workshop

Get the most out of your
webcam

You might have bought it so you could gossip online face-to-face with distant friends and relatives, but a webcam can also come in handy far closer to home. Wendy Brewer explains how to set up a low-cost security system

It wasn't so long ago that face-to-face phone conversations were but a pipe dream. Companies worldwide have been conducting video-conferences for some time, but the technology passed many home users by because of the expense and limitations of a slow internet connection. Fastforward a decade and £100 will now buy you the required kit while faster broadband online access is having a huge impact on home webcam use, replacing slow, delayed transmissions with smooth video conversations. It has also allowed for new applications such as home security systems.

Video-conferencing

In simple terms, video-conferencing lets you see and talk to someone in another location, saving time and money on travelling. It allows you to put a face to a voice and communicate better as you can pick up on important non-verbal signs and body language.

The most important thing when it comes to video-conferencing is the speed of your internet connection. Although you don't need to be a broadband subscriber to use a webcam, the higher your connection speed the better the received image quality will be. There's no point in buying

ILLUSTRATION: AILEEN O'DONNELL

MSN instant messaging

1 In the righthand corner of the screen is the 'Invite Someone to this Conversation' box. Select this and then invite any or all of your online contacts to chat to you. For video conversations you will only be able to see one contact at a time

2 Once you've decided who you want to talk to simply click on the Start Camera drop-down bar at the top right of the box. Once they accept your offer your contact should see your image in the righthand box. You can now start chatting

3 Once you're up and running you can play about with the positioning of your camera and volumes for your headphones and microphone until you are satisfied. Keep the picture box at its original size or you will distort the image

a top-of-the-range webcam to run on a 56K modem as images will be slow and jerky.

Narrowband connections are only really suitable for audio conferences, but you will receive marginally better visuals if your modem supports video-conferencing. Both parties will need to be online throughout the conversation, however, which could be a problem for dialup users.

The next consideration is processor speed. As with most software, the more power you have the quicker video-conferencing will be. It is a very power-hungry application – the minimum requirement for low-end cameras is a 233MHz chip and 64MB of RAM.

Choosing a webcam

There is a huge range of cameras on the market, ranging from £30 to over £200. Many digital cameras have built-in webcam functionality too and, although such models will be at the top end of the price range, it's worth considering if you're already in the market for a camera or will only use your webcam occasionally.

Webcam resolutions tend to range from 160x160 to 640x480dpi – the more dots per inch the better the image. Remember, though, that the higher the resolution the more bandwidth it will zap, which could
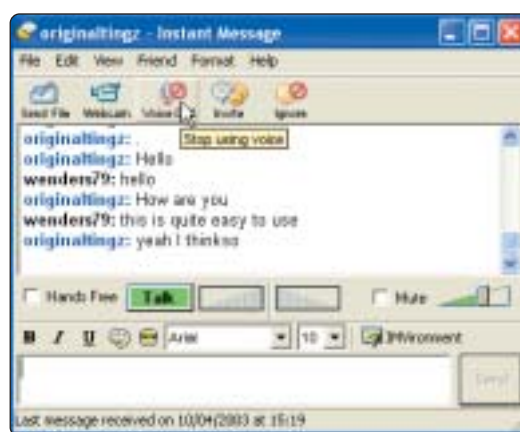
make your PC run slower. The majority of cameras achieve between 10 and 40fps (frames per second) – expect the minimum if you're operating on a narrowband connection. The more frames the better the image but, again, this will strain bandwidth.

Most cameras connect to a PC via USB, so setup is simply a matter of plug and play. Some models use parallel or serial cables, though, so check you've got the necessary ports before purchasing.

Windows Messenger

Anyone running Windows XP can try out video-conferencing using MSN's Instant Messenger service. It only works between

two PCs (at least at the moment) which tends to limit its use to home rather than business applications. To use the service you need to sign up for a Windows .Net Passport at www.passport.com. Hotmail and MSN email account holders can use their existing login details.

The service automatically alerts you when any of your contacts are online and allows you to request a text, voice or video conversation with them. Expect refresh rates of about 15fps with a broadband connection. Images are clear but fairly jerky and, as you would expect, the sound arrives slightly before the image. Keep the video images small to retain their clarity.

What's out there?

Product	Price (inc VAT)	Contact details
Axis network 2100	£279.99	www.axis.com
InControl Quadcam	£199.95	www.incontrol-quadcam.co.uk
Logitech QuickCam cordless	£179.99	www.logitech.com
Veo Observer	£139.99	www.veoproducts.com
Veo Mobile Connect		
Digital PC camera	£59.99	www.veo.com
Creative Webcam Pro eX	£39.95	www.europe.creative.com
Creative CardCam Value	£32.90	www.europe.creative.com
Philips TouCam XS	£29.37	www.philips.com

Non-XP options

You can use your webcam's bundled software to send and receive video and audio, but Microsoft's NetMeeting is a good alternative for non-XP users. Providing file transfer and program sharing applications, the app is preinstalled with Windows 2000 or can be downloaded from www.microsoft. com/windows/netmeeting/download/nm301x86.asp.

