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NPhoto

Issue 08 • July 2012
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132 PAGES
FOR NIKON USERS

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NIKON KNOW-HOW

SWITCH TO SPOT?

Metering modes made easy **p78**

+75

LOCATIONS TO
SHOOT BEFORE
YOU DIE!

THE APPRENTICE

THE NEED FOR SPEED

Follow our pro advice to get your
race photography in top gear **p10**



PRO INTERVIEW

“I don’t carry a camera
bag. I can’t even remember
the last time I did!”

Richard Hartog *News Photographer* **p90**



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Smart tips for getting great
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GET MORE WITH RAW

How to transform your NEFs in
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MONSTER TELEPHOTOS

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lenses from £120 to £1920 **p102**





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At the heart of the image



WELCOME TO ISSUE EIGHT OF...



4 WAYS TO GET EVEN MORE OUT OF N-PHOTO

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N Catch up with Nikon news, get inspired by great Nikon pictures and learn new skills on the *N-Photo* magazine website.

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2 Facebook...

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t Do you keep up with what's going on via your Twitter feed? Follow us for a great way to stay up to date with all things Nikon! @nphotomag

www.twitter.com/nphotomag

4 Flickr...

f Flickr is a fantastic way to showcase your shots and see work by fellow Nikon photographers – and the *N-Photo* team!

www.flickr.com/nphotomag



NPhoto

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■ As those who know me will tell you, I like dressing up for a big occasion – but I was especially glad that I put on my dicky-bow for a night out in London last month. The event was the **British Media Awards** – our industry's equivalent of the Oscars. I'm really pleased and proud to tell you that *N-Photo* picked up **two awards** for our work in bringing you a Nikon-centric, multi-platform magazine.

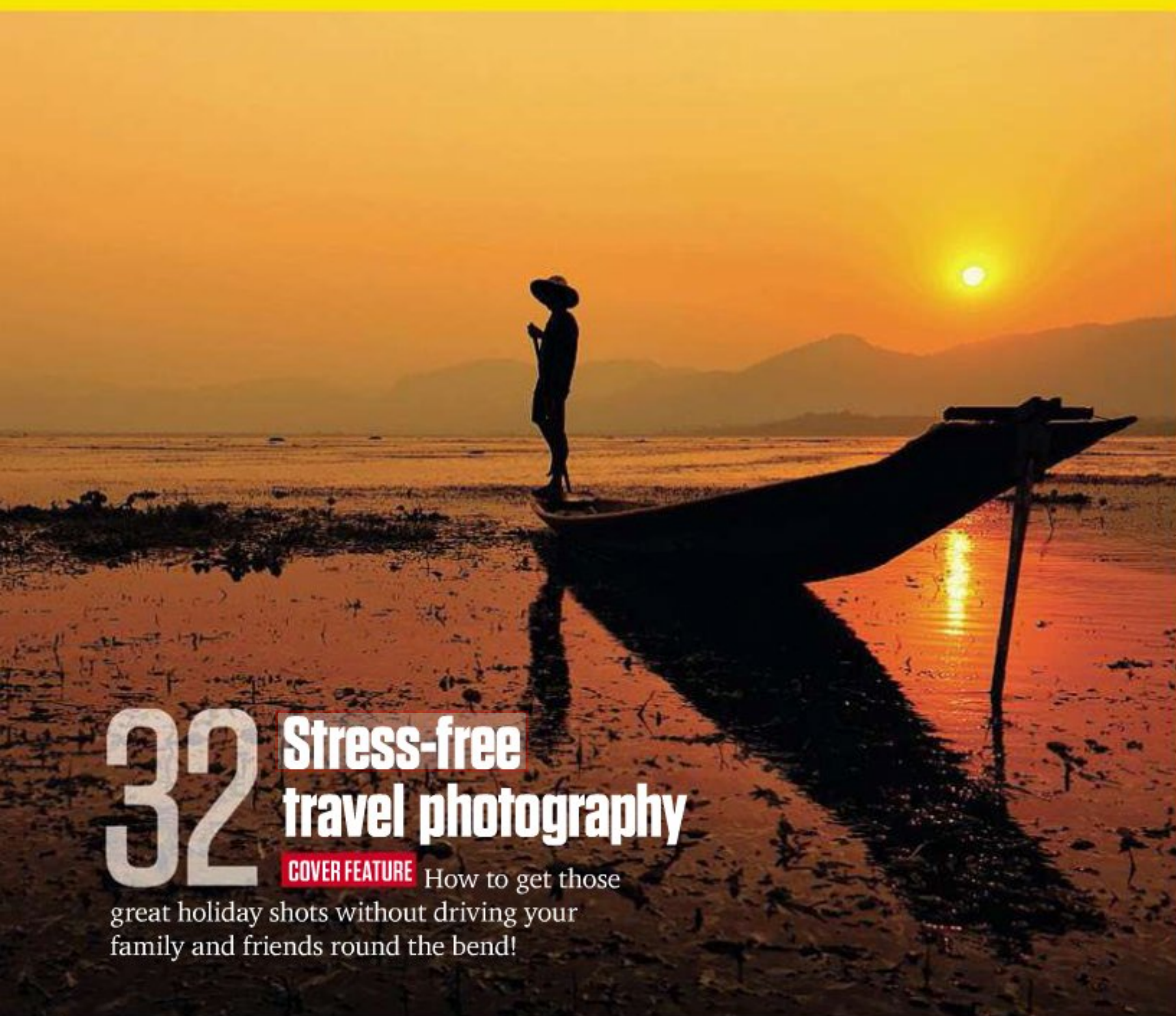
The glass trophies have fancy names, but they acknowledge the popularity of our Facebook page and our innovative approach to the live-action Nikon Skills videos – which you can watch direct from your digital edition of *N-Photo*, just by clicking on the handy Watch Our Video buttons you will find throughout the magazine.

Of course, none of this would be possible without you, the **Nikon enthusiasts** who read our words, watch our instructional videos and participate in our online communities. But we want to make *N-Photo* even better – and correct things that we might be doing wrong, so we need your help. All you have to do is spend a few minutes answering some quick questions, so that we can find out more about you, your photography and what you love or hate about the magazine. You'll find details on how to participate in our first-ever **reader survey** on [page 7](#).

Chris

Chris George, Editor
chris@nphotomag.com





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COVER FEATURE How to get those great holiday shots without driving your family and friends round the bend!



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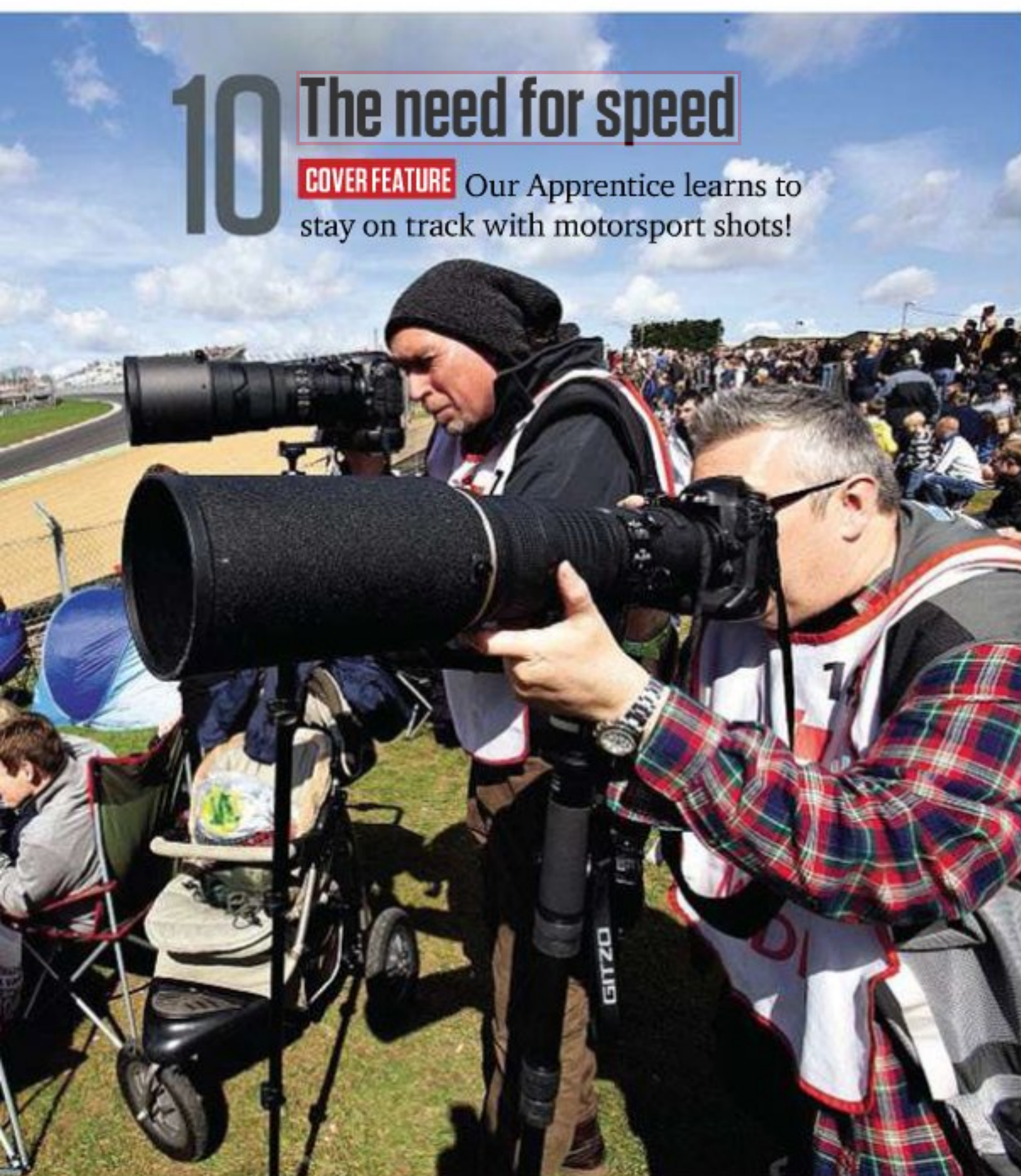
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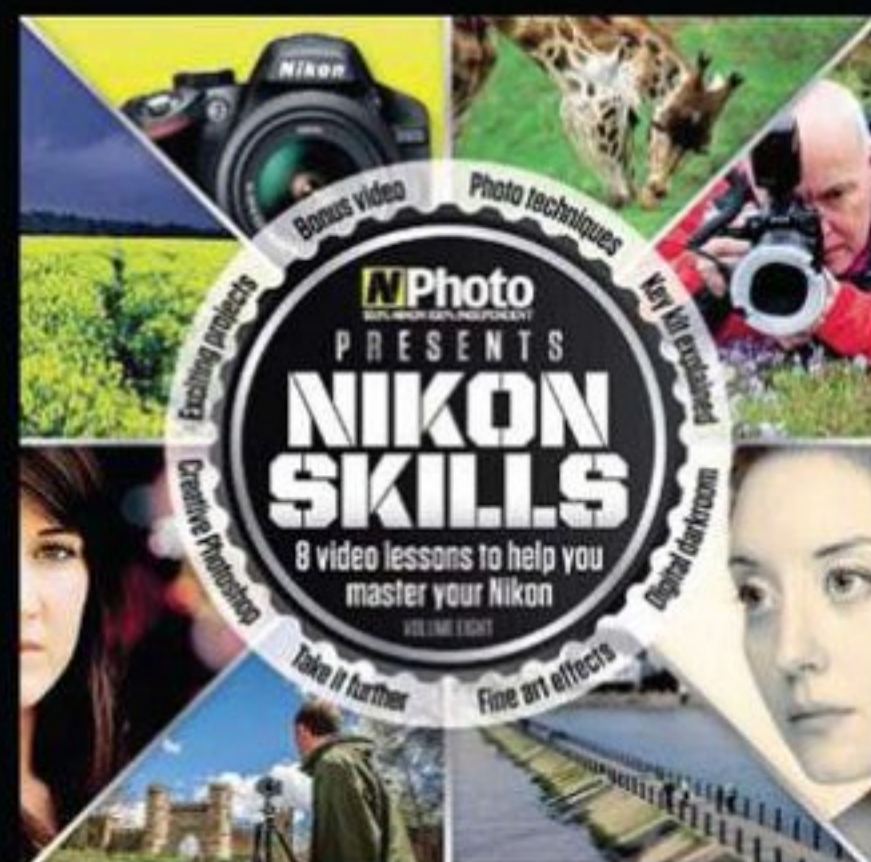
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WHAT'S IN THIS MONTH'S FREE VIDEO GUIDES?

NPhoto NIKON SKILLS

- + Camera skills
- + Photoshop guides
- + Nikon software

EXPERT HANDS-ON VIDEO GUIDES

EIGHT WAYS TO IMPROVE YOUR PHOTOGRAPHY TODAY!



01 Go beyond the bars for safari style at zoos and wildlife parks



02 Brighten up your macro shots with asimpler flash



03 Wash your images with colour by applying a Gradient Map



04 Use Nikon's built-in Miniature Effect for the tilt-shift look



05 Let infrared light into your images for an eerie atmosphere



06 Get blurry bokeh without a lens, with help from Photoshop



07 Blend three images together to achieve the perfect exposure



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09 Your exclusive preview of Nikon's 24MP D3200

READ THE TUTORIALS, THEN WATCH OUR EXPERT VIDEOS!

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When you see this button, press it to see the accompanying video



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Here at *N-Photo* we're devoted to producing the best possible magazine exclusively for Nikon users. We're always looking for ways to improve our content and make it even better. This is where you come in. Simply answer a few easy questions on your favourite subjects: your Nikon D-SLR,

your photography and your favourite photo magazine. We don't mind if you're a long-term subscriber or a first-time buyer, a beginner or a Nikon professional. And to say thanks, you'll automatically be entered into a prize draw to win £250 worth of vouchers (winner's choice from www.voucherexpress.co.uk)!

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Let us know about...



Your camera

- What model of Nikon D-SLR do you currently own?
- What accessories do you have in your photography kit bag?
- What software do you use to edit the shots you take with your D-SLR?



Your photography

- What's your favourite type of digital photography?
- Which topics do you want to learn more about in the magazine?
- Do you consider yourself to be a complete beginner or a total pro?



Your magazine

- How long have you been reading *N-Photo*, or is this your first issue?
- Which articles in the magazine do you find the most useful?
- What do you think of the videos that come free with each issue?

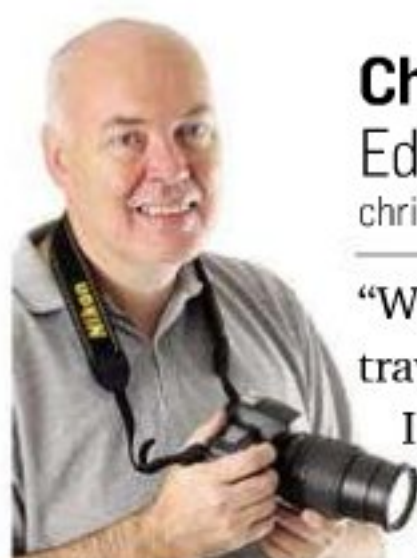
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Meet the **NPhoto** team

Summer's here, so how will we be making the most of our holiday photography?



Chris George
Editor | D90 & D7000
chris.george@futurenet.com

"We have a special feature on travel photography on [page 32](#). I always pack too much gear, but can't go on vacation without at least three lenses for my Nikon!"



Hannah Welham
Production Editor | D3100
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"I'll be bringing my phrase book – if you can communicate a little with the locals then it can really help when you want to include people in your shots."



Roddy Llewellyn
Art Editor | D50
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"After the spring we've had here in the UK, I'll be taking my polariser with me on my travels, to make sure I capture some unfamiliar blue skies!"



Rod Lawton
Technique Editor | D300s
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"I recommend travelling light and only taking the gear you use all the time. You need to be able to shoot quickly without brooding over what equipment to use."



Angela Nicholson
Head of Testing | D90
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"Using a tripod to shoot in busy tourist areas means you can take lots of photos from exactly the same point. Just clone out the milling masses later!"



Ali Jennings
Lab Manager | D7000
ali.jennings@futurenet.com

"I'll be packing my D7000, a couple of polarisers and, if there's room, a little tripod. This mix is enough to handle some local scenes and a landscape or two."

This issue's contributors...



Adam Duckworth

With a career built on motorsport,

Adam was the perfect pro to lead our trackside Apprentice. See [page 10](#).



Ben Brain

Ben has been trying out two different

ways to play with colour this issue. Turn to [pages 54 and 58](#) for the full effects.



Chris Rutter

Our Nikon expert shows how to get the

tilt-shift effect on the cheap with another clever, wallet-friendly trick. See [page 57](#).



James Paterson

Photoshop pro James banishes

boring backdrops with his digital bokeh tutorial. Read more on [page 60](#).



George Cairns

Software guru George shows how to

get more from your Nikon's NEF files using Capture NX 2. You'll find him on [page 84](#).



Richard Hartog

A staff position at the *LA Times*

made sure Richard's had his fair share of drama. He tells all on [page 90](#).



Matthew Richards

Our resident tester goes the distance

to test out eight Nikon-fit super-telephotos. Find out which is best on [page 102](#).



Ruth Downing

Shooting the great outdoors and country

shows, Ruth knows a fair bit about hardy kit – she shares her tips on [page 117](#).



COVER IMAGE 'Reflection of Intha' This image of an Intha fisherman on Inle Lake, Burma, was shot by Anan Charoenkal (Nikon D700, Nikon 16-35mm f/4G, 1/60 sec, f/8, ISO200). See www.tonnaja.com for more images

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THE **N**Photo
APPRENTICE

PEDAL TO THE METAL

Every issue we pair an *N-Photo* reader with a top Nikon pro for a photo masterclass. This is the story of their time together. This is the *N-Photo* Apprentice...



THE APPRENTICE...

NAME David Warren

CAMERA Nikon D200

■ David comes from Molesey, in Surrey. He's a big VW fan and has already taken shots at meets and the Santa Pod Raceway, Northamptonshire. He was looking forward to perfecting his motorsport skills at Brands Hatch, with help from our pro. We also brought along a Nikon 300mm f/2.8 for him to try!

THE PRO...

NAME Adam Duckworth

CAMERA Nikon D4

■ Adam's an award-winning sports photographer and photojournalist who's worked for many newspapers and magazines. He's a motorsport specialist, and started his career covering motocross. He's ridden more than a few laps around Brands Hatch himself, as it turns out! Find out more about Adam and his work at www.adamduckworth.com

HOT SHOT #01



EXPOSURE 1/1500 sec, f/4.5, ISO200
LENS Nikon 300mm f/2.8G AF-S ED VR II

DAVID SAYS...



“There was a lot to take in, as Adam's tips about setting up and using the camera conflicted a lot with my normal way of doing things. I wasn't used to working manually, and the Nikon 300mm f/2.8 lens I was borrowing was a revelation in terms of its speed, the apertures I could shoot at and its weight. I can see why sports photographers use monopods! Adam showed me how to take a meter reading from the track, choose a suitable backdrop for the action and set up the autofocus. I was really pleased with this shot because of the lighting, composition and feel of movement.”

“The Nikon 300mm I was borrowing was a revelation in terms of its speed, the apertures I could shoot at and its weight”

EXPERT INSIGHT

■ A bright morning means you can't shoot from some directions, as you get silhouettes. In fact, a sunny day really limits what you can capture, and you'll need to think about the angles you can get. However, if it's an overcast day the colours are more muted, there's less contrast and you can work in more directions. These factors actually make getting a great image slightly easier.



▲ Better backdrops

Adam encouraged David to think about the background as much as the subject, because it's one of the things that beginners overlook – they concentrate solely on the action and don't see the picture as a whole. “A lot of race tracks look like building sites!” Adam explained. Because of all the barriers, fences, bins and marshall posts, it's trickier than you think to get both the background and lighting right

THE PRO'S KILLER KIT #01 POCKETWIZARD FLASH TRIGGERS

Adam says... I use off-camera flash a lot when I'm taking static shots of cars or things happening in the pit lane. It can provide useful fill-in light when the contrast is high, and adds drama to the lighting on dark or overcast days. It gives much more interesting and controllable lighting than on-camera flash, too. I use the new PocketWizard TTL system, with the FlexTT5, the MiniTT1 and the AC3 zone controller, so that I can control anything manually or with TTL flash from the camera position.



Highlight alert

The camera's histogram display can tell you if there are problems with exposure, but Adam prefers the Highlights warning because it shows you where blown highlights are. This is useful as you can quickly decide whether it matters or not. Here, it doesn't. You can set up your Nikon so you can cycle through the modes (check the boxes for the displays you want) by pressing up on the multi-selector when you're viewing images



Copy the experts

Take the time to check out the circuit before the races start so that you can pick the best spots. Don't be afraid to ask the marshals or other photographers where the best spots are, and follow the crowds – regular race-goers will always gather at the best vantage points

TECHNIQUE ASSESSMENT

Was David's camera set up properly for high-speed sports shots?

Shooting motorsport requires special techniques and camera settings, and Adam had some advice for our reader on how to prepare his camera...

Shoot RAW

Adam says... David's camera was set up to shoot JPEGs, but I got him to change to RAW. I explained that strong contrast and rapid changes in light could cause problems with exposure, and that NEFs have a little more exposure latitude. Shooting RAW would also enable David to adjust the White Balance later, if necessary, though it's a good idea to pick a suitable setting on the camera at the start, because it saves time later and keeps the colours consistent.



Work manually

Adam says... As well as choosing Manual White Balance, expose the shot manually. You don't want the camera to change its mind for each image just because it was a black truck last time and is a white one now. If the lighting and scene are the same, it's fine. Meter off the track – a nice, neutral tone – and close down by about 2/3 of a stop (the track is quite dark compared to a mid-tone grey).

Use AF-ON

Adam says... I never use the shutter button to focus. Instead, I showed David how to disable this and use the AF-ON button on his D200. If you set the camera to Continuous AF you get all three focus modes in one – press the button once with your thumb to focus, then leave it, which is equivalent to Manual; press once before each shot, like Single-shot AF; or keep it pressed so that you get Continuous AF.



HOT SHOT #02



DAVID SAYS...



“ On my training day at Brands Hatch I soon found out that you need to keep your wits about you at a race track! Adam kept up a barrage of tips as I was shooting these Caterhams, and the most valuable lesson was to not stop and admire what I'd done but to always be ready for the next shot. I missed the start of this spin at the famous Paddock Hill bend, but caught the end of it just as the red-and-silver car was coming to a halt on the gravel. I like the colours and the composition of this shot, including the orange vehicle in the top-right corner, spinning in the opposite direction.”

THE PRO'S KILLER KIT #02 NIKON D4

Adam says...

My previous camera, the D3s, is amazing, but the D4 is even better. I was shooting bikes last weekend and I caught a jump where a bike appeared to be hanging in the air – the AF hit it instantly, and I was quite shocked by how much better the camera was. I've noticed the increased resolution, and the colour and tones seem nicer. But the D4 isn't as good as the D3s at high ISOs. I've done back-to-back tests and I'd say it's probably more like the old D3.



▲ Pick your focus point

Adam doesn't use his Nikon D4's 3D-tracking predictive AF. Instead, he relies on a simpler method, choosing an AF point corresponding to where he expects the lead car to be in the frame (you should always focus on the front car). That's usually in the lower part of the picture. He then relies on the camera's continuous AF mode to keep it in focus as he follows it with the camera in Continuous mode



EXPOSURE 1/1600 sec, f/4.5, ISO200
LENS Nikon 300mm f/2.8G AF-S ED VR II

EXPERT INSIGHT



■ You won't get the shot if you're not ready. First, don't assume that all the action will be at the front of the pack. That's where the 'story' is from the point of view of the fans and the race results, but the back-markers fight just as hard, if not harder, so don't relax and lower your camera just because the front-runners have gone through. Listen for tyre squeals, crowd noise or other hints that something is happening. Monitor the commentary too, because that can warn you of tussles elsewhere on the track that could make for great shots as the cars pass you again.



▲ A race of two halves

If you want a shot of the whole field, you need to get it on the first lap, and ideally on the first corner. After that, the cars will spread out, so while you'll be able to concentrate on individual battles you won't get another chance to fill the frame. You often find that the tyres start to go 'off' later in the race, meaning more slides



PRO PORTFOLIO ADAM DUCKWORTH'S FAVOURITE SHOTS

Adam specialises in shooting motorcycles and mountain bikes. Here are some of his top portfolio shots...



Jumping in the Trees

“Two Nikon SB-800s were used to highlight this jumping mountain biker. A slow shutter speed gave some blur. One flash – which you can see in the frame, to the left – lit the rider's face and body. A second, behind him and to the right of the frame, gives some rim light.”



Freestyle

“Two Elinchrom Rangers were used to fill in the shadows on this freestyle rider.”



Bonneville Speed Week

“A biker prepares to set off on a high speed run at Bonneville Speed Week, in the USA. An Elinchrom Ranger Quadra flash created some highlights on the leathers, and a polarising filter added saturation.”



THE PRO'S KIT BAG

Adam shoots with a D4 and a D3x (shortly to be replaced by a D800) but what else has he got in his packed kit bag?

- Nikon 14-24mm, 24-70mm and 70-200mm zooms
- Nikon 50mm and 85mm primes
- Four SB-800 Speedlights
- PocketWizard Mini and FlexTT5 remote flash controllers
- ND and polarising filters

THE **N**Photo APPRENTICE

EXPERT INSIGHT

■ Shooting was suspended a few times because of the two things that, according to Adam, amateurs always run out of – memory cards and batteries. David had accumulated a number of smaller capacity memory cards of 2-4Gb, and these get used up quickly when you're shooting RAW files in Continuous mode. Even if you've got enough capacity overall, you waste time swapping cards and working out which you've used. While you're doing this, you could be missing the best shot of the day. Always carry spare batteries, too, and consider investing in a battery grip, which will let you shoot for longer without interruptions.



▶ Switch to vertical

Don't assume you have to take all your shots in a horizontal format. The curving downhill section of track in this picture makes for a striking composition. Longer lenses have tripod collars to take the weight and help you balance them, so instead of tilting the head on the monopod you loosen the collar and rotate the lens and camera



▼ It's the pits!

The action doesn't just happen out on the track – there's lots going on in the pit lane too, especially if a race is interrupted by rain or an incident on the track. Drivers will be coming in quickly to change tyres



HOT SHOT #03



EXPOSURE 1/800 sec, f/4.5, ISO320
LENS Nikon 300mm f/2.8G AF-S ED VR II



THE PRO'S KILLER KIT #03 NIKON 300mm f/2.8G

Adam says...

This is my standard optic that I use for everything. The AF is fast and the lens is really sharp, high in contrast and gives really nice colours. It's not even the latest version – I bought it 10 or 12 years ago for an F5 film camera, and it's still amazingly good. I'd like to get the new one, because it's got Nikon's Nano Crystal Coat. Given how long I've had it and the amount of pictures I've taken that have been on magazine covers, it's been the cheapest lens ever!



DAVID SAYS...



“Adam showed me how to look for compositional elements to use in the pictures, such as this green

run-off area and the red-and-white kerbing. The Brands Hatch circuit has some quite large elevation changes, and from the right positions you can fill the frame with the track with a long enough lens. The Nikon 300mm f/2.8 I used is effectively a 450mm on my Nikon D200. I was glad of a monopod to take the weight of the lens earlier on, but had to handhold my shots later on, because the cars were swooping downhill as well as moving across the frame. The monopod was too restrictive.”

HOT SHOT #04



EXPOSURE 1/160 sec, f/8, ISO200
LENS Nikon 70-200mm f/8 ED VR II

DAVID SAYS...



“Adam lent me his 70-200mm f/2.8 lens for this panning shot, which was taken on the outside of Druids Hairpin. Initially, my stance was all wrong – I was facing the cars as they arrived, and had to twist awkwardly as they went past. But once I overcame that it became much easier. After some experiments it turned out that shutter speeds between 1/100 sec and 1/200 sec gave just the right amount of background blur while keeping the car sharp. I particularly like the blur on the wheels, and the composition created by the curve of the track.”

“After some experiments it turned out that shutter speeds between 1/100 sec and 1/200 sec gave just the right amount of background blur”

EXPERT INSIGHT

■ The challenge with motorsport is to make cars look as though they're moving. If you're not careful, it can look like they're parked on the track. There are two ways to get a feeling of movement. One is to introduce blur with a careful choice of shutter speed, and the other is to capture cars in positions they shouldn't be in. Look for little things, such as cars jumping up as they hit kerbs, or trucks kicking up dust or spitting flames from their exhausts.



▲ The inside track

As a rule, spectators are kept well back from the outsides of corners, for their own safety. But if you can get on the inside of a bend then you might be able to get a lot closer

THE PRO'S KILLER KIT #04 GITZO GM5561T MONOPOD, ARCA SWISS P0 BALL HEAD

Adam says... I've got Arca Swiss heads on everything and don't want to have to swap plates, so I got the smallest and lightest ball head, which is the p0. I love Arca Swiss plates because they're shaped so the plate doesn't twist when the camera is mounted. The p0 uses a locking ring rather than a knob, and the pan axis is above the ball rather than below it, so you can level it off for panning shots.



▲ Panning from further away

The closer you are to your subject, the harder it is to get a good panning shot, because you're having to turn faster and over a wider angle to keep the car in the frame. It's easier if you get further away and use a longer lens. You still need to experiment to get the right shutter speed, but don't have to turn your body through such a large angle



8 PRO TIPS FOR GREAT MOTORSPORT SHOTS

■ The action is fast, colourful and exciting, which makes motorsport great to watch but tricky to photograph. Here are Adam Duckworth's top tips:

1 Know the sport

Do your research before you arrive. You need to know when the crucial moments are likely to happen, and whether there are specific events that would make great photo opportunities.

2 Scout out the venue

Get there early and have a good look around to suss out the best vantage points, where the action will happen and whether you can get a good angle. Is it sunny or overcast? Bright days are more colourful, but harsh shadows and backlighting can be a problem, so you might need to plan around the direction of the light.

3 Don't forget the rules

When faced with an exciting subject and lots of activity, many people forget photo basics, such as composition and light. All the rules of photography still apply!

4 Watch the background

Messy backdrops can kill great photos. Look for clean and simple settings that don't distract from the subject.

5 Learn to pan

Panning is a great way of putting movement into your shots. Keep it smooth, follow the action and continue moving even after you've pressed the shutter release. Try starting at 1/125 sec, though speed and distance are important.

6 Vary the scenes

Close-ups of vehicles, people in the pit lane or champagne spraying on the podium all make great images that tell the story as much as photos of cars or trucks in motion. Use different focal length lenses or a bit of flash if you can, to add variety to the composition and lighting.

7 Be prepared

Don't miss the crucial shots because you're fiddling with your camera settings or looking at the LCD. Shooting manually for consistent exposures means you can concentrate on what's happening in front of you.

8 Stay safe!

Don't stand in areas where you're not allowed, and always be alert to what's going on. No shot is worth getting injured for.

THE FINAL ASSESSMENT...

■ After a day of noise and excitement at the track, David and Adam retired to the Brands Hatch media centre to pick out the best of the day's shots...

DAVID SAYS...



“ I really like this shot because we found a viewpoint where the crest of the bend was just about at eye level. Combined with the long focal length, this provided a terrific perspective, capturing the car just as it was turning into the bend. The camera wasn't tilted for this shot – it shows the natural angle of the track, which makes the picture even more effective. It's where all of Adam's advice came together – finding the right position, the right lighting and the right camera settings. I've learned a lot today – I just hope I remember it all!”

ADAM'S VERDICT



“ David's come on really well today. Some people struggle just to get the car in the frame, and they zoom out far too wide, but David seemed to get that straight away. I was also keen to get him to take lots of shots.

After all, you've bought the expensive equipment, you've driven here and you've got the day off work, so why not just keep shooting? Always be ready for the next shot. You can have a quick look at your pictures immediately after taking them – are they sharp and are the settings right? But you don't need to zoom in and look at every one. The other secret is simply to understand your camera!”

“ I was keen to get David to take lots of shots. You've bought the expensive equipment, you've driven here and you've got the day off work, so why not just keep shooting? ”

NEXT ISSUE... BEAUTIFUL BOUDOIR SCENES EXPLAINED

■ We join our *N-Photo* Apprentice for a course in seductive boudoir shots, with help from Aspire Photography Training

ISSUE NINE ON SALE
THURSDAY 5 JULY

SHOT OF THE DAY!



