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# WPhoto

Issue 80 • January 2018  
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# Reach for the stars

Pro astrophotography tips for capturing the Milky Way



“Out of the corner of my eye I saw a pair of foxes. I couldn't believe my eyes. It was a lucky shot  
Stephen Dalton, *nature* photographer **p90**”



**Building blocks**  
Get amazing shots of modern architecture **p64**



**Wild Britain**  
Britain's best Nikon wildlife images **p8**



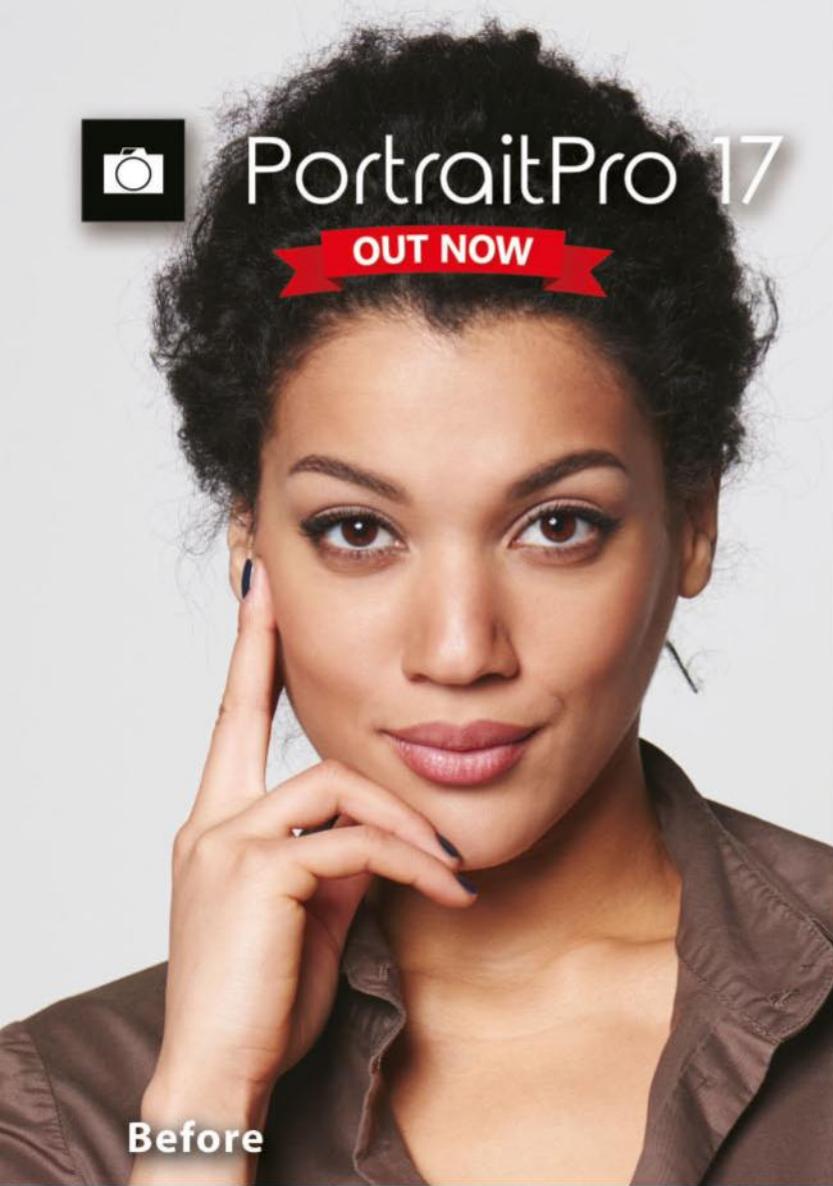
**Hello stranger**  
How to shoot 100 people you've only just met **p62**

Future



# PortraitPro 17

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Need a last-minute Christmas gift? Subscribe to *N-Photo* from just £12! See page 30



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Subscribe today to *N-Photo* and other great magazines at a special price in our Christmas subscriptions promotion! Turn to p30 for details...



Image: Stephen Dalton

Veteran nature photographer and high-speed flash pioneer Stephen Dalton speaks about his latest project See page 90

## Welcome to issue 80



The nights are drawing in, the temperature is plummeting, it's time to wrap up warm under the duvet with a nice cup of cocoa, right? We're having none of it! See page 18 for why this is the perfect time of year to grab your camera and your coat, and head into the great outdoors in our winter landscapes feature.

Speaking of dark and chilly, this issue's Apprentice shoot went well into the wee hours, as pro Ollie Taylor offers a masterclass in shooting the Milky Way (p52), and we show you how to capture a landscape lit only by the light of the moon (p44).

With the New Year just around the corner, many of us are thinking about upgrading our kit, so we've looked at the most sensible upgrade options and ask which new Nikon is right for you (p112). But if you can't stretch to a D850, you could win one in our *N-Photo* Photographer of the Year contest (see below).

*Adam*

Adam Waring, Editor  
[adam.waring@futurenet.com](mailto:adam.waring@futurenet.com)

WORTH £3500!

## WIN A NIKON D850 IN OUR N-PHOTO PHOTOGRAPHER OF THE YEAR CONTEST!



We're proud to announce our latest – and indeed greatest – *N-Photo* Photographer of the Year contest! We will run 12 themed photo competitions throughout 2018, with great prizes each month – full details to be

revealed next issue! Plus at the end of the year one reader will be crowned *N-Photo* Photographer of the Year 2018 and win a Nikon D850! The first themed competition is 'winter' – turn to page 70 for full details.

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Stephen Dalton records the biodiversity of his amazing private woodland in Sussex

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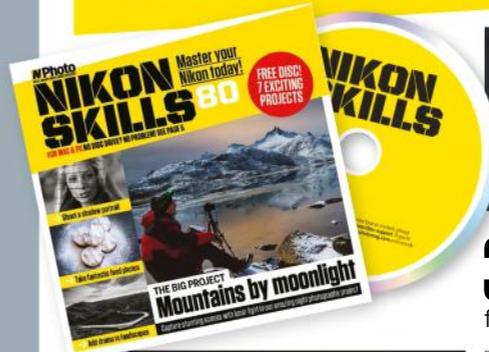


# NPhoto

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# NIKON SKILLS

Nikon School



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WATCH THE VIDEO



Whenever you see this logo, tap on it to watch the video

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TURN TO PAGE 6 TO MEET THE TEAM

## N-Photo

### This issue's special contributors...



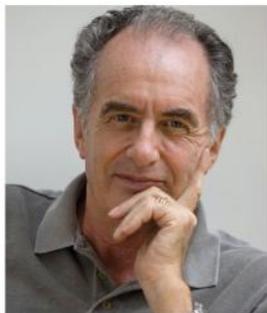
**Chris Rutter**  
**PAGE 18**

Chris braves the worst the winter weather can throw at him to shoot some unforgettable low-light and dawn images



**Sean Goodhart**  
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Sean shares his portfolio of images focused on the worldwide works of modern architect Santiago Calatrava



**Michael Freeman**  
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This issue, Michael's Creative Paths shows how to simplify a complex composition by splitting it into distinct elements



**Mark Seymour**  
**PAGE 89**

The award-winning wedding photographer explains his stand-out, B&W documentary style for creating that timeless look



**Stephen Dalton**  
**PAGE 90**

The pioneering nature photographer documents the biodiversity of his private, nine-acre woodlands in Sussex



**Joe McNally**  
**PAGE 130**

Joe lights up an entire street scene in Tarrytown, New York state, with a bunch of Speedlights – all 32 of them

## The N-Photo team's Christmas wish list



**Adam Waring**  
**Editor**

I don't want a big present this year – just an expensive one. A Nikon D850 tucked into the bottom of my Christmas stocking would do nicely..."  
adam.waring@futurenet.com



**Jason Parnell-Brookes**  
**Staff Writer**

After visiting Joe McNally's London workshop, I'd love to get a pair of SB-5000 Speedlights and a WR-R10 trigger for some flashgun magic.  
jason.parnell-brookes@futurenet.com



**Ben Andrews**  
**Lab Manager**

I'd like to see Santa mount a KeyMission 360 on his sleigh. Who doesn't want reindeer dashing and prancing all over the world in fully interactive VR?  
ben.andrews@futurenet.com



**Rod Lawton**  
**Head of Testing**

All I want for Christmas is snow! It's been so long since I got to photograph some nice snowy scenes that I may have forgotten how to do it.  
rod.lawton@futurenet.com

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#### Editorial

Editor **Adam Waring**  
mail@nphotomag.com 01225 687710  
Group Senior Art Editor **Rebecca Shaw**  
Staff Writer **Jason Parnell-Brookes**  
Production Editor **Vaughn Entwistle**  
Group Editor-in-Chief **Chris George**  
Art Studio Designer **Laurie Newman**

#### Photography

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#### Advertising

Media packs are available on request  
Advertising Manager **Sasha McGregor**  
sasha.mcgregor@futurenet.com 01225 687675  
Account Director **Matt Bailey**  
matt.bailey@futurenet.com 01225 687511  
Commercial Director **Clare Dove**  
clare.dove@futurenet.com

#### International

N-Photo is available for licensing. Contact the International department to discuss partnership opportunities  
International Licensing Director **Matt Ellis**  
matt.ellis@futurenet.com

#### Subscriptions

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Head of subscriptions **Sharon Todd**

#### Circulation

Head of Newstrade **Tim Mathers**

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Advertising Production Manager **Joanne Crosby**  
Digital Editions Controller **Jason Hudson**  
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Art & Design Director **Ross Andrews**  
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Commercial Finance Director **Dan Jotcham**

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# LIGHTBOX

Top Nikon images from the British Wildlife Photography Awards 2017 competition

## ANIMAL BEHAVIOUR – CATEGORY WINNER

### Crepuscular Contentment

Andrew Parkinson, Derbyshire, UK



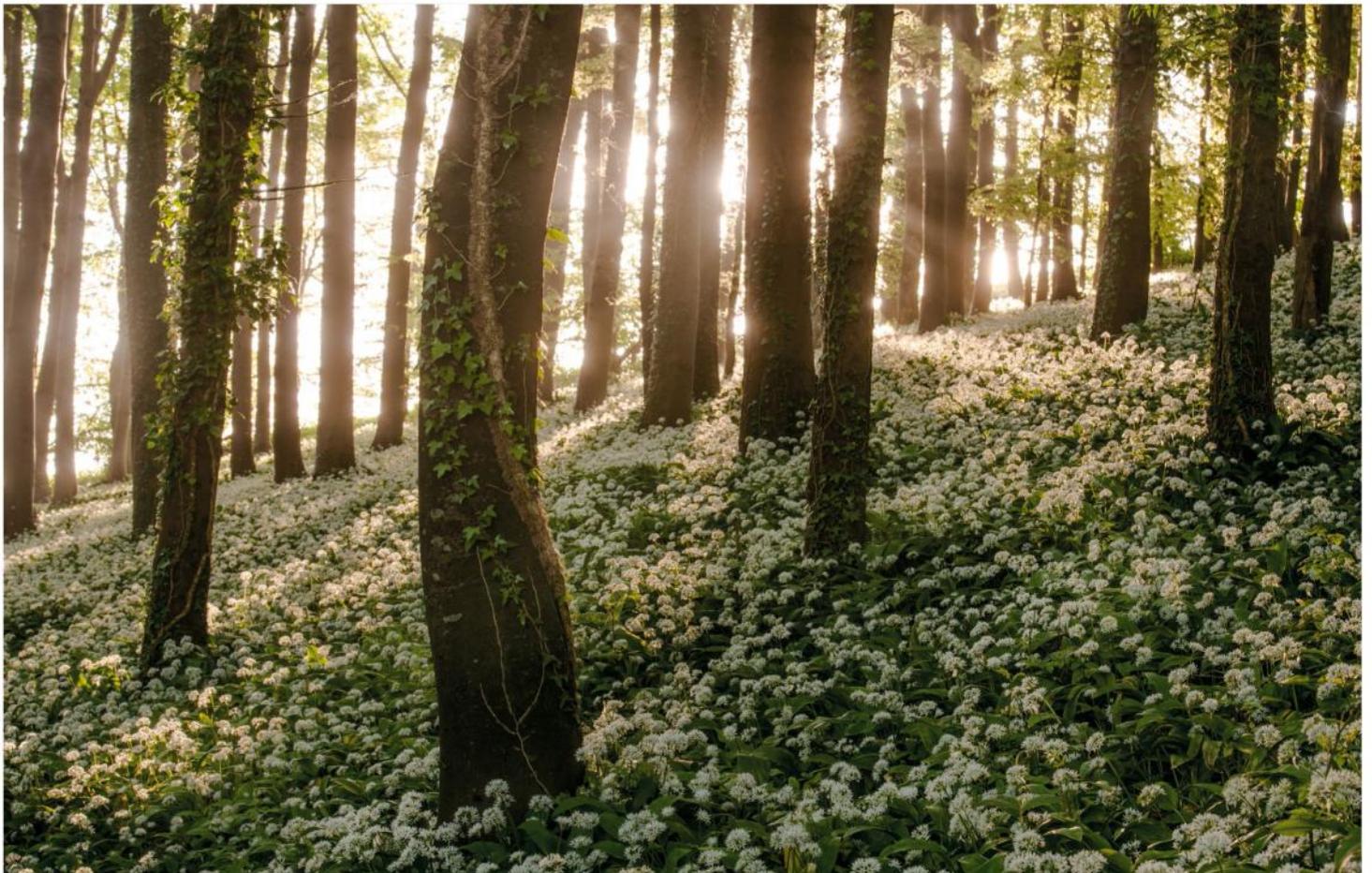
In 15 years of working with badgers I've never seen a badger sit out in the open to have a scratch. I was sitting concealed behind a tree and downwind, so it was especially nice that the badger had his back to me, demonstrating just how inconspicuous my presence was.

Nikon D4S, 200-400mm f/4,  
1/200 sec, f/4, ISO1600





Luke Wilkinson / British Wildlife Photography Awards



Robin Goodlad / British Wildlife Photography Awards

**WILD WOODS – HIGHLY COMMENDED****Ethereal Dawn in the Wild Garlic Wood****Robin Goodlad, Dorchester, Dorset, UK**

← For a month each year, this Dorset woodland is covered with a carpet of wild garlic. I was about to head home, but was still captivated by what I saw. Convention tells you not to shoot into the sun, but I was drawn by the ethereal quality of the backlight and the uncertainty of what lay beyond the woods. A truly magical moment.

Nikon D800, 70-200mm f/2.8,  
1/3 sec, f/16, ISO100

**ANIMAL PORTRAITS – HIGHLY COMMENDED****Peeking Red Fox Cub****Luke Wilkinson, London, UK**

↶ Having located an active den I decided to spend as much time as possible trying to photograph the fox cubs. After several visits the cubs and vixen were becoming comfortable with my presence. One morning this tiny cub started emerging from the den, poking its head up to check that the area was safe before heading out into the big wide world.

Nikon D4, 500mm f/4, 1.4x teleconverter,  
1/640 sec, f/6.3, ISO2500

**BLACK & WHITE – HIGHLY COMMENDED****Grumpy Mountain Hare****David Walker, Scottish Highlands, UK**

↑ I spent a cold afternoon in the company of this mountain hare and, for much of the time, we both had to endure blizzards. The mountain hare had a snow hole and a thick coat to protect itself from the harsh winter conditions, while I had to grin and bear it. Despite this, it was the mountain hare that looked grumpy, while I had a big smile on my face!

Nikon D3S, 70-200mm f/2.8,  
1/400 sec, f/16, ISO1000



**ANIMAL PORTRAITS –  
HIGHLY COMMENDED**

**Hello, I'm New Here**

**John Moncrieff, Shetland Islands, UK**



This grey seal pup was photographed at a small and remote colony I visit each year. The pups are born from late October to December, and remain on the beach until they moult and head to the sea. This particular colony is very exposed, and several will die in storms each year.

Nikon D800E, 200-500mm f/5.6,  
1/320 sec, f/8, ISO2500





**CLOSE TO NATURE –  
HIGHLY COMMENDED**

**Wing Tips**

Ross Hoddinott, Broxwater, Cornwall, UK

← I'm always looking to capture less conventional close-ups – maybe through creative lighting, use of depth of field or my choice of focus. With this image, I wanted to place the emphasis on the delicacy and design of the damselfly's wings, so carefully placed my focus on the wing tips. This type of shot is very Marmite – you'll either love it or hate it!

Nikon D810, 200mm f/4 macro,  
1/200 sec, f/8, ISO800

**COAST & MARINE –  
HIGHLY COMMENDED**

**Amphipod on Dead Man's Fingers**

Terry Griffiths, Loch Carron,  
Wester Ross, UK

↙ These amphipods are about 8-10mm in size and I spotted this one trying to hide behind a polyp on an orange dead man's fingers. The photograph was taken underwater at a depth of approximately 15m with a Nauticam underwater housing and two strobes.

Nikon D500, 105mm f/2.8 macro,  
1/100 sec, f/20, ISO200

**URBAN WILDLIFE –  
HIGHLY COMMENDED**

**Pigeon on the Streets**

Toby Pickard, Bristol, UK

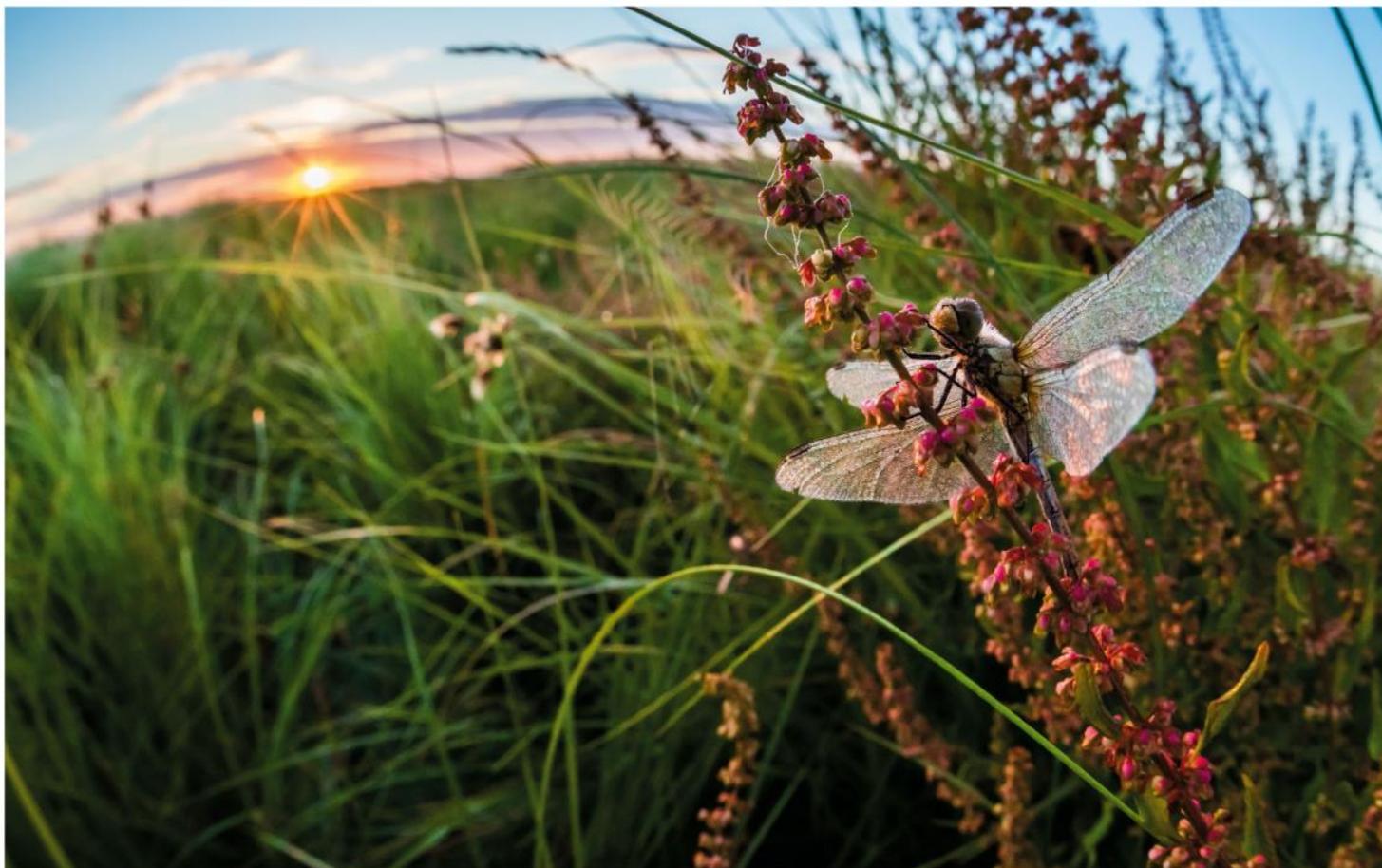
↓ Brandon Hill Park, in central Bristol, is a hive of activity when it comes to wildlife. The squirrels are fearless and the pigeons are cocky – and it was this behaviour that I wanted to portray in an image. Using a wide-angle lens, off-camera flash and a graffiti-covered garage as a backdrop, I took a photograph that encapsulated the boisterous nature of the local pigeons.

Nikon D600, 24-85mm f/3.5-4.5,  
1/80 sec, f/8, ISO200



Toby Pickard / British Wildlife Photography Awards

Robert Canis / British Wildlife Photography Awards



**HIDDEN BRITAIN – HIGHLY COMMENDED**  
**Roosting Ruddy Darter**  
 Robert Canis, Isle of Sheppey, Kent, UK

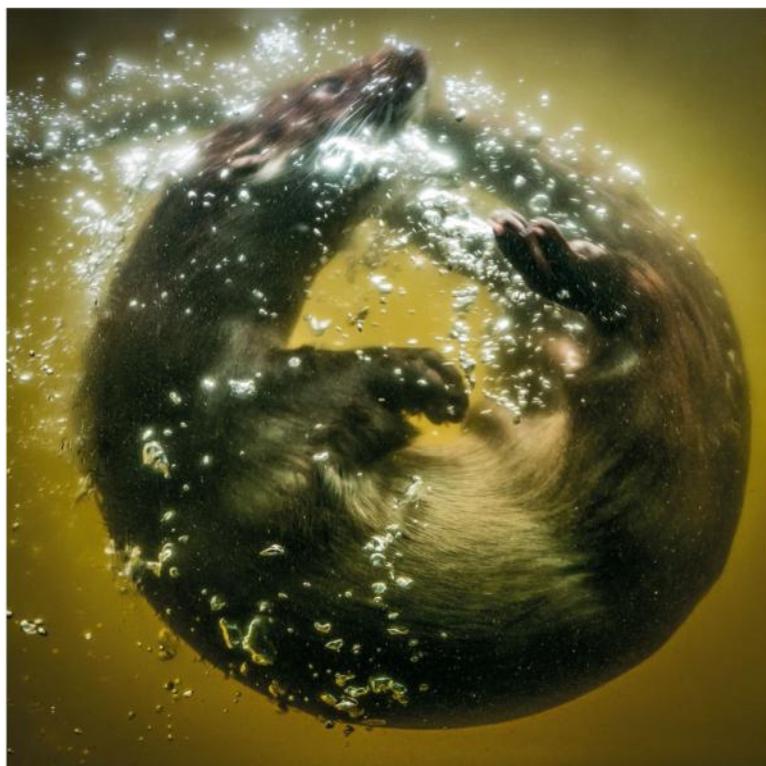
↑ I've been photographing in these marshes for 25 years, so knew where I could locate roosting dragonflies. However, the scirpus grass growing in the ditches made using a tripod almost impossible. Also, as I was using a fisheye lens, and therefore just a few inches from the wing, I had little choice but to handhold the camera for this shot.

Nikon D810, 15mm f/2.8, 1/160 sec, f/11, ISO1600

**ANIMAL PORTRAITS – HIGHLY COMMENDED**  
**A Ring in Bright Water**  
 Robin Goodlad, Buckfast Otter Sanctuary, Devon, UK

→ I have always been fascinated by otters, and inspired by the work of Gavin Maxwell, who observed their magnificent and elegant movement underwater. This particular otter knew the location of the tiny viewing window at the sanctuary, and took great delight in performing perfect wheels, leaving a trail of bubbles.

Nikon D800, 70-200mm f/2.8, 1/400 sec, f/2.8, ISO1000



Robin Goodlad / British Wildlife Photography Awards



These images are a selection from *British Wildlife Photography Awards 8* published by Ammonite Press, RRP £25, available online and from all good bookshops. This collection showcases the very best of the British Wildlife Photography Awards, presenting over 150 of the winning, commended and shortlisted images from the 2017 competition. Featuring a range of photography from world-leading professionals as well as inspired amateurs, it captures the diversity of the British Isles. For more on the awards, exhibition and book, see [www.bwpawards.org](http://www.bwpawards.org)

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## Chris Rutter

Shooting in wild weather can produce breathtaking images, but it can be physically challenging and even hazardous if you don't

know what you're doing. Here pro photographer Chris Rutter shares his expertise in how to safely and sanely capture Mother Nature at her most beautiful and elemental. For more images, see [www.chrisrutterphotography.com](http://www.chrisrutterphotography.com)



HOW TO SHOOT

# Wonderful winter landscapes

Grab your Nikon and your coat, Chris Rutter shows you how to make the most of the weather by capturing the beauty, drama and mood of winter...

**J**ust because it's getting colder outside, that's no reason to let your Nikon and your creativity go into hibernation. Although the hours of daylight may be short and the weather can be challenging, these aren't problems, they are really great opportunities.

Winter is the perfect time to get out with your Nikon and shoot the spectacular scenery and weather that occur only at this time of year. From the beauty of a fresh fall of snow to the drama of a winter storm, the changeable conditions can transform almost any landscape into the perfect location.

It's not for the faint-hearted, but you also don't have to be a survival expert to get out

into the landscape in winter. Just be sensible about what type of weather and conditions you are happy to get out in and there are opportunities that any of us can make the most of. You just need to make a little effort and be prepared for the elements. And let's not forget, the shorter hours of daylight mean that sunrise and sunset are at much more civilized times than any other time of year.

To maximize these winter possibilities you'll need to keep both you and your Nikon protected from the elements, and also be able to predict when the conditions are going to get you great results. That's where we can help, with tips and techniques to help you get your most dramatic winter landscapes, ever.

All images: Chris Rutter



# MOUNTAINS

There are few sights more awe-inspiring than mountains in the grip of the cold, snow and ice of winter, here's how to capture them

## TIP 01 Condensation

Subjecting your kit to wild changes in temperature is a recipe for condensation. The best way to avoid it is to allow your kit to warm up and cool down slowly inside a closed bag.

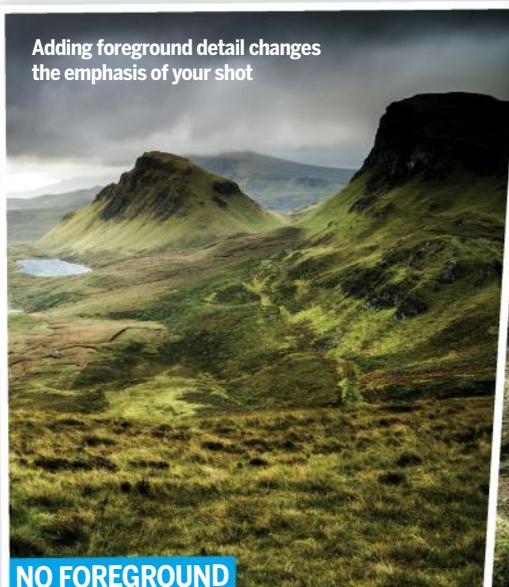
If you do get condensation on your camera and lenses simply let it clear by allowing the temperature to equalize. Don't swap lenses or take the body cap off your Nikon, as this will cause condensation inside the camera.



## TIP 02 Be realistic about the kit you pack

I used to carry loads of kit on every shoot, but in the mountains every gram becomes a burden. So I'd suggest taking the essentials; one Nikon body, a couple of lenses, along with a polarizer and ND grad filters, and the lightest tripod that will hold your gear firmly.

Adding foreground detail changes the emphasis of your shot



NO FOREGROUND

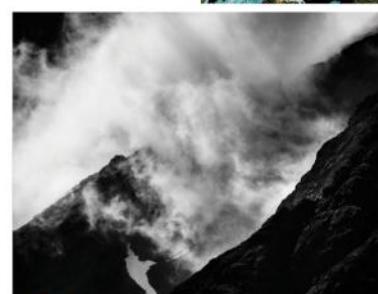


FOREGROUND

## TIP 03 Foreground interest

When shooting dramatic backdrops, it's easy to forget about the foreground of your mountain shots. Once you have decided on your background, find foreground objects to enhance the

composition of your images. Then explore different viewpoints to allow you to compose a shot with a balance and connection between the foreground and the mountains in the background.



## TIP 04 Shoot details

If you don't fancy trekking into the mountains, then try shooting details from a distance. Look for peaks that look good in isolation, or concentrate on the tones, shapes and textures of the slopes of the mountain. Snowy conditions bring out detail in the crags and crevices of the mountain, while clouds swirling around the peaks add a contrasting texture to your shots. Try using a focal length of between 50 and 150mm on a DX format Nikon, or 70 and 300 on an FX model, to capture these details.

Camera	Nikon D800
Lens	Nikon 20mm f/2.8
Exposure	8 secs, f/16, ISO50



## HOW I GOT THIS SHOT

### SUNSET COLOURS, BLA BHEINN

After a night of hail and snow showers, I decided that, with a forecast of sunny intervals, it would be a great time to head up onto the slopes of Bla Bheinn (also known as Blaven) in the Cuillins. With the temperature well below zero I was glad I fitted winter tyres as the twisty, single track road was covered in ice.

The location was only 200 metres high, but with every step it seemed to get colder as I went up the slope. This wasn't helped by the 40mph wind chill and hail showers hammering down.

After an hour I crossed the slippery rocks and ice-cold water very gingerly, as I didn't fancy a soaking in the sub-zero temperatures. Having arrived at my viewpoint, it was a case of waiting in the cold and occasional shower for a couple of hours for the sunset.

Despite wearing my warmest gloves, and plenty of layers, my hands were cold. This made it a struggle to operate the camera and adjust the polarizer to reveal the colours in the water and the ND grad filter to balance the exposure between the sky and the landscape, and I had to pray that a clear spell would allow the sun to light up the clouds above the Cuillin. And they did, just before another hail shower reduced the sunset to a murky glow, and it was time to get off the mountain and get warm.

Shooting in the mountains requires good judgement – especially in rough weather



#### TIP 05 Don't take risks up a mountain

The mountains are unforgiving at any time of year, but especially dangerous in winter. Weather can change in minutes and paths can become lost in mists, snow or cloud. So always make sure that you have essential survival gear, know your routes, and don't take risks in the mountains.





Camera	Nikon D800
Lens	Nikon 17-35 f/2.8
Exposure	4 secs, f/14, ISO200

# SEASCAPES

From raging storms to cold, calm and clear days, winter is the ideal time to visit the coast and capture the sea in all its moods



## Watch the waves

Even on a reasonably calm day, the sea can be unpredictable, so always keep an eye out for waves and swells that might suddenly engulf you or your kit. I usually like to spend plenty of time watching the waves and swells in the area that I want to shoot to see where they sweep up the beach or around (or over) any rocks, before I even think about setting up the tripod and camera. Also, if you put your bag down for any length of time it's best to place it out of harm's way, well back on the beach or shore. Salt water and expensive electronics are never a good mix.



# HOW I GOT THIS SHOT

## LAST LIGHT, LOCH SCAVAIG

I wasn't sure if it was the cold, the constant battering by the westerly wind or the incoming clouds that were making this afternoon on the shore of Loch Scavaig feel more like an endurance test than a photo shoot. I had walked from Elgol in perfect conditions, but now there was almost no light, and the cloud looked ominously thick to the west, where the sun would set in around 15 minutes. Forlornly, I watched the tide come in so the waves were swirling around the rocks that I had picked out as the perfect foreground.

Still, I had one cup of coffee left to help lift my spirits, so I poured it out, and consoled myself by simply watching the waves and the darkening sky. Then a tiny break appeared, the sky started to lighten and the race was on. I cast aside the half-full cup of coffee and frantically started to fine-tune my composition. Once I was happy with the position of the camera I adjusted the polarizer to bring out the colours in the water, and added a 0.9 ND grad to balance the exposure.

Despite the low light levels, I wanted to keep some detail in the surface of the water, so I set the aperture to f/14 to give sufficient depth of field to keep everything sharp, and adjusted the ISO up from my normal low or 100 setting to ISO200. This gave a shutter speed of 4 secs, which was just short enough to reveal the detail in the waves. Looking up, the clouds had lit up, the sea was a beautiful blue... and I had got my shot. Just as well as, five minutes later, the clouds gathered again and the scene returned to the murky, darkness of a cloudy winter's evening.

For moving water, selecting an appropriate shutter speed is essential



### TIP 02 Use the right shutter speed

One of the major choices you have when shooting seascapes is whether you want to freeze the waves in the scene, or blur them. If there are dramatic waves crashing on the shore, I prefer to use a shutter speed of 1/250 sec or faster to freeze their movement and emphasize their power. But if they are smaller I will use a shutter speed between 1/4 sec and 4 secs to add some blur, but retain some detail. Using a longer shutter speed will create the smooth, 'misty' water effect that can be effective, particularly at dawn or dusk.

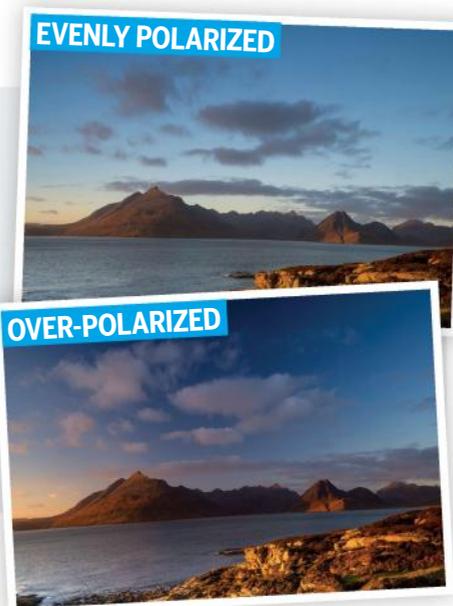
### TIP 03 Know the tides

Checking the tides is essential both for your safety and success when shooting on the coast. The tides will determine what parts of the shore are visible in the foreground of your shots, while knowing whether the tide is rising or receding will help keep you safe. It's generally safest to shoot on a receding tide, as there's less likelihood you'll get caught by rising water. Check online sites such as [www.tidetimes.co.uk](http://www.tidetimes.co.uk).



### TIP 04 Use a polarizer

A polarizer is ideal for reducing reflections on the surface of the water to reveal more colour and depth in the sea, but you need to be careful when shooting in low, winter sunlight. It's very easy to over-polarize blue skies, making them much darker than is natural. Also, if you are using a wide-angle lens, a polarizer can cause one area of a blue sky to darken much more than others, giving an uneven effect.



