

PHILIPS



PHILIPS



D-link

WORDS: NIK RAWLINSON, MARK WALSH PICTURES: HUGH THRELFALL

Eye contact over the web

Now you can chat face to face, using your Internet connection, to anyone, anywhere with a webcam – without it costing you a penny. We put 11 affordable webcams to the test and tell you which is best

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With the world waking up to the idea of fast Internet access on every desktop, who could blame you for wanting to jump on the video-conferencing bus? Distant relatives are suddenly a lot closer to home when you can see them as they talk and, let's face it, seeing

who you're talking to is more satisfying than using instant messenger programs or the like. And the beauty of video-conferencing calls is that they're free, aside from your Internet connection costs, no matter how far away the person you're talking to is.

Today, webcams are simple plug and play affairs; gone are the days when you needed to physically install a separate video card to get the thing working. Now, with USB technology, you simply plug your webcam into a USB port and off you go.

We've gathered together 11 of the best webcams the market has to offer, with prices ranging from slightly less than £25 up to £100. They fall into two distinct groups, tethered or free to roam, with the latter usually incorporating built-in memory, a status screen and the ability to shoot stills or simple videos when not connected to the PC.

With webcams being the ideal way of keeping in touch with family and friends, we've put each to the test, assessing its looks, performance, image quality and software package to help you make the right choice for putting your face online. >

Creative PC-Cam 300

PRICE £99.99 (£85.10 ex VAT) **CONTACT** Creative 0800 973 069

PROS Has a flash **CONS** Expensive

OVERALL One of the best detachable webcams on test, but its features come at a price

FEATURES ■■■■■ **PERFORMANCE** ■■■■■

VALUE FOR MONEY ■■■■■ **OVERALL** ■■■■■

By far the chunkiest webcam in this test, the PC-Cam 300 is more of a low-grade digital camera with a docking station. This serves only as a means of holding and angling the camera when it's standing on top of your monitor. The camera plugs directly into the PC with a detachable mini-USB cable. A tripod mount point on the underside means you could take more challenging shots.

So why does the camera detach from its docking station? Well, like other Creative cameras it can be used untethered, making it perfect for parties where you might not want to take a more expensive snapper.

The PC-Cam has a top resolution of 1,024 x 768 when used like this, and can shoot video at 640 x 480. The CCD sensor produces far better images than its predecessors. Indoor shots tend to be a little saturated at the blue end of the spectrum, and they don't rival a dedicated stills camera, but for the money they do the job. In stand-

alone mode, it takes four AAA batteries (supplied) and its 8MB of internal memory stores up to 255 images or 75 seconds of video. When tethered it draws its power from the USB port – just as well, as it sucked our batteries dry after just a couple of days' use.

The built-in flash adds value. It's nothing fancy, but it does have a red-eye reduction capability, which can be turned off if necessary. A small LCD around the back displays your settings and how many more pictures you can take. Lone travellers will welcome the addition of a self timer, allowing them to run around the front and be in their own shots.

This is a versatile piece of kit; it does everything you'd expect of a low-end digital camera, is easy to use and comes with simple but effective software for organising your pictures and setting up a website spy cam. It was in contention for an award, but it was pipped at the post by the software-rich D-Link.



D-Link Netqam Dual 350 Plus

PRICE £99.99 (£85.10 ex VAT) **CONTACT** D-Link 020 8731 5550

PROS Lots of software **CONS** Odd looks

OVERALL A good selection of software puts this ahead of the pack

FEATURES ■■■■■ **PERFORMANCE** ■■■■■

VALUE FOR MONEY ■■■■■ **OVERALL** ■■■■■

Fusing web facilities into common or garden digital cameras (or is it the other way around?) seems to be quite popular today. With a Cmos sensor capable of a top resolution of 1,024 x 768, the Netqam looks more like an underwater disposable camera than a webcam. Nevertheless, it is sturdy and comes with a tripod mounting thread to which the small, easily repositioned stand is attached. The stand unfortunately has only a small (around 30 degrees) angle of rotation, though this is in all directions.

Sadly, the camera lacks a flash, but does have a focus ring that gives approximate settings for close-ups and long-range shots. At the front there is what looks like an infra-red sensor, but it is just an LED.

Image quality is reasonable, but nowhere near what you'd get from a proper digital camera, as the snaps are quite grainy.

