



CNET EDITORS'

# Wireless network

## BUYING GUIDE



Here's what you need to know about wireless networking, from the standards and technologies to the best products for your home or office.

1. Zero in on the right network for you
2. Choose the right networking standard
3. Buy the right networking components
4. Expand your network
5. Secure your network
6. Let your network entertain you

## 1 ZERO IN ON THE RIGHT NETWORK FOR YOU

With so many possible ways to build a network, it pays to home in on the solution that best suits your needs before you buy. These user profiles will start you off in the right direction.

### Home network

You can get ample bandwidth for sharing a broadband Internet connection without spending much. Even the slowest wireless gear is several times faster than cable or DSL. You may prefer to buy a kit that includes all of the basic networking gear, but you can also buy the components separately and connect them together. Exactly what you need will depend on how many systems you want to connect and where they are located.

#### KEY COMPONENTS

What you need	What it does
<b>Cable/DSL broadband router</b>	Connects your Internet service to your network
<b>Wireless access point</b>	Connects wireless adapters to your network
<b>Wireless adapter</b>	Connects computers to your wireless network
<b>Power-line adapter</b>	Connects computers to your power-line network

### Home-office network or telecommuter

If you use your home as an office, you need a robust network with reliable security. Wireless routers typically offer some protection, but a software firewall can provide an additional safeguard for your data. If you need to access your network from remote locations on business trips, you may even want to invest in a hardware VPN (virtual private network) firewall so that you can securely access your home network over the Internet.

#### KEY COMPONENTS

What you need	What it does
<b>VPN firewall</b>	Protects your network from attacks over the Internet
<b>Cable/DSL broadband router</b>	Connects your Internet service to your network
<b>Wireless access point</b>	Connects wireless adapters to your network
<b>Wireless adapter</b>	Connects computers to your wireless network
<b>Power-line adapter</b>	Connects computers to your power-line network

## Online gaming and entertainment

If you want to be able to transfer large files over the network while streaming audio from a computer to your stereo or if you like to play bandwidth-intensive, multiplayer games, set your sights on a high-bandwidth solution, such as Ethernet, 802.11a, or dual band.

### KEY COMPONENTS

What you need	What it does
<b>Cable/DSL broadband router</b>	Connects your Internet service to your network
<b>Wireless access point</b>	Connects wireless adapters to your network
<b>Wireless adapter</b>	Connects computers to your wireless network
<b>Power-line adapter</b>	Connects computers to your power-line network
<b>Digital-media adapter</b>	Connects TVs and stereos to your network

## Hot-spot hopper

Business travelers can now stay connected anywhere using wireless hot spots. Whether you are in an airport, a cafe, a public park, a shopping mall, or a parking lot, you may find yourself smack-dab in the middle of a public or commercial hot spot. With the right gear, hot-spot hopping is easy. Opt for a PC Card with a sensitive antenna, an external antenna connector, or a high-power output, and find out which wireless ISPs are available in your area.

### KEY COMPONENTS

What you need	What it does
<b>Wireless notebook</b>	Connects to hot spots with its built-in adapter
<b>PDA with built-in Wi-Fi or CompactFlash adapter</b>	Connects to hot spots with its built-in adapter
<b>Wireless adapter</b>	Connects notebooks to hot spots
<b>Range-extending antenna</b>	Increases the range of your wireless adapter
<b>Wireless Internet service</b>	Gives you Internet access at a variety of locations

## Internet services provider

You don't need to be a rocket scientist to connect two or more houses wirelessly or to share an Internet connection with an entire building or neighborhood. Whether your objectives are philanthropic or commercial, building a hot spot can be done for less than the cost of a high-end notebook.

### KEY COMPONENTS

What you need	What it does
<b>Shareable or resalable Internet service</b>	Allows you to connect the general public to the Internet
<b>Wireless access point with removable antenna</b>	Allows you to tailor your coverage area
<b>Wireless adapter</b>	Allows your clients to connect to your service
<b>Range-extending antenna</b>	Increases the range of your wireless access point
<b>Power over Ethernet injector</b>	Lets you power an access point on a mast

## Bluetooth broker

You don't need a full-blown local-area network to sync up your PDA with your computer or to transfer photos from your notebook to your printer. Bluetooth is designed for just such casual, close-range connections.