EXPOSURE 1/1500 sec, f/4.5, ISO100
LENS Nikon 300mm f/2.8G AF-S ED VR II





HOW TO BE OUR NEXT APPRENTICE



Do you want to take your photography to the next level and learn first-hand from a top-flight pro? Then you could be our next *N-Photo* Apprentice! Let us know what you'd like help shooting and we could be taking you out for a one-on-one masterclass soon! Email mail@nphotomag.com, with 'Apprentice' as the subject line, or fill in the form below...

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LIGHTBOX

Nine pages of inspirational images from top Nikon photographers



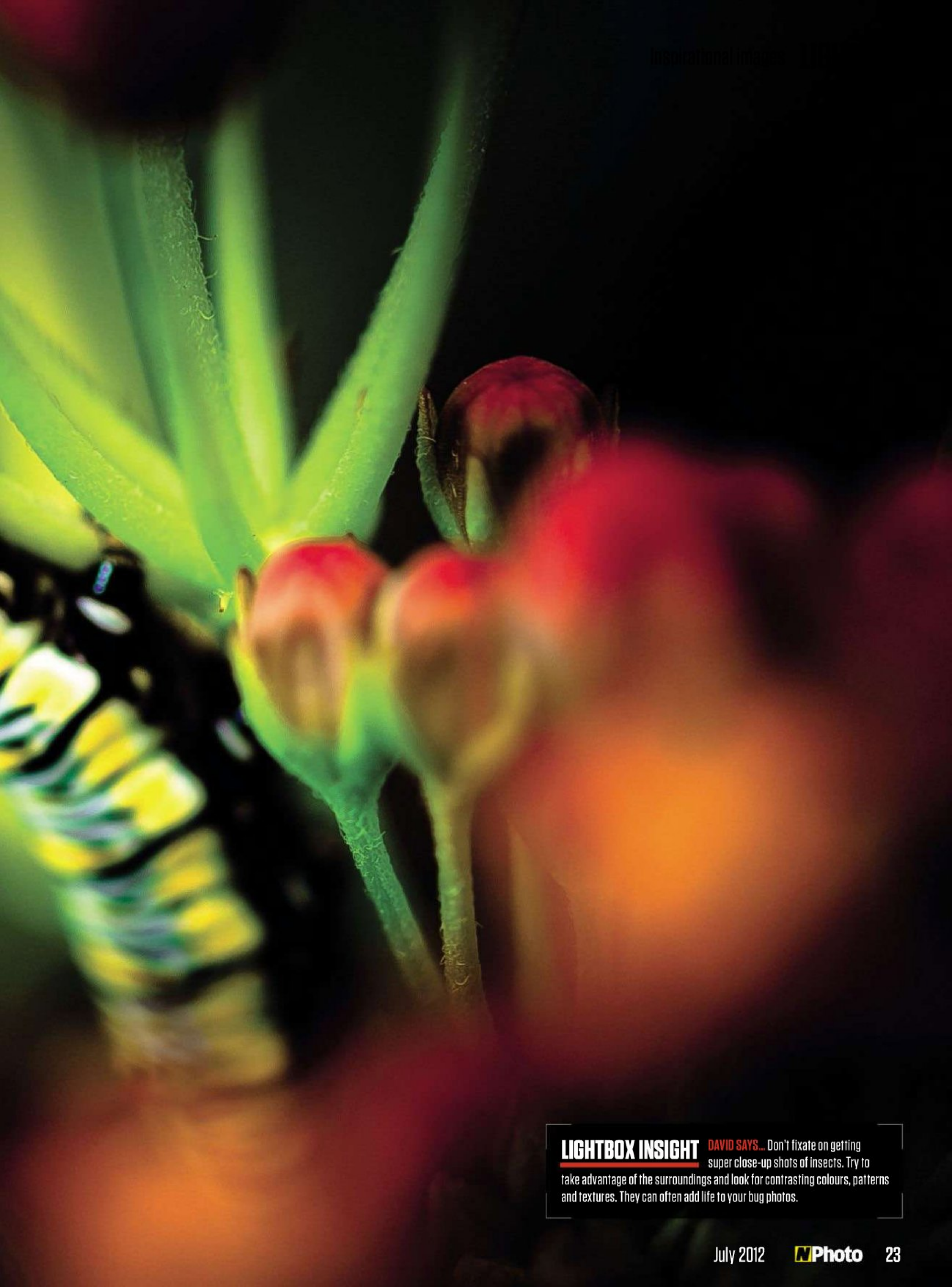
01 Life

★ David Wong, Hong Kong

“ This caterpillar was moving along extremely slowly, which meant that I was able to use a relatively slow shutter speed to keep the ISO setting (and therefore the noise) down. I used a pocket torch to brighten up the subject, and this also provided a heavy vignette effect that I think works really well for this particular macro shot. ”



Nikon D700, Nikon 105mm f/2.8G VR, Nikon TC-20E III teleconverter, 1/60 sec, f/10, ISO200



LIGHTBOX INSIGHT **DAVID SAYS...** Don't fixate on getting super close-up shots of insects. Try to take advantage of the surroundings and look for contrasting colours, patterns and textures. They can often add life to your bug photos.



02 Dancing on the wind

Magdalena Wasiczek, Poland

“ This image was captured late in the afternoon, in April this year. The sky was grey and the plants were wet from the rain, gently swaying in the wind. I used a mirror lens and two extension tubes. I then used Lightroom to reinforce the colour and contrast and improve the brightness. ”



Nikon D300, 300mm f/5.6 mirror lens, extension tubes, 1/640 sec, f/5.6, ISO320



03 First Sign of Spring

Magdalena Wasiczek, Poland

“ This image was captured in my garden this spring. The main character is the butterfly, one of the first to have appeared in my area this year. The afternoon light illuminated its wings as well as the flower petals. In Nikon Capture NX 2 I applied a filter from the Color Efex Pro collection, (Indian Summer) and played with the highlights and shadows. ”



Nikon D300, Tamron 90mm f/2.8 Di Macro, 1/500 sec, f/7.1, ISO250

04 Blue Island

Magdalena Wasiczek, Poland

“ I took this in the late afternoon, in the so-called ‘golden hour’ around sunset. The shell was lying on some moss, which glittered in the rays of the setting sun. This was the first picture I took with my mirror lens – optically, they’re not perfect, but I like the interesting bokeh they produce. Usually, nobody uses them for macro photography, but I really like to experiment, and it’s worked here. ”



Nikon D80, 300mm f/5.6 mirror lens, 1/125 sec, f/5.6, ISO125









05 Tokyo Rush

🇯🇵 Jose Alpuerto, Japan

“ In 2009 my family moved to Yokota Air Base, in Japan, and I’ve been here ever since. I first got into photography at 15, with my Nikon D60. From there I progressed to a D90 and then, finally, a D700. This photograph was taken on an overpass in Roppongi, Tokyo, during the 2011 DoDEA Far East Journalism Conference, when I was in my senior year at school. To get the shot I simply panned my camera as the cyclist moved along – I didn’t use a tripod. ”



Nikon D700, Nikon 85mm f/1.8D,
1/10 sec, f/3.5, ISO1000



06



06 Vortextastic

Paul Hodgson, UK

“ I teach my students that rainy days aren't the time to put your camera away – they're an excellent opportunity to craft images around the home. This shot was taken in my conservatory. I hung bright material outside the window, then photographed the rain on the panes. Mounting my D300 on a tripod, I rotated the the camera while holding the zoom collar to get the spiral-shaped burst effect you see here. ”



Nikon D300, Nikon 70-200mm f/2.8 VR,
1/5 sec, f/11, ISO100



07

07 Blood Red Dahlia

Paul Hodgson, UK

“ This flower was also photographed in our conservatory, but on a bright afternoon, which meant I had to dial in an exposure that would eradicate all ambient light – 1/80 sec at f/16 did the trick. A bare flash created the harsh shadows, crafting a more abstract image that reminds me of the horse-like creatures from *Avatar* – just not blue! ”




Nikon D300, Sigma 105mm f/2.8 EX DG
Macro, 1/80 sec, f/16, ISO200





08 Night Road

 Mikko Lagerstedt, Finland

“ This was taken during a blistering snowstorm near a town called Forssa, in Finland. I used a remote shutter release and a long exposure of 30 seconds. I set my camera up on a tripod, walked up the road to be in the photo and pressed the shutter release when I heard a truck coming round the corner. When I went back to see how the image looked I was really surprised by how atmospheric it was! ”



Nikon D90, Sigma 10-20mm f/4-5.6 EX DC HSM, 30 secs, f/5, ISO100



09 Space Needle

🇨🇦 Jonathan Ritter, Canada

“The goal with this photo was to capture a unique view of the Space Needle, in Seattle. Using a wide-angle lens I was able to stand at the base of the tower and include much of the concrete and reflective glass at the bottom. A high f-stop meant I could also get a clear look at the observation deck at the top of the structure. I was fortunate to have a blue sky in a usually rainy Seattle!”

📷 Nikon D3, Nikon 14-24mm f/2.8G ED AF-S, 1/40 sec, f/18, ISO200

10 Japanese Shinkansen

🇨🇦 Jonathan Ritter, Canada

“Waiting for a train to Kyoto, Japan, I wandered around the platform at Tokyo looking for a good angle of an N700 Shinkansen. I set up my camera, focused on the nose of the vehicle and tried to capture as much of the train and platform as possible. Japanese arrivals and departures happen very quickly, and the stations are incredibly busy, so you have to be in the right position at the right time.”

📷 Nikon D70, Nikon 18-70mm f/3.5-4.5G IF-ED AF-S, 1/100 sec, f/5, ISO200

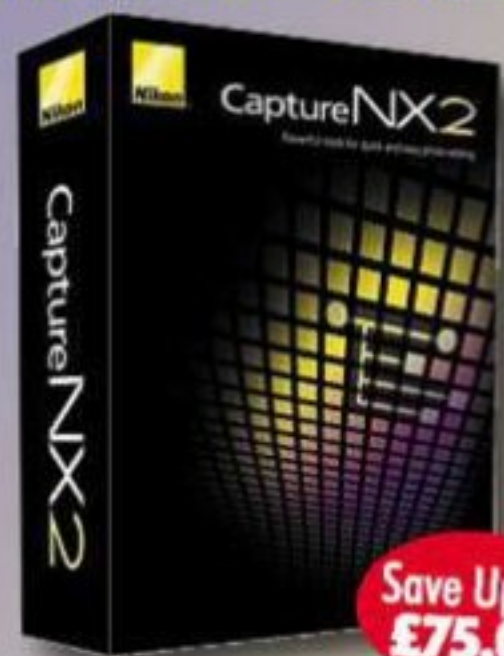


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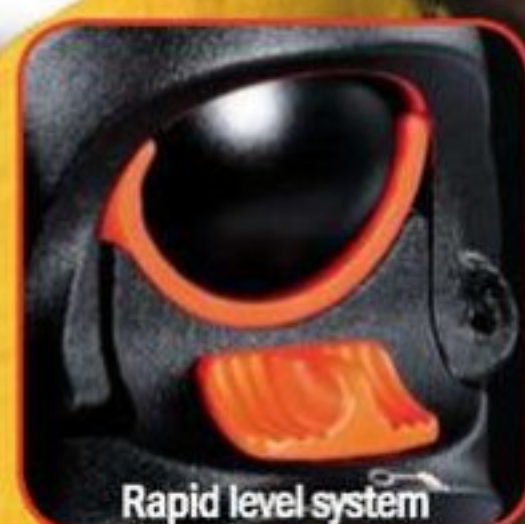
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GUIDE TO STRESS-FREE...

TRAVEL PHOTOGRAPHY

How do you take stand-out travel shots and still have a relaxing holiday? We show you how to get top photos without causing a family row...

In an ideal world we'd all be travel photographers, paid to criss-cross the globe and take stunning shots of exotic locations. Sadly, for most of us the reality is rather less perfect. We might get away once or twice a year, and have to squeeze in our photography while keeping everybody else happy – our partners, kids, friends and so on. That's where this feature comes in.

Over the next 10 pages you'll find plenty of practical tips and real-world advice to help you take great pictures on holiday without spoiling the fun for everyone else. You might be lucky, but we don't know many partners who'll happily get up at 5.30am as you photograph a sunrise over the beach. Or, for that matter, many kids who like sacrificing the hotel pool for an

afternoon spent lugging a heavy tripod around ruined temples.

We've got plenty of ideas on offer for Nikon D-SLR owners, and our tips will yield results wherever you find yourself this summer – be it Koh Samui or Cleethorpes. And to ensure that you're never short of something to shoot, we've also broken down this guide into times of day. Whether you're up at the crack of dawn or looking for exotic nightlife, you'll find some great ideas for fantastic shots.

Hopefully, the next few pages will inspire you to try something new on your next holiday. If you're still deciding where in the world to go, head to page 42, where you'll find our guide to the 75 photographic locations you should try to visit before you die...



+75
LOCATIONS TO
SHOOT BEFORE
YOU DIE!

WHAT YOU'LL LEARN...



EARLY MORNING

How to avoid the crowds and capture the best light



MIDDAY

What to shoot when the light's at its most harsh



AFTERNOON

How to protect your camera when you hit the beach



EVENING

Tricks and techniques for shooting the perfect sunset



WHERE TO GO

From deserts to Georgian towns, here's your bucket list



Inle Lake, Burma
Exposure: 1/60 sec, f/8, ISO200
Lens: Nikon 16-35mm f/4G

PART 1 7.27AM



EARLY MORNING

Set out before everyone else gets up and your shots will reward you

01 RISE AND SHINE

You might be on holiday, but getting up and about soon after first light is probably the best way to get good travel pictures and still enjoy a family break. Just sneak out before everyone else wakes up!

02 LONE RANGER

An early start means that you can spend an hour or so taking shots on your own, without the kids or your partner hassling you to move on before you've got the image you want.

03 TIME YOUR TRIP

Plan your jaunt so that you're back to have breakfast with your companions. The fry-up or hotel buffet will taste even better if you've earned it after a short photographic excursion!

04 BE ORGANISED

Clean your kit, pack your bag and charge your camera batteries the night before so that you're all set to go when you get up. Plan where you'll head to and what you're going to shoot the day before. That way, you can achieve lots with minimum disruption to your family or friends.

05 THINK ISO

It won't be as bright at first light, so if you're handholding the camera you may need to increase the ISO to 400 to ensure shake-free shots. Nikon D-SLRs are renowned for maintaining picture quality at higher ISOs, so your photos will still look great. A higher ISO also ensures that you aren't forced to use the widest lens apertures all the time.



TOP TIP BEAT THE CROWDS

Getting up early also means you'll avoid people interrupting your shots

■ The most photogenic places in the world are frequently those that attract the most tourists, and are often in the busiest places. Getting an early start pays dividends because you can get to spectacular landmarks before the coachloads of tourists arrive and ruin the ambience. Plus, you'll get a clearer, less cluttered view of the place. In bustling cities, you'll need to get into position before the rush hour gets under way. Be warned, though – many

historic sites don't open that early, so always check the tourist information before you head out at dawn.

■ Look at postcards and pictures in guidebooks, and try a search on Google Images. This will give you a good idea of the best things to photograph at your destination – and, more importantly, where to shoot them from. There's no dishonour in 'borrowing' other people's ideas!



Stratosphere, Las Vegas
Exposure: 1/1000 sec, f/6.3, ISO160
Lens: Sigma 10-20mm f/4-5.6 EX DC



ESSENTIAL KIT SCREW-IN BATTERY GRIP

■ **Why you need it:** It houses two batteries so that you won't run out of power far from the hotel.

■ **We recommend:** Nikon MB-D1 range

■ **Price:** From £199, \$225

PERFECT LIGHTING

Catch the best light by thinking about the time of day you take your photos

Most subjects look better if you avoid photographing them in the middle of the day – and this is especially true with travel pictures, because most of us go on holiday to warmer climates. The closer you get to the equator, the faster and higher in the sky the sun rises during the morning. This makes the midday lighting even more harsh. This effect is also more marked in summer than winter, tying in with the most popular time of year to go travelling.

Early in the day, the low angle of the light is great for landscapes. It helps reveal the undulations of the

scenery in a way that simply isn't possible in the middle of the day.

In the first hours of daylight, the light is softer and more diffused. The low angle of the sun means the light has to travel through more of the Earth's atmosphere. It's the dust and moisture particles in the air that create the diffused effect. If the sun is out, the light will also be warmer and more golden in colour.

Softer light means less contrast, with fewer distinct shadows. This makes it superb for capturing architecture – and makes it easier to balance exposures.

Venetian Hotel, Las Vegas
Exposure: 1/30 sec, f/8, ISO160
Lens: Nikon 70-200mm f/2.8 VR



ESSENTIAL KIT AIRLINE-FRIENDLY BAG

Why you need it:

Never put your camera in check-in luggage. Get a decent carry-on bag instead. Size restrictions vary between airlines, so check before you buy.

We recommend:

Tamrac Expedition 6x

Price: £120, \$220



Image: Alessandro Cancian, www.alessandrocan.com

SPECIAL FEATURE [Travel photography]**PART 2 12.04PM****MIDDAY**

Turn shopping trips and lunch stops into perfect photo opportunities

01 GO SHOPPING

Don't be disappointed if your family and friends want to go shopping rather than take photos. Markets are great places to shoot without the glare of midday sun or frustration of rain hindering your travel pictures.

02 LOOK LOCALLY

When arriving in a new place, find out when the local markets happen. They usually only take place once a week, so it's easy to miss these colourful events if you don't plan them into your itinerary.

03 TAKE YOUR TIME

Markets usually get started early in the day, but make for a good mid-morning excursion with the non-photographers in your

party. Most markets are partially covered to protect the produce from the elements, so it's rarely an advantage to be there at the very start.

04 THINK STILL LIFE

Try to see shop displays and stalls as a series of still-life shots. Move in close and use a zoom to isolate interesting shapes and colours. Look out for the potential patterns created by stallholders and shopkeepers stacking similar objects together.

05 GET HIGH

Find a high vantage point, such as a church tower, and shoot the hustle and bustle of a market from above. The more unusual angles you can work from, the more interesting your photos will become.

**TOP TIP PEOPLE SKILLS**

Make the effort to chat to the locals for the most rewarding pictures

■ At home or abroad, search out attractively laid-out boutiques selling local products, or traditional stores that time seems to have forgotten. Taking successful pictures in these locations means being brave and getting the shopkeeper on board!

■ Chat to the store owner, smile and ask if you can take pictures of the shop. Then ask if they wouldn't mind posing, too. The addition of a person in the frame will make for a much better image. You'll probably need to light the scene, so use your pop-up flash in Aperture Priority (A) mode. Even better, use an external Nikon Speedlight and bounce the light off a wall or ceiling.

**ESSENTIAL KIT
PLUG ADAPTOR**

■ **Why you need it:** You'll be able to charge your camera batteries and plug in your laptop anywhere from Brussels to Bangkok.

■ **We recommend:** Fujifilm World Adaptor

■ **Price:** £20, \$32

Marrakech, Morocco

Exposure: 1/500 sec, f/4, ISO400
Lens: Sigma 28-70mm f/2.8 EX DG

Image: Gavin Gough

DON'T STOP AT LUNCH

Pick the right restaurant and you can take enticing pictures as you eat!

Use your meal times wisely. Many restaurants are photogenic locations in their own right, with interesting interiors, great gardens or kitchens that you can see from your seat. Others have fantastic views. Persuade your companions to fill up at the one that will provide the best shots!

Food can be a work of art – carefully prepared to look perfect on the plate. The secret is to

resist eating it for a few seconds when it arrives at the table. Take a picture of it first, framing it against an uncluttered background. Like all the best recipe books, use the widest aperture on your lens so that only some of the food is sharp, with the rest being blurred. Set your D-SLR to Aperture Priority (A) and use the thumbwheel to pick an aperture between f/5.6 and f/2.8. Increase the ISO if light levels are very low.



Italian seafood

Exposure: 1/125 sec, f/5.6, ISO200
Lens: Sigma 28-70mm f/2.8 EX DG



Tuscan market

Exposure: 1/200 sec, f/3.2, ISO400
Lens: Sigma 28-70mm f/2.8 EX DG

ESSENTIAL KIT PORTABLE HARD DRIVE

■ **Why you need it:** Back up and store all your precious photos when you're away from your PC.

■ **We recommend:** Epson P-3000 Multimedia Storage Viewer 40Gb

■ **Price:** £300, \$475



PART 3 4.30PM



AFTERNOON

Take your Nikon D-SLR with you as you head for the beach

01 THINK DIFFERENT

Just because you're on holiday, it doesn't mean you just have to take travel pictures. With the free time you have on your hands, you can have a go at photographing any subject, such as wildlife, sports or portraiture – whatever takes your fancy. A fresh location gives you different events, unusual creatures and fresh backdrops to use as you hone your skills.

02 WATERSPORT

Watersports are a good challenge for you and your Nikon as your friends and family enjoy an afternoon at the beach. For shots of surfers, waterskiers and parascenders you'll need a long telephoto lens – a zoom with a 300mm setting will do nicely. Use Shutter Priority (S) mode and set a shutter speed of

1/1000 sec or faster. Take lots of photos to increase your chances of getting a top shot.

03 FILTERING

Polarisers (see right) can boost the saturation in colourful, blue-sky beach shots. However, be careful when using them with wide-angle lenses, as the effect can be patchy across the frame.

04 KEEP KIT CLEAN

Water and sand can ruin a camera, so be extra cautious. To protect the front element of your lens from salt spray, consider fitting a UV or Skylight filter. Use a blower to remove grains of sand, and wipe off any spray immediately. Change lenses in a sheltered spot and wrap your kit in plastic bags when it's not in use.



TOP TIP CREATURE COMFORTS

You'll have time on holiday to get close to local wildlife

■ Wildlife photographers spend hours, even days, trying to get the perfect picture. Many of us don't have the time to be as dedicated back home, but on holiday you'll have the odd hour to try to capture lizards or seabirds.

■ Good wildlife shots are as much about getting in close as using long lenses. You'll have to use stealth and approach

your subject slowly to get a good vantage point.

■ To get sharp shots, don't gamble with a wide aperture. Set a mid-range aperture (f/8 or f/11) so you have enough depth of field. The picture will then still be in focus even if the creature moves.

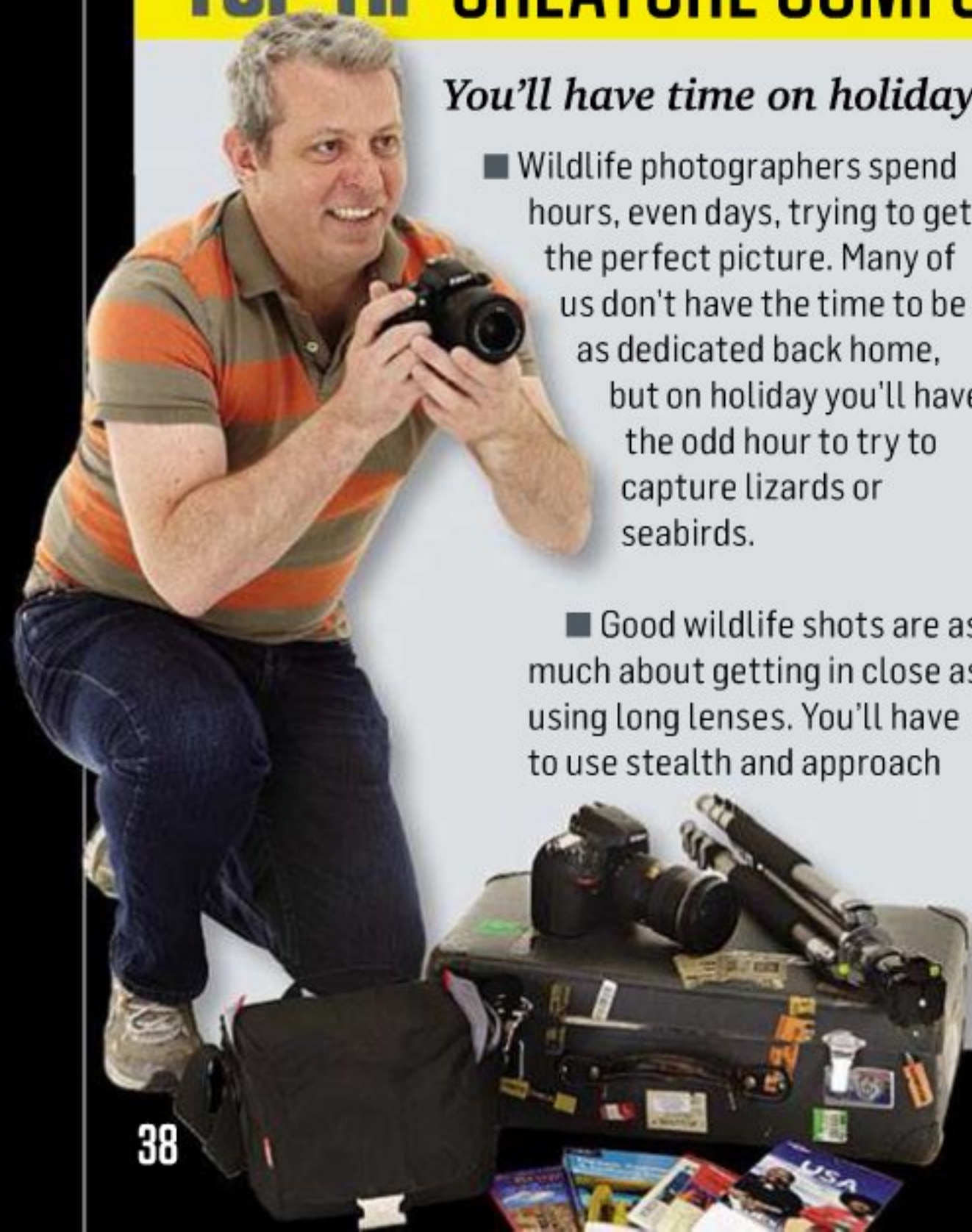
■ Focus on your subject's eyes if it's stationary, using the best-positioned focusing point that your Nikon offers. With moving subjects, keep all the AF points active, set the focus to Continuous AF-C and let the camera do the hard work for you.



LOCAL LIZARDS

Exposure: 1/250 sec, f/14, ISO200

Lens: Sigma 70-300mm f/4.5-5.6 DG OS



ESSENTIAL KIT POLARISING FILTER

■ Why you need it:

Use this fantastic filter to enhance blue skies and boost contrast as well as reduce reflections on glass or water.

■ We recommend:

Jessops Circular Polarising Filter

■ Price: From £30, \$47



DON'T FORGET THE FAMILY

Look at your holiday as the ideal time to freshen up the family album

■ Use the unusual backdrops that you find to create exotic portraits of your partners and children. They'll have more time to spare than usual, so they might even be more co-operative than usual!

■ Beaches are great places for portraits. The sea offers an uncluttered skyline and the sand makes a great reflector, bouncing light into subjects' faces.

■ Avoid the squints! Instead of shooting portraits where the sun is facing your family (and probably blinding them), position yourself so that the sun is behind them or off to the side. This means that their faces will be in shadow – use the camera's pop-up flash to reveal detail.

■ Pictures of children look best when taken at their eye level, so make the effort to get low.

Barbados

Exposure: 1/1000 sec, f/13, ISO400

Lens: Sigma 70-300mm f/4-5.6 DG OS



ESSENTIAL KIT SUPERZOOM

■ Why you need it:

You can travel light and not have to keep changing lenses – superzooms are great all-in-one travel lenses.

■ We recommend:

Nikon 18-200mm f/3.5-5.6G AF-S VR II

■ Price: £550, \$845



Beach baby

Exposure: 1/1000 sec, f/5, ISO400

Lens: Sigma 28-70mm f/2.8 EX DG

PART 4 7.00PM



EVENING

How to shoot the perfect sunset and capture the local night life

01 THE FOREGROUND

No holiday album is complete without the perfect sunset. But with the golden colours it's all too easy to think that all you need to do is press the shutter. To get a great shot, however, it's best not to shoot the sky on its own. Try to ensure that there's something in the foreground that helps give the shot a focal point and identify your location. A building, palm tree or boat will usually create a lovely silhouette.

02 OPEN WATER

Maximise the colour of your sunset by including water in the frame. The surface will reflect the colour of the sky, doubling the amount of colour in the scene. The reflection will be a stop or so darker than the sky, so consider using an ND grad over the sky.

03 AUTO WB

The Auto WB setting is fine in the day, but at dusk it can try to filter out the orange and red hues you want to capture. Instead, set the White Balance to Cloudy or Shade. This will make your shot even warmer than in reality. If you shoot in RAW (as we'd recommend) you can alter the colour balance easily when you get home. However, using a White Balance preset will make your shots look better as you show them to friends and family on your camera's LCD screen.

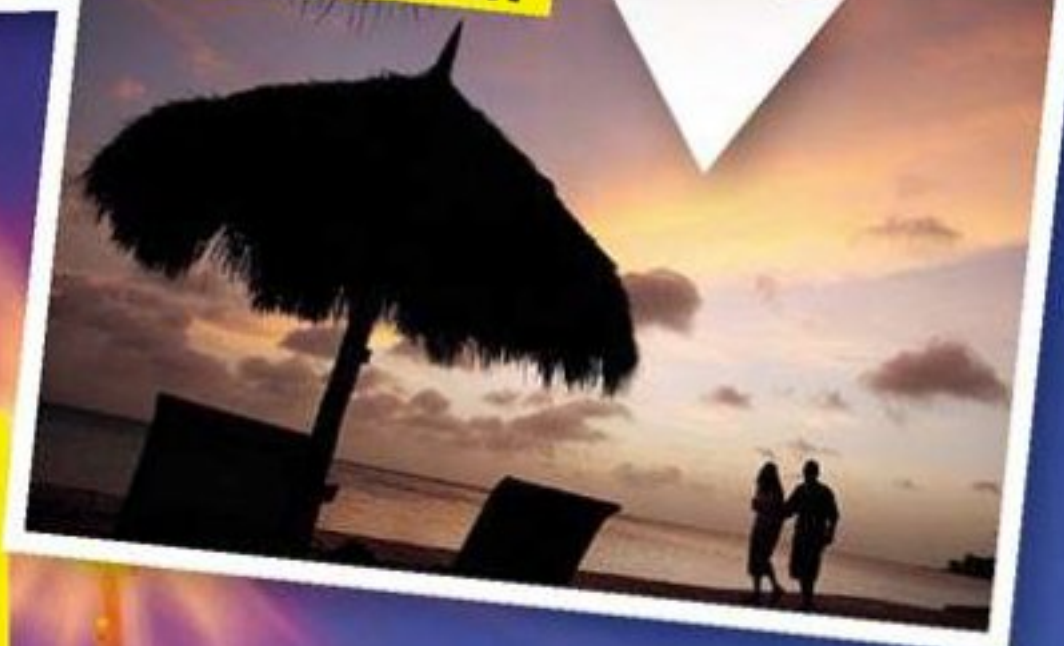
04 GOING DARK

If you include the sun in the frame, the camera might be fooled into underexposure and the picture will appear too dark. Check the histogram after the shot and dial in positive compensation if required.

NO FOCAL POINT



WITH FOCAL POINT



ESSENTIAL KIT NETBOOK

- **Why you need it:** Back up your pictures on the move, review them on a big screen, process RAW files and upload them to photo websites.
- **We recommend:** Acer Aspire range
- **Price:** £350, \$550

TOP TIP THAT'S ENTERTAINMENT

Many resorts come alive after dark, so why not take your Nikon out for the night?

■ Choose your bar or restaurant carefully (as you did for lunch, see [page 37](#)). For example, a flamenco display or belly dancer will give you something to shoot when the sun goes down. Don't use flash or a tripod. Instead, try a slow shutter speed – 1/30 sec or slower – to create artistically blurred images that capture the spectacle in an evocative way.

■ Pick well-lit eateries. If a restaurant isn't fairly bright it will be impossible to get decent shots – even if you crank up the ISO. Don't be afraid to use ISO settings of 3200 or higher. The shots may be a bit grainy, but think of this as adding to the atmosphere.



VIVA LAS VEGAS

Exposure: 1/30 sec, f/8, ISO500. Lens: Sigma 28-70mm f/2.8 EX DG

■ Neon signs and street furniture can add a vibrant centre of interest to your pictures. Try zooming the lens during a long exposure for a creative twist.