The camera is powered by two AAA batteries, which lasted less time

than those in the Creative webcam, giving it a much shorter lifespan than we would hope. The Netqam, which connects to the PC via a USB cable, has 8MB of storage capacity.

D-Link has supplied plenty of software to keep you going. Liquid Pics II by Software Dynamics is a simple but fun picture-editing, enhancing and morphing program, while Videosuite has similar functions, but focused on video. It also lets you turn video clips into screensavers. The oddly named Code37 is similar to Digimask, in that it creates a 3D image of a human head using just two photos. Code37 allows you to place this head on characters in games such as Quake III, Counterstrike and the Sims. Extra models are also supplied, as is DirectX 8.0a.

D-Link also supplies Photosuite III SE and Videowave III SE, both from MGI. While these are light versions, they are on the whole easier to use and more powerful than the other software provided.

Logitech Clicksmart 310

PRICE £69.99 (59.57 ex VAT) **CONTACT** Logitech 020 7294 0159

PROS Great value **CONS** Low resolution and internal memory

OVERALL Not the best, but if you're willing to make some sacrifices, this is a fair choice

FEATURES **PERFORMANCE**

VALUE FOR MONEY **OVERALL**

The last of the three detachable webcams here, the Clicksmart 310 may feel like a toy, but it is by far the best value, and great to use. It slots into a large base, but this can't be adjusted up or down, so recording video messages is difficult.

That said, the camera is comfortable to hold and simple to use, its best feature being the LCD status screen on the back. This gives helpful information, including the number of pictures left to be taken (or seconds of video), basic settings and battery life. There is a tripod mounting thread, but sadly no time delay option to rival Creative's offering. This lack of features is to be expected, considering the price.

Logitech has equipped this webcam with a Cmos sensor capable of a 640 x 480 maximum resolution on stills and video (at 30fps – frames per second) when attached to the system by USB. When used standalone, still resolution drops to 352 x 288, and video to a poor 176 x 144. This is much lower than

other untethered cameras, as is the internal memory; 4MB gives you just 160 photos – at minimum resolution, or up to 15 seconds of video. Image quality is reasonable, but slightly grainier than the competition, and colours are occasionally saturated.

The four supplied AAA batteries keep it going for a few days, and the automatic power-off function kicks in within about 30 seconds, which is handy, if a little irritating at times. The blue ring around the lens looks deceptively like a focus ring, but it's not. We liked the viewfinder, which is large and well positioned.

On the software front there's nothing as impressive as Photosuite or Videowave, but there is motion detection software, Netmeeting and Reality Fusion Gamecam SE, which allows you to interact with game characters.

While this is not a professional model, and seems aimed especially at the family and kids markets, you get a lot for less than £70.



Logitech Quickcam Pro 3000

PRICE £79.99 (£68.08 ex VAT) **CONTACT** Logitech 020 7294 0159

PROS Great looking **CONS** Difficult to install

OVERALL Stylish, easy to use, but hard to install and comes with a high price tag

FEATURES **PERFORMANCE**

VALUE FOR MONEY **OVERALL**

If there were prizes for the cutest products, the Quickcam Pro 3000 would win by a mile. Logitech has been making webcams the size and shape of golf balls for years, and they used to perch precariously on triangular rubber stands. This one, though, has a tripod mount point, through which it is attached to a funky semicircular stand. The whole thing looks like a character from kids' TV, with rather menacing wrap-around sun glasses as a lens cover.

A tour around the outside reveals a shutter button, mic, operation indicator and focusing ring. The cable is captive, so you won't be able to wander around, and sticks out inelegantly from the back. At 270cm (9ft) it's one of the longest we've seen, which will be a bonus if you want to set up a through-the-window spy cam on the opposite side of the room.

Image resolution tops out at a rather disappointing 640 x 480 but if all you want to do is send video

emails, video-conference or put pictures on your website this is more than enough. Included software will help you liven up your email, but whether that would be appreciated by your recipients depends on the speed of their connection.

The rest of the software offering is one of the best on show. MGI's Videowave III SE and Photosuite III SE, are more usually included with a graphics card or digital camcorder, so they add considerably to the value of a webcam. Installation of the default Quickcam software involved a bit of head scratching, three error messages and a reboot on our Windows 98 PC but, once running, was simplicity itself.