## KEY COMPONENTS

What you need	What it does
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<b>Bluetooth adapter</b>	Connects to other Bluetooth devices
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<b>Bluetooth printer kit</b>	Connects your printer to other Bluetooth devices
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<b>Bluetooth-enabled notebook</b>	Connects with other Bluetooth-enabled devices
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<b>Bluetooth-enabled PDA</b>	Connects with other Bluetooth-enabled devices
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## 2 CHOOSE THE RIGHT NETWORKING STANDARD

Settling on a standard is one of the most important decisions you'll make while putting together your network. The standard you choose influences everything, including the speed, the features, the reach, and the cost of your network. Making sense out of the alphabet soup of wireless technologies can be daunting, but here's a quick guide to what you need to know.

### Network standards at a glance

Networking standards	Actual speed	Range	Frequency and interference risk	Hot-spot access	Power drain	Cost
<b>802.11b</b>	5Mbps	150 feet	2.4GHz; high	Excellent	Moderate	Low
<b>802.11a</b>	22Mbps	100 feet	5GHz; low	Poor	High	High
<b>802.11g</b>	20Mbps	150 feet	2.4GHz; high	Excellent	Moderate	Moderate
<b>Dual band</b>	22Mbps	150 feet	2.4GHz 5GHz; varies	Excellent	Moderate	High
<b>Bluetooth</b>	500Kbps	30 feet	2.4GHz; high	Poor	Low	Moderate

### 802.11g

The 802.11g standard, long touted as the high-performance successor to 802.11b, was ratified in June 2003, but networking manufacturers flooded the market with 802.11g gear months before the final specification was approved as a standard. Most of the gear that was sold prior to ratification will need a firmware upgrade to bring it up to the final spec. 802.11g has two features that many believe will make it the new dominant Wi-Fi standard: great throughput at around 22Mbps and backward compatibility with 802.11b. That's right; 802.11g operates at the same frequency as 802.11b (2.4GHz) and is backward compatible with the granddaddy of Wi-Fi specs. This makes 802.11g the obvious choice not only for anyone building a new network, but also for those interested in adding onto or gradually upgrading a preexisting 802.11b network. The only downside to 802.11g is the fact that it uses a crowded slice of the spectrum, with room for only three nonoverlapping channels. This will make 802.11a a better choice for some environments, especially those populated with devices that share the 2.4GHz spectrum, such as cordless phones, baby monitors, microwave ovens, and Bluetooth radios.



Buffalo AirStation 54Mbps wireless broadband router

#### 802.11g facts

- Better range than that of 802.11a products
- Much faster than 802.11b products
- Low cost
- Subject to interference from other 2.4GHz devices
- Only three nonoverlapping channels

### 802.11b

The price of 802.11b gear has dropped dramatically over the last year. This gear operates at 2.4GHz and offers a real-world throughput of around 5Mbps at close range. In a typical indoor environment, without a lot of metal, 802.11b equipment can generally maintain a solid connection up to about 150 feet. It is also fully compatible with the faster 802.11g standard. The weaknesses of 802.11b are its comparatively low throughput and the potential for interference with other gadgets that share the

2.4GHz band, such as cordless phones, security radios, and microwaves.



Proxim Orinoco World PC Card

#### 802.11b facts

- Better range than 802.11a products
- More than adequate throughput for broadband sharing at around 5Mbps
- Slower than 802.11a and 802.11g
- Broad compatibility
- Low cost
- Subject to interference from other 2.4GHz devices
- Only three nonoverlapping channels

## 802.11a

The 802.11a standard has a couple of advantages over the more prevalent 802.11g. It runs at a less populated frequency (5.15GHz to 5.35GHz), making it less prone to interference, and its practical throughput is about four times greater than that of 802.11b, typically clocking in at around 22Mbps. This gives it a lot more elbowroom than 802.11b for streaming digital audio and video or transferring large files over the network, with bandwidth left over for Internet sharing. Some manufacturers offer proprietary turbo modes that can push throughput even higher. 802.11a's downside is its shorter range. Because 802.11g and 802.11a operate at different frequencies, they can't talk directly to one another, which is why if you have an 802.11a adapter, you cannot connect to most hot spots. Another weakness is the increased power drain of the 5GHz radio, as compared to its 2.4GHz counterparts.