ESSENTIAL KIT TRAVEL TRIPOD

■ **Why you need it:** To take sharp shots in low light, so at dawn, dusk and after dark. Travel tripods offer stability, but without the size and weight of a regular tripod.

■ **We recommend:** Joby Gorillapod SLR-Zoom

■ **Price:** £50, \$50



Swadagon Pagoda, Burma

Exposure: 1/60 sec, f/14, ISO100

Lens: Nikon 16-35mm f/4G

FLOODLIT PICTURES

For the most dramatic night photos, don't wait until the wee small hours...

■ As darkness falls, the lights of towns and cities switch on, and these provide lots of new photo opportunities. You don't even need a tripod. You can often simply put your camera on a wall and use the self-timer to take shake-free shots.

■ The best time to shoot floodlit buildings isn't in the dead of night but just after it gets dark. Shoot then and you'll still retain some colour in the sky (even if this

isn't visible to the naked eye) rather than creating a drab, black backdrop.

■ When faced with mixed lighting, your camera can struggle to set an accurate White Balance. You might need to fine-tune the setting (press the right arrow while a White Balance option is highlighted in the menu) or create a custom White Balance in Manual. Shoot NEF files for maximum flexibility, as you can tweak the settings later.

10 PM



9 PM



Orvieto, Italy

Exposure: 1/1000 sec, f/5, ISO400

Lens: Sigma 28-70mm f/2.8 EX DG

SPECIAL FEATURE [Travel photography]

01 NEW YORK, USA

Superb street photography and classic city views beckon...

BEST FOR: Street photography



02 GALÁPAGOS ISLANDS

This group should top any photographer's wish list.

BEST FOR: Unique wildlife



03 LONDON, UK

With wall-to-wall iconic imagery, it's hard to know what to shoot first.

BEST FOR: Architecture



04 KENYA, AFRICA

The Masai Mara has made the careers of some wildlife pros.

BEST FOR: Africa's 'Big Five'



09 RIO CARNIVAL, BRAZIL

Some 4.9 million people attended the colourful celebrations last year.

BEST FOR: Street photography



YOUR GUIDE TO...



75 PHOTOGRAPHIC LOCATIONS TO VISIT BEFORE YOU DIE

Plan your next photographic expedition with our top places to take your Nikon D-SLR

WISH YOU WERE HERE?

Locations near and far

11 WHITE SANDS, NEW MEXICO

A stunning area of desert that resembles the moon.

12 CARLSBAD CAVERNS, NEW MEXICO

See breathtaking stalactites and stalactites here.

13 ANTELOPE CANYON, ARIZONA

The most visited slot canyon in the vast south-west of America.

14 BRYCE CANYON, UTAH

A rough, earthy-red, natural amphitheatre

15 NATIONAL MALL, WASHINGTON, DC

With that famous spire it's a must for architecture.

16 SAVANNAH, GEORGIA

Step back in time in this well-preserved southern city.

17 PUGET SOUND, WASHINGTON STATE

Puget's coastline is packed with islands and wildlife.

18 CHICAGO, ILLINOIS

A bustling, rich source of inspiration for fans of gritty street photography.

19 JACKSON HOLE, WYOMING

Shoot the winding Snake River and local elk refuges.

20 MALIGNE LAKE, ALBERTA

Known for its crystal waters and mountain views.

21 BANFF, ALBERTA

Use this as a perfect base for exploring the vast Canadian Rockies.

22 BIAŁOWIEŻA FOREST, POLAND

Europe's premier protected, primeval forest.

23 TOLEDO, SPAIN

This ancient mountain-top city offers a 150-degree view.

24 CINQUE TERRE, ITALY

Capture the rugged but beautiful coastline along the Italian Riviera.

25 CÔTE DE GRANT ROSE, FRANCE

Miles of pink granite rock formations and rosy sand.

26 BLACK FOREST, GERMANY

Pay a visit to the Triberg waterfalls here.

27 SAN SEBASTIÁN, SPAIN

A bustling urban sprawl and pristine beaches, with a cathedral that's famous among pilgrims of The Way.

28 BLEĐ, SLOVENIA

Each year, landscape enthusiasts flock to the lake and its island castle.

29 ARAN ISLANDS, IRELAND

Shoot Iron Age forts and a wealth of plant life.

30 DINGLE PENINSULA, IRELAND

This band of sandstone offers good landscapes and the quaint town of Dingle.

31 THE GREAT PYRAMIDS, EGYPT

Finding new ways to frame them is part of the fun.

32 MARRAKECH, MOROCCO

The médina is always colourful and bustling, and there's always something new to shoot.

33 THE DANAKIL DESERT, ETHIOPIA

Red hot, but rich in unusual desert colours and contours.

34 OMO RIVER, ETHIOPIA

The valley cuts through some stunning scenery.

35 VICTORIA FALLS, ZIMBABWE

At 1708m wide, this sheet of water is incredibly striking.

36 PETRA, JORDAN

Fill 100 SD cards in this archaeological paradise and it still won't be enough.

37 SOCOTRA, YEMEN

This archipelago of four islands is famous for its unique flora.

38 KYOTO, JAPAN

Where pre-war buildings mix with modern ones.

39 ST PETERSBURG, RUSSIA

For classic Russian architecture, head to the Winter Palace.

05 TROMSØ, NORWAY

A great base for photographing the Northern Lights. Wrap up warm!
BEST FOR: Northern Lights



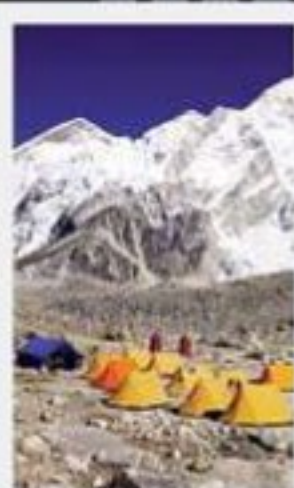
07 HONG KONG

A really fascinating location on so many levels. Head to the bustling harbour.
BEST FOR: Urban scenes



06 NEPAL

That's right – all of it. You can shoot fantastic travel portraits and scenery here.
BEST FOR: Culture, landscapes



08 SOUTHERN ALPS, NEW ZEALAND

An epic landscape of towering mountains, sweeping glaciers, deep valleys and lakes.
BEST FOR: Peak-rich panoramas



10 SYDNEY, AUSTRALIA

The Sydney skyline is one of the world's most recognisable, with the Opera House standing out.
BEST FOR: Sunny, modern scenes



TOP 10 FOR LANDSCAPES

Where to shoot epic mountain ranges, searing deserts and rugged coasts

66 YOSEMITE, USA

The stomping ground of the legendary Ansel Adams.

67 ZION NATIONAL PARK, USA

The American south-west is a magnet for landscape pros.

68 ANTARCTIC PENINSULA

Expensive to get to and bitterly cold, but worth it.

69 PATAGONIA

A truly wild location, shared between Chile and Argentina.

70 LAKE DISTRICT, UK

Probably the most beloved landscape in Britain.

71 DOLOMITES, ITALY

This mountain range is a UNESCO World Heritage Site.

72 JURASSIC COAST, UK

Its ancient landforms are worth a long weekend.

73 NORWEGIAN FJORDS

Mystical waterways full of wildlife and stunning views.

74 NAMIB DESERT, NAMIBIA

One of the most uninhabited places on Earth.

75 ICELAND

Hot springs and active volcanoes – a very cool place.

Images: Fotolia

40 KAZAKH STEPPE, KAZAKHSTAN

The largest dry steppe on Earth is a haunting place.

41 XIANJIANG, CHINA

A diverse landscape that's steeped in history.

42 MONGOLIA

Lush and desolate plains, local horse races, wrestling and more!

43 JAIPUR, INDIA

There's plenty of astonishing structural beauty to keep you busy.

44 GOA, INDIA

Famous for its stunning beaches, but also offering diverse fauna and flora.

45 ANGKOR WAT, CAMBODIA

An ancient city that has great views at sunset.

46 NAZCA LINES, PERU

If you can get in the air, shoot the line drawings etched into the landscape.

47 THE PANTANAL, BRAZIL

Head to the world's biggest wetlands in the rainy season for lush greenery.

48 MACHU PICCHU, PERU

The 'Lost City of the Incas' perches on a mountain and is pure camera food.

49 TIKAL NATIONAL PARK, GUATEMALA

Monumental architecture set within dramatic backdrops.

50 MERIDA AND CANAIMA, VENEZUELA

A sparsely populated, wildlife-rich archipelago.

51 OAXACA, MEXICO

This former Aztec stronghold offsets blue skies with sandy architecture.

52 THE CENOTES, MEXICO

A collection of deep sinkholes that are ripe for underwater photography.

53 NEW GUINEA

The old ways of living off the land are absorbing to witness on this large island.

54 FRENCH POLYNESIA

Immerse yourself in local culture on the islands.

55 EASTER ISLAND

The famous statues, plus lots of volcanic features set against the Pacific sun.

56 HAWAII VOLCANOES NTL PARK

Amazing landscapes and breathtaking biodiversity.

57 CORAL TRIANGLE, PACIFIC OCEAN

The 'Amazon of the Seas' is a nature photography nirvana.

58 GREAT BARRIER REEF, AUSTRALIA

Dubbed one of the seven natural wonders of the world.

59 FREYCINET NATIONAL PARK, TASMANIA

Famous for its granite peaks and Wineglass Bay.

60 PEAK DISTRICT, UK

Head to the edges for spectacularly British views.

61 BATH, UK

We recommend the Royal Crescent and famous Roman Baths.

62 YORK, UK

A stunningly preserved medieval town.

63 DARTMOOR, UK

The granite tors add drama to an already wild, bleak landscape.

64 ZENNOR TO ST IVES, CORNWALL

A route with stone circles and fields of lavender.

65 KILCHURN CASTLE, SCOTLAND

This ruined castle sits on a peninsula at Loch Awe.

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- Landscape masterclass
- Tom Jenkins interview
- Telephoto zooms tested
- Zoom bursts explained



ISSUE 2

- D-SLR crash course
- Travel masterclass
- Eight flashguns tested
- Waterfall tips and tricks



ISSUE 3

- Studio portraits ■ SLR skills for winter ■ Strobist techniques ■ Wide-angle zooms ■ ND grads



ISSUE 4

- All about RAW ■ Nikon D4 pullout ■ Masterclass with Chris Weston ■ All-in-one superzooms tested



ISSUE 5

- Light painting workshop ■ Standard zooms tested ■ Time-lapse sequences ■ Nikon D800 preview



ISSUE 6

- Secrets for super-sharp shots ■ Macro lenses on test ■ Bill Frakes interview ■ Heather Angel workshop

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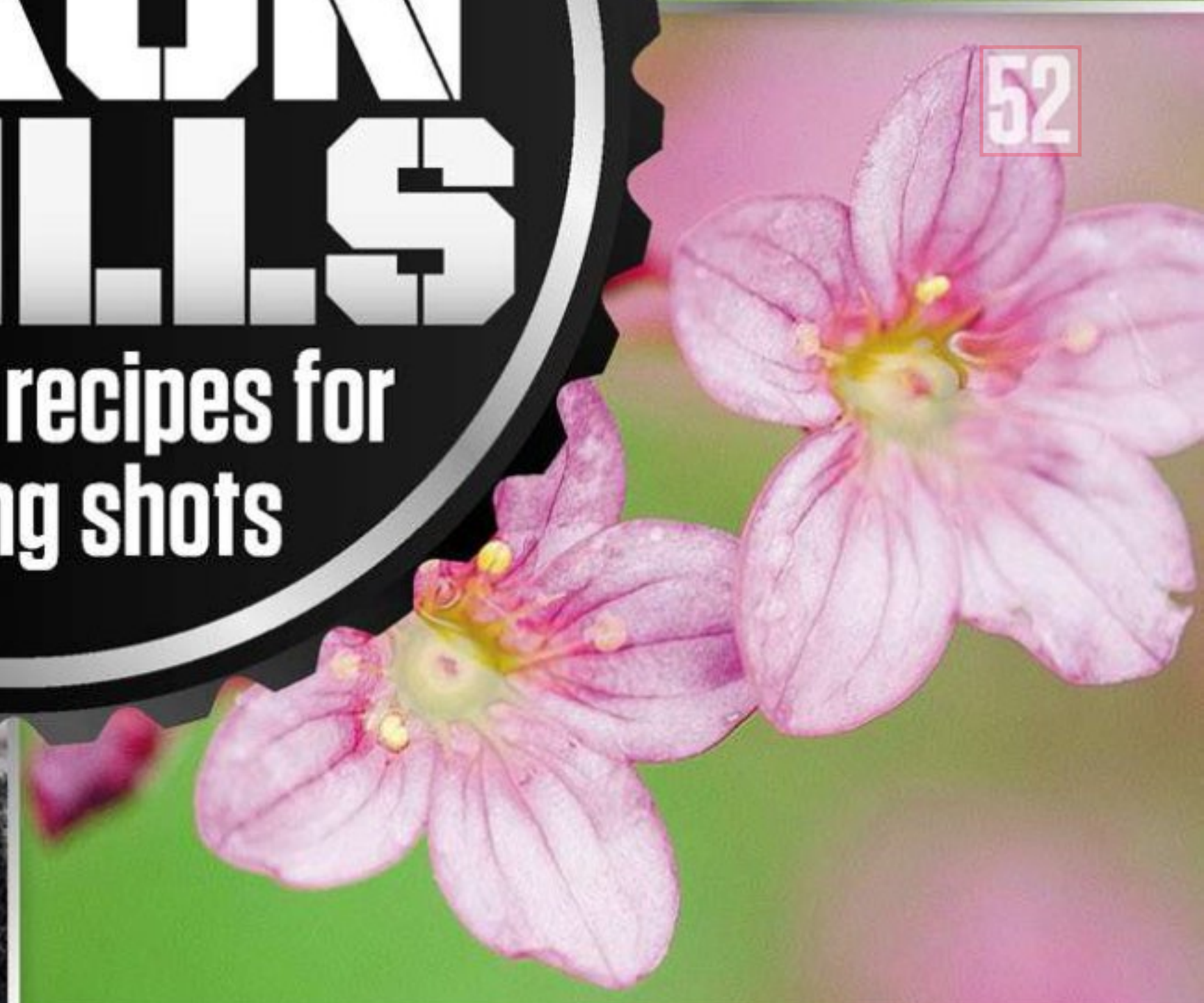
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Chris

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How to get the safari style using a telephoto lens and some clever tricks

PROJECT TWO | GEAR SKILLS

52 **Ring flowers with flash**
Make your macro shots sharper and brighter by adding a ring flash to your setup

PROJECT THREE | DIGITAL DARKROOM

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Add a wash of colour to your images using Photoshop's Gradient Map tool

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Mimic the beautiful lens pattern by adding blurry shapes in Photoshop

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July 2012

NPhoto

47

THE MISSION

■ Get natural-looking wildlife shots at zoos or safari parks

TIME NEEDED

■ 1 day

SKILL LEVEL

■ Anyone can do it
■ Some tricky aspects
■ Advanced technique

KIT NEEDED

■ Nikon D-SLR
■ Telephoto zoom

PROJECT ONE | CAMERA TECHNIQUES

Make your zoo shots natural

Rod Lawton shows how a telephoto zoom plus some clever practical tricks and editing processes equals great wildlife shots

■ **Animals make great subjects, but they're not always easy to photograph, even in captivity.**

That said, zoos and wildlife parks are great places to hone your wildlife photography skills. They allow you to get closer to the animals than you would in the wild. For this tutorial, we went to the Cotswold Wildlife Park and Gardens, Oxfordshire, to show you how to get shots to be proud of.

The first thing you'll need is a telephoto lens. Nikon's 55-300mm or 70-300mm zooms would be ideal, as the maximum effective focal length they give on a DX-format camera is about 450mm. This should be adequate even for larger enclosures, where animals are further away.

Longer focal lengths take a little practice, which is why environments like zoos are ideal. They also increase the risk of camera-shake. As a quick guide, use the 'reciprocal rule', where you divide the effective focal length into '1' to get the minimum 'safe' shutter speed. For example, if you're shooting at an effective focal length of 250mm, your minimum speed should be 1/250 sec. The VR system on many Nikon lenses will help cut camera-shake, but it can't prevent subject movement. You'll still need

faster shutter speeds to capture moving animals.

We'd recommend shooting RAW files rather than JPEGs, too. You won't always have time to think about the perfect settings when you're shooting, and NEFs give you more flexibility to edit settings later on.

The walkthrough below gives more tips on the best camera settings to use at zoos, but we've also got plenty of advice on how to get better animal shots in the artificial surroundings of a wildlife park....

“Zoos and wildlife parks are great places to hone your wildlife photography skills. They allow you to get closer to the animals than you would in the wild”

Press this button!



NEXT ISSUE...

Head to the beach to shoot a slow shutter speed seascape

STEP BY STEP | Go wild with your camera

There's no need to go on safari to get better views of animals...

Despite what you might assume, it's not essential to have an expensive camera and fancy, dedicated lenses to get great wildlife pictures. A Nikon D4 and 300mm f/2.8 would be lovely to have, certainly, but you can do very nicely with a D3100 and ordinary telephoto zoom. The real skill lies in choosing the right camera settings, getting plenty of practice with longer lenses and learning to overcome some of the difficulties involved with photographing animals in captivity.



01 Use Aperture Priority

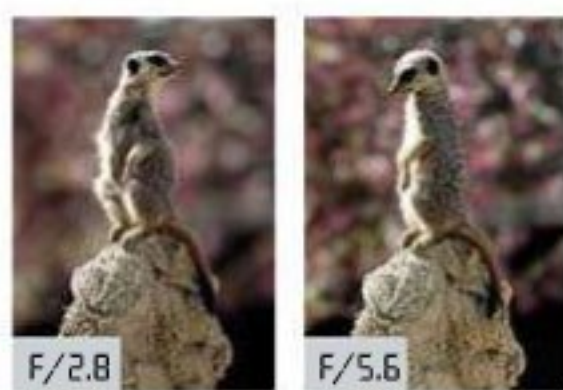
You might think that the obvious way to set a high shutter speed would be by using Shutter Priority (S) mode. In fact, Aperture Priority (A) is better. If you set the widest lens aperture (f/5.6 on the 300mm optic we're using, for example) then you automatically get the fastest shutter speed available for the conditions.



02 Increase the ISO

For relatively static subjects, a shutter speed of 1/250 sec is a workable minimum, but 1/500 sec or 1/1000 sec is better, especially if the animal is moving. To get these shutter speeds, you might need to increase the ISO. On reasonably bright days, ISO 200 or ISO 400 should be enough when you're shooting at f/5.6.





PRO LENSES

■ An 'amateur' telephoto will usually have a maximum aperture of f/5.6 at its top zoom setting, while a pro lens such as the Nikon 70-200mm f/2.8 will have a constant maximum aperture. This makes a big difference. The picture on the left was shot at f/2.8, with a beautifully defocused background and a shutter speed of 1/2000 sec to freeze any movement. The picture on the right was shot at f/5.6 – the extra depth of field has made the background sharper and more cluttered, and the smaller aperture forced a shutter speed of just 1/500 sec.



03 Autofocus options

You might also need to check autofocus settings. One of the problems with the standard Auto-area AF mode is that you can't always be sure what the camera is going to focus on. Instead, try Single-point AF and select AF-C (continuous) so that the camera keeps refocusing as your subject moves. Then choose the focus point yourself.



06 Shooting indoors

Like many centres, the Cotswold Wildlife Park has indoor exhibits. The artificial light in this reptile house poses problems with brightness, but increasing the ISO to 1600 keeps the shutter speed at 1/30 sec or above, which is fine for slow subjects. Shoot NEFs and fix White Balance later.



04 Set up a monopod

Even with faster shutter speeds, keeping your camera steady can be tricky. A monopod is a sound investment if you use longer lenses a lot. The 300mm f/2.8 we've got here is a monster, but even a light lens can feel heavy after a day's shooting. The extra steadiness a monopod provides makes it easier to frame long-range shots more accurately.



07 Check the exposure

Assessing exposure can be tricky indoors, because the LCD is so bright that even underexposed shots look fine. When you play back your shot, check the histogram to make sure the exposure is okay. Apply compensation and reshoot if you need to – bright lights can make the camera underexpose.

KEY SKILL | Cloning experiments

What to do when the surroundings get in the way

■ Here, our original image has the makings of a really sweet shot. However, the fencing around the giraffe enclosure has got in the way somewhat. There was very little we could do about this situation at the time – the giraffes simply decided that the tastiest tidbits were on the otherside of the wire, so that was the scene we had to work with. However, with a little time spent in Photoshop it's possible to get rid of the ugly mesh and make the setting look a whole lot more natural.



Clone Stamp settings

Tip number one is to create a new, empty layer, select the Clone Stamp tool and set the popup menu in the Options bar to All Layers. When you clone, it should all be done on the blank layer, leaving the original image untouched underneath. If your efforts go wrong, you can just erase the bit that hasn't worked and try again.



05 Hide fences

Where you've got animals in captivity, you also get cages. But if you get really close, the mesh of the fence will be so far out of focus that it disappears. You might lose a little contrast, but you can fix that in an image-editor. This also works with glass – just rest the lens against the surface.



08 Review your shots

Finally, when you're relaxing in the cafe after a long day's shooting, take a proper look at your photos. Many Nikon D-SLRs will let you convert RAW files in-camera, saving new versions as JPEGs. Now's your chance to experiment with exposure and White Balance settings for indoor and outdoor shots.



Clone Stamp technique

Keep changing the clone source, especially if you're cloning out large areas. If you don't do this, you'll end up re-cloning bits you've already repaired, producing repeating patterns. For fixes that cross edges, choose your clone source carefully – pick a 'good' line that's exactly parallel to the one you want to work on.

TAKE IT FURTHER | Animal behaviour

The more you know about your subjects the better

It's a lot easier to get good shots of animals when you know a little about their natural behaviours. Once you know what they might do at

certain points of the day, or in company, it's important to have the patience to wait for them to put on their right display.



Peacock displays

Peacocks aren't usually great for photography, as a rule. Their plumage is normally folded up, and their long tails produce an elongated shape that's difficult to shoot. If you're patient, though, you might be treated to a full display. For the best results, zoom in so that the colourful tail feathers fill the frame – it's unlikely that the background is going to add much to the picture.



Ostrich alert

At a zoo, there aren't many animals nosier than ostriches. They might be going about their business when you arrive at their enclosure, but if you wait around they'll soon spot you and want to know what's going on.



Dozing lions

Sleepy big cats don't make for very dynamic subjects, but if you stick around long enough they might reward you with a huge yawn that bares those fearsome teeth and shows the full size of the jaw.



QUICK TIP! Many ring flash units have a built-in modelling lamp that shines an LED on the subject and helps you autofocus accurately, even in low light

PROJECT TWO | GEAR SKILLS

Ring flowers with light

If you want to give a lift to your macro shots, you need a flashgun that's attached to your camera's lens. **Chris George** explains how to choose and use a ring flash

Press this button!



THE MISSION

■ Learn how to use ring flash for close-ups

TIME NEEDED

■ 20 minutes

SKILL LEVEL

- Anyone can do it
- Some tricky aspects
- Advanced technique

KIT NEEDED

- D-SLR ■ Macro lens
- Ring flash ■ Filter ring adaptor

NEXT ISSUE...

Shoot at low levels for a new perspective

■ Even on a sunny day, a flashgun is a useful accessory for the close-up photographer.

As you carefully frame flowers and butterflies with your macro lens, it's all too easy for you and your camera to cast a shadow across the very thing you want to shoot. What's more, the flash gives you more scope to use the narrow apertures that will ensure you get enough depth of field to keep the whole subject sharp.

Unfortunately, pop-up flash or a high-power hotshoe gun is of little help. When you're up close with an

ordinary flash, the lens itself casts a shadow across the picture. The solution is to use a specialist macro flashgun known as a ring flash, with the flash tubes attaching to the front of the lens. This means there are no problems with shadows created by the camera. The unit also creates even lighting to maximise detail and colour in the subject.

Ring flashes aren't just for keen nature-watchers, though – they're a must-have for many medical and scientific photographers. You'll often see them in the hands of the

forensic stars of TV's *CSI*, or in orthodontists' surgeries.

There are two types available. A genuine ring flash uses a circular flash tube to provide even lighting around the subject. The advantage is that it creates doughnut-shaped catchlights in eyes if you use it for portraits. The alternative is a twin-flash design, which uses two small flash tubes on opposite sides of the lens. These usually have large, semi-circular diffusers to mimic the all-round lighting of a genuine ring flash. The advantage is that you can vary each tube's output independently, so you can create a sidelit effect that can look better than the flat lighting of a genuine ring flash. Now let's see how ring flashes should be used...

“A genuine ring flash uses a circular flash tube to provide even lighting around the subject, and it will create doughnut-shaped catchlights in your subjects' eyes if you use it for portraits”

STEP BY STEP | One ring flash to rule them all

A specialist macro flash will light up the smallest subjects in an even-handed way



01 Ring flash anatomy

Most ring flashes have four components. The capacitor and control unit fit onto the hotshoe of your camera. Via a lead, they link to the circular unit containing the flash tubes and a diffuser. The flash tube clips onto the front of the lens using a screw-in adaptor.



02 Evenly does it

Typically, macro ring flashes have two tubes – one on each side of the lens, behind semi-circular diffusers. These can be set to provide the same amount of lighting, providing shadowless illumination of the subject that's just in front of the lens.



WATCH THE BACKDROP

When you're shooting flowers at an ultra-close range, you have very little depth of field, even if you use a narrow aperture such as f/22. Therefore, choose the spot that you focus on with care! Irritatingly, backgrounds can be distracting even if they're out of focus, so watch out for these too. Look for an angle that gives you a uniform, uncluttered backdrop to shoot your close-up study against.

03 Power up

Ring flashes have a guide number of about 15 (m/ISO100), so are no more powerful than pop-up flashes. However, because they're used much closer to the subject, this is more than enough power to let you use the small apertures that are needed for many macro pictures.

04 Vary the ratio

As you would expect, you can vary the power of a ring flash automatically or manually. However, you can also alter the strength of the two tubes independently. Using a ratio of 4:1, say, rather than 1:1, will give your images a more three-dimensional lighting effect.

TOP TIPS | Pick the perfect ring flash

Ring flashes aren't all the same – here's what to look out for...

01 Twin flash

Most portable ring flashes use a twin-flash tube arrangement. Examples include the Sigma EM-140 DG and Nissin MF18.



02 Adaptors

Ring flashes come with a limited range of adaptors. Make sure you get one that fits on the filter ring of your macro lens.



03 Circular flash

The Sunpak Auto 16R Pro and budget Marumi DRF14 have circular flash tubes. These give nice catchlights when used for portraits.

04 Wireless flash

Metz's Mecablitz 15 MS-1 has the capacitor and controls built into the flash. It's fired using your pop-up flash in Commander mode.



05 Pure luxury

Nikon doesn't make a ring flash, but has a wireless twin-flash system – the RIC1. With the commander, this costs £599 (\$750).

PROJECT THREE | DIGITAL DARKROOM

Split up colours

Add traditional darkroom effects to your images with Photoshop's handy Gradient Map tool – **Ben Brain** shows how to split tones...

THE MISSION

■ To add a wash of colour to an image

TIME NEEDED

■ 30 minutes

SKILL LEVEL

■ Anyone can do it
■ Some tricky aspects
■ Advanced technique

KIT NEEDED

■ Photoshop CS6


NEXT ISSUE...


Get an X-ray effect using Photoshop

■ Play around with Photoshop for a little while and you'll soon realise that there are usually several ways to achieve the same result. The rule applies to replicating traditional darkroom effects, whether you're making a duotone, a split tone or mimicking the subtle nuances of a selenium print.

In this walkthrough we're going to recreate traditional darkroom effects using a Gradient Map. This Photoshop tool is often overlooked, which is a great shame as it's an amazingly powerful and versatile aid. As its name suggests, it's a gradient – a blend of several colours that's mapped onto the tones in your image. For example,

a simple two-colour gradient might have a deep blue at the shadow end of the slider and a light blue at the highlight end. Mapping these colours to the range of tones in your shot will result in an image with dark blue shadows and light blue highlights – a duotone image, effectively.

Our Gradient Map will be applied as an Adjustment Layer. As such, it will be non-destructive and also totally re-editable – you can go back at any time and tweak the settings or change the colours. We'll also teach you how to create your own gradients and save them to a library of presets for use on other images. So, let's take a closer look at a wonderful tool... 

Press this button! 



QUICK TIP! If you create a gradient that you really like, you can name it, save it and load it into your presets so you can use it on other images without too much hassle





“Photoshop’s Gradient Map tool is often overlooked, which is a great shame as it’s an amazingly powerful and versatile aid” ▶

KEY SKILL | Mapping to an image

Familiarise yourself with the Gradient Editor and unleash your creativity!

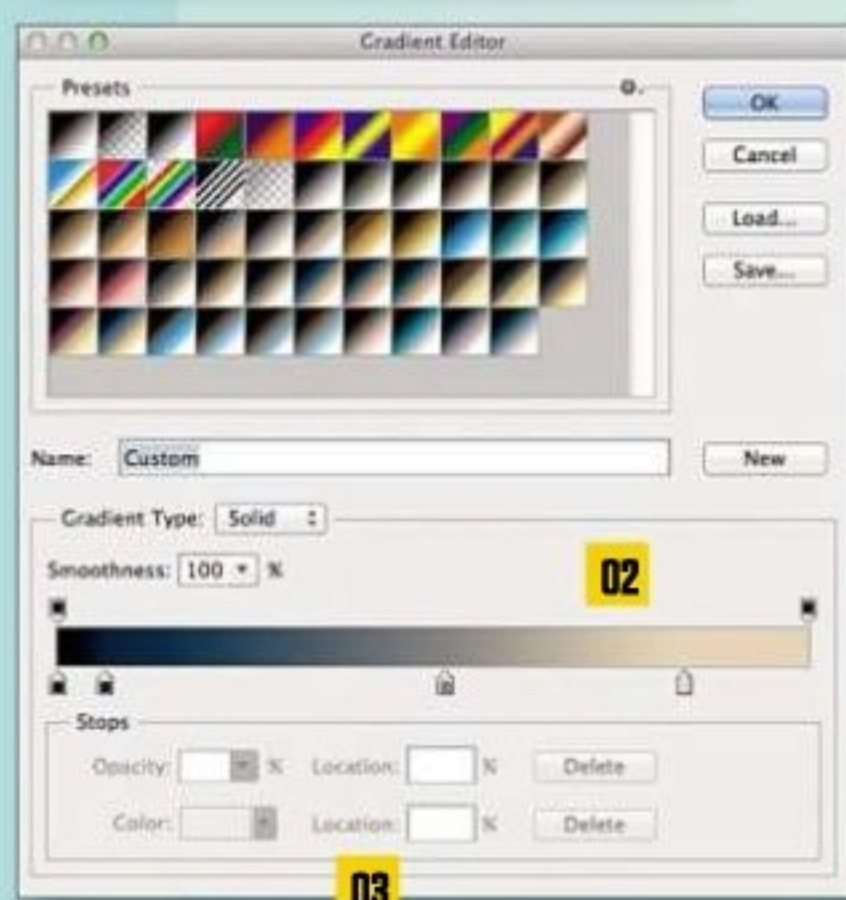
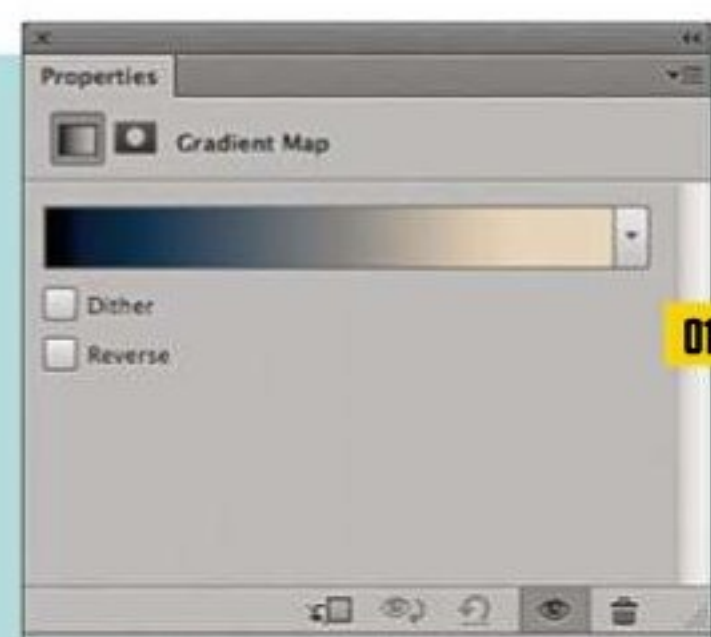
Photoshop's intuitive Gradient Editor makes it really simple to add a map of colour to your images. Have a play to understand your options.

