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Issue 163 • June 2024
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THE NIKON MAGAZINE

Get set for...
Adventure photography!

Venture off-the-beaten-track and shoot extraordinary travel images



Focus tracking

Set up your Nikon to take pin-sharp shots of moving subjects



BIG TEST!

Standard primes

Eight fast 'nifty fifties' for everyday shooting

PHOTO PROJECTS
6 INSPIRATIONAL IDEAS TO TRY AT HOME TODAY!

NikonSkills



PRO TIPS!

Mountain masterclass!

Our apprentice learns to photograph the epic landscapes of Snowdonia



Tony North
"Macro photography is complicated" **p60**



Astrhori Macro 2-5x
Capture microscopic detail with this incredible optic **p92**



Hot shots
New LCE POTY comp winners **p16**





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This issue's special contributors...



Ian Asprey

PAGE 6

Landscape pro Ian leads our apprentice through the wilds of Snowdonia to capture magnificent mountainscapes.



Iain Afshar

PAGE 26

Join explorer and photographer Iain on an expedition to far-flung places and improve your travel photography skills.



Paul Wilkinson

PAGE 38

'If you love it you will use it, and if you use it, it's worth every penny' is Paul's mantra, as he justifies his Nikon Z 9 purchase.



Tony North

PAGE 60

We speak with macro maestro Tony about his amazing images of minibeasts and mushrooms in the *N-Photo* interview.



Alfie Bowen

PAGE 68

Alfie tells how his affinity for horses helped him through tough times and set him on the road to be a wildlife photographer.



Chris Aldred

PAGE 84

N-Photo reader Chris shares the story behind the shots he took with his D3500 on a photowalk through rural Somerset.



Image: © Tony North

It's the flowers and plants round of our NPOTY contest. See the top 10 on page 76.

Welcome to issue 163



It's the time of year that many of us are planning our summer getaways, packing our Nikons, naturally. So in this issue's lead feature, intrepid photographer Iain Afshar shares his tips for getting off the beaten track and capturing your best-ever travel images.

You don't have to go to the ends of the earth for incredible scenic shots, though. Landscape pro Ian

Asprey leads his apprentice through the Eryri (Snowdonia) national park in North Wales, where an unexpected dusting of spring snow transformed the mountains into something truly magical.

A 'nifty fifty' should be in every photographer's kit bag, and in our Big Test we rate eight FX and DX lenses with a 50mm-ish effective focal length for Z-mount Nikons, plus highlight the F-mount options that are still available. We also check out the Astrhori 25mm f/2.8 Macro 2-5x, a fun optic that renders subjects up to five times larger than life – and at a bargain price, too. And we pit the Manfrotto Befree Advanced and Novo Helix T50 travel tripods against each other.

Plus we have a plethora of projects to try your hand at, shooting reflections, festivals, birds of prey and making a party photo booth!

Adam Waring, Editor

adam.waring@futurenet.com

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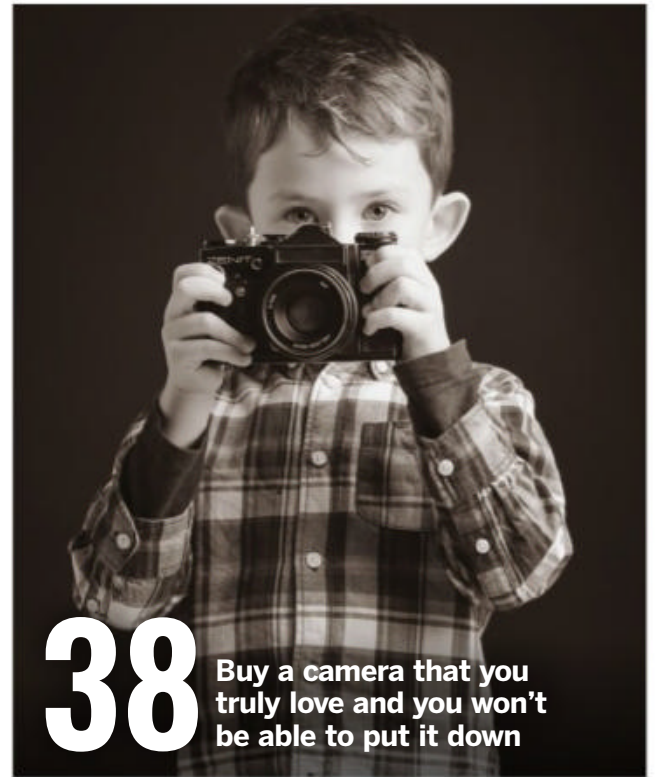
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Enter your best images into our monthly NPOTY competition to be in with a chance of winning Nikon's fab full-frame, retro-style mirrorless camera! Turn to page 81 to find out more



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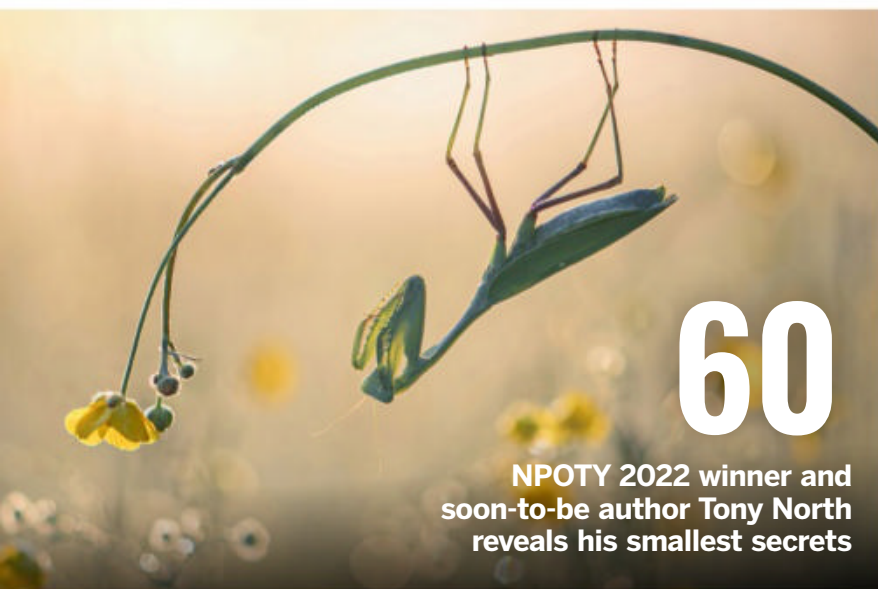
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06

Mountain men Ian and Jason end up knee-deep in snow, shooting rural Wales



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NPOTY 2022 winner and soon-to-be author Tony North reveals his smallest secrets



Gear Zone

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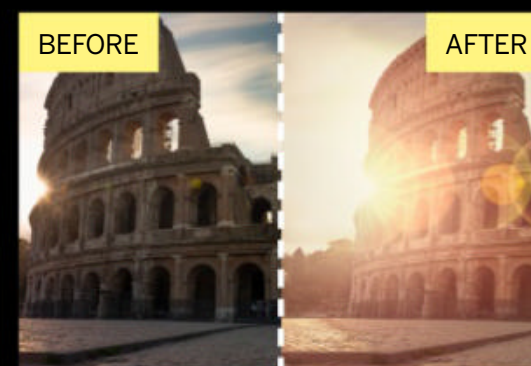


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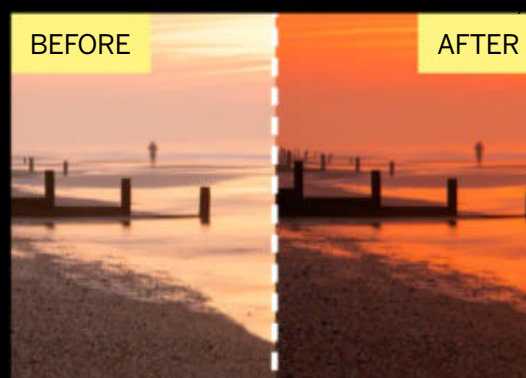
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Capture live acts at a music festival



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Set up an epic party photo booth



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NPhoto APPRENTICE



Snow day

Up at the crack of dawn and battling rain, wind and snow. All in a day's work for **Ian Asprey**

Our bleary-eyed pro and apprentice met at 5am in a Travelodge car park, just outside of Bangor, North Wales. "I'm really hoping this clears up," said Ian, as rain cascaded off the flatbed of his Toyota Hilux. Once Jason's camera bag was safely

stowed, they jumped inside the car so they could exchange pleasantries in the dry. Jason was accompanied by a friend. "This is my interpreter," he said with a smile. "I've always been deaf. I sign, lip-read and am obviously happy to talk, but sometimes out in the field, if I'm concentrating on the



THE PRO

NAME: **Ian Asprey**

CAMERA: **Nikon Z 7/Z 6**

It didn't take Ian long to become an accomplished pro. Having asked for a camera for Christmas, his wife rightly pointed out that he should try before buying. So, he set off on Boxing Day 2018 and brought home a Nikon D3400. Soon came a D750, before the Z 7 and Z 6 he uses today. When he's not earning accolades in photo comps, leading workshops and shooting weddings, he runs a decorating business.

www.ianaspreyphotography.co.uk

THE APPRENTICE

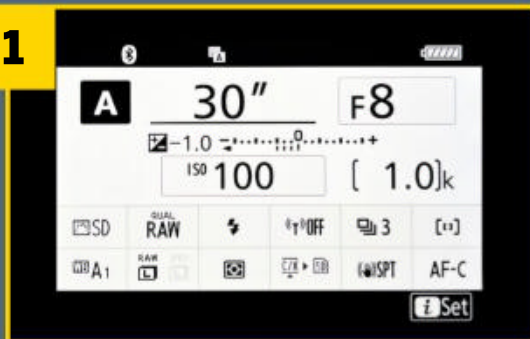
NAME: **Jason Albutt**

CAMERA: **Nikon Z 50**

Plumber Jason first picked up a camera with intent during lockdown. Mask regulations made it impossible for him to lip-read and phone calls were out of the question. To make matters worse, the man who was once England's No 1 deaf golfer couldn't even visit a course. He needed to find an outlet, and photography provided. Now, he's inseparable from his Z 50 and particularly partial to landscape photography. Luckily, Snowdonia isn't far away. [@jasonalbutt_photography](https://www.instagram.com/jasonalbutt_photography)

TECHNIQUE ASSESSMENT

1



CAMERA SETTINGS

Ian says... I spend most of my time in Aperture Priority mode. If I want direct control over my shutter speed, I'll switch to Manual mode. I like to keep my aperture around f/8 to f/11 and typically work at my base ISO. I use single-point AF to focus and Exposure Delay Mode to prevent camera shake.

2



STRAIGHT & NARROW

Ian says... Keeping your horizon straight is essential. If you straighten it in post you're only going to be losing pixels. I use a levelling head when I shoot panos to retain as much detail as possible. When shooting a single image it's as simple as using the Virtual Horizon to line everything up perfectly.

3



HISTOGRAM

Ian says... I set my histogram to appear in the EVF; DSLR users can set it to appear on the rear screen. It's an accurate way of keeping tabs on your exposure. If the graph touches the left or right-hand sides, it indicates that the shadows or highlights have clipped, causing a loss of image data.



Camera:	Nikon Z50
Lens:	10-24mm f/3.5-4.5
Exposure:	2.5 secs, f/11, ISO100

camera, I'm not lip-reading. So don't be afraid to tap me on the shoulder if you want my attention. In fact, please do!"

The pair laughed. "Got it, Jason," said Ian with a nod as he buckled his seatbelt. "First stop, Penmon Point."

Rain continued to pepper the Toyota's windscreen throughout the 30-minute drive to the famous Anglesey lighthouse, but thankfully it had let up slightly by the time they'd parked and readied their gear.

"Wales makes you work hard for

images," said Ian as he pulled a pair of waterproofs over his walking trousers. "This is going to be your friend," he said, as he pointed towards Jason's lens cloth.

"Water droplets," said Jason as he mimicked rubbing the front element.

"Exactly."

Ian told Jason to handhold his camera and use his Nikon Z50's EVF to scout out a composition. They soon agreed to set up their tripods on an avenue of craggy rocks.

"Would you use a neutral density filter

EXPERT INSIGHT LEADING LINES

Ian says... I tend to favour relatively simple compositional techniques, such as the rule of thirds, centring the subject and leading lines. A leading line is a natural element within the frame that guides the viewer's eye towards the subject. In this case, it's the shoreline, which gently curves towards the lighthouse in the distance. Leading lines can work against you, too, if they lead away from the subject and out of the frame, so always consider your composition carefully.





here?” asked Jason. “Not in these conditions,” replied the pro. “Because it’s so overcast, the sky really isn’t much brighter than the land. We can expose for the sky and easily balance the foreground in post, if we have to. I’d only use a grad if the sky was very bright.”

Ian grabbed Jason’s tripod as the apprentice went to rifle through his camera bag. “Never leave your camera on a tripod in heavy wind,” said the pro upon Jason’s return. “They can blow over.”

Jason stood by his tripod and nodded, before attaching his 20mm f/1.8.

“For this composition, I’d be looking to centre the lighthouse,” said Ian. “Just make sure you capture portrait *and* landscape-orientation images. That’s crucial when capturing images for editorial purposes or clients in general.”

Jason’s next question was whether he should focus stack. “From this range, one shot will do,” said Ian. “If you had a very close-up foreground subject that’s noticeably blurred, I would focus stack, but here you don’t need to. You simply dial in an aperture from f/8 to f/11 and focus a third of the way into the scene and you’ll get adequate front-to-back sharpness.”

Sadly, the thick cloud cover meant that

sunrise was a no-show. The pair of photographers did head down to the beach, using the curvature of the shoreline to lead towards the lighthouse, but with an hour’s journey to the next location, Ian made the call to head inland in the hope of better weather – conditions they could have never expected...

SNOW BUSINESS

As Ian’s 4x4 effortlessly navigated the undulating roads and mountain passes of Eryri National Park (Snowdonia), it became clear that the snow on the mountains had extended far beyond the peaks. As they reached Llyn y Dywarchen, they drove into terrain that could have been mistaken for an alpine mountain range.

“Bet you didn’t think you’d be shooting in this, Jason,” said Ian, as they left the car behind and trudged towards the lake, compacted snow crunching underfoot. Initially, they spent some time next to a small jetty and boathouse, but the mist was so thick, depth was hard to come by.

They picked their way around the lake and spent some time photographing a lone tree, using a nearby fence as a leading line. The once-thick mist gradually burned off and rays of sunlight were now scything →



EXPERT INSIGHT FRAME YOUR PHONE

Ian says... I use my iPhone camera to sketch out potential compositions. If I’m serious about a composition, I’ll use my camera. But if I just want to get an idea as to whether a scene will work, my phone is immediately accessible. It beats having to put down your kitbag and get your camera out or having to detach your camera from a tripod, only to find the scene just doesn’t work.



SUPER
SHOT #2

Camera:	Nikon Z50
Lens:	10-24mm f/3.5-4.5
Exposure:	2.5 secs, f/11, ISO100



through the dark clouds. “I normally add positive exposure compensation to overexpose a touch, as is the norm when shooting snow,” said Ian. “But the scene is bright enough that we’ve got away with it.”

The pro then pointed out an ominous cluster of clouds in the distance. “I think that’s rain over there. Let’s make the most of the good weather we’ve got and return to the boathouse.” The photographers made their way back around the lake, but stopped before crossing the dam to allow a young family to pass by. Not one to waste the opportunity to take a few photos, Jason quickly set up his tripod and framed

the lake, now shooting with his Nikon AF-S DX 10-24mm f/3.5-4.5G ED.

“That’s not a bad shot,” said Ian.

“There’s lots of space at the top and bottom of the frame, though,” said Jason.

“Well spotted,” said the pro, “but you needn’t be afraid of cropping. You could go for a 16:9 or 21:9 aspect ratio in post, which will cut out most of the dead space. Just make sure that you pay attention to the edges of the frame – you don’t want anything to drag the eye from the subject.”

Jason made sure that the boathouse wasn’t framed too close to the edge of the image. He then used a single focus point to



Ian and Jason returned to this location half an hour later and the light had changed completely.

lock onto the building, since there was no need for the water to appear tack sharp.

“That’s a solid Super Shot #1,” said Ian as Jason retracted his tripod. “If we had more time, we could wait to see if the water calms for a better reflection, but that’s a luxury we don’t have today.”

LIGHT ON THE LAKE

“Now the mist has gone, we can see the mountain,” said Jason.

“It is looking promising; I reckon this is a good Super Shot opportunity.”

Initially, the photographers framed the boathouse to the left of the image, with the boat and jetty in the middle, but soon decided to move back and omit the boathouse altogether.

“I like this composition better,” said Ian. “You’ve got lots of layers. From the snow, boat and jetty in the foreground to the lake and reflection in the midground. And finally, the mountain in the background, with a dash of mist in the distance.”

“Would you use a filter here?”

“No. You could use an ND filter to blur the water and clouds, but there’s not much movement in either. And we don’t need to

use a graduated filter because the white on the landscape balances really well with the brightness of the sky, so it’s a relatively even exposure.”

“What about that bright yellow tub over there?” asked the apprentice, pointing towards a fluorescent container, propped up inside the rowing boat.

“I would probably clone that out in post,” said Ian. “I’m an advocate of getting it right in-camera – trying not to remove anything if I can help it – but that container is adding nothing to the image. It’s just drawing unnecessary attention, so I don’t see a problem removing it.”

As they were talking, a ray of golden light brushed across the boat and jetty, causing it to pop against the image’s cool tones.

“Now’s your chance,” said Ian as Jason checked his exposure settings and focused roughly one third of the way into the frame. With Super Shot #2 captured, it was time to head to the next location, the Alpine Coffee Shop in the nearby village of Betws-y-Coed. This provided the photographers with an opportunity to warm up, enjoy a full Welsh fry-up and plan their next stop, Tryfan. →

HOW TO EDIT: LANDSCAPES

1



THE CROP FACTOR

Ian says... I work predominantly in Adobe Lightroom CC. I start by cropping, working out the most pleasing ratio for the image. This example benefitted from a letterbox crop; having equal amounts of sky above and reflected below the range added the symmetry required.

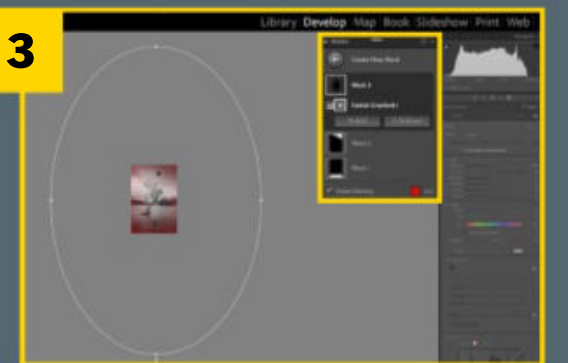
2



KEEP IT LOCAL

Ian says... I apply local edits, which means I use masking to selectively brighten or darken areas to create contrast. I do this by reading where the natural light hits the scene, which allows me to guide the viewer to key areas. This is in conjunction with global edits, which affect the whole image.

3



VIGNETTING

Ian says... While you can use the Post-Crop Vignette slider, I prefer to create a custom vignette by zooming out and adding an inverted Radial Gradient mask to precisely target the area I need to, using the Exposure and Feather sliders to control the effect.

PRO KIT IAN’S LANDSCAPE ESSENTIALS

Ian says... I took out my Nikon Z 14-30mm f/4 S, Z 24-70mm f/4 S and Z 100-400mm f/4.5-5.6 VR S. I also have two fast F-mount primes, which I use for astro. Fast glass isn’t a necessity for landscapes. I traded in a 70-200mm for the 100-400mm, as I found myself requiring the extra reach from time to time. I use Z 6 for astro and Z 7 for landscapes. They’re still going strong, and I simply don’t need the latest AF systems and fast burst speeds. Other kit essentials are a pair of 3 Legged Thing L-brackets, NiSi filters and a Fotopro tripod. I use the Neewer levelling base when shooting panos.





Ian and Jason set up in front of a stream, providing them with dynamic foreground interest.

FIND YOUR FILTER

“Tryfan is a great mountain to shoot,” said Ian as they pulled into a lay-by, “because from some angles you get its distinctive humps, which make it look like a stegosaurus, and from the side we’ll be facing, those humps converge to create a point, like a giant pyramid.”

The photographers kitted up, crossed the road and ascended up a steep footpath, which traced a mountain stream and provided unobstructed views of the towering mountain and nearby Y Garn. “Folklore has it that the giant from Y Garn would throw rocks at the giant from Cadair Idris, and used that scooped-out section of the mountain as a throne. But it’s this lone tree we’re interested in, today.”

Ian and Jason set their kit bags down and surveyed the scene as they caught their breath. “With no snow in the foreground and midground, the sky is noticeably lighter. This is why having the histogram in the EVF is a good idea,” said Ian as he invited Jason to look through his Z7’s EVF.

“When the graph goes all the way to the right, it means the highlights are blown out. If you expose for those highlights, you’ll notice that the graph now touches the left-hand side, which means the shadows have clipped. Clipping refers to a loss of data that cannot be retrieved in post.”

“Filters?” said Jason with a smile.

“I think it’s time,” said the pro. “You could use exposure bracketing to create a high-dynamic-range image, but I much prefer to balance the exposure in-camera.”

“Would we use a graduated neutral-density filter?” asked Jason.

“That’s right,” said Ian. “Let’s frame the lone tree to the right of the image so it doesn’t obscure Tryfan. And try a lower

angle, so it’s more dominant in the frame.” Jason locked focus before carefully sliding a medium graduated filter into the NiSi filter holder. “That’s a nice shot,” said the pro. “Let’s try a slightly different angle.”

The photographers moved over to a raging stream and stopped when it was directly in front of the mountain. “Try framing the mountain in the centre of a portrait-orientation composition, with the stream in the foreground,” said Ian.

Jason set up a nice composition, but Ian had a final tweak. “If you angle your camera down slightly, the barrel distortion will stretch the mountain peak and make it look that little bit more imposing.”

“That’s a great tip,” said the apprentice.



PRO KIT GRADUATED ND

Ian says... Graduated ND filters are a kitbag staple for me. While exposure bracketing has made it possible to operate without ND grads entirely, I still prefer the look of an exposure that’s been balanced in-camera. The downside of graduated filters is that they will darken tall subjects that protrude into the sky, such as lighthouses and mountains. You can get around this in post easily enough though, by selectively brightening these objects if it’s too noticeable.

“Use an ND filter here to slow down the water. If we use a shutter speed that’s too slow, the water will look like a misty blur. The trick is to retain enough form to convey the ribbons of movement in the stream. Let’s try a three-stop ND,” said Ian.

Jason ensured focus was locked before placing the ND filter in the slot closest to the lens and setting the exposure. →

EXPERT INSIGHT FOREGROUND INTEREST

Ian says... Foreground interest is a core compositional technique for landscape photographers. It’s especially useful when you’re framing a faraway subject and are left with lots of dead space. It can be used to draw the viewer’s attention and guide them towards the main subject, while also adding a greater sense of depth. If the foreground object is extremely close to the camera, I’ll focus stack the image. But if it’s set back far enough, I’ll just focus 1/3 of the way into the

scene with an aperture of f/8 to f/11. This lone tree is clearly separated from the mountain; you don’t want a foreground object colliding with your main subject.



SUPER SHOT #3

Camera:	Nikon Z 50
Lens:	10-24mm f/3.5-4.5
Exposure:	0.8 secs, f/8, ISO640



SUPER
SHOT #4

Camera:	Nikon Z50
Lens:	10-24mm f/3.5-4.5
Exposure:	1/400 sec, f/8, ISO100





**PRO
PORTFOLIO
IAN ASPREY**

EXPERT INSIGHT THE RIGHT LIGHT

Ian says... What separates a good landscape from a great one is very often the lighting. An ideal subject and perfect composition just aren't enough if the lighting isn't playing ball. This is why photographers visit the same locations again and again, increasing their chances of witnessing something special. Jason found this out when photographing the lone tree at Llyn y Dywarchen. Upon our arrival, thick mist and cloud cover had limited both the lighting and sense of depth. But within 30 minutes a break in the clouds shifted the conditions in our favour.



Ian then suggested he use Exposure Delay Mode to prevent camera shake from firing the shutter. After a two-second delay, Super Shot #3 was on the card.

LONE RANGERS

The final stop on Ian's tour of Snowdonia was a landscape photography icon: the lone tree at Llanberis. Located on Llyn Padarn lake, just a short walk from the car park. The spindly tree protruded from the water, a few metres from the shore.

"How would you frame this, Jason?"

The apprentice handheld his Z 50 and looked through the EVF as he worked the scene: "In between the mountains?"

"You've just got to, haven't you? Don't worry about that annoying clump of growth to the left. We can clone it out or crop it by shooting in portrait orientation."

As Jason set up his shot, a group of wild swimmers appeared, clad in woolly hats.

"Not sure if I fancy heading in today," chuckled Ian. "Let's try and get a couple of shots before the swimmers enter the lake."

Jason elected not to blur the water – in the interest of speed – with an ND filter and the overcast scene was evenly exposed.

As the swimmers entered the water, Jason fired the shutter and captured the final Super Shot of the day.

"Lovely," said Ian. "It almost looks black and white straight off the camera. I think it'll make a nice mono conversion in post."



JASON'S COMMENT

I was looking forward to today so much and Ian's been brilliant! I'm much more confident using filters and will be returning to Snowdonia as soon as I can.



IAN'S VERDICT

Jason captures fantastic landscapes and now that he's slowing down to ponder each composition – while waiting for the right light – they'll be even better! **N**



NEXT ISSUE: Our apprentice heads to rural Dorest and captures some chocolate-box landscape images.

BE OUR NEXT APPRENTICE!

We're looking for future apprentices to accompany *N-Photo* on exciting adventures! So, if you would like to appear on these pages and get top one-to-one professional tuition thrown into the bargain, fill out our Apprentice form at: <https://bit.ly/npapprentice> Please fill out the form in its entirety and be as detailed as possible with your answers. Fingers crossed; the next *N-Photo* apprentice could be you!



BLACK SAND & SNOW

After an extremely windy night with blizzards, I turned up at Iceland's Vestrahorn and found that the sand and snow had blown into these amazing patterns before freezing over. I framed leading lines and took advantage of the amazing sunset colours.



ONCE IN A LIFETIME

I knew this comet would be visible. Penmon Point allowed me to face north. The clouds mimicking the foreground and the reflections helped this win a Landscape POTY 2021 category.



MOUNTAIN HUT AURORA

I stood alone on a mountain pass in the snow, with the spectacle of an aurora. This is a two-shot vertical pano to get more sky above the hut and peak.

LIGHTBOX

Our favourite Nikon images from the LCE
Photographer of the Year 2024 competition



Anybody Home?

KRISZTINA MÁCSAI

Macro – Runner-up

A jumping spider on an abandoned wasp's nest. Jumping spiders love small spaces where they can hide. This wasp's nest fell onto my terrace from the roof. This little spider was very happy to discover it and soon took shelter in one of the empty tubes. I waited a few minutes until he decided to come out. He was looking around and then went right back inside again.

Camera:	Nikon D750
Lens:	100mm f/2.8
Exposure:	1/60 sec, f/11, ISO200

© Krisztina Mácsai / LCE Photographer of the Year





© Alexander Howard / LCE Photographer of the Year

Ready to Depart

ALEXANDER HOWARD

After Dark – Winner

This photo was taken at West India Quay Station on the Docklands Light Railway. I've added motion blur and new headlights using Photoshop's light flare tool to make this photograph stand out.

Camera:	Nikon Z 6
Lens:	14mm f/1.8
Exposure:	1/640sec, f/1.8, ISO5000



© Ian Mears / LCE Photographer of the Year

Wasp Trio Drinking

IAN MEARS

Macro – Winner

This image is from a summer project in 2023, looking into the lives of the common wasp through photos taken over several weeks in different weather and lighting.

Camera:	Nikon D850
Lens:	90mm f/2.8
Exposure:	1/6400 sec, f/11, ISO1600



© Elizabeth Coles / LCE Photographer of the Year

Sunrise Delight

ELIZABETH COLES

Landscape – Runner-up

I had woken and spotted the mist on the river, so I quickly got out of bed, grabbed my camera, and rushed down to the waterside. I set my camera on the tripod and took various shots of the Royal Albert bridge with the mist and the Ashtorre Rock tea rooms underneath. The sunrise started to shine through the mist in this particular image. I was so pleased with my morning adventure.

Camera:	Nikon Z 6
Lens:	14-30mm f/4
Exposure:	1/60 sec, f/8, ISO560

Wrecked

CHRISTOPHER HOLDSWORTH

Landscape – Runner-up

From a low angle, I framed the Corpach shipwreck against the Scottish Highlands mountains, capturing the vessel's weathered grace against the timeless backdrop of rugged peaks, nature eroding what remains of the ship.

Camera:	Nikon Z 8
Lens:	24-70mm f/2.8
Exposure:	1/800 sec, f/2.8, ISO64

Valencia Opera House

GRAEME HILDITCH

Travel – Winner & Overall Runner-up

A long exposure blurs the clouds into streaks behind the Palau de les Arts Reina Sofia, in Valencia's City of Arts and Sciences, the futuristic complex designed by the acclaimed architect Santiago Calatrava.

Camera:	Nikon Z 50
Lens:	8mm f/2.8
Exposure:	98 secs, f/8, ISO100



© Graeme Hilditch / LCE Photographer of the Year

© Christopher Holdsworth / LCE Photographer of the Year





© Rick Ayrton / LCE Photographer of the Year

Larval Octopus

RICK AYRTON

Wildlife – Runner-up

This image was taken on a blackwater dive, diving at night in the open water with no sea bed or reef nearby, then using powerful lights to attract planktonic animals. This dive was conducted in Lembeh Strait, Indonesia. I was fortunate to have come across a larval mimic octopus, this translucent creature was approximately 2cm across.

Camera:	Nikon Z 9
Lens:	60mm f/2.8
Exposure:	1/200 sec, f/16, ISO500

© Peter Murrell / LCE Photographer of the Year

Best Friends

PETER MURRELL

Pets – Runner-up

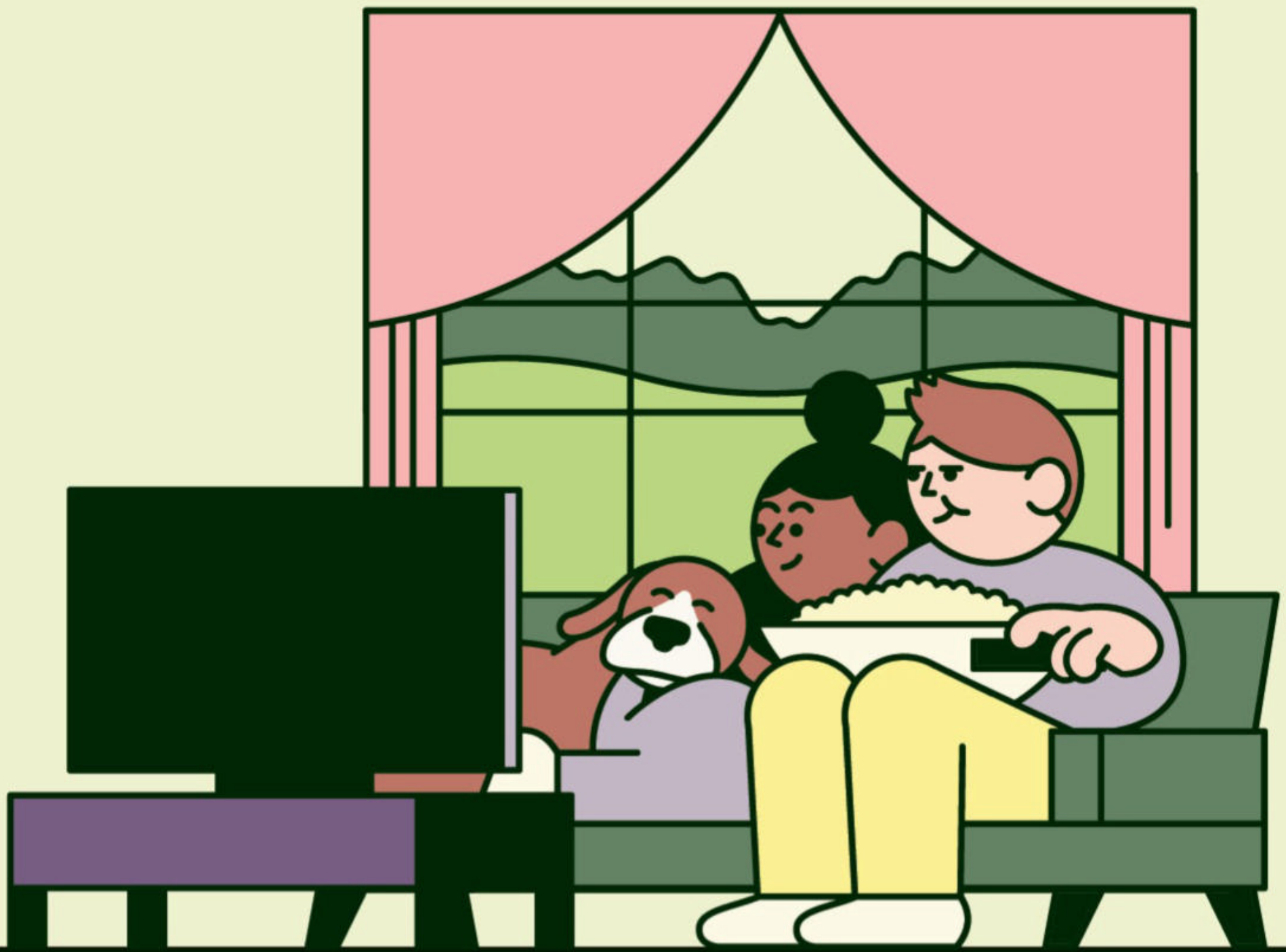
On the way to work on his London Underground commute, this careful owner was taking no chances with his beloved four-legged friend.

Camera:	Nikon D700
Lens:	50mm f/1.8
Exposure:	1/125 sec, f/2, ISO500



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Get set, for...

Adventure photography!