Intel Pro/Wireless 5000 LAN access point

#### 802.11a facts

- Great throughput at around 22Mbps or higher
- Operates at 5GHz
- Low risk of interference from other devices
- Eight nonoverlapping channels
- Higher cost than that of 802.11b and 802.11g

## Dual band

Wouldn't it be nice if you could get all of the 802.11 standards into a single device? The latest wave of dual-band networking equipment gives you just that. 802.11a/b/g gear operates at both 2.4GHz and 5GHz and gives you the advantages of all three standards. You get the speed and the resistance to interference of 802.11a, the broad compatibility and the increased range of 802.11b, and the increased throughput of 802.11g--but you pay for it. Dual-band gear can cost more than twice as much as its single-band counterparts, but for some, the added flexibility will be worth the heftier price tag.



Linksys WRT55AG

#### Dual-band facts

- Compatibility with all 802.11 standards
- Combines the fast throughput of both 802.11g and 802.11a
- All-in-one solution
- A combined total of 11 nonoverlapping channels

## Bluetooth

Bluetooth offers more flexibility than Wi-Fi but on a smaller scale. Its throughput is a poky 500Kbps, and its range is just a couple dozen feet, but devices with a Bluetooth radio and an antenna can speak to each other with little or no preparation. Meeting attendees can immediately transfer files across a conference table using their Bluetooth-equipped notebooks, or they can send a file to a Bluetooth-equipped printer without downloading drivers. Bluetooth may soon be standard equipment on many cell phones and handheld computers. There's even talk of putting Bluetooth into home appliances. But for all the theoretical benefits of Bluetooth, the reality is that it's currently a mess of incompatible hardware and software. Because Bluetooth operates at 2.4GHz, it is subject to the same interference problems as 802.11b and 802.11g.



Actiontec USB Bluetooth adapter

#### Bluetooth facts

- Not compatible with 802.11 standards
- Slow throughput at around 500Kbps
- Expensive
- Short range of about 30 feet
- Few Bluetooth devices or services
- Interferes with other 2.4GHz devices
- Low power requirements

## HomePlug

Power-line gear may be the best-kept secret in home networking. Though overshadowed by Wi-Fi, power-line networking (also known by the Powerline Alliance's name of HomePlug) is a good solution either as an alternative to wireless or as a way to extend a wireless network to the far reaches of a home. Devices based on the HomePlug standard use your home's electrical wiring to connect a digital network. At throughput speeds of around 5Mbps, HomePlug routers and adapters are plenty fast enough to share a broadband connection between a few computers. The power-line solution is also a great way of connecting wireless access points in a large house or building.



Gateway PLU-300

#### HomePlug facts

- Practical throughput speeds of about 5Mbps
- Inexpensive
- Great for environments with 2.4GHz or 5GHz cordless phones
- Guaranteed interoperability between HomePlug devices

## Ethernet

Nothing tops Ethernet for speed and reliability, and Ethernet also has the advantage of being a lot cheaper to deploy than power line or any flavor of wireless. Most computers already have Ethernet adapters built in, but unfortunately, most homes do not. Still, if you are after high bandwidth, it's worth considering pulling Ethernet cable through your home. Even if you decide not to cable your home for Ethernet, you might find that an Ethernet hub or switch is a good complement to your wireless network. In fact, many wireless routers come with a four-port Ethernet switch built in.

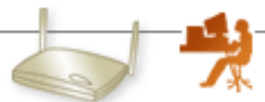


Netgear RP614

#### Ethernet facts

- Practical throughput around 90Mbps
- Inexpensive
- Requires cabling
- Range of about 300 feet per segment
- Widespread networking standard
- Ideal for bandwidth-intensive applications

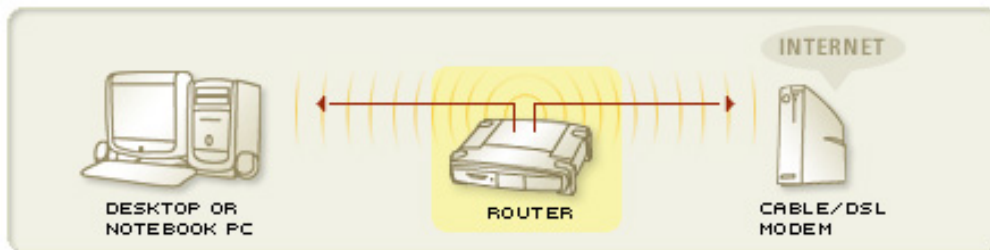
## 3 BUY THE RIGHT NETWORKING COMPONENTS



Figuring out what gear you'll need to build your network can be a challenge. We'll help you put together the pieces of the puzzle.