01 Properties

A Gradient Map can be added as an Adjustment Layer. Go to Layer > New Adjustment Layer > Gradient Map. On the Properties popup, click on the gradient. Pick a tone and it will be mapped to your image. Now try different Blend Modes for your layer – Color is a good starting point.

02 Gradient Type

There are two types of gradient available in this dropdown menu – Solid and Noise. The former creates a gradual blend between the hues, while the latter offers a series of random colour bands. It's worth experimenting, but the Solid option usually gives the best results.



03 Color Stops

You can add as many Color Stops as you like by clicking on the gradient scale. Click the square icon and specify a hue from the Color Picker (Stop Color). Take time to look at the presets to see what works well in a tone transition. Once you've found a good combination, name it and save it to your library.

04 Use presets

There are a number of preset gradients that you can select from the flyout menu. Many of them look quite ugly to begin with but offer a good starting point. The new Photographic Toning presets in CS6 are great. You can also make your own gradients, or download pre-made ones and add them to your library.



DIFFERENT OPTIONS | Sample gradients

Whether you're working on a portrait or a landscape, here are some tones you can add with CS6

Here's a selection of the new Gradient Map presets available in Photoshop CS6, to give you an idea of the effects you can now create. Experiment with them to see which suit your scene best.



PROJECT FOUR | SPECIAL EFFECTS

Head to Toytown

Want to get the tilt-shift look on the cheap? Chris Rutter plays with scale in-camera

THE MISSION

■ Replicate the tilt-shift lens look

TIME NEEDED

■ 30 minutes

SKILL LEVEL

■ Anyone can do it
■ Some tricky aspects
■ Advanced technique


KIT NEEDED

■ Nikon D-SLR with built-in Miniature Effect (D3100, D5100, D7000, D3200, D800)

NEXT ISSUE...

Go abstract by panning across a still subject

■ With a shallow strip of sharp detail and the rest of the scene out of focus, the miniature effect can give your shots real impact. It usually works best with scenes shot from a high viewpoint, as you can isolate the foreground from the background. The higher angle also makes it seem as though you're looking down on model people.

The classic way to get the effect is to use a tilt-shift lens. However, at more than £1300 (\$2115) they're costly for a 'novelty' technique. You could go for a cheaper option, such as an optic from the Lensbaby range, but even the most basic version costs about £80 (\$125). For the occasional shot, the built-in Miniature Effect feature offered on many Nikon D-SLR Retouch menus is a great alternative. 

Before



Press this button!

WATCH OUR VIDEO!

QUICK TIP! For the best results from the miniature effect, try a subject or composition with an obvious focal point

STEP BY STEP | Get the miniature effect

Forget expensive PC-E and Lensbaby optics and let your D-SLR do all the hard work



01 Enable rotations

You need to make sure that you can apply the miniature effect to both portrait (upright) and landscape (horizontal) shots. Before you shoot any portrait images, make sure photos will be automatically rotated – in the Setup menu, scroll to 'Auto image rotation' and set it to On.



02 Shoot and select

The effect works best with images that have been shot from a high vantage point. Once you've taken your image, go to the Retouch menu and scroll down to the 'Miniature effect' option. Choose the image that you want to transform using the thumbnails displayed on the LCD.



03 Perfect the look

The image will appear on-screen, with a box indicating the area that will be sharp. You can move this area using the multi-selector pad on the back of the camera. Try previewing the effect by pressing the Magnify button. When you're happy with the result, press OK.

PROJECT FIVE | TAKE IT FURTHER

Broaden the spectrum

Ben Brain reveals how you can capture the haunting hues and ghostly tones of infrared

THE MISSION

■ Shoot an atmospheric infrared scene

TIME NEEDED

■ 30 minutes

SKILL LEVEL

- Anyone can do it
- Some tricky aspects
- Advanced technique

KIT NEEDED

- Nikon D-SLR
- Infrared filter
- Tripod ■ Photoshop CS4 or above

NEXT ISSUE...

How to customise your controls for sport

■ Infrared light isn't normally visible to the human eye, but in some circumstances it's possible to capture it with your camera. The results can be stunning, lending a haunting appearance to outdoor scenes. The effect works particularly well on bright, sunny days in summer, when there are plenty of photosynthesising leaves on the trees.

Most digital cameras have an infrared blocker that's great for regular photography but obviously not for infrared work. Removing the filter from the sensor is a tricky and pricey process, so don't try it at home! A creative alternative is to use an infrared filter such as the Hoya Infrared R72 used here. These IR filters screw in to the front of the lens and cost from £35 (\$57). The filter will block out most of the visible light, only allowing infrared through. You'll get good results but will need to adapt the way you shoot, as the filter will be dark and dense. Here's what to do... [icon]



STEP BY STEP | Change the tone

All you need is good weather and a little help from Photoshop



01 Check the weather

Whether you're using an infrared filter or a converted camera, it's best to shoot on a bright day. If you do, the blue skies will be captured as sumptuous dark tones, while the photosynthesising foliage will be recorded in white, almost snow-like hues.



02 Set up properly

If you're using a filter, exposures will be long due to the density of the add-on – 30 seconds at ISO100 and f/8 on a sunny day wouldn't be unusual. A sturdy tripod is essential. It's also a good idea to lock the mirror in the up position and use a cable release or self-timer.



03 Focus and compose

It's difficult to see through the filter when it's attached to your lens, so you'll have to compose and focus your scene first. The exposure is likely to be skewed a little, so use the histogram to assess it correctly. You should focus and expose manually too.



THE RIGHT LENS

■ If you've got an old D-SLR gathering dust at the back of a cupboard, removing the infrared-blocking filter from the sensor is a great way to give it a new lease of life. Some companies will do this for you, including ACS (www.advancedcamera services.co.uk) and Life Pixel (www.lifepixel.com). The process can be expensive (about £300) and will of course mean that you'll have a permanently dedicated infrared camera. The main advantage is that you won't be restricted by long exposures.

QUICK TIP!
Traditional infrared film shots can be grainy – replicate this effect by adding some digital noise from Photoshop's Filter menu



04 Prepare to process

Straight out of the camera, your infrared images will be bright red and need to be processed in the digital darkroom. You can make a simple black-and-white conversion (seestep 06) or swap the Red and Blue channels for striking and surreal shades.



05 Convert colours

Go to Image > Adjustments > Channel Mixer, select the Red Output Channel and move the Red slider to 0 and the Blue slider to 100. Next, select the Blue Output Channel and set the Blue slider to 0 and the Red to 100. Now go to Image > Adjustments and choose Auto Tone.



06 Go mono

Infrared images are normally presented in black and white, so we've used a Black & White Adjustment Layer. Use a Curves Adjustment Layer to tweak the contrast and darken the sky. For the ethereal glow, add a Gaussian Blur layer and set the Blend mode to Soft Light.

PROJECT SIX | CREATIVE PHOTOSHOP

Fake the bokeh effect

James Paterson creates an out-of-focus effect in Photoshop to add interest to a boring background

THE MISSION

Create coloured circles that mimic lensbokeh

TIME NEEDED

20 minutes

SKILL LEVEL

Anyone can do it
Some tricky aspects
Advanced technique

KIT NEEDED

Photoshop Elements 9 or 10

NEXT ISSUE...

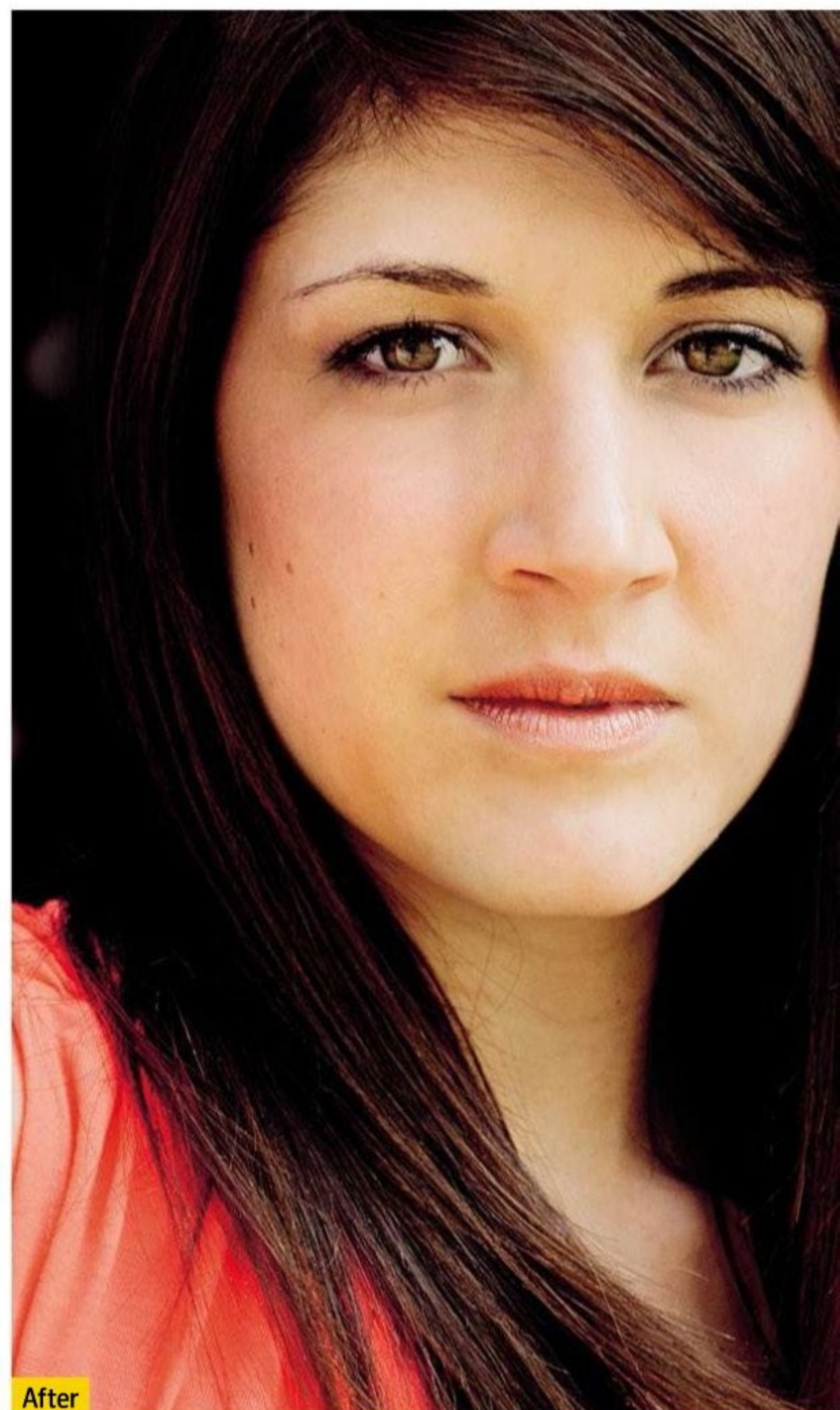
Add character for grittier portraits

Out-of-focus highlights often result in spots known as 'bokeh'. The effect is particularly apparent at night, when lights from street lamps, windows and cars are captured as pretty patterns. How bokeh looks is determined by several factors. Aperture, focal length and distance from a subject all play a part, as do lensquality and number of aperture blades.

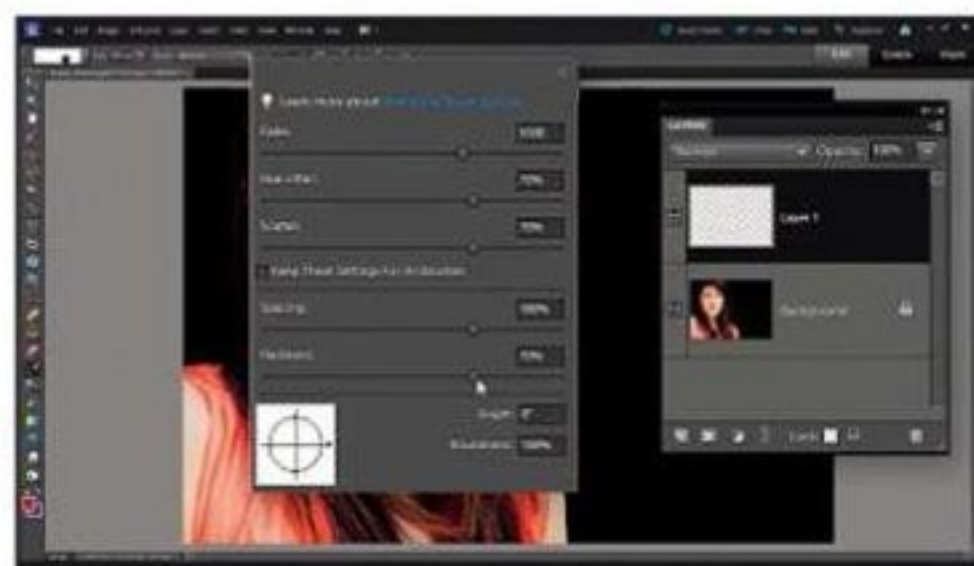
While it's satisfying to capture bokeh in-camera, success is dependent on location and background detail. Alternatively, you can add bokeh in post-processing, as we show here. This means you can control exactly where the blurry shapes appear, and sample hues from the image to create a complementary colour scheme. The project is all about experimenting with different settings. Vary the size, colour and transparency of the circles, then add different strengths of blur. Rather than paint every circle, we'll tell you how to create several shapes at once and duplicate layers quickly...

STEP BY STEP | Add bokeh to your shots

The Photoshop settings you need to fake the lens effect



After



01 Set up a brush

Open bokeh_before.jpg and go to Window > Layers. Click the Create New Layer icon. Grab the Brush tool and click the paintbrush icon to access Additional Brush Options. Set Fade to 5500, Hue Jitter to 70%, Scatter to 70%, Spacing to 180% and Hardness to 70%.



02 Paint patterns

Click the foreground colour swatch and then sample a tone of your choice from the image. Drag over the black background to begin painting the bokeh circles. The brush settings you try should result in subtle variations in colour and opacity within the circles.



03 Make a circle

Create a new layer and choose a different colour. Go back to Additional Brush Options and bring Scatter down to 0, then paint a single circle. Next, go to the dropdown menu at the top of the Layers panel and choose Linear Dodge. Lower the Opacity of the layer to about 80%.

Press this button!



TRANSFORM CONTROLS

■ When you're working with lots of shapes on different layers, it really speeds up the technique if you tailor the Move tool to suit your needs. Select the aid and then look at the options along the top of the display. By checking 'Auto Select Layer' and 'Show Bounding Box' you can click shapes to target the layer they're on, then use the bounding box to resize without having to wade through panel settings and menus. This extra control leads to a more creative, flexible workflow.



QUICK TIP! To copy and move a cluster of layers quickly, draw a box around them with the Move tool, then hold Alt and drag



04 Make quick copies

Grab the Move tool from the Tools panel and make sure Show Transform Controls is selected at the top of the display. Hold Alt, then click and drag over the circle layer to make a copy. Repeat this over and over to make lots more circles. Position them around the scene.



05 Build up the effect

Use the bounding box around each circle to resize and vary the Opacity of each (do this quickly by hitting 1 for 10%, 6 for 60% and so on). Repeat step 3 to make different coloured circles in the same way. Build up the effect and experiment with settings.



06 Apply blur

Click a circle and go to Filter > Blur > Gaussian Blur. Set Radius to 10px. Click circles and use Cmd/Ctrl+F to apply blur repeatedly. Add a Photo Filter Adjustment Layer at the top of the stack, set to Sepia. Add a Brightness/Contrast Adjustment Layer (Brightness: 20, Contrast: 13).

THE MISSION

Blend images together for perfectly exposed landscapes

TIME NEEDED

1 hour

SKILL LEVEL

Anyone can do it
Some tricky aspects
Advanced technique

KIT NEEDED

Nikon D-SLR
Kit lens Tripod
Shutter release
Photoshop Elements 10

PROJECT SEVEN | THE BIG PROJECT

Blend up the perfect exposure

Get your exposure spot-on by shooting three separate images of the same scene and then blending them together – **Ali Jennings** shows you how...

If you like shooting landscapes then you'll know the value of shooting during the 'golden hour'.

If you've never heard the term before, it simply refers to the first and last hour of light in the day. It's at this time that the light becomes slightly diffused and the colours get warmer.

As the sun dips or rises above the horizon, some long, interesting shadows are drawn out. Even on overcast mornings, warmth can come through. While the vibrance of dawn might become subdued, the diffused light enables you to capture detailed landscapes that are difficult to record at any other time of day.


Whatever the conditions, one of the major issues with shooting during

the golden hour is the changing light, and the different settings needed to capture it while recording as much detail as possible. Often, the low angle of the sun means the differences in exposure can vary greatly in a scene.

One quick and easy solution to dawn or dusk's changing light is to use your Nikon's exposure bracketing feature to take three images, with a stop or two difference between each. This technique helps capture the full tonal range of a scene but limits your flexibility, usually only enabling an exposure difference of one, two or three stops on either side of the suggested exposure. This might help you capture the tonal graduation of the sky perfectly, but will often leave

the darker areas of the foreground in deep shadow.

In this tutorial we're going to look at how to use the histogram to gauge the exposure of a scene and adjust the shutter speed so we can capture three images with the exposures we need. It's a technique that's not too dissimilar to automatic exposure bracketing, but it's a bit more flexible.

The best locations for exposure blending are often off the beaten track, so you'll be pleased to learn that you only need the basics for this tutorial – a camera, a tripod and a shutter release. Once the images have been captured, it's a case of blending them together in Photoshop Elements 10, which is an easy process. 

Press this button!



NEXT ISSUE...

Use stroboscopic flash to capture an action sequence

STEP BY STEP | Blend a sequence of exposures

From the initial shoot to your computer at home, here's what to do...

As with any shoot, if you make the effort to find a good location and give yourself enough time to set up before the sun breaks, capturing the images you need can be straightforward. One of the most important factors is to create a steady base for your camera. With that in mind, once the tripod legs are extended and in position, give the tripod body a good push down to make sure it's bedded on the ground firmly.



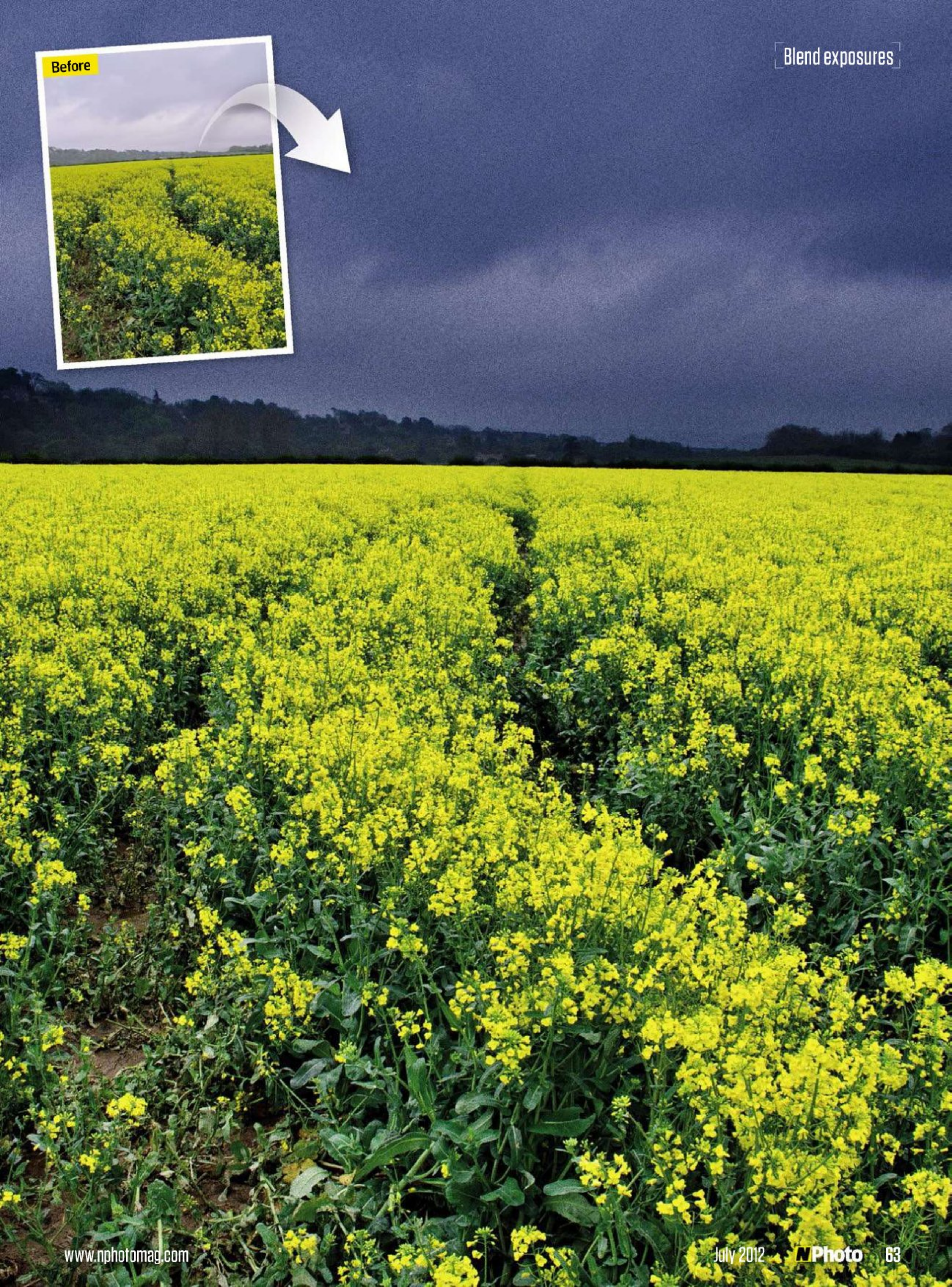
01 Find a firm base

To capture the full beauty of the morning light, get up early, before the sun breaks the horizon. The lack of light can make setting up a little tricky, so make sure you pack a torch. Once you've found your location, set up your tripod and pull the legs out fully. Only extend the central column if essential, as the tripod needs to be as steady as possible.



02 Compose the scene

If your tripod has a hook under the central column, attach your bag to it to provide extra stability. Now attach your camera in portrait orientation so you can capture a good amount of sky and foreground detail. This will emphasise the dramatic effect of our exposure blend. Use the rule of thirds, positioning the horizon in the top third of the image. ►



ACTIVE D-LIGHTING

■ We want to capture as many tones as possible in both the shadow and highlight areas of the final image. To do this, we're using exposure blending, overlaying three images to record the greatest possible range of tonal graduation. While this works well in areas that are easy to mask, the finer detail in the image can still be lost. To help restore that detail, we're using Nikon's Active D-Lighting feature. This is found in the Shooting menu, with five different settings available. Choosing the right one for your scene is a matter of trial and error.



D-LIGHTING ON



D-LIGHTING OFF

These two images show the difference between Active D-Lighting being switched off and being used on a High setting. Looking at the images, you can see that the one taken with Active D-Lighting contains more tonal graduation in both the sky and foreground shadows. We can then use the exposure blending technique to produce a picture that shows off the scene's full tonal range.



03 Set the sensitivity

The first camera parameter we want to take a look at is sensitivity. Set your D-SLR to its lowest sensitivity setting. This will make the sensor less sensitive to light but will allow for more tonal graduation and colour to be captured. A lower sensitivity will also help minimise the amount of noise that will appear in the images.



04 Set your own stops

The difference in exposure settings needed to capture the detail of the rapeseed field is going to be several stops. In order to capture the maximum amount of detail for each part of the landscape, we'll need to capture several shots, each with different exposure times, to blend together in Photoshop. Turn the mode dial to the Manual setting.



05 Use Active D-Lighting

To capture the maximum amount of detail, switch on Active D-Lighting. To do this, choose Active D-Lighting from the Shooting menu and click OK. On the next screen, pick High. You can increase or decrease the effect depending on how the image looks. If the conditions aren't right, the D-Lighting can give an HDR effect, which we want to avoid.

What you need for successful exposure blending

Bungee cord

Not the first piece of equipment you'd think of packing for landscape photography, but really handy for attaching your bag to the tripod. This will add an extra bit of weight that will help with the setup's overall stability.

Tripod

When you're shooting landscapes, one of the most important pieces of kit is a sturdy tripod. The Manfrotto 055XB provides a firm base and loads of height. It should also last you for years.



06 Lock the mirror

On some Nikons, the release mode dial is under the mode dial. Turn this to MUP – locking the mirror will help reduce vibration. To further avoid camera-shake, use a shutter release cable. Select matrix metering and set the aperture to f/16. Take a reading through the viewfinder and adjust the shutter speed until you get a good exposure. Use autofocus.



Kit lens

Nikon's kit lenses shouldn't be underestimated, and although they offer a good focal range for those who are just starting out, they're also perfectly suited to landscape photography. The zoom will also give you a few different options when it comes to composition.

Shutter release cable

Shooting with a small aperture in low light means using long exposures, so any movement is going to be amplified. Use a shutter release cable to avoid pressing the shutter release and causing vibrations.

Backpack

It's rare to find a convenient landscape next to a car park, which usually means that a bit of a hike is needed to get to a decent location. Choose a lightweight backpack that offers enough room for your basic equipment. Make sure it's fully comfortable to carry when laden with kit.



07 Take the first image

Take a test shot and review the image on the back of the LCD. Make sure the display shows the image and histogram. You should see the graph peak in the centre and fall off towards the edges due to the different levels of light. To capture the detail in the sky, reduce the shutter speed by two stops – if it was 1/15 sec it should now be 1/60 sec.



08 Check the histogram

Check there's no clipping on the right. If there is, shorten the shutter speed. Once you've got the shot, lengthen the shutter speed by four stops – so, from 1/60 sec to 1/4 sec. Take a shot and check it. Extend the exposure time until the histogram isn't clipped on the left. Now take a shot at the speed between the sky and foreground shutter speeds. ►

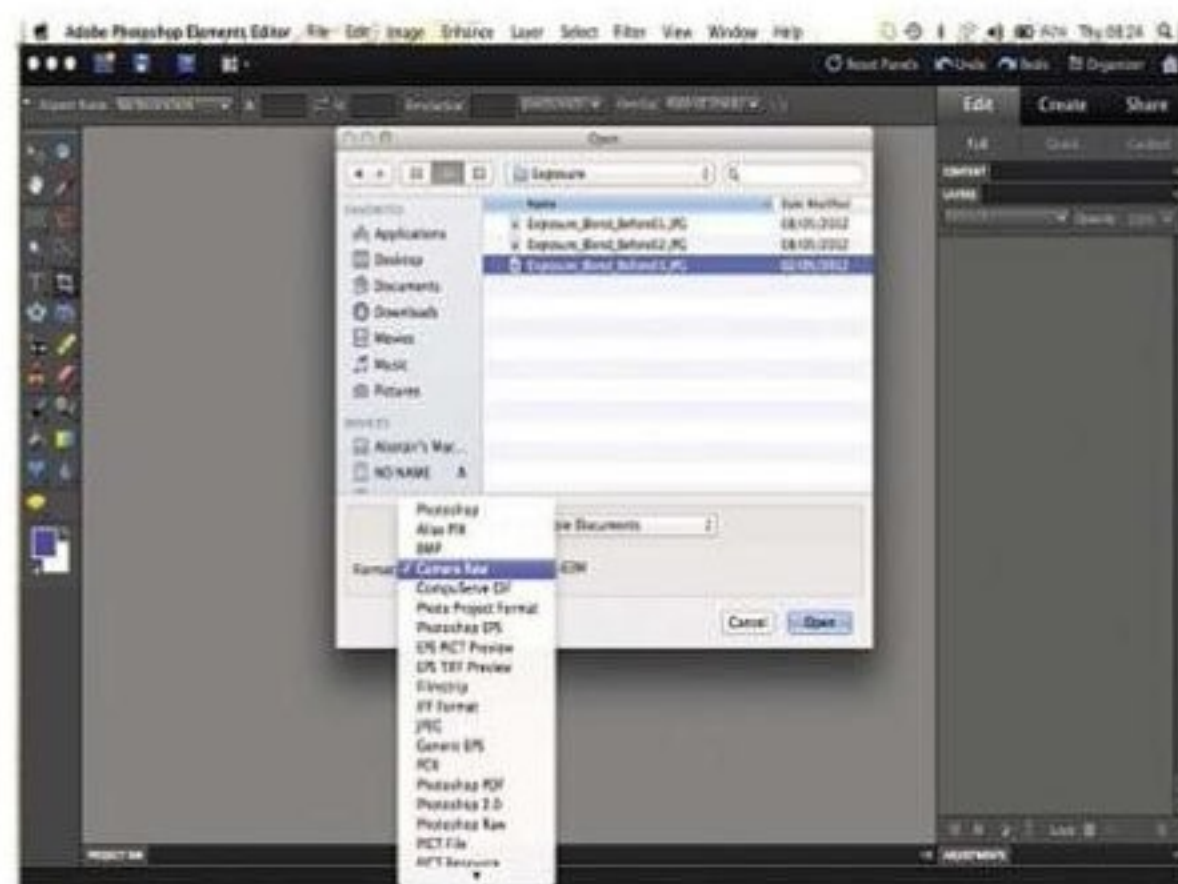
QUICK TIP!

Focus on a spot about one third of the way up the frame and set the aperture to f/16 to maximise the area of the image that looks in focus



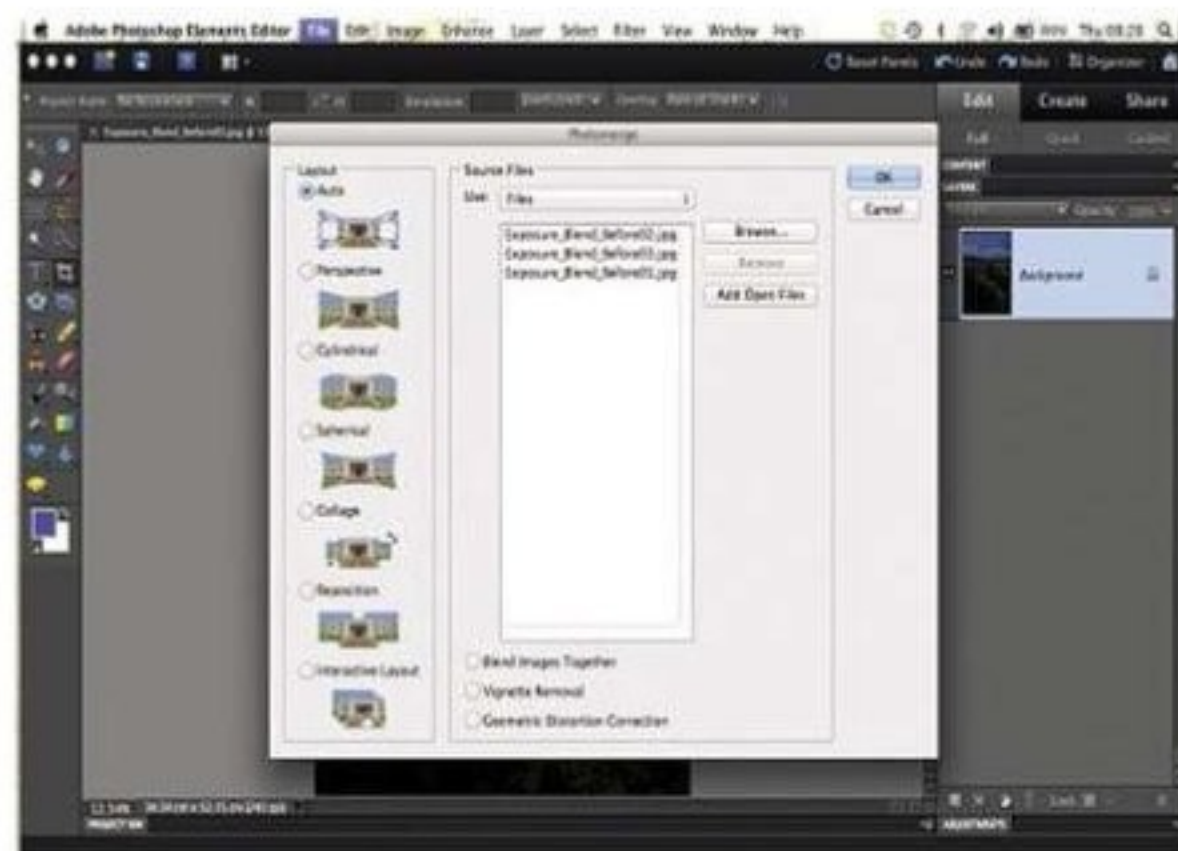
CABLE RELEASE

The lighting conditions for our shoot meant we could use a fairly fast shutter speed, with the effect of any mirror vibration not really visible. However, if the setting needed to capture the foreground tones exceeds a minute, it's essential to use a cable release. Use Mirror Lock-up (see step 06) or the self-timer. Doing this locks the mirror and helps avoid it moving during exposures. Whatever the shutter speed you use, a shutter release cable and sturdy tripod are the best ways to ensure a sharp image.



