

Wireless (Select Models Only)

Document Part Number: 384463-002

October 2005

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Integrated wireless devices

Wireless technology makes a computer mobile by transmitting data across radio waves instead of wires. Your computer may be equipped with one or more of the following integrated wireless devices:

- **Bluetooth® device**—Creates a personal area network (PAN) to connect to other Bluetooth-enabled devices such as computers, phones, printers, headsets, speakers, and cameras. In a PAN, each device communicates directly with other devices, and devices must be relatively close together—typically within 33 feet of each other.
- **Wireless local area network (WLAN) device**—Connects the computer to wireless local area networks (commonly referred to as wireless networks, wireless LANs, or WLANs) in corporate offices, your home, and public places such as airports, restaurants, coffee shops, hotels, and universities. In a WLAN, each mobile wireless device communicates with a wireless access point, which can be several hundred feet away.

- Wireless wide area network (WWAN) device—Provides access to information anytime and anywhere you have cellular (data) coverage. In a WWAN, each mobile device communicates to a public carrier's base station. Public carriers install networks of base stations (similar to cell phone towers) throughout large geographic areas, effectively providing coverage across entire states, regions or even countries.



Your computer may look different from the illustrations in this guide. The location and number of buttons, lights, and jacks vary by model.

For more information on wireless technology, visit <http://www.hp.com/go/techcenter/wireless>.

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Wireless controls

You can control the wireless devices in your computer using one of three methods:

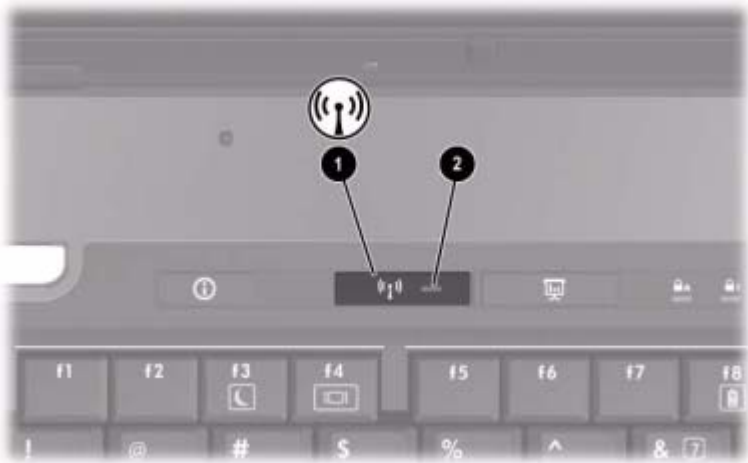
- Wireless button
- Wireless Assistant software (select models only)
- Operating system controls

Wireless button

Your computer has a wireless button ❶ that will enable or disable all integrated wireless devices simultaneously. In addition, a wireless light ❷ indicates the computer's overall wireless state (enabled or disabled). The wireless light does not reflect the status of individual devices (unless the computer has only one wireless device). When the wireless light is on, one or more of the wireless devices are on.



By default, all of the integrated wireless devices and the wireless light are turned on when you turn on the computer.



The location of the wireless button and light varies by model. On some computers, the wireless button and light are together; and on other models, they are separate.

You can enable and disable the wireless devices with the wireless button or through the Setup Utility.



You cannot use the wireless button to control the wireless devices if they have been disabled in the Setup Utility. For more information, refer to the Wireless Assistant online Help.




Enabling a wireless device does not automatically connect the computer to a network or to a Bluetooth-enabled device.

Wireless Assistant software (select models only)

Wireless Assistant reports details about the status of the integrated wireless devices in your computer, including WLAN devices, WWAN devices, and Bluetooth devices. Wireless Assistant displays the status of the devices as on, off, or disabled. Wireless Assistant also provides information about devices that are disabled and turned off to help you understand where and how to enable them or turn them on.

When a wireless device is enabled, it can be turned on or off using the Wireless Assistant software. Once a wireless device is disabled, however, it must be enabled before it can be turned on or off using Wireless Assistant.

To view the state of the wireless devices, place the pointer over the Wireless Assistant icon () in the notification area (at the far right of the taskbar) or open Wireless Assistant by double-clicking the icon in the notification area.

For more information about Wireless Assistant:

1. Open Wireless Assistant by double-clicking the icon in the notification area.
2. Click the **Help** button.



You cannot use Wireless Assistant to control the wireless devices if they have been disabled in the Setup Utility. For more information, refer to the Wireless Assistant online Help.

Operating system controls

Some operating systems and client managers also offer a way to manage integrated wireless devices and the wireless connection. For more information, refer to the documentation for your operating system or client manager.

Bluetooth devices (select models only)

A Bluetooth device provides short-range wireless communications that replace the physical cable connections that traditionally link electronic devices such as

- Network access points.
- Computers (desktop, notebook, PDA).
- Phones (cellular, cordless, smart phone).
- Imaging devices (printer, camera).
- Audio devices (headset, speakers).

Bluetooth devices provide peer-to-peer capability that allows you to set up a personal area network (PAN) of Bluetooth devices. The devices are represented in the Bluetooth for Windows software by graphical icons that resemble the physical features of the devices. These recognizable icons make it easy to distinguish Bluetooth devices from other classes of devices.

For information on configuring and using Bluetooth devices, refer to the *Bluetooth for Windows Getting Started* guide that came with your computer.

