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Practical Photography

Welcome

Learn from the best

Tom Barnes
A larger than life character with more terrible jokes than Ken Dodd, portrait pro Tom has risen to the top of the pile. Discover his secrets on p52

Jamey Price
Through Jamey's truly immersive motorsport images you can hear the engines roar and the tyres screech. Take your place on the grid on p100

Ollie Taylor
Taking his magical dreamscapes to a new level of spectral beauty, Ollie joins us again to discuss his new obsession with lighthouses. Find out more on p120

SAM HOBSON

I SPOTTED MY FIRST KINGFISHER a few weeks ago, not along a leafy riverbank nestled in the countryside, but perched over a stagnant dyke in the middle of a city. This brief encounter (the kingfisher took one look at me and scarpered) reminded me why wildlife photography is so exciting and rewarding. You don't need to travel to Africa or India to see amazing creatures – they're on our doorstep! While researching this month's big feature, Tim Berry discovered a surprising fact – the British Isles is home to over 70,000 species. Inspired, he chose the five most iconic yet accessible animals, and asked five of the UK's best wildlife photographers how to shoot amazing images of each. Wherever you live and whatever gear you've got, your guide to photographing Britain's wildlife starts on page 34.

Ben Hawkins

Ben Hawkins, Group Editor

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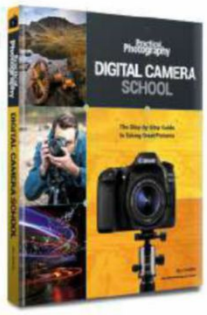

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58 The UK's best wedding pros share their advice and expertise

138 The ten best telephotos under £1200 go head to head

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Practical Photography

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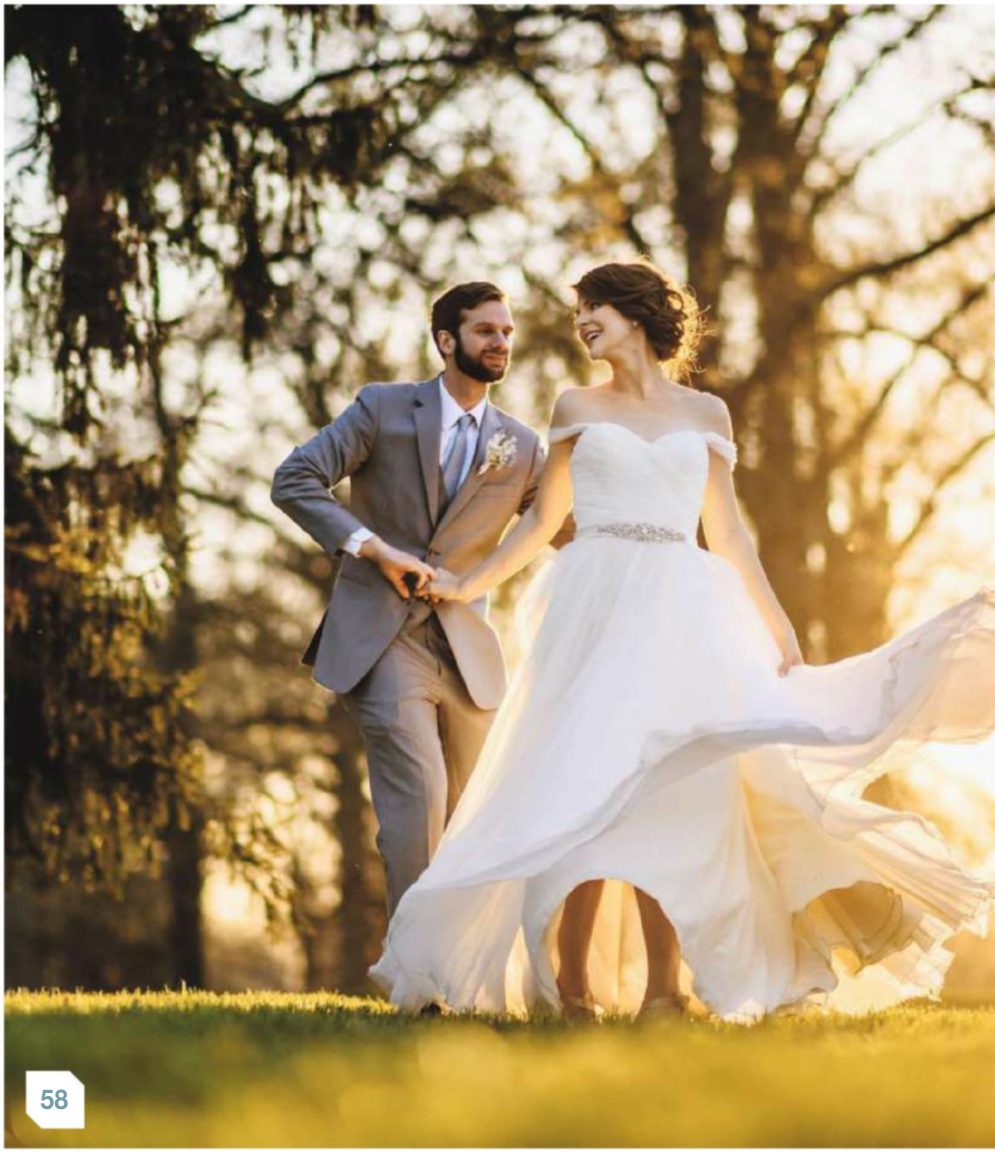

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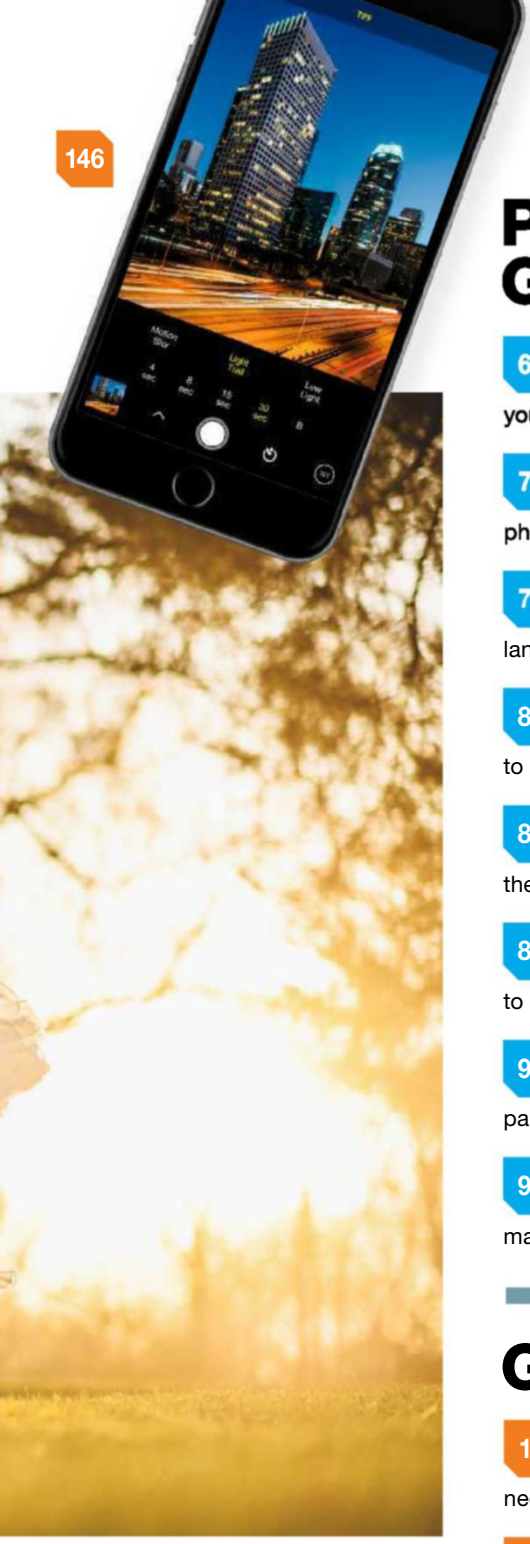

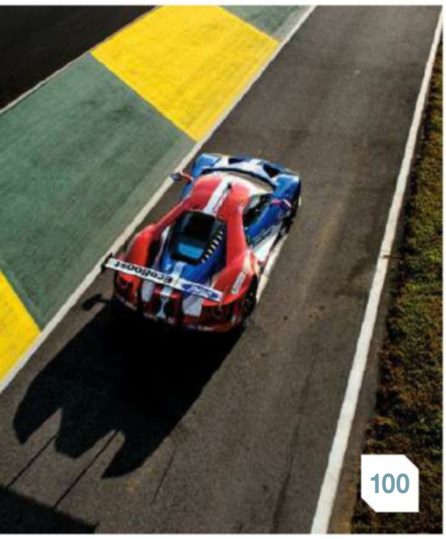

Photoshop Genius

NEW! 32-PAGE EDITING GUIDE

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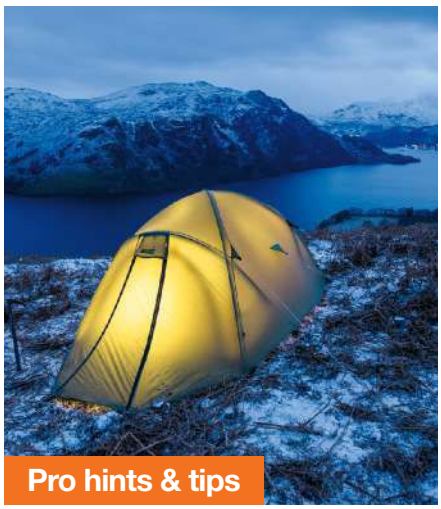
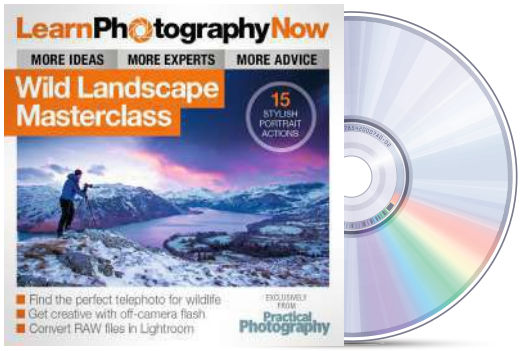
Practical Photography Your Free CD

Over 60 minutes of hands-on camera and editing lessons & tutorials to help you shoot better pictures





1 Wild landscape masterclass

Tim joins acclaimed landscape photographer Guy Richardson in the Lake District's remote climes to find out how wild camping at incredible locations can get you amazing results.

2 Off-camera flash projects

Louise shoots some mysterious and intriguing portraits by using three different off-camera flash techniques. These projects are perfect for a rainy Sunday afternoon.

3 Telephotos for wildlife

Dan compares a range of telephoto lenses to help you find out which one will help you achieve fantastic wildlife photos. He also happens to spot a kingfisher and manages to grab a few unexpected stills.

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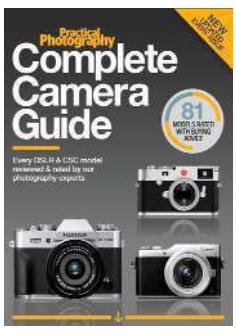

Camera Buying Guide

Unsure about which camera is best for your needs? Our ebook includes reviews, spec and prices for every camera available right now. The latest additions include the Fuji X-T20 and the Leica M10.

35 Actions & Textures

Make your portraits stand out from the crowd by using one of our 15 Photoshop Actions. Or why not revitalise your images with one of our 20 textures?

THREE BONUS VIDEO GUIDES

Photoshop video lessons

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- Jay P. Morgan
The Slanted Lens

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BeyondTheLens

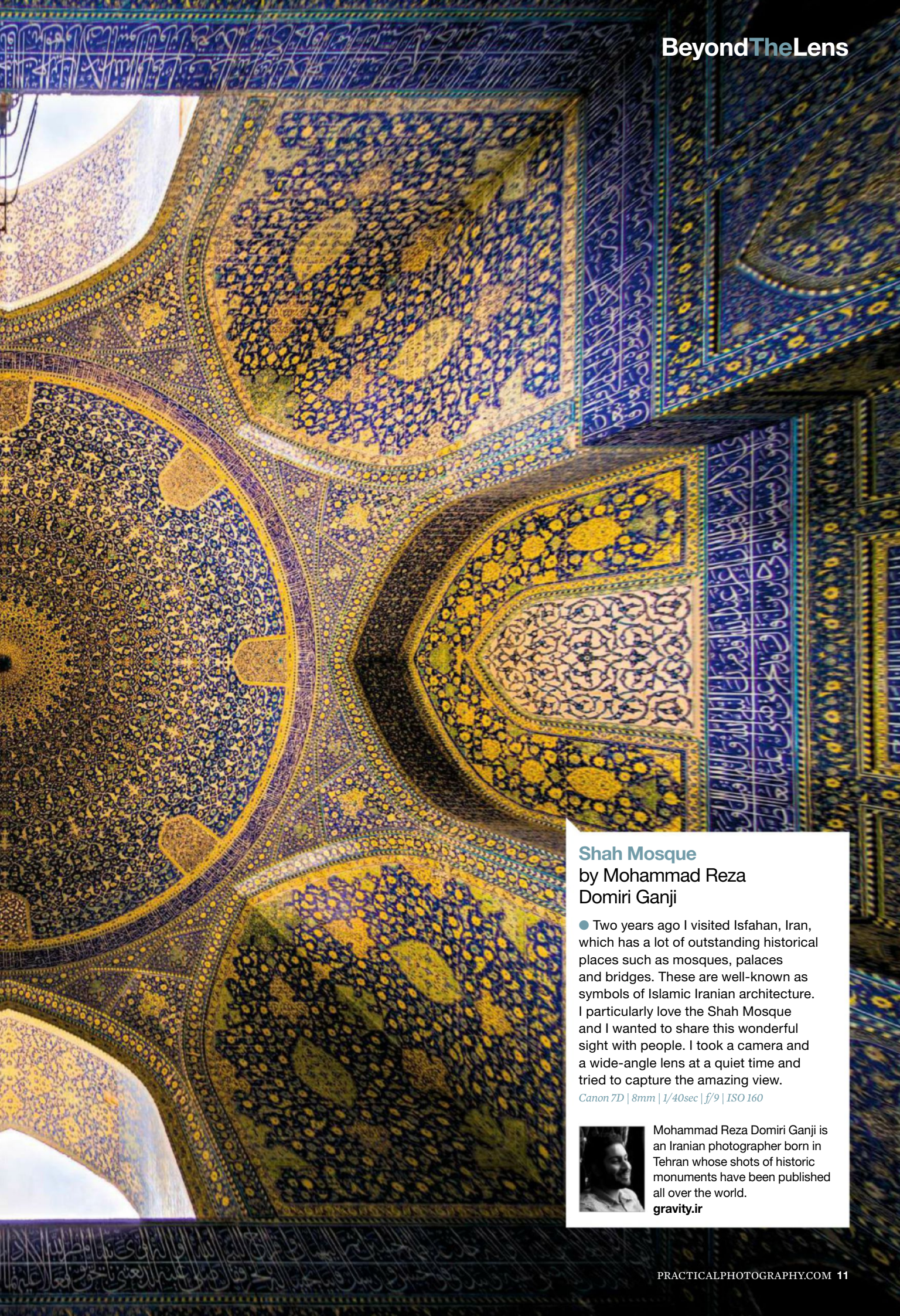
The stories behind the world's greatest shots

Silhouetted climber
by Stijn Dijkstra

I always find that the one thing I desire the most when waking up in the morning is to fall back to sleep and continue the adventure I was on. We live to dream! I'm a digital artist, so I decided to start creating silhouette stories. I wanted to give people the opportunity to dream whenever they want. I used two images for this picture. I shot a climber in a studio and then turned him into a silhouette against the beautiful sky. I drew in the mountain myself in Photoshop.

Nikon D700 | 50mm | 1/800sec | f/16 | ISO 100

Stijn Dijkstra is a self-taught digital artist from the Netherlands. He is currently working on his silhouette stories project, entitled 'Furstset'.
500px.com/furstset

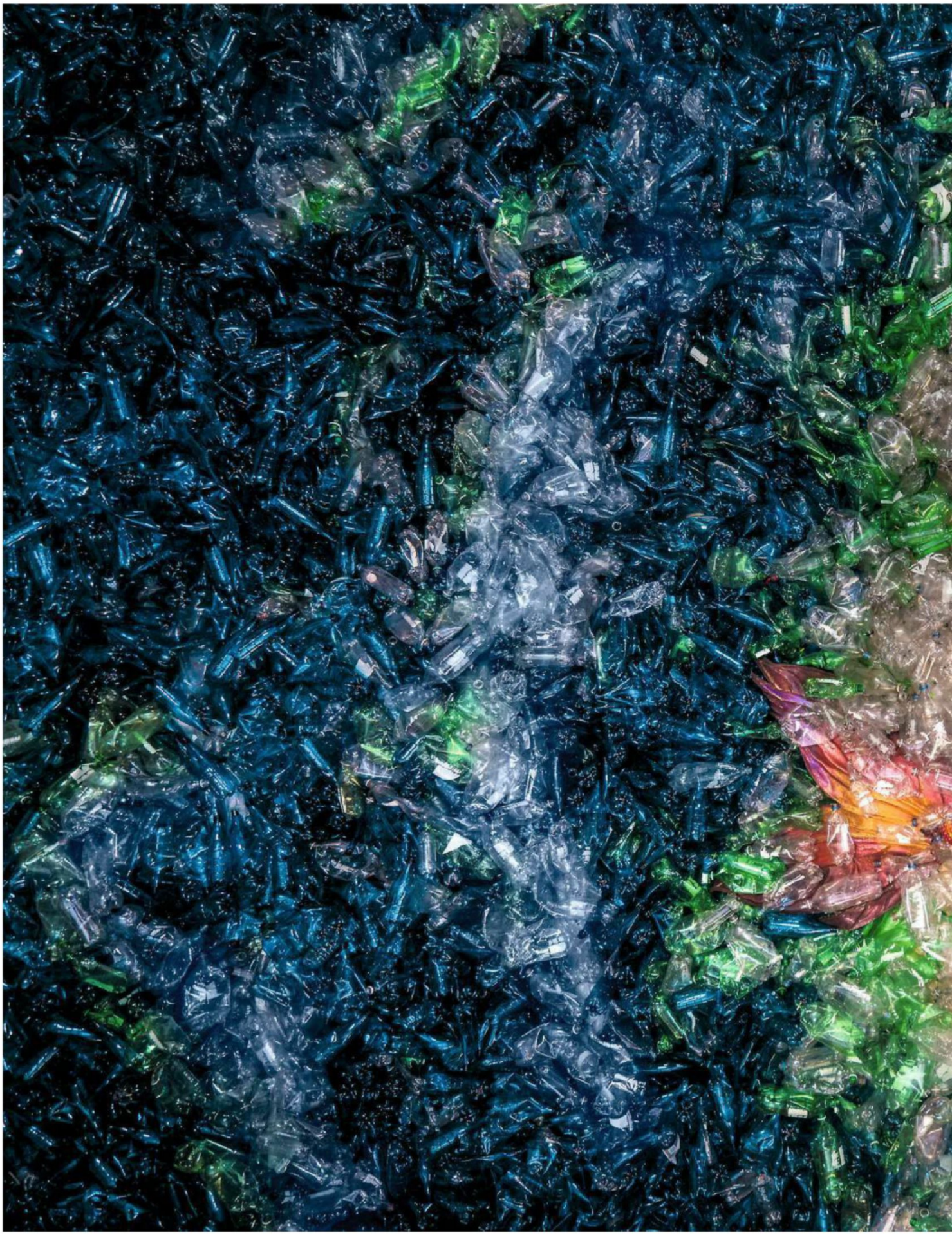


Shah Mosque
by Mohammad Reza Domiri Ganji

Two years ago I visited Isfahan, Iran, which has a lot of outstanding historical places such as mosques, palaces and bridges. These are well-known as symbols of Islamic Iranian architecture. I particularly love the Shah Mosque and I wanted to share this wonderful sight with people. I took a camera and a wide-angle lens at a quiet time and tried to capture the amazing view.

Canon 7D | 8mm | 1/40sec | f/9 | ISO 160

Mohammad Reza Domiri Ganji is an Iranian photographer born in Tehran whose shots of historic monuments have been published all over the world.
gravity.ir



Plastic beach
by Benjamin Von Wong

The average American uses 167 plastic bottles a year. This means that in 60 years one person will have used 10,000 plastic bottles. These same single-use bottles will be around for decades after we're gone. I knew that plastic pollution was a boring topic, so I had to find a way to make it more interesting. Alone I was just a photographer, but thanks to the help of amazing individuals we were able to transform a lifeless pile of used garbage into a message – #MermaidsHatePlastic.

Sony α7R II | 18mm | 1/60sec | f/4 | ISO 500

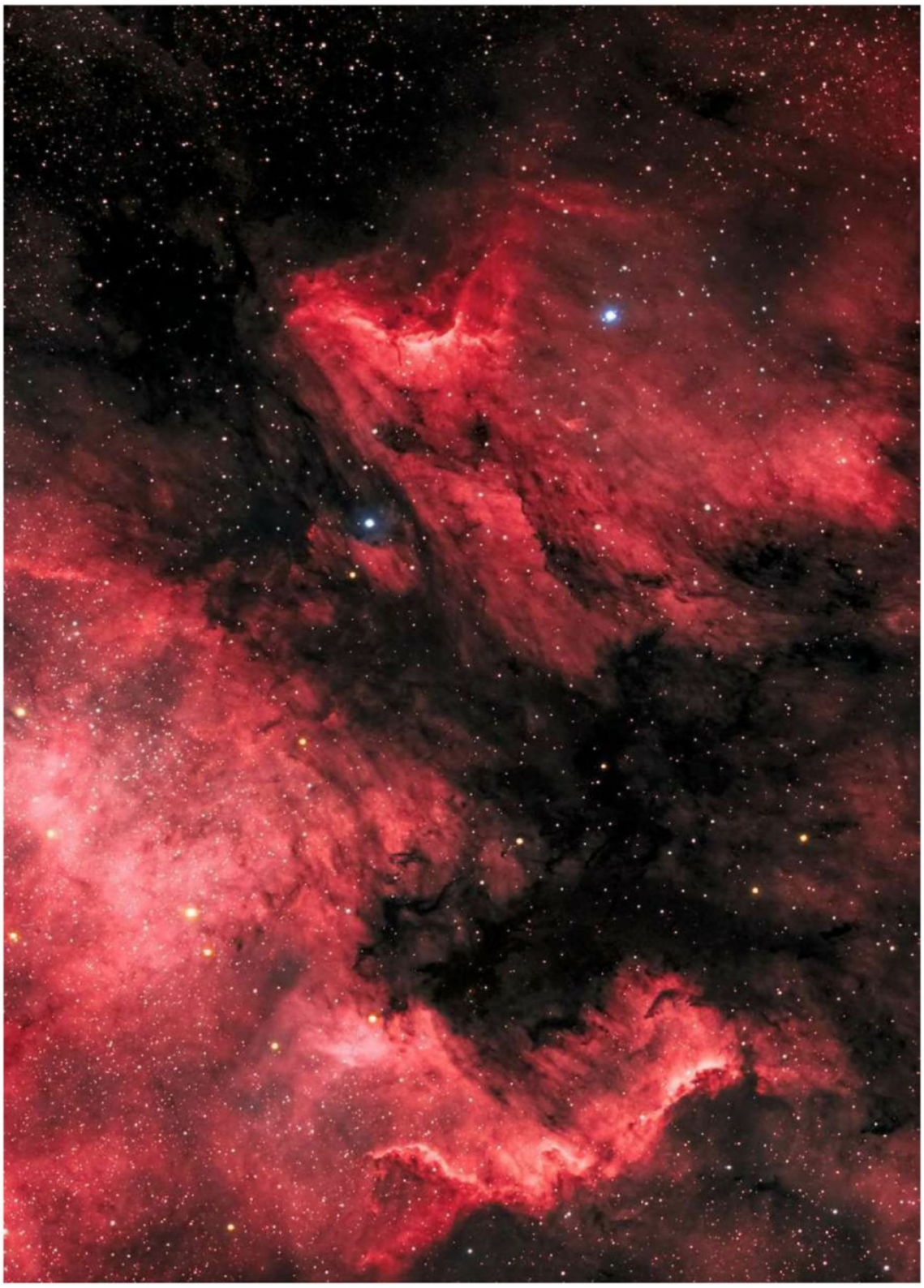
Benjamin Von Wong has become notorious for his HDR-style images, and for creating large-scale productions to bring his stories to life.
vonwong.com

Gulfoss waterfall
by Lucien Gorlier

This is one of the first shots I took on my three-week road trip around Iceland with my girlfriend. On our second night we settled down next to the Gulfoss waterfall. When shooting I decided that I wanted to get as close as possible to the imposing rift, so I could really make the most of the incredible roar of the water. The wind was blowing hard and kept throwing pearls of water onto my polariser. It was an amazing experience and it completely immersed us in our Icelandic adventure.

Canon 6D | 23mm | 1/10sec | f/13 | ISO 50

Lucien Gorlier is a travel and landscape photographer based in Champéry, Switzerland. He enjoys shooting dramatic and dynamic scenes.
500px.com/_lucien_



Pelican Nebula by Henrique Silva

● My interest in astronomy dates back to my childhood, when I visited the Lisbon planetarium and became fascinated by the cosmos and what was yet to be discovered. As I grew older I became interested in photography and decided to combine my two interests. Astro photography is a challenge and the learning curve is long, but the results are amazing. I used a telescope with a 430mm focal length and narrowband filters to combat light pollution.

Canon 600D | 430mm | 220min | f/6 | ISO 1600

Henrique Silva is a chemical engineer based in Portugal who particularly enjoys shooting both astro photography and landscapes.
500px.com/henrique_silva

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Want a mirrorless medium-format camera that boasts a mighty 43.8x32.9mm sensor with 51.4MP resolution? Set for release at the end of this month, Fujifilm's GFX 50S is exactly that. A potentially ground-breaking release that combines the X series' retro stylings with an ultra-high quality CMOS sensor that's 1.7x larger than full-frame, the GFX will also be joined by a trio of Fujinon GF lenses – 63mm f/2.8 (£1399), 32-64mm f/4 (2199) and 120mm f/4 (£2599). Despite its heavyweight spec, the GFX will weigh in at 1.23kg with 63mm lens attached, which Fujifilm claims is 40% lighter than a traditional medium-format DSLR with identical sensor, and its body will be made of rigid magnesium alloy. Other spec includes a 3.69m-dot EVF, 3.2in 2.36m-dot LCD, X Processor Pro engine (as used in the X-Pro2 and X-T2), and newly developed high capacity battery. £6199 body only.
fujifilm.co.uk

ALSO RELEASED BY FUJI...

Fujifilm X100F £1249

With a 24.3MP sensor and an Advanced Hybrid Viewfinder, this camera is a top addition to the X series. Full review p132.

Fujifilm X-T20 £799

This impressive mirrorless camera has improved AF capabilities, 4K video and a tilting touchscreen LCD.

Fujinon XF50mm £499

This little lens is perfect for portraiture with its high-speed AF, advanced sharpness and weather-resistance.

SLIDE FILM

Kodak Ektachrome is back!

Discontinued in 2012 and mourned by a generation, Ektachrome's imminent revival is sure to raise a smile or two. Kodak Alaris made the announcement at CES and the colour reversal film, famed for its fine grain and clean colours, will be reintroduced towards the end of the year. Like vinyl records, film sales have been steadily rising over the last few years and Kodak has even announced the reintroduction of Super 8 film. We spoke to product director Lars Fiedler...

Why reintroduce 'analogue' technology in 2017?
"Film is Kodak Alaris' heritage. We've seen a number of photographers come back to shooting film due to aesthetics, workflow or to differentiate their business and/or look. More importantly, we're also seeing a younger crowd that grew up with digital now experiencing film for the first time. So it's a bit of a resurgence. We'd been discussing the possibility of bringing back a slide film, and Ektachrome was the obvious choice." kodakalaris.com

Above
Ektachrome was first developed in the 1940s and will return in 35mm format.

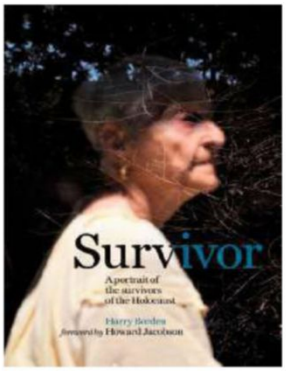
CAMERA

Canon Powershot G9 X MkII

Billed as a 'trusted companion' for serious enthusiasts and an upgrade for smartphone users, Canon's latest G series compact boasts a seriously impressive spec sheet. At its heart is a 20.1MP CMOS sensor and Digic 7 processor, which enable a nifty 8.2fps burst rate and 0.14sec autofocus speed. The G9 X MkII is also equipped with a 3x optical zoom with wide 28mm f/2 focal length/aperture combo, and an Auto ND filter makes it ideal for portraits and landscapes. While there's no 4K on offer, videographers can record Full HD movies using Canon's Dynamic Image Stabilisation, as well as create time-lapse clips in-camera. Weighing in at just 206g and with minimalist design, the G9 X MkII is 25% thinner than the G7 X MkII and is being marketed as a 'super slim, pocketable powerhouse'. Its Wi-Fi, NFC and Bluetooth compatibility are sure to appeal to smartphone evangelists. £450
canon.co.uk

BOOK

Survivor by Harry Borden



Subtitled *A portrait of the survivors of the Holocaust*, Harry Borden's heavyweight tome showcases a personal project a world away from the instantly recognisable actors and politicians he usually trains his lens on. This is a sombre yet celebratory collection of 100 or so images, each accompanied by notes written by Borden's subjects. Whether recollections, poems or hopes for the future, it's these personal touches that resonate the most, painting an evocative picture of history's darkest moment. *Survivor* is so much more than just a photography book – it's a testament to the best and worst of humankind. Definitive.
Cassell Illustrated, £30, octopusbooks.co.uk

RumourMill

Hotly-anticipated products we can expect in 2017...

Sony α9

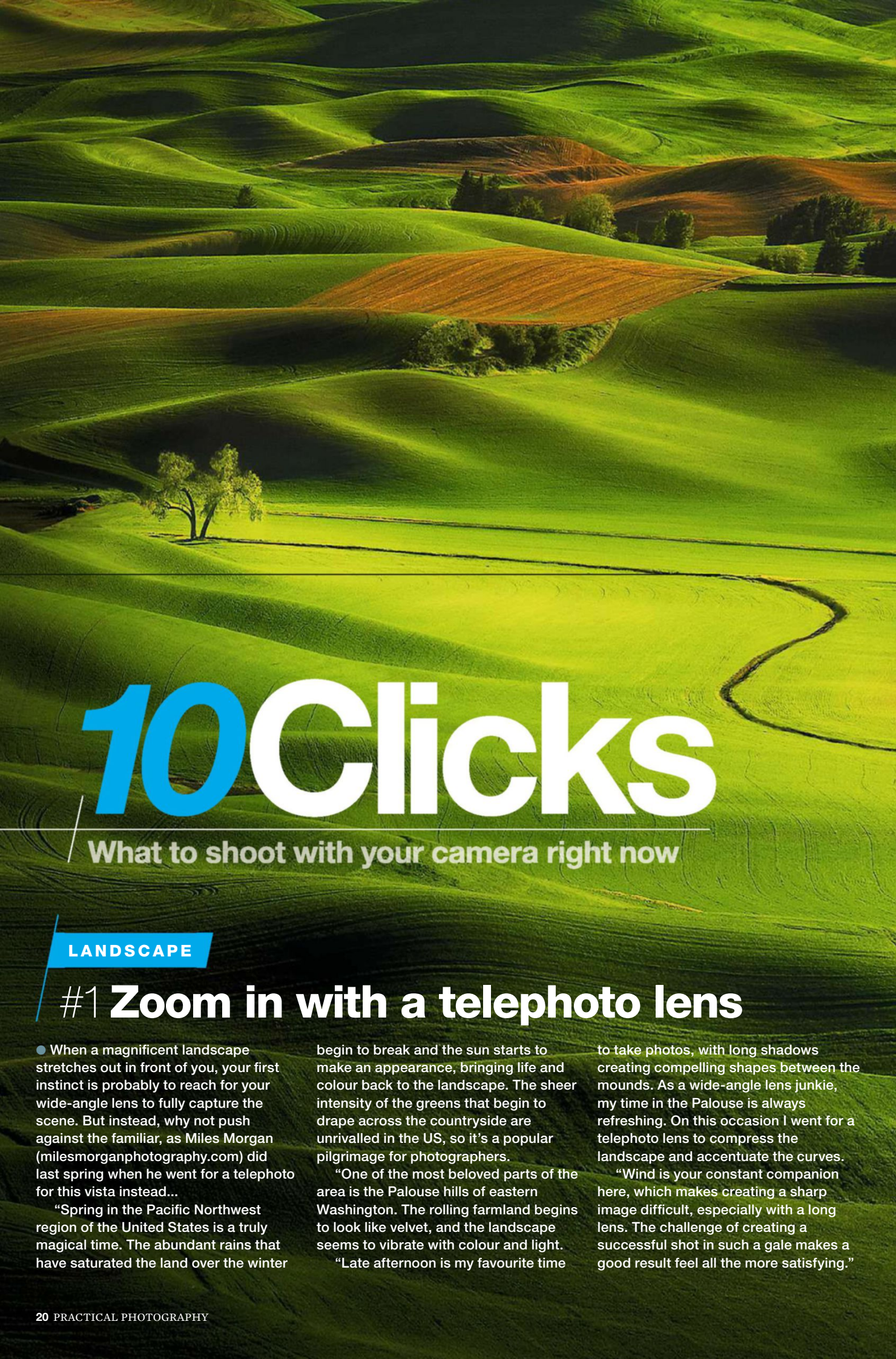
Last month we reported on the possibility of a Sony α7 MkIII, the next iteration of Sony's successful full-frame mirrorless α7 series. However, there have also been whispers of a brand new Sony α9 since May 2016. Word has it that it'll boast a 72MP full-frame mirrorless sensor and dual card slots. It's rumoured to be released early this year for around £4700, but at the time of press it's still just a distant twinkle in Sony's eye.

Canon EF 85mm f/1.4 IS USM lens

Canon's EF 85mm f/1.2 II lens is one of Canon's widest aperture lenses, making it a great option for fashion and portrait photographers. However, it's rumoured that Canon will soon be adding an 85mm f/1.4 IS USM lens to its line-up. Whether this will replace the f/1.2 is yet to be known, but if the rumours about this lens are true then this optic will join an exclusive club of a handful of primes with image stabilisation. This will make it a powerful tool when working in low light conditions.

Nikon D7300

The arrival of the Nikon D7200 in March 2016 wasn't the upgrade many had hoped for. The majority of changes were minor tweaks, such as improving the buffer size. However, the D7300 is rumoured to be a little more exciting, with the camera body itself undergoing substantial changes. We hear a tilting touchscreen interface is definitely on the cards, a move sure to please video and street photographers. We anticipate an announcement from Nikon in the spring.



10 Clicks

What to shoot with your camera right now

LANDSCAPE

#1 Zoom in with a telephoto lens

When a magnificent landscape stretches out in front of you, your first instinct is probably to reach for your wide-angle lens to fully capture the scene. But instead, why not push against the familiar, as Miles Morgan (milesmorganphotography.com) did last spring when he went for a telephoto for this vista instead...

"Spring in the Pacific Northwest region of the United States is a truly magical time. The abundant rains that have saturated the land over the winter begin to break and the sun starts to make an appearance, bringing life and colour back to the landscape. The sheer intensity of the greens that begin to drape across the countryside are unrivalled in the US, so it's a popular pilgrimage for photographers.

"One of the most beloved parts of the area is the Palouse hills of eastern Washington. The rolling farmland begins to look like velvet, and the landscape seems to vibrate with colour and light.

"Late afternoon is my favourite time to take photos, with long shadows creating compelling shapes between the mounds. As a wide-angle lens junkie, my time in the Palouse is always refreshing. On this occasion I went for a telephoto lens to compress the landscape and accentuate the curves.

"Wind is your constant companion here, which makes creating a sharp image difficult, especially with a long lens. The challenge of creating a successful shot in such a gale makes a good result feel all the more satisfying."

TIP

USE IMAGE STABILISATION

A long lens can cause blur when shooting handheld, even at fast shutter speeds. Turn on your lens' image stabilisation to counteract this.

SEASCAPE

#2 Capture dramatic stormy weather

Knowing your location inside out is worth its weight in gold for any photographer. Trevor Pottelberg's (trevorpottelberg.com) familiarity with his location is what helped him get this amazing shot.

"Living within a half-hour drive of Lake Erie has allowed me to explore this diverse shoreline on a regular basis. One of the locations that I frequently visit is a small lakeside village in Ontario called Port Bruce. There's a unique lighthouse that rests at the end of an old cement pier, and it offers the perfect focal point for my compositions. I've photographed this gem at sunrise, sunset and in the dark at night in all four seasons.

"Capturing this scene during an intense storm has been on my bucket list for some time now, and there was one day in December that offered up the perfect conditions to match my artistic vision. With a wind chill of -15°C and howling gale-force winds, I decided to venture out to the edge of the water to compose my image.

"The light was fading quickly, so I had to increase my ISO until I had a fast enough shutter speed to freeze the action of the waves. Within seconds, both myself and my gear were covered in thousands of tiny water droplets from the spray off the incoming waves, which instantly froze on contact. I struggled to keep my ND grad filter dry long enough to capture a shot. When all was said and done, I walked away with a new portfolio image, ice-covered equipment and two absolutely sodden feet."

TIP

WATERPROOF YOUR CAMERA

Protect your camera from sea spray and errant raindrops by using protective waterproof covering. You can buy plastic raincovers from £5.99.

Above Use an ND grad to darken down the sky and provide an even exposure.

PORTRAIT

#3 Add explosive colour

● The obscuring nature of fog and mist adds intrigue to any image, whether it's a misty morning landscape or an eerie urban shot. Marc Lamey (marclamey.com) used vividly coloured man-made smoke for his shoot on the streets of Paris.

"This image illustrated an article that was exploring the use of smoke. I wanted to show how it could be used in both an urban and non-urban environment. Despite the fact that the colour in the image looks pink, we actually made this with a red smoke bomb that we set off around our model to create a beautiful cloud.

"Our shoot wasn't too far from a modern art museum in Paris, which had one window open in the back. Unfortunately, this meant that the smoke crept through the window and set off the fire alarm.

We also had a dress that got burned while we were shooting. We always do our best to think about fire issues, but this image definitely caused some collateral damage!

"It's always best to remember that smoke is potentially dangerous, so use it with care and make sure that you have an assistant that's used to fire.

"I shot it with my Nikon D800E and a 24-70mm f/2.8 lens, and used a shutter speed of 1/125sec to ensure that the smoke's details were clearly defined, rather than a formless blur."

WILDLIFE

#4 Create a cute pet portrait

When the fresh buds of spring begin to bloom it's not just the wildlife that starts exploring the new landscape. Alina Shevelina (500px.com/alina___s) captured this beautiful image of her pet among the spring flowers.

"My cat had decided that this flowerbed was the perfect place for a nap. It was an image that was impossible to resist capturing! I used a Nikon D5100 and a 50mm f/1.8 lens, plus a gold reflector to bounce a nice warm light onto my cat's face.

"I like to shoot with a prime lens and a wider aperture, to give images a dreamy appearance. I set my camera to single-point AF, which I positioned over my cat's nose, then selected a wide aperture of f/2.5 so the nose was perfectly in focus while the rest of the image was blurry. I also took a shot with bokeh for the background, which I created with a flashgun.

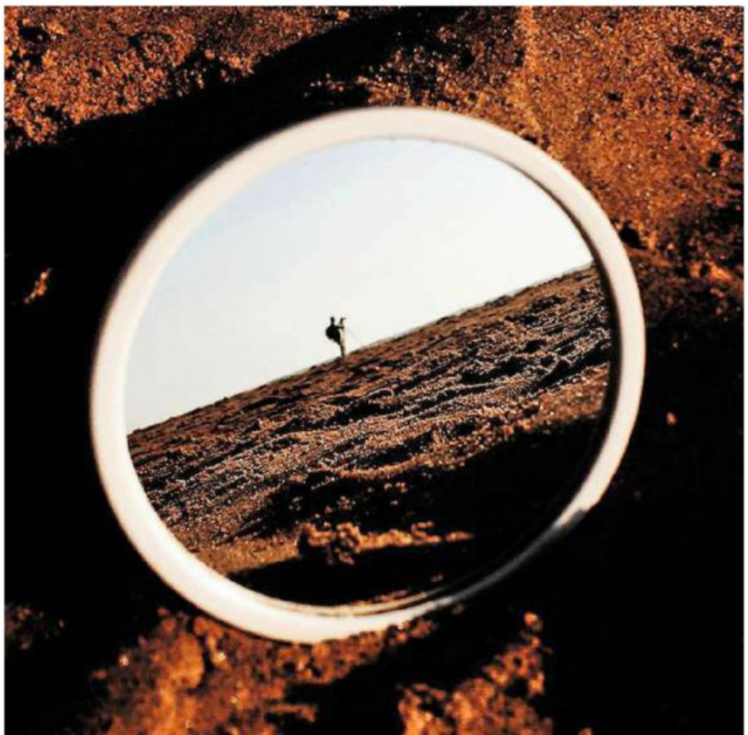
"Getting the shot was fairly easy, as my cat was perfectly happy to get drunk on the smell of fresh flowers. However, the final shot required some editing. I used Photoshop for the bulk of it, where I sharpened the image by converting it to CMYK colour mode and sharpening the Black channel. This helps to avoid colour haloes, noise and other nasty side effects of sharpening colour channels. For the final touches, I boosted the golden light and added the bokeh texture I'd shot earlier."

TIP

SHARPEN SELECTIVELY

In Photoshop copy your Background Layer. Go to *Filter>Sharpen>Sharpen*. Use the Eraser Tool to get rid of unwanted sharpness.

Above Use a fast lens like the Nikkor 50mm f/1.8 to create beautiful portraits, whether they're of animals or humans.



LANDSCAPE

#5 Shoot reflections

Finding unexpected views is all par for the course for The Reflectionist (instagram.com/the_reflectionist). By utilising the simple accessories of a smartphone and a mirror, she was able to create a fully formed project that shows off her unique creativity and keen eye for dynamic landscapes.

"This whole project started as a bit of an accident. I stumbled across a little mirror in my grandma's drawer after she passed away. Almost immediately the idea of using it to take pictures came to me. Since then I make sure to take it with me wherever I go.

"I find that the whole process of taking these images is always enjoyable and surprising. The thing I'm aiming for is to show the inherent contrasts within the scene and portray unexpected angles.

"Before I take my shot I always try to think of what I might want to capture. Then I turn the mirror and find something there that I didn't expect. In the end I'm the one who's surprised the most by what I see. Nothing is set in stone with this technique, it's just a trick of the mirror. The biggest challenge with this idea is really the same one that every photographer encounters – a great image always requires patience.

"I shot these images using just two gadgets – the mirror and a smartphone. At the start of the project it was an iPhone 5s, but then I upgraded to a Samsung 6. I didn't use Photoshop at all, I just added some filters using an app."

The main issue with shooting reflections is that the object inside the mirror is on a different focal plane to the mirror itself. You must ensure that the subject of your reflection is in focus, rather than the frame of the mirror or the background.

If you're shooting on a phone, tap on the screen where you want to focus. If you're using a digital camera instead, then set up your camera in single-point AF mode and used the D-pad to arrange the focus point on the key point of the reflection.

Above **Use an editing app like Afterlight (99p Apple, 59p Android) for instant access to filters and textures.**

TIP
SHIFT THE COLOUR BALANCE

Go into Photoshop and navigate to the top menu and press *Image>Adjustments> Colour Balance*. Shift the sliders towards Cyan and Blue.

STILL LIFE

#6 Make your own landscape

The beauty of still life photography is that you can create all kinds of different landscapes from the comfort of your own studio. Vatsal Kataria (vatsalkataria.in) has perfected the art of shooting still life by creating extreme weather on a miniature scale.

"One day I was sitting in my studio alone without any work to do, just aimlessly scrolling through Instagram. I came across an image of a miniature car shot near a waterfall. I started to wonder how I could do something like this in my studio with minimal resources and without going anywhere.

"I bought a packet of plaster of Paris and started experimenting with it. It took me five days to perfect the range of mountains I was creating. I painted them with acrylic paints, as I find that they dry very quickly, but then I began to get stuck. I wanted to create snow, but had no idea how to make it look realistic. I tried polystyrene sheets, cotton and bleached wheat flour, but none of them seemed to work.

"I finally tried using baking soda, which is very cheap to buy and worked brilliantly as snow. The only problem with it was that if I inhale baking soda my allergies start to act up. And I couldn't protect myself by using a mask, because I needed to blow on the powder to make it look as though there was a strong wind...

"I took around 60 shots in pursuit of the perfect one. Afterwards it took me a whole day to clean up the studio because there was baking soda everywhere!"

Above **Use a focal length of 50mm for minimal distortion when shooting still life.**

FINE ART

#7 Go surreal with fine art

Great fine art photography has the unique ability to make you pause and really think about the message the work is portraying. Dan Susa (500px.com/itsvision) created an introspective self-portrait that explores multiple layers of meaning.

"Portraiture and fine art have always been my main passions. This image is, at its core, a self-portrait mirroring my personal thoughts and ideas about mankind. Technically, the final image was pretty simple to get. It was the layers beneath it and the ideas I wanted to imprint upon my audience that were a bit more complex. I wanted a duality in this photograph. On the one hand it's fragile, humble and delicate, but on the other, the chrysanthemums show that it's a symbol of grief."

Above **Using an 85mm equivalent focal length will give you the most flattering perspective.**

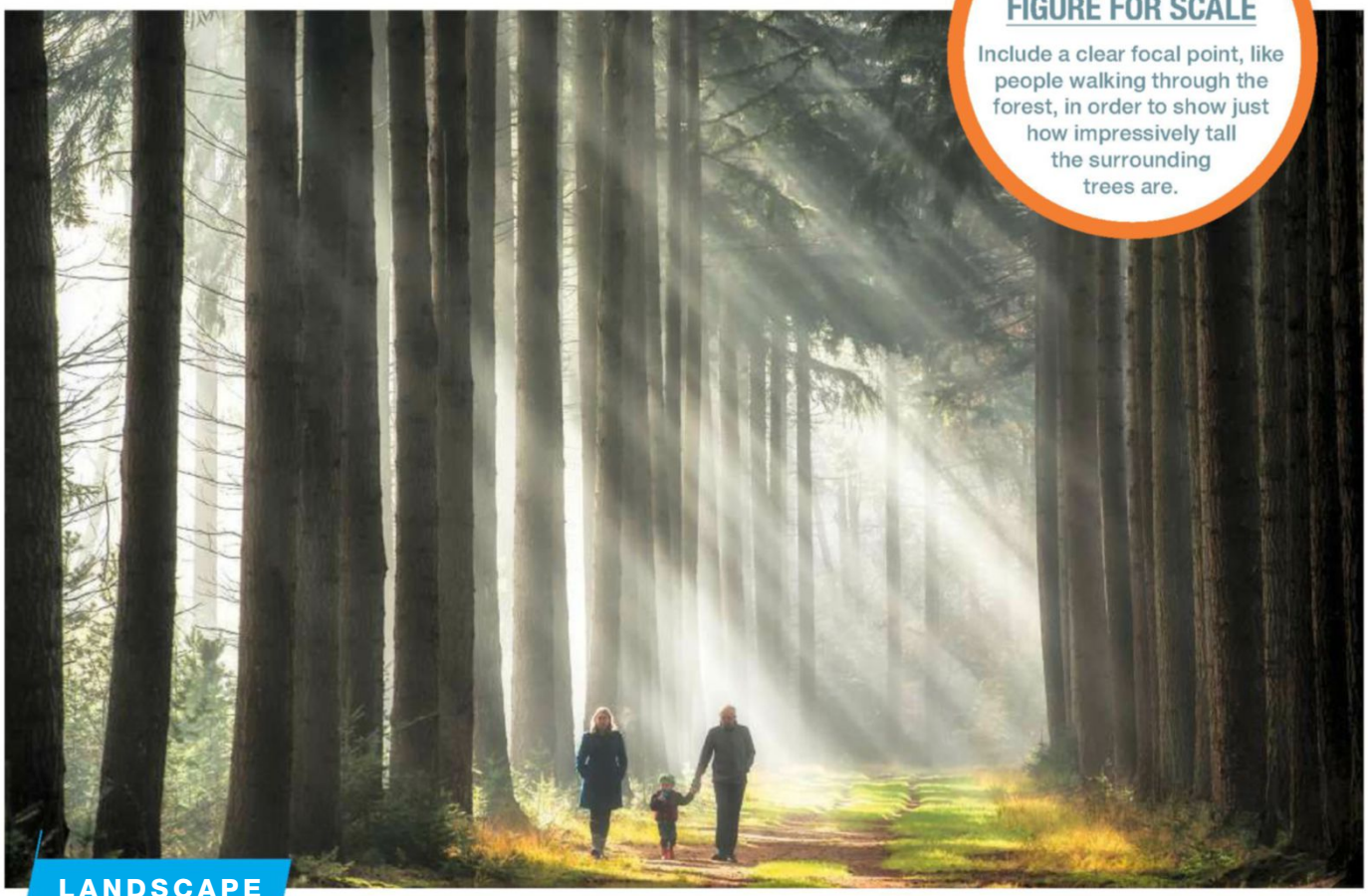
STILL LIFE

#8 Explore nature

Mustafa Ozturk (500px.com/blackdiamond67) uses his macro lens to take stunning insect photographs.