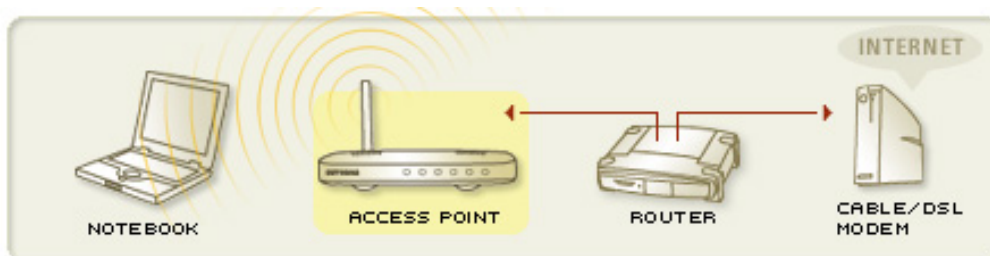
### Routers

Routers act as the gateway between your broadband connection and your home network. Wireless routers come in various configurations, but most are amalgamations of a four-port wired Ethernet switch and a wireless access point. As the name implies, these devices route traffic between your network and the Internet. Most include built-in DHCP servers that automatically assign the right IP address information to each computer on your local-area network, or LAN. A separate WAN, or wide-area network, interface on the router connects your entire home or office network to your broadband modem, allowing you to share your Internet connection through the router. Most routers also have firewall capabilities, and some include more advanced security features. Some routers even have an integrated cable or DSL modem, eliminating your need for two separate devices.



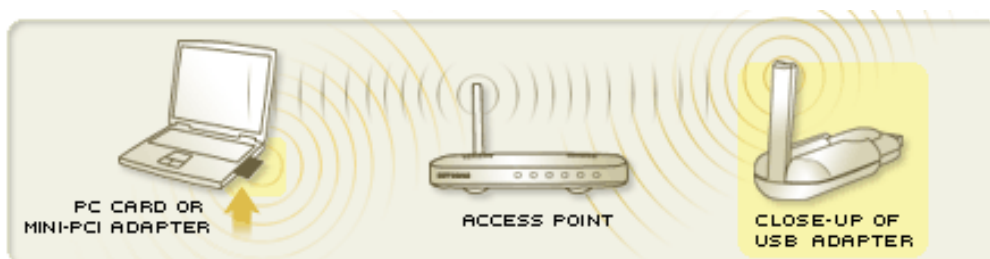
## Access points

The access point is the hub of a wireless network and the central transit point for all of the data flowing between your wireless network and your wired network. There are as many types of access points as there are networking standards: 802.11b, 802.11a, 802.11g, and Bluetooth. Wireless access points do not offer the rich feature set and the high configurability of most routers because they are designed to add a wireless extension to your network and not to play the role of a central gateway. Nevertheless, access points do typically include some security features, such as encryption.



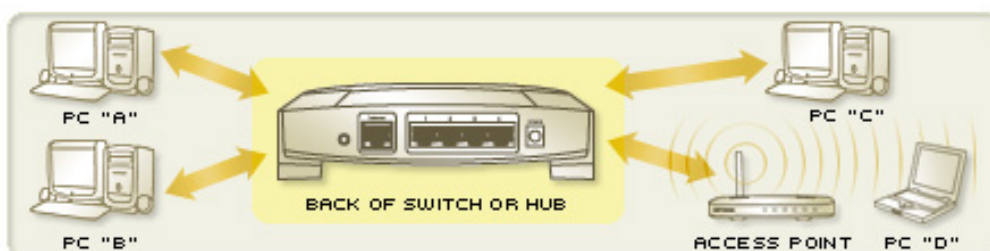
## Adapters

An adapter connects your computer or your PDA to a network. If your computer doesn't already have the adapter that you need built in, you can add one. As with access points, there are as many types of adapters as there are networking standards--802.11b, 802.11a, 802.11g, dual band, and Bluetooth--and each type comes in a variety of shapes and sizes, including PC Cards, PCI and mini-PCI, USB, CompactFlash, and SD. Some wireless adapters are decked out with special features, such as retractable or removable antennae, encryption support, or connection-monitoring software. Before making your purchase, always confirm that the adapter is compatible with your operating system. If you plan to use an adapter at work, you should also check to ensure that it is compatible with any encryption schemes in use, such as LEAP or WPA.



