CISCO™

LINKSYS® by Cisco

Wireless-N Internet Home Monitoring Camera

User Guide

Model: WVC80N

About This Guide

Icon Descriptions

While reading through the User Guide you may see various icons that call attention to specific items. Below is a description of these icons:

NOTE: This check mark indicates that there is a note of interest and is something that you should pay special attention to while using the product.

WARNING: This exclamation point indicates that there is a caution or warning and it is something that could damage your property or product.

WEB: This globe icon indicates a noteworthy website address or e-mail address.

Online Resources

Website addresses in this document are listed without **http://** in front of the address because most current web browsers do not require it. If you use an older web browser, you may have to add **http://** in front of the web address.

Resource	Website
Linksys	**www.linksysbycisco.com**
Linksys International	**www.linksysbycisco.com/international**
Glossary	**www.linksysbycisco.com/glossary**
Network Security	**www.linksysbycisco.com/security**

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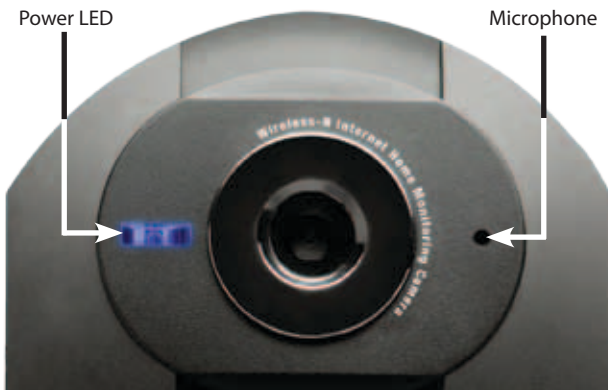
Chapter 1: Product Overview

Thank you for choosing the Linksys Wireless-N Internet Home Monitoring Camera. The Camera sends live video through the Internet to a web browser anywhere in the world! This compact, self-contained unit lets you keep an eye on your home, your kids, your workplace—whatever's important to you.

Front Panel

Power LED   Microphone

Power (Blue) This LED lights up when the Camera is powered on. It flashes while the Camera is booting up and remains lit when the Camera is ready for use.

Microphone The microphone is used to record ambient sound.

Bottom Panel

Reset Button Opening
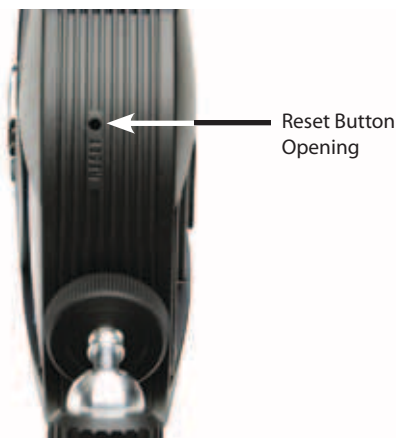
Reset This button is used to reset the Camera. To reset, insert an object with a small tip, such as a pen, press the button until you feel it click, then hold for 10 seconds.

WARNING: Resetting the Camera will erase all of your settings, such as encryption information, and replace them with the factory defaults. Do not reset the Camera if you want to retain your settings.

NOTE: The Camera's factory default settings are.
user name: **admin**
password: **admin**

Back Panel

Wi-Fi Protected Setup™ If you have an Access Point that supports Wi-Fi Protected Setup™, then you can use this button to automatically configure the Camera's wireless security for your wireless network.

On/Off Button Press the On/Off button to power the device on or off.

Power The Power port is where you connect the power adapter.

Ethernet The Ethernet port is where you connect the Ethernet network cable.

NOTE: To learn how to set up the Camera, please read the Camera's Quick Installation Guide.

Chapter 2:
Installing and Using the
Camera Utility

Overview

This chapter will instruct you on how to install and use the Camera Utility. The Utility allows you to easily view and record the Camera's video.

If another Internet Camera Utility is already installed, you should uninstall it before installing this Camera Utility.

Installing the Camera Utility

1. Insert the Setup CD-ROM into your CD-ROM drive.
2. The Setup Wizard starts. Click **Install Camera Utility**.

Welcome Screen

3. The Setup Wizard begins to install the Camera Utility. Click **Next**.
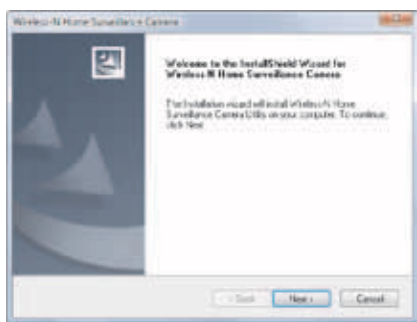
Setup Wizard

4. The *Choose Destination* screen appears. Click **Browse** and choose the folder where you would like the Utility installed. Click **Next**.
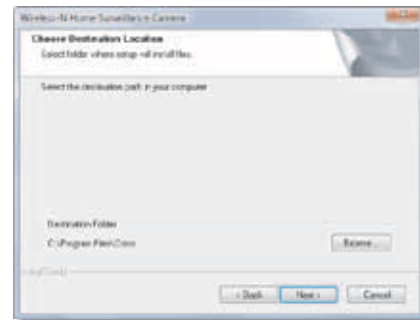
Choose Destination

5. The *Ready to Install* screen appears. Click **Next**.
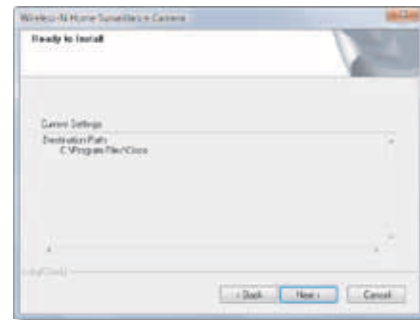
Ready to Install

6. The Setup Wizard installs the Camera Utility. The progress of the installation is displayed.
7. When the Setup Wizard informs you that the installation is complete, click **Finish**. The Camera Utility starts automatically.
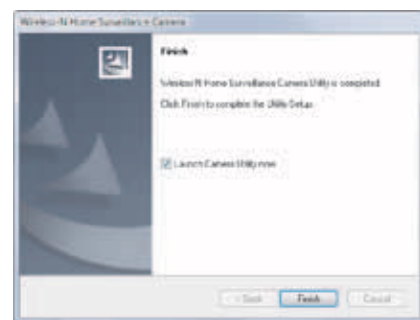
Installation Complete

Go to the "Using the Camera Utility for the First Time" section.

Using the Camera Utility for the First Time

The Camera Utility starts up automatically after the Utility is successfully installed. To set up your first camera:

1. Click the **Setup** icon in the upper left corner of the window.
2. The Cameras tab is displayed. Select your Camera from the *Automatically add cameras* list and click **Add to my list**. If your Camera is not listed, click **Refresh** to update the list, or add the Camera manually.

   To manually add a Camera, go to the **Address** field and enter either its web address or its IP address, or to access a camera on the WAN, enter its IP address with port number. Then click **Add to my list**.
3. Complete the *Port Number* and *Stream Type* fields. If you want to access the Camera as an administrator, also complete the *User Name* and *Password* fields. (You may access the Camera without completing these fields if you are logged in as a guest.)
4. The Camera is installed. It appears in the *My camera list* section, and its video output is displayed in *Camera details*.

To learn how to use the Camera Utility, go to "Using the Camera Utility."

Advanced users: If you want to use the Camera's Web-based Utility, go to "Chapter 3: Advanced Configuration with the Web-Based Utility."

Using the Camera Utility

After the Camera Utility is installed, its icon is displayed on the Desktop and in the System Tray of the Taskbar. To open the Camera Utility, use either icon as follows:

- Double-click the icon on your desktop
- Right-click the icon in the system tray, then click **Linksys by Cisco Wireless-N Internet Home Monitoring Camera**.

Desktop Icon   System Tray Icon

When you are finished using the Camera Utility, close the Utility window by clicking the **X** button in the upper-right corner. The Utility will continue to run in the background, and any scheduled recordings will proceed as planned.

To exit the Utility completely, right-click the Utility's system tray icon and select **Exit**.

Menu Icons

The utility has three menu icons in the upper left corner: *LiveView*, *View Recordings*, and *Setup*.

LiveView   View Recordings   Setup

LiveView

When you first open the Utility, the *LiveView* window is displayed. The *LiveView* window can also be accessed by clicking the **LiveView** icon. The *LiveView* window contains the viewing area, as well as the *View Layout* and *Controls* sections.
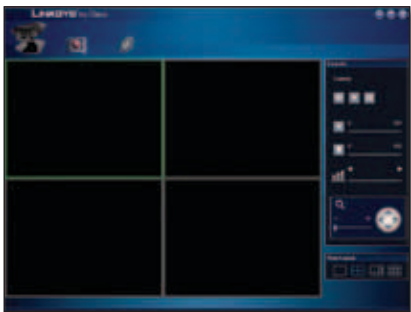
LiveView

Viewing Area

The viewing area takes up most of the *LiveView* window. The viewing area can have four different layouts, with video windows for one, four, six, or nine Cameras. The layout is selected using the video layout controls described in "Video Layout'" below.
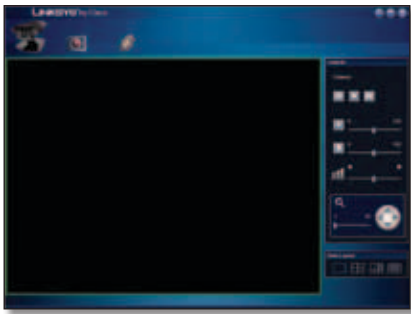
Viewing Area - Single-Camera Display

Viewing Area - Four-Camera Display
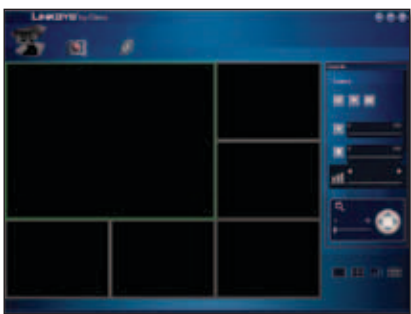
Viewing Area - Six-Camera Display
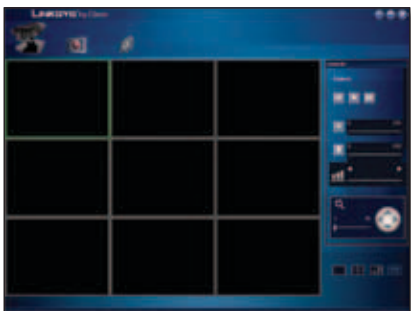
Viewing Area - Nine-Camera Display

Multiple-Camera Layouts

In a multiple-Camera layout, one of the video windows is always outlined in green. This indicates the currently selected Camera. The *Controls* section can be used to perform various functions on the video from this Camera. For information on the video control buttons, refer to "Controls" below.

The name of each Camera is overlaid on that Camera's video window. To specify a different Camera than the selected Camera, click on that Camera's video window.

Each Camera can be displayed using any of the video windows in the layout. To move a Camera from one video window to another, click and drag the Camera's video window to another video window. The two Cameras originally assigned to each of the two windows will then swap places. This is especially useful for the six-Camera layout, which has one large video window and five smaller ones. A Camera assigned to one of the smaller windows can be quickly enlarged by dragging it to the large window.

To quickly view any Camera's video at full scale, double-click that Camera's video window. The layout will change to a single-camera display of the selected Camera's video.

View Layout

This section of the *LiveView* window lets you change the layout of the viewing area. To select a particular layout, click the layout's icon.
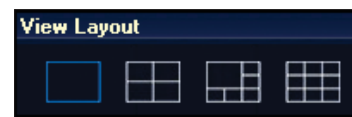
Video Layout Icons

Icon	Function
	Click this icon to display video from one Camera only.
	Click this icon to display video from up to four Cameras. The video windows are all of equal size.
	Click this icon to display video from up to six Cameras, with one large video window and five small video windows.
	Click this icon to display video from up to nine Cameras. The video windows are all of equal size.

Controls

The video controls are located along the right edge of the *LiveView* window in the *Controls* section.

Controls

These controls act upon the selected Camera as explained below.

Control	Function
	View Click this button to view the current video.
	Instant Record Click this button to record the current video.*
	Snapshot Click this button to take a snapshot of the current video image.
	Speaker Click this button to toggle the sound on or off. Move the slider to the left to decrease the volume or to the right to increase the volume..
	Microphone This feature is not available on the WVC80N.
	Quality Move the slider to the left to decrease the video quality or to the right to increase the video quality.**
	Zoom Move the slider to zoom into current video display. The zoom factor cycles from 1x to 16x. Click the Up, Down, Left, and Right arrows to navigate within the monitor window.

* The length of the recording is configured in the Setup > Settings screen of the Camera Utility. During recording, the Utility's System Tray icon turns into an animated icon (arrow moves up and down).

When recording ends, the icon reverts to its original state.

Recording In Progress   No Recording In Progress

** This option will only be selectable when the MPEG-4/MJPEG Setting is set to Fixed Quality. This setting is found in the Advanced Configuration > Image screen of the Camera's Web-based Utility.

View Recordings

The *View Recordings* window is accessed by clicking the **View Recordings** icon. The *View Recordings* window is used to play back videos that you have recorded and saved. This window has three sections: *Video Controls*, *Memory Status*, and the video playback section.

View Recordings
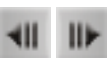
Video Controls

This section of the *View Recordings* window allows you to perform basic functions on the video you have selected for playback.
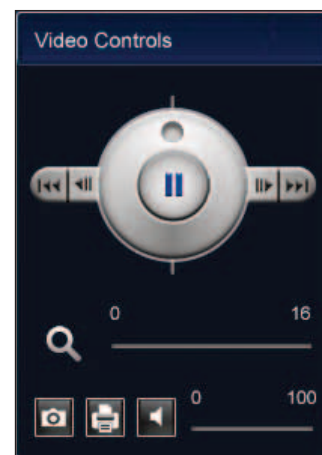
Video Controls

The controls and their functions are described below.

Control	Function
	Play/Pause Click this button to toggle the video between play and pause.
	Playback Speed Click and drag the wheel clockwise to increase the speed of the video playback, or counterclockwise to decrease the speed of the video playback. When the wheel is centered (with the indicator at the top position), the video will play at normal speed.
	Frame by Frame Click these buttons to go back (left arrow) or go forward (right arrow) exactly one video frame.
	Previous/Next Click these buttons to view the previous (left arrow) or the next (right arrow) recording.
	Zoom Move the slider to the right of this icon to zoom into the current video display. The zoom factor cycles from 1x to 16x.
	Snapshot Click this button to capture a still image of the current video display.
	Print Click this button to print the current video image.
	Sound Click this button to toggle the sound off or on. Move the slider to the left to decrease the volume or to the right to increase the volume.