Join intrepid explorer and photographer **Iain Afshar** as he ventures off the beaten track to share his top tips for extraordinary travel images

Visit any popular travel destination, scenic viewpoint or historical landmark and you'll likely see crowds of people waving a phone or camera around, all capturing similar images that you've undoubtedly seen before. If, like me, you've often wondered what's around the next corner or over the next hill, then there's only one thing for it: go and take a look! Travel photography doesn't necessarily need to be to far-flung destinations. In the UK, we're lucky to live in an incredibly diverse country with easy access to mountains, coastlines and rivers. Venture a mile or so from a car park or visitor centre and you'll often leave 95 per cent of the crowds behind.

However, with a bit of time, effort and an adventurous spirit, getting well off the beaten track will offer the intrepid photographer the opportunity to visit, explore and photograph scenes, views and subjects that most people rarely get to see. A multi-day overseas trekking expedition in the wilderness or

remote corner of the globe provides a wonderful opportunity to put adventure into your photography. Get back to nature and you'll return refreshed, invigorated and with a card full of images different from the rest.

Adventure travel photography comprises landscapes, waterscapes, long exposure, wildlife, low-light, night, architecture, street and portraiture, to name a few. Additional skill sets such as navigation, expedition planning, fitness and creativity will all help to enhance the experience, rewarding the photographer with a great sense of satisfaction. How far you want to explore is up to you!



Iain Afshar

Iain Afshar is a photography teacher and International Mountain Leader. He has led expeditions all over the globe, enabling him to explore and photograph many wild and remote places. More info at: thephotographyproject.co.uk

All images: © Iain Afshar



Waiting for the moon to rise and illuminate the mighty Mount Manaslu, close to the Tibetan border.



Planning an adventure

Your destination may have come from your bucket list or a photograph in a magazine, but wherever you head for, it pays to go through your checklists and pack the right kit

The first and most obvious consideration is where to go? There are so many wonderful places to choose from. Planning and researching any adventure trip or expedition should all be part of the fun, whether overseas or closer to home. There are many factors for the adventurous photographer to consider.

Your chosen location may come from the seed of an idea, a bucket list tick, an image you've seen in a magazine, or perhaps a recommendation from a friend or a mention in a social media ad. Hot or cold climates, mountainous or flat terrain, high or low altitude, remoteness and seasons all need to be considered in your planning.

TRAVEL CONSIDERATIONS

The location and nature of the trip will determine how you'll travel to and around your chosen destination. If overseas, will you need to fly there? This in itself brings many challenges for the adventure photographer, due to ever-tightening airline regulations on baggage weight and size limits. Once there, how will you or your kit be transported for the duration of the expedition; on foot, bike, vehicle, pack animal or a mix?

Careful consideration therefore needs to be made to ensure that you bring all of the essential personal equipment and clothing. This will often determine how much photography equipment you can realistically bring with you and physically carry.

TRAVEL ESSENTIALS

Whilst this will be predominantly determined by your choice of location and duration of the trip, some items of kit remain essential wherever you are travelling, such as good waterproofs, sturdy footwear, spare clothing, head torch, trekking poles and a sleeping bag/mat for any expeditions where accommodation is in tents or mountain huts.

It's always tempting to pack too much camera gear, especially lenses. This is a dilemma I face when packing for every trip I lead. As a minimum, photography equipment should include one camera body, one lens (this is where zooms excel), lens hood, lightweight tripod, shutter release cable, polarizing filter, spare batteries and cards.

Unless you're specifically embarking on a wildlife trip or you have vehicular support, you'll probably need to leave the long lenses behind. →

Above: Gokyo Lake, Nepal – three weeks into a trek doesn't get much more remote than this.

Top right: Amman street art, Jordan. An overseas expedition offers a unique opportunity to explore a city at the start or end of the trip.

Bottom right: Meet the locals but always ask permission when taking portraits.



How will you or your kit be transported for the duration of the expedition; on foot, bike, vehicle, pack animal or a mix?

Kit choice

Your camera gear needs to be as small, light and as weatherproof as possible, as you could be carrying this for weeks. Mirrorless cameras, such as the Nikon Z 6 or Z 7, together with a compatible Z-mount lens, offer an excellent combination of quality, size, weight and durability. The Z 24-120mm f/4 is a fantastic one-lens option and is now my 'go to' lens for most expeditions. Consider a wide aperture, wide-angle lens too, if there's the possibility of some astrophotography. A sturdy lightweight tripod is also recommended, but this does increase the overall weight you'll need to carry. Don't forget to pack plenty of spare memory cards, batteries and a charger.





Life on the trail

Not for the fainthearted, searching out the ultimate travel shot can be a strenuous challenge that involves long days, heavy loads and a thorough test of your fitness

By its very nature, adventure travel photography often involves long, strenuous days in remote and hard-to-reach places. For example, a trekking expedition in the Himalayas is likely to involve a two-to-three-week trek at altitudes reaching up to 5500 metres above sea level. This usually involves trekking around seven to eight hours every day, with acclimatization treks necessary on rest days.

On these types of treks, accommodation is usually found in basic, family-owned tea houses or lodges. Meals are typically served in a communal dining room with a central stove for heating. Bedrooms are simple and unheated, requiring a good, warm sleeping bag. Luggage is usually carried by human porters or pack animals, such as yaks. Both can carry incredible loads, though each trekker is limited to around 10kg of luggage, with a porter often carrying two or three bags on their back supported by a strap around their heads.

Therefore, any additional equipment will need to be carried yourself. By the time you factor in spare layers and waterproofs, trekking poles, snacks, water, hat, gloves and so on, then add your camera

gear, you'll be carrying a pack getting on for around 10-12kg in weight every day!

DEALING WITH ALTITUDE

Trekking at altitude can be very tiring. As you climb higher, the air becomes less dense, which in turn makes it more difficult to breathe. As a result, you take in less oxygen with each breath, and consequently each step requires much more effort. Therefore, some level of fitness will help. However, to help our bodies acclimatize and adjust to the 'thinner air', progress needs to be slower.

A slower pace does give us more time to stop and look for photographic opportunities on our journey. As we climb higher out of a valley, the air often becomes clearer, and the views open up. As altitude increases, temperatures drop, especially at night. Light pollution also becomes less of an issue, providing opportunities for astrophotography.

Not all treks or mountainous regions involve high altitude though, and some amazing adventure treks can be had in the European Alps, Patagonia or in the UK's own mountain ranges.

Above: Four seasons in one day in Lago Nordenskjöld, Chile. Gale-force winds and sudden downpours are a common occurrence in Patagonia, so prepare for all weather conditions.

Top right: Clear conditions and majestic backdrops offer rich rewards for the intrepid adventure travel photographer when trekking at altitude.

Bottom right: Hard-working local porters form an essential part of any expedition to climb mountains such as Kilimanjaro, Tanzania.



Windy weather also brings its own challenges as dust tends to get *everywhere*, especially in mountainous or desert terrain



Prepare for adventure

Good mental and physical preparation should be undertaken well in advance of any expedition. Long, tiring days in extreme conditions away from the creature comforts of home can take it out of you, especially whilst carrying a heavy backpack. Listen to your body and rest when you need to. There will be many opportunities to take photographs during the expedition and you'll likely miss them if you are too tired. Invest in some good quality-clothing suitable for the environment you'll be travelling to and make sure you're familiar with all of your camera functions in advance.

WHATEVER THE WEATHER

Whilst the old saying of 'There's no such thing as bad weather, just inappropriate clothing', rings true, I have been caught out in some pretty 'interesting' weather, where it's been necessary to go into survival mode and batten down the hatches. Thought must therefore be given on how to safely store and protect expensive camera gear during such conditions! Padded camera bags, dust covers and dry bags are your friends here.

Windy weather also brings its own challenges as dust tends to get *everywhere*, especially in mountainous or desert terrain. Limiting lens changes or shielding your camera's sensor with your bag or body when changing lenses can help, but invariably some dust will get onto the sensor. A small dust blower and spare lens cloths should form part of your kit. Whilst not essential, a UV filter can help to keep sand and dust off the front element of your lens, and does offer some degree of protection in potentially hostile environments. →





Getting Organized

Keep your camera to hand and ready to shoot the unexpected or simply take in the incredible sights along the way; sometimes the journey is the destination...

Once on expedition, the journey itself should be considered as important as the final destination. There will be many unique photo opportunities along the way, and we need to be ready to capture them, often with only a moment's notice.

CARRYING SYSTEM

I highly recommend experimenting with how you will carry your camera and gear whilst trekking. I have tried and tested many different systems over the years and have now settled on a system that works for me. Options include simply storing your camera inside a padded case in your backpack. While this is sometimes the only option in really bad conditions, the drawback of this is that it takes time and effort to take your pack on and off to get to your camera. You're likely to either miss shots or not bother getting the camera out in the first place.

Alternatively, carrying the camera around your neck or over your shoulder on a strap is a relatively convenient way to carry your camera, having

reached your destination or whilst working a subject. However, this can soon become tiresome and uncomfortable when walking any distance, especially whilst wearing a backpack and/or trekking over steep or uneven terrain. The camera is likely to swing around wildly, constantly banging or digging into your body. It makes using trekking poles difficult and increases the chances of your camera getting damaged. Two weeks of this and you've likely reverted back to option one!

There are now a number of dedicated camera-carrying harness systems or clips on the market, and this gives another option. My preferred device is the small and extremely lightweight Peak Design Capture Clip that fastens onto the shoulder strap of a rucksack. This clip allows the camera to hang just below my shoulder across my chest. I hang this on my left shoulder strap, which allows for almost instantaneous deployment should an unplanned shot arise. I balance the weight of this by carrying my travel tripod or water bottle in the right-hand

Above: A slick carrying system gives the best opportunity to catch fleeting moments, such as this small gap in the clouds. A moment later and it was gone.

Top right: Swayambhunath, Kathmandu. Carrying a good, lightweight tripod opens up all sorts of photographic opportunities.

Be prepared

The more efficient you can be during an expedition, the greater your chances are of capturing the best images. Whilst it may be tempting to flop straight down onto your bed on arrival at your destination after a hard day's trekking, spending a little time preparing your camera gear ready for the next shot will really pay dividends.

Make it part of your routine to clean your lens, charge your batteries and check how much space you have remaining on your memory card, changing it if necessary.

A glance outside your accommodation may reveal a sudden break in the clouds, a rare cloud formation or the most amazing sunset. You need to be ready to grab your camera at any moment, often with little warning, or you may risk missing the shot altogether!



Once you start your journey, it's not always possible to stop for too long every time you see a potential subject

side pocket of my pack. This system gives me unimpeded use of trekking poles and keeps the camera extremely stable, even on the roughest of trails. I have compatible L-bracket attached to the camera and a short Peak Design wrist leash, rather than a shoulder strap. I'll fit a lightweight neoprene dust/rain cover over the camera too, if necessary.

BATTERY MANAGEMENT

Multi-day expeditions will require some careful battery management. Although relatively small, the weight of two or more batteries soon adds up. It is worth noting that as the altitude increases or temperatures drop, batteries quickly lose power. It's easy to tear through several batteries on high-altitude or cold night-time shoot.

Research will need to be made as to the availability of power access throughout the trek to recharge batteries or whether a power bank or solar charger will need to be carried. In remote mountain huts or tea houses, it may be possible to pay for a power bank top-up, but don't always rely on this and try and recharge everything whenever you can.

WHEN TO SHOOT

During any expedition, there will be optimum times of the day to shoot when not actually trekking. Once you start your journey, it's not always possible to stop for too long every time you see a potential subject, especially if you have some distance to cover. Most treks require early starts, and you'll



often arrive at your camp or lodging during mid to late afternoon. For the organized photographer, this allows some time to explore the surrounding area on arrival or before breakfast the following day. These times of the day often give the best lighting conditions, before the sun rises too high and the light becomes too harsh. Here, you'll have the best chance to look for different compositions or to set up your tripod if light levels are low. →

Above: Namche, a former trading post and tourist hub for the Khumbu region of the Himalayas. Heading out after dark opens up plenty of options.



What to shoot

There are countless photo ops for the adventurous photographer, but while documenting the rituals of daily life always be sure to remain respectful of local cultures and customs

The adventure travel photographer is able to shoot dramatic scenery and the natural world around us, as the journey itself provides a unique opportunity to capture the culture and daily lives of people, animals and communities.

ANIMALS/WILDLIFE

Travel to overseas destinations often provides opportunities to photograph animals or wildlife that we don't usually get to see. These could be pack animals carrying your luggage or goods to market, animals that live alongside people in villages or communities, such as monkeys, or even wildlife that you come across during the journey. Try to get down to their eye level or photograph animals going about their everyday business.

MARKETS/SOUVENIR STANDS

Town and cities typically have markets, some more elaborate and colourful than others. These make great subjects to photograph, especially when you have more time at the start or end of a trip.

Try focusing in to highlight a particular item on a market stall with a shallow depth of field for an interesting composition, or come back at night time.

An image of a souvenir alone may be enough to tell your viewer what part of the world you visited.

CELEBRATIONS

Religious events and even personal achievements are celebrated all over the world. There's nothing more uplifting for a tired trekking party than walking into camp after a long day on the trail to be greeted by your team of local porters or Sherpas celebrating your arrival with traditional songs or dances. These can provide fantastic images filled with energy and emotion.

PEOPLE/VILLAGE LIFE

Including shots of people and general daily life can add real interest when viewing a portfolio of images. It is often the people that make the destination so special. But be respectful and don't thrust your camera into someone's face to get an image. In some cultures this is frowned upon and your subject may demand money from you or hide their face. Ask permission and be prepared to lower your camera if they say no. Using a longer focal length can be useful to capture people going about their daily lives while at a discreet distance.

Above: Market stalls often provide excellent subjects, especially when the local wildlife turns up, like here in Swayambhunath, Kathmandu – known as the Monkey Temple.

Top right: Dzos (a yak/cow hybrid) are the main method of transporting goods around the regions of the Himalayas.



CULTURAL LOCATIONS

Embrace the different cultures and religions around the world. Most locations will have historical buildings, architecture or heritage sites of significance. Buddhist prayer flags, carved stone scripts and prayer wheels can often be found alongside Hindu temples and sculptures in countries such as Nepal.

UNESCO World Heritage sites such as Petra (Jordan), Mount Kilimanjaro (Tanzania), Angkor Wat Temple (Cambodia) or Easter Island in the Southeast Pacific (Chile) are all fantastic places to visit for the adventurous photographer. →

Above: Souvenir hunting in Little Petra, Jordan. Isolating an item on a souvenir stand using a wide aperture draws the eye straight to your subject.



Travel to overseas destinations often provides opportunities to photograph animals or wildlife that we don't usually get to see

Do-it-all lens

A versatile zoom lens, such as the Nikon Z 24-120mm f/4 S, will allow you to capture the widest range of subjects possible. Not only will you want to photograph the landscape around you, but you'll also want to capture the essence of the destination. This may be the people, culture or heritage of the place. Head out after dark to photograph a buzzing city plaza, or the chaotic rush hour traffic at the start or end of your expedition. Look to see where everyone else is pointing their camera and try to find a different angle or perspective.



Adventure photography



Getting creative

We're here at last! Having arrived at your destination after each long day's trekking, make the most of your adventure by creatively capturing your new surroundings

Having arrived at an incredible destination, how can you make your photos stand out from the rest? This is the time to get creative. After a long day's trek, most people will want to settle down with a hot drink. But the dedicated adventure photographer will be wrapping up warm and heading outside...

STAR TRAILS

Once the sun sets and the stars appear, clear conditions, a little moonlight and a dramatic backdrop allow us to capture stunning star trail images. While it's easier to take a single long-exposure shot, keeping the shutter open for several minutes will lead to a noisy image. It's preferable to take multiple images of around 30 seconds each then stack them together later in post-production. It's important to compose your image with your camera aligned so that it faces the north/south celestial poles directly, as otherwise you will end up with streaks of stars, rather than circles.

MILKY WAY

The sheer number and clarity of the stars is breathtaking and is not to be missed. A location with little light pollution and at altitude, as is often the case in remote regions, is the perfect opportunity to shoot the Milky Way.

Shooting in Manual exposure mode, you'll need to use the widest aperture and shortest focal length that your lens will allow. Keep your shutter speed to around 20-25 secs so the stars remain pinpoints of light and don't start blurring, and shoot with as low an ISO that you can get away with, usually somewhere around ISO2500.

PAINTING WITH LIGHT

For extra interest, why not try adding a bit of light to a foreground subject by shining your head torch at it

during the exposure, especially if your subject is illuminated by nothing more than moonlight? This fun technique requires a bit of experimentation to get right; keep the torch moving in smooth even strokes, and avoid concentrating on one area for too long to avoid 'hotspots'.

FILTERS AND LONG EXPOSURES

I always carry a circular polarizing filter, which can help cut through haze. They can help to darken bright blue skies and increase the saturation of foliage. They also help to remove or control reflections from surfaces such as water. I'll often slip a couple of neutral density filters into my kit bag too, especially if I know there's likely to be moving water or the possibility of an interesting sky at my destination. Many mountain campsites or villages tend to be situated near watercourses, so I'll go exploring once I've reached my destination and compose some long-exposure images to blur the movement in the water as it flows through the scene.

Ideally, you'll have a tripod and shutter release cable to make the shoot easier, otherwise you will undoubtedly end up contorting yourself into uncomfortable positions trying to balance your camera and probably end up with cramp, especially after a long and tiring day! 📸



Many mountain campsites or villages tend to be situated near watercourses, so I'll go exploring once I've reached my destination

Above: Porters celebrating the team's arrival into camp on Mount Kilimanjaro.

Top right: High altitude, crystal-clear conditions and little moonlight gave favourable conditions for a shot of the Milky Way rising over Kilimanjaro. A few seconds of torchlight was added to illuminate the tree.

Top far right: Arriving at the ancient city of Petra, Jordan, after a scorching five-day trek across the desert, I explored different angles for this shot of The Monastery.

Below right: Star trails over Everest. The remoteness, extreme altitude and freezing conditions limited the options to a single five-minute exposure. A two-hour descent followed!

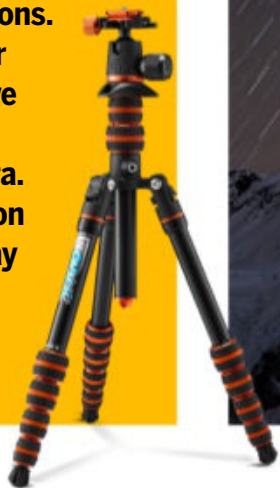


Astrophotography

This might be the perfect opportunity to try some astrophotography, shooting the Milky Way or star trails under clear conditions. Try making your shots different by painting elements of your scene with torchlight.

Set a 10 to 15-second exposure, ensuring that your torch is behind the camera and illuminate a foreground subject part way through the exposure. Start with a blip of light for a few seconds, review the image and go from there. A shutter release cable is handy to eliminate any vibrations.

You may need to shield your tripod from the wind or remove the strap to stop it blowing around and moving the camera. A torch with a red light function is really useful here as you may be working in pitch-black conditions, and this will help to preserve your night vision.





**Paul
Wilkinson
Go Pro**

Paul Wilkinson FMPA FBIPP FSWPP is a multi-award-winning international photographer and co-author of the best-selling book *Mastering Portrait Photography*, and shares his skills through the free companion site MasteringPortraitPhotography.com. In this monthly series he shares his experiences and stories as he talks about the trials and tribulations of becoming a pro photographer.

Love what you use, use what you love

It's easy to be seduced by marketing hype that brands throw our way, so how do we choose what to buy? Simple, it has to fill you with joy



So I am sitting typing up this article from my Moleskine notebook, where I scatter my notes with my favourite pen – the mighty Staedtler 308 Pigment Fineliner, black, 0.4mm, if you must know – the combination of the Moleskine paper and those pens urge me to write (or distractedly doodle). There is my favourite mug (a gift from my beautiful wife) full of aromatic Nespresso Odacio coffee within reach, and my microscopic Sony headphones, whose dark art keeps the cacophony of my chaotic world at bay, are pumping in some deep house – please don't judge me!

Love affair

We all have these things: whether it's a writing implement, a notepad or your favourite tippie in your favourite mug, they physically make you want to use them. They may be exclusively expensive or throwaway cheap, but they all draw us to them; they make us want to do something with them.

We all have our favourites.

Photographers ask me what kit they should buy when starting out or looking for reliable product suppliers for their clients, and there is never an easy answer. Rather, there is no specific answer regarding the brand, the product, or the supplier, even though I am an ambassador for a few.

But there is a way of approaching it. In an article I wrote in this magazine a few years ago, I described how my love affair with Nikon started – and it wasn't because of the tech or the price: it was because when I picked up the F100 (the D100 had only just been launched and wasn't yet available), it somehow felt right in my hands. The brilliant guys at the London Camera Exchange on The Strand let me stick a lens on it, spool a roll of film and step out into the bustle of our capital city to see how it felt.

And, in a Goldilocks moment, it felt just right: the smell, the touch, the controls and the way it sat in my hands, everything where I'd expect it to be.

There and then, I was hooked.

I tried every camera in the shop (including the Canon D30, as it was back then), but nothing set my heart racing like that F100. So I paid in full for the first D100 they could import, and that, as they say, was that: I have been a Nikon addict ever since.

These last couple of weeks, I have returned (in a prodigal son way) to the



Trade shows, conventions, workshops and expert high street retailers are all great places to go for a feel for the things that make you smile

lighting manufacturer I first started with 20 years ago. I honestly never wanted to leave them, but they didn't have the type of kit I needed for a while – now they do, and I'm very much back.

And honestly, it's been emotional – far more so than I could have imagined.

Over the years, I think I had forgotten what it felt like to use strobes that bring a tear to my eye, but the quality of the light pinging around our studio over the past few weeks reminded me what it's like for my pulse to race while I am light-shaping.

It's not about whether something is technically the best, the most expensive, the coolest or the most iconic. It is simply about how it makes you feel when you pick it up and use it. Does your pulse race just a little? Does it make you smile? Does it, to put it simply, make you want to pick it up and use it?

Every brand will position itself as the only one to solve all your problems or make you a legend, but only you can decide what suits you, your style, and your budget. Pick it up and play around with it. Trade shows, conventions, workshops and expert high street retailers are all great places to go for a feel for the things that make you smile.

Pro choice

When photography is your hobby, buying for the love of it is easy: you save your pennies and buy what you want, whatever makes your heart soar.

Once you switch to being a pro, that becomes a little harder: every bit of kit must have a return on investment (ROI, as accountants love to call it), and that can be a little sobering when you are eyeing up that 800mm f/0.9 hyper-stabilized-and-could-easily-capture-the-moon lens.

But the flip side is true, too: buying something that doesn't fill you with joy is the biggest waste of money, as you will never get it out of the box.

If you love your kit, as I do with my Nikon Z 9, Moleskine notebook, Staedtler pens and tiny Sony headphones, it will call to you every minute of every day, begging you to get out there and be creative.

Don't hesitate – buy it because you love it. If you love it, you will use it, and if you use it, it's worth every penny. ■

Even now, whenever I pick up my trusty Zenit EM it makes me smile. Sadly, it no longer works but that feeling of simply needing to get out and create pictures goes on. It took months to save my paper-round wages but it was worth every single 5:30am bleary-eyed start!





URGENT APPEAL



Russia's brutal invasion of Ukraine is not just a humanitarian crisis for the Ukrainian people; it's a child protection emergency.

Up to 100,000 children warehoused in Ukraine's vast orphanage system – a network of over 700 buildings – risk being forgotten. Left to face the dangers of war alone as staff flee. As families are torn apart or forced from their homes, many more children are at risk of being separated from the love and protection they desperately need. Worse still, they are at risk of trafficking, or being placed in overcrowded, understaffed and poorly resourced orphanages in border countries.

We must act now.

Born out of the Balkans conflict 30 years ago, we've championed the vital importance of family and community-based care of children and our teams are on the ground in Ukraine, Moldova and Romania to ensure this war does not rob children of the love and protection they need now more than ever. Across all three countries, we're directly supporting displaced families and unaccompanied children with material and emotional

support. We're working closely with authorities to keep families together when they are at their most vulnerable and to fight for the safe tracking, monitoring and care for children without parental care. And we won't stop when the fighting stops.

Will you help us by donating?

With your help, we can avert a child protection crisis of epic proportions and ensure children are protected and kept in families. Never orphanages.

To help protect vulnerable children, donate online at: www.hopeandhomes.org/donate. Or call **01722 790 111** Monday – Friday 9am – 5pm.

Please quote **FP22 - P&D** when making your donation.

In the event that funds raised exceed what is needed to deliver Hope and Homes for Children immediate and longer-term response to this crisis, we will use donations where the need is greatest.

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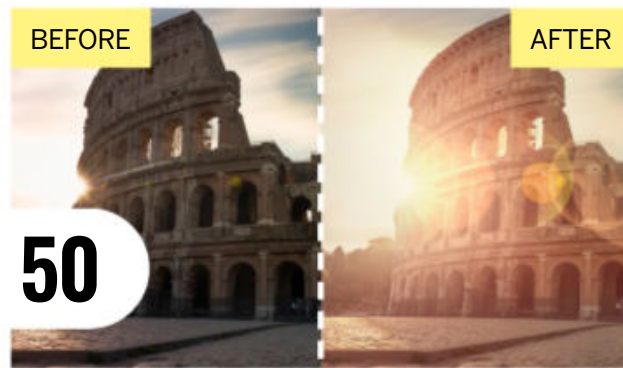
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A flare for photos

Create lens flare effects in Affinity Photo and master shapes, live filters and colour tools



Whenever you see this logo, it means there's a video to accompany the tutorial, taking you through things step by step. If a tutorial has accompanying project files, there will be an accompanying download link too.



Project one: Reflections

Seeing double

Edyta Rice shows you how to use reflections to balance and enhance landscape compositions

Reflections in landscapes play a pivotal role in enriching the composition and enticing viewers to delve deeper into the image. They can offer a unique viewpoint of the landscape, revealing concealed intricacies that might otherwise go unnoticed.

Using reflections in a body of water is a popular compositional tool. Reflections can create visual impact by introducing a sense

of symmetry, unity and harmony. This perfect balance can evoke a serene and peaceful mood, allowing viewers to connect with the landscape on a deeper level.

However, careful consideration is required to obtain the best results. This article will explore the important technical factors that will help you capture compelling reflections in landscapes every time.

Expert Tip



Sometimes the perfect reflection may not appear immediately, if at all. Wait for the right moment and, if necessary, revisit the location. Photography is about experimentation and creativity. Don't be afraid to try new techniques and compositions to capture unique and captivating reflections in landscapes.

How to shoot reflections

1 Time and place

Seek out calm waters to capture mirrored surfaces. Ideally, venture out when the wind forecast is low. Wind speeds below 3mph should provide you with mirror-like conditions. The best time to capture reflections is during the golden hours, when the light is soft and warm. This helps to enhance the colours and mood.



2 Interesting subjects

Look for visually striking elements reflected in the water, such as trees, hills, mountains, buildings or colourful foliage. If your subject isn't visually appealing or lacks interest, the reflection probably won't add much value to the composition. Reflections may become lost or obscured in cluttered scenes, so aim for clean compositions.



3 Compose with care

Try different angles and perspectives to find the most captivating reflections. Sometimes, getting low to the ground or shooting from a higher vantage point can yield interesting results. Try to frame both the subject and reflection, creating a balanced composition. Use Virtual Horizon or a bubble level to straighten your horizon.

4 Technical detail

Use a tripod to help prevent camera shake. Dial in a smaller aperture (higher f-number) to increase the depth of field and use single-point AF to focus roughly a third of the way into the frame, so the reflection and subject are sharp. Experiment to see how different exposure lengths affect the reflection, keeping your ISO suitably low.



5 Work with filters

If the reflection and landscape have significant differences in brightness, such as a sunrise over water, an ND grad can help even out the exposure. Use these filters to darken the brightest part of the image, while leaving the darker areas unaffected. This helps to balance the image. **N**



Camera:	Nikon Z6
Lens:	14-24mm f/2.8
Exposure:	2.5 secs, f/11, ISO100

Above: No filters? Expose for the brightest part of the image or shoot a bracket and blend a HDR image.





Project two: Music festivals

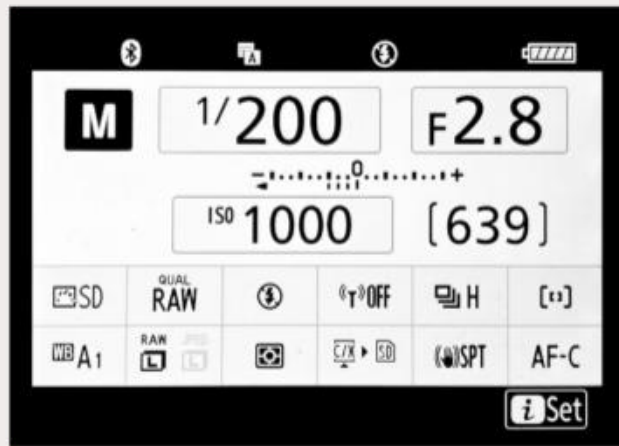
Let it rock!

For those about to rock, **Mike Harris** shows how to capture live acts at a music festival

Music festival season is upon us and this presents the perfect opportunity to experience your first taste of live music photography. Short of donning denim and leather and screaming into a microphone, nothing gets you closer to rockin' out on stage. You might consider it an inaccessible genre that requires pro access. And while you'll need to spend a lot of time honing your craft, if you hope to photograph headline acts such as Rod Stewart, Metallica or Taylor Swift, you may find that small venues and fledgling music festivals will welcome your Nikon with open arms.

Some festivals may allow you to bring your camera along and shoot from the crowd. And since daytime shows provide less-challenging lighting than dingy, indoor venues, the learning curve will be lessened. More light will also allow you to shoot at narrower apertures, ideal if you don't have expensive, fast glass. If you do want to go all out and pick up some fast f/2.8 zooms, Nikon's pro-line AF-S lenses have plummeted in price on the used market, since the industry's shift to mirrorless. And since music gear needs to suffer the odd knock, as well as lashings of sweat and beer, you might as well let used gear take the beating. →





1 Fast zooms
Fast glass is crucial, since you could be shooting on a dull day, after the sun goes down, or inside a dark tent. Some music photographers favour ultra-fast primes, but the majority opt for a compromise between speed and versatility with an f/2.8 zoom. A standard zoom, like a 24-70mm, will allow you to photograph most small festivals and venues, while an ultra-wide zoom, like a 14-24mm, is great for creative shots and sprawling venue scenes. Bigger festivals and venues, with taller stages, may require a 70-200mm.

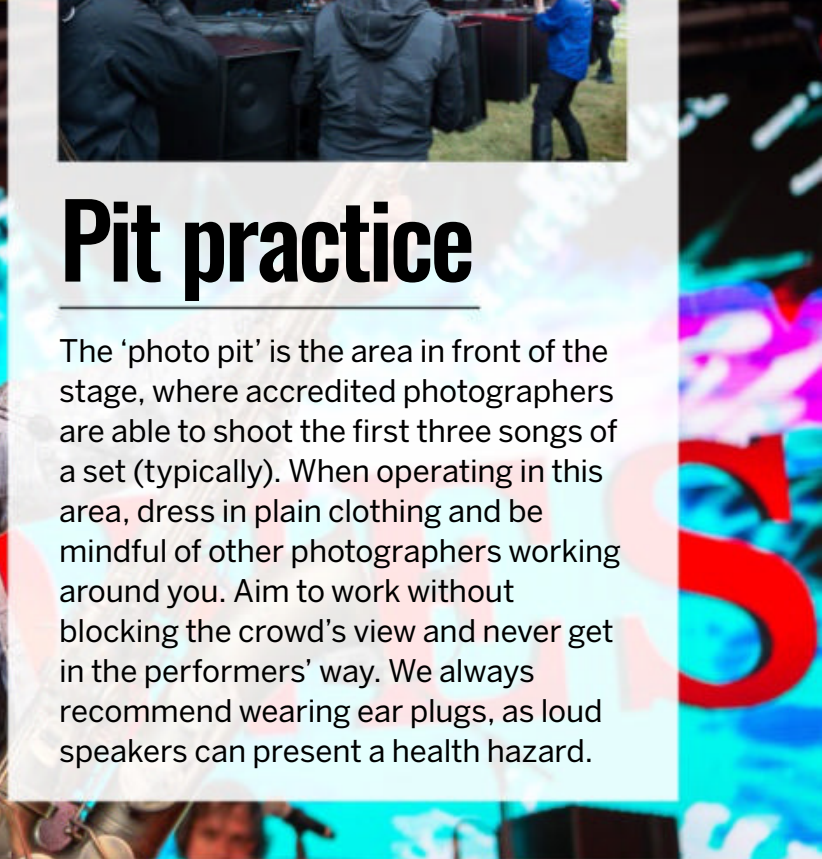
2 C'mon feel the noise
Your settings should provide you with a suitably clean slate to work from in post, due to the unpredictable nature of stage lighting. Shooting Raw is essential, so you can alter the white balance and colour palette in post. Constantly changing lighting will confuse automatic modes, so it's best to use Manual mode. Here, you can set your aperture wide open and dial in a shutter speed of 1/200 sec or faster. You then only need to worry about your ISO. Don't be afraid to push it if you need to; noisy images are better than blurry musicians.

3 Band on the run
If you have a Z camera and you're photographing a fairly static group of musicians with unobtrusive stage lighting, you might get away with using eye-detection AF. But most acts are lively and boast busy lighting rigs. Add to that the crowded nature of smaller stages and you're almost always better off opting for good ol' single-point AF. Lightning-fast burst modes aren't essential, but we would recommend using continuous shooting so you increase your chances of capturing a highlight moment, such as a jump off the drum riser.



Pit practice

The 'photo pit' is the area in front of the stage, where accredited photographers are able to shoot the first three songs of a set (typically). When operating in this area, dress in plain clothing and be mindful of other photographers working around you. Aim to work without blocking the crowd's view and never get in the performers' way. We always recommend wearing ear plugs, as loud speakers can present a health hazard.



4 A new order Rigging, lighting, roadies, PA equipment and more can make stages chaotic places. Music photogs have to distil the disorder into an attractive image. Zoom in to pick out individual band members, take advantage of stage smoke – this can screen some of the busyness – and use good compositional techniques to frame subjects in a pleasing way. Mic stands can be particularly troublesome; you don't want a shot of the singer with a mic stand scything across their face... Ensure you're ready to dodge and sidestep to avoid intersecting objects.