### TIP 05 Minimalism

You don't have to include dramatic views and sweeping landscapes for successful seascapes. Instead of including all of the landscape, why not go for a simpler composition? To achieve this you should only include a few simple elements, such as a prominent rock, pier or other obvious focal point, and take care to crop out any distractions around them. Then use a long shutter speed of 10 secs or longer to blur the surface of the sea to give an even simpler composition.

# SNOW AND ICE

It transforms the landscape into a winter wonderland, so next time there's snow, here's how to capture the perfect wintry landscape



## TIP 01 Make sure to keep your bag dry

There's nothing worse than putting on your backpack only to find that the straps and back are soaking wet. To avoid this, try to find an area that's free from snow to put your pack down, or alternatively use the built-in rain cover or a plastic bag placed underneath the backpack to help protect it – and the contents – from getting covered in snow and water.

## TIP 02 Save batteries

Sub-zero temperatures can reduce the capacity of the batteries in your Nikon, so it's best to avoid using Live View or reviewing your images. Carry a spare battery, and, in really cold conditions, try to keep this in an inside pocket to help keep it warm. This helps to increase battery life, and can even help 'revive' an exhausted battery that you take out of the camera. Just make sure that the pocket you use is completely waterproof, though, as water and batteries definitely don't mix.



## TIP 03 Footsteps

In the excitement to get your snowy landscape shots it's tempting to walk across the snow in the search for the perfect scene. But before you start walking take a moment to think about where you want to shoot from, as otherwise you may be creating footprints right across the foreground of your shot.



## TIP 04 Watch out for underexposure

Even the sophisticated Matrix metering on your Nikon camera can be tricked by large areas of snow in the landscape. When the scene in front of you is full of light tones the camera will underexpose, causing the snow to be recorded as a dull grey. You can overcome this by setting the exposure

compensation to +1 if the scene includes some darker tones along with the snow. However, if the landscape is completely covered in snow you may have to increase the compensation to +2. Checking the exposure in Live View allows you to see and adjust the effects of compensation.



Camera	Nikon D800
Lens	Nikon 17-35mm f/2.8
Exposure	1/5 sec, f/22, ISO50

## HOW I GOT THIS SHOT

### ICE PATTERNS, DETTIFOSS

I had wanted to shoot Dettifoss in northern Iceland, one of the largest waterfalls in Europe, from the east side of the river. But the minor road from Route 1 was closed due to snow. So, instead I drove up the road to the west of the river. Even the turning to the track to the car park was blocked by a six-foot snowdrift, and I quietly prayed that there wouldn't be any more snow before I drove back.

The route to the waterfall is normally an easy walk, but in these snowy conditions the path wasn't obvious in places, and walking through the snow is always much slower than normal.

Arriving at the falls I immediately discovered a big problem with shooting Dettifoss in the snow; the edges of the gorge were covered in snow and ice, making it impossible to get close enough to get a clear view of the falls. Undaunted, I walked along the safe areas to see if there were any good viewpoints. I finally found a spot where the ice shelf overhanging the gorge contained some amazing swirling patterns caused by dark lava dust. Then, a few seconds later, everything around me was covered in water spray, blown up from the giant waterfall below.

Still, I was here, so I waited for a lull in the wind, and set up as quickly as possible. Edging as close to the ice-shelf as I dared, I put on a polarizer to help bring out the patterns in the ice and a 0.6 ND grad to hold back the exposure of the sky, and settled on my framing. Shooting quickly, I got my image just before another gust of wind deposited a torrent of spray on me and my kit.



TIP  
05

### Try capturing falling snow

Unlike rain, falling snow is relatively dry and falls slowly through the air, so it's much easier to shoot while it is snowing than in the rain. You still need to make sure your camera and lens won't get covered in snow and water, but if you work quickly you can easily capture this precipitation without harming your camera. Use a shutter speed of 1/500 sec or faster to freeze the movement of the snowflakes, while a slower shutter speed, such as 1/60 sec or slower, will record the flakes as streaks.





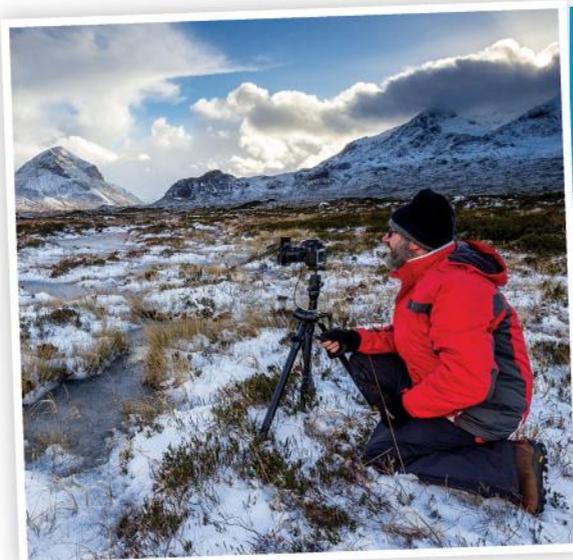
Camera	Nikon D800
Lens	Nikon 20mm f/2.8
Exposure	1 sec, f/16, ISO50

# STORMS AND MOOD

Want more drama in your winter landscapes? Then you'll need to grab your waterproofs and get out there when there's rain or storms on the horizon

## **TIP 01** Clothes

Along with protecting your Nikon, you also need to make sure that you are well protected when shooting in wet, snowy and cold conditions. A good waterproof jacket and over-trousers are essential for keeping you dry, and then use layers of clothes underneath these to keep you warm. You should also make sure that you wear a hat to prevent heat loss through your head, and also a good pair of waterproof gloves.



## **TIP 02** Weather forecast

Predicting the weather for shooting rainstorms and moody skies is difficult. The ideal conditions are heavy clouds, but with enough breaks to let some light through. For the UK I use the Met Office app, which includes rainfall radar, along with the cloud and rain predictions.

## HOW I GOT THIS SHOT

### PASSING STORM, ASSYNT

With a weather forecast of intermittent showers with clear spells, I decided that it was the perfect day to climb up Stac Pollaidh in Assynt before sunrise to capture some moody shots of the views north towards Suilven. On the way up the path on the south of the hill the weather was dry, and I started to dream of clear views across the highlands. This dream came to a sudden halt, however, as when I walked over the ridge to face the northeast, the clouds descended and the rain poured down. I'd made the effort to get this far, and I was nearly at the viewpoint, so I carried on. Within a few minutes the rain stopped long enough for me to set up the camera, although cloud still obscured any view of the hills beyond. After several more soakings, without a sign that it was going to clear, I started to doubt that I'd uncover the camera, let alone get a shot. Then, the rain eased, and I saw a glimmer of light through the cloud. It was just dry enough to uncover my D800, check the exposure, ND grad position and get ready for the decisive moment.

First a rainbow appeared below me, so I shot a few frames, and checked the filter for water drops, wiped it clean, and covered the camera with my trusty bin bag when the rain started again. Every time the rain cleared I uncovered the camera, checked for water on the filter and shot another frame. This sequence of events carried on for around an hour, before the light faded, more rain came in and I was ready to make my way back to the car. I may have been wet, cold and had run out of dry cleaning cloths, but I still couldn't have been happier.



Shooting with a telephoto lens enables you to capture stormy weather from afar

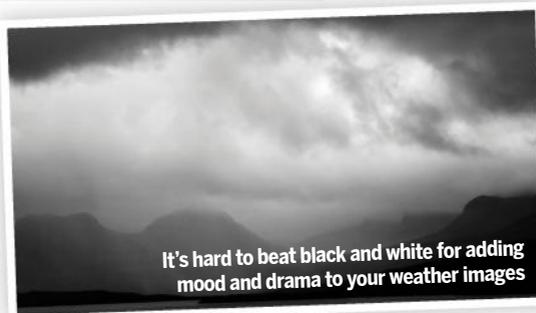


#### TIP 03 Plastic bag

Capturing changing weather means having your camera ready. Removing your Nikon from a tripod, putting it back in your bag, and then replacing it takes a long time. Instead, I carry a bin bag that I place over the whole camera during a shower, and then quickly remove to shoot in fast-changing weather.

#### TIP 04 Black and white

The myriad of tones and textures in the clouds and landscape during a storm are perfect for producing dramatic black-and-white images. If you are struggling to see in black and white, you can select the Monochrome Picture Style on your Nikon, and then use Live View. The image on the LCD screen will now be in black and white, but remember that if you



It's hard to beat black and white for adding mood and drama to your weather images

are shooting Raw, the image will still be in colour, and you'll have to convert it to black and white when you process the images.

#### TIP 05 Telephoto lens

To minimize the chance of getting soaked in stormy conditions, instead of shooting with a wide-angle lens, you can try shooting more distant weather with a telephoto lens. You'll need a location with a suitable landscape in the distance, and also somewhere nearby to shelter from the rain, such as your car. You can then shoot the storm and rain before or after it's raining where you are.



# DAWN AND LOW LIGHT

Even though sunrise is later in the winter, you'll still need an early alarm call to capture the beauty and drama of a winter sunrise

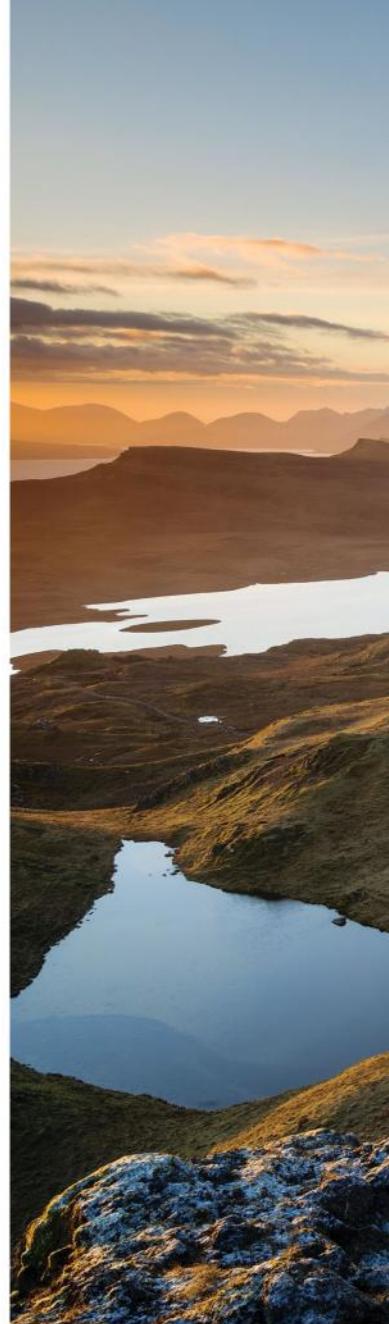
## TIP 01 Recce the location in daylight

Shooting at or before sunrise means that you will have to find your way and decide on a viewpoint in conditions of darkness. A torch will help you, but I'd also recommend that you visit the location during the day to help you locate the best path and also give you the opportunity to scout out the most likely locations that will give you the best viewpoint.



## TIP 02 Sunrise apps

Knowing where the sun will rise is key to getting successful dawn shots, but unless you know the location like the back of your hand, you'll need to use a website such as [www.suncalc.net](http://www.suncalc.net) or <http://photoephemeris.com> to allow you to predict the time and exact position of the rising sun.



## TIP 03 Use ND grads to balance the exposure

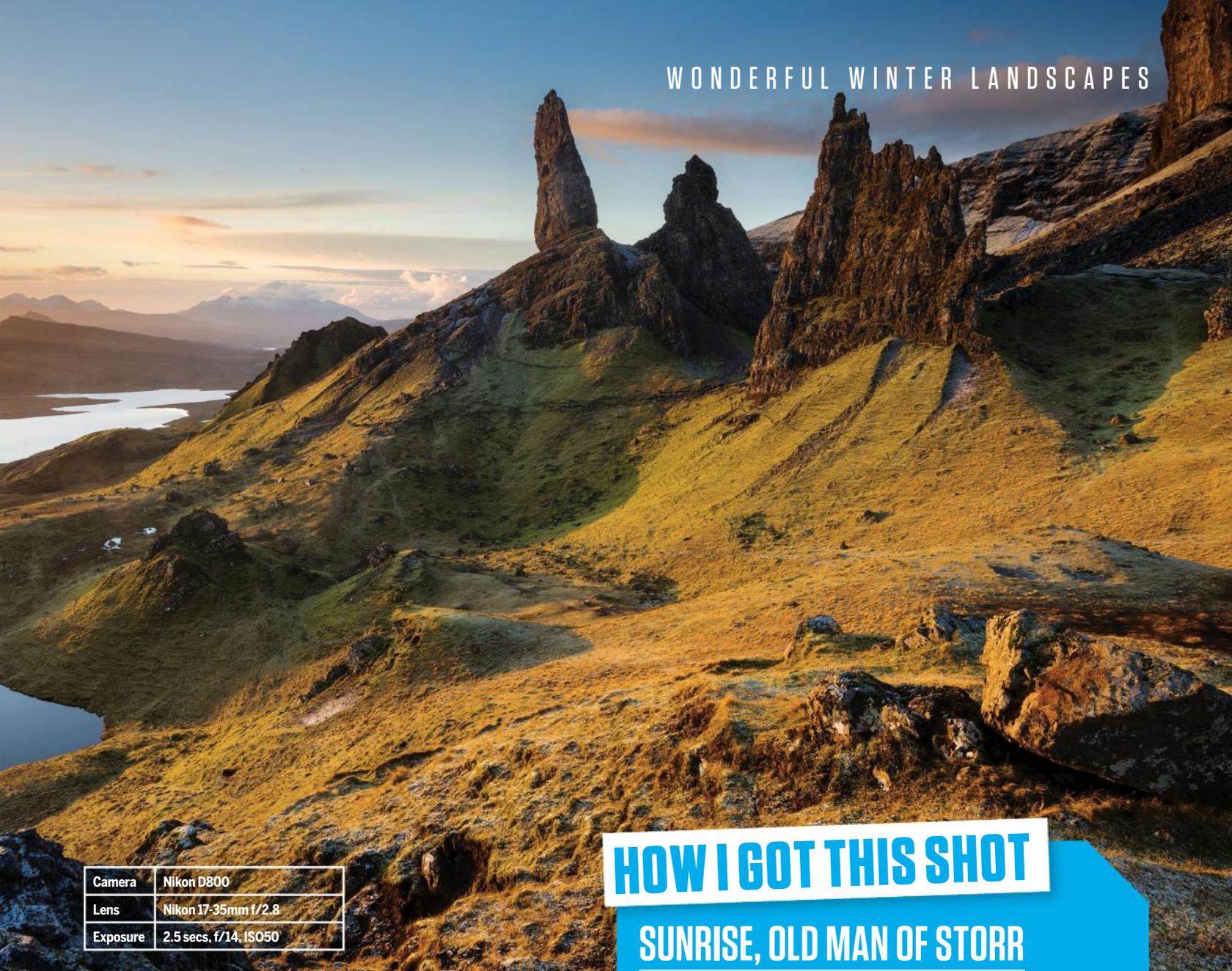
You can use in-camera HDR (High Dynamic Range) or Active D-lighting on your Nikon to help balance the exposure in the high-contrast conditions you will face at sunrise (and sunset). However, using an ND (neutral density) grad filter will help

you get a balanced exposure without having to lighten the shadows or darken the highlights of your image. Another advantage is that using a filter will usually produce a more natural-looking effect than heavy post-processing techniques.



## TIP 04 Hot drinks

While the right clothes can help you keep warm in the coldest winter conditions, there's nothing like having a warm drink and some food to help stave off the effects of cold. I would even go as far as leaving a lens at home to reduce the weight I would carry so that I can take a flask of coffee to help raise my spirits and keep me going in cold weather.



Camera	Nikon D800
Lens	Nikon 17-35mm f/2.8
Exposure	2.5 secs, f/14, ISO50

## HOW I GOT THIS SHOT

### SUNRISE, OLD MAN OF STORR

As always, I questioned my sanity getting up to shoot sunrise as the alarm went off at 5am. Even though I've lost count of the early starts, it was a struggle to get out of bed, eat breakfast and make a flask of coffee for the day, but by 6am I was on the road. As I approached the car park at the start of the footpath I noticed that the temperature had dropped to near freezing, but that's fine, I'd packed plenty of layers to keep warm.

The walk up to the Old Man is a steady climb and I had plenty of time, so I was still in good spirits about the shoot. Then, as I reached the more rocky section of the path, the overnight rain has frozen into sheet ice, and it became slipperier than a politician.

Every step from here became a lottery, and I slowly made it to the viewpoint around 30 minutes before sunrise. I set up my D800 and 17-35mm, and settled on a composition that included both the Old Man itself, and the lochs and distant mainland on the left of the image.

I had hoped that the clear sky and predicted weather would produce some mist below me, but nature had other ideas, as a cold northerly wind built up, removing any chance of mist and adding an uncomfortable chill to the air. But I was well wrapped up and, as the sky lightened, I attached a 0.6 ND grad to keep detail in both the sky and the landscape, and began shooting.

Before the sun appeared, the scene had a cool, blue tone, but as the sun peeked over the horizon to the left the whole landscape was bathed in a raking, warm light that made the shot and lifted my spirits.



Manually selecting white balance can help you get the precise tone you want



### Choose the right white balance

Use the manual white balance settings such as Daylight, Cloudy or Shade on your Nikon, rather than Auto white balance, to produce the white balance and tone that you want in-camera. If you're shooting Raw you can change the white balance when processing your images; getting it right in-camera will help you get the exposure spot-on, as major changes in white balance can also have an effect on the brightness of different colours and tones in the image.

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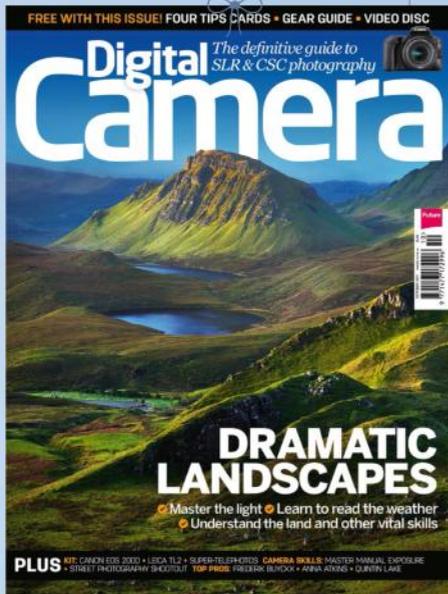
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# 44



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**The mission**

- Shoot food with natural light

**Time**

- One hour

**Skill level**

- Beginner
- Intermediate
- Advanced

**Kit needed**

- Wide-aperture lens
- Tripod

**PROJECT ONE / CORE SKILLS**

# Take food photos that are good enough to eat

Whip your food photography into shape by following **Jason Parnell-Brookes'** tried-and-tested recipe for getting better shots of tasty treats

**S**ucculent strawberries, melt-in-the-mouth chocolate or a slap-up Sunday roast – food is an evocative subject to photograph. But in order to make it look as good as it tastes, you need to follow a few simple tips and tricks.

In this tutorial we'll show you how to use natural window light to backlight your fodder to create soft shadows, then bounce light

back in with a makeshift reflector to bring out detail. We'll also share some basic food styling techniques and show you how to

emphasize the edibles by opening up your aperture. So let's cook up some scrumptious shots...



Food is an evocative subject, but in order to make it look as good as it tastes, you need to follow a few simple tips and tricks

## STEP BY STEP / Create a really tasty shot



### 1 Window light

Natural light is essential for this simple shoot, so the first step is to get set up near a north-facing window. The indirect light produces beautiful, flattering, soft shadows that wrap around the food. This soft light helps make food look more appetizing by reducing harsh shadows.



### 2 Nice base

It's not just down to the look of the food that will have the viewer drooling, but how appealingly it is presented, so you'll need to place the provisions on a photogenic surface, whether this is a simple white plate, a slab of slate, or a weathered wooden board.



### 3 Style the food

Many professional food photographers will use a food stylist to dress up the product, but since we don't have such a luxury, we've kept things simple by stacking some mince pies and sprinkling them with a delicate dusting of icing sugar. Touches like this make all the difference.



### 4 Aperture

A shallow depth of field blurs the background into a silky texture, placing sharp focus on the food. To achieve this you'll need to shoot from up close with a wide aperture, as found on a 'nifty fifty' 50mm prime or macro lens. Set Aperture Priority mode, at around f/2.8.



### 5 Use a tripod

We put the camera on a tripod not only because we wanted to eliminate any possibility of camera shake, but so that we could carefully consider our composition. Our final shutter speed was 1/200 sec at aperture f/2.8, with ISO set at 100 to keep noise to a minimum.



### 6 A time for reflection

To polish the shot off, bounce some light back in to the front of the food with a piece of white paper to fill in the shadows, providing more detail in the final image. This is especially important for darker coloured fare, such as chocolates and dark fruit.



### Quick tip

Shooting from above at a 3/4 angle gives a more natural perspective – as if the viewer is about to tuck into the food in front of them!

PROJECT TWO / CREATIVE TECHNIQUES

# Polarize the light

Jason Parnell-Brookes shows you how to create a vibrant light show using a clear plastic decoration and the cross-polarization technique



## The mission

- Capture a rainbow of colour using the cross-polarization technique

## Time

- 30 minutes

## Skill level

- Beginner
- Intermediate
- Advanced

## Kit needed

- Circular polarizing filter
- Tripod
- Clear plastic ornament
- Flat screen

As photographers, we are always enhancing and modifying light for different effects, and in this project we're going to be to capturing the vivid colours from an inexpensive plastic ornament by shooting it with a polarizing filter.

Cross-polarization is a technique that exploits stress weaknesses in glass and plastic that become visible when shining a light through it. Coincidentally, these stress patterns show up as an optical rainbow in the material when polarized, which just happens to be perfectly photogenic!

In addition to a clear plastic ornament for your subject and the polarizer, all you need to complete the project is a laptop or tablet screen, which we will use to provide our light source, and a tripod to hold your camera steady. Simply place the ornament in front of the screen and rotate your polarizing filter until the colours magically appear.

Having tried this technique several times we found that the cheaper the plastic ornament, the more pronounced the effect – probably due to the lower manufacturing standards. That's good news, as we won't have to break the bank!





## STEP BY STEP / Six simple steps to cross-polarization success



### 1 Laptop screen

We placed our ornament on a table and put our laptop screen behind it to act as a background and light source. We turned our laptop screen to full brightness, removed desktop icons and clutter and changed the background colour to a solid grey.



### 2 Polarize the light

We're using the D750 and a 50mm lens with a Hoya Circular Polarizing Filter, which you can buy for around £40/\$50, depending on your filter thread size. When rotated, the polarizer will turn the grey to a dark black and accentuate rainbow colours in the clear plastic.

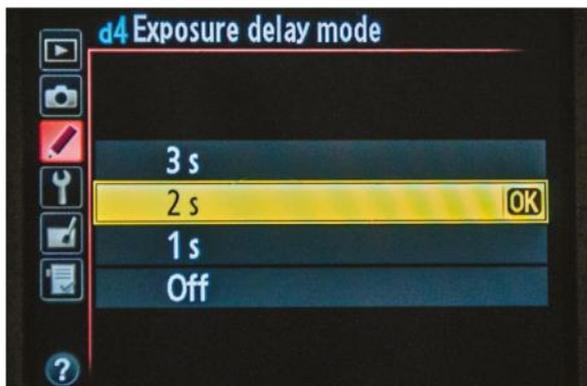
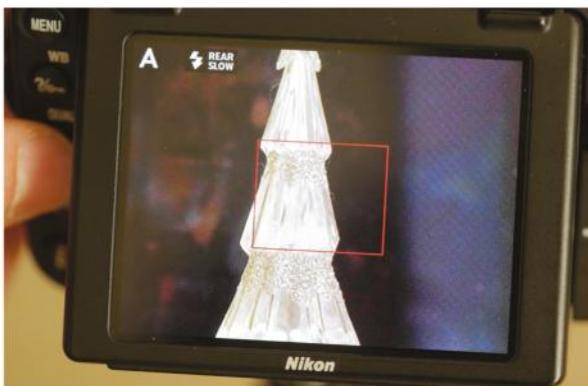


### 3 Aperture is king

With the Nikon on a tripod we set Aperture Priority mode and f/5.6 for a medium depth of field: too much and we risk capturing the pixels on the screen in focus, which would create moire patterning; too little would risk not capturing the whole of the ornament in focus.

### 4 The long exposure

We set ISO100 for optimum image quality and this resulted in a shutter speed of 1 sec using Matrix metering mode, as it was relatively dark in our home-based studio. This is far too slow to shoot handheld, so we popped our Nikon onto a tripod.



### 5 Focus manually

We found that our Nikon's autofocus struggled to focus on the ornament. So we switched to manual focus to precisely focus using Live View. We zoomed in on the screen, and rotated the focusing ring on the lens until our ornament was pin-sharp.

### 6 Delay your exposure

Even the movement of the mirror can cause image blur with such lengthy exposures, so we engaged Exposure Delay Mode (found in the Custom Setting Menu under Shooting/Display). This lifts the mirror, then waits a couple of seconds before firing the shutter.



### Go vivid!

To make this effect stand out even more, go into your Photo Shooting Menu and select Set Picture Control. Turn this to Vivid for punchy colours and an increase in overall contrast in your final image. That way, you'll get striking results in-camera without the need for post-production when shooting JPEG.



### Quick tip

As an alternative to Exposure Delay Mode, set Drive mode to M-up and use a shutter release cable. You'll need to hit the shutter button twice: once to raise the mirror and a second time to take the shot.

PROJECT THREE / ESSENTIAL GEAR SKILLS

# Shoot a shadow portrait

**Jason Parnell-Brookes** shows you how to shoot a dramatic portrait using little more than a wire fence, a Speedlight, and a large dose of creativity



## The mission

- Use light and shadow to capture a striking portrait in a public park

## Time

- One hour

## Skill level

- Beginner
- Intermediate
- Advanced

## Kit needed

- Speedlight
- Wireless triggers
- Light stand

Sometimes you might find yourself in the great outdoors, shooting in ambient light at uninspiring locations that challenge your creativity. But how do you create an arresting portrait without the advanced lighting rigs and other paraphernalia available in a studio setup? A wire fence in the park may not be particularly interesting in itself, but when you pair it with a Speedlight, you have a recipe for portrait prowess.

In this project we'll be firing a flashgun behind a wire fence and using the short, sharp shadows produced by the fence to envelop our model's face for a striking portrait. We'll trigger the flash off-camera with wireless flash triggers, so that we can precisely position the model – and ourselves – in the perfect place.

We'll work on our compositional skills by accentuating the contours of the model's face using the shadows created by the fence. And as a finishing touch, we'll convert the image to monochrome for a moody film noir look that makes the most of the interplay between light and shadow – so let's take a look at how to create this compelling portrait.

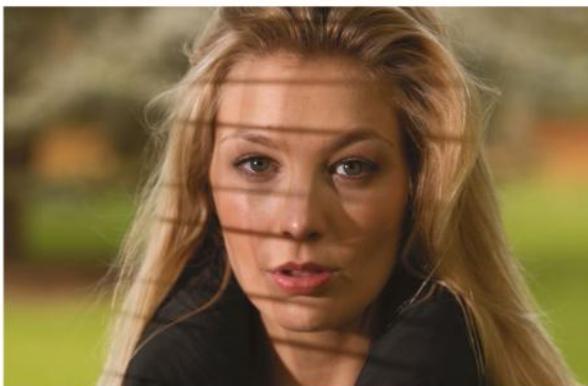


**STEP BY STEP** / Come out of the shadows**1 Getting the light right**

We attached the wireless receiver to our flashgun and placed the transmitter on the hotshoe of our Nikon. (We used the Yongnuo YN622N kit, around £70/\$75.) We then selected Group A and Channel 1 on both devices, and placed the light and trigger on a light stand.

**3 Dial in your settings**

In Manual mode set an aperture of f/6.3 to ensure the entire face is sharp, with a falloff in sharpness behind the model. We set a shutter speed of 1/400 sec to underexpose the background by -1 stop – this is faster than the Nikon's flash sync speed, so set AutoFP mode.

**5 Go diagonal and experiment**

Positioning the Speedlight head diagonally we saw both vertical and horizontal shadows coming into effect on Amalia's face. We then had her take small steps to ensure shadows didn't fall across her eyes – very important, so that viewers identify with the subject.

**2 Finding the right spot**

We positioned our model Amalia next to a fence, with the Speedlight aimed towards her from the other side, around two feet away. We set our flashgun to 1/8 power (varies with the power of the flashgun). Next, we hit the 'test' button to check that the wireless trigger worked.

**4 Test your positioning**

Take some test shots and note where the shadows fall on your model's face. We noticed that when the Speedlight was in the upright position only horizontal shadows were visible because of the shape of the flash head. Turning it on its side we found the opposite effect.

**6 Convert to B&W**

To make this effect stand out even further, take your final image into Photoshop (or the editing software of your choice) and convert it to monochrome. Here, we've added a Black & White adjustment layer and selected the Darker preset from the drop-down menu.

**Zoom out**

If you're struggling to get defined shadows across the model's face, try moving the Speedlight and the model closer to the fence. Or, if your flashgun is adjustable, decrease the zoom function to create a wider spot of light – 50mm or wider is ideal.

**Quick tip**

For perfect synchronization, turn your camera equipment on in this order: Speedlight; Speedlight trigger; hot shoe trigger; camera.



**WITH THANKS TO:**  
Amalia (model)

PROJECT FOUR / TEACH YOURSELF LIGHTROOM

# Produce panoramas

James Paterson explains how to use the Merge Panorama command to combine several frames into a sweeping vista



## The mission

- Stitch a scene with Lightroom's Merge Panorama tool

## Time

- 15 minutes

## Skill level

- Beginner
- Intermediate
- Advanced

## Kit needed

- Lightroom 5 or later



## Quick tip

Merge three frames for each segment into one HDR shot, then combine the them for an HDR panorama.

Lightroom's Merge Panorama command stitches several horizontal or vertical frames together to create a panoramic Raw file – perfect for those times when your lens can't fit the whole landscape into the frame, or if you want to pack in a little extra detail.

The Merge Panorama command offers three Projection modes, and as you'd expect, these stitch the frames together in different ways. Spherical maps the frames as if on the inside of a sphere. It's ideal for very wide panoramas, or ones that have several rows to them. Perspective maps the segments as if they were on a flat surface, and this keeps lines straight. For this reason, it's great for architectural or city scenes, but can lead to extreme distortion and warping at the edges when used in the wrong way. Cylindrical maps the frames as if they are on the inside of a cylinder. It's ideal for wide panoramic landscapes because distortion is minimal and vertical lines stay straighter.

When shooting the individual frames for a panorama, ensure that each overlaps by around 50 per cent so the tool has enough image data to work with.



## STEP BY STEP / See the bigger picture

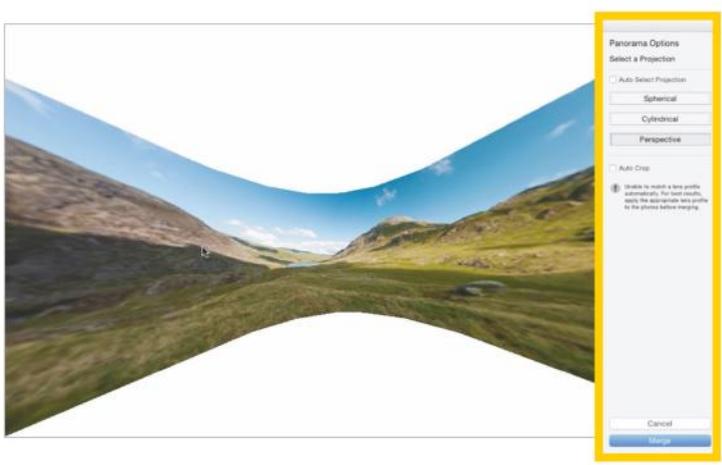


### 1 Start merge panorama

First, use Cmd/Ctrl-click to select all the frames to stitch into your panorama. Go to Develop module and scroll to the Lens Correction panel, click Profile and Enable Profile Corrections. Next, to begin merge, select Photo>Photo Merge>Panorama, or right-click the images and choose Photomerge, or simply press Cmd/Ctrl+M.

### 2 Choose a projection

There are three projection modes: Spherical, Cylindrical and Perspective. Each maps out the frames in a different way. Spherical places them as if on the inside of a sphere, Cylindrical as if on the inside of a cylinder, and Perspective as if placed flat. Experiment with each mode depending on your shot. We've used Cylindrical mode here.



**3 Auto crop messy edges**

Tick the Auto Crop check box to automatically remove any messy edges to give you a tidy rectangular image. It's non-destructive and can be changed later with Lightroom's Crop tool. Try unchecking the box just to see what's being cropped off. With Perspective Projection mode, you can see the extreme distortion at the edges.



**4 Enhance the panorama**

When you're happy with the settings, click Merge. The panorama will show up alongside the originals with the suffix 'pano'. It's a DNG Raw file, so you can process it like any other Raw file. Take it into the Develop module to make any changes you like. Here we've boosted the colours and added a gradient to darken the sky a little.

AFTER



### The mission

- Convert a landscape to moody mono and blur the clouds to mimic a long exposure

### Time

- 15 minutes

### Skill level

- Beginner
- Intermediate
- Advanced

### Kit needed

- Photoshop CC

## PROJECT FIVE / CREATIVE PHOTOSHOP

# Turn a dull landscape into mono masterpiece

Transform your landscapes into beautiful black-and-white long exposures with simple Photoshop CC skills, as **James Paterson** explains

**S**tretch an exposure to several seconds or more and the movement of clouds is captured as a beautiful silky blur. It's one of the landscape photographer's most potent visual devices, but it requires a tripod and a strong neutral density filter. If you don't have this gear to hand, you can recreate the look with simple Photoshop skills.

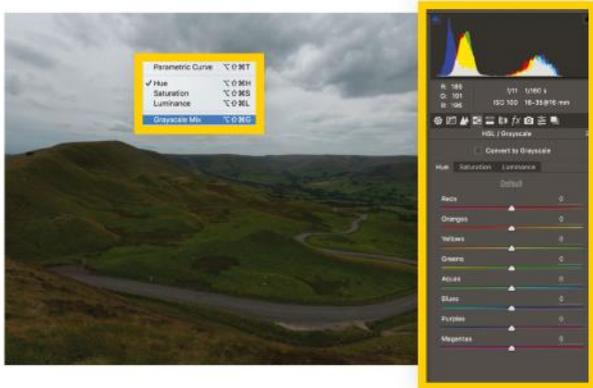
The long-exposure, blurred-clouds look goes well with a

moody black-and-white treatment. So we'll begin by converting our image to monochrome. There are many ways to remove colour in Photoshop, but one of the most powerful is found within the Camera Raw plug-in. Here we can strip out the colour while controlling the brightness of eight colour ranges, so we can fine-tune the brightness of green grass, blues skies and any other colours in our scenes.

Once done, we can pull out detail and enhance textures with Camera Raw's excellent local adjustment tools. The Graduated Filter tool is a godsend that lets us darken overblown skies and pull out detail in clouds, which is exactly what you need for the moody monochrome look. Then we can bring our image into Photoshop, isolate the sky, and apply a simple blur filter to create that wonderful sense of movement in the clouds...