"I was taking a walk through the beautiful local countryside just after a sudden downpour, and I was excited to see a ladybird journeying along a plant. It was determined to reach its goal, despite the obstacles in its way. I was lucky because I happened to have my DSLR and macro lens with me, so I was able to capture this image.

"I love nature photography. My macro lens opens up a whole new world of discovery with my camera. These tiny creatures are incredibly important for our continued existence here on this earth. Their colours, structure, behaviour and interaction with each other are unique in the natural world and its these details that I keep trying to capture with my camera. I use my Nikon D7100 with a Tamron 90mm f/2.8 lens for all of my macro photography."



TIP

INCLUDE A FIGURE FOR SCALE

Include a clear focal point, like people walking through the forest, in order to show just how impressively tall the surrounding trees are.

LANDSCAPE

#9 Wander through a beautiful forest

● A walk through some peaceful woods can turn into a cracking image for your portfolio if you keep a keen eye out for new opportunities, just like Lars van de Goor (larsvandegoor.com) did.

"I took this image at one of my favourite spots at Velhorst estate, not far from where I live in Lochem, in the Netherlands. Whenever the light seems right I make sure to visit this place.

"As I'm a landscape photographer I spend most of my time avoiding having people in the frame. However, when I was framing up this image a family suddenly appeared from between the trees on the left and walked straight into my shot. I found that it really added a little something extra to the shot.

"Usually when I'm taking landscapes I'll use a long shutter speed and a low ISO, but as the people were moving I adjusted my settings to 1/200sec and ISO 500."

Above **Use a 70-200mm lens to zoom into interesting situations.**

PET PORTRAIT

#10 Start a project

● Andy Seliverstoff (greatdane.photography) has dedicated the past six months to capturing the relationship between dogs and their human pals. "It all started when I took a shot of my friend's two-year-old child posing with their big dog. It was really successful on social media, so I decided to carry out several similar shoots. Eventually I had enough shots to form a book called *Little Kids and Their Big Dogs*. I needed a really striking front cover, so I organised a shoot with a Komondor dog and another friend's four-year-old child, Arthur. Komondors are very energetic and have impressive jumps, so it was the perfect dog for this project."

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WHITE WALL

ROSS HODDINOTT

ADVENTURES OF A NATURAL WORLD PHOTOGRAPHER
BRITISH WEATHER

NORMALLY I'M IN MY NICE, SNUG OFFICE WHEN I write to you, but not today. I'm up north, in Glencoe, Scotland, with the intention of shooting some fresh, dramatic images. It's a week-long trip, and I'm with fellow landscape pro and friend Adam Burton. We're staying in a cute little chalet for the week, just on the fringes of Glencoe village.

It's nice here. Scottish mountains loom dramatically above our abode – it's a truly enviable setting for any landscape enthusiast. In the apartment next to us is a Russian guy that spends most of each evening loitering outside, smoking and chatting on his mobile. We can't understand a word he says, but we've come to the conclusion that he's an illegal arms dealer. Perhaps we've just been watching too much of my *24* box set while being away.

Whenever we return from a shoot he gives us very odd, disapproving looks – I suspect he thinks Adam and I are an item, having a romantic week away. In reality – away from a camera – we're two of the most hopeless blokes imaginable. Between us, we can barely cook or survive without our wives. The fridge is full of pizzas and cans of beer – our staple diet for the next few days. It's not going to be a good week for the waistline.

So why am I writing this, rather than out exploring and taking great shots? Quite simply, the weather is utter pants. We've driven for 10 hours and 600 miles only to be greeted with a forecast of grey, mild weather for the week. Everyone we bump into gleefully tells us how beautiful it was last week – always helpful to know. The week before, there was snow, frost and mist – all the conditions you pray to the weather gods for when you visit the Highlands. Not this week, though, oh no. It's dull and mild and not a snowflake in sight.

The ice on the lochs has melted, and only the very peaks of the mountains have retained a dusting of snow. To make things worse, the rest of the UK is freezing and enjoying wonderful wintry weather – not what you want to know when you're basking in a balmy 11°C at the foot of Buachaille Etive Mor. I hope you can detect the bitterness in my tone.

I probably shouldn't admit this, but with each passing day our motivation to take photos is waning. You can imagine our frustration – we're surrounded by some of the best scenery you'll find anywhere in Europe, yet without the right conditions and light, we're snookered. And I guess that's the crux of it. Outdoor photographers rely on something we have absolutely no control over – the weather.

> "THERE'S A FINE LINE BETWEEN SUCCESS & FAILURE WHEN RELYING ON BRITISH WEATHER"

You win some, you lose some – that's just the way it is, and you have to begrudgingly accept that fact when you set out to shoot great landscapes. There's a fine line between success and failure, particularly when you have to rely on British weather. We've travelled too far to head home early though, so how are we going to fill our time for the rest of the week?

We'll do the professional thing and carry on trying – the forecast looks brighter for tomorrow. We can also recce locations in anticipation for better weather on a future visit. We have to make the most of our time up here. We've also got another series of *24* to watch and a lot of pizza to consume. Just for fun, we might even ask our next-door neighbour, Vladimir, to join us for a drink tonight…

Ross Hoddinott is an award-winning natural world photographer based in Cornwall. He's written eight books on the subject and he won the inaugural British Wildlife Photography Awards. **rosshoddinott.co.uk**

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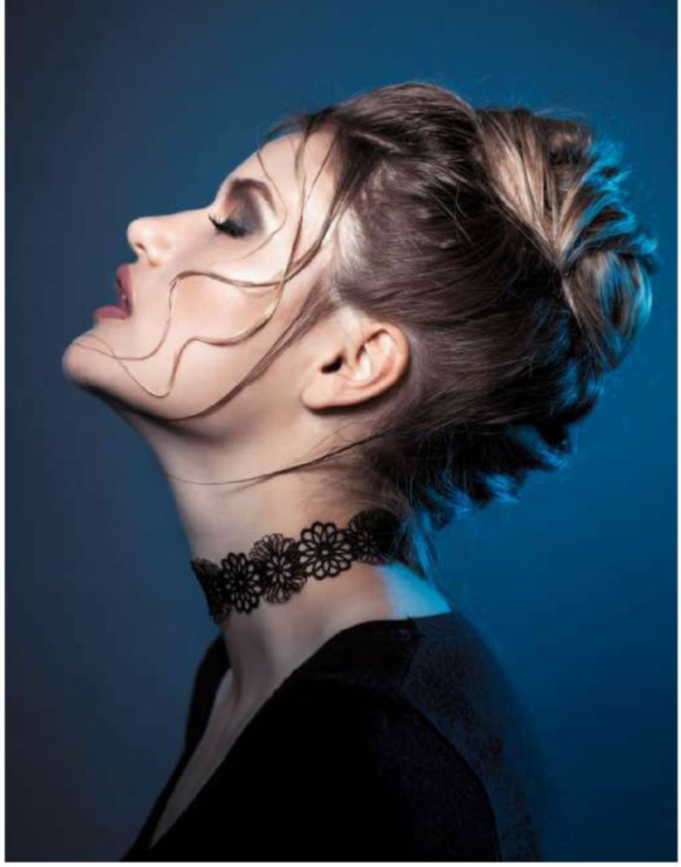

LISA-MARIE MCGINN

ADVENTURES OF A FASHION PHOTOGRAPHER
FROM ONE EXTREME...

I STARTED A TREND IN 2016 THAT I FULLY INTEND TO continue. When shooting editorials, I'd start with an ethereal idea and finish with something edgy. It first started with a shoot I did in the spring. The cherry blossoms were in full bloom here in Alberta – they typically last for two weeks and, if we're lucky, maybe a bit longer. I'd never shot with the cherry blossoms before – I always managed to just miss them. This time, however, I was lucky enough to have some free time to fit in an outdoor shoot at a local botanical garden.

The shoot itself was very feminine, soft and fairytale-inspired. After we'd finished, we got this crazy idea to head back to the studio and do something completely different to what we'd just captured. I'd just received some lighting gels to test, so we decided this was a great opportunity. It was my first time using gels and I highly recommend fashion and beauty photographers experiment with them for future editorials, as they add a different look that can really enhance the aesthetic of an image.

> "THERE'S NO RIGHT OR WRONG WAY TO USE GELS, SO JUST EXPERIMENT..."

A few months later, I'd set up a personal project with a new model from a local agency and my make-up artist friend, Jennifer Gjertsen. I'd been given some designer pieces to photograph so I chose to shoot in natural light with a backdrop I made myself (article about my DIY backdrops to come!). The whole theme of the shoot was princess-inspired – I love soft, feminine portraits. After the shoot had wrapped and we were happy with the outcome, we all had the afternoon free, so we thought, why don't we head to the studio and do something dark and edgy?

Typically, I use my Elinchrom Deep Octa. It's my favourite light. However, for this shoot I wanted to try something different so I went with my beauty dish and placed a grid over the top. Like the gels, this was my first time using a grid. I usually don't incorporate shadows into my beauty and fashion editorials, so I thought this was a great time to try something new. Using a blue gel placed behind the model, it helped enhance the depth of the image that we were missing when we shot with just the beauty dish itself.

This was one of the rare cases where I used more than one light. The first time I worked with gels, back in the spring, I had three lights. For this shoot I used one extra light. There's no right or wrong way to use gels, so just experiment. This is my favourite part – change colours, change the direction of the light, or turn the intensity of the light up or down and your outcome will be completely different every time.

What I love about these editorials is seeing the models go from smiling and soft to fierce and moody, and the models love it because it gives them an opportunity to go from one extreme to another. Looking at these images, you wouldn't think they were shot on the same day, within a few hours of each other.

You can purchase gels from most camera stores, and even craft stores sell large rolls that you can easily cut yourself. Just make sure you have a protector and that the gels don't touch the bulbs. You'll be amazed at what adding a little pop of colour can do for your portraits.

Lisa-Marie is a Scottish-born fashion and beauty photographer based in Alberta, Canada. Her work is regularly published in glossy magazines, and clients include Elinchrom, Canon and Vistek. **lisamariemcginn.com**

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THE BIG FEATURE

THE ULTIMATE GUIDE TO PHOTOGRAPHING BRITAIN'S WILDLIFE

From the golden, grassy dunes of the Norfolk coast to the craggy, snow-capped mountains of western Scotland, the British Isles is bursting at the seams with some of the planet's most amazing wildlife. Owing to its mild, temperate climate, some 70,000 resident and migratory animals live on our tiny island, making it an absolute haven for wildlife shooters.

If you'd love to have a go at photographing British wildlife, but aren't quite sure where to start, don't worry – you're in exactly the right place. Over the next few pages, we're going to show you how to capture five of our most iconic species.

From the tiny goldcrest to the mighty red deer, we'll show you the shooting techniques and the gear you need to achieve great results, and we throw in lots of tips and tricks from the country's top wildlife pros. So grab your camera and let's get started...

DISCOVER HOW TO FIND & PHOTOGRAPH THESE SPECIES

PROJECT 1
Garden birds P36

PROJECT 2
Deer P38

PROJECT 3
Seabirds P42

PROJECT 4
Red squirrels P46

PROJECT 5
Foxes P48

MARK BRIDGER

PROJECT 1

Shoot beautiful birds in your garden

TIP
USE COLOUR

Look out for colourful species such as the goldfinch (above), chaffinch, robin, blue tit and bullfinch, as these will give you more vivid and eye-catching results.

Where to shoot

The great thing about garden birds is that you can photograph them almost anywhere, although some species are less common in Scotland and inland areas of northern England. You'll have the most luck if you regularly leave food out so birds get into the habit of visiting your garden.

IF YOU WANT TO TRY your hand at wildlife photography, garden birds are the ideal subject to get you started. There are lots of different species to shoot, they're active during daylight hours, and virtually everyone in the UK has an abundance of them right on their doorstep. What's more, you don't necessarily need expensive telephoto lenses as you do when photographing many other types of animal.

The best time of year to photograph garden birds is in the winter and early spring, when food in the wild is at its most scarce. Birds are more likely to visit your garden regularly during this time if you make food available. The easiest option is to a hang a bird feeder from a tree branch or from the roof of a garden shed, although they don't tend to look particularly good in-shot. It's better if you can find a gnarly tree stump or log, and place food on that. Keep the food out of shot for the most natural-looking image. Some photographers even drill holes in the wood to hide the food in.

You can also try pushing garden forks and spades into your lawn and placing food on the handles, or stacking a few rustic flowerpots upside down and placing the food on top. Birds generally enjoy all types of nuts and seeds, and you can buy or make a wild bird suet mix that will stick to non-flat surfaces. Always set up towards the back of your

Above **To freeze garden birds in flight, you'll need to use a shutter speed of at least 1/4000sec. This means using a high ISO setting.**

garden in a quiet spot, and leave a big gap between the feeding station and the background to help throw it out of focus – the blurrier the backdrop, the more your subject will stand out.

Set up your shot

The easiest way to photograph garden birds is with a long telephoto lens, as this will allow you to work from a considerable distance. Ideally, you'll need a focal length of at least 400mm, which until recently would have cost you a prohibitively large sum of money. However, there are now several very affordable long telephoto options on the market, which you can check out in our group test on page 138. A crop sensor camera such as Canon's 80D is an advantage as it increases the effective focal length of your lenses by 1.5x. In other words, a 300mm lens becomes a 450mm lens.

Use the widest aperture you have available, then choose an ISO that gives a shutter speed of around 1/4000sec. This will ensure pin-sharp results even if the bird is in flight. You can shoot either handheld, or from a tripod, but the latter is easier on the arms, especially if you have a gimbal head attached.

Shoot remotely

If you don't own a long telephoto lens, you can still take great shots with a standard lens. Just set the camera up on a tripod very close to the food station, zoom in as far as possible, and focus on the food. Then switch to manual focus so AF doesn't kick in when you fire the shutter. Connect a wireless remote, which you can buy for a few pounds, then retreat to a distance to take your shots. Again, you should use your lens' widest possible aperture, and a shutter speed of 1/4000sec.

Try adjusting your composition so that the feeding station isn't in-shot, then trigger the camera just before the bird lands. This will give you stunning fast-action shots with lots of energy.

Above Camouflage yourself and your camera to reduce the risk of scaring the birds away.

Left A perching point next to a feeding station will dramatically increase your hit-rate.

Expert tips Simon Roy

Simon is an award-winning photographer who has been highly commended in the British Wildlife Photography Awards.
simonroyphotography.co.uk

1 Garden birds tend to be less wary of people but I still try to stay hidden, and camouflage both myself and my gear. I usually use a Canon 5D MkIII and 500mm f/4L IS II lens – this combination gives me sufficient reach and superb image quality.

2 Try to establish a feeding station that is located in a suitable position for both you and the birds. If possible, this needs to be near to some cover, a tree or hedge, so the birds have a safe approach. The area should be open enough to let light in and have a clean, uncluttered background.

3 I like to use props, positioning them between the main feeder and a smaller feeder. I fill the main feeder with plain seed and the smaller feeder with extra tasty treats. The birds then use a prop as a perch as they move between the feeders. If they're not settling for long enough, try emptying the treats from the smaller feeder, encouraging the birds to stop and look around for it.

ALL IMAGES BY SIMON ROY

PROJECT 2

Photograph deer at first and last light

Where to shoot

Deer are found across the UK, with large numbers in Scotland, East Anglia, Cumbria and Cornwall. Our top locations are:

1 Richmond Park, South London
2 Bradgate Park, Leicestershire
3 Beecraigs Country Park, Scotland

THE UK HAS SIX different species of deer, which collectively number more than two million animals – the largest UK population for over 1000 years. The red deer, which is a native species, is Britain's biggest land mammal, and undoubtedly one if its most majestic. The other five species – roe, fallow, muntjac, sika and Chinese water deer – are also very photogenic.

Most wildlife enthusiasts consider October the best month to photograph deer, as this is when the rut takes place (where adult males perform lively mating rituals). But you can photograph deer at any time of the year. In fact, with so many shots out there of clashing antlers and autumn colours, working in winter or spring could make your pics stand out.

Get the shot

In the wild, deer are extremely skittish, so getting close enough to them can be a problem. Getting a decent shot generally involves countless hours laying in damp undergrowth dressed in full camouflage clothing and with a very long lens. Even then, if you're upwind of a herd, they'll be able to pick up your scent long before you see them. You might consider investing in

Left A long telephoto lens will allow you to shoot from a considerable distance.

Above Working in winter offers something different to the usual autumn colours.

a pop-up hide. A far more efficient approach though, is to photograph semi-wild deer in a deer park, where the animals are very used to humans. Here you'll be able to get much closer, and won't need as much specialist kit. The deer are also contained in a much smaller area, so there'll be less waiting around between shots.

National Trust properties often have deer parks, so it's worth checking out its website to see if there's one nearby. Alternatively, country parks, such as Bradgate Park in Leicestershire and Royal Parks such as Richmond Park in London, are ideal. Many are free and open all hours.

If you plan to fill most of the frame with your subject, you'll rarely be able to get close enough to use a standard lens, so you'll need a longer telephoto lens. The shortest focal length you can get away with is around 200mm, but ideally you'll want something between 300mm and 500mm. These can be expensive, although there are now a few affordable long telephoto lenses available, including 150-600mm models from Sigma and Tamron, and Nikon's 200-500mm. For more on the best budget telephoto lenses under £1200, check out our group test on page 138.

The more you spend on a telephoto lens, the wider the maximum aperture is likely to be, which helps blur the background. This is important because a cluttered, in-focus backdrop can stop the subject from standing out, reducing the impact of your shot. For this reason, always shoot with the widest aperture you have available. This will also let the maximum possible amount of light into the camera, giving you a fast shutter speed, which is always important when shooting wildlife. It's also worth turning on image stabilisation to reduce the risk of camera shake.

Expert tips
Danny Green

Danny is a multi-award winning wildlife photographer, whose work has appeared in *National Geographic*. He's also a Canon ambassador.
dannygreenphotography.com

1 Most people try to photograph red deer in autumn during the rut. This is a classic time to capture images of this iconic species, but don't ignore other times of the year. During the winter deer are still active and in Scotland they actually move down the hillsides to escape the winter storms.

2 Fieldcraft skills are so important for wildlifers – the more knowledge you have about a subject, the easier it is to capture them. Look out for pathways in the forest, as these are often deer trails. They like to bathe in mud pools during the summer, especially if it's hot, so finding a concealed position next to these gives you a good chance of getting a shot.

3 Most of my deer images are taken with long telephoto lenses, such as Canon's 100-400mm f/4.5-5.6L IS II USM. However, the danger is you can fall into the trap of capturing close-up portraits without including any of the surrounding environment. Some of my best images of deer include some of the animal's surroundings. A standard 24-105mm lens is ideal for achieving a wider field-of-view.

ALL IMAGES BY DANNY GREEN

TIP

TRY USING A WIDE-ANGLE LENS

Don't be afraid to leave negative space around your subject, especially if there's an attractive background. This helps to show the deer in context.

It's up to you whether you shoot handheld, or whether you use a tripod or monopod. Handheld definitely allows you to react quicker, but holding up telephoto lenses can be hard on the arms. A good compromise is to lie on your front with your elbows on the floor. This forms a natural tripod that will help you keep your camera still and transfer its weight into the ground. It also makes you seem less threatening to the deer.

Use the low sun

Whenever you photograph deer, it's always best to work around the start and end of the day, for three good reasons. The first is that deer are 'crepuscular' animals, meaning they're most active around first and last light. You'll find them foraging for food, which will give you the best chance of an engaging shot. The second is that the warm, soft light of golden hour is generally considered the most beautiful time of day, and the low angle of the sun gives you the opportunity to backlight your subject. And thirdly, at this time of year, there's often an early morning ground-frost, which looks incredible on-camera.

There's no right or wrong composition for deer shots, but try to have the deer looking towards the centre of the image, or into a large area of negative space. If it's looking out of the frame, the viewer's eye will wander out too.

"SHOOT AT THE START AND THE END OF THE DAY WHEN DEER ARE MOST ACTIVE"

Stay safe

Deer can be aggressive if threatened, especially during the rut, and have been known to attack and injure those who venture too close, so keep your distance. You should also be aware of deer ticks, which can result in Lyme disease, so cover up legs and arms, and check your whole body for ticks when you get home.

How to set up your camera for the best results

1 Set shutter speed

Working in aperture-priority mode, select the widest aperture your lens will allow. Point the camera at the subject and adjust ISO upwards until you have a shutter speed of at least 1/500sec.

2 Choose focus mode

Deer tend not to move quickly like birds or squirrels, so continuous focus and 3D tracking aren't usually necessary. A good method is to use single-point AF, selecting the desired point.

3 Set a fast burst

When the deer moves into the perfect position, you'll want to get as many shots as possible. Use the camera's fastest shooting speed to fire off a fast continuous burst of shots.

ALL IMAGES BY DANNY GREEN

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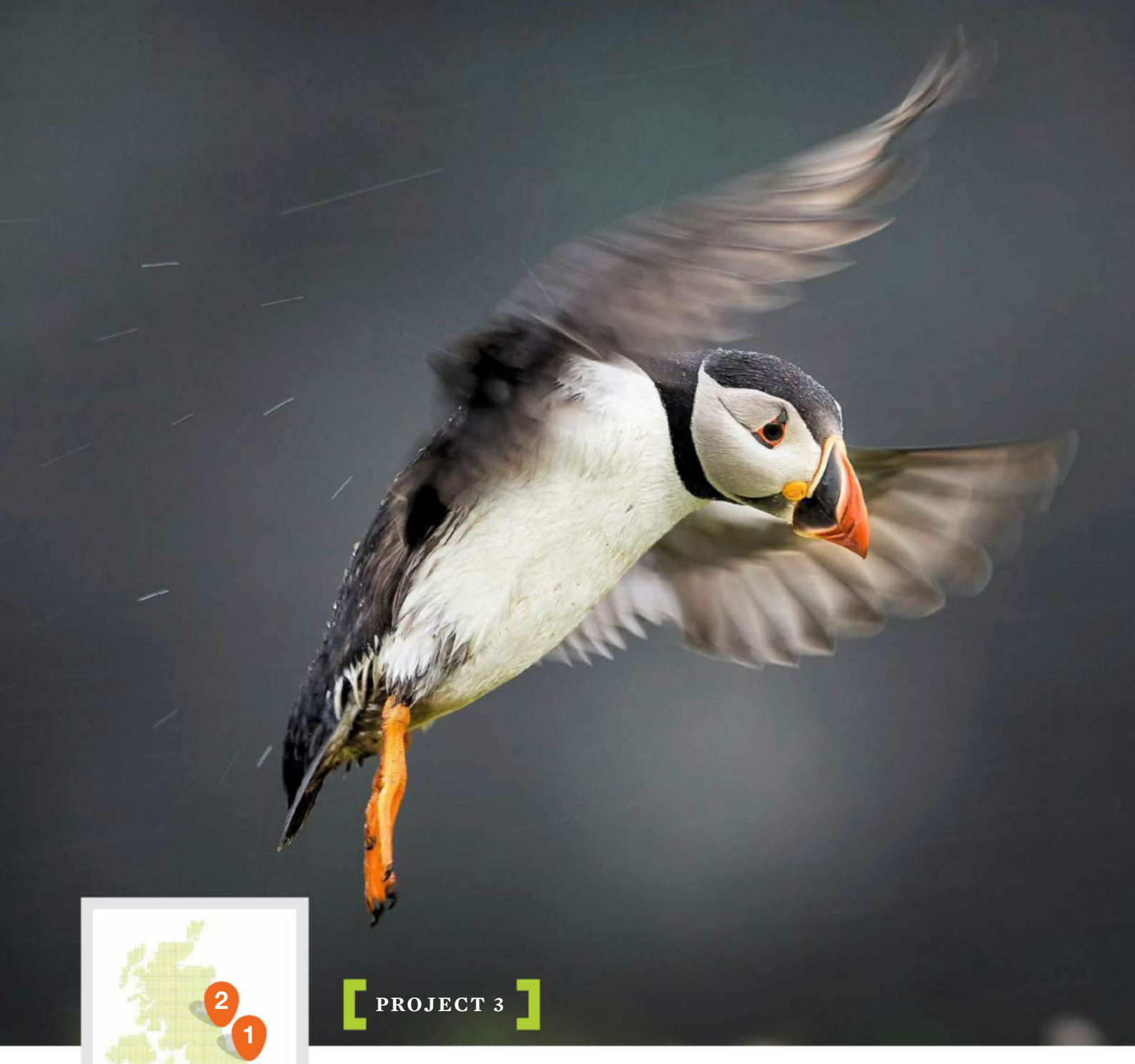

PROJECT 3

Capture the colour and character of seabirds

Where to shoot

Seabirds are found all along our coastline, but the best locations are the rocky outcrops of western Scotland, north-east England, and north Devon. Try visiting:

1 RSPB Bempton Cliffs, East Yorkshire
2 Farne Islands, Northumberland
3 Lundy Island, Devon

THE BRITISH Isles is one of the best places in the world to shoot seabirds. There are 25 different species that nest along our 20,000 miles of coastline, and their numbers have doubled over the past 40 years. Perhaps the most photogenic is the Atlantic puffin, but the gannet, kittiwake, guillemot, Arctic tern and razorbill also look incredible on-camera.

Seabirds live in colonies out on the water, only coming onto land to nest. The species you want to capture will dictate which stretch of British coastline you'll need to visit, and when. Puffins, for example, are only on land between May and July, and like rocky outcrops, such as those on the Farne Islands in Northumberland and Skomer in Pembrokeshire. The vast majority of seabirds are on land sometime between March and October, so now is a great time to get out there and shoot. If you're lucky, you might even see a chick or two!

Find the best angle

As most seabirds nest on steep cliff faces, they can be hard to photograph from the clifftop. Many photographers take boat tours so they can shoot back at the cliff from out at

Above top **A wider-angle lens can help you show the bird's surrounding environment.**

Above bottom **A wide aperture creates a blurred background that helps the subject stand out.**

sea, while protruding headland can offer a good angle on the nesting area. At Bempton Cliffs in East Yorkshire, the RSPB has built several viewing platforms that hang out over the cliff to give a better view.

Some birds, such as black guillemots, like to nest among the rocks at the base of the cliff, which you may be able to access by walking along the shore. Just keep your distance – you don't want to cause them any unnecessary distress.

Choose your weapon

As a general rule, you'll need a long telephoto lens, owing to the difficulty in getting close up. A 150-600mm lens is ideal. If you use an APS-C sensor camera, this will give you a little extra reach thanks to the crop factor. It's also handy to have a wide aperture for fast shutter speeds and blurry backgrounds, and image stabilisation to reduce the risk of unwanted camera shake. If you own a very long lens, such as a 500mm prime, you'll need some form of support, as it's too heavy to handhold for long periods. Regular tripods can be slow to operate and therefore extremely difficult to capture birds in flight with. A monopod is often the better option, as it carries most of the weight of the camera without overly-restricting movement. Even better, why not consider a tripod with a gimbal head for ultra-smooth and near-effortless movement.

Moving birds are much trickier to photograph than static ones, so you'll need to adapt your shooting technique. In particular, focusing is a real challenge, even for seasoned

Expert tips
Drew Buckley

Drew is a wildlife and landscape photographer based in Pembrokeshire. His work has been featured in the Outdoor Photographer of the Year award.
drewbuckleyphotography.com

1 Know your equipment. Good bird photo opportunities don't happen often so make sure you've got your camera setup ready to go so if the unexpected happens, you'll capture it! Select a continuous drive mode, a responsive autofocus tracking setting (such as 3D tracking), and use a fast shutter speed.

2 All the best bird photos have one thing in common – an attractive or interesting background. To achieve this, avoid both distracting backgrounds and overly plain ones. Choose your lens' maximum aperture setting to help throw the background out of focus, as this will help to make your subject stand out.

3 We connect with virtually all living beings using eye contact, and it's no different with birds. If you're shooting close up portraits, especially with a shallow depth-of-field, use a small focus point and focus on the leading eye. The eyes are, after all, the window to the soul!

ALL IMAGES BY DREW BUCKLEY

pros. Your best bet is to use your camera's 3D tracking mode, or Dynamic Area AF. With your finger half-pressed on the shutter, the camera will track the bird as it moves around the frame and keep it sharp. This is most important when a bird is flying directly towards the camera. A good tip is to compose your shot slightly wider than you need, then crop in afterwards. You'll lose a few megapixels, but it dramatically reduces the number of shots with wing tips clipped off. Also use your camera's fastest burst mode so you can fire off several frames in quick succession, and a fast memory card.

TIP

WATCH THE WEATHER

If possible, head out on a blue sky day. Many seabirds are white, so won't show up very well against an overcast sky.

Your camera's exposure settings are crucial here too, as moving birds can travel extremely quickly, and flit around unpredictably. Gannets, for example, dive at over 60mph! It's best to use a very fast shutter speed if you want to freeze the action, which you can achieve with a wide aperture and high ISO. Alternatively, a slow shutter speed can introduce blur in the wing tips, as in the image on page 42. Working in manual mode is a good idea, as the light behind the birds changes quickly as it moves around, and this can cause exposure problems. For static birds, a shutter speed around 1/500sec should suffice if you hold the lens still. Use your camera's fastest continuous burst speed, and a large, fast memory card, as you'll be shooting a lot of pics.

"ALWAYS USE A FAST SHUTTER SPEED – GANNETS CAN DIVE AT OVER 60MPH!"

Early morning is the best time to shoot, as this is when you're most likely to get an off-shore wind (blowing from the land towards the sea). Seabirds like to hover into the wind, so will be facing the land, and your camera. For more on where and when to see species, go to rspb.org.uk

How to achieve sharp results for birds in flight

1 Use a fast shutter speed

For birds in flight, keep your shutter speed above 1/2000sec. You can achieve this by using your widest aperture and increasing the ISO. It's best to work in manual mode if possible.

2 Choose 3D tracking

All DSLRs have several AF modes to choose from. The most advanced mode for birds in flight is 3D tracking, where the camera will keep the subject in focus as it moves around the frame.

3 Pan with the bird

Moving your camera at exactly the same speed as the bird as you shoot will give you sharper shots. This is easier said than done, especially with longer focal lengths, but practice makes perfect!

ALL IMAGES BY DREW BUCKLEY

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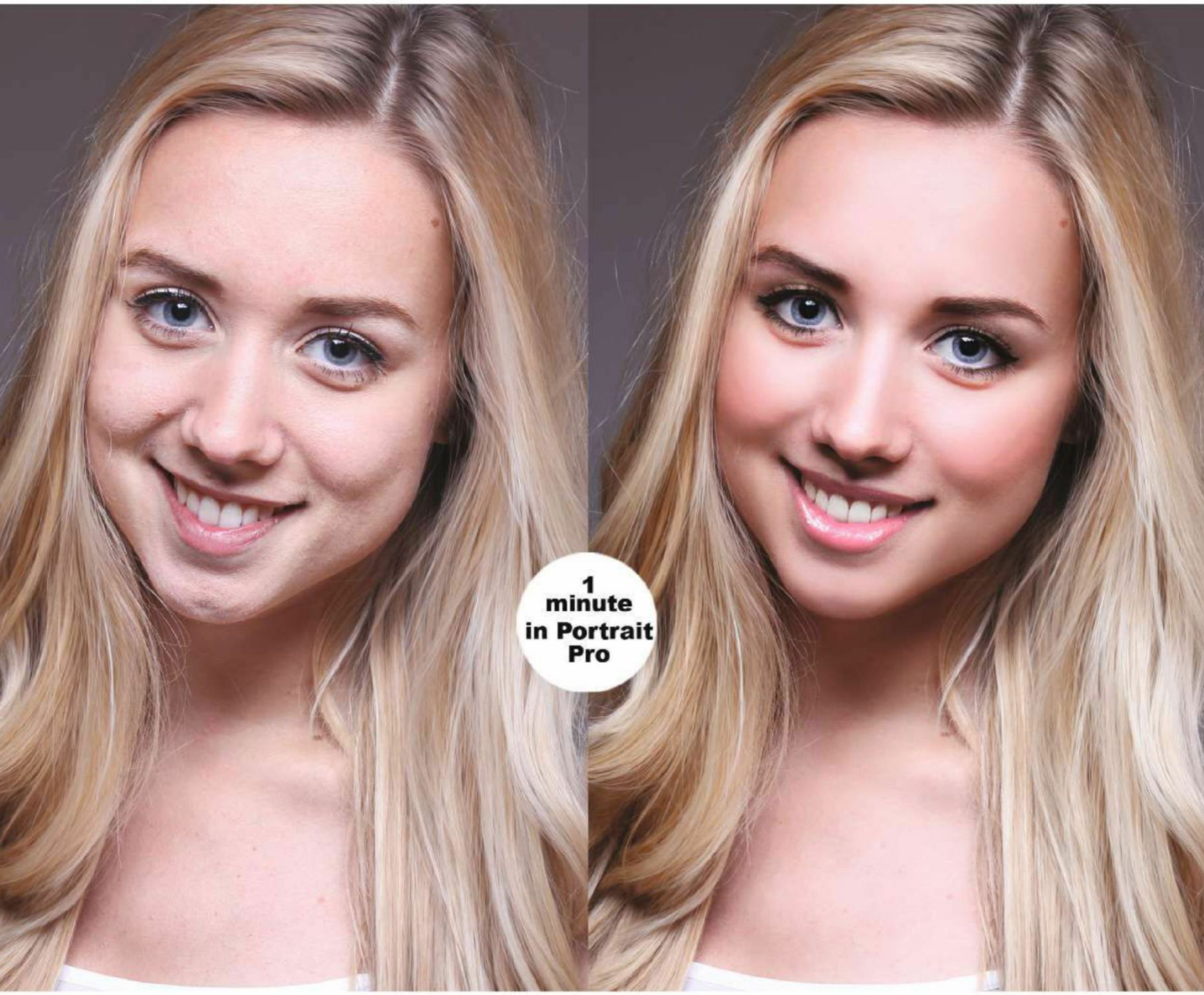

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PROJECT 4

Photograph the elusive red squirrel

Where to shoot

Three quarters of the UK's red squirrels live in Scotland, but they're also found in the Lake District, Anglesey, the Isle of Wight and Dorset. We recommend:

1 Aira Force, Lake District, Cumbria
2 Brownsea Island, Poole, Dorset
3 Plas Newydd, Anglesey

Unlike foxes, deer and garden birds, the iconic red squirrel is only found in a few small pockets of the UK. A native to Britain for 10,000 years, their numbers have tumbled dramatically since 1930 when the larger and more resilient greys started to become more common. The good news is that the red is now a protected species, and according to conservation groups, their numbers are actually on the increase.

The best time to photograph squirrels is during the winter, as this is when their coats are thickest. This means big bushy tails and tufted ears. You may also get snow or frost, which can yield incredible results.

Above Snow creates a minimal backdrop that helps the red squirrel's colourful coat stand out.

Left A reflection pool can be set up at a feeding station to yield even more striking results.

Locate your subject

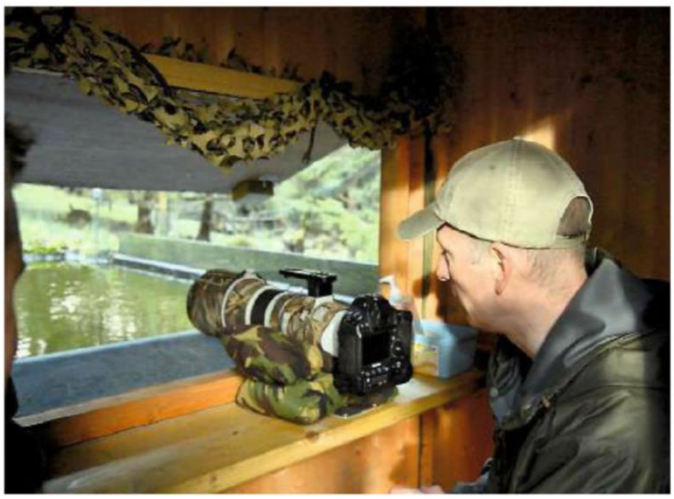
As squirrels are tree-dwellers, forests are the best places to find them. They particularly thrive in coniferous woodland, where greys are unable to survive.

Squirrels are unpredictable though, and are hard to spot even when the local population is high. They're also skittish, so getting close to them isn't easy. You'll get a much higher hit-rate and far better images if you visit a dedicated hide. The squirrels know they can get regular food here, so return regularly. And you should be able to get within a few feet of them, for frame-filling results. Simon Phillpotts, who shot the images on this page, has two hides and they're available to hire fairly cheaply. For most hide photography, a 200mm focal length is usually enough (300mm for full-frame), but if you're working without a hide, you'll need 400-600mm.

If you live in Scotland or northern England, try setting up a food station at home. Just avoid feeding reds every day (as they become reliant on food), and stop feeding altogether if greys start visiting.

Get the best results

To help your subject stand out against the background, you'll need to select your lens' widest aperture (usually around f/4). This will produce a shallow depth-of-field (see image left). If you don't do this you'll see detail in the background, and this can look messy. A wide aperture also means fast shutter speeds, which is important as squirrels can move very quickly. Ideally you're looking for a shutter speed of 1/1000sec or faster. This isn't always easy to achieve on a shady forest floor, so you may need to raise the ISO to around 1600. Work in aperture-priority mode, and set continuous high-speed shooting so you can fire off images in quick succession. Put your camera into single-point AF, and select the central point. You can experiment with both single-area focusing (AF-S or One Shot AF-S) and continuous focusing (AF-C or AI Servo) to find out which suits you best. The latter is better if you have back-button focusing set up. Always focus on the squirrel's eye.



Above A wide aperture produces fast shutter speeds and blurry backgrounds.

Left A wildlife hide and feeding station will allow you to get much closer to the squirrels.

Expert tips Simon Phillpotts

Simon has been published in newspapers, books and magazines, and has been Highly Commended in the British Wildlife Photography Awards. wilddales.co.uk

1 If you have a location where it is permitted to feed red squirrels, avoid peanuts in shells – they don't look great in images and aren't the healthiest food for the squirrels. Instead try pine nuts and sunflower seed kernels. Don't feed them too regularly, or they can become reliant on handouts.

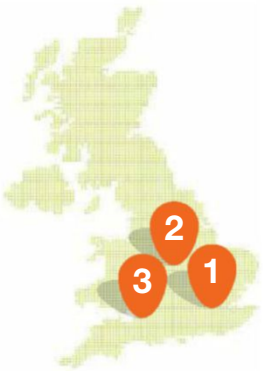
2 Fast lenses are ideal for shooting under a forest canopy. A 300mm f/2.8 works well if the squirrels are confident, but longer lenses may need to be used (along with good fieldcraft and possibly a hide) if the animals are not used to humans.

3 Squirrels move very quickly, so fast shutter speeds are required to freeze motion in twitchy tails and paws, even when stationary. The best images result from following a squirrel's movement over an extended period, so be patient and wait for a glance in your direction, or a sudden 'meerkat-like' standing position.

ALL IMAGES BY SIMON PHILLPOTTS

PROJECT 5

Use flash to capture the cunning fox



Where to shoot

The red fox is common throughout most of the UK, though is scarce in western Scotland, East Anglia, Lincolnshire and mid-Wales. They're most frequently seen in cities – the highest population densities are in:

1 London
2 Birmingham
3 Bristol

THE BUSHY TAIL, copper coat and inquisitive face of the red fox makes it one of the UK's most photogenic wildlife subjects. Although most active at night, they can occasionally also be seen skulking through gardens and up alleyways during the day, especially in urban areas. One thing's for sure – you won't have to travel far from your home to photograph a fox. In fact, there are around 250,000 of them in the UK, a fifth of which live in urban areas. Some cities are estimated to have as many as 27 foxes per square mile!

Contrary to popular belief that urban and rural foxes are different animals, there's only one species of red fox living in the UK. However, their behaviour does vary, with urban foxes being much less wary of people. This, and their higher population density in urban areas, means you're more likely to be able to get closer to them, which makes getting a shot easier. If you want to try photographing fox cubs, which are usually less shy than the adults, April and May is when they start to venture out of their dens and into the wild. They can often be seen in gardens after dusk.

TIP

AVOID RED-EYE

Keeping your flashgun at a slight angle to the fox (45° is ideal) will eliminate the risk of red-eye and produce a more pleasing overall photograph.

Set up your shot

If you're photographing foxes at night, you may be able to get away with using a high ISO in well-lit areas, but for the most part you'll need one or more off-camera flashguns. You'll

Above Off-camera flash can be used to light your subject. Ideally you'll use two flashguns positioned in front of and behind the fox.

also need some wireless flash triggers so they fire when you take the shot. These are relatively inexpensive, starting from around £25 for a set. One approach is to set up your camera on a very low tripod right next to the triggers, using a standard or even wide-angle lens, and fire the camera from a distance. You can usually do this using Wi-Fi via a free app. The other is to lie in position and handhold the camera, but this only works if the foxes are confident enough to come close. If you use two flashguns, you'll ideally want one to light the front of the fox at an angle, and one behind the fox slightly out of shot, creating a cross-lighting setup.

Use food as bait

Now your camera and lights are set up, the challenge is getting the fox to stand in position in front of your camera. They're quite inquisitive and may approach you naturally, but if you're shooting remotely use a small amount of food to bait the fox. However, it's important that you don't feed foxes regularly, or else they'll become reliant on you. Foxes are omnivorous so aren't particularly fussy eaters – they'll devour dog food, meat, cheese, eggs and various leftovers from dinner with equal enthusiasm.

This part of the shooting process could mean sitting still for hours. For this reason wrap up warm, take some food and drink for yourself, and ensure you have a fully charged battery in your camera.

Choose your settings

If you're shooting remotely at night, using autofocus will be a huge challenge. You're better off anticipating where you think the fox will stand, and prefocusing on that point. You can then switch your lens to manual focus so autofocus doesn't try to kick in when you take a shot.

Work in manual mode, using a high ISO of 1600 (so the background is properly exposed), a shutter speed of 1/100sec, and a wide aperture. Set your flashes to around 1/32 power so as not to scare the fox. Try a test shot, and adjust settings if necessary. If you're handholding the camera, also use a wide aperture, but this time use single-point AF with the central point active – this is the most accurate. Lie down on your front so you can get your camera to the fox's eye-level, and don't make sudden movements that could scare the fox away.

Shoot early morning

If you want to try capturing foxes during the day, first light is the time to do it. Again, use food to bait the fox, but this time shoot from a distance with a long telephoto lens. Handhold your camera, and work in aperture-priority mode, using a wide aperture and an ISO of at least 800. Set your camera to its maximum burst speed, and select continuous focusing (AF-C or AI Servo).

Expert tips
Sam Hobson

Sam is an award-winning photographer based in Bristol and is a contributor to *BBC Wildlife* magazine.
samhobson.co.uk

1 Chat to as many people as possible – especially those who work night shifts – to find out where foxes have been spotted. They're very territorial animals, so if you spot one in a particular area, you're likely to see it again and again.

2 Laying on the floor makes you less threatening, and some inquisitive foxes may approach you. Here you can capture intimate eye-level portraits. Just don't wear your best clothes!

3 Being in your chosen location regularly is vital to getting the foxes used to your presence. Try to wear the same thing, and perhaps make a little noise to let them know it's you.

What next? Enter your shots

Why not enter your best images into the 2017 Wildlife Photographer of the Year Award. The deadline for entries isn't until December, so you have plenty of time to build a portfolio. The entry fee is £30, but for this you can submit up to 25 shots. First prize is £10,000, and there are also cash prizes for category winners. Sam Hobson's shot of the fox peeking over the wall (above) was a finalist in the Urban category in 2016. nhm.ac.uk/visit/wpy.html

ALL IMAGES BY SAM HOBSON

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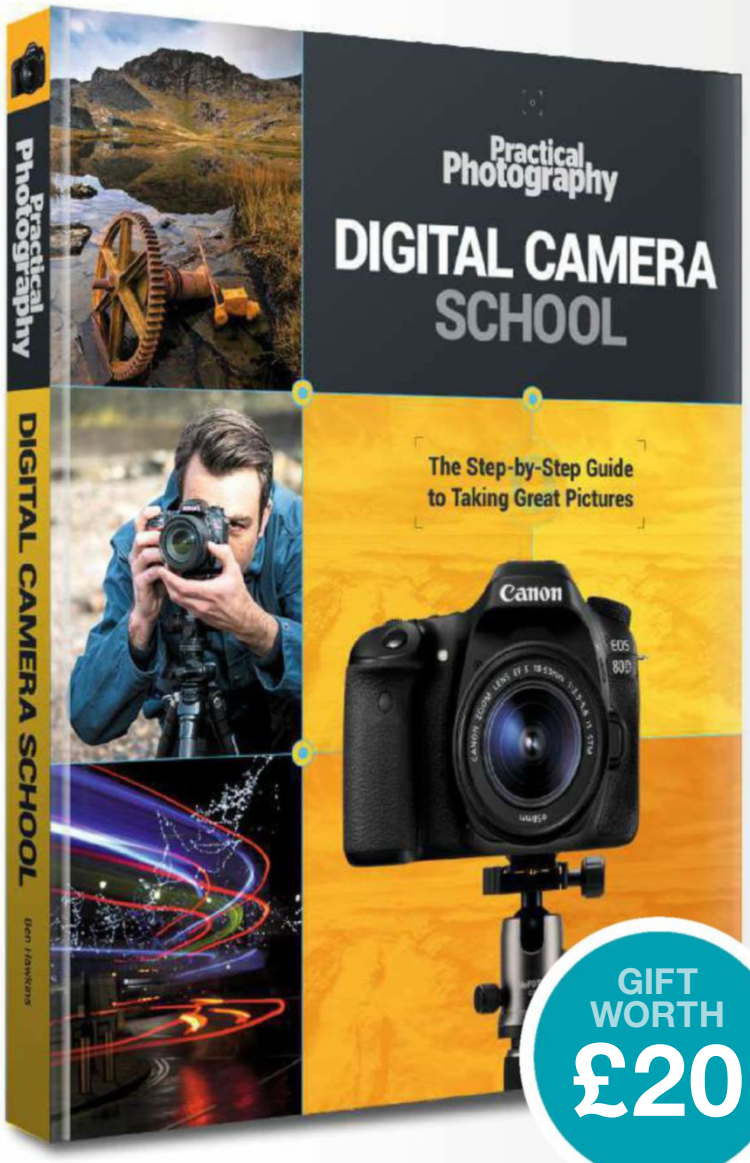

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TALENT TO BURN

Equal parts comedian, psychologist and obsessive, Tom Barnes wants to capture just one thing – character. And he stops at nothing to get it...

Tom Barnes is an acclaimed portrait photographer known for his gritty style. Clients include Paralympics GB, Samsung and Barclays.
tombarnes.co

THE FIRST TIME *PRACTICAL Photography* met Tom Barnes, for a video shoot a few years ago, he ignored our very British handshakes and instead gave us all bear hugs. This gesture set the tone. He spent the rest of the day regaling the team with eyebrow-raising tales from his rich and varied career, and telling us truly terrible jokes. We had a blast. Calling Tom just a portrait photographer is a bit like calling Superman just a bloke in a suit. He's an entertainer. He's a director. He's a diplomat. Working with rock stars, politicians and athletes, often in the same day, also means that he has to manage and satiate his subjects' personalities and insecurities while extracting enough of 'them' to create something meaningful. That's not to say that he pulls his punches, however. Ask him for his opinion on someone or something and he'll tell you exactly what he thinks (hint: he's not a fan of big egos). All of which makes for a great interview...

Above A typically bold and brash catalogue shoot for Drop Dead Clothing, taken in a warehouse in 40°C heat.

Right Phoebe Robinson-Galvin shows off her muay thai skills for a personal promo shoot.