Image quality is fair. The manual focus ring helps sharpen up distinct edges, and the driver includes adjustment settings for brightness, contrast and saturation, white balance and gain. So, thumbs up for the easy-to-use software and image quality, thumbs down for the installation routine.

Philips Toucam Pro

PRICE £58.99 (£50.20 ex VAT) **CONTACT** Philips 0800 169 8430

PROS Great image quality **CONS** Lens can fall off

OVERALL Great image quality and very good value

FEATURES  **PERFORMANCE** 

VALUE FOR MONEY  **OVERALL** 

This Philips model is a traditional webcam, designed purely for use next to a web-ready system and does not have its own power source. A red light comes on when the camera is plugged in through the USB port, and Windows XP automatically recognises the camera, giving it its own icon in Windows Explorer. The stand is surprisingly sturdy, well balanced and can be manipulated in pretty much any direction you could want.

Image quality is excellent; the 1,280 x 960 top-resolution pictures are fabulous.

When shooting video, the Philips cameras tested here have the fastest frame rate in the group (60fps), but this does not detract from image quality; again, it is superb. Colours are accurate, edges are sharp and there's rarely any sort of blurring during movement. Its automatic settings are also excellent; colour and white balance is adjusted almost instantaneously, as is compensation

for lighting levels. That said, if you are not happy with the result, you can adjust these through the driver settings. The microphone is surprisingly good quality too.

The focus ring feels like a toy, but is very effective. If you're not careful, however, you can twist the lens off, exposing the sensor. This is a concern; it could be irreparably damaged by a wayward child, as dirt can easily slip in and muddy the image.

The software disc included with our camera was not XP compatible, though by the time you read this, all CDs should have been upgraded. The main software packages, a photo and a video-editing suite, come from Ulead. Other programs include Realplayer, Digimarc Mediabridge Reader and Philips Vloung, through which all the software and instant video mailing can be easily set up. Finally, Gamecam lets you guide characters through simple games using your own movements; one for the kids, mainly, but fun nevertheless.



LOOKIN' AT YOU, LOOKIN' AT ME: THE WORLD OF VIDEO-CONFERCING

People don't need identical devices to video-conference, but they do need communication software that conforms to certain standards.

The International Telecommunications Union (ITU) has defined the H.323 and H.324 protocols for that very purpose. If you want to dial a number directly and place a video call, then look for H.324 compatibility, be it on a PC or standalone device. As long as both devices support H.324, you'll be able to dial each other directly, independent of the Internet.

Communicating via the Internet is preferable as you only incur local ISP dialup charges. The downside is that the bandwidth can be variable and often intolerable for video-conferencing. But, then again, a local, or even freecall, rate for an international video-phone call is too tempting to ignore, so how's it done?

For video-conferencing on the Internet, you'll need software that supports the H.323 protocol. A popular choice is Microsoft's Netmeeting, which is supplied with Windows XP as standard, or as a free 1.56MB download from the company's website. If not using Netmeeting, do beware, as some conferencing packages may have difficulty bypassing the integrated firewall under Windows XP; getting around this may take some tricky fiddling.

Netmeeting's interface is a simple, tall thin window, split between video and text frames.



It's possible to place your own video in a separate window or as a minimised picture-in-picture in the corner of the receiving video window. Audio uses a fixed amount of bandwidth, comparable to telephone quality, while the video takes whatever is left.

At the bottom of the main window are four large icons activating program sharing, a chatboard, whiteboard and file transfer. The whiteboard in particular is terrific, firing up a window you can draw on.

Since you're on the Internet, you'll have an IP address, and the easiest way to call someone is by entering their IP address and pressing Dial. It may also be possible to connect using an email address or telephone number. Clicking on About Netmeeting reveals your own IP address, although office network users may need to talk to their MIS departments about security and allocation issues when attempting to establish an external call.

You may get frustrated with the often poor quality of video-conferencing over the Internet, which is mainly due to low bandwidth, but it's cheap, and when it works it's great.