## STEP BY STEP / Get the moody long exposure look



### 1 Convert to mono

Navigate to the bw\_before image in Adobe Bridge, right-click it and choose 'Open in Camera Raw'. Grab the Targeted Adjustment tool from the toolbar. Right-click in the image and choose 'Grayscale Mix'. Next, drag down over the grass to darken down the greens and yellows.



### 2 Add punch

Go to the Basic panel on the right (the first icon). Use the sliders to enhance the tones. Increase Exposure, knock down Highlights, lift the Shadows and up the Clarity. Next click the Tone Curve panel (second icon). Click Point Curve then create an S-shaped curve (see right).



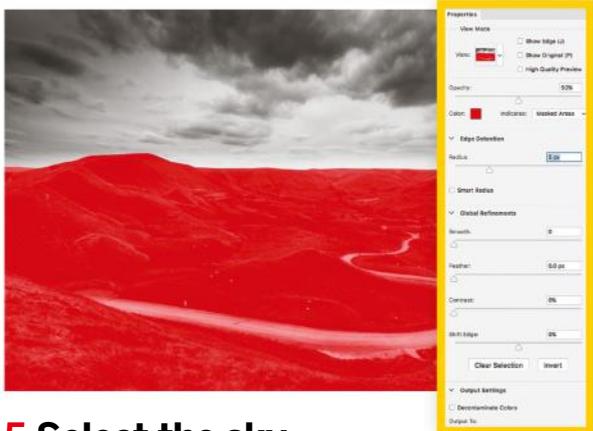
### 3 Darken the sky

Grab the Graduated Filter tool from the toolbar. Click the negative icon next to Exposure a couple of times to load the tool with a darkening effect. Hold Shift and drag down over the sky. Tweak the tonal sliders to adjust. Drag to add a second grad that darkens the top left corner.



### 4 Dodge the road

Use Camera Raw's Adjustment Brush to selectively lighten and darken areas ('dodge and burn'). Grab the brush from the toolbar. Load it with positive exposure and paint along the road to lift it slightly. Hit N for a new adjustment, dial in 'Dehaze', then paint over the hills.



### 5 Select the sky

Click Open Image. Grab the Quick Selection tool from the Tools panel. Paint over the sky. Go to Select>Select and Mask and improve the selection edge. Increase Radius then paint over any tricky areas with the Refine Radius tool. Choose Output to: Selection, then hit OK.

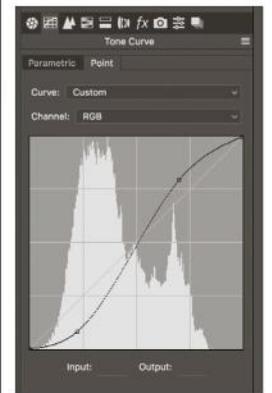


### 6 Blur the clouds

Hit Cmd/Ctrl+J to copy to a new layer. Right-click the layer and 'Convert to Smart Object' then hold Cmd/Ctrl and click the layer thumbnail to load a selection. Go to Filter>Blur>Radial Blur, check Zoom, adjust amount of blur and centre point. Hit OK. Tweak using 'Radial Blur'.

## S-curves for contrast

Black-and-white conversions are often let down by a lack of punch. Often, after converting to mono, the first thing an image needs is a boost in contrast. The best tool for contrast and punch is Curves. The curve line represents all the tones in an image from shadows on the left to highlights on the right. Any point dragged above the original diagonal position is lightened, and below is darkened. So an S-shaped curve – with one point dragged upwards, another downwards – lightens highlights and darkens shadows. The more pronounced the S, the greater the contrast.



### Quick tip

Hold Shift while dragging with Photoshop or Lightroom's Graduated Filter tool to keep the lines perfectly horizontal or vertical.



### The mission

- Capture landscapes under a full moon with a super-long exposure

### Time

- One hour

### Skill level

- Beginner
- Intermediate
- Advanced

### Kit needed

- Tripod
- Cable release
- Stopwatch
- Torch

## PROJECT SIX / THE BIG PROJECT

# Mountains by moonlight

**James Paterson** explains how to capture stunning scenes with lunar light in our amazing night photography project

**W**hen you're shooting at a stunning location it's easy to lose yourself in the moment and, before you know it, the light starts fading. However, just because the sun goes down there's no need to head home. As long as the moon is fairly full and the sky is clear, you can continue shooting well into the night.

This involves a very long exposure. We're not talking a few seconds here – more like a few minutes. Aside from the need for a tripod and remote release, we also have to be able to expose correctly for the moonlight. Our camera's Bulb mode is key to this – it lets us keep the shutter open as

long as we like. But how do we work out the correct exposure length in the first place?

Taking test shots costs valuable time, so instead the solution is to work out an equivalent exposure using a very high ISO and a short shutter speed. After nailing the high-ISO exposure, we can drop the ISO down and then extend the shutter speed for a higher-quality equivalent.

A moonlight shoot can be a challenge for your camera skills and your patience – especially when exposures can last eight minutes – but it's a chance to capture landscapes under the ethereal light of the moon, and the results can be beautiful.







## ON LOCATION / Get set up to shoot with moonlight

### 1 Sturdy tripod

Other than your camera, a good tripod is an essential piece of kit for night-time shooting. When near water like this, make sure the legs have a firm footing.

### 2 Head torch

A head torch is useful for night-time shots. Apart from helping you safely navigate, you can also shine the torch on a foreground object to help focusing.

### 3 Light pollution

Light pollution is a common issue when shooting near built-up areas. While the glow can be unsightly, we think the orange sky (left) enhances the scene.

### 4 Cable release

Exposures longer than 30 secs must be taken in your Nikon's Bulb mode. A remote shutter release is essential for opening the shutter without vibration.

## The waiting game

With exposures lasting several minutes, a night-time shoot means a lot of waiting around. So come prepared with warm clothes, perhaps a camping chair and a flask of something hot. If you have a second camera, bring it along too – you can set up another shot while you're waiting.

## TOP TIPS / Capturing mountains at night



### 1 Directional moonlight

Just like the sun, moonlight is more interesting when it's directional. So compose your image with the moon off to one side, so that the scene is side-lit like this (and unlike the shot beside it). You can check the position of the moon throughout the night with apps like the Photographer's Ephemeris or PhotoPills.

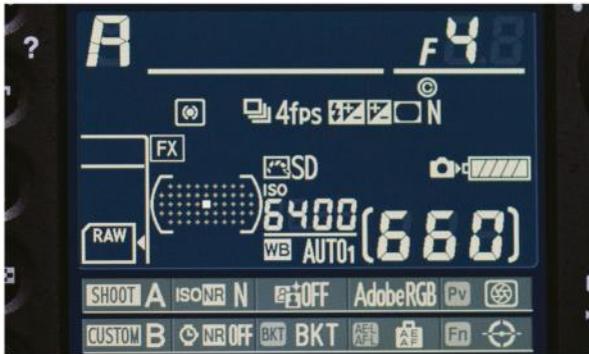


### 2 Lakes and reflections

Look for scenes with water, as the flowing motion will be blurred during the long exposures, resulting in a smooth, velvety surface. A fairly still body of water, such as a lake, is ideal for mountain scenes as you'll get a mirror-like reflection. If the water is too choppy like this, then the mirror reflection will be lost.



## STEP BY STEP / Work out your night-time exposure



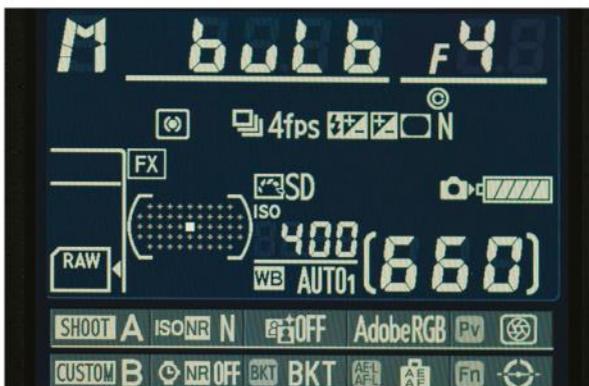
### 1 Take a test shot

Increase your ISO to its highest setting (eg: ISO6400). Set Aperture Priority and choose a wide aperture like f/4. At full moon our exposure should last no more than a few seconds. It'll be horribly noisy, but it means we can estimate a correct exposure without waiting ages.



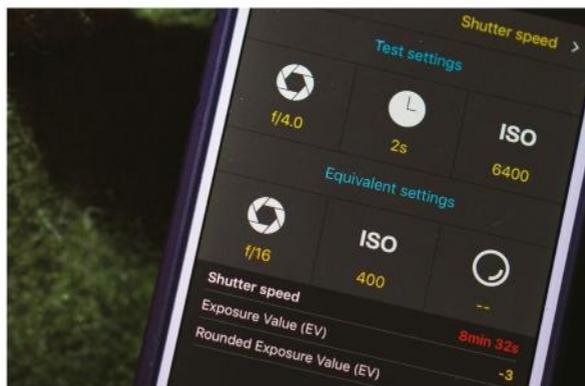
### 2 Check the exposure

Examine the test shot to check if the exposure is right. If not, dial in exposure compensation and try again. While you're at it, zoom in to check that the focus is spot on. If you're happy, make a note of your exposure settings. Now you can lower the ISO for better image quality.



### 3 Lower the ISO

For each stop of ISO that we alter, we need to double the shutter length. Taking ISO6400 down to ISO400 is a difference of 4 stops, which means 2 secs becomes 32 secs. We could go lower, perhaps to ISO100, but consider whether the extra quality is worth waiting for.



### 4 Calculate the equivalent

Our initial aperture of f/4 doesn't provide enough depth of field, so we reduce it to f/16. Now 32 secs becomes 8 mins 32 secs (an exposure calculator like PhotoPills helps out). Now we set Bulb mode and use our remote release to lock open the shutter for the required time.



### 5 Turn on noise reduction

When Long Exposure Noise Reduction is enabled, your DSLR automatically takes a second shot that lasts exactly the same length as the first without opening the shutter. The camera then blends the two, although it means waiting for double the exposure length.



### 6 Shoot a dark frame

Like Long Exposure Noise Reduction, but instead you shoot a dark frame manually with the lens cap on, using the same settings as your main shot. Use Photoshop to blend the two: copy and paste in the dark frame then set the layer blending mode to Difference.

## Foreground interest

Whether shooting during the day or at night, one of the most useful compositional devices for landscapes is to include foreground interest – but is it always necessary? It can be too easy – almost a little lazy – to simply find a rock and frame it up in the front, with a mountain or similarly pretty scene behind. But if that's the default, then our landscapes can all end up looking very similar. More importantly, it might actually hinder us from finding a stronger composition. There's no right or wrong here, but rather a challenge that goes to the heart of all photography – to find something visually interesting or unusual.



### Quick tip

If you forget at the time, you can fix noise later. The Detail panel, found in both Lightroom and Photoshop's Camera Raw plug-in, is ideal – use the Luminance slider to reduce grain.



## Stay warm

When photographing in cold conditions, wear a pair of warm, fingerless gloves, so your hands remain warm when you have to remove your heavy-duty outer gloves to operate the camera controls.

## NIGHT SHOOTING TIPS / Long exposure checklist



### 1 Compose with Live View

At night your sensor can pick up more light than the naked eye, so consider composing the frame with Live View. With your camera on a tripod, using Live View gives you the freedom to perfect your composition, and blocks the viewfinder, so you can skip tip 2.

### 2 Cover the viewfinder

During a long exposure, light can leak in through the viewfinder and fog the image. Even at night this can be an issue, so block the viewfinder before taking the shot. Few things are more annoying than finding your eight-minute exposure has a purple patch across the frame!



### 3 Turn off stabilization

When your camera is on a tripod there's no need to use lens stabilization. So if your lens has this feature, turn it off. Not only does it drain the battery, it may also result in a lower quality image as stabilization mechanism could actually cause vibration during the long exposure.

### 4 Use manual focus

Whether you're shooting at night or using a heavy ND filter during daylight, your DSLR will struggle to lock on when focusing. Better to switch to manual focus, then engage Live View, zoom in to the detail you want sharp and adjust the focus ring. This prevents focus hunting.



### Quick tip

Live View can see better in the dark than you can. Boosting the ISO and opening up the aperture to its widest is especially helpful when composing your image when faced with really dark scenes.



### 5 Minimize shake

The act of pressing the shutter button can disturb the camera and cause shake, so either use a remote release or alternatively your DSLR's self timer so you can fire the shutter without touching the camera. Of course, when in Bulb mode, a remote release is essential.

### 6 Mirror lockup

Mirror slap can cause camera shake, so engage your DSLR's mirror lockup. The mirror really only affects exposures from 1/20 sec to 2 seconds – for anything longer than this, the shake doesn't have as much of an effect as the camera is drawing in light for much longer.



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# OVER TO YOU...

YOUR PHOTOS, YOUR STORIES, YOUR LETTERS



**52 The Apprentice** This issue's Apprentice meets pro astrophotographer Ollie Taylor on a dark Cornish beach to explore the galaxy



## 62 Your stories

Arnab Ghoshal explains how he overcame his shyness by approaching 100 strangers on the street and asking to shoot their portraits



## 64 Portfolio review

Sean Goodhart shares his portfolio of images focused on the works of modern architect Santiago Calatrava

N-Photo Magazine, Future Publishing, Quay House, The Ambury, Bath, UK, BA1 1UA [mail@nphotomag.com](mailto:mail@nphotomag.com)



# THE **N**Photo APPRENTICE

## THE APPRENTICE...

**NAME** Gav Jensen  
**CAMERA** D750

Gav is an IT project manager from Grimsby. He caught the photography bug from his dad, a keen film photographer and darkroom user. Gav bought a Nikon D40 and took a night class to hone his skills. He's since upgraded to a D90 and D7000, and went full-frame 18 months ago with a D750. While he's a confident all-rounder, his attempts at nightscape photography have been disappointing, so he came to *N-Photo* for help...



# Welcome to shooting stars

On a cloudless night in the county of Cornwall, at the extreme southwest of the UK, our Apprentice learns the art of shooting the sky at night

## THE PRO...

**NAME** Ollie Taylor

**CAMERA** D810 and D610

Dorset-based Ollie is the UK's most prolific photographer of nightscapes, having photographed the sky at night in all corners of the UK – and beyond, from Iceland and Finland to Greece. He originally trained as an architect but, after working semi-professionally for around 10 years, made the leap to full-time pro in 2014. His amazing images have graced the pages of numerous newspapers and magazines, and he runs workshops all over the UK and Europe. For more information, see his website: [www.ollietaylorphotography.com](http://www.ollietaylorphotography.com)



## Introduction

Ollie met Gav on a Cornish beach near Newquay, just before dusk. The key to nightscape shooting is planning, and Ollie had picked a moonless night that was forecast to be clear. However, the light and wispy cloud was building into something a bit more menacing. So without further ado, the two talked through camera settings before taking the first starry shot.

## Technique assessment

### APERTURE

**Ollie says...** I asked Gav to dial in the typical exposure settings he'd use for a night shoot. I was pleased to see him using Manual mode, but he'd set a narrow aperture in an attempt to get both the foreground and distant stars in focus. However, you need your sensor to capture as much light as possible to capture stars that are mere pinpricks, so I got him to open up his lens as wide as possible to its maximum aperture.



### ISO

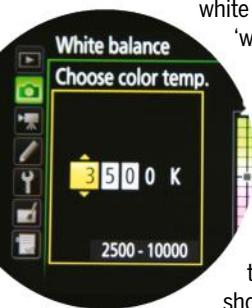
**Ollie says...** Gav had also set a relatively low ISO to minimize noise, but I persuaded him to ramp this up to around ISO5000 – again to capture as much light as possible.

To counter the effect of noise, I showed him how to enable High ISO Noise Reduction and set it to its highest setting. He'd also set a shutter speed of 30 secs as this is the longest available option, and while this isn't far off the mark, there's a more scientific way of selecting shutter speed (see The 500 Rule, p57).



### WHITE BALANCE

**Ollie says...** Gav was using his camera's Auto white balance setting, but with very little 'white' to work with in a night shot, the results will be unpredictable. I always set a Custom white balance setting to around 3500 K, as not only will this give a consistent result every time, but the cooler setting lends the stars an atmospheric bluish light that works particularly well for shots of the night sky.

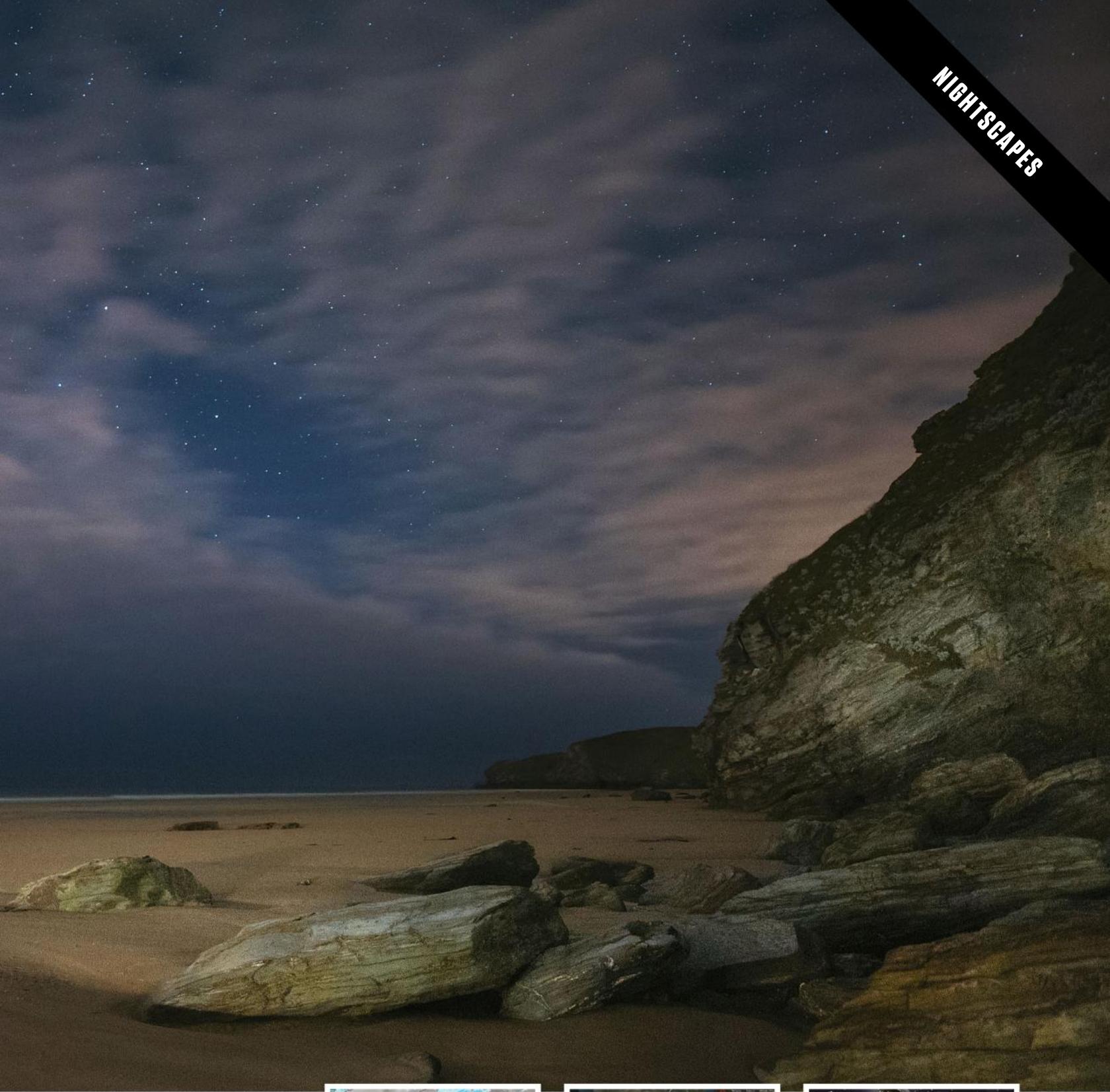


# HOT SHOT #1

EXPOSURE 20 secs, f/2.4, ISO2500  
LENS 15mm f/2.4



**Our Apprentice says...** As the sun set, the first stars started to come out and the Plough – or Ursa Major, to give it its official title – appeared over Watergate Bay. The scene looked pitch black to the naked eye but Ollie explained that the long shutter speed would pick up the light pollution from nearby Newquay, which would 'paint' the beach for us. I used the camera's level screen to ensure that the horizon was straight, which I lined up on the lower third of the scene because, with nightscapes, it's all about the sky!



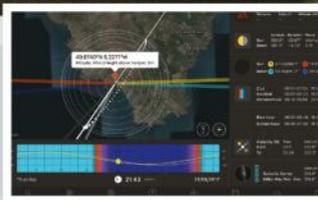
## Expert insight Planning

A successful night sky shoot relies on planning. You need a clear, moonless night in an area free of light pollution, and it's helpful to know what will be where in the heavens. Luckily, there are a number of great smartphone/tablet apps and online resources...



### WEATHER & RADAR

Clear nights are vital – if it's cloudy, the stars will be obscured. This app has a radar-like display that predicts precisely where the clouds will be and at what time, and is much more localized than the typical generic weather apps.



### PHOTOPILLS

A bright moon dominates the sky and renders all but the brightest stars invisible. For shots of the Milky Way you need a moonless night. This calculates the position of the moon, time of twilight and when total darkness prevails.



### STAR WALK

Knowing where the Milky Way will be on any given night is vital for composing images with foreground interest. This app superimposes the night sky on your device's camera display, so you can recon shooting positions before it's dark.





# HOT SHOT #2

**EXPOSURE** 684 secs, f/4, ISO640  
& 20 secs, f/2.8, ISO6400  
**LENS** 24mm f/2.8



**Our Apprentice says...** Building cloud on the north coast of Cornwall meant there was only one option – hotfoot it to the opposite coast! Kynance Cove, on the Lizard peninsula, is the darkest place in England, and far from any towns and light pollution. As it was getting later, Ollie said the Milky Way would become visible, and while I could just about see the faint glow by eye, the results that appeared on my screen were jaw-dropping! We then decreased the ISO and took a second exposure for the foreground – which was nearly 11 minutes long...

## Expert insight The 500 rule

**Ollie says...** They may look static, but the stars are constantly moving (to be more precise, it's *us* that moves as the earth rotates) and if your exposure is too long, they will be rendered on the camera sensor as elongated lines, rather than dots. To calculate the maximum exposure time you can get away with, divide 500 by your lens's effective focal length, so on a 24mm lens, 500/24 would work out as 20.83 – rounded down that would be a maximum shutter speed of 20 secs. However with ever-increasing sensor resolution, it's best to err on the side of caution and go even slower than this.



## Pro's Killer Kit Nikon 14-24mm f/2.8 AF-S G ED N

**↑ Ollie says...** When it comes to lenses you need three things: a wide angle to capture as big a slice of the heavens as possible; a wide aperture to allow as much light to strike the sensor in the time you have to play with; and top-quality optical performance to render the scene as sharp as possible. All this means investing in high-end glass, and while I've tried plenty of other wide primes, Nikon's ultra-wide zoom is still my favourite.

## Pro's killer kit Hand warmers

**↓ Ollie says...** The temperature can drop rapidly at night, and so in addition to layering up to keep warm, hand warmers are invaluable – and not just for keeping your fingers toasty. At night, moisture in the air settles on cold surfaces and forms condensation – and lenses are cold. So to prevent them from fogging up during a long exposure, I attach a couple of hand warmers to the barrel using hair bobbles.



## Pro Portfolio Great heavens above

OLLIE SHARES A SELECTION OF HIS FAVOURITE ASTROPHOTOGRAPHY IMAGES



### ANDROMEDA

Probably my favourite nightscape shoot of all time, this shot was hailed a triple phenomenon by a renowned astronomer as it shows the faint glow of the aurora borealis, the Milky Way, and the Andromeda galaxy, over a field of opium poppies in Dorset.



### REFLECTIONS

I spent five years up and down the UK, shooting a nightscape project that is now finally complete. I favoured a really subtle low-key edit of the night sky for all the shots featured within it, to try and stay truer to traditional landscape photography. This is one from that collection.



### AURORA

It's common knowledge that it is possible to see the aurora borealis in the north of the UK, I've shot it many times, in many counties, even as far south as Dorset. The displays are naturally not as strong as in the Arctic regions, but on this occasion, I climbed high into the snow line to witness this awesome display over the Cairngorms.



## Our Apprentice says...

Ollie suggested we kill two birds with one stone and set up this super-long-exposure shot on his camera while we

proceeded to shoot our Shot of the Day (over the page). Nightscape photography normally means calculating an exposure short enough to avoid capturing the movement of the stars, but here we set a far longer, almost-20-minute exposure, to form star trails. This meant I could also use a lower ISO, and narrower aperture, – which rendered the beam from the lighthouse into a star shape.

## Pro's Killer Kit Sturdy tripod & L-Bracket



**Ollie says...** A heavy-duty tripod and head is essential because not only does the camera need to be kept rock-steady during exposures ranging from several seconds to several minutes, but because many images are created from two separate exposures, and you want to avoid movement caused by dialling in different settings for the second exposure. I use an oversized carbon fibre model topped with a Really Right Stuff L-Bracket, which enables me to switch between horizontal and vertical compositions of the same scene – which is important when it comes to marketing images – without the danger of the camera working loose from its plate...



## Expert insight Shooting for sky and land

Ollie recommends shooting two separate exposures and merging them in software, because for the stars you need to capture as much light as possible in a relatively short space of time – even at the expense of image noise – while for the foreground you can afford a much longer exposure and thus cleaner image, but you'll need to shoot 'throwaway' frames too...



20 SECS, F/2.8, ISO6400

### SHOOT THE SKY FRAME

It's vital that the stars are absolutely pin-sharp for nightscapes, and for this you'll need to set your lens to infinity – marked as '∞' on the focus ring. For precise focusing, set manual focus and engage Live View, then zoom into a bright star, and twist the focus ring until it's at its sharpest, then recompose the shot. Set the widest aperture on the lens and ISO in the range of 3200-6400, and a shutter speed determined by the '500 rule'. This should capture crisp stars, but the foreground will be very noisy.



10 SECS, F/2.8, ISO25,600

### 'THROWAWAY' FRAMES

Ollie shoots a separate exposure for the land at a much lower ISO and lengthier shutter speed of several minutes long – but how long? To quickly judge the exposure length, first ramp up the ISO as high as it will go – such as ISO25,600, and take an exposure of around 10 seconds. The resultant image will look horrible, with extreme noise, but all you're worried about at this stage is getting decent exposure for the land, so tweak the shutter speed until you're finally happy with the brightness of the foreground.



640 SECS, F/4, ISO400

### SHOOT THE LAND FRAME

Then decrease the ISO to around 400-640 and double the shutter speed for every stop of ISO you go down. For example, if you got a reasonable exposure at 10 secs at ISO25,600, then reducing this to ISO400 is a six-stop difference, so doubling 10 secs six times works out at 640 seconds, or around a 10-minute exposure. In the resultant image the stars will have turned into streaks, but the land will be much more appealing with much cleaner, richer detail, and seas will smooth into a gorgeous mirror-like surface. →

NIGHTSCAPES

# HOT SHOT #3

EXPOSURE 1128 secs, f/7.1, ISO400  
LENS 28mm f/1.4

**OVER TO YOU** THE APPRENTICE

# SHOT OF THE DAY

EXPOSURE 731 secs, f/4, ISO500  
& 20 secs, f/2.4, ISO5000  
LENS 15mm f/2.4



**Our Apprentice says...**

It was in the early hours when we arrived at our final location – Britain’s most southerly point, Polpeor Cove. It was too

dark to see anything with the naked eye, so Ollie lit up the boathouse with his torch while I composed my shot. We took two shots: one for the stars with a high ISO/short exposure time and the other for the land at a low ISO/long exposure for a more detailed foreground and then merged them in software.



**Our pro’s verdict...**

Nightsapes might be all about capturing the heavens in all their glory, but it’s the foreground that sets the scene, and

the boathouse leads the eye towards the Milky Way perfectly, which is almost vertical in the frame as it was shot late into the night – it moves and changes its angle of tilt through the night. Gav achieved pinpoint focus on the stars with his first exposure, for a sky full of bright detail, and has calculated his second exposure for the land perfectly, for a noise-free foreground. Well done Gav, you were a star pupil!

**Expert insight Merging exposures**

Shooting the night sky is only half the job – post-processing in Lightroom and Photoshop is vital for bringing starry shots to life

**LIGHTROOM**



**1 THE SKY FRAME**

Tweak the sliders in the Develop module to boost the general look of the stars. Apply Luminance noise reduction. Use the Adjustment Brush to paint around the core of the Milky Way to really bring it out.

**LIGHTROOM**



**2 THE LAND FRAME**

Increase overall exposure to see more detail, then create several bespoke adjustment brushes to lighten individual areas. You can then re-edit the various adjustment brushes to achieve a balance.

**PHOTOSHOP**



**3 MERGE THE IMAGES**

Open both frames as layers. Add a layer mask to the ‘land’ layer and paint over the sky with a soft brush to reveal stars below. Use smaller brushes and switch between black and white where land and sky meet.

**PHOTOSHOP**



**4 TIDY IT UP**

Add a Curves adjustment layer with a subtle S-curve to increase contrast, run the Straighten tool along the horizon, then use a spot healing brush to remove hot pixels and ships’ lights.

**Pro’s killer kit Head torch**

**Ollie says...** By necessity, you’ll be searching out the darkest places for night photography, and it’s impossible to see anything, so carrying a light is vital for safety – as well as checking the area to ensure you don’t leave anything behind. Mine has a red lamp option, which doesn’t attract bugs!



**Be our next Apprentice**

If you’d like a chance to be the next *N-Photo* Apprentice, please email [mail@nphotomag.com](mailto:mail@nphotomag.com) with Apprentice as the subject line, or fill in this form. **Return this form to...** The Apprentice, *N-Photo* Magazine, Quay House, The Ambury, Bath, BA11UA, UK

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 Camera \_\_\_\_\_  
 I’d like help shooting \_\_\_\_\_



**Next month: Lifestyle portraits**

Take a deep breath... Next issue’s Apprentice really gets into the zone for a lifestyle shoot in a yoga studio with portrait pro Holly Wren. And relax!

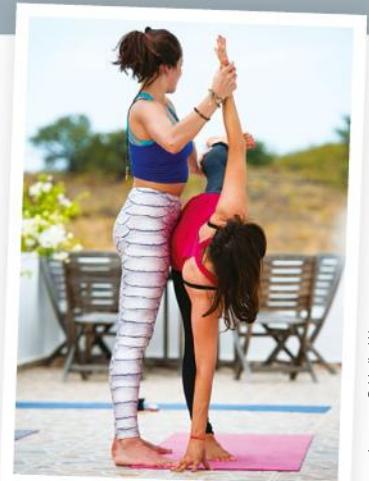


Image: © Holly Wren



1

# Photograph 100 strangers



**Arnab Ghosal** decided to overcome his shyness by approaching 100 different strangers on the street to take their portrait, and these are some of his results



**Mission:** To overcome fears of approaching people and improving my portrait photography

**Photographer:** Arnab Ghosal

**Age:** 41

**Location:** London, UK

**Kit:** Nikon D3100, Nikon D610, Nikon 35mm f/2.8, Nikon 85mm f/1.8

**Website:** [arnabkghosal.com](http://arnabkghosal.com)

**T**o help overcome my fear of approaching strangers for portraits, I started my 100 Strangers project in February 2013. This came as the result of a street photography tour in Buenos Aires six months earlier, where the organizer recommended that we not be afraid of asking people for portraits. I came across the project from a guest blog on Erik Kim's street photography website. Through further research I found out

about the 100 Strangers group on Flickr. This group was very welcoming and I could easily see the progress that could be made. It seemed exciting to me and a great way to improve my ability in approaching people for portraits.

After joining, it took some time to get started. I finally photographed my first stranger in Carnaby Street, London. Twice I tried to approach a guy named Simon before finally getting his portrait. Once I did, I was totally hooked!

I try to be as portable as possible when shooting street portraits. I love my Nikon 85mm f/1.8 lens, which has a shallow depth of field, fantastic image quality and is very light. I also won't leave home without a Lastolite Trigrip reflector, which is great for manipulating natural light.

Some people stand out to me. I was so struck by Hannah's beauty and gorgeous red hair [1] that I had to approach her for a portrait. She was looking for the location of her audition and agreed to a portrait but I had to be quick. I positioned her in an alleyway in Soho, London where there was some beautiful light. I added to it by placing a reflector under her face, which really brought out her eyes.



1

**Hannah**  
Nikon D610, 85mm  
f/1.8, 1/200 sec,  
f/1.8, ISO400

3

**Guillermo**  
Nikon D610, 85mm  
f/1.8, 1/200 sec,  
f/1.8, ISO125

2

**Ed**  
Nikon D610, 85mm  
f/1.8, 1/250 sec,  
f/1.8, ISO100

4

**Sue**  
Nikon D3100, 35mm  
f/1.8, 1/250 sec,  
f/1.8, ISO100



3

Like Hannah, Ed stood out to me immediately; what drew me in was the combination of his eyes and hair [2] as I saw him standing there. I also noticed that the shops on the side were creating a nice shadow-to-light-effect across his face. He was simply too cool to *not* to ask for a portrait; luckily he agreed. This was one of those very quick shoots that just worked.

I did this project all over the world, wherever I went. I took a picture of Guillermo walking around in Havana, Cuba [3] and we got chatting afterwards. We had a cool conversation and exchanged stories. He was practising his English and I gave my very broken Spanish a try. Unlike many Cubans, he had travelled and spent two years in Russia. This is one of many wonderful encounters I have had as a result of this project, and that's why I love it. The challenge here was to get light into his eyes under his hat. The reflector held by my friend did the job nicely.

For some it's not the way they look per se, but their attitude that draws me in. Walking along the South Bank in London always has potential for great strangers and Sue is a favourite from my first 100 strangers project. Apparently a lot of people take pictures of her without asking, so she was delighted that I had approached her first. She had such a strong and vibrant personality and the challenge here was to capture that while having her still look at the camera. She later commented that if this look was translated into words it would read: "Welcome to my world... you'll live to regret it."



