Adaptec Ultra Wireless™ Router

User's Guide

adaptec®

Adaptec Technical Support

If you have questions about installing or using your Adaptec product, check this document first—you will find answers to most of your questions here. If you need further assistance, use the support options listed below.

Technical Support Identification (TSID) Number

- Before contacting Technical Support, you need your unique 12-digit TSID number. The TSID number identifies your product and support status.
- The TSID number is included on two white, bar-coded labels, like the example below.

Support Options

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- For support via Email, submit your question to Adaptec's Technical Support Specialists at ask.adaptec.com.
- To order Adaptec products, including accessories and cables, call +1 408-957-7274. Or, you can order cables online at www.adaptec.com/buy-cables.

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Adaptec, Inc.
Legal Department
691 South Milpitas Boulevard
Milpitas, California 95035.

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Federal Communications Commission Radio Frequency Interference Statement

WARNING: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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

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

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

Adaptec, Inc.	AWN-8084
FC Tested to Comply With FCC Standards	
FOR HOME OR OFFICE USE	

Federal Communications Commission (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 a minimum distance of 20 cm between the radiator and your body.

CE Mark Warning

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

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

Canadian Compliance Statement

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

In this Guide

Introduction

This *User's Guide* provides detailed instructions for installing and configuring your Adaptec Wireless Router as part of a Local Area Network (LAN) and/or Wireless LAN (WLAN).

This *Guide* assumes you have a working knowledge of your computer and that you are familiar with the Windows operating system. It also assumes you have basic knowledge of wireless technology, routers, networks, and Local Area Networks (LANs).

Kit Contents

Your Ultra Wireless Router kit includes:

■ Adaptec AWN-8084 Ultra Wireless Router

■ Ethernet straight-through cable

■ Power adapter

■ Wireless Router CD, which contains documentation

■ *Adaptec Ultra Wireless Router Quick Start Guide*

System Requirements

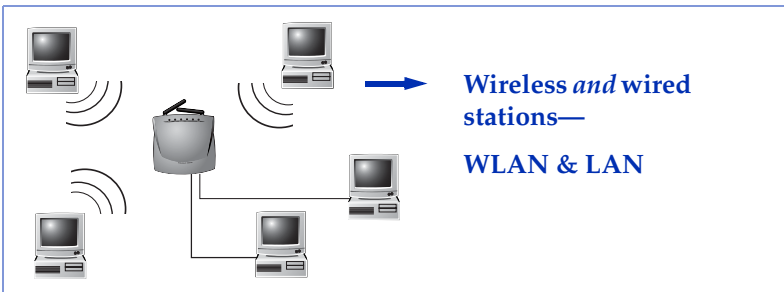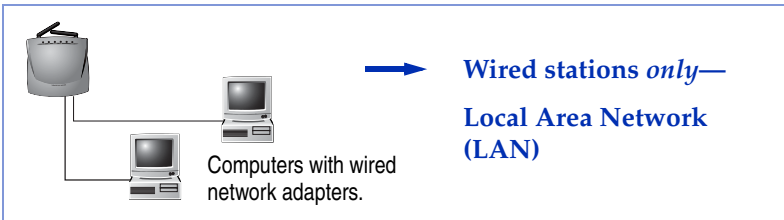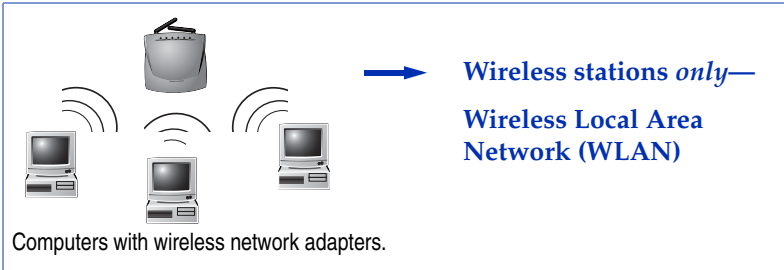To complete the installation of your Wireless Router, you must have:

■ A PC-compatible computer with:

  ■ Windows® 98SE, Windows Me®, Windows 2000®, or Windows XP®

  ■ Microsoft Internet Explorer 5 or later, or Netscape® V4.7 or later

  ■ Ethernet adapter and appropriate TCP/IP protocols installed

■ Ethernet-based broadband Internet connection (Ethernet modem or receiver)

To connect with your Wireless Router, each computer station must be installed with:

■ An Ethernet or wireless network adapter

■ The TCP/IP protocols for that adapter

Getting to Know Your Wireless Router

With your Wireless Router you can create a network with any combination of wired and wireless stations:

Wireless stations *only*—

Wireless Local Area Network (WLAN)

Computers with wireless network adapters.

Wired stations *only*—

Local Area Network (LAN)

Computers with wired network adapters.

Wireless *and* **wired stations**—

WLAN & LAN

Your Wireless Router provides network enhancements such as Internet access control, network security, and the two-way application support required by instant messaging, online gaming, and similar applications.

See *Choosing a Router Setup* on page 10 for more information about installing your Wireless Router.

How Your Wireless Router Fits In

(This section provides a very brief, general overview of how your Wireless Router fits within a network. There are many books and Web sites dedicated to this topic that can provide a more comprehensive explanation, if you require one.)

With your Adaptec Ultra Wireless Router, you can connect a group of computers on a LAN and/or a WLAN to each other and to a Wide Area Network (WAN), which is typically the Internet.

Desktop or laptop network stations on a WLAN
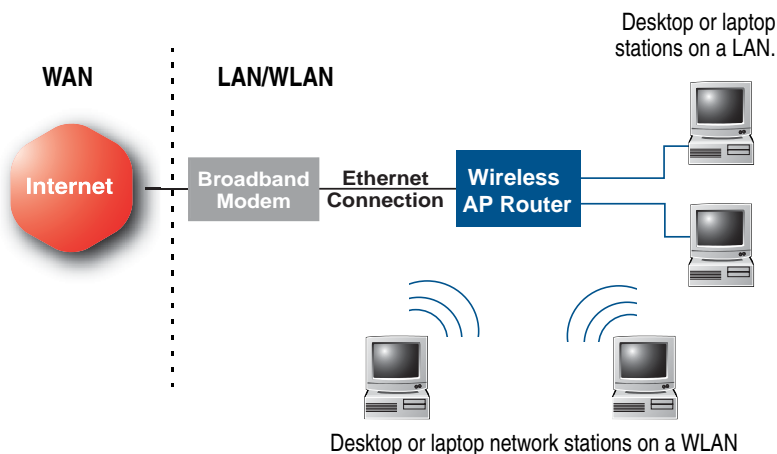
Your Wireless Router connects wired and wireless stations on a single network, lets you share one Internet connection among multiple network computer stations, and provides extra protection for your data by helping to prevent outsiders from accessing your network.

See *Changing the Setup of Your WLAN* on page 38 and *Using the Advanced Router Functions* on page 48 for more information on your Wireless Router's features.

What About Security?

You can set security on your network by using any or all of these features of your Wireless Router:

■ Set a password for the Web-based Wireless Router Utility to prevent unauthorized users from changing the configuration of your Wireless Router. (See page 34.)

■ Use a Wireless Network ID (or *SSID*) to exclude unauthorized users from your WLAN. (See page 40.)

■ Use WEP Encryption and Authentication to exclude unauthorized users from your WLAN. (See page 41.)

■ Filter MAC addresses to control which wireless stations can connect to your Wireless Router. (See page 47.)

■ Control Internet access to your Wireless Router. (See page 49.)

■ Limit access to the Internet from specified internal network stations. (See page 49.)

■ Limit access to the Internet from your internal network by setting service times and blocking access to Web sites containing specified keywords. (See page 51 and 52.)

This is Your Wireless Router

Top View

Adjustable antennas ——
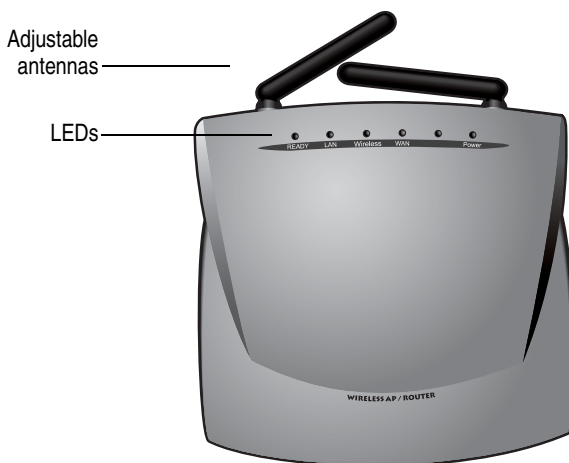
LEDs ——

The top of your Wireless Router has five clearly labeled status indicator lights (or *LEDs*). Once your Wireless Router is installed and the power is on, these LEDs indicate the status of your network, as described:

LED	LED is on	LED is off	LED is blinking
Ready	N/A	Not working.	Working normally.
LAN	At least one LAN port is connected.	No LAN ports are connected.	Data is being transmitted through any of the four LAN ports.
Wireless	At least one wireless station is connected.	No wireless stations are connected.	Data is being transmitted on the WLAN.
WAN	Modem/receiver is connected.	Modem/receiver is not connected.	Data is being sent/received on the WAN.
Power	Wireless Router is on.	Wireless Router is off.	N/A

See *Troubleshooting* on page 58 for more on understanding your Wireless Router's LEDs.