How would you describe your style? Your work is very precise...
I get asked this all the time and I still have no idea how to answer it properly! If I had to narrow it down, then I'd say intense, cinematic, dark and moody. If you say it's precise I can only take that as a massive compliment – the way I shoot is quite rough around the edges, so to have your work described as precise is good going! I guess I'm a bit of a stickler for details, so that probably gets into my work more than I mean it to.

How would you describe your approach?
I just make sure I go in with no ego or defensive wall and I mostly talk rubbish! Most people hate being photographed, so I tell bad jokes and act like we're just hanging out. I don't change my personality for people – I just do 'me'. I know it looks super-glamorous, but the reality is very different – long days, endless meetings, calls to the accountants, broken gear, emails... that said, being your own boss can be the best part of the job and at no point have I ever been asked to wear a suit.

Why do you do what you do? Is this a job or an obsession?
The simple answer is that I'm talented at one thing and that's taking pictures. I've never enjoyed anything as much and nothing has ever captured my imagination quite like photography has. I have quite an obsessive personality and I've always thrown myself into whatever I love from an early age. First it was mountain bikes, then it was ice hockey, then it was photography. I think my job is probably more of an obsession – there are parts that feel like a job (office work mainly), but I just don't worry about the boring stuff as the fun stuff more than makes up for it. My motivation is simply to photograph as many varied and wonderful characters as possible. Rock stars, refugees, holocaust survivors, politicians, fighters, criminals... so far I'm doing ok.

Give us an insight into the realities of being a portrait photographer...
Most people have no idea how much work goes into this job. This is a typical day... up at 4am, check kit, drive through rush-hour traffic, arrive early, sleep in car, meet the crew, meet the grime artist (it's a thing – Google it), set up, shoot, shoot some more, pack down, head to second shoot (ad job for a mental health charity), set up, shoot, wrap, drive back to studio, back up to servers, answer emails, update social media, sleep at 1am, up at 4am, repeat.

What are you trying to capture?
Character, in a word. I'm not trying to force people to give me anything they wouldn't normally, I just want 'them' in a photo. I think it's probably the hardest thing to get from someone, but on set a lot of subjects look at the photo and say, 'That's me, you've got me' and that's great. I feel like I've done my job when I hear that sort of thing. I also love it when people say,

"MY MOTIVATION IS SIMPLY TO PHOTOGRAPH AS MANY VARIED & WONDERFUL CHARACTERS AS POSSIBLE. SO FAR I'M DOING OK"

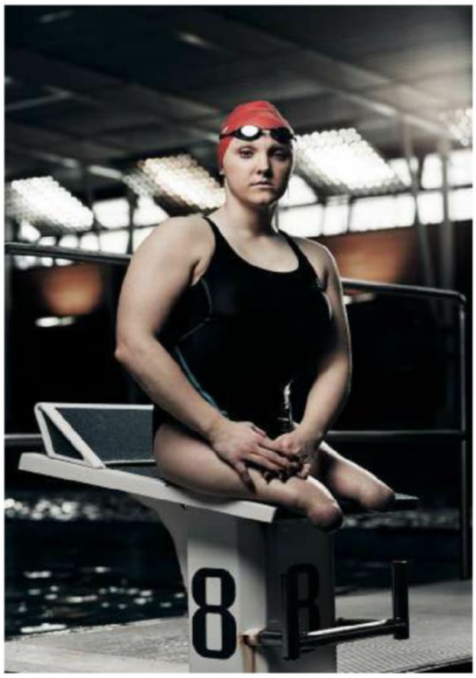
Above Adrian is one of Surrey Fire and Rescue's oldest firefighters and was captured here mid-drill.

Below Paralympic athletes Charlotte Henshaw and Lauren Steadman work up a sweat.

'Thanks, that was less painful than I thought it would be'. Remember, a happy subject is a friendly subject, and a friendly subject is a more compliant subject.

What skills does a portrait photographer need?
A portrait photographer needs to be personable. If you're shy, quiet and struggle with people you won't make it. Equally, if you're brash and full of ego you won't make it either. You almost need to be a psychologist – if your subject arrives in a bad mood you need to be able to cheer them up, and if they're introverted you need to become their best friend in 30 seconds. When I first meet people, I say hello, share a joke and tell them exactly what we're doing. This lets them know that I'm friendly, relaxed and in control. This is really important. You also need to be a jack of all trades – marketing, PR, web design, post-production, accountancy, business management and planning.

Talk us through your mental approach to a shoot...
Most people get nervous, it's only natural, but these days I don't worry so much. I like to have everything



planned out a bit more than I used to – we get the shots everyone needs, then we get some extra stuff (time permitting). I'm also well versed in problem solving. These were the things that used to give me the most stress, but as I progress to more reliable kit and get more experience these worries fade away.

Do you ever sketch ideas or create mood boards before a shoot?
Absolutely. I'm not bad at explaining things, but people find it much easier if they have a visual reference, even if it's a badly drawn diagram. I actually have an iPad and pencil that I take on shoots so I can sketch out what I'm going for, or I can draw on top of a current image. Also, I always try to shoot tethered so I can show people on-screen how it can be different or how it can be improved.

> "A HAPPY SUBJECT IS A FRIENDLY SUBJECT... & A MUCH MORE COMPLIANT SUBJECT"

What cameras and lenses do you use and why?
My main bodies are 3x Canon 5DS with 24-70mm f/2.8, 16-35mm f/2.8 and 70-200mm f/2.8 lenses. Also in the kit bag are spare hard drives, spare memory cards and gaffer tape. I also have USB chargers for my batteries, so I can charge spares off USB battery banks in case I need extra juice and can't get to a socket. I used to think gear was super-important, but if you're producing a poor final result no one cares whether it was shot on the latest and greatest. Up to a point it does help you achieve new levels in your work, but when you're past a certain technical level it's actually quite prohibitive creatively. It's also very distracting, as it's much easier to buy new gear rather than learn to use the gear you already have.

Talk us through your camera and lighting techniques...
I tend to drag the shutter on a lot of my shots, especially if I'm working at night or indoors. Normally I wouldn't go below 1/40sec, as any slower seems to bring in too much ambient blur on your subject. I also use rear-curtain sync quite a lot. With regards to lighting, I try to keep it simple, mainly using one or two lights. Obviously, some shots require more, but I aim for minimal as a rule. I use Profoto's B1 lights, but always want more power. Saying that, the flexibility of these lights makes them a winner. Wireless is the future.

Any famous mistakes, mishaps or close encounters?
I burnt myself with dry ice while shooting Will.I.Am, I missed a great shot because my lens cap was still on, I was shot at by a farmer, a stand collapsed and crushed my foot... every mistake shapes the way you work, which is why it's so important to make them. You learn so much quicker.

Pro advice Tom's top 4 photo tips

1 **MAKE YOUR SUBJECT FEEL COMFORTABLE**
Most people hate having their photo taken, so whatever you can do to make the shoot easier will really help them. Play music, find common ground, make them a cup of tea...

2 **DROP THE EGO**
I meet photographers who think they're God's gift – when did photographers become celebrities? You're there to get great images and get the most out of your subject – it's not about you! If you let your ego get in the way it'll hamper your shoot and prevent you from getting the best photo possible.

3 **KIT IS NOT KING**
Gear is so much less important than your relationship with the subject. If you're showing off about the kit you're using, just remember this – there is no one in the room who cares more about your gear than you do. In fact, you're probably the *only* person in the room who cares about your gear. Ignore it, throw your energy into creating a great rapport with the subject instead and watch the images flood in.

4 **KEEP IT POSITIVE**
Always give your subject constructive advice and never, ever, say something is bad. Never knock their confidence, as you might not be able to build it back up. You want a shoot to be a fun experience for everyone involved – if a photographer is shouting negative things at their subject then it's both thoroughly unpleasant/borderline rude and the images will reflect how the subject feels.

COMPLETE GUIDE

Shoot a wedding to remember

It's the day a couple will never forget but, naturally, as the years go by most people find the memory starts to dim. As a wedding photographer it's your job to document all of the details for posterity, whether they're the emotional outpourings of love for the newly-weds or the small moments quietly shared between the couple themselves.

This undertaking is a tremendous honour. Not only will the pictures be enjoyed by the couple and the family and friends who attended the event, but they will also be seen by future generations, as the couple's children, grandchildren and great-grandchildren will look at them in the years to come.

Shooting a wedding is a huge responsibility, but thorough planning and preparation will get you all the shots you need. Set yourself up for success with this complete guide to wedding photography to make sure your couple's big day is unforgettable.

ROSS HARVEY

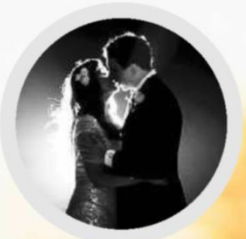
Get the essential shots...

SHOT 1
Document the bride getting ready P60

SHOT 2
Shoot close-ups of key details P61

SHOT 3
Capture the ceremony P62

SHOT 4
Photograph intimate portraits P63



SHOT 5
Shoot the first dance P64

SHOT 1

Capture candid portraits of the bride getting ready

NO WEDDING WOULD BE COMPLETE without the many varied rituals that prelude the actual ceremony. The photos of the bride getting ready have the dual purpose of both capturing her nervous excitement and documenting the intricate details of what she'll be wearing.

Become a fly on the wall

The nature of this time is that the bride will be preoccupied with getting ready, so break out your inner documentary photographer and steal away into a quiet corner where you're out of the way so that you can capture stunning candid portraits.

It may be tempting to bring a long lens with you, but the bride will likely be getting ready in a small room, so anything longer than an 85mm will be more trouble than it's worth. To ensure that you're able to stay out of the way while still being able to shoot what you need to, use a 24-70mm f/2.8 lens. Using a zoom lens instead of a prime will mean that you're able to stay in the same position until you need a different angle. The zoom will do all of the back-and-forth movement for you, which will make sure you can avoid getting in the way of the bridal party.

Set up your camera

Natural light portraiture works perfectly for this part of the day, but you may find that the room the bride is getting ready in is much darker than you'd hoped for. If this is the case, don't be tempted to use your flash. Not only will this distract the bride, but its harsh light will also be a far cry from flattering sunlight streaming in from a window. Use a shallow depth-of-field to draw attention to your subject's face and create a pleasant background bokeh. An aperture of f/2.8 will work perfectly here. This will also give you a fast shutter speed, which you'll need to avoid any blur. There won't be room for you to use a tripod, so if your shutter speed is anywhere below 1/125sec then you'll start to risk camera shake.

TIP

SEARCH FOR EMOTION

The bride will be surrounded by her closest family and friends at this point so, for pure emotion, shoot them interacting with each other.

Follow these top tips

There will be some beautiful photographic opportunities while the bride is getting ready, but these moments will be fleeting. Make sure that you're on the ball and react quickly to what's going on around you. You'll also need to ensure that you leave for the ceremony about 10 minutes before the bride does. This will give you enough time to get to the location, park up and race inside to shoot the groom. At this point he'll be interacting with his best man and family while looking nervous, so it's the perfect time to get some quick snaps before heading back outside to capture the bride getting out of the car.

Above The bride is helped into her dress by a bridesmaid. The sidelighting shows the true charm of the moment.

NATALIE J WATTS

SHOT 2

Zoom in closer and shoot small details

THE MINUTIAE OF THE DAY may pass the couple by in the magic of the moment. However, that gives you all the more reason to document those tiny little details that show the amount of time and care that has gone into planning the wedding. Search for enchanting objects like the bride's perfume, shoes, flowers or detailing on the dress for enchanting close-ups. And don't forget that essential shot of the wedding rings. As these will probably be with the best man at the ceremony venue, you'll need to plan where and when this shot will take place before the day itself.

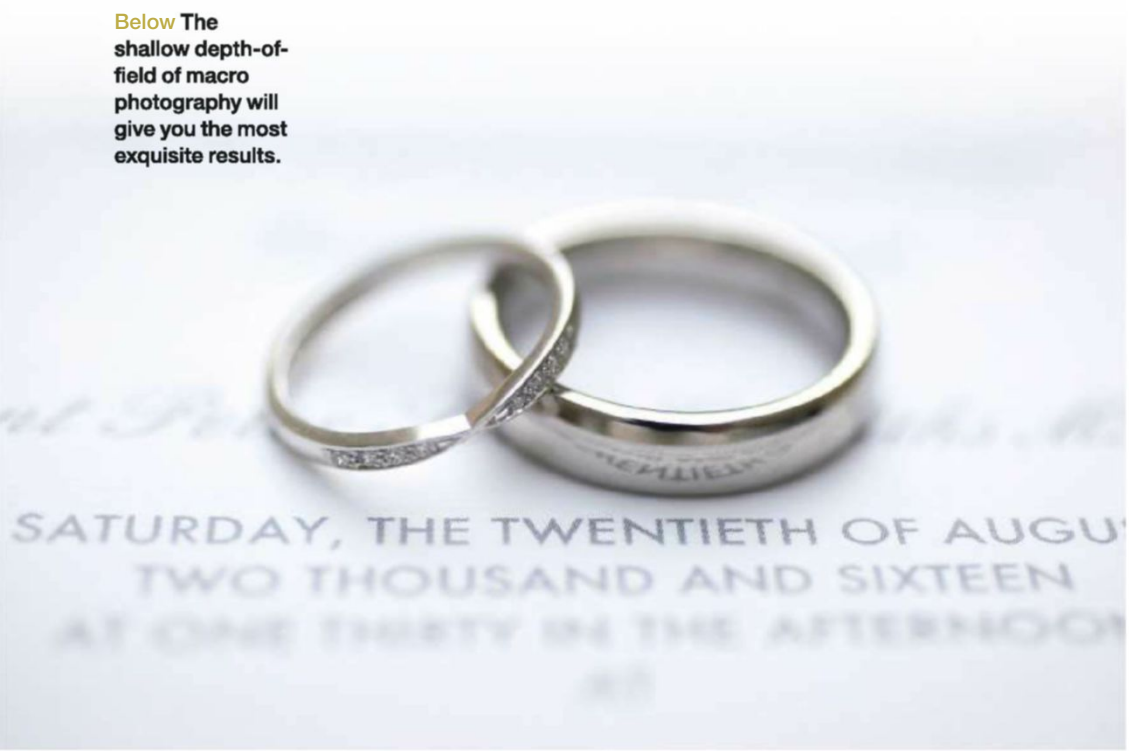
Use a macro lens

For truly amazing close-ups, you can't beat a macro lens. It can be difficult to bite the bullet and invest in an expensive piece of kit when you're only going to use it for a few shots per wedding, but in the long run this little lens will deliver some powerful results. If you're not in a position to buy a macro lens, then hire one for the day. If you've only recently started shooting weddings, this will give you the opportunity to get those superb results without spending too much money. Once you've set up your business, it's worth investing in a quality macro lens so you know that you've always got a good piece of reliable kit close to hand.

Choose your settings

As your camera will be so close to your subject you'll end up with a very shallow depth-of-field, even if you're shooting at f/22. That narrow aperture will then cause a slow shutter speed. As with all macro photography, counteracting this with a tripod will be absolutely necessary. Once you've set your camera up on your tripod, you could focus using single-point autofocus. However, given that the depth-of-field is so tiny, you may prefer to use manual focus to ensure greater accuracy. Set your camera to manual focus, then go into Live View. Zoom in using the magnifying button and use the lens' focus ring to ensure your image is sharp. Use a shutter release cable or interval timer so there's no chance of introducing any movement.

Shoot near a window to get the best natural light possible. You can also use a white piece of card or a reflector to bounce back some of the shadows. Create a compelling composition by planning how you want the shot to look beforehand. Use interesting backgrounds, like the shot below of the rings against a card with the clearly printed date of the wedding.



NATALIE J WATTS

Below **The shallow depth-of-field of macro photography will give you the most exquisite results.**

Expert tips
Natalie J Watts

Natalie J Watts is a successful wedding photographer based in Bedfordshire.
nataliejweddings.com

1 During the drinks reception I tend to move in and around the guests, chatting to them as I go so people feel comfortable with me being there. This means that I can capture them looking relaxed.

2 Most of the close-ups will be of jewellery, which will be reflective. Don't wear a coloured top, as the colour will reflect in the shiny surfaces. I use a 50mm macro with an extension tube, as being a little further away means lots of light can fall on what you're shooting. I also have something white to hold up. This obscures me and makes the metal look clearer.

3 Always have back-up kit. Yes, this is extra cost, but it will be more costly if you can't capture what you promised. Rent extra equipment if you can't yet afford to buy it. I shoot on 16GB cards and switch them at different points during the day, which is a good contingency should any card get corrupted.

4 Tell the couple's story – what is important to them? Why are they getting married? Keep this in mind when you're shooting to ensure you create a really authentic narrative for your couples' big day.

SHOT 3

Photograph the couple as they become man and wife

THOSE FIRST FEW EXHILARATING moments of the bride and groom as a married couple create the perfect situation for heart-warming photos that they'll cherish forever. However, the light conditions inside and outside the church can make shooting tricky, so take note of our top tips to come away with amazing results.

Shoot in low light

As beautiful as the curved arches and rustic interiors of churches are, they're not exactly known for being well lit. You may be hesitant to boost your camera's ISO at such an important time as the vows, but just remember that a noisy shot is always better than a blurry shot. A good middle ground is an ISO of 1600. This should give you a shutter speed of at least 1/200sec to take sharp images, while ensuring that your image quality isn't compromised too badly.

As the couple starts walking up the aisle towards the exit you'll want to use back button focusing to ensure a clear focal point. You can do this by half-pressing the shutter and then using the D-pad on the back of the camera to change the focus point (the little red square you can see through the viewfinder).

For a guaranteed shot, ask the newly-weds to pause halfway up while you take a quick photo.

As soon as you exit the church the lighting conditions will change, so it's vital that you stop the couple from walking out until you've adjusted your settings. Don't forget to bring your ISO back down from 1600 to something more appropriate for the brighter outside light.

One of the most important things you'll need to do at this point has nothing to do with your camera. To capture a beautiful confetti-strewn image, you'll need to organise the guests into two lines so the couple has a clear path to walk down. If you don't do this then, quite simply, this shot won't happen. You've got one chance at this image, as once the confetti is gone, it's gone!

TIP

USE A FAST MEMORY CARD

Use a memory card with a write speed of at least 90MB/s to use the burst mode effectively and capture confetti mid-motion.

Choose your camera settings

Like shooting inside the church, you should set your camera to a wide aperture and a fast shutter speed, like 1/250sec. The shallow depth-of-field will naturally draw the viewer's eyes to the couple, while the fast shutter speed will freeze the confetti in the air without any risk of blur. A camera with a large image buffer is also useful. Make sure you double-check how much space you have left to make sure you won't run out of shots halfway through.

Above The bride and groom exit the church surrounded by their loved ones who shower them in confetti.

BEN DAVIS

BEN DAVIS

Capture intimacy away from the guests

IF AMAZING IMAGES ARE WHAT YOUR couple are looking for, then this is your chance to deliver. In the short space of time between the ceremony and the wedding reception, your job is to take the group shots and then the individual couple photos. You'll typically only have around an hour to get this right, so try to make sure that you take no more than six group shots to ensure that you have enough time for photographing the couple by themselves.

Whisk the couple away

Once the group shots are done, it's best to take the couple away from the rest of the guests. Try not to let anyone else follow you, as they may cause distractions and cut down on the time you have to get a great image. The next event of the day will be the meal, and when that's ready then your time is up. Work quickly and efficiently to make sure that these shots are beautiful and inspiring.

Plan your time carefully

So that you know exactly what your couple want out of this shoot, ask them to send you links to couple shots that they've seen and liked. This will help you know whether they want a sleek and modern image, a classic and rustic photo or perhaps something in-between. You may also want to coach the couple on the poses they could use. Have some images on your phone that you can show them if they start to struggle. As we all know, the UK's weather can be unpredictable, so always make sure you have a bad weather plan. This will stop you from panicking if you're faced with drizzle on the day.

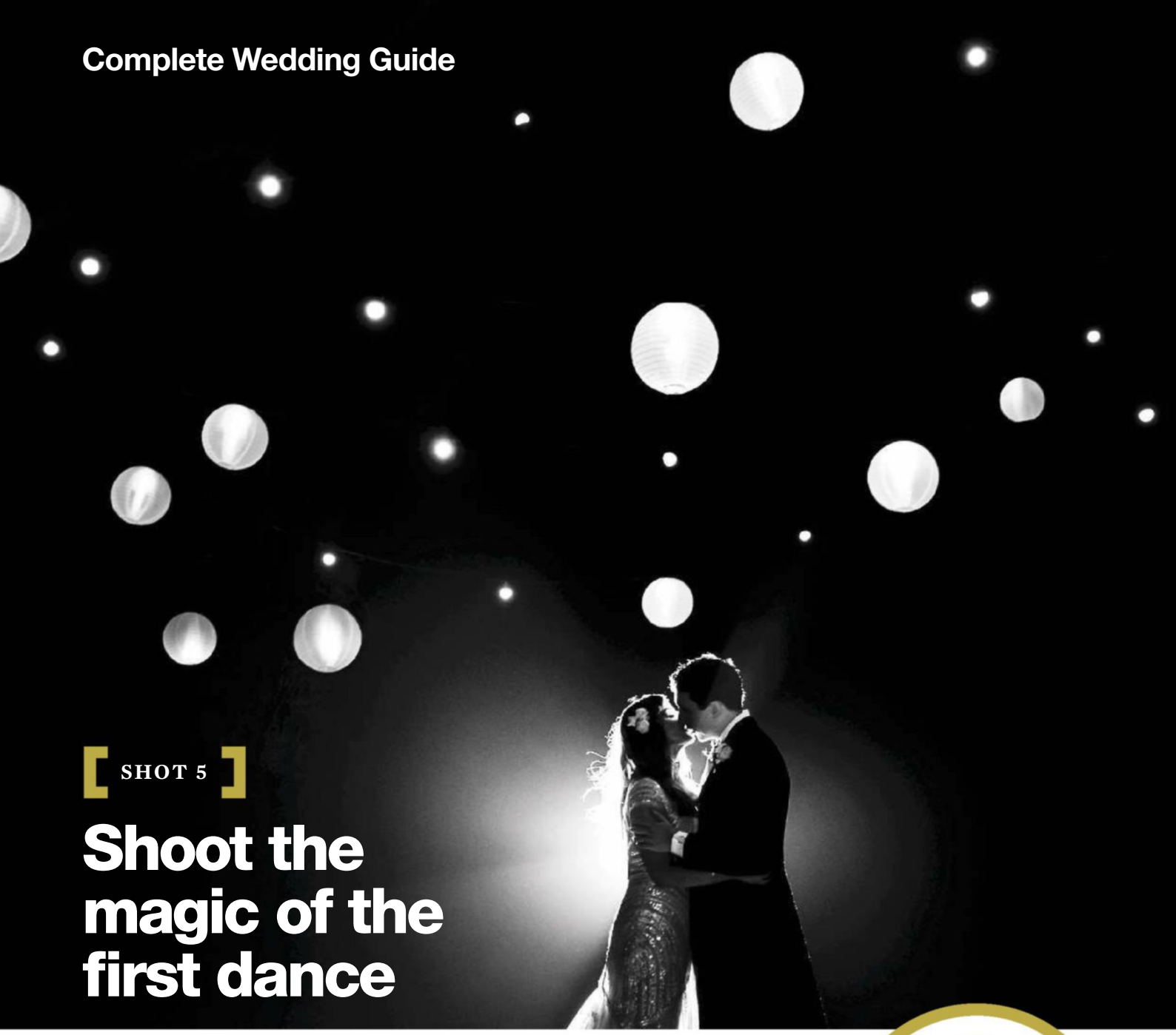
Expert tips
Ben Davis

Ben Davis is a professional wedding photographer based in Cambridgeshire. bendaviswedding photography.com

1 Use aperture-priority mode. Weddings can be fast-paced and demanding, so there often isn't time to manually control the exposure. Set your camera to aperture-priority (A or Av on the mode dial) to give you control over the depth-of-field, which means your camera will then select the shutter speed required.

2 Ensure that you use the right lenses. You'll need to frame up both wide and tight, so make sure you have the lenses that allow this. Many photographers favour the versatile combination of the 24-70 f/2.8 and 70-200mm f/2.8 lenses. This duo provides a perfect focal range along with a fast f/2.8 aperture.

3 You don't get long during a wedding to scout out the best locations for images, so always research the ceremony and reception venues in advance. Ideally, visit them to identify suitable places for shots of the couple so you can maximise your shooting time on the day. If you can't visit in advance, use the internet to find a plethora of shots from photographers who have previously worked at the venues.



SHOT 5

Shoot the magic of the first dance

THE ROMANCE OF THE FIRST DANCE should be the central heartbeat of your images from the reception. Weddings, while filled with joy and laughter, are a very busy time for the bride and groom, and they may find that this is their first quiet moment to themselves as a married couple. As they dance together and reflect on the possibilities of their shared future, it's your job to accurately capture their love for each other in a single image.

Work around difficult lighting

Once night falls and the party starts, the lighting conditions will grow increasingly poor. Rather than the lovely, soft, natural light of the day, you'll most likely be faced with the neon disco lights that are common at many receptions. If you can get away with solely using ambient light at a high ISO, then you have the opportunity to get some great results. Setting your ISO to 1600 will increase your chances of getting a shot. However, if it's just too dark then it's time to break out the flashgun. If the ceiling is white, then point the flash upwards and bounce the light off it to soften the light and get rid of harsh shadows. If the ceiling is too dark for this, then you can always use a mini softbox that fits straight over the end of the flash.

You'll have between one and two minutes to capture your first dance shot before the rest of the guests start to come onto the floor.

TIP

SET UP YOUR CAMERA IN RAW

Shooting in RAW is useful for the entire wedding, but it's especially important when shooting in the low light conditions of the reception.

Capture guests' high spirits

Once the first dance is over your job is almost done, but before you pack up your kit it's worth taking a few shots of the guests dancing. It can be difficult to take photographs that don't look messy here, but why not try using a popular club photography technique?

Slow-sync flash is a great way to mix the ambient light in the room with the light from your flashgun. Select rear curtain sync on your camera and set your shutter speed to around 0.5sec. As you take your shot, move your camera up or down to create a sense of dynamic movement and energy.

Above A high-contrast image like this focuses the viewer's attention on the newly-weds.

ROSS HARVEY

Practical Photography

Wedding shotlist

Use our complete guide to make sure you capture all the important images...

TIP
TAKE THIS LIST WITH YOU
Cut out this shotlist and take it with you on the day. You may also choose to ask your couple if there's anything else they'd like to add.

Getting ready

- ☐ The bride's dress hanging up
- ☐ The bride's make-up and hair being done
- ☐ The bride and bridesmaids getting dressed
- ☐ The mother-of-the-bride helping the bride (by buttoning the dress or adjusting the veil)
- ☐ An emotional shot of the bride with her bridesmaids
- ☐ A touching shot of the bride with her parent(s)

Close-ups

- ☐ The rings against an interesting background
- ☐ The intricate detailing on the dress
- ☐ The bride's shoes
- ☐ The bride's jewellery, like earrings or necklace
- ☐ The bride's hairstyle

The ceremony

- ☐ A wide shot of the wedding venue exterior
- ☐ The groom looking nervous at the front
- ☐ The immediate family seated in the front aisles
- ☐ The best man and groom interacting
- ☐ Wide shots of venue interior from front & back
- ☐ The bride getting out of the car
- ☐ The bridesmaids and bride outside the venue
- ☐ The flowergirl walking down the aisle
- ☐ The bridesmaids walking down the aisle
- ☐ The bride walking down the aisle
- ☐ The groom's face as he sees the bride
- ☐ The bride and groom at the front
- ☐ The faces of the couple as they exchange vows
- ☐ A close-up of the bride and groom's hands as they exchange rings
- ☐ The kiss
- ☐ The bride and groom walking up the aisle
- ☐ The guests' faces as the couple leave
- ☐ The couple walking through confetti thrown by guests
- ☐ The bride and groom in the wedding car

Formal shots and couple shots

- ☐ The guests chatting and having drinks
- ☐ The bride with her family
- ☐ The groom with his family
- ☐ The bride and groom with all guests
- ☐ The bride and groom with all family
- ☐ The bride and groom with all parents/grandparents
- ☐ The bride and groom with groomsmen
- ☐ The bride and groom with bridesmaids
- ☐ Various relaxed lifestyle shots of bride and groom interacting

The reception

- ☐ A wide shot of the reception venue exterior
- ☐ Details of the reception, like place cards, guestbook, centrepieces
- ☐ The bride and groom arriving (they're usually announced)
- ☐ The bride and groom at the head table
- ☐ The bride's father's speech
- ☐ The groom's speech
- ☐ The best man's speech
- ☐ The bride and groom cutting the cake
- ☐ The bouquet toss
- ☐ The couples' first dance
- ☐ The guests dancing

Expert tips
Ross Harvey

Ross Harvey is one of the UK's most celebrated wedding photographers, voted the Best Wedding Photographer in England for two years running.
rossharvey.com

1 Hone your communication skills in order to make sure that you put yourself across in the best way possible. How you converse with people defines how your couples experience you and your brand. Take your time with emails and double-check any correspondence before you send it.

2 Always appear confident in front of your couples. I read an analogy years ago that you should be like a swan – calm and collected above the water, even if your legs are paddling furiously beneath the surface. You'll never get the most out of a shoot if you seem shy and indecisive. The couple will have no faith in you and it'll hinder their ability to relax.

3 Focus on your branding. A quality brand can catapult your business to the next level. Study your target market and see what the top service providers' brands look like. Your brand is categorically not just your logo. It's the way you communicate, your photography bio, your personality and, above all else, your portfolio.

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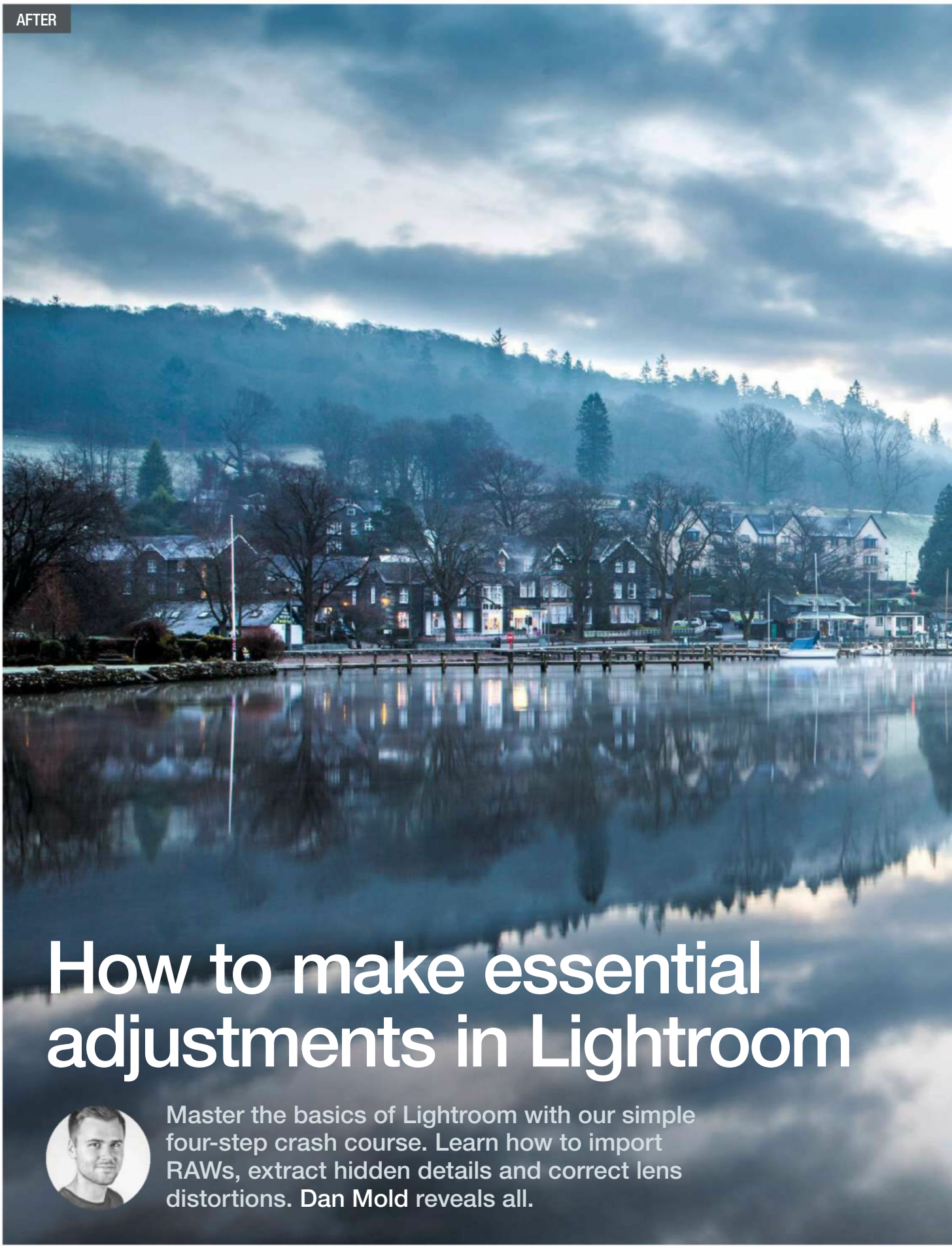
When you see this icon on the page you can find a full tutorial on this issue's video disc. Turn to page 6 to find even more multimedia content.



TIM BERRY

How to make essential adjustments in Lightroom

Master the basics of Lightroom with our simple four-step crash course. Learn how to import RAWs, extract hidden details and correct lens distortions. **Dan Mold** reveals all.

Left The original RAW file is yet to be processed, so looks a little flat and low in contrast and saturation.

Below We've corrected the exposure, applied a small crop and boosted the contrast in just 5 minutes. We then exported it as a JPEG on to our hard drive.

THE QUICKEST WAY TO IMPROVE the quality of your images is to set your camera to shoot RAW. These files record much more data at the time of capture than JPEGs do, and this extra info can be extracted to correct exposure or white balance problems in post-processing software.

RAWs come with almost no in-camera processing, so they usually look a little flat in comparison to JPEGs. You need to use specialist RAW conversion software to extract these details and process the image to your personal taste.

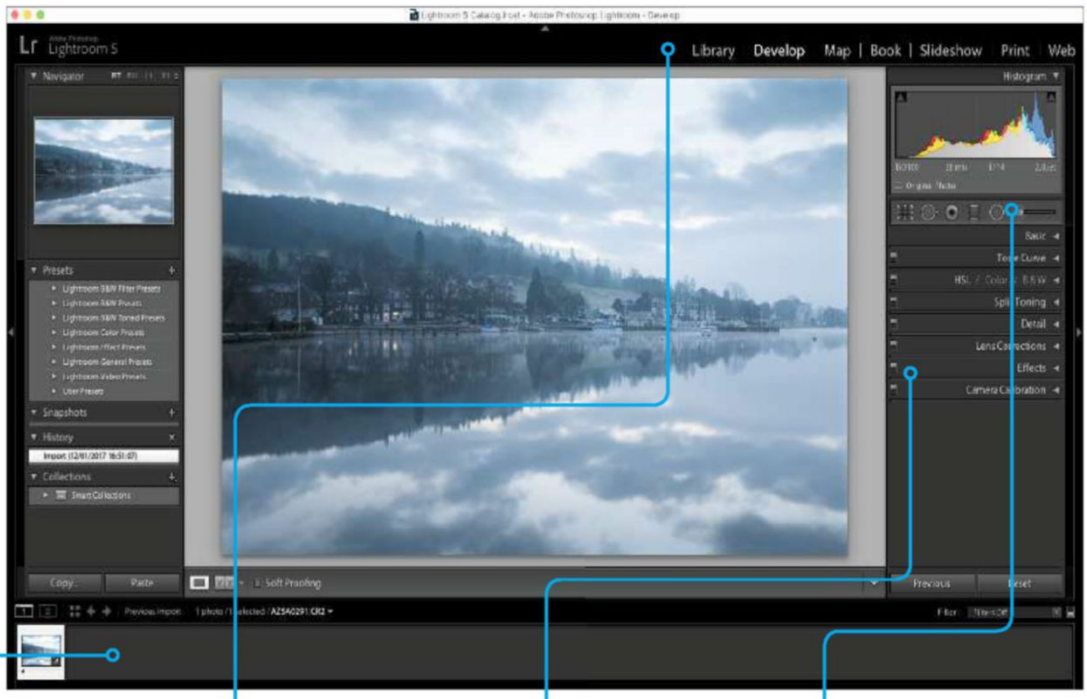
Lightroom is one of the most popular pieces of RAW editing software, though it operates in a totally different way to its Photoshop sibling, requiring you to load pictures into it and export them out. So to clear the fog, we've put together this simple 4-step tutorial you can follow so you can get to grips with it and master the basics. All you need is a RAW pic to edit and a version of Lightroom – a free trial is available if you'd like to try before you buy from lightroom.adobe.com. Then follow the step-by-step and the accompanying video on your free disc...

WHAT YOU NEED

- Photoshop Lightroom 5, 6 or CC
- A RAW image that's lacking colour and contrast

Lightroom interface explained

The Lightroom workflow operates in an entirely different way to Photoshop so can seem daunting to get to grips with. But you'll soon familiarise yourself with the layout when you've made a couple of RAW conversions. Here's what you need to know about the Develop tab, which is where you make your edits...



Filmstrip

The filmstrip sits at the bottom of the interface and lists the images from your latest import. This makes it easy to flick through the images in your current import. You can star rate your pics with number keys 0-5, and using the Filter you can reduce the images shown in the Filmstrip to just the ones you want to work on.

Modules

The most useful modules are the Library, where you can import your pictures, and Develop, which lets you process your RAW files. The Print module is also handy if you want to print directly from Lightroom.

Adjustments

The Adjustments are all collapsible panels. Click on them to expand and they will reveal the sliders and controls within. These contain powerful editing options, from Exposure to Sharpening, and Noise Reduction to Split Toning.

Tools

For more precise adjustments, there's a handful of tools found under the histogram. Here you can apply a crop, remove spots, correct red eye, add graduated and radial filters and adjust specific areas of your pictures using the Adjustment Brush Tool.

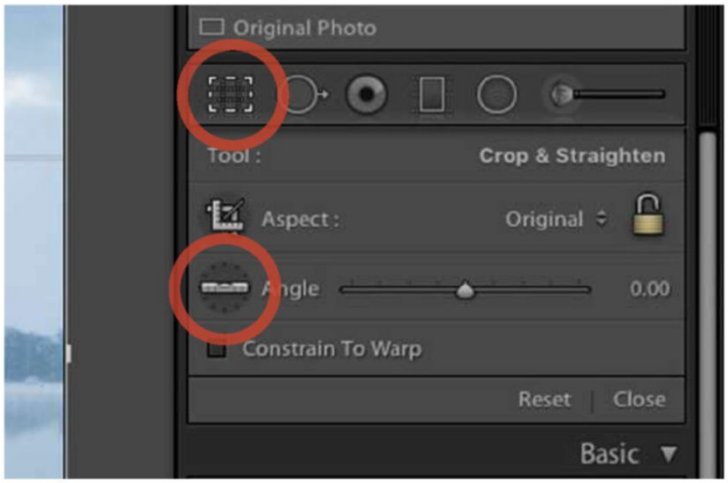
1 Import RAWs into Lightroom

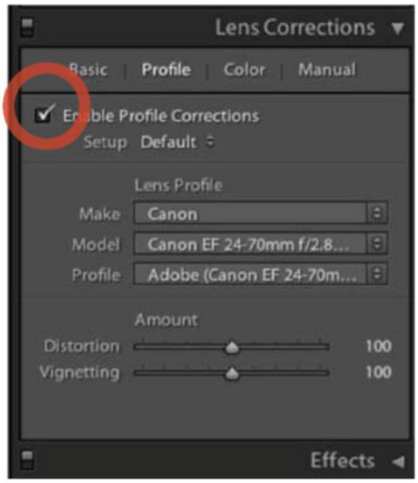
Open Lightroom. You'll find seven modules located in the top corner of the interface – Library, Develop, Map, Book, Slideshow, Print and Web. Go to the Library module, as this is where you'll import your images into Lightroom. The Import button is located in the bottom-left corner of the interface above the filmstrip. Under the Source tab on the left, navigate through your hard drive to locate the image or images you want. You can also untick the Include Subfolders button if you only want to see images solely within a specific folder. When you've clicked on the relevant folder, you'll see your image thumbnails. You can use these thumbnails to tick each image you want to import, or untick any you wish to leave out. When you've made your selection, hit Import.

Left & below
In the main interface, click on the Library module and click Import to open the Import dialogue.

2 Apply basic adjustments

Your image will now be loaded into the Lightroom Library, and will remain here should you need to edit further at a later date. Now go over to the Develop module. This is where you can make your adjustments. We'd recommend first applying a crop if needed, and checking your horizon is level. Click on the Crop Tool, which is located underneath your histogram. Now click on the Straighten Tool (next to the Angle slider) and drag this across your horizon to level up. You can then pull the corners of your pic to apply the crop and hit Return to set it. In the Adjustments panel, expand the Lens Corrections and make sure Enable Profile Corrections is enabled under Profile.



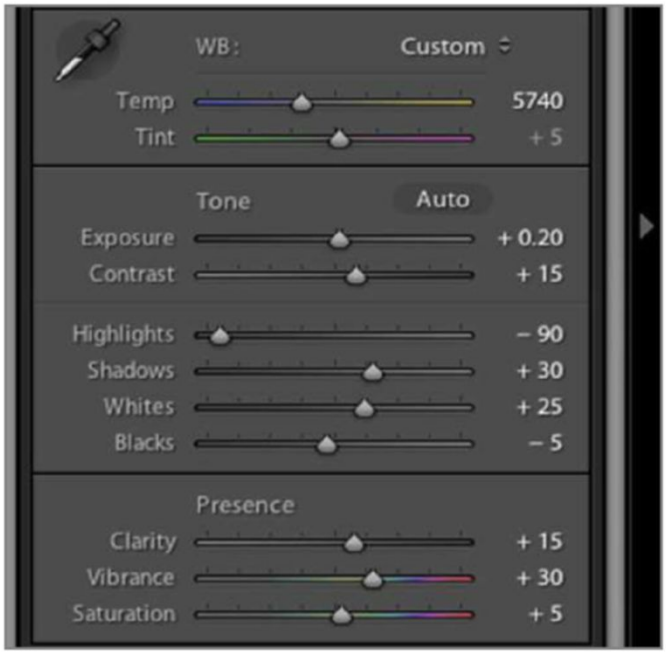


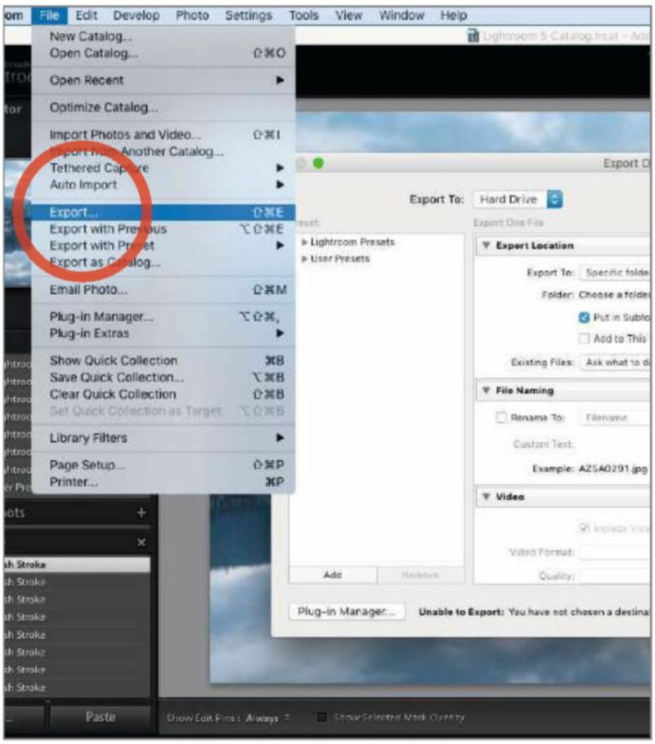
Above You don't need a spirit level to level-up. Just run the Straighten Tool over your horizon to correct it instantly.

Left Lens Profile Corrections can be enabled to reduce distortion that occurs in specific lens optics.

3 Expand your dynamic range

Click on the Basic Adjustments panel to expand it and adjust the Temperature slider until you're happy with the White Balance. We pulled the Highlights slider to -90 in our image, and pushed Shadows to +30 to increase shadow detail. We then pushed Whites up to +25 and pulled the Blacks slider down to -5. We also increased Contrast to +20, Clarity to +15, Vibrance to +30 and Saturation to +5. Tweak the Exposure slider until you're happy with the overall brightness.





4 Export your image

When you're done, go to *File>Export*, and under Export Location choose a place to save your pictures. Then under File Settings set the Quality to 80, or set a File Size Limit if you're uploading to the web. Then hit Export to save your shots as JPEGs when you're done.

Three quick & easy mono effects

Remove colour from your images to really pull focus. **Dan Mold** shows you how to do it using these three quick and easy black & white conversions.

WHAT YOU NEED

- Any version of Photoshop or Elements
- Images in need of a stylish mono treatment

IN A WORLD FULL OF HIGH resolution cameras that shoot lush, saturated images, it's heartening to learn that black & white photography is still very popular. It's hardly surprising though, as not only does a mono treatment make your images stand out from the crowd, it'll give them a classic, timeless quality too.

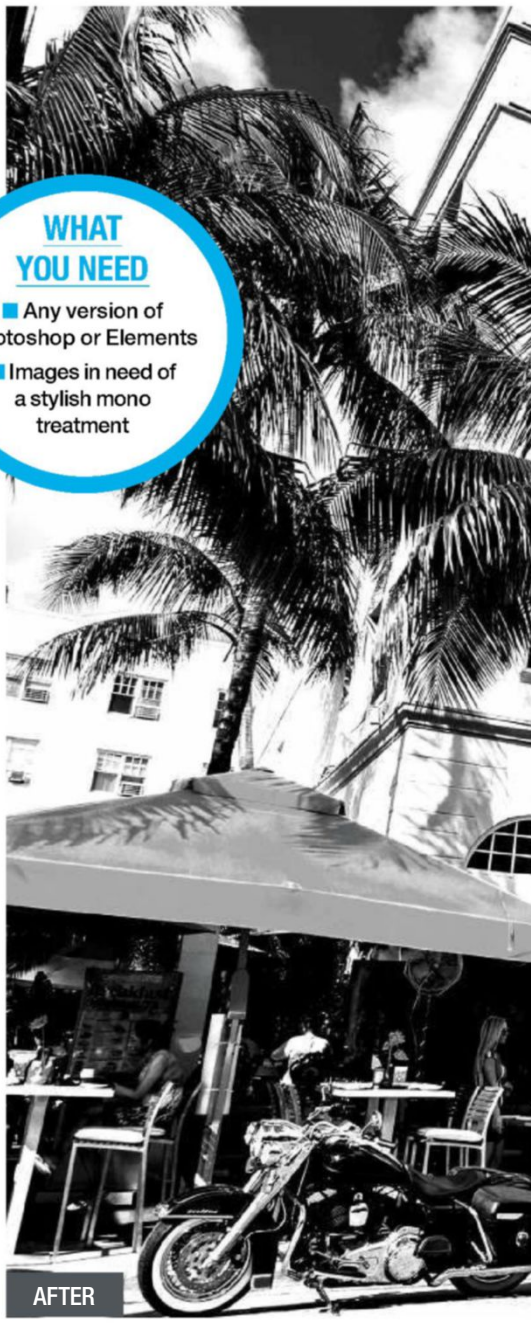
Applying a mono conversion to your images will remove colourful distractions that could pull the viewer's eye away from your intended focal point. It's very easy – and quick – to desaturate your shots in software, though straight off the bat you'll find they can look disappointingly flat.

We've put together three mono treatments that provide striking results in a matter of minutes. The first is all about making the shapes in your pic work harder by increasing the contrast between your blacks and whites. It's a great tutorial to follow if you're still grasping the basics. As with all of these techniques, remember to save the finished image as a new file, rather than over the original, using *File>Save As*.