5 The fab four It can be tempting to keep your Nikon trained on the lead singer, but don't neglect the rest of the band. Not only is capturing a 'keeper' of each member a good habit to get into if you decide to shoot for a publication, but you'll take home a much more interesting selection of images. Music photography is about documenting an event and building a narrative. If you're lucky enough to have pit access, head out into the crowd once you've finished your stint and capture a reveller's-eye-view or an establishing shot of the stage and crowd.

6 Edit skin tones Stage lighting isn't always flattering and it's likely that you'll benefit from doing some colour edits in post to bring back your subjects' natural skin tones. Lightroom's Temp slider is a good first port of call. If the skin is overly warm, drag it left and if it's overly cool, drag it right. Then head to the Color Mixer. From here, you can use the Hue, Saturation and Luminance panels to balance the skin tones. There's no one-size-fits-all approach, but you'll likely spend most of your time altering the Red, Orange and Yellow channels. **N**



Be patient, find a concealed vantage point to hide your position from a hunting owl, and wait for your chance to fire the shutter.

Camera:	Nikon Z9
Lens:	600mm f/4
Exposure:	1/1000 sec, f/4, ISO250

Project three: Owls

Photo hoot

Andrew Mason finds and photographs one of the UK's most beloved birds

Barn owls are one of five species of owl that are resident in the UK. Watching one silently quarter a meadow at dusk or dawn as it hunts for food is an incredible experience. With their heart-shaped faces and pale feathers, they are beautiful birds and one of my favourite subjects to photograph. Here's how you can find and photograph them too.

1 Find the right location

Barn owls inhabit lowlands throughout the UK. They each have a well-defined home range and, provided they are not disturbed, they tend to hunt in a fairly predictable manner. Spend time watching their behaviour and you may also find that they favour certain perches, such as posts and branches.

2 Rise early, stay up late

The best time to photograph these crepuscular predators is at dawn and dusk. Their activity can correspond with the golden hours, when the light can make for spectacular backlit images of these ghostly white subjects. Head out early and stay out late to make the most of this lighting.

3 Check the weather

Barn owls prefer not to hunt in very rainy or windy conditions, their feathers are very soft – for silent flight – and are not very waterproof. Following periods of prolonged wet or windy weather, hungry birds may be forced to hunt during daylight hours, giving more opportunities to photograph them.

4 Fieldcraft and ethics

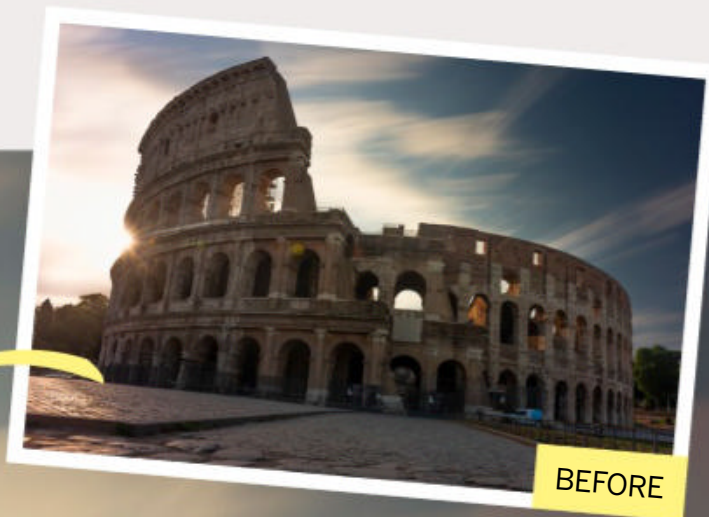
Barn owls have exceptional hearing that they use to find small mammals. Their vision is highly movement sensitive and they will notice anything that moves. *Never chase a subject.* Keep still and silent and a barn owl will usually ignore you.

5 Camera settings

I used a 600mm f/4 lens with the aperture wide open. Even with my tripod and gimbal head, I used a shutter speed of 1/1000 sec to avoid camera shake (up to 1/4000 sec for in-flight images). My Z 9's AF Subject Detection was set to Birds (AF-C) with 20fps burst mode, ready for when the owl took off. **N**

Expert Tip

If your camera doesn't have AF Subject Detection, you can use your preferred AF Area Mode. Dynamic-area AF, Group AF and good old single-point AF are all fantastic options that have served wildlife photographers for years.



Project four: Affinity Photo

A flare for photos

Create lens flare effects in Affinity Photo and master shapes, live filters and colour tools with **James Paterson**



www.bit.ly/np163flare

Lens flare is usually something photographers will take care to avoid. But, on the right image, it can enhance the mood. It's ideal for travel and lifestyle photography, as what we lose in detail, we make up for in atmosphere. Of course, if you want natural flares then the best approach is to capture them in-camera by shooting into the sun.

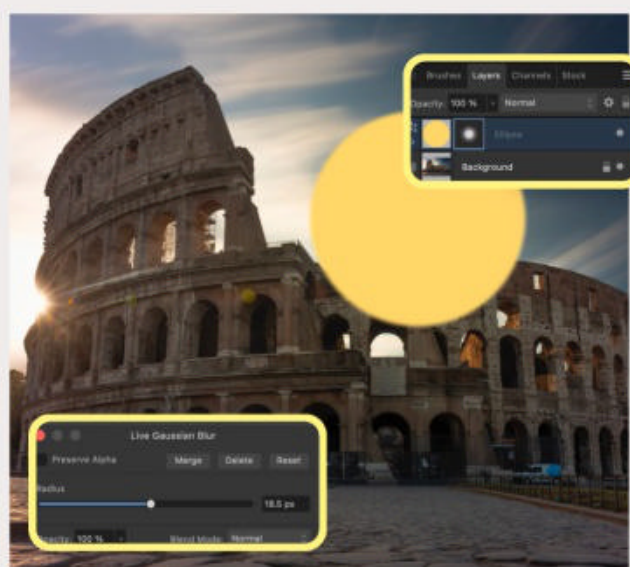
But sometimes the effect is difficult to capture, or it can look too weak. In this photo here, there is a subtle lens flare in

the original image but it's too weak to register properly. Whether you want to add to existing lens flare like this or create it from scratch, then Affinity Photo has a range of tools that can help you to achieve that effect.

Unlike Photoshop, there isn't a dedicated lens flare filter in Affinity Photo. But it's not difficult to create your own using the shape tool. Get to grips with a few shape, blur and blending tricks and you can quickly make realistic-looking flares to introduce into

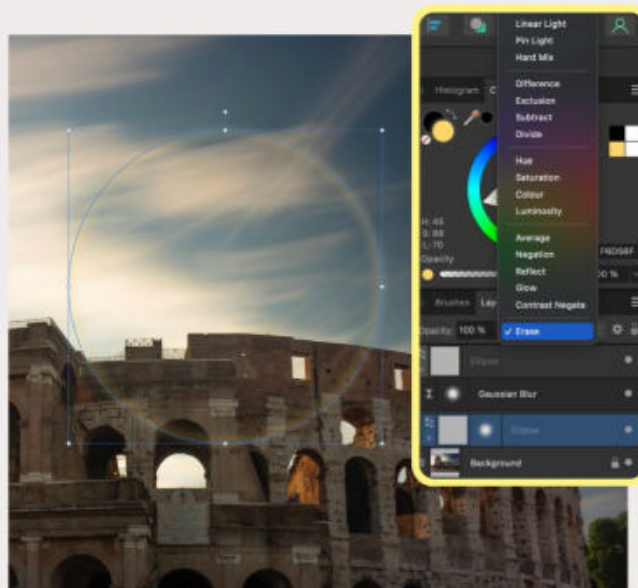
your photos. The effect will work better on some photos than others. It helps if the image is backlit, ideally with the sun in the frame as it is here, peeking out from behind Rome's iconic Colosseum.

The great thing is that once we've created one circular flare point, we can quickly duplicate, recolour, resize and reposition it elsewhere to build up the effect. Then, once completed, we can finish off the image by using a few tonal tricks to help bring everything together.



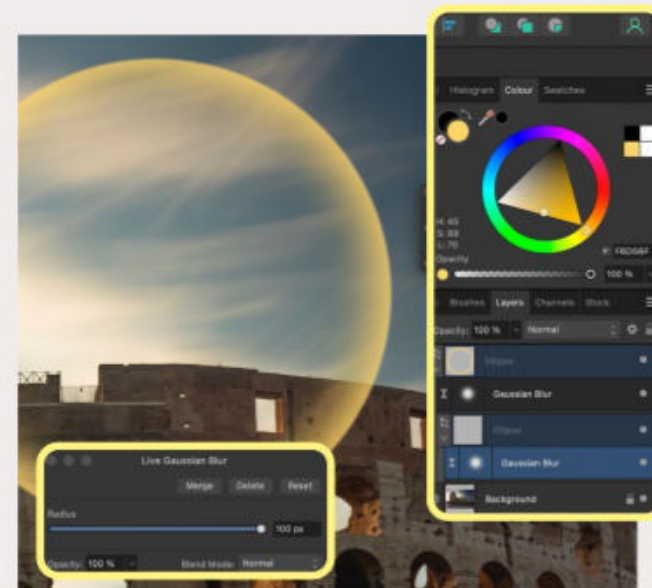
1 Blur a circle

Click and hold over the Shape tool and choose the Ellipse. Hold Shift and drag in the image to make a circle. In the Color panel, choose a yellow colour for the circle. Click the Live Filter icon in the Layers panel and choose Gaussian Blur. Increase Radius to adjust blur strength.



2 Make a child

Hit Cmd/Ctrl+J to duplicate the ellipse, then go to the Layers panel and drag the copy on top of the other layer's name to make it a child. Expand the layers and set the blend mode of the child ellipse layer to Erase. You will now see the beginnings of a halo effect.

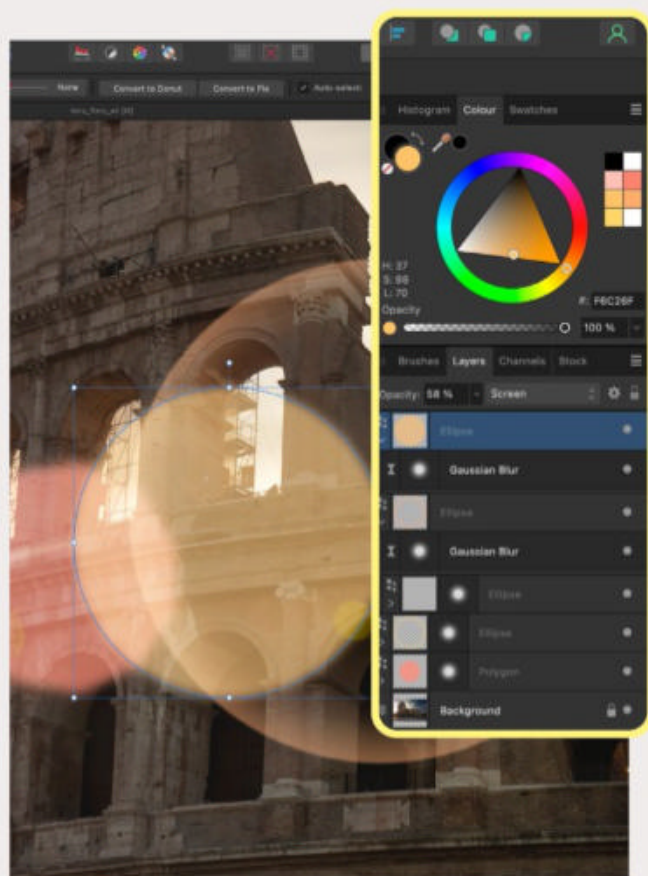


3 Create a halo

Grab the Move tool, click and hold on the corner of the bounding box then hold Cmd/Ctrl-Shift and drag in to resize the second circle from the centre, making it smaller than the first. Adjust the layers' Gaussian Blur by double-clicking the live filter layer to fine-tune the halo.

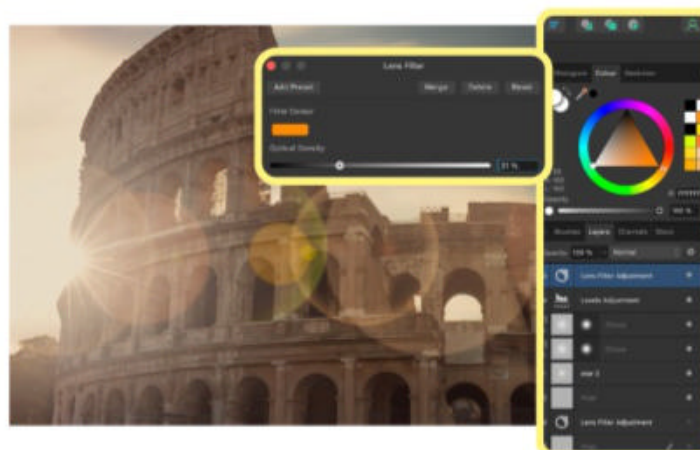
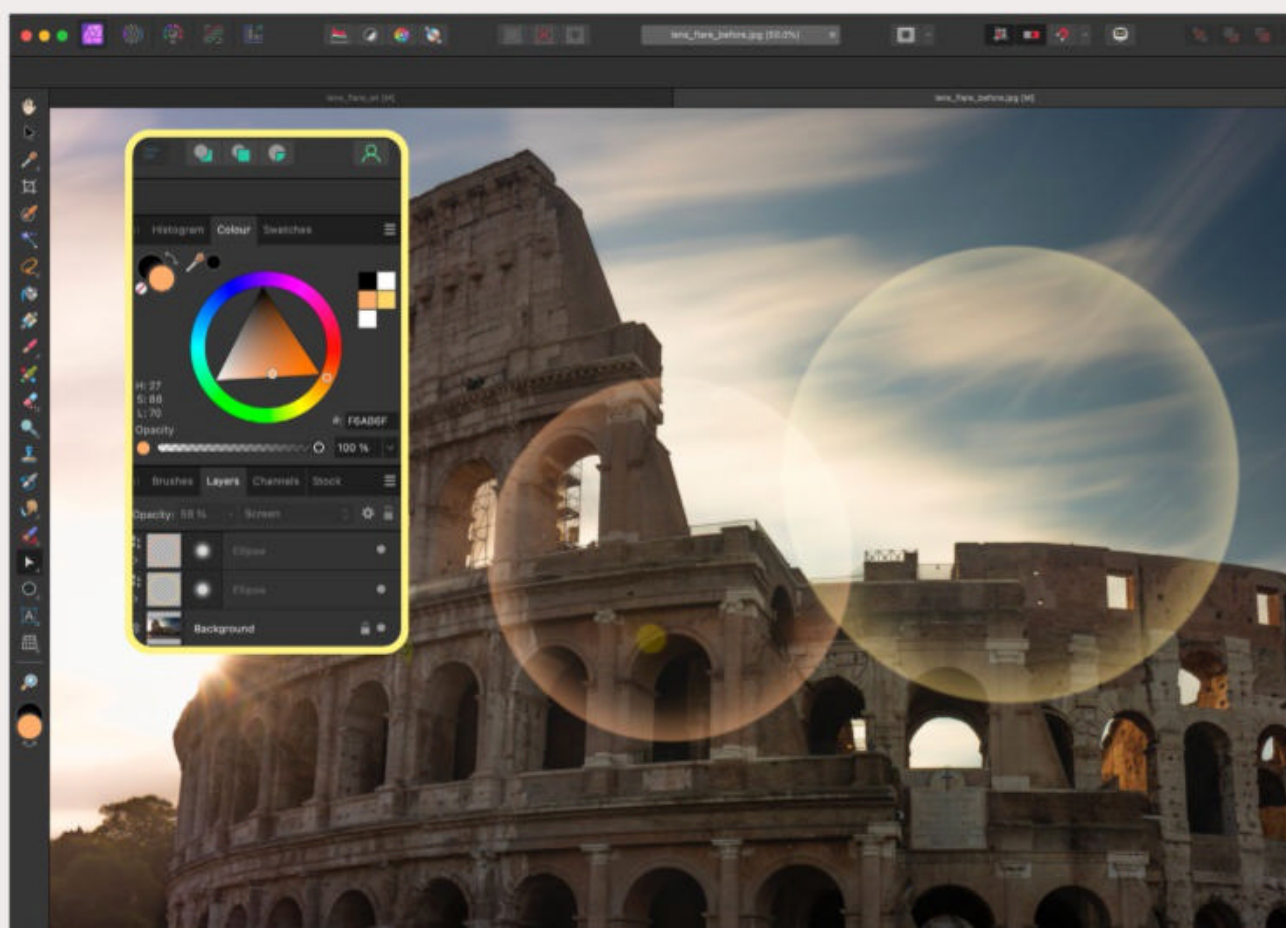
4 Copy and recolour

Duplicate the top ellipse layer with Cmd/Ctrl+J then grab the Move tool and position elsewhere. Use the Color panel to tweak to another warm shade. Adjust the opacity of the layer to tone it down and set the blend mode to Screen to blend with the image below.



5 Build it up

Continue duplicating to build up the flares. Try turning off the child ellipse layer to make some flares more opaque. Keep the flares roughly along the same line, as this is how they would naturally appear. Next, grab the Double Star tool. Set Inner Radius 3%, Point Radius 100%, Points 7.



6 Make a sunstar

Hold Cmd/Ctrl-Shift and drag from the sun to make a sunstar. Choose a colour, set the blend mode to Screen and add a Gaussian Blur live filter. Add a Levels adjustment layer and drag the Output Black Level inwards to fade the blacks. Add a Lens Filter layer for warmth.

Expert Tip



Lens flares go hand in hand with a warm colour shift. Use a Levels adjustment layer. Select the Blue channel in the Levels settings then drag the Output Black Level inwards to add yellow. Select the Red channel and drag the Output Black Level inwards to add red. Add a layer mask and hit Cmd/Ctrl+I to invert it, then paint with white to reveal the colour change around the sun.



Project five: Adobe CC

Master luminosity masks

James Paterson gets to grips with Photoshop Channels and makes use of our 10 free actions

Luminosity masking is a powerful editing technique used for selective tonal adjustments. It's often favoured by landscape photographers because it offers a fine degree of control over the brightness of different tonal ranges. Essentially, luminosity masking allows us to create selections around different areas of brightness.

In the vibrant sunset coastal scene we have here, it means we can target the bright areas of sky around the sun, or the dark groynes in the foreground, then enhance those areas with various adjustments. There are several plug-ins

that make luminosity masks, but in order to really understand how they work, it helps to know how to create your own. We can do this by using simple selection shortcuts in combination with Channels in Adobe Photoshop CC.

The Channels panel lets us isolate luminosity by loading selections of different channel information. From here, we can target the brighter and darker ranges so that we have several 'levels' of brightness and darkness. Once our channels are set up, you can select a section of the tonal range, then use an adjustment layer to tweak the area.



www.bit.ly/np163actions

Free actions

We've supplied a set of 10 actions to create luminosity masks. To load them, go to **Window > Actions** and click the menu at the top. The first actions let you create either three or five levels of luminosity channels, either with or without Curves layers for each. Our other actions let you apply specific edits, like shifting the colours in a sky to make it more pink, or denoising shadows.

1 Channels panel

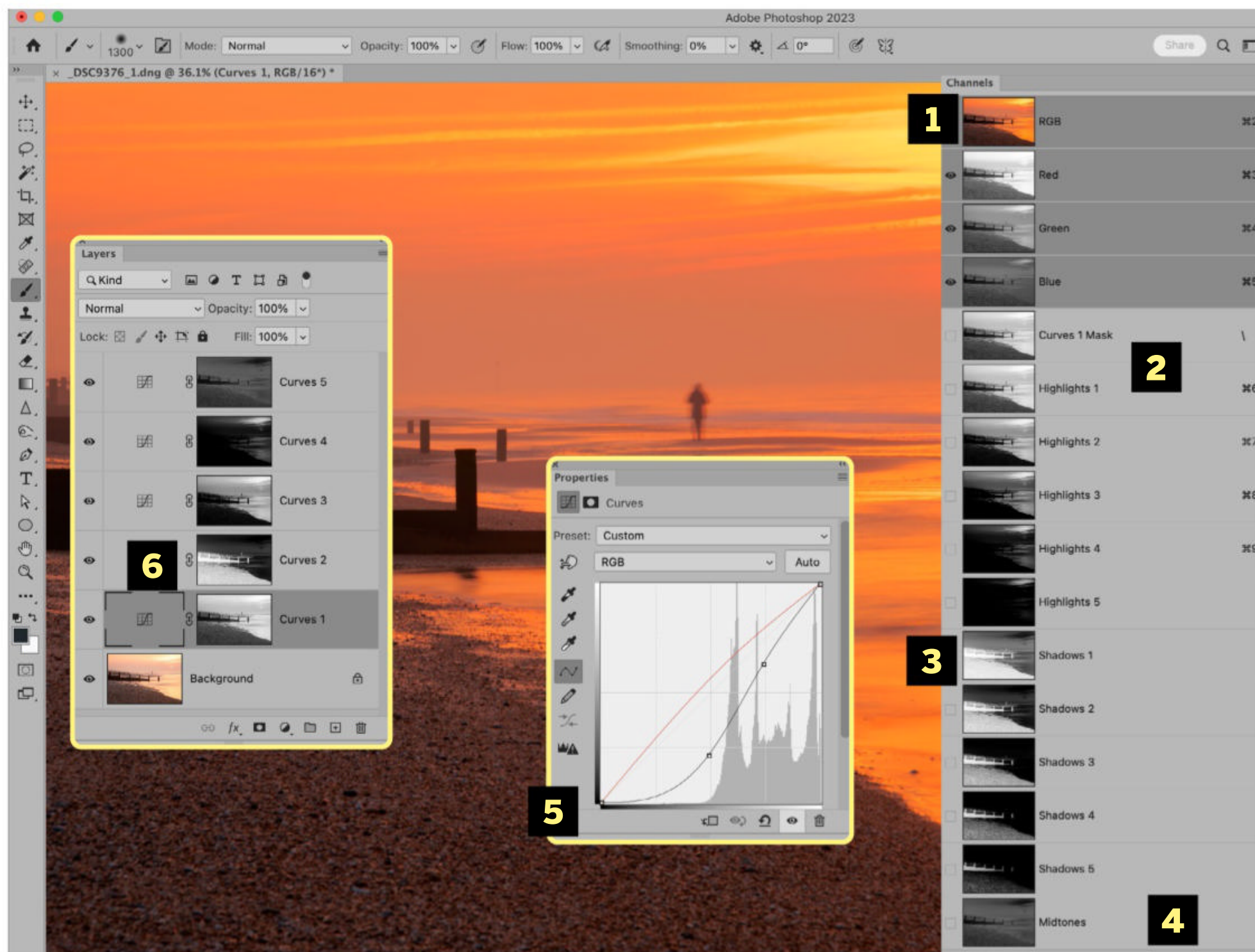
This separates the image into red, green and blue channels (for RGB images). We can also create our own channels. To begin making luminosity masks, hold Cmd/Ctrl and click on the RGB channel. This loads the luminosity of the image as a selection. Once done, click the 'Save selection as channel' icon. This is the first level of highlights. Double-click to rename it as 'Highlights 1'.

2 Highlight channels

After making your initial channel, you can target the next level of brightness within this channel. Hold down Cmd/Ctrl-Shift-Alt – the keyboard shortcut for Intersect – and click on the 'Highlights 1' channel you made previously to load the luminosity of this channel as a selection. Then click the 'Save Selection as channel' icon to create a new channel. You can make as many highlight levels as you like.

3 Shadows channels

To create shadows levels, Cmd/Ctrl-click the RGB channel, then go to Select > Inverse. Now you can make your first shadows channel, renamed 'Shadows 1'. From here, hold Cmd/Ctrl+Shift+Alt and click on the 'Shadows 1' channel to load the darker parts of it as a new selection, then make a new channel named 'Shadows 2'. Now you can make more channels to target darker and darker ranges.



4 Midtones channel

As well as making channels for different highlight and shadow levels, you can do it for midtones. Hold Cmd/Ctrl and click the 'Highlights 1' channel to load it as a selection, then hold Cmd/Ctrl+Shift+Alt and click 'Shadows 1'. You might see a warning that nothing above 50% is selected, but that's fine; areas will still be included. Hit OK, then click 'Save selection as channel' and rename it 'Midtones'.

5 Adjustment layers

Use the Channels option to target areas with precision. If the highlights are washed out then click through the highlight channels to find the best option – targeted areas will be white. Cmd/Ctrl-click the chosen channel, then click on the RGB channel to go to the normal view. Now go to the Layers panel, click the Create Adjustment Layer icon and choose Curves. Move the line to lighten or darken the area.

6 Fine-tune masks

When adjusting ranges of luminosity you might find that you get some unwanted results. If so, highlight the layer mask of the relevant adjustment layer, then grab the Brush tool and paint black over the affected parts to exclude them from the effect. It usually takes a couple of strokes to fix the problem. To copy a mask to a new adjustment layer, hold Alt and drag the thumbnail across. **N**



Project six: The big project

Props, pose and party!

James Paterson shows you all the top tips and tricks for an epic party photo booth setup

Photo booths have become hugely popular and you'll often see professional setups at big events. But with a few simple skills, a DIY booth can yield results that are just as good. If you want to set one up – perhaps for a wedding or party – then you'll find a host of tips over the following pages to get you started and in the party mood!

A photo booth could be as simple as placing a mobile phone in selfie mode on a tripod. But there are ways to make the booth more polished and dynamic. First there's the lighting, A couple of studio strobes allows for professional, flattering light that can illuminate groups large and small. Then there's the user experience. A live view monitor can make it easier for guests to get into the right position, and a large display for viewing the photos afterwards can give them instant gratification.

If you want to give guests access to the photos then, for a simple solution, you could do as we have here and set up a cloud-based image folder and a QR code so they can instantly see photos on their phones (this gives access to all the photos, so it's best suited to an event where everyone knows one another). Of course, unless we want to be standing there supervising all night, we also need the booth to be simple to use and robust enough to withstand users who might have had a few drinks. It can be a challenge to set up, but it's worth it for the fun, laughter and selection of priceless photos you'll help to create. →

VIEW THE



VIDEO

www.bit.ly/np163booth

Make your own photo booth

TOP CAMERA SKILLS, LIGHTING AND TETHERING TIPS FOR THE PERFECT PHOTO BOOTH

1 Box for the camera

We don't want anybody touching the camera, so a good solution is to make a box that fits over it. We used a cardboard box and cut frontal holes for our external monitor and lens, and a hole in the top for a Speedlight. We taped a tube along one corner of the box so that we could slot it into a light stand.

2 Tethered laptop

We tethered the camera to a laptop tucked out of sight, connected to a second screen on a table so that guests could instantly see their photos. To tether, connect the laptop to camera via USB cable. In Lightroom go to File > Start Tethered Capture and direct it to save to a cloud-based folder (see over page).

3 Camera settings

When using studio flash, here's a good stock exposure setting. Set the camera to Manual exposure mode at 1/200 sec, aperture f/11, ISO100. A fairly narrow aperture will ensure plenty of depth of field so that all guests are in focus. Turn on the strobes then adjust the output until the light looks right in test shots.



4 Studio strobes

The lighting can elevate your photo booth to another level. We placed two studio strobes on stands either side of the camera, both fitted with shoot-through white umbrellas. These are a good choice of modifier as they produce a wide spread of even, flattering light. If you have sandbags, weigh down the stands.

5 Remote release

A wireless trigger, like the Godox XT2 here, is ideal as a remote shutter release. Make it obvious which button people should press by taping a sign to the trigger. If it's small, attach it to something larger so people don't accidentally walk off with it. Set a two-second timer on the camera to give people time to pose.

6 Lighting

We used a Speedlight to trigger our two studio strobes, directed vertically through a hole in our camera box. The Speedlight is set to minimum 1/128 power. The studio strobes are in optical trigger mode, so they fire upon detecting the Speedlight. You also could use a wireless trigger or a sync cable to fire the strobes.

Top photo booth tips

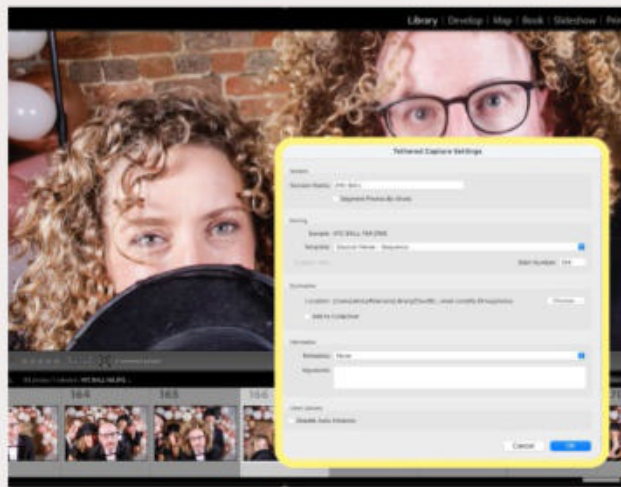
1 Use an HDMI monitor

An external monitor that shows the Live View feed will allow people to see themselves and get into position for the photo before pressing the remote shutter (it also saves on camera battery). We used a Viltrox 550 Pro monitor, connected via HDMI. Of course, if your camera has a flip screen you could simply turn this to face party guests instead.



2 Image quality

Compose the frame and set your camera to shoot in JPEG at medium quality. Smaller file sizes mean quicker uploads to the cloud and makes it easier for guests at the party to view and download. Reduce the resolution with a DX crop factor, if this is a camera option.



3 Tether to the cloud

We can tether the camera to the laptop and direct Lightroom to save images to the cloud-based folder. We used Google Drive to create an online folder. This folder appears as a regular folder on our laptop hard drive (install Google Drive). Images appear online just after shooting.



4 Instant phone access

We can generate a QR code that links to the Google Drive folder so that people can instantly access the photos. Set permissions for the folder so everyone can view, then copy the share link. Search for 'Adobe QR' and paste the link into the generator to create a QR code.



5 Eye-detect autofocus

If your camera has it, enable facial detection and turn on continuous AF. The camera will continually track, looking for eyes as they enter the frame. If your camera doesn't have this feature, make a mark on the floor where people should stand, then pre-focus on this spot and switch to manual focus to lock it.



6 Keep things running

In order to keep the booth going until the early hours and the guests coming back for more, be sure to disable sleep mode on the camera and laptop. Always turn off exposure simulation when using flash. Keep a few spare batteries on hand for the camera and change them over every hour or so. →

FEED YOUR MIND

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AMAZING
FACTS

The magazine cover features a large illustration of a human head in profile, filled with a brain diagram. The brain is composed of various icons and text boxes related to mental health. Key elements include:

- AMAZING FACTS:** A small inset showing a VR headset.
- INSIDE APPLE'S NEW VR HEADSET:** A headline at the top.
- COOLEST TECH:** A small inset showing a burger.
- WHAT IS ULTRA-PROCESSED FOOD?:** A headline next to the burger.
- SELF-DRIVING LIFE-SAVING BOAT:** A headline next to a boat illustration.
- Exercise reduces stress:** A text box next to a person running.
- Good sleep alleviates anxiety:** A text box next to a person sleeping.
- Being kind boosts self-esteem:** A text box next to a person smiling.
- Avoid refined sugars to lift mood:** A text box next to a person eating.
- HOW TO BE KIND TO YOUR MIND: TIPS & TRICKS TO IMPROVE WELL-BEING:** The main headline for the 'Your MENTAL HEALTH' section.
- SCIENCE UP CLOSE:** A small inset showing a rocket engine.
- SUPER SPACEX ROCKET ENGINE:** A headline for the 'SCIENCE UP CLOSE' section.
- ILLUSTRATIONS:** A label at the bottom left.
- INSIDE GADGETS:** A label at the bottom right.

The cover also features a large black circle on the right with the text: **BUY YOUR ISSUE TODAY!**

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Tony North



Less than 10 years ago, **Tony North** only took out his camera on holidays. Now the Manchester-based macro photographer is winning international awards and writing a book. Keith Wilson hears how he has spread his wings from photography's chrysalis...

All images: Tony North



Tony North Profile

- A trained psychologist and teacher, Tony North has been specializing in macro photography since 2017.
- A regular speaker at camera clubs, he also produces online talks about his landscape, cityscape and abstract photography, as well as macro.
- In 2023, Tony was named the overall winner of the International Garden Photographer of the Year for his night image of blue tajinaste flowers beneath the Milky Way.
- Other accolades include awards in Landscape Photographer of the Year, seven gold medals in the BPE Salon Awards and *N-Photo* Photographer of the Year in 2022.
- Tony's images have been published in *The Guardian*, *The Times* and on *BBC News*, as well as numerous photography magazines, including *N-Photo*, naturally!

Photography: www.artofmacro.com

Buy Tony's images:

<https://www.redbubble.com/people/TonyNorth/shop>

T-shirts: <https://www.teepublic.com/user/tony-north-art>

Primary School Workshops:

www.timetrips.co.uk

I

t's the third week of March and the wet winter is ensuring a soggy start to spring, but that isn't dampening Tony North's spirits – or his initiative. "I was out

early this morning doing some photography because it was cloudy and not windy, which is good for macro," he tells me from his home near Manchester. I'm already wondering what he could have been shooting because it's too early for many insects and flowers, but then he reveals the unexpected: "There's not many insects about yet, but I've got one that I brought back from Florida – a chrysalis of a zebra swallowtail – and just recently it emerged, so I was photographing that this morning."

As any macro photographer knows, cool weather and early morning are the best times to photograph insects in the field as they will remain still until they have warmed up enough to move. And so it was for Tony's new arrival from

Florida. "I was out at 6.30 because it was less windy. This butterfly I was photographing is native to the southern United States, so it was probably pretty cold for it." Not half – it certainly wasn't March in Miami!

Tony says he's only been taking photography seriously since 2016, and macro since 2017, but in just seven years he is already a winner of some major international awards for his startling images...

You only got into photography recently, but has your love of nature been lifelong?

Oh, very much so. I love nature and art also. I know more about art than photography, to be honest. I am influenced by paintings, some of my abstracts are based on abstract painters, but when I'm trying to



When I'm trying to create, even with macro, I'm always thinking of this work artistically

Previous page: A tiger swallowtail on a lungwort flower.

Below left: Large red and azure damselflies on cocksfoot.

Right: A giant Asian mantis on a buttercup.



create, even with macro, I'm always thinking of this work artistically. That's more important than whether it is technically good. It has to be well it and sharp, and work compositionally too.

Aesthetics are important to you.

Yes, because that's the whole point. For me, it's about looking at something and enjoying it. It's about artistic pleasure, not just 'this is an accurate record of this creature'.