Memory Status

This section of the *View Recordings* window indicates, in hours and gigabytes (GB), how much hard disk space is available for recorded video.
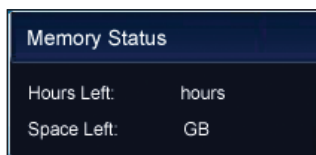
Memory Status

Video Playback

The section at the bottom of the *View Recordings* window is used to locate video for playback.
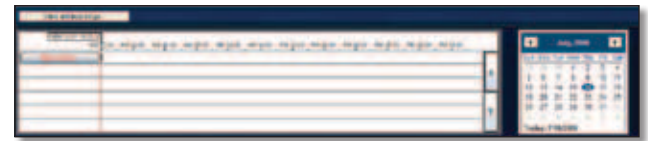
Video Playback

To locate and play a recording:

1. If you want to see all available recordings, toggle the button above the timeline to **View all recordings**. If you want to see only those recordings which were triggered by motion detection, toggle the button to **View by motion detection only**.

2. Using the calendar to the right of the timeline, select the date of the recording you want to view. (Bolded dates have recordings.)

3. The timeline displays blue bars where recordings are available. To display video from a specific time, click and drag the marker above the timeline to any point above a blue bar. The marker will display the date and time of the point you have chosen.

4. The video plays, starting from the point you have chosen.

Setup

The *Setup* screen is accessed by clicking the **Setup** icon. There are three tabs along the top of the *Setup* screen: **Cameras**, **Recording Options**, and **Settings**. By default, the **Cameras** tab is selected when the *Setup* screen is opened. These tabs display screens whose functions are described below.

Setup > Cameras

Click the **Cameras** tab to set up a network Camera.
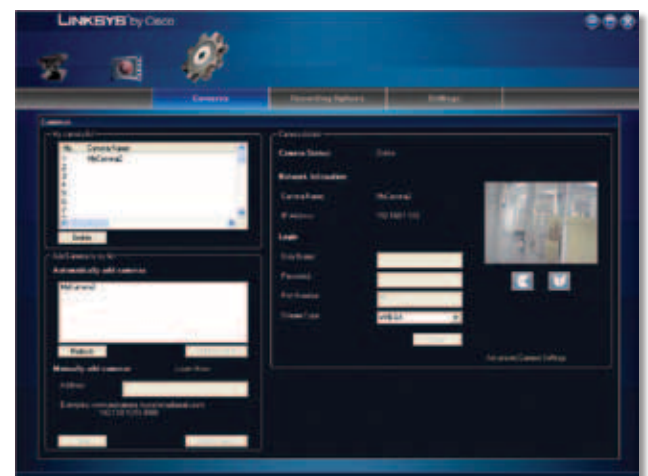
Setup > Cameras

My Camera List

The *My camera list* section of the *Setup > Cameras* screen contains a list of all Cameras that have been added (up to 9).

Camera Name Displays the name of the Camera. Selecting a Camera on this list will display its details in the *Camera Details* section of the screen.

Add Camera to my list

Automatically add cameras Displays a list of currently detected Cameras on your LAN. To add a camera to *My camera list*, select the Camera from the *Automatically add cameras* list and click **Add to my list**. If your Camera is not listed, click **Refresh** to update the list, or add the Camera manually.

Manually add cameras To manually add a Camera to *My camera list*, go to the **Address** field and enter either its web address or its IP address with port number. Then click **Add to my list**. To erase your entry, click **Clear**.

Camera Details

The *Camera Details* section allows you to enter camera information and then displays video and information from the currently selected Camera.

Camera Status Displays the status of the selected Camera.

Camera Name Displays the name of the selected Camera.

IP Address Displays the IP address of the selected Camera.

User Name Displays the selected Camera's user name.

Password Displays the selected Camera's password. For security reasons, the password is displayed as "•••••".

Port Number Displays the selected Camera's port number.

Stream Type Displays the selected Camera's stream type. To change the stream type, select either **MJPEG** or **MPEG4** from the drop down list and click **Save**.

Two buttons are located under the video display. These buttons act upon the selected Camera's video as explained below.

Button	Function
	Flip Click this button to flip the current video display top-to-bottom.
	Mirror Click this button to reverse the current video display left-to-right.

Click **Advanced Camera Settings** to open the Web-based Utility.

Setup > Recording Options

Click on the **Recording Options** tab to set the recording schedule for a network Camera.

Setup > Recording Options

Video Recording Options

To set the selected Camera to continuously record, select **Always Record**.

To set up a recording schedule for the selected Camera:

1. Select **Record on a Scheduled Time Range** if you want the Camera to record during the specified dates and times, or select **Record on Motion Event in Scheduled Time Range Only** if you want the Camera to record only at those (specified) dates and times when movement is detected.

2. Fill in the following fields:
   - **Select Days** From the drop down menu, select the days on which you want the Camera to record. The choices are **One Time**, **Every Day**, **Mon-Fri**, **Sat-Sun**, **Sun**, **Mon**, **Tue**, **Wed**, **Thu**, **Fri**, and **Sat**. (All settings except One Time cause recording to occur on a recurring basis.)
   - **Start Date (mm/dd/yyyy)** Enter the date to start the recording, in mm/dd/yyyy format, or select the start date using the drop down calendar.
   - **Start Time (hh:mm)** Select the time to start the recording using the drop down menus.
   - **End Time (hh:mm)** Select the time to end the recording using the drop down menus.

3. Click **Add to list** to save the new recording schedule.

4. The scheduled recording appears in the table of scheduled recordings at the bottom of the screen.

To delete a scheduled recording, check the box to the left of the recording, and click **Delete**. To delete all scheduled recordings, check the box in the upper left corner of the table and click **Delete**.

Memory Requirements for Video Recordings

You may find it helpful to know how much memory is required to hold a video recording. For information on estimated bit rates for a typical video recording at each available resolution and video, refer to the "Setup > Image" section of "Chapter 3: Advanced Configuration with the Web-Based Utility."

> **NOTE:** In order for the scheduled recordings to occur, the Camera Utility must be running on a networked PC.

> **NOTE:** The maximum length of a recording file is one hour. If a recording is more than one hour long, then multiple files will be saved.

Setup > Settings

Click the **Settings** tab to configure the Camera Utility's settings.

Setup > Settings

Recording Path

Recording This is the drive and folder where recorded video files will be saved on your computer. The default is **C:\Documents and Settings\<username>\My Documents\storage**, where <username> is your Windows user name.

Instant Recording Time Limit

Maximum Time Limit for Instant Recording This is the maximum length of a recording started by clicking the Record button on the *Monitor* window. Select the length of time from the drop down menu. The options are **1 min**, **5 mins**, **10 mins**, **15 mins**, **30 mins**, **45 mins**, **1 hrs**, **2 hrs**, and **4 hrs**. The default is **1 min**.

Motion Detection

The following setting applies only if the Motion Detection Recording feature is enabled.

- **Record** This is the length of video prior to and following the detection of motion that will be saved with the recording. Having this additional footage can help to show the motion more clearly when it occurs. Select the length of time from the drop down menu. The options are **5 secs**, **10 secs**, **15 secs**, and **20 secs**. The default is **10 secs**.

Disk Space for Each Camera Recording

Total Disk Space This is the total amount of storage space on your hard drive.

Available Disk Space This is the total amount of remaining storage space on your hard drive.

Enable Diskspace Limitation If you want to limit the amount of disk space used by each Camera, check this box, then complete the fields below.

- **Maximum Allowed Space per Camera** Enter the maximum allowed space per camera (in MB).

- **When allowed space is full** Select the action to take when the space limit is reached: **Overwrite earliest file** (default), or **Stop recording**.

Initial Settings

Launch this utility when Windows starts Check this box if you want this utility started automatically whenever Windows is started.

Enable text overlays Check this box if you want text overlays (such as date, time, and Camera name) enabled in the video display.

Click **Save** to save any settings you have changed, or click **Cancel** to exit without saving your changes.

If you want to use the Camera's Web-based Utility, go to "Chapter 3: Advanced Configuration with the Web-Based Utility."

Chapter 3: Advanced Configuration with the Web-based Utility

Overview

Use the Camera's Web-based Utility to access and alter its settings. This chapter will describe each web page in the Utility and its features. The Utility can be accessed via the web browser of a computer connected to the Camera.

How to Access the Web-based Utility

You can access the Utility using either of these methods.

- Launch Internet Explorer, and enter the Camera's IP address in the *Address* field. Then, press **Enter**.

Enter the Camera's IP Address

- From the *Monitor* window of the Camera Utility, select the Camera, then click the **Setup** button. (For instructions on how to launch the Camera Utility, refer to "Using the Camera Utility" in "Chapter 3: Installing and Using the Camera Utility."

The *Welcome* screen of the Web-based Utility will appear.

Web-Based Utility *Welcome*

There are six tabs across the top of the *Welcome* screen: **Home**, **View Video**, **Setup**, **Linksys Web**, **Help**, and **Exit**.

- **Home** – Select this tab to return to the *Welcome* screen.

- **View Video** – Select this tab to view the Camera's video. Go to the "View Video" section for more information.

- **Setup** – Select this tab to alter the Camera's settings. Go to the "Setup" sections for more information.

- **Linksys Web** – Select this tab to go to the Linksys website, **www.linksysbycisco.com**.

- **Help** – Select this tab to display the *Help* screen. Go to the "Help" section for more information.

- **Exit** – Select this tab to close the Utility.

View Video

Follow these instructions to view the Camera's video.

1. Click the **View Video** tab on the *Welcome* screen.

   ✔ **NOTE:** To view video and hear audio at the same time, or to make real-time video adjustments (zoom, change resolution, etc.), you must use Internet Explorer version 5.5 or higher.

2. The *View Video* screen appears, showing the live video from the Camera.

View Video (640x480 Resolution)

The top of the *View Video* screen contains a number of controls that are used to adjust the video display. These controls and their functions are described in the sections below.

There are four selectable tabs across the top of the *View Video* screen: **Home**, **Linksys Web**, **Help**, and **Exit**.

- **Home** – Select this tab to return to the *Welcome* screen, or to edit the Camera's settings with the Web-based Utility (select **Setup** or **Advanced Configuration** on the *Welcome* screen).

- **Linksys Web** – Select this tab to go to the Linksys website, **www.linksysbycisco.com**.

- **Help** – Select this tab to display the *Help* screen. Go to the "Help" section for more information.

- **Exit** – Select this tab to close the Utility.

Resolution

Use the *Resolution* drop-down menu to select the display resolution. Possible values are **Auto** (default), **640x480**, **320x240**, or **160x120**. The display changes to the new resolution immediately after it is selected.
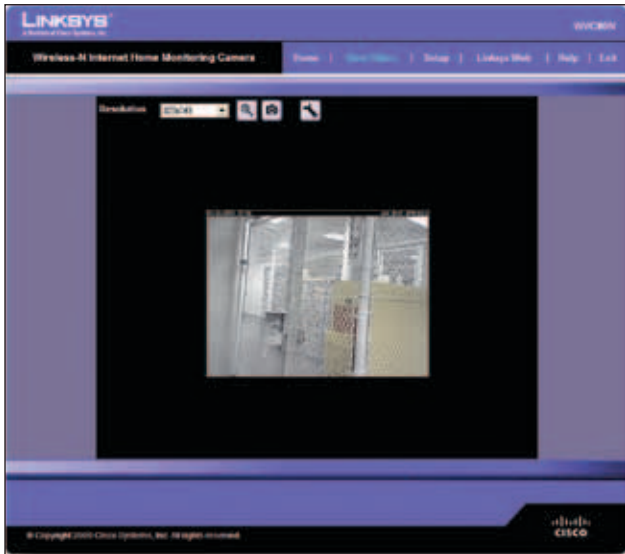
View Video (320x240 Resolution)
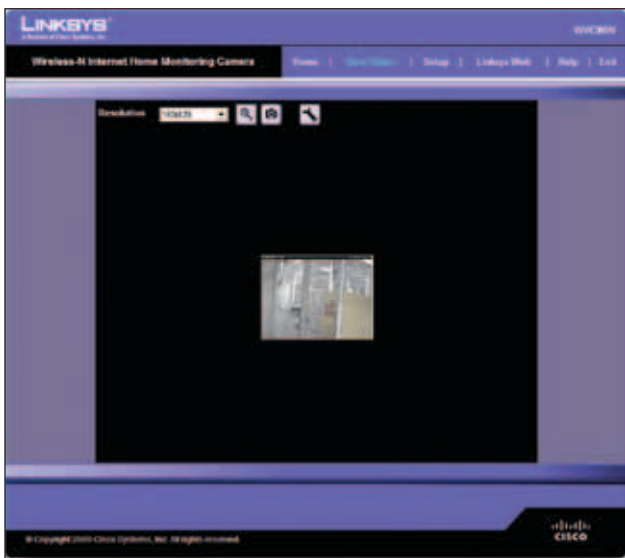
View Video (160x120 Resolution)

Zoom Factor

You use the Zoom button to zoom in and out of the displayed video.

Zoom Button

When you click the button, the cursor changes to a magnifying glass labeled with the current zoom factor

(cycles through 1x, 2x, and 4x). Position the cursor over the part of the image you want to magnify and click once.

Snapshot

You use the Snapshot button to capture a still image of the video display.

Snapshot Button

When you click this button, the Snap Shot window appears. Click **Save** to save the image, or click **Cancel** to exit without saving the image.

Snap Shot Window

Audio

Use the Audio button to toggle the sound on or off from the Camera's built-in microphone. The button's appearance indicates whether the sound is on or off. When the sound is on, you can adjust the volume by sliding the volume control to the left to lower the volume, or to the right to increase the volume.

Audio Button: Sound ON　　Audio Button: Sound OFF　　Volume Adjustment

Video Format

To select the video format, click the Video Format button, and the Video Format window appears. Select either **MPEG-4** or **MJPEG**, then click **Save**. To exit without saving, click the X in the upper-right corner of the window.

Video Format Button

Video Format Window

Setup > Basic

The *Setup > Basic* screen appears when you click the **Setup** tab or **Advanced Configuration** on the *Welcome* screen. The *Setup > Basic* screen allows you to alter the Camera's Device settings, Network settings, Wireless settings, and Security settings.

Setup > Basic

Edit the settings on this screen as needed. Then, to save your changes, click **Apply**. To cancel any unsaved changes, click **Cancel**. To get additional information about the screen's features, click **Help**.

Device Settings

- **Camera Name** You may assign the Camera any name up to 15 characters long. Unique, memorable names are helpful, especially if you use multiple Cameras on the same wireless network.

- **Description** Enter information about the Camera in this field. You can enter up to 32 characters.

- **LED Operation** This feature allows you to enable or disable the Camera's LED.

- **Current Date/Time** This displays the Camera's current date and time. If it is incorrect, click **Sync with PC** to use your computer's date and time.

- **Time Zone** Select the time zone for the Camera's location.

- **Adjust for Daylight Saving Time** Select this to adjust the Camera's current time for Daylight Saving Time.

> **NOTE:** You must deselect this option when Daylight Saving Time ends.

Network Settings

To configure the Camera's network settings, select the protocol you wish to use from the dropdown menu: **IPv4 only**, **IPv6 only**, or **IPv4 and IPv6**. The default is **IPv4 only**.

- **Configuration Type** If you want to automatically assign the Camera an IP address from a DHCP server, then select **Obtain Address Automatically (DHCP)** (default). If you want to assign the Camera a static IP address, then select **Fixed IP Address**, and complete the *IP Address, Subnet Mask*, *Gateway*, *Primary DNS* and *Secondary DNS* fields.