3

### ! Arnab's top tips

- Be brave and don't be afraid to ask to strangers' whether you can take their photos. If you ask enough people you're bound to get some to say yes!
- Prime lenses are lighter and have wider apertures than most zooms
- Take a reflector with you and use it to bounce light back in to your subject

TO ENTER YOUR OWN PHOTO STORY SEND FIVE OF YOUR BEST IMAGES TO: [mail@nphotomag.com](mailto:mail@nphotomag.com)



# Building a portfolio

## YOUR PROJECTS CRITIQUED

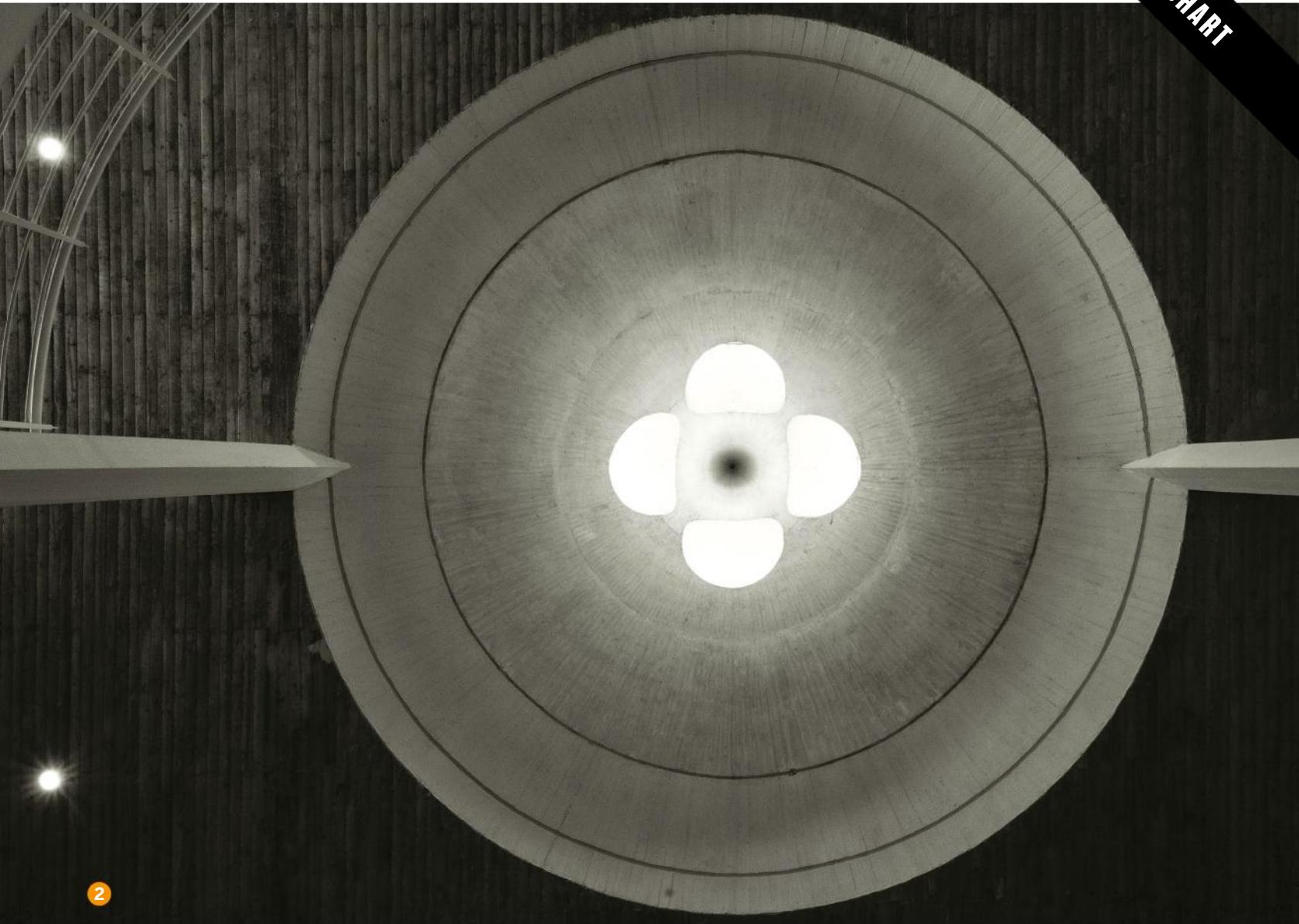


**Sean Goodhart** submits his favourite architectural images after being inspired by the use of repetition and symmetry in the works of Santiago Calatrava

**F**rom 2013 I began looking closely at the architecture of Santiago Calatrava, using photography to illustrate symmetry and repetition of form within his work. I began making images to compare each of the buildings I visited. The three shots selected are abstractions and often need explaining when I show them to people. All images were processed in Adobe Lightroom and Topaz Black & White Effects.

The soft afternoon daylight at the fantastic Milwaukee Art Museum's Quadracci Pavilion lights up the arches with a diffuse quality [1]. I took this photo to show the similarity of this part of the Milwaukee structure with a series of concrete arches at the Valencia Science Museum. The camera was handheld to take the image. If I'd had the freedom to use a tripod I would have done so, aiming to get more depth of field by stopping down my aperture beyond f/8 to retain sharper edges.

WANT YOUR PORTFOLIO REVIEWED? EMAIL YOUR SHOTS TO [MAIL@NPHOTOMAG.COM](mailto:MAIL@NPHOTOMAG.COM)



2

After more than ten visits to Valencia's City of Arts and Sciences (my first was in 2013), I was surprised to find this view of the ceiling for the first time [2]. To shoot the image I placed the camera on its back on the floor, pointing upwards, and lined up the shot 'blind'. Shooting with a wireless shutter release, it took eight

attempts before I had the camera centred to get the image. Plus I had to expose for the highlights and still recover the dark areas. Despite shooting with a 10mm lens, I could have gone even wider. I couldn't use my tripod because it physically raised up my D7100, which cropped out too much of the surrounding area.

Towards the beginning of October 2016, I waited until late one evening to photograph Valencia's Palau de les Arts Reina Sofía opera house [3]. I shot it from a nearby bridge in the late evening because traffic vibration was causing the bridge to move and I needed stability for the long exposure. I would like to take this shot again with a cleaner camera, as I had to tidy up the smooth sky in Lightroom because of all the dust spots on the sensor.

1

**Tunnel**  
Nikon D7100, 18-105mm f/3.5-5.6, 1/80 sec, f/8, ISO200

2

**Inside the cone**  
Nikon D7100, 10-24mm f/3.5-4.5, 0.6 sec, f/16, ISO400



I placed the camera on its back on the floor, pointing upwards, and lined up the shot 'blind'. Shooting with a wireless shutter release, it took eight attempts before I got the image

## N-Photo says

To take a good photograph, we often hear that you have to have something beautiful to photograph. And while





the architecture is stunning, you have made deliberate framing choices which accentuate the beauty of the work. Sean, your image of the tunnel from Milwaukee Art Museum has such smooth, creamy lighting [1]; the hard edges of the arches cut through that cream to provide distinct and elegant lines curling their way through the photograph. You've done well to convey their size and shape, and by filling the frame with these

arches it's possible to feel the enormous presence that a structure like this imposes on a visitor.

You show excellent attention to detail, and by taking your time to photograph the ceiling at the Valencia City of Arts and Sciences [2] you show us that you have a pre-planned idea of what you want to capture. It feels as if you've researched the location well and that you have a real passion for the work.

The same shows in your image of the Valencia Palau de les Arts Reina Sofia [3], where you waited for less traffic on the bridge to avoid camera shake. Here the sky is a dark grey, almost black, but you have retained astounding detail in the midtone greys on the building and good detail in the highlights by not overexposing.

A great set of images that captures the essence of being there and conveys it to the viewer.

**3**  
Great white  
Nikon D7100, 18-105mm f/3.5-5.6, 5 secs, f/9, ISO100

## TECHNIQUE TIPS

### The N-Photo experts say...

#### KEEPING STILL

If you're photographing architecture in low light you'll need a tripod to keep your Nikon steady. But be aware of the surface you're based upon. If you're on a bridge that's heavy with traffic, for example, it's still possible to have the entire structure shake and blur your image.

#### RETAINING DETAIL

To keep highlight detail, prevalent in streetlights, underexpose the image by 1/3, 2/3 or even one whole stop. Either make your shutter speed faster by a few notches of the sub-command dial, or dial in some negative exposure compensation in Shutter or Aperture Priority modes.

#### ZOOM LENS

Sean has used the 18-105mm lens: although an entry-level lens, it provides good sharpness for stunning images, as you can see. A wide-to-telephoto zoom like this is a perfect travel lens because you don't need to carry other lenses while out and about.

#### SYMMETRY

Many buildings have symmetrical aspects so take the time to frame the shot as symmetrically as possible. If you find an asymmetrical shape, do your best to complement this by adjusting your composition. If you still struggle, fill the frame to show shape and pattern.

NEXT MONTH: CLOUDS IN THE MOUNTAINS



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# Letters

We'd love to hear your thoughts on the mag and all things Nikon-related. Email us at [mail@nphotomag.com](mailto:mail@nphotomag.com) or write to us at **N-Photo, Quay House, The Ambury, Bath, UK, BA1 1UA**. We reserve the right to edit any queries for clarity or brevity.

 LETTER OF THE MONTH

## Milking it

Why is the photography community obsessed with shooting moving water with a long exposure to produce smooth, milky images? I find this frustrating as I believe the purpose of photography is to replicate what is seen by the human eye, which freezes the motion of water.

I was initially heartened to read "Had enough of impossibly smooth, milky-water seascapes?" in the Big Project (*N-Photo* 72) thinking I was going to see images with the water movement not smoothed out, but was disappointed to find the usual milky images!

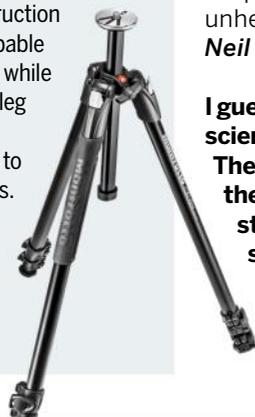
In another article, the writer was photographing a stream and explained that the exposure length had to be

## Win a Manfrotto 290 Xtra tripod worth £105!

Write our star letter and you'll win a versatile Manfrotto 290 Xtra aluminium three-section tripod. The lightweight construction makes for a sturdy mount capable of carrying heavy equipment, while the 290's durable aluminium leg locks and four adjustable leg angles enable photographers to capture creative compositions.

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**Neil wanted to convey the power of the breaking waves and points out that the gulls, which are part of the seascape, would disappear with a long exposure**

balanced to produce the necessary blurring of the water but not so long as to produce too much blurring of moving clouds, as the viewer would find this odd. Surely the average viewer would find the blurred water odd!

This bias was reflected in *N-Photo* 78, in the 'Land of ice and snow' Portfolio Review. It was refreshing to see a photo where the water wasn't blurred, but this was criticized and *N-Photo* felt the author could have experimented with a longer exposure!

I fully recognize that photography encompasses art, but on this subject the art perspective is given a decidedly unhealthy bias.

**Neil Broadhurst**

**I guess it comes down to: is photography science or art? For us it's a bit of both.**

**The human eye sees moving water – so the challenge is how to convey that in a static image. The same is true with sports – a racing car panned against a blurred backdrop looks far more dynamic than one frozen with a higher shutter speed. What do other readers think?**



**A 200-500mm zoom is perfect for shooting small, RC model aircraft**

## Flying high

I have subscribed to *N-Photo* since I bought a Nikon D5300 in 2014. My husband has never taken an interest and when I suggested it as something we could do together, he pooh-poohed the idea. That was until he decided his hobby of flying model aeroplanes wasn't giving him much exercise. He started reading a few of my magazines and then, to cut a long story short, bought a Nikon D500 and a 200-500mm lens as he wanted to take pictures of his model aeroplanes in flight. There was also a second-hand Nikon 70-200mm lens on sale, so we bought that too!

Wow! All my Christmases in one as my husband said I could have the 70-200mm as an early Christmas present. So the last few weekends we have gone to local beauty spots and I have persuaded my husband to take a basic photography course. In the meantime, I've made sure he isn't shooting on Auto! So maybe it's a case of: if you can't beat them, join them!

As we now have quite a bit of money invested, I was wondering if it would be possible for you to do a review on camera insurance?

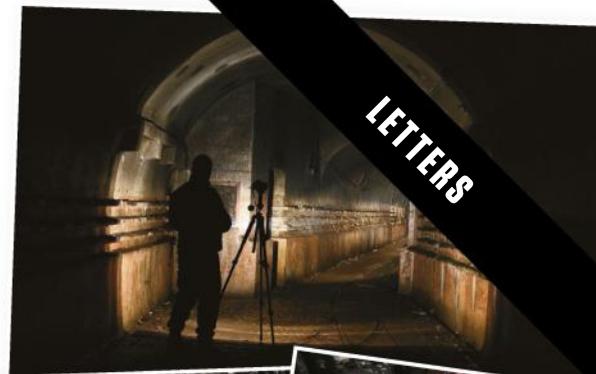
**Jacqui Somerville**

**Glad to hear that your husband has been bitten by the Nikon bug and combined this with his hobby of flying model aircraft. Aaduki is a very well-regarded specialist insurer of camera equipment: [www.aaduki.com](http://www.aaduki.com)**

Images: Vaughn Entwistle



Nikon's Capture NX-D software is essentially a Raw converter for basic tweaks



## An expensive business

After a 34-year absence from photography due to getting married, bringing up children and so on, and with retirement around the corner, I decided to get back into my passion.

Having got advice from others, I decided a Nikon was the way forward, and I've subscribed to *N-Photo*, which I think is great. There is, however, one question I would like to put to you.

Post-production always seems to be in Adobe Photoshop or Lightroom. The cost of this software would probably be included in the business model of professionals, but for us enthusiasts the cost is unaffordable.

As a dedicated Nikon publication, could you show how the same changes could be made using Nikon's Capture NX-D? I am sure that the same finished image could still be achieved.

**Alan Jacques**

We do have a regular series on Capture NX-D in our Nikopedia section (see page 80), but the program is essentially a Raw converter – and so while it enables you to carry out basic processing on Raw files to improve exposure for more vibrant images, more complex tasks are beyond its capabilities.

Lightroom and Photoshop certainly used to be expensive to buy outright, but they've since moved to the 'Creative Cloud' subscription service, and we think that Adobe's Photography Plan, which starts at just under £10/\$10 per month, is great value as it gives you access to both programs.

For those who don't like the idea of being tied into a subscription, Photoshop Elements is more beginner-friendly, but not as powerful, and costs around £87/\$100.

Another good option is Serif Affinity, which we reckon gives the full-blown Photoshop a run for its money, yet only costs £49/\$50.

## It's all part of the process

I'm curious about entering photography competitions but am discouraged by the need to use post-processing to stand a chance of winning. My ethos is very much 'through the lens' with little processing (just cropping or exposure correction using Nikon's Capture NX-D).

I use a documentary style to tell a story, which finds favour with recipients of my wedding and sporting photos. I also enjoy nature, landscape and architectural photography, also from a documentary standpoint.

So is post-processing an expectation of the judges' search for perfection, rather than the photographers'?

**Chris Mason**



Chris favours 'documentary' style images with minimal processing – here the monochrome conversion was done in-camera on his D500

Processing is part of digital photography. However, most photo competitions have strict rules about what can and can't be done to images when it comes to processing; generally nothing can be added or taken away – as this is considered manipulation.

## Exploring the possibilities

I do a fair amount of 'urbex' photography (urban exploration, in deserted buildings), and a few months ago I went into a derelict factory. Entry was simple: climb onto a concrete pole cemented into the ground, stand on the metal fence and drop into the site. There were no 'no trespassing' signs or, warning signs about injury or unsafe buildings.

I had been on site around 40 minutes when security arrived and I decided to leave. I climbed a tree to get onto the fence; however, as I got one foot on the fence a branch snapped and I fell. The metal fence posts had three lethally sharp spikes, which removed the tip of my finger.

I ended up going to hospital and had two operations on my hand and a skin graft. Now my point is this: if a person climbs over my side gate and the dog attacks them then I am liable for their injury if I have failed to display a 'beware of the dog' sign.

Although I accept this was trespass, I feel the site owner has a duty to make the area safe. I was wondering if I would legally have a claim in relation to this injury?

**Bartholomew Simpson**

You could always put this to one of those 'no win no fee' personal injury lawyers. As you say, you were trespassing and was injured while making a hasty exit when security turned up, which suggests that you knew you shouldn't have been there...

While urbex photography can yield some fascinating images, it's fair to say that anyone who undertakes it does so at their own risk.



**PHOTOGRAPHER  
OF THE YEAR**

**Photo 2018**

**Win a Nikon D850 in our fantastic contest – simply by showing off your favourite images!**

**W**e're delighted to announce our latest and greatest *N-Photo* Photographer of the Year competition, in our search to find the best Nikon-using photographer out there! Every month, we will set a theme, and want you to submit your very best images via our competition website partner Photocrowd – which enables the public (that's you!) to vote on their favourite images and pits the winner against one chosen by a panel of expert judges (that's us!).

Each issue's contest will have two winners – one selected by the 'crowd' vote, and another chosen by the *N-Photo* team. Both will receive a prize, full details to be revealed in the next issue of *N-Photo*!

But that's not all – once we have run 12 competitions, the best entries from the past year will be entered into our grand final and one selected to be our *N-Photo* Photographer of the Year 2018 – and win the groundbreaking Nikon D850 – the perfect camera for all disciplines of photography!

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That all changed with the introduction of the Nikon D850. Combining an astounding 46Mp full-frame sensor with a slick 7fps shooting rate, it's equally at home shooting carefully considered portraits in the studio, or high-adrenaline sports. Its silent shutter mode makes it great for situations where noise is a

no-no, such as wildlife or weddings, and if making movies is your thing then it shoots full-frame 4K video – where lesser cameras have to make do with a cropped area in the middle of the sensor.

So whatever your favourite style of shooting, the Nikon D850 is the perfect camera!

**WORTH  
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**HOW TO ENTER**

**Here's how our photo competition works**

■ A theme is set each issue by the *N-Photo* team and a top 10 gallery of winners will appear two issues later. In addition to announcing the theme in the magazine, we'll also put it on our Facebook page, [www.facebook.com/nphotomag](http://www.facebook.com/nphotomag)

■ Each monthly contest will be hosted on photo competition website Photocrowd (a single entry is free, but requires registration). It goes without saying that all images must be shot on Nikon digital cameras!

■ Images are judged by the *N-Photo* team. Your fellow *N-Photo* readers are also able to vote for their favourite image.

■ The Judges' Vote winner and Crowd Vote winner will both receive a prize each issue, details to be revealed!

■ The 12 themed competitions will appear throughout 2018, and the overall ***N-Photo* Photographer of the Year** – and winner of the **D850** – will be crowned in the issue that goes on sale in January 2019.

■ So without further ado, the first theme is **Winter** – see our lead feature on page 18 for handy hints and tips on shooting the great outdoors this frosty season! Send your entry [www.photocrowd.com/nphotowinter](http://www.photocrowd.com/nphotowinter)

■ The deadline for entries for our first contest is **18 January 2018** and the top 10 gallery will appear in *N-Photo* 82, on-sale **15 February 2018**.

To whet your appetite, here are some winners from last year's comp!

**Eid ul Fitr Prayer**  
Sirsendu Gayen

→ Sirsendu has overcome the difficulties of photographing a crowd by getting high and using a

wide-angle lens. The result is a striking and vibrant image that uses the leading lines of the mosque to great effect.

Nikon D610, 12-24mm f/4, 1/250 sec, f/6.3, ISO400



**Dusty Sunset**  
Anna-Mart Kruger

← What's great about this image is how precisely separated the silhouettes are, and the fact that one

rhino is three-quarters on, and the other is in profile, giving you two views in the same frame.

Nikon D750, 150-600mm f/5-6.3, 1/500 sec, f/6.3, ISO320



**Gold and Dreams**  
Elena Paraskeva

↑ This stunning shot captures the essence of the Manhattan skyline. A shorter exposure would have recorded

distracting detail in the water – plus the wonderful reflections of the piles wouldn't have been as distinct.

Nikon D800, 16-35mm f/4, 30 secs, f/16, ISO64



**What is That?**  
Robert Cinega

↑ This playful image is packed with character. The background is clean and beautifully blurred, while the

arrangement of all the elements is pixel-perfect. Oh, and it's pretty darned cute, too!

Nikon D90, 75-300mm f/4.5-5.6, 1/80 sec, f/5.6, ISO250

# The Photography Show

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Pro photographers may apply for free trade passes subject to validation criteria.

# NIKOPEDIA

THE ONLY CAMERA MANUAL YOU'LL EVER NEED



**74** Michael Freeman's Creative Paths...  
Michael breaks compositions down into separate elements and exploits the presence of figures through the image

## IN NIKOPEDIA THIS MONTH



**80** Nikon software  
George Cairns demonstrates how take away the tedium of performing repetitive tasks



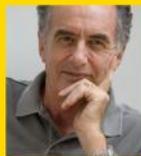
**82** Ask Jason  
Jason suggest three different techniques to use with your Nikon



**84** Head to head  
What's the best ultra-wide-angle lens for you: the Nikon AF-S 14-28mm f/2.8 or the Irix 15mm f/2.4?



Our globetrotting Contributor at Large, renowned photographer and prolific author **Michael Freeman**, presents a month-by-month masterclass that's exclusive to *N-Photo*, in which he explores his tried-and-tested paths to more creative photography. Michael has published dozens of books on photography, including the bestselling *Perfect Exposure*.

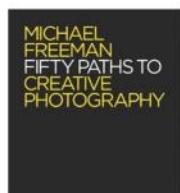


Taiwanese tea pickers on Dongding Mountain, in traditional wide conical hats covered in silk, protection against strong sun

FREEMAN'S CREATIVE PATHS

# DEGREES OF SEPARATION

When things get busy, it's time to pull the elements apart



If you enjoy this article and want to learn more, there are 50 more paths to be discovered in Michael's new book *Fifty Paths to Creative Photography* (NB: all 50 are different from those that will be featured here in the magazine)

**T**ry to imagine a scene in which you have an interesting or attractive backdrop and one figure moving through it. This is a more common recipe for a successful, popular photograph than many people might imagine, and there's even a *National Geographic*-ness about it (think red-turbaned Indian walking down a blue lane in Jodhpur). This kind of shot is actually very easy to pull off, provided you have the right two ingredients (three if you include juicy lighting). Small crowd scenes, with half-a-dozen people all jostling for position in the frame (figuratively speaking), are an entirely different matter. The skill in separation is in doing three things simultaneously: anticipating how the people might move, moving to a position that might keep them distinct and apart, and reacting very quickly to split-second moments. The American photographer Joel Meyerowitz watched Cartier-Bresson at work, and recounted, "We stood back a few paces, and watched him. He was a thrilling, balletic figure, moving in and out of the crowd, thrusting himself forward, pulling back, turning away." Many of Cartier-Bresson's pictures achieve this separation. Another photographer notable for being able to handle multi-person shots is Alex Webb, and it's worth looking at both of their work to see this technique.

### De-crowding

That's a word I just made up, but it does the job and it's what I feel when there are several people together and I'm trying to bring some order to the scene. The starting point is a jumble, but with experience you have a sense



that there's some potential – that if you work at it and have some luck, you'll be able to make the scene coherent. This particular scene was in Taiwan, where colourfully dressed ladies were picking tea leaves and moving very fast (they get paid by weight). At first, the scene was a visual mess, a quickly moving mess, but the opportunity was in the flamboyant attire (all for the purpose of hiding every inch of skin from the sun).

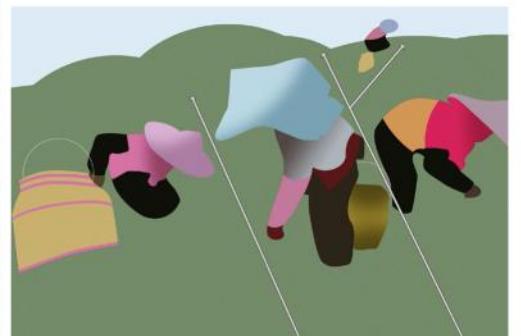
You have more control over all of this, incidentally, if you use a wider angle lens from close in, rather than standing back with a standard or longer focal length. The reason is straightforward: the closer you get to the subjects, the more of a compositional difference it makes when you step to one side. Basically, it's a matter of parallax. Even the slightest of feints left or right with a lens like the one used here (14mm) will make a noticeable difference to the positions of figures in your frame.



The sequence of shots from first arriving, leading up to the final shot, each with problems of the figures merging and bad positions to camera



The aim here was to find one moment and viewpoint in which the three foreground pickers would not overlap — and also not have their backs to the camera





# Juggling pairs

One of the rewards of keeping things separate is simply being able to pull it off

**A**lthough hardly anyone ever talks about it, this is one of the most basic techniques in composition, especially when there's a free flow of activity in front of the camera – being able to identify the important elements and make sure they're all separated, each in its own little space within the frame. It's a very simple and natural idea. When things overlap, they cover up parts of each other, and it tends to look messy. You might argue that life's like that, so it's true to life, but in photography that's what a robot camera would do. Our job is to put our personal

stamp on the image and bring some individually imagined order to the chaos.

Yet this is easier said than done when there's a lot going on and it's not really predictable, as happens in a lot of street photography. Normally you have just two options: where you stand, and the moment you choose to shoot. Viewpoint and timing, in other words. The balance between these two can vary widely, as it does in the three pictures I'm showing here this month. In the previous picture of the tea-pickers, camera position and moment were, more or less, evenly matched. Here, the timing

was much more important, and on the following pages viewpoint was everything.

## Three pairs, different predictability

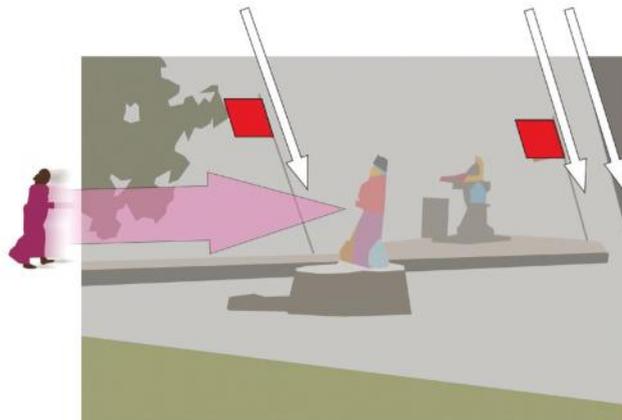
Juggling isn't a bad analogy, because typically you have a number of 'floating' elements in your frame that you're trying to keep in play without colliding. The more there are, the more skill or luck you need, but the reward of succeeding is that it adds to the pleasure of looking at the image, and sometimes that may be just what's needed to make the photograph work. In this case, I started simply by wanting some activity



A Shiva shrine at  
Anse la Raie on the  
island of Mauritius



around this small Hindu shrine jutting out into the sea, and started on the other side of the bay before moving here, where I framed the shot in anticipation of a worshipper walking out along the stone jetty. I knew exactly where I wanted the figure – just to the right of the cloth-wrapped statue. It then occurred to me that they would make a kind of pair, *and* that there was another pair of objects, the fluttering red flags. The idea of two pairs wasn't particularly strong, but better than nothing. As the woman in a sari began walking along the jetty, I started to shoot. At that point, two birds flew into frame from the left. I was already primed for the idea of pairs, so I knew that this could work well, but I still had to time the shot for when the woman was in the exact gap. So, the birds were good luck.



Two frames shot before the final one, with the figure of the woman not matching the statue nor in such a neat gap



Two flags at a matching angle, and the woman expected to walk along the narrow jetty



The sudden flight of two birds completed the scene with a third obvious matched pair

# Orderly arrangement

Even in slow shooting, adjusting the gaps between things puts you in control

Separation also has a non-urgent role to play in the type of shooting that allows time and consideration. Here, however, the dynamics are different. Indeed, they have to be, because while keeping things neatly apart in chaotic situations deserves at least some admiration because it's not easy, in areas of photography such as landscape and still life it's more or less predictable. The phrase 'too perfect' comes to mind, and while that will always sound unfair to any of us who have put time and effort into clambering around to find the best possible viewpoint we can find – or laboured to make an

arrangement of objects fit together without leaving ungainly gaps, the fact is that predictable neatness is kind of traditional, and not necessarily to everyone's modern taste. The real culprit is the sheer quantity of quite-good-looking scenic views in which composition and lighting are by the book. That's far from a criticism, but it does mean that if you're looking for a touch of creativity, you need to use the various techniques differently from usual.

## Rhythm and greens

One of the favoured techniques is, of course, this one of separation, and in the

case of this particular image, it's being used to help abstract a scene that's deliberately minimal. In point of fact, the broader landscape setting around it is Iceland, better known for its wild and primal landscapes; but these identical green bales scattered over a flat, green and featureless coastline had the makings of something different. Doing minimalism in a busy landscape is nothing new, but the opportunities are not all that common, and so they can be very interesting. The only problem to be taken care of was 'scattered', because it was how the bales played against each other that would make the picture work. After a couple of attempts, I realized that the interest lay in how a string of them related to each other from left to right, rather like the notes on a musical score. With that in mind, making a long panorama (stitched) was logical, and then it was just a matter of finding a position from which they seemed to have a kind of rhythm.



Minimalism in a landscape is nothing new, but opportunities are not all that common, and so they can be very interesting





A very wide panorama allows the horizontal sequence of the bales to make full play of the frame



Three earlier attempts to relate different bales in a standard frame





# Speed up adjustments using presets

George Cairns shows you how to take away the tedium of performing repetitive tasks using one-click presets to speed up your workflow



## WHERE TO GET CAPTURE NX-D

It's made for Nikons, and it's free!

Capture NX-D is available as a free download from Nikon at <http://nikonimglib.com/ncnxd>. As new Nikons are introduced, Capture NX-D should be the first software to support them.



When shooting a series of photographs in the same location using identical camera settings, you may capture a series of shots with similar problems. For example, when shooting in a sunny location the high-contrast lighting may cause underexposed shadows to lack detail. This could lead to time-consuming and repetitive processing tasks as you selectively lighten the underexposed shadows of each shot in Capture NX-D.

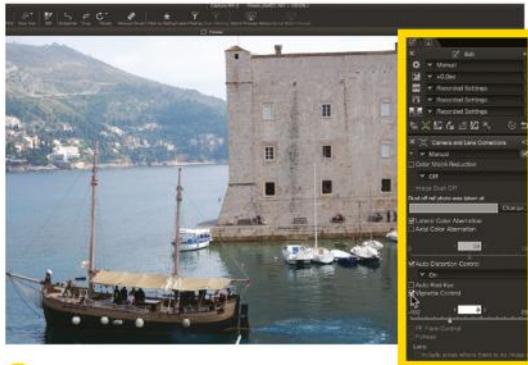
Fortunately, Capture NX-D has a range of adjustment tools to help you speed up repetitive tasks. You can copy the adjustments you make to lighten the first photo's shadows and then paste the

adjustments to instantly lighten shadows in other shots taken at the same location. This type of copy-and-paste edit speeds up your workflow, but the adjustment settings that you copy are only stored temporarily in the computer's clipboard.

There are some adjustments you may want to apply to every shot: for example, you may need to apply a lens profile or give every photo post-production sharpening. Instead of ticking boxes and adjusting sliders for every shot you work with, you can save a series of common edits as a one-click preset to speed up your workflow. Unlike the copy-and-paste operations mentioned earlier, these user-defined presets are permanently available.

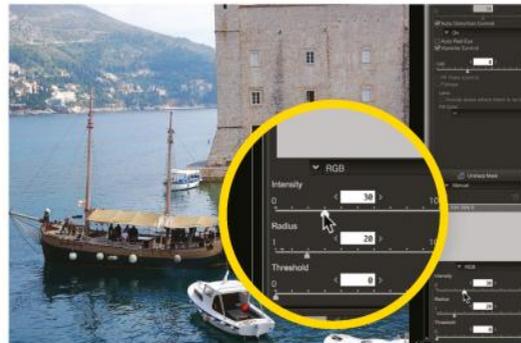
# Create a user-defined adjustment

Perform repetitive processing tasks using presets



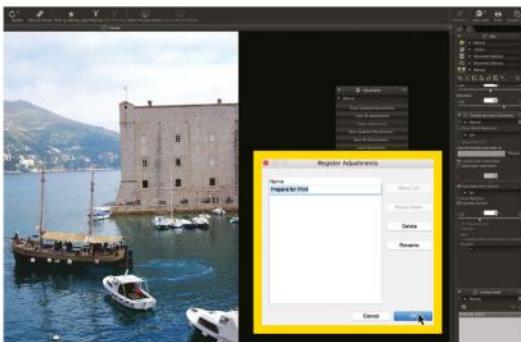
## 1 REDUCE LENS ARTEFACTS

Browse to our supplied Preset\_start01.NEF file. We'll make some common edits to prepare the shot for print. Click on the Camera and Lens Corrections icon. Tick the Auto Distortion Control box and set its drop-down to On. Tick the Vignette Control box too.



## 2 ENHANCE COLOUR AND DETAIL

Go to the Tone panel. Boost Saturation to 42 for more vibrant colours. To create a print with more punch, go to the Unsharp Mask panel. Set Intensity to 30 and Radius to 20. This helps bring out delicate detail on textures such as the castle's brickwork.



## 3 REGISTER ADJUSTMENTS

Click the Adjustment panel's icon to open it. Click Register All Adjustments. In the Register Adjustments window click User Adjustments. Click Rename and type in a label such as 'Prepare for Print'. Click Rename again, then click OK to close the window.



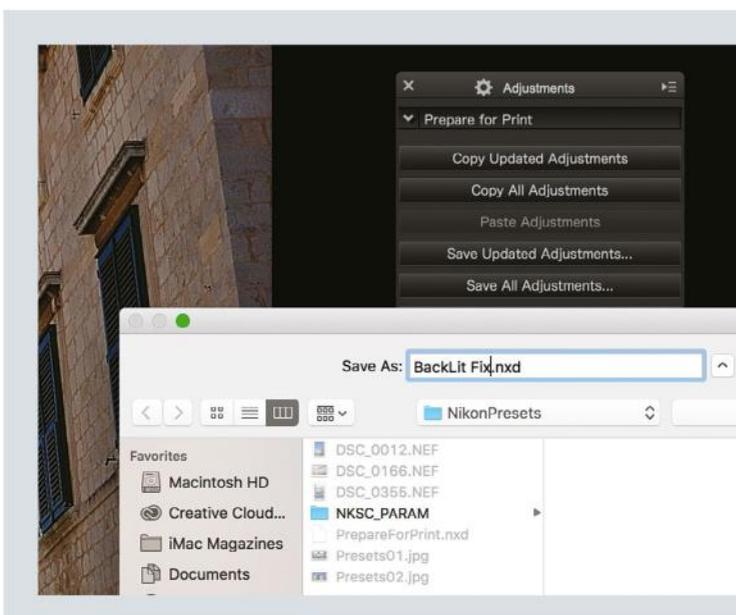
## 4 APPLY ADJUSTMENT PRESET

Browse to Preset\_start02.NEF. At the top of the Adjustments panel you'll see a drop-down menu that says 'Recorded Settings'. Click on it and choose the 'Prepare for Print' option to instantly apply all the adjustments made in the previous steps to the new shot.

## EXPERT TIP

### RAW ADVANTAGE

By working with a Raw format file you can include many more adjustments in a user-defined preset than you can when editing a JPEG. For example, you can only counteract geometric distortion and remove vignetted edges in a Raw format file (such as our supplied .NEF). If you try to apply a preset that includes Auto Distortion Control to a JPEG format file then no geometric correction will be made.



## Save and load

By clicking the The Save All Adjustments button you can save any tweaks that you've made as an .nxd format file. The .nxd file will be stored in the same folder as your adjusted image. When working with a new unprocessed file click the Load Adjustments button. You can then browse to any .nxd files that you created using the Save All Adjustments button. Once you load in the saved adjustment, the currently selected picture's properties will change accordingly.