Do you have any particular favourite subjects and locations?

Butterflies are my favourite things, I photograph butterflies a lot. And damselflies. I like dragonflies too, but damselflies are a little bit easier to



get sharp because at rest a dragonfly's body and wings are like a T-shape, and it's hard to get an angle where you get all of that sharp. Damselflies have the wings behind them so they are all in one plane of focus, and they're very beautiful as well. I photograph lots of different things but those are probably my favourites. And mushrooms. And flowers. I like lots of things.

How did you get into landscapes, cityscapes, abstracts and astrophotography?

It's a good question. Going back to my love of nature it's not just about the small creatures and the flowers, but the whole landscape. For many years, I have enjoyed going on

country walks and also to cities for the art and architecture. Astrophotography is interesting because I've always been interested in space. The Milky Way is a stunning thing, especially when you've got something nice underneath it.

Where was your International Garden Photographer of the Year (IGPOTY) winning picture shot?

That was taken in La Palma, which I've been to before and it was one of my first attempts at astrophotography. It's a very good place for astrophotography because it's got very clear skies on top of a mountain above the cloud. There's an observatory there and I've seen pictures there that just blew my

mind, so I thought this would be a great location. IGPOTY is my favourite competition, so I found a plant for the foreground.

Was that plant, the blue tainaste, what you had in mind?

I was aiming for a different plant, the giant viper's bugloss, which is as tall as me and it's a fantastic foreground subject for an astro shot. There were lots of them there but I couldn't find one with a clear sky behind it, so I was looking around for something else and I found this little blue flower.

How long were you up there for?

I was up there from about two in the afternoon wandering around trying to find the right subject and the →

* PEAK BLACK & WHITE

TONY DOESN'T SHOOT MANY BLACK AND WHITE IMAGES, BUT A RECENT WINTER WHITEOUT IN THE PEAK DISTRICT PROVED AN IDEAL CHANCE TO DEMONSTRATE THE BENEFITS

I like your snowy monochrome landscape of the Peak District.

What makes you decide to convert a colour file into black and white?

Good question. That's a classic view: the conical hill at the front is called Parkhouse Hill and the one behind it is Chrome Hill. That scene was almost black and white anyway. If there were spots of green somewhere they would be distracting, so it's better to get rid of them because what you want to focus on are those shapes.

Another example was an image I entered for Landscape Photographer of the Year, which wasn't completely monochrome as I had left in some orange for the autumn leaves. It's basically about deciding what's going to make this scene look the best. Is it full colour? Or, if the colours are dull and you take it out and boost some other things, like clarity to emphasize the textures and shapes, then that's what I'll do to make it better.



right spot for six or seven hours. Once I found this flower, I put up the tripod and shot the foreground scene with a very big view, including the flower, about 10pm, just after sunset, so that was blue hour. It wasn't really that dark, but I knew the Milky Way was going to be in the right position at about two in the morning, so I had to sit in the dark for about four hours.

What did you do to pass the time?

I entertained myself by downloading an app! Amazingly there was a good signal up there, so I downloaded an app that identified the constellations. I had this thing called a star tracker, which means you can rotate the camera at the same speed as the Earth, so if you do long exposures the stars stay as little points instead of becoming trails. That way, you get a lot more light in, a lot more detail and colour. You stitch together the sky and the ground separately in Lightroom and put them together in Photoshop, a process which is difficult and time-consuming.

Sounds challenging...

The problem was that the shots I took of the ground at 2am were very dark, and it was very windy so all the plants were just a blur and it looked terrible, so I ended up using the blue hour shot for the ground and the 2am for the sky.

Do you feel winning that competition with this image is your greatest achievement so far?

Probably. It's a big competition and it's certainly the most important in terms of prize money, by a long way. The Photographic Alliance of Great Britain (PAGB) awards are pretty big as well. And I won *N-Photo's* Nikon



I entertained myself by downloading an app! Amazingly there was a good signal up there



Above: The Milky Way above the caldera on La Palma in the Canaries.

Right: Superb lighting give these milking bonnets a magical sheen.

Photographer of the Year competition! That particular picture has done very well for me, it won the IG POTY fungus category as well.

Apart from winning prizes, how else do competitions help you?

The fact that it's a goal to reach towards. That motivates you to improve and produce something to that standard. It forces me to be much more critical of my own work. Is this good enough to win or just be placed in this big competition? Secondly, you see all the images that do win and learn from those, and they give you ideas. Obviously, it's an ego boost and it helps me be more known and recognized, and since I am trying to make money out of being a photographer, all of this is very helpful to me.



What were you doing before you got into a photographic career?

Well, I did have a camera, a point-and-shoot, so I was into photography but I didn't really know what I was doing and I wasn't treating it seriously as a hobby. If I went out for a whole day with my wife I'd take pictures. It was only when I got my first DSLR that I thought, 'okay, now it's time to really learn this stuff.'

I do workshops in primary schools, history and science, and that was a lot of work building that up because I had to develop all these activities and artefacts and research it properly. But the current financial situation means schools aren't booking me as much so I'm moving more towards photography. I do talks and I do workshops and I'm writing a book. So I'm keeping my fingers crossed! →





Your wife Catherine has just written a book. Has that spurred you on to produce your own?

Well, we got together partly due to our mutual interest in writing because I've written children's books, a long time ago, and she's written some novels. For me, writing has always been something that I'm interested in and it seems logical to put my knowledge and experience about macro into a book, and with my pictures.

Are there other photographers who have inspired you?

There are quite a few. For example, Pep Ventosa's creative urban photography and Sandra Bartocha, who's done multiple exposures in the natural environment. People who do things a bit more artistically. The big one for me is Henrik Spranz. He's amazing. He calls it a fairy tale style of macro. It might be of an insect but it's got lots of plants in the foreground out of focus, so it's just wonderful bokeh. It's very hard to do, I've tried but I can't replicate what he does. I'd love to know his secrets.

With warmer months now, which places locally will you go to?

I have a favourite location, Reddish Vale in the Stockport area. It's a country park about a 15-minute drive from me. A lot of my images are taken there because it's quite close and it's got a variety of biodiversity and vegetation. Having gone there so many times I know where to go to find the creatures I'm looking for. There's one field that has a lot of damselflies, and you can get butterflies and lots of other insects. Down the end of my road, a three-minute walk, there's a little field and footpath where I can find butterflies as well. I like going abroad because we're very nature-depleted in Britain.



The main thing is to learn a variety of techniques and try to combine them in a different way

Above: A watery wasp captured using 112 focus-stacked images.

Right: Lunchtime for two banded demoiselles.

A couple of years ago I went to Greece, last year I went to Bulgaria, this year I'll be going to Croatia.

How did you learn photography?

I've not been directly taught or been on any workshops. I like to teach myself and I want to be original if I can. It's difficult. It's easy to just copy other people and if you're self-taught, even if you look at other people's images for ideas, then I think it helps you to be a bit more original. Maybe.

How do you stay original then? Is there something in your approach or technique that sets you apart?

It's very difficult because there are quadrillions of images out there. The main thing is to learn a variety of techniques and try to combine them in a different way. I think this is how a lot of new ideas come about. People come up with a new and different technique but that's very hard to do.

What about your camera kit, are you still using a Nikon D500?

Yep. I've got the D500 because it's still a pretty good camera.



can we shoot there, whether it's a city or landscapes or astro. We always plan holidays with that in mind. Also, there's the Peak District.

Is the Peak District a favourite location for winter landscapes?

Yes, because it's handy. Snow scenes are very popular and I love them. It can be tricky getting to the location because of some roads being blocked by snow so you end up having to walk miles, but that's okay, I like that!

Are you the sort of photographer who puts extra thought into what you're going to shoot?

I think that's just part of the natural process of becoming a better photographer. We had a talk at our camera club a few years ago by Gordon Jenkins, who's a big character in the PAGB (Photographic Alliance of Great Britain), and he said: "Once you get better, what you'll start to do is not just go out and look for things to shoot, you'll have in mind what you're going to shoot and you'll go out and try to do it." Obviously, it can't apply so much to street photography, but usually you have to think about the precise location, subject, angle, techniques, all of that, to make the best shot.

Yes, planning is key. It's not always about shooting from the hip...

Yes, but there's an advantage to that as well. Like you can go out and do some intentional camera movement. There's a lot of fun in the discovery of that and it's hard to plan it, but you can to some extent. It depends upon the type of shot, but for macro planning is better.

What's your single best piece of advice for someone wanting to focus on macro photography?

Macro is complicated – there's lots of different skills that have to be put together and it's easy to get flustered and forget something, so my best advice is to be patient and to keep learning all of these separate things and eventually they will come together. It's like driving: there's all these different things you have to do when you're driving and at first it seems overwhelming, but then gradually they all come together. So, just be patient and keep going. It will happen, so don't give up. ■

To get something that would be significantly better and worth upgrading, it would have to be the Z 8. Even though I'm doing okay with the D500, maybe one day I'll get one. I have the 105mm macro, which is a good lens, but the Z 105mm is supposed to be amazingly sharp.

So, the 105mm is your go-to lens?

I also have a 1.4x teleconverter, which might seem odd for macro because you can just get a 150mm, but I bought it to use with my Nikon 300mm prime lens for birds and bigger animals to get more reach, but it made the image worse. Then I thought, 'let's see what happens with it on the macro?' It looks great, so this converter with the 105mm makes it into a 150mm macro and it goes from 1:1 ratio to 1.4:1.

Anything else in your kit bag?

I also have a Laowa 2.5-5x macro zoom, so that's for the real close-up stuff, which is lots of fun, but hard to do in the field. I have used it with a live damselfly on a very still day but didn't quite get to the back with the focus stacking. It's mostly used for dead creatures and indoors with a light tent and flashes outside of that.

Do you use the D500 when you're shooting landscapes as well?

Yes, I use the kit lens, the 18-55mm. I know it's cheap but it's a very good lens, I think. For the astro, I've got the Tokina 11-16mm wide-angle. It's

*** THROUGH A LENS BRIGHTLY**

TONY'S WIFE, CATHERINE, RECENTLY PUBLISHED A BOOK ABOUT THE CONNECTION BETWEEN PHOTOGRAPHY AND MENTAL WELLBEING. A SURVEY OF UK AMATEUR PHOTOGRAPHERS PROVIDED SOME INSIGHTFUL INFORMATION...



What can the book tell us?
Her new book *Through a Lens Brightly* draws on her own personal experience, research findings and a survey of 600 amateur photographers – mostly camera club members. Of the survey respondents, almost all experienced improvements in mood and wellbeing from practising photography, with more than 75% reporting a significant or life-changing impact, with greater therapeutic benefits experienced among people with a mental health diagnosis.

● *Through a Lens Brightly* is available in hardback, softback and PDF formats. To find out more or purchase a copy, visit www.northcatwriter.com

difficult to find a very good wide-angle lens that's sharp all the way across, but this one goes quite wide and is ideal for very big views.

Are landscapes something you're more likely to do when travelling?

I will do some special trips for landscapes with friends, and my wife is into photography too, so when we pick a holiday we'll be thinking what

Next Month
Food and drink
photographer
Emma Dunham



Horsing around



Wildlife photographer and autism campaigner **Alfie Bowen** tells how spending time with horses and photography changed his life



his project, which I shot over the past two years, is all about connection: my connection to animals and the art form of photography; the horses' connection to each other and the land; and our collective connection to the land and our planet.

My connection to animals, which has developed continuously throughout my life as an escape from the challenges of living with Autism Spectrum Disorder, has often focused on exotic species – zebras, lions, giraffes and others – but I have a very genuine love for the UK's floral and fauna, and for horses.

I first spent time in the presence of horses during childhood days out at Fritton Lake in Suffolk, where I would spend 10 minutes on the back of a friendly pony. We would ride along the same route every time I visited, but the thrill of being back in the saddle each summer holiday would leave me beaming from ear to ear.

Those summer holidays and those experiences with animals and the natural

world were a welcome – but all too short – escape from the difficult days I faced in mainstream education, where instead of being surrounded by beauty, I was surrounded by darkness.

The bullies, who capitalized on my emotional fragility and social difficulties, would bully with a relentless determination. I would be exposed to this torrent of darkness day after day, for month after month, until I couldn't take it any more and refused to leave the safety of my bedroom for well over seven days.

Horses for courses

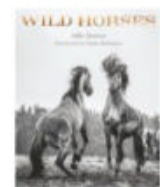
The school's response was to activate a part-time timetable – I would spend half of the week in the darkness of school, and one day in the sunshine. The sunshine shone in the form of a placement with horses, where I would spend my day feeding, grooming and smiling with horses and ponies, and then a placement at the amazing Clinks Care Farm.

The other days were spent in the safety of my home. One day, my mum suggested I take her small compact camera into the

garden and attempt to photograph the bees and butterflies – and I became bitten by the photography bug.

I guess I have come full circle with this project, photographing the animals that offered me the escape I so desperately needed during those dark days in 2012. It has been so special to explore their lives, in the fields of Suffolk, the mountains of North Wales and amongst the trees of the New Forest over the past 24 months. In many ways, it has been as much a journey of self-healing and self-exploration as it has been about photographing the horses.

There is nothing more special than witnessing these ponies thriving in the wild, therefore it is worth noting that I kept a safe and respectful distance at all times. I photographed them exclusively on Nikon's Z 9, combined with Nikon Z 24-120mm f/4 S, Z 100-400mm f/4.5-5.6 VR S and Z 70-200mm f/2.8 VR S lenses.



Alfie Bowen's second book, **Wild Horses**, is published by ACC Art Books. It is available via www.alfiebowen.uk and orders of the exclusive edition also come with a signed print. 🐾



I guess I have come full circle with this project, photographing the animals that offered me the escape I so desperately needed



Opposite page: We Three Kings, Wild Ken Hill, Norfolk.

Top left: Precious, the New Forest, Hampshire.

Top right: Sanctuary, the New Forest, Hampshire.

Above: The Stallions of Massingham Heath, Norfolk.

Left: At One With Earth, Buxton Heath, Norfolk.

Images: © Alfie Bowen

NIKOPEDIA

The only camera manual you'll ever need...

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74 Ask Matthew Teleconverter compatibility and other thorny questions



NIKON KNOW-HOW

When tracking moving subjects in Continuous autofocus (AF-C) mode, you have further options to instruct your Nikon which AF points to use.

How to track the action

Keep focused on moving subjects with all the latest autofocus finery

Sometimes it can feel there are dozens of things to think about, even when you're taking a shot of a static subject that's completely motionless. Add movement into the equation and everything can get very complicated, very quickly. For anything from kids playing in the garden, to wildlife or sporting action, keeping subjects in focus can feel a bit like herding cats. Thankfully, recent Nikons have a host of autofocus tracking options that you can put to good use, giving you a great hit rate instead of a memory card full of blurred photos.

It's worth considering how autofocus works. DSLRs have a separate autofocus module for viewfinder-based shooting,

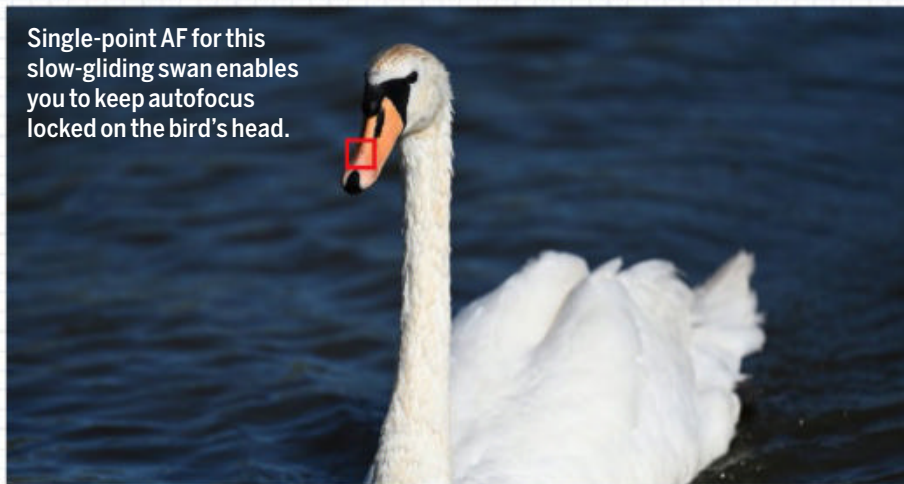
which uses phase-detection. It's fast and highly effective. In Live View mode, when you're composing shots on the rear screen, contrast-detection is highly accurate as it's based on the actual image sensor, but tends to be painfully slow and unable to keep pace with the action. The Nikon D780 is a notable exception. Its image sensor is more akin to those of Nikon's Z-system mirrorless cameras, featuring a 'hybrid' system that incorporates contrast-detection with phase-detection sites across most of the sensor. It's like the best of both worlds.

CONTINUOUS IMPROVEMENTS
For tracking moving subjects, you'll need to

switch to AF-C (Continuous) rather than AF-S (Single) autofocus mode. This keeps adjusting for the whole time you keep a light press on the shutter button, or hold down the AF-ON button, where featured on the back of various Nikon cameras. If your camera doesn't have an AF-ON button, you can often customize the action of the AE-L/AF-L (auto exposure lock/autofocus lock) button in the Custom Settings menu, to act as AF-ON instead. This makes tracking very intuitive, as you hold in the button for continuous focusing and use the shutter button solely for taking a shot. But that's just for starters. Let's take a closer look at all the various autofocus tracking options. **N**

Advanced autofocus tracking options

Not all Nikons feature all the options, but pick and choose from what's available



Single-point AF for this slow-gliding swan enables you to keep autofocus locked on the bird's head.

SINGLE-POINT AF

Mid-range DSLRs including the D7500 and D780 have a 51-point phase-detection autofocus module, whereas it's as much as 153 AF points for the D850. Z-system mirrorless cameras have between 209 and 493 AF points, spread out across most of the image sensor. However, single-point AF is only really suitable for tracking if the subject is moving slowly and very predictably.



The fast-moving and jumping horse is a challenge but Dynamic-area AF tracks the horse's head as it moves around within the image frame.

DYNAMIC-AREA AF

Dynamic-area autofocus works much better than single-point for subjects moving erratically and, let's face it, movement can be hard to predict at the best of times. You can still select the initial point on which you want to autofocus, but if the subject strays from its position in the image frame as you're tracking it, the camera switches to surrounding AF points to keep focus locked on.



Where the main subject has a different colour and pattern to the background, 3D-tracking comes into its own.

3D-TRACKING

This mode is similar to Dynamic-area AF tracking. However, whereas you can often change the size of the active area to suit the subject in Dynamic mode, 3D-tracking is based on advanced recognition of factors like colour and brightness to lock onto the selected subject. But you can encounter problems if the main subject is similar in colour and brightness to its surroundings.



In most cameras, you can change the size of the group of AF points used for tracking, to suit the subject.

GROUP-AREA AF

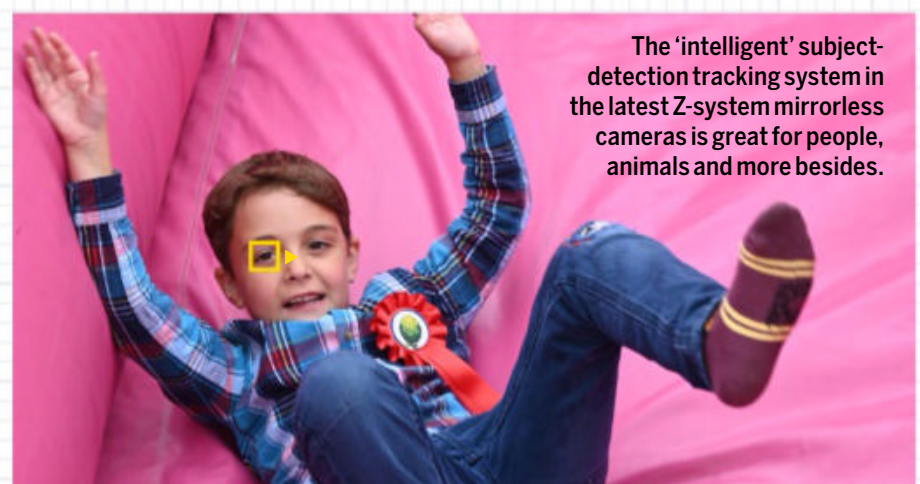
Group-area AF is featured in many DSLRs, rather than Z-system mirrorless cameras. You can select a 'group' of active autofocus points so cover a larger area than when using single-point AF. It can be useful when subjects are in motion, especially if they have areas of flat, featureless surfaces. For mirrorless cameras, use the Wide-area AF option, with small and large areas available.



It can be a problem if Auto-area AF picks up the wrong subject in the scene but it works well for aircraft against a relatively blank sky.

AUTO-AREA AF

This is a common option in both mirrorless cameras and DSLRs. The detection area for autofocus utilizes all of the available focus points and automatically selects the subject. If several subjects are 'detected', it will tend to autofocus on the closest. That can work well in many situations but is less suitable if you have a particular subject in mind that's in the middle distance.



The 'intelligent' subject-detection tracking system in the latest Z-system mirrorless cameras is great for people, animals and more besides.

SUBJECT-DETECTION AF

Z-system cameras offer benefits over DSLRs for tracking specific subjects. You'll get 'intelligent' detection and tracking of people and animals, which picks out the shape then refines the autofocus distance for faces and eyes. You can easily swap between different faces or eyes in the process. The Z9, Z8 and Zf extends the range for bicycles, motorbikes, cars, trains and aircraft.

Nikon Df

RELEASED: 2013
RRP: £2749.99/\$2999.95
SECONDHAND PRICE:
 'Excellent' £834/\$1199
 'Good' £739/\$1009

Nikon's retro-inspired DSLR was a hipster stills photographer's dream and paved the way for the Big N's coveted retro mirrorless duo the Z f and Z fc

Nikon's retro Z cameras have proven hugely successful. But long before the Z f and Z fc tapped into Nikon SLR nostalgia, the Big N released the Df and its special edition 50mm f/1.8G. The 'digital fusion' was designed to bridge the gap between film and digital. Beneath its Nikon FM/FE veneer, the Df boasted the then-flagship D4's sensor and imaging processor. And yet its 16Mp, single card slot and absence of video divided fans. But the years have been kind. The Df's used price sits much higher than its D800 and D4 peers, likely because it is truly a one-of-a-kind camera. After all, it's Nikon's only retro-themed digital camera with an optical viewfinder and the only Nikon DSLR to fit truly retro non-AI glass. How cool is that? **N**



Specifications

Sensor: 16.2-Mp FX CMOS sensor

Image processor: EXPEED 3

AF points: 39 points (9 cross-type)

ISO: 100-12,800 (50-204,800 exp)

Max shutter speed: 1/4000 sec

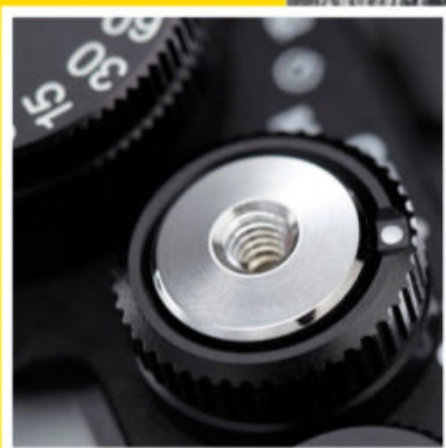
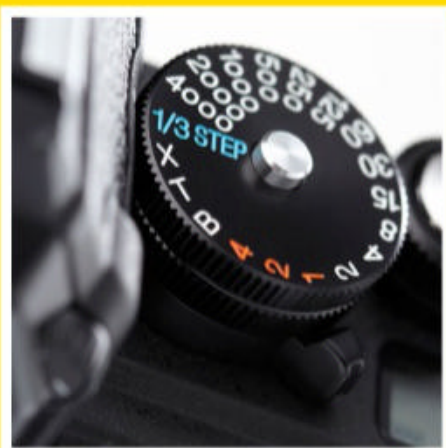
Viewfinder: 0.70x magnification

Storage: 1 x SD card slot

LCD: 3.2in (921,000 dots)

Max burst: 5.5fps

Weight: 710g (25 oz)







Ask Matthew...

Our resident Nikon expert **Matthew Richards** answers your questions and solves your problems. If you have a Nikon-related question, email it to mail@nphotomag.com



Nikon Z TC compatibility currently includes the Z 70-180mm f/2.8, Z 70-200mm f/2.8 VR S, Z 100-400mm f/4.5-5.6 VR S, Z 180-600mm f/5.6-6.3 VR, Z 400mm f/2.8 TC VR S, Z 400mm f/4.5 VR S, Z 600mm f/4 TC VR S and Z 800mm f/6.3 VR S lenses.

Q Based on issue 160's review, I bought the Nikon Z Teleconverter TC-2.0x, but it won't work with any of my lenses or my FTZ converter. Why is this?

John Cowan

A Like almost all current and recent teleconverters, the Nikon Z Teleconverter TC-1.4x and TC-2.0x have a protruding front section that contains optical elements, which fits into a cavity at the rear of compatible lenses. The upshot is that they will only work with telephoto prime and zoom lenses that have sufficient clearance between the rear element of the lens and the mounting plate. Even so, there are several Nikon Z-mount telephoto lenses that are compatible.

It's impossible to use Z teleconverters with F-mount lenses via an FTZ mount adapter. Apart from incompatibility issues, Z-system teleconverters cannot be

attached to the rear of the mount adapter. You'd need to use an F-mount teleconverter with a compatible F-mount telephoto lens, then attach the teleconverter to the front of the mount adapter.

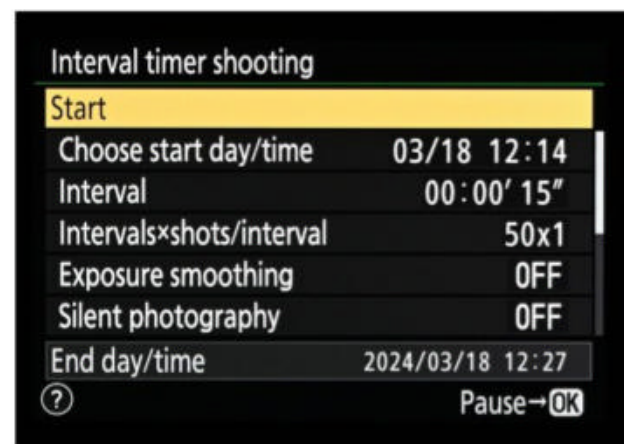
Q I used to capture timelapse stills with my old Nikon DSLR using a remote controller with an intervalometer feature, but it won't connect to my new Z fc. Can you help?

Harriet Roberts

A Compared with many of Nikon's older DSLRs, which only had rudimentary timelapse features or none at all, the Z fc and other Z-system cameras have a much more sophisticated timelapse facility built in. You therefore don't need to use a separate remote controller, and can set everything in the

camera itself. Open your camera's Photo Shooting menu and scroll down to the 'Interval timer shooting' option. Here, you can set the start date and time (or start 'Now'), the interval time between each shot and how many shots are taken at each interval during your selected timing.

You can also enable exposure smoothing to maintain consistent brightness, and 'silent photography'. There are also options for autofocus before each successive shot, and AE (Auto Exposure) bracketing. Suffice it to say, under this shooting option, everything you need is covered.



As well as capturing a series of still images, there's also an option to create a timelapse video, in which the camera automatically builds the stills into a movie clip.

Q My old Yongnuo flashguns have become unreliable. What would you recommend as a pair of reasonably priced flashguns for a Nikon D780 and would I need an additional hotshoe trigger?

Martin Smart

A I'd recommend Godox V860III-N Nikon-dedicated flashguns, which cost around £172/\$179 each. They're powerful flashguns that run on a



Remote triggering includes multi-channels, multi-groups and TTL flash exposure metering. It's my personal go-to flashgun kit.

rechargeable Li-ion battery pack, rather than AA batteries, and have a powerful maximum output, super-fast recycle speeds, a 20-200mm zoom range and a full set of flash functions, including high-speed sync and programmable repeat. Another neat feature is the built-in LED constant lamp, with adjustable output.

These flashguns also have built-in RF transceivers, so multiple units can run in Commander or Remote mode. If you want to use multiple flashguns, all off-camera, I'd also suggest the Godox XPro-N TTL hotshoe-mounting RF wireless flash trigger, costing around £66/\$69. This enables remote triggering over a range of up to 100m, with a full set of features.

Q I've been asked to take photos at a friend's wedding. I have a Nikon D750 and AF-S 24-120mm lens. Can

you suggest additional 'affordable' lenses?

John Griffiths

A Your camera and lens combination should work well for everything from wide-angle group shots to individual portraits. However, for shots during the ceremony and reception, a 'faster' lens with a wide aperture would be preferable for freezing motion without resorting to flash, and for isolating subjects with a tight depth of field. A 50mm prime is a popular choice but I'd go for the Tamron SP 45mm f/1.8 Di VC USD. It's been discontinued but makes a great secondhand buy (see Secondhand superstar).

For tighter head-and-shoulder portraits and shots from a distance, the Tamron SP 85mm f/1.8 Di VC USD is a smart secondhand choice. Both of the 45mm and 85mm are compatible with Z-system cameras via an FTZ mount adapter, with lens firmware V2.0 or V4.0 respectively. **M**



Both Tamron lenses feature image stabilization, which can be a big bonus for consistently sharp shots.

YOUR QUESTIONS ANSWERED

Secondhand superstar

Q I'm after a standard prime lens for my D810 that has optical stabilization. Do you have any suggestions?

Mark Potter

A **Matthew recommends...** The Tamron SP 45mm f/1.8 Di VC USD is an unusual standard prime lens that features image stabilization. It's been discontinued but makes a great used buy.



Tamron SP 45mm f/1.8 Di VC USD

SMART FEATURES PLUS GREAT BUILD QUALITY AND PERFORMANCE FORM AN ATTRACTIVE PRIME

RELEASED: 2015

PRICE NEW: £649/\$599

SECONDHAND PRICE:

'Excellent' £300/\$250

'Good' £250/\$210

With almost the same viewing angle as a more conventional 50mm prime, this beats most f/1.8 examples of the breed. It has a weather-resistant construction and a fast ultrasonic autofocus system. It has four-stop optical stabilization, or 'Vibration Compensation'. Optical highlights include two aspherical elements and an LD (Low Dispersion) element, high-tech eBAND (Extended Bandwidth & Angular-Dependency) and BBAR (Broad-Band Anti-Reflection) coatings. The net result is very good sharpness with high resistance to ghosting and flare, while bokeh is beautifully smooth.

Key points

1. USD autofocus

The ring-type 'UltraSonic Drive' autofocus system comes with the usual full-time manual override and a focus distance scale.

2. Aperture diaphragm

Bokeh is beautiful wide-open and pleasing when stopping down, helped by a nine-blade diaphragm.

3. Weather-seals

The construction includes multiple weather-seals, including a rubber gasket on the mounting plate.

Groups/elements: 10/8

Full-frame compatible: Yes

Effective focal length

(DX): 67.5mm

Min focus distance: 0.29m

Max magnification: 0.29x

Diaphragm blades: 9

Filter size: 67mm

Dimensions: 80x91mm

Weight: 544g



The search for the **world's best Nikon photographer of 2024** continues! Each issue the monthly *N-Photo* POTY 2024 photo contest's top 10 images are selected by the *N-Photo* team. This issue's competition has the theme of **flowers & plants...**

NPOTY is powered by  Photocrowd

1. Daisy Vase

BY STEVE JAMES

This image isn't actually naturally lit, the window pane shadow was projected onto the backdrop using a gobo. Light painting was used to selectively light the subject, producing an attractive painterly aesthetic. The daisies on the vase mirror the subject matter, while the fallen daisy and books provide additional interest, balancing the frame.

Camera:	Nikon D850
Lens:	85mm f/2.8
Exposure:	4 secs, f/16, ISO64

2. New Life

BY LEO

This image is all about the clever concept. A single example of life on a desolate world – distant planets connoting a science fiction theme. Great care has been taken to produce an authentic-looking photo by blurring the foreground and background, while rendering the subject sharp to simulate depth of field.

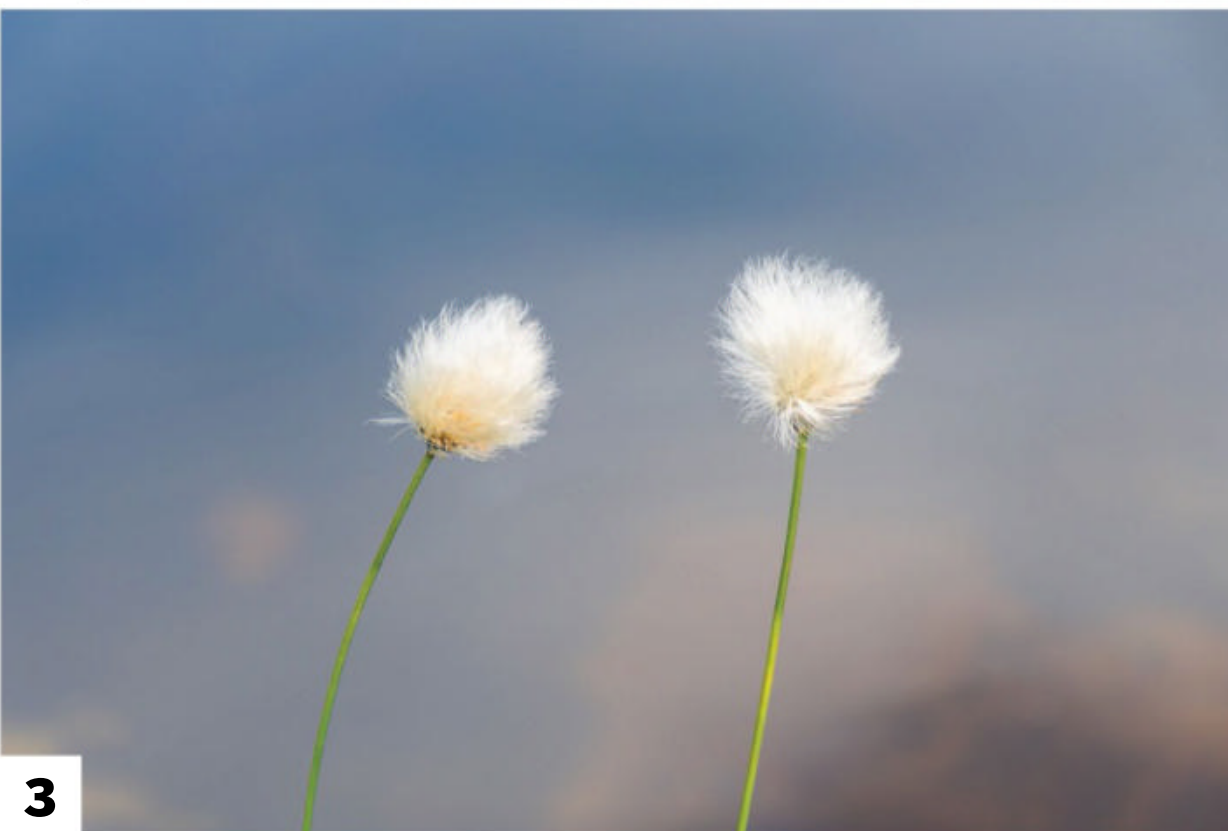
Camera:	Nikon D5000
Lens:	50mm f/1.8
Exposure:	1/2000 sec, f/3.2, ISO200

3. Cotton Clouds

BY OANA IONESCU

A reminder to be aware of close-up subjects on a landscape shoot. These common cotton grass specimens were found in the Făgăraș Mountains. A kit lens with good close-focusing properties was used to fill the frame with the delicate buds. The low angle makes them dominate the shot, framing them against the sky as if they were clouds.