Side View

DC-IN port — LAN ports 1–4 — LAN LEDs — WAN port — INIT button
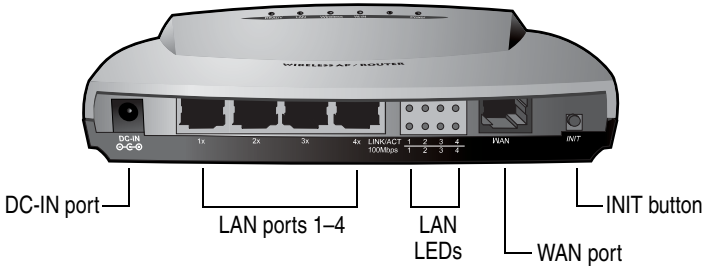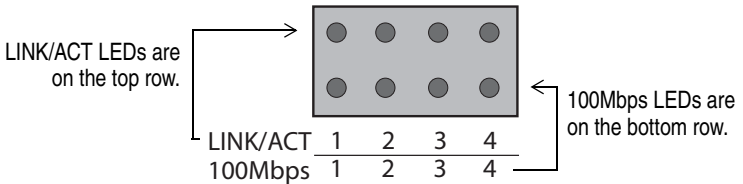
The DC-IN port is the port for the power adapter.

The four numbered LAN ports correspond to the numbered LAN LEDs (see below) and connect your Wireless Router to your wired LAN stations. Connect only Ethernet cables to these ports.

The LAN indicator lights (LEDs) show the link and activity status of the corresponding LAN ports, as shown below.

LINK/ACT LEDs are on the top row.

100Mbps LEDs are on the bottom row.

LINK/ACT 1 2 3 4
100Mbps 1 2 3 4

LED	On	Off	Blinking
LINK/ACT	LAN connection is made on port.	No connection on port.	Data is being transmitted.
100Mbps	Port is connecting at 100 Mbps.	Port is connecting at 10 Mbps.	N/A

The WAN port connects your Wireless Router to a Wide Area Network (WAN), which is most often the Internet, through a Broadband modem or receiver.

The INIT button resets your Wireless Router to its factory default settings. (Press and hold the INIT button for at least 5 seconds to reset.)

Installation Task List

To successfully install your Wireless Router, complete each of these tasks, in order:

❏ Follow the tips and suggestions provided in *Before You Begin... on page 9*.

❏ Select the setup for your Wireless Router that is most appropriate for your new or existing network. (See page 10.)

❏ Physically install your Wireless Router. (See page 12.)

❏ Set up your network computer stations to communicate with your Wireless Router. (See page 21.)

❏ Open and log in to the Web-based Wireless Router Utility. (See page 22.)

❏ Configure your Wireless Router to work within your network and with your Internet connection. (See page 25.)

Before You Begin...

...Read this section. The tips provided here help make the installation of your Wireless Router go more quickly and easily.

Tip #1—Review the features of your Wireless Router in *Getting to Know Your Wireless Router* on page 3.

Tip #2—Record the information listed here and keep it handy during the installation. You will need this information when you configure your network:

■ Your Internet (WAN) connection type—DHCP (dynamic), static, PPPoE, or PPTP. (See the *Glossary* on page 63 for more information on each connection type.)

> **Note:** If you don't have this information available, your ISP should be able to provide it.

■ If you have a static connection, you may also need the IP address and MAC address of your modem.

■ If you have a PPPoE connection, you'll also need your user name, password, and service name.

■ If you have a PPTP connection, you'll also need your IP address, server IP address, subnet mask, and PPTP account number and password.

■ Your WLAN information (if you have an existing WLAN that includes any non-Adaptec brand wireless products, or if you have changed the default settings of your existing Adaptec wireless products):

■ Wireless Network ID (SSID)

■ Encryption settings

■ Security authentication settings

> **Note:** Use your WLAN configuration utility to find this information.

What if...?

...I don't have wired Ethernet computers? Create a network with only wireless computer stations by installing wireless network adapters in all your computers, then following the setup instructions provided in *Setting Up a New Network (WLAN only)* on page 15.

...I'm adding my Wireless Router to existing WLAN? Follow the setup instructions provided in *Changing a LAN to a WLAN* on page 19.

...I don't want any wireless stations on my network? Ensure that your computers have Ethernet connections, then follow the setup instructions provided in *Setting Up a New Network (LAN & WLAN)* on page 13.

Installing Your Wireless Router

Before continuing, ensure that you have:

❑ Followed the tips and suggestions provided in *Before You Begin... on page 9*.

❑ Selected the setup for your Wireless Router that is most appropriate for your existing or new network. (See page 10.)

The next step on the Installation Task List (see page 8) is to connect your Wireless Router.

This chapter provides suggestions for locating your Wireless Router in the best possible position and guides you through the installation process. Installation instructions are provided for four different situations:

■ *Setting Up a New Network (LAN & WLAN) on page 13*.

■ *Setting Up a New Network (WLAN only) on page 15*.

■ *Adding a WLAN to an Existing LAN on page 17*.

■ *Changing a LAN to a WLAN on page 19*.

For help deciding which set of instructions to use, see *Choosing a Router Setup on page 10* and *What if...? on page 11*.

Setting Up a New Network (LAN & WLAN)

Follow these instructions if you are including your Wireless Router in a new network that includes both wired and wireless stations— a combination LAN and WLAN.
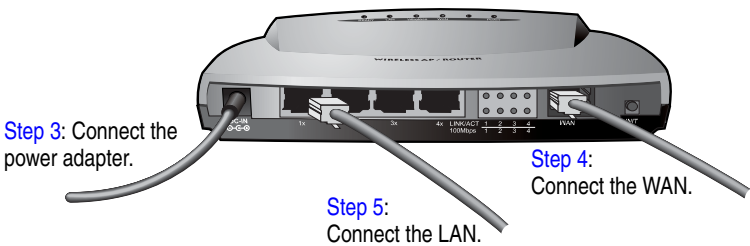
To connect your Wireless Router:

1 Find a suitable location to install your Wireless Router.

For maximum performance, install it in the center of your network, in a place that has a line of sight to all the devices connecting to it.The higher you place your Wireless Router, the better the signal coverage will be, especially if you have wireless stations upstairs from your Wireless Router.

> ⚠️ **Caution:** Keep it as far away as possible from potential sources of interference, such as microwave ovens, 2.4 GHz wireless telephones, baby monitors and other wireless devices.

2 If desired, attach your Wireless Router to the wall, using the mounting screws provided.

3 Connect the power cord to the DC-IN port on your Wireless Router, then plug it into a power outlet.

Step 3: Connect the power adapter.

Step 4: Connect the WAN.

Step 5: Connect the LAN.

4 Plug your broadband modem into the WAN port on your Wireless Router, using the Ethernet cable provided. (See the Figure in Step 3.)

5 Connect a network cable to one of the four LAN ports on your Wireless Router. (See the Figure in Step 3.) Connect the other end of the cable to an Ethernet port on your computer.

6 Add more LAN stations to your Wireless Router, if desired, using network cables. You can connect up to four LAN stations, or you can connect a Ethernet hub or switch to extend your LAN.

To continue with the next Installation Task, see *Setting Up Your Network Stations* on page 21.

Setting Up a New Network (WLAN only)

Follow these instructions if you are including your Wireless Router in a new network that includes wireless stations only.

These instructions are appropriate if:

■ you want all your network stations to be portable, or

■ you cannot locate any of your network stations near your modem or Wireless Router.

> **Note:** On a WLAN, each network station must have a wireless network adapter installed or connected. Go to the Adaptec Web site at www.adaptec.com for information on Adaptec Wireless PC Cards and Wireless PCI and USB adapters.

To connect your Wireless Router:

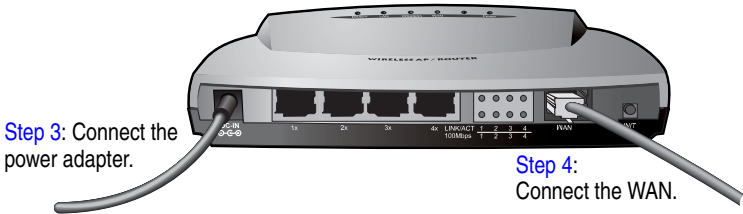**1** Find a suitable location to install your Wireless Router.