Yahoo's Instant Messaging service also allows video-conferencing with Windows XP and older operating systems. It runs on the same principles as MSN but the video box is far bigger and easier to see without distorting image clarity. As with MSN, you will need to set up your webcam and microphone before you begin.

1 Click on the friend or acquaintance you want to talk to. You can add and remove contacts by simply clicking the Add button. Once you have begun your conversation you can then initiate the video option

2 Click the Webcam icon at the top of the screen and click ok. Your contact should now appear in the separate screen at the right of the text box

3 To add voice simply click on the Talk button and Voice icon. The volume bar will appear below the conversation box so you can adjust sound levels as desired. To resume without the Talk option, simply click the Voice Off button at the top of the screen

A 56K connection will only update a few frames per second and the effect is that of a series of slides out of sync with the audio transmission. Video links run on the slowest connection so if one participant is on narrowband, the images will be delivered to you both at that speed.
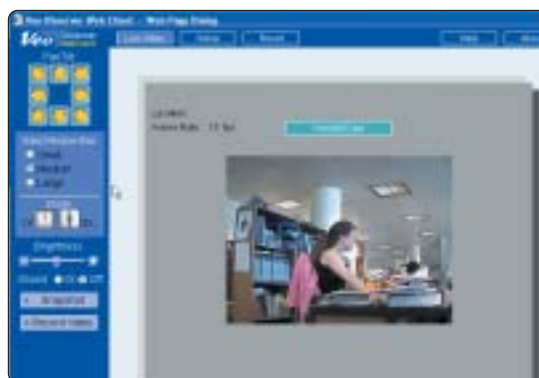
Home surveillance

For under £200 you can set up an acceptable surveillance system, allowing you to remotely monitor your house or office by receiving real-time pictures to your PC. A standard webcam will be sufficient for keeping an eye on your desktop, but if you splash out on a surveillance camera you will be able to monitor entire rooms and, in many cases, record the data straight to your PC for later viewing.

Surveillance systems are in their infancy so choice is limited and, until everyone has signed up to broadband, it will remain so.

We tested two home CCTV webcams: Digital Cybermasters' InControl Quadcam

Webcam-based security using Veo

If you don't have a DHCP (dynamic host configuration protocol) server you will need to set up a manual IP address before you can use the Veo system. Once you have done this, you'll need to log in and set up a username and password.

1 You'll see the camera's view in the main pane. To the left are the camera's PanTilt controls – click on these to alter the angle. The Record Video button lets you record segments of footage straight to your PC and then play them back via Windows Media Player

2 The Observer studio lets you play with the snapshots and videos you have taken. There's a movie maker, a gallery to store pictures and other handy applications to save you switching to other photography software packages

Professional video surveillance using InControl

Browse through the cameras stationed in different rooms by clicking on the relevant number

Start recording by pressing the Recording button at the top of the screen

Playback shows what you've recorded or lets you view incidents that triggered the motion-detection devices

This button changes how the cameras are displayed on your screen

Dial In controls the transmitter's ability to receive incoming remote connections. Dial Out sends incident notification messages to the internet

The PIR denotes each camera's setting. When black, it hasn't been triggered. It turns red when it detects movement and dark green when not in use

and Veo's Observer. Both require PCs running Windows 98 or higher with minimum internet upload speeds of 128Kbps (kilobits per second). The Veo device only operates on IE 5.0 or later.

Veo's Observer is about as simple as it comes – plug it in and you're off – but users should note it is not compatible with Microsoft's NT operating system. Leaving the Observer running constantly doesn't have a great impact on bandwidth so it shouldn't interfere with any other online activities.

Observer's interface is ideal for novices: simply click the correct arrow to remotely position the camera then record or photograph snippets of footage by pushing the relevant button and altering the volume controls with the arrows provided. Alternatively, the motion detection option will alert you, through an alarm on your PC, when any movement is recorded by the camera.

You will, however, have to buy this hardware separately for £29.99. Each camera (Veo's system holds up to four) can pan through 120 degrees and has a 60-degree vertical tilt, which gives you a fairly wide viewing angle.

InControl's Quadcam is more of a home security system than a surveillance webcam, so you'll need to spend time setting it up and learning how it works. You will also need to run the camera through your internet address rather than an IP (internet protocol) address.

The image quality on the Quadcam is poorer than with the Veo, you can't remotely move any of the cameras and the time delay is more apparent. However, InControl's device offers far greater functionality – you can even receive alerts to your email account or mobile phone as soon as any movement is detected, providing great peace of mind if you're away from your home or on holiday.

Hire a security guard
If you don't want the trouble of being your own watchman you may like to try BT's Home Monitoring service (www.bt.com). The service does not yet cater for webcams, so you can't keep an 'actual' eye on your home, but it is a good way to experience the benefits of networked home security systems.

Any interference in the system – for example, when a fire or house alarm goes off – triggers the call monitoring service which then immediately alerts the user via a predetermined choice of text message, telephone call or email alert. BT is working on extensions to the system which will include remote access and web cameras, but it is unlikely to be available until the end of the year.

However, at £300 plus subscription charges of £5 per month, Home Monitoring isn't a low-cost option, although peace of mind rarely comes cheap. ■