- **Address, Subnet Mask, Subnet prefix length (IPv6 only), Gateway, Primary DNS, Secondary DNS** Complete these fields if you want to assign the Camera a static IP address. You need to enter at least one DNS address.

Wireless Settings

- **SSID** Enter the network's SSID or network name here.

- **Network Type** Select the network's mode, **Ad-hoc** or **Infrastructure**.

- **Channel No** If the Camera is set to Ad-hoc mode, select its channel setting from the drop-down menu.

- **Security** Click **Edit Security Settings** to display the *Wireless Security* screen.

Setup > Basic > Wireless Security

The *Wireless Security* screen is used to configure the Camera's wireless security settings to match your wireless network settings. The settings are as follows.

Security Mode Select the wireless security mode used by your wireless network:

- **Disable** (no wireless security)
- **WEP**
- **WPA/WPA2 Personal**

The method selected determines which other fields are displayed on the screen. The different security modes

and the fields that accompany them are described in detail below.

- **Disable**

  This option implements no security on your wireless network. Data is not encrypted before transmission.

  Wireless Security - Disable Security Mode

- **WEP**

  WEP is a basic encryption method, which is not as secure as later methods such as WPA-Personal or WPA2 Personal. However, it is supported by all clients.

  Wireless Security - WEP Security Mode

  - **TX Key** Select the number of the key used on the wireless network.

  - **WEP Encryption** Select the appropriate option for key length based on your network settings.

  - **Passphrase** Type in the passphrase used to generate WEP keys on your network and click **Generate**.

  - **Key 1 - Key 4** Key values can be entered manually or generated from a passphrase.

  - **Authentication** Select the appropriate authentication type used on the wireless network.

- **WPA/WPA2 Personal**

  This method offers TKIP encryption with dynamic encryption keys.
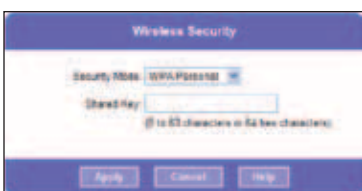
  Wireless Security - WPA/WPA2 Personal Security Mode

  -

  - **Shared Key** Enter the shared key of 8 to 63 characters that will be used to access the wireless network.

When you are finished editing the Camera's wireless security settings, click **Apply** to save your changes and return to the *Setup > Basic* screen. Click **Cancel** at any time to cancel any unsaved changes and return to the *Setup > Basic* screen. To get additional information about the screen's features, click **Help**.

Setup > Image

The *Setup > Image* screen allows you to alter the Camera's video settings.

Setup > Image

MPEG4 Settings

Resolution Set the resolution for viewing and recording the Camera's video: **640x480** (high resolution) **320x240** (medium resolution), or **160x120** (low resolution).

Video Quality Control Select either **Constant Bit Rate** or **Fixed Quality** for the video stream.

- **Constant Bit Rate** Select the bit rate you want for viewing or recording the Camera's video. The range varies from **64 Kbps** to **1.2 Mbps**.

- **Fixed Quality** Select the level of quality you want for viewing or recording the Camera's video. The range varies from **Very Low** to **Very High**.

Max Frame Rate Select the maximum frame rate for the camera. Reducing this lowers the amount of bandwidth required by the camera. The range is from 1 to 30.

MJPEG Settings

Resolution Set the resolution for viewing and recording the Camera's video: **640x480** (high resolution) **320x240** (medium resolution), or **160x120** (low resolution).

Fixed Quality Select the level of quality you want for viewing or recording the Camera's video. The range varies from **Very Low** to **Very High**.

Max Frame Rate Select the maximum frame rate for the camera. Reducing this lowers the amount of bandwidth required by the camera. The range is from 1 to 30.

> ✔ **NOTE:** Video quality and/or performance may be affected by the number of users connected to the Camera.

It may be helpful to know the bit rates for video viewing or recording at different resolutions and image quality levels. The following table lists these estimated bit rates.

Estimated Bit Rates for Video Viewing or Recording

Resolution	Quality Level	Bit Rate in kbps
640 x 480	Very High	4000
640 x 480	High	3200
640 x 480	Normal	1200
640 x 480	Low	480
640 x 480	Very Low	160
320 x 240	Very High	1000
320 x 240	High	800
320 x 240	Normal	300
320 x 240	Low	120
320 x 240	Very Low	40
160 x 120	Very High	800
160 x 120	High	400
160 x 120	Normal	200
160 x 120	Low	100
160 x 120	Very Low	40

Mobile Settings

Enable Mobile Streaming Select this option to enable video streaming to a mobile device.

Video Adjustments

Power Line Frequency Select the power line frequency (**50Hz** or **60Hz**) used in your region, to improve the picture quality under fluorescent 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. You can select a Brightness value between **-3** and **3**.

Sharpness Select the desired option for the sharpness. You can select a Sharpness value between **-3** and **3**.

Options

Enable Microphone Select this to enable audio. Using Audio increases the bandwidth requirements slightly.

Enable Time Stamp Select this to display a time stamp on the video.

Enable Text Display To display text on the video, select this, then enter up to 20 characters in the field.

To save your changes, click **Apply**. To cancel any unsaved changes, click **Cancel**. To get additional information about the screen's features, click **Help**.

Setup > Administration

The *Setup > Administration* screen allows you to change the Camera's login name and password, reset the factory defaults, upgrade the firmware, and set the language.
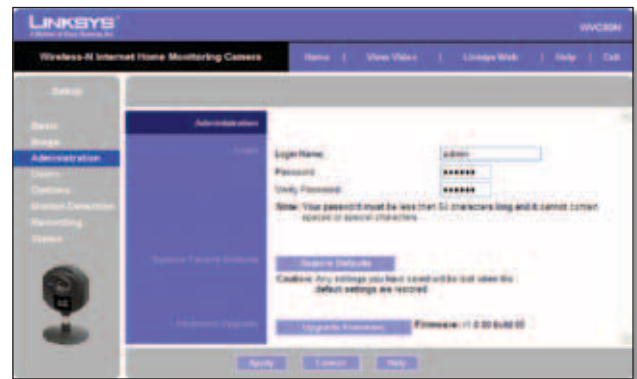
Setup > Administration

Login

These fields are used to change the login name and password used to access the Camera. For security purposes, you should change these from the default values (both set to **admin**).

Login Name Enter the login name for the Camera.

Password Enter the password for the Camera.

Verify Password Re-enter the password to verify.

Restore Factory Defaults

Restore Defaults To restore the Camera to its factory default settings, click **Restore Defaults**.

> ✔ **NOTE:** This will overwrite the Camera's settings with the factory defaults. Any changes you made to the Camera's settings will be lost; you will not be able to recover them.

Firmware Upgrade

Upgrade Firmware New firmware versions are posted at **www.linksysbycisco.com** and can be downloaded for free. If the Camera is functioning satisfactorily, there is no need to download a newer firmware version, unless that version has a new feature that you want to use. Loading new firmware onto the Camera does not always enhance its performance.

Linksys recommends that you upgrade the Camera's firmware within your network; in other words, use a computer within the Camera's local network. If you attempt to upgrade the Camera's firmware from a remote location—using a computer outside of the Camera's local network—the upgrade will fail.

To upgrade the firmware:

1. Go to the Linksys website, **www.linksysbycisco.com**, and download the firmware upgrade file for the Camera. Then extract the file.

2. From the *Setup > Administration* screen, click **Upgrade Firmware**.

3. You will see the *Upgrade Firmware* screen. Click **Browse** to find the extracted file, and then double-click it.

4. Click **Start Upgrade**, and follow the on-screen instructions. To cancel the upgrade, click **Cancel**.

Setup > Users

The *Setup > Users* screen lets you designate access rights for the Camera's users.

Setup > Users

Users Settings

Use this to assign access rights to the Camera's users.

Allow access by Select how access is to be granted, either **All users** or **Only users in database**. If you select **Only users in database**, edit the user database as needed, as described below.

Users This lists the user database (the users who have access to the Camera).

Editing the Database

To add a user to the database:

1. Enter the user's name in the *User Name* field.

2. Enter the password in the *Password* and *Confirm Password* fields.

3. Click **Add User** to save the user in the database.

To edit a user's record in the database:

1. Select the user from the *Users* list, then click **Edit**.

2. Edit the User Name and/or Password as needed.

3. Click **Add User** to save the updated information.

Other operations:

- **Clear** While editing a user's information, click **Clear** to clear the *User Name*, *Password*, and *Confirm Password* fields and start over.

- **Delete** To delete a user's record from the database, select the user from the list, then click **Delete**.

- **Delete All** To clear the database, click **Delete All**, then click **OK** to confirm.

To save your changes, click **Apply**. To cancel any unsaved changes, click **Cancel**. To get additional information about the screen's features, click **Help**.

Setup > Options

The *Setup > Options* screen allows you to set up and configure DDNS Service, UPnP configuration, and Alternate Port settings. DDNS (Dynamic Domain Name System) lets you assign a fixed host and domain name to a dynamic Internet IP address.
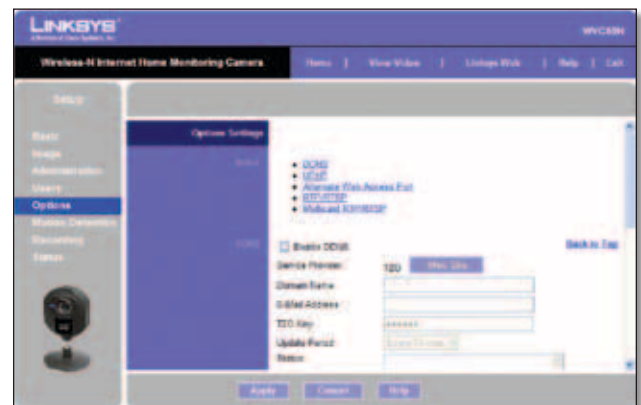
Setup > Options

DDNS

Enable DDNS Select this option to enable DDNS service with the Camera.

Service Provider This is the DDNS service provider, which is preset to TZO.

Domain Name Enter the domain name assigned to you by your DDNS service provider.

E-Mail Address Enter the E-mail address used to register the DDNS service.

TZO Key Enter the TZO key provided by your DDNS service provider.

Update Period Use this to set the schedule for checking whether the Internet IP address has been changed. Specify how often to check, from **Every 15 mins** to **Every 24 hrs**, as well as the time to start checking, in hh:mm format.

> **NOTE:** If you use the Camera's DDNS feature, then you must also configure the port forwarding feature on your network router. Go to **www.linksysbycisco.com/portfwd** for instructions on how to configure a Linksys router. For other routers, refer to your router's documentation.

> **NOTE:** Go to **www.tzo.com/linksys** to set up your Camera for remote access.

To save your changes, click **Apply**. To cancel any unsaved changes, click **Cancel**. To get additional information about the screen's features, click **Help**.

UPnP

Enable/Disable When enabled, the Camera's Universal Plug and Play (UPnP) feature allows a UPnP-enabled computer to easily detect the Camera. The Camera's UPnP feature is disabled by default. If your computer is UPnP-enabled, select this option.

Alternate Access Web Port

Enable/Disable If you want the Camera to be able to use an alternate port for communications, select this option. Then, enter the desired port number in the range from **1024** to **65534** in the *Port Number* field. The default port number is **1024**.

If you already have a Web Server on your LAN, then you should enable the Alternate Port and use this port number instead of port 80.

RTSP/RTP

The Real Time Streaming Protocol (RTSP) is a network control protocol that establishes and manages multimedia sessions between a media server and a client. The media data format in these sessions is defined by the Real-time Transport Protocol (RTP). You can view a Camera's live video stream using various multimedia player applications such as QuickTime, RealPlayer, or Windows Media Player,

or using a mobile phone that supports RTSP. To do this, first configure the RTSP/RTP settings in this section as needed, then open the multimedia player, then point the player to the appropriate URL listed below (where *<Camera IP Address>* is the IP address of the Camera you want to view).

- QuickTime or RealPlayer:
  rtsp://< *Camera IP Address*>**/img/video.sav**
- Windows Media Player:
  rtsp://<*Camera IP Address*>**/img/video.asf**
- Mobile phone with RTSP support:
  rtsp://<*Camera IP Address*>**/img/video.asf**

RTSP Port To change the RTSP Port number, enter the desired number in the range of **1024** to **65535**. The default is **554.**

RTP Data Port To change the RTP Data Port, enter the desired number in the range of **1024-65514,** even values only.

Max RTP Data Packet To change the maximum length of RTP data packets, enter the desired maximum length in the range of **400** to **1400**.

Multicast RTSP/RTP

Multicast RTP/RTSP allows a large number of clients to see the camera's media stream while conserving bandwidth. This is accomplished by sending the camera's media stream to a single multicast address for each client to retrieve, instead of directly sending a copy of the media stream to each client.

Enable/Disable Select **Enable** to enable the Multicast RTP/RTSP feature**, or Disable** to disable the feature.

Video Address To change the Video Address, enter the new address in the field provided. The default Video Address, **224.2.0.1**, can be used for multicasting and does not normally need to be reconfigured. If this address needs to be changed, contact your network administrator.

Video Port To change the Video Port, enter the new port number (even values only, from 1024 to 65534) in the field provided. The default Video Port, **2240**, can be used for multicasting and does not normally need to be reconfigured. If this port number needs to be changed, contact your network administrator.

Audio Address To change the Audio Address, enter the new address in the field provided. The default Audio Address **224.2.0.1**, can be used for multicasting and does not normally need to be reconfigured. If this address needs to be changed, contact your network administrator.

Audio Port To change the Audio Port, enter the new port number (even values only, from 1024 to 65534) in the field provided. The default Audio Port, **2242**, can be used for multicasting and does not normally need to be reconfigured. If this port number needs to be changed, contact your network administrator.

Time to Live Enter the maximum length of time (usually measured as the number of network routers that can be passed before the data arrives at its destination or is dropped) within which the data must reach its destination. The value must be from 1 to 255. The default value is **16**.

To save your changes, click **Apply**. To cancel any unsaved changes, click **Cancel**. To get additional information about the screen's features, click **Help**.

Setup > Motion Detection

The *Setup > Motion Detection* screen allows you to configure the Camera's motion detection settings.
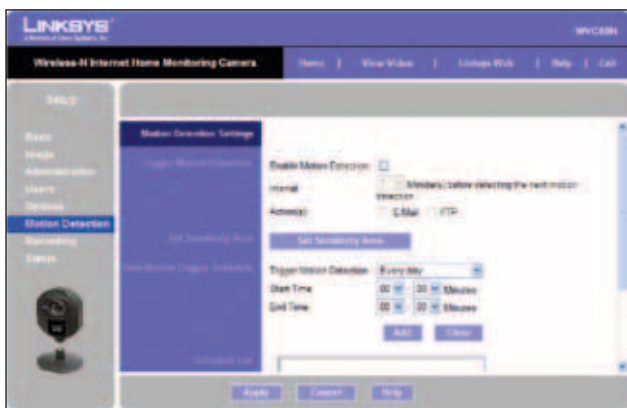
Setup > Motion Detection

Trigger Motion Detection

Enable Motion Detection Check this box to enable Motion Detection.

Attachment Type Select the type of attachment to be sent, either **JPEG** or **Video**. If JPEG is selected, a series of images will be attached to the e-mail as individual files. If Video is selected, a single video file will be attached.