The four buttons at the bottom activate program sharing, a chatboard, whiteboard and file transfer

Philips Webcam Pro 3D

PRICE £76.99 (£65.52 ex VAT) **CONTACT** Philips 0800 169 8430

PROS Text recognition **CONS** Lens can fall off

OVERALL It's hard to fault this well featured, excellent-quality webcam

FEATURES ■■■■■ **PERFORMANCE** ■■■■■

VALUE FOR MONEY ■■■■■ **OVERALL** ■■■■■

Following the more customary webcam route, this model is powered by its USB connection and has the look and feel of a high-quality model. It comes with two stands onto which the camera clips precariously. The first is similar to that of the Toucam Pro, which is adjustable in two directions. The second is the model shown in the photo; it's a far sturdier affair, the webcam clipping onto two metal rods similar to antennae you would find on transistor radios. It can rotate in all three directions, and is well balanced thanks to its metal base.

The microphone is built in just below the lens, which has a rather unsubtle but effective focus ring. Be careful though; one twist too far and the lens itself will drop off.

Image quality is much the same as the Toucam Pro; the best here. With a 1,280 x 960 maximum snapshot resolution, it's not only the highest-resolution webcam here, but it also produces the best images. Colours

are accurate and well adjusted for both daylight and fluorescent lighting. Video resolution can reach up to 640 x 480 at 30fps, and a 60fps rate can be achieved by reducing resolution.

The primary thing that sets this camera apart from the rest of the field is a text recognition function, courtesy of Xerox's Pagecam technology. Once the snapshot is taken, the OCR software recognises what text it can and allows you to cut and paste to anywhere you like. When it comes to plain text, it is pretty effective, picking up nearly every word correctly. It had worse luck when it came to tables and such; only a few words from around a hundred were correctly identified, and some were not even noticed. In fairness, it's not meant to be a text converter.

The best software, besides text recognition, comes from Ulead. Both Photo Explorer 6.0 and Photo Express 2.0 provide pretty much everything you would want to do with a webcam image, and a few more tricks besides.



Sony CMR-PC2 USB

PRICE £89.99 (£76.59 ex VAT) **CONTACT** Sony 08705 424 424

PROS Good looking **CONS** Fiddly

OVERALL Compact, good looking, but difficult to use and image quality is disappointing

FEATURES ■■■■■ **PERFORMANCE** ■■■■■

VALUE FOR MONEY ■■■■■ **OVERALL** ■■■■■

Primarily designed for notebooks, this is miniscule, fitting in the palm of your hand. It's also quite fiddly. As the focus ring is very powerful, adjusting the image sharpness becomes an exact science. It's one of the best-looking models here though, coming in typical Sony grey/silver.

The CMR-PC2 attaches to notebooks using a sturdy clip at the front. The main problem with this is that the clip is too small to fit on to even a flat panel. The USB cable is also too short to fit between a system and monitor, so if you do not own a notebook, this is not an option. Further, because of the way it must be mounted, you can only move it backwards or forwards, so if you want it to look side to side you have to rotate your notebook.

Windows XP does not recognise the webcam automatically. According to XP, the camera has not passed the Windows logo testing procedure and the supplied version of Netmeeting (version 3.1) does not work with XP.

The CCD sensor is capable of a 1,280 x 960 resolution still capture, the highest on test, but produces some pretty average shots. We had to do a lot of fiddling to adjust for time of day and some of the settings were useless, particularly indoors, where the pictures were rather blue.

There are plenty of settings, such as brightness and shutter priority, all of which make stark changes to the image. The automatic setting is quite accurate though, as the colours produced using this were better than anything we could muster through manual settings.

The 640 x 480 video resolution is good quality too. At 30fps, it's not the fastest but fine for webcasting.

Macromedia's Dreamweaver 2 is supplied, which, regardless of its age, is a worthy addition to the software package. However, the all-important serial number needed to install the program was missing from our box.

Sony CMR-PC3 USB

PRICE £69.99 (£59.57 ex VAT) **CONTACT** Sony 08705 424 424

PROS Stylish **CONS** No capture button

OVERALL Although it is small and good looking, it fails at every other turn

FEATURES ■■■■■ **PERFORMANCE** ■■■■■

VALUE FOR MONEY ■■■■■ **OVERALL** ■■■■■

Essentially a downgraded version of the CMR-PC2, the strangest omission on the CMR-PC3 is the Capture button. All functions are therefore performed through the software. This has a very basic layout, but there are enough options to adjust the picture to look however you choose. This is something that becomes very much necessary, as the automatic mode is shoddy to say the least; pictures taken on this setting are often dark and hazy.

