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# The Amateur Photographer Masterclass with Tom Mackie

# Panoramas

**Tom Mackie** shows three readers how to shoot and stitch fantastic panoramic images in the Yorkshire Dales. **Gemma Padley** joined them

**WHEN** photographing the landscape, it can be tricky fitting everything into the frame. Even using your widest focal length there are situations in which it is impossible to capture the scale of a place in a single shot. As frustrating as this can be, there is a solution: to shoot a sequence of frames and stitch them together in Photoshop to create a panoramic image. In this month's *Masterclass*, Tom Mackie and three AP readers trek to the

Yorkshire Dales to try their hand at shooting and stitching panoramic images.

Tom met the readers the night before and discussed the plan for the following day over dinner. 'Depending on the weather, we'll attempt a dawn panorama over the village of Askrigg and then visit Aysgarth Falls in Wensleydale, North Yorkshire, and photograph the Upper, Middle and Lower Falls,' says Tom. 'We'll then drive to West

**The sweeping landscape of Aysgarth Falls provided the ideal location for shooting panoramics**

Burton Falls, a short distance away, and finally, if we have time, travel to Hardraw Force, England's largest single drop waterfall, which is great for vertical panoramas.'

The following morning, as the rain lashed down, a dawn shoot was out of the question, but the readers, huddled under umbrellas and undeterred, set out to capture some of North Yorkshire's most majestic waterfalls.

They had brought their own cameras, lenses, tripods and cable releases with them, and Tom was on hand to help them set up their tripods and cameras, and share his in-depth knowledge throughout the day. 'While you don't need a tripod with an expensive panoramic head to create sweeping panoramas, a good-quality tripod, preferably with a ball head and spirit level on the tripod neck, is useful,' says Tom. 'You may want to use an ND grad filter, but avoid using a polariser when shooting the sky as the polarisation will vary. You could use a polariser for the waterfalls [if there's not much sky in the frame] to reduce the shutter speed and blur the water. This will also reduce the glare on the water. Try using a 2-3sec exposure and see if you can create interesting swirls and patterns using the foam on the surface of the water. Think creatively and try to previsualise your shots.'

Tom advised the readers to use manual focus as they rotated the camera across the scene. One approach is to manually focus on a point in the middle distance, making sure there is enough depth of field.

The readers shot horizontal and vertical panoramas (where they used the camera in portrait format) in each of the locations. 'I'll typically shoot five to seven frames for a 6x17cm image,' says Tom, 'although how many pictures you shoot is up to you.'



Your AP Master...  
**Tom Mackie**



A former contributor to AP's *Photo Insight* series, Tom Mackie, is one of the world's leading photographers. He has spent many years as an architectural, industrial and landscape photographer and has a penchant for panoramic photography. Tom has published several books and written numerous articles for photography magazines. He also lectures on photography and regularly holds workshops in the UK and abroad.

[www.tommackie.com](http://www.tommackie.com).

**Kim Benson**



Kim, 48, lives in Oxfordshire and works in medical publishing. While she likes to photograph most subjects, Kim especially enjoys detail shots of flowers and abstracts. Kim uses a Canon EOS 400D with an 18-250mm and 500mm mirror lens. 'I had a great time today,' says Kim. 'It was an enjoyable, enlightening experience.'

**Lee Miles**



Lee, 39, is a software developer and lives in Kent. He likes landscape and street photography and uses a Nikon D70 with 18-70mm and 70-300mm lenses. 'I really enjoyed the *Masterclass*,' says Lee. 'It was a great opportunity to hear sound advice from Tom.'

**Norman Robertson**



Norman, 64, is a member of Leeds Photographic Society and lives in Leeds. Now retired, his main interests are landscape and wildlife photography, as well as some sports and action photography. He uses a Canon EOS 5D Mark II with 17-40mm, 24-105mm and 100-400mm optics. 'The lessons from Tom about setting up the camera and tripod, and how to stitch the frames together afterwards, were invaluable,' says Norman. 'I had a really good time.'

**'As you are framing your shot, keep colours in mind and think about how you can balance different colours in the frame'**



**SHOOTING** panoramic images requires a little thought to achieve striking compositions. While you could, in theory, make any scene into a panoramic, to produce an image that is engaging to look at you need to look and 'see' in a panoramic format as you are composing your image. Most important is that there are interesting elements to keep the eye hooked from left to right. Decide a beginning and end point for your panorama, and think about the balance of subjects between these two points. Look for elements that complement and support your main subject. You could place your subject on a third, but be careful not to include all the interesting material at one end – you want to compose your shot to retain the viewer's attention across the whole image and ensure the eye glides seamlessly from one side to the other.