WLAN devices (select models only)

With a WLAN device, you can access a wireless local area network, which is composed of other computers and accessories linked by a wireless router or a wireless access point.



The terms *wireless access point* and *wireless router* are often used interchangeably.

- A large-scale WLAN, such as a corporate or public WLAN, typically uses wireless access points that can accommodate a large number of computers and accessories and can separate critical network functions.
- A home or small office WLAN typically uses a wireless router, which allows several wireless and wired computers to share an Internet connection, a printer, and files without requiring additional pieces of hardware or software.



To use the WLAN device in your computer, you must connect to a WLAN infrastructure (provided through a service provider or a public or corporate network).

Computers with WLAN devices may support one or more of three IEEE physical layer industry standards:

- 802.11b, the first popular standard, supports data rates of up to 11 Mbps and operates at a frequency of 2.4 GHz.
- 802.11g supports data rates of up to 54 Mbps and operates at a frequency of 2.4 GHz. An 802.11g WLAN device is backward compatible with 802.11b devices, so they can operate on the same network.
- 802.11a supports data rates of up to 54 Mbps and operates at a frequency of 5 GHz.



802.11a is not compatible with 802.11b and 802.11g.

Identifying a WLAN device

As a part of the process for setting up your wireless network, you will need to identify which integrated WLAN device is installed on your computer:

1. Select **Start > My Computer**.
2. Right-click in the My Computer window.
3. Select **Properties > Hardware** tab > **Device Manager > Network Adapters**.
4. Identify the WLAN device from the list that is displayed. The listing for a WLAN device may include the term *wireless*, *wireless LAN*, *WLAN*, or *802.11*.



If no WLAN device is listed, either your computer does not have an integrated WLAN device, or the driver for the WLAN device is not properly installed.

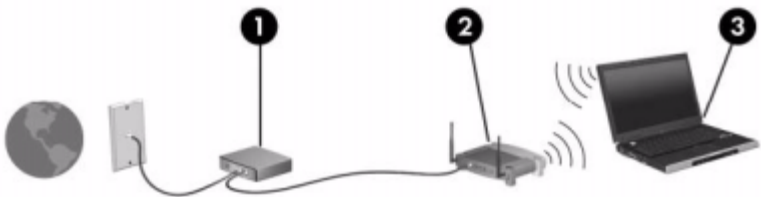
Setting up a WLAN in your home

Microsoft® Windows® XP supports WLAN with the Wireless Network Connection feature. In addition, on select computer models, Wireless Assistant provides a link to the Wireless Home Network Setup utility to help you set up your wireless network.

To set up a WLAN and connect to the Internet in your home, you need the following equipment:

- A broadband modem (either DSL or cable) ❶ and high-speed Internet service purchased from an Internet service provider (ISP).
- A wireless router (purchased separately) ❷.
- The wireless computer ❸.

The illustration below shows an example of a wireless network installation that is connected to the Internet.



As your network grows, additional wireless and wired computers can be connected to the network to access the Internet.



If you need more help setting up a home WLAN, contact your router manufacturer or your ISP.

Connecting to a WLAN in your home

After your WLAN is set up, each computer must be connected to it. To connect to a WLAN:

- Verify that the WLAN device is turned on. If it is on, the wireless light is on. If the wireless light is off, turn on the wireless device. For information about turning on and turning off a wireless device, refer to “[Wireless controls](#).”
- Verify that your router is correctly installed and configured. For instructions, refer to your router documentation or call your router manufacturer for help.
- Use the Wireless Network Connection feature of Microsoft Windows XP to connect your computer to the WLAN.



The functional range (how far your wireless signals will travel) depends on WLAN implementation, router manufacturer, and interference from walls and other electronic devices.

For more information about using a WLAN:

- Refer to information from your ISP and the documentation included with your wireless router and other WLAN equipment.
- Access the information and Web site links provided in the Help and Support Center.
- Refer to <http://www.hp.com/go/techcenter/wireless>.

Connecting to a public or corporate WLAN

Contact your ISP or search the Web for a list of public WLANs near you. Web sites that list public WLANs include Cisco Hotspot Locator, Hotspotlist, and Geektools. Check with each public WLAN location for cost and connection requirements.

Contact your network administrator or IT department for information on connecting your computer to a corporate WLAN.

Using wireless security features

When you set up a home WLAN or access an existing public WLAN, always enable security features to protect your network from unauthorized access.

The most common security levels are Wi-Fi Protected Access (WPA)-Personal and Wired Equivalent Privacy (WEP). In addition to enabling WPA-Personal or WEP security encryption on the router, you should use one or more of the following security measures:

- Change the default network name (SSID) and password.
- Use a firewall.
- Set security on your Web browser.

For more information about WLAN security, refer to the HP Web site at <http://www.hp.com/go/wireless> (English only).

WWAN devices (select models only)

WWAN devices enable your computer to access the Internet from more places and over larger areas than WLANs. Using a WWAN device requires a network service provider, which in most cases will be a mobile phone network operator. Coverage for WWAN is similar to the mobile phone voice coverage.

When used with a data service plan from a service provider, like Verizon Wireless, WWAN gives you the freedom to stay connected to the Internet, send e-mail, or connect to your corporate network whether you are on the road, across town, or across the country.

For information on configuring and using WWAN devices, refer to <http://www.hp.com/go/broadbandwireless>.

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Wireless (Select Models Only)
Second Edition October 2005
First Edition May 2005
Document Part Number: 384463-002