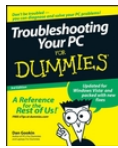


# HARDWARE NEEDED FOR A WIRELESS NETWORK



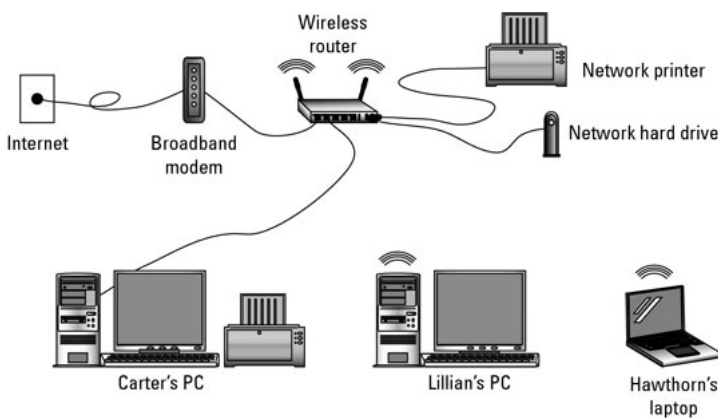
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By **Dan Gookin**

As long as you have all the hardware, you can quickly set up any wireless network. Here is everything you need to know about the hardware you need to have in place before you use Windows to configure the wireless network.

There are two types of wireless networks: infrastructure and ad hoc. The *infrastructure* network is most likely the type of wireless setup you have in your home or office. It's laid out similarly to a wired network, but without wires.



The basic wireless, peer-to-peer network consists of these components:

**Wireless router:** The heart of the wireless network is the wireless router. Like a wire-based network, the hub is a central location that all computers connect to, providing the computers with network access.

The wireless hubs now available also serve as routers. Well, officially, wireless hubs are gateways, not routers, but they're called *routers*. They're also called *access points*, so get used to that term as well.

Despite the nomenclature confusion, all you need to know is that the hub/router/access point is a smart little beast that helps manage wireless connections and also helps connect your wireless network to the Internet.

**Wire-based connections:** Almost every wireless router I've seen has one or more standard, wire-based Ethernet port. One port is used to connect the router to a broadband modem. Other Ethernet ports might be also available, allowing you to connect standard wire-based networking to the wireless hub.

**Wireless NIC:** Your computer needs a wireless network information card, or NIC, to talk with the wireless router. A laptop comes standard with a wireless NIC, but for a desktop PC you have to get a wireless NIC as an option. It's installed internally as an expansion card, or you can use one of the various plug-in USB wireless NICs.

That's pretty much it for the infrastructure type of wireless network.

The *ad hoc* type of wireless network is basically a group of wireless computers connected with each other. An ad hoc network has no central hub or router. Instead, all its computers can directly access the other computers' files and shared resources. They may or may not have Internet access, but that's not the point of the ad hoc network.

- One of the beauties of a wireless network is that you can mix in wired components as needed. If you need more Ethernet ports, for example, simply add a switch to the wireless router.
- Despite the wireless nature of wireless networking, you still need an Ethernet cable (a wire) to connect a wireless router to a broadband modem.
- Another advantage of a wireless network is that it's portable. It's far easier to pull up stakes with a wireless network than to pack up all the bits and pieces of a wired network. If you live in an apartment, or just move around a lot, a wireless setup a good option.

- The term *access point* is often abbreviated AP. Don't be puzzled when you see the words *wireless AP* — it simply refers to the access point, not to the Associated Press.
  - A wireless network is often called a *WLAN*, for wireless local-area network.
  - A wireless network is also referred to by the term *Wi-Fi*. It stands for *wireless fidelity*.
  - Ad hoc networks are often used by computer gamers to gather in a single location to play games with each other.
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