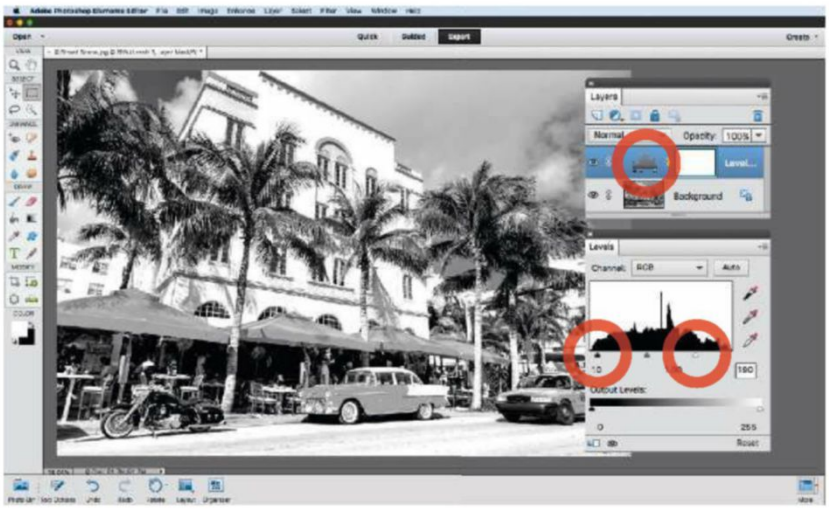
JOHN KELLERMAN

Left The start image is overloaded with colour and it's difficult to see where the focal point is intended.

Right Now converted to mono, the tones and shapes in the image work more strongly and contrast can be increased much further.



Up contrast to increase punch

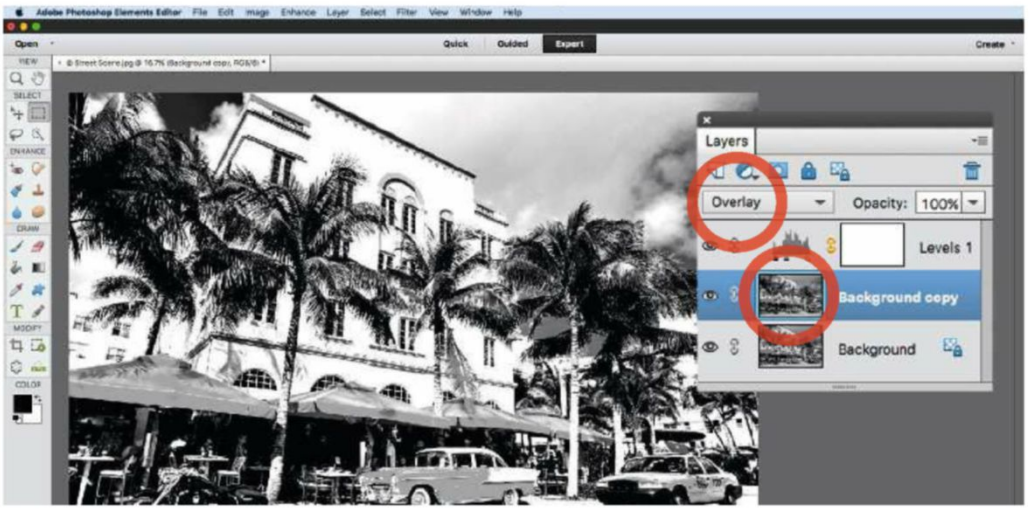


1 Desaturate your image

Open your shot into Photoshop or Elements and hit Ctrl+Shift+U to remove all colour from the pic. Go to the Layers panel and hit the Create new fill or adjustment layer icon (the half-black/half-white circle icon). Choose Levels from the list that appears. Drag the Blacks slider in (we used a value of 10), then pull the Whites slider in (we set 190) and hit OK or the small cross in the corner to close the Levels panel.

2 Duplicate and blend

In the Layers panel, click on your Background Layer and hit Ctrl+J to duplicate it. You'll now see an identical Layer above your Background Layer. Click on the blending mode (the drop-down box set to Normal by default) and choose Overlay. You'll see the whites become whiter and the blacks become darker for more striking results. When done, flatten your Layers with *Layer>Flatten Image*.



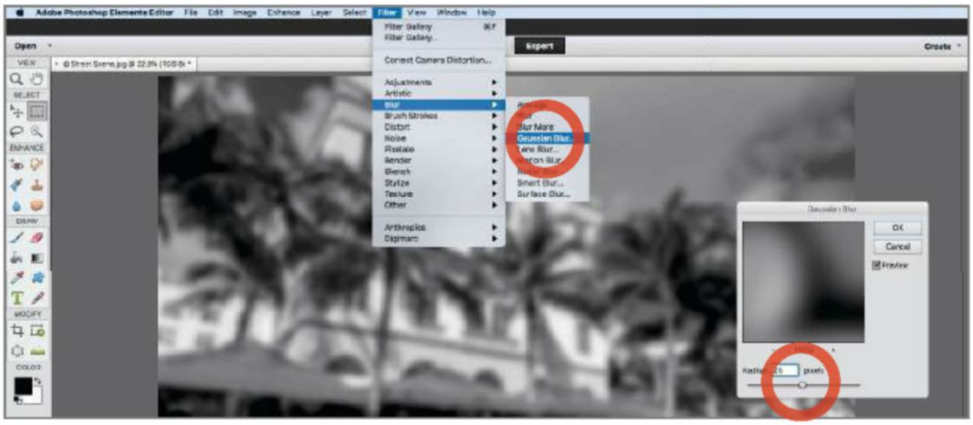
Add blur to images for a retro finish

UNWANTED BLUR IN IMAGES, such as that caused inadvertently by camera shake, can be a nightmare for photographers, softening details and making shots unusable. But adding blur post-capture in Photoshop can actually help to make your focal point stand out more prominently.

This technique for adding a little blur and applying an arty vignette will make your shots appear to have been taken on a vintage lens. All you need is five minutes to pull it off, and once you've tried it out a few times, you'll be able to do it even faster.

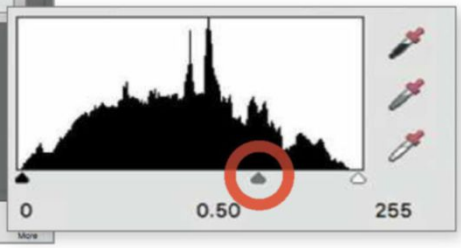
1 Add some blur

Open in Photoshop or Elements, and hit Ctrl+Shift+U to desaturate your image, then Ctrl+J to duplicate it. Go to *Filter>Blur>Gaussian Blur* and set the Radius to 25px. In the Layers panel, click on the Add Layer Mask icon (white rectangle with black dot) and use a soft black Brush with an Opacity of 20% to paint over your intended focal point to make it sharp again.



2 Apply a vignette

In the Layers panel, click on the Add new fill or adjustment layer icon and choose Levels. Drag the middle Midtone slider to a value of 0.50 to darken the whole pic. In the Layers panel click on the Add Layer Mask icon and with a soft black Brush, once again brush over the middle of your shot – this will stop the Levels Layer from darkening your image, so only the corners become dark, just like a vignette.



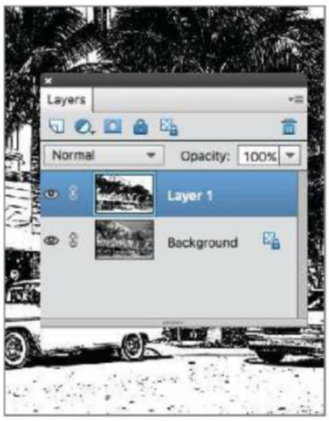
Create a monotone pop art effect

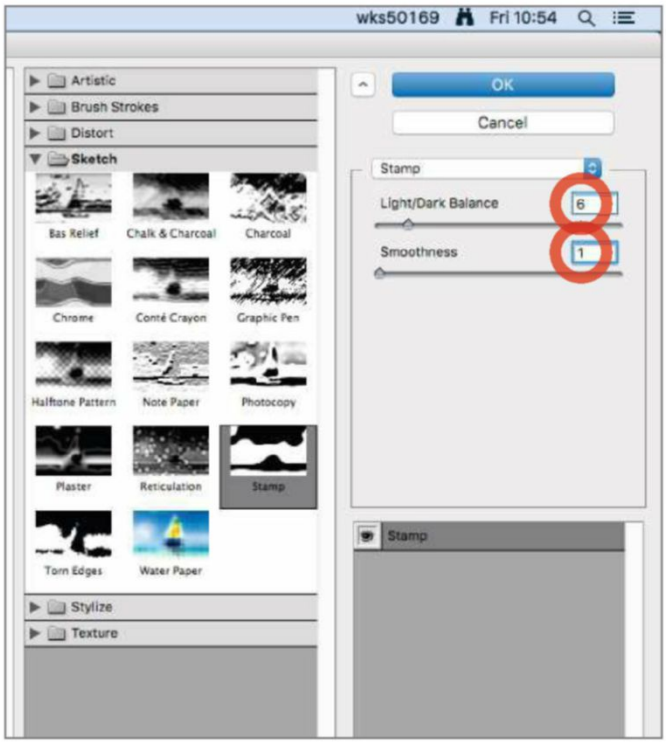
A MONO CONVERSION IS A GREAT way to give your images style, and there are few effects as slick and graphic as a pop art treatment. This two-step technique is great for turning your shots into illustrations in no time at all. Once you've tried it, experiment with your blending modes to achieve different results.

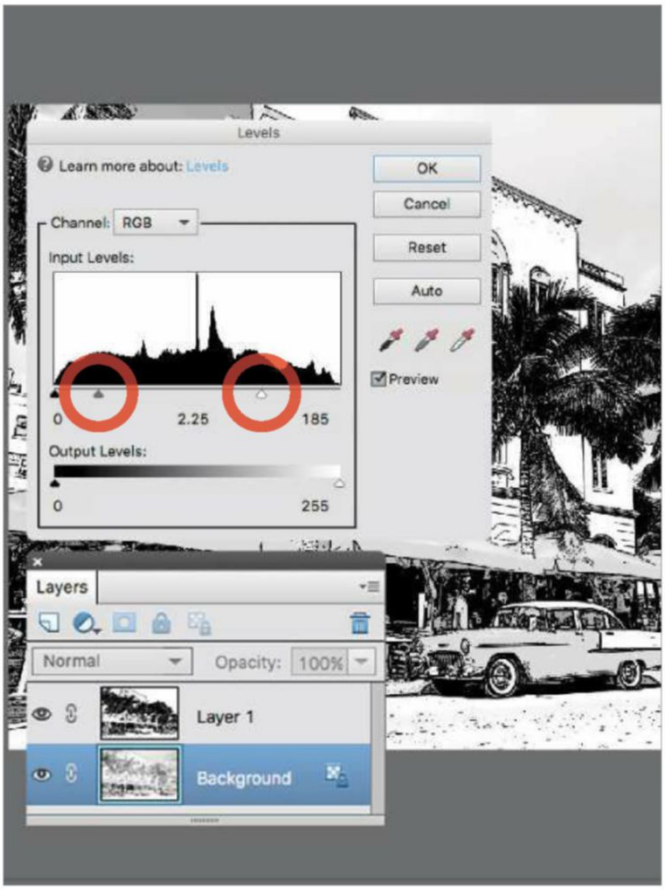
GENIUS When using multiple Layers experiment with your blending modes to see how your Layers blend into each other

1 Create a Stamp Layer

Open your pic in Photoshop or Elements and hit Ctrl+Shift+U to desaturate it. Now hit Ctrl+J to duplicate the Layer and go to *Filter>Filter Gallery*. Click on the Sketch tab and choose Stamp from the options. Now set the Light/Dark Balance to 6, the Smoothness to 1 and hit OK to apply the effect.







2 Increase the contrast

Go to your Layers panel and set the blending mode of your duplicated Layer to Darken. This will allow midtones from the Layer below to show through. Now click on your Background Layer and press Ctrl+L on your keyboard to bring up the Levels panel. Increase the contrast by dragging the middle Midtones slider underneath the Levels histogram to 2.25 and the Highlights slider to a value of 185, then hit OK to apply the Levels adjustment.

Add a new sky to flat landscapes

Don't throw away a flat landscape shot! Instead add a new sky, and save it from the trash. **Dan Mold** shows you how.

THE TROUBLE WITH SHOOTING outdoors is you never know what the weather will bring – even forecasters get it wrong. If you get to your chosen location to find a perfectly clear, or totally cloudy sky, then it's odds on that your landscapes are going to come out looking flat. A sky that falls in-between, with a good amount of cloud and blue sky, is the one you really want, as such skies contain the perfect mix of drama, contrast and colour.

The smart thing to do is to shoot a variety of skies and keep them for future reference. That way you always know you can add a striking sky post-capture if it's impossible to get on the day. If you do start your own sky library, shoot at different times of the day, as the colour temperature will be a little warmer during the golden hours around sunrise and sunset. Let's get started...

TIM BERRY

DAN MOLD

Above This shot of the Lake District is nice and sharp, but it lacks a strong sky.

Left The new sky is filled with contrast, clouds and colour, and is much more eye-catching.

WHAT YOU NEED

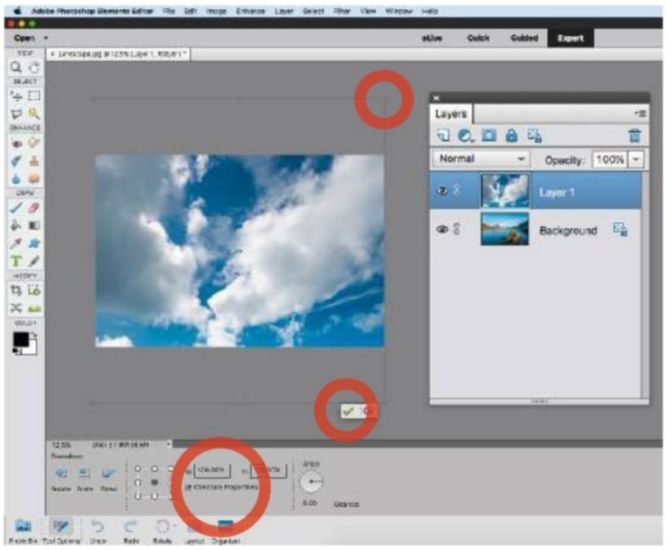
- Any version of Photoshop or Elements
- A sharp landscape lacking a powerful sky

1 Shoot your sky

Wait for a day when there's a good contrasty sky – not completely clear or overcast, but somewhere in-between. Head outside, set your camera to aperture-priority, choose an aperture of f/11 so that the sky is sharp, and set a low ISO (such as 100 or 200) for good image quality. Compose with your LCD so you don't damage your eyes if the sun comes into view. You may have trouble focusing on pure blue sky or completely white cloud, so autofocus on the edge of a cloud where the camera can lock on to some contrast. Then take a variety of pictures at different focal lengths.

2 Open your pics in Photoshop

Open up any landscape shot with a flat sky that you'd like to add your new sky to. Do this in both Photoshop and Elements by going to *File>Open*. Now open up one of your sky pictures. Hit Ctrl+A to select all of your sky pic, Ctrl+C to copy it and Ctrl+W to close it down, as you no longer need the sky pic. You'll now be back in your landscape shot, so hit Ctrl+V to paste the sky in. You should see the sky in front of your landscape, though it's likely to need resizing.

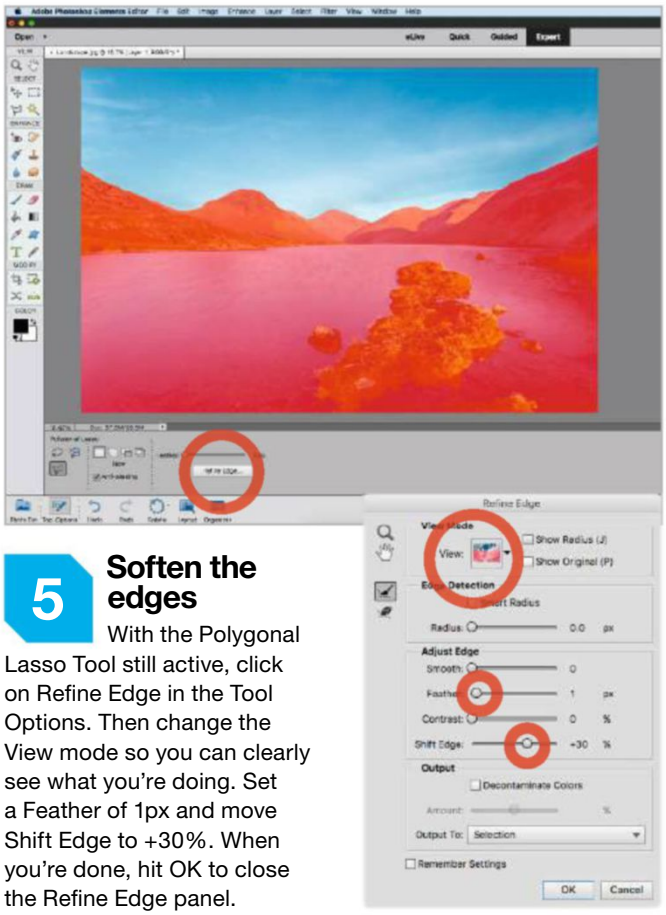


3 Resize the sky

If your sky is too big or too small you'll need to resize it, so hit Ctrl+T to put the sky into Free Transform mode. The sky will now have a bounding box around it. Pull in the edges and corners of this box to resize the image. If your sky is much larger than your landscape pic you'll need to hit Ctrl+Minus a few times to zoom out until you can see the edges of the bounding box. To make sure you don't distort the sky, in Elements tick the Constrain Proportions box, or in Photoshop hold the Shift key down as you pull the corner handles of the bounding box in Photoshop – this will ensure it's resized at the same aspect ratio. When the sky is covering your entire landscape, click the tick or hit Return to set it down.

4 Select the sky

Go to the Layers panel (*Window> Layers*) and click the eye icon on your sky Layer to temporarily hide it. Now click the Magic Wand Tool in the Toolbox to make it active. Set the Tolerance to a value of 30 and click the Background Layer to make it active. Now click on the sky to select part of it, then hold down the Shift key and click on the remaining sky to add it to the selection. Zoom in tightly by hitting Ctrl+Plus and use the Polygonal Lasso Tool to tidy up the selection. Hold Shift to add to your selection or the Alt key to remove unwanted areas. The entire sky will now be surrounded by the marching ants.



5 Soften the edges

With the Polygonal Lasso Tool still active, click on Refine Edge in the Tool Options. Then change the View mode so you can clearly see what you're doing. Set a Feather of 1px and move Shift Edge to +30%. When you're done, hit OK to close the Refine Edge panel.

6 Apply a Layer Mask

In the Layers panel, click on the sky Layer and hit the Add Layer Mask icon (it looks like a black rectangle with a white circle inside it). The sky will only be visible through the area you previously selected, and you'll notice that the marching ants have disappeared, so your selection is no longer active. There is now a Layer Mask on your sky Layer. The picture on this Layer will only be visible on a white area of the mask, as black areas are hidden from view.

7 Reposition your sky

In the Layers panel, there's a chain icon between your sky image thumbnail and the Layer Mask. Click this to unlink the sky picture from its Layer Mask, and it will disappear. Now click on the image thumbnail to make sure you're working on the image and not the mask, and hit Ctrl+T to put it into Free Transform mode. You can now drag the sky around until it's in a position that looks good. Hit the tick or press Return when you're done.

GENIUS Shoot your skies at different times of the day so you have a variety of tones to suit your specific landscape

8 Add the finishing touches

It's a good idea to reduce the Opacity of the sky Layer to 90%. This will fade it into the background ever so slightly and make the sky as realistic as possible. The brightness of your sky may also need adjusting. If this is the case, go to your Layers panel and click on the Create new fill or adjustment layer icon, then choose Levels from the menu that appears. Right-click your Levels Layer and choose Create Clipping Mask from the list that appears. This restricts the Levels effect to just the sky. Now you can tweak the middle Midtones slider of the Levels palette until the sky is the correct brightness for your picture. All that's left to do is go to *File>Save As* and save your picture as a JPEG, or if you'd like to tweak the sky at a later date, be sure to save your pic as a PSD file.

Add a texture for instant interest

Make the most of this month's royalty-free texture pack to add a sense of depth to your images. **Dan Mold** reveals how three easy steps is all it takes.

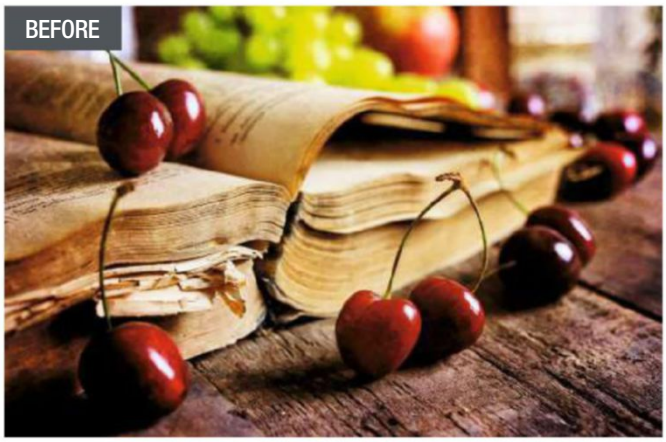
WHAT YOU NEED

- Any version of Photoshop or Elements
- A flat image in need of extra grit and bite

ARE YOU STRUGGLING TO MAKE your pictures stand out? Adding a texture is an easy way to instantly pep-up flat pictures, giving them loads more bite and contrast. Adding a texture takes a matter of minutes, though you can spend as long as you like customising them by changing the blending mode, erasing parts of it and stacking multiple textures.

All you need for shooting your own textures is strong light, a macro lens and a subject with lots of detail. But to help you start building your own texture library, this month we're giving you 20 royalty-free textures. They're all sized to A4 and have been converted to mono so they don't affect the colours within your pictures.

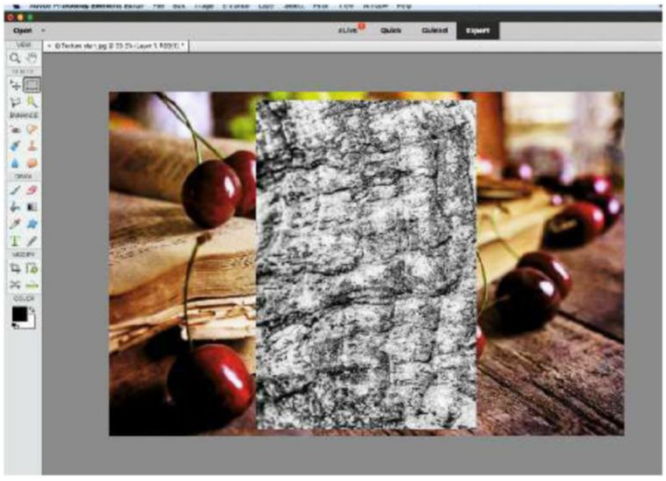
This is a great technique to try if you're just getting to grips with Photoshop or Elements, as you'll learn essential skills such as using Layers, resizing pictures and blending them together. Sound good? Let's get to it...



ALEKSANDR KICHIGIN

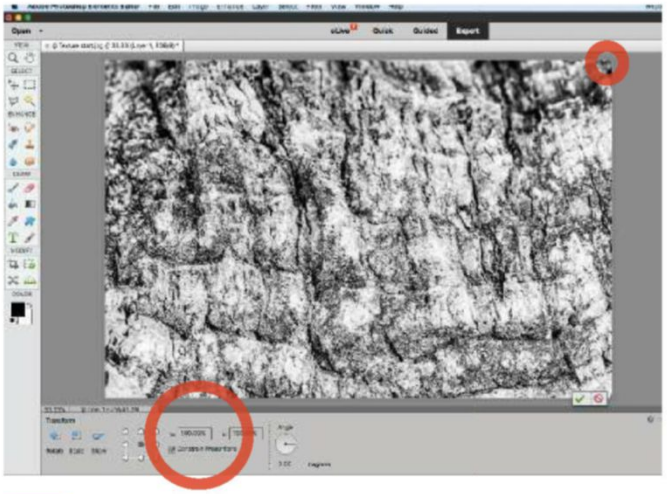
Above This is a fantastic still life packed with colour and detail. A texture of some tree bark would really complement the wooden table in this shot and tie it all together.

Right The new bark texture gives the pic a little more bite and adds an aged, rustic aesthetic.



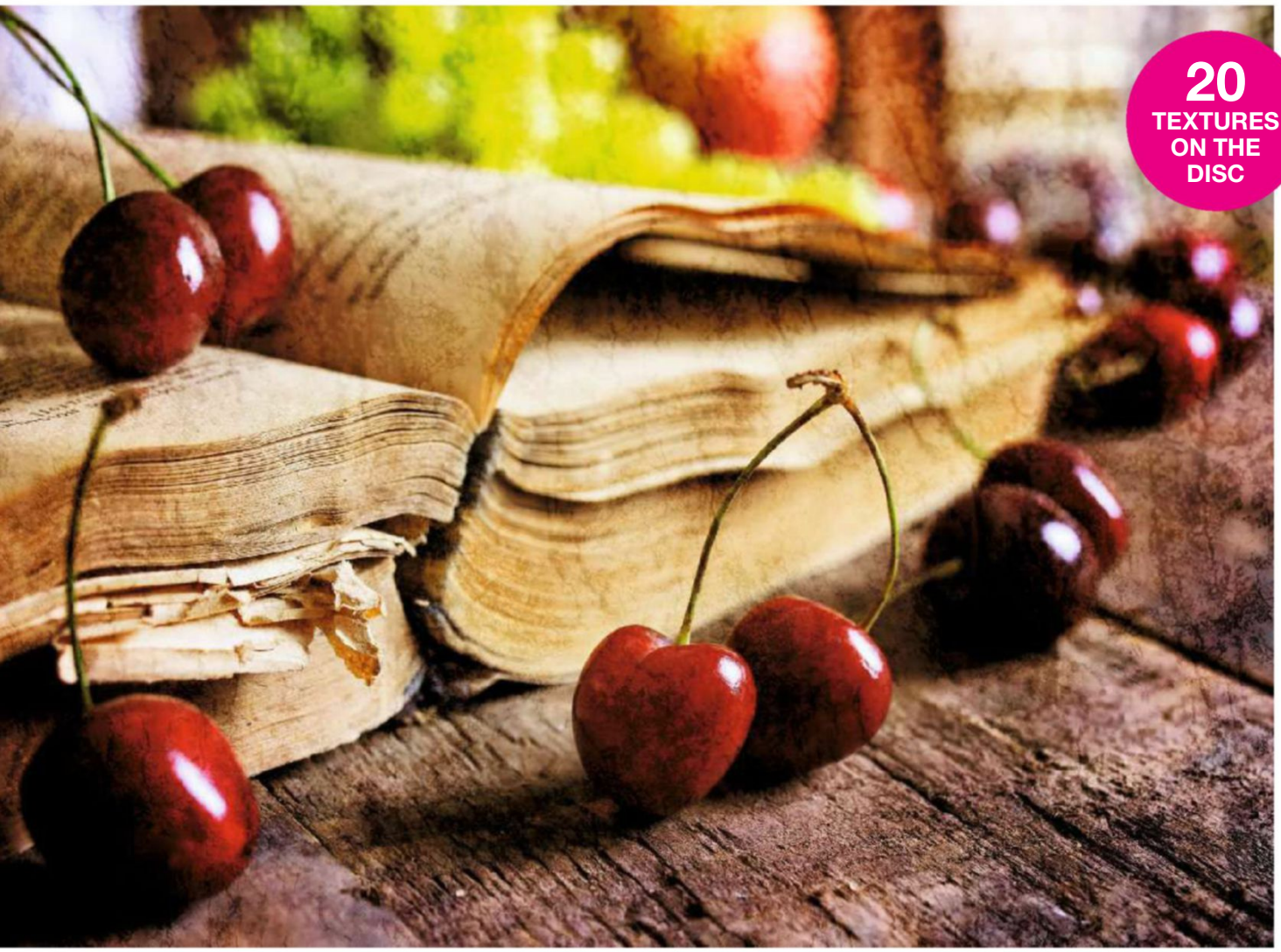
1 Open your pictures

In Photoshop or Elements go to *File>Open* and navigate your way to the image you'd like to add a texture to. When open, navigate your way to *Free Gifts>Royalty Free Textures* on this month's CD. Click on the texture you'd like to use and then click Open to load it into Photoshop. Hit Ctrl+A to select it and Ctrl+C to copy it, then Ctrl+W to close the texture down. Go back to your image and hit Ctrl+V to paste the texture in.



2 Resize your texture

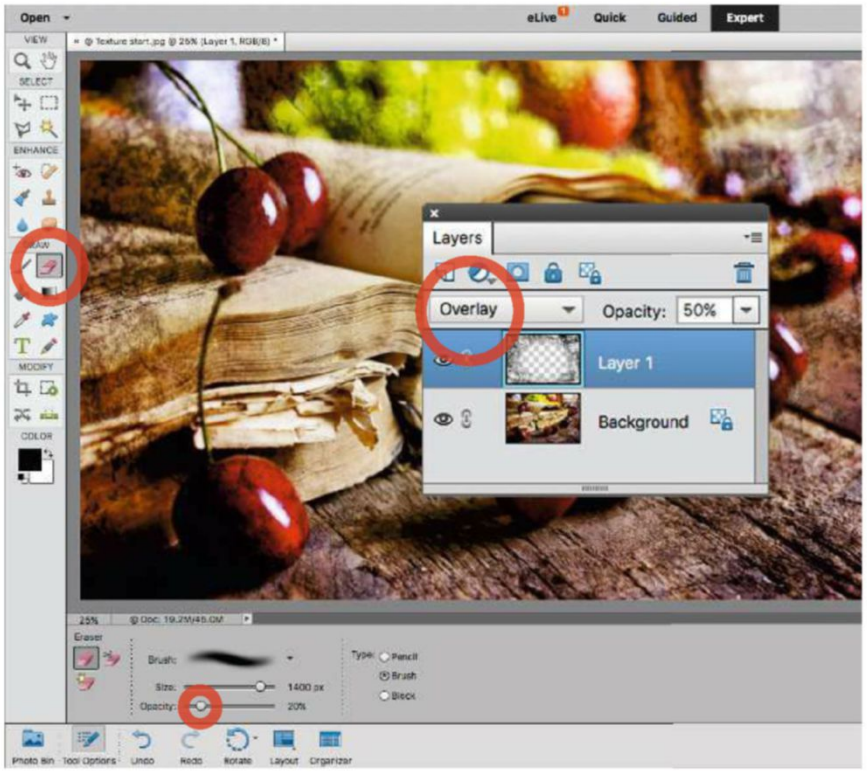
The texture is likely to be too big or small, so hit Ctrl+T to put the texture Layer into Free Transform mode to begin resizing. In Elements make sure your Constrain Proportions box is ticked, and in Photoshop hold the Shift key down as you pull the corner handles in or out to change its size. Hover your cursor over an outside corner of the bounding box to change the cursor to double-ended arrows. Now you can drag your mouse to rotate it if you need to. Hit Enter or the tick to make your changes.



3 Blend your Layer

In your Layers panel (*Window>Layers*) change the blending mode of your texture Layer from Normal to Overlay. Then, to subdue the effect a little, drop the Opacity of this Layer until the texture looks perfect to you. We set it to 50% for this image. You can also use a soft Eraser Tool with a soft Brush and low Opacity to remove it from specific areas of your pic. You can also experiment with other blending modes such as Soft Light and Hard Light, which also offer striking results. When done, go to *File>Save As* and save your pic under a new file name.

GENIUS Try stacking multiple textures on top of each other with different opacities & blending modes to build up the effect

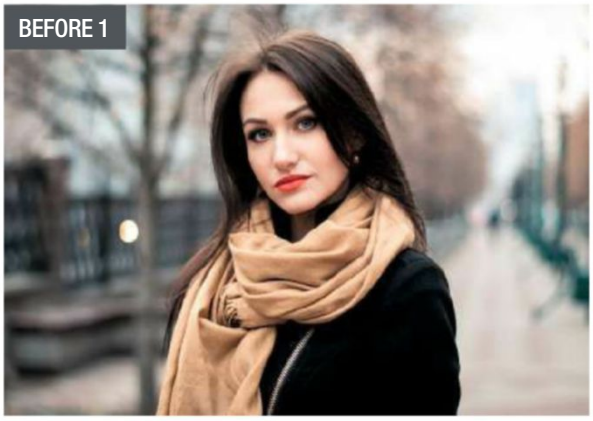


WHAT YOU NEED

- Any version of Photoshop or Elements
- A portrait that you'd like to put on a new background

Take people to new places in Photoshop

It's easy to add a new background to a portrait when you know how. **Dan Mold** simplifies the process for top results.



PATHOLOGY

SEAN PAVONE

LI DING

Above Our model was shot with a fairly wide aperture, so it will be a little easier to add a blurry background behind her. The sharp city pic has loads of colour and detail, which will make a more dynamic background. Bokeh shapes are easy to shoot and can be blended in to add an arty flourish.

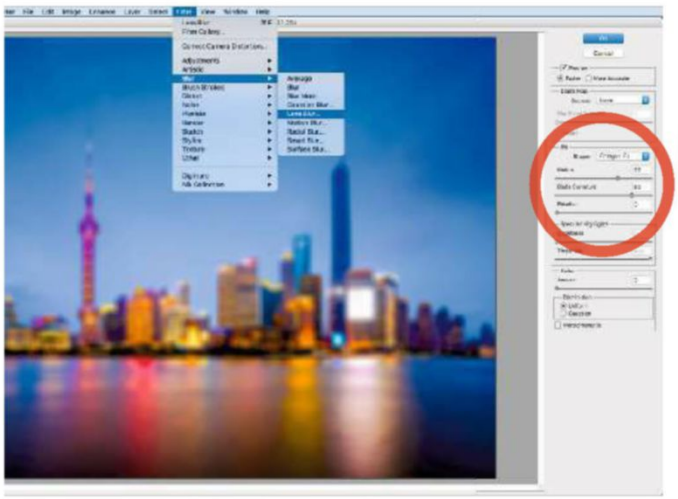
Left All three images have been tied together seamlessly, transporting the portrait to a new location.

MOST OF US ARE SUPER critical when it comes to our photography. And these days it's all too easy to delete an image if it doesn't immediately appear to be up to scratch. But don't be so hasty. Cutting out a subject and placing it on a brand new background is a great way of saving images from the trash.

Portraits are brilliant for this technique, because you can instantly change the look and feel of them by transporting your subject to a new location.

If you don't have a suitable portrait to hand, simply shoot one at 55mm, using an aperture of f/5.6 to blur the edges of the model slightly. A vibrant city shot can then be slotted into the background and blurred to mimic the shallow depth-of-field effect you usually only get with pricey optics. A final bokeh Layer really ties it all together. Shooting out-of-focus fairy lights is a great way of capturing your own bokeh shapes.

Hair can be tricky to cut out, but we'll show you how the experts get precise selections of this problem area, so you too can get seamless results. Let's get stuck in!



1 Blur your city shot

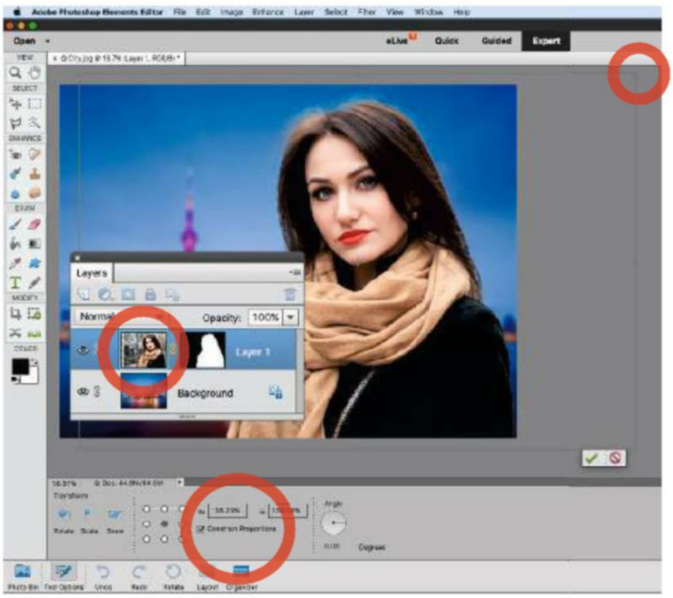
Open the image you want to use as your new background in Photoshop or Elements. A vibrant skyline, such as this wide vista of Shanghai, works brilliantly. To make the pic appear naturally defocused behind your portrait, head up to *Filter>Blur>Lens Blur*. In the Lens Blur window you only need to be concerned about the Iris section. Set the shape to Octagon and the Blade Curvature to 80 for more rounded-looking bokeh shapes. The Radius slider changes how blurry your picture is. You'll need to tweak its value from image to image, depending on how your portrait is in the frame, to make it look realistic. For a tight head and shoulders portrait you'll want to apply quite a lot of blur, so set the Radius to 65 and hit OK.

2 Copy and paste your person into shot

Now go to *File>Open*, find the portrait you'd like to insert and open it. Hit Ctrl+A to select the whole portrait, Ctrl+C to copy it and Ctrl+W to close the portrait down. Back in the city shot, hit Ctrl+V to paste your model into the new location. Now go to the Toolbox and click the Quick Selection Tool. Run this over your model to select most of them. Don't worry if you don't select any flyaway hairs, as we'll refine the selection in the next step. Hold down the Alt key if you need to remove any parts you didn't want to be selected.

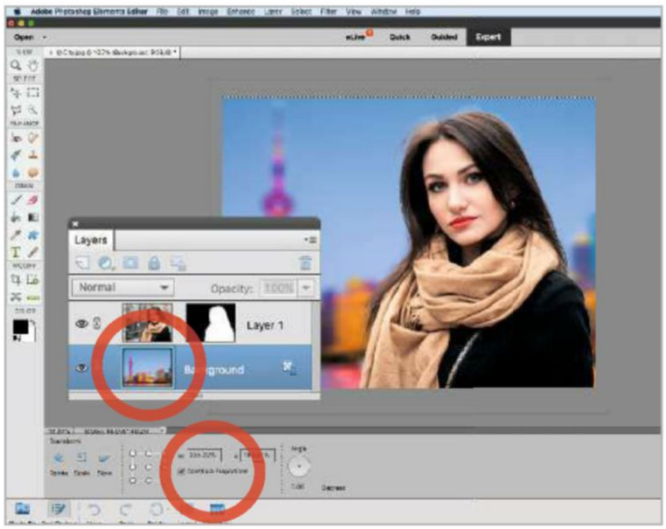
3 Refine the selection edge

Now that you have a rough selection, go to Tool Options, choose Refine Edge and set the View to On White to see the selection clearly. Under Edge Detection, tick the Smart Radius box and use the Refine Radius Tool to brush over the edge of the hair to add it to the selection. Some images will work better with a manual Radius value, so be sure to tweak the Radius slider after you've selected the hair to see if this works better. You can remove unwanted parts using the Erase Refinements Tool by brushing over them. When you're done, set Feather to 1px to soften it a little, change the Output To to Layer Mask and hit OK. You can paint black onto the new Layer Mask with a soft Brush tool to refine the hair even further.



4 Resize your portrait

Hit Ctrl+T to put your portrait into Free Transform mode. In Elements, make sure your Constrain Proportions box is ticked. This is so you resize your shot at the same length-to-width ratio and it doesn't become distorted. In Photoshop, hold the Shift key down as you pull the corner handles in or outwards to make sure it doesn't become distorted. When you're happy with the amount of space the portrait is occupying you can drag it into the correct position and hit Return, or click the tick to finalise your adjustments.



5 Resize the background

Now it's time to resize your background. Enlarging the blurry cityscape will give the whole picture a more compressed look, similar to what you'd achieve by shooting with a telephoto lens and a wide aperture. To do this, go to your Layers panel (*Window>Layers*) and click on your Background Layer. Now hit Ctrl+T to put it into Free Transform mode, resize it and position the background to your liking. Just as we did in the previous step, you need to make sure your Constrain Proportions box is ticked in Elements or hold the Shift key down in Photoshop as you resize to make sure you don't distort the image. When you're done, hit the tick or press the Return key to set it down.

6 Apply a crop

Go to the Toolbox and grab the Crop Tool. You can now create the framing you desire by applying a crop. In Tool Options you can set the crop to various aspect ratios, but if you want to apply it freehand set the Crop to No Restriction. Then draw your crop over the area you want to keep. You can then drag the whole crop selection into position and pull the corner handles to adjust the crop area. When you're done, hit Return or the tick to apply the crop.

7 Tweak the lighting

The lighting of your background and portrait needs to be similar, so go to the Layers panel and click on the portrait Layer. Now hit the Create new fill or adjustment layer icon and click Levels. Right-click on the Levels Layer and choose Create Clipping Mask, then drag the middle Midtones slider in the Levels panel until the brightness of the portrait matches the background. We set it to 1.20 for this pic. You can also change the brightness of the background the same way if required.

GENIUS Make sure your new background has a similar brightness as the original to make it look more realistic

8 Add a bokeh Layer

Bokeh shapes are easy to capture by taking out-of-focus images of bright lights in the dark. Once you have your bokeh pic, open it in Photoshop. Hit Ctrl+A to select them, Ctrl+C to copy and Ctrl+W to close it down. Then hit Ctrl+V to paste it back into your composite. In the Layers panel, change the blending mode of your bokeh Layer from Normal to Screen to blend it into the rest of the pic. Then click the Add Layer Mask icon in the Layers panel and use a soft black Brush with an Opacity of 80% to remove some of the bokeh, leaving bokeh on just the bottom half of the pic. You can also reduce the Layer Opacity to blend the bokeh in even further. When done, go to *File>Save As* and save your shot under a new file name. Choose PSD to keep your Layers or save as a JPEG to save space and lose the Layers.

Make your shots dynamic

Revel in the details by expanding the dynamic range of your pictures, creating deep shadows and highlights. **Dan Mold** runs through the whole process from capture to computer.

WHAT YOU NEED

- A DSLR or CSC with bracketing mode
- A sturdy tripod
- HDR software package

THE HUMAN EYE can distinguish an extraordinary amount of detail in deep shadows and bright highlight areas. Conversely, a digital camera's sensor can only record a snapshot of these tones in a single shot. It's no surprise then that our images more often than not look flatter than how we remember them.

But there is a solution. You can take multiple images of the same scene at different exposures to build up a larger range of tones. These tones can then be blended together in specialist post-processing software to create a highly-detailed image, much more akin to what we actually see. The end result is called a high dynamic range picture, or HDR for short.

HDRs have had a bit of a bad reputation in recent years, as they can be synonymous with an unsightly, gritty effect favoured by urban exploration and architecture photographers. This type of HDR treatment won't be for everyone, and more often than not simply boosting the shadows and highlights to expand the tonal range a touch works just as well, producing a hyper-real but natural result.

Making an HDR requires camera and editing skills in equal measure. So read on to see how you can do it from start to finish...

AFTER

Left In a single exposure, the camera produced a very flat picture with no real detail in the shadows or highlights.

Main Created by merging three exposures, this image is richly detailed across the entire tonal range.

3 skills you'll learn

1 How to expose for HDR
A true HDR image is created from different exposures of the same scene, so shooting a range of exposures, a.k.a. bracketing, is key to this technique.

2 How to get sharp shots
Details are essential to HDR images, so we'll show you how to change your aperture for a deep zone of sharp focus.

3 How to process an HDR
Merging your exposures together in software is a big part of creating your HDR pictures. We'll explain the main features and terminology found in HDR programs.

Shoot your HDR sequence

The first half of this technique is to shoot different exposures of your chosen location. When it comes to choosing your location, look for a scene with plenty of detail that you can draw out. And frame up on a stationary subject, such as a building, that won't move from one exposure to the next. This ensures the tones match up seamlessly. A hyper-real treatment is often preferred to a full-on HDR look, as the latter can look a bit unsightly.

When taking your different exposures it's good practice to shoot JPEG and RAW files, as some HDR software is only capable of processing JPEGs. But it's better to have the RAWs, just in case you decide to work them up at a later date, or if you get other software that can handle the larger RAWs.

You'll also learn how to bracket exposures to record an HDR sequence. Bracketing – where you shoot a range of different exposures – can be a life-saver for all sorts of images. For example, if your highlights burn out to pure white, a bracket will give you an extra underexposed shot you can use instead.

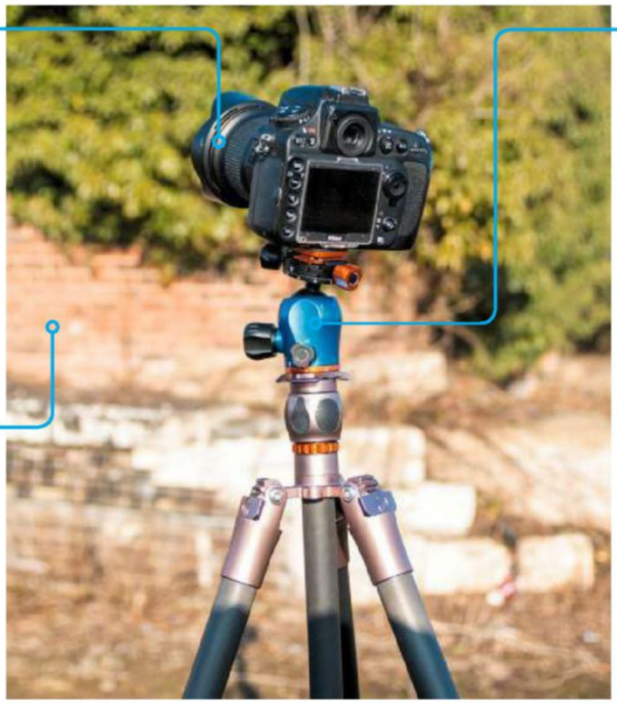
Above HDRs can be shot handheld, but a tripod makes it far easier to align your pics.

DSLR or CSC

A camera with aperture-priority and a bracketing (BKT) mode is needed for this HDR technique. All DSLRs, CSCs and even prestige compacts worth their salt will have this function. Aperture-priority will let you close the aperture down for a deep zone of sharp focus. Bracketing lets you shoot multiple frames of the same scene at different exposures (see panel below).

Location

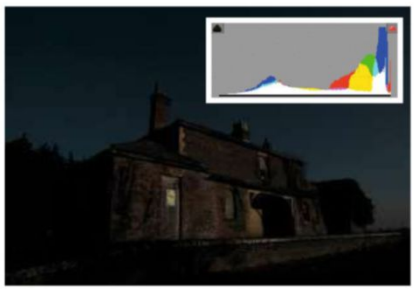
Any object with a huge amount of detail in it will lend itself to an HDR. Architecture scenes like this disused railway station work particularly well – there's loads of detail in its gritty brickwork that can be extracted in HDR software. Remember to always ask for permission when shooting on private land.



Tripod

As HDR images require you to layer-up multiple images of the same scene, it makes sense to shoot on a locked-off tripod so that they all line up perfectly. Some software packages have an alignment feature, so if you want to shoot an HDR but you've left your tripod at home you still can. But know that the results are generally a little less defined, and it can take your software longer to process your pics, requiring more time to align them. When putting your tripod up, it's a good idea to extend the thickest leg sections first and the centre column last to give yourself optimum stability.

The three core exposures you need for HDR...



Underexposed by 2 stops

The histogram in this picture shows that the tones in the image are tightly bunched towards the right, meaning the highlights are much darker than they should be.

Correctly exposed

The data in the histogram in this picture is fairly evenly distributed across the middle area where the midtones are, but there's little detail in the brightest and darkest areas of this scene.

Overexposed by 2 stops

The tones of the histogram are tightly bunched to the left of the histogram, towards the highlights area. This means there's almost no detail in the midtones or shadow detail.

1 Frame up & lock your focus

When you've found a location that would lend itself to a high dynamic range treatment, set your camera up on a tripod, extend the thicker top legs first and the centre column last for optimum stabilisation, and frame up to get the composition you want. A low angle looking up can make derelict buildings look very striking. Next, set your autofocus to single-servo and set it to its single-point AF mode. Now position the active AF point about a third of the way into the scene to increase the depth-of-field and give your picture a strong level of sharpness. When you're done, set your lens or camera body (depending on model) to manual focus mode to lock it off. This prevents you from inadvertently changing the focus from one shot to another during bracketed sequences.

2 Choose a mid-range aperture

Go into your camera's aperture-priority mode and dial in an aperture of f/11 for strong sharpness throughout the scene. Part of the HDR effect is bringing out details, so a super-sharp shot really helps you achieve this. Make sure you're set to record both RAW and JPEG images, as some HDR software can only process JPEGs. Finally, enable your 2sec self-timer to avoid camera shake.

3 Switch on your bracketing

To shoot an HDR sequence you need to switch on your camera's bracketing mode. Most DSLRs have a BKT button you can hold down. Then adjust the command dials to change how many frames you have in your bracket and the number of f/stops between exposures. I went for a 5-frame sequence, with each exposure a single stop apart. You could add even more frames for extra exposure information.

