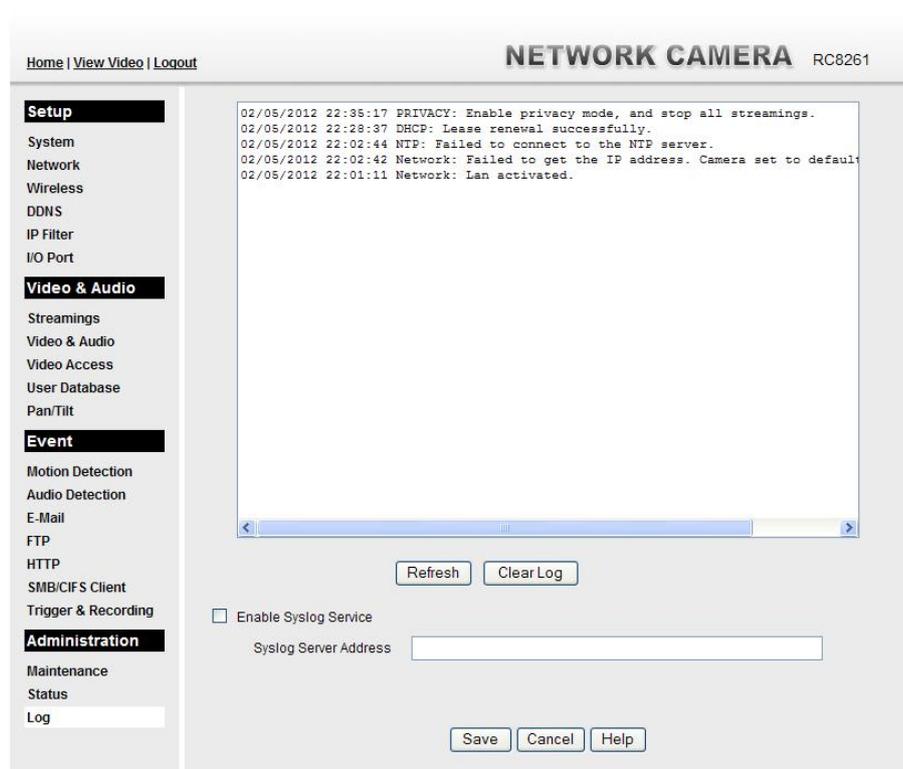


Figure 48: Log Screen

Data - Log Screen

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

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 *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 spam 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 *Video Quality Control* setting on the **Video & Audio** screen. Video created by the lower settings will contain less detail; this is the trade-off for using less bandwidth.

Problem 9 **When is the best time to press WPS button?**

Solution 9 If there is no cable connected, you can press the WPS button after the *Power* LED starts blinking.

Appendix A

Specifications



Network Camera

Model	RC8261
Dimensions	90mm (W) * 35mm (H) * 90mm (D)
Built-in Speaker	8 ohm, 0.5W
Built-in Microphone	6mm, -40 dB+3db
Light Sensor	Min low lux trigger value: 0.5 lux
PIR Sensor	Sensitivity distance: 5 meters Angle degree: 100° (cone) Focus distance: 6~9 meters
Pan & Tilt	<ul style="list-style-type: none"> • Pan (310° / 4 seconds): left 155°, right 155° • Tilt (120° / 1.5 second); up 90°, down 30°
Image Sensor	Omni Vision OV7725 1/3.75" CMOS Sensor
Lens	F 1.8, FOV 56°/ 35°/ 67°(Horizontal/ Vertical/ Diagonal)
Operating Temperature	-5° C to 45° C
Storage Temperature	-20° C to 70° C
Network Protocols	TCP/IP, DHCP, SMTP, NTP, HTTP, FTP, RTP, RTSP, UPnP (Discovery/Traversal)
Network Interface	1 Ethernet 10/100BaseT (RJ45) LAN connection
Wireless interface	IEEE 802.11n/IEEE 802.11b/802.11g compatible, Infrastructure/Ad-hoc mode, WEP/WPA Personal/WPA2 Personal security support, roaming support
LEDs	Power (green) Active (green) Network/WPS (green/amber)
Power Adapter	12V/1A DC External

Regulatory Approvals

FCC Statement

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

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

You are cautioned that changes or modifications not expressly approved by the party responsible for compliance could void your authority to operate the equipment.

FCC RF Radiation Exposure Statement:

1. This Transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.
2. This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body.

CE Approvals

This product meets the guidelines of the European Union and complies 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
dhcpcd-1.3.22	GPL
boa-0.94-13e11	GPL
WPA_supplicant	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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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 Internet Camera

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

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

Size = 1(160*128)

2(320*240)

3(640*480)

Quality = 1(Very high)

2(High)

3(Normal)

4(Low)

5(Very low)

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

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

To stream video through the RTP/RTSP protocol from Internet 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>