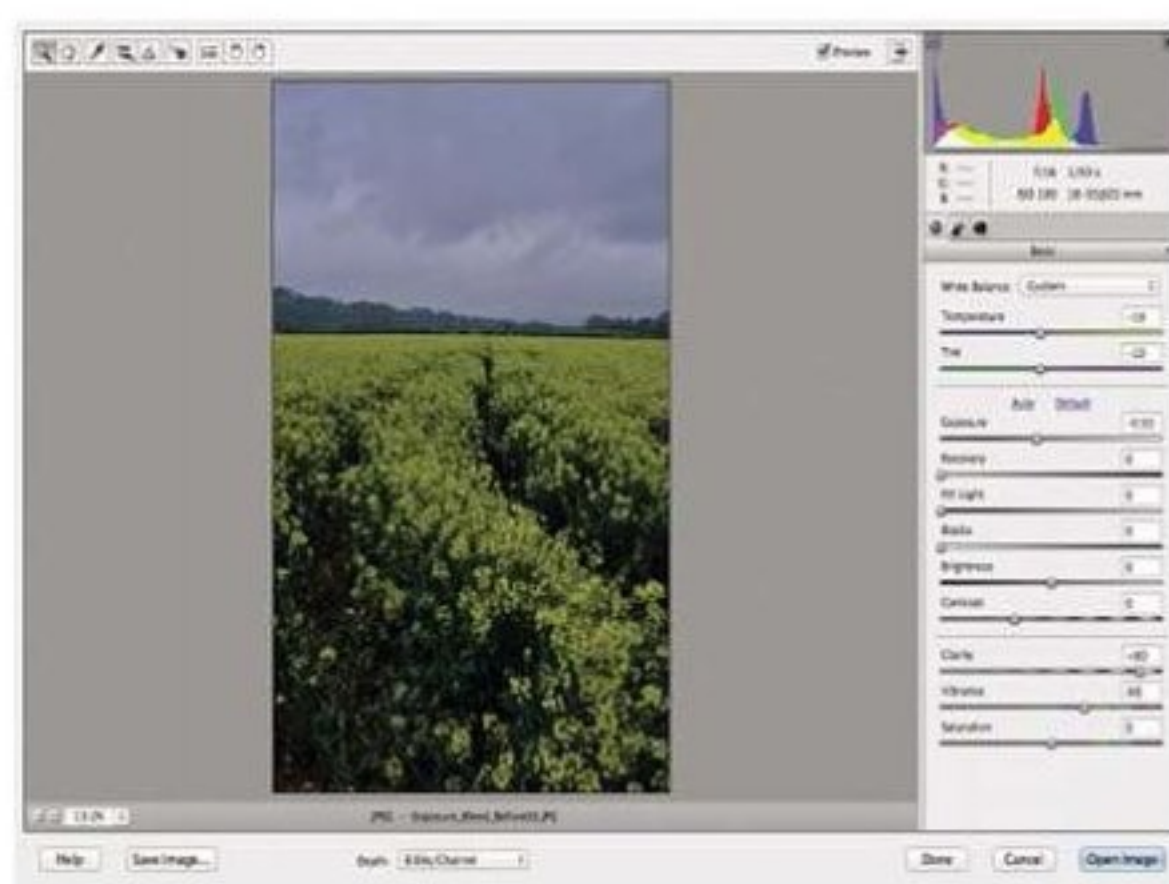
09 Open in ACR

After downloading the images from the shoot, open them in Photoshop Elements Organizer and select the three you want to use for your exposure stack. Open Elements, go to File > Open and select the overexposed shot. From the Open As dropdown, select Camera Raw. This will open the image straight into Adobe Camera Raw.



11 Photomerge

Select File > New > Photomerge Panorama. Click Add Open Images. Untick Blend Images Together. Click OK. Arrange the layers so the underexposed shot is on top of the middle exposure and overexposure. Using the Quick Selection tool, select the Sky. Click Refine, and Feather by 0.3. Click the Layer Mask icon and blend with a black, soft-edged brush.



10 Adjust in ACR

Set Exposure to -0.90 and Clarity to 80. Set Vibrance to +30 and click Open Image. Select the middle exposure, setting Exposure to +0.40. Make the same adjustments to Clarity and Vibrance and open the image. On the underexposed shot, decrease Temperature to -10, Tint to -10, Exposure to -0.55 and leave Clarity and Vibrance. Open the image.



12 Brush the masks

Add a Layer Mask to the middle layer and brush it to reveal detail. Make a Levels Adjustment Layer with values of 15 / 1.00 / 245. Create a new layer and fill it with 50% grey. Go to Filter > Noise > Add Noise. Check Gaussian and Monochromatic, set to 15. Now go to Filter > Blur > Gaussian Blur. Set it to 0.3, switch the Blend Mode to Overlay and set Opacity to 20%.

HOW TO USE LAYER MASKS

Make your results look more natural with image-editing software

The latest version of Photoshop Elements includes a selection of powerful tools that will enable you to blend together three differently exposed images quickly and easily. Layer Masks have been around in Photoshop CS since the beginning, but accessing them in Elements used to involve clipping Adjustment Layers to image layers. As it sounds, this could get complicated. However, as of version

9 of Elements, Layer Masks became an integral part of the software.

To use them, simply make sure the layer you want to mask is selected. At the bottom of the Layers panel, click the Add Layer Mask icon – it's a small square with a circle in it. You can use a black brush to hide the layer's content, or a white one to reveal it. Adjusting the Opacity setting will enable you to create seamless blends between layers.



DON'T MISS OUR AUGUST ISSUE!

NEXT ISSUE **BOUDOIR** **SECRETS**

Our Apprentice learns how to shoot sensual boudoir portraits with top pro Kate Hopewell-Smith

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See page 44



EXPERT VIDEOS!

In the next instalment of Nikon Skills tutorials, our team of photographers shows you how to:

- Get your Nikon D-SLR set for sports
- Shoot serene slow shutter speed seascapes
- Create an X-ray effect in Photoshop
- Shoot pets creatively

Plus all this...

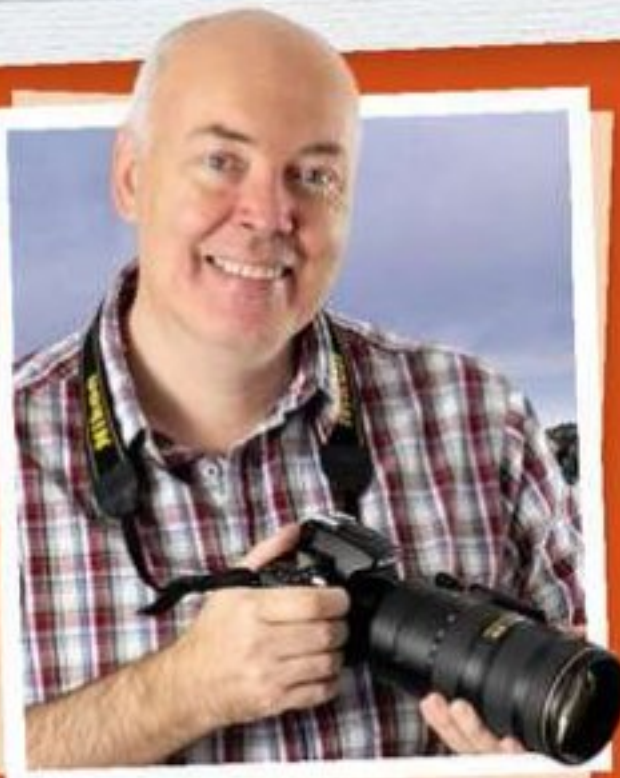
- Our full verdict on the 24MP, £600 D3200
- Eight wide-angle prime lenses do battle in the lab
- 12-page special on how to use lenses creatively



ISSUE NINE | ON SALE FROM THURSDAY 5 JULY

Over to you...

Your photos, your stories, your letters



Come on in!

The idea of our Photo Stories section is to showcase the wide range of subjects our readers are interested in, and this issue we've got a real variety! Our three contributors show that when it comes to photography, it really is a case of each to their own. So whether you like capturing edge-of-your-seat sporting action, meticulously planning a scene or waiting patiently for macro subjects, there'll be something you can relate to. If not, let us know what you like to see through your lens!

INSIDE OVER TO YOU...

68 Photo Stories
74 Letters
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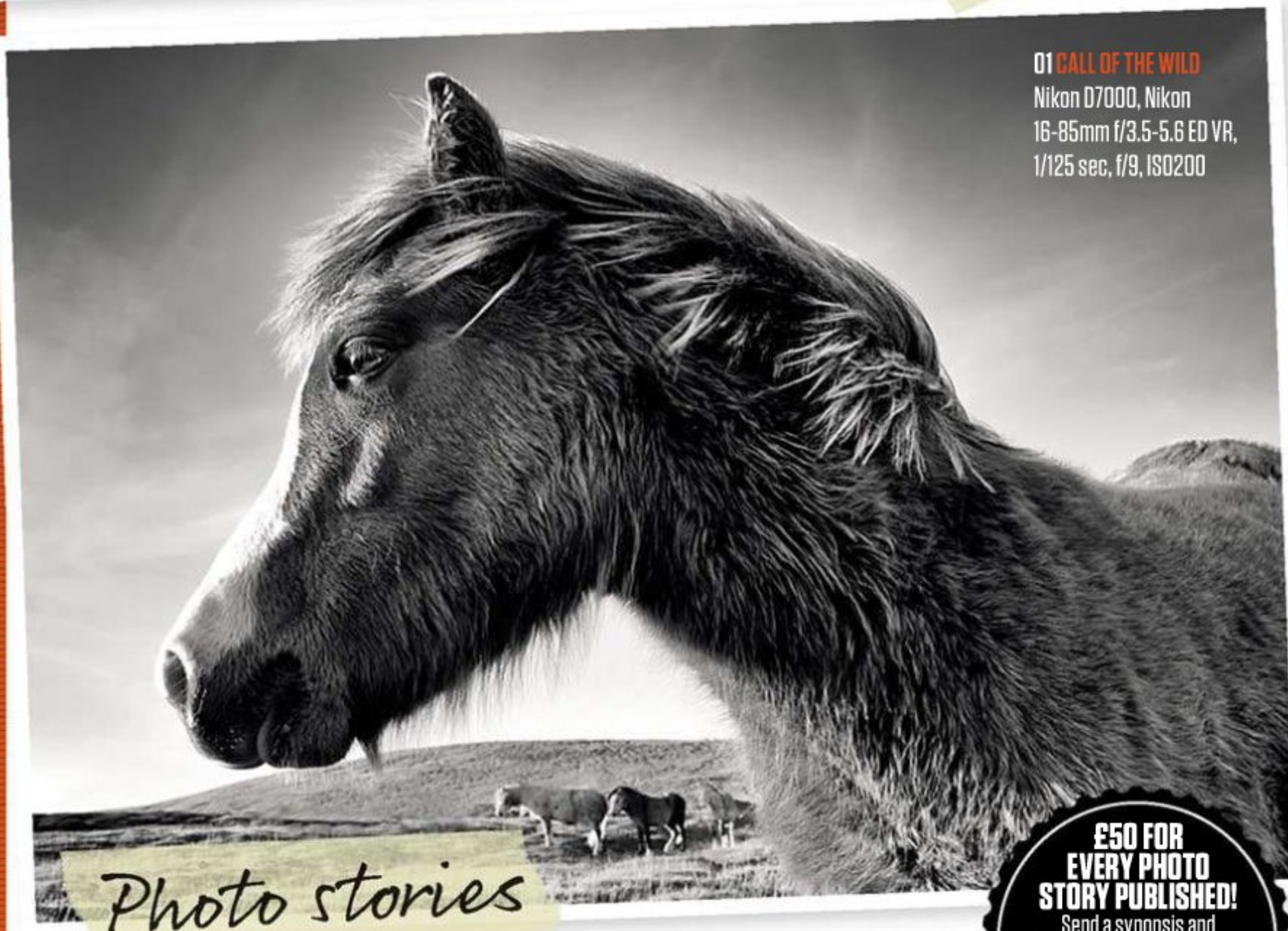
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01 CALL OF THE WILD

Nikon D7000, Nikon
16-85mm f/3.5-5.6 ED VR,
1/125 sec, f/9, ISO200

Competitive spirit

Why not take the next step with your photography by entering a competition? **Jean Macdonald** recommends it...



PROJECT INFO

MISSION To inspire other amateurs to enter competitions

PHOTOGRAPHER Jean Macdonald

AGE 55 **LOCATION** Shropshire

KIT Nikon D7000; 12-24mm f/4 AF-S, 24-70mm f/2.8G AF-S, 16-85mm f/3.5-5.6 VR, 70-200mm f/2.8G AF-S VR II (all Nikon lenses); TC-20E III 2x teleconverter

My first memory of using a camera was when I borrowed my mum's 'box' Brownie at the age of nine, for a school trip to Paignton Zoo in Devon. I took a picture of a lion that had starred as Elsa in the film *Born Free*. From that moment, I was hooked!

I've been shooting for many years, but I only consider myself to be of average ability. However, I love all aspects of photography, and the potential it offers to tell a story.

I wrote to N-Photo magazine as I hoped my story of success in some recent photographic

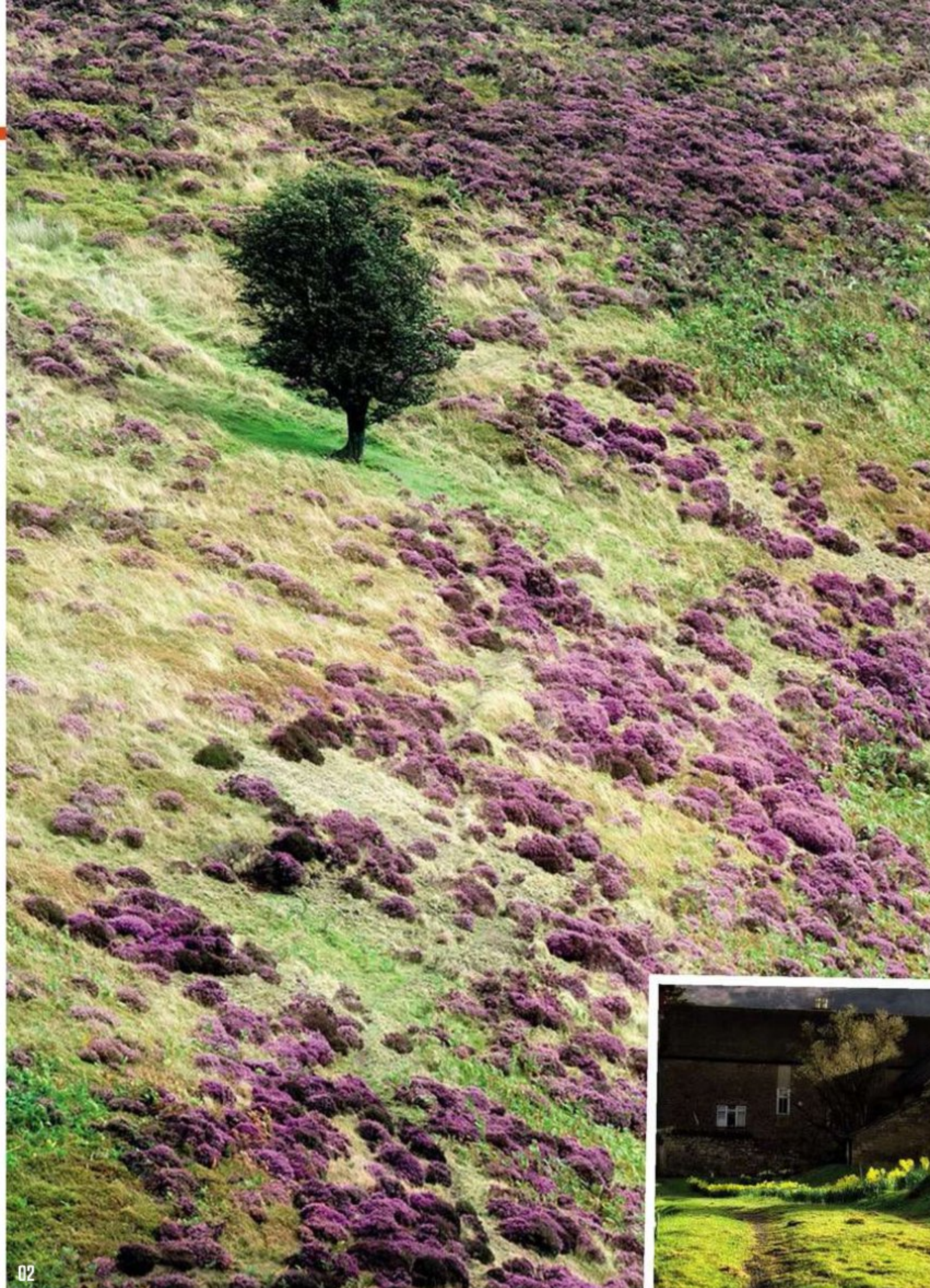
competitions might inspire other amateur snappers to have a go at entering. It can be quite daunting, but it really boosts your confidence when you do well! I've learned so much by entering contests, especially when it's on a theme I have little knowledge about. It gives me inspiration to experiment and continue to learn more about the competition subject, as well as try different techniques.

A few years ago I happened to read about the Fuji Extreme competition in *Photography Monthly*. On impulse, I decided to enter, not thinking I had any

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Rod's
top tips...

FOR ENTERING YOUR FIRST COMPETITION

- The rules may insist on specific subjects, gear or techniques, so do check
- Avoid shots that are of purely personal interest
- Join a camera club to get an insight into how competitions are judged



02 LONE TREE

Nikon D7000, Nikon 70-200mm
f/2.8G AF-S ED VR II, 1/320 sec, f/7.1, ISO250



03 PARADE OF DAFFODILS

Nikon D7000, Nikon 70-200mm
f/2.8G AF-S ED VR II, 1/200 sec, f/6.3, ISO200



hope of winning. My thoughts were all negative: "There'll be thousands of entries, all taken by much better photographers than myself."

I was shocked when an email arrived to say that I was one of four winners! The prize was a trip to London and a Fuji 200EXR camera! I told myself it was a fluke, but I continued to enter competitions and have been amazed at my success.

'Call of the Wild' [01] shows a Welsh pony, and was taken on the Long Mynd, Shropshire. It was a winner in the 'Wild

Horses' category in the 2012 International Equine Art Competition, receiving a judges' merit. 'Lone Tree' [02] was also taken on the Long Mynd, and was highly commended in the Shrewsbury Open Photographic Exhibition. 'Parade of Daffodils' [03] was taken near the Craven Arms, also in Shropshire. I've entered it into this year's National Countryside Photography Competition.

From me to you

My top tips would be to stick to the prescribed topic (if there is

one), read the rules carefully and keep the shot simple – it must tell a story. Images must be technically good too, of course, with the right exposure, sharpness and so on. Try to be creative and original – enter an image that will stand out from the rest and offers the wow factor! It might be worth researching previous winning images for inspiration.

I mainly find out about competitions online, or from newspapers and magazines.

Try www.photographycompetitions.net – it's a great site that lists more than 200 competitions worldwide. The majority are free to enter, but some do have an entry fee.

My main advice is to keep it fun and enjoy the experience of entering. Photography, like any art, is purely subjective. What will please one judge won't work for another.

Whether you succeed or not, you've still 'won' – taking photos is the real prize! ☑

To enter your Photo Story, just email a brief synopsis and three of your best JPEG images to mail@nphotomag.com

Photo stories



01 JUAN JOSÉ COBÓ
Nikon D5000, Nikon 70-300mm
f/4.5-5.6G ED IF AF-S VR, 1/1250
sec, f/5.3, ISO400



PROJECT INFO

MISSION To photograph top cyclists at the world's biggest races

PHOTOGRAPHER Roz Jones
AGE 32 **LOCATION** London, UK
KIT Nikon D5000, Nikon D3s; 14-24mm f/2.8G AF-S, 70-300mm f/4.5-5.6G AF-S VR, 18-200mm f/3.5-5.6G ED VR II (all Nikon lenses)

WEB www.rozjonesphotography.com

On tour

As Roz Jones explains, you don't need a press pass to get caught up in the excitement of road cycling

Photography has always fascinated me, but it wasn't until I went to watch the Tour de France in 2005 that I became hooked. I realised what I would love to spend all my time doing – photographing cycling races. At the time I had a compact camera, but knew I needed to master a proper D-SLR to get some decent results.

I got a Nikon D5000 in 2010 and did a day course on using that model at the Nikon Training Centre, Kingston,

which helped immensely. I've recently bought the Nikon D3s and a Nikon 14-24mm ultra-wide lens. I can't wait to put them both to good use at this season's events.

Under pressure

Watching and photographing the top races takes you to some of the most beautiful parts of Europe, such as the Alps, the Pyrenees and the Dolomites. These areas provide some stunning backdrops, and the atmosphere created by the



02 CHRIS FROOME
Nikon D5000, Nikon 70-300mm
f/4.5-5.6G AF-S VR, 1/1000 sec, f/5.6, ISO400

fans at the Grand Tours is always immense.

The crowds can cause a few problems too, though. For example, you might get a clear view of the road at first, but as soon as the riders arrive the fans lean over the barriers. Whether it's a group waving inflatable batons from sponsors or the infamous green hands of

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03



03 PELOTON IN MADRID
Nikon D5000, Nikon 70-300mm
f/4.5-5.6G AF-S VR, 1/3200 sec, f/7.1, ISO3200

the Tour de France, or just one person holding their arm out with a compact camera, hoping to get a shot, the great angle you had is gone.

If you're near the finish of a stage, the road will probably have barriers. But if you're mid-mountain or mid-stage then blocks are unlikely. This allows you to stand further out in the road. A good zoom lens is very important here, so you can photograph the riders head on. However, you also have to be ready to get out of the way again quickly!

Apart from having a good camera with a decent burst rate, one of the keys to success is to get to the race early. Do that and you'll get a good spot by the road, although you'll often be in position hours before the peloton appears! Not knowing who's in the break or how large the group will be adds to the excitement, as you only have a very small amount of time to compose and take your photos before the riders have passed. If you're near the finish on a mountain stage, the riders will be in very small groups or alone.

Pro cycling is renowned as being one of the toughest sports



05 STEVEN KRAAIJSWIJK
Nikon D5000, Nikon 18-200mm
f/3.5-5.6G AF-S VR II, 1/1000 sec, f/5.6, ISO500

in the world, and the riders put everything into it. Cyclists go through incredible emotion, from the pain and suffering caused by the terrain they're riding to the pure jubilation they feel crossing the line in a winning position.

In training

If you want to get some great photos at bike races, my top tips would be to find a good spot early and to practise on the amateur riders who often like to ride the course ahead of

the pro peloton. The weather can also change very quickly and, of course, the sun will move over the course of the day. To compensate, use exposure bracketing so you can get the perfect exposure balance.

Whether you're taking photos leaning over a barrier or standing on the road, be ready to move quickly. The cyclists go incredibly fast, and sometimes ride very close to the side of the road – the last thing you want to do is take one of them out! ☒

04



04 JOHNNY HOOGERLAND
Nikon D5000, Nikon 70-300mm
f/4.5-5.6G AF-S VR, 1/1000 sec, f/4.8, ISO400



Rod's top tips...

FOR SHOOTING FAST-PACED SPORTS

- You need fast shutter speeds to freeze action – 1/640 sec or upwards
- Try Continuous AF and Dynamic-area AF
- Research the best spots

To enter your Photo Story, just email a brief synopsis and three of your best JPEG images to mail@nphotomag.com

OVER TO YOU...

01 SPRINGTAIL

Nikon D90, Nikon 60mm f/2.8D,
two sets of extension tubes,
1/200 sec, f/8, ISO100



Photo stories

Spider man

Bryce McQuillan loves the challenge of getting up close and personal with some of nature's most deadly creatures

All my life I've had an interest (some might say an obsession) with bugs and spiders. I've been taking macro photos of my little friends for about three years now. I got into it through another photographer who came around to take some shots of spiders I was breeding. The images he took really interested me, and I just wanted to see more, so I thought I'd give it a go myself.

At the time I had no idea how much patience, knowledge and skill was involved with macro

photography, but I've now captured images of more than 120 species of spiders and about 100 types of insect, each posing their own challenges.

Size matters

Being able to use bugs as subjects has made my passion for them grow so much more. I'm now able to find detail in them that the naked eye isn't able to see. The arrangement of spiders' eyes really fascinates me, as does the colour on their small forms.



02 11-SPOTTED LADYBIRD

Nikon D90, Nikon 60mm f/2.8D
Macro, 1/200 sec, f/8, ISO100

With small creatures, everything from finding the subject to holding the camera still enough to get a shot is hard work. A lot of the species I find are also very fast-moving, and many of the ones that live on plants and grasses are only a few millimetres long. This small springtail was only about 2mm in size **[01]**.

When I'm lucky enough to get close to a subject, I have to be careful not to move too quickly, as it might frighten the creature, causing it to become



PROJECT INFO

MISSION To see the world as a wildlife photographer

PHOTOGRAPHER Bryce McQuillan **AGE** 24

LOCATION New Zealand

KIT Nikon D90; 18-55mm f/3.5-5.6G AF-S DX, 60mm f/2.8D, 300mm f/4 AF-S (all Nikon lenses); 17-35mm f/2.8 EX DG, 70-200mm f/2.8 EX DG HSM (both Sigma lenses); Nikon 1.4x teleconverter, Nikon SB-600 Speedlight, extension tubes

WEB <http://bit.ly/spiderman-08>

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03

03 FEMALE NET-CASTING SPIDER
Nikon D90, Nikon 60mm f/2.8D
Macro, 1/200 sec, f/13, ISO100



04

04 OPEN TRAPDOOR SPIDER
Nikon D90, Nikon 60mm f/2.8D,
1/200 sec, f/13, ISO100

aggressive. I don't like to disturb subjects too much, as stress shows in photos. My aim is to capture the animal in its natural environment, displaying normal behaviour. Shadows, light and vibrations all play a part in whether you can get close to creepy crawlies.

Almost all of my macro photography is done at night, as it's easier to find subjects then. You often see things during the night that you wouldn't normally see during the day.

During the winter it's a lot harder to find subjects, as a lot of insects and spiders go into hibernation. The few species that are out and about are usually a lot more aggressive because it's often kill or be killed for bugs during the colder months. Approaching the subject correctly at this time becomes incredibly important.

Their difficult behaviour doesn't frustrate me. In fact,

I relish the challenge. The harder the subject is to get close to and take a good photo of, the more exciting and rewarding it is. Patience is a big part of macro work!

A bug's life

The biggest thing I've learned from my photography is detail about wildlife – information on where they live, what time of year they're active and when to move away are all things I've picked up.

I've also realised that there's always a next time, and to enjoy the moment, as photography

is about going out and having fun. With wildlife being so unpredictable, you need to learn to accept that things aren't always going to work out the way you want it to – some days you might go out for hours on end and come back with nothing. It's just the way it goes!

I've also become more open-minded, and I now know not to always set out for a certain subject or shot. It's better to go with as few restrictions as possible, and a willingness to photograph anything you see. You'll come across more opportunities that way. □

05 GREEN ORB WEB SPIDER
Nikon D90, Nikon 60mm f/2.8D,
1/200 sec, f/13, ISO100



Rod's
top tips...

FOR DETAILED MACRO SHOTS OF BUGS

- Accurate focusing is critical – use a tripod
- Only a true macro lens will get you close enough
- Try using off-camera flash or a reflector to supplement the lighting

To enter your Photo Story, just email a brief synopsis and three of your best JPEG images to mail@nphotomag.com

OVER TO YOU...

Get in touch!

YOUR LETTERS

We'd love to hear your thoughts on the mag and all things photographic! So email us at mail@nphotomag.com

We reserve the right to edit any queries for clarity or brevity. You can also write to us at *N-Photo Magazine*, 30 Monmouth Street, Bath BA1 2BW



We try to make our more technical articles as accessible as possible

**Star letter!*

WILD ABOUT THE D800

I was very impressed by the specs of the new D800 in your preview in the April issue of *N-Photo*, but I was curious about you mentioning beauty, architectural and studio photographers as the main beneficiaries of the extra pixels.

I've been coveting a 400mm f/2.8 for wildlife photography, but the £6000-plus price tag (not to mention the mammoth size and weight) is seriously off-putting. Isn't the D800 the answer? For half the price of the lens, you get three times as many pixels as my D300s produces. This would allow

me to shoot with my 200mm lens and tightly crop the photo. It would also enable me to get better resolution than the D300s and 400mm lens combination permits.

While on the subject, can you please clear up some confusion about the crop factor in DX bodies? I've read that DX is a popular format for wildlife photographers because of the crop factor – you get 50 per cent more magnification than with the same lens on a full-frame camera. But surely if the number of pixels per square inch is the same, you can

crop the FX picture and get exactly the same resolution as if you'd taken the photo on a DX sensor, which effectively does the cropping for you in-camera?

Michael Bound, Kent

Be careful – it's easy to get confused by all the maths! On your D300s, the effective focal length of the 400mm f/2.8 will actually be 600mm. If you shoot on the D800 with your 200mm lens, you're going to have to crop your photos down to half their original full-frame width to get the same effective focal length. You'll end up with images that are 9MP. That's a tighter crop than you get with the D800's DX mode alone (15MP images).

As you say, the DX format has been popular with wildlife photographers because of the magnification increase compared to an FX-format camera. But there's more to wildlife photography than sheer resolution, and although the D800 will cause lots of photographers to do a rethink, it can't match the continuous shooting speeds of high-speed cameras such as the D300s or D4.



Does the D800's resolution change your lens choice?



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TECH APPEAL

I picked up my March copy of *N-Photo* and saw that it contained a pullout on the D4. 'Out of my league, waste of time,' I thought, and then I read it. I realised that it was interesting. I know several people who believe there's a place in the magazine for similar technical articles.

Iain Austin

Anyone else want us to feature more regular looks at Nikon hardware? Do the survey on page 7 and let us know!

facebook

COMPETITION WINNER

We picked this photo, by Bart Hoga, as the winner of our recent macro competition. We love the blurry backdrop, the way the light concentrates attention on the centre of the image and the clarity of the bloom against the diffused backdrop tones.



BEST FOR BOKEH

I think you overlooked an important factor in comparing lenses in issue five's article on standard zooms – bokeh. I bought my Sigma 17-70mm f/2.8-4 OS over the Nikon 16-85mm f/3.5-5.6 VR not because it was less expensive but because its bokeh was reported to be above average in comparison. It hasn't disappointed me in this regard, which makes it great for portraits, flower close-ups and all images using selective focus.

While many enjoy the edge-to-edge sharpness of the Nikon model, I don't typically demand that quality, as my corners often dissolve into blur. Also, the 17-70mm has a close-up shooting feature that's lacking on the 16-85mm. Despite this area of disagreement, I think *N-Photo*



If your lens doesn't produce great bokeh, try faking it in Photoshop! See page 60 for details

is a great magazine. Keep up the amazing work!
Larry Saideman, New Jersey

Decent bokeh effects will be easier to achieve with the Sigma lens thanks to its

wider maximum aperture. It also focuses down to 22cm (compared to 38cm on the Nikon), as we reported in our test of Nikon-fit standard zooms. See page 104 of issue five for more details.

