



Purchasing Guide - Webcams

Overview

Webcams are the next best thing to being there in person. What was once a novelty has evolved into a relatively inexpensive way to keep in touch with far-flung family and friends. Webcams have lots of uses in schools - see Tips section.

Also known as multimedia video cameras, webcams are most often used to transmit video or still images over the internet. They are essentially small digital cameras that can record video, much like a typical camcorder. Don't expect camcorder quality, however, as even the best webcam can't approach the quality of the worst digital camcorder. Webcams can also capture still images, although they're not much better at it than they are at capturing video.

Webcams are capable of performing a number of tasks, and capturing still or video images are only two of them. With an internet connection, you can use a webcam to transmit video or still images. Some webcams include audio capabilities, so you can chat over the internet via instant messaging software such as Yahoo! Instant Messenger, telephony software such as Skype or videoconferencing software such as Microsoft NetMeeting. Most webcams support the most popular instant messaging software, and most current instant messaging software supports video chatting.

In addition to sending video to a chat or videoconferencing partner, you can also use webcams to transmit video or still images to a personal or business website.

You can use a webcam to capture still images or to record video (and audio, if you're suitably equipped) to send to friends and family via e-mail. Most webcams save video in AVI format, a standard Windows video format. Still images are saved in JPEG or BMP format, two common graphics file formats that are compatible with many programs.

These cameras may sound complicated, but they're surprisingly easy to set up and use. Simply plug the webcam into a parallel, USB or FireWire port, depending on the model. (Keep in mind wireless webcams are also available.) A parallel port connection usually slows down other computer activities, but on older computers, it may be the only option.

After you plug in the webcam, install the drivers and any included software. The webcam's installer will walk you through the simple process of configuring the camera. As with many hardware peripherals, it's usually a good idea to check the manufacturer's website to see if the drivers have been updated since the product was packaged. Look for a Downloads or Support section, and then search for the drivers by your webcam's model number.

Tips

Combine a webcam with a free Skype download and our free Skype help sheet and you can start saving a lot of money.

Start using your broadband internet connection for:

- video conferencing between pupils in partner schools anywhere in the world
- enable voice/video calls between the Office and any classroom
- transfer files live from one computer to another

These are just a few ideas for using VOIP technology and they are all FREE!!!!

Buying webcams

Webcams range in price from as low as £5 to as high as £80 or more, with most models falling in the £10 - £30 to range. Higher-price webcams usually deliver better-quality images and may offer additional features, such as pan and tilt, which give you more freedom of movement while you're chatting and filming.

One of the first considerations when buying a webcam is to ensure that your computer meets the minimum hardware and memory requirements. This is particularly important if you have an older computer.

The next thing to consider is your computer's display type. Most webcam bases can fit snugly over an LCD screen or a laptop display, but not all webcams are good at resting on flat surfaces, such as a desk or the top of a CRT display. Webcams tend to be top-heavy, so if you plan to use it with a CRT, it's important to make sure that the base can stably sit on a flat surface. If you will only be using your webcam with a laptop or notebook, you should also consider models designed specifically for laptops. These webcams have a lighter, more compact design than standard models.

Image quality is another factor. A webcam's image quality is largely the result of the frame rate and the camera's resolution, although the quality and capability of the lens also plays an important part. The frame rate is expressed in frames per second (FPS), with common frame rates for webcams at 15 FPS and 30 FPS. Higher frame rates deliver better video quality with less image flicker, although a higher frame rate can also take longer to transmit across an internet connection. Keep in mind that the speed of your internet connection, as well as current internet traffic, also affects transmission. More expensive webcams usually provide better still and video images, and they also usually perform better in low-light situations.

Resolution is measured in pixels, and the higher the resolution, the better the image quality. Common webcam resolutions are 320X240 and 640X480. Webcams can typically capture still images at up to 1.3 megapixels, which sounds more impressive than it really is. The resolution is usually achieved via software manipulation, so images aren't as sharp or as clear as you might expect them to be.

Glass lenses provide better image quality than plastic lenses. Focusing may be automatic or manual. Some manual focus rings are easier to adjust than others, so it's well worth your time to try them out at an electronics or computer hardware store.

Although many multimedia video cameras support audio, they don't always include a microphone. Some have an integrated microphone, while others use a headset. The headset provides freedom of movement, but many individuals find it more cumbersome than a built-in microphone. The quality of supplied microphones is often poor, but you can always spring for a better microphone if audio quality is a major issue.

Summary - buy USB2, High Definition, with built in microphone and suitable fitting for your computer.

Glossary

AVI The default file format that Windows uses to store video.

Firewire A new peripheral interface, also called IEEE-1394 or iLink. This interface provides high speed, and is often used with digital video cameras.

Frame rate How quickly the camera can capture and move video to the computer. Full-motion video is generally 30 frames per second.

MPEG-2 A compressed video file format that allows more video to be stored in a smaller amount of hard disk space.

Pixel Picture element. Each pixel is one dot in an image.

Resolution The quality of a video image. Most Internet video cameras provide actual resolutions of 320x240 or 640x480 pixels. Resolution is given in horizontal by vertical pixels.

TWAIN driver A small software application that allows a frame of video to be directly used by TWAIN-capable Windows applications.

USB The Universal Serial Bus is a popular interface, but works only with newer operating systems, such as Windows 98, Windows ME, Windows NT, Windows 2000, and newer version of the Macintosh OS.

USB port Universal Serial Bus port, introduced several years ago with the Pentium series of computer processors. The USB port lets you just plug a camera into a small connector on the computer.

Video e-mail An e-mail message that contains a video clip.

Videoconferencing Establishing a connection with another video camera user so that you (and they) can see motion video while the call is in progress. Videoconferencing through the Internet is free using Skype, but the frame rate on the video often drops below 10 fps.

Viewer/player A software application that lets the recipient of a video e-mail message extract and view a video file that has been compressed for faster e-mailing.