For maximum performance, install it in the center of your network, in a place that has a line of sight to all the devices connecting to it.The higher you place your Wireless Router, the better the signal coverage will be, especially if you have wireless stations upstairs from your Wireless Router.

> **Caution:** Keep it as far away as possible from potential sources of interference, such as microwave ovens, 2.4 GHz wireless telephones, baby monitors and other wireless devices.

2 If desired, attach your Wireless Router to the wall, using the mounting screws provided.

3 Connect the power cord to the DC-IN port on your Wireless Router, then plug it into a power outlet.

Step 3: Connect the power adapter.

Step 4: Connect the WAN.

4 Plug your broadband modem into the WAN port on your Wireless Router, using the Ethernet cable provided. (See the Figure in Step 3.)

To continue with the next Installation Task, see *Setting Up Your Network Stations* on page 21.

Adding a WLAN to an Existing LAN

Follow these instructions if you are adding your Wireless Router to a network that currently includes wired computer stations only. These instructions assume that you have an Broadband modem currently connected to one of your wired computer stations.

> **Note:** Your Wireless Router alone is not enough to create a WLAN. Each network station on your WLAN must have a wireless network adapter installed or connected. Go to the Adaptec Web site at www.adaptec.com for information on Adaptec Wireless PC Cards and Wireless PCI and USB adapters.
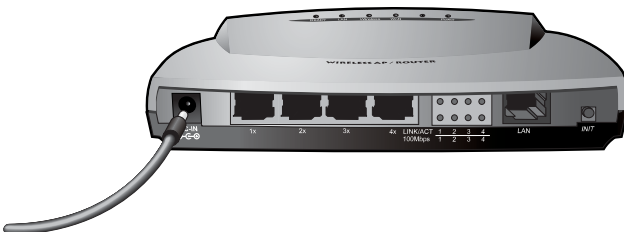
To connect your Wireless Router:

1 Find a suitable location to install your Wireless Router.

   For maximum performance, install it in the center of your network, in a place that has a line of sight to all the devices connecting to it.The higher you place your Wireless Router, the better the signal coverage will be, especially if you have wireless stations upstairs from your Wireless Router.

> **Caution:** Keep it as far away as possible from potential sources of interference, such as microwave ovens, 2.4 GHz wireless telephones, baby monitors and other wireless devices.

2 If desired, attach your Wireless Router to the wall, using the mounting screws provided.

3 Connect the power cord to the DC-IN port on your Wireless Router, then plug it into a power outlet.

4 Record your Internet settings from the computer connected to your Broadband modem before continuing with Step 5. See *Before You Begin...* on page 9 for a list of information to record.

5 Disconnect your Broadband modem from the computer.

6 Plug your broadband modem into the WAN port on your Wireless Router, as shown below, using the Ethernet cable provided.

Step 6:
Connect the WAN.

Step 7:
Connect the LAN.
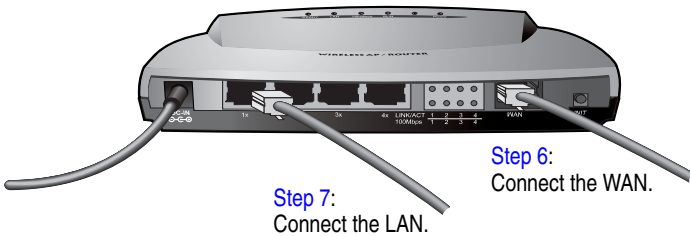
7 Connect a network cable to one of the four LAN ports on your Wireless Router. (See the Figure in Step 6.) Connect the other end of the cable to an Ethernet port on your computer.

8 Add more LAN stations to your Wireless Router, if desired, using network cables. You can connect up to four LAN stations, or you can connect a network hub or switch to extend your LAN.

To continue with the next Installation Task, see *Setting Up Your Network Stations* on page 21. (To complete your WLAN set-up, follow the instructions provided with your wireless network adapters.)

Changing a LAN to a WLAN

Follow these instructions if you are using your Wireless Router to convert an existing wired network to include wireless computer stations only—in other words, if you are changing a LAN to a WLAN.

✓ **Note:** Your Wireless Router alone is not enough to create a WLAN. Each network station must have a wireless network adapter installed or connected. Go to the Adaptec Web site at www.adaptec.com for information on Adaptec Wireless PC Cards and Wireless PCI and USB adapters.

These instructions assume that you have an broadband modem currently connected to one of your wired computer stations.

To connect your Wireless Router:

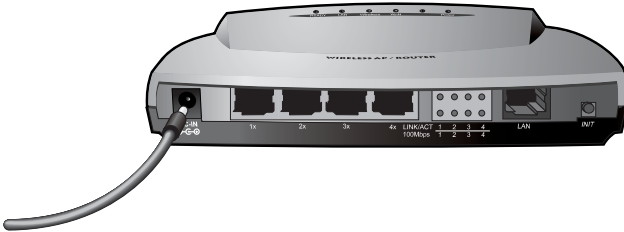**1** Find a suitable location to install your Wireless Router.

For maximum performance, install it in the center of your network, in a place that has a line of sight to all the devices connecting to it.The higher you place your Wireless Router, the better the signal coverage will be, especially if you have wireless stations upstairs from your Wireless Router.

⚠ **Caution:** Keep it as far away as possible from potential sources of interference, such as microwave ovens, 2.4 GHz wireless telephones, baby monitors and other wireless devices.

2 If desired, attach your Wireless Router to the wall, using the mounting screws provided.

3 Connect the power cord to the DC-IN port on your Wireless Router, then plug it into a power outlet.

4 Record your Internet settings before continuing with Step 5. See *Before You Begin...* on page 9 for a list of information to record.

5 Disconnect your modem from the computer. (You can include this computer in your WLAN by installing a wireless network adapter. See the Note on page 19.)

6 Plug your broadband modem into the WAN port on your Wireless Router, as shown below, using the Ethernet cable provided.
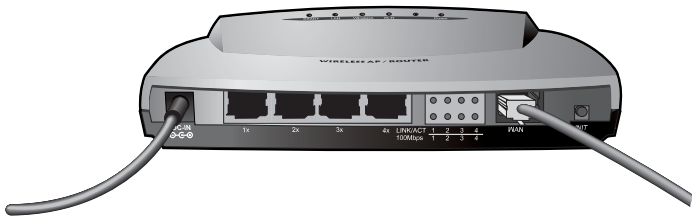
To continue with the next Installation Task, see *Setting Up Your Network Stations* on page 21. (To complete your WLAN set-up, follow the instructions provided with your wireless network adapters.)

Setting Up Your Network Stations

Before you continue, ensure that you have:

❏ Followed the tips and suggestions provided in *Before You Begin... on page 9*.

❏ Selected the setup for your Wireless Router that is most appropriate for your existing or new network. (See page 10.)

❏ Installed your Wireless Router. (See page 12.)

The next step on the Installation Task List (see page 8) is to ensure that all the computer stations on your network are set up to communicate with your Wireless Router.

> **Note:** By default, your Wireless Router provides DHCP server service. If you have disabled DHCP, re-enable it before continuing.

Refer to your operating system's documentation to configure your wired network stations:

1 Ensure that the TCP/IP protocol for your network adapter is installed.

2 Ensure that your network adapter is set to obtain an IP address automatically. Your network adapter should have DHCP enabled.

3 Repeat these steps for each computer station on your LAN.

> **Note:** To configure a wireless network station, ensure that its SSID and WEP settings are the same as on your Wireless Router. Refer to your wireless adapter's documentation for instructions.

To continue with your next Installation Task, see *Understanding the Web-based Wireless Router Utility on page 22*.

Understanding the Web-based Wireless Router Utility

Before you continue, ensure that you have:

❑ Followed the tips and suggestions provided in *Before You Begin... on page 9*.

❑ Selected the setup for your Wireless Router that is most appropriate for your existing or new network. (See page 10.)

❑ Installed your Wireless Router. (See page 12.)

❑ Set up your network computer stations to communicate with your Wireless Router. (See page 21.)

Read the section below, then continue with the next step on the Installation Task List (see page 8)—opening and logging in to the Web-based Wireless Router Utility.

About the Web-based Wireless Router Utility

The Web-based Wireless Router Utility (referred to in the rest of this *User's Guide* as the Utility) helps you change the settings of your Wireless Router. It is not a separate software application that needs to be installed; it's a management tool that resides on your Wireless Router's firmware, and is viewable with a Web browser such as Microsoft Internet Explorer 5 or later, or Netscape V4.7 or later.

Note: If the Proxy server setting on your Web browser is enabled, you may need to disable it before you can open the Utility. Refer to your Web browser's documentation for instructions.