Frame Rate If the *Attachment Type* field is set to **JPEG**, select the frame rate (number of frames to be captured per second), from 1 to 5. The default value is **1**.

Video Format If the Attachment Type is set to **Video**, select the video format, either ASF, MPEG-4, or 3GP.

Pre-Capture Length This refers to video footage up to the moment when motion is detected. Select how many seconds' worth of this video will be saved. This value must be between 0 and 4 seconds.

Post-Capture Length Select how many seconds' worth of video will be saved starting from the moment motion is detected. This value must be between 1 and 5 seconds.

Interval Enter the time in minutes that must pass between motion detection events. Valid values are 0-5, 10, or 15. The default is **2**. A value of 0 indicates no delay between events.

Action(s) Select the action(s) to be performed upon motion detection. Select **E-Mail** to send an e-mail with a video attachment to a selected recipient., or select **FTP** to send the video to a selected FTP server.

E-Mail Alert

If the *Action(s)* field is set to E-Mail, fill in the following fields:

Send To Enter the e-mail address where e-mail will be sent upon motion detection. You can optionally specify up to three addresses.

Show "From" as Enter the e-mail address to be used as the *From* field in the e-mail to be sent.

Subject Enter the *Subject* field for the e-mail, consisting of 48 alphanumeric characters or less.

SMTP Port Number Enter the SMTP port number from 1 to 65535. The default is **25**.

SMTP Mail Server If you want to use an SMTP mail server, check the box next to **Specify a SMTP Mail Server**. Then enter the mail server's name in the field provided.

My Mail Server Requires Authentication If you are using an SMTP mail server that requires authentication (you must log in with a username and password), check this box, then fill in the *Account Name* and *Password* fields.

Test E-Mail Click this button to send a test e-mail to the address indicated by the *Send To* field.

FTP

If the *Action(s)* field is set to FTP, fill in the following fields:

FTP Server Enter the FTP server name.

**Port** Enter the FTP server's port number.

Login Name and Password Enter the login name and password for the account on the FTP server.

Passive Mode Select **Enable** (default) to enable passive mode, or **Disable** to disable it.

File Path Name Enter the path to the location where the file will be saved on the FTP server.

Set Sensitivity Area

Set Sensitivity Area   If you want to specify the sensitivity area settings for motion detection, click this button to display the *Set Sensitivity Area* window. The *Set Sensitivity Area* window lets you specify the area of the video screen that is used to detect motion. This is either the full screen, or up to three user-defined custom areas within the full screen.
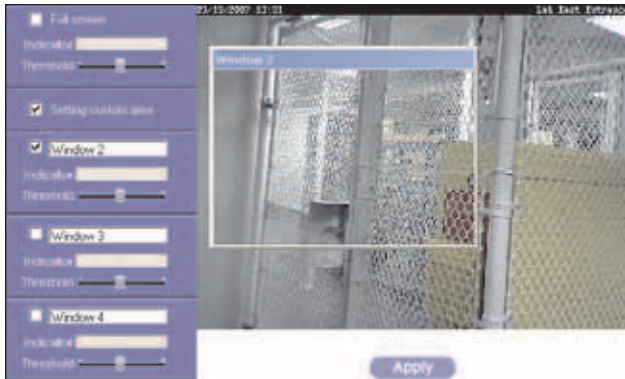
Set Sensitivity Area

> **NOTE:** In order to set the Camera's sensitivity area, you will need to access the Web-based utility using Internet Explorer 6 or higher.

The following fields appear on the left side of the *Set Sensitivity Area* window for each sensitivity area. Specify the settings as needed, then click **Apply**.

- **Full Screen or Window 2-4**   This is the name of the sensitivity area, either **Full screen** by default, or if *Setting Custom Area* is selected, **Window 2**, **Window 3**, or **Window 4** (custom areas). To change a custom area name to a more appropriate name, such as **Front Door**, enter the new name in this field.

- **Setting Custom Area**   To specify custom area(s) within the full screen, check this box, then configure up to three custom sensitivity areas. By default only one area, **Window 2**, is selected. To create an additional area, check the box next to its name. You can move or resize each area as needed. Custom areas may also overlap.

- **Threshold**   Slide this to the left to reduce the area's sensitivity, or to the right to increase sensitivity.

New Motion Trigger Schedule

This section allows you to create a schedule that determines when motion detection will be active. To do this, you define one or more "trigger" events, or periods during which motion detection will be in effect. For each trigger event, fill in the following fields.

Trigger Motion Detection   Specify how often this trigger event occurs: **Every day**, **Weekdays (Mon - Fri)**, or on specific days of the week (**Sunday** to **Saturday**).

Start Time and End Time   Specify the start and end times for the event.

Add   Click **Add** to add the new event to the schedule.

Clear   Click **Clear** to clear the schedule of all events.

Delete   To delete an event from the *Schedule List*, select the event, then click **Delete**.

Schedule List   This displays all of the scheduled trigger events that you have defined and saved. It is empty by default.

To save your changes, click **Apply**. To cancel any unsaved changes, click **Cancel**. To get additional information about the screen's features, click **Help**.

Setup > Recording

The *Setup > Recording* screen allows you to record video to Samba compatible devices such as your Mac or PC's shared folder, or to a NAS (network-attached storage) on your network.
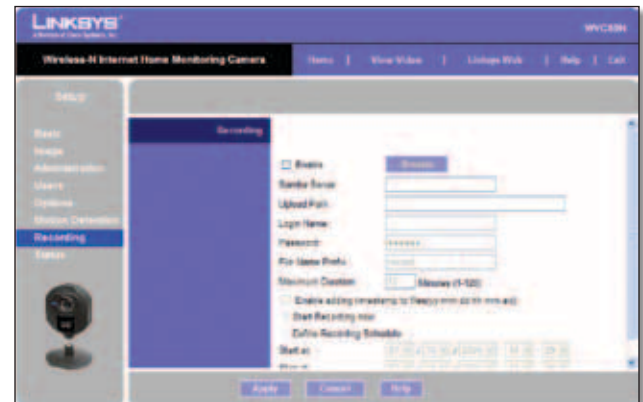
Setup > Recording

Enable   Check this box to enable the Camera's recording features.

Browse Click **Browse** to select the Samba server where your video files will be saved. Browse to the location where you wish to save your video files and click **Apply**.

Browse

Samba Server This displays the address of your Samba server.

Upload Path This displays the upload path to your Samba server. Your saved video files are found in this directory.

User Name Enter your Samba server user name here.

Password Enter your Samba server password here.

File Name Prefix The contents of this field are added as a prefix to each of the saved video filenames. The default value is **record**.

Maximum Duration Select the number of minutes of video each saved recording file will contain. This value must be between 1 and 120 minutes. The default value is **10**.

Enable adding timestamp to files Check this box to enable adding a timestamp to the end of your saved video files. The format is yy:mm:dd:hh:mm.

Start Recording now/Define Recording Schedule To enable immediate recording, select **Start Recording now**.

To enable scheduled recording, select **Define Recording Schedule**. Specify the start and end times using the dropdown menus in the *Start at* and *Stop at* fields.

Setup > Status

The *Setup > Status* screen allows you to view the Camera's status information and log.

Setup > Status

System Status

Firmware Version The version of the current firmware installed.

MAC Address The MAC Address of the Camera is displayed here.

Camera Name The name you gave to the Camera is displayed here.

Description Information about the Camera, such as location, is displayed here.

Date/Time The current date and time are shown here.

Network

Network Type The wireless network's mode is shown here.

IP Version The IP version in use is displayed here.

IP Address The Camera's IP Address is displayed here.

Subnet Mask The Camera's Subnet Mask is shown here.

Gateway The Camera's Gateway address is displayed here.

Wireless

SSID The wireless network's SSID or name is shown here.

Domain The wireless network's region is displayed here.

Channel No The wireless network's channel setting is displayed here.

Security The wireless network's encryption level is displayed here.

Log

System Log This shows the Camera's activities. To empty the log, click **Clear Log**.

To get the Camera's most up-to-date information, click **Refresh**. To get additional information about the screen's features, click **Help**.

Help

Through the *Help* screen, you'll find links to additional resources for the Camera and its Utility. If you select the **Help** tab directly from the *Welcome* screen, then you will see the *User Help* screen and will only be able to access these resources. If you first log in to access the Camera's Setup and then select the **Help** tab, you will see the *Administrator Help* screen and will be able to restore factory defaults and upgrade the Camera's firmware.

Setup > Help

- **Setup** Click any of the topics in the bar on the left to get help information.

- **Linksys Support Page - Download Latest Viewer/ Recorder Utility** Click this link to download the most recent version of the Camera Utility from the Linksys website, **www.linksysbycisco.com**.

- **Click here to learn how to configure Port Forwarding in your Linksys Router** If you are going to use the DDNS Service, you need to set up port forwarding on your router. For instructions on how to configure a Linksys router, click this link. If you have a different router, refer to your router's documentation.

- **Adobe website (software for viewing PDF documents)** If you do not have Adobe Acrobat Reader, click this link to download it.

Appendix A: Troubleshooting

This appendix consists of two parts: "Common Problems and Solutions" and "Frequently Asked Questions." This appendix provides solutions to problems that may occur during the installation and operation of the Wireless-N Internet Home Monitoring Camera. Read the description below to solve your problems. If you can't find an answer here, check the Linksys website at www.linksysbycisco.com.

Common Problems and Solutions

I can't view the Camera's video using Internet Explorer.

Make sure the OCX plug-in was correctly installed. If you're not sure, re-install the plug-in by following these instructions

- On the *Welcome* screen of the Camera's Web-based Utility, click **View Video**.
- A screen mentioning a security warning about an OCX plug-in will appear. Click **Yes** to allow the plug-in to be installed.
- You should then be able to view the Camera's streaming video.

If you still cannot view the video, make sure you have the rights to install the plug-in in your PC's Internet Explorer. If not, log into your computer as an administrator and install the plug-in.

Then you can check if the OCX plug-in has been installed. Follow these instructions:

- From Internet Explorer, go to **Tools** and **Internet Options**.
- On the General screen, click **Settings** under *Temporary Internet files*.
- Click **View Objects**. You should see a file named NetCamPlayerWeb Control installed.

The OCX plug-in is installed in Internet Explorer, but I cannot view any video.

Make sure Microsoft Internet Explorer 5.5 or higher is installed. Then delete the OCX plug-in by following these instructions:

- From Internet Explorer, go to **Tools** and **Internet Options**.
- On the General screen, click **Settings** under *Temporary Internet files*.
- Click **View Objects**.
- You should see a file named NetCamPlayerWeb Control installed. Delete this file from the list.

- The next time you click **View Video** from the web browser, you will be prompted to re-install the OCX plug-in.

When powering on the Camera, I can't immediately access the Camera from my computer.

Make sure the Camera's LED is continuously lit. When it is flashing, the Camera is initializing.

I'm not able to play my recording video files.

Make sure you have Microsoft Windows Media Player 7 or higher. If you don't, you can download the latest version from www.microsoft.com.

I have two Cameras and see two WVC80Ns listed in my Camera Utility. When I click to view both Cameras, I see the video of only one Camera.

Make sure that the Cameras have different camera or device names. You can change this by using the Web-based Utility or running the Setup Wizard. If you use the Web-based Utility, log in and click the Setup tab. Then on the Basic screen, change the Camera Name.

When I view video remotely via the Internet, the video is very slow.

Video performance is greatly affected by your Internet connection speed. You can lower the Camera's image quality to speed up the video. Through the Camera's Web-based Utility, click the **Setup** and **Image** tabs, and then lower the image quality on the Image screen.

I cannot access the Setup tab of the Camera's Web-based Utility.

Make sure you have administrator rights. Only an administrator can change the Camera's settings.

I want to access the Camera when I'm away from home, but somehow I can't connect.

If your network uses a dynamic IP address supplied by your ISP, then the IP address you use to reach the Camera will change as well. You need to use the TZO DDNS Service, so you can access the Camera using its domain name while the service keeps track of the IP address changes. To set up a Dynamic Domain Name Service (DDNS) account, click the Setup tab of the Camera's Web-based Utility, then click the **Options** tab. Then configure the settings in the DDNS section of the screen.

Important: To allow remote access to the Camera, you will also have to use the port forwarding feature on your network router.

Frequently Asked Questions

Can I view video using a Macintosh or Netscape Navigator?

The Camera is designed for computers running a Windows operating system and Internet Explorer 5.5 or higher. You cannot view video on a Macintosh. If you only have Netscape, you can view video using the Camera Utility. See "Chapter 3: Installing and Using the Camera Utility."

Can I directly connect the Camera to wired and wireless networks at the same time?

No. Before powering on the Camera, you should decide if you want to connect the Camera to a wireless network via an access point or to a wired network. If your wireless and wired networks are bridged, then you can access the Camera from any networked computer, but the Camera must be directly connected to only one of the networks.

To connect the Camera to a wireless network, power on the Camera with no network cable attached. The Camera will be ready for use when the LED is lit continuously.

To connect the Camera to a wired network, connect the network cable to the Camera, and then power it on. The Camera will be ready for use when the LED is lit continuously.

Can I install the Camera outdoors?

No, the Camera was not designed for outdoors usage.

I've recorded video for a few hours. Why do I see multiple files saved on my computer?

The recording function saves video in chunks; each chunk is a maximum of one hour in duration. For example, if you have recorded five continuous hours, then you will see five files saved on your computer. This keeps files from getting too large.

Do I need to install the Linksys Multi-Camera Viewer and Recorder Utility?

Installation is optional. You can view video using Microsoft Internet Explorer 5.5 or higher. If you don't want to use the recording function, then you don't need to install the Multi-Camera Viewer and Recorder Utility.

Can I specify who gets to view the Camera's video?

Yes. Access the Camera's Web-based Utility, and click the Setup tab. After you log in, click the Users tab. You will be able to restrict access to users you have entered in the database. See "Chapter 4: Advanced Configuration with the Web-based Utility."

Can I add a time stamp to the video?

Yes. Access the Camera's Web-based Utility, and click the Setup tab. After you log in, click the Image tab. You will be able to add a time stamp as well as descriptive text to the video. See "Chapter 4: Advanced Configuration with the Web-based Utility."

How many users can view the Camera's video at the same time?

Users at four different PCs can simultaneously view the Camera's video.

What is the IEEE 802.11b standard?

It is one of the IEEE standards for wireless networks. The 802.11b standard allows wireless networking hardware from different manufacturers to communicate, provided that the hardware complies with the 802.11b standard. The 802.11b standard states a maximum data transfer rate of 11Mbps and an operating frequency of 2.4GHz.

What is the IEEE 802.11g standard?

It is one of the IEEE standards for wireless networks. The 802.11g standard allows wireless networking hardware from different manufacturers to communicate, provided that the hardware complies with the 802.11g standard. The 802.11g standard states a maximum data transfer rate of 54Mbps and an operating frequency of 2.4GHz.

What is the IEEE 802.11n standard?

It is one of the IEEE standards for wireless networks. The 802.11n standard allows wireless networking hardware from different manufacturers to communicate, provided that the hardware complies with the 802.11n standard. The 802.11n standard states a maximum data transfer rate of 600Mbps and an operating frequency of 2.4GHz or 5GHz.