4 Take your shots and check them

For a 5-frame bracket you need to take a total of five images to complete the sequence. After this, your camera will return to the first 'standard' exposure, ready for you to take the next bracket. Be sure to check your shots on the camera's LCD to make sure they're sharp, and when you're done remember to switch your bracketing off. Now turn over the page to see how you can merge your exposures together.

Pro advice How to fix shooting problems

BLURRY IMAGES

For the best range of tones you'll want to shoot around 5-7 images, using a tripod to help reduce camera shake in your shots. If your lens has image stabilisation, don't use it in conjunction with a tripod. This can actually correct for shake that isn't present and in doing so might create blurry images.

MOVING SUBJECTS

If you have something in your sequence that is moving, such as a person walking through the scene, the tones won't match up correctly in software. Here your best bet is to shoot a single unbracketed RAW file and export three JPEGs of the same shot in RAW editing software – one as the standard exposure, the next with the Exposure slider set to -2 and the last with the Exposure slider set to +2. You can then load these three JPEGs into your HDR software.

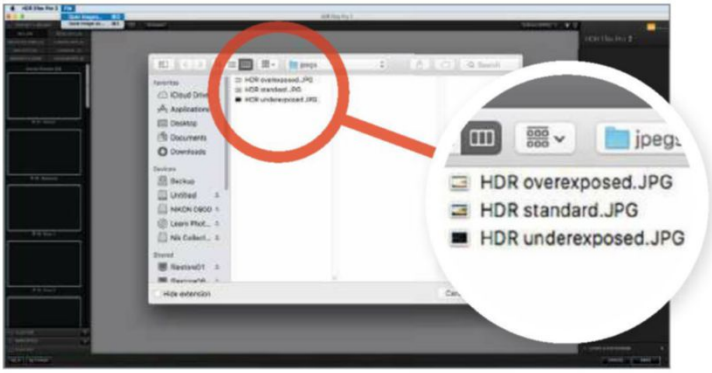
Create your HDR image in software

Now you've shot your bracketed sequence, you need to organise the different exposures on your hard drive and load the pics into dedicated HDR software. These bespoke programs are designed to pick apart the tonal range of each image and borrow pixels from each other to expand the tonal range of your shot, for deep shadows and detailed highlight areas. The algorithms each program uses to do this will differ slightly, and have different levels of control. But they fundamentally work in the same way, expanding the dynamic range of your scene. Good HDR software will have an expansive range of presets that you can use to quickly apply striking effects, and have a comprehensive amount of sliders that you can use to tone down or boost the HDR effect. Here's how to use the core features...

Above Dedicated HDR software provides a high level of control and is essential for creating high dynamic range images. Some editing suites are available for free, such as Google's Nik HDR Efex Pro 2.

1 Download and install your software

There's a whole heap of HDR software available online, though for this technique we're using Google's Nik Efex Pro 2 as it's completely free to download from google.com/nikcollection. Many of its core adjustments and sliders are translatable to other pieces of HDR software, such as Exposure, Alignment and Tone Mapping.



2 Sort and name your shots

Shooting a bracketed sequence will give you a lot of images to sort through, so it's best to find the sequence you want to work with and copy it into a separate folder. Once done, rename the files you want to work with appropriately, such as HDR underexposed, HDR standard and HDR overexposed, for a 3-shot bracket.

3 Load your pictures

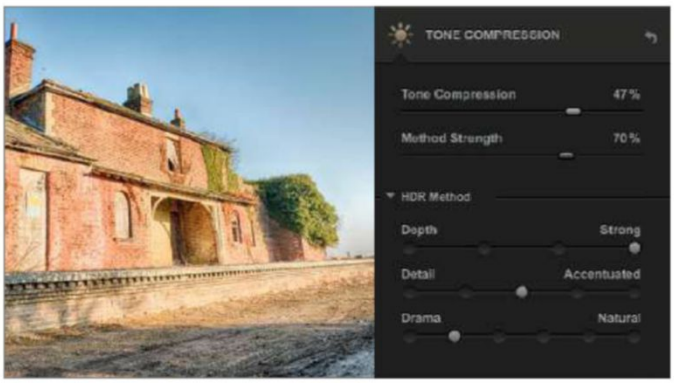
Load your images into your HDR software. Many programs have an Alignment option for lining up pictures taken handheld. Leave this unticked if you shot using a tripod. If a moving subject passed through your exposures you may want to try Ghost Reduction to remove artefacts from appearing. In Nik Efex Pro 2 you then hit Create HDR.

4 Choose a preset

All good HDR programs will come with a range of presets. The great thing about these is you can quickly apply lots of different effects until you find one that suits your picture. In Nik Efex Pro 2 we used the Outdoor 2 preset, found under Architecture, and this provided a good starting point for this disused railway station picture.

5 Tweak the shadows and highlights

Now you can fine-tune how much dynamic range your HDR picture has. Adjust the Exposure until your shot looks as bright as you want it and then use the Shadows and Blacks sliders to finesse the level of detail in your darker areas. Then pull the Highlights and Whites sliders until the bright areas look exactly how you want them to.

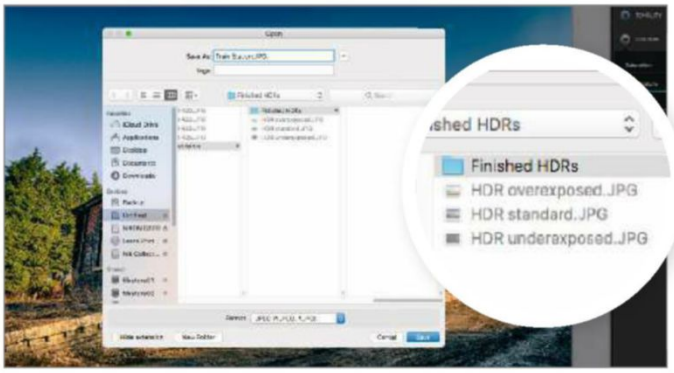


6 Fine-tune your HDR

HDR Efex Pro 2 offers Tone Compression, Method Strength and Structure sliders which, when pushed up, will exaggerate the gaudy HDR-look synonymous with high dynamic range images. But you can pull them back for more natural-looking pictures too. You can also change the HDR Method to different strengths for a finer level of control.

7 Add the finishing touches

After you've adjusted the look of your HDR image, you can adjust the colours. The Saturation slider is good for boosting colours or creating a striking mono HDR, and the Temperature slider is good for fixing white balance issues. You may also want to experiment with a vignette to draw the viewer's eye in towards the middle of your picture.



8 Save and export your HDR

When you're done, it's time to save your shot. In Nik HDR Efex Pro 2 this is done by going to *File>Save Image As*, though you may have to click Export in some other programs. It's then a good idea to create a new folder for your finished HDRs, so it doesn't get mixed in with your original bracket, and save it under a new file name.

HDR software you should try...

Google Nik HDR Efex Pro 2 £FREE

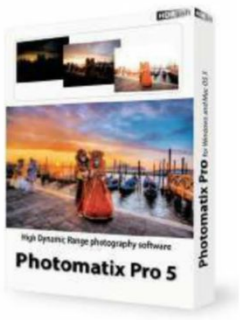
Google's entire Nik software collection is free to download. And its HDR Efex Pro 2 software is a great place to start, with a brilliant variety of presets to apply to your images.

google.com/nikcollection

HDRsoft Photomatix Pro 5 £70

Photomatix Pro 5 comes with a huge range of HDR features, with advanced ghost removal tools, automatic alignment and batch processing. A free trial can also be downloaded.

hdrsoft.com



Macphun Aurora HDR 2017 £78

Currently only available for Mac, Aurora HDR 2017 has a solid set of presets, from realistic to dramatic treatments and everything in-between. Extra sliders and adjustments make it easy to fine-tune your results

aurorahdr.com

WHAT YOU NEED

- Any version of Photoshop or Elements
- A picture of a colourful car taken on a driveway

Give a car a new lick of paint

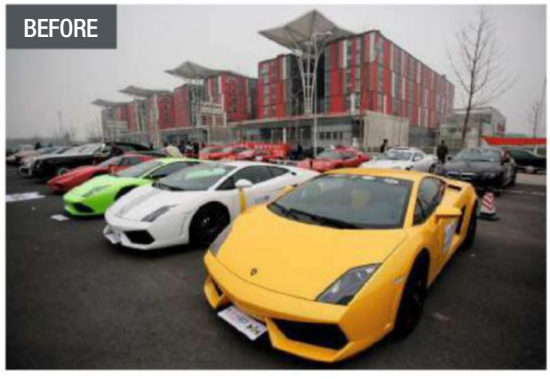
Cut out your car and give it a quick respray to create professional graphics. **Dan Mold** explains exactly how to do it in Photoshop and Elements.

EVER WONDERED WHAT YOUR CAR would look like with a fresh coat of paint? Luckily, you don't have to fork out a small fortune to give your motor a colourful new paint job – you can do it for free digitally! All you need is a version of Photoshop or Elements and a photograph of your car on your driveway. And don't worry if your shot looks messy, as you'll be dropping in a stylish new background.

Set your camera to aperture-priority mode and select an aperture of f/11, then focus on the front of the car to make sure it's sharp all the way through. Aim for a shutter speed of 1/200sec or faster, increasing the ISO to get a fast shutter speed if needed.

With a shot of your car in the bag, simply open it into Photoshop to take it up a gear (pun intended) using core Photoshop skills such as cut outs, adding backgrounds and shadows, and recolouring objects.

This transformation looks impressive and will leave your mates wondering how you did it. But under the bonnet, it's not as complicated as it looks. All it takes is 10-20 minutes to pull it off, so get stuck into the step-by-step on the following page and don't forget to watch the accompanying video on your free disc.

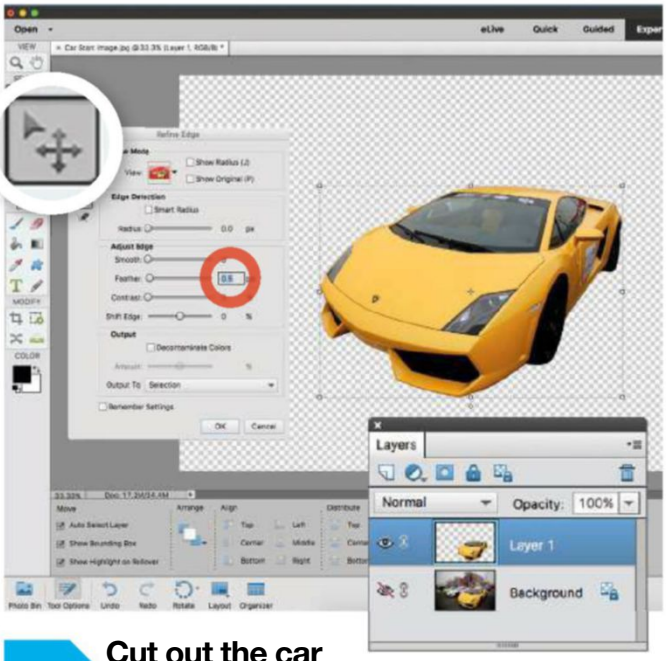


FENG LI

Above You can use any car for this technique. Shoot your own car slightly side-on, like the one in this picture, to add some perspective.

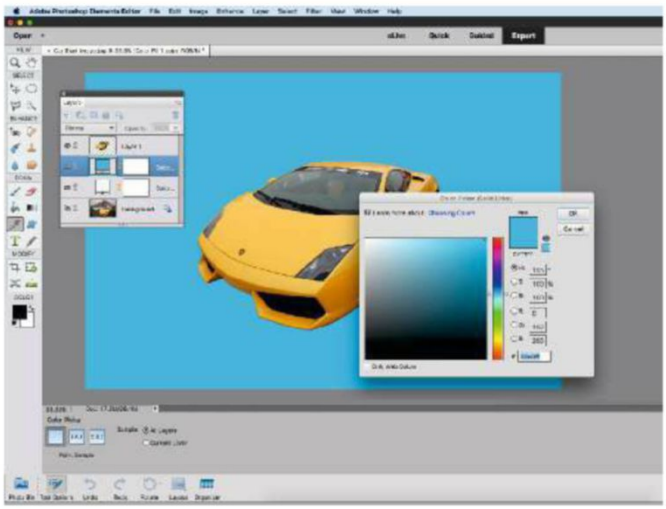
1 Make a selection

Open your pic and click on the Polygonal Lasso Tool in the Toolbox to make it active. Zoom in tightly by hitting Ctrl+Plus a few times, then pull an edge of the car into view by holding down the Spacebar and dragging it. Now it's time to start making your selection. First click on any edge of the car to start, then in small increments gradually click around more of its edge. Hold the Spacebar down to bring up the Hand Tool so you can drag more of the car into view as you go around it. If the tyres are in a dark shadow, you can make an approximate guess of where to draw around as you'll add a shadow later on (Step 5) to cover this up. When you've gone all the way around, click back on your starting point to finish the selection. Your car will now be surrounded by marching ants.



2 Cut out the car

Go to Tool Options and select Refine Edge. In the panel that appears, set the Feather value to 0.5px. This will soften the selection edge a little and make it look more natural. Hit OK when you're done to set it. Now press Ctrl+J to punch the car into a new Layer, and in the Layers panel (*Window>Layers*) hide the Background Layer by clicking its eye icon. You'll now see the car sitting on a chequered background – this pattern means there is no data here. Use the Move Tool from the Toolbox to move the car into the middle of your pic.



3 Add a colourful backdrop

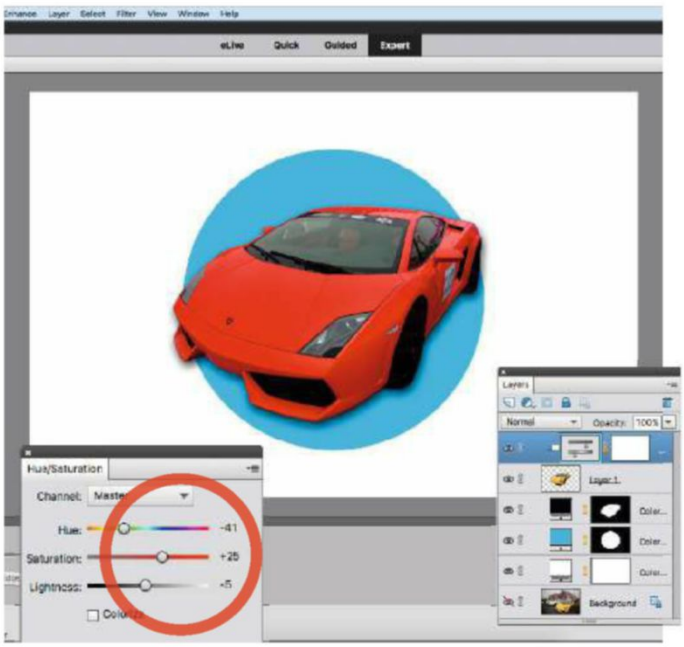
In the Layers panel, click on the Create new fill or adjustment layer icon and choose Solid Color from the list that appears. Set the colour to pure white by dragging the small circular cursor to the top left of the Color Picker panel, then hit OK to set it. Now hit Ctrl+J to duplicate the Color Fill Layer and double-click on its Layer thumbnail to open up the Color Picker panel. Now you can set the colour you would like to use as your secondary background colour. Bold colours work well, so we set ours to a bright blue (R:0, G:192, B:255). Hit OK when you're done. You can always change this colour at a later date. In the Layers panel you need to drag your car Layer to the top of the Layers stack.

4 Give the background a quirky shape

Click on the Circular Marquee Tool from the Toolbox and draw a circle a little smaller than your car – hold down the Shift key to make sure it's a perfect circle. Then drag it into place so that it's central to your car. Now press Ctrl+Shift+I to give you the inverse of your selection. Then press Ctrl+I to turn this part of the Layer Mask to black – this hides this part of the Layer, revealing the white part of the Layer below. When you're done, hit Ctrl+D to lose the marching ants.

5 Add a drop shadow

Click on the car Layer (it should be at the top) to make it active. Then with the Magic Wand Tool click on a part of your pic that isn't the car. Hit Ctrl+Shift+I to reverse the selection, so you only have the car selected. Drag the selection down a touch and go to Refine Edge, set the Feather to 20px and hit OK. In the Layers panel, click on the Create new fill or adjustment layer icon and choose Solid Color from the list. Set the colour to black by dragging the circular cursor to the bottom left of the Color Picker. Hit OK to apply it. Drag the car Layer to the top of the Layers stack and you'll be left with a shadow. You can change the Layer Opacity of the Color Fill Layer to tone the shadow down.



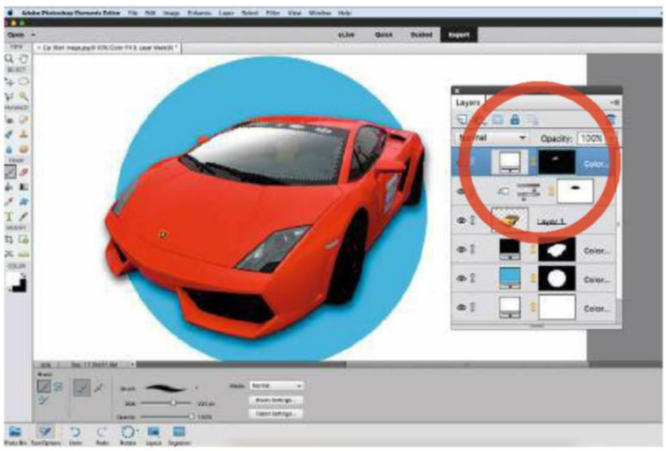
6 Add a hue/sat Adjustment Layer

Click on the car Layer from the Layers panel and go to *Layer>New Layer Adjustment>Hue/Saturation*. Close the panel that appears, then right-click on the Hue/Saturation Layer and choose Create Clipping Mask. Double-click on the Hue/Saturation Layer thumbnail and then change the Hue until the car looks how you want it to. Boost the Saturation to a value of +25 and adjust the Lightness until your pic looks natural – in this example it was set to -5.

7 Refine your Layer Mask

To make the effect look realistic, you need to mask off any areas where you don't want to change the colour, such as the seats, headlights, indicators or badge. Select these areas with the Polygonal Lasso Tool, click on the Hue/Saturation Layer Mask and paint over them with a black Brush to bring back their original colour. Hold the Shift key down to add more areas to your selection. Hit Ctrl+D when you're done to lose the marching ants.

GENIUS Save your image as a PSD file so you can tweak the colour of the car if you change your mind at a later date



8 Add a window reflection

On this picture you can see the car park of the original shot through the passenger-side window. If this happens in your picture, you can add a glare in the window to disguise it and make it look more realistic. To do this, grab the Polygonal Lasso Tool from the Toolbox to select around the windscreen and in the Layers panel click on the Create new fill or adjustment layer icon, then choose Solid Color. Drag the cursor to the top left of the Color Picker to set it to white and hit OK. Now with a soft black Brush, paint over some of the windscreen to reveal the interior of the car. If you reveal the background, switch to a white foreground colour and paint over it to hide it again. All that's left to do is give your image a new file name with *File>Save As* and save it as a PSD to keep the Layers, or as a JPEG to save on size.

Use your free Portrait Actions

Dan Mold shows how to make complex Photoshop edits in a single-click.

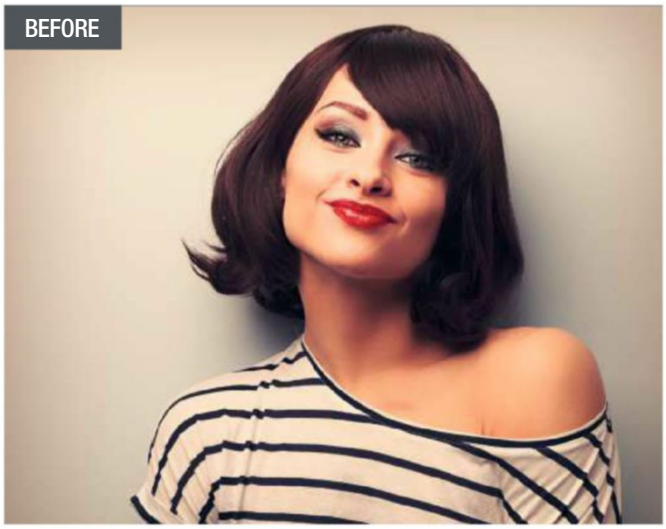
WHAT YOU NEED

- Any version of Photoshop or Elements
- A portrait you want to add a variety of quick treatments to

IMAGE EDITING CAN BE A TIME-CONSUMING labour of love. But what if I told you there's a way to speed up your workflow and carry out intricate edits in just a single click? Well, Photoshop's Actions exist to help you do precisely that, allowing you to achieve results rapidly. And less time at your computer means more time shooting, which can only be a good thing.

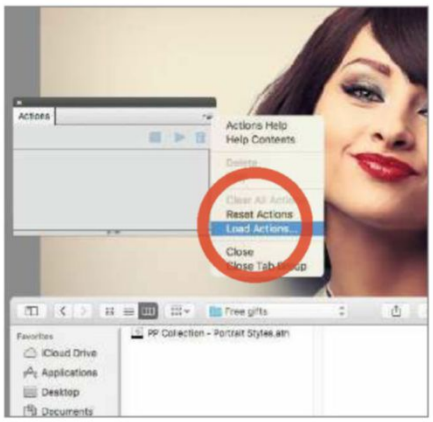
Essentially, Actions are pre-recorded adjustments that you can get Photoshop to remember. Playing the Action will then run through all of your recorded adjustments and apply them instantly, shaving minutes off your edit. They're extremely versatile and useful for everything from sharpening to image resizing. To get you started, we're giving you 15 free Portrait Style Actions, and you'll find them on the disc.

Both Photoshop and Elements have the capacity to load and run Actions, so we'll cover how to do this first. You'll need the full version of Photoshop if you want to try your hand at recording your very own bespoke ones, and we'll explain how to do this over the page. If you're looking to make fast edits, you just can't beat Actions. So let's get to it...



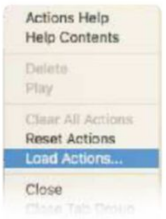
ANASTASIA VISHNICKAYA

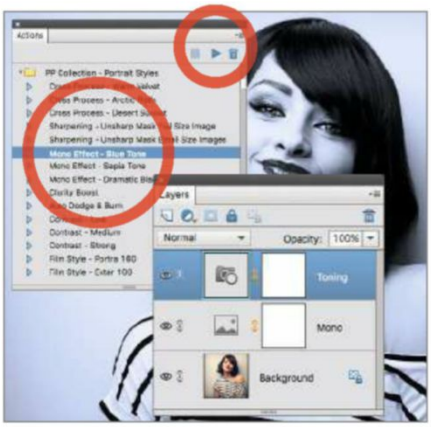
Above The original portrait is brilliantly sharp all the way through, so will work well with all 15 of our free Portrait Style Actions.



1 Load your Actions

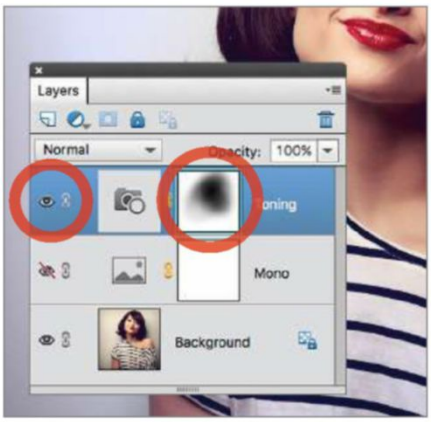
Open your picture in Photoshop or Elements. Go to *Window>Actions* and make sure Actions is ticked. This will bring up the Actions panel. In the top-right corner of the Actions panel, click on the menu icon (above the trashcan in Elements) and choose Load Actions from the list. Now navigate your way to the Free Gifts folder on your *Learn Photography Now* disc and double-click on the PP Collection – Portrait Styles.atn file.





2 Find a look you like

In the Actions panel you'll see your free 15 Actions appear under PP Collection – Portrait Styles. Scroll through the Actions until you find one you like the sound of, give it a click to highlight it and then press the Play Selection button to run the Action. It will take a few seconds to run through all of the steps in the Action and then you'll have your final result. If you decide you don't like the effect and would like to apply a different one, go to your Layers panel *(Window>Layers).* Drag the new Layers into the Trash, leaving just your original Background Layer.



3 Customise the effect

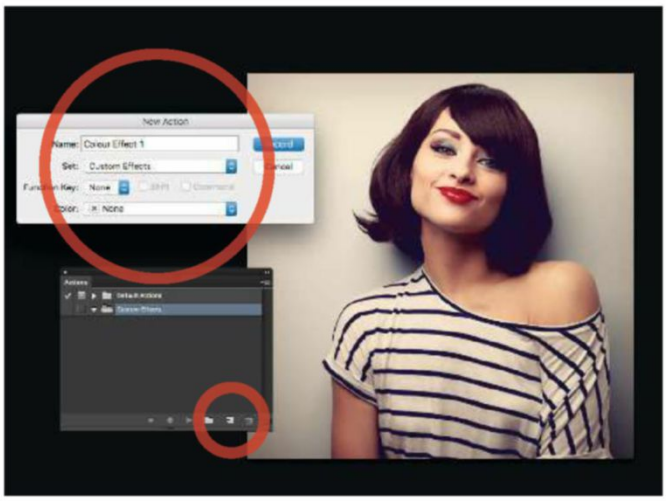
You can also fine-tune the style in your Layers panel. You can hide specific Layers created by the Action, or double-click on the thumbnail of any Adjustment Layers to bring up extra options. A final step that will let you get really creative is to use a soft black Brush Tool with a low Opacity of around 10% to paint on to specific Layer Masks. This will hide this Layer from showing through on the areas you paint over. We've masked off the model's face in the blue Toning Layer in the pic above. When you're done, go to *File>Save As* and save your pic under a new file name.

15
ACTIONS
ON THE
CD
SEPIA TONE
CONTRAST – STRONG
DESERT SUNSET
BLUE TONE

Now record your own Actions in Photoshop CC

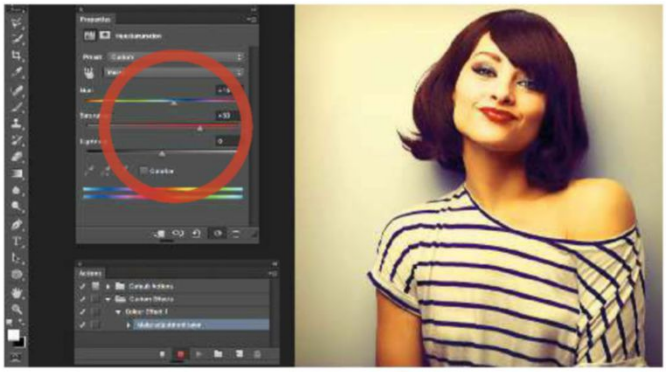
IF YOU HAVE PHOTOSHOP CC OR A CREATIVE Suite edition such as CS6, you'll be able to record your very own Actions to speed up your workflow. There's an almost endless amount you can record with Actions, from basic edits such as sharpening, contrast or saturation tweaks, to more advanced filter effects and Adjustment Layers. Whatever edit you'd like to record, they can be played back on all of your pictures, shaving minutes off your edits. Here's how you can make your own bespoke Actions in three simple steps...

GENIUS Record your most popular edits so you can apply them rapidly and you can get out shooting again quicker



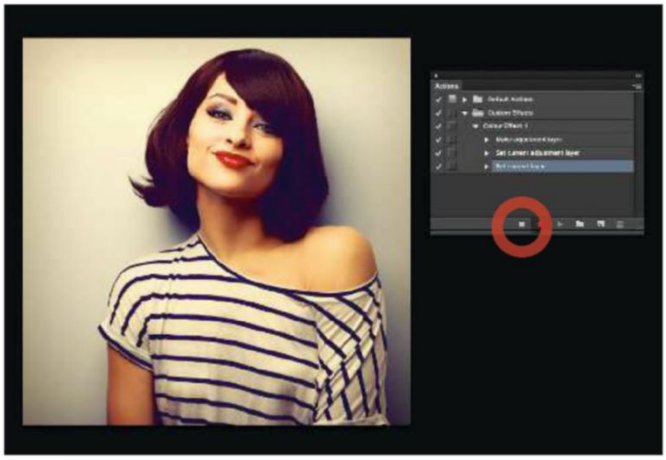
1 Name and begin the Action

In Photoshop, go to your Actions panel *(Window>Actions)* and click on the Create New Set icon (it looks like a folder). Enter a name for your new collection of Actions, such as Sharpening or Colour Effects. Then hit the Create New Action icon and in the Name section add a name. We called ours Colour Effect 1. Under Set choose the set you just created to make sure it's saved in the right group. When done, hit the Record button.



2 Make your adjustments

Photoshop is now recording and remembering everything you do so that it can be played back as the Action later. So be sure to only make adjustments that you want to go into the Action. You can always give it a dry run if you're not sure on what you'd like to record. For this colour effect we went over to the Layer panel and clicked on the Create new fill or adjustment layer icon and chose Hue/Saturation from the list. In this Hue/Saturation panel we increased the Saturation and tweaked the Hue. Make sure you hit OK to any adjustments you make so they register as a step in the Action.



3 Stop the Action

When you've achieved everything you want the Action to do, you need to go back to the Actions panel and click the Stop Playing/Recording icon. This will stop the Action, remember the workflow steps you made between hitting Record and Stop, and you'll see your new Action appear in the set you created. You can now click your new Action to highlight it and press the Play Selection button to run it.

Share your shots online

We hope you've enjoyed our new-look *Photoshop Genius* section and would love to see how you're getting on with our brand-new techniques. So why not share your shots with us? All you have to do is post your shots on your Facebook wall with the hashtag #myphotoshopgenius so we can see it. Each month we'll showcase our favourites on the *Practical Photography* Facebook page. We look forward to seeing them!

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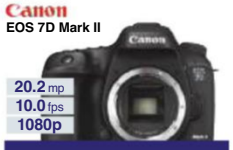

20.2 mp
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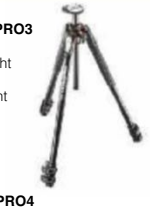

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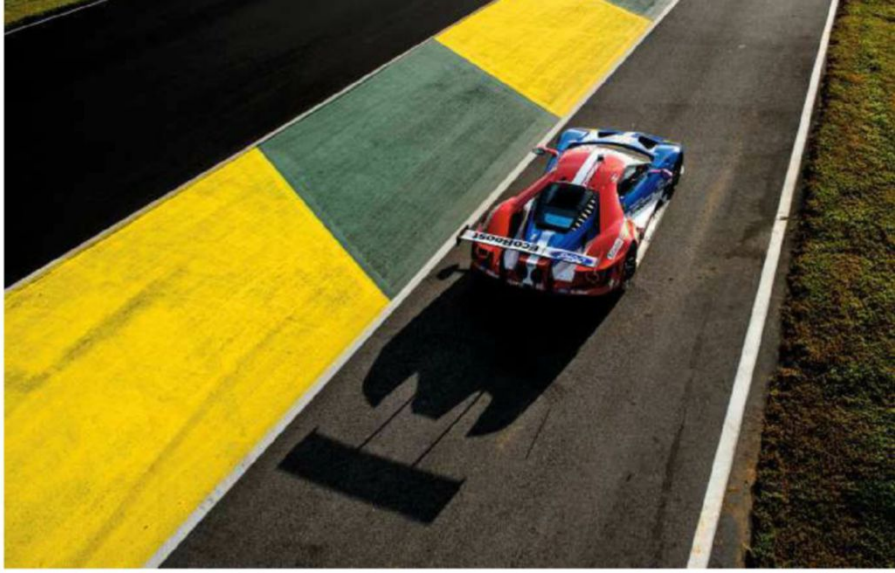
Pit Stop!

So close to the action you could be part of the pit crew, Jamey Price's immersive IndyCar shot captures every little detail.

Jamey Price is a motorsport photographer from North Carolina. He is listed in GQ's 10 best car and racing Instagram accounts to follow (@jameypricephoto), and works for racing teams such as Ferrari, Ducati, and Red Bull. jameypricephoto.com



WITH A TRULY EXPLOSIVE portfolio that takes you right to the heart of the action, Jamey Price is well and truly living a petrol head's dream. He lives and breathes motorsport, and through his artistic images you can hear the roar of engines and smell the burning rubber. Here's the inside story behind one of his classics...

When did motorsport photography become your specialist subject?
I first covered professional car racing in 2011. I've always had a passion for it and loved the atmosphere and noise at a race, particularly Formula 1 races. But prior to photographing cars for a living, I was actually better known for my work covering horse racing in England and the United States. I was an amateur National Hunt jockey for seven years, and during that time I covered races that I was already competing at.

What's the story behind this particular image?
I was working for an agency that provided images for the IndyCar series. This photo was from the IndyCar Championship finale at Auto Club Speedway in California. The two title contenders were Ryan Hunter-Reay and Will Power. It was a really close battle between them all season and pit stops were important as always. So, working as part of a larger team, I was assigned to cover some of the pit stop action during the race.

It looks noisy! How close were you to the action?
It's very noisy! Motorsport is an assault on the senses and that's something that I love about covering racing. There's rarely a dull moment. I was maybe 5-10ft away from Ryan Hunter-Reay's pit box. I was kneeling down to get a lower perspective on the car and the crew members, which makes you feel more part of the action when you look at the photo.

Talk us through the techniques used...
I was shooting with a Nikon D3 and D700 at the time. For pit stops, having a variety of lenses in your arsenal is important. Sometimes getting action that's further away requires a longer lens, but in many cases, you're really in the thick of the action. A wide lens best tells the story when you're this close to the car and mechanics. This shot was taken on my Nikon 28-70mm at 28mm, with a shutter speed of 1/500sec and aperture of f/2.8.

How many shots did you take in total and how did you know this particular frame was the 'one'?
I probably shot 15 images in total. You really have to move around – pit stops are quick, but you have 20-30 seconds to get what you need. So, I'll shoot something wide, something tight, then something wide again as the car prepares to leave the pit box, which is what's happening here. Ryan Hunter-Reay's mechanic is waiting to tell him to exit once the pit lane is clear and fuel has been added to the car.

Is this the exact shot you envisaged and how does it rate in terms of complexity?
This was exactly what I was going for, but with racing you have to be prepared for anything. It's not the most complex or technical shot I've ever made, but it tells a story and has a lot of action and

> "MOTORSPORT IS AN ASSAULT ON THE SENSES... THERE'S RARELY A DULL MOMENT"

Above **Joey Hand and Dirk Muller's Ford GT GTLM speeds around the Virginia International Raceway.**

Right **Gutierrez tackles the US Grand Prix, while an SRT Viper hits the dirt during 12 hours of Sebring.**

Three key techniques Jamey uses in his shot

1 Get close, shoot wide
Jamey used a focal length of 28mm and got as close to the car as possible without getting in the crew's way. This daring combination adds to the drama and helps tell the frenetic story of the race.

2 Immerse the audience
A lower perspective has the same effect whether you're shooting gentile landscapes or explosive motorsports – it grounds the image and immediately drags the viewer into the scene.

3 Cover every angle
A Nikon D3 with its 9fps burst mode can rattle off 180 frames in 20 seconds, which is more than enough time to first shoot a wide scene and then zoom in to shoot a tighter crop.

composition to it that I like. Working in a pit lane is tough. Photographers are required to wear FIA rated fire suits that would protect us in the event of a fire during the pit stop. It doesn't happen that often, but it happens enough that it's better to be safe than sorry.

How much time was spent in post-production?
Almost no time! Because many of our clients use these images for editorial needs, it has to represent the time and place without any digital manipulation. I personally use very little Photoshop – minor colour, contrast and cropping is as far as I go.

What unique challenges does IndyCar present compared to the likes of F1 and NASCAR?
IndyCar is relatively similar to NASCAR. They both allow photographers to shoot 'behind the wall' during the race, so you can be with the teams in their pit box, but not 'over the wall' with the cars. Formula 1 races are generally shorter than NASCAR and IndyCar, and we're not allowed to be on pit lane at all during the race. During practice days, a select few photographers can be on the pit lane with the cars and mechanics. It does make photographing races more challenging with modern health and safety limitations.

What are you trying to capture? Your images are much more than straight record shots...
Even now, I'm a fan of car racing and racing in general. Each weekend, I'm trying to tell the story of the race – the weather, the light, the peak action and the general atmosphere. There are so many stories to tell when it comes to car racing. And race cars are beautiful works of art that I very much enjoy photographing.

How can *Practical Photography* readers get a shot like this?
Unfortunately, pit lane access is limited to team personnel and accredited media because it's already so cramped and dangerous. But photographing motorsport is something anyone can do, and there's little need for full media accreditation to make beautiful images from around the track. Many tracks in Europe and the United States are very accessible to fans with a camera. It takes patience and a lot of practice, but panning the cars with a slow shutter speed can really make a boring background or foreground something completely different if you know what you're looking for.

What are you shooting now?
I'm working on a documentary. A producer friend of mine approached me and said something to the effect of, "You have a really interesting job. Let's tell the story of your weekend covering a 24-hour endurance race and how hard it really is." We started a Kickstarter campaign to help fund some of the production costs and it was 100% funded within 18 hours. We've had insane support from the industry, racing drivers, fans, sponsors, friends and family. It's been really challenging, but hopefully it'll be an interesting story and a rewarding journey. Plus, I still cover races all over the world and have a really busy year ahead covering IMSA sports car racing...

Jamey's kit bag

"Any camera can be the right camera if you know how to use it. I shoot all my races on used gear that I've bought secondhand, and none of it is the latest and greatest."

Cameras, lenses & accessories

Nikon D4S, Nikon D4, Nikon 500mm f/4 VR, Nikon 70-200mm f/2.8 VR, Nikon 24-70mm f/2.8, Nikon 14-24mm f/2.8, Nikon 85mm f/1.8, Nikon 24mm f/1.4, Nikon SB-910 Speedlight, Lexar XQD memory cards.

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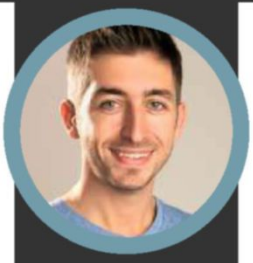


Tim Berry
PP's deputy editor has a master's degree in photography and has taught undergraduates.

Dan Mold
UK-based travel and wildlife pro Dan has an eye for detail and lots of insights to improve your pics.

Louise Carey
PP's features writer is an experienced fine art and documentary photographer.

What is a tilt & shift lens used for?

Q **I'm tempted to invest in a tilt & shift lens but don't fully understand what they do and exactly how they work. Could you explain them to me in layman's terms?**
Peter Windsor, Derby

Tim says: Tilt & shift lenses are fairly specialist pieces of kit that are popular with architectural photographers. But they're actually surprisingly versatile, and can be used for all sorts of applications, or just as a regular wide-angle lens.

Tilt & shift lenses differ from normal lenses in that the user is given some control over both perspective and depth-of-field.

Control depth-of-field

Rotating the lens plane in relation to the image plane is known as tilt. This is simply achieved by putting a 'bend' in the lens barrel. The effect is that two objects the same distance from the camera won't necessarily display equal sharpness, as you'd expect with a regular lens. While this has some very practical advantages, tilt functionality is best know for creating a toy-town effect, where a wide aperture makes real-life scenes look like a model village. Both foreground and background fall out of focus, which is normally only possible when focusing on objects very close to the camera.

Change perspective

Shift functionality allows you to change the position of your subject within the frame without tilting the camera. This is achieved by sliding the lens away from its central position directly in front of the sensor. The main application is for architectural shots, as it allows you to shoot buildings without perspective distortion, which means the converging vertical lines that lean in towards a vanishing point appear straight. Some lenses have shift without tilt, such as Laowa's 15mm f/4, but most (Canon, Nikon and Samyang), have both.

VALERY HACHE

Laowa 15mm f/4 shift £586

This wide-angle full-frame shift lens offers a max aperture of f/4 and 1:1 macro. The lens is entirely manual, with no electronic connection at all.

Samyang T-S 24mm f/3.5 £679

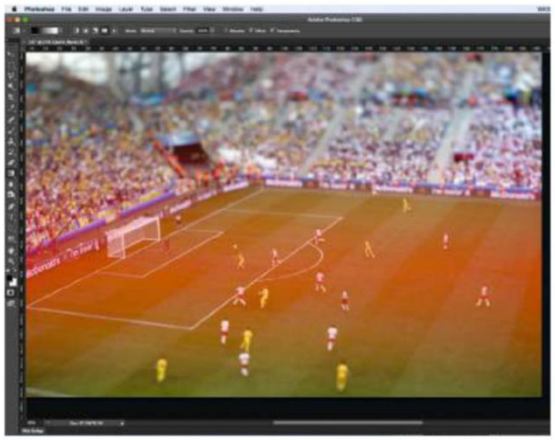
This affordable tilt & shift prime has a maximum aperture of f/3.5 and a minimum focusing distance of 20cm. For APS-C cameras.

TIP

CONTROL DISTORTION

If you don't own a tilt & shift lens, you can fix perspective distortion using specialist software such as DxO's ViewPoint 3 (review on page 149).

Try this! Create the toy-town effect in Photoshop



Above **The model village effect can be achieved quickly and easily in Photoshop without the need for a dedicated tilt & shift lens.**

As explained to the left, using a lens with tilt functionality makes it possible to replicate an extremely shallow depth-of-field even when the focus point is set to infinity. This makes everyday scenes looks like a model village. But for those who don't own a tilt & shift lens, it's possible to replicate the effect quickly and easily in Photoshop using a gradial blur. It's essential that you choose a wide-angle image shot from an elevated position, such as the roof of a building, ideally with no sky at all in the frame.

Open your image, press D on the keyboard, then at the bottom of the Tools panel, double-click on the Edit in Quick Mask Mode icon at the bottom. Check the Masked Areas box, and click OK. Choose the Gradient Tool from the Tools panel, then, at the top, select the Reflected Gradient box. Move your cursor to the point on the image that you want to be sharp, and click and drag to the top of the frame. This should give you a red gradiated mask. Press Q to exit Quick Mask Mode. Go to *Filter>Blur>Lens Blur*, and move the Radius slider to around 75, or wherever looks right. Click OK, then press Ctrl+D. You might also decide to boost saturation using Ctrl+U and adjusting the slider to the right.

Are mirrorless cameras really much smaller than DSLRs?

I'm considering buying a mirrorless camera to replace my DSLR. Are they much smaller and lighter?
Chris Ford, Watford

Dan says: Mirrorless cameras, or CSCs, first arrived in 2008 with Panasonic's G1, and they now account for around 25% of the interchangeable lens market. With no optical viewfinder and therefore no need for a mirror mechanism, CSCs can be relatively small and light, often designed to look much like a compact. But CSCs tend to boast many of the advanced features of DSLRs, the most significant of which is that you can switch lenses depending on your subject. They also have relatively large sensors, which has seen some more premium models used professionally. All this makes CSCs a kind of hybrid between compacts and DSLRs that many photographers consider to be the best of both worlds.

Smaller DSLRs

Over the past couple of years though, DSLR manufacturers have responded by making much smaller and lighter DSLRs, which has led many to question whether the difference in size and weight is now really that significant. Here, we've compared two enthusiast and two pro cameras to find out exactly how they measure up. The images are to scale with each other, and, as you can see, while the mirrorless cameras are more compact, the difference is not as significant as you might think. In particular, the Nikon D5500 and the Fuji X-E2S, both enthusiast kits, come in at almost exactly the same weight, and the Fuji is slightly wider. Similarly with the pro cameras below, the Nikon might be heavier, but for length, there isn't much in it.

So, most CSCs are generally smaller and lighter, making them better suited to travel and outdoor photographers, but often not by that much. Also, smaller bodies usually mean lower capacity batteries and more fiddly external controls, so often represent a trade-off between portability and ease of use.

What does a gimbal tripod head do?

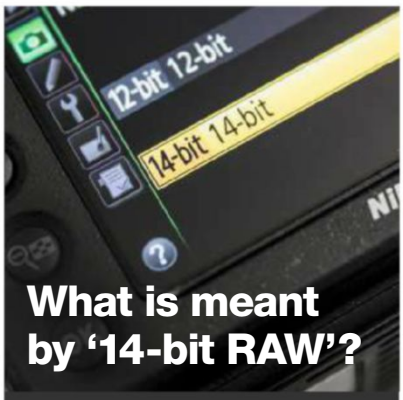
I want to upgrade my tripod and I'm considering splashing out on a gimbal head, as I've heard they're great for wildlife. What advantages do they offer?
Melanie Williams, Rye

Louise says: Gimbal tripod heads are specifically designed to make it easier for photographers to operate large, heavy telephoto lenses than a standard pan & tilt or ball head. This is particularly useful when shooting sports and wildlife, where you need to react very quickly to fast-moving subjects, and where the lens is too heavy to handhold for long periods. In this way, gimbal heads give photographers the support of a tripod with the freedom of handholding.

They work by allowing the lens to be hung from a cradle, so it can be moved around on both a horizontal and vertical axis with virtually no effort at all. To achieve this, the camera and lens must first be balanced so they sit in a level position when at rest. This takes a couple of minutes to get right, but it will mean effortless shooting thereafter. A gimbal head can also be locked in position should you want to train your camera on a particular spot.

Photographers rely on these heads to cope with huge loads, such as the 3.8kg Nikon 600mm f/4E FL ED VR. It goes without saying that these tripod heads should be used with pro tripods that are also made to cope with heavy loads.

If you can't justify the expense of a gimbal head, try using a standard ball head loosened off, tightening the friction if you can to create slight resistance in the movement.



What is meant by '14-bit RAW'?

Is it worth buying a camera that can shoot 14-bit RAW files?
Kelly Granger, Stevenage

Tim says: A camera's bit depth refers to the number of shades of colour it can record. Almost all modern DSLRs and CSCs produce 12-bit RAW files (68 billion shades) or 14-bit RAWs (4 trillion+ shades), and many allow you to choose between the two. On paper, 14-bit images offer smoother gradients and a slightly higher dynamic range. But as the human eye can only differentiate 10 billion individual shades, 12-bit is generally more than enough. In fact, the difference between the two is all but non-existent, so if you have the option on your camera, always work in 12-bit. Plus 12-bit RAWs are significantly smaller files, maximising storage capacity, increasing your camera's buffer size and, possibly, even your maximum shooting speed.

It's worth noting that JPEGs are compressed to 8 bits, which is 16 billion colours. This breaks down to 256 colours per channel (256 reds, 256 greens, 256 blues), which is considerably more limited than a RAW file. This is one reason that you should always shoot in RAW.

Right **Rolling shutters have the power to bend coins!**

What is a 'rolling shutter'?

I've read that my camera suffers from rolling shutter. What does this mean?
Hamish Douglas, Ullapool

Dan says: If you've ever taken a photo with your phone from a train window, you'll have noticed straight objects, such as power line poles, seem bent. This is the rolling shutter effect. It happens as the camera quickly scans down the frame from top to bottom, rather than recording it all in one go. In most situations you wouldn't notice the effect, but when either the camera or subject are moving quickly, the delay between the sensor recording the top of the frame and the bottom is apparent. This only happens when using an electronic shutter (phones, compacts or DSLRs/CSCs in Live View), but not with a mechanical shutter, which records the entire frame at the same moment.

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Can I take shots without touching the camera?

I use a tripod but I've been told I need to fire the camera remotely for sharp results. Is this true, and how do I do this?
Michelle Stephens, California

Tim says: When shooting with a slow shutter speed, it's normally essential to keep your camera perfectly still. Failure to do this will introduce blur, which means your image won't appear sharp.

One way to deal with this is to turn on your lens' image stabilisation (IS) to compensate for camera shake, although this only gives you a 4-stop advantage. In other words, it only eliminates blur for shutter speeds faster than around 1/8sec. If you're shooting exposures of several seconds or even minutes, or if your lens doesn't have IS, you'll need to use a tripod. Even this won't guarantee your camera remains completely still though, as even pressing the shutter button with your finger can cause movement.

To get around this, trigger your camera without touching it. There are lots of ways to do this, four of which we look at below. None are superior to the others in terms of how sharp your images will be, but there are differences in cost and ease of use.

Use your self-timer mode

All modern cameras have self-timer mode, which inserts a short delay between you pressing the shutter button and the image being taken. This is useful for longer shutter speeds as it means any movement caused by your finger pressing the shutter is gone by the time the exposure starts. Most cameras have 2sec and 10sec modes.

Does my battery need replacing?

I own a Canon 70D and my battery doesn't seem to hold its charge for as long as it used to. Is this normal?
Danny Wells, Leeds

Louise says: Lithium-Ion is the battery type of choice for most modern cameras. These offer many beneficial advantages, however they do age. This is related to the number of charge cycles, as well as physical age. If your battery is a few years old, chances are it won't perform as well as it did when it was new.