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What you see isn't always what you get, as Maria discovered in Hawaii

LONG DRIVE TO MONGOLIA

It's that time of year when you brush off your passport because you've read your latest *N-Photo* issue and realised you could be a pro photographer if only you had time off work! That was the assumption I made when I booked a place on the Mongol Rally this summer – 10,000 miles over five weeks, from the UK to Mongolia, for charity, in a car designed for grandma's weekly shopping trip.

My partner in crime for this journey of a lifetime is my D7000. I think I need to

learn to realise the difference between pixels and neurons, though. As I discovered on a recent trip to Hawaii, what you see with your eyes isn't what you see through your camera, so I'm glad I have a 16Gb memory in case one of them goes wrong! Follow our progress in words and pictures at www.madhattersteapartyrally.com
Maria Robinson, Dorset

You'll have plenty of time to develop your photographer's eye on your long road trip, Maria! We look forward to seeing the pictures.

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TWEETS & POSTS...

🐦 Greeted in London this morning by @NPhotomag on the news stands with a story about Laura and I on the cover! @ **Bill Frakes**

🐦 @NPhotomag Very much appreciate your great tips on Twitter! Thanks! @ **Chuckabutty**

📘 Taking my D90 with me to the Download festival this year. Well excited. :-) **Tom Graham**

📘 Love having this delivered directly to the iPad each month, now to buy the back issues... **Andrew Clark**

🐦 Why I recommend @NPhotomag bit.ly/Jhs734 and the man at the helm bit.ly/JhscDP @ **wilgenix**



I'm a Nikon convert

🗨 I've been shooting with a D-SLR for about two years now. I was a Sony Alpha shooter but as I grew as a photographer I found that my camera system was holding me back. I started looking into using a camera from one of the 'big two' (Nikon and Canon). After looking at what my heroes use, I found that it was Nikon (my biggest influences being Joe McNally and Chase Jarvis). I tried a D90 and it was amazing – it was much bigger than my Sony, so fit my hands much better, meaning I had a much more stable grip. I then got a bursary for a diploma in portrait photography, so needed a camera with a few more pro features. I now have a D300 and don't think I'll ever leave Nikon. 🗨

Fred Wonnacott, Devon

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Me & My Nikon

John Rowley

For John, there's no beating the attraction of some adrenaline-fuelled sports action

JOHN'S TOP TIP!

Get the shot and crop it later – don't zoom in and miss part of a fast-moving subject

FACT FILE

JOB Retired **AGE** 54

LOCATION Nottinghamshire

CURRENT CAMERAS Nikon D300s and Nikon D90

TOP FIVE... TIPS FOR SHOOTING MOTORBIKES

01 Buy the best camera body you can afford

02 Invest in long and medium zoom lenses

03 Use Shutter Priority (S) and experiment with shutter speeds


04 Get a map of the track and note where you wish to shoot from, then work out when the sun will be behind you

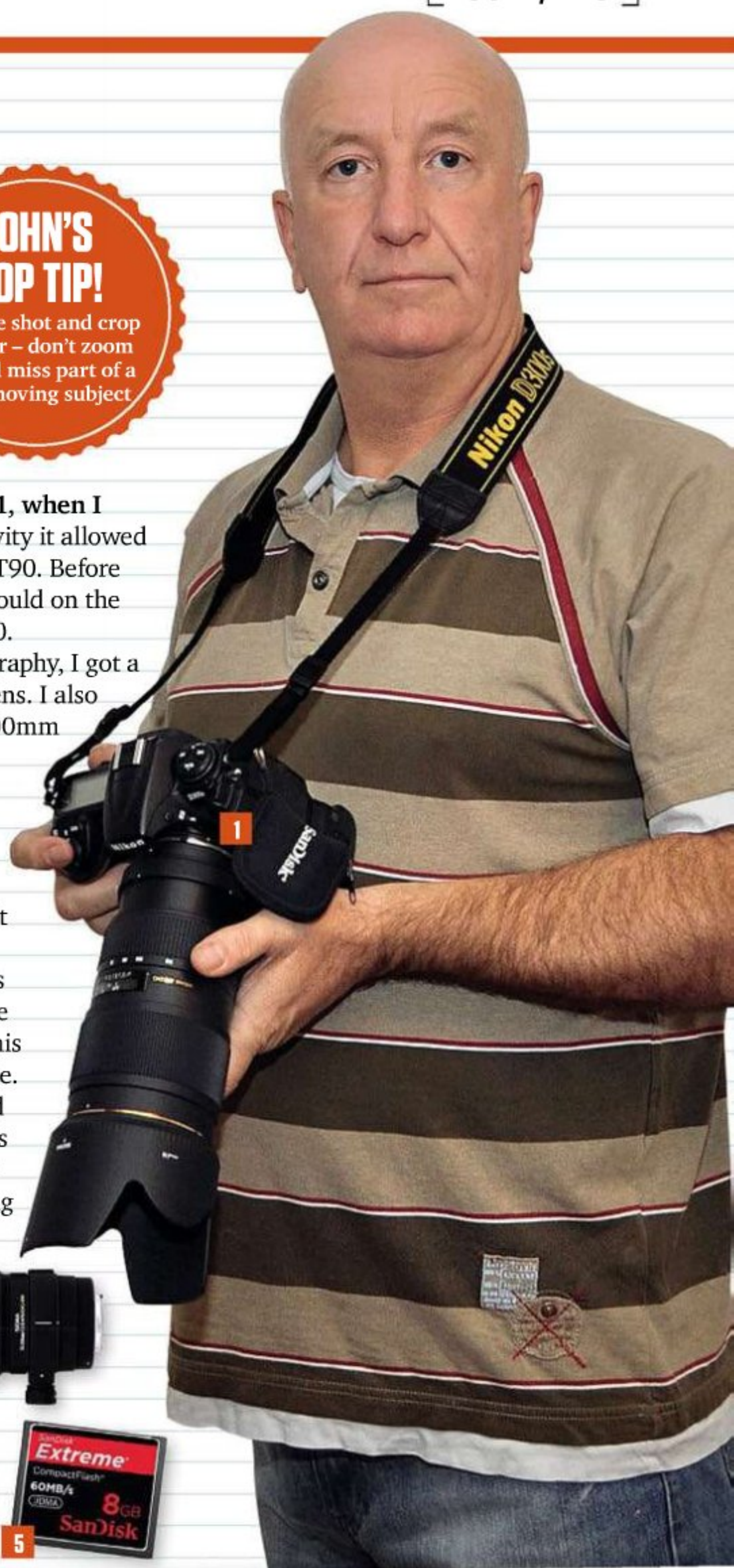
05 Practise panning!

I bought my first camera, a Canon AE-1, when I was 21. I quickly came to love the creativity it allowed me, and moved on to a Canon A-1 and Canon T90. Before buying my first D-SLR I read up as much as I could on the various makes, and then opted for a Nikon D50.

Once I realised I was enjoying sports photography, I got a Nikon D90 and Nikon 70-300mm f/4.5-5.6G lens. I also invested in a Nikon D300s **[01]**, Sigma 150-500mm f/5-6.3 OS **[02]** and Sigma 70-200mm f/2.8 **[03]** – I needed the longer lens for shooting motorbikes and the faster optic for ice hockey.

My D300s is the best camera I've owned. It's ideal for sport with its 7fps, continuous focusing feature and Auto ISO option. My 'can't live without' lens is my Sigma 150-500mm. It wasn't the easiest optic to learn to use but it's indispensable at races. I can't get as close to the track as the official press photographers, but this lens lets me get quality pictures from a distance.

I use a Nikon MB-D10 battery pack **[04]** and two 8GB SanDisk Extreme CompactFlash cards **[05]**. With two memory cards fitted and a full battery pack, I can shoot a day's worth of racing without running out of space or charge. 



John's portfolio



BEN JOHNSON
The rider corners at Donington Park



DONINGTON CRASH
Ed Godfrey takes a nasty fall after his brakes fail



CORNER TECHNIQUE
Ready for Donington's Melbourne hairpin



ACCELERATING OUT
Getting the knee down for a successful corner exit

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NIKOPEDIA

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78 Nikon Know-how

Start off on the right foot by measuring light levels with the correct metering mode

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Why fans of video are making some noise about Nikon's ME-1 external microphone

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Experiment with your shots long after you've taken them by working in RAW

86 Ask Chris...

N-Photo Editor Chris George answers your questions about all things Nikon

88 Photo Quiz

Find out how much of this issue's Nikopedia has sunk in with our fiendish quiz!



SPOT

Spot metering is good if the background is a lot brighter or darker than the subject



CENTRE-WEIGHTED

Matrix metering works well for off-centre portraits, while centre-weighted excels for subjects in the middle of the frame



MATRIX

NIKON KNOW-HOW

WHAT ARE METERING MODES?

Getting to grips with the meter in your camera is the first step to better exposures

Measuring the brightness of the scene you're shooting is a crucial part of getting the right exposure for your pictures. In the last few issues we've looked at shutter speed, aperture and exposure modes, but before these can be set you need to measure the brightness of the scene. This is where the exposure meter comes in.

Your Nikon D-SLR has a built-in meter, of course. But it isn't simply a matter of taking one reading. The brightness of the scene can vary enormously across the picture – the

sky will usually be much lighter than the foreground, for example. As such, an average reading is needed. Arriving at the perfect value isn't made easier by the fact that the key area of your image will vary according to your composition and what you want to highlight. To allow for this, your Nikon camera has not one metering system but three.

Metering modes

The main metering mode, and the one that your Nikon will be set to when you take it out of the box, is

matrix. It's the only option you'll get in some exposure modes, and you'll have to switch to P, S, A or M to use other metering choices.

Matrix is by far the most sophisticated of the metering types. The pattern it uses to assess a scene breaks the image into a number of zones. This results in a range of readings that are then analysed before an overall average exposure is calculated. The latest cameras feature 3D Color Matrix Metering II, which takes colours and focus distance into account, as well as

the distribution of light. It looks at the scene in an intelligent fashion, trying to work out what sort of picture you're taking by matching the data up with an internal database of 30,000 scenes. It then relays its suggested exposure to create an appropriate shutter speed and aperture combination.

Centre-weighted metering biases the exposure towards the centre of the frame. This doesn't take focusing or distribution of light into account, and just assumes that the subject is in the middle. It works ►

METERING MODES

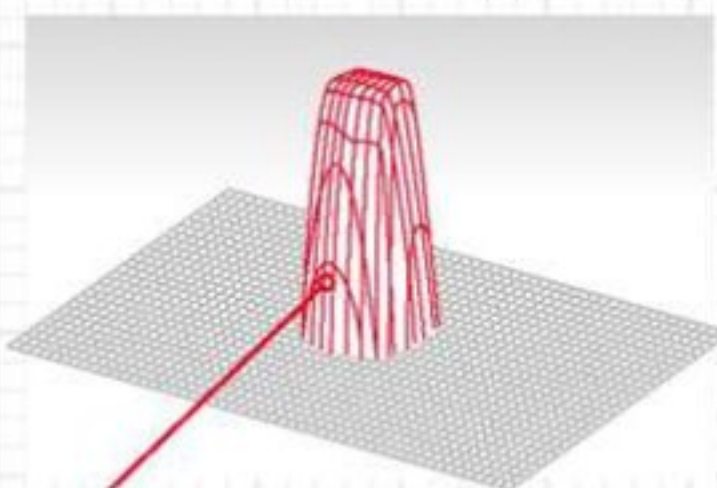
MODES AT A GLANCE

How each of the metering patterns works, and when to use them

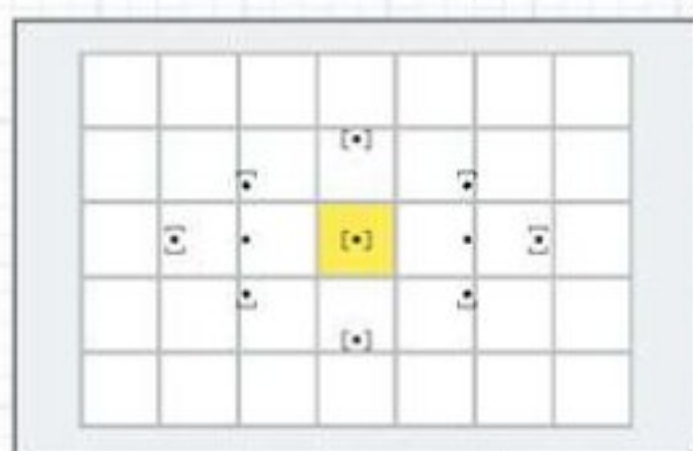


Spot

Spot metering only measures the intensity of light over a small circular area around the active AF point, so you need to pay attention to where this is. The area corresponds to roughly 1.5-2.5 per cent of the frame, depending on which Nikon D-SLR you're using.



This graph shows how spot metering concentrates around the AF point

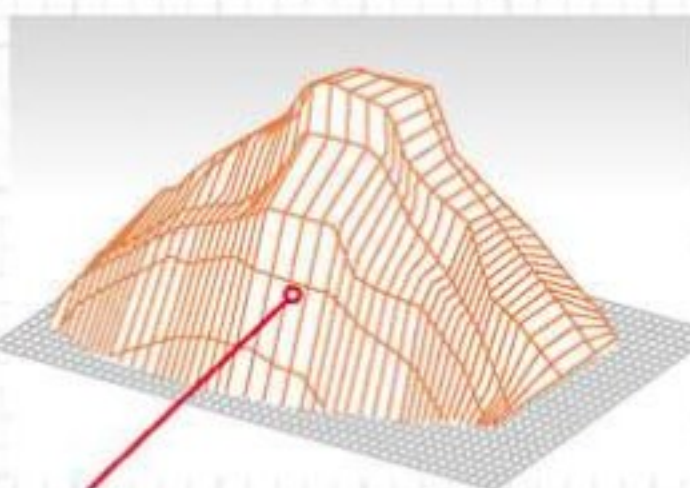


The small area around the AF point gives an indication of the region covered by spot metering

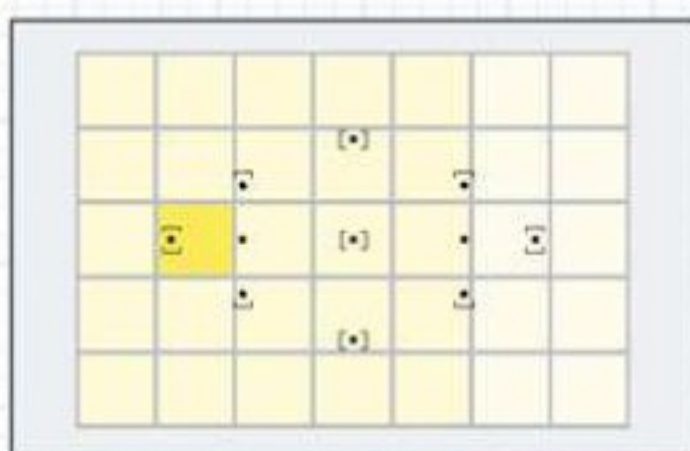


3D Color Matrix

The default metering mode on Nikon D-SLRs measures light distribution across the whole frame, together with colour and focus data. It then compares this to an internal database of typical photographic scenes to arrive at a suitable exposure.



With matrix metering, the shape of the graph changes with each scene

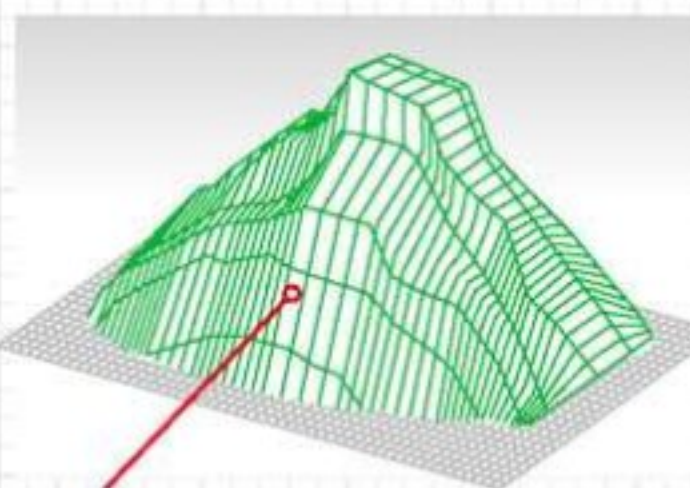


Your current focus point is one of the criteria used by matrix metering to work out the best exposure

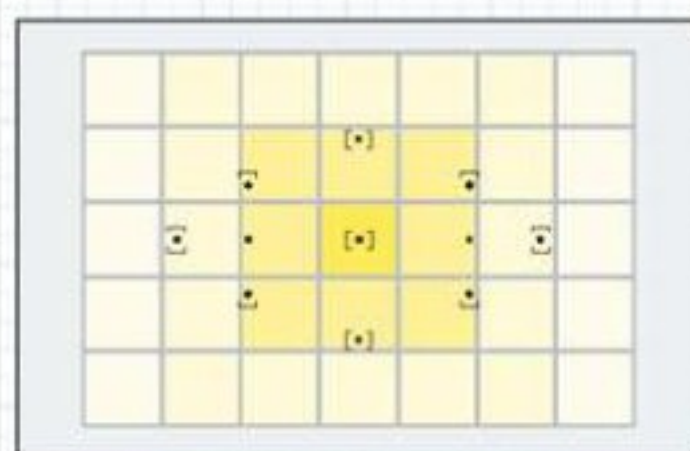


Centre-weighted

This mode measures the light across the whole picture area, but strongly biases the resulting reading to the centre of the viewfinder. On more advanced Nikon D-SLRs, you can change the size of this central area, and hence the overall bias.



This graph is higher in the middle, where it's heavily 'weighted'

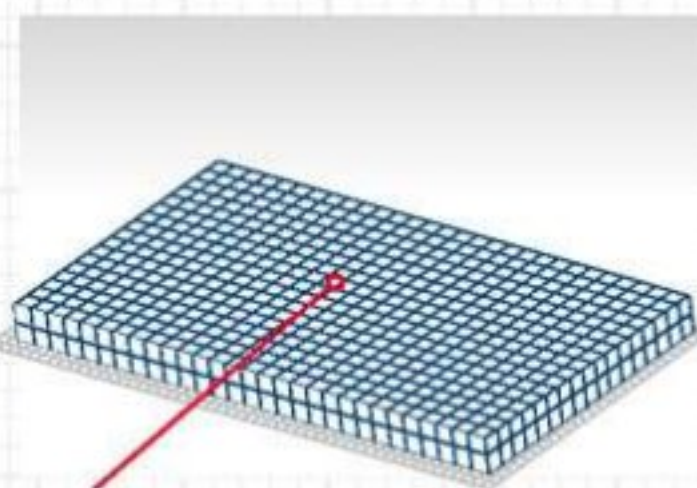


The exposure is based mainly on the central part of the image, though the outer parts have an influence too

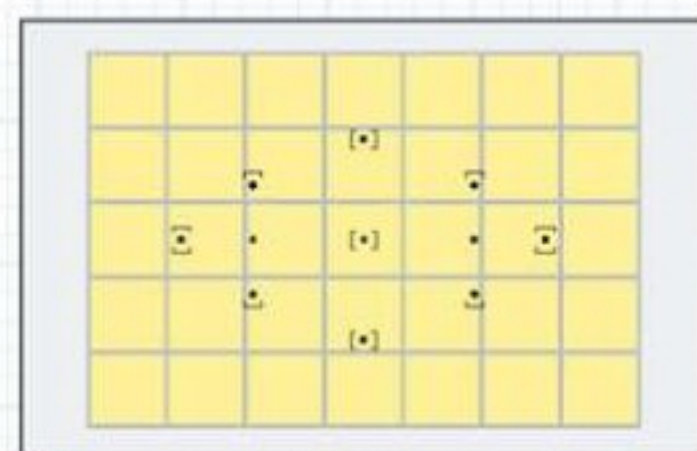


Average

This is a variation on the centre-weighted mode that's only available on Nikon's pro D-SLRs. It measures light evenly across the whole frame, which makes it the least sophisticated metering system of all, but for experts it can be the easiest to interpret.



The graph for average metering is flat, as all areas are treated equally



The light across the whole frame is measured as a single value. It's a crude method but can be useful

CAMERA SETUP

HOW TO SWITCH METERING MODES

The way you change metering modes depends on the camera you're using



External controls

The location of the metering mode control depends on the D-SLR you're using. On the D800, it's a dial mounted around the AE-L/AF-L button, while on the D7000 it's a button on top of the camera.



Information display

On beginner-friendly models such as the D3100 and D5100, you change the metering pattern using the on-screen interface. First, press the 'i' button on the back of the camera to activate the interface.



Metering mode icon

Now use the multi-selector to highlight the metering mode icon in the menu panel at the right side of the screen. It's towards the bottom of the list, underneath the AF mode options. Click the OK button...



Mode choice

You can now pick which metering mode you want to use – click the OK button to confirm your choice. Back on the information display, the icon changes to show which metering pattern you're using.

NIKON KNOW-HOW

CONTRAST CONTROL

How to deal with the shadows and highlights in your shots

Digital cameras can only register a limited range of tones, and can't see the full range of brightness that the human eye can. This presents a problem in high-contrast scenes where you have dark shadows and bright highlights – when you're photographing on a sunny day, shooting towards the light or capturing nightscapes, for example. In these situations it might not matter what metering mode you've chosen – you'll lose detail from the highlights or the shadows. Unless you change your shot, the best exposure needs to be a compromise, and how you decide which areas you want to preserve details in will depend on which parts of the scene are the most important. Shooting outdoors, it's generally a better idea to ensure that the highlights aren't blown out. You can then rescue dark shadows at the editing stage.



High-contrast scenes can mean there's no ideal exposure – either the sky is overexposed or the foreground is too dark. But tools such as Active D-Lighting can help



Active D-Lighting

Nikon's Active D-Lighting feature is designed to cope with high-contrast scenes when you're using matrix metering. The camera will slightly underexpose a scene (to preserve the highlights) and lighten the shadows, providing a more balanced result. Active D-Lighting is best used when you're shooting JPEGs, or RAW files that will be processed by Nikon software such as Capture NX 2. If you open a NEF file shot with Active D-Lighting in Photoshop or Lightroom, it will just look underexposed.

PROS Results can look natural, and you can adjust the strength on more advanced cameras.

CONS Because the exposure is automatically adjusted, the results aren't always predictable.

well for most pictures, and it's also easier to predict when this metering mode will get things 'wrong'. You can then anticipate when exposure compensation will be necessary.

On higher-end Nikon D-SLRs you can change the size of the area used for centre-weighting, and some also

allow you to switch to average metering, which gives equal weight to all areas of the frame.

Spot metering is much simpler, just taking a reading from a small area surrounding the active focus point and ignoring everything else in the picture. Therefore, it's the most

precise metering mode on your camera but is also harder to use, as you have to pick the spot you take the reading from with care.

Error alert

It's important to realise that, whatever metering mode you use,

all options will get the wrong result in certain situations. The problem stems from the way these metering systems work. They measure the light that's being reflected by the subject rather than taking an incidental reading that records the light falling on the subject.

STEP BY STEP USE AE LOCK TO CONTROL EXPOSURE

Use your camera's AE-L/AF-L button to save a meter reading and recompose the shot in tricky lighting conditions



Play with settings

01 By default, the AE-L/AF-L button locks both the exposure and the focus. But you can change the camera settings so that it only locks the exposure.



Make a first attempt

02 First, frame your shot to include only the areas you want correctly exposed. Do this by turning the camera or zooming in, then holding down the button.



Choose an area

03 Let's say we want to expose for the stained glass windows. Zoom in so they fill the frame and hold down the AE-L/AF-L button.



Rinse and repeat

04 Keep holding the AE-L/AF-L button (you'll see the AE-L symbol in the viewfinder) to reframe and take the shot.

METERING MODES ON YOUR NIKON

Options vary according to model



MODEL	MATRIX	METERING SENSOR	CENTRE-WEIGHTED	AVERAGE?	SPOT
D3000	3D Color Matrix	420 pixels	8mm circle	No	2.5%
D3100	3D Color Matrix	420 pixels	8mm circle	No	2.5%
D3200	3D Color Matrix	420 pixels	8mm circle	No	2.5%
D5000	3D Color Matrix	420 pixels	8mm circle	No	2.5%
D5100	3D Color Matrix	420 pixels	8mm circle	No	2.5%
D90	3D Color Matrix	420 pixels	6, 8 or 10mm circle	No	2.5%
D7000	3D Color Matrix	2016 pixels	6, 8, 10 or 13mm circle	Yes	2.5%
D300s	3D Color Matrix	1005 pixels	6, 8, 10 or 13mm circle	Yes	2.0%
D700	3D Color Matrix	1005 pixels	8, 12, 15 or 20mm circle	Yes	1.5%
D800	3D Color Matrix	91,000 pixels	8, 12, 15 or 20mm circle	Yes	1.5%
D3s	3D Color Matrix	1005 pixels	8, 12, 15 or 20mm circle	Yes	1.5%
D3x	3D Color Matrix	1005 pixels	8, 12, 15 or 20mm circle	Yes	1.5%
D4	3D Color Matrix	91,000 pixels	8, 12, 15 or 20mm circle	Yes	1.5%

Unfortunately, this reflected reading is skewed by the colour and brightness of the subject itself. Bright, white subjects reflect more light than dark ones. The averaging system used by all three metering modes assumes that the average from the zone (or zones) it measures

is a midtone brightness – the '18 per cent grey' often referred to by old-school photographers. For this reason, you'll often end up needing to dial in some exposure compensation when you've photographed particularly light- or dark-toned subjects.

PUTTING IT INTO PRACTICE

SPOT THE DIFFERENCE

To get the advantages of spot metering you need to be able to pinpoint an exact area of a scene

Spot metering mode is great for precise exposure readings, and can be a godsend when you're shooting in tricky light. But the skill lies in deciding which part of the scene to take the reading from in the first place. Practice makes perfect, so try this exercise and see how you do...

01 Choose a high-contrast subject

This picture of a lizard against a dark background is a good example, because there's a big brightness difference. The camera doesn't know which area needs to be correctly exposed – only you do! There are two solutions...



02 Set the AF point

The first option is to select the AF point that corresponds to the part of the picture you want to be exposed correctly. Remember that the AF point is where the spot reading will be taken from. Now take the shot again but with the AF point over a different area, like the background. The exposure will be very different!

Spot metering comes into its own when your subject is much brighter or darker than its background

button to lock the exposure, as shown in the step-by-step below. Place the AF point over your subject, then reframe to shoot.

03 Use AE-L/AF-L

Sometimes there won't be an AF point in the right position for the area you want to take a spot reading from. Use the AE-L/AF-L

04 Compare with matrix metering

Do either of these attempts at spot metering give better or worse exposure results? Now shoot the same high-contrast scene using matrix metering and see how the exposures differ again.

Fair compensation

You shouldn't always expect to find a metering mode that will give you an ideal exposure for a picture. It's often essential to use exposure compensation to override the meter reading and get the result you want. You'll need compensation most frequently when your shot doesn't conform to the mid-grey average that all four of the matrix metering modes assume. An obvious example would be a scene that's made up mostly of light tones, such as a snowy landscape or the bulbs of garlic on a white backdrop, as shown here. You might need to dial in one or two stops (+1 or +2EV) of compensation. With subjects that are dark, negative compensation will be needed. See [page 36](#), issue seven, for more details on compensation.



With all-white subjects you'll need to use exposure compensation to get the right light balance



Choose another area

05 This leaves the rest of the shot too dark. For a different result, try framing the scene to include the walls and not the windows.



Shoot again

06 Using the AE-L/AF-L button again, we can reframe the shot and get an exposure that brings out the interior of the abbey.

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SYSTEM SPOTLIGHT

NIKON ME-1 EXTERNAL MICROPHONE

Some Nikons enable you to shoot great video – the ME-1 makes sure the sound is up to scratch

The latest Nikon D-SLRs are great for shooting video, but their in-built microphones are inadequate for top-quality sound. That's because of their position and basic design – they tend to pick up sound from everywhere, not just what you're pointing the camera at.

Nikon's ME-1 external mic offers better quality, because it's superior to in-built mics, records in stereo and sits on top of the camera. At about £100 (\$130), it's a cheap way to improve your videos.

Keep it down

Unwanted noise is a big problem with video, and can come from many sources. In-built mics often pick up the sound of the autofocus, or taps and thumps from you handling the camera. It's also susceptible to wind noise if you're outdoors.

An external mic gets round the problem of operational noise.

The ME-1's wind shield can help too, though that's dependent on the conditions, which is why it has a 'low cut' filter – this eliminates low-frequency noise, such as breezes, without affecting higher frequencies like human speech.

It's worth noting that the ME-1 might not be the complete solution for your recording needs. Many professional videographers often swap microphones according to what they're filming.

The ME-1 is 'unidirectional', so records sounds in the direction you point it. This makes it more selective, but might not be enough to isolate the speech of somebody talking straight to the camera. Sometimes, the only solution is to move the mic closer to the subject. This is when you might need a boom, a handheld mic or a lapel model that clips to the speaker's clothing.

Wind screen

Wind noise is a big problem when you record outdoors, and this muffler on the front of the microphone will help.



Unidirectional stereo

The ME-1 is a 'unidirectional' mic, which means it's designed to pick up sounds in the same direction as it (and the camera) is pointing.

3.5mm jack

You can connect the ME-1 to any Nikon that shoots movies, except the D90, D5000 and D3100, which don't have an external mic socket.

STEP BY STEP USING THE ME-1

Connecting the external microphone is straightforward



Fix it on

01 The ME-1 slides into your camera's accessory shoe, and you turn the knurled wheel to lock it down. You can also use it off-camera thanks to the built-in tripod socket.



Connect the mic

02 Next, you need to connect the 3.5mm jack to the mic socket on the side of the camera. The microphone draws its power from here, not the accessory shoe.



Use the filter

03 As well as a detachable wind shield, the ME-1 has a low-cut filter designed to reduce wind noise and other low-frequency sounds – 'Flat' is the 'off' setting.



Know your options

04 Newer Nikons have more sophisticated sound control than early models. The D800, shown here, offers precise control over microphone sound levels.

NIKON SOFTWARE

WORK ON YOUR RAW SHOTS

Capture NX 2 is perfect for making the most of your NEFs, as **George Cairns** explains

When you shoot in NEF format, you create an **uncompressed RAW file**. This gives you a more complete story about a scene's colours and tones than you'd get from the shorthand version of an image described as a compressed JPEG. The lack of detail that's held in a JPEG means you're more likely to introduce artefacts when you edit the photo in Capture NX 2. These issues might include posterised colours and extra noise.

Editing options

As well as providing you with better-quality results, the NEF format also gives you more editing choice. For instance, when you apply Picture Control settings to a JPEG in-camera, it can be tricky to adjust the shot's colours and tones later on. If you shoot in RAW, you can make tweaks from the comfort of your computer, experimenting with different looks. Capture NX 2 is also

designed to read all the extra information in a NEF file, so you can make edits and try out various White Balance settings. It's as though you're still on location with your D-SLR in hand!