What IEEE 802.11b features are supported?

The product supports the following IEEE 802.11b functions:

- CSMA/CA plus Acknowledge protocol
- Multi-Channel Roaming
- Automatic Rate Selection
- RTS/CTS feature •Fragmentation
- Power Management

What IEEE 802.11g features are supported?

The product supports the following IEEE 802.11g functions:

- CSMA/CA plus Acknowledge protocol
- OFDM protocol
- Multi-Channel Roaming
- Automatic Rate Selection
- RTS/CTS feature
- Fragmentation
- Power Management

What is ad-hoc mode?

When a wireless network is set to ad-hoc mode, the wireless-equipped computers are configured to communicate directly with each other. The ad-hoc wireless network will not communicate with any wired network.

What is infrastructure mode?`

When a wireless network is set to infrastructure mode, the wireless network is configured to communicate with a wired network through a wireless access point or router.

WEB: If your questions are not addressed here, refer to the Linksys website, **www.linksysbycisco.com**

Appendix B:
Wireless Security Checklist

Wireless networks are convenient and easy to install, so homes with high-speed Internet access are adopting them at a rapid pace. Because wireless networking operates by sending information over radio waves, it can be more vulnerable to intruders than a traditional wired network. Like signals from your cellular or cordless phones, signals from your wireless network can also be intercepted. Since you cannot physically prevent someone from connecting to your wireless network, you need to take some additional steps to keep your network secure.

1. Change the default wireless network name or SSID

Wireless devices have a default wireless network name or Service Set Identifier (SSID) set by the factory. This is the name of your wireless network, and can be up to 32 characters in length. Linksys wireless products use **linksys** as the default wireless network name. You should change the wireless network name to something unique to distinguish your wireless network from other wireless networks that may exist around you, but do not use personal information (such as your Social Security number) because this information may be available for anyone to see when browsing for wireless networks.

2. Change the default password

For wireless products such as access points, routers, and gateways, you will be asked for a password when you want to change their settings. These devices have a default password set by the factory. The Linksys default password is **admin**. Hackers know these defaults and may try to use them to access your wireless device and change your network settings. To thwart any unauthorized changes, customize the device's password so it will be hard to guess.

3. Enable MAC address filtering

Linksys routers and gateways give you the ability to enable Media Access Control (MAC) address filtering. The MAC address is a unique series of numbers and letters assigned to every networking device. With MAC address filtering enabled, wireless network access is provided solely for wireless devices with specific MAC addresses. For example, you can specify the MAC address of each computer in your home so that only those computers can access your wireless network.

4. Enable encryption

Encryption protects data transmitted over a wireless network. Wi-Fi Protected Access (WPA/WPA2) and Wired Equivalent Privacy (WEP) offer different levels of security for wireless communication.

A network encrypted with WPA/WPA2 is more secure than a network encrypted with WEP, because WPA/WPA2 uses dynamic key encryption. To protect the information as it passes over the airwaves, you should enable the highest level of encryption supported by your network equipment.

WEP is an older encryption standard and may be the only option available on some older devices that do not support WPA.

General Network Security Guidelines

Wireless network security is useless if the underlying network is not secure.

- Password protect all computers on the network and individually password protect sensitive files.
- Change passwords on a regular basis.
- Install anti-virus software and personal firewall software.
- Disable file sharing (peer-to-peer). Some applications may open file sharing without your consent and/or knowledge.

Additional Security Tips

- Keep wireless routers, access points, or gateways away from exterior walls and windows.
- Turn wireless routers, access points, or gateways off when they are not being used (at night, during vacations).
- Use strong passphrases that are at least eight characters in length. Combine letters and numbers to avoid using standard words that can be found in the dictionary.

WEB: For more information on wireless security, visit **www.linksysbycisco.com/security**

Appendix C: Specifications

Specifications

Model	WVC80N
Standards	IEEE 802.3u, 802.11g, 802.11b, draft 802.11n
LEDs	Power, Wi-Fi Protected Setup™
Ports	Power, Ethernet
Buttons	Power, Reset, Wi-Fi Protected Setup™
Cabling Type	Cat 5
Number of Antennas	1
Detachable (y/n)	No
Modulations	802.11b: CCK/QPSK, BPSK 802.11g: OFDM/BPSK, QPSK, 16-QAM, 64-QAM 802.11n: OFDM/BPSK, QPSK, 16-QAM, 64-QAM
RF Power (EIRP) in dBm	802.11b: 18 dBm (typical) @ 11Mbps 802.11g: 16 dBm (typical) @ 54Mbps 802.11n: 15dBm (typical) @ 65Mbps (HT20), 135Mbps (HT40)
Receive Sensitivity in dBm	802.11b: -87dBm (typical) @ 11Mbps 802.11g: -72dBm (typical) @ 54Mbps 802.11n: -70dBm (typical) @ MCS7, -65dBm (typical) @ MCS7
Antenna Gain in dBi	1.5 dBi
UPnP able/cert	UPnP Advertise
Wireless Security	WEP, WPA, Wi-Fi Protected Access™ 2 (WPA2)
Security key bits	Up to 128-bit encryption
OS Requirements	Windows XP, Vista, or Vista 64-bit edition with latest updates (for Setup Wizard only)
Effective Focus	50cm to unlimited
Sensitivity	6.0V/Lux-sec
Field of View	61.2 degrees
Compression Algorithm	MPEG-4 part 2 and MJPEG
Record File Format	ASF, AVI
Brightness	Auto/Manual Adjustment

Environmental

Dimensions	3.54" x 4.72" x 1.46" (90 x 120 x 37 mm)
Weight	4.59 oz (130 g)
Power	5V, 1A
Certification	FCC, UL/cUL, ICES-003, RSS210
Operating Temp.	32 to 95°F (0 to 35°C)
Storage Temp.	-4 to 140°F (-20 to 60°C)
Operating Humidity	10 to 80% Noncondensing
Storage Humidity	0 to 90% Noncondensing

Minimum System Requirements

For Setup	Windows PC with Internet Explorer 6 or higher for browser-based configuration, or Setup Wizard software requires CD or CD/DVD drive and up-to-date Windows XP, Vista, or Vista 64-bit Edition
For Viewing Video	Windows PC with included Monitoring Utility, or any computer with Internet Explorer 6, Safari 3, or Firefox 2 or higher, or a stream-enabled video player (VLC, Quicktime Player, Windows Media Player version 9 or higher, etc.), or smartphone with advanced web browser or RSTP

Appendix D:
Common Gateway Interface (CGI) Commands

Overview

CGI (Common Gateway Interface) is a simple method to send or receive data from a program or application through a web interface. The WVC80N supports a multitude of CGI commands that can be passed to it via HTTP from your client PC or mobile phone. This will allow you to perform basic functions such as view the camera's video stream, capture a snapshot or retrieve the camera's status information. This appendix details all the supported CGI commands for this camera.

> **NOTE:** Using CGI commands is only recommended for advanced users.

User-Level CGI Commands (User level privilege)

Video and Image commands

Stream MPEG-4 Video and Audio

Method:	GET
URL:	**http://<ip>/img/video.asf** or **http://<ip>/img/video.asx (Windows Vista)**
Return:	A "video.asf" file is returned through the HTTP protocol.

```
HTTP/1.0 200 OK\r\n
…
content-type: application/octet-stream\r\n
…
<MPEG-4 video data>
```

Stream M-JPEG Video

HTML page for the end user

Method:	GET
URL:	**http://<ip>/img/mjpeg.htm**
Return:	

```
HTTP/1.0 200 OK\r\n
…
content-type: text/html\r\n
…
http://<ip>/img/video.mjpeg
…
```

Snapshot

Method: GET

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

Parameter	Value and description
size	Image resolution 1: 160x120 2: 320x240 3: 640x480
quality	Quality level 1: Very high 2: High 3: Normal 4: Low 5: Very low

Snapshot (continued)

Example 1: To snapshot a 640x480 very high quality JPEG image from network Camera 192.168.0.99,

http://192.168.0.99/img/snapshot.cgi?size=3&quality=1

Example 2: To snapshot a JPEG image from network Camera 192.168.0.99 (with current resolution and quality),

http://192.168.0.99/img/snapshot.cgi

Example 3: To snapshot a low quality JPEG image with current resolution from the network Camera 192.168.0.99,

http://192.168.0.99/img/snapshot.cgi?quality=4

Return: A JPEG image is returned to the client with the user specified resolution and quality.

```
HTTP/1.0 200 OK\r\n
…
content-type: image/jpeg\r\n
…
<JPEG image data>
```

SDP (MPEG-4 video only, not for MJPEG video)

Method: GET

URL: **http://<ip>/img/media.sdp**

Return: A SDP file is returned.

```
HTTP/1.0 200 OK\r\n
…
<SDP data>
```

RTP/RTSP (MPEG-4 video only, not for MJPEG video)

The user can stream video and audio through the following URLs.

Video and audio: **rtsp://<ip>/img/media.sav**

Video only: **rtsp://<ip>/img/video.sav**

Audio only: **rtsp://<ip>/img/audio.sav**

If the client player is the QuickTime player, the latency is always approximately 3 second. If there is no audio content in the streaming, you can use the extension parameter "[?|&]latency=no" to push the QuickTime player to play the streaming video without any latency, but this method causes the frame rate to be unstable.

Example: **rtsp://<ip>/img/video.sav?latency=no**

Note that the camera is able to support the following four RTP protocols, but the user needs to specify the desired RTP protocol in the player.

- Unicast RTP
- Multicast RTP
- RTP over RTSP (RTP over TCP)
- RTP over RTSP over HTTP (HTTP tunnel)

Return: Video and/or audio is returned.

Player Commands

Query

Method: GET

URL: **http://<ip>/util/query.cgi[?extension=value]**

This command retrieves the hardware capability, component setting or current status. For example, you can query whether the camera has a speaker, I/O port, etc.

Parameter	Value and description
extension	Extension value yes: extension is enabled, the extended data as below will be extended to generic responses fw_ver=V1.0.0 build 01\r\n ip_addr=192.168.1.12\r\n netmask=255.255.255.0\r\n gateway=192.168.1.1\r\n current_time=07/02/2008 10:12:10\r\n -> MM/DD/YYYY HH:MM:SS 24-Hour format timezone=4\r\n http_port=80\r\n rtsp_port=554\r\n

Return:

HTTP/1.0 200 OK \r\n … content-type: text/plain\r\n \r\n <parameter pair>\r\n <parameter pair>\r\n ……

Here are the details of the parameter pairs:

Parameter	Value and description
hostname	Camera name, example: MyCamera
description	Camera description, example: Hello camera
defname	Camrea default name, example: default name
mac	Camera's MAC address, example: 00C002123456
company_name	Camera's comany name, example: Cisco
model_number	Camera's model number, example: WVC80N
resolutions	The resolutions camera support, valid values: [640*480,320*240,160*120]
mpeg4_resolution	Current MPEG-4 resolution setting, valid values: [640|320|160]
mjpeg_resolution	Current JPEG resolution setting, valid values: [640|320|160]
mic_in	Current MIC in setting, valid values: [on|off]
speaker_out	Current Speaker out setting, valid values: [on|off]
ptctrl	PT HW capability, valid values: [on|off]
ioctrl	IO HW capability, valid values: [on|off]
serial	RS485 capability, valid values: [pelco|off]
privacy_button	Privacy button HW capability, valid values: [on|off]
pir_sensor	PIR sensor HW capability, valid values: [on|off]
wlled	White light LED HW capability, valid values: [on|off]
irled	IR LED HW capability, valid values: [on|off]
wps_pin_code	WPS PIN code value, example: 00000048
wireless	Wireless HW capability, example: [on|off]

URL: **http://<ip>/img/query.cgi**

This command retrieves the accessed user's privilege with some hardware features. For example, the user may be able to use Speaker Out, but can't control the I/O ports.

Return:

```
HTTP/1.0 200 OK \r\n
…
content-type: text/plain\r\n
\r\n
mic_in=[on|off]r\n
speaker_out=[on|off]\r\n
ptctrl=[on|off]\r\n
ioctrl=[on|off]\r\n
```

Admin-Level CGI Commands (Administrator level privilege)

Query FW Version

Method: GET

URL: **http://<ip>/adm/sysinfo.cgi**

Return: The Camera returns a Web page that contains the following messages:

HTTP/1.0 200 OK \r\n

…

content-type: text/plain\r\n

\r\n

Firmware Version: v1.0.00 build 01 \r\n

Serial Number: SQJ00G100001\r\n

Reboot

Method: GET

URL: **http://<ip>/adm/reboot.cgi**

Return:

HTTP/1.0 200 OK \r\n

…

content-type: text/plain\r\n

\r\n

OK\r\n

Restore to Factory Defaults

Method: GET

URL: **http://<ip>/adm/reset_to_default.cgi**

Return:

HTTP/1.0 200 OK \r\n

…

content-type: text/plain\r\n

\r\n

OK\r\n

Get/Set Group Parameters

Get group parameters

Method: GET

URL: **http://<ip>/adm/get_group.cgi?<parameter>=<value>[&<value>…]**

Parameter	Value and description

group	1. To get all group settings
	
	   group_name (The group name is not case sensitive.)
	
	2. To get a specific setting from a group
	
	   group_name.parameter_name
	
	3. To get the settings from multiple groups
	
	   group_name&group_name...

Return: All group settings or one group setting is returned as follows:

```
HTTP/1.0 200 OK\r\n

…

content-type: text/plain\r\n

…

\r\n

[group1]\r\n

<parameter pair>\r\n

<parameter pair>\r\n

...\r\n

[group2]\r\n

<parameter pair>\r\n

<parameter pair>\r\n

...\r\n
```

Where <parameter pair> is <parameter_name>=<parameter_value>.

Set Group Parameters

Method: GET

URL: **http://<ip>/adm/set_group.cgi?<parameter>=<value>[&<parameter pair>…]**

Parameter	Value and description
group	Group name is specified here. (The group name is not case sensitive.)

Return: A successful request returns all group parameters or the specified parameters as below:

```
HTTP/1.0 200 OK\r\n

…

content-type: text/plain\r\n

…

\r\n

OK\r\n
```

Get/Set System Date and Time

Method: GET

URL: **http://<ip>/adm/date.cgi?action=<value>[&<parameter pair>…]**

Parameter	Value and description
action	Get/Set the system date and time get= Get the system date and time set= Set the system date and time
time_zone	The index value in time zone table (Read-only)
year	Year (2005~2037)
month	Month (1~12)
day	Day (1~31)
hour	Hour (0~23)
minute	Minute (0~59)
second	Second (0~59)

Return: A successful request returns all group parameters or the specified parameters as below:

```
HTTP/1.0 200 OK\r\n
…
content-type: text/plain\r\n
…
\r\n
OK\r\n
<parameter pair>\r\n
<parameter pair>\r\n
…\r\n
```

Upgrade Firmware

Method: POST

URL: **http://<ip>/adm/upgrade.cgi**

Message body:

```
…
…
<boundary=…>
…
<FW binary data>
```

The client must wait at least 5 minutes to make sure the upgrade is complete.

Return: A Firmware Upgrade Progress window is returned.