## Switches and hubs

Ethernet is the glue that holds together most networks. It's fast and cheap, and it is integrated into just about everything. If you need to expand your network, an Ethernet hub or switch can come in very handy since most desktops and notebooks include a built-in Ethernet adapter. Accordingly, most wireless broadband routers come with a three- or four-port Ethernet switch built in, allowing you to connect to the router via a fast, wired Ethernet connection. Switches and hubs perform similar functions, but switches can handle multiple simultaneous users without any significant decrease in network throughput.



## 4 EXPAND YOUR NETWORK



You may already have a home network and now want to connect it with your friend's network across the street, or perhaps you want to create a public hot spot to draw customers to your business. With the right equipment, you can expand your network for more extensive coverage in your own home or bridge the digital divide in your neighborhood by starting a community network.

### Repeaters

As a digital signal travels down a cable or through the air, it gradually gets weaker. To get the signal to go farther, you need a device that can pick it up, then send it off again at full strength. Repeaters do just this. Repeaters are easy to confuse with bridges, and in fact, some access points and bridges include a repeater mode that allows the device to receive a signal from another access point and repeat it to adapters or other access points within its range. However, some bridges are capable only of talking to other bridges. Look carefully at the feature set to see if the product you are considering offers a repeater mode.



Buffalo Wireless repeater

#### Things to consider about a repeater

- Is it compatible with your other repeaters and access points?
- Does it have a removable antenna or an external connector?
- How many Ethernet ports, if any, does it have?
- Does it include both point-to-point and point-to-multipoint modes?

### Wireless bridges

A bridge connects two or more wireless networks in a large home, across the street, or across campus. Bridges attach networks together either through point-to-point or point-to-multipoint connections. Not long ago, bridges were expensive high-end products, but now you can find consumer bridges at very reasonable prices. Unfortunately, this technology varies based on the chipset and the firmware, so bridges tend to work only with other bridges of the same type and model. Before you lay down your cash, make sure that the bridges you're considering will work together.



Linksys WET54G

#### Things to consider about a bridge

- Is it compatible with other bridges and access points?
- Does it have a removable antenna or an external connector?
- How many Ethernet ports does it have?
- Does it include both point-to-point and point-to-multipoint modes?
- Is it easy to install?

### Antennae

A good way to increase the range of your wireless network is to add an antenna that is better suited to your needs. Antennae transmit signals in different ways. For example, if you want to share Internet access with your immediate neighbors, install an omnidirectional antenna on your roof. If you want to cover a specific location, such as the park across the street, a directional antenna works best. For faraway areas, you will need a high-gain antenna capable of bridging the gap. In general, the higher the gain of the antenna, the further its reach will be. Look for an antenna that has been certified by the FCC to work with the router, the access point, or the adapter that you plan to use with it. Also be sure that the antenna has the right type of connector to mate with the connector on your networking gear.



Buffalo AirStation extended range antenna

#### Things to consider about antennae

- Do you want to cover a broad area or make a long-distance link to another location?
- What is the gain of the antenna?
- What type of antenna connector do you need?
- Is the antenna certified by the FCC for use with your equipment?

## Power-line bridges

A power-line bridge can take your wireless network into places it might not otherwise be able to penetrate. For example, you may have a room with a wall that is covered with metal shelving. This would probably put it outside the reach of your wireless router. However, you can use a pair of power-line bridges to connect your router to an access point via your electrical wiring, which lets you add wireless connectivity even to those hard-to-reach areas. You can buy power-line bridges with both USB and Ethernet interfaces, so make sure you get the right interface for the device you intend to connect it to.



Gateway PLU-300 power-line USB adapter

### Things to consider about power-line bridges

- Does it have the right interface for your access point or router?
- Is the bridge HomePlug compliant?



## 5 SECURE YOUR NETWORK

The components and the layout of your network will determine what you'll need to secure local computers, but some things are musts for any network that is connected to the Internet. A few simple preemptive measures can go a long way toward protecting your data and keeping your systems safe.

### Basic security features

The first step to securing your network is to use the standard features that are built into your gear. Many networking devices come with security features that will protect your network against hacker attacks. If you are buying a broadband router, look for one with a NAT firewall and MAC address filtering. NAT firewalls conceal your network behind the router, and MAC address filtering allows you to grant or deny access to your network to specific machines. NAT usually runs automatically and requires no configuration. MAC address filtering requires you to enter the MAC addresses of the computers you want to allow or deny. Wireless-networking devices typically include WEP or WPA encryption. Both forms of encryption help protect your network, but WPA is much more secure than WEP. To implement WEP or WPA, you'll need to enter an encryption key on all of the wireless devices on your network; the product user manual typically includes a detailed explanation of how to do this. Some wireless devices add authentication schemes, such as 802.1x or LEAP, but these technologies are better suited to large enterprises than home or small-office use.