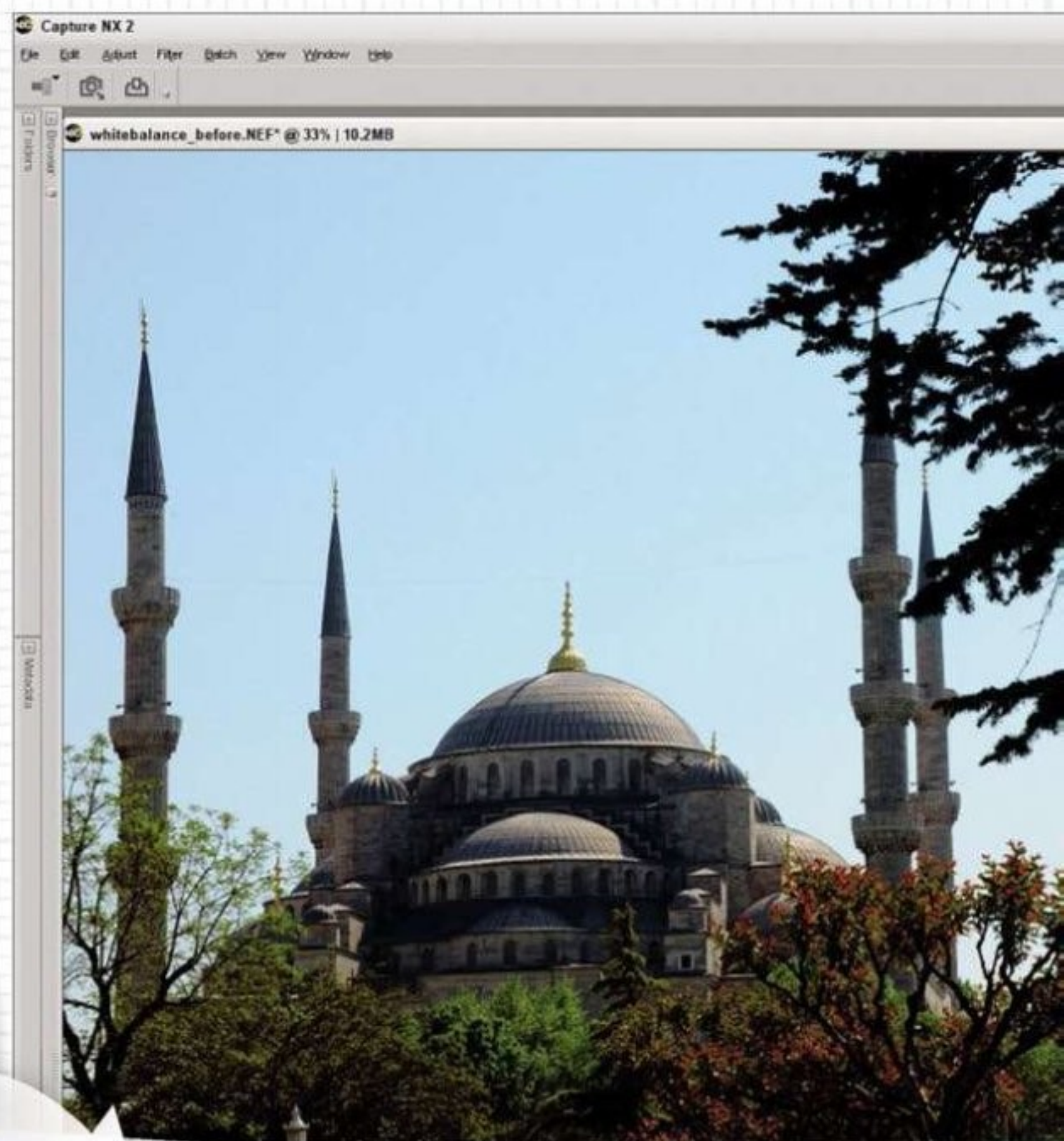
In addition to these handy features, when you open a RAW file in Capture NX 2, you gain access to an extra Camera Settings panel that enables you to get more from your shots. Let's see how it works...

Before



The shot above has the wrong White Balance, which is easy to correct if you shoot in RAW

After



01 Camera Settings

This collection of handy tools is only available when you edit NEF (RAW) files. It enables you to experiment with alternative settings to those used on location.

STEP BY STEP GET MORE FROM RAW FILES

Discover how to adjust camera settings, correct colours and reveal missing details



Open Camera Settings

01 Go to File > Open Image and browse to whitebalance_before.NEF. Toggle open the Camera Settings tab in the Edit List. The shot is too cold, as it was taken with Incandescent White Balance, designed for shooting in artificial light.



Change White Balance

02 In the New WB area, click the first dropdown menu. Pick the Daylight White Balance setting. This will reveal the correct colours. You can boost contrast and tweak hues by setting the Picture Control dropdown to Landscape.



Switch tabs

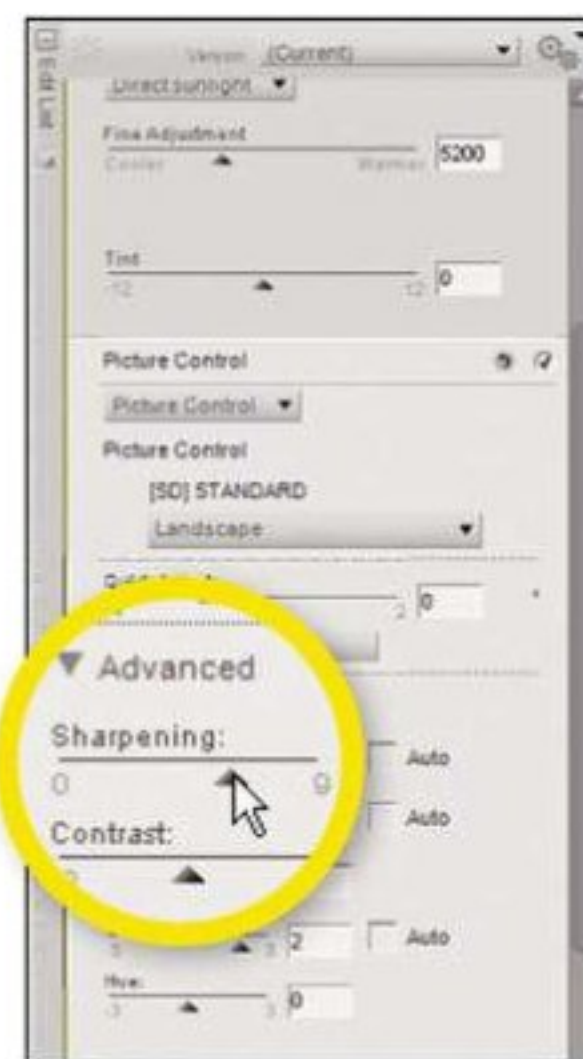
03 As well as using the RAW-only Camera Settings tab, you can also edit NEF files with Capture NX 2's standard editing tools. OpenDLighting_before.NEF. Here, the backlit subjects lack detail in the shadows.

GOING FURTHER

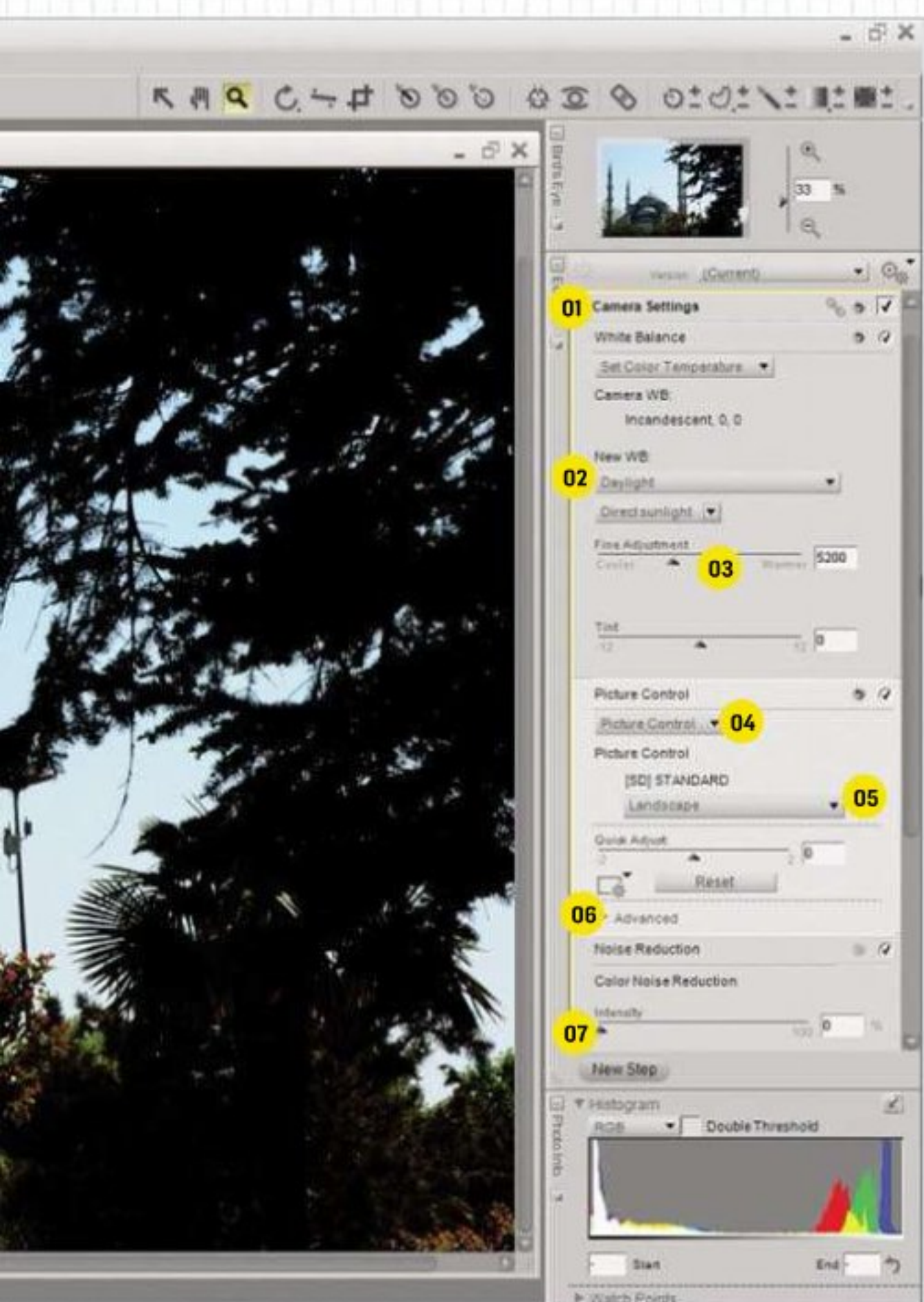
ADVANCED CONTROLS

If you're not totally happy with your edited NEFs, try these extra options and save your changes as a preset

The Picture Control option in the Camera Settings panel enables you to experiment with a variety of colours and tones quickly. However, you'll probably find it useful to tweak a few extra properties using the Advanced sliders. If you use the Bird's Eye panel to zoom in to 100 per cent, you can use the Sharpening ruler to give your print more punch. You can also tweak properties such as Contrast, and boost Saturation if needed. You can even save the adjusted settings as a customised Picture Control, applying it to other shots in the future.



The Advanced options enable you to tweak Sharpening, Contrast and other settings



02 New WB

We shot our start image with an incorrect Incandescent White Balance, so the image looks too cold. You can restore the photo's true colours using the Daylight setting.

03 Fine Adjustment

After choosing a more appropriate White Balance setting, tweak the colour of the image by dragging this slider. Go left to cool the shot down, or right to warm it up.

04 Picture Control

You can set your camera to edit colours and tones automatically, using its Picture Control system. Alternatively, override the in-camera settings using this menu.

05 Extra options

For darker shadows and a more striking contrast, set the second Picture Control dropdown menu to Landscape.

06 Advanced

Toggle this option open to take more control over properties such as Saturation and Sharpness (see right for more details).

07 Intensity

This feature enables you to reduce picture noise, although you'll need to view the shot at 100 per cent magnification to see it working effectively.

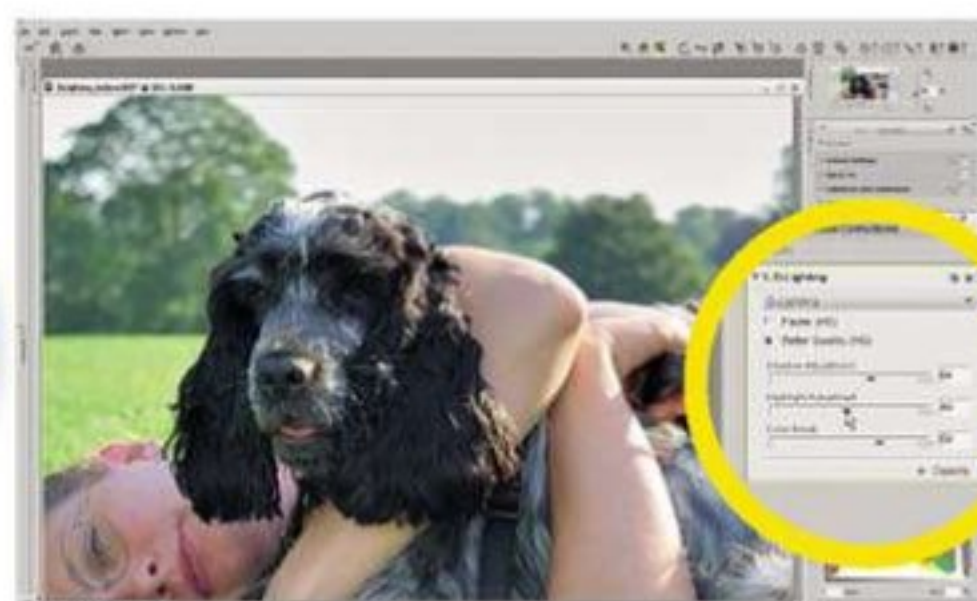
Press this button!

WATCH OUR VIDEO!



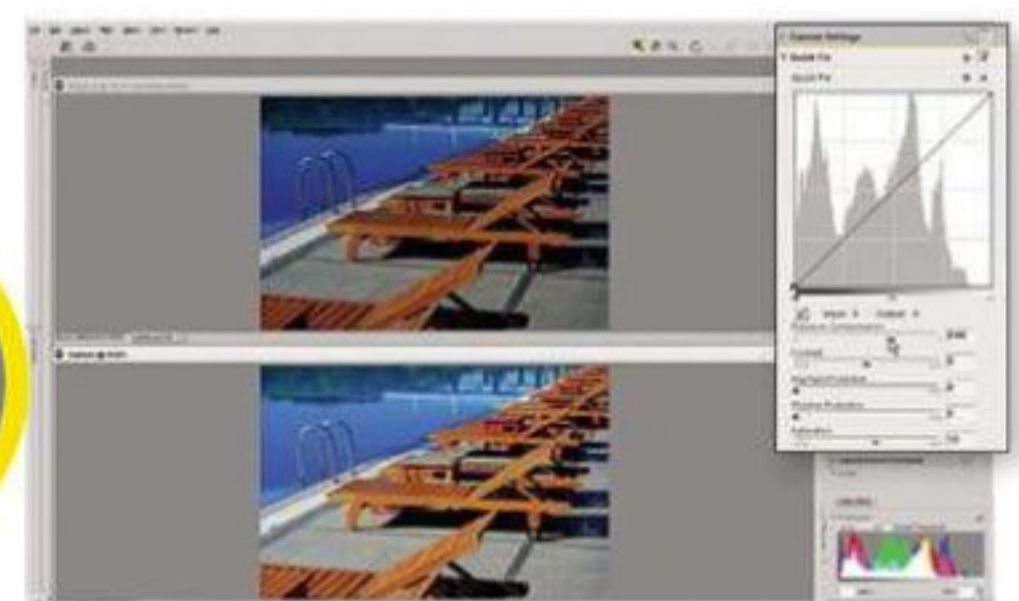
Even out lighting

04 Click on New Step at the bottom of the EditList panel. In the Adjust panel, select Light > D-Lighting. Tick Better Quality (HQ). Move the Shadow Adjustment slider to 64 to brighten the shadows. Now drag Color Boost to 69.



Restore highlights

05 Go to View > Show Lost Highlights. Blown-out areas will appear as coloured patches. Set the D-Lighting's Highlight Adjustment slider to 49. Press Shift+H to turn off clipping warnings. The sky should now have some colour and detail.



Boost exposure

06 Open exposure_before.NEF. Open the QuickFix menu. The graph's highlights end before the right side, indicating underexposure. Drag Exposure Compensation to 0.68 and then pop Saturation up to 13 for more vibrant colours.

Ask Chris...

Our resident expert answers your questions and solves your issues. If nobody else can help, ask Chris!



Get in touch...

If you'd like Chris to come to the rescue regarding your Nikon-related question, email it to mail@nphotomag.com. Please note that we reserve the right to edit any queries for clarity or brevity. You can also write to us at:
N-Photo Magazine,
30 Monmouth Street,
Bath BA1 2BW

The MB-D80 slides into the D90's battery area, so you have to pull the battery door out first



“What's the correct way to fit the battery pack to my Nikon D90?”

Colin Stockley, Tiverton

Chris says...

The D90 takes Nikon's MB-D80 battery pack, which attaches to the base of the camera but also has an upward projection that fits into the battery chamber. To attach it, you have to remove the battery from the camera, and the battery cover from the base. This sometimes puts people off, but it's actually really easy to do – just flip open the cover to an angle of about 35 degrees and then pull the cover out.

Worried about losing the cover once it's been removed? There's no need – once you've taken it out, you can slide the battery grip into a set of grooves in the vertical part of the grip so you don't lose it. When you've inserted the battery grip into the camera, you use the locking wheel on the base to fix it in position, and then you're ready to start shooting.

“I can't see my Nikon J1's shots on my D3100!”

Bart Rosewood, Chelmsford

Chris says...

That's because each of your Nikon cameras sets up its own folder on the memory card, and by default that's the only one it checks in Playback mode. To change this, open your D3100's Playback menu and then select the 'Playback folder' setting. You should find two options: Current and All.

At the moment, it's probably set to Current, which uses a folder called D3100. If you set it to All, though, it will also display the contents of the folder your J1 created, which will be called NC1J1 or similar. You should now be able to see the J1 shots on your D3100. Note that they will look a bit blurry, but that's only because the J1's native resolution is different to the D3100's – if you zoom in, the images will display at their proper sharpness.



Your Nikon can display shots taken on other cameras, but you need to set it to display All Folders in Playback



I'm a fan of off-camera flash, and regularly use the Hähnel Combi trigger with my SB-600 and SB-900 flashguns. I've found the simplest way to get decent results is to use manual power!

“Why is off-camera flash with my Nikon SB-700 and Hähnel Combi flash trigger so complicated?”

Stephen Yelmans

Chris says...

I've actually used the Hähnel quite a lot, so it would probably help to know what I do. In common with most pros, when using the flash off-camera, I set both the flash and the camera to Manual mode. You can then change the flash power (half, quarter and so on) to get the output you need.

The way I would work it is to get aperture, shutter speed (anything below 1/200 sec) and ISO set up for the ambient light, usually aiming to get it slightly underexposed so the background is dark (of course, this depends on the effect you're looking to achieve). Now position the flash – the brighter the conditions and the further away from the subject the flash is, the higher the power you should try, with full power – or 1/1 – being your maximum. Then adjust things based on your test shots to get the results you want.

It's a bit of a haphazard method, but it's simple, it works and you'll get better with practice!



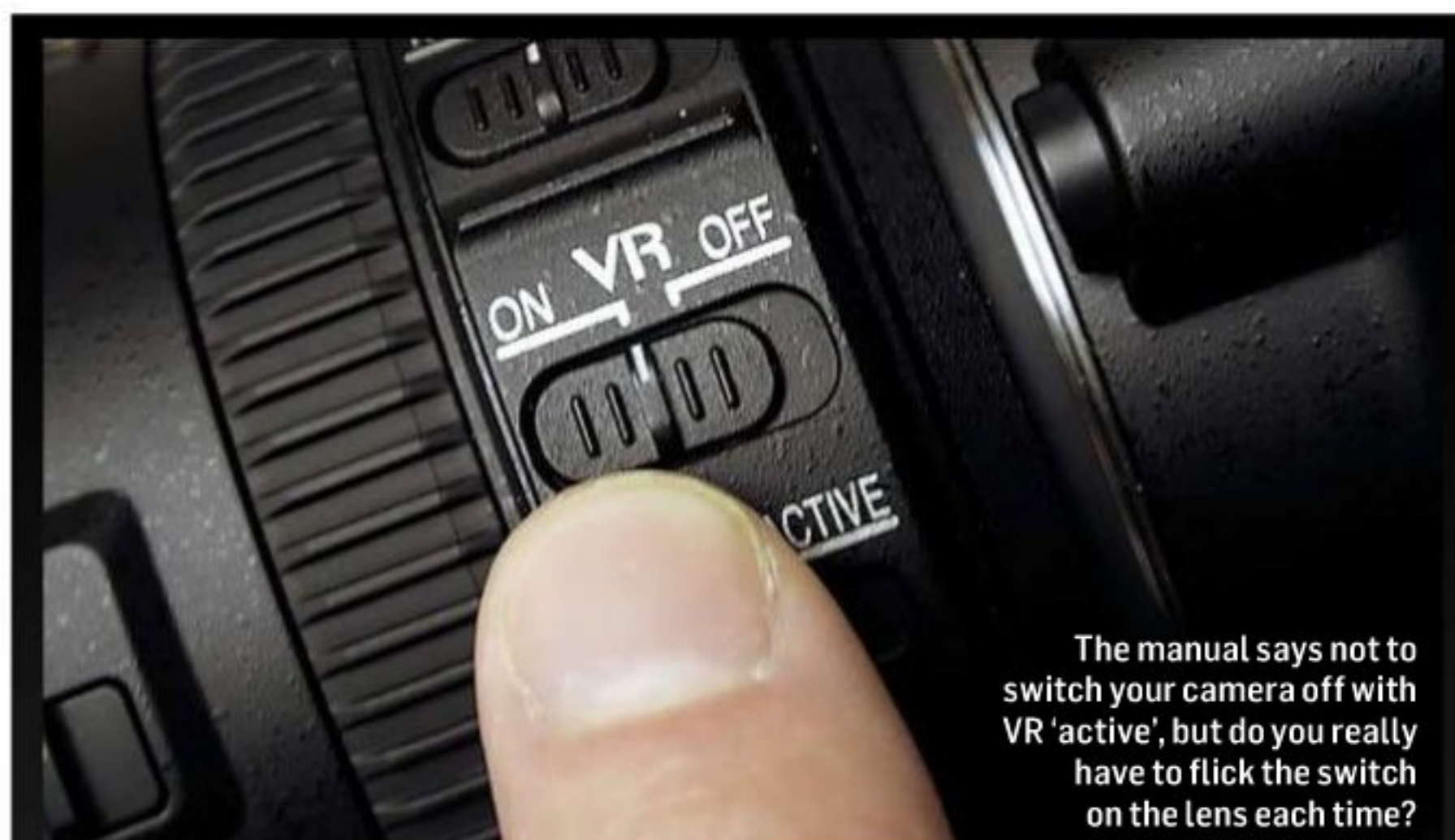
This was shot at Slimbridge on a Nikon 500mm f/4 and still needed cropping

“Should I get a 70-300mm or a teleconverter for my 80-200mm f/2.8?”

Brian Davies, Gloucestershire

Chris says...

Brian wants to shoot birds at Slimbridge, which was the subject for our Apprentice in issue seven, but is 300mm enough? Our pro that day, David Tipling, used a Nikon 500mm f/4 with a 1.4x teleconverter for extra power. That lens costs over £5000 (\$7957) but you could try the Sigma 150-500mm f/5-6.3 (£725, \$1069) – it comes top in this issue's group test, in which we also share our reservations about using teleconverters (see page 102).



The manual says not to switch your camera off with VR 'active', but do you really have to flick the switch on the lens each time?

“Should I switch off the VR before turning off my camera?”

Simon Littlejohn, Howsham

Chris says...

This is a potentially alarming little warning in the manual, which you've done well to spot! What the instructions actually say is not to turn the camera off while the VR is 'active', which isn't the same as sliding the switch to 'Off' on the lens. We take it to mean that you shouldn't switch off while the mechanism is whirring away inside the lens, and this stops a couple of seconds after you take your finger off the shutter button anyway.

The manual goes on to say that if you do switch off while the VR is active, the lens

may rattle, which suggests the VR mechanism isn't properly 'parked'. But Nikon says everything will return to normal once the camera is switched back on, and apart from possible 'rattles' (we haven't been able to reproduce these, by the way) the manual isn't suggesting that any lasting damage will be done.

The short answer is that although the manual says you shouldn't switch off while the VR is active, rightly or wrongly, it's not something we've ever paid any attention to on *N-Photo*. Nor have any of the other Nikon users we've spoken to.

ANSWERS IN A FLASH!

“Should I get Elements or Capture NX 2?”

Michael Bound, Kent

Chris says...

Capture NX 2 reproduces the colour and settings of Nikon cameras best but you'll find more support for Elements.

“Where can I get a manual for a used D60?”

Annie Parr, Clevedon

Chris says...

Go to www.nikonusa.com – click Service and Support > Download Center > Download Product Manuals. Click Digital SLR Cameras, scroll to the D-SLR section and click 'D60'.

“Should I get DX or FX lenses for my D3100?”

Mark Stonehouse, Leeds

Chris says...

Don't worry about FX lenses unless you intend to upgrade to a full-frame Nikon. The only exception is with telephotos, where the price is similar.

5 HINTS & TIPS FOR THE...

Nikon D7000

Every issue we choose a Nikon camera and give you invaluable advice on how to get more from it



01 Mirror magic

In Q (Quiet) mode, the mirror doesn't drop down again until you release the shutter button. This means that you can choose the best moment to release it after you've taken your shot.



02 Auto pilot

For action shots in changing light, use the Auto ISO function. You can set a minimum shutter speed, after which the camera will increase the ISO automatically in order to maintain that speed.

03 Manual macro

With the camera positioned on a tripod, set the lens to MF, activate Live View and use the zoom button to magnify the display. Now pick the part of the macro subject you want to focus on.

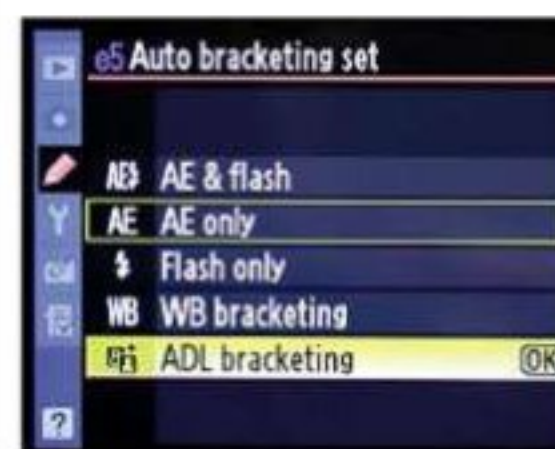


04 Two in one

If you shoot RAW+JPEG and use a single memory card, the D7000 will save both image files but only display the JPEG version. If you delete the JPEG version, the RAW version will be deleted too.

05 Off the scale

Active D-Lighting is handy for high-contrast scenes, but how do you know how much to apply? If in doubt, use ADL bracketing (custom setting e5) to shoot Off, Normal and High ADL images.



NIKOPEDIA [The only camera manual you'll ever need]

THE NIKOPEDIA PHOTO QUIZ

SO WERE YOU PAYING ATTENTION?

Here's a quick quiz to find out how much you've taken in. There are no prizes, but you can check how you've done!



With Nikon View NX 2 you can find out which focus point your Nikon D-SLR used to take each shot

“How do I make my D3100 focus in the right place? It keeps changing!”

Melvin Parks, Cheltenham

Chris says...

If you're using the default Auto-area AF mode, the camera will pick the focus point automatically, usually selecting the object that's nearest the camera. This is because the D-SLR thinks that point is most likely to be your main subject. If you watch carefully as you take the shot, you'll see the focus point that the camera's going to use lighting up in the viewfinder.

If the point is wrong, you need to take over by swapping to the Single-point AF mode. You can now use the multi-selector to choose the focus point you want to use, though the centre point is probably the most useful.

Incidentally, if you open up your photos in Nikon View NX 2, which comes free with Nikon D-SLRs, you'll notice a Focus Point button on the top toolbar. If you click on this, the software will then display the focus point that the camera used – a red square will be overlaid on the picture. It's a useful feature when you want to diagnose focus problems!

01 Where are spot readings taken from?

- A A small area in the centre of the frame
- B A small area around the active AF point
- C All the AF points at the same time
- D Every area of the image

02 How big is the spot metering area on a D5100?

- A 2.5 per cent of the frame
- B An 8mm circle in the centre of the frame
- C It depends on the focus area
- D The D5100 doesn't have a spot metering mode

03 Why is 3D Color Matrix II a good default choice for exposure metering?

- A It automatically fixes the colour at the same time
- B It can shoot images in 3D
- C It applies a different exposure to different parts of the picture
- D It tries to match up your scene with real-life examples

04 Which of these cameras doesn't let you change the weighting in centre-weighted mode?

- A D3100
- B D90
- C D300s
- D D7000



05 How many pixels does the D800's metering sensor have?

- A 420
- B 1005
- C 2016
- D 91,000



06 Why do some experts prefer the 'average' option on Nikon's pro D-SLRs?

- A It produces pictures with an average brightness
- B It's more sophisticated because it combines readings from lots of different areas
- C It's really simple, so makes it easy to work out how to interpret the readings
- D It's really simple, so you don't need to interpret the readings



07 What does Nikon's Active D-Lighting do?

- A Darkens highlights and lightens shadows in high-contrast scenes
- B Lightens highlights and darkens shadows in low-contrast scenes
- C Lightens shadows and highlights if the picture is underexposed
- D Changes the exposure if the picture doesn't come out right

08 Why use the AE-L/AF-L button and not just half-press the shutter?

- A So that you don't have to keep your finger on the shutter button
- B Because you can configure it to lock the exposure, not the focus
- C It's easier to see on the back of your camera
- D It leaves your shutter finger free to take the picture



09 When would you use exposure compensation?

- A When you're photographing subjects that are unusually light- or dark-toned
- B When the light changes suddenly, before the camera can react
- C When it's too dark for normal photography settings
- D When certain parts of the scene are much brighter than others

10 When you're shooting something white, what should you do?

- A Nothing, because the camera's meter will adjust the exposure automatically for you
- B Apply positive compensation to make sure it comes out white
- C Apply negative compensation to correct for the extra light
- D Switch to spot metering

Answers 01 B, 02 A, 03 D, 04 A, 05 D, 06 C, 07 A, 08 B, 09 A, 10 B

HOW DID YOU SCORE?

- 0-2: Impossible – you're just messing with us
- 2-4: Terrible. Start again
- 4-6: Not bad, but could do better
- 6-8: Well done, but check where you went wrong
- 8-10: Excellent, but we'll get you next time!

NEXT ISSUE...

In the next instalment of Nikopedia we'll be demystifying White Balance presets, zooming in on Nikon's incredible 18-200mm lens and guiding you through Masks and Selections in Capture NX 2!

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 **THE FACE OF FIRE** A brush fire near Griffith Park, LA. Many people say they see a face in the water. Nikon D1H, Nikon 70-200mm f/2.8, 1/500 sec, f/5.6, ISO50

CLOSE-UP

RICHARD HARTOG

*As a newspaper staff photographer based in California, **Richard Hartog** could be chasing OJ Simpson down the freeway one day and covering a basketball game the next. But as he tells **Keith Wilson**, he's still on a learning curve...*

As Richard Hartog would be the first to say, a newspaper photographer is expected to be able to shoot anything – and do it quickly. During his career with the *Los Angeles Times*, the City of Angels became his studio, and what he shot depended entirely on what was happening and who was in town. Now working freelance from his home near Venice Beach, California, he says the versatility he used as a press photographer is still as advantageous as ever...

How did you break into the world of press photography?

I had two great internships while I was a student at UCLA [University of California, Los Angeles]. One was at the *LA Times* and the other was a summer internship at the *Daily Breeze* in Torrance, California. I got to experience the best of two worlds. The *LA Times* is a major international newspaper that covers huge stories and events. The *Daily Breeze* is a community newspaper that features local stories as well as news and sports in Los Angeles. Both papers kept me on as a freelancer when my internships were over. That led to my first staff job, at *The Outlook*, Santa Monica, in 1988. I stayed there 10 years, then joined the *LA Times*.

How old were you when you first got hooked by photography?

I travelled to Africa the summer after graduating from high school. The trip was a present and my mom assumed that I would go to Europe for my first holiday abroad. I told her that I wanted to go somewhere exotic. I'd taken my first photo class during the last semester in high school. I didn't take it too seriously but I guess I learned enough to take some decent photos.

So were you thinking of becoming a photographer when you went to UCLA?

I actually thought I was going to be a writer when I enrolled at UCLA! I was an English ►

BRIDE GETTING READY Kathy Pyon laughs with her maid of honour as she makes some last-minute adjustments. Nikon D3, Nikon 24-70mm f/2.8, 1/30 sec, f/2.8, ISO2000



BRIDE AND GROOM Kathy and Ching Kuo kiss after their wedding in Pasadena, CA. Nikon D3, Nikon 70-200mm f/2.8 VR, 1/250 sec, f/2.8, ISO1600

“ Every photographer at the *LA Times* is really, really good. Seeing their work every day only made me better at my job ”

Richard Hartog *News Photographer*

major, but I started taking photo classes on the side. I didn't even get credit for them. But I got the photo bug. And when you get the bug, you get the bug! Instead of writing for the *Daily Bruin* [the school newspaper] I started shooting photos. I was able to put together enough images and clips to assemble a portfolio, which led to the internships.