Upload/Download Configuration

Download Configuration Content

Method: GET

URL: **http://<ip>/adm/admcfg.cfg**

Return:

```
HTTP/1.0 200 OK \r\n

…

content-type: application/configuration\r\n

\r\n

<configuration content encoded in Base64 format>
```

All data in the configuration is encoded in a Base64 format. Please refer to the encoder/decoder sample codes at the end of this appendix.

To validate the data, there is a hidden checksum inside the configuration content. Because the dword-aligned checksum algorithm is used, the last data misaligned by dword can be ignored.

Upload Configuration Content

Method: POST

URL: http://<ip>/adm/upload.cgi

Message body:

```
…

<boundary=...>

<configuration content encoded in Base64 fvormat>
```

All data in the configuration is encoded in a Base64 format. Please refer to the encoder/decoder sample codes at the end of this appendix.

The Camera automatically reboots after receiving and loading the configuration content.

Return:

```
HTTP/1.0 200 OK \r\n

…

content-type: text/plain\r\n

\r\n

OK\r\n
```

Download Logs

Method: GET

URL: **http://<ip>/adm/log.cgi**

Return:

HTTP/1.0 200 OK \r\n

…

content-type: text/plain\r\n\r\n

…

<log data>

Motion Detection Commands

You can configure the motion detection sensitivity area to be either the entire screen or up to three specific areas. Each area can have its own name and threshold setting. Once the moving indicators exceed the user-configured threshold, a motion detection event will be triggered.

This is the definition of the sensitivity area coordinates on a 640x480 resolution image.

The home (0, 0) position is located at the left-top corner. The horizontal position, x, will be expressed as an integer value from 0 to 639 (left to right). The vertical position, y, will be expressed as an integer value from 0 to 479 (top to bottom).

(0,0)

640

480

(639,479)
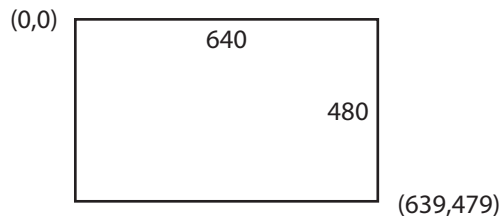
The left-top corner is the start position. The right-bottom corner is the stop position.

(X1, Y1) = (0,0)

(X2, Y2) = (639,479)
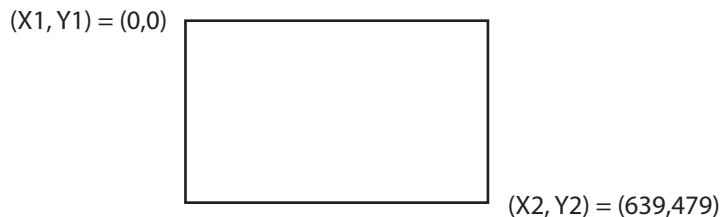
Whatever the current streaming resolution is, the replied coordinate always maps to the 640x480 scale.

Get Motion Detection Settings

Method: GET

URL: **http://<IP>/adm/get_group.cgi?group=MOTION**

(Please refer to Get Group Parameters command.)

Parameter	Value and description
group	Motion (Required) This notifies the CGI that the request is for "motion detection" group.

Return: All group settings or one group setting is returned as below:

```
HTTP/1.0 200 OK\r\n
…
content-type: text/plain \r\n
…
\r\n
[MOTION]
md_mode=[0|1] \r\n                    ← 0=Off, 1=On
md_point=X,Y\r\n
md_switch1=[0|1] \r\n                 ← 0=Off, 1=On
md_name1=Window_1 \r\n               ← 12 ASCII characters
md_window1=X1, Y1, X2, Y2 \r\n        ← Relative to 640x480 resolution
md_threshold1=125 \r\n               ← Threshold: 0 ~ 255
md_switch2=[0|1] \r\n
md_name2=Window_2 \r\n
md_window2=X1, Y1, X2, Y2 \r\n
md_threshold2=125 \r\n
md_switch3=[0|1] \r\n
md_name3=Window_3 \r\n
md_window3=X1, Y1, X2, Y2 \r\n
md_threshold3=125 \r\n
md_switch4=[0|1] \r\n
md_name4=Window_4 \r\n
md_window4=X1, Y1, X2, Y2 \r\n
md_threshold4=125 \r\n
\r\n
```

Set Motion Detection Settings

Method: GET

URL: **http://<IP>/adm/set_group.cgi?group=MOTION&<parameter>=<value>…**

(Please refer to Set Group Parameters command.)

Parameter	Value and description
md_mode	Motion detection 0 = Off 1 = On
md_point	The position of motion under PT mode Format: X,Y Range: X = -63 to 63 (by model) Y = -36 to 28 (by model)
md_switch1 … md_switch4	Motion detection window 0 = Off 1 = On

Parameter	Value and description
md_name1 ... md_name4	Name of the motion detection area 1 ~ 4 (12 ASCII characters)
md_window1 ... md_window4	The coordinates of motion detection window N (relative to resolution 640x480) X1, Y1, X2, Y2
md_threshold1 ... md_threshold4	The threshold of motion detection window N (0 - 255)

Return:

```
HTTP/1.0 200 OK \r\n
…
content-type: text/plain\r\n
\r\n
OK\r\n
```

Notes: The first motion window is used for full screen.

- Use "md_switch1" as the switch for "full screen" or "sub-windows".
- The md_window1 is always set to 640x480 resolution.

If "md_switch1=1", then the Camera will detect the entire video screen. With this setting, the remaining windows (sub-window 1~3) cannot be configured.

If "md_switch1=0", then the Camera will detect the "md_window2~4" areas.

Wireless Commands

Wireless status query

Method: GET

URL: **http://<ip>/adm/wireless_status.cgi**

Return: The Camera returns a Web page that contains the following messages:

```
HTTP/1.0 200 OK \r\n
…
content-type: text/plain\r\n
\r\n
signal_strength=100\r\n          # Wireless signal, RSSI, Integer type, the value can be 1~100, 100 is the strongest.
\r\n
```

SMB/CIFS Server/SharedFolder Commands

SMB/CIFS Server Survey

Method: GET

URL: **http://<ip>/adm/smb_survey.cgi[?parameter=value[&parameter=value...]]**

Parameter	Value and description
timeout	(Optional) The timeout in seconds of the CGI The CGI will stop surveying and return the result if it times out. Valid values: 5-120 (default is 30)
action	(Optional) This CGI will terminate survey action. stop

Return: The result will be returned in XML format (the content size depends   on how many servers are in the network). A successful request returns the result of the Samba site survey as shown below (this is case sensitive):

```
HTTP/1.0 200 OK\r\n
…
Content-type: text/xml\r\n
…
\r\n
<?xml version="1.0" encoding="utf-8"?>\r\n
<List>\r\n
        <WorkGroup>\r\n
                <Name></Name>\r\n
                <List>\r\n
                        <Server>\r\n
                                <Name></Name>\r\n
                                <Comment></Comment>\r\n
                        </Server>\r\n
                        …
                </List>\r\n
        </WorkGroup>\r\n
        …
</List>\r\n
```

XML tag description:

Parameter	Value and description
Name (WorkGroup)	The work group name (up to 15 characters)
Name (Server)	The PC name of the server (up tp 63 characters)
Comment (Server)	The description of the server (up to 256 characters)

SMB/CIFS SharedFolder Command

Method: GET

URL: **http://<ip>/adm/smb_dirctrl.cgi?server=value[&parameter=value...]**

Parameter	Value and description
server	Server address (up to 64 characters)
path	(Optional, depends on the parameter "cmd") The operation folder (up to 128 characters)

cmd	(Optional) Valid values are:
	   mkdir: create a new folder, given by the "path" parameter
	   rmdir: delete a folder, given by the "path" parameter
	If this parameter is omitted, the CGI will survey the shared folder list in the given URL.

user	(Optional) The username to login to the server
pass	(Optional) The password to login to the server

Return: A successful request returns the following case sensitive result. The <List> content is included only when the status is ok.

```
HTTP/1.0 200 OK\r\n
…
Content-type: text/xml\r\n
…
\r\n
<?xml version="1.0" encoding="utf-8"?>\r\n
<List>
          <Status></Status>
          <Folder>
                    <Name></Name>
                    ....
          </Folder>
</List>
```

Xml tag description:

Parameter	Value and description

Status	Value as following (all are in lower case):
	    ok → Create the folder successfully.
	    invalid → Invalid input parameters
	    unauth → Need username/password
	    denied → Denied , resoource occupied
	    file-exist → There is the file, reject the operation.
	    error → Error happened

Name	The folder name

Base-64 Encoder/Decoder Sample Codes

```
// Standard BASE64 table
// char keyStr[] = "ABCDEFGHIJKLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwxyz0123456789+/=";
// SerComm BASE64 table
char keyStr[] = "ACEGIKMOQSUWYBDFHJLNPRTVXZacegikmoqsuwybdfhjlnprtvxz0246813579=+/";


//----------------------------------------------------------------
//  Description:   Encrypt the input data with the base64
//  Input:
//             char i_buf[]          - input buffer
//  Output:
//             char o_buf[]          - output buffer
//  Return:
//              encrypted string length
//----------------------------------------------------------------
int encode64(char i_buf[], char o_buf[])
{
            char chr1 = (char)0;
            char chr2 = (char)0;
            char chr3 = (char)0;
            //These are the 3 bytes to be encoded

            int enc1 = 0;
            int enc2 = 0;
            int enc3 = 0;
            int enc4 = 0; //These are the 4 encoded bytes
            int i = 0, j = 0; //Position counter

            do { //Set up the loop here
                    chr1 = i_buf[i++]; //Grab the first byte

                    if(i < strlen(i_buf))
                            chr2 = i_buf[i++]; //Grab the second byte

                    if(i < strlen(i_buf))
                            chr3 = i_buf[i++]; //Grab the third byte

                    //Here is the actual base64 encode part.
                    //There really is only one way to do it.

                    enc1 = chr1 >> 2;
                    enc2 = ((chr1 & 3) << 4) | (chr2 >> 4);
                    enc3 = ((chr2 & 15) << 2) | (chr3 >> 6);
                    enc4 = chr3 & 63;

                    if(chr2 == (char)0) {
                            enc3 = enc4 = 64;
                    }
```

```
                    else if(chr3 == (char)0) {
                            enc4 = 64;
                    }

                    o_buf[j++] = keyStr[enc1];
                    o_buf[j++] = keyStr[enc2];
                    o_buf[j++] = keyStr[enc3];
                    o_buf[j++] = keyStr[enc4];

                    // OK, now clean out the variables used.
                    chr1 = chr2 = chr3 = (char)0;
                    enc1 = enc2 = enc3 = enc4 = (char)0;
            } while (i < strlen(i_buf)); //And finish off the loop

            //Now return the encoded values.
            return j;
}


//---------------------------------------------------------------
//  Description:   decrypt the input data with the base64
//  Input:
//          char i_buf[]           - input buffer
//  Output:
//          char o_buf[]           - output buffer
//  Return:
//          decrypted string length
//---------------------------------------------------------------
int decode64(char i_buf[], char o_buf[]) {
            //These are the 3 bytes to be encoded
            char chr1 = (char)0;
            char chr2 = (char)0;
            char chr3 = (char)0;

            //These are the 4 encoded bytes
            int enc1 = 0;
            int enc2 = 0;
            int enc3 = 0;
            int enc4 = 0;

            int i = 0, j = 0; //Position counter

            do { //Here's the decode loop.
                    //Grab 4 bytes of encoded content.
                    enc1 = (int)(strchr(keyStr, i_buf[i++]) - keyStr);

                    if(i < strlen(i_buf))
                            enc2 = (int)(strchr(keyStr, i_buf[i++]) - keyStr);
                    if(i < strlen(i_buf))
                            enc3 = (int)(strchr(keyStr, i_buf[i++]) - keyStr);
                    if(i < strlen(i_buf))
                            enc4 = (int)(strchr(keyStr, i_buf[i++]) - keyStr);
```

```
                //Heres the decode part. There's really only one way to do it.
                chr1 = (enc1 << 2) | (enc2 >> 4);
                chr2 = ((enc2 & 15) << 4) | (enc3 >> 2);
                chr3 = ((enc3 & 3) << 6) | enc4;

                o_buf[j++] = (char)chr1;

                if (enc3 != 64) {
                        o_buf[j++] = (char)chr2;
                }

                if (enc4 != 64) {
                        o_buf[j++] = (char)chr3;
                }

                //now clean out the variables used
                chr1 = (char)0;
                chr2 = (char)0;
                chr3 = (char)0;

                enc1 = 0;
                enc2 = 0;
                enc3 = 0;
                enc4 = 0;
        } while (i < strlen(i_buf)); //finish off the loop

        //Now return the decoded values.
        return j;
}
```

Appendix E:
Warranty Information

Limited Warranty

FOR CONSUMERS WHO ARE COVERED BY CONSUMER PROTECTION LAWS OR REGULATIONS IN THEIR COUNTRY OF PURCHASE OR, IF DIFFERENT, THEIR COUNTRY OF RESIDENCE, THE BENEFITS CONFERRED BY THIS WARRANTY ARE IN ADDITION TO ALL RIGHTS AND REMEDIES CONVEYED BY SUCH CONSUMER PROTECTION LAWS AND REGULATIONS. THIS WARRANTY DOES NOT EXCLUDE, LIMIT OR SUSPEND ANY RIGHTS OF CONSUMERS ARISING OUT OF NONCONFORMITY WITH A SALES CONTRACT. SOME COUNTRIES, STATES AND PROVINCES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES OR ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY OR CONDITION MAY LAST, SO THE LIMITATIONS OR EXCLUSIONS DESCRIBED BELOW MAY NOT APPLY TO YOU. THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS THAT VARY BY COUNTRY, STATE OR PROVINCE. THIS LIMITED WARRANTY IS GOVERNED BY AND CONSTRUED UNDER THE LAWS OF THE COUNTRY IN WHICH THE PRODUCT PURCHASE TOOK PLACE.

Linksys warrants the hardware in this Linksys product against defects in materials and workmanship under normal use for the Warranty Period, which begins on the date of purchase by the original end-user purchaser and lasts for the period specified below:

- One (1) year for new product
- Ninety (90) days for refurbished product

Your exclusive remedy and Linksys' entire liability under this limited warranty will be for Linksys, at its option, to (a) repair the product with new or refurbished parts, (b) replace the product with a reasonably available equivalent new or refurbished Linksys product, or (c) refund the purchase price of the product less any rebates. Any repaired or replacement products will be warranted for the remainder of the original Warranty Period or thirty (30) days, whichever is longer. All products and parts that are replaced become the property of Linksys.

Linksys additionally warrants that any media on which the software may be provided will be free from defects in materials and workmanship under normal use for a period of ninety (90) days from the date of original purchase. Your exclusive remedy and Linksys' entire liability under this limited warranty will be for Linksys, at its option, to (a) replace the software media, or (b) refund the purchase price of the software media.

Exclusions and Limitations

This limited warranty does not apply if: (a) the product assembly seal has been removed or damaged, (b) the product has been altered or modified, except by Linksys, (c) the product damage was caused by use with non-Linksys products, (d) the product has not been installed, operated, repaired, or maintained in accordance with instructions supplied by Linksys, (e) the product has been subjected to abnormal physical or electrical stress, misuse, negligence, or accident, (f) the serial number on the Product has been altered, defaced, or removed, or (g) the product is supplied or licensed for beta, evaluation, testing or demonstration purposes for which Linksys does not charge a purchase price or license fee.