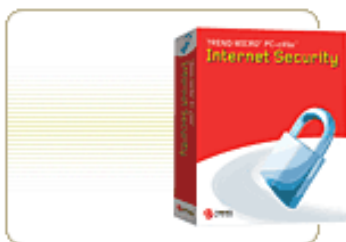
Proxim ComboCard

### Things to consider about basic security features

- Do you have a NAT firewall between the Internet and your network?
- Have you enabled MAC address filtering?
- Have you enabled WPA or WEP encryption for your wireless clients?
- Do you need 802.1x or LEAP to connect with your office LAN?

### Antivirus software

A home or office network makes it easy for you to share files between computers, but that also makes it easier for viruses and worms to wind their way through your computers. Fortunately, you can immunize your computers with antivirus software. Antivirus software detects and eradicates viruses before they have a chance to spread. If you plan to connect your network to the Internet, antivirus software is a must.



PC-cillin Internet Security 2004

### Things to consider about antivirus software

- How long is the software automatically updated to detect new viruses?
- How fast does it scan for viruses?
- Does it scan and clean instant-messenger attachments?
- Does it come with a software firewall?
- Does virus eradication require your involvement?

## Software firewalls

When you open an e-mail message, an e-mail server somewhere on the Internet is sending the data to a certain port on your computer. A Web server uses a different port on your computer to send you a Web page, and an instant messenger yet another to send you a message. These are software ports, so you can't see them, but trust us, they're there. A firewall manages the data traffic coming to and flowing from your computer on specific ports--sometimes allowing data to get through, sometimes blocking it, and other times asking you if you want to permit a connection that is about to be opened. Most firewalls include a general set of rules about what is and what is not allowed, others may allow you to set your own rules.



Zone Labs ZoneAlarm Pro 4.0

### Things to consider about firewall software

- Is it easy to install?
- Does it come with phone support?
- Does it pass CNET Labs' firewall tests?
- Does it come with antivirus software?

## Hardware firewalls

A hardware firewall works the same way as a software firewall but has certain other advantages. Whereas a software firewall must be installed on each computer in your network, a hardware firewall centralizes the control of connections between your network and the Internet, so you can be sure that all of the machines on your network are playing by the same rules. Hardware firewalls also use their own processors for port filtering and encryption tasks, which means that there is little or no resource drain on the computers in your network, giving you better overall performance. Some firewalls also allow you to set up VPN connections from the Internet to your personal LAN, providing you with a secure way to access your computers while you're on the road.



Netgear FWG114P ProSafe 802.11g Wireless Firewall with USB Print Server

### Things to consider about hardware firewalls

- How many ports does it have?
- Does it perform stateful packet inspection?
- Can it establish VPN connections?
- How many simultaneous VPN tunnels can it support?

## 6 LET YOUR NETWORK ENTERTAIN YOU



Today, home networks are used primarily to connect PCs for performing traditional tasks, such as sharing an Internet connection, exchanging files, and printing. But it won't be long before these same networks will be used to transport all types of data, including audio and video, to a wide range of gadgets throughout the home. In fact, this is already becoming a reality. With the right components, you can stream MP3s directly to your stereo and connect your gaming console to your home network.

## Digital audio receivers

Adding your stereo to your home network is easy, thanks to a new type of networking device called a digital audio receiver, or DAR. A DAR sends music from your PC to your stereo using any one of a number of networking protocols: wired Ethernet, 802.11g, USB, and/or power-line networking. These vary a great deal in terms of design and features, so it's a good idea to research them all before choosing one.



Creative Sound Blaster Wireless Music

### Things to consider about digital audio receivers

- How good is its sound quality?
- What type of networking standard does it support?
- What audio outputs does it have?
- Does it have a TV output?
- What versions of Dolby Digital does it support?

## Gaming consoles

Some gaming consoles, such as the Microsoft Xbox, come with a built-in Ethernet jack, making them network ready. Not every home is cabled for Ethernet, though. Fortunately, there is an easy way around this that allows you to place your console next to your TV and hook it up to the network without stringing Ethernet cable across the room: just attach a wireless bridge or a wireless Ethernet adapter to the console, and it will play happily with the rest of your network.