# Q+A

## Ask Jason...



Our resident Nikon expert Jason Parnell-Brookes answers your questions and solves your problems. If you'd like Jason to come to the rescue regarding your Nikon-related question, email it to [mail@nphotomag.com](mailto:mail@nphotomag.com). Please note that we reserve the right to edit queries for clarity or brevity.

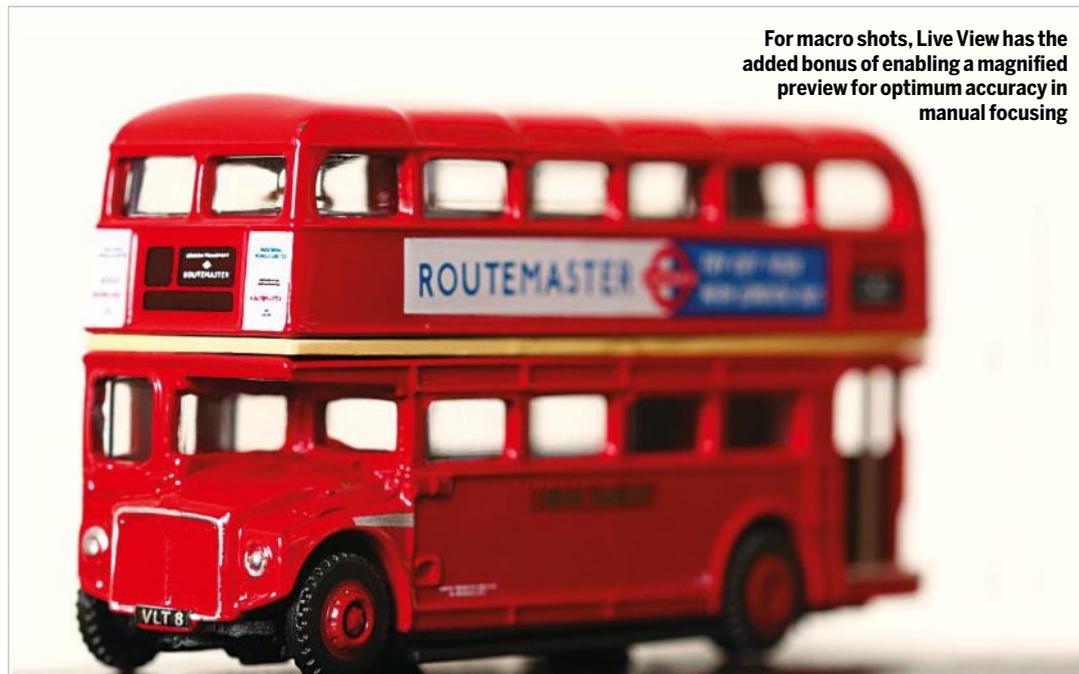
**?** In issue 76 you suggested using exposure delay mode to eliminate mirror-bounce. Would Live View be a workable alternative?

Russell Elliott

**JASON SAYS...** Just to recap, exposure delay mode gives sufficient time between the jolt of the reflex mirror flipping up and the shutter opening, for vibrations to die down. Combined with tripod mounting, it produces sharper shots, particularly for

extreme close-ups with a macro lens, or when using a long telephoto lens.

Live View is a good alternative, and is especially useful in entry-level cameras like the D3400, which don't have an exposure delay mode. When using Live View, the reflex mirror is locked up to enable composition, metering and auto/manual focus, all based on a feed from the image sensor to the rear screen. If your camera doesn't have Live View, exposure delay, or a remote release, use a two-second self-timer delay.



For macro shots, Live View has the added bonus of enabling a magnified preview for optimum accuracy in manual focusing

Like most pro-grade Nikon cameras, the shooting mode dial is replaced with a Mode switch, but you can store multiple banks of user-defined shooting and custom settings

**?** Why doesn't the D850 have the U1 and U2 functions on the D750 camera? Canon has three Custom shooting modes on similar cameras.

Mark Gniewyk

**JASON SAYS...**

Like many enthusiast-level cameras, the D750 has a shooting mode dial which gives access to auto, PASM, scene modes and effects options, plus two user-definable shooting settings. The D850 has a more professional-grade layout, with a Mode button that enables you to cycle through PASM modes with the main command dial, and takes scene and effects modes out of the equation.

At a glance, it's easy to think that user-definable modes are taken off the menu. However, the opposite is actually true. Each of the main Shooting and Custom Settings menus have options for setting up four separate banks of user-defined settings. This enables a huge range of differently configured shooting parameters and custom settings, different combinations of which can be recalled almost instantly.

## ? I bought Photoshop Elements 15 to use with my new D7500, but I can't seem to update the Raw converter. Is there a workaround?

James Wright

**JASON SAYS...** As with other image editing programs, new editions of Photoshop Elements are typically released annually and, once the latest edition is released, updates for the previous edition soon peter out. For compatibility with your D7500's Raw files, you'd need to upgrade to Photoshop Elements 2018, (£70.91/\$79.99). Alternatively, you can download the free DNG Converter from Adobe's website, enabling you to convert your Raw files to 'Digital Negative' format, which can then be opened in earlier versions of Elements.

You might also consider taking out a subscription to Adobe's Creative Cloud



**Adobe's Photography plan includes both cloud-based and 'classic' versions of Lightroom, as well as the full-blown Photoshop program**

Photography plan. This includes the full-blown editions of Photoshop and Lightroom, at a cost of £9.98/\$9.99 per month. You get much more powerful software at little extra expense, compared with staying up to date with Photoshop Elements.

## ? After a firmware update, I'm getting excellent results with an AF-P 18-55mm lens on my D7200. How can I switch to manual focus with VR off, when using a tripod?

Ron MacAlpine

**JASON SAYS...** Like other 'pulse' (stepping motor) lenses, the AF-P 18-55mm VR requires electrical power to alter its focus position, even in manual focus mode. The camera therefore has to be switched on and active. There are no physical AF/M or VR on/off switches on the lens so, with the D7200, you need to turn the AF/M switch on the camera body to its Manual position.

There's no way to turn VR off with the D7200, but that shouldn't be a problem. Nikon recommends generally leaving VR switched on with this lens, even when using a tripod, and the VR system also includes automatic panning detection. With most recent DX cameras, including the D3300, D3400, D5300, D5500, D5600, D7500 and D500, there's an 'Optical VR' setting in the menu system, with on/off options.

**VR can work well even with very slow shutter speeds, when the camera is mounted on a tripod**



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## Secondhand Superstar

### ? I need a superzoom lens for my D5500, to take on a city break this winter. What's a good secondhand buy?

Lucy Granger

**THE EXPERTS AT MPB RECOMMEND...** The Tamron 16-300mm is unique among superzoom lenses for Nikons. Not only does it deliver a massive zoom range, but it also has a greater wide-angle range than its competitors, ideal for squeezing architecture and vast cityscapes into the frame.

## Tamron 16-300mm f/3.5-6.3 Di II VC PZD Macro

**WIDE AND LONG, THE TAMRON HAS BOTH ENDS OF THE SUPERZOOM RANGE NEATLY COVERED**



**RELEASED:** 2014  
**PRICE NEW:** £430/\$629  
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**'GOOD'** £299/\$3950

### KEY POINTS

#### Vibration Compensation

Tamron's proprietary 'VC' optical stabilization system is highly effective in counteracting camera-shake, reducing the need to carry a tripod on your travels.

#### PZD autofocus

Unusually for a 'PiezoDrive' motor-driven ultrasonic (rather than ring-type) autofocus system, the focus ring doesn't rotate during autofocus, and enables full-time manual override.

#### Macro magnification

With a 0.34x maximum magnification ratio, the Tamron qualifies as a 'macro' lens. The neat focus distance scale beneath a viewing window is often lacking in recent superzoom lenses.

A worthy winner of our Big Test back in issue 74, the Tamron 16-300mm combines impressive telephoto reach with the widest viewing angle of any Nikon-fit superzoom lens. It's great for when you're shooting interiors of buildings on a city break, or for any other ultra-wide shooting scenario. It also boosts your options when you want to exaggerate perspective.

Physically, the Tamron is narrower and lighter than the smaller of Nikon's two 18-300mm superzooms, despite its wider viewing angle. It's ideal as a 'travel lens' when you need a single optic for shooting just about anything and everything. Tamron recently launched an 18-400mm superzoom, with unprecedented telephoto reach, but you'll often find the extra wide-angle potential of this lens more useful.

### SPECS

**Elements/Groups:** 16/12  
**Minimum focus distance:** 0.39m  
**Optical stabilization:** Yes  
**Weather-seals:** Sealed mount  
**Filter size:** 67mm  
**Included accessories:** Hood  
**Dimensions:** 75x100mm  
**Weight:** 540g

**GOT A QUESTION? Email us at mail@nphotomag.com**

# Best lens for ultra-wide shots

When the going gets tough, or dark, what's the best ultra-wide option?



## Nikon AF-S 14-24mm f/2.8G ED

**ELEMENTS/GROUPS:** 14/11  
**VIEWING ANGLE (FX):** 114-84 degrees  
**DIAPHRAGM:** 9 blades  
**FOCUS TYPE:** Ultrasonic (ring-type)  
**MIN FOCUS:**  
**DISTANCE:** 0.28m  
**FILTER SIZE:** None  
**HOOD:** Built-in  
**DIAMETER X MIN LENGTH:** 98x132mm  
**WEIGHT:** 1000g  
**PRICE:** £1720/\$1700

## Irix 15mm f/2.4 Blackstone

**ELEMENTS/GROUPS:** 15/11  
**VIEWING ANGLE (FX):** 110 degrees  
**DIAPHRAGM:** 9 blades  
**FOCUS TYPE:** Manual  
**MIN FOCUS:**  
**DISTANCE:** 0.25m  
**FILTER SIZE:** 95mm + rear gelatin  
**HOOD:** Detachable  
**DIAMETER X MIN LENGTH:** 114x100mm  
**WEIGHT:** 653g  
**PRICE:** £600/\$675



**Build**

This ultra-wide zoom for pro-grade photography boasts premium build quality, a weather-sealed mounting plate, nano crystal coating, ED glass, a smooth zoom mechanism and ring-type ultrasonic autofocus, with a fast and constant f/2.8 aperture.

**Viewing angle**

Neatly taking over the baton at the wide end of a 24-70mm standard zoom, the Nikon gives ultra-wide viewing angles of up to 114 degrees. Naturally, being a zoom lens it gives you the flexibility to alter the focal length as required.

**Focusing**

Typical of ring-type ultrasonic autofocus systems, it's very quick and quiet, complete with full-time manual override. Even so, for street photography and night shots, autofocus often isn't the best option, and the short travel of the manual focus ring isn't ideal.

**Filters**

Like a number of competing ultra-wide zoom lenses, the Nikon has a built-in lens hood and no filter thread, which precludes the easy fitment of filters. Specialist filter systems for this type of lens, like the Lee Filters SW150 Mark II, are expensive to buy.

**Image quality**

Centre-sharpness at wide apertures isn't as good as from the Irix, but corner-sharpness is a bit better. Barrel distortion at 14mm is much more severe, but less at 20-24mm. Performance in terms of colour fringing, ghosting and flare is very similar.

**Vs**

The Irix might seem basic, with no zoom facility nor autofocus, but it's beautifully engineered with a magnesium alloy barrel and a full set of weather-seals. There's a focus locking ring and a fine-tuning adjustment that ensures the accuracy of the focus distance scale.

The Irix is limited to a 15mm focal length, with a generous viewing angle of 110 degrees. Many photographers tend to only use ultra-wide zooms at or near their shortest focal length, so the fact that it's a prime isn't a deal-breaker.

With a relatively long travel and silky-smooth operation, the manual focusing ring is a joy to use. It works particularly well for setting the hyperfocal distance and for zone focusing, great for street and landscape photography, as well as for night shots.

The Irix comes with a detachable petal shaped hood and 95mm accessory attachment thread, making for easy fitment of filters at the front. There's also a slot in the mounting plate for the fitment of gel filters at the rear of the lens.

Making the most of its no-compromise prime nature, the Irix delivers superb ultra-wide image quality, with excellent sharpness, even at its widest f/2.4 aperture. Barrel distortion is minimal, and colour fringing, ghosting and flare are very well controlled.

**NEXT MONTH: NIKON 70-200mm f/2.8 VS NIKON 70-200mm f/4**

## VERDICT

The Nikon autofocus zoom lens has excellent performance and offers a range of popular focal lengths, including 14mm, 16mm,

20mm and 24mm – in one convenient package. However, the Irix has a lot going for it. It's well built, has excellent handling

characteristics for scenarios when you want a manual-focus lens, and delivers sumptuous image quality for a third the price of the Nikon.

# [ IRIX ]

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[Firefly](#)



from  
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[Firefly](#)

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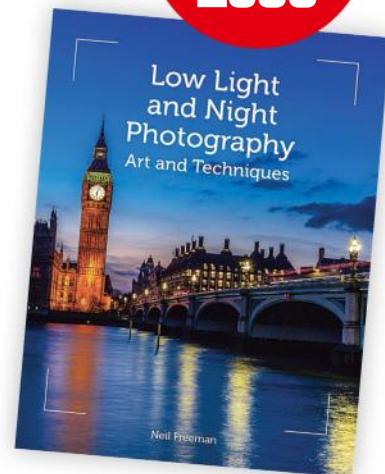
Country Innovation, 1 Broad Street, Congresbury, North Somerset, BS49 5DG 01934 877333



WORTH  
£300

# WIN! A photography one-to-one with Nikon School!

In association with Nikon School, we are giving one lucky reader the chance to win a low-light one-to-one with Neil Freeman, along with a copy of his latest book, *Low Light and Night Photography*



**N**ikon School's bespoke one-to-one sessions are the perfect way to learn about a specific area of photography. The whole session will be personalized

to your needs as you discover the secrets of capturing creative low-light cityscapes in the great city of London. This practical and hands-on workshop is ideal for anyone who wants to try out this rewarding and accessible area of photography.

Starting at Nikon School, this practical workshop will take you around the busy streets of London's West End and finish up on the Thames Embankment. We will start by capturing the sunset (weather permitting), then shoot some twilight images and finally night shots. In each situation you'll learn practical hints and tips on spotting great photo opportunities, as well as expert advice on how to tackle focusing, exposure and contrast.



You will learn core techniques and correct camera setup, including:

- What ISO to use
- Choosing the most suitable white balance setting
- Which exposure mode to use
- The impact of using different shutter speeds
- Dealing with tricky lighting situations
- Getting the most from Manual mode
- When to use noise reduction
- Working with tripods and using remote releases
- Achieving perfect long-exposure images
- Shooting traffic trails, ghost and 'zoom burst' images

## HOW TO ENTER

To be in with a chance of winning the book and workshop, simply answer the following question:

**What is the title of Neil Freeman's latest book?**

- A** Astrophotography 101
- B** Low Light and Night Photography
- C** The Art of Portraiture

Submit your entry at: <http://bit.ly/lowlight121>

This one-to-one workshop must be booked and take place before 31 March 2018 at a date convenient with Nikon School. Transport to Nikon School at winner's expense. Entries must be received by 31 January 2018. The winner will be selected at random from all correct entries received by this date. The prize is as stated: no alternatives, cash or otherwise, are available. For full terms and conditions, please visit [www.futuretcs.com](http://www.futuretcs.com)

In addition to this fantastic competition, all *N-Photo* readers can get **25% off** the RRP of Neil Freeman's book *Low Light and Night Photography* with the code **NPhoto Off** at the checkout at [www.crowood.com](http://www.crowood.com). Offer runs until 31 January 2018.

# Pro Zone

YOUR WINDOW ONTO THE WORKING LIFE OF LEADING PROFESSIONALS...

## INTERVIEW

### 90 Stephen Dalton

The pioneering wildlife photographer talks about his latest book, which records the biodiversity of his nine-acre private woodland



## MY BIG BREAK

### 89 Mark Seymour

Award-winning wedding photographer Mark explains his stand-out, B&W documentary style that produces a timeless look for that 'special day'



## ON ASSIGNMENT

### 100 Gary Nunn

Seasoned pro wedding photographer Gary travels to a destination wedding to capture the magic of the event and the stunning Tuscan location



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# My big break

## Mark Seymour



**Mark Seymour** is one of the UK's leading professional documentary wedding photographers. He has won numerous awards, and became Nikon UK's first ambassador for wedding photography. His work has been exhibited at galleries in London and Windsor. [www.markseymourphotography.co.uk](http://www.markseymourphotography.co.uk)

MAY 23, 2008 • TYLNEY HALL, ENGLAND • NIKON D2

Images: © Mark Seymour

**M**ark Seymour regards this as the image that has become synonymous with his style of wedding photography – just look at the home page of his website and you can't miss this instant of absolute joy on the bride's face. "That was a defining picture," says Mark. "It's stood the test of time. Many girls who come into my viewing room point at it and say 'That's what I'm looking for, natural pictures'. They always point to that one. At the time, it won the Wedding Photographer of the Year award with the Master Photographer's Association (MPA). It was an award aimed more at documentary wedding photography, so you had to put in three images from one wedding – an image from before the ceremony, during the ceremony and after the ceremony. That was the ceremony picture." The wedding was at Tylney Hall in Hampshire, and

the registrar had just uttered the immortal words, 'You may kiss the bride,' when Mark captured this moment. Like everyone else, he was expecting the groom to step forward and do exactly that, but instead the bride leant back and gave out what he describes as "a huge gasp of excitement." Mark didn't hesitate to fire the shutter of his Nikon D2, of course, and employed the technique that he has repeated many times to the students on his street photography courses. "I always say to them, 'Shoot through the image. Don't take your eye off the viewfinder because the best image may be the next one, or the next one, so stay with the moment'. I walk into a room, I set the exposure manually and then I just shoot and I trust myself that I've got it right already."

### Signature image

Mark's reportage style has been influenced by his love of street photography, and every year he conducts training workshops to India, taking in locations across the country from Jodhpur to Kolkata. "Street photography started after wedding photography," he says. "It has allowed me to hone my skills more in the documentary style." It is also a style that complements his preference for black and white. "I just love black and white. It's just what I show and naturally if you show that, it attracts that type of client. We probably get one or two clients a year who say, 'I just want my wedding all done in black and white.'" Mark says the documentary black and white style of his wedding photography has evolved over the past 15 years but this photograph from 2008 has become his signature image. "It's one of my ten favourite images and doesn't look out of place at all in today's world." **Keith Wilson**

# STEPHEN DALTON

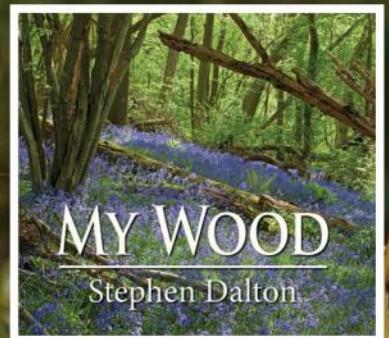
Renowned for his high-speed flash photos of insects in flight, Stephen Dalton now prefers the slower and less precise pace of documenting life in his local wood. Keith Wilson hears about the inspiration for his latest book...

All images © Stephen Dalton



## Profile

- In the 1970s, Stephen Dalton pioneered the original technique for photographing insects with pin-sharp clarity in free flight.
- Since then, his photographs have been published in numerous titles including, *Audubon*, *National Geographic*, *Geo* and *Country Life*.
- In 2015, Stephen was awarded the prestigious Fritz Steiniger Prize by the German Society of Nature Photographers.
- He is the author of 15 books featuring his photography and is an Honorary Fellow of the Royal Photographic Society. [www.stephendalton.co.uk](http://www.stephendalton.co.uk)
- *My Wood*, by Stephen Dalton is published by Merlin Unwin Books. Out now. £14.99. [www.merlinunwin.co.uk](http://www.merlinunwin.co.uk)



**A**ward-winning nature photographer Stephen Dalton and his wife bought a nine-acre woodland at auction, called Rookery Wood, in 1998, adjoining the Sussex farmland they had purchased 10 years earlier. Although the Daltons lived within a designated area of Outstanding Natural Beauty, in Stephen's own words, the wood appeared to be little more than "a boggy, brambly, sedge-bound entanglement with an abundance of over-crowded ash trees and old straggly hazel". However, he saw the potential to transform it into a small nature reserve, rich in biodiversity, a sanctuary for local wildlife marginalized by decades of intensive farming and overrun by deer.

Nearly 20 years later, Stephen's latest book *My Wood* is the visual proof of this transformation. But it is also a testimony of his devotion to the English countryside and yet

another measure, if any were needed, of his proficiency as a photographer. In fact, *My Wood* may soon be regarded as Stephen Dalton's most personal book yet, providing a revelatory insight into the heart and passion of one of photography's true pioneers...

**What immediately strikes me about *My Wood* is the biodiversity. In producing the book, were you attempting to include every species you had photographed in the wood?**

Yes. There are 150 to 160 species photographed so far. Most people that have woods are more interested in the birds and the larger things, but I think the small things are every bit as interesting, and are more important for keeping the whole ship going.

**I would have thought the small things are incredibly difficult to photograph because of their size and where they live?**

Well, I have more trouble photographing the bigger ones!



**Previous page**  
**WOOD MOUSE**  
Stephen's close and low perspective makes this mouse seem huge



**JIMINY CRICKET!**  
A meadow grasshopper is frozen mid-leap by Stephen's pioneering high-speed flash photo system

[laughs] Actually, insects are much easier these days. I'm not very good at shooting from the hip. I'm not very good at making quick decisions and picking all the right settings. I like to know what I'm going to photograph and work out how I'm going to do it, and even work out, in my mind's eye, the composition, making sure the lighting is right and I've got the right camera and lens, rather than snap, snap, as you would do with an iPhone. Mind you, there are a few iPhone pictures – I've used 19 different cameras for this book.

**19? Including the iPhone?**

Yes, 19 different cameras including the iPhone, including the trail cameras, various Nikons, I've written them all down, but yes, 19!

**That's extraordinary**

Of course, you can't tell the difference in the result.

**Over what time frame are the pictures taken for this book?**

Well, we bought the wood in 1998, so since then. I wasn't asked to write the book until early February this year! [2017]

**That is rapid...**

It is. I had to do it in two months – two and a half months. Write it and plan it. I was involved in the design as well. Ideally, I would have liked another year – or two years – to take some special pictures.

**Did arranging the book into seasons seem like the obvious thing to do?**

Yes, it did. It's logical and it's what the wood is all about. It's seasons and we're very conscious of the seasons here and seeing what happens from one month to the next. It's what makes it interesting.

**Many of your best-known pictures are studio-based recreations of natural settings, with tanks and lights and preparation in great detail. Do you use the same fastidious approach when you're out in the wood?**

Normally, I like to do a decent job and get it right. If I go out there with a camera I go out to do a specific thing. I don't do much shooting from the hip.

## BREAKING THE HIGH-SPEED BARRIER

STEPHEN'S IMAGES OF INSECTS IN FLIGHT MAY APPEAR TO HAVE BEEN PHOTOGRAPHED IN THE FIELD, BUT IN FACT THE COMPLEXITY AND PRECISION REQUIRED FOR THIS TYPE OF IMAGE MEANS THEY WERE SHOT IN HIS STUDIO

In his 1999 book *Secret Worlds*, Stephen wrote about the challenge he faced in the 1970s to freeze flying insects in a single image: "Because insects beat their wings at up to 1000 cycles per second, high flash speeds are required to stop the action on film. Thus, it was necessary to develop a flash unit sufficiently fast, yet powerful enough to arrest all wing movement (about 1/25,000 second), as well as a sensor and triggering system, using light beams, photocells and amplifiers, that would be sensitive enough to detect small, active creatures." This recent photo shows Stephen's typical setup: a mixture of top-of-the-range camera and



lens gear, plus equipment he made himself. His high-speed shutter is homemade and attached to the digital camera by a rubber band. The flash head uses a homemade diffuser, while a clothes peg holds a silver foil reflector. The 'natural' setting comprises three flowers Blu-tacked into position in front of a mounted print taken in his wood, as the background for his fast-moving subject.



STEPHEN DALTON





**Your career has spanned so many years of technological advances and changes – moving from film to digital must have been a huge transformation**

Yes, it was. 2003 I first went digital. I did some tests compared to Kodachrome and there was little difference and I haven't looked back really. It's ideal for the high-speed stuff because I can see the results immediately, rather than going 15 miles to have it processed, waiting an hour or two, coming back, which I did almost every day for years and years!

**That must have been so liberating, to see the results of your high-speed work in seconds.**

You needed it. The point was you had to do the same thing over again with film when you altered it. It was hopeless! It was a nightmare, a nightmare. I don't know how I did it, really, looking back.

**Did you also find with digital that you had a new lease of life in terms of accelerating your own development and innovating ideas?**

Yes, I certainly did to start with. I did a lot more photography, it was exciting. Of course, I had done a lot of my high-speed stuff before then, on film, and I've done as much or more since on digital. The quality is spectacular. I had a Nikon D800E, that was a super camera. Of course, with these cameras, you've got electronic shutters. I keep it permanently on electronic first shutter opening, so you've got no shake whatsoever.

**Do you remember your first Nikon camera?**

Yes! It was a Nikon F. Nice camera. They had various sorts of improvements, although nothing was quite like the first. I had an F3, the titanium one, at one stage. I don't know why, but I thought I'd spend an extra couple of hundred pounds on a titanium-bodied one and I promptly dropped that in a reservoir! I was wading through a fen, trying to photograph Canadian pond weed. Obviously, it didn't work!

**You were able to retrieve it?**

Yes, I got the insurance money. Then, about a year later, I got it out of the cupboard and it worked!

**Seriously, it dried out?**

I sold it to a friend! [laughs] He knew all about it. He got it cheap.

**So, what followed the Nikon F?**

I had the F2, then the F3. I like beautifully made equipment. There's something about it.

**Back to My Wood, are there any stand-out images that you knew had to be included when you were first asked to do the book?**

There are one or two pictures, such as the kingfisher. I didn't want a fancy picture of it diving into the water. I just wanted to capture the feeling of the space and the water with a lovely kingfisher sitting on its post. I put the hide up and I put the post up and I was lucky to get that. It was taken with a 200-400mm zoom. On my way back, in the evening, out of the corner of my eye I saw a pair of foxes coming down the ride. I couldn't believe my eyes. I had the right lens, so, I crawled through the brambles and got a nice picture of one. It was a lucky shot.

**So, the kingfisher and fox in the book were taken on the same day?**

Yes, within half-an-hour of each other. I still didn't have any decent pictures of badgers. I decided to have a proper flash unit so I could do the thing properly and get it at night when you expect to see them, but then they suddenly stopped coming. After recording badgers two or three times a night, suddenly a month of no badgers. I was really puzzled. But it was a very dry period so presumably the badgers couldn't find slugs and snails, so they'd gone somewhere else. Then we had a spell of rain and back came the badgers. So, it proved my point. I found the best spot among the bluebells, set it up and got the picture within a few days. That's a very recent picture, last spring. I just made it before the deadline!



I've used 19 different cameras for this book, including the iPhone, including the trail cameras, various Nikons



**KINGFISHER**  
Stephen set up a post and waited in a hide for the kingfisher to perch and survey his woodland domain



Following page  
**AERIAL ARACHNID**  
Stephen's high-speed flash system captures a jumping fence spider moments after launch









I had an F3, the titanium one at one stage. I thought I'd spend an extra couple of hundred pounds on a titanium-bodied one and I promptly dropped that in a reservoir!

**What is your desert island lens?**

**In other words, if you could have only one lens what would it be?**

The 200mm micro Nikkor would be hard to beat. It's so antiquated, there's no anti-shake, but its optics are just outstanding. It's amazing.

I know other photographers who have this lens and they have nothing but praise for it, even though it's an unusual focal length for macro. It's a very nice focal length, actually. Not too short. I've still got it. If I do



**CRAZY LIKE A FOX**  
While known for meticulously setting up shots, Stephen snapped this image when the fox happened to wander past at an opportune moment

insects in flight, which I don't do very often, I'll use it. The one in the book of the jumping spider – that was taken using it.

**Your reputation was built on your high-speed flash photography, but did you find that the restoration of the wood has added to your repertoire in a way that you didn't expect?**

Yes, it probably has a bit. The wood provided me with something to

concentrate on. I just wanted a record of what was happening in the wood because I was quite proud of the animals and insects that live here, and I had them on my iPad – about a hundred pictures to stick on there to remind myself what was there.

**Does the book feature all the different species you have photographed so far?**

Yes. There's one or two species that I missed out that I have noticed since.

## AUTO vs MANUAL

THE ADVENT OF AUTOFOCUS PROVIDED NO ADVANTAGE OVER STEPHEN'S HIGH-SPEED FLASH PHOTOGRAPHY...

### Was autofocus ever of any use to you?

No, but it is now. I'm defeated in many ways by all these modern cameras with their menus and all the rest of it.

### But during your film days and early digital days you weren't a user of autofocus?

No, I never really used autofocus. In fact, I get thoroughly confused with all the different menus. But all you need from a camera are three controls: you want focusing, aperture control and shutter speed. I do everything manually. Okay, I sometimes use autofocus for long lenses from time to time. Autofocus is far better than it used to be.

### Inspiration from a multitude of areas and directions?

Well, nobody specific.

### You mean there hasn't been someone in your early days who was a mentor to you?

No, not really, I'm afraid to say.

### So, you're entirely self-taught?

No. I did a photographic course at the Regent Street Polytechnic, which was a three-year course, it's the University of Westminster now, under Margaret Harker. A lovely lady. Very big in the RPS. She was the first professor of photography. She was great and I got on very well with her. We were taught good old-fashioned photography. Perfectionism is one of the things I learnt there and attention to detail, and that rubbed off on me. It was probably part of my nature anyway. I'm quite fond of technical things.

### And making calculations?

Well, for most things we were doing calculations. Every time you took a macro photograph, we had to go '1 + M all squared, times the indicated exposure', remember that? For a bellows extension. These cameras nowadays do it all for you...

### The inverse square law

The inverse square law, exactly! Every time I had to do a calculation with my macro stuff. With all this stuff here, it's so complicated. I mean you've got all these menus on the camera, more menus on the flash, and you can automate it all apparently. It's a complete waste of time with me.

All these things have to be set on manual. I don't use any automation at all on flash, never have done and never will. I can't handle it. I like to be able to do everything myself. Where I want it and at the right ratio. To rely on all this automation, I mean I have wrestled with it from time to time, but my brain doesn't work like that really.

### Clearly, your method has proven to be successful, so why dispute it after all?

Yeah, if I had that different sort of brain I could probably... well, it's a computer the brain, really. I'm not particularly good on computers, I can manage all sorts of things on them, a bit of software, as long as I do it regularly so I remember, but I find it quite difficult to remember how to operate all these different bits and pieces.

### Were you a good student at maths and the sciences at school?

No. I quite liked physics, but I'm not a mathematician.

### Are you planning on writing any more books after *My Wood*?

No, I shouldn't think so. Every book is my last book...

### That's quite a few last books then!

Fifteen of them I think. I mean there's no money in books now. We won't make any money out of this at all, unless it sells a million copies. But, I don't do photography for money, as such. It's nice to make a little money so you can buy a few decent cameras and cars and houses. [laughs] I haven't got my private jet yet!

A couple of dragonflies I'd forgotten, which I'm cross about, the brown hawker, which is a fabulous dragonfly, and the common darter that didn't go in. I wonder how different it would have been if I had known I was going to do a book? I'd probably have taken even more trouble.

**With your high-speed flash and now *My Wood*, which has a different style and set of techniques, you strike me as someone who draws**

NEXT MONTH: AUTOMOTIVE PHOTOGRAPHER AMY SHORE



# Destination wedding

Professional photographer **Gary Nunn** is no stranger to beautiful locations. He shares the story behind a gorgeous Tuscan wedding

**T**his series of moments was created in Tuscany. I captured some very special moments between Vicky and Matt, who put their trust in me to deliver a story that celebrates them as a couple. We were shooting in Modanella, a place deep in the Tuscan countryside, wherein lies the beautiful Castello di Modanella.

From the moment we all arrived (I travelled with the wedding party on this occasion), this magical destination wedding location hugged both the mind and soul. Before the trip I researched the area, (initially on Google Earth), because I wanted to become familiar with aspects of specific locations, and where the sun would be at a certain time.

Destination weddings have usually been chosen by couples to ensure the weather will be as kind as possible on the day! For the wedding party this is fantastic as most guests will use the wedding as an opportunity to take a holiday and extend their stay. With that in mind, however, the 35°C heat of Tuscany did make it a more challenging task to shoot.

For this wedding I used two Nikon D810s with Nikon lenses. My most used lenses were the 50mm, 14-24mm and the 70-200mm, and these different focal lengths enabled me to cover all aspects of the wedding – from close-ups of the food to wide-angles of the bridesmaid lineup. I started out in photography

with Nikon digital cameras and I haven't ever changed. They just work! That being said, I also took my DJI drone, to get some aerial shots of the Tuscan landscape [1].

## Stay healthy, stay sharp

During this assignment there were so many changing variables, including lighting, weather and moving subjects. Trying to stay creative over a 12-hour period can be challenging, but I adore creating. The hot days and bright sun threw up some challenges, but experience has



One thing that can sometimes be overlooked is staying healthy, as wedding photography is physically and mentally demanding

taught me how to deal with the heat and rain. While I couldn't control the weather conditions, I could control how I manoeuvred myself or subjects into position to ensure they weren't being blinded, and so I was able to control where the light was falling when taking portraits [2].

One thing that can sometimes be overlooked is staying healthy, as wedding photography can be both physically and mentally demanding.

Travelling can be tiring, so I took some time to ensure I was eating right and getting rest before the big day. I simply tried to focus on the creative job in hand and enjoy myself, so that my enjoyment and passion would show in the final imagery I gave to Vicky and Matt to record their special day.

## Up, up and away!

The wedding was held at Castello Di Modanella and the wedding breakfast was hosted within the castle. There was about an hour of sunlight left, so I shot this image of the couple at the gates. It was the type of light you dream about as a photographer – soft and beautiful. I looked around and glanced at what looked like a large balloon, and my mind started to create the image [3]. The bride caught me in thought, and being creative too, she nodded. We grabbed the groom, left the guests, and walked with the balloons down to the castle gates that overlooked the stunning Tuscan valley. I let them do the rest. Pop! These resulting photos are just a tiny snippet of what was a beautiful wedding day, filled with love and laughter.

**Gary is based in Milton Keynes, but travels to photograph weddings both around the corner and across the globe. For more of his portfolio, visit [www.garynunn.co.uk](http://www.garynunn.co.uk)**

**1**  
**DRONE'S EYE VIEW**  
As well as a Nikon D810, Gary used his DJI Mavic Pro to explore the wedding location from a dizzying height

**2**  
**KNOW YOUR SUBJECTS**  
For Gary, being part of a destination wedding means he gets to know friends and family and take his most authentic and personal shots

**3**  
**LAST HOUR OF SUNSET**  
The exotic location provided Gary with stunning architecture and colour, enabling him to create a special wedding story





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# Gear Zone

Five scores,  
Five meanings

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Forget about it!
- ● ● ● ●  
Below average
- ● ● ● ●  
Good for the money
- ● ● ● ●  
Excellent product
- ● ● ● ●  
Best-in-class

Our awards  
in a nutshell



The best performance, design and value



A product that gives you more for your money



The very best kit that really sets the standard

IN-DEPTH REVIEWS / GROUP TESTS / BUYER'S GUIDES



Main image: Getty



**BIG TEST**  
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# New gear

Here's what's caught our eye this month...