The PC3's Cmos sensor musters a 640 x 480 top resolution for both still and video capture, and manages a 25fps rate, which is the lowest produced by the webcams on test this month and is notably jerky. Image quality in general is disappointing; images are both grainy and dull.

The CMR-PC3 comes in Vaio-style purple, showing Sony's hope that the webcam will be used with its own notebooks. Even though it looks

good, the camera's tiny size makes it very fiddly to use; the focus ring on the front is particularly difficult to control. As it is intended for use with notebooks, the cable has been left short. Although this prevents it from becoming tangled, it also means it cannot be used on a desktop system, as the cable would not stretch far enough.

As with the CMR-PC2, the camera is not recognised by XP. However, there is a full set of drivers on the installation disc. The rest of the disc contains a similar bundle as the CMR-PC2, but it lacks Macromedia Dreamweaver 2, the star attraction of the PC2's bundle. Nevertheless, Arcsoft's Camera Suite is a handy picture management and editing suite, and Netmeeting is also supplied.

If you are intent on buying a Sony model, the more expensive PC2 is certainly worth the extra £20, as the PC3 lacks many of its features and much of the software.



Trust Spacecam 300

PRICE £24.99 (£21.27 ex VAT) **CONTACT** Trust www.trust.com

PROS Very affordable **CONS** Difficult installation

OVERALL Great value with reasonable specifications, but its ease of use lets it down

FEATURES ■■■■■ **PERFORMANCE** ■■■■■

VALUE FOR MONEY ■■■■■ **OVERALL** ■■■■■

First things first; this Trust webcam may be the cheapest in the test, and by over £30, but it is clearly the worst looking of the bunch. Closely resembling something from a 1950s sci-fi B-movie, the Spacecam's stance can be adjusted in four directions, and it's reasonably balanced on a sturdy base. The purple focus ring is quite small and is awkward to use, though the USB cable is of a decent length, and there is a headphone and microphone combination supplied.

The Spacecam 300 uses a Cmos sensor that is capable of a top stills resolution of 640 x 480 and 352 x 288 at 30fps for video. Although this is not the lowest resolution we've seen in this group test, it is still fairly meager. That said, considering the price of this camera, these specs are reasonable.

Installation was tricky to say the least, and this is what really lets the Spacecam 300 down. Although Windows XP recognised the camera,

it still required the drivers in order to function properly, but the XP drivers were not supplied on the installation CD. These drivers have only recently uploaded onto the Trust site, and still caused us some trouble.

We tried to find them on Trust's website, but had no end of trouble trying to link to the correct driver. And when we tried the customer service telephone enquiry desk they could only offer us the links we had already tried. Two system crashes and a full swear box later, we got it to work.

Picture quality was surprisingly good for a £25 camera, colouring being its most impressive aspect. Video capture was incredibly blurry, though. The software supplied was particularly disappointing.

We would love to recommend a webcam for under £30, if only for its terrific value. Sadly it is not worth the aggravation involved in its setup. Spending a few extra pennies would be certainly be worth it.

Trust Spacecam 350 Portable

PRICE £39.99 (£34.03 ex VAT) **CONTACT** Trust www.trust.com

PROS Solid build **CONS** Poor images

OVERALL An improvement on the Spacecam 300, but still below the grade

FEATURES ■■■■■ **PERFORMANCE** ■■■■■

VALUE FOR MONEY ■■■■■ **OVERALL** ■■■■■

The Spacecam 350's dated looks are consistent with its performance. Its cheap plastic exterior gives it the feel of a child's toy camera, but it is reasonably sturdy, considering its small size, and is easy to adjust on its spherical pivot.

The 'Portable' part of its name refers to its intended use – with notebooks. Although it works perfectly well with its stand, there is a clip option, but this is too narrow to attach it to flat panels. Conversely, even with the extra rubber padding supplied, it is too big to fit onto most ultra-slim notebooks.

The focus ring is large and easy to adjust, but its thread seems very narrow, and so it takes a lot of twisting to adjust the focus at all. Thankfully, though, unlike some other models, the lens does not come off. The USB cable is comparatively short, but six feet should satisfy most users.

Trust's Cmos sensor is capable of

a disappointing 640 x 480 maximum resolution for stills and just 352 x 288 resolution for video, running at a rate of 30fps. This is not particularly impressive, considering other cheaper offerings have given higher rates and far better image quality. White balance and gain are automated, but the results are quite disappointing.