Camera:	Nikon D7500
Lens:	18-140mm f/3.5-5.6
Exposure:	1/160 sec, f/6.3, ISO100



WHITE WALL

WIN! A WhiteWall Photo Lab voucher Worth £100!

Witness your work as a glorious gallery-quality print from award-winning online photo laboratory WhiteWall. The winner, as judged by the *N-Photo* team, will receive a £100 WhiteWall voucher to have their entry printed in a range of stylish options including acrylic, aluminium, giclée and canvas in a huge array of sizes. See everything WhiteWall has to offer by visiting its website here: www.whitewall.com/uk



4

4. Fields of Gold

BY KRZYSZTOF TOLLAS

The field of sunflowers makes for attractive foreground interest below a sunset sky. The golden lighting complements the flowers and the angle of the frame allows the flower head on the right side to dominate the image, defining a clear subject.

Camera:	Nikon D750
Lens:	11-16mm f/2.8
Exposure:	1/100 sec, f/11, ISO100

5. Orchid Array

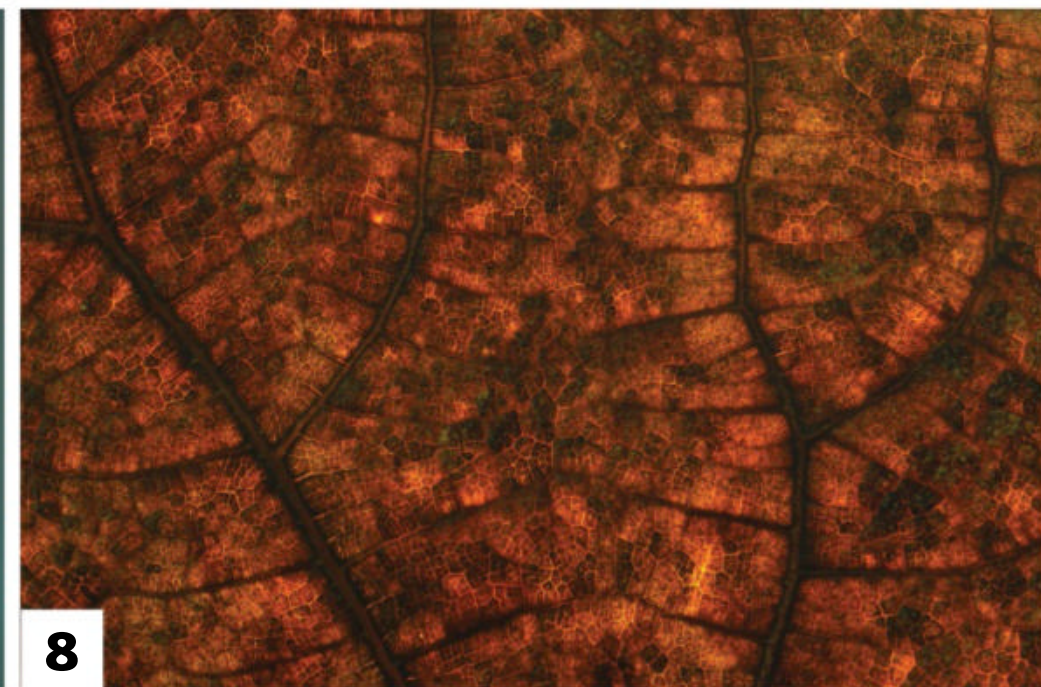
BY TONYNORTH

This enticing abstract is a composite of orchid flower heads. The translucent nature of the dead flowers was enhanced by backlighting each specimen on a light pad. The images were overlaid in Photoshop by changing the blending mode.

Camera:	Nikon D500
Lens:	105mm f/2.8
Exposure:	1/20 sec, f/13, ISO160

5





6. Tulip in Repose

BY PHIL

This deceased tulip was left to dry out and made the perfect specimen, since the flower head was left intact. We love how the delicate backdrop texture complements the delicate flower and the even lighting, which highlights the crinkled details.

Camera:	Nikon D7200
Lens:	18-140mm f/3.5-5.6
Exposure:	5 secs, f/16, ISO100

7. Flower in the Mist

BY DIRK FIERIS

The super-shallow and perfectly blurred background really makes this flower portrait stand out. It was captured on a misty day in natural light. The centre of the flower head is sharp and the backlighting highlights the texture of the petals.

Camera:	Nikon D500
Lens:	105mm f/2.8
Exposure:	1/500 sec, f/3.5, ISO100

8. Veins of a leaf

BY JOHN LIKO

Backlighting this leaf was crucial as it has highlighted the many textures, revealing a mosaic-like pattern. Ingeniously, the backlighting wasn't achieved using artificial lighting, but by placing the leaf against a window on a bright afternoon.

Camera:	Nikon D3500
Lens:	105mm f/2.8
Exposure:	1/4 sec, f/14, ISO400



9

9. Seeing Double

BY HAYLEIGH

We really like the unique quality of this creative image. A Lensbaby Twist lens was used to create the distinctive swirling effect around the flowers. Vibrant colours were boosted in post, while the misty backdrop texture was added in Photoshop.

Camera:	Nikon Z 7II
Lens:	Lensbaby Twist
Exposure:	1/400 sec, f/3.5, ISO125

10. Yellow Purple Eye

BY ANDY SEARS

This is a fine example of a classic flower portrait. The flower head was fresh from the garden, and laid upon a bed of crinkled tissue paper. Water droplets were applied using a mister and a one-light setup illuminated the subject. We like how the light gently highlights the crinkled tissue paper and the sharpness throughout the frame.

Camera:	Nikon D7500
Lens:	105mm f/2.8
Exposure:	5/2 sec, f/20, ISO79



10



WIN! A Nikon Z f

The overall winner of *N-Photo's* Photographer of the Year 2024 will receive the grand prize of a Nikon Z f!

When we reviewed the Nikon Z f, we called it 'Nikon's best-looking camera since 1982!' And now, together with Nikon UK, we're giving *you* the chance to win this full-frame retro-style Z camera. It's an incredible prize that's worth a whopping £2299/\$1999. Enter any of the 12 rounds of NPOTY 2024 to be in with a chance of taking Nikon's nostalgia-infused Z camera home – and of being crowned *N-Photo's* Photographer of the Year 2024.

A blast from the... future?

The Z f is far from retro under the hood. It's built around a 24.5Mp full-frame CMOS sensor and inherits some of the latest advancements from the Nikon Z 8 and Z 9. It's powered by the latest EXPEED 7 processor, has a native ISO range of 100-64,000, and uses the same impressive autofocus system as the Z 8 and Z 9.

It's equipped with 299 focus points that enable you to pinpoint your subject with superb accuracy. This system is adept at subject tracking, including humans (faces, eyes), animals, birds and vehicles, ensuring precision even in challenging shooting conditions, down to an impressive -10EV.

Unique to the Nikon Z f is the introduction of subject-detection algorithms that function seamlessly in manual focus mode or when using adapted manual-focus lenses, enhancing exposure accuracy based on recognizing the subject.

The camera is also capable of achieving up to eight stops of image stabilization with

compatible lenses and is the first Nikon camera to offer Pixel Shift Shooting. This physically moves the sensor to capture a sequence of up to 32 Raw images. When blended together in Nikon NX Studio, this creates a whopping 96Mp image.

Nikon's Focus Point VR system takes in-body image stabilization a step further by employing the camera's active focus point to enhance stabilization around the subject.

It's a serious video tool too, supporting 4K up to 60p; oversampled 6K footage up to 30p for better quality 4K; and Full HD up to 120p. It also shoots 10-bit internally and records continuously up to 125 minutes.

Z f Features



- 1 The camera body has a leather-like textured finish, adding to its retro charm.
- 2 Z 8/9 tech and totally new features make this a modern camera beneath the hood.
- 3 Precision-milled brass control dials don't just look the part, they will patina with age.
- 4 Black-and-white switch allows you to toggle seamlessly between colour and mono.
- 5 The rear LCD is fully articulating, rather than tilting as seen on Nikons like the Z 6II.
- 6 Retro-style shutter button has a screw to fit an after-market soft-shutter-release.

How to enter

HOW OUR COMPETITION WORKS

- Each issue, the *N-Photo: The Nikon Magazine* team sets a theme – we next want to see your best Action photography. Enter your photo(s) at www.photocrowd.com/npoty24action
- The deadline for entries is 6 June 2024. The top 10 gallery will appear in *N-Photo* 165, on sale 4 July 2024
- Here are our next three competitions:
Travel Opens: 30 May Closes: 4 July
www.photocrowd.com/npoty24travel
Low Light Opens: 27 June Closes: 1 Aug
www.photocrowd.com/npoty24lowlight
Creative Opens: 25 July Closes: 29 Aug
www.photocrowd.com/npoty24creative
- It goes without saying that *all* images must be shot on Nikon cameras!
- Please ensure your entry *does not* contain a watermark and *is* submitted with the necessary EXIF data: the model of the camera and lens, and the shutter speed, aperture and ISO used.
- 12 competitions will appear throughout 2024, and the overall *N-Photo* Photographer of the Year 2024 – and winner of the grand prize – will be crowned in the issue that goes on sale in January 2025. So, grab your Nikon and start capturing photos. Good luck! 📷

Readers' letters

We'd love to hear your thoughts on the mag and all things photographic! You can write to us, message us or share your images in the following ways: ✉ mail@nphotomag.com ✕ twitter.com/nphotomag  facebook.com/nphotomag  instagram.com/nphotomag

★ Star Letter

Sharpest tool in the box?

The sharpness test of the Z 600mm f/4 TC lens, which you carried out in the April 2024 issue (*N-Photo* 161), showed an alarming degradation when the teleconverter was engaged. This is completely at odds with the other reviews that I have come across, which conclude that it is almost impossible to detect any such deterioration, just as is the case with the Z 400mm TC.

So I wonder whether you were loaned a faulty or damaged sample for your group test? Maybe, to reassure those who might be about to part with £15,499 (but which do not include myself, sadly!), you could obtain and test another sample and

publish the results in your next issue. After all, we do not want to see Nikon's reputation suffer unfairly.
Mike Appleyard

We were also surprised by the lab test results with the teleconverter engaged, and retested the lens several times to double-check our findings, but with the same outcome. Due to deadline constraints, we were unable to get another review sample

and ultimately had to print the graphs. However, when the time comes for us to next do a telephoto primes Big Test, we will request a fresh lens sample.

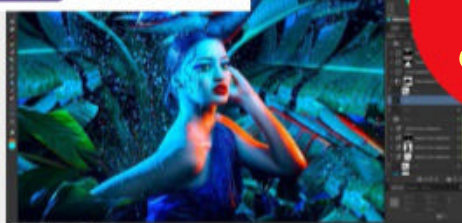
But lab tests don't tell the whole story, as this measures how well the lens resolves very fine lines on a complex test chart. In our real-world tests, while we also

found that close-range sharpness was a little lacklustre towards the short end of the focus range, at longer shooting distances more typical of the type of action, sports and wildlife photography for which the lens is ideal, sharpness holds up very well at 840mm.



Our lab test results for the Nikon Z 600mm f/4 with teleconverter engaged were disappointing, but the 'real world' results were far more impressive.

Image: © Nikon



WORTH £49

WIN! A copy of Affinity Photo 2

Write our star letter and you'll win a copy of the amazing Affinity Photo* for Mac or PC from Serif. This feature-packed software is just as powerful as programs that retail for many times its price – and all without having to pay a monthly subscription fee. With full support for Raw files, layers and 'professional' features such as Curves and live filters, it also boasts top-class focus stacking, HDR merging, panorama stitching and batch processing. Affinity Photo is available for Mac, PC and iPad, and files can be easily shared between devices so you can continue editing on the move. It opens Photoshop files, too. www.affinity.serif.com

*Winners will need to create an Affinity user account to download the app. The prizes are issued in accordance with the standard Affinity EULA and there's no cash alternative.



Helen loved being our apprentice, shooting at Tank Space. If you'd like one-on-one tuition, apply at www.bit.ly/npapprentice

Tanks a million

I just wanted to say a big thank you for the opportunity to be the apprentice at Tank Space in the May 2024 issue (*N-Photo* 162). I loved every minute of it and I'm super grateful for the experience. While on the shoot, you asked me what I enjoyed about *N-Photo*. I'm studying a diploma in photography with the Institute of Photography, which covers all aspects of photography, so the features on a particular genre, such as landscapes, are hugely helpful. I also like the Nikon Skills section because it gives me new projects to try my hand at. The Brett Florens

interview, in the April 2024 issue (*N-Photo* 161) was fascinating. And I do like the gear reviews. I think it's led to most of my purchases!

Helen Everatt

We loved having you as our apprentice, Helen! For a behind-the-scenes peek at Helen's fun shoot, see our Instagram reel at www.instagram.com/nphotomag

Less is more

When I first started at college more than 35 years ago, for my 21st birthday, my parents gave me the SLR that I still own – and, being a film camera, it still works. It came as a kit complete with a 50mm lens, yet still cost £9 less than the Nikon Speedlight SB-700 in your recent flashguns Big Test (*N-Photo* 159, February 2024). When did pricing get so unreasonable? Has the world gone mad!

Nik Watt

Inflationary issues aside, it's not unusual for camera accessories to cost more than the cameras they're designed to attach to. Film cameras, in particular, were fairly simple mechanical devices (with no sensors, processors or high-res screens, unlike their digital equivalents). But glad to hear that your old film SLR is still going strong! 📷



This flashgun cost more than Nik's camera – but film SLRs were relatively simple devices.

www.DigitalCameraWorld.com The best from our companion website



Image: Nikon

1. Fresh firmware! Updates are here for the Z 6II and Z 7II

It is officially the season for firmware, as many camera manufacturers have been updating their best mirrorless cameras in time for the summer – and the most recent supplier to do so is Nikon. The Nikon Z 6II and the Nikon Z 7II have been issued with new firmware updates to keep the models firing on all cylinders and remain future-proof. <https://bit.ly/3VKVaua>



Image: Nikon

2. Nikon insists no change after buying Red. For now...

Both Nikon and Red have made their first public statements following this month's blockbuster acquisition, insisting that "no changes" are forthcoming. The Japanese photographic giant acquired the American cinema specialist on 7 March, prompting many questions from the industry about how the two very separate business interests might cross over. <https://bit.ly/3U5L06c>



Image: Future

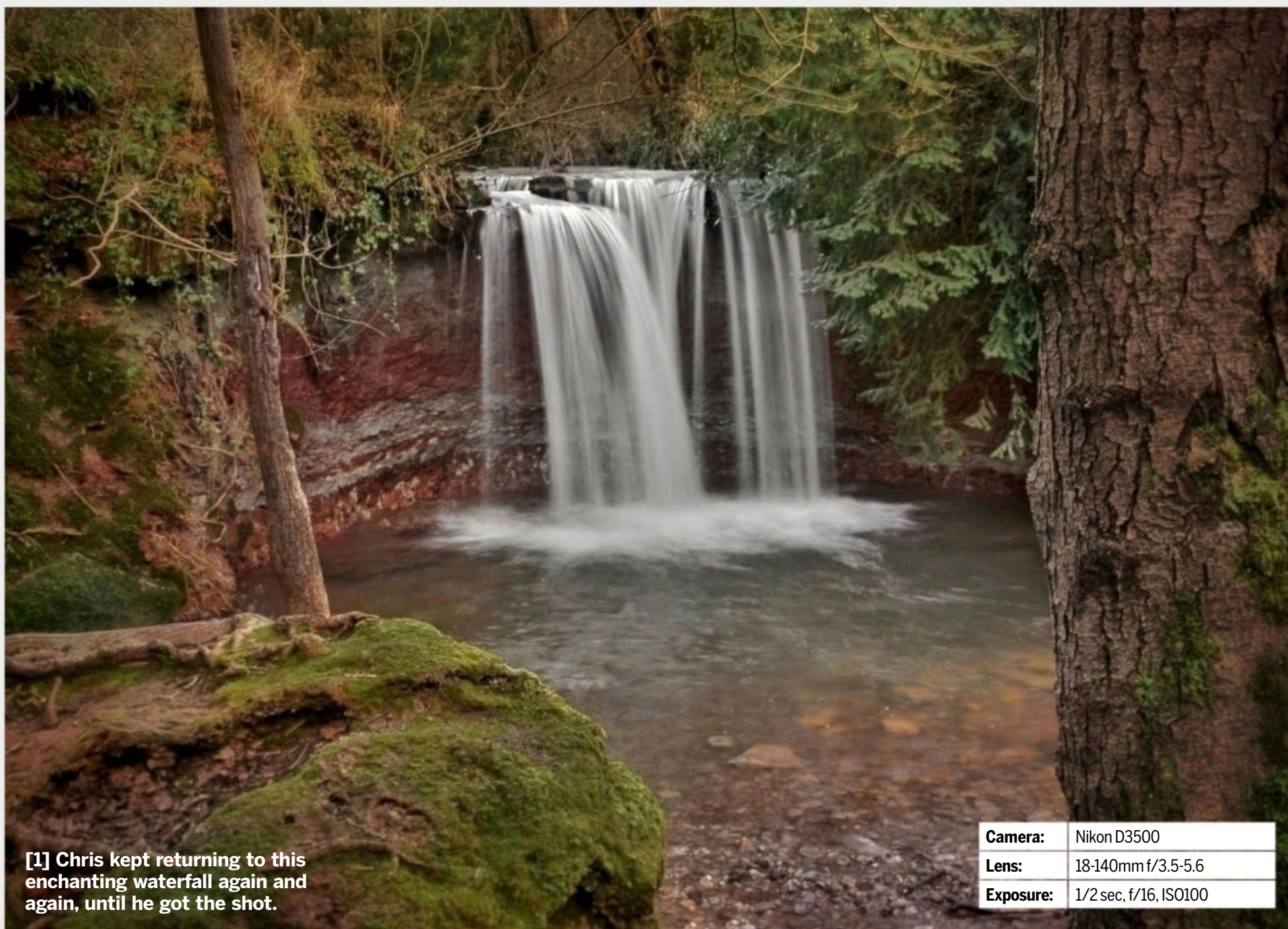
3. The Photography & Video Show will head to London

The Photography & Video Show will relocate to the ExCeL Exhibition Centre in London for the 2025 edition, which will take place between 8 and 11 March. The show will return to the NEC in Birmingham in 2026 and will then alternate between the two venues biennially. This strategic move meets the evolving needs and preferences of the show's exhibitors. <https://bit.ly/3xifUPD>



Sign up to our newsletter for the latest Nikon news! Simply scan this QR code or go to <https://bit.ly/dcwnews>

Image: © Nikon



[1] Chris kept returning to this enchanting waterfall again and again, until he got the shot.

Camera:	Nikon D3500
Lens:	18-140mm f/3.5-5.6
Exposure:	1/2 sec, f/16, ISO100

Gone walkabout



Chris Aldred rambles through rural Somerset with his trusty Nikon D3500 and covers four different genres in the same week!

MISSION: Head out on a rural photo walk
PHOTOGRAPHER: Chris Aldred
SHOOT LOCATION: Somerset
KIT USED: Nikon D3500, AF-S DX 18-140mm f/3.5-5.6G ED VR
INSTAGRAM: @aldredvisual
WEBSITE: www.chrisaldredphotography.com

I like to constantly change the genres I photograph to keep learning. I encourage anyone to keep looking back at their portfolio – it's amazing to see how your style develops over the years. Good ergonomics, excellent lenses and

easy-to-use menu systems are the reasons why I stay loyal to Nikon. I've used film, bridge and DSLR cameras; they've never let me down. Nikon remains the best camera manufacturer for sure! The mirrorless Z-series – and the Z 5 in particular – is something I'm excited to use going forward. But I took my trusty Nikon D3500 on this mission. I've had this camera for a few years now, and it's a real brute.

Scenes of Somerset

I found this waterfall several years ago – deep within the woodlands of Somerset. Every time I visited, the water wasn't flowing as well as I'd hoped, so I couldn't

achieve the shot I always had in mind. With recent heavy downpours in the local area, I figured it was time to revisit it. After a trek through boggy terrain my luck had finally turned [1]. I set up a long-exposure shot with the help of my Manfrotto Element MII tripod. I aimed to keep the scene as natural looking as possible, leaving the shutter open by just 1/2 sec.

Close-up photography has always been an interest of mine, especially during this time of year, thanks to the rich colours and textures on offer. Crocuses are among the first flowers to bloom during spring [2]. I discovered this one in woodland, it's an environment that allows you to take the time to find the right light and framing.

My AF-S DX 18-140mm f/3.5-5.6G ED VR is such a versatile lens. Its close-focusing capabilities really help to bring out the details in close-up subjects. →



Good ergonomics, excellent lenses and easy-to-use menu systems are the reasons why I stay loyal to Nikon



Camera:	Nikon D3500
Lens:	18-140mm f/3.5-5.6
Exposure:	1/125 sec, f/5, ISO200



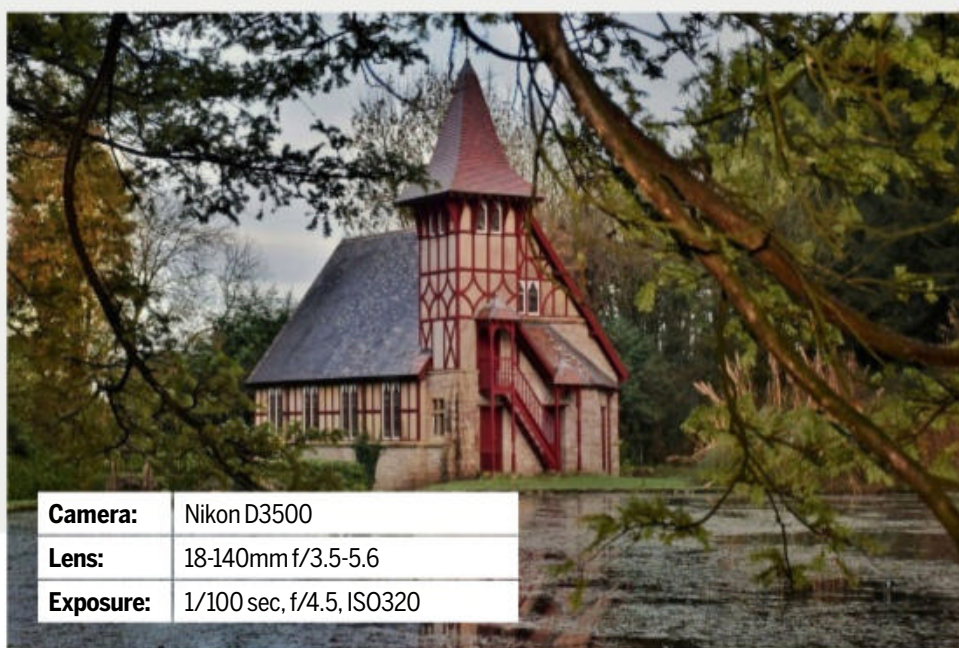
Camera:	Nikon D3500
Lens:	18-140mm f/3.5-5.6
Exposure:	1/125 sec, f/5, ISO1100

[2] Above: Kit lenses often have close focusing distances, which make them surprisingly adept at close-ups.

[3] Left: The light was uninspiring, but a mono conversion transformed a *baaad* pic into a woolly winner.



Camera:	Nikon D3500
Lens:	18-140mm f/3.5-5.6
Exposure:	1/250 sec, f/4.8, ISO640



Camera:	Nikon D3500
Lens:	18-140mm f/3.5-5.6
Exposure:	1/100 sec, f/4.5, ISO320

While walking back from the crocus in the woods – struggling in the deep mud of a field – I stumbled upon a local flock of sheep [3]. I couldn't help but get a portrait shot as several of them were glaring right at me! I got down low and used wide-area AF to frame the furry foursome. The light wasn't great, but a touch-up in Adobe Lightroom to adjust the highlights and shadows, along with a mono conversion, transformed it into a moody portrait.

I'd missed the best of golden hour, by the time I reached this picturesque viaduct [4]. Patience and timing certainly

played a big part in this shot (maybe a little luck too). I tried a few different focal lengths – wishing I'd packed my ultra-wide angle – but ultimately shot as wide as I could. Lesson learned...

It's surprising what you can find by just wandering aimlessly with your camera. When I discovered this beautiful piece of architecture, I decided to try my hand at something less traditional. It was raining, so standing underneath a nearby tree, I noticed that the branches created a frame [5] and used my D3500's built-in flash to bring out the colours in the foreground. **N**

[4] Above: Chris didn't have the lens he wanted, but he still managed to make this charming rural scene work.

[5] Left: Few would have used flash here. But Chris's creativity knows no limits. Just look at that perfectly balanced scene!

SUBMIT YOUR IMAGES!
To see your images here, send a small portfolio to mail@nphotomag.com with 'Your Stories' as the subject

Chris's Top Tips

- Don't let the weather put you off a shoot; you might be surprised with what you can find/learn along the way.
- If you're struggling to find a good composition, exploring the rest of the environment can turn up a hidden gem.
- Research the area you're visiting beforehand and don't be afraid to ask locals on the day for insider knowledge.

**ON
SALE
NOW!**

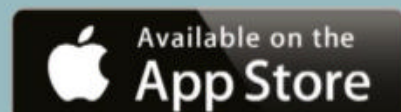


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NPhoto

Next issue

**Don't miss
N-Photo 164**

See page 24 for
our brilliant
subs offer!

NEW NIKON SKILLS

Make sense!

Pro travel photographer
Steve Davey shows

you how to capture the
'sense of a place' on your
next trip with your Nikon

Image: © Steve Davey

ALSO NEXT ISSUE

Capture idyllic
rural scenes

**Macro lenses
tried & tested**

Nikon Z 28-400mm
f/4-8 VR review

**Shoot winning
football images**

ON SALE THURSDAY 6 JUNE

•Contents subject to change

NPhoto GearZone

New gear, buying advice and the world's toughest tests



NEW GEAR

90 Shiny stuff!

New lens alert! Nikon Z 28-400mm f/4-8 VR and Tamron 28-75mm f/2.8 G2



BIG TEST

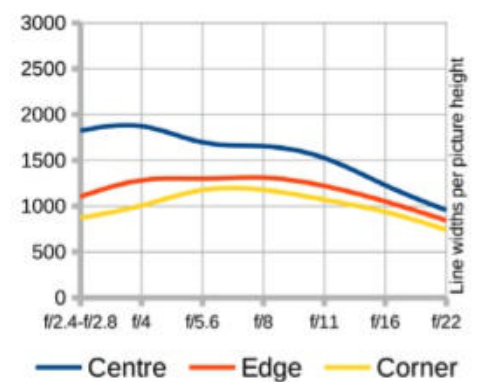
96 Standard primes

Eight 'nifty fifty' equivalents for FX and DX Nikons tried and tested

Lab tests explained

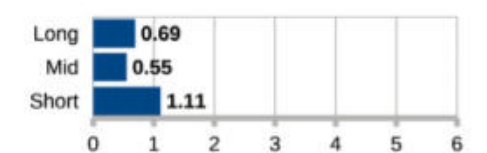
Sharpness

A chart with multiple sharp boundaries is photographed, the extent of blur at the centre, mid and edges showing how many line widths per picture height the lens can resolve. Simply put, the bigger the numbers the sharper the lens.



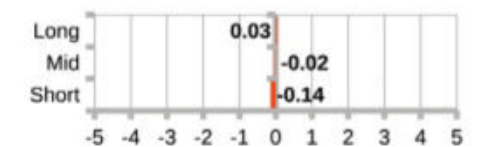
Fringing

Chromatic aberration is visible as purple or green fringing around high-contrast boundaries, caused by different wavelengths being focused on different areas of the sensor. The larger the number, the worse the score.



Distortion

A lens that bulges towards the edges of the frame produces barrel distortion, shown as a negative score. Pincushion distortion produces a positive score. A score of zero indicates no distortion.



REVIEW

92 Astrhori 25mm f/2.8 Macro 2-5x

This ultra-macro lens offers microscopic levels of detail, and at a bargain price tag



REVIEW

94 Manfrotto Befree Advanced CF

Which is the best travel tripod for you? Manfrotto's popular Befree Advanced...



REVIEW

95 Novo Helix T50 CF Tripod Kit

...or the tiny Novo Helix T50, which folds up to pack away inside your camera bag?

BUYER'S GUIDE

108 Nikon cameras & F/Z-fit lenses

Every current Nikon camera, plus an exhaustive round-up of lenses to put on 'em



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

Our scoring system

- 1.0 Forget about it!
- 2.0 Below average
- 3.0 Good for the money
- 4.0 Excellent product
- 5.0 Best-in-class

New gear

Here's what caught our eye this month

Nikon

Z 28-400mm f/4-8 VR

£1399/\$1299 www.nikon.co.uk

Nikon has announced a new full-frame superzoom that sets a new record for an all-in-one zoom lens for the Z-mount system. The Nikon Z 28-400mm f/4-8 VR offers a phenomenal 14.2x zoom ratio – which beats all other contenders for its reach.

The lens is designed for use on full-frame cameras, but its size, weight and reasonable price means that you will also be able to use it on APS-C DX Nikon cameras.

With this lens, anyone can effortlessly capture the finest details and facial expressions of distant subjects, opening up new possibilities for your photography or filmmaking. The longest range superzoom previously available for Nikon cameras was the Tamron 18-400mm f/3.5-6.3 Di II VC HLD – but that could only be used on Nikon F-mount DX-format DSLRs.



The lens excels in close-up photography, with a minimum focus distance of just 0.2m at the widest angle and 1.2m at the maximum telephoto position, while also offering a maximum reproduction ratio of 0.35x. Despite its impressive telephoto reach of up to 400mm, this lens maintains a very compact and lightweight design, weighing only approximately 725g/1.59lbs. This portability makes it the perfect

lens for travel and everyday use, allowing you to carry it wherever you go without feeling weighed down by a bagful of lenses. It's also ideal for content creators wanting to shoot video while out on location.

Additionally, the Nikon Z 28-400mm f/4-8 VR features a stepping motor (STM) for fast autofocus drive, ensuring quick and accurate focusing on moving subjects. Its vibration reduction

function provides the equivalent of a 5-stop increase in shutter speed, minimizing blur and allowing for sharp handheld shots, even in challenging conditions.

FIRST IMPRESSIONS

The enormous 28-400mm focal length range could make this superzoom your one lens to cover all your shooting needs, in all conditions. It's nicely priced, too!

Tamron 28-75mm f/2.8 Di III VXD G2

£849/\$999 www.tamron.eu

The 28-75mm f/2.8 Di III VXD G2 is the fourth Nikon Z-mount lens from Tamron and goes head-to-head with Nikon's identically-specced Nikon Z 28-75mm f/2.8. The Nikon lens is, itself, a very affordable pro-level lens, but the new Tamron will be cheaper still and is a Generation 2 lens with more sophisticated optics.

Tamron appears to be aiming for a level of image quality to match the latest high-resolution Nikon sensors, and the new lens has no fewer than 17 elements in 15 groups, including

two LD (Low Dispersion) and two GM (Glass Moulded aspherical) elements, which should raise the bar for optical performance. This contrasts with the 15 elements in 12 groups in the Nikon Z 28-75mm.

Autofocus is handled by Tamron's VXD (Voice-coil eXtreme-torque Drive) linear AF motor, which is said to deliver speed, precision, quiet operation and excellent focus tracking to make it suitable for both stills and video. It focuses pretty close for a lens of this type too, with a minimum object distance (MOD) of 0.18m at the wide end of the zoom



range and has a maximum magnification ratio of 1:2.7.

It's certainly compact for a constant-aperture f/2.8 standard zoom, measuring 120x76mm. It weighs 550g and uses 67mm filters. It has a scratch-resistant coating on the barrel, a moisture-resistant

design and a fluorine coating on the front element to repel water and oil.

FIRST IMPRESSIONS

This constant-aperture 28-75mm standard zoom has the same outline specs, but is cheaper and optically more advanced than Nikon's own.



Lexar SL500 & ARMOR 700 portable SSDs

From £110/\$150 www.lexar.com

Lexar has launched two new portable SSDs aimed at demanding photographers and videographers. The SL500 portable SSD is a sleek, compact device featuring an aluminium unibody construction that assists with heat dissipation. As with most portable SSDs, the device is powered by its USB-C connection, and it uses a single-chip controller to lower power consumption while also minimizing heat generation.

Thanks to a fast USB 3.2 Gen 2x2 data connection, read speeds are said to be up to 2000MB/s, and write speeds up to 1800MB/s – both highly respectable figures; 256-bit data encryption is available via Lexar DataShield. The SL500 supports Apple Log video recording in 4K

60FPS ProRes format on the iPhone 15 Pro and iPhone 15 Pro Max.

To make the SL500 work even more seamlessly with an iPhone, it's also available as a Magnetic Set. This bundles the SL500 with accessories like a magnetic ring, lanyard and data cable for easier carrying. Slip the SSD into its magnetic set and it'll attach to an iPhone, or other devices.

Lexar has also announced the ARMOR 700 portable SSD. This features IP66 ingress protection to guard against water and dust. It has a £20/\$25 price premium over the standard SL500.

FIRST IMPRESSIONS

This news SSD is sleek and stylish, and the ARMOR 700 variant adds rugged go-anywhere dependability.