'Think about how you can use foliage and

**Above: Norman captures this dawn view over Wharfedale in the Yorkshire Dales**

**Right: Lee converts his image of the Ribbleshead Viaduct to black & white, adding impact to the scene**

**Below: Rotating her camera vertically, Kim captures the drama of Aysgarth Falls**



bracken to frame your shot,' says Tom, 'and omit anything that doesn't enhance the main subject or that is obviously distracting to the eye. As you're framing your shot, keep colour in mind and think about how you can balance different colours in the frame. Remember that you are composing for a 6x17cm frame and this requires a different compositional mindset. You may find it helpful to have a 6x17cm viewfinder



KIM BENSON



NORMAN ROBERTSON



LEE MITLES

card when looking at the scene to help you envisage your final composition.'

### SETTING UP THE TRIPOD AND CAMERA

Before you start shooting, it is vital to set up the camera and tripod carefully otherwise you will run into difficulty at the stitching stage. First, you need to make sure your tripod is level and that your camera is level on the tripod. A tripod with a built-in spirit level is useful, as is a spirit level attached to the camera's hotshoe. Once your camera is set up and levelled, rotate the camera across the scene to make sure everything is positioned where you want it in the frame. When you come to take your sequence of shots, keep the camera level as you rotate it. 'The tripod head you use is important in keeping the movement smooth,' says Tom. 'A tripod with a pan-and-tilt head is ideal, but a ball-and-socket tripod will work fine, too.'

### SHOOTING

Once the readers had set up their cameras

and tripods, they were ready to start shooting. Tom suggested they overlap each frame by a third to ensure sufficient overlap and shoot more frames than they needed. The readers tried shooting with their cameras horizontal and vertical. While horizontal panoramics can look effective, they allow less room to develop the composition from top to bottom and the final panoramic will be long and thin. Positioning the camera vertically on the tripod and taking a series of shots will instead give you a composition with more height, although you will most likely need to take more frames if you use this approach.

### NODAL POINT AND PARALLAX ERROR

When panning the camera to shoot a series of frames, parallax error can sometimes occur. This is due to the shifting relationship between near and distant elements in the scene. One way to avoid this is to choose scenes with no foreground detail, but if you do have foreground detail in your shot you can solve the problem by rotating the



## Stitching the images together

**AFTER** an intensive morning's shoot, Tom and the readers headed to a nearby pub to have a go at stitching their images together. There are various programs available to do this, but Photoshop's Photomerge (on Photoshop CS3 or CS4) is perfectly suitable. If you have taken care at the shooting stage you should find the images will merge seamlessly, although you may need to make small adjustments to the edges.

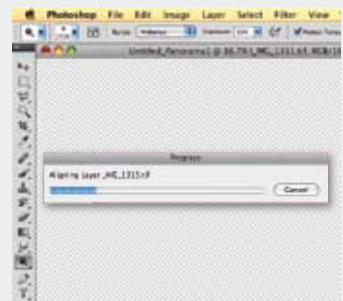
**1** In Photoshop, select the images you want to use for your sequence and click on File>Automate>Photomerge.



**2** Decide which layout style you want to use – Auto is usually fine – and select your files by clicking on the Browse tab.



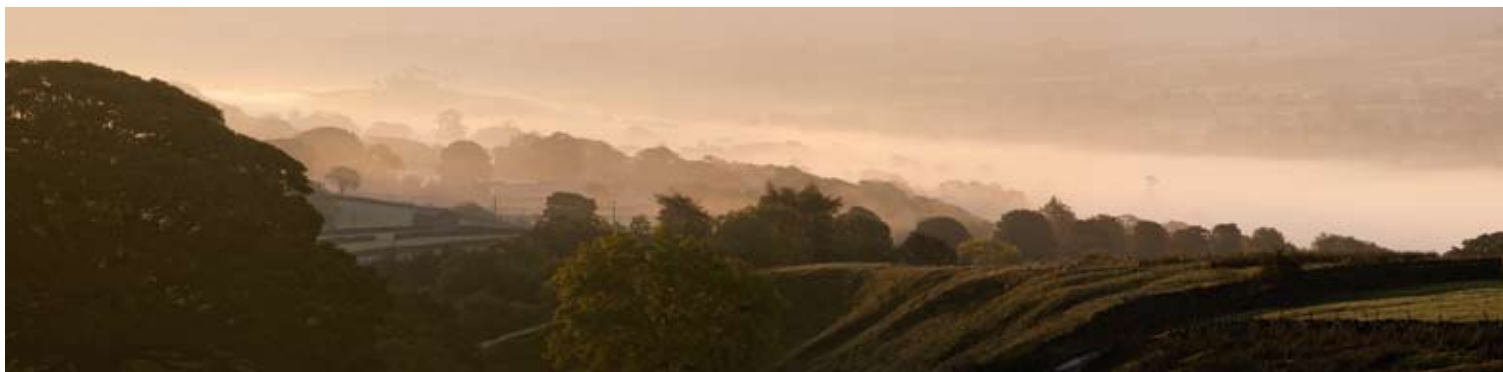
**3** When the files appear in the Photomerge dialogue box, click 'OK' and Photomerge will blend the images together.



