

# Life in widescreen

Your digital camera's lens may not be wide enough to take a panoramic shot, but you can still achieve the same effect with the use of some clever image-editing software

**P**anoramic photos give you a much wider view of the world than you would normally capture; they can show breathtaking vistas that a single shot wouldn't be able to take in. They give you a feeling of being there that you just don't get with ordinary photographs.

However, the angle of view in a panoramic shot is far wider than the lens on a digital camera can encompass. Special film cameras have been designed to rotate during the exposure and record the picture on a cylindrical strip of film within the camera, but that's not possible with digital sensors.

There are other ways to achieve the same thing digitally, though. Digital image-editing software can 'stitch' a sequence of frames together so effectively that you simply can't see the joins. Many perfectly ordinary compact digital cameras can take these panoramic sequences, or stitchers as they're commonly known, and it's then possible to use the stitching software that

comes with the camera or a program such as Photoshop Elements to assemble them. We've provided a Workshop on page 20, but read on first for our tips on framing the individual shots required.

There are some particular requirements for images that are going to be stitched together as a panorama. The most important is that the entire sequence of shots has to be taken from the same position. The next is that they need to overlap by about a quarter or a third. This is so that the software can align each successive frame accurately and blend it with the previous one. The frames in the panorama need to match in terms of colour, exposure, focus and zoom setting, too.

But don't worry too much. Cameras that have a dedicated panoramic mode will take care of all of this automatically. You can also use cameras that have a manual exposure mode to achieve the same effect, but it's not quite as easy.

## Keeping it straight

Even the cleverest camera can't remain straight for the whole sequence of shots. We've all taken shots where the horizon slopes from one side to the other and, while stitching software can accommodate small angles of tilt it may be unable to stitch badly skewed images.

For the best panoramic results, it's best to use a tripod. This will help to keep the camera level but also, if it's the most common type with a 'pan and tilt' head, once the tripod is level, it's possible to rotate the camera on the horizontal 'pan' axis to take the sequence of shots. Check the horizon is level for the first frame but sweep the camera round to check the last frame is level too.

Some tripods have spirit levels which can help to keep the whole sequence on an even keel, but setting them up

## Print options

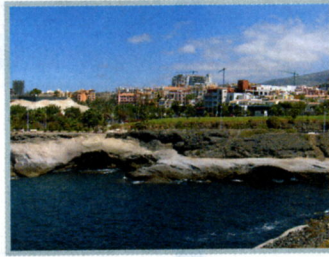
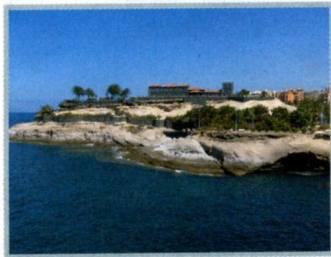
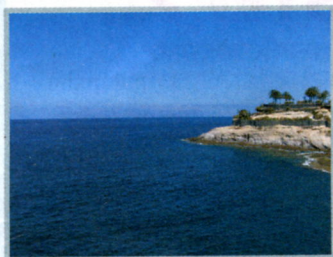
PANORAMIC SHOTS ARE an awkward shape for conventional A4 photographic paper. However, many printers can take panoramic paper that's much longer. The easiest way to find out if a printer can do this is to open the Page Setup or Print dialogue and check the paper size menu. The

Epson RX420, for example, accepts Epson's 210 x 594mm panoramic sheets. These feed in lengthways, so it's important to change the picture orientation in the Page Setup dialogue before you print. These panoramic sheets are twice as long as conventional A4.

The other alternative is to

use a high street or online photo lab. For example, Photobox ([www.photobox.co.uk](http://www.photobox.co.uk)) can produce panoramic prints measuring 12x5in or 20x8in. This costs a little more than printing at home, but means you don't need to buy a big box of panoramic paper that might not be used very often.





can be time-consuming. It's often quicker to resort to a little trial and error and, if the overall skew isn't too bad, worry about straightening the panorama fully later on using the computer.