Shimoda Urban Explore

From: £285/\$280 <https://shimodadesigns.com>

Shimoda has made a name for itself by developing adventure rucksacks for content creators that are hard-wearing and able to withstand tough conditions.

The Shimoda Urban Explore Collection is aimed at the content creator on the move and enables the secure carrying their gear. The new collection has been developed to accommodate support for the latest photographic and video equipment, including the best mirrorless cameras and lenses, editing laptops, drones and travel tripods. Its streamlined profile makes it perfect for navigating the city landscape.

Not to be mistaken for the Shimoda Explore V2, a larger bag designed for more rugged landscapes, the Urban Explore's

low-profile design makes the negotiation of busy streets easy. The bag was designed with photographers in mind with several sought-after features. Each bag includes a removable camera insert 'Core Unit', to keep your equipment safe but also enables quick conversion for a more traditional backpack, perfect for city breaks and overnights.

The bag has two entry points, with a rear door giving unobstructed access to all your gear, while a side opening offers quick access to just your camera.

FIRST IMPRESSIONS

Designed for modern creators, could the Shimoda Urban Explore be the best bag for street photography?

Tether Tools TetherGuard LeverLock Plate

£80/\$100 <https://tetherools.com>

Tether Tools is a well-known brand for providing reliable tethering cables, which are easily recognizable due to their distinctive orange colour.

Tethering cables are widely used in studio photography to display your images on an external device, such as a tablet or computer, enabling you to view and edit your photographs on a larger screen as you shoot.

The new TetherGuard LeverLock Plate speeds up connecting and removing the cable from a camera,

bypassing the need to remove the plate. As anyone who has shot tethered will tell you, accidentally knocking the cable out of the camera is a common and frustrating hazard. Tether Tools produces several accessories to help with this accidental mishap.

The TetherBlock is a handy cable management tool that enables you to pass a cable through a base plate that's attached to the camera's tripod screw at the base. Removing the cable requires you to remove the entire Tether Block – which can be inconvenient and irritating.



The new TetherGuard LeverLock Plate addresses this issue, by enabling users to connect and remove the cable more efficiently.

Locking the camera cable ensures a secure and sturdy connection that protects the cable from damage and unwanted removal. LeverLock's '5-Point Protection System' guarantees improved reliability.

The LeverLock includes a CamCleat lever, anti-slip speed bump, two retention ridges and an S-channel. It is compatible with Arca Swiss-style tripod mounts.

FIRST IMPRESSIONS

Tether Tools' new plate increases efficiency with an updated cable management design. **N**



AstrHori 25mm f/2.8 Macro 2-5x

£199/\$249 www.astrhori.cn

A macro lens and then some, this specialist optic gives you anything from 2x to 5x magnification, but it's a bit of a one-trick pony

Specifications

Mount: Nikon Z
Construction: 10 elements in 7 groups
Angle of view: 20-9 degrees
Diaphragm blades: 8
Minimum aperture: f/16
Minimum focus distance: 37.5-45mm
Max magnification ratio: 2x to 5x
Filter size: N/A
Dimensions: 57x94mm
Weight: 474g



With a typical macro lens that has full 1x magnification, filling the image sensor with something little more than the size of a postage stamp enables incredible levels of enlargement when viewing the resulting images on screen or in print. This AstrHori lens gives comparatively super-sized enlargement. From one end of its focusing range to the other, it gives from 2x to 5x macro magnification, revealing the tiniest of details with an almost microscopic view.

The concept of this lens isn't entirely new. There's a similar Laowa 25mm f/2.8 2.5-5x Ultra Macro, which costs around £409/\$399, but the AstrHori 25mm f/2.8 Macro 2-5x is available from the company's own website in Nikon Z mount option for the

relatively inexpensive price of £199/\$249, at the time of writing, which includes shipping (although the buyer is liable for any import duties).

Design and handling

I'm used to current and recent macro lenses being dual-purpose optics. A typical 90mm to 105mm f/2.8 macro lens can focus all the way to infinity and also comes in useful for portraiture and still-life photography, as well as for shooting extreme close-ups. This AstrHori lens is a different kind of beast. The 'focus ring' isn't really for focusing as such, as it sets the magnification ratio at anything between 2x and 5x magnification, and you focus by moving the camera (ideally with a macro focus rail) or by moving the object that

you're photographing. The focus distance itself, as measured from the front of the lens (just for a change) stretches from 37.5mm to 45mm as you sweep through from 2x to 5x magnification. That's less than 2 inches at best, so you're forced into a very close working distance.

The lens is full-frame compatible, but if used on a DX-sensor Nikon, the 1.5x effective focal length makes it act as if it has an even closer 3x to 7.5x magnification factor. Whichever Nikon you use, accurate focusing is pretty tricky. The camera's focus peaking option is of some help and a magnified preview is also available.

As a fully manual lens with no electronics, the camera body doesn't register that a lens is actually attached. Further





These sample images include macro close-ups of colour pencils, a section of white space on a computer monitor, the face of a wristwatch and the surface of a £1 coin.

N-Photo verdict

For times when full 1x macro magnification just doesn't cut it, this lens gives anything from 2x to 5x magnification. It can reveal incredibly fine detail and image quality is convincing but, ultimately, it's a fiddly lens to use, lacks autofocus or any communication with the camera body, and only works if I can get closer than a couple of inches from a subject. Even so, it's very good value for money and adds something different to any photographer's gadget bag.



As much a microscope as it is a lens, the AstrHori's enormous macro magnification is capable of capturing the tiniest of details, but it's fiddly to use, offering a wafer-thin band of focus.

drawbacks, apart from the lack of autofocus, are that no lens-based EXIF data is stored in image files, and the camera doesn't know what aperture you've set. The aperture itself is controlled by an aperture ring, which forms the entire length of the front extending section of the lens.

There's a middle extending section as well the front extending inner barrel, which forms the focus ring (or more accurately, the magnification ring). As such, there's a lot of physical extension as you stretch from 1x to 5x magnification. The angle of view shrinks from 20 degrees down to 9 degrees in the process. A magnification scale is printed on the middle extending barrel, shown in 0.5x increments.

The front end of the lens has a small-diameter optical element. There's no filter attachment thread and there's no hood provided. The latter wouldn't be practical, considering the very close working distance between the lens and whatever you're shooting. However, the lens is supplied with a slip-on protective cap.

Build quality feels pretty good, especially for such an inexpensive lens, although the focus ring of my review sample felt pretty stiff. At least it operated smoothly throughout its entire range. At the rear, the lens features a sturdy metal rather than plastic mounting plate.

Photo performance

Throughout my testing of the lens, I found image quality to be a moveable feast, literally. Even at a fairly small aperture of f/11 (the lens only goes down to f/16 anyway) depth of field is incredibly tight. This demands a high degree of precision when it comes to focusing, and a macro rail really comes in handy.

When you nail the focus distance, or at

least the distance between the lens and the object you're shooting, sharpness is very good. I found that the lens can reveal near-microscopic levels of detail for areas of a subject that fall within the depth of field. You can certainly see plenty of detail that's invisible with the naked eye.

Using the AstrHori 25mm f/2.8 Macro 2-5x is a fiddly business. It's not just that it's a fully manual lens with no autofocus, but depth of field is razor-thin, so you need great precision (and patience).

The results can be impressive but, unlike most macro lenses, it only focuses at very short working distances of less than a couple of inches. **N**

Features

- 1** Decent build and image quality, considering it's relatively inexpensive for a macro lens.
- 2** It's fully manual, with no electronics, autofocus or camera communication.
- 3** The middle section of the extending barrel design includes a magnification scale, printed at 0.5x increments.
- 4** The aperture control ring operates in whole f/stop click steps, with an additional click between f/2.8 and f/4.
- 5** As shown here, the front element of the lens has a very small diameter.
- 6** The lens is supplied with a slip-on cap but there's no filter attachment thread or hood.

MANFROTTO BEFREE



The 494 Centre Ball Head is small, light and sturdy, and features three points of control.

Manfrotto Befree Advanced Carbon Fibre Travel Tripod

From **£394/\$390** www.manfrotto.com

Sturdy and lightweight tripod that's packed with features and built to rack up the air miles

Features

- 1 Carbon-fibre legs provide both stability and a light weight of 1.25kg.
- 2 Packs down to 41cm and stands at 150cm when extended to its full height.
- 3 Accessories can be attached to the tripod via Manfrotto's Easy Link thread.
- 4 Easy-to-use leg-angle selector provides three different leg-locking positions.
- 5 The ball head uses Manfrotto's proprietary locking plate and features friction control.

The goal of any travel tripod is to provide a harmonious blend of stability and portability. And in both respects, the Manfrotto Befree Advanced Carbon Fibre Travel Tripod excels. Fully extended to a serviceable 150cm (59.7in), its thin carbon-fibre legs display surprising stability since the thinnest of its telescopic legs have a diameter of just 11.2mm (0.44in). It packs down into a 41cm-long bundle, which meets even easyJet's meagre carry-on guidelines, and it's also pretty thin – not Peak Design Travel Tripod thin – but a diameter under 10cm (0.39in) still makes it easy to strap onto a bag, or even stow inside one.

I want to Befree!

Twisting leg extensions and leg-angle selectors on each leg make collapsing the tripod effortless. The latter is unlatched and held down with a thumb or finger as the leg pivots right up until it rests on the head. When pivoting the legs back down, the selectors don't need to be unlatched and simply click three times to represents the

three different leg angles. You can splay the legs at 90 degrees so the tripod lays flat (with centre column fully extended). When fully extended, the non-pivoting centre column is stable enough to achieve that extra height, even if this isn't best practice.

The beauty of the Befree Advanced range is that you can select one to fit your needs. Similarly specced variants are available with multiple heads (including fluid and three-way), aluminium builds, tilting centre columns, as well as Manfrotto's M-Lock, and twist and lever leg-locking systems.

Our tripod has the 494 Centre Ball Head with standard twisting leg locks. The head has three points of control. A small knob for the pan axis and a larger dual knob, which tightens and loosens the ball head as well as its level of friction. The former isn't video smooth, but it's smooth enough for photography and while the latter can prove a little fiddly – you can only pinch the friction knob – the ball locks solidly in place.

While the plate is Arca-Swiss compatible the mount isn't – a bone of contention for some. The similarly styled but budget

Manfrotto Element MIII holds a similar plate in position with a vice-like mechanism that fits our Arca-Swiss L-bracket and it would have been nice to see that here. However, fans of Manfrotto's locking plate system will be perfectly satisfied with what's on offer.

While the Befree Advanced doesn't feature the premium M-Lock system of the Befree GT, the legs extend and retract relatively smoothly. Provided the twist locks are looked after, they look built to last.

N-Photo verdict

If you're looking for a lightweight tripod that's small enough to fit in carry-on luggage and solid enough for outdoor pursuits then the Befree Advanced Carbon Fibre Travel Tripod is a great choice that hits the sweet spot between portability and stability. **N**

PROS Sturdy; portable; quality build; Befree Advanced range caters to many preferences

CONS Head isn't Arca-Swiss compatible

4 Overall



The short but useful spikes are a thoughtful inclusion on this feature-packed tripod.

Features

- 1 The Arca Swiss-compatible plate hides a bubble level atop the ball head.
- 2 Four locks per leg and two on the centre column extend it from 33.5cm to 140cm.
- 3 Spikes hidden under the rubber feet offer additional stability in soft ground.
- 4 A hook enables a camera bag to be hung, and the centre column can be removed.
- 5 The main locking knob surrounds a friction control, and there are two panning controls.

Novo Helix T50 Carbon Fibre Tripod Kit

£299/\$309 www.novo-photo.com

This feature-packed travel tripod packs down unfeasibly small, yet extends reasonably tall

Good things come in small packages, and the Novo Helix T50 is a prime example. Packing down to just 35.5cm, with the legs wrapped neatly around the head, it extends to a decent, if unremarkable, operating height of 140cm and weighs in at a relatively lightweight 1.84kg, with the BHP-32 ball head attached. The tripod is also available as a legs-only option, but the kit is good value, saving around £50/\$50 over buying the legs and head separately.

This impressive height differential is achieved with no less than five extendable leg sections, plus an additional two-section centre column. Despite the number of twist locks and lightweight build, the tripod feels rigid when fully extended, thanks to the chunky legs' 'Superweave' construction, made up from 10 layers of carbon fibre. The leg locks and spider are made of aviation-grade aluminium, and have a smart black anodized finish. Novo says the legs can support a 20kg payload, or up to 8kg with the included head, which is plenty for a big full-frame Nikon and super-telephoto lens.

Leg angles adjust between 23, 50 and 85-degree settings, and the centre column can be removed and replaced with an included stub column for low-level shooting, virtually at ground level. If you need to get even lower, or shoot directly downwards, the centre column can be reversed so the camera sits beneath the tripod legs. One leg can also be unscrewed and reattached to the centre column to create a monopod.

The tripod's three rubber feet can be unscrewed to reveal spikes for stabbing into soft ground for extra stability. There's also a hook under the centre column, to hang a bag for extra weight in breezy conditions.

Heads up

The supplied Novo BHP-32 ball head is crafted from lightweight aviation-grade anodized aluminium, sporting a black-and-silver finish that complements the legs well. An Arca Swiss-compatible plate attaches to the camera via a D-ring and has a slot for additional tightening. There's a bubble level atop the tripod, though this is covered up when the plate is attached.

The ball is loosened by a large knob that operates smoothly and locks firmly. An additional drag control in the centre sets the amount of tension when repositioning the head. Two panning controls are marked in 360 degree increments, one below the ball mechanism and a secondary one above it, useful for panoramas and macro.

N-Photo verdict

If a compact set of legs that will fit *inside* a camera bag is of prime importance, the Helix T50 could be the tripod for you. The flip side is that there are a lot of locks to fiddle with to achieve maximum height, and even with the centre column extended, it's not *that* tall. It's matched with a well-engineered and smooth-operating ball head, and a five-year warranty should provide peace of mind. **N**

PROS Packs up small yet has a strong, sturdy build; removable/reversible column; leg spikes

CONS Lots of locks; max height only 140cm

4

Overall



Setting new standards

A standard prime lens is one of life's essentials for enthusiast photographers. Here are the best 'nifty fifties' to suit every need and budget

W

We've been heavily into prime time over the past three months, focusing our Big Test attention on portrait, super-telephoto and wide-angle prime lenses. You could say we've saved the best until last, and we'd be the first to agree. A standard prime with a focal length of around 40mm to 50mm has long been considered a 'must-have' lens by photographers the world over, stretching back to the beginnings of 35mm film cameras. The same is true for full-frame (FX) DSLRs and mirrorless cameras. To get an equivalent field of view with a DX (APS-C) camera, you'd need a lens with a focal length of 27mm to 35mm.

So what's the big attraction of a standard prime? For one thing, they

give an entirely natural perspective, replicating how you see the world when you look in the viewfinder. Put simply, what you see is what you get. But that's not all. Most standard prime lenses have a significantly faster aperture rating than even a pro-quality f/2.8 standard zoom. This gives the ability to freeze movement under dull lighting conditions, without having to bump up your camera's ISO. You'll also get a tighter depth of field, ideal for isolating subjects from the background. And compared with a 'fast' standard zoom, a prime lens is generally more lightweight and compact, ideal for everyday shooting.

Let's take a closer look at the best buys for DX and FX format Z-system cameras, along with some superior options for DSLRs. →

The contenders

Nikon Z 40mm f/2	£229/\$277
Viltrox AF 33mm f/1.4 Z	£240/\$316
Yongnuo YN50mm f/1.8Z DF DSM	£349/\$359
Sigma 30mm f/1.4 DC DN C	£359/\$349
Viltrox AF 27mm f/1.2 PRO Z	£440/\$545
Nikon Z 50mm f/1.8 S	£499/\$527
Nikon Z MC 50mm f/2.8	£599/\$647
Nikon Z 50mm f/1.2 S	£1999/\$1897

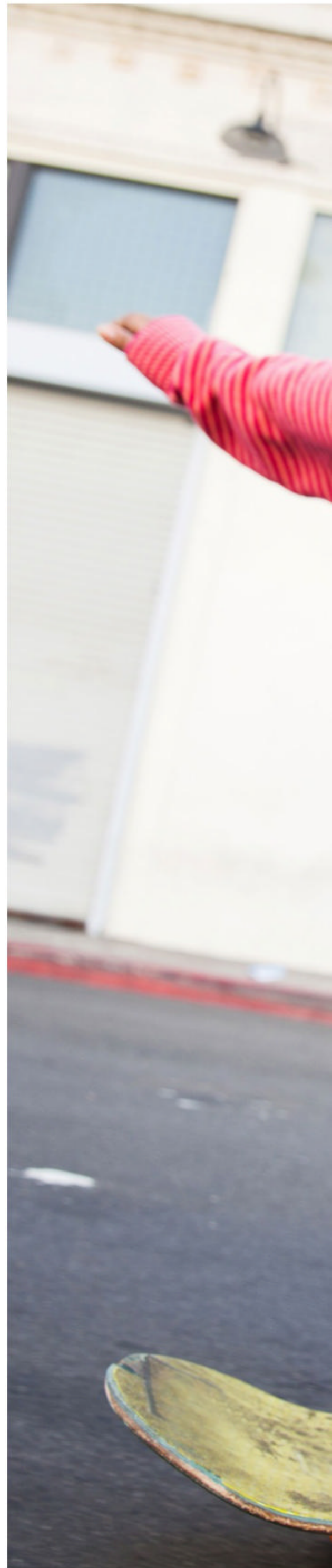


Image: © Getty



Nikon Z 40mm f/2

£229/\$277

A small wonder of a prime lens, the Z 40mm is delightfully small and light, ideal for the journey, and comes with a bargain price tag



Bigger isn't always better. When you want to travel light or shoot candidly without drawing attention to yourself, compactness is key. This 40mm f/2 lens fits the bill perfectly, being a mere slip of a thing at just 46mm in length and 170g in weight. The price tag is also refreshingly lightweight and, despite being an own-brand Nikon lens, it's the most inexpensive in the whole group.

The design is an exercise in simplicity. This lens is based on just six optical elements arranged in four groups, with no ED (Extra-low Dispersion) glass. There's no auto/manual focus switch, no optical VR and a genuine Nikon lens hood isn't available, even as an optional extra. But don't let that put you off exploring this option.

Mounted on an FX format camera, for which it's primarily

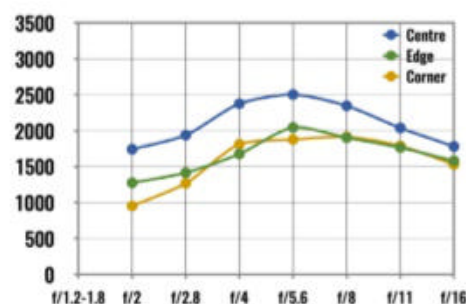
designed, the lens works really well for everything from street scenes to still life, environmental portraiture and for shooting couples and small groups. Pop it on a DX format camera and you get an interesting 60mm effective focal length, which can also work well in many scenarios. Handling is refined with an electronically coupled, customizable manual focus ring, and the stepping motor-based autofocus system is nippy for stills along with smooth, virtually silent focus transitions if video portraiture is your thing.

Performance

The lens punches above its diminutive size and weight in terms of performance. Sharpness is very impressive, although it pays to stop down to f/4 or narrower apertures if you need great sharpness out to the

corners of the image frame. Bokeh is pleasantly smooth and remains good when stopping down a little, helped by a well-rounded nine-blade diaphragm. Colour fringing and distortion are also minimal, proving that good things really can come in small packages, and at a bargain price.

Sharpness



Features

- 1 More befitting the retro styling of the Z f and Z fc, the lens is also available in an 'SE' (Special Edition) version at £269/\$307.
- 2 The front element has an uncommonly small diameter for an f/2 lens and this max aperture rating makes it one of the slower lenses in the group.
- 3 Nikon doesn't advertise a hood for this lens but after-market ones are available.
- 4 Two aspherical elements help to boost image quality and reduce the overall size.
- 5 The plastic mounting plate helps to shed a few grammes and keep the weight to a minimum.

How we test

We combine real-world shooting with range of lab tests



To test real-world performance, we use lenses in all sorts of lighting conditions, for indoor and outdoor shooting scenarios. We check for good build quality and handling, smooth and precise operation of all controls, and we test the speed and accuracy of autofocus. We typically test full-frame compatible lenses on a range of FX and DX bodies, whereas APS-C format lenses are just tested on DX cameras. These include DSLRs such as the D850 and D7500, and mirrorless cameras like the Z 7II and Z fc.

In-camera and Raw processing corrections for chromatic aberration, distortion and vignetting

are disabled where possible, throughout lab-testing, to better reveal the true optical performance of each lens. In our lab, we test lenses under controlled conditions, shooting specialist test charts and processing the results with the Imatest Master and DxO Analyzer suites. Test shots are taken across the range of apertures and zoom settings (where applicable), then analysed for sharpness, chromatic aberrations (colour fringing) and distortion. We judge the overall performance by taking both real-world testing and lab tests into account.

Viltrox

AF 33mm f/1.4 Z

£240/\$316

A fast 'standard prime' for DX format Z-system cameras, this Viltrox has a classic effective focal length of 50mm



Viltrox currently offers a trio of DX format 23mm, 33mm and 56mm f/1.4 prime lenses that are pretty much identical in size and weight, and have the same handling characteristics. They give classic 'effective' focal lengths in full-frame terms, equating to about 35mm, 50mm and 85mm. There's also a 13mm lens with the same f/1.4 aperture rating, which is a little larger and heavier

The 33mm essentially works as a 'nifty fifty' for DX format Z-system cameras and is particularly well matched to the Z fc, as it has an aperture control ring that's entirely in keeping with the hands-on control layout of the camera body. As such, you can adjust the aperture via the control ring, which is marked in one-third f/stop increments, and it's permanently de-clicked,

which is ideally suited to shooting video. The 'A' (Auto) setting enables you to control the aperture from the body.

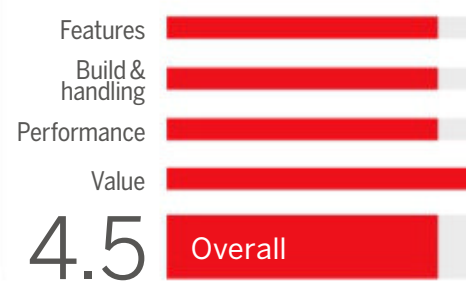
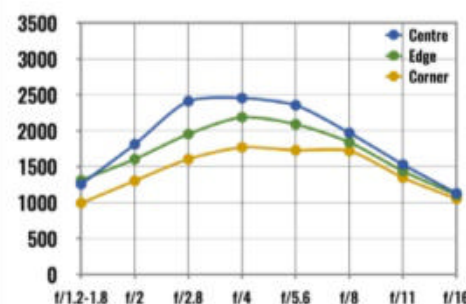
Despite the inexpensive purchase price, there's nothing low-budget about the glass in this lens. The total count of 10 elements includes one ED (Extra-low Dispersion) element and one HR (High Refractive index) element. There's no skimping on coatings either, with HD Nano multi-layer coating applied to minimize ghosting and flare.

Performance

Fast lenses often have a drop-off in sharpness when shooting wide-open, and this Viltrox is no exception. Even so, levels of sharpness are very respectable at f/1.4 and really get into their stride at f/2. Axial chromatic aberration is another common problem with wide-aperture lenses but the Viltrox

controls this very well, giving negligible colour fringing around high-contrast edges in a scene that are just in front of or behind the point of focus. Vignetting is also minimal for such a fast lens. Bokeh is nice and smooth, benefitting from a well-rounded nine-blade aperture diaphragm.

Sharpness



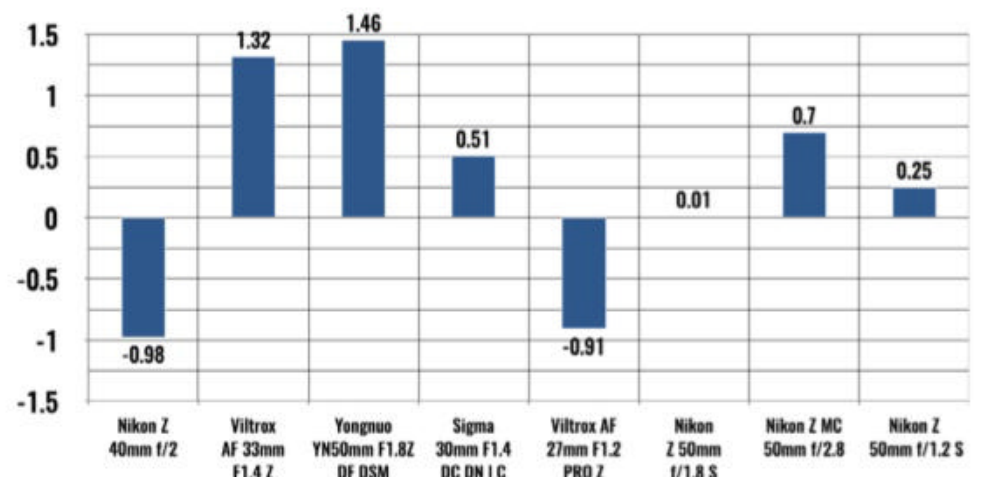
Features

- 1 Small for an f/1.4 prime, the lens has a 52mm filter attachment thread.
- 2 The lens is supplied with a bayonet-fit, reversible petal shaped hood.
- 3 Good build quality features a metal barrel, metal mounting plate and even the hood is metal.
- 4 Autofocus is of the linear stepping motor variety, quick for stills and enabling smooth, virtually silent transitions with video.
- 5 There's no locking switch for the aperture ring, so you need to be careful not to nudge it from its Auto setting during camera-controlled aperture use.

Distortion

There's not much to worry about

Standard prime lenses usually give very little distortion, and that's borne out by the lenses on test. Unlike many compact wide-angle lenses designed for mirrorless cameras, which rely on automatic in-camera correction, the lenses produce little distortion even with in-camera correction disabled. The Viltrox AF 33mm f/1.4 Z and Yongnuo YN50mm f/1.8Z DF DSM are the worst, with slightly noticeable pincushion distortion when uncorrected. The Nikon Z 40mm f/2 and Viltrox AF 27mm f/1.2 PRO Z produce slight barrel distortion, while the Nikon Z 50mm f/1.8 S is essentially a zero-distortion lens.



Yongnuo

YN50mm f/1.8Z DF DSM

£349/\$359

A fast standard prime for full-frame Z system cameras, this Yongnuo is nicely turned out with some neat handling extras



Although more costly than the Nikon Z 40mm f/2 FX format lens on test, this Yongnuo is more akin to the rather pricier Nikon Z 50mm f/1.8 S in the group. It boasts high-end features with fast and highly accurate stepping motor-based autofocus, an easy-access AF/MF switch and a nippy aperture rating that matches the pricier Nikon.

But the Yongnuo goes one better in terms of handling, adding a duplicated pair of customizable L-Fn buttons. These are typically used for AF-hold but you can assign other functions. The only catch is that the buttons are wired up in parallel, so you can't assign different functions to each one. However, the design makes accessibility of the buttons feel equally natural with both landscape and portrait-orientation shots. Autofocus is

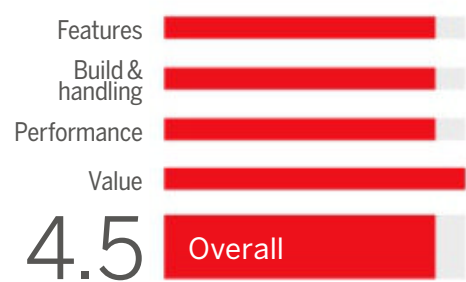
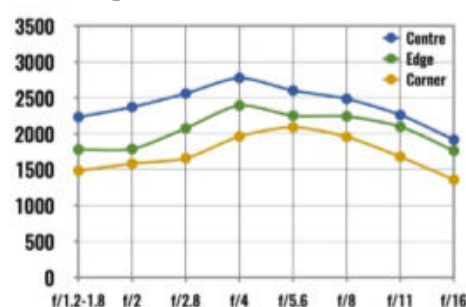
driven by the now-usual linear stepping motor. Also typically, the electronically coupled focus control ring can be assigned to alternative functions when using the lens in autofocus mode. Build quality is good with a weather-sealed metal mounting plate, while the optical layout includes a low-dispersion element and nano-structure multi-coatings. The USB port for applying firmware updates sits beneath a weather-seal cover.

Performance

Sharpness is very good indeed, even at f/1.8, the Yongnuo almost matches the pricier Nikon Z 50mm f/1.8 in our lab tests. Bokeh is a little fidgety even when shooting wide-open at f/1.8 and not the smoothest that we've seen from a 50mm f/1.8 lens, but remains good quality when stopping down a little, thanks to a well-rounded

nine-blade aperture diaphragm. Axial chromatic aberration is negligible but lateral chromatic aberration is noticeable at wide apertures when uncorrected in-camera, towards the edges and corners of the frame. There's also a little pincushion distortion when in-camera correction is disabled.

Sharpness



Features

- 1 The lens has a 58mm filter thread and is supplied with a plastic bayonet-fit hood that has a circular profile.
- 2 Autofocus is quick and, for manual focusing, the control ring is large and comfortable to use.
- 3 An AF/MF focusing mode switch is fitted to the side of the barrel, and there's also a USB port beneath a protective cover.
- 4 The lens features dual customizable L-Fn buttons but they can only be assigned to double up on the same function.
- 5 The lens barrel and mounting plate are made from metal.

Nikon AF-S DX 35mm f/1.8G

£149/\$197

It's a somewhat basic but affordable F-mount DX lens

Despite being a DX format lens, this Nikon is only marginally smaller and is actually a little heavier than the FX format Nikon AF-S 50mm f/1.8. The design is based on just eight elements in six groups but that's still one more element than is featured in the FX lens. Both have a seven-blade diaphragm for controlling the aperture, but the DX 35mm lens lacks a focus distance scale. The

mounting plate is metal rather than plastic, which is good news considering the budget price tag, but the plate has no weather-seal ring. Autofocus is quick and quiet, and comes with manual override. It's an internal focusing system so the front element doesn't rotate. Overall image quality is good rather than great, but it's decent value at the price. ★★★★★



If you're after a standard prime for your DX format DSLR on a shoestring budget, this is the best option.

Sigma

30mm f/1.4 DC DN | C

£359/\$349

The 45mm 'effective' focal length of this DX format lens gives a slightly wider perspective than the more standard 50mm equivalent



Like Sigma's companion 16mm and 56mm 'Contemporary' lenses, this one was originally launched back in 2019 and is available in a variety of mount options, the Z DX version being a relative newcomer. As with most lenses for mirrorless cameras, it has an autofocus system based on a virtually silent stepping motor. This naturally requires power from the host camera battery for operation of both autofocus and manual focusing, via the comfortably wide 'fly by wire' focus ring. It's very smooth in operation and enables excellent precision for manual focusing.

The optical path includes nine elements in seven groups. Two of the elements are aspherical but the lens features neither FLD (Fluorite-grade Low Dispersion) nor SLD (Special Low Dispersion) elements,

often used in Sigma lenses to boost sharpness and contrast, while reducing chromatic aberrations.

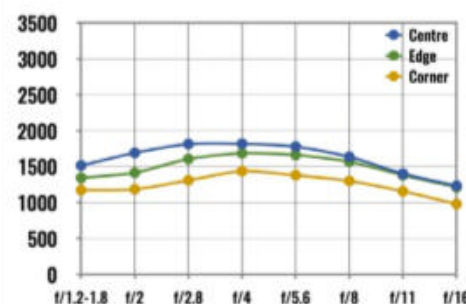
Unlike some lightweight lenses for mirrorless cameras, the Sigma features a durable metal rather than plastic mounting plate. However, it's not a weather-sealed lens. There's no optical stabilizer, but you do get a fast f/1.4 aperture, matching the competing Viltrox 33mm lens.

Performance

Sharpness is impressive even when shooting wide-open at f/1.4. At this aperture, you can get a really tight depth of field when shooting at fairly short focus distances. Bokeh is smooth and remains so when stopping down a little, helped by a well-rounded nine-blade diaphragm. The downside is that axial chromatic aberration can be noticeable when

shooting at very wide apertures. Also referred to as 'bokeh fringing', this shows up as purple and green fringes around high-contrast transitions, just in front of or behind the plane of focus. Even so, if you reduce the aperture by a single f/stop, the fringing virtually disappears.

Sharpness



Features

- 1 The lens is based on nine elements in seven groups and features a 52mm filter attachment thread.
- 2 A circular profile, bayonet-fit plastic hood is supplied with the lens.
- 3 The minimalist build lacks an aperture control ring or even an auto/manual focus mode switch.
- 4 The lens features Sigma's Thermally Stable Composite in its construction, which has similar expansion and contraction to metal parts.
- 5 Typical of Sigma lenses, this one has a plated brass mounting plate. However, there are no weather-seals.

Nikon AF-S 50mm f/1.8G £179/\$217

This Nikon's a smart budget buy

Despite being inexpensive, this lens has a quality build and a good feature set. The optical layout is based on seven elements including an aspherical element, although there's no ED glass. Autofocus is courtesy of a ring-type ultrasonic system with an M/A mode that gives priority to manual override. It switches to manual focusing at a twist of the focus ring, with no time lag, enabling you to

fine-tune the focus position. A weather-seal ring is fitted to the metal mounting plate and the lens features Super Integrated Coating.

Autofocus speed is a little pedestrian but image quality is very good overall, apart from corner-sharpness being a little lacking when shooting wide-open. Stop the aperture down a little and sharpness improves. ★★★★★



Small and lightweight for an FX lens, it's easy to live with and very reasonably priced, making it a favourite F-mount buy.

Viltrox AF 27mm f/1.2 PRO Z

£440/\$545

What price a super-fast f/1.2 prime? This new Viltrox 'PRO' lens for DX format Z-system cameras is an absolute steal



Every once in a while, a lens comes along that really grabs our attention and piques our interest, and this Viltrox is definitely one of them. Living up to its 'PRO' aspirations, it's impeccably turned out and immaculately packaged in a posh box, and comes with a stylish carrying pouch. Giving a versatile 'effective' 40.5mm focal length on DX format Z cameras, its headline attraction is its super-fast f/1.2 aperture, but that's also backed up by a wealth of handling finery.