**4** Once the files have been merged together you will need to crop your stitched image to tidy up the edges.



**5** After cropping your image, save it and click on Layers>Flatten image. Remove any imperfections using the Clone tool and make any other adjustments until you are happy with the final image.



NORMAN ROBERTSON

camera around its optical centre or 'nodal point'. A detachable bracket called a nodal slide that fixes to your tripod allows you to position the camera in relation to the tripod head so it rotates from its optical centre.

## EXPOSURE

One of the biggest considerations when shooting panoramic landscapes is how to make sure your exposure is the same from frame to frame. It's not a good idea to use autoexposure, as the darker and lighter areas of the scene will affect the exposure as

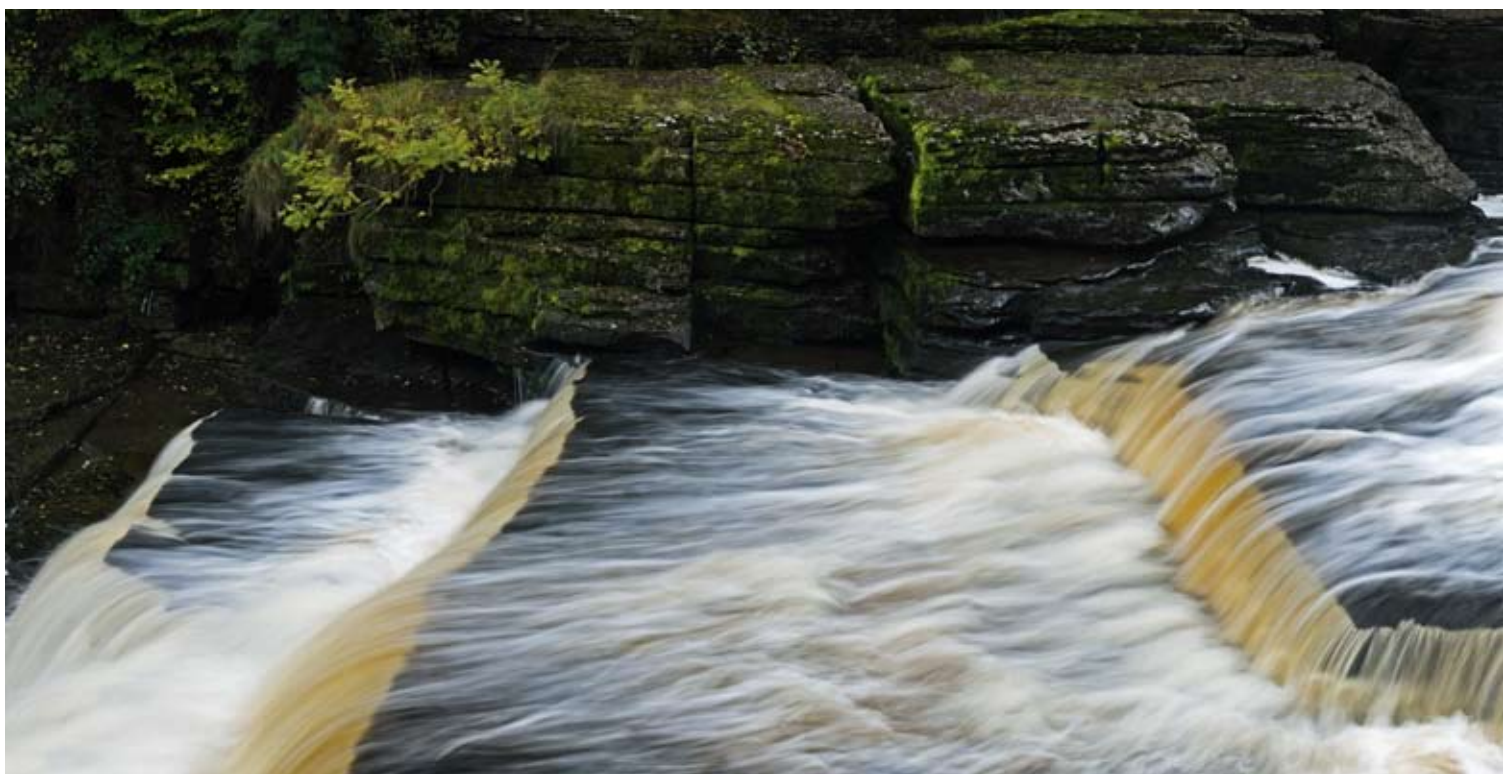
**Above: Norman uses a slow shutter speed to record the motion in the water at West Burton Falls**