Setup was reasonably complex because the camera is not recognised by XP, and the driver for this model was as hard to find as Trust's other showing in this group, the Spacecam 300. On Windows 98, things went relatively smoothly.

The bundled software is basic, with barely enough to get you going, but at least offering some video- and picture-editing programs. Sadly, there is nothing special here, with picture quality falling below average and features that are absolutely nothing to write home about, even considering its low price tag. A poor showing from Trust all round.



Videologic Homecam

PRICE £79.99 (£68.08 ex VAT) **CONTACT** Videologic 01923 260 511

PROS Pleasant to use **CONS** Weak image quality

OVERALL A lack of anything remarkable means it's not really worth the price tag

FEATURES ■■■■■ **PERFORMANCE** ■■■■■

VALUE FOR MONEY ■■■■■ **OVERALL** ■■■■■

Resembling far more the typical webcam we all know and love, the Homecam is one of the largest cameras here not to have a separate power source. Its size is no bad thing, though, as it gives plenty of room for a large focus ring. This has easily the best ergonomics of the bunch; not only is it very effective, but the webcam's chunky size also allows for a large and easy-to-use rubber grip. It comes with two attachments; a clip and a stand, both of which are small but sturdy.

Giving a 640 x 480 maximum resolution, the Homecam in no way gives the best-quality images, but they are clear, and the automatic adjustment is reasonable, if not fantastic. Colour was not the best, though, often giving images a grey hue.

This is the only webcam to have a separate channel for audio. Videologic has attached a mini-jack cable alongside the USB connection which plugs into the line-in/mic of your

sound card. This is both good and bad, because it clogs up the line-in and adds to the setup time. It also makes the cable a bit heavy and therefore, despite the stiff stand, it tends to pull the webcam backwards, though only very slightly. Sound pick-up is good, even though it only comes from the tiny microphone holes at the front.

Unfortunately, when we tested the Homecam it was not automatically recognised by Windows XP, neither is there a Windows XP driver on the installation CD. Videologic does say it will release one soon, and in the meantime the Windows 2000 driver also works fine with XP. There's plenty of picture and video-editing software included. Most of it is basic, but does the job perfectly well.

There's nothing really wrong here; image quality is average, but not awful and it's very easy to use, but we couldn't help but feel disappointed with the fairly high price tag.



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MANUFACTURER	CREATIVE	D-LINK	LOGITECH
MODEL	PC-CAM 300	NETQAM DUAL 350 PLUS	CLICKSMART 310
Price inc VAT (ex VAT)	£99.99 (£85.10)	£99.99 (£85.10)	£69.99 (£59.57)
Contact	Creative 0800 973 069	D-Link 020 8731 5550	Logitech 020 7294 0159
Website	www.creative.com	www.d-link.co.uk	www.logitech.com
TAKING PICTURES			
Snapshot resolution	1,024 x 768	1,024 x 768	640 x 480
Viewfinder	✓	✓	✓
Flash	✓	x	x
Snapshot button	✓	✓	✓
Type of sensor	CCD	Cmos	Cmos
Text capture	x	x	x
VIDEO-CONFERENCING			
Video resolution	640 x 480	640 x 480	640 x 480
Microphone	x	x	✓
fps capture rate	30fps	30fps	30fps
SPECS			
Interface	USB	USB	USB
Focus ring	x	✓	x
Cable-free operation	✓	✓	✓
Carrying case	x	✓	x
Stand	✓	✓	✓
Method of securing	Cradle	Screwhole	Slot
Lens cover	x	x	✓
Repositionable	✓	✓	✓
Other software	Ulead Photo Express MCE, Creative Webcam Photo Editor, Oozic player	MGI Photosuite III SE, MGI Videowave III SE Software Dynamics Liquid Pix II, Code37	Quicksync, Netmeeting, Reality Fusion Gamecam SE