There's an AF/MF focus mode switch plus a customizable L-Fn button, nominally for AF-hold. Like the other Viltrox lens on test, this one has an aperture control ring but this time you get a click/de-click option via a separate switch, making it more ideal for stills as well as video shooting. There's also a definite 'click'

when swapping from the Auto position, making it less likely to nudge the ring from this position accidentally. The all-metal build feels of excellent quality and features an extensive set of weather-seals.

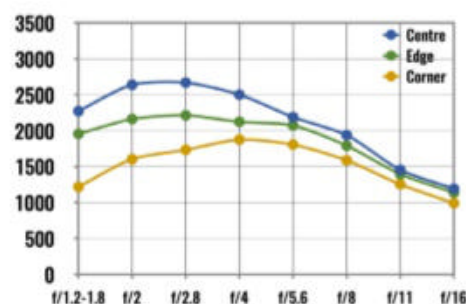
The optical path is based on no less than 15 elements, arranged in 11 groups. To maximize sharpness and clarity while minimizing unwanted aberrations, high-tech glass includes one aspherical element, five HR (High Refractive index) elements and two ED (Extra-low Dispersion) elements. Viltrox's HD Nano multi-layer coating is also applied to minimize ghosting and flare.

Performance

Autofocus is very quick and virtually silent. Sharpness and clarity are superb, even when shooting wide-open at f/1.2. The quality of bokeh is arguably

every bit as important and the Viltrox does very well here. Bokeh is lusciously soft and smooth, with negligible axial chromatic aberration, and is helped by a particularly well-rounded 11-blade aperture diaphragm. All in all, it's an exceptional lens at an incredibly competitive price.

Sharpness



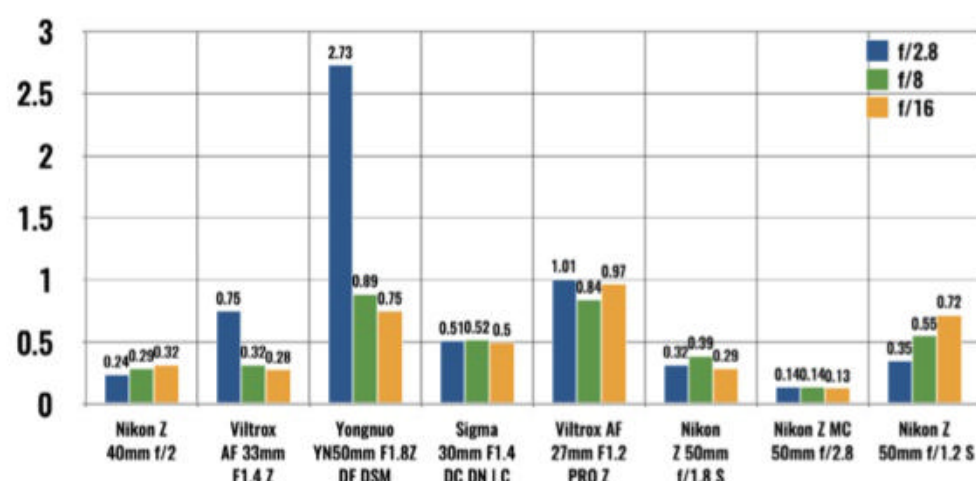
Features

- 1 Partly due to the extra-bright f/1.2 aperture, this lens is bigger than the Viltrox f/1.4 lens on test and weighs 560g.
- 2 The 11-blade aperture diaphragm helps to maintain circular bokeh discs when stopping down.
- 3 A new-generation USB-C port is featured, for applying firmware updates if and when needed.
- 4 The 67mm filter attachment thread is fairly modest in size, considering the fast aperture.
- 5 The lens is supplied complete with a petal-shaped hood and a carrying pouch.

Colour fringing

There's generally not much fringing to see

As with distortion, lateral chromatic aberration can be corrected automatically in-camera and, in this case, can't be disabled. Processing Raw files in our lab tests reveals uncorrected levels, which are generally worst towards the edges and corners of the image frame. Even so, the amount of colour fringing remains very low in almost all of the lenses. The only real exception is that uncorrected fringing can be quite noticeable towards the corners when shooting with the Yongnuo YN50mm f/1.8Z DF DSM at wide aperture settings, as revealed in this comparison graph.



Nikon

Z 50mm f/1.8 S

£499/\$527

Historically, f/1.8 standard primes were considered inferior to their f/1.4 counterparts but this FX format lens is no shrinking violet



When it comes to standard primes, f/1.8 lenses are often viewed as poor relations to f/1.4 options. This Z-mount 50mm f/1.8 lens bucks the trend, with a much more sophisticated optical path than Nikon's DSLR-based, F-mount f/1.8 primes of the past. There are 12 elements in total, including two aspherical elements, two ED (Extra-low Dispersion) elements. Both Nano Crystal Coat and Super Integrated Coating are applied to minimize ghosting and flare.

The stepping motor-based autofocus system is virtually silent yet fast for stills, while enabling smooth autofocus transitions when shooting movies. Other bonuses for movie capture are that focus breathing is practically nonexistent, and you can assign the control ring (which would normally be used for manual

focusing) to stepless aperture control.

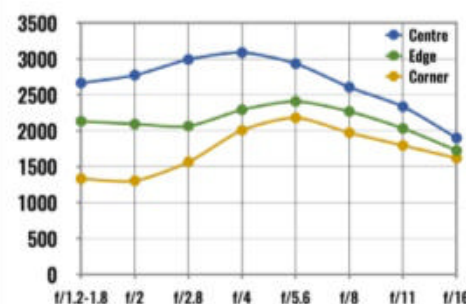
This lens is a lot chunkier than the Nikon Z 40mm f/2 lens on test, despite being only one-third of an f/stop faster. It's also nearly 2.5x the weight, at 415g. As usual with Nikon's S-line lenses, build quality is very good and includes an extensive set of weather-seals. As we'd expect, the mounting plate is metal rather than plastic (as featured in the 40mm lens) and therefore much more durable.

Performance

Levels of sharpness are in a different league to the Nikon F-mount 50mm lenses that we've covering at the bottom of these pages, from the centre of the frame to the extreme edges and corners. It's the kind of step up in optical performance that we've come to expect from Z-mount lenses, along with

negligible colour fringing and virtually zero distortion. Bokeh is also particularly good for an f/1.8 standard prime lens. Unless you have extremely deep pockets and feel a burning need for an f/1.2 FX format standard prime, this is the obvious 'own-brand' choice for a full-frame Z-system camera.

Sharpness



Features

- 1 The electronically-coupled manual focus ring can be assigned to other functions when in autofocus mode.
- 2 The lens has a switch for instant selection of autofocus or manual focus.
- 3 Solid build quality includes a metal mounting plate and extensive weather-seals. A hood and soft pouch are supplied.
- 4 The well-rounded nine-blade aperture diaphragm helps to maintain the quality of bokeh when stopping down a little.
- 5 Unlike the competing Yongnuo 50mm lens on test, the Nikon has no customizable L-Fn buttons.

Nikon AF-S DX 40mm f/2.8G Micro

£269/\$277

Nikon's baby F-mount Micro lens is short but sharp

The DX format 40mm Micro is wonderfully compact and lightweight. The focal length is a little on the long side for 'standard prime', equating to 60mm in full-frame terms, whereas the aperture rating is comparatively pedestrian. As with the Z-mount micro lens on test, macro shooting can be tricky as the inner barrel extends at shorter focus distances, giving a working

distance between the front of the lens and the subject of just 3.5cm in full macro mode.

The little lens scores highly for image quality, which is excellent in all respects, making it good for everyday shooting if the focal length suits you. However, autofocus speed is sluggish and manual focusing is a little lacking in smoothness and precision for extreme close-ups. ★★★★★



It's a good buy at the price and delivers great image quality but it's better for general shooting than for macro photography. →

Nikon Z MC 50mm f/2.8

£599/\$647

Although technically a 'Micro' lens, this Z-mount works rather better as a standard prime than for taking full macro close-ups



If you like to dabble in the world of macro photography but don't make a habit of it, there's a lot to be said for buying a lens that can perform dual functions. Most have a portrait-friendly focal length but this one works better as a standard prime for general shooting, as well as having full 1.0x magnification for extreme close-ups. And close-up shooting really is pretty 'extreme'. When set to its minimum focus setting, this lens gives a working distance of just 5cm between the front of the lens and what you're shooting, so you really do need to get up close and personal.

The short working distance is partly due to the focal length, but also because the inner barrel extends. A plus side is that focus distance and magnification factor scales are printed on the telescoping inner

barrel. Focus distance and macro magnification scales are highly unusual in lenses that feature stepping motor-based autofocus systems.

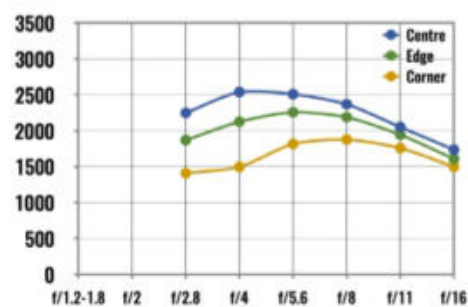
The optical path includes one aspherical element and one ED element, along with a fluorine coating on the front element. The lens's handling is refined and autofocus is quick and consistently accurate, while manual focusing is smooth and precise.

Performance

Image quality is excellent overall. Levels of sharpness are superb in the central region of the frame but drop off towards the edges at wide apertures. Speaking of which, the widest available aperture of f/2.8 means that this lens lags behind all of the others on test for speed. Back on the plus side, colour fringing is all but nonexistent, even in the

extreme corners of the image frame and the very minimal amount of pincushion distortion is generally unnoticeable, even without using in-camera correction. It has to be noted that ultimately, this lens is only really worth buying as a standard prime if you want the macro facility as well.

Sharpness



Features

Build & handling

Performance

Value

4.5 Overall

Features

- 1 The lens is 75x66mm and 260g and comes with a hood and soft pouch.
- 2 A fluorine coating on the front element repels moisture and greasy finger marks.
- 3 In common with other stepping motor-based autofocus lenses, the manual focus ring is electronically coupled.
- 4 This lens features an autofocus range limiter switch for locking out longer distances over 0.3m.
- 5 The extending inner barrel reveals a distance scale calibrated in feet and metres, and a macro magnification scale.

Nikon AF-S 50mm f/1.4G £379/\$447

This Nikon is compact and lightweight for an f/1.4 prime

Compared with the Sigma 50mm f/1.4 lens, the Nikon is only half the physical length and about a third of the weight. It's a lot simpler than the Sigma, with eight rather than 13 optical elements, and feels rather less robust. The straightforward optical path doesn't contain an aspherical element (as featured in the Nikon AF-S 50mm f/1.8G), there are no ED (Extra-low Dispersion)

elements and no Nano Crystal Coat. Indeed, it's a very traditional lens that's more than 20 years old. Centre-sharpness is impressive even at f/1.4, although it loses out to the Sigma towards the edges of the frame. The nine-blade diaphragm helps to maintain smooth bokeh when stopping down, compared with the seven-blade aperture of Nikon's F-mount 50mm f/1.8 lens. ★★★★★



A good choice for those who like to travel light, this Nikon works well as a compact standard prime with an f/1.4 aperture rating.

Nikon

Z 50mm f/1.2 S

£1999/\$1897

Full-frame compatible lenses don't generally come any faster than this, but the big aperture comes at a big price



There's an obvious comparison to be drawn between this lens and the similarly fast Viltrox 27mm lens on test. Both have an identical f/1.2 aperture rating but the Nikon is an FX rather than DX format lens. It's bigger, practically twice the weight (1090g) and about four times as expensive to buy. Even so, the price is what we'd expect of one of Nikon's absolutely top-notch Z-mount lenses.

The complex optical path is based on no less than 17 elements, including two ED elements and three aspherical elements. As with various other top-grade Nikon Z lenses, fancy features include an OLED display with a 'DISP' button that enables you to switch between either aperture setting or focus distance, the latter coming complete with digital depth of field markers. There's also

a customizable L-Fn button and a separate customizable control ring, in addition to the focus ring. Typical uses include stepless aperture control when shooting movies, exposure compensation and ISO adjustments. Both the focus ring and the control ring operate smoothly with good tactile feedback.

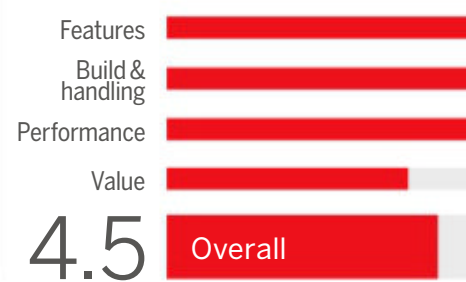
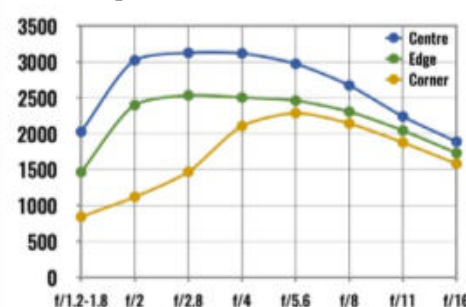
As we'd expect from a modern lens at this price, it's extensively weather-sealed and the overall build quality feels very robust indeed. The barrel parts are plastic rather than metal but are reassuringly solid, and not cold to the touch in chilly weather.

Performance

The unassuming Nikon Z 50mm f/1.8 S sets the bar high for sharpness but this one beats it at pretty much all directly competing apertures. Wide-open at f/1.2, sharpness is

impressive for such a fast lens, although the Viltrox f/1.2 lens does even better. Both axial and lateral chromatic aberrations are very minimal, as is pincushion distortion. Vignetting is pronounced at f/1.2 but, as usual, in-camera correction is available. Bokeh is beautifully smooth and dreamy.

Sharpness



Features

- 1 The lens is 90x150mm, weighs 1090g and has an 82mm filter thread.
- 2 A combination of high-tech ARNEO and Nano Crystal Coat are used with Super Integrated Coating to tackle ghosting and flare.
- 3 Advanced handling extras include an OLED screen with DISP button, a L-Fn button and an additional customizable control ring.
- 4 Two linear stepping motors are featured to ensure fast autofocus performance.
- 5 The nine-blade aperture diaphragm is pretty well rounded, although the Viltrox f/1.2 lens features 11 aperture blades.

Sigma 50mm f/1.4 DG HSM Art

£649/\$849

This Sigma f/1.4 lens is a heavyweight 50mm prime

Sigma's previous 50mm lens was renowned as being a heavyweight but this newer 'Art' edition really piles on the pounds. It gains 50 per cent in physical length and rises from 505g to 815g in weight. The supersized Sigma has a relatively complex and sophisticated optical path, based on 13 elements, including one aspherical and three SLD (Special Low Dispersion) elements. Build

quality feels superb but doesn't feature any weather-seals. Apart from in the extreme corners of the frame, the Sigma delivers impressive sharpness wide-open at f/1.4, along with beautifully soft bokeh. It's virtually distortion-free, and both colour fringing and vignetting are minimal. Performance is simply fabulous, leading the way for F-mount standard primes. ★★★★★



For top-of-the-line image quality with fast autofocus, it's the pick of the crop for F-mount lenses to suit DSLRs.



The winner is... Viltrox AF 27mm f/1.2 PRO Z

This Viltrox is a truly special lens that offers spectacular value for money

Money no object, the Nikon Z 50mm f/1.2 S is arguably the 'best' in the group but it's a specialist lens that's big and heavy for a standard prime, and fiendishly expensive to buy. The Viltrox AF 27mm f/1.2 PRO Z is 'only' a DX format lens, but lives up to its title with pro-grade build quality and exotic handling characteristics, while delivering superb image quality and

all-round performance, at a fraction of the price. Sticking with DX format lenses, the Viltrox AF 33mm f/1.4 Z is our second choice and the Sigma 30mm f/1.4 DC DN | C comes in third place.

In the FX camp, our favourite lens for premium performance with an easily manageable size and weight (and reasonable price tag) is the Nikon Z 50mm f/1.8 S, although the Yongnuo YN50mm

f/1.8Z DF DSM runs it very close. The Nikon Z 40mm f/2 is a little 'slower' but has the advantage of being very compact and lightweight for an FX format standard prime, and it's inexpensive to buy. The slower and relatively pricey Nikon Z MC 50mm f/2.8 is only really worth considering if you want the addition of a full 1.0x macro facility from an everyday standard prime. 📸



How the lenses compare

	Nikon Z 40mm f/2	Viltrox AF 33mm f/1.4 Z	Yongnuo YN50mm f/1.8Z DF DSM	Sigma 30mm f/1.4 DC DN C	Viltrox AF 27mm f/1.2 PRO Z	Nikon Z 50mm f/1.8 S	Nikon Z MC 50mm f/2.8	Nikon Z 50mm f/1.2 S
Website	www.nikon.com	www.viltroxstore.com	en.yongnuo.com.cn	www.sigma-global.com	www.viltroxstore.com	www.nikon.com	www.nikon.com	www.nikon.com
Street price	£229/\$277	£240/\$316	£349/\$359	£359/\$349	£440/\$545	£499/\$527	£599/\$647	£1999/\$1897
DX/FX	FX	DX	FX	DX	DX	FX	FX	FX
Equiv. focal length (DX)	60mm	49.5mm	75mm	45mm	40.5mm	75mm	75mm	75mm
Elements/groups	6 / 4	10 / 9	11 / 8	9 / 7	15 / 11	12 / 9	10 / 7	17 / 15
Diaphragm	9 blades	9 blades	9 blades	9 blades	11 blades	9 blades	9 blades	9 blades
Min aperture	f/16	f/16	f/16	f/16	f/16	f/16	f/22	f/16
Focus type	Stepping motor	Stepping motor	Stepping motor	Stepping motor	Stepping motor	Stepping motor	Stepping motor	Stepping motor
Min focus distance	0.29m	0.4m	0.45m	0.3m	0.28m	0.4m	0.16m	0.45m
Max reproduction ratio	0.17x	0.1x	0.15x	0.14x	0.15x	0.15x	1.0x	0.15x
Filter size	52mm	52mm	58mm	52mm	67mm	62mm	46mm	82mm
Accessories inc	None	Hood, pouch	Hood	Hood	Hood, pouch	Hood, pouch	Hood	Hood, pouch
Diameter x min length	70x46mm	65x72mm	68x87mm	65x73mm	82x92mm	76x87mm	75x66mm	90x150mm
Weight	170g	270g	417g	265g	560g	415g	260g	1090g
Features	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
Build & handling	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
Performance	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
Value	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
Overall	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★

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- Shoot the Lake District
- Wide primes compared
- Rainy-day portraits



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- Man-made landscapes
- Super-tele primes rated
- Capture city lights



Issue 160

- Coastal landscapes
- Portrait primes on test
- Food photography tips



Issue 159

- 24 photo ideas for 2024
- Flashguns on test
- Street photography



Issue 158

- 25 winter wildlife tips
- The best gear of 2023
- High-speed flash photos



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- Nikon Z f full review!
- 20 tips for portrait pics
- How to shoot forests



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- Best British landscapes
- Fast tele-zooms on test
- Autumn wildlife



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- Autumn landscape tips
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- Shoot summer scenes
- Fast budget Z primes



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- Wildlife skills revealed
- Nikon Z 8 review
- Fine art flowers

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Nikon cameras

The current range of Nikon DSLR, Coolpix & Z-series mirrorless cameras

Current market prices are checked regularly with reputable stores to serve as a guideline. Body-only prices quoted unless stated. Different lens bundles are available. Prices correct at time of going to press.

	Category	Model	Description	Tested In Issue 155	Price (UK/\$)																	
DX DSLRS	DX DSLRS	NIKON D7500	THE D7500 SHOEHORNS the best bits from the now-discontinued pro-grade D500 into a smaller, more affordable body. The control layout makes everything easy to get at, and there's a top-plate info LCD, 51-point autofocus system, fast 1/8000 sec shutter speed and 8fps continuous drive rate. Video resolution stretches to 4K. ★★★★★	TESTED IN ISSUE 155	£1099/\$897																	
				<table border="1"> <tr><td>Sensor</td><td>20.9Mp, DX (5568x3712)</td></tr> <tr><td>Processor</td><td>EXPEED 5</td></tr> <tr><td>Viewfinder</td><td>Pentaprism, 0.94x, 100%</td></tr> <tr><td>ISO</td><td>100-51,200 (50-1,640,000 expanded)</td></tr> <tr><td>AF</td><td>51-point (15 cross-type)</td></tr> <tr><td>LCD</td><td>3.2-inch, tilt, touch</td></tr> <tr><td>Max burst (buffer)</td><td>8fps (50 Raw)</td></tr> <tr><td>Memory card</td><td>SDXC UHS-I</td></tr> </table>	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	3.2-inch, tilt, touch	Max burst (buffer)	8fps (50 Raw)	Memory card	SDXC UHS-I		
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LCD	3.2-inch, tilt, touch																					
Max burst (buffer)	8fps (50 Raw)																					
Memory card	SDXC UHS-I																					
NIKON D780	THE D780 TAKES the D750's winning design and handling cues, but adds on-sensor phase-detection autofocus and EXPEED 6 processing, inherited directly from the Z 6. The result is a capable and natural-feeling DSLR for shooting stills in viewfinder mode, coupled with the same kind of performance as a mirrorless camera in live view. ★★★★★	TESTED IN ISSUE 155	£2299/\$1997																			
				<table border="1"> <tr><td>Sensor</td><td>24.5Mp, FX (6048x4024)</td></tr> <tr><td>Processor</td><td>EXPEED 6</td></tr> <tr><td>Viewfinder</td><td>Pentaprism, 0.7x, 100%</td></tr> <tr><td>ISO</td><td>100-51,200 (50-204,800 expanded)</td></tr> <tr><td>AF</td><td>51-point (15 cross-type)</td></tr> <tr><td>LCD</td><td>3.2-inch, 2359k, tilt, touch</td></tr> <tr><td>Max burst (buffer)</td><td>7fps (68-100 Raw)</td></tr> <tr><td>Memory card</td><td>Two SDXC UHS-II</td></tr> </table>	Sensor	24.5Mp, FX (6048x4024)	Processor	EXPEED 6	Viewfinder	Pentaprism, 0.7x, 100%	ISO	100-51,200 (50-204,800 expanded)	AF	51-point (15 cross-type)	LCD	3.2-inch, 2359k, tilt, touch	Max burst (buffer)	7fps (68-100 Raw)	Memory card	Two SDXC UHS-II		
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Max burst (buffer)	7fps (68-100 Raw)																					
Memory card	Two SDXC UHS-II																					
FX DSLRS	FX DSLRS	NIKON D850	THE D850 GOES extra-large in megapixel count with a 45.7Mp image sensor. Further attractions include a high-spec 153-point autofocus system and fairly recent EXPEED 5 processor. For live view and video capture, however, the contrast-detection autofocus system is massively inferior to that of Nikon's mirrorless cameras and the D780. ★★★★★	TESTED IN ISSUE 155	£2699/\$2497																	
				<table border="1"> <tr><td>Sensor</td><td>45.7Mp, FX (8256x5504)</td></tr> <tr><td>Processor</td><td>EXPEED 5</td></tr> <tr><td>Viewfinder</td><td>Pentaprism, 0.75x, 100%</td></tr> <tr><td>ISO</td><td>64-25,600 (32-102,400 expanded)</td></tr> <tr><td>AF</td><td>153-point (99 cross-type)</td></tr> <tr><td>LCD</td><td>3.2-inch, 2359k, tilt, touch</td></tr> <tr><td>Max burst (buffer)</td><td>7fps (29-200 Raw)</td></tr> <tr><td>Memory card</td><td>One XQD/CFexpress, one SDXC UHS-II</td></tr> </table>	Sensor	45.7Mp, FX (8256x5504)	Processor	EXPEED 5	Viewfinder	Pentaprism, 0.75x, 100%	ISO	64-25,600 (32-102,400 expanded)	AF	153-point (99 cross-type)	LCD	3.2-inch, 2359k, tilt, touch	Max burst (buffer)	7fps (29-200 Raw)	Memory card	One XQD/CFexpress, one SDXC UHS-II		
		Sensor	45.7Mp, FX (8256x5504)																			
Processor	EXPEED 5																					
Viewfinder	Pentaprism, 0.75x, 100%																					
ISO	64-25,600 (32-102,400 expanded)																					
AF	153-point (99 cross-type)																					
LCD	3.2-inch, 2359k, tilt, touch																					
Max burst (buffer)	7fps (29-200 Raw)																					
Memory card	One XQD/CFexpress, one SDXC UHS-II																					
NIKON D6	THE D6 HAS the best autofocus module of any DSLR in Nikon's history, based on a 105-point system in which all of the points are cross-type. Eye-detection is also available in 3D tracking mode, and the 14fps burst rate is impressive. The flipside is that the D6 only has a 20.8Mp image sensor. One significant advantage over the Z 9 is a 3,580-shot battery life. ★★★★★	TESTED IN ISSUE 155	£6799/\$6497																			
				<table border="1"> <tr><td>Sensor</td><td>20.8Mp, FX (5568x3712)</td></tr> <tr><td>Processor</td><td>EXPEED 6</td></tr> <tr><td>Viewfinder</td><td>Pentaprism, 0.72x, 100%</td></tr> <tr><td>ISO</td><td>100-102,400 (50-3,280,000 expanded)</td></tr> <tr><td>AF</td><td>105-point (105 cross-type)</td></tr> <tr><td>LCD</td><td>3.2-inch, 2359k, touch</td></tr> <tr><td>Max burst (buffer)</td><td>14fps (105-186 Raw)</td></tr> <tr><td>Memory card</td><td>Two XQD/CFexpress</td></tr> </table>	Sensor	20.8Mp, FX (5568x3712)	Processor	EXPEED 6	Viewfinder	Pentaprism, 0.72x, 100%	ISO	100-102,400 (50-3,280,000 expanded)	AF	105-point (105 cross-type)	LCD	3.2-inch, 2359k, touch	Max burst (buffer)	14fps (105-186 Raw)	Memory card	Two XQD/CFexpress		
Sensor	20.8Mp, FX (5568x3712)																					
Processor	EXPEED 6																					
Viewfinder	Pentaprism, 0.72x, 100%																					
ISO	100-102,400 (50-3,280,000 expanded)																					
AF	105-point (105 cross-type)																					
LCD	3.2-inch, 2359k, touch																					
Max burst (buffer)	14fps (105-186 Raw)																					
Memory card	Two XQD/CFexpress																					
COOLPIX	COOLPIX	NIKON P950	SMALLER & LIGHTER than the P1000, the P950 has broader appeal, but a smaller full-frame equivalent zoom range of 24-2000mm. Like all bridge cameras, image quality is the pay-off for unrivalled versatility. £849/\$797 ★★★★★																			
																						
		NIKON P1000	ANOTHER BRIDGE CAMERA, the P1000 offers a zoom range equivalent to 24-3000mm in full-frame terms, so it's ready for any shooting situation. The camera has a 16Mp sensor and supports Raw photography. £1029/\$1097 ★★★★★																			
																						
DX Z-SERIES	DX Z-SERIES	NIKON Z 30	THE Z 30 LOOKS and feels like the Z 50 with the viewfinder lopped off, and the tilting rear screen replaced by the vari-angle screen of the Z fc. The rangefinder style makes the camera about 20mm shorter and 40g lighter. The Z 30 is good value for vloggers, with little difference in image or video quality between it and the Z 50/Z fc. ★★★★★	TESTED IN ISSUE 155	£649/\$607																	
				<table border="1"> <tr><td>Sensor</td><td>20.9Mp, DX (5568x3712)</td></tr> <tr><td>Processor</td><td>EXPEED 6</td></tr> <tr><td>Viewfinder</td><td>None</td></tr> <tr><td>ISO</td><td>100-51,200 (100-204,800 expanded)</td></tr> <tr><td>AF</td><td>209-point</td></tr> <tr><td>LCD</td><td>3-inch, 1040k, vari-angle, touch</td></tr> <tr><td>Max burst (buffer)</td><td>11fps (30-35 Raw)</td></tr> <tr><td>Memory card</td><td>SDXC UHS-I</td></tr> </table>	Sensor	20.9Mp, DX (5568x3712)	Processor	EXPEED 6	Viewfinder	None	ISO	100-51,200 (100-204,800 expanded)	AF	209-point	LCD	3-inch, 1040k, vari-angle, touch	Max burst (buffer)	11fps (30-35 Raw)	Memory card	SDXC UHS-I		
		Sensor	20.9Mp, DX (5568x3712)																			
Processor	EXPEED 6																					
Viewfinder	None																					
ISO	100-51,200 (100-204,800 expanded)																					
AF	209-point																					
LCD	3-inch, 1040k, vari-angle, touch																					
Max burst (buffer)	11fps (30-35 Raw)																					
Memory card	SDXC UHS-I																					
NIKON Z 50	WITH ITS DOWNSIZED DX format image sensor, the Z 50 nevertheless inherits the same oversized lens mount from full-frame Z system bodies. The slimline build makes the most of the mirrorless design ethic. The 20.9Mp image sensor matches the megapixel count of the later Z fc and Z 30. It's a real joy to use, and very travel-friendly. ★★★★★	TESTED IN ISSUE 155	£849/\$857																			
				<table border="1"> <tr><td>Sensor</td><td>20.9Mp, DX (5568x3712)</td></tr> <tr><td>Processor</td><td>EXPEED 6</td></tr> <tr><td>Viewfinder</td><td>OLED, 2360k, 0.39-inch, 100%</td></tr> <tr><td>ISO</td><td>100-51,200 (100-204,800 expanded)</td></tr> <tr><td>AF</td><td>209-point</td></tr> <tr><td>LCD</td><td>3.2-inch, 1040k, tilt, touch</td></tr> <tr><td>Max burst (buffer)</td><td>11fps (30-35 Raw)</td></tr> <tr><td>Memory card</td><td>SDXC UHS-I</td></tr> </table>	Sensor	20.9Mp, DX (5568x3712)	Processor	EXPEED 6	Viewfinder	OLED, 2360k, 0.39-inch, 100%	ISO	100-51,200 (100-204,800 expanded)	AF	209-point	LCD	3.2-inch, 1040k, tilt, touch	Max burst (buffer)	11fps (30-35 Raw)	Memory card	SDXC UHS-I		
Sensor	20.9Mp, DX (5568x3712)																					
Processor	EXPEED 6																					
Viewfinder	OLED, 2360k, 0.39-inch, 100%																					
ISO	100-51,200 (100-204,800 expanded)																					
AF	209-point																					
LCD	3.2-inch, 1040k, tilt, touch																					
Max burst (buffer)	11fps (30-35 Raw)																					
Memory card	SDXC UHS-I																					



DX Z-SERIES

NIKON Z FC



IT'S NOT JUST the retro chic styling that makes the Z fc so alluring. The direct-access shutter speed, exposure compensation and ISO dials, as well as the usual command dial for aperture control, enable a really hands-on approach to creative shooting. It features highly competent people/animal autofocus modes, along with a vari-angle touchscreen. ★★★★★

TESTED IN ISSUE 155 • £849/\$957

Sensor	20.9Mp, DX (5568x3712)
Processor	EXPEED 6
Viewfinder	OLED, 2360k, 0.39-inch, 100%
ISO	100-51,200 (100-204,800 expanded)
AF	209-point
LCD	3-inch, 1040k, vari-angle, touch
Max burst (buffer)	11fps (30-35 Raw)
Memory card	SDXC UHS-I

NIKON Z 5



THE MOST AFFORDABLE FX format mirrorless Nikon, the Z 5 costs much less than the Z 6II, although it lacks a top-panel OLED display. Dual card slots enable instant backups while you shoot. Like all other FX format Z-system cameras, the Z 5 features five-axis IBIS, which is a major plus point over the DX format cameras. ★★★★★

TESTED IN ISSUE 155 • £1299/\$1297

Sensor	24.3Mp, FX (6016x4016)
Processor	EXPEED 6
Viewfinder	OLED, 3690k, 0.5-inch, 100%
ISO	100-51,200 (50-102,400 expanded)
AF	273-point
LCD	3.2-inch, 1040k, tilt, touch
Max burst (buffer)	4.5fps (100 Raw)
Memory card	Two SDXC UHS-II

NIKON Z 6II



THE Z 6II HAS a pair of late-generation EXPEED 6 processors, a superb 3690k OLED electronic viewfinder and tilting 2100k touchscreen, as well as an identical control layout to the Z 7II. But with fewer megapixels to process, the Z 6II beats the Z 7II with a 14fps rather than 10fps drive rate, and the buffer holds around twice as many Raw files. ★★★★★

TESTED IN ISSUE 155 • £1999/\$1597

Sensor	24.5Mp, FX (6048x4024)
Processor	Dual EXPEED 6
Viewfinder	OLED, 3690k, 0.5-inch, 100%
ISO	100-51,200 (50-204,800 expanded)
AF	273-point
LCD	3.2-inch, 2100k, tilt, touch
Max burst (buffer)	14fps (19-200 Raw)
Memory card	One XQD/CFexpress, one SDXC UHS-II

NIKON Z F



ITS RETRO DESIGN may be heavily inspired by the classic Nikon FM2 film camera, complete with brass dials for inputting exposure settings, but this stylish full-frame mirrorless Nikon is crammed with the latest tech. With an EXPEED 7 processor at its heart, it has better ISO, AF and subject tracking capabilities than the Z 6II, and a trick pixel-shift mode for super-hi-res images. ★★★★★

TESTED IN ISSUE 157 • £2149/\$1997

Sensor	24.5Mp, FX (6048x4024)
Processor	EXPEED 7
Viewfinder	OLED, 3690k, 0.5-inch, 100%
ISO	100-64,000 (50-204,800 expanded)
AF	299-point
LCD	3.2-inch, 2100k, tilt, vari-angle
Max burst (buffer)	7.8fps Raw (35 Raw), 30fps JPEG
Memory card	One SDXC UHS-II, one MicroSD

FX Z-SERIES

NIKON Z 7II



A MASSIVE 45.7MP super-high-res image sensor and an astonishing 493 phase-detection AF points in its hybrid autofocus system are the chief enhancements over the Z 6II. Dual XQD/CFexpress and SDXC memory card slots are a big bonus over the single XQD slot of the original Z 7, and the bigger memory buffer enables much longer bursts. ★★★★★

TESTED IN ISSUE 155 • £2899/\$2597

Sensor	45.7Mp, FX (8256x5504)
Processor	Dual EXPEED 6
Viewfinder	OLED, 3690k, 0.5-inch, 100%
ISO	64-25,600 (32-102,400 expanded)
AF	493-point
LCD	3.2-inch, 2100k, tilt, touch
Max burst (buffer)	10fps (46-82 Raw)
Memory card	One XQD/CFexpress, one SDXC UHS-II

NIKON Z 8



SHARING THE SAME new-generation EXPEED 7 image processor as the Z 9, the Z 8 is step ahead of the Z 6II and Z 7II, boasting intelligent autofocus recognition and tracking for vehicles in addition to people and animals. Its fully electronic shutter matches the Z 9's 1/32,000 sec max shutter speed and 20-120fps burst rate. ★★★★★

TESTED IN ISSUE 155 • £3789/\$3697

Sensor	45.7Mp, FX (8256x5504)
Processor	EXPEED 7
Viewfinder	OLED, 3690k, 0.5-inch, 100%
ISO	64-25,600 (32-102,400 expanded)
AF	493-point
LCD	3.2-inch, 2100k, v/h tilt, touch
Max burst (buffer)	20fps Raw (79-1000 Raw), 120fps JPEG
Memory card	One XQD/CFexpress, one SDXC UHS-II

NIKON Z 9



HEADLINE ATTRACTIONS INCLUDE shutter speeds up to 1/32,000 sec and a 120fps continuous drive rate in JPEG mode – dropping to 20fps Raws, albeit with a massive 1000-shot buffer. A built-in vertical grip offers duplicated shooting controls, and houses an EN-EL18d battery with sufficient stamina for 700-770 shots. ★★★★★

TESTED IN ISSUE 155 • £4999/\$5497

Sensor	45.7Mp, FX (8256x5504)
Processor	EXPEED 7
Viewfinder	OLED, 3690k, 0.5-inch, 100%
ISO	64-25,600 (32-102,400 expanded)
AF	493-point
LCD	3.2-inch, 2100k, v/h tilt, touch
Max burst (buffer)	20fps Raw (79-1000 Raw), 120fps JPEG
Memory card	Two XQD/CFexpress

Nikon-fit lenses

Your at-a-glance guide to the current crop of Nikon-fit lenses

KEY: ■ BEST ON TEST ■ GOLD AWARD ■ GREAT VALUE ■ Current market prices are checked regularly with reputable stores to serve as a guideline. Prices correct at time of going to press.

