Setting Up Wireless Access Points

If you want to do wireless networking, your first step is to install a wireless access point. All of your wireless gear — laptops, PDAs, cameras, media centers, printers — connects to your network using radio waves instead of cables, and a *wireless access point* (WAP) is the device that creates your radio wave network.

As the name implies, a wireless access point gives wireless devices access to a network. The network may include other devices that are connected by Ethernet cables, or the network may consist entirely of wireless connections. Whatever type of network you need, your first step in setting up a wireless network is to buy and configure a WAP. In this chapter, you discover how to:

➡ **Select a wireless access point:** The market now offers many different wireless access points from which to choose. I go over how to select a model that meets your needs and budget.

➡ **Set up the hardware:** After you purchase a WAP, you need to set it up and make all the necessary hardware connections to make it work.

➡ **Take the first steps towards creating a secure network:** Wireless networks are extremely handy, but if left unsecured, they also leave your personal files open to theft and your Internet connection available to strangers.

➡ **Manage your network remotely:** You can control your wireless network even if you're on the other side of the country.

Get ready to . . .

Choose a Wireless Access Point

1. Decide if the wireless access point (WAP) will also serve as a router.

   > A router allows your network to share a broadband (cable or DSL) Internet connection, as well as connect your wireless devices to Ethernet wired computers. WAPs with built-in routers are widely available.

2. Count the number of Ethernet cable ports on the WAP.

3. Use a router/WAP with four Ethernet ports (see Figure 1-1) or a router/WAP/DSL modem with only one Ethernet port (see Figure 1-2).

   > At the very least, a WAP/router should have an Ethernet port labeled *WAN* for connecting to a broadband modem. WAN stands for *wide area network* and usually refers to a very large network such as the Internet. You may also need some *LAN* Ethernet ports for connecting to Ethernet wired computers. Your home network is a LAN, which stands for *local area network*.

4. Determine which Wi-Fi standards your WAP needs to support.

   > The 802.11g standard is faster than 802.11b, and 802.11g WAPs are backwards-compatible with 802.11b devices. If you also have 802.11a gear, you'll need a WAP that supports 802.11a.
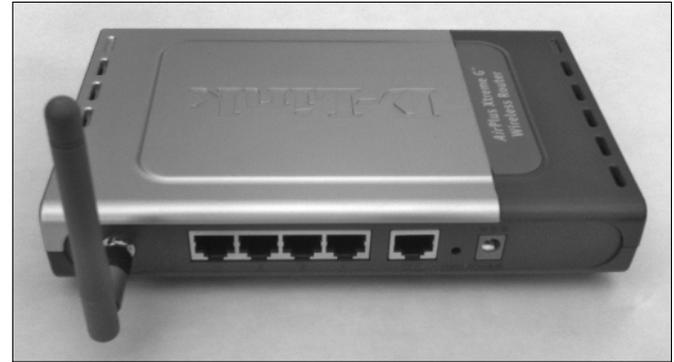
Figure 1-1: Access point with four Ethernet ports.
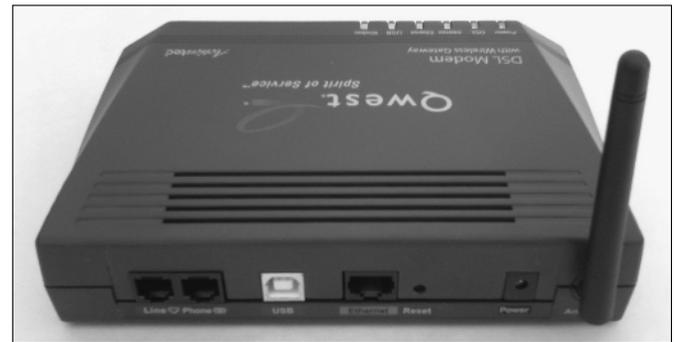
Figure 1-2: Access point with one Ethernet port.

Configure Your Wireless Hardware

1. Connect your WAP to a computer using an Ethernet cable.

> If your ultimate plan is to connect all devices wirelessly, you can disconnect this Ethernet cable later, after you have finished configuring your WAP and router.

2. If you have a broadband modem, connect it to the WAN port on your wireless access point using an Ethernet cable.

3. Make sure that the modem is on and connected to your Internet Service Provider (ISP). Your hardware should be set up similar to the configuration shown in Figure 1-3.