**Below: Including a figure in the scene can help to create a sense of scale in your panorama**

you rotate the camera. When you come to stitch the images together, the join between individual frames will be visible and you'll need to make adjustments, which can be time consuming and fiddly. Tom suggested exposing for the waterfall to ensure the highlights aren't lost. You can then either dial in the reading manually or work in aperture priority mode and use exposure compensation. Alternatively, you could meter for an average part of the scene and use this as your exposure for each frame. An easy way to ensure that your exposure is even is to expose for an area that is neither the darkest

nor the lightest part of the scene, switch to manual mode and dial in this exposure.

Once you are happy with the exposure, take a series of test shots across the scene to check that the exposure is consistent and use this for each frame. 'Photographing in bright overcast light is ideal to give an even exposure,' says Tom. 'You don't want to shoot in bright sunshine as the light will be too contrasty and wreak havoc with your metering. Dialling in your exposure manually is particularly useful if you are photographing a sweeping dawn shot where areas around the sun are much lighter and cause variance





LEE MILES

in the scene. When photographing waterfalls you want just enough water to create a swill,' he adds. 'If you have a huge deluge, the white areas will burn out.'

Tom suggested using cloudy white balance to get an idea of how the image will look and to shoot in raw to allow maximum control over the file during the editing process. 'One thing to bear in mind when you're shooting panoramics is moving clouds or people moving through the scene,' says Tom. 'You may need to retouch your image afterwards to clone out any duplicated objects.'

#### LENS AND FOCAL LENGTH

Tom suggested the readers use a standard or telephoto lens, and explained why these lenses are more effective for panoramic images than a wideangle lens. 'If you use a wideangle lens you will get what's known as a "bow-tie" effect in your final stitched image,' says Tom. 'This is caused by the distortion that

occurs with wideangle lenses. If you choose your focal length carefully and avoid using the widest focal length of your lens, the bow-tie effect should be reduced. I find 50-70mm the best focal length to use.'

#### BLACK & WHITE

Although the readers concentrated on shooting in colour, Tom suggested they might like to try a few shots and convert their image to black & white afterwards. Scenes that would work well include those with obvious shapes and patterns. After the *Masterclass* Lee stayed for an extra day and photographed the Ribbleshead Viaduct in the Yorkshire Dales National Park, which lends itself perfectly to a panoramic approach (see pages 22-23). The arches look especially dramatic in black & white as they cut through the rolling landscape. In this shot, industry is juxtaposed with nature and this creates an interesting tension. **AP**

**Lee stayed in Askrigg for a couple of days after the Masterclass and was lucky enough to capture this superb sunrise**



KIM BRADON

**'You don't want to shoot in bright sunshine as the light will wreak havoc with your metering'**



## TOP TIPS

**1** Make sure your tripod and camera are level before shooting. This will enable you to rotate the camera smoothly across the scene. After you have levelled your tripod, mount your camera and use a hotshoe-mounted spirit level to check that the camera is level.

**2** Decide where your panoramic will start and finish, and pan across the scene, roughly planning your overlaps and the number of frames.

**3** To calculate your exposure, take a reading from an average part of the scene and, switching to manual mode, dial in the exposure. Use this for each frame you shoot, but watch out for changing light.

**4** Focus manually and start taking your shots. Move the camera to the right, making sure you overlap each frame by approximately a third. Continue this process until you have the desired number of frames.



## Would you like to take part?

**EVERY** month we invite three to five AP readers to join one of our experts on an assignment over the course of a day. The experts are **Tom Mackie** and **Lee Frost** (landscapes), **Brett Harkness** (portraits), **Paul Hobson** (wildlife) and **Clive Nichols** (gardens). This is the penultimate *Masterclass* this year. Clive will appear in December and the series will return in 2011.

If you would like to take part, visit [www.amateurphotographer.co.uk/masterclass](http://www.amateurphotographer.co.uk/masterclass) for details of how to apply. Please remember to state which *Masterclass* you would like to attend and make sure you include your name, address, email address and daytime telephone number in your application. Each participant will be able to use his or her own camera, lenses and other equipment.