	LENS NAME	Price	Mount	DX/FX	Max zoom	Stabilizer	Autofocus	Weight	Min focus	Magnification	Filter size	Aperture blades	Issue reviewed	Rating	Awards	
WIDE ZOOMS	Nikon AF-S 8-15mm f/3.5-4.5E ED	£1449/\$1246	F	FX	1.9x	No	Ultrasonic	485g	0.16m	0.34x	None	7	149	★★★★★		
	Nikon AF-P DX 10-20mm f/4.5-5.6G VR	£299/\$308	F	DX	2x	Yes	Pulse	230g	0.22m	0.17x	72mm	7	149	★★★★★	■	
	Nikon AF-S DX 10-24mm f/3.5-4.5G ED	£949/\$900	F	DX	2.4x	No	Ultrasonic	460g	0.24m	0.2x	77mm	7	77	★★★★★		
	Nikon AF-S 14-24mm f/2.8G ED	£1619/\$1749	F	FX	1.7x	No	Ultrasonic	1000g	0.28m	0.15x	None	9	122	★★★★★		
	Nikon AF-S 16-35mm f/4G ED VR	£1149/\$1097	F	FX	2.5x	Yes	Ultrasonic	680g	0.28m	0.25x	77mm	9	149	★★★★★		
	Nikon Z DX 12-28mm f/3.5-5.6 PZ VR	£299/\$357	Z	DX	2.3x	Yes	Stepping	205g	0.19m	0.21x	67mm	7	152	★★★★★		
	Nikon Z 14-24mm f/2.8 S	£2169/\$2497	Z	FX	1.7x	No	Stepping	650g	0.28m	0.13x	112mm	9	149	★★★★★	■	
	Nikon Z 14-30mm f/4 S	£1069/\$1347	Z	FX	2.1x	No	Ultrasonic	485g	0.28m	0.16x	82mm	7	149	★★★★★	■	
	Nikon Z 17-28mm f/2.8	£1009/\$1200	Z	FX	1.65x	No	Stepping	450g	0.19m	0.19x	67mm	9	145	★★★★★	■	
	Sigma 12-24mm f/4 DG HSM A	£1259/\$1299	F	FX	2x	No	Ultrasonic	1150g	0.24m	0.2x	None	9	149	★★★★★		
Sigma 14-24mm f/2.8 DG HSM A	£1169/\$1299	F	FX	0.19x	No	Ultrasonic	1150g	0.26m	0.19x	None	9	149	★★★★★	■		
Tokina atx-i 11-16mm f/2.8 CF Plus	£480/\$449	F	DX	1.5x	No	Electric	555g	0.3m	0.09x	77mm	9	32	★★★★★			
Tokina atx-i 11-20mm f/2.8	£500/\$529	F	DX	1.8x	No	Ultrasonic	560g	0.28m	0.12x	82mm	9	135	★★★★★			
Tokina Opera 16-28mm f/2.8 FF	£700/\$700	F	FX	1.7x	No	Electric	940g	0.28m	0.19x	None	9	101	★★★★★			
STANDARD ZOOMS	Nikon AF-S 24-70mm f/2.8E ED VR	£1919/\$2400	F	FX	2.9x	Yes	Ultrasonic	1070g	0.38m	0.27x	82mm	9	138	★★★★★		
	Nikon AF-S 24-85mm f/3.5-4.5G ED VR	£579/\$500	F	FX	3.5x	Yes	Ultrasonic	465g	0.38m	0.22x	72mm	7	88	★★★★★		
	Nikon AF-S 24-120mm f/4G ED VR	£1069/\$1097	F	FX	5x	Yes	Ultrasonic	710g	0.45m	0.24x	77mm	9	153	★★★★★		
	Nikon Z DX 16-50mm f/3.5-6.3 VR	£329/\$307	Z	DX	3.1x	Yes	Stepping	135g	0.2m	0.2x	46mm	7	153	★★★★★		
	Nikon Z 24-50mm f/4-6.3	£449/\$397	Z	FX	2x	No	Stepping	195g	0.35m	0.17x	52mm	7	153	★★★★★		
	Nikon Z 24-70mm f/2.8 S	£1899/\$2300	Z	FX	2.9x	No	Ultrasonic	805g	0.38m	0.22x	82mm	7	138	★★★★★	■	
	Nikon Z 24-70mm f/4 S	£949/\$997	Z	FX	2.9x	No	Stepping	500g	0.3m	0.3x	72mm	7	153	★★★★★		
	Nikon Z 24-120mm f/4 S	£899/\$1097	Z	FX	5x	No	Stepping	630g	0.35m	0.39x	77mm	9	153	★★★★★		
	Nikon Z 28-75mm f/2.8	£849/\$897	Z	FX	2.7x	No	Stepping	565g	0.39m	0.34x	67mm	9	153	★★★★★	■	
	Sigma 24-70mm f/2.8 DG OS HSM A	£1149/\$1299	F	FX	2.9x	Yes	Ultrasonic	1020g	0.37m	0.21x	82mm	9	153	★★★★★		
Sigma 24-105mm f/4 DG OS HSM A	£639/\$899	F	FX	4.4x	Yes	Ultrasonic	885g	0.45m	0.22x	82mm	9	153	★★★★★	■		
Tamron SP AF 24-70mm f/2.8 Di VC USD G2	£1199/\$1200	F	FX	2.9x	Yes	Ultrasonic	905g	0.38m	0.2x	82mm	9	88	★★★★★			
TELEPHOTO ZOOMS	Nikon AF-S 70-200mm f/2.8E FL ED VR	£2219/\$2350	F	FX	2.9x	Yes	Ultrasonic	1430g	1.1m	0.21x	77mm	9	156	★★★★★	■	
	Nikon AF-P 70-300mm f/4.5-5.6E ED VR	£589/\$597	F	FX	4.3x	Yes	Ultrasonic	680g	1.2m	0.25x	67mm	9	148	★★★★★	■	
	Nikon AF-S 80-400mm f/4.5-5.6G ED VR	£2299/\$2297	F	FX	5x	Yes	Ultrasonic	1570g	1.5m	0.2x	77mm	9	157	★★★★★		
	Nikon AF-S 120-300mm f/2.8E FL ED SR VR	£10499/\$9500	F	FX	2.5x	Yes	Ultrasonic	3250g	2m	0.16x	112mm	9	156	★★★★★		
	Nikon AF-S 200-500mm f/5.6E ED VR	£1249/\$1397	F	FX	2.5x	Yes	Ultrasonic	2300g	2.2m	0.22x	95mm	9	157	★★★★★		
	Nikon Z DX 50-250mm f/4.5-6.3 VR	£289/\$377	Z	DX	5x	Yes	Stepping	405g	0.5m	0.23x	62mm	7	148	★★★★★	■	
	Nikon Z 70-180mm f/2.8	£1199/\$1247	Z	FX	2.6x	No	Stepping	795g	0.27m	0.48x	67mm	9	156	★★★★★		
	Nikon Z 70-200mm f/2.8 VR S	£2149/\$2600	Z	FX	2.9x	Yes	Stepping	1140g	0.5m	0.2x	77mm	9	156	★★★★★	■	
	Nikon Z 100-400mm f/4.5-5.6 VR S	£2199/\$2697	Z	FX	4x	No	Stepping	1355g	0.75m	0.38x	77mm	9	157	★★★★★	■	
	Nikon Z 180-600mm f/5.6-6.3 VR	£1799/\$1697	Z	FX	3.3x	Yes	Stepping	1955g	1.3m	0.25x	95mm	9	157	★★★★★	■	
Sigma 50-100mm f/1.8 DC HSM A	£999/\$1100	F	DX	2x	No	Ultrasonic	1490g	0.95m	0.15x	82mm	9	72	★★★★★			
Sigma 60-600mm f/4.5-6.3 DG OS HSM S	£1699/\$2000	F	FX	10x	Yes	Ultrasonic	2700g	0.6m	0.3x	105mm	9	127	★★★★★			
Sigma 70-200mm f/2.8 DG OS HSM S	£1099/\$1380	F	FX	2.9x	Yes	Ultrasonic	1805g	0.95m	0.21x	82mm	11	156	★★★★★	■		
Sigma 100-400mm f/5-6.3 DG OS HSM C	£699/\$699	F	FX	4x	Yes	Ultrasonic	1160g	1.6m	0.26x	67mm	9	157	★★★★★	■		
Sigma 120-300mm f/2.8 DG OS HSM S	£2699/\$3600	F	FX	2.5x	Yes	Ultrasonic	3390g	1.5-2.5m	0.12x	105mm	9	156	★★★★★	■		
Sigma 150-600mm f/5-6.3 DG OS HSM C	£849/\$939	F	FX	4x	Yes	Ultrasonic	1930g	2.8m	0.2x	95mm	9	157	★★★★★	■		
Tamron 35-150mm f/2-2.8 Di III VXD	£1799/\$1999	Z	FX	4.3x	No	Stepping	1165g	0.33-0.85m	0.17-0.18x	82mm	9	159	★★★★★			
Tamron SP 70-200mm f/2.8 Di VC USD G2	£1369/\$1200	F	FX	2.9x	Yes	Ultrasonic	1500g	0.95m	0.16x	77mm	9	156	★★★★★	■		
Tamron 70-300mm f/4.5-6.3 Di III RXD	£599/\$699	Z	FX	4.3x	No	Stepping	580g	0.8-1.5m	0.11-0.2x	67mm	7	148	★★★★★			
Tamron 100-400mm f/4.5-6.3 Di VC USD	£799/\$799	F	FX	4x	Yes	Ultrasonic	1115g	1.5m	0.28x	67mm	9	157	★★★★★			
Tamron SP 150-600mm f/5-6.3 Di VC USD G2	£1249/\$1399	F	FX	4x	Yes	Ultrasonic	2010g	2.2m	0.26x	95mm	9	157	★★★★★			
SUPER	Nikon AF-S DX 18-140mm f/3.5-5.6G ED VR	£599/\$500	F	DX	7.8x	Yes	Ultrasonic	490g	0.45m	0.23x	67mm	7	27	★★★★★		
	Nikon AF-S DX 18-300mm f/3.5-6.3G ED VR	£629/\$700	F	DX	16.7x	Yes	Ultrasonic	550g	0.48m	0.32x	67mm	7	136	★★★★★		
	Nikon Z DX 18-140mm f/3.5-6.3 VR	£555/\$650	Z	DX	7.7x	Yes	Stepping	315g	0.2m	0.33x	62mm	7	136	★★★★★		
	Nikon Z 24-200mm f/4-6.3 VR	£729/\$900	Z	FX	8.3x	Yes	Stepping	570g	0.5m	0.28x	67mm	7	136	★★★★★	■	
	Tamron AF 18-400mm f/3.5-6.3 Di II VC HLD	£699/\$650	F	DX	22.2x	Yes	HLD	710g	0.45m	0.34x	72mm	7	136	★★★★★		
	WIDE PRIMES	Irix 15mm f/2.4 Blackstone	£625/\$480	F	FX	None	No	None	653g	0.28m	0.1x	95mm	9	142	★★★★★	
		Laowa 20mm f/4 Zero-D Shift	£1179/\$1100	F	FX	None	No	None	747g	0.17m	0.17x	82mm	14	138	★★★★★	
		Nikon AF-S 20mm f/1.8G ED	£799/\$720	F	FX	None	No	Ultrasonic	355g	0.2m	0.23x	77mm	7	116	★★★★★	
		Nikon AF-S 24mm f/1.8G ED	£749/\$680	F	FX	None	No	Ultrasonic	355g	0.23m	0.2x	72mm	7	116	★★★★★	
		Nikon AF-S 24mm f/1.4G ED	£1999/\$2000	F	FX	None	No	Ultrasonic	620g	0.25m	0.18x	77mm	9	59	★★★★★	
Nikon AF-S 28mm f/1.8G		£699/\$700	F	FX	None	No	Ultrasonic	330g	0.25m	0.22x	67mm	7	87	★★★★★		
Nikon AF-S 35mm f/1.8G ED		£529/\$530	F	FX	None	No	Ultrasonic	305g	0.25m	0.24x	58mm	7	125	★★★★★		
Nikon AF-S DX 35mm f/1.8G		£149/\$197	F	DX	None	No	Ultrasonic	200g	0.3m	0.24x	52mm	7	163	★★★★★	■	
Nikon AF-S 35mm f/1.4G		£1799/\$1700	F	FX	None	No	Ultrasonic	600g	0.3m	0.2x	67mm	9	25	★★★★★		
Nikon Z 20mm f/1.8 S		£999/\$1047	Z	FX	None	No	Stepping	505g	0.2m	0.23x	77mm	9	149	★★★★★		
Nikon Z DX 24mm f/1.7	£269/\$277	Z	DX	None	No	Stepping	135g	0.18m	0.19x	42mm	7	162	★★★★★			
Nikon Z 24mm f/1.8 S	£959/\$1000	Z	FX	None	No	Stepping	450g	0.25m	0.18x	72mm	9	116	★★★★★	■		
Nikon Z 26mm f/2.8	£529/\$497	Z	FX	None	No	Stepping	125g	0.2m	0.19x	52mm	7	162	★★★★★			
Nikon Z 28mm f/2.8 SE	£309/\$307	Z	FX	None	No	Stepping	160g	0.19m	0.2x	52mm	7	162	★★★★★			
Nikon Z 35mm f/1.8 S	£899/\$847	Z	FX	None	No	Stepping	370g	0.25m	0.19x	62mm	9	162	★★★★★	■		
Samyang 8mm f/3.5 IF MC CSII Dh Circular Fisheye	£299/\$280	F	FX	None	No	None	435g	0.3m	N/S	None	6	12	★★★★★			
Samyang 10mm f/2.8 ED AS NCS CS	£429/\$400	F	DX	None	No	None	600g	0.25m	N/S	None	6	113	★★★★★			
Samyang MF 14mm f/2.8 Z	£359/\$349	F	FX	None	No	None	810g	0.28m	0.08x	None	6	142	★★★★★			

	LENS NAME	Price	Mount	DX/FX	Max zoom	Stabilizer	Autofocus	Weight	Min focus	Magnification	Filter size	Aperture blades	Issue reviewed	Rating	Awards	
WIDE PRIMES	Samyang 14mm f/2.8 AF	£559/\$800	F	FX	None	No	None	474g	0.2m	0.15x	None	7	105	★★★★★		
	Samyang 14mm f/2.4 XP	£899/\$730	F	FX	None	No	None	791g	0.28m	0.08x	None	9	142	★★★★★	🏆🏆	
	Samyang 14mm f/2.8 IF ED UMC	£349/\$350	F	FX	None	No	None	560g	0.28m	N/S	None	6	70	★★★★★		
	Samyang 20mm f/1.8 ED AS UMC	£499/\$580	F	FX	None	No	None	488g	0.2m	N/S	None	7	116	★★★★★		
	Samyang 24mm f/1.4 ED AS UMC	£559/\$550	F	FX	None	No	None	680g	0.25m	N/S	77mm	8	104	★★★★★		
	Samyang T-S 24mm f/3.5 ED AS UMC (tilt & shift)	£599/\$800	F	FX	None	No	None	680g	0.2m	N/S	82mm	8	25	★★★★★		
	Samyang 35mm f/1.4 AS UMC AE	£499/\$500	F	FX	None	No	None	660g	0.3m	0.2x	77mm	8	125	★★★★★		
	Sigma 14mm f/1.8 DG HSM A	£1399/\$1599	F	FX	None	No	Ultrasonic	1170g	0.27m	0.1x	None	9	149	★★★★★		
	Sigma 15mm f/2.8 EX DG Diagonal Fisheye	£599/\$610	F	FX	None	No	Electric	370g	0.15m	0.26x	None	7	12	★★★★★		
	Sigma 16mm f/1.4 DC CN C	£459/\$449	Z	DX	None	No	Stepping	405g	0.25m	0.1x	67mm	9	162	★★★★★		
	Sigma 20mm f/1.4 DG HSM A	£779/\$900	F	FX	None	No	Ultrasonic	950g	0.28m	0.14x	77mm	9	116	★★★★★		
	Sigma 24mm f/1.4 DG HSM A	£629/\$850	F	FX	None	No	Ultrasonic	665g	0.25m	0.19x	77mm	9	116	★★★★★	🏆🏆🏆	
	Sigma 30mm f/1.4 DC HSM A	£449/\$500	F	DX	None	No	Ultrasonic	435g	0.25m	0.15x	62mm	9	111	★★★★★		
	Sigma 30mm f/1.4 DC DN C	£359/\$349	Z	DX	None	No	Stepping	265g	0.3m	0.14x	52mm	9	163	★★★★★		
	Sigma 35mm f/1.4 DG HSM A	£649/\$800	F	FX	None	No	Ultrasonic	665g	0.3m	0.19x	67mm	9	125	★★★★★		
	Tamron SP 35mm f/1.4 Di USD	£829/\$900	F	FX	None	No	Ultrasonic	805g	0.3m	0.3x	72mm	9	111	★★★★★	🏆	
	Viltrox AF 13mm f/1.4 Z	£383/\$459	Z	DX	None	No	Stepping	420g	0.22m	0.1x	67mm	9	162	★★★★★	🏆🏆	
	Viltrox AF 23mm f/1.4 Z	£269/\$325	Z	DX	None	No	Stepping	300g	0.3m	0.1x	52mm	9	162	★★★★★	🏆	
	Viltrox AF 27mm f/1.2 Pro	£440/\$545	Z	DX	None	No	Stepping	560g	0.28m	0.15x	67mm	11	163	★★★★★	🏆🏆🏆	
	Viltrox AF 33mm f/1.4 Z	£240/\$316	Z	DX	None	No	Stepping	270g	0.4m	0.1x	52mm	9	163	★★★★★	🏆	
Voigtlander 15mm f/4.5 Super Wide-Heliar Z Aspherical	£849/\$799	Z	FX	None	No	None	290g	0.126m	0.25x	58mm	10	160	★★★★★			
Voigtlander D23mm f/1.2 Nokton Z Aspherical	£649/\$699	Z	DX	None	No	None	240g	0.18m	0.2x	46mm	12	162	★★★★★			
Zeiss Milvus 18mm f/2.8 ZF.2	£2190/\$2300	F	FX	None	No	None	675g	0.25m	0.1x	77mm	9	116	★★★★★			
Zeiss Milvus 35mm f/2 ZF.2	£1160/\$1200	F	FX	None	No	None	650g	0.3m	0.19x	58mm	9	87	★★★★★			
STANDARD PRIMES	7Artisans 50mm f/1.05	£450/\$349	Z	FX	None	No	None	606g	0.57m	0.13x	58mm	13	152	★★★★★		
	Nikon PC-E Micro 45mm f/2.8D ED (tilt & shift)	£1899/\$2050	F	FX	None	No	None	740g	0.25m	0.5x	77mm	9	25	★★★★★		
	Nikon AF-S 50mm f/1.8G	£179/\$217	F	FX	None	No	Ultrasonic	185g	0.45m	0.15x	58mm	7	163	★★★★★		
	Nikon AF-S 50mm f/1.4G	£379/\$447	F	FX	None	No	Ultrasonic	280g	0.45m	0.15x	58mm	9	163	★★★★★		
	Nikon AF-S 58mm f/1.4G	£1699/\$1600	F	FX	None	No	Ultrasonic	385g	0.58m	0.13x	72mm	9	40	★★★★★		
	Nikon Z 40mm f/2	£229/\$277	Z	FX	None	No	Stepping	170g	0.29m	0.17x	52mm	9	163	★★★★★	🏆	
	Nikon Z 50mm f/1.8 S	£499/\$527	Z	FX	None	No	Ultrasonic	415g	0.4m	0.15x	62mm	9	163	★★★★★	🏆	
	Nikon Z 50mm f/1.2 S	£1999/\$1897	Z	FX	None	No	Stepping	1090g	0.45m	0.15x	82mm	9	163	★★★★★		
	Nikon Z 58mm f/0.95 S Noct	£8299/\$7999	Z	FX	None	No	Stepping	2000g	0.5m	0.19x	82mm	11	108	★★★★★		
	Sigma 50mm f/1.4 DG HSM A	£649/\$849	F	FX	None	No	Ultrasonic	815g	0.4m	0.18x	77mm	9	163	★★★★★		
	Sigma 56mm f/1.4 DC DN C	£449/\$499	Z	DX	None	No	Stepping	280g	0.5m	0.14x	55mm	9	152	★★★★★		
	Viltrox AF 56mm f/1.4Z	£250/\$299	Z	DX	None	No	Stepping	320g	0.6m	0.1x	52mm	9	152	★★★★★	🏆🏆	
	Yongnuo YN50mm f/1.8Z DF DSM	£349/\$359	Z	FX	None	Yes	Stepping	417g	0.45m	0.15x	58mm	9	163	★★★★★	🏆	
	Zeiss Milvus 50mm f/1.4 ZF.2	£1245/\$1200	F	FX	None	No	None	875g	0.45m	0.15x	67mm	9	130	★★★★★		
	Nikon AF-S 85mm f/1.8G	£489/\$477	F	FX	None	No	Ultrasonic	350g	0.8m	0.12x	67mm	7	160	★★★★★	🏆	
	Nikon AF-S 85mm f/1.4G	£1699/\$1447	F	FX	None	No	Ultrasonic	595g	0.85m	0.12x	77mm	9	160	★★★★★		
	Nikon AF-S 105mm f/1.4E ED	£2099/\$2097	F	FX	None	No	Ultrasonic	985g	1m	0.13x	82mm	9	160	★★★★★		
	Nikon AF-S 300mm f/4E PF ED VR	£1619/\$2000	F	FX	None	Yes	Ultrasonic	755g	1.4m	0.24x	77mm	9	63	★★★★★		
	Nikon AF-S 400mm f/2.8E FL ED VR	£12199/\$11197	F	FX	None	Yes	Ultrasonic	3800g	2.6m	0.14x	40.5mm	9	161	★★★★★	🏆	
	Nikon AF-S 500mm f/4E FL ED VR	£10999/\$10297	F	FX	None	Yes	Ultrasonic	3090g	3.6m	0.15x	40.5mm	9	161	★★★★★	🏆	
Nikon AF-S 500mm f/5.6E PF ED VR	£3229/\$3397	F	FX	None	Yes	Ultrasonic	1460g	3m	0.18x	95mm	9	161	★★★★★			
Nikon AF-S 600mm f/4E FL ED VR	£12099/\$12297	F	FX	None	Yes	Ultrasonic	3810g	4.4m	0.14x	40.5mm	9	161	★★★★★	🏆		
TELEPHOTO PRIMES	Nikon Z 85mm f/1.8 S	£699/\$697	Z	FX	None	No	Ultrasonic	470g	0.8m	0.12x	67mm	9	160	★★★★★	🏆	
	Nikon Z 85mm f/1.2 S	£2819/\$2797	Z	FX	None	No	Ultrasonic	1160g	0.85m	0.11x	82mm	11	160	★★★★★	🏆	
	Nikon Z 135mm f/1.8 S Plena	£2699/\$2497	Z	FX	None	Yes	Stepping	995g	0.82m	0.2x	82mm	11	160	★★★★★	🏆🏆	
	Nikon Z 400mm f/2.8 TC VR S	£13499/\$13997	Z	FX	None	Yes	SSVCM	2950g	2.5m	0.17x	Drop-in	9	161	★★★★★	🏆	
	Nikon Z 400mm f/4.5 VR S	£2849/\$2997	Z	FX	None	Yes	Dual stepping	1245g	2.5m	0.16x	95mm	9	161	★★★★★	🏆🏆🏆	
	Nikon Z 600mm f/4 TC VR S	£15499/\$15497	Z	FX	None	Yes	SSVCM	3260g	4.3m	0.14-2x	Drop-in	9	161	★★★★★		
	Nikon Z 600mm f/6.3 VR S	£4999/\$4799	Z	FX	None	Yes	Stepping	1470g	4m	0.15x	95mm	9	161	★★★★★	🏆	
	Nikon Z 800mm f/6.3 VR S	£5799/\$5997	Z	FX	None	Yes	Dual stepping	2385g	5m	0.16x	Drop-in	9	161	★★★★★	🏆	
	Samyang AF 85mm f/1.4 F	£550/\$530	F	FX	None	No	None	480g	0.9m	0.11x	77mm	9	140	★★★★★		
	Samyang MF 85mm f/1.4 Z	£319/\$399	Z	FX	None	No	None	730g	1.1m	0.09x	72mm	8	152	★★★★★		
	Sigma 85mm f/1.4 DG HSM A	£929/\$1199	F	FX	None	No	Ultrasonic	815g	0.85m	0.12x	86mm	9	160	★★★★★	🏆🏆	
	Sigma 105mm f/1.4 DG HSM A	£1249/\$1599	F	FX	None	No	Ultrasonic	1645g	1m	0.12x	105mm	9	160	★★★★★		
	Sigma 500mm f/4 DG OS HSM S	£4699/\$5999	F	FX	None	Yes	Ultrasonic	3310g	3.5m	0.15x	46mm	9	161	★★★★★	🏆🏆	
	Tokina SZX Super Tele 400mm f/8 Reflex MF	£209/\$229	F, Z	FX	None	No	None	355g	1.15m	0.4x	67mm	None	148	★★★★★		
	Yongnuo YN85mm f/1.8Z DF DSM	£345/\$379	Z	FX	None	Yes	Stepping	405g	0.8m	0.13x	58mm	7	152	★★★★★	🏆	
	MACRO	AstrHori 18mm f/8 2x Periscope Probe Macro	£879/\$719	Z	DX	None	No	None	704g	0.47m	2x	None	7	162	★★★★★	
		AstrHori 25mm f/2.8 Macro 2-5x	£199/\$249	Z	FX	None	No	None	474g	37.5-45mm	2-5x	None	8	163	★★★★★	🏆
		Irix 150mm f/2.8 Macro 1:1 Dragonfly	£510/\$495	F	FX	None	No	None	831g	0.35m	1x	77mm	11	150	★★★★★	
		Laowa 90mm f/2.8 2:1 Ultra Macro APO	£569/\$499	Z	FX	None	No	None	619g	0.21m	2x	67mm	13	150	★★★★★	
		Laowa 100mm f/2.8 2:1 Ultra Macro APO	£569/\$499	F, Z	FX	None	No	None	650g	0.25m	2x	67mm	7, 13	150	★★★★★	
Nikon AF-S DX 40mm f/2.8G Micro		£269/\$277	F	DX	None	No	Ultrasonic	235g	0.16m	1x	52mm	7	163	★★★★★		
Nikon AF-S DX 85mm f/3.5G ED VR Micro		£459/\$557	F	DX	None	Yes	Ultrasonic	355g	0.29m	1x	52mm	9	150	★★★★★		
Nikon Z MC 50mm f/2.8		£599/\$647	Z	FX	None	No	Stepping	260g	0.16m	1x	46mm	9	163	★★★★★		
Nikon Z MC 105mm f/2.8 VR S		£899/\$1047	Z	FX	None	Yes	Stepping	630g	0.29m	1x	62mm	9	150	★★★★★	🏆🏆🏆	
Samyang 100mm f/2.8 ED UMC Macro		£429/\$490	F	FX	None	No	None	715g	0.31m	1x	67mm	9	110	★★★★★		
Tokina atx-i 100mm f/2.8 FF Macro Plus	£424/\$429	F	FX	None	No	Electric	515g	0.3m	1x	55mm	9	150	★★★★★			

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24-70 F4 S £399	MBD-80 (D80/90) £49	18-35 F3.5/4.5 AFS box £399	60 F2.8 AFS macro £299	SB-700 £149	150-600 F5/6.3 DG OS sport £899
24-120 F4 S £899	NIKON AF LENSES USED	18-55 F3.5/5.6 AF VR DX £99	70-200 F2.8 E FL AFS box £999	SB-900 £99	150-600 F5/6.3 DG OS contem £749
35 F1.8 S box £599	8-15 F3.5/4.5 E box £999	18-105 F3.5/5.6 VR DX AFS £149	70-300 F4.5/5.6 E AF P VR £499	SB-910 £199	300-800 F5.6 EX DG HSM £1999
50 F1.2 S box £1499	10.5 F2.8 fisheye box £199	18-140 F3.5/5.6 AFS VR box £149	70-300 F4.5/5.6 AFS VR box £299	SU-800 commander £199	TC-1401 extender £149
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70-200 F2.8 VR S box £1799	10-24 F3.5/4.5 AFS box £399	18-300 F3.5/5.6 VR DX £599	80-400 F4.5/5.6 AFS VR box £999	DR-4 angle finder £79	
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105 F2.8 VR macro box £849	16 F2.8 AFD fisheye £299	24 F1.4 G AFS Mint box £799	85 F1.8 AFS box £299	MC-30A remote £59	
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FTZ adapter box £179	17-55 F2.8 AFS £299	24-70 F2.8 AFS £349	300 F2.8 AFS VR II £1999		
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Zoom, zoom, zoom!



Mike Harris reckons that Nikon's new Z 28-400mm f/4-8 VR could be the one lens to rule them all for keen photographers

The number one question I receive at *N-Photo* is: what camera should I buy next? To which I reply: what lenses do you have? We all love cameras. There's nothing quite like picking up a new one, but while faster and more accurate AF, a better sensor and faster burst speeds might change the way you shoot, these specs are unlikely to change *what* you can shoot.

The long and short of it

You can spend thousands on a flagship Z 9; one of the best sports and wildlife cameras ever made. But if all you've got to go with it is a Z 24-70mm f/4 S, you've got yourself an F1 car and a set of slicks in the pouring rain...

Give me a Z 6 and a Z 180-600mm f/5.6-6.3 VR or D500 and 200-500mm f/5.6E ED VR to shoot wildlife over that Z 9 and standard-zoom set-up every day of the week. You need only look back at the jaw-dropping photographs captured by analogue photographers for proof that modern cameras are a luxury, not a necessity.

Optics are infinitely more important than cameras and that's precisely why Nikon's new super-duper zoom is such a big deal. If you're an enthusiast mirrorless photographer who cannot help but pick up the latest and

greatest camera, but cannot justify the expenditure of a kit bag bristling with top-quality glass or somebody who simply wants a one-and-done optic, then the Z 28-400mm f/4-8 VR is arguably the best and most affordable way to do it.

With the exception of a few specialist applications such as ultra-wide or low-light photography, there's literally nothing this veritable multi-tool can't do. Landscapes, check. Wildlife, check. Portraits, check. Architecture, check. Street, check. Close-ups, check, check, check and *check*.

We've yet to put it through our lab, of course, but as far as the spec sheet is concerned, the only big compromise is that narrow f/8 aperture from 200mm. But superzooms have always been about quantity over quality. Sure, f/3.5-6.3 would have been preferred, but if you care that much about faster glass and shallower depths of field, a superzoom probably isn't for you.

But if you're an enthusiast who dabbles with a little travel photography here, indulges in a little landscape photography and who has been known to visit a few airshows, then this might be all the lens you need. After all, it's two thirds of a holy trinity and a super-telephoto lens in a 142mm-long and 725g package. Not too shabby, Nikon. **N**



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Getty

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Printed by Buxton Press Limited, Palace Rd, Buxton SK17 6AE

Distributed by Marketforce, 5 Churchill Place, Canary Wharf, London, E14 5HU www.marketforce.co.uk
Email: mfcommunications@futurenet.com



ISSN 2048370

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N-Photo (ISSN 2048-3708) is published monthly with an extra issue in July by Future Publishing, Quay House, The Ambury, Bath, BA1 1UA, UK.

The annual subscription rate is £77.87 UK, €164 Europe, \$186 USA, £143 Rest of World..

Airfreight and mailing in the USA by agent named World Container Inc., c/o BBT 150-15 183rd St, Jamaica, NY 11413, USA

Application to Mail at Periodicals Postage Prices is Pending at Brooklyn NY 11256..

POSTMASTER: Send address changes to *N-Photo*, World Container Inc., c/o BBT 150-15 183rd St, Jamaica, NY 11413, USA

Subscription records are maintained at Future Publishing, c/o Air Business Subscriptions, Rockwood House, Perrymount Road, Haywards Heath, West Sussex, RH16 3DH, UK



Future plc is a public company quoted on the London Stock Exchange (symbol: FUTR)
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