On many Canon cameras, you can check your battery's health. Press the Menu button, go to the Settings menu and choose Battery Info. This tells you the Recharge Performance, as well as how many shots you've taken and the current charge. If your camera doesn't have this feature, charge it to full, then use it until it's empty. Check how many shots you took, and compare this to the figure you should be getting, which is in the camera's spec panel on the manufacturer's website.

Three more ways to trigger your camera

Shutter release cable

This plugs into a camera's connections port, and is effectively an off-camera shutter button. Crucially, these allow you to shoot in Bulb mode (exposures of any length) so you're not limited to a shutter speed of 30sec. Basic shutter release cables are extremely cheap (under £10).

Wireless remote

Very similar to a shutter release cable, but doesn't have a wire. Some wireless remotes use infrared, so offer a range of just a few metres and need line-of-sight. Others use radio signals for a range of 100m or more. Make sure you get a remote with Bulb mode. From £10.

Manufacturer's app

DSLRs and CSCs with Wi-Fi are usually compatible with an app you can use to trigger your camera's shutter and change key settings. Wi-Fi doesn't have as large a range as radio triggers, so should be avoided in cold conditions when phone batteries tend to have a short life. Free.

Practical Photography

Feedback

Wildlife pro Dan Mold analyses and critiques your best images. Send them to ppsubmissions@bauermedia.co.uk

Dan Mold

UK-based wildlife and travel pro Dan has a keen eye for detail and has loads of advice and insight to help you improve your shots.

> Mostafa has expertly used the Dodge and Burn tools to emphasise the details

Contemplation
by Mostafa El Noby

This image was taken in Egypt, on my Nikon D7100, after an early start and a long walk across some agricultural land. I found this farmer sitting down in a shaded area of a field, and I really like the image because it's unposed and the light is completely natural. Post-capture, I increased contrast in his face with some dodging and burning in Photoshop, and added a little extra sharpening too.
viewbug.com/member/nobysta

Dan says: Wow, this picture certainly says a thousand words. The subject is characterful and his haggard stare is very visually arresting. Mostafa has expertly used the Dodge and Burn tools in Photoshop to emphasise the details in the face, which adds loads of texture in the skin and looks very striking. The props, clothing and location give this pic a fantastic authenticity. I'm also a fan of the wide framing (27mm full-frame equivalent), which reveals more of the scenery and gives the viewer a better idea of the location. The wide aperture choice of f/1.8 has also blurred the background a little, which isolates the man and secures his prominence as the focal point of the image.

One slight issue I have is that the pic is a little underexposed and has a slightly cold cast. I'd be tempted to rework the RAW to increase the brightness, reduce the vignette and warm up the colour balance with the Temperature slider. There's no doubting this is a great travel pic, but these little tweaks would take it to the top of its game and a warmer tone would help it sit better in the glossy pages of a travel magazine.

Nikon D7100 | 18mm | f/1.8 | 1/1600sec | ISO 100

Three tips for better travel pics

1 Pack light
Be mindful of the kit you take, as a heavy bag will tire you out quicker and force you to stop shooting earlier. This could mean you miss a great shot. Look at portable prestige or mirrorless cameras, as these can cut down massively on space and weight.

2 Ask permission
Even if there's a language barrier you can point at your camera and smile to get consent before shooting a portrait. It's the courteous thing to do, and you'll be able to get into a better position and take more time to get your shot.

3 Buy a zoom lens
A 24-70mm f/2.8 is the perfect travel lens for full-frame cameras, covering everything from short tele portraits to wide landscapes. This saves the need for carrying multiple optics. Look out for a 17-50mm lens for cameras with an APS-C chip.

Nikon D700 | 600mm | f/6.3 | 1/80sec | ISO 800

> Shooting at eyelevel has made the pic intimate and engaging

Purple heron
by Mohan Hathnapiti

This was taken in Talangama Wetland, Sri Lanka, which is my favourite place for bird photography. I hid behind a large tree, so not to scare off this beautiful purple heron, and crouched down low to get eyelevel with it. Then I took a burst of about eight images. It was not easy to compose with my large 600mm lens, but I'm very happy with this picture – I like the posture and the amount of blur in the grass. My adjustments were done in Nikon Capture NX2.

Dan says: For me, this ticks a lot of boxes of what makes a cracking wildlife picture. The composition is clean, the colours are wonderfully vibrant and the subject is full of detail and eye-catching too. Mohan's aperture choice of f/6.3 was wide enough to defocus the grass in the foreground and background, turning it into a wash of green. This means your eye is instantly drawn to the yellow in the heron's eye and the beautiful purple stripe running down its neck – these colours really punch out from the uniform greenery.

There's a good amount of space around the heron, which gives the subject room to breathe, and positioning it on the left of the frame has created 'active space', an area in front of the heron that it looks like it could move into. He also waited until the bird was perfectly side-on to capture a striking profile.

Mohan has nailed the focusing, though I'd be tempted to sharpen the heron a little more, to really make it leap out from the blurred surrounding. In Lightroom, import your pic, head over to the Develop module and go to the Detail tab. Set the Sharpening slider to 50 and then hold the Alt key down as you adjust the Masking slider and tweak the slider until the background is completely black – this ensures you don't sharpen any out-of-focus areas.

This is an absolute belter of a picture with great composition, powerful contrast and strong colours. Top work!

Get sharp shots every time

Ensure that your pictures are free from camera shake with aperture-priority. Open your aperture as far as it will go and frame up on your subject. Take a look at your shutter speed. You'll want this to be equal to, or higher than, the reciprocal of your focal length, so 1/300sec with a 300mm lens or 1/600sec with a 600mm lens and so on. If your shutter speed is slower than this, you need to increase the ISO value until you achieve it, or use faster glass that lets in more light.

Canon 6D | 17mm | 25sec | f/14 | ISO 100

> An ND filter was used to smooth out the ripples in Loch Lubnaig

Dan says: This pic is dark, brooding and unnervingly still. The lingering mist is atmospheric and the water is calm with not a ripple in sight. Gary managed to create this eerie effect using his ND filter to reduce the flow of light through the lens. This gave him a 25sec exposure, long enough to blur the water and create a mirror-like reflection. The pic has a very slight purple tint, possibly caused by the attached filter, but this is easy to fix in Lightroom with the Temperature and Tint sliders. That said, the cooler hue complements its eerie mood to some degree.

Gary's done well to get a perfectly level horizon, and it sits a third down from the top of the frame. He's also cleverly used the shoreline to break the symmetry and lead the eye in.

The focus is spot-on in this pic as Gary used a special hyperfocal distance app to calculate his focus distance. This is a great tip for anyone interested in shooting landscapes. Alternatively, frame up on a tripod, set your aperture to its minimum (highest) value, usually f/16 or f/22, and focus one-third of the way into the frame.

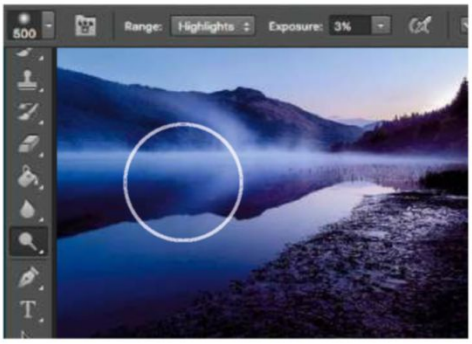
The processing is stark, full of contrast and deep blacks. The bottom edge is quite dark, so the eye naturally looks up towards the lighter mist in the middle of the shot, though I'd be tempted to make this area a little brighter, as it's quite subtle. But it's an easy task to do in Photoshop (see panel).

Overall, this is a fantastic landscape with bags of mood and atmosphere that shows a high level of photographic skill.

Morning mist
by Gary Alexander

I was staying in Strathyre on holiday, about four miles away from this point of Loch Lubnaig. I set out early one morning to shoot the loch, though it took a while to find a way down from the road. Once in, I framed up with some rocks as foreground interest, but settled instead to use the rocky shore as a lead-in line. To make sure the shot was sharp, I used a hyperfocal distance calculator app to work out where to set the focus. I wanted to create a sense of atmosphere, so increased contrast in Adobe Camera Raw to really make the mist pop.
500px.com/garyal23

Extract details in Photoshop



Understanding the Dodge Tool in Photoshop is essential to adjusting contrast accurately within your pictures. To brighten areas, click on the Dodge Tool from the Toolbox and choose a large soft brush. Set the Range to Highlights, so you're only brightening the lightest areas of your shot, and set the Exposure to 3% to lighten your pic gradually. Now brush over the area you'd like to brighten. If you apply too much, hit Ctrl+Z and have another go.

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Canon 70D | 50mm | f/5.6 | 1/160sec | ISO 160

> This colourful pic looks like it was taken in a professional photo studio

Dan says: Marc is definitely on to something here and the conceptual idea behind throwing colourful Holi powder is a fantastic, albeit extremely messy, way of making your shots look more vibrant, energetic and fun.

The lighting in Marc's shot is really clever, as he intentionally underexposed the background forest. This has turned it totally black, as he didn't want the trees to be in shot, and produced a striking rim-light around the model's hair. It's a slick look you usually only get with a black background in a studio.

One slight issue with this lighting setup is that the coloured powder has been lit from behind. This means it's a little underexposed, and not as bright and vibrant as it could be. A stronger fill light would really make the colours pop. To ensure the background isn't revealed, you can stretch a black bed sheet across two lightstands or tree branches. I'd also really like to see more powder being thrown across the frame, as it's quite minimal in this pic. I'd have used it to overwhelm the shot with colour. If this is a problem to catch all in one take, then you can merge the best bits of several images together, or copy parts of your shot, to build up the effect in Photoshop.

This is a fantastic attempt and Marc has shown a great level of innovation with this picture. We're sure that, with a little adjustment, he'll go on to achieve great things.

Burst
by Marc Pachon

For this shot, I placed two flashguns behind my model, Reece, at full power, and a diffused flash in front of her for fill light. We shot outside to reduce the mess, and the lighting setup turned the background trees into darkness. It was tricky to get a good shot of the powder impacting on Reece, as there was little powder in the air. In post-processing, I cropped out the surrounding leaves and branches and boosted the colours.
byondhelp.deviantart.com

Build up the effect in Photoshop

The powder in this shot is relatively easy to replicate because the background is very dark. Select the area you want to copy with the Rectangular Marquee Tool and hit Ctrl+J to punch it into a new Layer. Hit Ctrl+T to put it into Free Transform Mode, now reposition the powder and hit Return to place it. In the Layers panel (*Window>Layers*) change the blending mode to Lighten and go to *Layer>Flatten Image*. Then repeat to build up the effect to your liking.

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> The sunrise in this shot is sublime and well worth the early start

Lindisfarne dawn
by Tracey Whitefoot

It's only possible to get to Lindisfarne via a causeway, so I had to carefully plan my shoot there around the tide times. On this trip, I arrived in the middle of the night with a good few hours to wait before the sun was due to come up. I wanted to capture the iconic upturned boats with the sunrise in the background. The only problem for me was the gas bottles next to the boats, which were very reflective. I couldn't remove them from the composition, so I reduced the glare using the Burn Tool in Photoshop to make them a bit less garish.
whitefootphotography.com

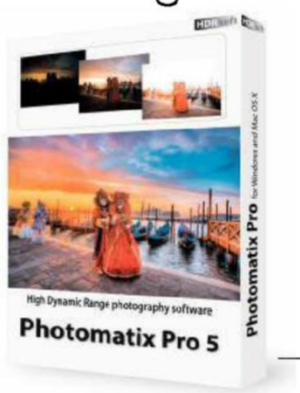
Dan says: Ask any professional landscape photographer and they'll tell you that patience and good light are essential ingredients to capturing an amazing image. It looks like Tracey had both with this wonderful sunrise over Holy Island, Lindisfarne. The island is synonymous with its 16th century castle, so Tracey's shot instantly stood out, opting to shoot the less obvious, but equally as charming, upturned boats.

There's a fantastic range of tones in this shot, from the dark shadows in the boats and grass to the bright yellows and oranges on the horizon. The texture on the boats looks fantastic, and Tracey has done an expert job of reducing the reflections on the gas cannisters. One small thing to watch when shooting directly into the sun is, because it's extremely bright, it's likely to burn out to pure white. So this type of image lends itself to an HDR to capture more detail in your dark shadows and bright highlights (see panel).

The colours and composition in this shot are sublime and well worth the early start, though the composition could be strengthened with a slightly lower shooting angle to make the boats appear more dominant in the frame. I'd also be tempted to use an ND filter here for a long exposure. A 30sec exposure or longer would help to blend the blues and oranges in the clouds, and inject dynamic streaks across the sky. All-in-all, this is a brilliant landscape that Tracey can proudly hang on the wall.

Achieve a huge dynamic range

Sunrise and sunset pictures have a vast range of tones, and a camera can only record so many of these in one exposure. To increase your tones, you can create an HDR (High Dynamic Range) image. To do this, set your camera up on a tripod and activate its bracketing mode. Then shoot a series of three or five images, each 2 stops apart, so you end up with a standard exposure, as well as overexposed and underexposed pics. You then need some HDR software, like HDRsoft's Photomatix Pro 5 (£70), to merge all of the tones in your different exposures together. The result is a highly detailed image.



MY PHOTO PROJECT

A LIGHT IN THE DARK

In March of 2016, Ollie Taylor cast a spell over us with his magical dreamscapes. We're catching up with him a year later to explore his latest project...

Factfile

Photographer: Ollie Taylor
Full-time occupation: Landscape photographer
Aim of project: To record what lighthouses look like when operating under the conditions they were designed and built for
Location: England and Wales
Duration: It's an ongoing project that started last year
Time spent: About 60 days and nights, but a lot more spent practising at Portland Bill, which is situated a few miles from my house
Images taken: I've edited well over 100 images for this project
Website: ollietaylorphotography.com

WHEN WE INITIALLY interviewed Ollie Taylor in our March 2016 issue we were awestruck by his enchanting dreamscapes. Seeing the best vistas the British Isles have to offer transformed under the enigmatic cover of night into scenes ripped straight from a fairytale is a feast for anyone's eyes. But just when we thought his work couldn't get any better, he surprised us by documenting the UK's many and varied lighthouses against the celestial blanket of stars that have become the hallmark of his work.

You were featured last year for your dreamscapes. Did this project evolve from that?
Yes, realistically this project emanated from my dreamscapes idea, as I decided to start incorporating lighthouses into the images I was already taking.

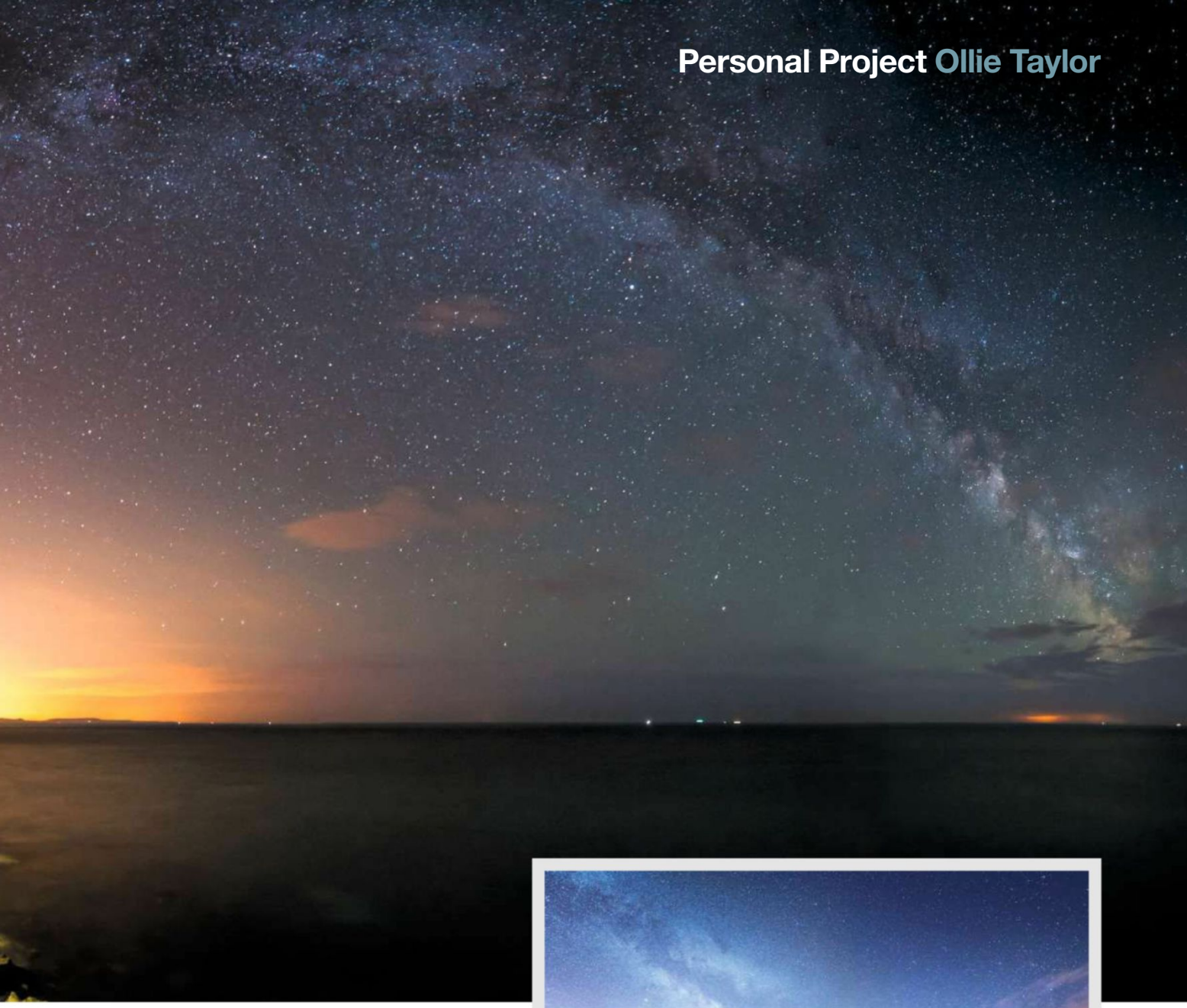
What is it about lighthouses that appeals?
I think this project may portray me as some sort of weird nutter who's obsessed with lighthouses, but I can assure it isn't so – honest! I think it derives from living near one. I've spent many nights on my own at Portland Bill being awestruck by the clear winter skies that are littered with a thousand stars. It's a place you can leave all of your troubles behind. I now run the majority of my workshops there. I find that when I visit other lighthouses I feel the same way as I do with Portland Bill. They're such eerie and mysterious edifices when seen in the dead of night.

How do you fit this project/obsession in around your day job?
About two years ago I finally bit the bullet, quit my job and went full-time as a landscape photographer, which is something I've dreamed of since I got hooked on photography around 2003. It's tough doing personal shoots now that I'm working professionally. Going out locally for a few hours for a quick personal shoot is hard to organise, let alone driving across a country or two.

> "THE DREAMER IN ME THOUGHT ABOUT HOW NICE IT WOULD BE TO EXPLORE OUR ISLANDS"

Above **The Milky Way shines over the Portland Bill Lighthouse in Dorset.**

Previous page **By creating a composite, Ollie is able to expose for both the starry sky and the lighthouse.**



How did you select which lighthouses to shoot?
This question really makes me look back. It sounds simple now, but it certainly wasn't as clear cut when I first started. At first I thought I'd be able to shoot every lighthouse in England, Wales and Scotland. The dreamer in me also thought about how nice it would be to explore the many beautiful islands belonging to these three countries, using the excuse of photographing the lighthouses situated there. However, it turns out there are hundreds of them and many are privately owned or decommissioned. I had to break it down methodically so that the project was tightly structured.

How long do you spend at a particular location?
In an ideal world I'd spend one day and one night per lighthouse, but unfortunately that isn't how outdoor photography works. The time spent at each location varied drastically, especially as I had to re-visit some to improve the previous images I'd already taken.

What challenges did you face?
I wanted to create images that had an individual identity and uniqueness to them. When I first started the project I trawled through Google for research, but

Ollie's dreamscapes

"It was winter 2011 and I was researching images on a stock website that was doing well for me. I noticed a lack of Iceland landscapes, so booked 18 days out there. It was the first time I'd shot the Aurora, and I was truly inspired. However, my images weren't only of the Northern Lights, but of snowy mountains and frozen lakes lit by the stars and the moon. They were the product of me hopping out of the car into sub-zero temperatures, trying to make something out of the elements at my disposal. After that trip I realised that I was captivated by the night and resolved to start shooting star-lit landscapes in the UK as well. I spent a year honing and adapting my technique. When I finally put my work on social media, the response was overwhelming."

soon realised that there weren't many photographed in the UK at night. The few that existed were poorly exposed and there certainly wasn't anyone with an organised collection.

Do you have any memorable stories from this project?
I was on the Isle of Skye and had managed to shoot the aurora a couple of times. However, I'd been on the road for three weeks and my van's heating had officially given up the ghost. After waking up on three consecutive mornings with ice on the inside of the van windows I decided that enough was enough and headed home for Dorset.

I was travelling down the M74 when my phone started buzzing. The aurora apps were off the Richter scale. I decided Cumbria was as good a place as any to spend the night en-route, and even though I knew light pollution from Whitehaven would be catastrophic, I chose to venture to St Bees to try my luck. I stayed on farmland (by invitation) near the lighthouse and was able to shoot the best display of the Northern Lights that I've ever witnessed in England.

What skills, other than photographic, do you need?
Effective planning, time management, budgeting and a strong geographic knowledge are all essential. It also helps if you're not afraid of being alone in the dark!

How important is post-processing?
Unsurprisingly, immensely important. Many of the project images are composites, so require blending together seamlessly. It's also important that I don't push my images too far and over-process them. I wanted the shots to appear as natural as possible and steer away from the excessive slider boosts that create the vivid astro photography images we seem to have grown accustomed to.

What would be a good result for you?
A decent result is when the elements all come together. Interesting partial cloud cover, a good Milky Way orientation and being at a good part of the moon phases are all key aspects of getting a great final shot.

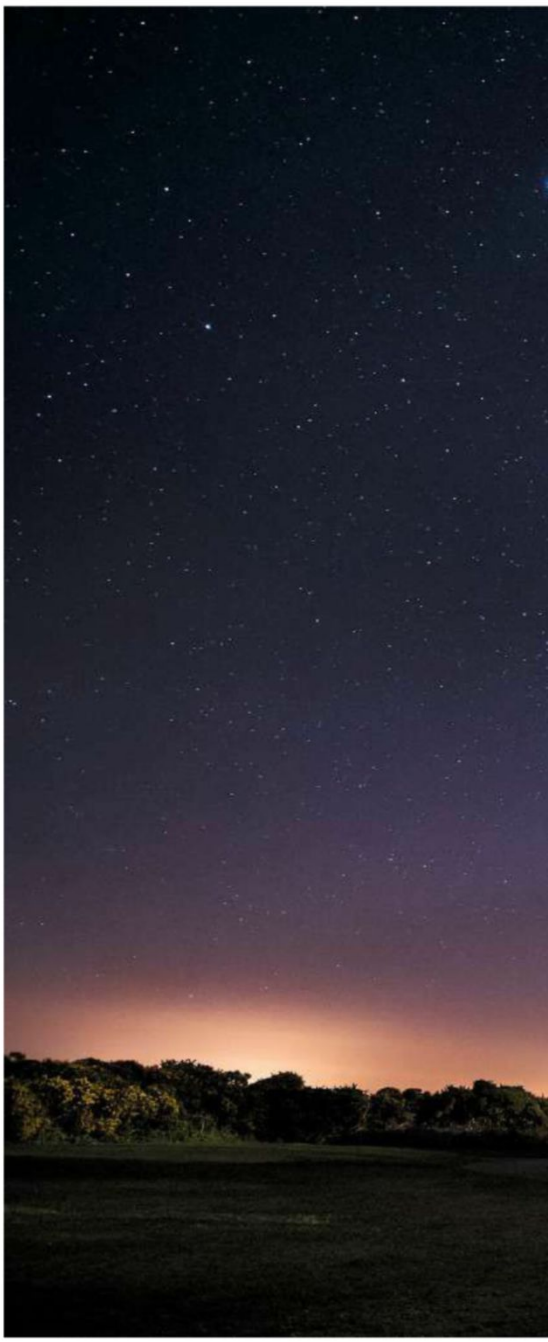
What's your favourite piece of photographic gear?
For this project, and nightscapes in general, my Nikon 14-24mm takes the cake. It's a complete workhorse.

Do you shoot everything in a single shot, or do you create composites?
It's a bit of a mixture. In an ideal world they would all be one shot, but exposing for the beams is extremely tricky and usually requires high ISOs

> "I'VE SPENT MANY NIGHTS ON MY OWN BEING AWESTRUCK BY THE CLEAR WINTER SKIES"

Above
Godrevy Lighthouse is a distant focal point in this image, hidden among countless wild flowers.

Far left If you're using a wide-angle lens then you'll want to have a shutter speed of under 25sec. To get bright stars, use a high ISO like 1600-2500.



Above
The hunter's supermoon was shot from Bamburgh beach over the Inner Farne Island Lighthouse.

Right Cromer Lighthouse illuminates the Norfolk night sky.

and quick shutter speeds, which renders a dark and grainy shot. I then have to expose for the sky in order to create a dynamic composite. However, all my work is always shot on location, at the same position and during the same time frame.

What settings did you use?
This has been a bit of a conundrum. While some of the light sequences have been very similar to each other, many lighthouses have drastically different patterns. It's been extremely challenging to get the exposures correct for certain compositions while avoiding overexposure from flare.

Do you ever try to portray a deeper meaning in your work?
I certainly do. I thought it was finally showing through a few years ago, but I was knocked off my perch due to some personal issues and I felt my work lost direction for a while. However, I kept on going and when I complete these two projects I feel that they'll become a catalyst for something else that will be complex and creatively exciting.

Why should PP readers start a personal project?
A personal project can provide a structured focal point for the creator, enabling them to focus on an end goal and set targets that need achieving. This adds a clear significance to each shoot and will inevitably create a more meaningful body of work.

What's next for you and this project?
Quite simply, islands. I've almost completed the mainland location work, but I've got several island locations to complete. There's also a trip to Gibraltar looming on my horizon!

GET INVOLVED

We want to see your best photo projects! If you have a unique body of work you'd like to share with the world, then drop us a line at practical.photography@bauermedia.co.uk

Pro advice Ollie's 4-step guide to better personal projects

1 Always plan your shoots. If you decide on a subject and just start shooting at random then you can easily get into a state of confusion, which will cost you both time and money. Yes, other opportunities may arise, and no one wants to impose an autocrat's regime on something that should be fun, but it's good practice to map out a basic plan of action.

2 Factoring time into the equation is vital. Depending on your work commitments and other life constraints, it may be a good idea to work on something a little less geographically challenging when thinking up outdoor projects. If travelling long distances isn't an issue, then ensure that you always factor in contingency time after mapping out how long you think it'll take you.

3 Once you know what kind of project you're shooting, don't be afraid to take a step back. Really wrap your head around what each phase of work will require. You may find that you need to adjust your original idea in order for it to be more easily achieved.

4 Make sure that your chosen project will stretch your creativity, as well as challenge your technical ability. Plan what you want to achieve at certain markers within the project. This will help you remain interested and actively engaged.

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The most in-depth and unbiased reviews of the latest products

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We take a look at Fuji's fourth generation premium compact to see whether this retro beauty delivers on its promise.

136 Panasonic GX800
Loaded with 4K video and an impressive spec sheet, this compact is small and light.

138 Telephoto zooms
Get closer to the action for under £1200 with a round-up of the ten best telephoto lenses.

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Discover five apps that will improve your shots for under £10.

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1 Impressive lens
The X100F's fixed 23mm lens (35mm full-frame equivalent) is exceptionally compact, and offers a maximum aperture of f/2 for fast shutter speeds and blurry backgrounds.

2 Solid build quality
With a magnesium alloy top-plate and grippy faux-leather finish, this retro-styled camera feels very robust.

3 Added joystick
As well as a new button layout, a joystick has been added to the rear of the camera for easier menu navigation and image review.

Practical Photography HIGHLY RATED

FUJIFILM X100F

Good thing, small package

Fuji's fourth generation premium compact, the X100F, finally hits the shelves. Tim Berry finds out what this small but fully loaded retro camera brings to the table.

BACK IN September 2010 Fuji announced the X100, the first in a new line of retro-styled premium compacts. It featured a sharp 23mm prime, an APS-C sensor, and a very portable body, which made the camera a huge hit with enthusiasts who wanted to fit DSLR quality into an inside jacket pocket. Following two further incarnations – the X100S in 2013 and X100T in 2014 – Fuji has just released a fourth-generation model, the X100F (in case you were wondering, the letters stand for 'second', 'third' and 'fourth').

On first glance, the F looks relatively similar to its predecessor, especially from the front. But pop the hood and you'll find some significant changes that make this the most attractive premium compact on the market. Perhaps the most important of these is the much-acclaimed 24.3MP X-Trans CMOS III sensor, which is the same as the one found in the pro-level X-Pro2 and X-T2 CSCs. This gives the X100F a whopping 8MP advantage over its forebear, allowing for much heavier crops in post-processing – very useful on a fixed prime lens – and much larger print sizes. And as with the X100T, there's no anti-aliasing filter built in, which produces the sharpest possible results. To support the new sensor, the camera comes with an upgraded engine too – it now sports the X Processor Pro, which is again borrowed from Fuji's more advanced, and considerably more expensive, mirrorless models.

4 New ISO dial
Unlike the X100T, the X100F has a physical ISO dial, which can be adjusted by lifting the shutter speed dial.

IMAGE QUALITY

Impressive noise control

Despite not having a particularly large ISO range, the X100F produces very clean images at higher ISO settings. Not only are RAW shots relatively noise-free up to ISO 3200, and very useable up to 6400, but in-camera JPEG processing is very effective at reducing high ISO noise without significantly degrading picture quality. This JPEG image, for example, is shot at ISO 3200, but there's virtually no colour noise visible in areas of shadow, and only slight luminance noise.

"THE X100F HAS A HUGE 8MP ADVANTAGE OVER ITS PREDECESSOR, ALLOWING FOR MUCH TIGHTER CROPS"

Main features

The 23mm f/2 lens (35mm equivalent) is identical to the one found on the X100T. As well as being fast, sharp and extremely compact, the lens contains a leaf shutter, eliminating the need for a regular focal plane shutter in front of the sensor. Leaf shutters are normally only found on medium-format cameras, and have the advantage of being virtually silent, very compact, and allow full-power flash to be used with fast shutter speeds. The camera also has an electronic shutter should you need an exposure faster than 1/4000sec.

The X100F boasts a native ISO range of 200-12,800 – one full stop greater than its predecessor. Combine this with its wide f/2 aperture, and you have a camera ideal for shooting handheld images in low light situations such as weddings and events.

The X100F's focusing system has seen an upgrade too, now sporting 91 phase-detect points, which cover 40% of the image area (up from 49 points on the X100T), as well as 234 contrast-detect points that cover most of the rest of the frame. We found the focusing to be very fast and accurate, and it operates very well even in tricky lighting conditions. In fact, Fuji claims it can lock focus in as little as 0.08sec. Combine that with a start-up time of 0.5sec and you have a camera as responsive as many top DSLRs.

The focusing system can be adapted to the subject you're shooting using the six in-built AF modes, including tracking AF for fast-moving subjects. There's also focus peaking and Digital Split Image Display built in for those who like to focus manually, both of which are even visible in the optical viewfinder.

Thanks to its powerful processor, the camera offers a competitive continuous burst of 8fps for 60 JPEGs or 25 14-bit RAWs, assuming you're using a fast enough SD card. After this, the shooting speed slows down. This is an improvement on the X100T, which offered a rather underwhelming 6fps for 7 RAWs. Although not designed to be a sports or wildlife camera, a fast burst can come in very handy for street, travel and child photography.

On the rear of the camera is a 3in 1040k-dot screen, which is bright and colour-accurate. Unfortunately, it doesn't flip or tilt out, although this won't bother everyone, but the lack of touchscreen functionality is a pity. For what the X100F lacks in its screen, though, it makes up for in its Advanced Hybrid Viewfinder with auto eye sensor. This enables you to choose between a 2360k-dot electronic viewfinder (EVF) or an optical viewfinder (OVF) using a switch on the front of the camera body. You can also combine the two and have an electronic display overlaid on the OVF. This display includes the previously mentioned Focus Peaking and Digital Split Screen Image functions, as well as key settings and focus points display. We love this hybrid functionality, as it allows you to feel very connected to your subject without sacrificing important viewfinder information, exactly as you'd get on a

Tech Focus
Two lens converters

As the X100F has a 35mm prime lens which is fixed to the camera, some may be concerned about the camera's versatility. However, there are two new conversion lenses available that attach to the existing lens and give either a 28mm or 50mm effective focal length without affecting the lens' f/stop. Also built into this camera is a digital teleconverter that gives a narrower field-of-view, although at a reduced resolution. This is similar to cropping in afterwards in editing software.

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Superb optical performance

Although very compact, and containing only 8 elements in 6 groups, the 35mm f/2 prime is very sharp across the whole frame, even at its widest aperture setting. In testing, we found chromatic aberration and lens distortion to be very minimal, and there was only slight vignetting at f/2. On close inspection, corner softness was apparent at the widest apertures, although not severe.

This image was shot with a shutter speed of 1/50sec, an aperture of f/4 and an ISO of 400, using a single constant LED light and some window light. As you can see, even cropped in, detail is rendered extremely well.

DSLR. Those attracted to the camera for its retro looks will enjoy the 15 Film Simulation modes, which allow you to emulate the characteristics of Fuji's most famous photographic films, including Provia, Velvia and Astia.

Other great features include Wi-Fi, an in-camera panorama function, a hotshoe for an external flash, a Bulb mode up to 60 minutes, and an interval timer for time-lapse. There's also an integrated 3-stop ND filter so you can get creative with slower shutter speeds, or use a wide aperture in bright daytime conditions.

Battery life is fairly limited – 270 shots using the EVF or 390 using the OVF.

Movie functionality

The camera offers a maximum video resolution of Full HD (1080p) at 60fps for 14-minute movies. This is adequate, although there are several cameras that can shoot 4K for less money, including Fuji's new X-T20. For the majority, this won't be a huge issue, but that short clip duration is worth bearing in mind if you shoot video regularly. It's also worth noting that there's an audio-in port for attaching an external mic, but no audio-out port, so you can't plug in headphones to monitor audio.

Handling & build

While the front of the X100F is very similar to its predecessor, there have been some changes to the rear and the top-plate. Most important is a new manual ISO dial, allowing you to change ISO without going into the menu. This was a major oversight on the X100T, so we're delighted Fuji has rectified it. The dial is actually part of the shutter speed dial – just as it was on Fuji's film cameras. On the back, the buttons that were on the left of the screen on the X100T have been moved to the right, so all settings are changed with the right hand. Usefully, a small navigation joystick has been added too.

The camera handles very intuitively, with manual dials for all the major settings, including an aperture dial on the lens. We should mention though that the thumb dial, which doubles up as a button, clicks in a little too easily when turning.

Build quality is excellent, with a magnesium-alloy top-plate and a grippy, faux-leather coating front and rear. Unfortunately, there's no weather-sealing, which you would usually expect on a camera at this price point.

Verdict

This beautifully-built compact is very much a photographer's camera, with lots of manual controls that keep you firmly in the driver's seat. It offers exceptional image quality and lots of improvements where it matters – in particular, the new 24.3MP sensor, the powerful processor, the improved viewfinder, the upgraded AF system and the new ISO dial really impress. It's a shame touchscreen hasn't been added, and video functionality and battery life could be better, but otherwise this is a feature-rich release that is perfect for street and travel photography. Highly recommended.

TECH SPEC

Camera: Fujifilm X100F
Lens: 23mm f/2 (35mm equiv.)
Price: £1249
Effective resolution: 24.3MP
Sensor: 23.6x15.6mm X-Trans CMOS III APS-C
Processor: X Processor Pro
LCD: 3in 1040k-dot
Viewfinder: 2360k-dot hybrid
Autofocus: 325 AF points (91 phase-detect, 234 contrast-detect)
ISO: 200-12,800 (expands to 51,200)
Shooting speed: 8fps
Video: Full HD (1080p) at 60fps
Pop-up flash: GN4.6
Other features: 15 Film Simulation modes, Wi-Fi, Interval Timer, Panorama, 60-min Bulb mode, digital teleconverter, 3-stop ND filter
Battery life: 270 shots with EVF, 390 with OVF
Card type: SD, SDHC, SDXC
Size (WxHxD): 127x75x52mm
Weight: 469g
Web: fujifilm.eu/uk

Practical Photography **THE VERDICT FUJIFILM X100F**

PROS Excellent image quality ✚ Increased resolution ✚ Improved hybrid viewfinder ✚ Powerful X-Pro processor ✚ More AF points ✚ New manual ISO dial

CONS No image stabilisation ✚ Poor battery life ✚ No touch/tilt screen ✚ Below average video features

HANDLING	★★★★★
FEATURES	★★★★☆
IMAGE QUALITY	★★★★★
VALUE FOR MONEY	★★★★☆
OVERALL SCORE	★★★★★

1 Streamlined design
The GX800 sheds weight and bulk everywhere it can think of. The body is sleek, but at just over 10cm in width it could feel too small for photographers with larger paws.

2 12-32mm kit lens
The GX800 comes bundled with a versatile 12-32mm lens, that also includes Panasonic's MEGA O.I.S image stabilisation. It's a great all-round starter lens, and also retracts for easier storage.

3 3in touchscreen
With little real estate left for buttons on the slimline body, the GX800's 3in touchscreen includes some handy 'virtual' Function buttons and a customisable Quick Menu.

KIT PRICE
£499
IMAGE RESOLUTION
16MP
VIDEO
4K/FULL HD

PANASONIC GX800

Tiny but mighty?

Want a camera that's small and light, but still packs in the very latest technology for stills *and* video? Then the GX800 might be for you. Kingsley Singleton sees what it's got.

PANASONIC'S G series line-up of interchangeable lens Micro Four Thirds (MFT) cameras has been around for almost a decade now. The technology is well proven, and there are models aimed at almost every kind of photographer. At the top end there's the crowning GH5, while the new GX800 is aimed at beginners and those who want DSLR quality in a smaller form. The camera is certainly small – the most compact in the G series, as it's even slimmer than the GX80 and GX8 that are its closest stablemates, and at 336g with the 12-32mm lens it's light too. It's also the most affordable model in the current line-up, but still packs in lots of the cutting edge features found in other G series cameras.

Main features

The camera is built around a 17.3x13mm 16MP Live MOS MFT sensor, with a native ISO range of 200-25,600, and sharpness has been improved by omitting a traditional optical low-pass filter. Those numbers might sound anaemic compared to many cameras, but 16MP is plenty for most purposes, and 16-20MP is currently something of a sweet spot for MFT cameras in terms of image quality.

4K (at 30p) video is included, as is Panasonic's 4K Photo mode and Post Focus tech from the same well.

4 4K Photo mode
There's now a dedicated Function button promoting Panasonic's 4K Photo mode. This shoots 3840x2160p video, allowing for 8MP stills to be captured.

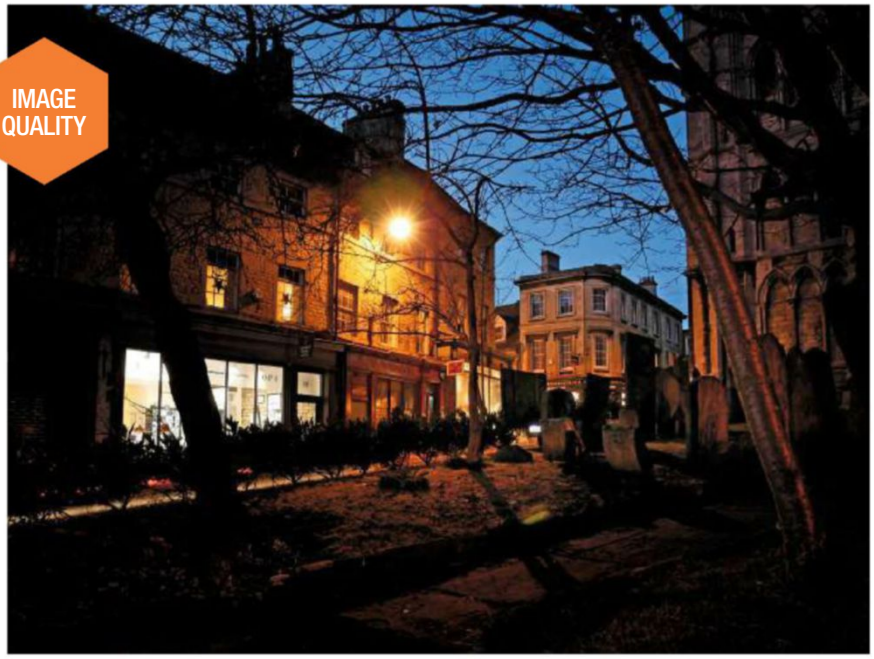


Image sharpness and ISO tests

Smaller sensors, like the 17.3x13mm MFT chip in the GX800, produce less detail and can struggle to compete with larger chips in terms of digital noise when you push the ISO setting for greater amplification. It's refreshing then to see the strength of image quality from the GX800. There's plenty of sharp detail from the 16MP resolution and although it doesn't invite too much cropping if you're planning to make prints, you'll get a good A3 print out of it without any trouble.

When it comes to raising the ISO, results were again solid. It's not until you get to ISO 3200 that fine details begin to get lost, but that's in part due to the noise reduction algorithm. Anything beyond 6400 should be reserved for exceptional need, as things get very loud.

In the interests of reduced size, unlike the GX8 and GX80, there's no EVF, so framing is via a 3in touchscreen. The screen is hinged at the top, flipping upward through 180° where it activates a Self Shot mode, but that's the extent of its articulation.

Handling & build

The GX800's body is plastic and there's no weather-sealing, but that's not to suggest it's not well built. It's obviously not designed for daily hammering, but the petite body has a very solid feel and its dials and screen are well engineered.

Button layout is clear and uncluttered, but given the small size of the body I did find myself hitting some of them by accident. And like many entry-level cameras there's just the one control dial – a ring around the four-way selector. While a second dial would improve control, the ring works well, and though light, there's just enough resistance for accurate selection.

There are three physical Function (Fn) buttons which can be customised for most-used settings, but in a switch from predecessors the iAuto button has been moved from one of these onto the Mode dial, freeing up space to promote the 4K Photo mode.

Using the touchscreen adds four more 'virtual' Fn buttons and the Quick menu can be customised too, which is handy.

I didn't find the GX800 very comfortable to hold, unless using both hands. Unlike the GX80 and GX8, there's no grip on the front, which makes it feel like you're pinching the camera rather than gripping it. The front surface is a bit slippery, although the rear has a generous thumb pad.

Performance

The GX800 focuses quickly and accurately in test, and its 5.8fps burst mode is plenty for most subjects. The 4K Photo mode tops this, letting you grab 8MP stills from video at up to 30fps. This is a great feature, but does show motion blur in moving subjects due to the video frame rate, so for critical sharpness stick to the regular mode.

Live View is very smooth until you start working in low light when, like most, it judders.

It might not be everyone's cup of tea, but the Self Shot mode works well. After flipping the screen it optimises output for portraits and gives a little countdown after hitting the shutter, allowing you to pose.

Verdict

The Panasonic GX800 is brim-full of class-leading technology, but due to its streamlined design getting to it can sometimes be tricky. The camera will be, for some, too small to operate comfortably, but for entry-level photographers and those upgrading from compacts it's a better fit. If you like the features, but not the handling, consider the GX80 or GX8, the former of which is only slightly more expensive.

TECH SPEC

Camera: Panasonic GX800
Lens: 12-32mm f/3.5-5.6
Price: £499
Effective resolution: 16MP
Sensor: 17.3x13mm Live MOS Micro Four Thirds
Processor: Venus Engine
LCD: 3in 1040k-dot tilting touchscreen
Shutter: 1/16,000-60sec
Autofocus: 49-area contrast-detect
ISO: 200-25,600 (expands to 100)
Shooting speed: 5.8fps for 15 RAWs or 100 JPEGs
Video: 4K at 30fps, Full HD at 50fps
Pop-up flash: Yes, GN5.6
Other features: Wi-Fi, time-lapse, stop-motion, dust-reduction system
Battery life: 210 shots
Card type: microSD, microSDXC, microSDHC
Size (WxHxD): 107x65x33mm
Weight: 336g
Web: panasonic.co.uk

Practical Photography **THE VERDICT PANASONIC GX800**

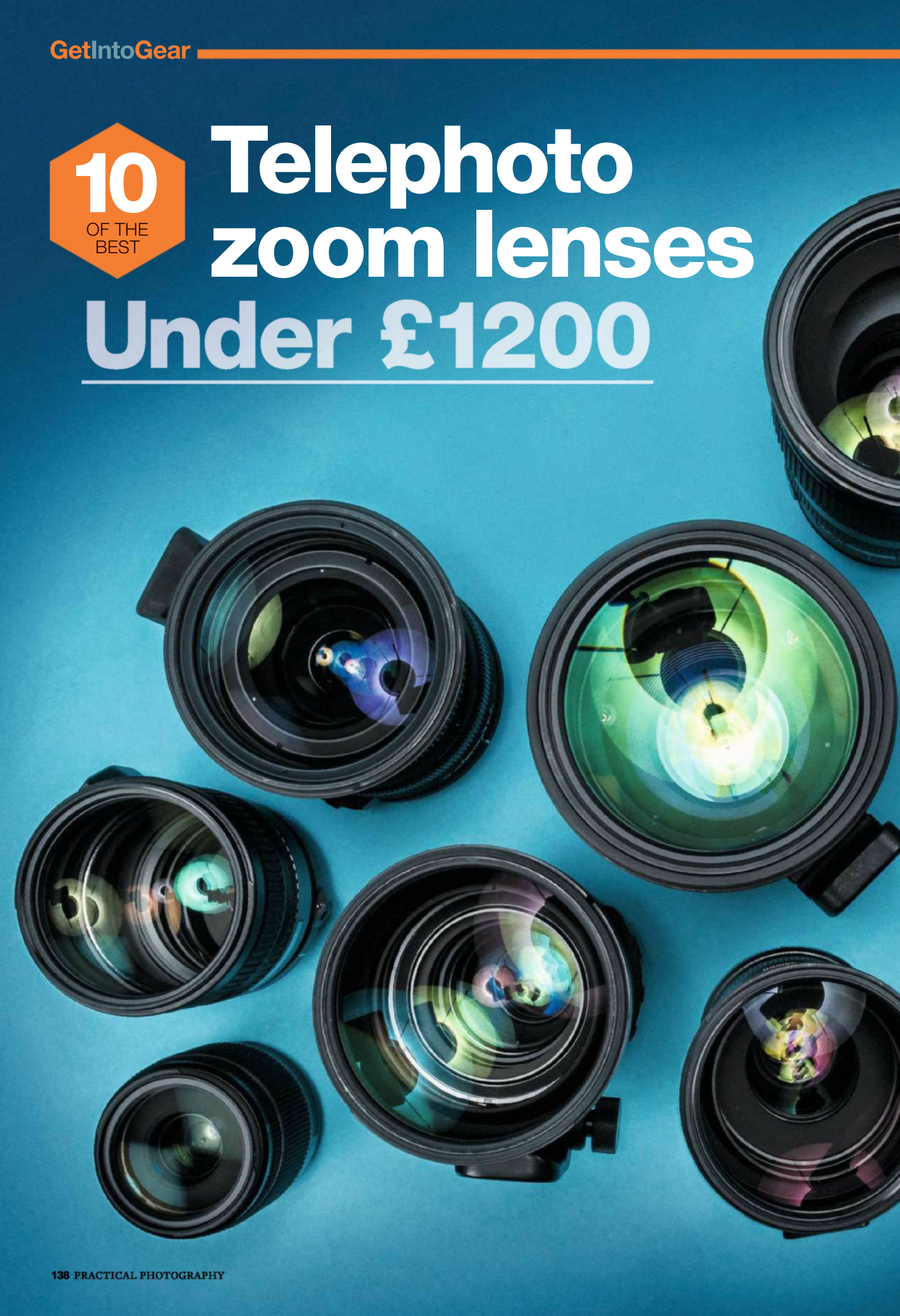
PROS Good image quality for MFT ✚ Customisable buttons ✚ Self Shot Mode ✚ Decent AF and shooting speed ✚ Small and light body ✚ Built-in Wi-Fi

CONS Will be too petite for some ✚ No grip on front ✚ No hotshoe for accessory flash

HANDLING	★★★☆☆
FEATURES	★★★★★
IMAGE QUALITY	★★★★☆
VALUE FOR MONEY	★★★★☆
OVERALL SCORE	★★★★☆

10 OF THE BEST

Telephoto zoom lenses Under £1200



If you're eager to get closer to the action, then a telephoto lens should be at the top of your wishlist. These powerful optics are the perfect partner for wildlife or sports photography, as they allow you to zoom in tight to shoot high-impact images. Most feature built-in image stabilisation systems to help minimise camera shake, which is more of a risk when shooting with longer focal lengths. However, some of these larger lenses can be rather heavy, so come with a tripod socket to transfer the weight.