Opening and Logging In to the Utility

The instructions provided in this section assume that your Wireless Router is set to its factory default settings. If you have changed any setting on your Wireless Router, press and hold the INIT button for at least five seconds.
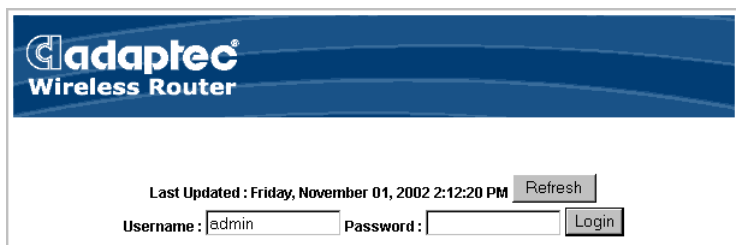
To log in to the Utility:

1 Open your Web browser.

2 In the browser's address box, type http://192.168.8.1.
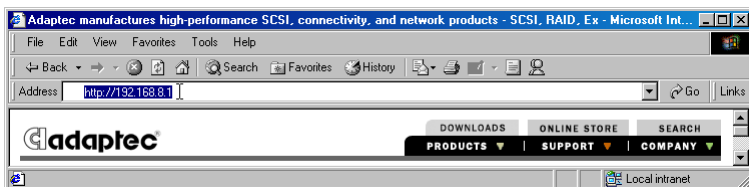
The Login page appears.

3 Type `admin` in the User Name box.

4 By default, no password is set. (See *Changing the Password* on page 34 for instructions on setting or changing the password.) However, if you set a password during a previous session, enter it now.

5 Click **Login**.

The Device Info page appears. It provides basic status information about your Wireless Router.

Menu List

Note: Only one user at a time can be logged in to the Utility. An Administrator who is logged in but inactive is automatically logged out after a set time. See *Setting an Automatic Logout Time* on page 35 for more information.

See *Configuring Your Wireless Router* on page 25 to continue with the next Installation Task.

Configuring Your Wireless Router

Before you continue, ensure that you have:

❏ Followed the tips and suggestions provided in *Before You Begin...* on page 9.

❏ Selected the setup for your Wireless Router that is most appropriate for your existing or new network. (See page 10.)

❏ Installed your Wireless Router. (See page 12.)

❏ Set up your network computer stations to communicate with your Wireless Router. (See page 21.)

❏ Opened and logged in to the Utility. (See page 22.)

The last step on the Installation Task List (see page 8) is to configure your Wireless Router to work on your network and with your Internet connection.

To configure your Wireless Router, choose one of the situations listed in the boxes below, then complete the listed tasks, in order:

I'm using my Wireless Router with...

Complete these tasks:

Wireless network stations only.

1 Adjust WAN settings (page 26).
2 Adjust LAN settings (page 27).
3 Adjust Wireless settings (page 29).

Wired network stations only.

1 Adjust WAN settings (page 26).
2 Adjust LAN settings (page 27).

Wireless and wired network stations.

1 Adjust WAN settings (page 26).
2 Adjust LAN settings (page 27).
3 Adjust Wireless settings (page 29).

Adjusting the WAN Settings

You must adjust the WAN settings on your Wireless Router to work with your Internet Service Provider (ISP) account.

> ✔️ **Note:** See *Before You Begin... on page 9* for a list of information you'll need to successfully adjust the WAN settings. Refer to your ISP for additional information, if required.

To adjust the WAN settings:

1 Open the Utility and log in. (See page 22.)

2 Click **WAN** under Basic Setup on the menu list.

3 Select your **WAN Connection Type**, then follow the on-screen instructions to fill in the connection information. (Some information fields may be filled in automatically by the Utility, based on data provided by your ISP.)

Basic Setup (WAN)	
WAN Connection Type	⦿ Static ○ DHCP Client
	○ PPPoE ○ PPTP Client
WAN IP Address	192.168.1.250
WAN Subnet Mask	255.255.255.0
WAN Gateway	192.168.1.1
WAN 1st DNS	168.95.1.1
WAN 2nd DNS	139.175.55.244

The information fields that appear depend on which WAN Connection Type you select.

4 *PPPoE users only*—Enable **Dial on Demand** if you want your Wireless Router to attempt to connect with your ISP when there is at least one network user wanting to access the Internet and there is no current WAN connection.

Enable **Auto-disconnect** if you want your Wireless Router to disconnect automatically when your Internet connection is idle for longer than the specified time (in seconds).

5 Click **Save & Restart**.

> ✔️ **Note:** You can choose a different connection type at any time as your networking requirements change.

Adjusting the LAN Settings

You must adjust the LAN settings on your Wireless Router if you are connecting wired network stations.

✎ **Note:** See *Before You Begin...* on page 9 for a list of information you'll need to successfully adjust the LAN settings.

To adjust the LAN settings:

1 Open the Utility and log in. (See page 22.)

2 Click **LAN** under Basic Setup on the menu list.

The Basic Setup (LAN) page opens. (Refer to this Figure as you work through the Steps 3, 4, and 5.)

3 Choose a DHCP Server setting:

- Set DHCP Server to **Disabled** if you want to use fixed IP addresses for your network stations, then skip to Step 8 on page 28. (You must manually assign IP addresses to your network stations. Refer to your operating system's documentation for more information.)

- Set DHCP Server to **Enabled** if you want your Wireless Router to automatically assign IP addresses to the stations on your network that are set up for DHCP configuration. (Network stations not set up for DHCP configuration must have their IP addresses assigned manually. Refer to your operating system's documentation for more information.) Continue with Step 4 to complete the basic LAN set-up.

4 Choose a DNS Proxy setting. If you select **Enable**, your Wireless Router provides DNS service to your network stations using your ISP's DNS server. (See DNS in the *Glossary* for more information.)

5 Adjust the IP pool values, if desired.

By default, the IP pool ranges from 192.168.8.**17** to 192.168.8.**128**, which provides a maximum of 112 different IP addresses to your network. You can decrease the number of available IP addresses (and limit the number of users that can access the Internet at one time) by reducing the IP pool range.

6 Click **More**.

Additional settings appear. These settings are optional and don't need to be adjusted unless required for your network.

(Example : Assign IP 192.168.8.123 to MAC 00-11-22-AA-BB-CC)			
Assign fixed IP1 192.168.8.	25	to MAC1	00-12-34-AB-CD-EF
Assign fixed IP2 192.168.8.		to MAC2	
Assign fixed IP3 192.168.8.		to MAC3	
Assign fixed IP4 192.168.8.		to MAC4	

7 Type in the IP address and MAC address of any network station you want to assign a fixed IP address to. (Most network adapters are labeled with their MAC address.)

8 Click **Save & Restart**.

If you are using your Wireless Router with wireless network stations, continue with *Adjusting the Wireless Settings* on page 29.

If you are not using your Wireless Router with wireless network stations, you have completed the Installation Task List. Your Wireless Router is ready for use. See the sections starting with *Managing Your Wireless Router* on page 31 to learn more about using your Wireless Router.

Adjusting the Wireless Settings

Follow the instructions provided for your specific WLAN:

■ If you are setting up a new WLAN using *only* Adaptec Ultra Wireless products, you don't need to adjust any Wireless settings. (Adaptec Ultra Wireless products are preset to work together on a WLAN.)

You have completed the Installation Task List and your Wireless Router is ready for use. See the sections starting on to learn more about using your Wireless Router.

■ If you are adding your Wireless Router to an existing WLAN, or are setting up a new WLAN using non-Adaptec brand wireless adapters, you must adjust the Wireless settings on your Wireless Router to work with your wireless devices. Continue with the instructions provided in this section.

> ⚠ **Note:** See *Before You Begin... on page 9* for a list of information you'll need to successfully adjust the Wireless settings.

To adjust the Wireless settings:

1 Open the Utility and log in. (See .)

2 Click **Wireless (802.11b)** under Basic Setup on the menu list.

3 Click the **Basic** tab.

4 Type in the **Wireless Network ID (SSID)** used on your WLAN stations. If you are setting up a new WLAN, create an SSID to be used on all your wireless stations. Each station on your WLAN must have the same Wireless Network ID.

5 Click the **Security** tab.

6 Set the WEP Configuration settings to match your WLAN. If you are setting up a new WLAN, Adaptec recommends that you enable Wired Equivalent Privacy (WEP) on your WLAN as a security measure. See *Changing the WEP Configuration Settings on page 41* for detailed information.

Each station on your WLAN must have identical WEP Configuration settings.

7 Click **Save & Restart**.

You have completed the Installation Task List and your Wireless Router is ready for use. See the sections starting with *Managing Your Wireless Router on page 31* to learn more about using your Wireless Router.

Managing Your Wireless Router

You can use the Utility to manage your Wireless Router and perform administrative tasks. You can:

- Monitor Internet usage on your internal network. See page 32.

- Save, restore, or reset system settings. See page 33.

- Change the Utility password. See page 34.

- Set an automatic Utility logout time. See page 35.

- View the system log. See page 36.

- Upgrade your Wireless Router's firmware. See page 37.