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MANUFACTURER	SONY	TRUST	TRUST	VIDEOLOGIC
MODEL	CMR-PC3	SPACECAM 300	SPACECAM 350	HOME CAM
Price	£69.99 (£59.57)	£24.99 (£21.27)	£39.99 (£34.03)	£79.99 (£68.08)
Contact	Sony 08705 424 424	Trust	Trust	Videologic 01923 260 511
Website	www.sony.co.uk	www.trust.com	www.trust.com	www.videologic.co.uk
TAKING PICTURES				
Snapshot resolution	640 x 480	640 x 480	640 x 480	640 x 480
Viewfinder	x	x	x	x
Flash	x	x	x	x
Snapshot button	✓	✓	✓	✓
Type of sensor	Cmos	Cmos	Cmos	CCD
Text capture	x	x	x	x
VIDEO-CONFERENCING				
Video resolution	640 x 480	352 x 288	352 x 288	640 x 480
Microphone	x	External	External	✓
fps capture rate	25fps	30fps	30fps	30fps
SPECS				
Interface	USB	USB	USB	USB
Focus ring	✓	✓	✓	✓
Cable-free operation	x	x	x	x
Carrying case	✓	x	x	x
Stand	x	✓	✓	✓
Method of securing	Clip	Stand	Stand	Clip/stand
Lens cover	✓	x	x	x
Repositionable	✓	✓	✓	✓
Other software	Arcsoft Camera Suite, Microsoft Netmeeting	Ulead Photo Express 3.0 SE, Acer East Express Videomail 2.2	Ulead Photo Explorer 6.0, Netmeeting	Liquid Pics, Ixla Digital camera Suite, Videoworks, Vidcap32



LOGITECH	PHILIPS	PHILIPS	SONY
QUICKCAM PRO 3000	TOUCAM PRO	WEBCAM PRO 3D	CMR-PC2
£79.99 (£68.08)	£58.99 (£50.30)	£76.99 (£65.52)	£89.99 (£76.59)
Logitech 020 7294 0159	Philips 0800 169 8430	Philips 0800 169 8430	Sony 08705 424 424
www.logitech.com	www.philips.co.uk	www.philips.co.uk	www.sony.co.uk
640 x 480	1,280 x 960	1,280 x 960	1,280 x 960
X	X	X	X
X	X	X	X
✓	✓	✓	✓
CCD	CCD	CCD	CCD
X	X	✓	X
640 x 480	640 x 480	640 x 480	640 x 480
✓	✓	✓	X
30fps	60fps	60fps	30fps
USB	USB	USB	USB
✓	✓	✓	✓
X	X	X	X
X	✓	✓	✓
✓	✓	✓	X
Stand	Clip	Clip	Clip
✓	X	X	✓
✓	✓	✓	✓
MGI Photosuite III SE, MGI Videowave III SE	Ulead Photo Express 2.0, Photo Explorer 6.0, Reality Fusion Gamecam	Ulead Photo Express 2.0, Photo Explorer 6.0, Reality Fusion Gamecam, Pagecam	Dreamweaver 2, Arcsoft Camera Suite, Microsoft Netmeeting

HOW WE TESTED

All the webcams we tested come with minimum specifications, but this tends to apply to the software. All of them should work with at least a Pentium processor and 64MB of Ram. Where possible though, the cameras were tested on an Athlon 1800+ system with 512MB of PC2100 DDR SD-Ram and a Geforce3 TI500, running under Windows XP. This was in order to get the best possible results out of the cameras. Where Windows XP drivers were not available, a Windows 98 system was used.

We looked carefully at how easy each camera was to set up, as that alone can make or break a product's success. We also tested whether the camera was automatically recognised by Windows XP, as immediate recognition saves a great deal of time during installation, and integrates the webcam into Windows Explorer. This means that no separate software packages need be opened to operate the camera. Where this option was not available, and unfortunately this was often the case, we evaluated

how easy it was to install the supplied driver. The main problem encountered here was that drivers for Windows XP were only on the web, so all chances for an automatic installation were scuppered. By the time this issue of *PCW* hits the shelves, though, nearly all the companies represented here claim they will have updated their discs to include the XP driver.

While many of the cameras seem heavily weighted towards family use, with software such as Gamecam included in order to keep the kids entertained, we wanted to evaluate them for all-round usage, and therefore tested them with all the video-conferencing, still and video capture and webcam tools that the manufacturers provide. Ease of use, interface and editing options were all tested.