Need a last-minute Christmas gift? Subscribe to N-Photo from just £12! See page 30

## Benro HD Series 3-way heads

From £72/\$96  
www.benro.eu

The Benro HD series 3-way pan heads provide precise multi-axis camera placement and repositioning. Now Benro has updated its trio of 3-way heads, adding an Arca Swiss QR plate for enhanced compatibility with other platforms, along with three bubble levels positioned around the mounting plate. The bubble levels are particularly useful on a 3-way head, where horizontal and vertical tilt are separated into two individually adjustable axes, making it easier to make precise compositional adjustments than when using a conventional ball head. The HD head series consists of the HD1A; the more compact model at 95mm high and capable of supporting a 5kg Nikon setup. The midrange HD2A will support up to 8kg, while the £115 HD3A can handle a whopping 12kg and stands at 135mm tall.

**First impressions\_** We've long been fans of the Manfrotto X-Pro 3-way head, but Benro's new HD2A offers the same load capacity and is around 25% cheaper, making it a tempting ballternative.



## Broncolor Siros L

From £1280/\$2050 www.broncolor.com

Siros L monolights are fully wireless studio flash heads that don't sacrifice power or speed. The smaller 400Ws head measures just 32x13x18cm, yet houses a compact Li-ion power pack within the head and is capable of an impressive 440 full power flashes per charge. Recycle times are as fast as 0.03 seconds, and both the 400Ws and 800Ws variants include an LED modelling lamp. Each head can be operated from your smartphone or tablet via integrated Wi-Fi and the bronControl app, with coloured LEDs making it easy to identify and remotely control up to six lamps. The on-board controls are just as intuitive, while stellar build, based around a one-piece aluminium housing, seals the deal.

**First impressions\_** These studio flash units may be pricey, but Broncolor's carefully considered design makes them a joy to use, and you'll be hard pressed to find a better-made studio flash.

## Editors Keys keyboard covers

From £28/\$37  
www.editorskeys.com

Photoshop's extensive keyboard shortcuts can be a mission to master, but not once you slip one of these skins over your keyboard. This ultra-thin film instantly covers your keyboard so it'll display all Photoshop CC's shortcut text and icons. Colour coding groups similar tools for faster recognition, while the cover has the added bonus of providing liquid and dirt resistance without hampering your typing speed. Various sizes are available to suit MacBook Pro and standalone Apple keyboards, plus alternative skins are available for Lightroom, Premiere, and other popular multimedia packages.

**First impressions\_** Nobody wants to waste time hunting through palettes and drop-down menus. Now with shortcuts clearly visible, you can spend less time editing and more time shooting.



## Genesis camera bags

From £30/\$40  
www.genesisgear.pl/en

If you'd rather save your pennies for all things Nikon than blow it on a pricey camera bag, Genesis has you covered. Its extensive range of cash-conscious holsters, shoulder bags and backpacks kicks off with the Rover holster. This will swallow a D500 with mid-sized attached lens and can be worn from the waist or shoulder. Compact shoulder bags like the Tacit and stylish canvas-clad Dakar are ideal for a Nikon 1 kit or entry-level DX DSLR with retractable lenses, and they also pack enough space for a tablet. For carrying larger loads, the Nattai and Denali backpacks are designed to carry camera gear and daily essentials, providing up to 40L total capacity for under £60.

**First impressions\_** Budget camera bags are in relatively short supply, so we welcome Genesis to the market with its keenly priced offerings that look ideal for lighter recreational use.



## Manfrotto Befree Advanced

From £175/\$190

[www.manfrotto.co.uk](http://www.manfrotto.co.uk)



Manfrotto's original Befree set a new standard in travel tripods, and this refreshed version is just as portable. It maintains a 40cm packed length, and though the combined legs and head weight is up to 1.5kg, it's a more stable shooting platform with max payload now doubled to 8kg. The Advanced can be had with lever-lock or twist-lock clamps. The biggest improvement is the new 494 Centre ball head, which boasts integrated friction control and an Arca-compatible plate.

**First impressions** This Advanced model will need to be hugely impressive to fend off some excellent rivals.

## Skylum Luminar 2018

£64/\$70

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



Skylum has launched the latest incarnation of its Lightroom rival. Luminar 2018 is Mac/PC compatible and sports a streamlined interface, plus a new Raw engine that's up to 200% faster, with intelligent sharpening and real-time noise reduction. There's also a new digital asset management module that competes directly with Lightroom, syncing your local and cloud-based image portfolios. Lens correction tools, along with nondestructive filters, provide attractive photo enhancement. You can now even run existing Photoshop plug-ins from Luminar for increased flexibility.

**First impressions** Genuine alternatives to Lightroom are hard to come by, but Luminar is an outstanding image editor.

## Tenba Solstice Backpacks

From £120/\$150

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



The new Solstice range is available in three sizes. The smallest 12L bag weighs a mere 900 grams, but will pack a D7500 and two to four lenses, including a 70-200mm f/2.8, along with an 8in tablet. Step up to the midrange Solstice 20L and you can add two extra lenses and an ultrabook laptop, while the largest Solstice 24L will house a D5, up to seven lenses, and a 13in laptop. Rear access keeps your kit secure and enables on-the-go entry, plus there are tripod straps on the side, and an included rain cover.

**First impressions** These bags are great for street photographers who want carrying capacity and comfort.

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

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# Backpacks

Camera backpacks are cleverer than ever, so lugging a large load has never been more convenient

Once you've built up a comprehensive camera kit, carting it all about can be tricky. Even if a shoulder bag is big enough, suspending so much bulk from one strap will fast become a pain in the neck. The increased capacity and comfort of a typical camera backpack means you can usually carry a full-frame body mounted to a telephoto lens, along with a complement of extra optics and accessories. Expect at least one tripod mounting point, plus a separate space for a full-size laptop.

But what separates the best from the rest are extra features and useful details. Some bags have multiple compartments and access points to organize your gear, or carry a combination of stills and video equipment. Extra security, like a tethering cable and lockable zips, are great in the city, and if you're a frequent flier, it's not uncommon to find bags with tuck-away straps to help them slide into overhead bins.

Most of the backpacks we've selected cost around £200/\$250. That will get you a versatile bag with plenty of features, good material, and quality construction.

## Five things to look out for

**MAKE SURE YOU BAG THE RIGHT BACKPACK BY KEEPING THESE SIMPLE TIPS IN MIND**

### Lighten the load

A jam-packed bag with a tripod strapped to it could weigh in at over 15kg, so don't underestimate the importance of wide, thick shoulder straps and a decent waist belt.

### Escape routes

Camera backpacks prioritize load lugging over easy access, but many feature side openings or even smarter systems for camera access without setting the bag down.

### Divide and conquer

Versatile interiors can convert to house multiple camera

configurations, or even a small drone. A removable inner compartment allows conversion to a conventional backpack in seconds.

### A cosseted camera

Not all bags are created equal when it comes to the thickness of interior padding. Look for a rugged plastic base so you won't worry about setting down your backpack on wet ground.

### Seal the deal

Wet camera kit just won't do, so ensure your chosen bag's outer material is at least shower-proof. Many also include a separate rain cover.



## Manfrotto Pro Light 3N1-36

£170/\$190

[www.manfrotto.co.uk](http://www.manfrotto.co.uk)

This versatile pack is designed for a DSLR kit, video setup, or a small drone. In DSLR mode the lower two-thirds of the bag will house a body with attached lens, surrounded by up to five extra lenses. Flaps on either side let you access your camera on the go, but the main front panel can slightly restrict access to lenses stored at the top of this compartment, and it likes to spring closed.

You can solve this by opening the entire front of the bag, but zips, clips and Velcro need to be negotiated. Now the upper third of the bag is revealed, normally accessed by peeling back only the upper portion of the front panel. Here you'll find a large space for more camera gear or personal effects.

Comfort is acceptable, but the straps feel a bit cheap and aren't the widest. They can, however, turn the bag into a sling, and will tuck behind the back panel when you need them out the way. We also like the secure tripod attachment.

**Pros** Versatile; thick interior padding; well priced

**Cons** Questionable quality in some areas; no base reinforcement; average comfort

**We say** A lot of bag for not much cash, but less rugged than some

**Overall score** ●●●●●○

## Think Tank StreetWalker Pro V2.0

£194/\$200

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

The StreetWalker lines up alongside Peak Design's bag as a compact, city-friendly option. Its narrow, 25cm external width keeps you streamlined, and though this restricts the internal layout to two columns rather than three, these are wide, deep, and will neatly house a pair of full-frame cameras with large-diameter attached lenses; one facing down, the other up. Depending on your lens choice, extra dividers can fit additional optics. You can also strap a tripod to the front, and there's room for a 10in tablet in a pouch.

The StreetWalker is accessed via a single front flap, but there's no side opening for off-the-shoulder access. This isn't surprising given the vertically optimized internal layout, but it's still a pity if you need your camera for a fleeting shot.

You don't get a waist belt, either, but the shoulder straps and back padding are excellent and the bag is very comfortable.

**Pros** Compact yet capacious full-frame-friendly design; comfortable; well made

**Cons** No on-the-go access or laptop storage

**We say** Good for carrying pro gear with a low profile

**Overall score** ●●●●●○



## Vanguard Alta Sky 51D

£200/\$230

[www.vanguardworld.co.uk](http://www.vanguardworld.co.uk)

The Alta Sky is designed to carry camera gear, a drone, or a combination of both. The main compartment has room for a pro DSLR with attached 70-200mm, and up to four lenses around it. Padding is good, and there's a hatch on one side for mobile access, though openings on both sides would have been preferable.

Primary access to this area is via a large rear panel that contains a slot for a 15in laptop. The flap opens wide, but you'll need to bend the shoulder straps out of the way for unobstructed camera access. Alternatively, another body and a trio of small lenses will stow in a separate compartment in the base, accessed by folding the rest of the bag back like a lid. It's more convenient than it sounds.

Up top is a spacious area for personal effects, with a removable floor to allow long lenses to pass through.

Comfort is assured by good-sized hip pads, thick back padding, and shoulder straps.

**Pros** Plenty of storage, inside and out; comfortable; well made

**Cons** On-the-go access could be better; the shoulder straps can restrict rear opening

**We say** Not perfect, but this bag offers a good compromise

Overall score ●●●●●

## Tenba Shootout 32L

£230/\$300

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

Compared to some bags that can be accessed left right and centre, the Shootout is a more conventional design with one large front panel and a side hatch for fast access to your camera. The front opening may not be best for security, but it doesn't try to spring closed and offers an unobscured view of all your gear. We'd like a side opening on both sides though.

Inside, padding is generous, and two of the horizontal shelves have cutouts to encircle a large attached lens. Up front is a huge, versatile full-height pocket, while a 15in laptop can slide into a slot at the back.

And it's round the back that the Shootout really stands out. The shoulder straps are generously wide and well padded, assisted by the largest and most comfortable hip belt here. Back padding is equally comfortable, while a metal chassis frame is matched only by the MindShift bag, and makes the Shootout feel much more robust than most.

**Pros** No-nonsense design offers quality, capacity and comfort

**Cons** Tripod attachment a bit fiddly; mediocre mobile access

**We say** It may lack initial wow factor, but the Shootout nails all the basics

Overall score ●●●●●

## Peak Design Everyday Backpack 20L

£230/\$260

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

It's hard not to like this bag's chic style, tactile materials and beautiful hardware. At 46x30x17cm, it's compact, but can still transport an ungripped DSLR with up to five lenses.

There's no front or rear opening, but rather large side flaps that afford very good mobile access.

Inside are internal dividers that form shelves attached to the front and back. These are a clever design that can snap into thirds to allow a long lens to pass down one side, or can be instantly segmented so multiple small lenses can share one shelf.

Up top is a large multi-use area that can expand to 8L thanks to a top flap with four latching positions. A travel tripod will stow on the side, there's space for a 13in laptop/tablet in the back, and you can lash a small drone on the front.

The basic waist belt lacks hip pads, but helps support loads and can be stowed away.

**Pros** Smart design, both visually and practically; great quality

**Cons** Can't see all your gear at a glance; relatively thin padding

**We say** Stylish urban-optimized transport for Nikon 1 system and smaller DSLR kits

Overall score ●●●●●

## MindShift Gear rotation180 Professional Deluxe

£400/\$500

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

Almost a full-on hiking backpack, with a rigid frame and go-anywhere exterior, it's blessed with comfortable straps, back padding and decent hip pads. These attach to a removable lower compartment that can slide sideways out of the backpack and rotate on the hip belt to face you. Here you can store gear as large as an ungripped DSLR with 70-200mm f/2.8, plus a couple of small lenses. The fine design offers unmatched convenience.

The main bag has a removable padded insert accessible via the top or through a hinged rear panel. It'll house a pro DSLR and zoom, but limits you to three extra full-frame optics. Large side pockets and tripod mounting help increase storage. And then there's the daunting price, which can be reduced by bagging the non-Deluxe version (£315/\$390).

**Pros** Class-leading accessibility; well made; comfortable

**Cons** Pricey; not very spacious; hiker looks won't suit all tastes

**We say** Superb if comfort and fast access matter more than outright storage and cost

Overall score ●●●●●

## Sigma Specifications

- Full-frame compatible** Yes
- Effective focal length** (APS-C) 36-105mm
- Image Stabilizer** Yes
- Minimum focus distance** 0.37m
- Max magnification factor** 0.21x
- Manual focus override** Full-time
- Focus limit switches** No
- Internal zoom** No
- Internal focus** Yes
- Filter size** 82mm
- Iris blades** 9
- Weather seals** Yes
- Supplied accessories** Hood, soft case
- Dimensions** (dia x length) 88x108mm
- Weight** 1020g
- Price** £1400/\$1300



## Sigma 24-70mm f/2.8 DG OS HSM Art

# Sigma vs Tamron 24-70mm f/2.8

These new standard zooms for full-frame Nikon DSLRs aim for top imaging performance at a reasonable price

A standard zoom is the 'go to' lens for most people's general photography, so it pays to step up from a 'kit' lens. A 24-70mm f/2.8 lens is a particularly appealing choice. It delivers everything from serious wide-angle coverage to a portrait-friendly short telephoto focal length, complete with a wide and constant aperture rating that enables a pretty tight depth of field.

Nikon has two variants; the AF-S 24-70mm f/2.8G ED, which costs around £1450/\$1800, and the newer AF-S 24-70mm f/2.8E ED VR, which adds stabilization and sells for £1950/\$2400 or thereabouts.

Stabilizers are also included in both of the new competing Sigma and Tamron lenses, which also feature

excellent build quality and high-grade optics, while undercutting both Nikons significantly on price.

Both of the new independent lenses have a pro-grade look and feel, with

## Features

- 01** A three-position switch enables regular and manual focus and 'manual override' autofocus.
- 02** In MO mode, the lens switches to manual focus as you twist the focus ring.
- 03** A rubber ring about the mounting plate is the Sigma's only weather seal.

tough and rigid metal outer barrels. The inner barrel extends as you increase the zoom setting but there's no hint of wobble or zoom creep. The Tamron adds a zoom lock switch to ensure the lens doesn't unintentionally extend while you're carrying it around, and the petal-shaped hood locks in place with a push-button release mechanism. Weather-seals are fitted to the mounting plate and around the various joints and switches, and the front element has a fluorine coating. By comparison, the Sigma lacks a zoom lock switch, locking hood and a fluorine coating, and its only weather-seal is a rubber ring around the mounting plate.

Handling characteristics are very refined in both competing lenses. The



Excellent sharpness and contrast at the wide-angle end, with minimal distortion and colour fringing



The Sigma retains a little more sharpness than the Tamron when using f/2.8 at long focal lengths

## Tamron Specifications

- Full-frame compatible** Yes
- Effective focal length** (APS-C) 36-105mm
- Image Stabilizer** Yes
- Minimum focus distance** 0.38m
- Max magnification factor** 0.2x
- Manual focus override** Full-time
- Focus limit switches** No
- Internal zoom** No
- Internal focus** Yes
- Filter size** 82mm
- Iris blades** 9
- Weather seals** Yes
- Supplied accessories** Hood, soft pouch
- Dimensions** (dia x length) 88x111mm
- Weight** 905g
- Price** £1250/\$1200



## Tamron SP 24-70mm f/2.8 Di VC USD G2

Sigma's zoom ring has a little more friction than that of the Tamron, but feels slightly smoother throughout its entire travel. However, the Sigma zoom ring's direction of rotation is reversed from that of Nikon zoom lenses, in that the focal length increases when you twist the ring in an anti-clockwise direction (viewed from the rear). In the Tamron lens, the direction of rotation is 'correct'.

### Performance

Ring-type ultrasonic autofocus is fitted to both lenses. As usual, the systems come complete with full-time manual override, once autofocus has been achieved in One Shot mode. However, the Sigma has an additional MO (Manual Override) autofocus mode, available from a three-way AF/MO/MF switch on the barrel. Using the MO option, the lens defaults to autofocus mode but switches to manual focusing as soon as you twist the focus ring. Manual override is therefore possible before autofocus has locked onto a subject, for example if it's hunting in difficult conditions, as well as being available in AF-C continuous focus mode.

You might question whether image stabilization is really necessary in a fairly 'fast' lens with an f/2.8 aperture rating. We think it's very much worth having, not least because

you might want to use a medium or narrow aperture to extend your depth of field under dull lighting. Stabilization enables you to do this when shooting handheld, without the need to push your camera's ISO setting too high. Throughout our tests, the Sigma's OS (Optical Stabilizer) delivered a four-stop benefit, which is pretty impressive. The Tamron's VC (Vibration Compensation) system is even better, giving five-stop performance throughout its zoom range. It's one of the most effective stabilizers we've ever used.

To optimize optical performance, the Sigma's optical path includes three SLD (Special Low Dispersion) elements and four aspherical elements, along with Multi-Layer

### Features

- 01** The zoom ring's direction of rotation is the same as in Nikon zoom lenses.
- 02** The large focus mode and stabilizer switches can be used with gloves.
- 03** The Tamron has more weather-seals than the Sigma, plus a fluorine coating on the front element.

Coating to reduce ghosting and flare. For its part, the Tamron zoom lens boasts two XR (Extra Refractive Index), three LD (Low Dispersion), three GM (Glass-Molded aspherical) and one hybrid aspherical element, along with both nanostructure and conventional coatings.

There's little to choose between the lenses when it comes to image quality. Both deliver excellent contrast and impressive sharpness when shooting wide-open. At f/2.8, the Tamron is a little sharper in the 24-35mm section of the zoom range, whereas the Sigma edges ahead at 50-70mm focal lengths. Colour fringing is minimal in the Sigma, and even more negligible in the Tamron, right into the extreme corners of the image frame. Distortions are well controlled in



**24mm f/8**  
The Tamron matches Sigma's wide-angle sharpness at medium apertures, and is even better at f/2.8



**70mm f/2.8**  
At 70mm f/2.8, the Tamron isn't quite as sharp as the Sigma, but bokeh is similarly beautiful



# GEAR ZONE SIGMA VS TAMRON 24-70MM F/2.8



both lenses. Vignetting at wide apertures is slightly more noticeable in the Tamron, but this lens is slightly better than the Sigma for minimizing ghosting and flare. Both have similarly smooth bokeh (the quality of defocused areas), which remains good when stopping down a little, thanks to well-rounded nine-blade diaphragms. Autofocus is fast, quiet and accurate, both lenses having revamped autofocus systems, but the Tamron's is slightly faster and quieter.

Overall performance represents a noticeable increase compared with the previous editions of both lenses, especially in the case of the Sigma. More importantly, performance is as good as from the competing Nikon lens. This makes both independents, and particularly the Tamron, better value for money.

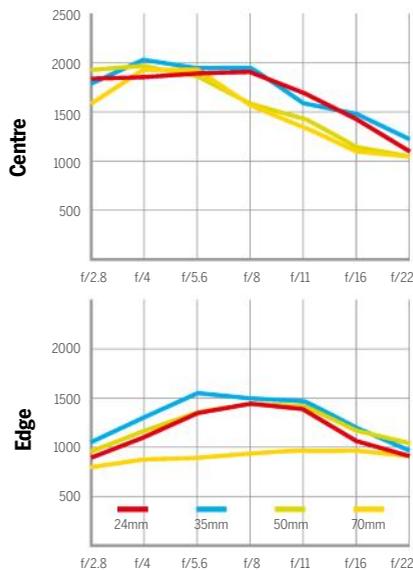
**The Sigma lens is solidly built with sumptuous image quality and sharpness, but lags behind the Tamron in the number of weather seals**

**The Tamron lens minimizes ghosting and flare and produces a smooth bokeh with a fast, quiet, and accurate autofocus**



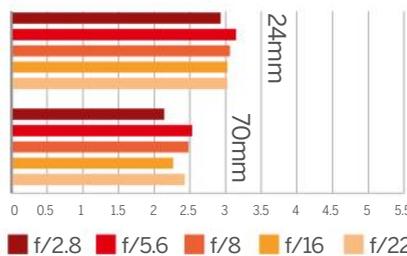
## SIGMA 24-70mm

### Sharpness



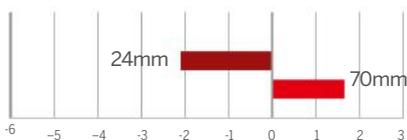
Shooting at 70mm between f/2.8 and f/5.6, the Sigma leads on sharpness

### Fringing (at Edge)



Fairly minimal fringing throughout the zoom, even at the edges of the frame

### Distortion



Barrel distortion is minor at 24mm, with even less pincushion at longer lengths

### Verdict

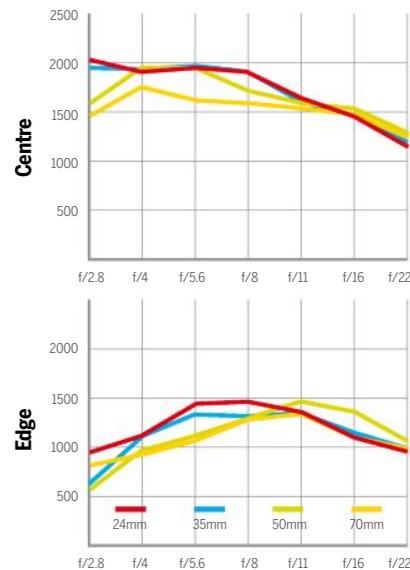
Features  
Build/handling  
Performance  
Value for money

### OVERALL

Good build quality and performance. The stabilizer is effective and the 'manual override' AF mode is nice, but the sole weather-seal is a rubber mounting plate ring.

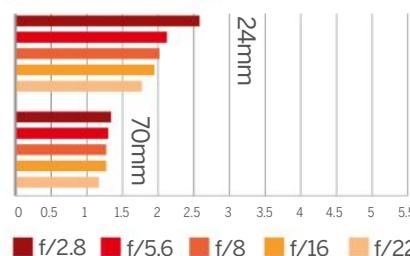
## TAMRON 24-70MM

### Sharpness



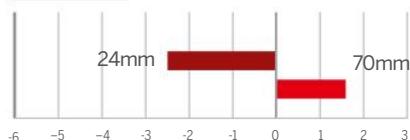
Wide-angle sharpness is great at f/2.8, but it pays to stop down at the long end

### Fringing (at Edge)



Colour fringing is negligible across zoom and aperture ranges, even in the corners

### Distortion



Distortion control is good for a standard zoom, matching the Sigma's performance

### Verdict

Features  
Build/handling  
Performance  
Value for money

### OVERALL

Tough build includes a full set of weather seals. It lacks the Sigma's MO focus mode but has a very effective stabilizer and sumptuous image quality to just beat it.

# X900



## Lithium Battery Speedlite

- Fast recycle time
- Dual power supply
- 2.4G wireless
- equipped with LED light



For Canon/Nikon

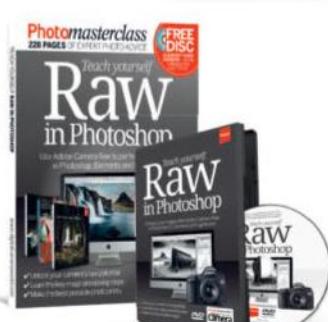


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# New year, new Nikon

Which will be your next Nikon camera? **Matthew Richards** picks out the best upgrade options for your budget

**T**he room for improvement is the biggest room in the world, or so it's said. Since the D70 brought digital SLR photography to the masses, back in 2004, Nikon has been constantly upping the stakes, bringing a stream of SLRs to the market that have continually refined and redefined SLR photography. That gives you two big reasons to upgrade.

Firstly, you might have started off with an entry-level

camera like the D3000. The chances are that your skills as a photographer have grown, to the extent that you need a more sophisticated camera to cater to your creativity. Secondly, even if you want to stick with a camera that's fairly simple and straightforward, the latest models will deliver superior image quality and all-round performance.

So how do you choose your next Nikon SLR? You might figure that better



## The contenders

### DX FORMAT

**NIKON D5600** £650/\$650

**NIKON D7200** £890/\$1000

**NIKON D7500** £1300/\$1250

**NIKON D500** £1800/\$1900

### FX FORMAT

**NIKON D750** £1600/\$1800

**NIKON D810** £2600/\$2800

**NIKON D850** £3500/\$3300

**NIKON D5** £5200/\$6500



UPGRADE CAMERAS



cameras cost more money, so you'd just buy the most expensive one that you can afford. For our money, and yours too, that's the wrong way to go about upgrading your SLR. It's better to consider what type of photography you're really into, and to buy a camera that most ideally suits your needs.

Naturally, we all need to factor budget constraints into the equation. But by thinking about what you want to shoot and how you want to shoot it, you'll often find that you can avoid buying a more expensive camera than necessary. For example, if travel photography is your thing, or you like to pop a camera into your bag for daily shooting, a compact, lightweight SLR will be the best fit, whereas a heavyweight camera and lens combination will take up too

much room with its bulk and may weigh you down.

DX format cameras are great for sports and wildlife photography. The 1.5x crop factor of their APS-C format image sensors really plays into your hands for extending telephoto reach, enabling you to shoot with a relatively lightweight 70-300mm zoom, rather than bearing the load of a full-frame camera with a huge super-telephoto lens attached. Of course, you can still use a super-telephoto lens on a DX camera if you need to, which



The 1.5x crop factor of their APS-C format image sensors really plays into your hands for extending telephoto reach

will give you incredible telephoto reach.

FX cameras with full-frame sensors are a better bet for portraiture, still life and other scenarios in which you want a tight depth of field. That's because depth of field is more dependent on the 'actual' focal length of a lens, rather than the 'effective' focal length with the crop factor taken into account. For example, shooting portraits with an 80mm lens on an FX camera enables a tighter depth of field than using a 50mm lens on a DX camera, making it easier

to blur the background and make the main subject really stand out.

For any given megapixel count, the photosites on the image sensor, equating to individual pixels in an image, will be physically larger. They therefore have greater light-gathering potential, tending to enable cleaner, more noise-free images in very dull lighting conditions. This makes FX cameras preferable for shooting architectural interiors without flash, and subjects like indoor sports, twilight cityscapes and night shots in general.

There's more to picking the perfect camera for your needs than just choosing between DX and FX formats. Let's take an in-depth look at what all the latest and most exciting Nikon SLRs have to offer.

## Features to look for...

HERE ARE SOME OF THE MOST CRUCIAL FACTORS TO CONSIDER



### MEGAPIXELS

It's easy to think that more is better. A bigger megapixel count undeniably gives more potential for capturing ultra-fine detail and texture, but high-ISO image noise is likely to be worse.

### SENSOR SIZE

The DX (APS-C) format is ideal for extending telephoto reach and depth of field. FX (full-frame) wins out for getting a tight depth of field, and usually gives cleaner high-ISO performance.

### FEATURES AND VALUE

Think about the types of photography that you like to do, or that you might get into. There's no point paying for high-end features that you're never likely to need.

### SIZE AND WEIGHT

Smaller, more lightweight bodies are ideal for travel and everyday shooting. Bigger bodies enable a more comfortable, assured grip for handheld shooting, and a better balance with large lenses.

### KEEP IT SIMPLE

An 'upgrade' doesn't have to be more complicated. You might want to combine simplicity with the latest advances in image quality, or to share shots with family and friends.

### DRIVE RATE

For nailing the definitive moment in sports and wildlife photography, a fast drive rate is important. Ideally, it'll be backed up by a generous buffer capacity, for longer shooting sequences.

### SENSITIVITY MATTERS

For freezing movement in low light, and shooting handheld indoors, or at twilight, minimal image noise and retention of fine detail at high ISO settings is a key area of performance.

### DURABILITY

If you rattle off thousands of shots at outdoor events, from weddings to sports and wildlife shoots, construction and weatherproofing standards are key considerations.





**DX-FORMAT CAMERAS**

**Nikon D7500**

**£1300/\$1250**

TOP-NOTCH DX QUALITY AT A SENSIBLE PRICE

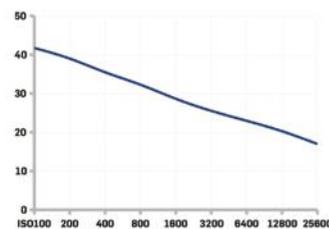
Many of us aspire to the D500's stellar combination of 20.9Mp sensor and EXPEED 5 processor for sumptuous image quality, without needing its pro-style build and controls, or its go-faster drive speed. The D7500 is that compromise.

Building on the D7200's design philosophy, this new camera has a similar control layout, albeit in a slightly smaller and more lightweight build, constructed from carbon fibre, and with one rather than two card slots. It retains the D7200's 51-point autofocus system but the metering system is taken from the D500, along with the sensor and processor. Video capture rises from 1080p to 4K UHD, and the rear LCD is upgraded to a tilting touchscreen.

**Performance**

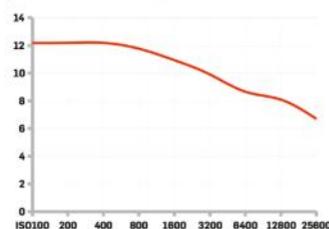
With a faster 8fps drive rate than the D7200's 6fps, and a considerably larger memory buffer, the D7500 is better suited to action photography. The more modest megapixel count not only helps to increase the drive speed, but also enables cleaner high-ISO image quality, making for better low-light performance.

**Signal to noise**



The D7500 steals a lead over cameras such as the D5600 and D7200 but still lags behind the D750 and D5.

**Dynamic range**



Like the D500, the D7500 retains impressive dynamic range when shooting at high ISO settings.

**Verdict**

Features    
 Build/handling    
 Performance    
 Value for money    
**OVERALL**

A smart DX all-rounder with a tilting touchscreen, and it's good in the dark.

**Nikon D500**

**£1800/\$1900**

A CONSUMMATE PROFESSIONAL OF A DX CAMERA

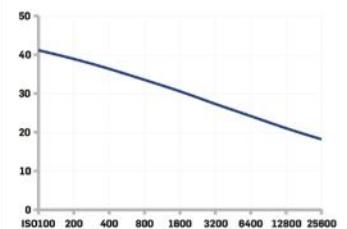
The D500 hit the headlines a couple of years ago, replacing the D300S as a professional-grade DX format SLR. 'Upgrades' don't get much more dramatic than this, and the antiquated specs of the D300S have been completely revamped, with the D500 sharing the 153-point autofocus and 3D Colour Matrix III systems used in the D5 and D850 full-frame FX cameras.

Everything's wrapped in a super-tough, weather-sealed, magnesium alloy casing with professional-style shooting controls. As such, the shooting mode dial is replaced by a button cluster for quick access to important settings. Around the back, there's a fabulous 2359k dot, tilting touchscreen display.

**Performance**

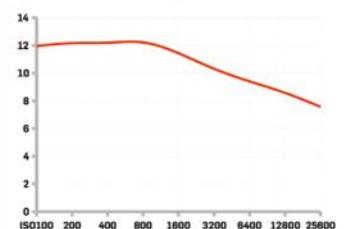
The 10fps drive rate almost matches that of the D5, and the buffer depth is twice as large as in any other DX camera, enabling up to 200 shots at 10fps in either Raw or JPEG quality mode. The sensitivity range equals that of the D7500, with equally good high-ISO performance, and the autofocus tracking for moving subjects is nothing short of incredible.

**Signal to noise**



As with the D7500, the high-ISO image quality is amazingly clean considering that this is a DX format camera.

**Dynamic range**



It's not particularly special at a range of ISO100-400 but there's little drop-off, even at very high ISO settings.

**Verdict**

Features    
 Build/handling    
 Performance    
 Value for money    
**OVERALL**

Something of a sports specialist, it's a top-performance, pro-grade DX camera.





FX-FORMAT CAMERAS

## Nikon D850

£3500/\$3300

NEWER, BETTER, FASTER, MORE...

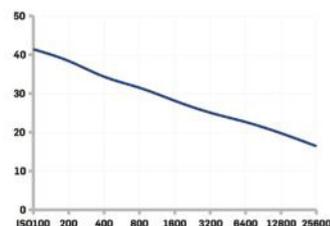
The D850 positively screams 'upgrade', increasing the megapixel count of the D810 from 36.3Mp to a massive 45.7Mp, upping the number of autofocus points from 51 to 153, adopting the newer metering module of the D5 and D500, increasing the sensitivity range and uprating movie capture to 4K UHD, with no crop factor.

Helped by the powerful EXPEED 5 processor, it increases the maximum drive rate from 5fps to 7fps (9fps with an MB-D18 battery grip and EN-EL18b battery). The D850 promises an even greater megapixel count than the D810, along with cleaner high-ISO quality, while its faster frame rate makes it more suitable as an all-rounder, encompassing action sports and wildlife photography with incredible fine detail.

### Performance

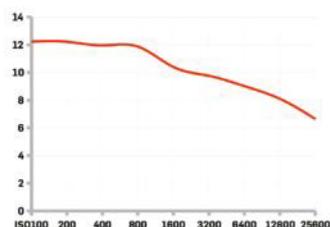
Performance is stellar in all respects but you'll need the highest-calibre lenses to make the most of the D850's high-res potential. Even so, it's a camera that's simply great at pretty much everything, although high-ISO images aren't as clean as from the D750 and D5.

### Signal to noise



The D850 edges ahead of the D810, despite seeing a significant increase in megapixel count.

### Dynamic range



As in Nikon's other recent SLRs, the D850 boasts highly impressive dynamic range performance.

### Verdict

Features   
 Build/handling   
 Performance   
 Value for money   
**OVERALL**

For sheer quality and versatility, the D850 is 'the' upgrade camera to buy.