EXCEPT FOR THE LIMITED WARRANTY ON MEDIA SET FORTH ABOVE AND TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, ALL SOFTWARE AND SERVICES PROVIDED BY LINKSYS WITH THE PRODUCT, WHETHER FACTORY LOADED ON THE PRODUCT OR CONTAINED ON MEDIA ACCOMPANYING THE PRODUCT, IS PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND. Without limiting the foregoing, Linksys does not warrant that the operation of the product, software or services will be uninterrupted or error free. Also, due to the continual development of new techniques for intruding upon and attacking networks, Linksys does not warrant that the product, software or services, or any equipment, system or network on which the product, software or services are used will be free of vulnerability to intrusion or attack. The product may include or be bundled with third party software or service offerings. This limited warranty shall not apply to such third party software or service offerings. This limited warranty does not guarantee any continued availability of a third party's service for which this product's use or operation may require.

TO THE EXTENT NOT PROHIBITED BY APPLICABLE LAW, ALL IMPLIED WARRANTIES AND CONDITIONS OF MERCHANTABILITY, SATISFACTORY QUALITY OR FITNESS FOR A PARTICULAR PURPOSE ARE LIMITED TO THE DURATION OF THE WARRANTY PERIOD. ALL OTHER EXPRESS OR IMPLIED CONDITIONS, REPRESENTATIONS AND WARRANTIES, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTY OF NON-INFRINGEMENT, ARE DISCLAIMED.

TO THE EXTENT NOT PROHIBITED BY APPLICABLE LAW, IN NO EVENT WILL LINKSYS BE LIABLE FOR ANY LOST DATA, REVENUE OR PROFIT, LOSS OF THE ABILITY TO USE ANY THIRD PARTY PRODUCTS, SOFTWARE OR SERVICES, OR FOR SPECIAL, INDIRECT, CONSEQUENTIAL, INCIDENTAL OR PUNITIVE DAMAGES, REGARDLESS OF THE THEORY OF LIABILITY (INCLUDING NEGLIGENCE), ARISING OUT OF OR RELATED TO THE USE OF OR INABILITY TO USE THE PRODUCT, SOFTWARE OR ANY SERVICES PROVIDED IN RESPECT OF SUCH PRODUCT, SOFTWARE OR SERVICE, EVEN IF LINKSYS HAS BEEN ADVISED OF THE POSSIBILITY

OF SUCH DAMAGES. TO THE EXTENT NOT PROHIBITED BY APPLICABLE LAW, IN NO EVENT WILL LINKSYS' LIABILITY EXCEED THE AMOUNT PAID BY YOU FOR THE PRODUCT. The foregoing limitations will apply even if any warranty or remedy provided under this limited warranty fails of its essential purpose.

No Linksys employee, agent or reseller is authorized to make any verbal or written modification, extension or addition to this warranty, and Linksys expressly disclaims any such change to this warranty. If any portion of this limited warranty is found to be void or unenforceable, its remaining provisions shall remain in full force and effect.

Obtaining Warranty Service

If you have a question about your product or experience a problem with it, please go to **www.linksysbycisco.com/support** where you will find a variety of online support tools and information to assist you with your product. If the product proves defective during the Warranty Period, contact Linksys Technical Support (or, if you purchased your product from a service provider, contact the service provider) for instructions on how to obtain warranty service. The telephone number for Linksys Technical Support in your area can be found by clicking the "Contact Us" link on the home page of **www.linksysbycisco.com**. Have your product serial number and proof of purchase on hand when calling. A DATED PROOF OF ORIGINAL PURCHASE IS REQUIRED TO PROCESS WARRANTY CLAIMS. If you are requested to return your product, you will be given a Return Materials Authorization (RMA) number. You are responsible for properly packaging and shipping your product at your cost and risk. You must include the RMA number and a copy of your dated proof of original purchase when returning your product. Products received without a RMA number and dated proof of original purchase will be rejected. Do not include any other items with the product you are returning. Defective product covered by this limited warranty will be repaired or replaced and returned to you without charge. Customers outside of the United States of America and Canada are responsible for all shipping and handling charges, custom duties, VAT and other associated taxes and charges. Repairs or replacements not covered under this limited warranty will be subject to charge at Linksys' then-current rates.

Technical Support

This limited warranty is neither a service nor a support contract. Information about Linksys' current technical support offerings and policies (including any fees for support services) can be found at **www.linksysbycisco.com/support**.

Please direct all inquiries to: Linksys, P.O. Box 18558, Irvine, CA 92623.

Appendix F: Regulatory Information

FCC Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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

• Reorient or relocate the receiving antenna

• Increase the separation between the equipment or devices

• Connect the equipment to an outlet other than the receiver's

• Consult a dealer or an experienced radio/TV technician for assistance

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment. IEEE 802.11b or 802.11g operation of this product in the USA is firmware-limited to channels 1 through 11.

FCC Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20 cm between the radiator and your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Safety Notices

WARNING: Do not use this product near water, for example, in a wet basement or near a swimming pool.

WARNING: Avoid using this product during an electrical storm. There may be a remote risk of electric shock from lightning.

WARNING: This product contains lead, known to the State of California to cause cancer, and birth defects or other reproductive harm. Wash hands after handling.

Industry Canada Statement

This Class B digital apparatus complies with Canadian ICES-003 and RSS210.

Operation is subject to the following two conditions:

1. This device may not cause interference and

2. This device must accept any interference, including interference that may cause undesired operation of the device. This device has been designed to operate with an antenna having a maximum gain of 1.5 dBi. Antenna having a higher gain is strictly prohibited per regulations of Industry Canada. The required antenna impedance is 50 ohms.

Industry Canada Radiation Exposure Statement:

This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20 cm between the radiator & your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Avis d'Industrie Canada

Cet appareil numérique de la classe B est conforme aux normes NMB-003 et RSS210 du Canada.

L'utilisation de ce dispositif est autorisée seulement aux conditions suivantes :

1. il ne doit pas produire de brouillage et

2. il doit accepter tout brouillage radioélectrique reçu, même si ce brouillage est susceptible de compromettre le fonctionnement du dispositif. Le dispositif a été conçu pour fonctionner avec une antenne ayant un gain maximum de 1.5 dBi. Les règlements d'Industrie Canada interdisent strictement l'utilisation d'antennes dont le gain est supérieur à cette limite. L'impédance requise de l'antenne est de 50 ohms.

Avis d'Industrie Canada concernant l'exposition aux radiofréquences :

Ce matériel est conforme aux limites établies par IC en matière d'exposition aux radiofréquences dans un environnement non contrôlé. Ce matériel doit être installé et utilisé à une distance d'au moins 20 cm entre l'antenne et le corps de l'utilisateur.

L'émetteur ne doit pas être placé près d'une autre antenne ou d'un autre émetteur, ou fonctionner avec une autre antenne ou un autre émetteur.

Wireless Disclaimer

The maximum performance for wireless is derived from IEEE Standard 802.11 specifications. Actual performance can vary, including lower wireless network capacity, data throughput rate, range and coverage. Performance depends on many factors, conditions and variables, including distance from the access point, volume of network traffic, building materials and construction, operating system used, mix of wireless products used, interference and other adverse conditions.

Avis de non-responsabilité concernant les appareils sans fil

Les performances maximales pour les réseaux sans fil sont tirées des spécifications de la norme IEEE 802.11. Les performances réelles peuvent varier, notamment en fonction de la capacité du réseau sans fil, du débit de la transmission de données, de la portée et de la couverture. Les performances dépendent de facteurs, conditions et variables multiples, en particulier de la distance par rapport au point d'accès, du volume du trafic réseau, des matériaux utilisés dans le bâtiment et du type de construction, du système d'exploitation et de la combinaison de produits sans fil utilisés, des interférences et de toute autre condition défavorable.

User Information for Consumer Products Covered by EU Directive 2002/96/EC on Waste Electric and Electronic Equipment (WEEE)

This document contains important information for users with regards to the proper disposal and recycling of Linksys products. Consumers are required to comply with this notice for all electronic products bearing the following symbol:

English - Environmental Information for Customers in the European Union

European Directive 2002/96/EC requires that the equipment bearing this symbol on the product and/or its packaging must not be disposed of with unsorted municipal waste. The symbol indicates that this product should be disposed of separately from regular household waste streams. It is your responsibility to dispose of this and other electric and electronic equipment via designated collection facilities appointed by the government or local authorities. Correct disposal and recycling will help prevent potential negative consequences to the environment and human health. For more detailed information about the disposal of your old equipment, please contact your local authorities, waste disposal service, or the shop where you purchased the product.

Български (Bulgarian) - Информация относно опазването на околната среда за потребители в Европейския съюз

Европейска директива 2002/96/EC изисква уредите, носещи този символ върху изделието и/или опаковката му, да не се изхвърля т с несортирани битови отпадъци. Символът обозначава, че изделието трябва да се изхвърля отделно от сметосъбирането на обикновените битови отпадъци. Ваша е отговорността този и другите електрически и електронни уреди да се изхвърлят в предварително определени от държавните или общински органи специализирани пунктове за събиране. Правилното изхвърляне и рециклиране ще спомогнат да се предотвратят евентуални вредни за околната среда и здравето на населението последствия. За по-подробна информация относно изхвърлянето на вашите стари уреди се обърнете към местните власти, службите за сметосъбиране или магазина, от който сте закупили уреда.

Čeština (Czech) - Informace o ochraně životního prostředí pro zákazníky v zemích Evropské unie

Evropská směrnice 2002/96/ES zakazuje, aby zařízení označené tímto symbolem na produktu anebo na obalu bylo likvidováno s netříděným komunálním odpadem. Tento symbol udává, že daný produkt musí být likvidován odděleně od běžného komunálního odpadu. Odpovídáte za likvidaci tohoto produktu a dalších elektrických a elektronických zařízení prostřednictvím určených sběrných míst stanovených vládou nebo místními úřady. Správná likvidace a recyklace pomáhá předcházet potenciálním negativním dopadům na životní prostředí a lidské zdraví. Podrobnější informace o likvidaci starého vybavení si laskavě vyžádejte od místních úřadů, podniku zabývajícího se likvidací komunálních odpadů nebo obchodu, kde jste produkt zakoupili.

Dansk (Danish) - Miljøinformation for kunder i EU

EU-direktiv 2002/96/EF kræver, at udstyr der bærer dette symbol på produktet og/eller emballagen ikke må bortskaffes som usorteret kommunalt affald. Symbolet betyder, at dette produkt skal bortskaffes adskilt fra det almindelige husholdningsaffald. Det er dit ansvar at bortskaffe dette og andet elektrisk og elektronisk udstyr via bestemte indsamlingssteder udpeget af staten eller de lokale myndigheder. Korrekt bortskaffelse og genvinding vil hjælpe med til at undgå mulige skader for miljøet og menneskers sundhed. Kontakt venligst de lokale myndigheder, renovationstjenesten eller den butik, hvor du har købt produktet, angående mere detaljeret information om bortskaffelse af dit gamle udstyr.

Deutsch (German) - Umweltinformation für Kunden innerhalb der Europäischen Union

Die Europäische Richtlinie 2002/96/EC verlangt, dass technische Ausrüstung, die direkt am Gerät und/oder an der Verpackung mit diesem Symbol versehen ist, nicht zusammen mit unsortiertem Gemeindeabfall entsorgt werden darf. Das Symbol weist darauf hin, dass das Produkt von regulärem Haushaltmüll getrennt entsorgt werden sollte. Es liegt in Ihrer Verantwortung, dieses Gerät und andere elektrische und elektronische Geräte über die dafür zuständigen und von der Regierung oder örtlichen Behörden dazu bestimmten Sammelstellen zu entsorgen. Ordnungsgemäßes Entsorgen und Recyceln trägt dazu bei, potentielle negative Folgen für Umwelt und die menschliche Gesundheit zu vermeiden. Wenn Sie weitere Informationen zur Entsorgung Ihrer Altgeräte benötigen, wenden Sie sich bitte an die örtlichen Behörden oder städtischen Entsorgungsdienste oder an den Händler, bei dem Sie das Produkt erworben haben.

Eesti (Estonian) - Keskkonnaalane informatsioon Euroopa Liidus asuvatele klientidele

Euroopa Liidu direktiivi 2002/96/EÜ nõuete kohaselt on seadmeid, millel on tootel või pakendil käesolev sümbol ⌧, keelatud kõrvaldada koos sorteerimata olmejäätmetega. See sümbol näitab, et toode tuleks kõrvaldada eraldi tavalistest olmejäätmevoogudest. Olete kohustatud kõrvaldama käesoleva ja ka muud elektri- ja elektroonikaseadmed riigi või kohalike ametiasutuste poolt ette nähtud kogumispunktide kaudu. Seadmete korrektne kõrvaldamine ja ringlussevõtt aitab vältida võimalikke negatiivseid tagajärgi keskkonnale ning inimeste tervisele. Vanade seadmete kõrvaldamise kohta täpsema informatsiooni saamiseks võtke palun ühendust kohalike ametiasutustega, jäätmekäitlusfirmaga või kauplusega, kust te toote ostsite.

Español (Spanish) - Información medioambiental para clientes de la Unión Europea

La Directiva 2002/96/CE de la UE exige que los equipos que lleven este símbolo ⌧ en el propio aparato y/o en su embalaje no deben eliminarse junto con otros residuos urbanos no seleccionados. El símbolo indica que el producto en cuestión debe separarse de los residuos domésticos convencionales con vistas a su eliminación. Es responsabilidad suya desechar este y cualesquiera otros aparatos eléctricos y electrónicos a través de los puntos de recogida que ponen a su disposición el gobierno y las autoridades locales. Al desechar y reciclar correctamente estos aparatos estará contribuyendo a evitar posibles consecuencias negativas para el medio ambiente y la salud de las personas. Si desea obtener información más detallada sobre la eliminación segura de su aparato usado, consulte a las autoridades locales, al servicio de recogida y eliminación de residuos de su zona o pregunte en la tienda donde adquirió el producto.

Ελληνικά (Greek) - Στοιχεία περιβαλλοντικής προστασίας για πελάτες εντός της Ευρωπαϊκής Ένωσης

Σύμφωνα με την Κοινοτική Οδηγία 2002/96/EC, ο εξοπλισμός που φέρει αυτό το σύμβολο ⌧ στο προϊόν ή/και τη συσκευασία του δεν πρέπει να απορρίπτεται μαζί με τα μη διαχωρισμένα αστικά απορρίμματα. Το σύμβολο υποδεικνύει ότι αυτό το προϊόν θα πρέπει να απορρίπτεται ξεχωριστά από τα συνήθη οικιακά απορρίμματα. Είστε υπεύθυνος για την απόρριψη του παρόντος και άλλου ηλεκτρικού και ηλεκτρονικού εξοπλισμού μέσω των καθορισμένων εγκαταστάσεων συγκέντρωσης απορριμμάτων, οι οποίες ορίζονται από το κράτος ή τις αρμόδιες τοπικές αρχές. Η σωστή απόρριψη και ανακύκλωση συμβάλλει στην πρόληψη ενδεχόμενων αρνητικών επιπτώσεων στο περιβάλλον και την υγεία. Για περισσότερες πληροφορίες σχετικά με την απόρριψη του παλαιού σας εξοπλισμού, επικοινωνήστε με τις τοπικές αρχές, τις υπηρεσίες αποκομιδής απορριμμάτων ή το κατάστημα από το οποίο αγοράσατε το προϊόν.