Monitoring Internet Usage

You can use the Device Info page to monitor the Internet traffic coming into and going out of your network.

To check Internet usage:

1 Open the Utility and log in. (See page 22.)

The Device Info page appears.

2 Check the WAN Traffic (Bytes) statistics.

The TX statistic refers to bytes transmitted through your Wireless Router; the RX statistic refers to bytes received through your Wireless Router.

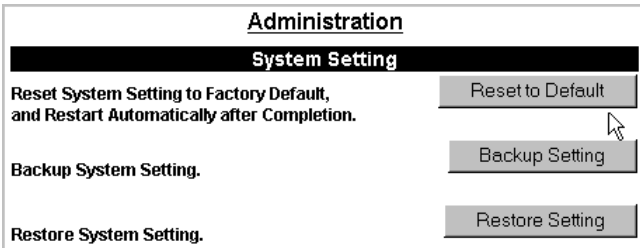| Device Info		
Hardware Release ID	R1.01	
Firmware Version	V1.23	
WAN Connection Type	DHCP Client (Detached)	
Dial-up Duration	00:00:00 / 00:00:00	
WAN MAC Address	00-02-DD-32-8E-7C	
WAN IP Address	0.0.0.0	
WAN Subnet Mask	0.0.0.0	
WAN Gateway	0.0.0.0	
WAN DNS	0.0.0.0 , 0.0.0.0	
LAN MAC Address	00-02-DD-32-8E-7D	
LAN IP Address	192.168.8.1	
DHCP Server	192.168.8.17 - 128	On
WAN Traffic(Bytes)	Tx 0 Rx 0 Duration 04:19:47	Clear

3 Click **Clear** to reset the WAN Traffic counters to zero, if desired.

Changing System Settings

You can use the System Setting options to save current system settings, or restore your system to its default or saved settings.

To make system setting changes:

1 Open the Utility and log in. (See page 22.)

2 Click **Administration** on the menu list.

3 Click one of the System Setting buttons:

Administration	
System Setting	
Reset System Setting to Factory Default, and Restart Automatically after Completion.	Reset to Default
Backup System Setting.	Backup Setting
Restore System Setting.	Restore Setting

■ Click **Reset to Default** to change all system settings back to their factory default values. The Wireless Router restarts automatically after the reset is complete.

> **Note:** You can also reset your Wireless Router to its factory default settings by pressing and holding the Router's INIT button for 5 seconds.

■ Click **Backup Setting** to save all current settings in a file. If you make further configuration changes, this file can be used to restore the system to these backed-up settings.

■ Click **Restore Setting** to apply a previously saved configuration. After you click Restore Setting, click **Browse**, find the file, then click **Go**.

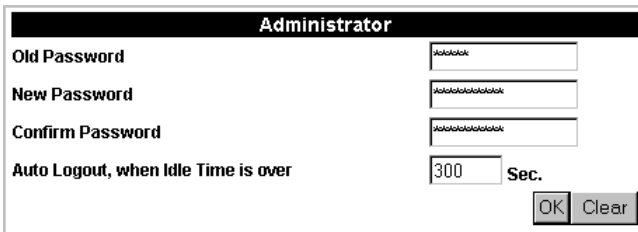| Restore System Setting.	Restore Setting
	[ ] Browse... Go

Changing the Password

By default, no password is set. However, Adaptec recommends that you replace the default password with a new password, to prevent unauthorized users from changing the configuration of your Wireless Router.

To set or change the password:

1 Open the Utility and log in. (See page 22.)

2 Click **Administration** on the menu list.

3 Scroll down to the Administrator section, then type the old password. If you are setting the password for the first time, leave the Old Password box blank.

Administrator	
Old Password	*****
New Password	*********
Confirm Password	*********
Auto Logout, when Idle Time is over	300 Sec.
	OK Clear

4 Type your new password. Retype it in the Confirm Password box.

5 Click **OK**.

A pop-up message appears saying that your password has been changed.

Setting an Automatic Logout Time

By default, the Utility is set to automatically log out inactive Administrators. If a user is logged in to the Utility but is not making changes or regularly refreshing the pages to monitor your system, the Utility automatically logs the user out after 300 seconds (5 minutes).

You can change the Auto Logout time setting as required.

Note: Because only one user at a time can be logged in to the Utility, maintaining a low Auto Logout time helps prevent an idle network station from blocking access to the Utility from other stations.

To change the Auto Logout time:

1 Open the Utility and log in. (See page 22.)

2 Click **Administration** on the menu list.

3 Scroll down to the Administrator section, then type the new desired time (in seconds) in the Auto Logout box.

Auto Logout, when Idle Time is over	60	Sec.
	OK Clear	

4 Click **OK**.

Viewing the System Log

The System Log records system events (such as Administrator log-in and log-out history and system start times) and shows a date and time for each event.

To view the System Log:

1 Open the Utility and log in. (See page 22.)

2 Click **Administration** on the menu list.

3 Scroll down to the Miscellaneous Commands section, then click **View System Log** to see a sequential list of system events.

<div style="border:1px solid">

System Log

WAN Type : DHCP Client
WAN IP : 192.168.1.254
Display Time: Wednesday, November 06, 2002 2:34:27 PM

[Refresh] [Back]

```
[  1] Wednesday, November 06, 2002 2:32:29 PM Administrator login from 192.168.8.17
[  2] Wednesday, November 06, 2002 1:13:21 PM System Started .
[  3] Wednesday, November 06, 2002 1:13:14 PM Power on !
```

</div>

4 Click **Refresh** to view the most current information, if required.

5 Click **Back** to return to the Administration page.

Upgrading Firmware

Refer to the Adaptec Web site at www.adaptec.com for complete information about firmware upgrades.

To upgrade your Wireless Router's firmware:

1 Download the latest firmware from the Adaptec Web site (www.adaptec.com).

2 Open the Utility and log in. (See .)

3 Click **Administration** on the menu list.

4 Scroll down to the Upgrade Firmware section.

Upgrade Firmware
Current Firmware Version : V1.23
[_____] Browse... Go

5 Click **Browse**, find the firmware file you downloaded, then click **Open**.

6 Click **Go**.

When the firmware upgrade is complete, your Wireless Router restarts.

7 When the Login page appears, log in or close the Utility, as required.

Changing the Setup of Your WLAN

You can use the Utility to change the set-up of your WLAN. You can:

- Change the transmission rate. See .

- Require that all wireless stations use a specified SSID to connect to your Wireless Router. See .

- Change the encryption (WEP) settings. See .

- Limit access to your Wireless Router by filtering MAC addresses. See .

Changing the Transmission Rate

The default transmission rate setting, **Automatic**, allows your Wireless Router to automatically adjust its transmission speed for optimal performance and the longest operating range. Adaptec recommends that whenever possible, you maintain the Automatic setting.

However, if your Wireless Router's transmission rate changes frequently, you can set a lower transmission rate to achieve a more stable connection. The fixed rate speed options are 11Mbps, 5.5Mbps, 2Mbps, or 1 Mbps.

To change the transmission rate for your Wireless Router:

1 Open the Utility and log in. (See page 22.)

2 Click **Wireless** under Basic Setup on the menu list.

3 Click the **Basic** tab.

4 In the Transmission Rate drop-down box, select the rate you want.
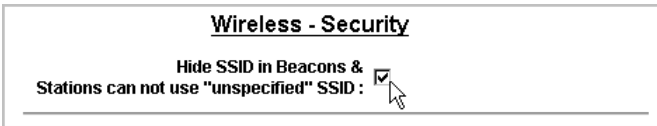

5 Click **Save & Restart**.

Requiring Specified SSIDs

Some wireless devices (such as wireless network adapters) can set their SSIDs to **any**, which allows them to connect to any available Wireless Access Point or Wireless Router. In some environments, such free access to your WLAN might be undesirable or pose security risks.

You can limit access to your WLAN by requiring that all wireless stations connecting to your Wireless Router use a specified SSID. This helps prevent unauthorized users from gaining access to your WLAN.

To set your Wireless Router to accept only specified SSIDs:

1 Open the Utility and log in. (See page 22.)

2 Click **Wireless (802.11)** under Basic Setup on the menu list.

3 Click the **Security** tab.

4 Select **Hide SSID in beacons & Stations can not use "unspecified" SSID**.

5 Click **Save & Restart**.

Changing the WEP Configuration Settings

Wired Equivalent Privacy (WEP) is a security feature that has two major functions: confidentiality and authentication. (For more on authentication, see page 46.)

