setting up a home network

I f you've got at broadband connection at home and more than one PC, then it's about time to consider a wireless network. Apart from preventing sibling fights and marital strife, there's also the little matter of comfort.

Where would you rather answer your email: in your home office, hunched over your desk or in the living room with your feet on the Ikea coffee table? Better still, in summer, how about sitting in the garden sipping a glass of homemade lemonade while you surf?

Surely networks are just for techies?

There was a time when the flexibility of a network was a luxury reserved for the propeller heads who threaded cat5 cables behind their walls to set up an ethernet network. These days a wireless home network offers more convenience than a wired one – there's no need to install cables and notebook users can roam untethered. What's more, a wireless network can be set up in a matter of minutes by a complete novice.

So how do wireless networks work then?

Wireless networks send data throughout your humble abode using radio frequencies. And when you're on your travels you'll find hotels, airports and even some coffee shops are setting up 802.11b access points for easy public wireless internet access.

Sorry – 802.11 what?

This is the commonest wireless networking standard, otherwise known as Wi-Fi. Prices for networking kit, based on 11Mbps (megabits per second) Wi-Fi, have plummeted over the past year.

If you plan to use your network primarily for sharing broadband internet access, the speed limitations of your networking technology won't matter much as they will far exceed your broadband connection speed.

That all sounds great. But there must be some down sides to a wireless network?

Though many Wi-Fi vendors claim a range of up to 300ft, don't count on a range of more than about 100-125ft in a typical office and slightly less in a home setup.

Range limitations can make a purely wireless network impractical in spaces that are very large, occupy several floors or contain lots of obstructions such as doors and walls. There can be interference problems between 802.11b antennas and other devices such as cordless phones and microwaves.

What are the different types of network setups?

The most basic form of a wireless network is known as an ad hoc network, where each computer communicates directly with the other and the internet connection is shared from one PC with a modem (either broadband or dialup).

An infrastructure network, by contrast, uses an access point or wireless gateway (or router). Your adapters communicate with the access point, which works like a central transmitter/receiver (see *Setting up wireless broadband* on page 142).

Okay, so what kind of hardware will I need to set one up?

You'll need an adapter, or client, for each PC you want to connect to the network. You can find PCI and PC Cards for Wi-Fi, as well as USB adapters. A router – a kind of switchboard that directs all data traffic between your network and the internet – makes it easier to share a single internet connection (whether broadband or dialup).

Why do I keep hearing about security problems associated with wireless networks?

Because intruders don't have to plug in to a physical port for direct access, as they do with a wired network, wireless networks are generally more vulnerable to attack.

Designers intended the encryption algorithm built into the 802.11x spec, called WEP (wired equivalent privacy), to function as effectively as the physical barrier in a wired network. Unfortunately, encryption experts have shown WEP to be vulnerable to attack.

If WEP's unreliable, what can I do about security then?

You can improve your odds by purchasing network adapters that support 128bit encryption, as opposed to the 40bit encryption possible with basic wireless cards. But if security is vital take additional precautions such as using a virtual private network and/or firewall. ■

best of broadband

Want to receive high-speed internet via your TV set, get legal music downloads or play free classic games? Here's Guy Dixon's pick of the online broadband gems

BROADBAND PLAYERS
www.windowsmedia.com
The Microsoft juggernaut is turning up the heat on Real Networks with its Windows Media Player. Yes, we know by recommending it we're giving yet more grist to Bill's relentless mill, but the fact is when it comes to owning the mainstream market for streaming and downloading, we're edging towards the Microsoft camp.

BROADBAND TV
www.easybroadband.tv
This site is selling TV set-top boxes complete with ADSL broadband connections. Pricing for the box is £169 inc VAT, though you will also need to buy an ADSL modem/router to get your broadband connection up and running. Because it uses your TV resolution quality is bound to be an issue, but the deal clearly represents a taste of our converging future.

GAMES
www.bullseyesgames.com
Games that use Flash and Shockwave, along with old arcade classics, such as Asteroids and UFO are available on here. You must register, but thereafter you won't have to part with a penny.

MUSIC
www.btopenworld.com/classical
Just to prove that we're not piracy advocates, here's a subscription-based music site. Costing £4.99 per month, you can also sign up for a free 15-day subscription. There are 10,000 classical tracks to listen to and you also benefit from five downloads per month.

NEWS
www.sky.com/skynews
Quality streamed audio and video from a quality news site. Sky.com also has live webcams galore from around the UK enabling you to witness events as they unfold.

PEER-TO-PEER
www.kazaa.com
With the Californian legal system homing in on Napster's heir, we thought we'd quickly mention the world's most popular peer-to-peer file-sharing network. Before you reach for your shotgun, in a recent poll nearly 70 percent of *PC Advisor* readers indicated they didn't want to see Kazaa banned.

REFERENCE
www.webopedia.com
Broadband was made for reference sites. Webopedia's Quick Reference section takes the mystery out of error messages, while its search engine can find definitions for any computer-related term.

SEARCH
www.siteforsites.com
This search portal has more than 10,000 sites to peruse. If it's a full variety of broadband content you're after then this is a good place to start.
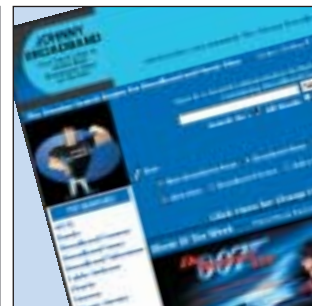
SECURITY
www.symantecliveupdate.com
We're not going to apologise for going on about the increased need for security when upgrading to broadband. Always-on equals always vulnerable: update your antivirus software regularly.
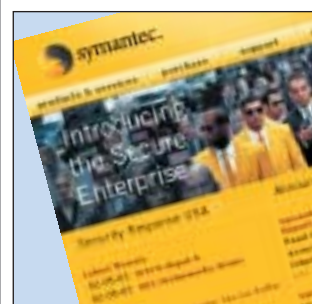
TRAVEL
www.travel.discovery.com
If you're having trouble shaking off the winter blues, check out this interactive guide to the world's best beaches which features 360-degree photos of dream locations.