Sony PCWA-DE30 wireless Ethernet converter

### Things to consider about wireless bridges

- Is it compatible with other bridges, access points, and routers?
- Does it have a removable antenna or an external connector?
- How many Ethernet ports does it have?
- Does it include both point-to-point and point-to-multipoint modes?
- Is it easy to install?

## Wireless presentation gateways

Presentation gateways provide a central networking node for the distribution of digital and audio content. You connect the wireless presentation gateway to a projector or a monitor, and, after doing so, anyone can connect wirelessly to the gateway to display images, slide shows, or other content on the screen. Some gateways come with internal memory and allow you to store a presentation directly onto the device so that you can leave your computer at home and take your show on the road.



Linksys WPG12

### Things to consider about wireless presentation gateways

- What networking standards does it support?
- What audio and video outputs does it have?
- How many users can it support?
- How much storage capacity does it have?
- Does it come with a remote control?



## + CNET EDITORS' NETWORKING PICKS

Since CNET reviews all the networking gear you should know about, our top picks change frequently. Come back to our [networking center](#) for updates.

### TOP NETWORKING GEAR BY USER TYPE:

#### HOME NETWORK

- ▶ Motorola WR850G wireless broadband router
- ▶ Netgear WG511T 108Mbps wireless PC Card
- ▶ Netgear XE102 power-line adapter
- ▶ Linksys WUSB12 wireless adapter

#### HOME-OFFICE NETWORK OR TELECOMMUTER

- ▶ Buffalo WRB-G54K
- ▶ Proxim Orinoco 11a/b/g ComboCard Gold
- ▶ IBM ThinkPad X40
- ▶ Trend Micro PC-cillin Internet Security 2004

#### ONLINE GAMING AND ENTERTAINMENT

- ▶ Sony PCWA-DE30 wireless Ethernet converter
- ▶ EZ-Stream Universal Wireless Multimedia Receiver
- ▶ Creative Sound Blaster Wireless Music
- ▶ KiSS DP-500
- ▶ MN-740 Xbox wireless adapter

**HOT-SPOT HOPPER**

- ▶ Buffalo AirStation Adapter-G
- ▶ Buffalo AirStation WLE-NDR omnidirectional antenna
- ▶ SMC 2.4GHz high-power wireless PC Card
- ▶ Linksys WPC55AG notebook adapter
- ▶ SanDisk ConnectPlus 128MB CompactFlash Wi-Fi

**INTERNET SERVICES PROVIDER**

- ▶ Buffalo WLA-G54C wireless repeater bridge
- ▶ Buffalo AirStation wireless broadband router
- ▶ Buffalo AirStation WLE-NDR omnidirectional antenna
- ▶ D-Link DSA-3100
- ▶ D-Link DSA-3100P

**BLUETOOTH BROKER**

- ▶ 3Com Wireless Bluetooth PC Card
- ▶ Apple 12-inch PowerBook G4
- ▶ Sony DCR-IP55 camcorder
- ▶ Actiontec USB wireless adapter

**TOP NETWORKING GEAR BY STANDARDS:****802.11g GEAR**

- ▶ Buffalo WLA-G54C wireless repeater bridge
- ▶ Buffalo AirStation 54Mbps broadband router
- ▶ Motorola WR850G wireless broadband router
- ▶ D-Link DWL-G650
- ▶ Wireless-G Broadband Router with SpeedBooster

**802.11b GEAR**

- ▶ SMC 2.4GHz high-power wireless PC Card
- ▶ Linksys Wireless-B media adapter
- ▶ Toshiba PCX5000 wireless cable modem gateway
- ▶ Netgear MR814 router
- ▶ Motorola SBG1000 wireless cable modem gateway

**802.11a GEAR**

- ▶ Netgear HE102 wireless access point
- ▶ Linksys WAP54A wireless access point
- ▶ SMC EZ Connect access point
- ▶ D-Link AirPro DWL-A650 802.11a PC Card
- ▶ Linksys WPC54A 802.11a PC Card

**DUAL-BAND GEAR**

- ▶ Linksys WRT55AG A+G broadband router
- ▶ Netgear WAB102 dual-band access point
- ▶ Linksys WPC55AG dual-band wireless notebook adapter
- ▶ Netgear WAB501 dual-band wireless adapter
- ▶ Netgear WAG511 dual-band wireless PC Card
- ▶ Proxim Orinoco ComboCard (Gold)