Still images were captured at the highest resolution possible, which ranged from 640 x 480 to 1,280 x 960. Motion video was also captured at the highest possible resolution and frame rate, which more often than not tended to be 640 x 480 at 30



To test the image quality of each camera, we used the default software and settings to capture images in a regularly lit office. We then tweaked the settings to achieve the optimum result. We judged the pictures for clarity, colour balance and contrast

frames per second (fps). Beware, though, as the given frame rate is the maximum it can achieve. It is rare that a camera can muster this frame rate at its maximum resolution; for example, those webcams promising 60fps are unlikely to supply that at their maximum resolution.

Still images were taken first with the camera's unaltered default settings. This was in order to see how they fared straight out of the box. We also used the manual settings to try to obtain the best image possible, as many cameras' automatic modes were not up to scratch.

Editor's Choice

With Internet charges dropping fast, using a webcam to communicate with relatives in the furthest corners of the globe is becoming a better value alternative to normal phone calls. There is also, of course, the added bonus that you can see the person you are talking to, and with video resolutions and frame rates getting higher and higher, the pictures you achieve are moving away from jerky, unrecognisable images towards full-motion video.

The arrival of Windows XP makes the whole process simpler, too. As all webcams these days connect through the USB port, some are instantly recognised and ready to roll, and Microsoft's Net-meeting software has also become standard.

The winners

Most of the webcams, on the whole, were a slight disappointment, as many either had installation problems or produced a low-quality image. Both the Philips models were by far the best quality and were also excellent value. The more expensive of the two, the **Philips Webcam Pro 3D**, is the best here and wins the **Editor's Choice**. At well under £80 it is great value and just pips the other Philips model at the post. These two are the only models without their own power source that we can recommend; the others just didn't make the grade.

The Webcam Pro 3D's appearance deceives; housed in a funny egg-shaped case it looks more like a kids TV character than a computer peripheral. But it is solidly built and colourful, but not too garish.

It comes with two stands. The first is a short tripod, which can be moved forwards, backwards, and from side to side. The second is a much more useful, height-adjustable stand, which gives movement in any direction, and a much sturdier platform from which to natter through the built-in mic.

Philips gave us the highest resolution in the group, offering 1,280 x 960 for stills and 640 x 480 for video, with a 60fps maximum frame rate. Image quality is excellent; clean and sharp, with no saturation or artefacts.

What really impresses is its text recognition facility; which was unique in this test. Although not always perfect, particularly when it came to tables,

the effect is impressive, picking up at least 90 per cent of the text placed in front of it.

Ulead provides the bulk of the remaining software; two photo-management and editing suites. While these are no rival to Photoshop, they still perform their tasks adequately.

At under £60, **Philips' Toucam Pro** was the third cheapest webcam here. We expected low-quality images and a poor software selection, but were pleasantly surprised. The quality of this product earned it a **Highly Commended** award. Not only were the images similar to those of its brother, the Webcam Pro 3D, but it also included plenty of software, automatic installation under Windows XP and a sturdy yet flexible stand.

Its CCD sensor is capable of the same resolution whether shooting stills or video, giving the highest still resolution at 1,280 x 960 and video at 640 x 480. Images are crisp, clear and free from any excessive saturation. The automatic adjust mode is of such a standard that little manual adjusting is needed; something of a rarity in this test.

We must reiterate our concern over the detachable focus rings on both Philips webcams. The sensor can easily be exposed by twisting the focus ring too far. This may provide an interesting lesson in what a CCD looks like, but it's not worth losing an excellent webcam over.

Of the detachable cameras, **D-Link's Netqam Dual 350 Plus** gave the best-value and is **Highly Commended**. Although it looked like a toy, the camera had a Cmos sensor capable of a top resolution of 1,024 x 768 for stills and 640 x 480 for video, running at 30fps. Image quality is decent if a bit weaker than its Creative rival, and slightly grainy.

Its major downfall was the decision to use only two AAA batteries as a power source. This gives it a very short battery life; barely enough to use up the 8MB of internal memory. Its stand was very small and had a limited angle of movement, so positioning yourself in front of the camera might be tricky.

There was plenty of bundled software, the highlights being MGI's Photosuite III SE and Videowave III SE. These packages are simple to use, with logical interfaces and plenty of editing options, and are what ultimately wins this camera its award.



Philips Webcam Pro 3D



Philips Toucam Pro



D-Link Netqam Dual 350 Plus

Price, quality, and the extras make the Webcam Pro a winner