### Common mistakes

With the camera set to its panoramic mode and securely mounted on a level tripod, there's surely nothing left to go wrong, is there? Usually, no, but there are a few problems that can upset the applet. Rather annoyingly, cars, seagulls and other moving objects tend to keep on moving. Objects that change position within the frame between shots can cause problems for the stitching software if they're in an overlapping region.

Changing light can ruin the sequence too. If the sun's out for the start of the sequence but goes behind a cloud halfway through, there's going to be an awkward and abrupt change of tones midway through the finished panorama. If this happens there's nothing for it but to start again.

Perhaps the biggest difficulties, though, are caused by objects close to the camera. It's impossible to avoid small 'parallax shifts' between frames without expensive and cumbersome panoramic tripod heads. A lamp post, for example, might be in one position relative to the background in one frame, but in a slightly different position in the next.

The most effective way round this is to change the

composition, avoiding arrangements where objects are near the camera. Alternatively, it may be possible to arrange the sequence so the object falls in the centre of one of the frames and not in an overlapping area.

It's also tempting to try to take in super-wide panoramas many frames wide, but the novelty soon wears off and this extended 'letterbox' format isn't very appealing. The ideal panoramic proportions in most cases are just a little wider than the 16:9 aspect ratio of widescreen TVs. This requires only three or four frames.

### Panorama walkthrough

Once the sequence of shots is transferred to the PC, the stitching software takes over. There are many different stitching programs on the market, and most cameras that have panoramic modes will come with a program for assembling them. These can work very well indeed.

Third-party programs, such as RealViz Stitcher, offer more advanced tools and may yield better results. But it may not be necessary to buy a separate program. Adobe's Photoshop Elements is one of the best-selling image-editing applications, and it has a panorama-creation tool called Photomerge built in. Take a look at our mini-Workshop on page 20 to see how this is done

### Common problems and fixing them

Once the panorama has been successfully stitched, it can be examined for any problems. Usually, the

▲ Four separate frames are combined to create a panoramic view



stitching's been done so well that it's impossible to spot where the frames have been joined. Sometimes, though, there may be a couple of rough edges that need sorting out.

And they can, literally, be rough edges. These occur because of the small rotations and shifts the software has to apply to individual frames to get them to match up. Many programs will cut off these rough edges by automatically cropping the panorama when it's completed. If not, though, it's something that has to be done manually.

At the same time it may be necessary to straighten the panorama out. Even with a tripod it can be difficult to get the whole sequence of shots straight and, rather than spend ages trying to fix this on the spot, it's quicker to use the straightening tool in an image-editor when the job's finished.

It may be possible to see a change in tone, mostly in skies, where one frame's been joined with another. This happens sometimes with the Photomerge panorama tool in Photoshop Elements. It can be a little difficult to fix, but it may be possible to disguise it by selecting that region of the sky and blurring it with the Gaussian Blur filter set to a high value (the maximum is 250 pixels).

The most common problem is where objects don't line up perfectly in overlapping areas and produce a kind of ghosting effect where there's not one instance of the object but a second, fainter one nearby. The answer is a little experimentation with the cloning tool to try to cover up the ghost. The fact is that while you might know it's there, anybody else looking at the picture will probably overlook little flaws like this completely.

### Picture this

We've drawn attention to quite a few technicalities and potential pitfalls, but the fact is that panoramic photography is very simple. The hardest part is picking subjects that are going to benefit from this kind of treatment, but that only comes from practice and experience.

Although we recommend using a tripod for panoramic shots, it's not that difficult to take them using a hand-held. Again, it just takes practice. The examples you see on these pages were all taken without a tripod.

So check your camera, find out if it has a panoramic mode and, if it has, get out there and get shooting. We promise you'll be amazed by the results, and you may get bitten by the panoramic bug.

Rod Lawton

## Camera modes

WE'VE MENTIONED THE panoramic modes offered by many digital compacts, but how do they work? Different models offer slight variations, but the principle's the same.