Your Wireless Router uses the *WEP Key to Use* (sometimes referred to as the *Default WEP Key*) to encrypt data being sent over the radio waves of your WLAN. The receiving WLAN stations must have the same WEP Key to be able to decrypt the data.
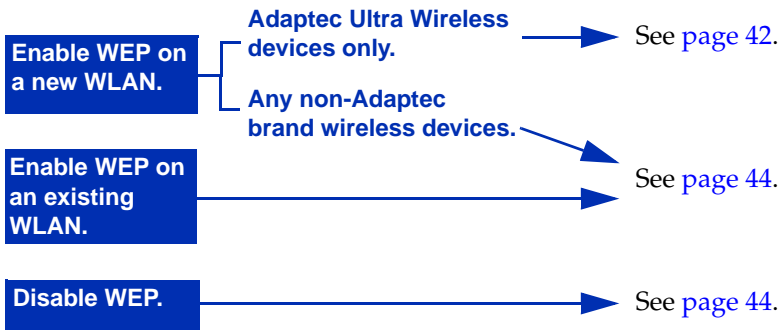
If you want to enable WEP, all the computers on your WLAN must have identical WEP settings.

The WEP security is disabled by default; however, Adaptec recommends that you enable WEP security to protect your network.

> ⚠ **Caution:** Unprotected networks are vulnerable to security breaches by unauthorized users.

You can enable or disable WEP encryption at any time. Choose one of the situations listed in the boxes below, then go to the associated section of this *User's Guide* for help changing the WEP configuration settings.

Enable WEP on a new WLAN.

Adaptec Ultra Wireless devices only. → See page 42.

Any non-Adaptec brand wireless devices.

Enable WEP on an existing WLAN. → See page 44.

Disable WEP. → See page 44.

Enabling WEP Encryption—New WLAN with Adaptec Wireless Devices Only

To enable WEP encryption:

1 Open the Utility and log in. (See page 22.)

2 Click **Wireless (802.11)** under Basic Setup on the menu list.

3 Click the **Security** tab.

4 Select **WEP Enabled**.

WEP Enabled :	☑
WEP Key Length :	64 bit key ▼
PassPhrase :	

5 In the WEP Key Length drop-down box, choose **64 bit key** or **128 bit key**. (128-bit encryption is stronger than 64-bit, but 64-bit encryption has less impact on transmission speed.)

WEP Enabled :	☑
WEP Key Length :	64 bit key ▼
PassPhrase :	64 bit key
	128 bit key
	⊙ Hex Key ○ ASCII Key

WEP keys can be numeric, alphabetic, or a combination of both. You can choose between Hexadecimal (Hex), which restricts you to numbers 0–9 and letters A–F, and Alphanumeric (ASCII), which restricts you to numbers 0–9 and letters a–z/A–Z.

6 Select **Hex Key** or **ASCII Key**.

Because you are setting up a new WLAN using Adaptec Ultra Wireless devices only, you can create a passphrase that automatically generates the WEP Keys and sets a WEP Key to Use.

> **Note:** You can also enter the WEP Key information manually, if desired. See page 44 for instructions.

7 Type in your chosen **Passphrase**, then click outside the PassPhrase box.

WEP Enabled : ☑
WEP Key Length : 64 bit key
PassPhrase : lomcevak
● Hex Key ○ ASCII Key
WEP Key 1 : C39C05222E
WEP Key 2 : 8DDCE06CAA
WEP Key 3 : 3EC7C9A176
WEP Key 4 : 0D7274C9EF
WEP Key to Use : 1

In this example using 64-bit Hex keys, 10-character WEP Keys are generated.

The WEP Keys and the WEP Key to Use are generated.

> **Note:** Make a note of all the WEP settings so that you can apply them to all wireless stations on your WLAN.

8 Set Authentication.

Authentication : ○ Open ○ Shared Key ● Both
Save & Restart

See *Setting Authentication* on page 46 for help choosing a setting.

9 Click **Save & Restart**.

Enabling WEP Encryption—Existing WLAN <u>or</u> New WLAN with Non-Adaptec Brand Wireless Devices

If you are enabling WEP encryption on an existing WLAN, Adaptec suggests adjusting the WEP encryption settings on your Wireless Router first and on your wireless network stations second.

To enable WEP encryption:

1 Open the Utility and log in. (See page 22.)

2 Click **Wireless (802.11)** under Basic Setup on the menu list.

3 Click the **Security** tab.

4 Select **WEP Enabled**.

5 In the WEP Key Length drop-down box, select **64 bit key** or **128 bit key**. (128-bit encryption is stronger than 64-bit, but 64-bit encryption has less impact on transmission speed.)

WEP keys can be numeric, alphabetic, or a combination of both. You can choose between Hexadecimal (Hex), which restricts you to numbers 0–9 and letters A–F, and Alphanumeric (ASCII), which restricts you to numbers 0–9 and letters a–z/A–Z.

6 Select **Hex Key** or **ASCII Key**.

Because you are adding your Wireless Router to an existing WLAN or because you are using non-Adaptec brand wireless devices on your WLAN, Adaptec recommends that you create the WEP Keys manually.

7 Type keys in the **WEP Key 1** to **WEP Key 4** text boxes, then select a **WEP Key to Use**.

The number of characters in your WEP Keys depends on the WEP Key Length:

	Number of HEX characters	Number of ASCII characters
64-bit key	10	5
128-bit key	26	13

WEP Key Length : 64 bit key

PassPhrase :

⊙ Hex Key ○ ASCII Key

WEP Key 1 : ABCDEF1234

WEP Key 2 : ABCDEF2341

WEP Key 3 : ABCDEF3412

WEP Key 4 : ABCDEF4123

WEP Key to Use : 1

In this example using 64-bit Hex keys, 10 characters are used for each WEP Key.

8 Set Authentication.

Authentication : ○ Open ○ Shared Key ⊙ Both

Save & Restart

See *Setting Authentication* on page 46 for help choosing a setting.

9 Click **Save & Restart**.

Disabling WEP Encryption

To disable WEP encryption:

1   Open the Utility and log in. (See page 22.)

2   Click **Wireless (802.11)** under Basic Setup on the menu list.

3   Click the **Security** tab.

4   Deselect **WEP Enabled** so that the check mark disappears from the box.

5   Click **Save & Restart**.

Setting Authentication

Open System authentication means that any station can gain access to any Access Point or Wireless Router. Set Authentication to **Open** where performance is the main issue and you have no need for authentication.

Shared Key authentication provides more security than Open System authentication. In a Shared Key system, your wireless stations and your Wireless Router share a secret key that helps prevent unauthorized users from accessing your Access Point or Wireless Router.

Set your Wireless Router's Security Authentication setting to **Both** to allow Wireless devices with either authentication setting to connect to your Wireless Router.

Filtering MAC Addresses

You can control which wireless stations can connect to your Wireless Router by enabling MAC address filtering.

To enable and set up MAC address filtering:

1 Open the Utility and log in. (See .)

2 Click **Wireless (802.11)** under Basic Setup on the menu list.

3 Click the **Connection** tab.

4 Select a MAC Filtering setting.

- Select **Allow all except listed below** to exclude specific stations from accessing your network.

- Select **Deny all except listed below** to exclude all unspecified stations from accessing your network.

5 Add a MAC address to the list by typing the address in the bottom text box and clicking **Add to List**. Repeat until all required MAC addresses are added.

6 Click **Save & Restart**.

To remove a MAC address from the list:

1 Click on the desired MAC address, then click **Remove selected from list**.

2 Click **Save & Restart**.

Using the Advanced Router Functions

> **Note:** This section of the *User's Guide* provides detailed information about your Wireless Router's advanced functions, and assumes that you have advanced knowledge of routers and networks.

You can use your Wireless Router to:

■ Control access from WAN-to-LAN or from LAN-to-WAN. See .

■ Set Internet access time limits. See .

■ Block access to Web sites. See .

■ Use virtual servers. See .

■ Set up automatic support for two-way applications like ICQ and online gaming. See .

■ Enable Dynamic DNS. See .

Controlling Access

Your Wireless Router's Access Control function allows you to control WAN-to-LAN or from LAN-to-WAN access.

To change Access Control settings:

1 Open the Utility and log in. (See .)

2 Click **Access Control** under Advanced on the menu list.

3 Change the settings for these options, as required:

a **Response to Ping from WAN**—Ping is a network utility that allows a user to see if a target host is accessible. Setting this option to *Deny* can prevent intruders from accessing the current status of your Wireless Router. Adaptec recommends that you set this option to **Deny**.

b **Web Management from WAN**—Set this option to *Deny* unless your network Administrator will be configuring your Wireless Router from the Internet. Adaptec recommends that you set this option to **Deny** to minimize security risks.

c **Block Client in LAN**—Set this option to **Enable** if you want to prevent one or more of your network stations from accessing the Internet.

After you click Enable, you are asked to enter the IP address for the client (network station) you want to block. You can enter a range of IP addresses, if you are blocking more than one network station.

This setting works with both dynamic and static IP addresses.

d **Filter Packets from LAN**—Set this option to **Enable** if you want to block users on your network from particular Internet activities, such as web surfing or retrieving Internet e-mail.