We've tested 10 of the very best telephotos under £1200 to reveal the optimum telephoto lens, and with prices starting at just £269 there's something here to suit all budgets.

IN THE TEST

Pentax DA 55-300mm f/4-5.8ED WR	£299	P140
Canon EF-S 55-250mm f/4-5.6 IS STM	£269	P140
Tamron SP 150-600mm f/5-6.3 Di VC USD	£729	P141
Tamron SP 70-200mm f/2.8 Di VC USD	£1099	P141
Nikon AF-S 70-200mm f/4G ED VR	£1179	P142
Sigma 150-600mm f/5-6.3 DG OS HSM | S	£1199	P142
Sigma 50-500mm f/4.5-6.3 DG OS HSM	£849	P143
Tamron SP 70-300mm f/4-5.6 Di VC USD	£299	P143
Nikon AF-S 200-500mm f/5.6E ED VR	£1179	P144
Sigma 150-600mm f/5-6.3 DG OS HSM | C	£849	P144

HOW WE TESTED THE LENSES

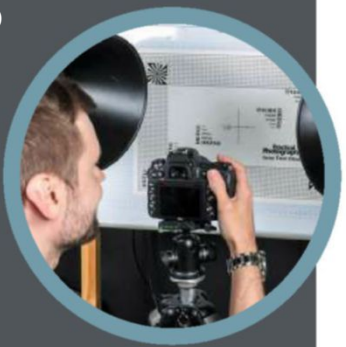


IMAGE SHARPNESS

We took test shots under the same conditions at every aperture stop, at the wide, middle and long end of the zoom. These test images were then scrutinised to determine how detail was rendered across the entire frame.

IMAGE DEFECTS & DISTORTION

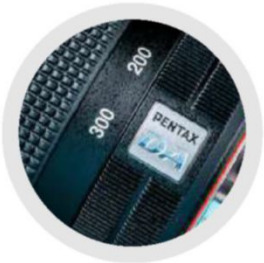
We also examined the test images to look for defects like vignetting and chromatic aberration (also called fringing), as well as lens distortions such as pin-cushioning, which can warp detail.

#10

PENTAX

DA 55-300MM F/4-5.8ED WR £299

Available for Pentax cameras only, the 55-300mm offers the second greatest zoom range of any telephoto in our test. The 5.5x zoom features a full-frame equivalent focal range of 85-460mm when fitted to a Pentax APS-C DSLR. It's a highly portable lens too – beaten by a whisker on size and weight by the diminutive Canon 55-250mm. Inside there are 12 elements in 8 groups, with two ED (Extra low Dispersion) elements to minimise chromatic aberration and a HD (High Definition) coating in place to minimise flare and ghosting. The front element features an SP (Super Protect) coating to keep the surface free from dust and dirt, and the lens barrel boasts a weather-resistant construction. Autofocus is slow and noisy, but a Quick-Shift focus system lets you take manual control. In test, the corners of the frame suffered from soft detail and vignetting throughout the zoom with the aperture fully open, but results were much sharper when stopped down to f/11. We didn't detect any coloured fringing in our tests.



Above **The Pentax 55-300mm features a weather-resistant construction.**

PROS
- Versatile zoom
- Attractive price
- Highly portable
- Weather-sealed

CONS
- Clunky focusing
- No optical stabilisation
- Image quality

SPEC
Minimum aperture: f/22-32
Elements: 12/8
Filter size: 58mm
Minimum focus distance: 1.4m
DxH: 72x112mm
Weight: 466g

RATING

Above **The front element of the lens extends when you increase the zoom.**

#9

CANON

EF-S 55-250MM F/4-5.6 IS STM £269

Built solely for Canon APS-C DSLRs, the 55-250mm offers a 35mm equivalent focal length of 88-400mm. While this is a highly versatile telephoto zoom range, other lenses in our round-up can zoom in over twice as tight. Weighing just 375g, it's the lightest and smallest of all on test, making it ideal for travel. Internally, there are 15 elements in 12 groups, with a UD (Ultra low Dispersion) element designed to combat fringing and Super Spectra coatings to minimise ghosting and flare. Focusing is fairly fast and quiet with the Stepping Motor technology (STM), and there's also an Image Stabilisation system that allows shutter speeds up to 3.5 stops slower than normal to be used, without the effects of camera shake. With the lens zoomed to 55mm our test images suffered from some barrel distortion. At f/4 the corners were soft, with some vignetting and coloured fringing, but results improved as we stopped down. At the long end of the zoom, these issues were less noticeable.

Above **Image Stabilisation helps give sharp handheld shots in low light.**

PROS
- Smallest and lightest on test
- Image stabilisation
- Attractive price

CONS
- Limited maximum zoom
- Image quality
- APS-C only

SPEC
Minimum aperture: f/22-32
Elements: 15/12
Filter size: 58mm
Minimum focus distance: 0.85m
DxH: 70x111mm
Weight: 375g

RATING

Above **Though not true macro, the lens will focus relatively close at 85cm.**

#8

TAMRON

SP 150-600MM F/5-6.3 DI VC USD £729

The Tamron 150-600mm lens is available for Canon, Nikon and Sony mounts, and fits both full-frame and APS-C DSLRs. When paired with an APS-C body, it offers a 225-900mm focal range – the joint highest of any lens in our test. The optical arrangement features one XLD (Extra Low Dispersion) element and one LD (Low Dispersion) element to improve contrast and counteract chromatic aberration. In total there are 20 elements in 13 groups, and an eBAND coating has been applied to minimise ghosting and flare.
At 1951g it's heavy, but the lens comes with a tripod socket so you can offload the weight. It features a VC (Vibration Compensation) image stabilisation system to help keep details sharp – especially at longer focal lengths. The lens uses a USD (Ultrasonic Silent Drive) for fast and precise focusing. In testing we found the lens offered its sharpest performance at f/16. With the aperture wide open, the image suffered from mild vignetting and soft detail in the corners, and minor traces of chromatic aberration.

Above **The Tamron 150-600mm comes with Vibration Compensation.**

PROS
- Good zoom
- Image stabilisation
- Competitive price-tag

CONS
- Heavy & bulky
- Not as sharp as some of its rivals
- Large filter size

SPEC
Minimum aperture: f/32
Elements: 20/13
Filter size: 95mm
Minimum focus distance: 2.7m
DxH: 106x258mm
Weight: 1951g

RATING

Above **The lens can be locked to prevent unwanted zoom extension.**

#7

TAMRON

SP 70-200MM F/2.8 DI VC USD £1099

As a direct result of the f/2.8 maximum aperture – the widest on test – the Tamron 70-200mm lets you shoot at faster shutter speeds than any other lens in our line-up. At the 200mm setting, it'll also produce more background blur (bokeh) than any lens here. With the aperture wide open we found test images were satisfyingly sharp across the frame, but detail was crispest when setting it to f/8. We encountered some subtle vignetting at the wider apertures, and minor pincushioning at the long end of the zoom. On a positive note, we didn't detect any discernible chromatic aberration.
The lens is made up of 23 elements in 17 groups, with one XLD (Extra Low Dispersion) element and one LD (Low Dispersion) element working to minimise coloured fringing.
The lens uses Tamron's USD (Ultrasonic Silent Drive) to set focus quickly and quietly, and there's the VC (Vibration Compensation) image stabilisation system to keep camera shake at bay. At 1470g, it sits squarely in the middle when its weight is compared to rivals.

Above **Vibration Compensation can be turned on to limit camera shake.**

PROS
- Good image quality
- Fixed maximum aperture of f/2.8
- Image stabilisation

CONS
- More expensive than others
- Limited zoom

SPEC
Minimum aperture: f/32
Elements: 23/17
Filter size: 77mm
Minimum focus distance: 1.3m
DxH: 86x197mm
Weight: 1470g

RATING

Above **The lens can easily be mounted to a tripod or monopod.**

#6

NIKON

AF-S 70-200MM F/4G ED VR £1179

The 70-200mm is suitable for both full-frame and APS-C sized Nikon DSLRs, and when paired with the latter it offers an equivalent focal range of 105-300mm. The lens features a constant maximum aperture of f/4 and also comes with Nikon's Vibration Reduction (VR) technology. This allows you to shoot up to 4 stops slower without introducing camera shake to your images. For focusing there's a Silent Wave Motor (SWM), which operates with speed and precision without generating much audible noise. Within the lens there are 20 elements in 14 groups, including three ED (Extra-low Dispersion) elements and one HRI (High Refractive Index) element to minimise chromatic aberration. The lens elements also feature a Nano Crystal coating to limit ghosting and flare. In our tests the lens produced a slight vignette at f/4, but this was no longer present when stopped down to f/8. We found detail was pleasingly sharp across the frame and throughout the aperture range, but did detect some very minor coloured fringing.

Above **Shoot up to 4 stops slower with Vibration Reduction (VR) technology.**

PROS
- Pleasing image quality
- Fixed maximum aperture of f/4
- Image stabilisation

CONS
- More expensive than others
- Limited zoom

SPEC
Minimum aperture: f/32
Elements: 20/14
Filter size: 67mm
Minimum focus distance: 1m
DxH: 78x179mm
Weight: 850g

RATING

Above **The Nikon 70-200mm has a constant fixed aperture of f/4.**

#5

SIGMA

150-600MM F/5-6.3 DG OS HSM | S £1199

The Sport version of Sigma's 150-600mm lens is the most expensive in our line-up, but also offers a premium build, fine-tuned features and an impressive image quality. Nestling inside the dustproof and splashproof barrel are 24 elements in 16 groups. There are two FLD (F Low Dispersion) elements and three SLD (Special Low Dispersion) elements to prevent chromatic aberration from appearing in images. There's a new OS (Optical Stabilisation) system to keep camera shake at bay, with modes for both general photography and panning. The front element has a water-repellent coating to assist when shooting in adverse conditions, and the zoom can be locked at any focal length. To focus, the Hyper Sonic Motor (HSM) works effectively and with barely a whisper. Our tests revealed minimal image defects, with only minor vignetting and no chromatic aberration. The lens showed good sharpness across the frame, with only some softening of detail in the corners at the widest apertures.

Above **The Optical Stabilisation system has two modes – general and panning.**

PROS
- Image quality
- Optical stabilisation
- Good zoom range

CONS
- Most expensive on test
- Bulky & heavy
- Large filter size

SPEC
Minimum aperture: f/22
Elements: 24/16
Filter size: 105mm
Minimum focus distance: 2.6m
DxH: 121x290mm
Weight: 2860g

RATING

Above **The tripod socket has been redesigned to make shooting easier.**

#4

SIGMA

50-500MM F/4.5-6.3 DG OS HSM £849

With a mighty 10x zoom, the 50-500mm offers the most comprehensive focal range of any lens in our test. It's suited to both full-frame and APS-C DSLRs, and when paired with a DX format Nikon provides an effective focal range of 75-750mm. It's available in mounts for Sigma, Canon, Nikon, Sony and Pentax cameras. The lens features Sigma's Optical Stabilisation (OS) system, which lets you shoot with shutter speeds up to 4 stops slower without the blur of camera shake, and has settings for both general shooting and panning. Housed within the barrel are 22 elements in 16 groups, and four SLD (Special Low Dispersion) elements work to reduce chromatic aberration. To set the focus, the HSM (Hyper Sonic Motor) works speedily and in near-silence, with full-time manual override. In our tests the lens was pleasingly sharp across the entire frame, even at the wider aperture settings. We did detect some chromatic aberration and pin-cushion distortion, but this is easy to remedy when processing.

Above **The 50-500mm comes with an Optical Stabiliser to keep details sharp.**

PROS
- Huge zoom
- Image stabilisation
- Pleasing image quality

CONS
- Third heaviest on test
- Not weather-resistant

SPEC
Minimum aperture: f/22
Elements: 22/16
Filter size: 95mm
Minimum focus distance: 0.5-1.8m
DxH: 104x219mm
Weight: 1970g

RATING

Above **Attach the lens to a supporting device to help take the 1970g load.**

#3

TAMRON

SP 70-300MM F/4-5.6 DI VC USD £299

At £299, the Tamron 70-300mm is a tempting option for Sony, Canon and Nikon users. It works with both full-frame and APS-C format cameras, and when paired with the latter offers an effective focal range of 105-450mm. To set the focus there's the USD (Ultrasonic Silent Drive) AF mechanism, which achieves its task with pace and accuracy. The lens also features a Vibration Compensation (VC) system to reduce the effects of camera shake. On the Sony mount model this isn't included, as Sony cameras use sensor-based image stabilisation systems. Inside there are 17 elements in 12 groups, with LD (Low Dispersion) and XLD (Extra Low Dispersion) glass elements to counteract fringing. Weighing just 765g, it's the third lightest in our line-up. In test, the Tamron 70-300mm performed well. With the aperture wide open we encountered a subtle vignette, which disappeared when we stopped down to f/11. Detail was nicely sharp across the frame, and only minor traces of chromatic aberration were detected.

Above **Reduce camera shake with this lens' Vibration Compensation (VC).**

PROS
- Impressive image quality
- Attractive price
- Image stabilisation

CONS
- Less maximum zoom than others
- Not weather-resistant

SPEC
Minimum aperture: f/32
Elements: 17/12
Filter size: 62mm
Minimum focus distance: 1.5m
DxH: 82x143mm
Weight: 765g

RATING

Above **The Ultrasonic Silent Drive sets the focus with impressive speed.**

#2

NIKON

AF-S 200-500MM F/5.6E ED VR £1179

The 200-500mm is built for use with either FX or DX format Nikon DSLRs, and when partnered with a DX format camera it gives an effective focal range of 300-750mm. It's constructed from 19 elements arranged in 12 groups, and uses three Extra low Dispersion (ED) elements to minimise coloured fringing. The lens features Vibration Reduction (VR) technology. This allows you to shoot with shutter speeds 4.5 stops slower than would normally be possible without encountering camera shake, and the SPORT VR mode is built to track fast action. Focusing is rapid and quiet due to the Silent Wave Motor (SWM) with instant manual override. At 2300g, this lens is the second heaviest in our round-up, but comes with a tripod collar to attach the lens to a supporting device. In testing the 200-500mm performed very well, with sharp detail across the frame at the long end of the zoom and throughout the aperture range. We weren't able to detect any traces of chromatic aberration in our test images.

Above The lens has four switches to control focusing and Vibration Reduction.

PROS
- Image quality
- Vibration Reduction system
- Good maximum zoom

CONS
- Expensive
- Bulky & heavy
- F/5.6 maximum aperture setting

SPEC
Minimum aperture: f/32
Elements: 19/12
Filter size: 95mm
Minimum focus distance: 2.2m
DxH: 108x268mm
Weight: 2300g

RATING

Above A monopod can be attached to the socket to take the 2300g weight.

#1

SIGMA

150-600MM F/5-6.3 DG OS HSM | C £849

This lens from Sigma's Contemporary range is lighter and more compact than the Sports version, and is more affordable too. It's available for Nikon, Canon and Sigma bodies and works with both full-frame and APS-C DSLRs. The lens is currently bundled with a 1.4x teleconverter, which expands the focal range to 210-840mm. When you pair this with a Canon APS-C DSLR, which produces a 1.6x crop factor, you can shoot with an effective focal range of 336-1344mm – enormous! Inside the dustproof and splashproof barrel you'll find 20 elements in 14 groups. Three SLD (Special Low Dispersion) elements and one FLD (F Low Dispersion) element work together to counteract chromatic aberration. The lens also features an Optical Stabiliser (OS) to reduce the effects of camera shake, and this can be set for general use or when panning. In testing the lens was very impressive. There was excellent sharpness across the frame, with only a faint vignette apparent at f/5 and a tiny hint of coloured fringing.

Above The lens comes with a Lock switch to keep the zoom set in place.

PROS
- Good zoom
- Included 1.4x teleconverter
- Image stabilisation

CONS
- Detail soft at some settings
- Heavy & bulky
- Dearer than rivals

SPEC
Minimum aperture: f/22
Elements: 20/14
Filter size: 95mm
Minimum focus distance: 2.8m
DxH: 105x260mm
Weight: 1930g

RATING

Above A 1.4x teleconverter is included in the £849 price.

Overall verdict

All 10 lenses performed well in our tests, with pleasing image quality even at the more affordable end of the spectrum. Along with image quality, we also looked at variables including AF performance, image stabilisation (IS), construction, weight, size and value for money.

On the whole the more premium optics offered a superior sharpness, due to the more advanced lens elements which are designed to combat image defects. The more expensive lenses also tend to offer better handling. That includes a faster, quieter and more precise AF system, along with more advanced image stabilisation technology and a more robust build, with features like weather-sealing.

However, some of these higher-spec features can be found on more entry-level models. The Pentax 55-300mm offers the same degree of weather-resistance as its high-end DSLRs – a surprisingly advanced feature for a lens that costs less than £300. Also the Canon 55-250mm is similarly affordable and sports a 3.5-stop image stabilisation system, a spec normally reserved for pricier lenses. However, while these budget-friendly telephotos offer some eye-catching features, they are outperformed by more expensive rivals on a multitude of factors.

If maximum focal length is your primary consideration, the Tamron 150-600mm is the most affordable option, but doesn't fare as well against its rivals on image quality. The Sigma 50-500mm offers the most versatile zoom so will tempt some, and the Nikon 200-500mm gives a top all-round performance. But if you're looking for the most bang for your buck, the Tamron 70-300mm represents excellent value for money considering the impressive image quality.

> "THE MORE PREMIUM OPTICS OFFERED A SUPERIOR SHARPNESS"

The winning lens is...

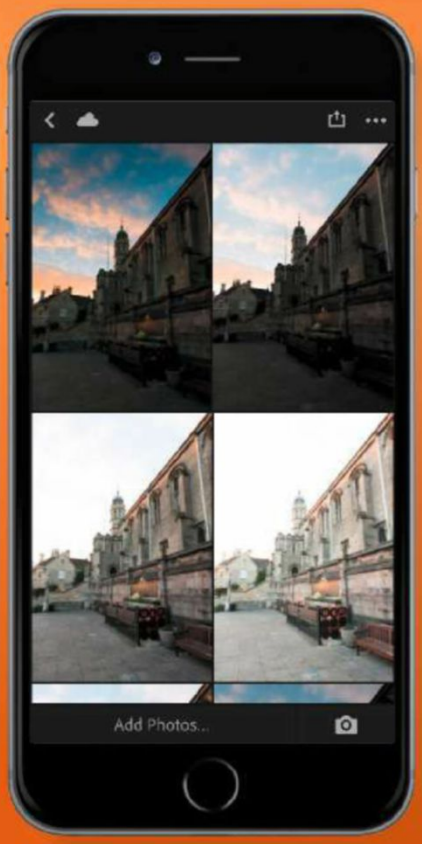
With top specs like a 600mm focal length, weather-resistant construction, IS, a rapid AF performance and stellar image quality, along with a 1.4x teleconverter for just £849, the Sigma 150-600mm C wins our 'Best in Test' award, offering great value for money.

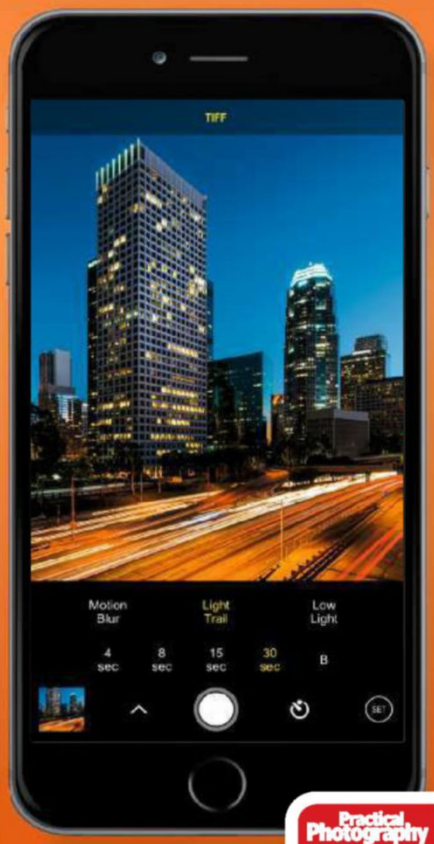
Above The Sigma 150-600mm C takes the top spot in our test, while the Nikon 200-500mm and Tamron 70-300mm are both highly rated.

At-a-glance results	Price	Depth x Length	Weight	Image stabilisation	Minimum focus	RATING
CANON EF-S 55-250mm F/4-5.6 IS STM	£269	70x111mm	375g	Yes	0.85m	★★★☆☆
NIKON AF-S 70-200mm F/4G ED VR	£1179	78x179mm	850g	Yes	1m	★★★★☆
NIKON AF-S 200-500mm F/5.6E ED VR	£1179	108x268mm	2300g	Yes	2.2m	★★★★★
PENTAX DA 55-300mm F/4-5 8ED WR	£299	72x112mm	466g	No	1.4m	★★★☆☆
SIGMA 150-600mm F/5-6.3 DG OS HSM | S	£1199	121x290mm	2860g	Yes	2.6m	★★★★☆
SIGMA 50-500mm F/4.5-6.3 DG OS HSM	£849	104x219mm	1970g	Yes	0.5-1.8m	★★★★☆
SIGMA 150-600mm F/5-6.3 DG OS HSM | C	£849	105x260mm	1930g	Yes	2.8m	★★★★★
TAMRON SP 70-300mm F/4-5.6 Di VC USD	£299	82x143mm	765g	Yes	1.5m	★★★★★
TAMRON SP 150-600mm F/5-6.3 Di VC USD	£729	106x258mm	1951g	Yes	2.7m	★★★★☆
TAMRON SP 70-200mm F/2.8 Di VC USD	£1099	86x197mm	1470g	Yes	1.3m	★★★★☆

KEY: Best performing model under our test conditions Highly recommended product

5 Great photo apps





Practical Photography HIGHLY RATED

Choosing the right apps for your phone or tablet can really improve your shots – here are five we love.

THERE'S SIMPLY no denying it – mobile devices now dominate our lives. And from a photographic perspective, there's no doubting their usefulness. Straight out of the box, your smartphone or tablet has loads of useful stuff, like a built-in camera and weather and mapping apps, but deciding what else to put on there is totally up to you. So to help out, we've selected some of our favourite apps, all of which hold bags of appeal for photographers.

Getting decent quality apps does mean you'll tend to have to pay for them, but with most costing well under £10, and offering great value, it's money well spent.

Adobe Lightroom Mobile £free

Adobe Lightroom is fast becoming the way most of us choose to organise, edit and share images, and with the mobile version you can use it anywhere from the palm of your hand. The app syncs with your desktop Catalogues (after you've triggered them to do so), and from there you get most of the tools in the full version (the Adjustment Brush is sadly absent). This is handy as you only need to learn one set of techniques, and any changes are automatically synced with the original file in the Catalogue. Editing is non-destructive, just as it'd normally be, and you can edit pics from your device's camera too.

Because Lightroom editing doesn't rely on precision, it is very easy to use on a small screen via touch, and there are some nice gesture controls, like two-finger tapping to toggle image data. Images aren't stored on your device, so size is kept down too. adobe.com/uk

SPEC Apple (v9.3)/Android (v4.1), v2.6.1/2.2.2 reviewed, 127MB

★★★★☆

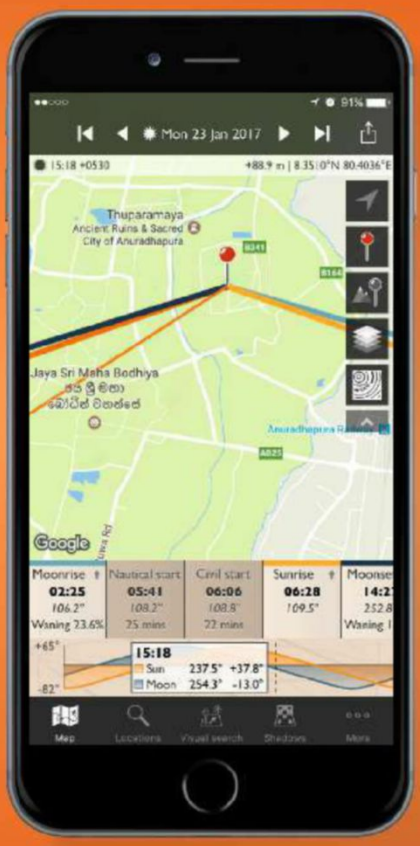
ProCam 4 £3.99

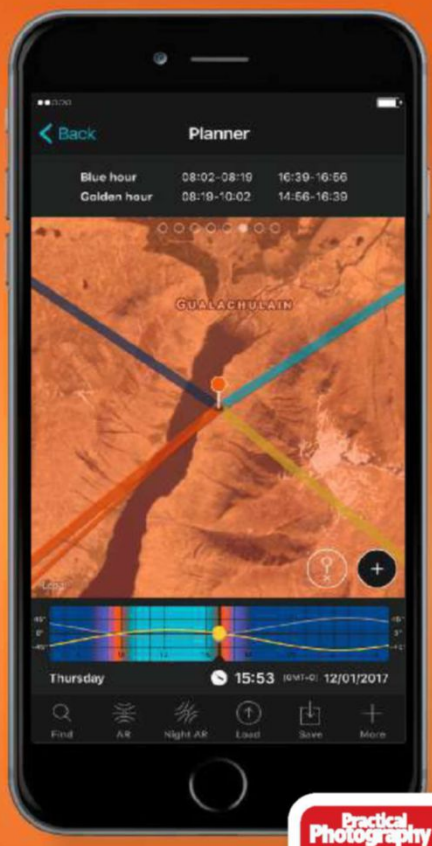
The iPhone camera is an amazing thing, and responsible for – by far – the greatest number of images uploaded to sites like Flickr and Instagram. But it's essentially a point-and-shoot tool, offering little real control. ProCam 4 is an upgrade comparable to going from a compact to a DSLR. Load up the app and you can adjust functions like ISO, white balance and focus distance (which also has a handy focus peaking feature).

On top of that, there are low light, time-lapse and slow-shutter modes, that are excellent for long exposures and arty intentional camera movement shots. Exposure bracketing and HDR modes are handy too, and on the iPhone 6s and above you can record in RAW, with images saved into a separate folder for editing. There are lots of filters to try, including tilt & shift and 'tiny planet' effects, but the app isn't memory hungry. procamapp.com

SPEC Apple iOS only (v9.0), v8.7.3 reviewed, 44.4MB

★★★★★





Practical Photography BEST IN TEST

Hollographium – 3D Light Painting Machine £5.99

Available for the iPhone and iPad, 'Hollographium – The 3D Light Painting Machine' to give it its full title is an app that can quickly add interesting effects to long exposures taken with your DSLR. Basically, you load up text, graphics or photos and the app slices them into bits, playing those parts over a duration designated by you. If you then move the phone or tablet screen across the scene during a long exposure you can paint those words or images across a much larger area than a single screen would allow.

If that sounds complicated, the app comes with a clear guide to using it, along with tutorial videos and FAQs.

There are other apps doing similar things (more cheaply), but for the extra outlay, you get some gloss on the presentation and handling front, with a nicely animated interface, and lots of creative options. holographium.com

SPEC Apple iOS (v4.0), v2.0.2 reviewed, 6.5MB

★★★★☆

The Photographer's Ephemeris £8.99/£4.08

When it comes to planning landscape, city or travel shoots, The Photographer's Ephemeris (TPE) has everything you need to get the best view at the best time of day. Available for Apple iOS and Android (and free on desktop), it's a favourite of many landscape pros. The app uses GPS location and Google Maps to let you research the position of the sun and moon at any given time. This lets you predict things like positions of sunrise and set, the angle of the sun and the length of shadows from your present position – or where you intend to be.

One marker, added by touch or GPS, sets your location, a second is placed to gauge differences in elevation from that point, and all planning can be logged.

It's at the upper end of what you'd want to pay for an app, and the interface takes a little getting used to, but it'll definitely help improve your scenic shots. photoephemeris.com

SPEC Apple iOS (v9.0)/Android (v4.1), v3.13.1/ 1.5.1 reviewed, 58.6MB

★★★★☆

PhotoPills £9.99

Currently only on iOS, but promised to be coming this spring for Android devices, PhotoPills does everything you'd expect from a mapping app, but adds some very handy features on top. For instance, as well as 2D location planning similar to TPE, which lets you understand where the sun will be or what time golden or blue hour will arrive, there's a very cool augmented reality mode that overlays sun, moon and star positions on the camera view.

On top of that are lots of calculators, often sold as stand-alone apps, including those for long exposures, time-lapse, the 500 rule for sharp stars in astro photography, depth-of-field and field-of-view tools. These all work perfectly, and the app has a simple and easy-to-read design. Points of Interest can be added with notes, and shared, and locations to visit can be added as Plans. photopills.com

SPEC Apple iOS (v8.1), v2.3.2 reviewed, 39.2MB

★★★★★

Minitests

Small accessories that could make a huge difference

BRIDGE CAMERA

Panasonic FZ2000 £1099

VIDEO
UHD 4K
SENSOR
1IN 20.1MP MOS
WEIGHT
966G

IN A WORLD DOMINATED by DSLRs and CSCs, bridge cameras might seem like a dying breed. Well, not if Panasonic's top-of-the-line FZ2000 compact has anything to say about it. There's plenty here to entice those looking for an all-in-one camera with the FZ2000's 20.1MP stills, 4K video and 20x zoom.

The first thing you notice about the FZ2000 is its size. No compromises have been made here to create a pocket-sized camera. The grip is superb, and better than many SLRs – deep, moulded and very comfortable. The shutter button and tele/wide zoom lever fall right under your index finger and the mode dial and exposure comp buttons are well-placed too. The rear command dial is easy to operate with the thumb and the only drawback on the top-plate is the front control dial and movie rec. button, which take a bit of an unnatural bend of the finger to find. To the left are the drive modes, including the 4K Photo and Post Focus options.

The lens extends when the camera's turned on, but then focuses and zooms internally. On the barrel are three Function (Fn) buttons and a neutral density (ND) lever. You may accidentally press the Fn button until you adapt your hold, but the ND lever is stiff enough to avoid this.

Even with the large 3in touchscreen there's plenty of space for buttons on the rear, and in short, there's no lack of manual inputs, so the FZ2000 handles well.

AF is good, only struggling with low-contrast subjects, and speed of focusing from near to far is impressive. There is some rocking as the contrast-detect AF works, but it's minimal. The 12fps burst mode is impressive too.

Using the zoom, the tele/wide lever operates fastest, while the manual ring is for fine adjustment. You can get from 24-480mm in about 3sec, which could be better, and while the lens offers a f/2.8-4.5 aperture, it closes pretty quick – at 29mm, it's f/2.9, and hits f/4 at only 80mm. Beyond 250mm it's all f/4.5, so it can mean pushing the ISO when shooting long.

Above The 24-480mm lens offers great versatility in subject choice.

Image quality & video

EVF performance is smooth, until you move into low light, but that's to be expected. And, despite its large (for a compact) 1in sensor, the FZ2000 isn't the greatest at higher ISOs. The Auto ISO defaults to 1600, and beyond that, up to the maximum of 12,800 details get mushy and colours flatten. Sharpness is pretty good, but it can't compete with even entry-level CSCs or DSLRs, and while the lens showed good sharpness, it is prone to a little fringing.

The FZ2000 has masses of appeal on the video front, including mic and headphone ports and pretty much every frame rate you can think of, including slow-mo 120fps. It's certainly in the semi-pro category, and the 4K footage looks fantastically detailed and saturated.

Above At its widest settings the lens creates some pleasingly shallow depth-of-field.

If you need a versatile all-in-one package, the FZ2000 is a winner, but it's more appealing for video than photos. For the price, you could pick up an entry-level DSLR and 150-600mm lens for superior stills. panasonic.com

★★★★☆

Left This uncropped view shows the amount of Auto Perspective control that's been used to straighten up the view.

LENS CORRECTION SOFTWARE

DxO Viewpoint 3 £50

If you want distortion-free architectural shots, software like DxO's Viewpoint 3 is designed to sort out imperfections. This latest version adds more Auto options, and a Miniature Effect that mimics the blurred toy-town look often associated with tilt & shift lenses.

As you'd hope, installation is fast and you can pick which apps Viewpoint will plug-in to. We picked Photoshop CC, but you can also run it as a standalone.

We tried it with several shots, and it worked very well. First DxO's free Optical Modules are downloaded for the cameras and lenses used, then you're into the full interface, which is well laid out with options along the top to set full 1:1 and before/after views. On the right are the main controls, starting with Lens Distortions. Here there are manual controls or Auto with an Intensity slider to temper the effect.

Below that are the main Perspective controls, which again have an Auto/Intensity option. Here you can also draw lines along horizontals and verticals in the pic for manual control, and Volume Deformation stops the stretched edges of wide-angle views. All the tools work well with little or no lag. The Miniature Effect is good too, although it's a novelty really and shouldn't get in the way of the more useful functions.

If you shoot a lot of buildings, interiors, or wide-angle group shots, Viewpoint 3 is well worth a look. If you own it already, the Auto options might be worth the upgrade and there's a free trial.

dxo.com

★★★★★

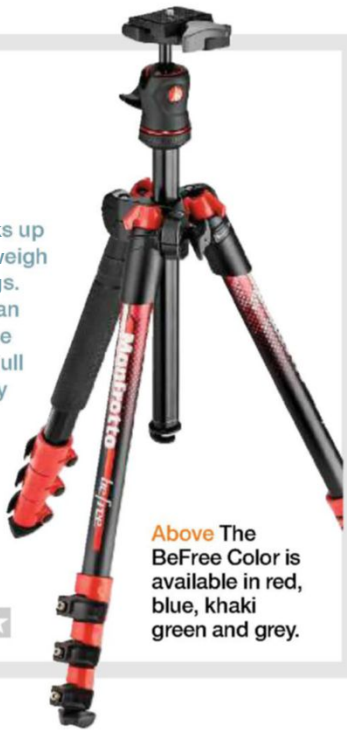
TRIPOD

Manfrotto BeFree Color £179

Manfrotto's aluminium BeFree Color is light and packs up small. At 1.4kg there are lighter options, but it won't weigh you down, competing well with some carbon fibre legs. The four-section legs use levers, which are slower than twist locks but add peace of mind as you know they're closed. The legs are a bit sticky in extending, and at full 123cm extension (without centre column) it feels okay with a medium DSLR. To change the leg angles, the three-stage levers must be lifted and turned, and take getting used to, often flicking into the wrong position. The left-most setting frees the legs to invert neatly over the centre column and ball head, leaving a length of only 40cm. The materials are high quality, and it comes with a case, but it's at the more expensive end of the market.

manfrotto.co.uk

★★★★☆

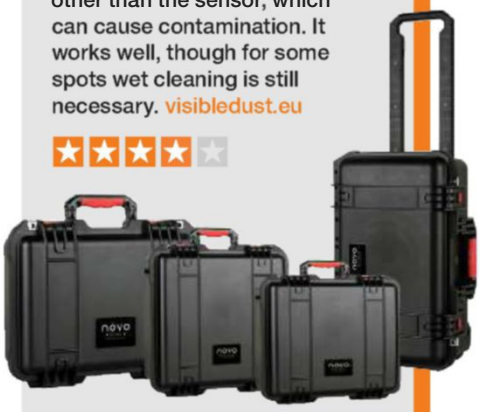


Above The BeFree Color is available in red, blue, khaki green and grey.

Visible Dust Arctic Butterfly 724 £100

Visible Dust's Arctic Butterfly sensor cleaning brush has been around for a while, and previous versions have impressed us, so the Super Bright 724 is a welcome update. The design now includes two bright LEDs that let you locate dust more easily. Other improvements include thinner fibres designed to better hold the charge that's used to attract dust from the sensor. As with its predecessors, the Super Bright must be spun outside the camera to charge the fibres, then turned off and gently wiped across the sensor. The LEDs certainly help avoid brushing over anything other than the sensor, which can cause contamination. It works well, though for some spots wet cleaning is still necessary. visibledust.eu

★★★★☆



Novo Dura 200 ABS case £129

A hard case helps store and transport photo gear with more security than a regular bag. This one from Novo layers on the protection with an impact-resistant ABS shell that's also waterproof up to 5m depths, and includes steel padlock holes. Two large, easy-to-operate locks close with a very snug feel, and inside there's 35x35x17.3cm of space, pre-filled with customisable foam. At 3.2kg it isn't too heavy, and it's reasonably priced too. novo-photo.com

★★★★☆

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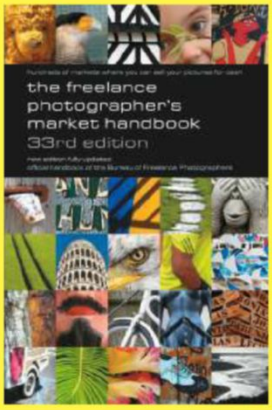
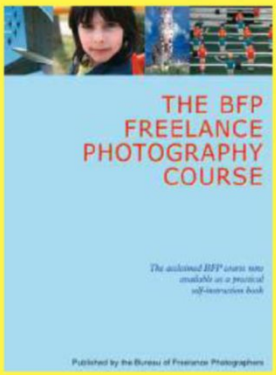


OUT NOW! The latest edition of The Freelance Photographer's Market Handbook

Described as the photographer's bible, this 208-page BFP Handbook has hundreds of markets where you can sell your pictures for £££s. It includes magazines, greetings card and calendar publishers, picture libraries, newspapers, book publishers etc.

The Freelance Photographer's Market Handbook gives full details of the type of photos – subject matter etc – being sought, fees paid, and exactly where to send your pictures.

Price: £15.95 + £2.00 P&P



NEW! The BFP Freelance Photography Course

While the BFP Handbook (above) will show you WHERE to sell your photos, this lavishly illustrated manual will show you HOW to sell them.

It's a practical course with 16 lessons covering everything you need to know to sell your pictures to magazines, greetings cards, calendars, newspapers, books etc. When ordered from the BFP, it comes with a set of tutorials to guide you through the lessons.

Price: £25.00 + £2.00 P&P

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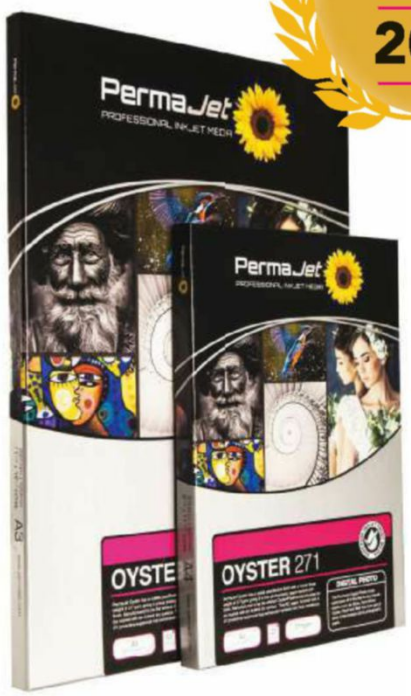

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SPECIALIST LENS

Left The Achromat is well made, easy to use and can give some excellent vintage-style results. Hipsters will love it.

Lomo Daguerreotype Achromat £399

With a fixed focal length of 64mm, the Achromat is inspired by the world's first photographic lens. To that end it's manual focus only and uses 'aperture plates' that slot in near the front. These run from f/2.9 through to f/16, and there are versions with a simple circle, as well as patterns to create diffused looks or unusual-shaped bokeh. They're all kept in the included leatherette pouch.

Now if this all sounds a bit niche, well, it is – the pleasure here is in the lo-fi look that the different apertures create, and while most of the looks could be created in software, there's an undeniable thrill to shooting in this way. It's totally manual, so imperfections are the order of the day, but with perseverance you can make some great images. Manual focus is slow, smooth and precise (minimum is 50cm), and you can improve accuracy by setting your DSLR's phase-detect sensors to work in manual mode, letting you know when you're focused.

Many things that'd mark a regular lens down are embraced here, like soft edges and ghosting, but you can achieve very sharp results where needed. The lens is well machined too, with an engraved focus scale, though it's a little close to the body.

Available in Canon, Nikon and Pentax mounts, at some point it'll also come in a black finish, so if you don't like the C-3PO look, you might want to wait for that. Accepting 40.5mm filters, it's certainly a fun piece of kit, though perhaps a little pricey.

lomography.com

★★★☆☆

TRIPOD

Manfrotto Slider 100cm £399

Sliders are vital when it comes to creating smooth tracking shots for slick video footage or time-lapse sequences (see this month's video disc), and Manfrotto's 100cm model is one of the nicest we've seen. Build quality is immediately obvious and the plate moves very smoothly along the track, with protective padding at the ends to prevent damage to it or your camera. This comes at a cost in weight though, and if you're working on location you might be put off by the 2.95kg heft. Using the 3/8in threads on the bottom, the slider can be attached to stands or tripods, or it can be laid on a level surface. It has grips and a bubble level, but some flip-out legs might have helped there. The maximum load of 10kg means you can use almost any combination of DSLR and lens, as well as cinema cameras, but this will also depend on the head you use with it. At only £40 more than the 60cm, and cheaper than many rivals, it's good value for money too. manfrotto.co.uk

★★★★☆

Novo MP20 monopod £79

A monopod is more convenient than a tripod for sport or wildlife, and Novo's MP20 is a great example, with a massive max height of 1.82m from its four leg sections. As a carbon fibre model it's super light too, at 480g, but will support loads of up to 20kg. Its twist leg locks work with great smoothness, speed and no rattling, and the rubber foot pulls off to reveal a spike for working on soft ground. Good value, but you may also need a head which isn't included.

tetherblock.com

Practical Photography HIGHLY RATED

★★★★★

Zeeion anti-static blower £40

Another dust-busting product from Visible Dust (makers of the Arctic Butterfly), the Zeeion rethinks the kind of classic photographic blower you've probably got. The latter tend to use a rubber bulb which, after a squirt, will not only draw in dusty, unfiltered air, but also give it a slight static charge from the rubber, making it more difficult to remove next time. The Zeeion uses a silicon compound to negate that charge, a one-way nozzle, and also draws in fresh air from the rear though a filter, so it's cleaner. It's a good tool to have in your cleaning arsenal, and we saw a definite improvement over a regular blower, but not enough to justify the £40 it costs. Whether or not this is for you will depend on the size of your wallet versus your fastidiousness.