The first step is usually to identify the direction of the panorama – left to right or right to left. The camera is now ready to shoot the first frame in the sequence to be shot. This is just like taking a normal photograph, but now locks the white balance, exposure, zoom setting and focus.

For the next shot in the sequence, the camera displays an overlay of the last third or quarter (it depends on the camera) on the screen. This makes it easy to line up the next shot precisely. You keep doing this until you have enough frames to make the panorama.

The camera will save these panoramic frames using different filenames to standard shots to make it easier to identify them later for loading into the editing software.

## Mini Workshop

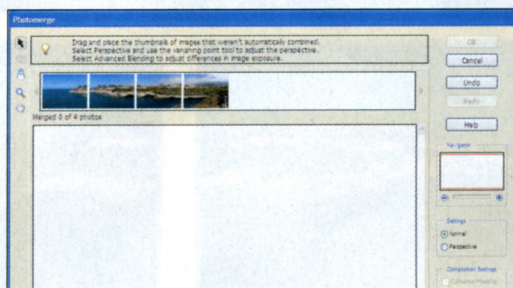
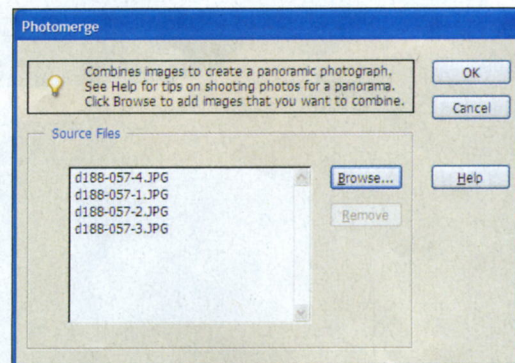
### STITCH PHOTOS TOGETHER

# Make panoramic pictures

We show you how to use Photoshop Elements to stitch photos together to create a panoramic shot

## STEP 1...

**THE FIRST STEP** IN Photoshop Elements is to open the File menu and choose New, then Photomerge Panorama. The program then asks for the location of the individual panorama frames and loads them.

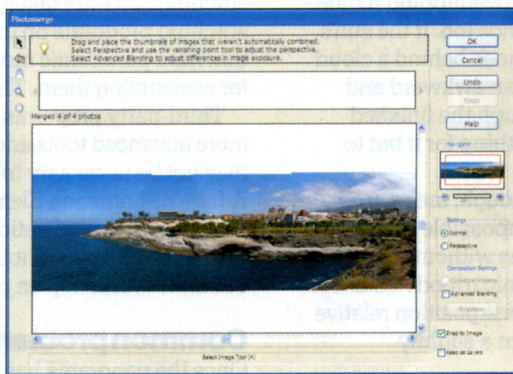
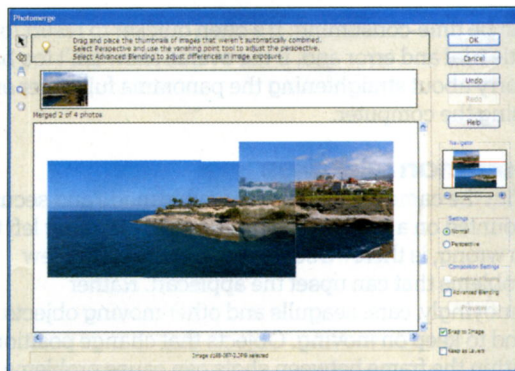


## STEP 2...

**THE PHOTOS ARE AUTOMATICALLY** put in the correct order and merged in the main window. Here, though, we've moved them back into the filmstrip at the top to demonstrate how it works manually.

## STEP 3...

**WORKING FROM LEFT TO** right, images are added in the main window. Like other panorama programs, Elements will snap each photo into correct alignment when it's dragged over the one before.



## STEP 4...

**AS LONG AS THE** panorama has been shot correctly, the images should all snap into position perfectly, just as they have here. When the OK button is pressed, the finished panorama is created. **ENDS**