## Nikon D5

£5200/\$6500

EXTRA-LARGE BUT SUPER-FAST AND DEADLY ACCURATE

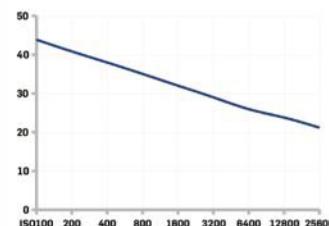
Compared with other cameras in Nikon's current lineup, the D5 looks like The Incredible Bulk. It's huge and 50 per cent heavier than other pro-grade FX cameras like the D810 and D850. That's mainly because it has a built-in vertical grip and impeccably duplicated shooting controls, making for equally refined handling in both portrait and landscape orientation shooting. It also houses an ultra-high-capacity battery with enough stamina for 3780 shots.

State-of-the-art autofocus and metering systems team up with a super-fast maximum drive rate of 12fps. It actually rises to 14fps if you can live with the reflex mirror being locked up after the first shot in a sequence, which blocks the viewfinder image and precludes any updating of metering and autofocus.

### Performance

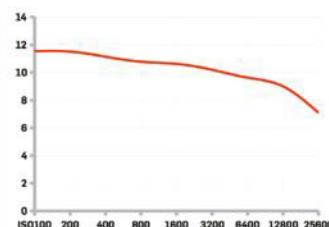
There's no beating the D5 for action photography: be it sports, wildlife or capturing fleeting moments. The flip side is that the image sensor has a relatively meagre megapixel count of 20.8Mp, but this does enable amazingly noise-free image quality at very high ISO settings.

### Signal to noise



Although not a megapixel monster, with its noise-free images, it overtakes even the D750 at ultra-high ISO settings.

### Dynamic range



As you might expect, the D5 retains more dynamic range than any other camera in the group at high sensitivities.

### Verdict

Features   
 Build/handling   
 Performance   
 Value for money   
**OVERALL**

Undeniably pricey, but worth the money if you need the ultimate action hero.

## HOW THE CAMERAS COMPARE

								
	NIKON D5600	NIKON D7200	NIKON D7500	NIKON D500	NIKON D750	NIKON D810	NIKON D850	NIKON D5
	www.nikon.com							
Street price (body only)	£650/\$650	£890/\$1000	£1300/\$1250	£1800/\$1900	£1600/\$1800	£2600/\$2800	£3500/\$3300	£5200 \$6500
Date announced	Nov 2016	Mar 2015	Apr 2017	Jan 2016	Sep 2014	Jun 2014	Aug 2017	Jan 2016
Image sensor	24.2Mp CMOS	24.2Mp CMOS	20.9MP CMOS	20.9Mp CMOS	24.3MP CMOS	36.3MP CMOS	45.7Mp CMOS	20.8Mp CMOS
Image processor	EXPEED 4	EXPEED 4	EXPEED 5	EXPEED 5	EXPEED 4	EXPEED 4	EXPEED 5	EXPEED 5
Raw colour depth	12/14-bit	12/14-bit	12/14-bit	12/14-bit	12/14-bit	12/14-bit	12/14-bit	12/14-bit
Viewfinder	Pentamirror, 0.82x, 95%	Pentaprism, 0.94x, 100%	Pentaprism, 0.94x, 100%	Pentaprism, 1.0x, 100%	Pentaprism, 0.7x, 100%	Pentaprism, 0.7x, 100%	Pentaprism, 0.75x, 100%	Pentaprism, 0.72x, 100%
ISO range (expanded)	ISO 100-25,600	ISO 100-25,600 (102,400 mono)	ISO 100-51,200 (50-1,640,000)	ISO 100-51,200 (50-1,640,000)	ISO 100-12,800 (50-51,200)	ISO 64-12,800 (32-51,200)	ISO 64-25,600 (32-102,400)	ISO 100-102,400 (50-3,280,000)
Autofocus points	39-point (9 cross-type)	51-point (15 cross-type)	51-point (15 cross-type)	153-point (99 cross-type)	51-point (15 cross-type)	51-point (15 cross-type)	153-point (99 cross-type)	153-point (99 cross-type)
Narrowest AF aperture	f/5.6	f/8 (1 AF point)	f/8 (1 AF point)	f/8 (15 AF points)	f/8 (11 AF points)	f/8 (11 AF points)	f/8 (15 AF points)	f/8 (15 AF points)
Shutter speeds	1/4000 to 30s, Bulb	1/8000 to 30s, Bulb	1/8000 to 30s, Bulb	1/8000 to 30s, Bulb	1/4000 to 30s, Bulb	1/8000 to 30s, Bulb	1/8000 to 30s, Bulb	1/8000 to 30s, Bulb
Max burst rate	5fps	6fps (7fps 1.3x crop)	8fps	10fps	6.5fps	5fps (7fps DX crop)	7fps (9fps, MB-D18, EN-EL18b)	12fps (14fps mirror up)
Buffer, Raw (JPEG)	11-17 (100) shots	18-35 (100) shots	50-100 (100) shots	79-200 (200) shots	15-33 (100) shots	23-58 (100) shots	29-200 (200) shots	65-200 (200) shots
Max video resolution	1080p (60/50/30/25/24fps)	1080p (60/50/30/25/24fps)	4K (30/25/24fps)	4K (30/25/24fps)	1080p (60/50/30/25/24fps)	1080p (60/50/30/25/24fps)	4K (30/25/24fps)	4K (30/25/24fps)
LCD screen	3.2-inch, 1037k, touch, vari-angle	3.2-inch, 1229k	3.2-inch, 922k, tilt, touch	3.2-inch, 2359k, tilt, touch	3.2-inch, 1229k, tilt	3.2-inch, 1229k	3.2-inch, 2359k, tilt, touch	3.2-inch, 2359k
Memory	1x SD/HC/XC	2x SD/HC/XC	SD/HC/XC	1x SD/HC/XC, 1x XQD	2x SD/HC/XC	1x CF, 1x SD/HC/XC	1x XQD, 1x SD/HC/XC	2x CF or 2x XQD
Built-in wireless	Wi-Fi, NFC, BLE	Wi-Fi, NFC	Wi-Fi, BLE	Wi-Fi, NFC, BLE	Wi-Fi	None	Wi-Fi, BLE	None
Body materials	Carbon-fibre composite	Mag alloy & polycarbonate	Carbon-fibre composite	Mag alloy & carbon-fibre	Mag alloy & carbon-fibre	Magnesium alloy	Magnesium alloy	Magnesium alloy
Body (WxHxD)	124x97x70mm	136x107x76mm	136x104x73mm	147x115x81mm	141x113x78mm	146x123x82mm	146x124x79mm	160x159x92mm
Weight (inc battery/card)	465g	765g	720g	860g	840g	980g	1005g	1405g
Battery life (CIPA)	EN-EL14a, 970 shots	EN-EL15, 1110 shots	EN-EL15a, 950 shots	EN-EL15, 1240 shots	EN-EL15, 1230 shots	EN-EL15, 1200 shots	EN-EL15a, 1840 shots	EN-EL18, 3780 shots
FEATURES								
BUILD/HANDLING								
PERFORMANCE								
VALUE FOR MONEY								
OVERALL								

The winner is...

## Nikon D850 £3500/\$3300



**What's good:** Amazing high-res potential combined with a sporty continuous drive rate.

**What's bad:** High-ISO image quality is noisy compared with the D750 and D5.

**Our verdict:** Pro-quality build and handling, and it wins out for sheer versatility.

In many ways, the D850 is the definitive 'upgrade' camera. It has incredible resolving power for capturing fine detail and texture, yet with a drive rate that's fast enough for use in action sports and wildlife. It's brilliant for 4K UHD movie capture too. As a more modestly priced FX format all-rounder, the D750 tops the list for value for money, while the D810 remains a smart pro-grade buy if you need a high-res body that significantly undercuts the D850 for price. For all-out action, the D5 packs a knockout punch.



There's still something to be said for sticking to a DX format camera, especially if you've built up a collection of good DX lenses. The D7500 is the best DX all-rounder, but there's no beating the D7200 for value for money. The D500 is the pro-grade choice, and best suited to action photography, while the diminutive, lightweight D5600 makes a refined travel companion.

Runners-up

### Nikon D750 £1600/\$1800

**What's good:** Excellent all-round performance, with squeaky-clean high-ISO image quality.

**What's bad:** It loses out to the D810 and D850 on megapixel count.

**Our verdict:** A superb FX format camera and a bargain.



### Nikon D7500 £1300/\$1250

**What's good:** The best bits from the D500, and the same superb image quality.

**What's bad:** It lacks the D500's top-end autofocus system and super-fast frame rate.

**Our verdict:** A spectacular new camera.



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THE BEST GEAR OF THE YEAR

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- 8 ultra-wide lenses tested
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- How to shoot seascapes



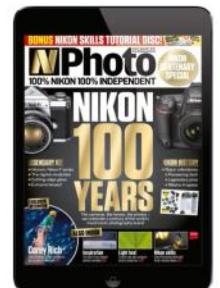
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Rotary prism	£99
Winder early	£79
Speed Grip E	£59

**HASSELBLAD 6x6 USED**

503CW Millennium	£499
+ 80 F2.8 CFE + A12	£2799
501C + 80 CB + A12	£1699
500CM + 80 F2.8 C	£299
+ A12 + WLF	£699
500CM body black	£299
500C chrome body	£249
503CW winder	£199
2x PS converter M	£179
4x PS converter L	£179
135N 35mm film back	£119
SQAI 120 RFH	£79
Sports viewfinder	£69
Chimney	£99
A12 chrome latest	£349
A12 late blk/chr	£199
Polaroid back 100	£79
50 F4 CF FLE	£849
50 F4 Black T*	£399
100 F3.5 Black T*	£399
150 F4 CF	£499
150 F4 Black T*	£299
150 F4 chrome serviced	£199
150 F5.6 Black T*	£199

**MAMIYA 645 MF USED**

Vivitar 2x conv	£49
Lens hoods various	£20/50
MAMIYA 645 MF USED	
645 Pro TL + 80 +	
AE prism + back	£599
Plain prism (645 Super)	£79
645 Super WLF	£99
Polaroid back HP401	£29
Polaroid back	£29
120 Insert	£20
120 Back	£79
Winder	£79
45 F2.8 N	£199
150 F3.5 N	£79
150 F3.8 NL leaf	£299
210 F4 N M	£79
Ext Tube 1	£29
Ext tube 2	£29
Ext tube 3S	£29
Teleplus 2x converter	£49
Vivitar 2x converter	£79
MAMIYA TLR 6x6 USED	
65 F3.5 box late	£199

**PENTAX 645MF USED**

90 F3.5 W M-box	£299
180 F4.5 W	£199
645 body + insert	£199
200 F4	£149
300 F4	£249
1.4x converter	£199

**PENTAX 67 USED**

Pro S body	£199
Plain prism early	£149
WLF	£79
50 F4.5	£299
127 F3.5 KL	£299
Pro SD ext tube 1.45mm	£99
Pro SD ext tube 2.82mm	£99
MAMIYA RZ 6x7 USED	
RZ Pro body	£149
120 RFH Pro	£99
Polaroid back	£79
FE701 prism	£299
WLF	£79
Winder III	£49
65 F4 box M	£399

**35MM & MISCELLANEOUS USED**

**Used Nikon**  
400mm F2.8 ED AIS  
**£1299**

**Used Nikon**  
500mm F4 AIS  
**£1399**

**CANON FD USED**

A1 body serviced	£169
AE1 Program body	£99
24 F2	£299
24 F2.8	£149
24 F2.8 breechlock	£149
28 F2.8	£49
35-70 F4	£69
35-105 F3.5	£149
50 F1.2 L	£699
50 F1.8	£49
Selkon L308S	£119
50 F3.5 macro	£99
70-150 F4.5	£29
100 F2.8	£149
100-300 F5.6	£79
135 F3.5	£49
135 F3.5 (breechlock)	£39
200 F4 macro	£299
25mm or 50mm Ext tube ea	£29
2x Extender B	£49

**CANON BINOCULARS USED**

15 x 45 IS	£599
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**CONTAX 35mm RF USED**

90 F2.8 G	£269
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**LIGHTMETERS USED**

Gossen Spot-Master	£299
Minolta Flashmeter IV	£199
Selkon L308S	£119
24 F2 AI	£299

**MINOLTA MD USED**

XD7 body black/chrome	£149
X300 chrome body	£49
X300s black body	£49
X700 black body	£49
X300s black body	£49
XGM chrome body	£49
28 F3.5 MD	£49
50 F1.7 MD	£49
50 F2 MD	£49

**MINOLTA 5200I**

Minolta 5200I	£39
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# Buyer's guide Nikon cameras



Not sure which Nikon body will be the one for you? Here's a rundown of the current range\*

**NIKON 1 J5**



**A CSC THAT DSLR USERS WILL LOVE**, the J5 has the highest resolution of any Nikon 1 camera to date (20.8Mp) and a decent sensitivity range. The top dial also gives access to semi-automatic and manual exposure modes, plus you can shoot in Raw, which is real bonus.



**TESTED IN ISSUE 47 PRICE: £300/\$500**

Sensor	20.8Mp, CX (5232x3488)
Processor	EXPEED 5A
Viewfinder	N/A
ISO	200-12800
AF	171 area-contrast (105 area-phase)
LCD	3-inch tilting touchscreen
Max burst	60fps
Memory card	microSD/HC/XC

**NIKON 1 S2**



**SMALL IN SIZE BUT BIG ON QUALITY**, the svelte Nikon 1 S2 is responsive and speedy. With a 14.2Mp image sensor, and the omission of built-in Wi-Fi or a touchscreen, it's more basic than the J5, but still a highly capable camera that you can slip into your bag as a lightweight backup.

**PRICE: APPROX. £300/\$350 (no longer on sale)**

Sensor	14.2Mp, CX (4592x3072)
Processor	EXPEED 4A
Viewfinder	N/A
ISO	200-12800
AF	135 area-contrast (73 area-phase)
LCD	3-inch
Max burst	20fps (60fps fixed AF)
Memory card	microSD/HC/XC

**NIKON 1 AW1**



**VERY MUCH THE ACTION ADVENTURER**, the Nikon 1 AW1 is shockproof, waterproof to a depth of 15 metres, and even freeze-proof down to -10°C. To keep pace with a truly active lifestyle, it also has a built-in compass, altimeter, depth gauge and GPS.



**TESTED IN ISSUE 46 PRICE: £549/\$780**

Sensor	Sensor 14.2Mp, CX (4608x3072)
Processor	EXPEED 3A
Viewfinder	N/A
ISO	160-6400
AF	135 area-contrast (73 area-phase)
LCD	3-inch
Max burst	15fps (60fps fixed AF)
Memory card	SD/HC/XC

**NIKON 1 V3**



**THE FLAGSHIP NIKON 1 CAMERA** adds a vari-angle touchscreen to the comfortable ergonomics of the preceding V2, along with key upgrades to the image sensor, processor and autofocus system. It also includes built-in Wi-Fi. An electronic viewfinder is optional.



**TESTED IN ISSUE 46 PRICE: £800/\$1200**

Sensor	18.4Mp, CX (5232x3488)
Processor	EXPEED 4A
Viewfinder	Electronic
ISO	160-12800
AF	171 area-contrast (105 area-phase)
LCD	3-inch vari-angle touchscreen
Max burst	20fps (60fps fixed AF)
Memory card	SD/HC/XC

**NIKON D3200**



**AN INSTANT FAVOURITE WITH BEGINNERS** when launched back in 2012, the D3200 eases you into creative photography with a built-in Guide mode that serves up interactive tutorials. This is backed up by impressive image quality, thanks to its 24.2Mp image sensor and EXPEED 3 processor.



**TESTED IN ISSUE 53 PRICE: £350/\$330**

Sensor	24.2Mp, DX (6016x4000)
Processor	EXPEED 3
Viewfinder	Pentamirror, 0.8x, 95%
ISO	100-6400 (12800 expanded)
AF	11-point (1 cross-type)
LCD	3-inch
Max burst (buffer)	4fps (18 Raw/80 JPEG)
Memory card	SD/HC/XC

**NIKON D3300**



**THE D3300 BOASTS A BEGINNER-FRIENDLY GUIDE MODE** too, but boosts performance with a current-generation EXPEED 4 processor, faster continuous shooting and greater low-light potential than the D3200. There's also a user-friendly Effects shooting mode and handy 'easy panorama' mode.



**TESTED IN ISSUE 53 PRICE: £300/\$400**

Sensor	24.2Mp, DX (6000x4000)
Processor	EXPEED 4
Viewfinder	Pentamirror, 0.85x, 95%
ISO	100-12800 (25600 expanded)
AF	11-point (1 cross-type)
LCD	3-inch, 70-degree viewing angle
Max burst (buffer)	5fps (11 Raw/100 JPEG)
Memory card	SD/HC/XC

\* Current market prices (for body + a kit lens) are checked regularly with reputable stores to serve as a guideline. Different lens bundles are available. Prices correct at time of going to press.

NIKON 1 COMPACT SYSTEM CAMERAS

ENTRY-LEVEL DSLRS

ENTRY-LEVEL DSLRS

## NIKON D3400



**THE D3400 MAKES ROOM FOR NEW FEATURES BY DOWNGRADING OTHERS**, offering a relatively minor upgrade to the D3300 that includes wireless connectivity. While it's perfectly capable, the great price of the D3300 means that one is still our preferred entry-level Nikon DSLR.



TESTED IN ISSUE 65 PRICE: £380/\$500

Sensor	24.2Mp, DX (6000x4000)
Processor	EXPEED 4
Viewfinder	Pentamirror, 0.85x, 95%
ISO	100-25600
AF	11-point (1 cross-type)
LCD	3-inch, 170-degree viewing angle
Max burst (buffer)	5fps (11 Raw/100 JPEG)
Memory card	SD/SDHC/SDXC

## NIKON D5300



**AN AFFORDABLE INTERMEDIATE-LEVEL CAMERA**, this body features a new generation processor, plus built-in Wi-Fi and GPS, all wrapped up in a tough carbon-fibre-reinforced shell. Plus the optical low-pass filter is omitted to maximize the potential to capture image sharpness.



TESTED IN ISSUE 53 PRICE: £430/\$600

Sensor	24.2Mp, DX (6000x4000)
Processor	EXPEED 4
Viewfinder	Pentamirror, 0.82x, 95%
ISO	100-12800 (25600 expanded)
AF	39-point (9 cross-type)
LCD	3.2-inch vari-angle
Max burst (buffer)	5fps (13 Raw/100 JPEG)
Memory card	SD/HC/XC

## NIKON D5500



**THE SAME PIXEL COUNT AND PROCESSOR AS THE PRECEDING D5300**, built into the same style of monocoque (one-piece) body shell. The most notable upgrade in the newer D5500 is that its vari-angle LCD is a touchscreen. However, it loses the D5300's built-in GPS.



TESTED IN ISSUE 61 PRICE: £580/\$700

Sensor	24.2Mp, DX (6000x4000)
Processor	EXPEED 4
Viewfinder	Pentamirror, 0.82x, 95%
ISO	100-12800 (25600 expanded)
AF	39-point (9 cross-type)
LCD	3.2-inch vari-angle touchscreen
Max burst (buffer)	5fps (13 Raw/100 JPEG)
Memory card	SD/HC/XC

## NIKON D5600



**NIKON'S LATEST DX-FORMAT CAMERA ADDS SNAPBRIDGE** image-transfer tech to the same sensor and processor as the D5500. It features a built-in sensor-cleaning system and powerful pop-up flash, plus a neat Time Lapse Movie mode previously only found in more advanced DSLRs.



TESTED IN ISSUE 68 PRICE: £650/\$700

Sensor	24.2Mp, DX (6000x4000)
Processor	EXPEED 4
Viewfinder	Pentamirror, 0.82x, 95%
ISO	100-25600
AF	39-point (9 cross-type)
LCD	3.2-inch vari-angle touchscreen
Max burst (buffer)	5fps
Memory card	SD/SDHC/SDXC

ENTHUSIAST DSLRS

## NIKON D7100



**THE D7100 GETS A NOTABLE HIKE IN PIXEL COUNT** compared with the preceding D7000, along with the removal of the optical low-pass filter to maximize sharpness. Its autofocus system gets a boost too, and a 1.3x crop facility increases the maximum drive rate to 7fps.



TESTED IN ISSUE 19 PRICE: £700/\$700

Sensor	24.1Mp, DX (6000x4000)
Processor	EXPEED 3
Viewfinder	Pentaprism, 0.94x, 100%
ISO	100-6400 (25600 expanded)
AF	51-point (15 cross-type)
LCD	3.2-inch
Max burst (buffer)	6fps, 7fps crop (6-9 Raw/33 JPEG)
Memory card	2x SD/HC/XC

## NIKON D7200



**BUILDING ON THE D7100'S SPECIFICATIONS**, the D7200 boasts better low-light autofocus, a bigger memory buffer, an updated processor, built-in Wi-Fi and NFC connectivity, plus trick modes for doing light-trail photography and making time-lapse movies in-camera.



TESTED IN ISSUE 61 PRICE: £850/\$1000

Sensor	24.2Mp, DX (6000x4000)
Processor	EXPEED 4
Viewfinder	Pentaprism, 0.94x, 100%
ISO	100-25600 (102400 expanded, mono only)
AF	51-point (15 cross-type)
LCD	3.2-inch
Max burst (buffer)	6fps, 7fps crop (18-27 Raw/100 JPEG)
Memory card	2x SD/HC/XC

## NIKON D7500



**THE D7500 SEES A DROP IN RESOLUTION** compared with its predecessor and only has one, rather than two, memory card slots, but benefits from increased low-light performance, a beefier EXPEED 5 processor and 8fps shooting, plus 4K video and a tilting touchscreen.



TESTED IN ISSUE 75 PRICE: £1299/\$1249

Sensor	20.9Mp, DX (5568x3712)
Processor	EXPEED 5
Viewfinder	Pentaprism, 0.94x, 100%
ISO	100-51,200 (50-1,640,000 expanded)
AF	51-point (15 cross-type)
LCD	Tilting 3.2-inch touchscreen
Max burst (buffer)	8fps (50 Raw/100 JPEG)
Memory card	1x SD/HC/XC



## NIKON D610



**FULL-FRAME PHOTOGRAPHY STARTS HERE**, with the most affordable of Nikon's FX cameras. It's no slouch, with a 6fps maximum drive rate and a quiet (but slower) continuous drive option. It also features a weather-sealed body and, compared with the D600, a revised shutter unit.



TESTED IN ISSUE 61 PRICE: £1249/\$1100

Sensor	24.3Mp, FX (6016x4016)
Processor	EXPEED 3
Viewfinder	Pentaprism, 0.7x, 100%
ISO	100-6400 (50-25600 expanded)
AF	39-point (9 cross-type)
LCD	3.2-inch
Max burst (buffer)	6fps (14-26 Raw/51 JPEG)
Memory card	2x SD/HC/XC

## NIKON D750



**THE D750 IS EASILY MANAGEABLE FOR A SEMI-PRO FULL-FRAME BODY.** A reasonably priced addition to the lineup, it includes a tilting LCD screen and built-in Wi-Fi. The pixel count strikes a happy balance between the 16.2Mp Df/D4s and the 36.3Mp D810.



TESTED IN ISSUE 61 PRICE: £1600/\$1800

Sensor	24.3Mp, FX (6016x4016)
Processor	EXPEED 4
Viewfinder	Pentaprism, 0.7x, 100%
ISO	100-12800 (50-51200 expanded)
AF	51-point (15 cross-type)
LCD	3.2-inch tilt
Max burst (buffer)	6.5fps (15-33 Raw/87 JPEG)
Memory card	2x SD/HC/XC

## NIKON D500



**NIKON'S SEMI-PRO DX-FORMAT DSLR** is in many respects a dream camera. It boasts a blazingly fast, effective AF system and 10fps continuous shooting with a huge 200-shot Raw buffer, plus first-rate metering and white balance. For the money, it might just be Nikon's best DX DSLR yet.



TESTED IN ISSUE 61 PRICE: £1730/\$1900

Sensor	20.9Mp, DX (5568x3712)
Processor	EXPEED 5
Viewfinder	Pentaprism, 1x, 100%
ISO	100-51200 (50-1640000 expanded)
AF	153-point (99 cross-type, 15 sensitive to f/8)
LCD	3.2-inch tilting touchscreen
Max burst (buffer)	10fps (200 Raw/200 JPEG)
Memory card	1x XQD, 1x SD/HC/XC

## NIKON Df



**ICONIC DESIGN MEETS HIGH-TECH EXCELLENCE IN THIS RETRO BEAUTY.** The Df is amazingly compact for a full-frame body, but direct-access dials and buttons ensure that shooting controls are always within easy reach. The lack of a video shooting capability is a surprise omission, though.



TESTED IN ISSUE 54 PRICE: £2090/\$2750

Sensor	16.2Mp, FX (4928x3280)
Processor	EXPEED 3
Viewfinder	Pentaprism, 0.7x, 100%
ISO	100-12800 (50-204800 expanded)
AF	39-point (9 cross-type)
LCD	3.2-inch
Max burst (buffer)	5.5fps (25-47 Raw/100 JPEG)
Memory card	SD/HC/XC

## NIKON D810



**THE D810 BOASTS 36.3 MILLION PIXELS** and, unlike the older D800e, has no optical low-pass filter. It has a later-generation processor and an extended sensitivity range. A special astrophotography edition, D810A, is also available (£2900/\$3800).



TESTED IN ISSUE 77 PRICE: £2300/\$3000 (body only)

Sensor	36.3Mp, FX (7360x4912)
Processor	EXPEED 4
Viewfinder	Pentaprism, 0.75x, 100%
ISO	64-25,600 (expandable to 32-102,400)
AF	51-point (15 cross-type)
LCD	3.2-inch
Max burst (buffer)	5fps, 7fps DX crop (18-58 Raw/100 JPEG)
Memory card	1x CF, 1x SD/HC/XC

## NIKON D850



**THE D850 COMBINES HIGH RESOLUTION WITH SPEED.** Its full-frame sensor delivers a staggering 45.7Mp resolution at 7fps, which can be boosted to a blistering 9fps with the optional battery grip. It also boasts full-frame 4K video, and offers one of the largest optical viewfinders on a Nikon DSLR.



TESTED IN ISSUE 77 PRICE: £3500/\$3300

Sensor	45.7Mp, FX-format CMOS (35.9x23.9mm)
Processor	EXPEED 5
Viewfinder	Eye-level Pentaprism, 0.75x, 100%
ISO	100-25,600 (50-409,600 expanded)
AF	153-point phase-detection AF (99 cross-type)
LCD	Tilting 3.2-inch touchscreen 2359k dots
Max burst (buffer)	7fps (9fps with grip)
Memory card	1x XQD, 1x SD/SDHC/SDHC (UHS-II)

## NIKON D5



**CAPABLE OF SHOOTING 12 FRAMES PER SECOND**, and with a buffer capacity of 200 Raw files, Nikon's flagship DSLR also boasts 153 AF points – three times more than the D4s. The pixel count has also gone up, to 20.8Mp, as has the maximum ISO, to a staggering 3.3 million.



TESTED IN ISSUE 59 PRICE: £5000/\$6500 (body only)

Sensor	20.8Mp, FX (5568x3712)
Processor	EXPEED 5
Viewfinder	Pentaprism, 0.72x, 100%
ISO	100-102400 (50-3280000 expanded)
AF	153-point (99 cross-type, 15 sensitive to f/8)
LCD	3.2-inch touchscreen
Max burst (buffer)	12fps (200 Raw/200 JPEG)
Memory card	2x XQD (version with 2x CF also available)

# Buyer's guide Nikon-fit lenses



Vital statistics – find the right lens at the right price point\*

KEY: ■ GREAT VALUE ■ BEST ON TEST AWARD ■ GOLD AWARD

	Price*	Dx/Fx	Max zoom	Stabilizer	Autofocus	Max aperture	Weight	Min focus	Magnification	Filter size	Aperture blades	Issue reviewed	Rating	Awards	
<b>WIDE-ANGLE ZOOMS</b>	Nikon AF-PX 10-20 mm f/4.5-5.6G VR	£330/\$310	DX	0.17	Yes	Pulse	f/4.5-5.6	230g	0.22	0.17	72mm	7	77	●●●●●	
	Nikon AF-S DX 10-24mm f/3.5-4.5G ED	£730/\$900	DX	2.4x	No	Ultrasonic	f/3.5-4.5	460g	0.24m	0.2x	77mm	7	77	●●●●●	
	Nikon AF-S DX 12-24mm f/4G IF-ED	£980/\$1150	DX	2.0x	No	Ultrasonic	f/4	465g	0.3m	0.12x	77mm	7	32	●●●●●	
	Nikon AF-S 14-24mm f/2.8G ED	£1449/\$1900	FX	1.7x	No	Ultrasonic	f/2.8	1000g	0.28m	0.15x	None	9	77	●●●●●	
	Nikon AF-S 16-35mm f/4G ED VR	£900/\$1100	FX	2.5x	Yes	Ultrasonic	f/4	680g	0.28m	0.25x	77mm	9	77	●●●●●	
	Nikon AF-S 17-35mm f/2.8D IF-ED	£1340/\$1950	FX	2.1x	No	Ultrasonic	f/2.8	745g	0.28m	0.22x	77mm	9		●●●●●	
	Nikon AF-S 18-35mm f/3.5-4.5G ED	£620/\$750	FX	1.9x	No	Ultrasonic	f/3.5-4.5	385g	0.28m	0.2x	77mm	7	62	●●●●●	
	Sigma 8-16mm f/4.5-5.6 DC HSM	£600/\$700	DX	2.0x	No	Ultrasonic	f/4.5-5.6	555g	0.24m	0.13x	72mm	7	77	●●●●●	
	Sigma 10-20mm f/3.5 EX DC HSM	£330/\$450	DX	2.0x	No	Ultrasonic	f/3.5	520g	0.24m	0.15x	82mm	7	62	●●●●●	■
	Sigma 12-24mm f/4.5-5.6 II DG HSM	£650/\$950	FX	2.0x	No	Ultrasonic	f/4.5-5.6	670g	0.28m	0.16x	None	6	62	●●●●●	■
	Sigma 12-24mm f/4 DG HSM   A	£1400/\$1600	FX	2.0x	No	Ultrasonic	f/4	1150g	0.24m	0.2x	None	9	77	●●●●●	
	Sigma 24-35mm f/2 DG HSM   A	£760/\$1000	FX	1.5x	No	Ultrasonic	f/2	940g	0.28m	0.23x	82mm	9		●●●●●	
	Tamron SP AF 10-24mm f/3.5-4.5 Di II VC HLD	£580/\$500	DX	2.4x	Yes	Modulated	f/3.5-4.5	440g	0.24m	0.19x	77mm	7	77	●●●●●	
	Tamron SP 15-30mm f/2.8 Di VC USD	£930/\$1200	FX	2.0x	Yes	Ultrasonic	f/2.8	1100g	0.28m	0.2x	None	9	77	●●●●●	
	Tokina 10-17mm f/3.5-4.5 AT-X DX Fisheye	£430/\$450	DX	1.7x	No	Electric	f/3.5-4.5	350g	0.14m	0.39x	None	6		●●●●●	
Tokina 11-16mm f/2.8 AT-X PRO DX II	£480/\$430	DX	1.5x	No	Electric	f/2.8	550g	0.3m	0.09x	77mm	9	32	●●●●●		
Tokina 12-28mm f/4 AT-X Pro DX	£450/\$450	DX	2.3x	No	Electric	f/4	530g	0.25m	0.2x	77mm	9	32	●●●●●		
Tokina 16-28mm f/2.8 AT-X PRO FX	£580/\$590	FX	1.8x	No	Electric	f/2.8	950g	0.28m	0.19x	None	9	33	●●●●●		
<b>STANDARD ZOOMS</b>	Nikon AF-S DX 16-80mm f/2.8-4E ED VR	£890/\$1070	DX	5x	Yes	Ultrasonic	f/2.8-4	480g	0.35m	0.22x	72mm	7	73	●●●●●	■
	Nikon AF-S DX 16-85mm f/3.5-5.6G ED VR	£570/\$700	DX	5.3x	Yes	Ultrasonic	f/3.5-5.6	485g	0.38m	0.22x	67mm	7	56	●●●●●	
	Nikon AF-S DX 17-55mm f/2.8G IF-ED	£1350/\$1500	DX	3.2x	No	Ultrasonic	f/2.8	755g	0.36m	0.2x	77mm	9	59	●●●●●	
	Nikon AF-P DX 18-55mm f/3.5-5.6G VR	£200/\$250	DX	3.1x	Yes	Stepping	f/3.5-5.6	205g	0.25m	0.38x	55mm	7	60	●●●●●	■
	Nikon AF-S DX 18-55mm f/3.5-5.6G VR II	£200/\$250	DX	3.1x	Yes	Ultrasonic	f/3.5-5.6	195g	0.28m	0.31x	52mm	7	56	●●●●●	
	Nikon AF-S DX 18-105mm f/3.5-5.6G ED VR	£220/\$395	DX	5.8x	Yes	Ultrasonic	f/3.5-5.6	420g	0.45m	0.2x	67mm	7	56	●●●●●	
	Nikon AF-S 24-70mm f/2.8G ED	£1550/\$1800	FX	2.9x	No	Ultrasonic	f/2.8	900g	0.38m	0.27x	77mm	9	57	●●●●●	
	Nikon AF-S 24-70mm f/2.8E ED VR	£1850/\$2400	FX	2.9x	Yes	Ultrasonic	f/2.8	1070g	0.38m	0.27x	82mm	9	73	●●●●●	■
	Nikon AF-S 24-85mm f/3.5-4.5G ED VR	£430/\$500	FX	3.5x	Yes	Ultrasonic	f/3.5-4.5	465g	0.38m	0.22x	72mm	7	57	●●●●●	
	Nikon AF-S 24-120mm f/4G ED VR	£950/\$1100	FX	5.0x	Yes	Ultrasonic	f/4	710g	0.45x	0.24x	77mm	9	73	●●●●●	
	Sigma 17-50mm f/2.8 EX DC OS HSM	£330/\$370	DX	2.9x	Yes	Ultrasonic	f/2.8	565g	0.28m	0.2x	77mm	7	73	●●●●●	
	Sigma 17-70mm f/2.8-4 DC Macro OS HSM   C	£350/\$500	DX	4.1x	Yes	Ultrasonic	f/2.8-4	465g	0.22m	0.36x	72mm	7	73	●●●●●	■
	Sigma 18-35mm f/1.8 DC HSM   A	£650/\$800	DX	1.9x	No	Ultrasonic	f/1.8	810g	0.28m	0.23x	72mm	9		●●●●●	■
	Sigma 24-70mm f/2.8 IF EX DG HSM	£700/\$750	FX	2.9x	No	Ultrasonic	f/2.8	790g	0.38m	0.19x	82mm	9	57	●●●●●	
	Sigma 24-105mm f/4 DG OS HSM   A	£600/\$900	FX	4.4x	Yes	Ultrasonic	f/4	885g	0.45m	0.22x	82mm	9	73	●●●●●	
Tamron SP AF 17-50mm f/2.8 XR Di II VC	£380/\$650	DX	2.9x	Yes	Electric	f/2.8	570g	0.29m	0.21x	72mm	7	73	●●●●●		
Tamron SP AF 24-70mm f/2.8 Di VC USD	£750/\$1250	FX	2.9x	Yes	Ultrasonic	f/2.8	825g	0.38m	0.2x	82mm	9	73	●●●●●	■	
<b>TELEPHOTO ZOOMS</b>	Nikon AF-S DX 55-200mm f/4-5.6G ED VR II	£240/\$350	DX	3.6x	Yes	Ultrasonic	f/4-5.6	300g	1.1m	0.23x	52mm	7	60	●●●●●	
	Nikon AF-S DX 55-300mm f/4.5-5.6G ED VR	£305/\$400	DX	5.5x	Yes	Ultrasonic	f/4.5-5.6	530g	1.4m	0.22x	58mm	9	60	●●●●●	
	Nikon AF-S 70-200mm f/4G ED VR	£1150/\$1400	FX	2.9x	Yes	Ultrasonic	f/4	850g	1.0m	0.27x	67mm	9	72	●●●●●	
	Nikon AF-S 70-200mm f/2.8G ED VR II	£2000/\$2100	FX	2.9x	Yes	Ultrasonic	f/2.8	1540g	1.4m	0.12x	77mm	9	72	●●●●●	
	Nikon AF-S 70-200mm f/2.8E FL ED VR	£2300/\$2800	FX	2.9x	Yes	Ultrasonic	f/2.8	1430g	1.1m	0.21x	77mm	9	72	●●●●●	■
	Nikon AF-P DX 70-300mm f/4.5-6.3G	£300/\$350	DX	4.3x	No	Stepping	f/4.5-6.3	400g	1.1m	0.22x	58mm	7		●●●●●	
	Nikon AF-P DX 70-300mm f/4.5-6.3G VR	£350/\$400	DX	4.3x	Yes	Stepping	f/4.5-6.3	415g	1.1m	0.22x	58mm	7		●●●●●	
	Nikon AF-S 70-300mm f/4.5-5.6G IF-ED VR	£500/\$500	FX	4.3x	Yes	Ultrasonic	f/4.5-5.6	745g	1.5m	0.25x	67mm	9	45	●●●●●	■
	Nikon AF-S 80-400mm f/4.5-5.6G ED VR	£2100/\$2300	FX	5.0x	Yes	Ultrasonic	f/4.5-5.6	1570g	1.5m	0.2x	77mm <sub>ap-r</sub>	9	76	●●●●●	
	Nikon AF-S 200-400mm f/4G ED VR II	£6100/\$7000	FX	2.0x	Yes	Ultrasonic	f/4	3360g	1.95m	0.27x	52mm	9	76	●●●●●	
	Nikon AF-S 200-500mm f/5.6E ED VR	£1180/\$1400	FX	2.5x	Yes	Ultrasonic	f/5.6	2300g	2.2m	0.22x	95mm	9	76	●●●●●	
	Sigma 50-100mm f/1.8 DC HSM   A	£950/\$1100	DX	2.0x	No	Ultrasonic	f/1.8	1490g	0.95m	0.15x	82mm	9	72	●●●●●	
	Sigma 50-500mm f/4.5-6.3 DG OS HSM	£1100/\$1660	FX	10.0x	Yes	Ultrasonic	f/4.5-6.3	1970g	0.518m	0.32x	95mm	9	45	●●●●●	
	Sigma 70-200mm f/2.8 EX DG OS HSM	£900/\$1300	FX	2.9x	Yes	Ultrasonic	f/2.8	1430g	1.4m	0.13x	77mm	9	72	●●●●●	

\* Current market prices are checked regularly with reputable stores to serve as a guideline. Prices correct at time of going to press.