**BLUETOOTH**

- ▶ 3Com Wireless Bluetooth PC Card
- ▶ Apple 12-inch PowerBook G4
- ▶ Sony DCR-IP55 camcorder
- ▶ Actiontec USB Bluetooth adapter

**HOMEPLUG GEAR**

- ▶ Linksys instant power-line USB adapter
- ▶ Netgear XE102 power-line Ethernet adapter
- ▶ Gateway PLU-300 power-line USB adapter
- ▶ Gateway PLE-310 power-line Ethernet adapter

**ETHERNET GEAR**

- ▶ Netgear RP614 cable/DSL router
- ▶ Linksys EtherFast four-port cable/DSL router
- ▶ Buffalo LSW GT-8W
- ▶ Buffalo Gigabit Ethernet PCI adapter

**TOP NETWORKING GEAR BY DEVICE TYPE:****WIRELESS ROUTERS**

- ▶ Wireless-G Broadband Router with SpeedBooster
- ▶ D-Link DI-624 AirPlus Xtreme G router
- ▶ Dell TM2300 wireless broadband router
- ▶ Netgear WGR614 router
- ▶ Buffalo AirStation 54Mbps wireless broadband router

**WIRELESS ACCESS POINTS**

- ▶ Netgear WAB102 dual-band wireless access point
- ▶ Linksys WAP54G Wireless-G access point
- ▶ Netgear HE102 802.11a
- ▶ Apple AirPort Extreme base station

**ADAPTERS**

- ▶ Proxim Orinoco 11a/b/g ComboCard Gold
- ▶ Netgear WG511T 108Mbps wireless PC Card
- ▶ Linksys WUSB12 wireless USB adapter
- ▶ SanDisk ConnectPlus 128MB CompactFlash Wi-Fi
- ▶ Buffalo AirStation Adapter-G

**WIRELESS NOTEBOOKS AND TABLETS**

- ▶ Toshiba Portege M200 tablet PC
- ▶ Dell Latitude D505
- ▶ HP Compaq Business Notebook nx5000
- ▶ Sony VAIO V505 series
- ▶ IBM ThinkPad X40

**TOP DEVICES TO EXPAND YOUR NETWORK:**

**BRIDGES AND REPEATERS**

- ▶ Buffalo WLA-G54C wireless repeater bridge
- ▶ Linksys WET54G
- ▶ D-Link Ethernet-to-wireless bridge
- ▶ Sony PCWA-DE30 wireless Ethernet converter
- ▶ Netgear ME101 wireless Ethernet bridge

**ANTENNAE**

- ▶ Buffalo AirStation extended range antenna
- ▶ ExtendAIR direct
- ▶ D-Link Ant24-0801 Pico cell patch antenna

**POWER-LINE ADAPTERS**

- ▶ Gateway PLU-300 power-line USB adapter
- ▶ Gateway PLE-310 power-line Ethernet adapter

**WIRELESS ADAPTERS W/ ANTENNA CONNECTORS**

- ▶ Buffalo wireless Adapter-G
- ▶ SMC 2.4GHz high-power wireless PC Card

**ROUTERS & ACCESS POINTS W/ ANTENNA CONNECTORS**

- ▶ Motorola SBG1000 wireless cable modem gateway
- ▶ D-Link AirPlus DI-624
- ▶ Buffalo AirStation wireless broadband router
- ▶ SMC 54Mbps wireless cable/DSL broadband router

**TOP PRODUCTS TO SECURE YOUR NETWORK:****ROUTERS WITH INTEGRATED FIREWALLS**

- ▶ Motorola SBG1000 wireless cable modem gateway
- ▶ D-Link AirPlus DI-624
- ▶ Wireless-G Broadband Router with SpeedBooster
- ▶ SMC 54Mbps wireless cable/DSL broadband router
- ▶ Buffalo AirStation 54Mbps wireless broadband router
- ▶ Motorola WR850G wireless broadband router

**ANTIVIRUS SOFTWARE**

- ▶ McAfee VirusScan 8.0
- ▶ Norton AntiVirus 2004
- ▶ PC-cillin Internet Security 2004

**SOFTWARE FIREWALLS**

- ▶ ZoneAlarm Pro 4.0
- ▶ Norton Personal Firewall 2004
- ▶ McAfee Personal Firewall
- ▶ PC-cillin Internet Security 2004

**HARDWARE FIREWALLS**

- ▶ Netgear FWG114P ProSafe 802.11g Wireless Firewall with USB Print Server
- ▶ Asus WL-500g wireless router