Filter Packets from LAN   ○ Disable   ◉ Enable

1.Block port [ ]		
2.Block port [ ]	**Port**	**Well Known Service**
3.Block port [ ]	21	FTP
4.Block port [ ]	23	Telnet
	25	SMTP
5.Block port [ ]	53	DNS
6.Block port [ ]	80	HTTP
7.Block port [ ]	110	POP3
	113	AUTH
8.Block port [ ]	1723	PPTP

After you select Enable, you are asked to enter the port number of any Internet service you want filtered.

4 Click **Save & Restart**.

Setting WAN Service Times

Your Wireless Router's Service Time Allocation function allows you to control LAN-to-WAN access.

You can set your Wireless Router to limit Internet access to a certain number of hours in a row. This feature is especially useful on home networks where parents wish to control how many hours their children can spend online.

Alternately, you can set your Wireless Router to limit Internet access to specific times during the day.

To set service times:

1 Open the Utility and log in. (See .)

2 Click **Service Time** under Advanced on the menu list.

3 Select the setting you want:

■ Select **By Continuous Usage Time** to limit Internet access to a certain number of hours in a row. Then, set the usage duration (in hours) and the break time between uses (in hours).

■ Select **By Time Slot** to limit Internet access to specific times during the day. Then, select the times you want Internet access to be available.

4 Click **Save & Restart**.

Blocking Web Site Access

Your Wireless Router's Web Site Blocking function helps you prevent network users from accessing specific Web sites. Your Wireless Router can deny access to any Web site containing a word that matches or partially matches any keyword you specify.

To set Web site blocking:

1 Open the Utility and log in. (See page 22.)

2 Click **Web Site Blocking** under Advanced on the menu list.

3 Click **Enable**.

4 Type in the keywords you want blocked. You can add up to 8 keywords.

5 Click **Save & Restart**.

Using the Virtual Server

Generally, a router protects your internal network computers by filtering out unrecognized packets from the Internet. Therefore, all network computers behind your Wireless Router are invisible to the Internet—the Internet sees only your Wireless Router.

If you are hosting your own Web site on a Web server that resides on your internal network, you can set up your Wireless Router to act as a Virtual Server and direct all incoming traffic to your internal Web server.

In general, all Internet servers use fixed TCP/UDP service port numbers. (For instance, WWW is TCP/80, FTP is TCP/21, and so on.) Therefore, any packets downloaded from the WAN which have destination port numbers that match your Wireless Router's virtual server ports are forwarded to the pre-defined network IP. The destination port number can be kept the same or mapped into another network port. TCP ports are always mapped to TCP ports.

For example, if you have an FTP server (port21) at 192.168.8.5, a mail server (port110) at 192.168.8.6, and a VPN server at 192.168.8.7, then you need to specify the virtual server as shown below:

FTP port 21	=	192.168.8.5 port 21
POP3 port 110	=	192.168.8.6 port 110
VPN port 1723	=	192.168.8.7 port 1723

A list of commonly-used service port numbers and information is provided in the table:

Port #	Name (TCP)	Description
20	FTP-DATA	FTP (data)
21	FTP	FTP (command)
23	TELNET	Terminal Connection
25	SMTP	SMTP (e-mail)
53	DOMAIN Name	Domain Name Server
79	FINGER	Finger
80	HTTP	Web
110	POP3	POP3 (e-mail)
113	AUTH	Authentication Service
139	NETBIOS-SSN	NETBIOS Session Service
1723	PPTP	Point-to-Point Tunneling Protocol

To change virtual server settings:

1 Open the Utility and log in. (See .)

2 Click **Virtual Server** under Advanced on the menu list.

3 Click **Enable**.

4 Use the listed Service Port numbers or add your own if the Service Port number you want is not listed.

5 Add Server IP Addresses and Server Port numbers, as required.

6 Click **Save & Restart**.

Supporting Two-Way Applications Automatically

The *Virtual Server function* supports applications that are fully dependent on the incoming destination TCP/UDP ports regardless of the incoming destination IP address.

Some two-way applications (like instant messaging and online gaming) always connect using the same incoming and destination ports (or range of ports). For convenience, your Wireless Router provides fully automated support for these types of applications.

To set up automatic two-way applications:

1 Open the Utility and log in. (See page 22.)

2 Click **Auto 2Way Applications** under Advanced on the menu list.

3 Click **Enable**.

4 Enter Trigger Port and Incoming Port information, as desired.

You can manually type this information, or you can select from the commonly-used applications listed in the Well Known Application drop-down box, select an ID number (1–6) in the ID drop-down box, then click **Copy to**.

> ✓ **Note:** Each trigger port can be used by only one network computer at a time.

5 Continue to add Trigger Port and Incoming Port information, as required, for up to six IDs.

6 Click **Save & Restart**.

Dynamic DNS

Your Wireless Router has a built-in update client function that meets www.DynDNS.org update specifications—your Wireless Router can act as a dynamic DNS update client. Dynamic DNS is disabled by default.

> **Note:** You must have a dynamic DNS account as your registered URL name for this function to work. Refer to www.DynDns.org for more information.

To enable Dynamic DNS:

1 Open the Utility and log in. (See .)

2 Click **Dynamic DNS** under Advanced on the menu list.

3 Click **Enable**.

4 Type in your User Name, Password, and Domain Name(s).

5 Click **Save & Restart**.

Troubleshooting

If you encounter difficulties installing or using your Wireless Router, work through these troubleshooting tips.

LEDs

The Ready LED is blinking faster than normal (more than once per second).

Your Wireless Router is powering on and double-checking its systems. This is normal. If your Wireless Router finds a problem while it is powering on, the Ready LED will go dark.

The LAN LED on top of my Wireless Router is off.

The LAN LED is dark when there aren't any computers connected to your Wireless Router's LAN ports.

If you do have at least one computer connected to a LAN port on your Wireless Router, there may be a problem on one or more of the LAN ports. Refer to the LAN status LEDs on the side of your Wireless Router for help locating the problem port(s).

If you have blocked clients from accessing the Internet, ensure that your computer's IP address isn't included in the list of blocked clients. See *Controlling Access* on page 49 for more information.

The Wireless LED is off.

The Wireless LED is dark when there aren't any computers connected to your Wireless Router over the WLAN.

If you do have at least one computer trying to connect to your Wireless Router over the WLAN, there may be a problem with the Wireless interface. See *My computer cannot connect to my Wireless Router on the WLAN.* on page 60 for help correcting the problem.

The WAN LED is off.

Your WAN connection is broken. Check that your broadband modem or receiver has power and that the WAN cable is properly connected. You may need to replace the cable.

General Troubleshooting

My computer can't connect to my Wireless Router over the LAN.

■ Ensure that your Wireless Router is properly installed with appropriate LAN connections. (See *Installing Your Wireless Router* on page 12.) Check the LAN LEDs to locate LAN port problems.

■ Check that the IP address of your computer is in the range of IP addresses that you specified as part of the LAN setup. See Step 5 on page 28 for more information.

■ Ensure that your computer and your Wireless Router are on the same network segment. See *Adjusting the LAN Settings* on page 27 for help checking IP information.

■ Check that the Subnet Mask value is set to 255.255.255.0 to match your Wireless Router.

■ Try resetting your Wireless Router to it's factory defaults. See the Note on page 21 for instructions.

I can't configure my Wireless Router from one of my LAN computers.

■ Make sure that your LAN computer can connect to your Wireless Router by working through the steps in the previous Troubleshooting question.

■ Double-check the cable connection to the LAN port on your Wireless Router. Check the LAN LEDs to locate LAN port problems.

The WAN can't obtain an IP address from a Cable or DSL modem on the WAN.

■ Check the WAN LED. If it is dark, there is no WAN connection. Check the cable connection.

■ Power off and restart your DSL or Cable modem, then check to see if you now have an IP address.

■ Your ISP may require a MAC address, host name, or domain name in order to connect. Check with your ISP for more information.

A Time out error message pops up when I enter a Web site name or IP address in the Address field of my Web browser.

■ Try entering the URL or IP address from a different network computer. If you don't get the same error message, check the original computer's IP settings. (See *Adjusting the LAN Settings on page 27* for help checking the IP address.)

■ Check your Wireless Router. Make sure that is connected properly and receiving power.

■ Make sure that your Internet connection is working correctly. Ensure that the WAN's IP address is valid. You may need to release, then renew, the IP address if there's a lease time for your IP address.

I've forgotten the Administrator password.

■ Reset your Wireless Router to its factory defaults by pressing and holding the INIT button for five seconds.

Then, use the default user name, admin, to log in and reset your Wireless Router to its previous configuration. (See *Configuring Your Wireless Router on page 25* for more information.)

Change the Administrator password as required. (See *Changing the Password on page 34* for instructions.)

My computer cannot connect to my Wireless Router on the WLAN.

■ Check to see if radio interference is causing a problem. Move your Wireless Router away from your microwave oven, 2.4 GHz wireless telephone, baby monitor, and other wireless devices.