4. Start up your computer.

> If your computer has Windows 2000, Windows XP, or Mac OS X, make sure that you log in with a user account that has administrator rights.

5. Plug in the power connector for the WAP and, if the WAP has a power switch, turn it on at this time.

6. After you have logged in to the router and performed the initial setup (as I describe later in this chapter), you can disconnect the Ethernet cable and link all of your computers wirelessly, as shown in Figure 1-4.
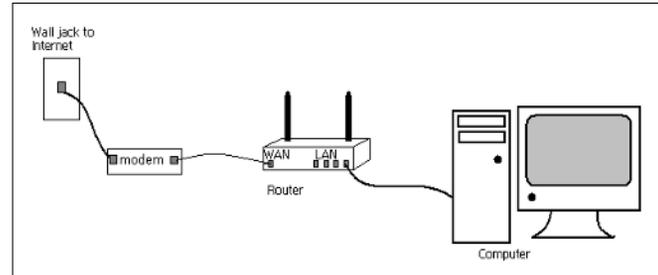
Figure 1-3: Temporarily connect the WAP to a computer.
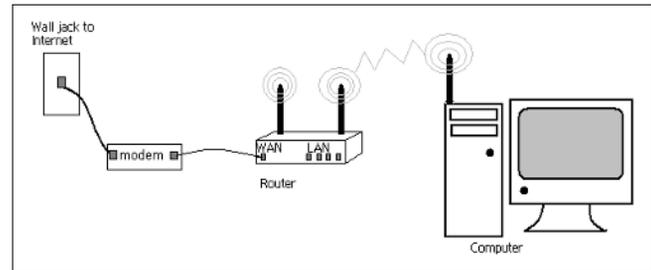
Figure 1-4: Disconnect the Ethernet cables and network wirelessly.

> For best performance and Wi-Fi range, position your wireless access point as high as possible and away from metal or stone walls. Also avoid placing the WAP near electronic devices, such as microwave ovens and the base units for 2.4 GHz cordless phones.

Log In to the Access Point

1. Launch a Web browser, such as Internet Explorer, and click Stop in the browser toolbar to stop any Web pages from loading.

2. In the Address bar, type the default IP address for your access point and press the Enter key. If the connection is successful, you should see a log in dialog box (see Figure 1-5).

3. Enter the default administrative user name and password for your WAP. (The default password should be listed in the WAP's documentation. Often, the default user name is blank and the default password is admin.)

Change the Admin Password

1. Log in to the router WAP using a Web browser (refer to the previous task).

2. Click the tab that contains administrative controls. (On some routers, admin controls are located on the Tools tab, as shown in Figure 1-6.)

3. Type your new password in both of the password text boxes provided.

   > Try to choose a password that is somewhat complex; include both letters and numbers. Avoid easily guessed passwords, such as the name of your pet, and keep in mind that passwords are usually case-sensitive. The router's password should be changed as soon as possible because hackers know the default passwords programmed into new routers.

4. Click OK or Apply.

Figure 1-5: Use the default admin name and password.

> 192.168.0.1 is the default IP address for many WAP/routers. Linksys routers usually use the IP address 192.168.1.1 instead. If Internet Explorer is unable to connect to this address, check the router's documentation to see if you should use a different IP address.
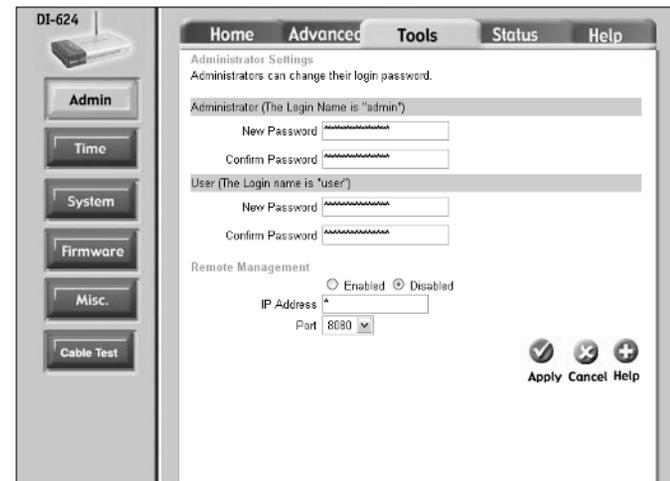
Figure 1-6: Administrative controls.