Français (French) - Informations environnementales pour les clients de l'Union européenne

La directive européenne 2002/96/CE exige que l'équipement sur lequel est apposé ce symbole ⌧ sur le produit et/ou son emballage ne soit pas jeté avec les autres ordures ménagères. Ce symbole indique que le produit doit être éliminé dans un circuit distinct de celui pour les déchets des ménages. Il est de votre responsabilité de jeter ce matériel ainsi que tout autre matériel électrique ou électronique par les moyens de collecte indiqués par le gouvernement et les pouvoirs publics des collectivités territoriales. L'élimination et le recyclage en bonne et due forme ont pour but de lutter contre l'impact néfaste potentiel de ce type de produits sur l'environnement et la santé publique. Pour plus d'informations sur le mode d'élimination de votre ancien équipement, veuillez prendre contact avec les pouvoirs publics locaux, le service de traitement des déchets, ou l'endroit où vous avez acheté le produit.

Italiano (Italian) - Informazioni relative all'ambiente per i clienti residenti nell'Unione Europea

La direttiva europea 2002/96/EC richiede che le apparecchiature contrassegnate con questo simbolo ⌧ sul prodotto e/o sull'imballaggio non siano smaltite insieme ai rifiuti urbani non differenziati. Il simbolo indica che questo prodotto non deve essere smaltito insieme ai normali rifiuti domestici. È responsabilità del proprietario smaltire sia questi prodotti sia le altre apparecchiature elettriche ed elettroniche mediante le specifiche strutture di raccolta indicate dal governo o dagli enti pubblici locali. Il corretto smaltimento ed il riciclaggio aiuteranno a prevenire conseguenze potenzialmente negative per l'ambiente e per la salute dell'essere umano. Per ricevere informazioni più dettagliate circa lo smaltimento delle vecchie apparecchiature in Vostro possesso, Vi invitiamo a contattare gli enti pubblici di competenza, il servizio di smaltimento rifiuti o il negozio nel quale avete acquistato il prodotto.

Latviešu valoda (Latvian) - Ekoloģiska informācija klientiem Eiropas Savienības jurisdikcijā

Direktīvā 2002/96/EK ir prasība, ka aprīkojumu, kam pievienota zīme ⌧ uz paša izstrādājuma vai uz tā iesaiņojuma, nedrīkst izmest nešķirotā veidā kopā ar komunālajiem atkritumiem (tiem, ko rada vietēji iedzīvotāji un uzņēmumi). Šī zīme nozīmē to, ka šī ierīce ir jāizmet atkritumos tā, lai tā nenonāktu kopā ar parastiem mājsaimniecības atkritumiem. Jūsu pienākums ir šo un citas elektriskas un elektroniskas ierīces izmest atkritumos, izmantojot īpašus atkritumu savākšanas veidus un līdzekļus, ko nodrošina valsts un pašvaldību iestādes. Ja izmešana atkritumos un pārstrāde tiek veikta pareizi, tad mazinās iespējamais kaitējums dabai un cilvēku veselībai. Sīkākas ziņas par novecojuša aprīkojuma izmešanu atkritumos jūs varat saņemt vietējā pašvaldībā, atkritumu savākšanas dienestā, kā arī veikalā, kur iegādājāties šo izstrādājumu.

Lietuvškai (Lithuanian) - Aplinkosaugos informacija, skirta Europos Sąjungos vartotojams

Europos direktyva 2002/96/EC numato, kad įrangos, kuri ir ⌧ kurios pakuotė yra pažymėta šiuo simboliu (įveskite simbolį), negalima šalinti kartu su nerūšiuotomis komunalinėmis atliekomis. Šis simbolis rodo, kad gaminį reikia šalinti atskirai nuo bendro buitinių atliekų srauto. Jūs privalote užtikrinti, kad ši ir kita elektros ar elektroninė įranga būtų šalinama per tam tikras nacionalinės ar vietinės valdžios nustatytas atliekų rinkimo sistemas. Tinkamai šalinant ir perdirbant atliekas, bus išvengta galimos žalos aplinkai ir žmonių sveikatai. Daugiau informacijos apie jūsų senos įrangos šalinimą gali pateikti vietinės valdžios institucijos, atliekų šalinimo tarnybos arba parduotuvės, kuriose įsigijote tą gaminį.

Malti (Maltese) - Informazzjoni Ambjentali għal Klijenti fl-Unjoni Ewropea

Id-Direttiva Ewropea 2002/96/KE titlob li t-tagħmir li jkun fih is-simbolu ⌧ fuq il-prodott u/jew fuq l-ippakkjar ma jistax jintrema ma' skart muniċipali li ma ġiex isseparat. Is-simbolu jindika li dan il-prodott għandu jintrema separatament minn ma' l-iskart domestiku regolari. Hija responsabbiltà tiegħek li tarmi dan it-tagħmir u kull tagħmir ieħor ta' l-elettriku u elettroniku permezz ta' faċilitajiet ta' ġbir appuntati apposta mill-gvern jew mill-awtoritajiet lokali. Ir-rimi b'mod korrett u r-riċiklaġġ jgħin jipprevjeni konsegwenzi negattivi potenzjali għall-ambjent u għas-saħħa tal-bniedem. Għal aktar informazzjoni dettaljata dwar ir-rimi tat-tagħmir antik tiegħek, jekk jogħġbok ikkuntattja lill-awtoritajiet lokali tiegħek, is-servizzi għar-rimi ta' l-iskart, jew il-ħanut minn fejn xtrajt il-prodott.

Magyar (Hungarian) - Környezetvédelmi információ az európai uniós vásárlók számára

A 2002/96/EC számú európai uniós irányelv megkívánja, hogy azokat a termékeket, amelyeken, és/vagy amelyek csomagolásán az alábbi címke ⌧ megjelenik, tilos a többi szelektálatlan lakossági hulladékkal együtt kidobni. A címke azt jelöli, hogy az adott termék kidobásakor a szokványos háztartási hulladékelszállítási rendszerektől elkülönített eljárást kell alkalmazni. Az Ön felelőssége, hogy ezt, és más elektromos és elektronikus berendezéseit a kormányzati vagy a helyi hatóságok által kijelölt gyűjtőredszereken keresztül számolja fel. A megfelelő hulladékfeldolgozás segít a környezetre és az emberi egészségre potenciálisan ártalmas negatív hatások megelőzésében. Ha elavult berendezéseinek felszámolásához további részletes információra van szüksége, kérjük, lépjen kapcsolatba a helyi hatóságokkal, a hulladékfeldolgozási szolgálattal, vagy azzal üzlettel, ahol a terméket vásárolta.

Nederlands (Dutch) - Milieu-informatie voor klanten in de Europese Unie

De Europese Richtlijn 2002/96/EC schrijft voor dat apparatuur die is voorzien van dit symbool ⌧ op het product of de verpakking, niet mag worden ingezameld met niet-gescheiden huishoudelijk afval. Dit symbool geeft aan dat het product apart moet worden ingezameld. U bent zelf verantwoordelijk voor de vernietiging van deze en andere elektrische en elektronische apparatuur via de daarvoor door de landelijke of plaatselijke overheid aangewezen inzamelingskanalen. De juiste vernietiging en recycling van deze apparatuur voorkomt mogelijke negatieve gevolgen voor het milieu en de gezondheid. Voor meer informatie over het vernietigen van uw oude apparatuur neemt u contact op met de plaatselijke autoriteiten of afvalverwerkingsdienst, of met de winkel waar u het product hebt aangeschaft.

Norsk (Norwegian) - Miljøinformasjon for kunder i EU

EU-direktiv 2002/96/EF krever at utstyr med følgende symbol ⌧ avbildet på produktet og/eller pakningen, ikke må kastes sammen med usortert avfall. Symbolet indikerer at dette produktet skal håndteres atskilt fra ordinær avfallsinnsamling for husholdningsavfall. Det er ditt ansvar å kvitte deg med dette produktet og annet elektrisk og elektronisk avfall via egne innsamlingsordninger slik myndighetene eller kommunene bestemmer. Korrekt avfallshåndtering og gjenvinning vil være med på å forhindre mulige negative konsekvenser for miljø og helse. For nærmere informasjon om håndtering av det kasserte utstyret ditt, kan du ta kontakt med kommunen, en innsamlingsstasjon for avfall eller butikken der du kjøpte produktet.

Polski (Polish) - Informacja dla klientów w Unii Europejskiej o przepisach dotyczących ochrony środowiska

Dyrektywa Europejska 2002/96/EC wymaga, aby sprzęt oznaczony symbolem ⌧ znajdującym się na produkcie i/lub jego opakowaniu nie był wyrzucany razem z innymi niesortowanymi odpadami komunalnymi. Symbol ten wskazuje, że produkt nie powinien być usuwany razem ze zwykłymi odpadami z gospodarstw domowych. Na Państwu spoczywa obowiązek wyrzucania tego i innych urządzeń elektrycznych oraz elektronicznych w punktach odbioru wyznaczonych przez władze krajowe lub lokalne. Pozbywanie się sprzętu we właściwy sposób i jego recykling pomogą zapobiec potencjalnie negatywnym konsekwencjom dla środowiska i zdrowia ludzkiego. W celu uzyskania szczegółowych informacji o usuwaniu starego sprzętu, prosimy zwrócić się do lokalnych władz, służb oczyszczania miasta lub sklepu, w którym produkt został nabyty.

Português (Portuguese) - Informação ambiental para clientes da União Europeia

A Directiva Europeia 2002/96/CE exige que o equipamento que exibe este símbolo ✄ no produto e/ou na sua embalagem não seja eliminado junto com os resíduos municipais não separados. O símbolo indica que este produto deve ser eliminado separadamente dos resíduos domésticos regulares. É da sua responsabilidade eliminar este e qualquer outro equipamento eléctrico e electrónico através das instalações de recolha designadas pelas autoridades governamentais ou locais. A eliminação e reciclagem correctas ajudarão a prevenir as consequências negativas para o ambiente e para a saúde humana. Para obter informações mais detalhadas sobre a forma de eliminar o seu equipamento antigo, contacte as autoridades locais, os serviços de eliminação de resíduos ou o estabelecimento comercial onde adquiriu o produto.

Română (Romanian) - Informaţii de mediu pentru clienţii din Uniunea Europeană

Directiva europeană 2002/96/CE impune ca echipamentele care prezintă acest simbol ✄ pe produs şi/sau pe ambalajul acestuia să nu fie casate împreună cu gunoiul menajer municipal. Simbolul indică faptul că acest produs trebuie să fie casat separat de gunoiul menajer obişnuit. Este responsabilitatea dvs. să casaţi acest produs şi alte echipamente electrice şi electronice prin intermediul unităţilor de colectare special desemnate de guvern sau de autorităţile locale. Casarea şi reciclarea corecte vor ajuta la prevenirea potenţialelor consecinţe negative asupra sănătăţii mediului şi a oamenilor. Pentru mai multe informaţii detaliate cu privire la casarea acestui echipament vechi, contactaţi autorităţile locale, serviciul de salubrizare sau magazinul de la care aţi achiziţionat produsul.

Slovenčina (Slovak) - Informácie o ochrane životného prostredia pre zákazníkov v Európskej únii

Podľa európskej smernice 2002/96/ES zariadenie s týmto symbolom ✄ na produkte a/alebo jeho balení nesmie byť likvidované spolu s netriedeným komunálnym odpadom. Symbol znamená, že produkt by sa mal likvidovať oddelene od bežného odpadu z domácností. Je vašou povinnosťou likvidovať toto i ostatné elektrické a elektronické zariadenia prostredníctvom špecializovaných zberných zariadení určených vládou alebo miestnymi orgánmi. Správna likvidácia a recyklácia pomôže zabrániť prípadným negatívnym dopadom na životné prostredie a zdravie ľudí. Ak máte záujem o podrobnejšie informácie o likvidácii starého zariadenia, obráťte sa, prosím, na miestne orgány, organizácie zaoberajúce sa likvidáciou odpadov alebo obchod, v ktorom ste si produkt zakúpili.

Slovenščina (Slovene) - Okoljske informacije za stranke v Evropski uniji

Evropska direktiva 2002/96/ES prepoveduje odlaganje opreme s tem simbolom ✄ – na izdelku in/ali na embalaži z nesortiranimi komunalnimi odpadki. Ta simbol opozarja, da je treba izdelek zavreči ločeno od preostalih gospodinjskih odpadkov. Vaša odgovornost je, da to in preostalo električno in elektronsko opremo oddate na posebna zbirališča, ki jih določijo državne ustanove ali lokalne oblasti. S pravilnim odlaganjem in recikliranjem boste preprečili morebitne škodljive vplive na okolje in zdravje ljudi. Če želite izvedeti več o odlaganju stare opreme, se obrnite na lokalne oblasti, odlagališče odpadkov ali trgovino, kjer ste izdelek kupili.

Suomi (Finnish) - Ympäristöä koskevia tietoja EU-alueen asiakkaille

EU-direktiivi 2002/96/EY edellyttää, että jos laitteistossa on tämä symboli ✄ itse tuotteessa ja/tai sen pakkauksessa, laitteistoa ei saa hävittää lajittelemattoman yhdyskuntajätteen mukana. Symboli merkitsee sitä, että tämä tuote on hävitettävä erillään tavallisesta kotitalousjätteestä. Sinun vastuullasi on hävittää tämä elektroniikkatuote ja muut vastaavat elektroniikkatuotteet viemällä tuote tai tuotteet viranomaisten määräämään keräyspisteeseen. Laitteiston oikea hävittäminen estää mahdolliset kielteiset vaikutukset ympäristöön ja ihmisten terveyteen. Lisätietoja vanhan laitteiston oikeasta hävitystavasta saa paikallisilta viranomaisilta, jätteenhävityspalvelusta tai siitä myymälästä, josta ostit tuotteen.

Svenska (Swedish) - Miljöinformation för kunder i Europeiska unionen

Det europeiska direktivet 2002/96/EC kräver att utrustning med denna symbol ✄ på produkten och/eller förpackningen inte får kastas med osorterat kommunalt avfall. Symbolen visar att denna produkt bör kastas efter att den avskiljts från vanligt hushållsavfall. Det faller på ditt ansvar att kasta denna och annan elektrisk och elektronisk utrustning på fastställda insamlingsplatser utsedda av regeringen eller lokala myndigheter. Korrekt kassering och återvinning skyddar mot eventuella negativa konsekvenser för miljön och personhälsa. För mer detaljerad information om kassering av din gamla utrustning kontaktar du dina lokala myndigheter, avfallshanteringen eller butiken där du köpte produkten.

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Appendix G: Software End User License Agreement

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END OF SCHEDULE 1

Schedule 2
Network Magic Features

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END OF SCHEDULE 2

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Schedule 3-A

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END OF SCHEDULE 3-C