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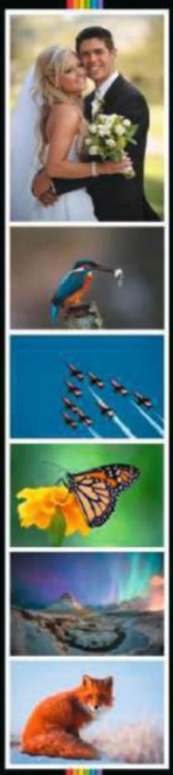

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18-105 F3.5/5.6 AFS G no box£239
18-140 F3.5/5.6 AFS VR.....£458
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24-120 F4 AFS G ED VR.....£897
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50 F1.4 AFS G.....£377
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70-200 F4 AFS G ED VR....£1178
70-300 F4.5/5.6 AFS VR.....£497
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18-35 F1.8 DC HSM Art.....£519
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24-35 F2 DG HSM Art.....£699
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50-100 F1.8 DC HSM Art....£829
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70-300 F4.5/5.6 APO Mac DG.....£149
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35mm F2 R WR.....£347
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EOS 600 body £39
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150-500 F5/6.3 HSM £499
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TAM 70-300 F4/5.6 £99
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18-35 F3.5/4.5 AFS £479
18-35 F3.5/4.5 AFD £299
18-55 F3.5/5.6 AFS VR £99
18-105 F3.5/5.6 AFS VR £169
18-135 F3.5/5.6 AFS G £169
18-200 F3.5/5.6 AFS VRI £249

20 F2.8 AFD £329
20 F2.8 AF £279
24-70 F2.8 AFS box £849
24-85 F3.5/4.5 VR £329
24-120 f4 AFS VR £699
24-120 F3.5/5.6 AFD £199
28 F1.8 AFS G £479
28-100 F3.5/5.6 AF G £69
28-300 F3.5/5.6 VR £599
35 F1.8 AFS DX £139
35 F2 AFD £199
35-70 F3.3/4.5 AF £59
40 f2.8 AFS Micro £169
50 F1.4 AFD £199
50 F1.8 AFD £99
55-200 F4/5.6 AFS £79
60 F2.8 AFS £399
60 F2.8 AF £199
70-200 F2.8 AFS VRII £1349
70-200 F2.8 AFS VRI £899
70-200 F4 AFS VR £899
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70-300 F4/5.6 AFD £129
80-200 F2.8 AFD £349

85 F1.4 AFS M- box £999
85 F1.4 AFD £499
85 F1.8 AFS £329
85 F1.8 AFD £249
85 F3.5 DX M- box £269
105 F2 AFD £649
105 F2.8 AFS VR £579
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70-200 F2.8 OS DG £599
70-200 F2.8 EX DG £399
70-300 F4/5.6 APO DG £99
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28-85 F3.5/4.5 £99
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70-300 F4/5.6 DG OS £169
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180 F4.5 £149
250 f4.5 late serviced £249
250 f4.5 early serviced £179
Paramender £49
Porrofinder £59

MAMIYA 6 & 7 RF 6x7 USED
6 + 75 F3.5 £1099
50 F4 G £599
50 F4.5 L + VF £699
80 F4.5 L M- box £699
150 F4.5 M- £399

MAMIYA RB 6x7 USED
Pro SD + 127 KL + WLF + back £549

Pro S + 90 + WLF + back £399
Pro S body £149
Pro S body scruffy £99
Plain prism late £199
WLF £79 Chimney £99
120 645V back £99
50 F4.5 £199
90 F3.5 KL £299
127 F3.5 KL £299
180 F4.5 £149
Pro SD ext tube 2 82mm £99
Pro SD ext tube 1 45mm £99
Ext tube 2 £49

MAMIYA RZ 6x7 USED
RZ Pro body £149
120 RFH Pro II £99
120 RFH Pro I £49
Polaroid back £79
FE701 prism £299
WLF £79 Winder II £69
50 F4.5 W £249
65 F4 box M- £399
90 F3.5 W M- box £299
180 F4.5 W £199
Pro shade £49

PENTAX 645AF USED
645N body £399
AF500FTZ flash £79

PENTAX 645MF USED
645 + 75 F2.8 £249
645 body + insert £199
55 F2.8 £249
150 F3.5 EX++ £149
200 F4 £149
300 F4 £249
1.4x converter £199
120 Insert box £69

PENTAX 67 USED
67 II + AE prism box £999
45 F4 latest £399
105 F2.4 latest £449
135 F4 macro late £249
165 F2.8 latest £399
200 F4 latest £169
200 F4 early £99
300 F4 early scruffy £99
Pentax rear conv 1.4x £249
2x rear converter £179
Auto ext tubes £49
Vivitar 2x conv £49

35MM & MISCELLANEOUS USED

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Used Leica
R8 body black box

£499

Used Zeiss
Victory Diascope 85T* FL + 20x60 box

£1399

CANON FD USED
28 F2.8 £49
35-70 F3.5/4.5 £59
35-70 F4 £69
50 F1.4 £99 50 F1,8 £49
50 F2 £49
70-150 F4.5 £29
75-200 F4.5 £49
100-300 F5.6 £79
135 F3.5 (Breechlock) £39
2x Extender B £49
25mm Ext tube £29
50mm Ext tube £29
177A flash £20 199A flash £39
244T flash £20 277T flash £25
300TL flash £49
Winder A £20 Winder B £30

CONTAX 35mm RF USED
90 F2.8 G £299

CONTAX MF USED
28-70 F3.5/4.5 MM £169

HASSELBLAD XPAN USED
Centre filter 49mm £129

LEICA SLR USED
R8 body black box £499
28-70 F3.5/4.5 R £399

LEICA OPTICS USED
Televid APO 77 + eyepiece £799
Televid 77 + 20x60 £649
Trinovid 10x42 £599
Ultravid 8x32 HD £849

LIGHTMETERS USED
Polaris £99
Sekonic L308 £99
Sekonic L408 £149

MINOLTA MD USED
X300 chrome body £49
X300s black body £49

X700 black body £69
XGM chrome body £49
28 F3.5 MD £39
50 F1.7 MD..£49 50 F2 MD £49
70-210 F4 MD £99
2x Converter £79
Ext tube for 50 F3.5 £29
Ext tube set £49
Auto bellows 1 £99

NIKON MF USED
F3 body £199
FM2n body chr box £299
FM2n body chr £249
FE body chrome £99
20 F3.5 AI £199
24 F2.8 AI £199
28 F2.8 AIS £199
28 F3.5 AIS £99
28 F2.8 E box £69

28-85 F3.5/4.5 AIS £199
35-70 F3.3/4.5 AIS £129
35-70 F3.5 AIS £99
35-105 F3.5/4.5 AIS £79
50 F1.4 AI £199
50 F1.8 AIS pancake £139
50 F1.8 E £59
55 F2.8 AIS £199
105 F2.8 AIS macro £199
180 F2.8 AIS ED scruffy £179
500 F4 AIS £1499
500 F8 mirror early £279
TC200 £49
SC-17 TTL lead £25
DW-3 WLF find fit F3 £99
DW-21 fits F4 £149
Nikon bellows II box £89

OLYMPUS OM USED
OM-4T body £249

OM-2SP body £149
OM-2n body blk or chr £149
28 F3.5 £49
35-70 F3.5/4.5 £79
35-105 F3.5/4.5 £79
50 F3.5 macro £79
200 F4 £79
7, 14, 25 man ext tube ea £20
14 or 25 auto ext tube ea £29

PENTAX 35mm AF USED
16-45 F4 £199
17-70 F4 SDM M- box £299
18-55 F3.5/5.6 £29
28-80 F3.5/5.6 £49
50-135 F2.8 SDM £379
55-300 F4/5.8 HD DA ED WR £199
55-300 F4/5.8 ED box £199
70 F2.8 Limited £349

70-300 F4/5.6 £79
100-300 F4.5/5.6 £89

SIGMA PKAF USED
10-20 F4/5.6 £229
18-250 F3.5/6.3 £199
TAM 70-300 F4.5/5.6 £69

PENTAX MF USED
40 F2.8 PK £99
50 F1.4 PK £99
50 F4 macro PK £99

TAMRON ADII USED
90 F2.5 SP £149

VANGUARD SCOPES USED
Endeavour HD65A £229

VOIGTLANDER USED
15 F4.5 + VF M- box £269

ZEISS USED
Victory Diascope 85 T* FL + 20x60 box £1399

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July 11th, 12th £159

Cheetahs, Corsac Foxes, Lions, plus various Birds of Prey, Cambridgeshire
Special access. Static & in-flight bird shots. Cheetahs & Tigers in superb natural settings. New Tiger Cubs planned for 2017. White Tiger and Corsac Foxes. April 8th, £129

Golden Eagle Experience, Leics.
Max 8 persons. Static & flying of Golden Eagle in stunning woodland location. Other birds of prey.Owls, Hawks, Goshawk etc.
April 9th, £99

Bats & Fill-in Flash Tuition, Oxford
Indoor & outdoor venue. Max 4 persons. Expert tuition on all fill-in flash techniques. Free loan of equipment if req'd. April 7th £139

Small Cats Workshop, Herts
Snow Leopards , Amur Leopards, Pumas, Lynx, Leopard Cat, Caracal, Serval, Jaguarundi & more. April 3rd, April 24th. £109

Gannets diving off Bass Rock
New workshop. Amazing diving shots. Sail around Bass Rock without landing on the island. 1 hour of throwing fish in the sea for Gannets to catch. June 14th 6am, June 14th 10am £99

Birds of Prey on Lindisfarne Island NEW !!
JUNE 5,6; New workshop for 2016. Photograph a Short Eared Owl in its natural habitat before continuing with selection from Eagle Owl, Long Eared Owl, Barn Owl, Buzzard, Kestrel, Little Owl, Tawny Owl using boats, Lindisfarne Castle & fishing props as backdrops £139

DESTINATIONS ABROAD 2017 & 2018
Masai Mara in Kenya, Birds & Mammals of Costa Rica
The Galapagos Isles, White Horses of the Camargue
South Africa Wild Dogs & Reflection Pools
Tigers in India, Animals in Snow in Montana
Brown Bears in Alaska, Jaguars in the Pantanal
Botswana by Boat, The Falklands Islands
Black Bears and Whales of Alaska's inside Passage
Namibia's Wildlife, Landscapes & the Himba Tribe

Professsional Standard Birds of Prey Shoot - Venue 2, Bamburgh, Northumberland. - Now including Snowy & Short Eared Owls
HIGHLY RECOMMENDED. New venue. Totally unconnected with previous location. New Falconer & Birds. Birds photographed in front of an amazingly beautiful waterfall. Unique. Up to ten different-species of birds photographed. June 8th, 13th, 16th. £139

Big Cats Workshop, Kent
Lions, Tigers, Leopards, Cheetahs, Pumas, Lynx, & Serval etc. Get amazingly close. Great photo opportunities. UK's most popular wild-life photo location. Max 12 photographers. Apr 1st, 22nd, £155

Big Cats Pro Workshop, Kent
This is the same workshop as above, but with just SIX photogra-phers. People of all abilities welcome. Lunchtime photo critique.More time for personal interaction with Cats Also Jaguars.
March 30th, 31st, April 20th, 21st, £199

Gift Vouchers available for any Workshop or Value & make wonderful Gifts for all Occasions

Farne Islands Puffins (Northumberland)
Approx 51/2 hours on islands. 20 species birds. 70,000 Puffins. Can also combine with Bass Rock. Guillemot, Razorbill, Shag, Arctic Terns etc. Tips & Tuition. June 10th, 17th, 24th. £89

Bass Rock Gannets (60 miles north Farne Is.)
Private boat. Exclusive use of Island. 150,000 Gannets. Absolutely amazing Photos. 5 hours on rock Get reallly close. Sole use of island for our workshop Gannets diving for large box of fish near the island. June 9th, 18th, 25th, £225

Birds of Prey, Bedfordshire
Private flying displays on pre-determined flight paths for hard to get in-flight shots. Super static photos. Now including Red Tailed Kites & Long Eared Owls, Great Grey Owl, Kestrel, plus various Eagles, Hawks, Eagles etc. April 15th, 16th £119

Small Mammals, Insects & Reptiles £199
NOW both in RUTLAND & Northumberland
Rutland March 17, 18, 19. Northumberland July 27, 28; Indoor studio set-ups ensuring professional quality photos of stunning subjects. Studio lighting set up for you. Triggers to fit your camera supplied. Cameras and lenses can be loaned without charge. Innovative set-ups to maximise your opportunities. Max 4 persons. Harvest Mice, Red Eyed Tree Frogs, Praying Mantis, Beardeed Dragon, Scorpion, Tarantula, Snakes etc.

For more information, please visit the website or call John or Nadine Wright on 01664 474040 (anytime) or 07779 648850.
We will be most happy to discuss any workshop in detail, or to send more detailed information to anyone without internet access.
Photographers on Safari, West End Studios, 55 Stapleford Road, Whissendine, Oakham, Rutland. LE15 7HF

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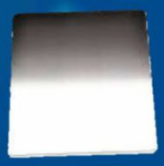
KOOD



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1) KOOD uses small untoughend,thick Pilkington Optical Glass Mold's to produce the highest possible optically flat resin Filters without curvature to ensure infinity focus
2) Casting system eliminates all bleach so no loss of density or colour over time
3) Batch tested every 12 filters to maintain good neutrality
4) All filters packed in between card, in wallets which allow no movement or dust
5) KOOD Manufactures its own filters from casting to packing

A FILTER TO FIT ALL COKIN A SIZE SYSTEMS

A Filter Holder Set
Adapter Rings Only Fit Kood Holder
A Filter Holder Cap
A Filter Holder Hood
A Adapter Ring 37mm
A Adapter Ring 38.1mm
A Adapter Ring 40.5mm
A Adapter Ring 46mm
A Adapter Ring 49mm
A Adapter Ring 52mm
A Adapter Ring 55mm
A Adapter Ring 58mm
A Adapter Ring 62mm

GRADIENTS

0.3 ND Gradient Soft
0.3 ND Gradient Hard Cut
0.6 ND Gradient Soft
0.6 ND Gradient Hard Cut
0.9 ND Gradient Soft
0.9 ND Gradient Hard Cut
Light Blue Graduated
Dark Blue Graduated
Cool Blue Gradient
Light Green Graduated
Dark Green Graduated
Light Mauve Graduated
Dark Mauve Graduated
Light Red Graduated
Dark Red Graduated
Light Tobacco Graduated
Dark Tobacco Graduated
Light Fog Graduated
Strong Fog Graduated
Light Yellow Graduated
Dark Yellow Graduated
Light Sunset Graduated
Dark Sunset Graduated

POLARIZERS

Linear Polariser Filter
Circular Polariser Filter

NEUTRAL DENSITY

Neutral Density 2
Neutral Density 4
Neutral Density 8

STARS AND DIFFRACTIONS

Star x 4
Star x 6
Star x 6 with centre spot
Star x 8
Difraction 2x
Difraction 36x
Difraction 4x
Difraction Star 4
Difraction Star 8
Difraction Square
Difraction Halo

CLOSE UP'S

Close Up 1
Close Up 2
Close Up 4
Split Field

MULTI IMAGE AND SPEED

Multi Image 3
Multi Image 5
Multi Image 7
Speed

COLOURS

20 x Polyester colour set
Yellow
Orange
Green
Red
Sepia
Sky

CONVERSION

20 x Wratten polyesters set
80A
80B
80C
81A
81B
81C
82A
82B
82C
85A
85B
85C
FLB
FLD
FLW

DOUBLE EXPOSURE AND MASKS

A Double Exposure
A Double Mask 1
A Double Mask 2
A PSF

DIFFUSERS AND FOGS

A light Diffuser
A Strong Diffuser
A Fog 1
A Fog 2

NETS

Net Blue
Net Grey
Net Green
Net Orange
Net Red
Net Violet
Net White

SPOTS

Oval Spot Blue
Oval Spot Clear
Oval Spot Grey
Oval Spot Red
Oval Spot White
Spot Blue
Spot Clear
Spot Grey
Spot Green
Spot Orange
Spot Red
Spot Violet
Spot White
Wide Spot Blue
Wide Spot Clear
Wide Spot Grey
Wide Spot Green
Wide Spot Orange
Wide Spot Red
Wide Spot Violet
Wide Spot White

P SYSTEM TO FIT ALL COKIN P SIZE SYSTEMS

P Size Holder
Kood Adaptor Filter Rings + Cokin Holders
P Adapter Ring 38.1mm
P Adapter Ring 49mm
P Adapter Ring 52mm
P Adapter Ring 55mm
P Adapter Ring 58mm
P Adapter Ring 62mm
P Adapter Ring 67mm
P Adapter Ring 72mm
P Adapter Ring 77mm
P Adapter Ring 82mm

GRADIENTS

0.3 ND Gradient Soft
0.3 ND Gradient Hard Cut
0.6 ND Gradient Soft
0.6 ND Gradient Hard Cut
0.9 ND Gradient Soft
0.9 ND Gradient Hard Cut
Light Blue Graduated
Dark Blue Graduated
Cool Blue Graduated
Light Green Graduated
Dark Green Graduated
Light Grey Graduated

Light Mauve Graduated
Dark Mauve Graduated
Light Red Graduated
Dark Red Graduated
Light Tobacco Graduated
Dark tobacco Graduated
Light Yellow Graduated
DarkYellow Graduated
Light Sunset Graduated
Dark Sunset Graduated

POLARIZERS

Linear Polariser
Circular Polariser

NEUTRAL DENSITY

ND400 9 Stops (Japanese Glass)
available Round (Back Slot) Square (for use with PL, star etc)
ND16 4 Stops (Japanese Glass)
Neutral Density x2
Neutral Density x4
Neutral Density x8
Neutral Density x8 (Glass)

INFRA RED 720 P FILTER

Infra Red 720 Optical Glass

STARS AND DIFFRACTIONS

Starburst x4
Starburst x6
Starburst x8
Difraction 2x
Difraction 36x
Difraction Double Halo
Difraction Halo
Difraction 4x Star
Difraction Filter DS8
Difraction Square

CLOSE UP FILTERS

Close up +1
Close Up +2
Close Up +4
Split Field

COLOURS

Yellow
Orange
Green
Red
Skylight
Sepia

DIFFUSERS AND FOGS

Light Diffuser
Strong Diffuser
Light Fog
Strong Fog

CONVERSION FILTERS

80A
80B
80C
81A
81B
81C
82A
82B
82C
85A
85B
85C
FLD
FLW
FLB

DOUBLE EXPOSURE

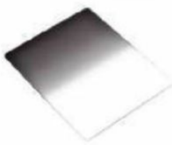
Double Exposure
Solar Eclipse Filter

SPOTS

Blue Clear Spot
Clear Spot
Green Clear Centre Spot
Grey Clear Spot
Orange Clear Spot
Clear Oval Spot
Grey Oval Spot
White Oval Spot
Red Clear Spot
Violet Clear Spot
White Clear Spot

Z 100 MM FILTERS GRADIENTS 100 X 125MM

0.3 ND Gradient Soft
0.3 ND Gradient Hard Cut
0.6 ND Gradient Soft
0.6 ND Gradient Hard Cut
0.9 ND Gradient Soft
0.9 ND Gradient Hard Cut
Light Blue Graduated
Dark Blue Graduated
Light Green Graduated
Dark Green Graduated
Light Tobacco Graduated
Dark tobacco Graduated
Light Sunset Graduated
Dark Sunset Graduated



NEUTRAL DENSITY

Neutral Density 2
Neutral Density 4

DIFFUSERS AND FOGS

Diffuser Light
Diffuser Strong
Fog 1
Fog 2

COLOURS

Yellow
Orange
Red
Green
Sepia
Skylight

CONVERSION FILTERS

80A
80B
80C
81A
81B
81C
82A
82B
82C
85A
85B
85C
FLB
Spot Clear
Spot Oval
Spot White

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	RRP	NOW
8x42	£2130	£1995
10x42	£2210	£2029

See website for details

TRINOVID BDC COMPACTS

	RRP	NOW
8x20	£350	£315
10x25	£410	£349

ULTRAVID BR

	RRP	NOW
8x20 BR	£640	£479
10x25 BR	£850	£499

ULTRAVID HD PLUS

EXCELLENCE IN BRIGHTNESS & MECHANICAL PERFORMANCE

Experience nature in razor-sharp details. Constructed to be a reliable companion

	RRP	NOW
Ultravid HD-Plus 8x32	£1650	£1199
Ultravid HD-Plus 10x32	£1680	£1249
Ultravid HD-Plus 8x42	£1830	£1399
Ultravid HD-Plus 10x42	£1870	£1449

See website for the complete range

DUOVID

BRILLIANT & FLEXIBLE

Allows observers to adapt swiftly to any situation. Offering a choice of two magnification factors.

	RRP	NOW
8-12x42	£1960	£1599
10-15x50	£2130	£1699

TRINOVID HD

A NEW GENERATION

The binoculars of the Leica Trinovid family stand for durability, state-of-the-art image performance and ruggedness.

	RRP	NOW
8x42	£880	£759
10x42	£920	£779

NEW VORTEX Diamondback Roof Prism Binoculars

One of the best known and popular binoculars in the Vortex range. Diamondbacks offer superior quality, high-performance general optics that are a favourite with birders.

	RRP	NOW
8x28	£198	£125
10x28	£159	£145
8x32	£205	£185
10x32	£215	£195
8x42	£219	£199
10x42	£229	£205

VORTEX Viper HD Roof Prism Binoculars

Very comfortable to hold with an excellent field of view and very good close focus, features to be appreciated and valued.

	RRP	NOW
8x32	£589	£529
8x42	£629	£569
10x42	£639	£579

FREE Swarovski Cleaning Kit worth £30

12 Months Interest Free Credit

SWAROVSKI OPTIK PREMIER DEALER

SWAROVSKI OPTIK ATX/STX

MODULAR TELESCOPES

A choice of 3 Objective Modules65, 85 & 95 mm and 2 eyepiece modules (angled / straight) for a total of 6 different options.

	RRP	NOW	12 MONTHS INTEREST FREE CREDIT 10% Dep	Monthly Payment
OBJECTIVE MODULES (REQUIRES EYEPIECE)				
65mm Objective Module	£710	£640	£64	£48
85mm Objective Module	£1230	£1110	£111	£83.25
95mm Objective Module	£1530	£1389	£138	£113.85
EYEPIECE MODULES				
ATX Angled Eyepiece Module	£1740	£1565	£157	£117.33
STX Straight Eyepiece Module	£1740	£1565	£157	£117.33
CASES				
2 Piece Stay on Case		£192		
BUNDLE OPTIONS Includes FREE Lowepro Scope Travel 200AW Backpack RRP £139				
ATX/STX 25-60x65	£2450	£2199	£220	£164.91
ATX/STX 25-60x85	£2970	£2675	£268	£200.58
ATX/STX 30-70x95	£3270	£2945	£295	£220.83
ATX/STX ACCESSORIES				
TLS APO Apochromat Telephoto Lens System for ATX/STX				£391
DCB II Swing Adapter for ATX/STX				£292
SSR II Telescope Rail				£120
Stay on Case for Objective Modules				£105
Stay on Case for ATX/STX Eyepiece Modules				£97

See the ATX/STX in action on YouTube

3 OBJECTIVES • 2 EYEPIECES • 6 COMBINATIONS

Lowepro FREE LOWEPRO SCOPE TRAVEL 200AW BACKPACK RRP £139

With all Swarovski ATS/STS or ATX/STX Bundles 65mm & 85mm (95mm excluded)

12 Months Interest Free Credit

FREE Swarovski Cleaning Kit worth £30

DIGISCOPING WITH THE NEW ATS/STS & ATX/STX See website for details

SWAROVSKI OPTIK ATS/STS HD

HIGH DEFINITION

Giving you all the features that you would look for in a lightweight, reliable spotting scope; providing the perfect start for anyone taking an interest, for instance in the world of birdwatching.

	RRP	NOW	12 MONTHS INTEREST FREE CREDIT 10% Deposit	Monthly Payment
ANGLED OR STRAIGHT				
ATS/STS HD 65mm	£1230	£1099	£110	£82.41
ATS/STS HD 80mm	£1750	£1575	£158	£118.08
BUNDLE OPTIONS - ANGLED OR STRAIGHT Includes FREE Lowepro Scope Travel 200AW Backpack RRP £139				
ATS/STS HD 65mm c/w 20-60x zoom	£1650	£1484	£149	£111.25
ATS/STS HD 65mm c/w 25-50x zoom	£1740	£1564	£157	£117.25
ATS/STS HD 80mm c/w 20-60x zoom	£2170	£1954	£196	£146.50
ATS/STS HD 80mm c/w 25-50x zoom	£2260	£2034	£204	£152.50

ATS/STS ACCESSORIES		DCB II Swing Adapter	£270
TLS 800 Telephoto Lens for your SLR	£435	SSR II Telescope Rail	£123
TLS APO Apochromat Telephoto Lens System for ATS/STS 23mm or 30mm option	£962	Stay on Case	£155
TLS APO Apochromat Telephoto Lens System for ATX/STX 23mm or 30mm option	£962	20-60x 5 Zoom Eyepiece	£379
Swarovski Cleaning Set (RRP £44)	£30	25-50x W Zoom Eyepiece	£459

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The launch of the EL binoculars by SWAROVSKI OPTIK marked a milestone in long-range optics. These binoculars have now been further enhanced following intensive development & a great deal of dedication. The result of these efforts is the best EL Family ever. The crystal-clear optics provided by SWAROVISION technology and the unique ergonomic design, including the EL wrap-around grip, are enhanced by the new, perfectly harmonized FieldPro package.

	RRP	NOW	12 MONTHS INTEREST FREE CREDIT 10% DEPOSIT
8x32 W B	£1640	£1475	or £116.59 mth
10x32 W B	£1660	£1495	or £112.08 mth
8.5x42 W B	£2000	£1799	or £134.91 mth
10x42 W B	£2020	£1820	or £136.50 mth
10x50 W B	£2150	£1935	or £145.69 mth
12x50 W B	£2170	£1955	or £146.58 mth

EL WITH FIELD PRO PACKAGE
Incl. field bag pro, eyepiece cover, objective lens covers & lift carrying strap pro

Finance example: Cash Price £1475, 10% Deposit £147.50, Monthly Payment £110.62, Total Amount Payable £1475

SWAROVSKI OPTIK SLC

PERFECTION MEETS TRADITION

Compact & slim, great for using when you're observing wildlife, whether during the day or at twilight.

	RRP	NOW	12 MONTHS INTEREST FREE CREDIT 10% Deposit	Monthly Payment
SLC 8x42	£1340	£1199	£120	£89.91
SLC 10x42	£1400	£1259	£126	£94.41
SLC 8x56	£1640	£1475	£148	£110.58
SLC 10x56	£1690	£1520	£152	£114
SLC 15x56	£1740	£1565	£157	£117.33

FREE Swarovski Cleaning Set worth £30 with Swarovski Binos

FBP Field Bag Pro from £42 | Bino Guard Pro £43 | Floating Shoulder Strap Pro £48 | Bino Suspender Pro £38

LCSP Lift Carrying Strap PRO £48 | Light Carrying Strap £42 | CCSP Comfort Carrying Strap PRO £54

CL COMPANION

ALWAYS BY YOUR SIDE.

Whether you're traveling, watching wildlife in your own country, casting an expert eye, or gaining experience – the compact dimensions of the CL Companion binoculars mean that you can always have them close to hand.

	RRP	NOW
8x30	£860	£775
10x30	£890	£799

* FREE Cleaning Kit is not applicable to compact binocular.

CL POCKET COMPACTS

PUTS THE WORLD IN YOUR POCKET

Ideal if you're spending the day enjoying the outdoors and easy to use, uncompromising viewing comfort has been incorporated into the CL Pocket compact design.

	RRP	NOW
8x25	£960	£505
10x25	£810	£549

NEW VORTEX Razor HD Spotting Scopes

NEW MODEL JUST RELEASED

INTRODUCTORY PRICE DROP OFFER

Simply Stunning!

This newly engineered Razor HD is setting a new standard in high-end optical technologies, premium multi-coatings and ergonomic functionality - No Quibble Lifetime Guarantee.

	RRP	NOW
22-60x65 - Angled or Straight	£1299	£985
27-60x85 - Angled or Straight	£1699	£1329

NEW VORTEX Diamondback HD Spotting Scopes

PRICE INCREASE IMMINENT

IN STOCK!

Born into the broadline of the popular Diamondback family, this all-new spotting scope at its price delivers outstanding performance, clearly a superb choice when you need a reassuringly performance in a light, compact package.

	RRP	NOW
20-60x60 - Angled or Straight	£379	£339
22-60x80 - Angled or Straight	£459	£419
Black Neoprene Case	£25	£20
Rhombiplate C-S adapter	£54	£49

PREMIER AUTHORISED DEALER APO TELEVID SPOTTING SCOPES

Robustly engineered construction with a compact design. Offering a wide field of view with high colour fidelity, pin-sharp detail resolution & maximum contrast.

	RRP	NOW
APO Televid 82 Angled or Straight c/w 25-50x WW	£2810	£2099
APO Televid 65 Angled or Straight c/w 25-50x WW	£2210	£1699

Leica 1.8x Extender	RRP £300 NOW £269
Leica Digiscoping Lens	RRP £420 NOW £359
Leica Stay on Case	RRP £180 NOW £149
SKUA Stay on Case	NOW £79

Kowa TSN-883/TSN-884 Spotting Scopes

BUNDLE DEALS... PLUS FREE Tripod Carrying System RRP £69 with TSN 883

SAVE £1000

TSN 883/884 Angled or Straight c/w 25-60x, SOC and Tripod Carrying System
RRP £2999 NOW £1999
See website for more Bundles

NEW MONARCH FS

ANGLED or STRAIGHT

Enjoy sharp optics and rich contrast with the MONARCH Fieldscope.

The MONARCH Fieldscope is ideal for any outdoor activity, as it's waterproof and fog-free, it is also robust and durable in all weathers.

Angled or Straight
Monarch FS 60 ED - Body Only £1049.99
Monarch FS 82 ED - Body Only £1219.99

EYEPIECES	RRP	NOW
MEP-38W	£289.99	£234.99
MEP-20x60	£299.99	£284.99
MEP-30x60	£419.99	£399.99

NEW ZEISS CONQUEST GAVIA

Its compact design and low weight make this spotting scope, with its large 85 mm lens diameter, ideal thanks to the high optical performance and brightness it delivers.

30-60x85 £1595

NEW ZEISS CONQUEST HD

THE MODERN OBSERVATION OPTICS

Discover the smallest details, experience the greatest moments.

	RRP	NOW		RRP	NOW
8x32	£759	£635	10x42	£999	£789
10x32	£799	£669	8x56	£1185	£1049
8x42	£949	£749	10x56	£1220	£1069
			15x56	£1290	£1189

ZEISS VICTORY SF

WORLD'S BEST BIRDING & NATURE OBSERVATION BINOCULARS

You can experience every spectacle nature has to offer with brilliant optics and an unparalleled wide-angle field of view.

	RRP	NOW		RRP	NOW
8x42	£1130	£1849	10x42	£2164	£1899

See website for more details

NEW NIKON PROSTAFF 3s

Sharp images of stunning quality. Waterproof & fog-free, with improved grip for a better handling in all kinds of weather.

8x42	£119.99	10x42	£129.99	
10x30	£159	10x42	£179	£199

NEW NIKON PROSTAFF 7s

Provides you with the quality, brightness and resolution that make it the perfect accessory for almost any outdoor activity.

8x30	£159	8x42	£179
10x42	£199		

NEW NIKON MONARCH HG

Get outstanding clarity & a wide field of view with MONARCH HG. These binoculars are the discerning choice for high-performance optics.

8x42	£799.99
10x42	£839.99

TRAVELITE

Versatile, all-round binoculars. Compact, lightweight body, multilayer lens coating. Waterproof & fog-free construction.

	RRP	NOW
EX 8x25	£135.99	£89
EX 9x25	£145.99	£105
EX 10x25	£155.99	£110
EX 12x25	£165.99	£119

Manfrotto 190 / 055 SERIES

Aluminium	RRP	NOW
190 X Pro 3	£184.95	£104
190 X Pro 4	£199.95	£125
055 X Pro 3	£199.95	£119
Carbon Fibre	RRP	NOW
190 CX Pro 3	£344.95	£199
190 CX Pro 4	£359.95	£217
055 CX Pro 3	£394.95	£239
055 CX Pro 4	£419.95	£249

Velbon BIRDING TRIPODS

NEW SHERPA 200R NOW IN STOCK

	RRP	NOW
Sherpa 200R NEW c/w PH157Q Head	£114.99	£89.99
Sherpa 5370D c/w PH157Q Head	£169.99	£79
GEO E643D Carbon Fibre c/w QHD 63D B65 Head	£375	£259

GITZO TRIPODS

	RRP	NOW
GT1531	£529.95	£389.00
GT2542	£709.95	£565.00
GT2542LS	£719.99	£565.00
GH1720QR 2 Way Head	£234.95	£189.00
GH2720QR 2 Way Head	£279.95	£225.00
GH1720FQR Safari	£234.95	£149.00
2 Way Birding Head		
G5530 MC QR Plate	£41.95	£34.00

Manfrotto TRIPOD HEADS

MVH500AH Lightweight Fluid Video Head with Flat Base RRP £129.95 £99

MVH502AH Flat Base Pro Fluid Video Head RRP £174.95 £135

XPro Ball Head With 200PL Plate RRP £114.95 £94 With Top Lock MA90BPL Plate RRP £159.95 £129

XPRO Fluid Head RRP £119.95 £89

Manfrotto HIKER OFFROAD BACKPACKS

The backpack converts into a tripod taking backpack by strapping the external shoulder and removing the camera bag.

	RRP	NOW
Hiker Offroad Backpack - 20L	£129.95	£89
Hiker Offroad Backpack - 30L	£169.95	£115

Lowepro PHOTO BACKPACKS

	RRP	NOW
Photo Classic BP 300 AW Backpack	£96	£79
Rostpack BP 250 AW II Backpack	£120	£99

LUGGAGE

Lowepro

	RRP	NOW
TAHOE BP 150 BACKPACK Black	£52	£49.99
PHOTO HATCHBACK 22L AW 3 Colour Available	£90	£69
PHOTO HATCHBACK BP 250 AW II BACKPACK	£96	£89
FLIPSIDE 400 AW BACKPACK Green	£129	£111
PROTACTIC 450 AW BACKPACK Black	£212	£199.99
WHISTLER BP 450 AW BACKPACK Grey	£296	
SANTIAGO 20 II CAMERA CASE Black/Orange	£17	£15.99
SANTIAGO 30 II CAMERA CASE Black/Orange	£21	£19.99
ADVENTURA SH II CAMERA BAG 5 Sizes Available		from £19.99
TOPLOADPIX ZOOM AW II CAMERA BAG 2 Sizes Available		from £28.99

Finance example: 12mths, 0% APR: Cash Price £1475, 10% Deposit £147.50, Monthly Payment £110.62, Total Amount Payable £1475. • 24mths, 9.9% APR: Cash Price £1475, 10% Deposit £147.50, Monthly Payment £60.93, Total Amount Payable £1608.82 36mths, 19.5% APR: Cash Price £1475, 10% Deposit £147.50, Monthly Payment £47.95, Total Amount Payable £1873.70 See website for details: www.uttings.co.uk/Information/Finance. Finance is subject to status, terms & conditions apply.*

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DRONES

DJI NEW PHANTOM 4 QUADCOPTER

PRICE INCREASE THIS MONTH

NEW LOWER PRICES

Featuring Obstacle Avoidance, ActiveTrack, higher speeds and longer flight times, the Phantom 4 redefines the flying camera. The Phantom 4 boasts sweeping curves, elegant lines and a polished shell that redefines the classic Phantom 4 shape. Its exquisite detailing and matt finish composite components add a level of finish and quality never seen before in a flying camera.

Phantom 4	£1099
Phantom 4 + 1 Battery	£1249
Phantom 4 + 2 Batteries + FREE Battery Charging Hub or Car Charger	£1329

DJI DRONE ACCESSORIES

Spare Battery	£129
Rucksack	£169

PHANTOM 3 STANDARD DRONE

Beginners and first time pilots
- 2.7K HD videos
- View from mobile via WiFi

£449

PHANTOM 3 PROFESSIONAL

High level aerial photography and cinematography
- 4K HD videos
- Live HD View

£949

PHANTOM 3 ADVANCED DRONE

High level aerial photography and cinematography
- 2.7K HD videos
- DJI Lightbridge video downlink

£699

MAVIC PRO QUADCOPTER

NEW

Small yet powerful drone
- 4K camera stabilized by a 3-axis mechanical gimbal
- 4.3mile (7km) range

RRP £1099 **NOW £1099**

MAVIC PRO QUADCOPTER FLY MORE COMBO

NEW

Inc. 2x Intelligent Flight Batteries, 2x QR Folding Props, Charging Hub, Car Charger, Battery To Power Bank Adapter & Shoulder Bag

RRP £1359 **NOW £1359**

INSPIRE 1 V.20 HIGH-SHOOTS & PROFESSIONAL QUADCOPTER

NEW

Well-built, ready-to-fly quadcopter
- Professional 4K camera & 3-axis stabilization gimbal
- Live, wireless HD video transmission via DJI Lightbridge

RRP £1849 **NOW £1769**

INSPIRE 1 PRO HIGH-SHOOTS & PROFESSIONAL QUADCOPTER

NEW

New, improved, motor performance providing a greater sense of control. New propeller & installation kits for a smoother, even more reliable locking mechanism.

RRP £3499 **NOW £3299**

YUNEEC TYPHOON H RTF HEXACOPTER

- Ready-to-Fly right out of the box
- Ultrasonic collision prevention
- 4K UHD 30fps, HD 168fps 120fps video
- 12.4 MP still camera
- 3-axis anti-vibration gimbal camera with full 360° rotation
- Retractable landing gear
- Easy "Twist and Lock" propeller installation
- Folding rotor arms for compact storage
- Integrated autonomous flight modes
- ST16 controller with built-in 7-inch touchscreen

Typhoon H RTF + 1 Battery	£1099.00
Typhoon H RTF + 2 Batteries	£1369.95

YUNEEC TYPHOON Q500 4K QUADCOPTER

Features removable camera that can be used handheld with an included Steady Grip to ensure best quality shooting on air & ground.

It is provided with a top quality remote control incorporating a touch-screen Android device to perfectly control your flight and all camera setting, while recording in 4K video resolution.

c/w Trolly Case **£789.00**

YUNEEC DRONE ACCESSORIES

Spare Battery	£99.95
Rucksack	£129.95
UAV Pilot Flight Simulator	£23.95

BREEZE #myflyingcamera 4K DRONE

NEW

Introducing Breeze, the flying camera designed with you in mind. Both convenient and compact, Breeze is controlled by your IOS or Android device with the Breeze Cam app and weighs just under 1 pound. Now capture aerial photos and video of your daily adventures effortlessly and do it in stunning 4K Ultra High Definition. Simply take Breeze out of the box and let it fly.

Breeze #myflyingcamera 4K Drone **£439.95**

Full range of drone accessories available - see website

ACTION CAMERA ACCESSORIES

FEIYU TECH G4S GoPro Gimbal with a 4 way joystick.	FEIYU TECH WEARABLE GIMBAL For go pro	TYPHOON STEADYGRIP For go pro	DJI OSMO CAMERA Fully stabilized 4K, 12MP camera for ground use.
£249	£225	£259.95	£489

TRAIL CAMERAS

BUSHNELL TROPHY CAM TRAIL CAMERAS

Hybrid Capture Mode, Freeze Frame Shutter, Hyper PIR - just a few new features you'll see with these cameras. True HD video and Field Scan 2x return, proving why Trophy Cam remains the woods hardest-working trail cam. These cameras also bring stunning video capture technology.

TRAIL CAMERAS - LOW GLOW

119774 Aggressor HD 14 MP	119775 Aggressor HD 14 MP	119736 Essential HD 12 MP
RRP £235 £179	Camo RRP £260 £199	RRP £170 £129

LOW GLOW LED'S THAT HAVE A SIGNIFICANTLY REDUCED FLASH

TRAIL CAMERAS - NO GLOW

119776 Aggressor HD 14 MP	119777 Aggressor HD 14 MP
RRP £270 £199	Camo RRP £285 £209

NO GLOW BLACK LED'S ARE TOTALY INVISIBLE, IDEAL FOR SECURITY

TROPHY CAMS WIRELESS / WiFi

119598 Trophy Cam HD Wireless - Brown 8 MP	119519 No-Glow Black LED Surveillance Cam + WiFi 6 MP
RRP £375 £279	RRP £290 £215

NATUREVIEW CAMS

119739 Natureview Cam Essential - Low Glow 12 MP	119740 Natureview Cam HD Live View - No Glow 14 MP
RRP £190 £139	RRP £350 £249

THERMAL IMAGING

FLIR THERMAL IMAGING

Handheld thermal imaging cameras for outdoor activities & wildlife observation

SCOUT II SERIES THERMAL IMAGING CAMERAS Use in darkness & daylight.		SCOUT TS-SERIES THERMAL IMAGING CAMERAS Compact and lightweight.		LS-SERIES THERMAL IMAGING MONOCULAR Crisp thermal images in any day or night situation.	
240	£1599	TS32 Pro	£4999	LS-X	£2399
320	£1999	TS32r Pro	£7199	LS-XR	£3999
640	£2849				

PULSAR THERMAL IMAGING MONOCULARS

Compact hand-held monoculars designed for use 24/7 – they detect heat, not light, so can be used in very low light or even total darkness where traditional night vision systems struggle to give a usable image.

from £1699.95 - £2899.95

NIGHTVISION

SAVE £50

HAWKE 5x40 DIGITAL	PULSAR CHALLENGER GS	PULSAR RECON 870R DIGITAL	YUKON 5x60 GEN 1	YUKON EXELON 4x50
5x40 Digital NV Monocular RRP £199.95 £149	1x20 CF Super NV Monocular £229.99	Recon 870R Digital NV Monocular £499.99	5x60 Gen 1 NV Monocular £219.99	Exelon 4x50 Gen 1+ NV Monocular £269.99

DIGITAL SLR's

24.2 MP NEW	D5600 c/w 18-55mm AF-P VR	£See website
	c/w 18-140mm AF-S VR	£See website
21.5 MP	D500 Body Only	£See website
	16-80mm f2.8-4 VR	£See website
24.2 MP	D3300 Body Only	£See website
	c/w 18-55mm VR II	£See website
24.2 MP	D5500 Body Only	£See website
	c/w 18-55mm VR II	£See website
	c/w 18-140mm VR	£See website
24.2 MP	D5300 Body Only	£See website
	c/w 18-55mm VR II	£See website
24.2 MP	D7100 Body Only	£See website
	c/w 18-105mm VR	£See website
24.4 MP	D3400 Body Only	£See website
	Bundles	£See website
24.3 MP	D750 Body Only	£See website
	24-120mm f4 G AF-S ED VR	£See website
16.2 MP	D7200 Body Only	£See website
	c/w 18-105mm	£See website

See website for Remotes, Batteries & Chargers

CANON

SEE WEBSITE FOR LATEST CASHBACKS

24.2 MP	EOS 80D Powerful, versatile and responsive Body Only	£See Website	
18 MP	EOS 1300D Body Only	£See Website	
	c/w AF-S 18-55mm IS II	£See Website	
24.2 MP	EOS 750D c/w 18-55mm IS STM	£See Website	
	c/w 18-135mm IS STM	£See Website	
20.2 MP	EOS 6D Ideal tool for unlocking your creative vision. Body Only	£See Website	

See our website for full details & specifications

LENSES

NIKON DIGITAL SLR LENSES

	RRP	NOW
35mm AF-S f1.4 G	£1795.00	SEE WEBSITE
50mm AF f1.8 D	£135.99	
105mm AF f2.0 D DC	£805.00	
105mm AF-S f2.8 G IF-ED MC VR	£781.99	
105mm AF-S f1.4 E ED	£2049.99	
10-24mm AF-S DX f3.5-4.5 G IF ED	£833.99	
16-85mm AF-S DX f3.5-5.6 G ED VR	£572.99	
18-140mm AF-S DX NIKKOR f/ 3.5-5.6 G ED VR	£579.99	
18-200mm AF-S DX f/3.5-5.6 G IF-ED VR	£767.99	
18-300mm AF-S DX f/3.5-5.6 G ED VR	£849.99	
18-300mm AF-S DX f/3.5-6.3 G ED VR	£629.99	
24-70mm AF-S f/2.8 G ED Lens	£1565.99	
24-85mm AF-S f/3.5-4.5 G ED VR	£519.99	
55-200mm AF-S DX Zoom-Nikkor 1:4-5.6G ED	£239.99	
55-300mm AF-S DX f/4.5-5.6 G ED VR	£377.99	
70-200mm AF-S f/2.8 G IF ED VR II Lens	£2085.99	
70-200mm f/2.8 f/2.8 E FL ED VR	£2650.00	
70-300mm f4.5-6.3 ED	£299.99	
70-300mm f4.5-6.3 ED VR	£349.99	
70-300mm AF-S f/4.5-5.6 G IF-ED VR	£552.99	
TC-14E AF-S III 1.4 Teleconverter	£449.00	
TC-17E AF-S II 1.7 Teleconverter	£395.00	
TC-20E AF-S III 2.0 Teleconverter	£459.00	

NIKON FLASHGUNS - See website for more

CANON DIGITAL SLR LENSES

SEE WEBSITE FOR LATEST CASHBACKS

	RRP	NOW
EF 50mm f/1.4 USM	£379.99	SEE WEBSITE
EF 50mm f1.8 STM	£139.99	
EF 50mm f1.8 II	£129.99	
EF 85mm f/1.8 USM	£399.99	
EF 100mm f/2.8 L Macro IS USM	£1059.99	
EF 100mm EFM100mm f/2.8 USM Macro	£469.99	
EF-S 10-18mm f/4.5-5.6 IS STM	£299.99	
EF 16-35mm f/2.8 L II USM	£1789.99	
EF 16-35mm f/4 L IS USM	£1199.99	
EF 17-40mm 4.0 L USM Lens filter size 77mm	£849.99	
EF-17-55mm f/2.8 IS USM	£999.99	
EF 24-70mm f/2.8 L IS USM	£2299.99	
EF 24-70mm f/4 L IS USM	£1499.99	
EF 70-200mm f/2.8 L IS II USM	£2399.99	
EF-S 55-250mm f/4.0-5.6 IS STM	£349.99	
EF 75-300mm f/4.0-5.6 USM III Filter size 58mm	£349.99	
EF 100-400mm f/4.5-5.6L IS II USM	£1999	
Extender EF1.4x III	£449.99	
Extender EF2x III	£449.99	

CANON FLASHGUNS - See website for more

SIGMA DIGITAL SLR LENSES

Available in Canon and Nikon Fit	RRP	NOW
20mm f1.4 DG HSM	£849.99	SEE WEBSITE
24mm f1.4 DG HSM Lens	£799.99	
30mm f1.4 DC HSM Art Lens	£499.99	
35mm f1.4 DG HSM Lens	£799.99	
50mm f1.4 DG HSM Lens	£849.99	
85mm f1.4 Art DG HSM Lens	£1199.99	
105mm f2.8 EX DG Macro OS HSM Lens	£649.99	
500mm f4 DG OS HSM Sport Lens	£5999.99	
10-20mm f3.5 EX DC HSM Lens	£649.99	
2-24mm f4.5-5.6 EX DG Mk11 HSM Lens	£799.99	
2-24mm f4 Art DG HSM Lens	£1549.00	
18-35mm f1.8 DC HSM Lens	£799.99	
17-50mm f2.8 EX DC OS HSM Lens	£689.99	
18-250mm f3.5-6.3 DC Macro OS HSM Lens	£499.99	
18-300mm f3.5-6.3 DC Macro OS HSM Lens	£499.99	
24-35mm f2 DG HSM ART Lens	£949.99	
24-70mm f2.8 EX IF HSM Lens	£899.99	
24-105mm f4 DG OS HSM Lens	£849.99	
50-100mm f1.8 DC HSM Lens	£829.00	
50-500mm f5-6.3 DG OS HSM Lens	£1499.99	
70-200mm f2.8 APO EX DG OS HSM Lens	£999.99	
150-600mm f5-6.3 DG OS HSM Sport Lens	£1599	
150-600mm f5-6.3 DG OS HSM COMP Lens	£1199	
EF 610 SUPER DG Lens	£259.99	
EF 610 ST DG Lens	£169.99	

SIGMA DC OS 18-200mm f3.5/6.3 HSM MKII - Nikon Fit RRP £399 **NOW £199**

SIGMA EXTENDERS

1.4x.....from £199
2x.....from £239

DIGITAL SLR LENSES TAMRON SUPER ZOOMS

CASHBACK For the latest CASH BACK DEALS on lenses & cameras see website

18-270mm	16-300mm	SP 15-30mm
F/3.5-6.3 Di II VC PZD	F/3.5-6.3 Di II VC PZD	F/2.8 Di VC USD
RRP £568.20 £289	RRP £529.95 £369	RRP £950 £849

TAMRON We also stock...

	RRP	NOW
35mm f1.8 VC USD	£649.99	SEE WEBSITE
60mm f/2 Di II	£489	
90mm f2.8 VC USD	£649.99	
18-200mm f3.5-6.3 Di II VC	£249.99	
16-300mm f/3.5-6.3 Di II VC PZD	£529.99	
18-270mm f/3.5-6.3 Di II VC PZD	£568.20	
24-70mm F2.8 Di VC USD Digital SLR £100 CASHBACK	£1099.99	
70-200mm SP F/2.8 Di VC USD £75 CASHBACK	£1650	
70-300mm f4-5.6 SP Di VC USD Digital SLR	£439	
150-600mm SP f/5-6.3 Di VC USD £100 CASHBACK	£1150	

BEST SELLING SPORT LENSES

SIGMA

150-600mm f5-6.3 DG OS HSM Sport: **£1199**
150-500mm f5-6.3 DG OS HSM Sport: **£1299**
+ 1.4x TC-1401 Convertor
500mm f4 DG OS HSM Sport..... **£5999.99**

TAMRON

150-600mm f5-6.3 Di VC USD..... **£699**

NIKKOR (NIKON)

200-500mm f5.6 E ED..... **£1099**

CANON

100-400mm f4.5-5.6 L IS II USM..... **£1179**

See website for details

WIMBERLEY WIMBERLEY HEAD

The specialized tripod head for telephoto lenses
Wimberley Head - Version II **£639.99**

LENS PLATES
P10 **£49.50** P30 **£55** P50 **£55**
P20 **£55** P40 **£55**

THE PLAMP II

One end of the Plamp clamps to your tripod while the other grasps the object. Use the Plamp to stabilize windblown subjects

The Plamp II **£49**
12" Plamp II Extension **£9**

See website for more lenses

WATERPROOF CAMERAS

Panasonic Canon OLYMPUS FUJIFILM

See website

PANASONIC LUMIX DMC-GX80

16 MP

DIGITAL COMPACT CAMERA KIT Delivering outstanding images,features 4K video and 4K photo

£50 CASHBACK

c/w 12-32mm Lens **£599**

SanDisk MEMORY CARDS

SDHC Ultra SD		Extreme Pro SD		Extreme Plus SD		Extreme Plus Micro SD	
8GB	£4.99	16GB	£22.99	16GB	£22.99	16GB	£19.99
16GB	£7.99	32GB	£32.99	32GB	£32.99	32GB	£29.99
32GB	£12.99			64GB	£59.99	64GB	£35.00

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STUDENT SHOWCASE

Into the wilderness

James Streeter ventures into the great outdoors to capture stunning shots of wildlife and landscapes.

MY INSPIRATION FOR NATURE PHOTOGRAPHY comes from my love of our amazing countryside, whether this be conquering a soaring mountain or exploring rugged coastlines. No landscape is ever the same twice and this is what inspired me to pick up a camera every day. It's all about capturing a specific moment in time that can't be recreated or replicated. I'm always on the lookout for compositions that excite me, and I feel that this is the key to provoking an emotional response from the viewer and making them connect with the subject. It doesn't matter what form of media you're engaging with – as a viewer you want to be moved.

Having been brought up in the picturesque Sussex countryside, it isn't hard to find a striking photographic opportunity. I only have to walk outside my front door to find something to shoot, whether it's the rolling hills of the Sussex Downs or the ever-evolving cliffs of the Seven Sisters.

One of my favourite shots is of Birling Gap in East Sussex, which was taken on a particularly wet and stormy evening. This meant that I had the whole place to myself, unlike the majority of the other times I'd been there. When I arrived I tried to seek out a dramatic composition, but nothing was jumping out at me. Just when I thought the shoot was going to turn out to be disappointing, I spotted a perfectly positioned piece of rope that was just screaming to be photographed. I knew straight away that it was going to be the essential foreground element to my image. I used an exposure of 1.6sec to express the movement of the water and made some adjustments in post-production.

I think one of the aspects of studying a degree in photography that people often don't understand is that we get the opportunity to work with professional clients. That experience with them has taught me a lot and given me a deeper understanding of what images will sell. When I complete my degree, I want to continue working with nature and become a full-time photographer. This profession is by no means easy. It's a lot of hard work and early mornings. More often than not I'll leave empty-handed, but sometimes it all pays off and I'm rewarded with something truly magical.

James Streeter is studying for a BA in Creative Media Practice (Photography) at Northbrook College, Worthing.
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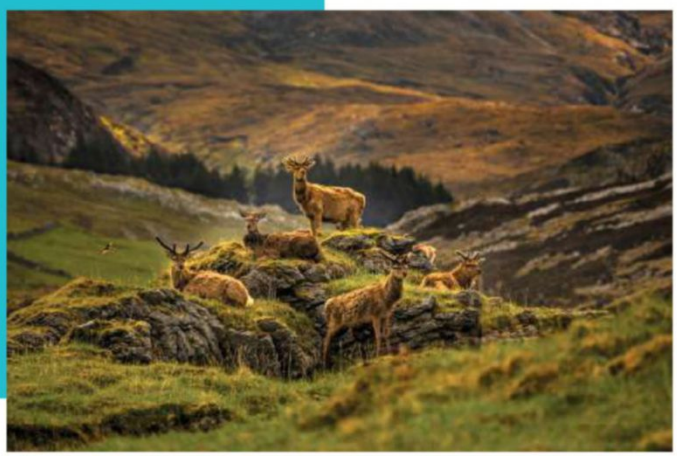

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