Set the SSID

1. Log in to the access point and find the wireless controls. Most access points have a Wireless tab or a Wireless button (see Figure 1-7).

2. Enter a word in the SSID text box.

   SSID is the name that wireless devices use to identify your access point. If you want to keep your wireless network more private from others, choose a cryptic SSID like the one shown in Figure 1-8, which combines letters and numbers.

3. Click OK or Apply.

Activate the Wireless Radio

1. Log in to the access point and find the wireless controls. Most access points have a Wireless tab or a Wireless button.

2. Select the On radio button, as shown in Figure 1-8, and click OK or Apply.

   If you are going to be away for several days, temporarily turn off the wireless radio to prevent others from using your wireless signal.
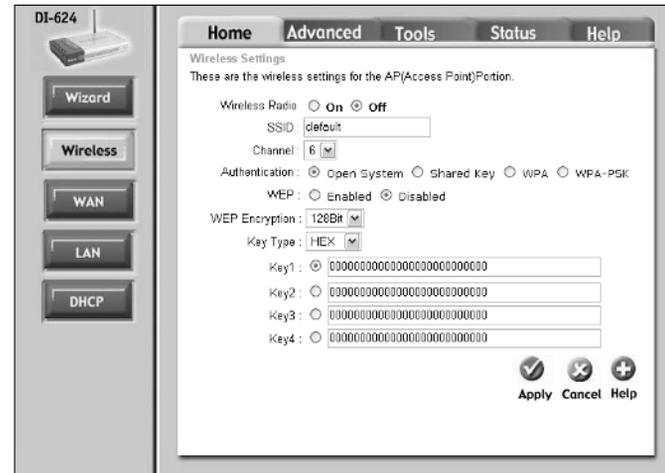
Figure 1-7: The radio and SSID controls.
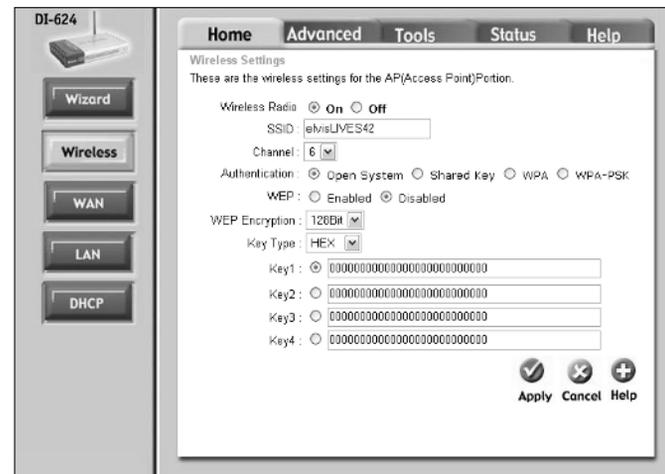
Figure 1-8: Turn on the wireless radio and set the SSID.

Set Up Remote Access Point Management

1. Determine the IP address for the computer from which you want to be able to access your router/WAP over the Internet.

   To quickly determine the IP address of the computer on which you are currently working, visit a Web site such as www.what ismyip.com or www.showmyip.com. Your computer's current IP address appears on-screen.

2. At your local network, log in to the router/WAP control panel and open the controls for remote access management (see Figure 1-9).

3. In the IP Address text box, enter the IP address of the computer that will be remotely managing your router, as shown in Figure 1-10.

   If the remote computer has a dynamic IP, or if you don't know what computer you'll be using for remote management, just enter an asterisk (*) in the IP Address box, as shown in Figure 1-9. Doing this allows any computer at any IP address to access the router, provided it has the correct password.

4. Specify the port that will be used to access the router. If you are accessing the router over the Internet using a Web browser, choose Port 80, which is the port used by Web browsers.