# BUYER'S GUIDE NIKON-FIT LENSES

KEY: ■ GREAT VALUE ■ BEST ON TEST AWARD ■ GOLD AWARD

	Price	DX/FX	Max zoom	Stabilizer	Autofocus	Max aperture	Weight	Min focus	Magnification	Filter size	Aperture blades	Issue reviewed	Rating	Awards
<b>TELEPHOTO ZOOMS</b>														
Sigma 70-300mm f/4-5.6 DG Macro	£180/\$140	FX	4.3x	No	Electric	f/4-5.6	545g	0.95m	0.5x	58mm	9	35	●●●●●	
Sigma APO 70-300mm f/4-5.6 DG Macro	£180/\$200	FX	4.3x	No	Electric	f/4-5.6	550g	0.95m	0.5x	58mm	9	35	●●●●●	
Sigma 100-400mm f/5-6.3 DG OS HSM   C	£700/\$800	FX	4.0x	Yes	Ultrasonic	f/5-6.3	1160g	1.6m	0.26x	67mm	9	76	●●●●●	
Sigma 120-300mm f/2.8 DG OS HSM   S	£2700/\$3600	FX	2.5x	Yes	Ultrasonic	f/2.8	3390g	1.5-2.5m	0.12x	105mm	9	72	●●●●●	
Sigma 150-600mm f/5-6.3 DG OS HSM   C	£790/\$990	FX	4.0x	Yes	Ultrasonic	f/5-6.3	1930g	2.8m	0.2x	95mm	9	76	●●●●●	■
Sigma 150-600mm f/5-6.3 DG OS HSM   S	£1330/\$2000	FX	4.0x	Yes	Ultrasonic	f/5-6.3	2860g	2.6m	0.2x	105mm	9	76	●●●●●	■ ■
Sigma 300-800mm f/5.6 EX DG HSM	£6500/\$6800	FX	2.7x	No	Ultrasonic	f/5.6	5880g	6.0m	0.14x	46mm <sub>asph</sub>	9	45	●●●●●	
Tamron SP AF 70-200mm f/2.8 Di LD [IF] Macro	£630/\$7700	FX	2.9x	No	Ultrasonic	f/2.8	1320g	0.95m	0.32x	77mm	9	72	●●●●●	
Tamron SP AF 70-200mm f/2.8 Di VC USD	£1350/\$1100	FX	2.9x	Yes	Ultrasonic	f/2.8	1470g	1.3m	0.13x	77mm	9	72	●●●●●	■
Tamron AF 70-300mm f/4-5.6 Di LD Macro	£130/\$150	FX	4.3x	No	Electric	f/4-5.6	458g	0.95m	0.5x	62mm	9	35	●●●●●	
Tamron SP AF 70-300mm f/4-5.6 Di VC USD	£300/\$450	FX	4.3x	Yes	Ultrasonic	f/4-5.6	765g	1.5m	0.25x	62mm	9	35	●●●●●	■
Tamron SP 150-600mm f/5-6.3 Di VC USD	£740/\$1000	FX	4.0x	Yes	Ultrasonic	f/5-6.3	1951g	2.7m	0.2x	95mm	9	76	●●●●●	
Tamron SP 150-600mm f/5-6.3 Di VC USD G2	£1300/\$1400	FX	4.0x	Yes	Ultrasonic	f/5-6.3	2010g	2.2m	0.26x	95mm	9	76	●●●●●	

	Price	DX/FX	Max zoom	Stabilizer	Autofocus	Max aperture	Weight	Min focus	Magnification	Filter size	Aperture blades	Issue reviewed	Rating	Awards
<b>SUPERZOOMS</b>														
Nikon AF-S DX 18-140mm f/3.5-5.6G ED VR	£470/\$500	DX	7.8x	Yes	Ultrasonic	f/3.5-5.6	490g	0.45m	0.23x	67mm	7	27	●●●●●	
Nikon AF-S DX 18-200mm f/3.5-5.6G ED VR II	£630/\$650	DX	11.1x	Yes	Ultrasonic	f/3.5-5.6	565g	0.5m	0.22x	72mm	7	74	●●●●●	
Nikon AF-S DX 18-300mm f/3.5-6.3G ED VR	£850/\$700	DX	16.7x	Yes	Ultrasonic	f/3.5-6.3	550g	0.48m	0.32x	67mm	7	74	●●●●●	
Nikon AF-S DX 18-300mm f/3.5-5.6G ED VR	£850/\$995	DX	16.7x	Yes	Ultrasonic	f/3.5-5.6	830g	0.45m	0.31x	77mm	9	74	●●●●●	
Nikon AF-S 28-300mm f/3.5-5.6G ED VR	£830/\$950	FX	10.7x	Yes	Ultrasonic	f/3.5-5.6	800g	0.5m	0.32x	77mm	9	21	●●●●●	
Sigma 18-200mm f/3.5-6.3 DC Macro OS HSM   C	£290/\$400	DX	11.1x	Yes	Ultrasonic	f/3.5-6.3	430g	0.39m	0.33x	62mm	7	74	●●●●●	
Sigma 18-250mm f/3.5-6.3 DC Macro OS HSM	£280/\$350	DX	13.9x	Yes	Ultrasonic	f/3.5-6.3	470g	0.35m	0.34x	62mm	7	39	●●●●●	■
Sigma 18-300mm f/3.5-6.3 DC Macro OS HSM   C	£370/\$500	DX	16.7x	Yes	Ultrasonic	f/3.5-6.3	585g	0.39m	0.33x	72mm	7	74	●●●●●	
Tamron 16-300mm f/3.5-6.3 Di II VC PZD Macro	£430/\$500	DX	18.8x	Yes	Ultrasonic	f/3.5-6.3	540g	0.39m	0.34x	67mm	7	74	●●●●●	■
Tamron AF 18-200mm f/3.5-6.3 Di II VC	£190/\$200	DX	11.1x	Yes	Electric	f/3.5-6.3	400g	0.49m	0.25x	62mm	7	74	●●●●●	■
Tamron AF 18-270mm f/3.5-6.3 Di II VC PZD	£300/\$450	DX	15.0x	Yes	Ultrasonic	f/3.5-6.3	450g	0.49m	0.26x	62mm	7	74	●●●●●	

	Price	DX/FX	Max zoom	Stabilizer	Autofocus	Max aperture	Weight	Min focus	Magnification	Filter size	Aperture blades	Issue reviewed	Rating	Awards
<b>WIDE-ANGLE PRIMES</b>														
Irix 15mm f/2.4 Blackstone	£680/\$600	FX	None	No	None	f/2.4	653g	0.28m	0.1x	95mm	9	70	●●●●●	■
Nikon AF DX 10.5mm f/2.8G ED Diagonal Fisheye	£585/\$775	DX	None	No	Body-driven	f/2.8	305g	0.14m	0.2x	None	7	12	●●●●●	■
Nikon AF 14mm f/2.8D ED	£1390/\$1890	FX	None	No	Body-driven	f/2.8	670g	0.2m	0.15x	None	7			
Nikon AF 16mm f/2.8D Diagonal Fisheye	£665/\$1000	FX	None	No	Body-driven	f/2.8	290g	0.25m	0.1x	None	7	12	●●●●●	
Nikon PC 19mm f/4E ED (tilt & shift)	£3300/\$3400	FX	None	No	None	f/4	885g	0.25m	0.18x	None	9			
Nikon AF 20mm f/2.8D	£500/\$625	FX	None	No	Body-driven	f/2.8	270g	0.25m	0.12x	62mm	7			
Nikon AF-S 20mm f/1.8G ED	£650/\$800	FX	None	No	Ultrasonic	f/1.8	355g	0.2m	0.23x	77mm	7	70	●●●●●	
Nikon AF 24mm f/2.8D	£400/\$395	FX	None	No	None	f/2.8	270g	0.3m	0.11x	52mm	7			
Nikon AF-S 24mm f/1.8G ED	£630/\$750	FX	None	No	Ultrasonic	f/1.8	355g	0.23m	0.2x	72mm	7	70	●●●●●	
Nikon AF-S 24mm f/1.4G ED	£1500/\$2000	FX	None	No	Ultrasonic	f/1.4	620g	0.25m	0.18x	77mm	9	59	●●●●●	
Nikon PC-E 24mm f/3.5D ED (tilt & shift)	£1430/\$2200	FX	None	No	None	f/3.5	730g	0.21m	0.37x	77mm	9	25	●●●●●	■
Nikon AF 28mm f/2.8D	£290/\$390	FX	None	No	Body-driven	f/2.8	205g	0.25m	0.18x	72mm	7			
Nikon AF-S 28mm f/1.8G	£560/\$700	FX	None	No	Ultrasonic	f/1.8	330g	0.25m	0.22x	67mm	7	25	●●●●●	
Nikon AF 35mm f/2D	£280/\$390	FX	None	No	None	f/2	205g	0.25m	0.24x	52mm	7			
Nikon AF-S 35mm f/1.8G ED	£450/\$530	FX	None	No	Ultrasonic	f/1.8	305g	0.25m	0.24x	58mm	7			
Nikon AF-S 35mm f/1.4G	£1580/\$1700	FX	None	No	Ultrasonic	f/1.4	600g	0.3m	0.2x	67mm	9	25	●●●●●	
Samyang 8mm f/3.5 IF MC CSII Dh Circular Fisheye	£260/\$250	FX	None	No	None	f/3.5	435g	0.3m	N/S	None	6	12	●●●●●	
Samyang 10mm f/2.8 ED AS NCS CS	£380/\$400	DX	None	No	None	f/2.8	600g	0.25m	N/S	None	6			
Samyang 12mm f/2.8 ED AS NCS Diagonal Fisheye	£400/\$400	FX	None	No	None	f/2.8	530g	0.2m	N/S	None	7			
Samyang 14mm f/2.8 IF ED UMC	£330/\$300	FX	None	No	None	f/2.8	560g	0.28m	N/S	None	6	70	●●●●●	
Samyang 20mm f/1.8 ED AS UMC	£460/\$570	FX	None	No	None	f/1.8	488g	0.2m	N/S	None	7	70	●●●●●	
Samyang 24mm f/1.4 ED AS UMC	£500/\$550	FX	None	No	None	f/1.4	680g	0.25m	N/S	77mm	8			
Samyang T-S 24mm f/3.5 ED AS UMC (tilt & shift)	£680/\$800	FX	None	No	None	f/3.5	680g	0.2m	N/S	82mm	8	25	●●●●●	■
Samyang 35mm f/1.4 AS UMC AE	£420/\$490	FX	None	No	None	f/1.4	660g	0.3m	0.2x	77mm	8	40	●●●●●	
Sigma 4.5mm f/2.8 EX DC HSM Circular Fisheye	£700/\$800	DX	None	No	Ultrasonic	f/2.8	470g	0.14m	0.17x	None	6	12	●●●●●	
Sigma 8mm f/3.5 EX DG Circular Fisheye	£700/\$900	FX	None	No	Electric	f/3.5	400g	0.14m	0.22x	None	6	12	●●●●●	
Sigma 10mm f/2.8 EX DC HSM Diagonal Fisheye	£600/\$520	DX	None	No	Ultrasonic	f/2.8	475g	0.14m	0.11x	None	7	12	●●●●●	
Sigma 15mm f/2.8 EX DG Diagonal Fisheye	£600/\$610	FX	None	No	Electric	f/2.8	370g	0.15m	0.26x	None	7	12	●●●●●	
Sigma 20mm f/1.4 DG HSM   A	£700/\$900	FX	None	No	Ultrasonic	f/1.4	950g	0.28m	0.14x	77mm	9	70	●●●●●	
Sigma 24mm f/1.4 DG HSM   A	£650/\$850	FX	None	No	Ultrasonic	f/1.4	665g	0.25m	0.19x	77mm	9	70	●●●●●	■
Sigma 35mm f/1.4 DG HSM   A	£600/\$900	FX	None	No	Ultrasonic	f/1.4	665g	0.3m	0.19x	67mm	9	40	●●●●●	■
Tamron SP 35mm f/1.8 VC USD	£600/\$600	FX	None	Yes	Ultrasonic	f/1.8	480g	0.2m	0.4x	67mm	9			
Zeiss Milvus 15mm f/2.8 ZF.2	£2160/\$2700	FX	None	No	None	f/2.8	880g	0.25m	0.11x	95mm	9			
Zeiss Distagon T* 18mm f/3.5 ZF.2	£1090/\$1400	FX	None	No	None	f/3.5	470g	0.3m	0.08x	82mm	9			
Zeiss Milvus 18mm f/2.8 ZF.2	£1850/\$2300	FX	None	No	None	f/2.8	675g	0.25m	0.1x	77mm	9	70	●●●●●	

KEY: ■ GREAT VALUE ■ BEST ON TEST AWARD ■ GOLD AWARD

	Price	DX/FX	Max zoom	Stabilizer	Autofocus	Max aperture	Weight	Min focus	Magnification	Filter size	Aperture blades	Issue reviewed	Rating	Awards
<b>WIDE-ANGLE PRIMES</b>														
Zeiss Milvus 21mm f/2.8 ZF.2	£1400/\$1850	FX	None	No	None	f/2.8	735g	0.22m	0.2x	82mm	9			
Zeiss Distagon T* 21mm f/2.8 ZF.2	£1655/\$1845	FX	None	No	None	f/2.8	600g	0.22m	0.2x	82mm	9			
Zeiss Distagon T* 25mm f/2 ZF.2	£1270/\$1000	FX	None	No	None	f/2	570g	0.25m	0.17x	67mm	9			
Zeiss Distagon T* 28mm f/2 ZF.2	£980/\$1285	FX	None	No	None	f/2	500g	0.24m	0.21x	58mm	9			
Zeiss Otus 28mm f/1.4 ZF.2	£3510/\$5000	FX	None	No	None	f/1.4	1350g	0.3m	0.2x	95mm	9			
Zeiss Milvus 35mm f/2 ZF.2	£936/\$1120	FX	None	No	None	f/2	650g	0.3m	0.19x	58mm	9			

	Price	DX/FX	Max zoom	Stabilizer	Autofocus	Max aperture	Weight	Min focus	Magnification	Filter size	Aperture blades	Issue reviewed	Rating	Awards
<b>STANDARD PRIMES</b>														
Nikon AF-S DX 35mm f/1.8G	£160/\$200	DX	None	No	Ultrasonic	f/1.8	200g	0.3m	0.16x	52mm	7	28	●●●●●	
Nikon PC-E Micro 45mm f/2.8D ED (tilt & shift)	£1500/\$2050	FX	None	No	None	f/2.8	740g	0.25m	0.5x	77mm	9	25	●●●●●	
Nikon AF 50mm f/1.8D	£110/\$135	FX	None	No	Body-driven	f/1.8	155g	0.45m	0.15x	52mm	7	7	●●●●●	■
Nikon AF-S 50mm f/1.8G	£190/\$220	FX	None	No	Ultrasonic	f/1.8	185g	0.45m	0.15x	58mm	7	69	●●●●●	■
Nikon AF-S 50mm f/1.8 NIKKOR (retro)	£200/\$280	FX	None	No	Ultrasonic	f/1.8	190g	0.45m	0.15x	58mm	7			
Nikon AF 50mm f/1.4D	£260/\$300	FX	None	No	Body-driven	f/1.4	230g	0.45m	0.15x	52mm	7			
Nikon AF-S 50mm f/1.4G	£350/\$450	FX	None	No	Ultrasonic	f/1.4	280g	0.45m	0.15x	58mm	9	69	●●●●●	■
Nikon AF-S 58mm f/1.4G	£1400/\$1600	FX	None	No	Ultrasonic	f/1.4	385g	0.58m	0.13x	72mm	9	40	●●●●●	
Samyang 50mm f/1.4 AS UMC	£310/\$320	FX	None	No	None	f/1.4	575g	0.45m	N/S	77mm	8			
Sigma 30mm f/1.4 DC HSM   A	£360/\$500	DX	None	No	Ultrasonic	f/1.4	435g	0.3m	0.15x	62mm	9	28	●●●●●	
Sigma 50mm f/1.4 DG HSM   A	£570/\$950	FX	None	No	Ultrasonic	f/1.4	815g	0.4m	0.18x	77mm	9	69	●●●●●	■
Tamron SP 45mm f/1.8 VC USD	£600/\$400	FX	None	Yes	Ultrasonic	f/1.8	540g	0.29m	0.29x	67mm	9	69	●●●●●	
Zeiss Milvus 50mm f/1.4 ZF.2	£1015/\$1200	FX	None	No	None	f/1.4	875g	0.45m	0.15x	67mm	9			
Zeiss Otus 55mm f/1.4	£2950/\$3990	FX	None	No	None	f/1.4	970g	0.5m	0.15x	77mm	9			

	Price	DX/FX	Max zoom	Stabilizer	Autofocus	Max aperture	Weight	Min focus	Magnification	Filter size	Aperture blades	Issue reviewed	Rating	Awards
<b>TELEPHOTO PRIMES</b>														
Nikon AF-S 85mm f/1.8G	£430/\$480	FX	None	No	Ultrasonic	f/1.8	350g	0.8m	0.12x	67mm	7	69	●●●●●	■
Nikon AF-S 85mm f/1.4G	£1350/\$1600	FX	None	No	Ultrasonic	f/1.4	595g	0.85m	0.12x	77mm	9	69	●●●●●	
Nikon PC-E Micro 85mm f/2.8D (tilt & shift)	£1350/\$1980	FX	None	No	None	f/2.8	635g	0.39m	0.5x	77mm	9	25	●●●●●	
Nikon AF-S 105mm f/1.4E ED	£1850/\$2200	FX	None	No	Ultrasonic	f/1.4	985g	1m	0.13x	82mm	9			
Nikon AF DC 105mm f/2D (defocus control)	£900/\$1200	FX	None	No	Body-driven	f/2	640g	0.9m	0.13x	72mm	9			
Nikon AF DC 135mm f/2D (defocus control)	£1100/\$1390	FX	None	No	Body-driven	f/2	815g	1.1m	0.14x	72mm	9	14	●●●●●	
Nikon AF-S 200mm f/2G ED VR II	£4970/\$5700	FX	None	Yes	Ultrasonic	f/2	2930g	1.9m	0.12x	52mm <sub>crop</sub>	9	29	●●●●●	
Nikon AF-S 300mm f/4D IF-ED	£1100/\$1400	FX	None	No	Ultrasonic	f/4	1440g	1.45m	0.27x	77mm	9			
Nikon AF-S 300mm f/4E PF ED VR	£1470/\$2000	FX	None	Yes	Ultrasonic	f/4	755g	1.4m	0.24x	77mm	9	63	●●●●●	
Nikon AF-S 300mm f/2.8G ED VR II	£4700/\$5500	FX	None	Yes	Ultrasonic	f/2.8	2900g	2.3m	0.16x	52mm <sub>crop</sub>	9	14	●●●●●	
Nikon AF-S 400mm f/2.8E FL ED VR	£10400/\$11200	FX	None	Yes	Ultrasonic	f/2.8	3800g	2.6m	0.14x	405mm <sub>crop</sub>	9			
Nikon AF-S 500mm f/4E FL ED VR	£8450/\$10300	FX	None	Yes	Ultrasonic	f/4	3090g	3.6m	0.15x	405mm <sub>crop</sub>	9	50	●●●●●	■
Nikon AF-S 600mm f/4E FL ED VR	£10000/\$12300	FX	None	Yes	Ultrasonic	f/4	3810g	4.4m	0.14x	405mm <sub>crop</sub>	9	50	●●●●●	■
Nikon AF-S 800mm f/5.6E FL ED VR	£15000/\$16300	FX	None	Yes	Ultrasonic	f/5.6	4590g	5.9m	0.15x	52mm <sub>crop</sub>	9			
Samyang 85mm f/1.4 IF MC	£290/\$330	FX	None	No	None	f/1.4	539g	1.0m	0.11x	72mm	8	40	●●●●●	
Samyang 135mm f/2 ED UMC	£450/\$550	FX	None	No	None	f/2	830g	0.8m	N/S	77mm	9			
Sigma 85mm f/1.4 EX DG HSM	£620/\$800	FX	None	No	Ultrasonic	f/1.4	725g	0.85m	0.12x	77mm	9	52	●●●●●	
Sigma 85mm f/1.4 DG HSM   A	£1000/\$1200	FX	None	No	Ultrasonic	f/1.4	TBA	0.85m	0.12x	86mm	9	69	●●●●●	
Sigma APO 300mm f/2.8 EX DG HSM	£2600/\$3400	FX	None	No	Ultrasonic	f/2.8	2400g	2.5m	0.13x	46mm <sub>crop</sub>	9			
Sigma APO 500mm f/4.5 EX DG HSM	£3600/\$5000	FX	None	No	Ultrasonic	f/4.5	3150g	4.0m	0.13x	46mm <sub>crop</sub>	9			
Sigma 500mm f/4 DG OS HSM   S	£5000/\$6000	FX	None	Yes	Ultrasonic	f/4	TBA	3.5m	0.15x	46mm <sub>crop</sub>	9			
Sigma APO 800mm f/5.6 EX DG HSM	£5000/\$6600	FX	None	No	Ultrasonic	f/5.6	4900g	7.0m	0.11x	46mm <sub>crop</sub>	9			
Tamron SP 85mm f/1.8 VC USD	£750/\$750	FX	None	Yes	Ultrasonic	f/1.8	700g	0.8m	0.14x	67mm	9	69	●●●●●	■
Zeiss Planar T* 85mm f/1.4 ZF.2	£990/\$1285	FX	None	No	None	f/1.4	570g	1.0m	0.1x	72mm	9			
Zeiss Milvus 85mm f/1.4 ZF.2	£1400/\$1800	FX	None	No	None	f/1.4	1210g	0.8m	0.13x	77mm	9			
Zeiss Otus 85mm f/1.4 ZF.2	£3180/\$4490	FX	None	No	None	f/1.4	1140g	0.8m	0.13x	86mm	9			
Zeiss Milvus 135mm f/2 ZF.2	£1760/\$2200	FX	None	No	None	f/2	1060g	0.8m	0.28x	77mm	9			
Zeiss Apo Sonnar T* 135mm f/2 ZF.2	£1600/\$1300	FX	None	No	None	f/2	920g	0.8m	0.25x	77mm	9			

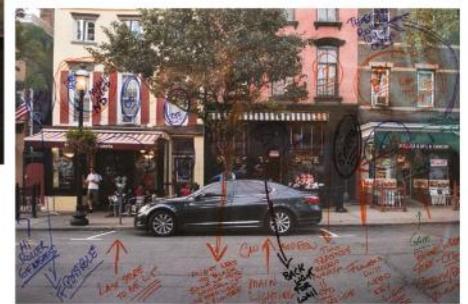
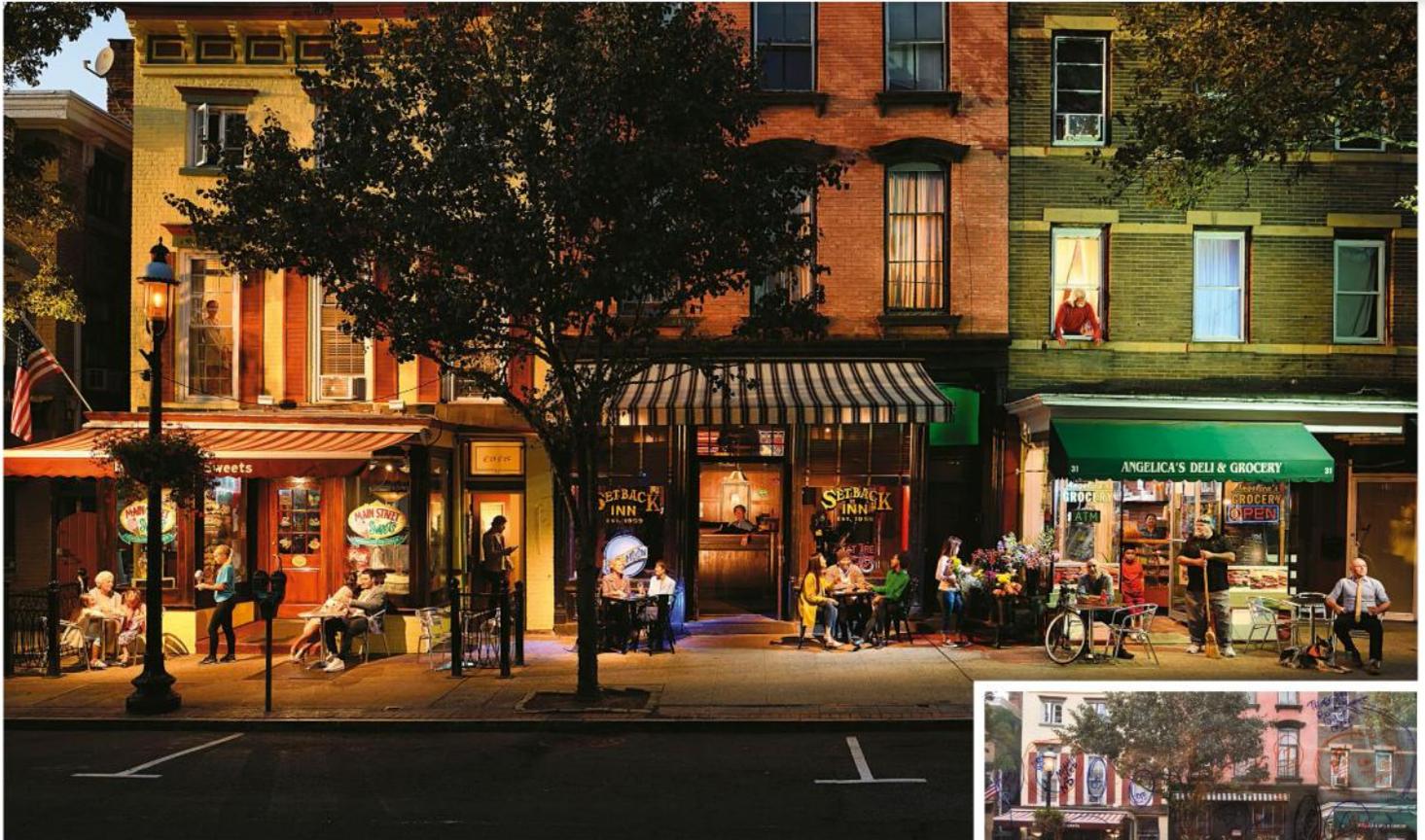
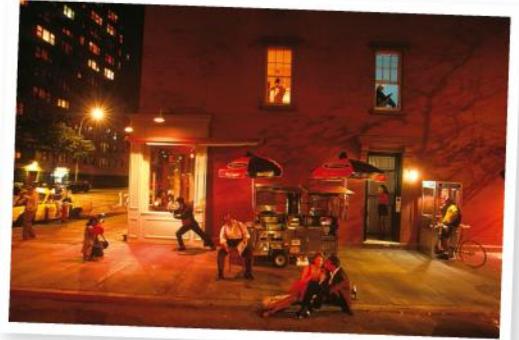
	Price	DX/FX	Max zoom	Stabilizer	Autofocus	Max aperture	Weight	Min focus	Magnification	Filter size	Aperture blades	Issue reviewed	Rating	Awards
<b>MACRO</b>														
Nikon AF-S DX 40mm f/2.8G Micro	£240/\$280	DX	None	No	Ultrasonic	f/2.8	235g	0.16m	1.0x	52mm	7	64	●●●●●	
Nikon AF 60mm f/2.8D Micro	£410/\$520	FX	None	No	Body-driven	f/2.8	440g	0.22m	1.0x	62mm	7			
Nikon AF-S 60mm f/2.8G ED Micro	£480/\$600	FX	None	No	Ultrasonic	f/2.8	425g	0.19m	1.0x	62mm	9	64	●●●●●	
Nikon AF-S DX 85mm f/3.5G ED VR Micro	£440/\$530	DX	None	Yes	Ultrasonic	f/3.5	355g	0.29m	1.0x	52mm	9	64	●●●●●	
Nikon AF-S 105mm f/2.8G IF-ED VR Micro	£750/\$900	FX	None	Yes	Ultrasonic	f/2.8	750g	0.31m	1.0x	62mm	9	59	●●●●●	
Nikon AF 200mm f/4D IF-ED Micro	£1270/\$1790	FX	None	No	Body-driven	f/4	1190g	0.5m	1.0x	62mm	9			
Sigma 105mm f/2.8 EX DG OS HSM Macro	£360/\$570	FX	None	Yes	Ultrasonic	f/2.8	725g	0.31m	1.0x	62mm	9	64	●●●●●	■
Sigma APO 150mm f/2.8 EX DG OS HSM Macro	£780/\$1100	FX	None	Yes	Ultrasonic	f/2.8	1150g	0.38m	1.0x	72mm	9	20	●●●●●	
Sigma APO 180mm f/2.8 EX DG OS HSM Macro	£1240/\$1700	FX	None	Yes	Ultrasonic	f/2.8	1640g	0.47m	1.0x	86mm	9	14	●●●●●	
Tamron SP AF 60mm f/2 Di II LD (IF) Macro	£350/\$525	DX	None	No	Electric	f/2	350g	0.23m	1.0x	55mm	7	34	●●●●●	
Tamron SP AF 90mm f/2.8 Di Macro	£400/\$500	FX	None	No	Electric	f/2.8	405g	0.29m	1.0x	55mm	9	34	●●●●●	
Tamron SP AF 90mm f/2.8 Di VC USD Macro	£580/\$650	FX	None	Yes	Ultrasonic	f/2.8	550g	0.3m	1.0x	58mm	9	64	●●●●●	■
Tamron SP AF 180mm f/3.5 Di Macro	£800/\$740	FX	None	No	Electric	f/3.5	985g	0.47m	1.0x	72mm	7	14	●●●●●	
Tokina AT-X AF 100mm f/2.8 PRO D Macro	£350/\$380	FX	None	No	Body-driven	f/2.8	540g	0.3m	1.0x	55mm	9	64	●●●●●	



“  
**The final word**  
**Joe McNally**

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A street scene Joe lit with line-of-sight optical Speedlight triggers in the days before radio TTL was a reality



Images: Joe McNally. Profile shot of Joe by Mike Corrado

Joe lights a street scene with Speedlights – 32 of them...

**Y**ears ago, when the notion of onboard slave eyes in a hotshoe flash was a new thing, I shot a street scene somewhat similar to this, with the Speedlights all triggering with line-of-sight technology. Fun pic, hard to do, but we managed.

Obviously, line-of-sight works perfectly well, except of course when your lights are behind a wall, or inside a building. One reason I have welcomed radio TTL technology is that it makes a picture like the one above,

an amplified version of the older pic, much more doable. I stop short of saying ‘easy’. Let’s just keep it at ‘doable’...

The inset image used the older style tech, and I think, if memory serves, we used about 16 flashes or so to shoot a street corner in NYC.

The new street scene used 32 Speedlights, 18 of which were controlled by radio, which is the max for the new radio TTL SB-5000 system. The others (a mix of SB-5000 and SB-910 units) triggered off of the radio units, used the traditional onboard slave eye. It was much easier to work this out, though

the pre-shot game plan doesn’t completely indicate, well, simplicity.

You’ve got six groups with the SB-5000, and we used all of them, dividing each of the buildings and floors into separate groups. The camera lived across the street and I shot with a D850 fitted with a Nikkor 24-70mm lens. The picture with the lunatic scrawl on it was from an early scouting photo and the scene depicted here is in the lovely burg of Tarrytown, NY, just by the Hudson River. The pressure was on, as we had to get this scene lit and ready by sunset. No givebacks, no

do-overs. The Tarrytown authorities were super helpful. We had police directing traffic, permissions from the shop owners, models hired, crew racing around like crazy. In other words, we couldn’t come back and try it again.

It was great fun. Most of the model crew had posed for the studio before, so we knew each other and had a blast.

The additional fun thing for me was the ice cream store in the shot was the same one I took my kids to when they were small. The circle continues...

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