■ Your wireless stations may be too far away from your Wireless Router. (Connection range can be as short as 100 feet in poor environments.) Trying moving your computer closer to the Wireless Router to see if the signal strength increases.

■ Ensure that your Wireless Router and your computer's wireless adapter are configured to work together. All wireless devices on your WLAN must have identical Wireless Network ID (SSID) and WEP encryption settings. See *Adjusting the Wireless Settings on page 29* for more information.

■ Ensure that your wireless adapter's MAC address is not being filtered out. See *Filtering MAC Addresses* on page 47 for help checking filtered MAC addresses.

■ If you have blocked clients from accessing the Internet, ensure that your computer's IP address isn't included in the list of blocked clients. See *Controlling Access* on page 49 for more information.

■ Ensure that the wireless adapter in your computer is functioning properly. Refer to the adapter's documentation for more information.

Technical Specifications

Operational

WAN Interface	One RJ-45 port, IEEE 802.3 100BaseT, CSMA/CD
WAN Cabling	UTP category 5 (10/100 Mbps)
LAN Interface	Four RJ-45 ports, IEEE 802.3u 100BaseT, CSMA/CD
LAN cabling	UTP category 5 (switched 10/100 Mbps)
WLAN	IEEE 802.11b, support 1/2/5.5/11 Mbps

Environmental

Power Input	External, DC 5V/2A
Operating Temperature	0 °C to 40 °C (32 °F to 104 °F)
Storage Temperature	-20 °C to 70 °C (-4 °F to 157 °F)
Operating Humidity	10% to 85% non-condensing

Glossary

Access Point
An Access Point (AP) is a wired controller that sends data to the wireless NICs installed in your network computers, and receives data back from them. An AP is often connected to the network computer that has Internet access, or is directly connected to the Internet by a DSL or cable modem. The AP then allows other stations on your WLAN to access the Internet.

Ad-hoc mode
See operating mode.

channel
Your wireless device communicates with other devices on your WLAN over a specific channel. The channel is similar to a radio channel—any wireless device linking to your wireless device must be "tuned" to the same channel.

In Infrastructure mode, the channel is selected by the Access Point or Wireless Router. It automatically selects a channel from the range available for your geographical location (11 channels are available for use in the United States) and communicates that channel to your wireless device. In Ad Hoc mode only, you can set the channel yourself.

device driver
A device driver is a software program that lets an adapter (such as a PC card, PCI card, or USB adapter) or any other device (such as a printer or CD-ROM drive) communicate with the computer that it's connected to.

DHCP connection
Stands for Dynamic Host Configuration Protocol. A network station set to *DHCP* is automatically assigned a new temporary (*dynamic*) IP address, as required. Compare to static connection.

DNS

Stands for Domain Name System and is a service that translates domain names (such as www.adaptec.com) into IP addresses. Domain names are alphabetic and easy to remember, but the Internet is based on IP addresses (such as 192.168.8.1). Each time you type in a domain name, a DNS service translates it into its corresponding IP address. See www.DynDns.org for more information.

DSL

Stands for Digital Subscriber Line and refers to a constant, high-speed digital connection to the Internet.

Ethernet

Ethernet is a popular networking system that uses NICs and cables (and often, other networking devices such as bridges and hubs) to create a LAN.

firewall

A firewall is a security system that helps prevent Internet users from accessing your internal LAN or WLAN. A firewall uses special software that keeps unauthorized users out of your network.

firmware

Firmware is software stored in the memory of a hardware device.

hot-swap

To hot-swap is to remove or attach a device without first shutting off your computer.

hub

A hub is a device with multiple ports, and it acts as a central connection point for the devices on your network. Any data coming into one port is copied to all the other ports. See also switch.

Infrastructure mode

See operating mode.

Internet connection types

See DHCP connection, PPPoE connection, PPTP connection, and static connection.

IP Address

An Internet Protocol (IP) address is a number sequence that's used to identify a computer that's connected to your network through TCP/IP. IP addresses are made up of four numbers separated by periods, such as 192.168.8.1.

IP address pool (IP pool)

The IP pool contains a range of consecutive IP addresses that are available for your network. Your Wireless Router assigns IP addresses to your network stations from the IP address pool.

ISP

Stands for Internet Service Provider.

LAN

Stands for Local Area Network. LANs are *wired* networks.

LED

Stands for Light-Emitting Diode. LEDs are usually used as status indicators on electronic devices.

MAC address

A Media Access Control (MAC) address uniquely identifies each network device on your network (for instance, your Wireless USB adapter or Wireless Router). A MAC address is built into each device, so you can't alter MAC addresses. Each network device is labelled with its MAC address.

NAT

Network Address Translation (NAT) translates multiple private IP addresses on your LAN into one public IP address for the WAN. NAT creates the IP address that is sent out to the Internet.

NAT adds a level of security by preventing users outside your network from seeing the IP addresses used by each individual computer on your network. NAT also lets you use one IP address provided by your ISP for your whole network.

network

A network is two or more computers connected so that they can share information, equipment, and programs.

network device
A network device is any device (such as an Access Point, a Router, or a computer with a NIC) that connects to the network. See also station.

network protocols
Network protocols are rules the determine how devices on a network communicate with each other.

NIC
Stands for Network Interface Card. A wireless NIC is a computer card (such as a wireless PCI adapter, wireless PC card, or wireless USB adapter) that lets your computer link to a WLAN.

operating mode
Ad-hoc mode (sometimes referred to as *peer-to-peer* mode) allows two computers to connect only to each other in wireless-to-wireless (or peer-to-peer) communication. Use this mode if you don't have either a Wireless Access Point (AP) or Wireless Router and want to connect 2 or more computers with wireless network adapters.

Infrastructure mode is for WLANs that include an Access Point (AP) or Router and multiple computers.

PCI
Stands for Peripheral Component Interconnect.

peer-to-peer mode
See operating mode.

PPPoE connection
Stands for Point-to-Point Protocol over Ethernet, and refers to a specification for connecting Ethernet network stations to the Internet using a broadband connection.

PPTP connection
Stands for Point-to-Point Tunneling Protocol, and refers to a technology used to connect stations on a Virtual Private Network (VPN). PPTP is used to ensure that information sent from one VPN station to another is secure.

preamble

A preamble is a signal used to synchronize the transmission timing on your WLAN. A series of transmission pulses is sent ahead of the data to signal a new transmission. This ensures that wireless devices receiving the data correctly interpret when the transmission starts.

SSID

See Wireless Network ID.

static connection

A network station set to *static* has a fixed IP address assigned by an ISP. Compare to DHCP connection.

station

In this context, a station is any computer (including notebooks, PCs, and handheld devices), Access Point, or Wireless Router, connected to a network. A network station has a network adapter (wired or wireless) installed or connected to it. See also network device.

switch

A switch is a device with multiple ports, and it acts as a central connection point for the devices on your network. Data coming into the switch is sent only to specific port. Compare to hub.

transfer rate

The transfer rate is the speed at which your wireless device is sending data. It is expressed in megabits per second (Mbps).

The default transfer rate setting, Auto Rate (or Automatic), allows your wireless device to automatically adjust its transfer speed for optimal performance and the longest operating range. Adaptec recommends that when possible, you maintain the Auto Rate setting.

However, if your wireless device's transfer rate changes frequently, you can set a lower transfer rate to achieve a more stable connection. The fixed rate speed options are 11Mbps, 5.5Mbps, 2Mbps, 1 or 2 Mbps, or 1 Mbps.

USB

Stands for Universal Serial Bus. USB is a technology that lets you easily connect devices to your computer.

WAN

Wide Area Network, usually referred to as the Internet.

WEP

Wired Equivalent Privacy (WEP) is a security feature that provides confidentiality (by encrypting the data being sent over the radio waves of your WLAN) and authentication (by using a shared key between the wireless device and the Access Point or Wireless Router).

WEP key

WEP Keys control encryption, and the Default Key encrypts outgoing data. Wireless devices connecting to the Wireless Router are only able to decrypt this data if they have the same default key listed as one of their 4 WEP Keys.

WEP keys can be hexidecimal (HEX) or alphanumeric (ASCII).

The number of characters in your key depends on the encryption key length:

	Number of HEX characters	Number of ASCII characters
64-bit key	10	5
128-bit key	26	13

wireless device

A wireless device (or wireless network device) is any wireless device that connects to the network. See also network device.

Wireless Network ID

The Wireless Network ID (also referred to as the SSID) is like a secret code that your Wireless Router and your wireless devices share to prevent unauthorized users from accessing your WLAN. Your wireless devices can only connect to your Wireless Router if they have the same SSID as the Wireless Router. Wireless devices in Ad-hoc mode must be set to the same SSID.

The Wireless Network ID is case-sensitive and must not exceed 32 characters.

WLAN

Stands for Wireless Local Area Network. WLANs are use radio signals instead of wires to connect network stations.

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