5. Enable remote management and click OK or Apply to apply your settings.
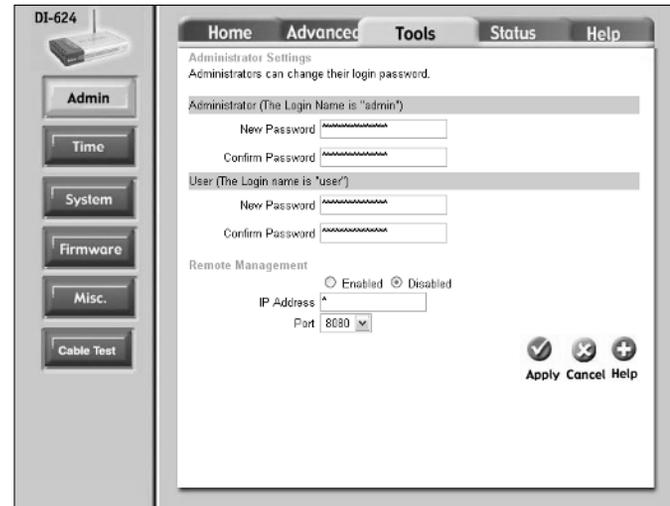
Figure 1-9: Remote access management controls.
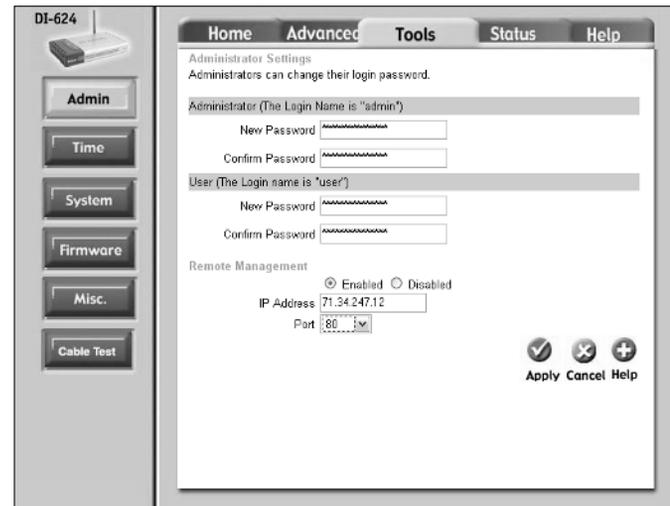
Figure 1-10: Only a computer at IP address 71.34.247.12 can access this router.

Manage Your Access Point Remotely

1. Launch a Web browser on the remote computer.

2. In the Address bar of the Web browser, enter the IP address for your home network, followed by a colon, and then the port number specified in your router for remote access (see Figure 1-11).

   Remember, you need to determine your home IP address while you are actually at home, using your home network. I go over how to do this in the previous task.

3. Press the Enter key.

4. Log in to your router/WAP using your administrative account name and password, as shown in Figure 1-12.

   After you are logged in you should be able to perform all administrative tasks of your router/WAP as normal.

   I strongly recommend that you disable remote management when you are not using it. When remote management is enabled, hackers can more easily gain access to your router's control panel over the Internet and gain access to the rest of your network.
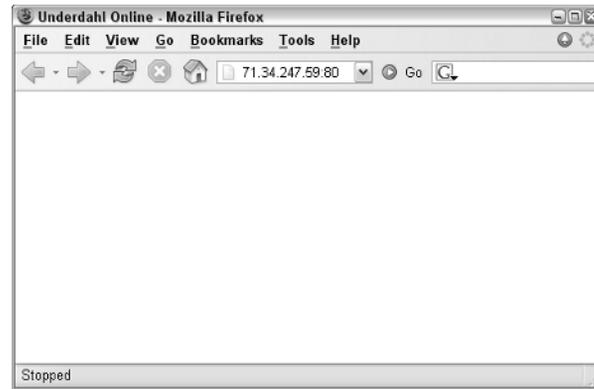
Figure 1-11: Enter the IP address and port for your home router/WAP.
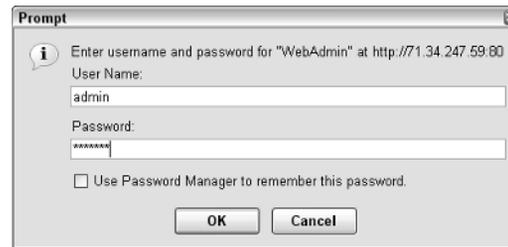
Figure 1-12: Log in to your router/WAP.