If you hadn't worked on newspapers, what type of photography do you think you would have pursued?

Now that I'm a freelance photographer I'm exploring that question. The possibilities are endless. When you work for a newspaper you're expected to shoot everything – news, sports, entertainment, portraits, fashion, food, cars, homes... You photograph everything on deadline, and there's often very little planning. You just show up and shoot. The good thing about all of that is that it's great training. Most newspaper pros can capture anything.

Now that you work as a freelancer, what do you like to do?

I love to travel. I really enjoy photographing any place that I haven't been to before. I'm

shooting lots of destination weddings at the moment. And I'm exploring different types of travel photography. I'm also still shooting for editorial projects.

What makes a Richard Hartog photograph better than the rest?

I think I can photograph anything, and do it really well. I'm very consistent. I also see light really well. I shoot almost everything in natural light, even my portraits. That forces me to walk into any environment – even a really dark room – and see the natural light that exists. If there's a window and a door there's going to be some kind of light, even if it's just a little.

What's been your most successful shot?
My OJ Simpson slow-speed chase photo



BRIDE The bride poses by a brick wall for some fun shots, lit by a car's headlights. Nikon D3, Nikon 24-70mm f/2.8, 1/160 sec, f/2.8, ISO2000



PROFILE

Your at-a-glance guide to Richard's career, from the streets of LA to celebrity-filled studios

- Richard was on staff at the *Los Angeles Times* from 1998 to 2008. He now works as a freelance photographer, mostly shooting weddings and celebrity portraits.
- Across his career he's won nine awards in the prestigious Pictures of the Year International competition, in categories including Spot News, Sports Action and One Week's Work.
- Richard's most famous image is of the 'slow-speed' OJ Simpson police car chase. It's been published in *Time*, *Newsweek* and numerous magazines around the world.
- In 2004, Richard's pictures of the California wildfires were included in the *LA Times'* Pulitzer Prize-winning coverage.

is probably my most recognised and most circulated image [see [page 95](#)]. *Time* magazine immediately ran a double-truck [double-page spread] of it and lots of international newspapers and magazines called for the photo after that. It also ran in the year-end issues of *Time*, *Newsweek* and *People*.

Are there any assignments that have been particularly memorable?

Some of the wildfire images that were included in the *LA Times'* Pulitzer Prize win for Breaking News stand out [see [page 97](#)]. Also, spending a month in New Orleans covering the aftermath of Hurricane Katrina. Plus major sports events such as the Rose Bowl, BCS Championship football games and LA Laker playoffs.

Among your colleagues on the *LA Times*, whom did you most admire or feel inspired by?

Every photographer at the paper is really, really good. And being surrounded by them and seeing their work every day only made me better at my job. Seeing everyone's different photography style was really great. I always thought that it would be a cool experiment to give a bunch of staff photographers the exact same assignment, in the exact same conditions, at the exact same time, but not let them communicate about the shoot at all. It would be great to see the completely different images that would come out of that task. I often looked at people's shots and thought, 'Wow, I'm glad they did that shoot because I never would have thought of doing that!'

Which was the first picture of yours to be published in the *LA Times*?

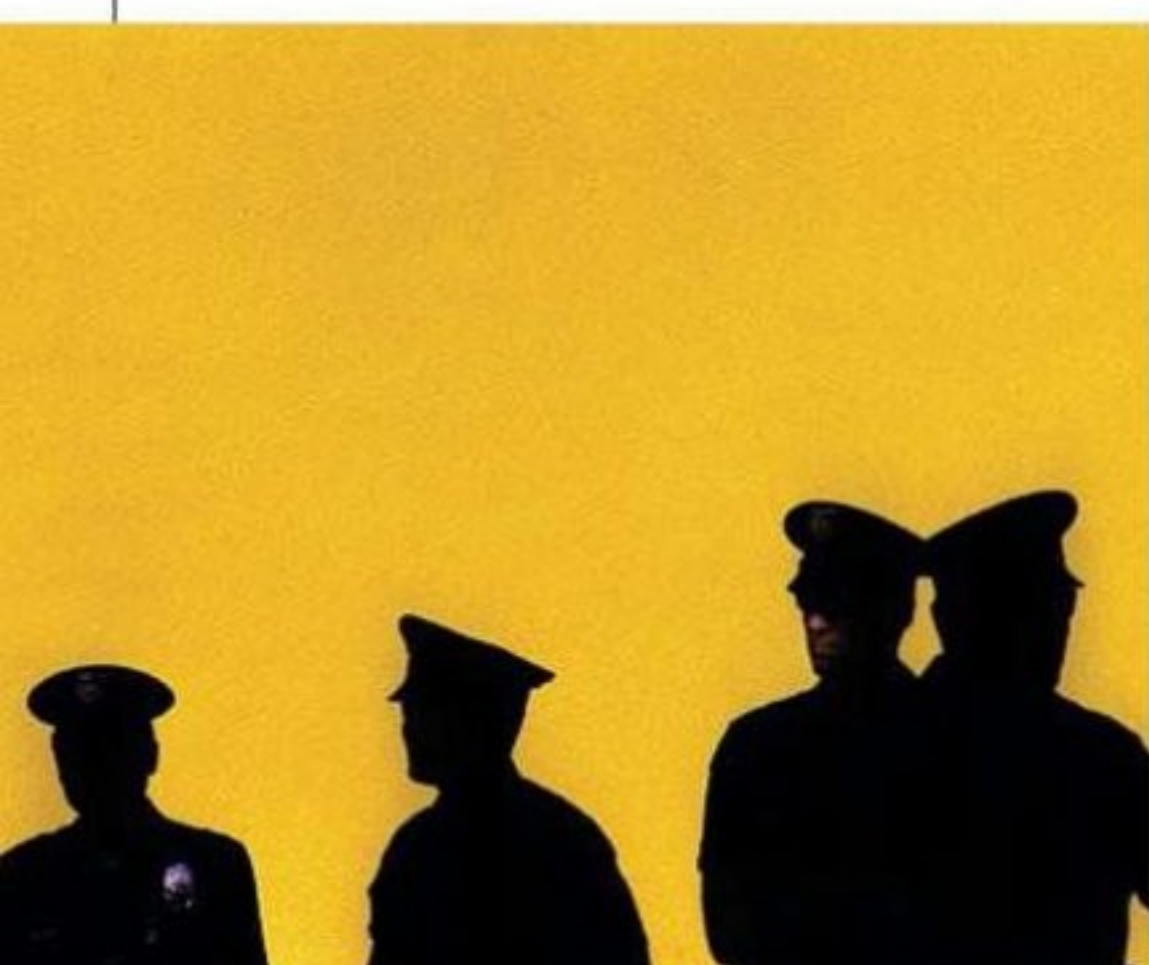
Just a photo that I found while I was driving around, getting to know the area. It was a shot of a boy walking past a mural of the Incredible Hulk. When I got hired by the paper it happened in the Orange County office. I lived in LA, so the area was new to me. During my first few days they just told me to drive around and get to know the place.

What's your 'desert island lens', the one you could never do without?

Probably the 24-70mm f/2.8 zoom. I love long lenses, but if I could only have one optic this would probably be it. You can pretty much capture any wide shot with it, and then you just have to move closer ▶



UMBRELLA People chat in a supermarket car park, shaded from the sun by a colourful umbrella. Nikon F5, Nikon 300mm f/2.8 VR, 1/500 sec, f/2.8, ISO100



YELLOW WALL LA police officers keep watch on crowds during the Democratic National Convention, 2000. Nikon F5, Nikon 70-200mm f/2.8 VR, 1/500 sec, f/5.6, ISO100

to get something tight. I also love how you can focus on something really close.

f/2.8 or f/8?

Ha! Probably f/2.8. I love popping out a clean background with a long lens. I tend to go to one extreme or the other – a long lens with very shallow depth of field, or getting close and shooting really wide with a lot of depth.

What's the weight of your typical day's kit bag?

I don't carry a camera bag – I can't even remember the last time I did! I like to be as mobile as possible. I shoot with two bodies. One has a 24-70mm f/2.8 lens, the other a 70-200mm f/2.8. I also have a few lenses in pouches on my belt.



Can you list the Nikon cameras you've used, and explain the difference each one has made to your work?

The first Nikon I bought was an FE2, when I was at college. When I was a staff photographer at *The Outlook* I was issued with a Nikon F3, then the F4 and F5. When I became a staff photographer at the *Los Angeles Times* they issued me with an F5, then an early digital body, either the DCS 620 or 720, before I purchased my own D1H.

It's hard to remember some of the differences in the Nikon film bodies. I remember loving the F3 when it came out. Being a sports photographer, I loved the motor drive. I don't remember how many more frames per second the F3 had than the FE2, but it was great. I remember

feeling that we weren't missing anything between frames any more. The viewfinder was a lot brighter too, which made focusing with the 300mm f/2.8 and 400mm f/2.8 a lot easier. We all shot with manual focus then. I don't remember the F4 or F5 being as revolutionary as the F3, but we were transitioning into autofocus then.

How many bodies do you currently use?

I have two D3s cameras. That's it.

What's the most unusual thing in your camera bag?

I still use a manual focus 15mm f/3.5 lens. I love that lens. I use it a lot.

How many memory cards do you use?

I have five. Four are 4Gb, and the other



GOAL LINE Oklahoma State's Donovan Woods touches down at the Rose Bowl. Nikon D1H, Nikon 24-70mm f/2.8, 1/1000 sec, f/6.3, ISO100

is a 32Gb card that I use if I'm shooting RAW images. News photography is all shot on JPEGs, so I don't need a lot of cards. I also try to get the images off the cards and onto my laptop and external hard drive as soon as possible.

How many gigabytes of pictures do you shoot a week?

I'm so much of a non-techie that I don't even know. When I was at the *LA Times* I usually shot one or two assignments a day, five days a week. Sometimes more. As a freelance photographer it totally varies. Some weeks I'm really busy and sometimes I can go a while without any projects.

What percentage of shots do you delete?
I actually delete very little. I usually put the

“ I don't carry a camera bag – I can't even remember the last time I did! I like to be as mobile as possible ”

Richard Hartog News Photographer

whole shoot on an external hard drive and then edit down for a client, depending on who they are and what it is.

How important is it to stay on top of image workflow, and how do you do it?
Staying on top of workflow is one of the reasons I don't use more cards than I need. I like to get each shoot onto my laptop ▶

CHASING OJ



ON THE RUN Richard's iconic OJ Simpson shot. Nikon F4, Nikon 70-200mm f/2.8, 1/500 sec, f/8, ISO400

On July 17, 1994, American football star OJ Simpson was involved in a slow-speed car chase after the murder of his ex-wife, Nicole Brown Simpson, and her friend Ronald Goldman

OJ had been charged with the couple's murder four days earlier but fled by car on the day of his arrest. He was pursued by police on LA's 405 freeway, and the chase was broadcast live...

Where were you when the chase began?

■ I was getting ready to leave work. Reporters and editors were watching the the chase in the newsroom. It was happening in Orange County, more than 50 miles away from Santa Monica, so there wasn't anything we could do. But after the Ford Bronco turned onto the 405 it became obvious that OJ was heading to the west side of LA, back to his home in Brentwood.

What were you told to do?

■ Head south on the 405 and see what I could get. I had the radio on and people were calling and paging me with the Bronco's location. I was close to LA International Airport, and hearing he was coming my way. That's when I saw the overpass lined with people. I pulled over in the emergency lane. A bunch of cars did the same, including the people in the picture.

Did you have any idea your photo would be the one seen around the world?


■ I had no idea it was 'the' photo. The Bronco drove over miles of freeway. I figured hundreds of photographers had something similar.

What did you do after you got your shot?

■ I followed the chase. By the time I got to Brentwood, it was gridlock traffic around his home. It was also getting dark. I didn't get anything of him being arrested.

What happened at the office?

■ I processed the film and found out that other photographers had shot tight on the Bronco. The photos showing crowds had just the crowd. Nobody had a shot of both the Bronco and the people in the same frame.

 **WEDDING** Out of the limo and up the church steps in Westwood, CA. Nikon D3, Nikon 15mm f/3.5, 1/500 sec, f/5.6, ISO 11.0



and then onto my website or external hard drive as soon as possible. Like most photographers, I've learned the hard way that losing photos isn't fun.

Could you shoot a wedding if you had to?

Wedding photography is fast becoming a major part of my business. Couples these days love the non-traditional, candid, photojournalist style that I've been using my whole career. I feel like I'm shooting a news assignment when I photograph a wedding. You have to get the key moments and private expressions.

Where do you derive your photographic inspiration from?

I'm always looking through the wire service photos, as well as newspapers

and magazines online. Sometimes, I'll see what would make a good stills photo in music videos and film. I also look at a lot of photographers' websites. You're always learning. Photography can never be mastered.

How do you relax?

Travel, yoga, surfing, hiking and running on the beach with my dog.

What was the worst thing about being a photographer on the *LA Times*?

I loved shooting there. Every day was totally different. Sometimes I was photographing spot news, other days it was sports or a celebrity portrait. Some days I was walking into an area of someone's life or a neighbourhood

that I would never see if it wasn't for my job. I remember shooting a bomb scare evacuation at LAX [Los Angeles International Airport], from a helicopter, and then making it back in time to get some great photos at a UCLA football game. I remember thinking to myself, 'That was a pretty cool day at work.'

If I had to call something the worst part about being a photographer there, I'd say it was some of the less exciting photo assignments – shots that I'd never put up on my website. Between the great sports, news and entertainment assignments that newspaper photographers do, there are some very mundane projects. Like being sent to shoot a photo of a building. Sometimes you worked hard on a photo that never made it into the paper because



the story didn't run or there wasn't room. Sometimes you had to illustrate a story that wasn't very visual. The studio wasn't my favourite place to shoot either. My style is natural light.

What type of assignment presents the biggest challenge?

I love shooting celebrity portraits, because they're always a challenge. I look at them as a great opportunity to get a fantastic photo of someone famous. But what the viewer doesn't see is the celebrity's posse being all over the photographer during the shoot. It doesn't happen all the time, but it's not unusual to have the PR person, handlers, make-up artist, hair stylist and others throwing out their opinion on how the shoot should go



FIREFIGHTER WITH HOSE A firefighter works to keep the flames away as a wildfire burns out of control in Running Springs, CA. Nikon D1H, Nikon 15mm f/3.5, 1/30 sec, f/3.5, ISO1000



FIREFIGHTER WITH BRACES A firefighter turns away from the heat along Highway 18, CA. Nikon D1H, Nikon 24-70mm f/2.8, 1/250 sec, f/2.8, ISO400



FIREFIGHTER AND AIRPLANE A plane drops water as a firefighter hoses a wildfire in Topanga Canyon, near Malibu. Nikon D4, Nikon 20-35mm f/2.8, 1/250 sec, f/5, ISO100

while you're trying to work in a very short window of time.

What are the biggest changes you've seen in your profession, and how have they changed what you do?

Definitely the transition from film to digital. That was huge in the newspaper business. Instead of driving back to the office at half-time in a Lakers game, to process film and make a print to get the photo in on deadline, we now transmit images, shoot the second half of a game and then send more pictures over after it ends. It made a big difference when I was shooting in other cities, too. Digital allowed us to send photos from anywhere almost immediately. It also gave us a lot more time to shoot good photos instead ▶

PLAYING WITH FIRE

Photographing wildfires is an exciting assignment that results in spectacular images. But it's a task that's full of risks, too

Richard sees both beauty and devastation in fires. As he explains, he never hopes for them, but wants to shoot them when he sees them...

How dangerous does it feel when you're photographing wildfires?

■ There's so much going on that I'm never too worried. But it's definitely dangerous. You have to keep an eye out for what's going on. Wildfires are pretty incredible. The colours are amazing. Even a great photo can't record the smell and sound that surrounds you.

What safety precautions do you take?

■ We wear fire gear and goggles, so we get incredible access. As long as you're not getting in the way of the firefighters, they usually let us get right next to them while they're working.

How close do you get for your shots?


■ I like to get as close as possible, to capture the size and intensity of the flames. I want the person looking at my photo to feel as though they're there. One thing I've learned is to watch the firefighters. If they're standing their ground and fighting the fire, I feel safe. But if they're evacuating, I'm definitely going with them. And when they run, I'm right behind!

What's the biggest danger?

■ Firefighters are really good at what they do, but they can't control the wind. I've seen them stationed in the backyard of a home with the flames far away, but the wind direction changes and the next day that home is gone.



THE FRONTLINE One of the images making up the LA Times' Pulitzer Prize-winning coverage in 2004. Nikon D1H, Nikon 24-70mm f/2.8, 1/250 sec, f/5.6, ISO400

 **U2'S BONO** The singer wears a laser-studded jacket during a 360° Tour gig at the Rose Bowl, Pasadena, 2010. Nikon D3, Nikon 70-200mm f/2.8, 1/200 sec, f/2.8, ISO1250

“A colleague said that we get to live a thousand lives as photographers”

Richard Hartog News Photographer

of driving back to the office to process the film and print. Because of the transmission capabilities that came with digital photography, newspapers went to it right away, but the first few years of digital were pretty rough. The quality and colour were horrible. Now, wireless transmission is a lot easier than trying to find a phone line to use in the middle of nowhere. The autofocus on cameras and lenses is pretty amazing now, too. I don't know how we shot sports manually for all those years!

What's been your greatest moment as a photographer?

In the early part of my career it was probably being named Photographer of the Year by several press associations, and placing in international photo contests

such as Pictures of the Year. Contests really help get your name out there. After that, it was the photo experiences themselves. Having a front row seat to a major news, entertainment or sports event; the challenge of doing a cover portrait of a celebrity with their people breathing down your back in a really short window of time.

Also, the amazing experience of a community story, such as walking into a home in South Central LA where the family had almost nothing but insisted that you stayed for dinner after shooting their photos. Doing stories for the religion page and seeing beautiful mosques or Krishna temples and churches that I never knew existed until I was sent there for an assignment. A colleague said that we get to live a thousand lives as photographers.

And the most embarrassing?

I can't really remember anything too embarrassing happening. In the early days I probably shot an assignment with no film in the camera, or the film didn't catch and I thought it had. It meant the same result at the end of the day – no photos. But you only make that mistake once. You learn really fast at a newspaper.

What's the biggest lesson you've learned?

Photography is a big part of me. I'm always happy when I'm doing it. I took some time off after I left the *LA Times*. It was great to take a break, and it was really good to miss photography, especially the rush of shooting photos on deadline. I enjoyed my time off and had a lot of fun, but something was always missing.




If a young Richard Hartog was trying to turn pro today, would there be anything he would do differently?
I don't think so.

What's the best piece of advice you can give to someone starting out?
If you really want to do it, don't let anyone stop you pursuing it. And if someone can stop you pursuing it, maybe you don't really want to do it! ☑

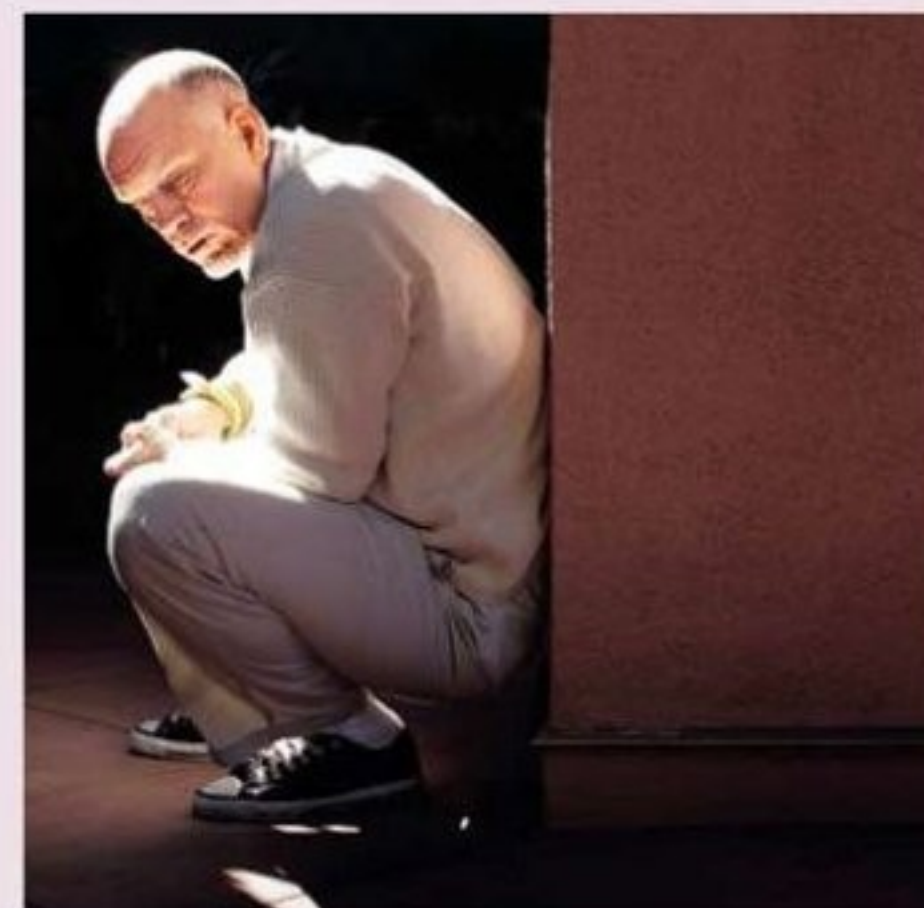
If you'd like to see more of Richard Hartog's diverse work, from his celebrity portraits and concert images to his coverage of news events, visit www.richardhartog.com or www.facebook.com/richardhartogphotography

www.nphotomag.com

 **SNOOP DOGG** The rap star takes a break in his trailer. Richard had exclusive access to his home for a weekend. Nikon D1H, Nikon 24-70mm f/2.8, 1/125 sec, f/2.8, ISO800



 **BRUCE SPRINGSTEEN** Springsteen and the E Street Band perform to a packed house at the Staples Center, LA, in 1999. Nikon F5, Nikon 70-200mm f/2.8, 1/250 sec, f/2.8, ISO800



 **JOHN MALKOVICH** The actor, director and producer at the Beverly Hills Hotel. Nikon D1H, Nikon 24-70mm f/2.8, 1/250 sec, f/5.6, ISO400

SHOOTING STARS

Richard loves shooting celebrity portraits, which he sees as a chance to study someone who'll be recorded in history

With celebrities, Richard's found that the time frame is usually short, and that some stars have a big entourage, all with an opinion. But that doesn't deter him. "My goal is to get a great photo every time," he says. "When I make them look good, I make myself look good." He remembers some of his favourite shoots...

John Malkovich

■ He was exactly the way you'd expect him to be. He walked out onto the patio of his suite and stepped into that great backlight. I think he saw that light before I did.

Snoop Dogg

■ I spent three days with him. I wasn't given his address. I had to park nearby and his security picked me up and took me to his house. My favourite image, left, captures a moment while he took a break in his trailer.

Michael Caine

■ This was a great shoot. I can't imagine how many he's done in his career, but he was gracious and gave me as much time as I needed. He only had one person with him, too.

Shaquille O'Neal

■ We did some photos that were different – darker. I photographed him between the men's and women's restrooms in a restaurant. We had to stop every time someone walked by!

Ozzy and Sharon Osbourne

■ I was at their home in Beverly Hills. I asked Ozzy to do the classic growl, but he wouldn't. Sharon finally told him to do it so I would leave! He did it fast and I got two frames.

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TEST TEAM

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EQUIPMENT TESTS YOU CAN TRUST

■ The *N-Photo* team only test Nikon-compatible kit, and we've developed a rigorous testing process to bring you reviews you can really trust.

HOW WE TEST

■ Mixing real-world tests with lab-generated data allows us to make precise, objective

judgements and highlight key differences between products. It also means we can tell you exactly what kit is like to use.

REAL-WORLD USE

■ We shoot test charts and subjects in strictly controlled conditions. This reveals how products really behave, and

provides visual results you can use to make comparisons.

LAB TRIALS

■ We test lenses rigorously by photographing targets in our lab and analysing the results in ImaTest Master (www.imatest.com) and DxO Analyzer (www.dxo.com).

HOW WE SCORE

■ Two philosophies underpin our scoring system: transparency and flexibility. Transparency means keeping our scoring accurate and explaining how we've reached a verdict. Flexibility lets us change our criteria to suit a product – a tripod, for instance, needs to be judged on different qualities to a D-SLR.

FIVE SCORES, FIVE MEANINGS

★ ★ ★ ★ ★ Forget about it! ★ ★ ★ ★ ★ Below average
 ★ ★ ★ ★ ★ Good for the money ★ ★ ★ ★ ★ Excellent
 ★ ★ ★ ★ ★ An exceptional, best-in-class product



The best performance, design and value



A product that gives you more for your money



An all-time great that sets the standard for the rest

TESTED THIS ISSUE...

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SUPER

TELEPHOTOS

Put some power into your telephoto reach with a lens that really covers the distance. Matthew Richards puts the leading contenders through their paces...

THE CONTENDERS

- 1 Samyang 500mm f/6.3 MC IF Mirror **£125, \$145**
- 2 Samyang 800mm f/8 MC IF Mirror **£175, \$220**
- 3 Sigma 120-400mm f/4.5-5.6 DG OS HSM **£650, \$990**
- 4 Sigma 150-500mm f/5-6.3 DG OS HSM **£725, \$1070**
- 5 Nikon 80-400mm f/4.5-5.6D AF ED VR **£1180, \$1680**
- 6 Sigma 50-500mm f/4.5-6.3 DG OS HSM **£1200, \$1660**
- 7 Nikon 70-200mm f/2.8G AF-S ED VR II **£1600, \$2400**
- 8 Sigma 120-300mm f/2.8 EX DG OS HSM **£1920, \$3000**



EQUIPMENT KNOW-HOW

FEATURES TO LOOK FOR

The specifications that can make for an ideal long-tom

Telephoto power

Outright telephoto reach is often the main concern with super-telephotos, but it's worth considering a lens that has a shorter focal length but is compatible with a teleconverter. You'll get two lenses in one.

Zoom range

Along with telephoto power, a good zoom range adds versatility. You'll be able to take shots at shorter focal lengths without wasting time swapping lenses, which is important for sports and wildlife photography.

Image stabilisation

Effective optical stabilisation makes a huge difference to handheld shooting with a super-telephoto. Without it, camera-shake is an ever-present danger and you can expect blurry results a lot of the time.

Autofocus

A good turn of speed from the autofocus system makes it easier to keep pace with moving targets. This is good for anything from shooting motor sports to tracking birds in flight.

Tripod collar

Most super-telephoto lenses are too heavy to attach to a tripod via a camera body. A tripod collar will fit around the lens barrel, centralising the weight to enable safe use with a tripod or monopod.

Size and weight

Some of the heaviest lenses in this test are uncomfortable for prolonged handheld use. Size and weight are key considerations if, for example, you'll be standing in a crowded spectators' area at a sporting event for hours.



It's time to wheel out the big guns. Most of the lenses in this group are designed with one thing in mind – bringing serious telescopic power to your D-SLR. As such, they're weighty beasts, tipping the scales at anything up to 3kg. Many are more than 20cm long even at their shortest zoom settings.

The Nikon 70-200mm and Sigma 120-300mm lenses aren't particularly powerful in terms of telephoto reach, but have a secret weapon in the form of a fast, f/2.8 maximum aperture. However, they're in the same size and weight bracket as the Sigma 120-400mm and 150-500mm.

Indeed, the Sigma 120-300mm is the heaviest lens in the test group. The bonus is that they enable fast shutter speeds and a tiny depth of field, for blurring the background in standard trim. Meanwhile, they're also fully compatible for use with teleconverters. For example, fit a 2.0x teleconverter to the Nikon 70-200mm and you'll get

a 140-400mm zoom range, albeit with a more pedestrian effective maximum aperture of f/5.6.

Yet another diversion comes in the form of mirror lenses. The Samyang 500mm and 800mm 'mirror' optics are comparatively lightweight and measure just 120mm and 145mm in length respectively. Mirror lenses offer considerable cost-savings compared with conventional prime and zoom lenses, although there are significant drawbacks to them, as we describe in the reviews on the following pages.

Going the distance

So why buy a super-telephoto lens? Well, they're ideal if you want to shoot things you simply can't get close to. The most popular subjects include wild animals and birds, as well as action sports. That makes them a tempting summer-time proposition, and especially so this year, with the Olympics on their way to London. When you're physically removed from the action and limited to a spectators' area,

a super-telephoto is essential for covering the distance.

All of the lenses on test are fully compatible with full-frame (FX) cameras such as the D800, and are even more powerful on bodies that have an APS-C format (DX) image sensor, such as the D7000. Thanks to the 1.5x focal length multiplier (or crop factor), a lens with a maximum reach of 500mm becomes equivalent to a 750mm lens on a full-frame camera. Even a more modest 400mm lens jumps to a whopping 600mm. If you were to fit a 2x teleconverter to the Sigma 120-300mm lens you'd get an enormous 900mm effective focal length on a DX camera.

For fast-moving wildlife and sporting action, quick autofocus is a must. The fastest systems are generally ring-type ultrasonic ones, as in the Nikon 70-200mm and all Sigma lenses in the group. The setup relies on two rings fitted just inside the circumference of the lens barrel. These are driven at an ultrasonic frequency of about 30kHz. It's not a guarantee of

NPhoto 100% NIKON 100% INDEPENDENT JARGON BUSTER

D-type

■ Nikon's older D-type lenses have an aperture ring at the base of the lens. This is superfluous for D-SLRs, and needs to be locked at its smallest aperture.

Teleconverter

■ This is an add-on optic that sits between the camera body and a compatible lens. Popular options include 1.4x, 1.7x and 2.0x, which reduce the maximum available aperture by one, 1.5 and two stops respectively. Teleconverters increase focal length.

STEP BY STEP | TELECONVERTERS AND TRIPODS

Here's how to safely use a teleconverter and tripod, and get sharper images



01 Fit the converter

Check that your lens and teleconverter are compatible – if they're not the right fit, you might damage both of them. Mount the lens on the teleconverter, switch off your camera and mount the teleconverter and lens onto it.



02 Attach to a tripod

A tripod collar centralises the weight of the camera and lens. For portrait-orientation shots, loosen the tripod collar's locking screw. Rotate the lens and camera within the collar, rather than using the tripod head's swivel facility.



03 Use Shutter Priority

Switch to Shutter Priority (S) mode and set a fast shutter speed to minimise motion blur as well as camera-shake. The Auto ISO function will be handy as it increases the sensitivity as necessary in dull lighting conditions.

speed, and some ring-type systems are faster than others. However, all the ultrasonic AF lenses in this group have very fast autofocus.

At the other end of the scale, the Nikon 80-400mm D-type lens has no in-built autofocus system. Instead, it relies on the screw-drive built into the camera. This makes for sluggish autofocus on cameras such as the D7000, D300s and D800. Things get worse with the D3200 and D5100, and predecessors in their class. These

Stabilization (OS). These are based on an additional group of elements built into the lens. Motion sensors detect any vibration or shake in the lens, and microprocessor-controlled servo motors move the VR or OS elements to keep the overall optical path stable.

The latest stabilisation systems from Nikon and Sigma give a four-stop advantage in beating camera-shake, which makes handheld shooting with a super-telephoto more feasible. However,

“Most of the lenses in this group test are designed with one thing in mind – bringing serious telescopic power to your D-SLR”

camera bodies have no internal autofocus motor to drive the lens, so focusing is a strictly manual affair. Worst of all, neither of the Samyang lenses on test can autofocus on any camera body.

Hold steady

Another factor that has a massive effect on super-telephoto sharpness is camera-shake. Like macro lenses, super-telephotos are very sensitive to movement, so blurred results are all too common. The most effective mechanism for combating the problem is an image-stabilising system such as Nikon's Vibration Reduction (VR), or Sigma's competing Optical

no amount of stabilisation can counteract the movement of the people or objects being shot, so for sports or wildlife you'll often need to increase the ISO setting to enable fast shutter speeds.

The need for fast shutter speeds demands a lens that can produce good image quality at its largest available aperture. This is especially true with lenses where that aperture is a fairly small f/5.6 or f/6.3 at the long end of the zoom range. In top-quality optics such as the Nikon 70-200mm and Sigma 120-300mm, the maximum aperture is not only faster at f/2.8 but remains constant throughout the zoom range.

HOW WE TESTED...

REAL WORLD MEETS LAB...

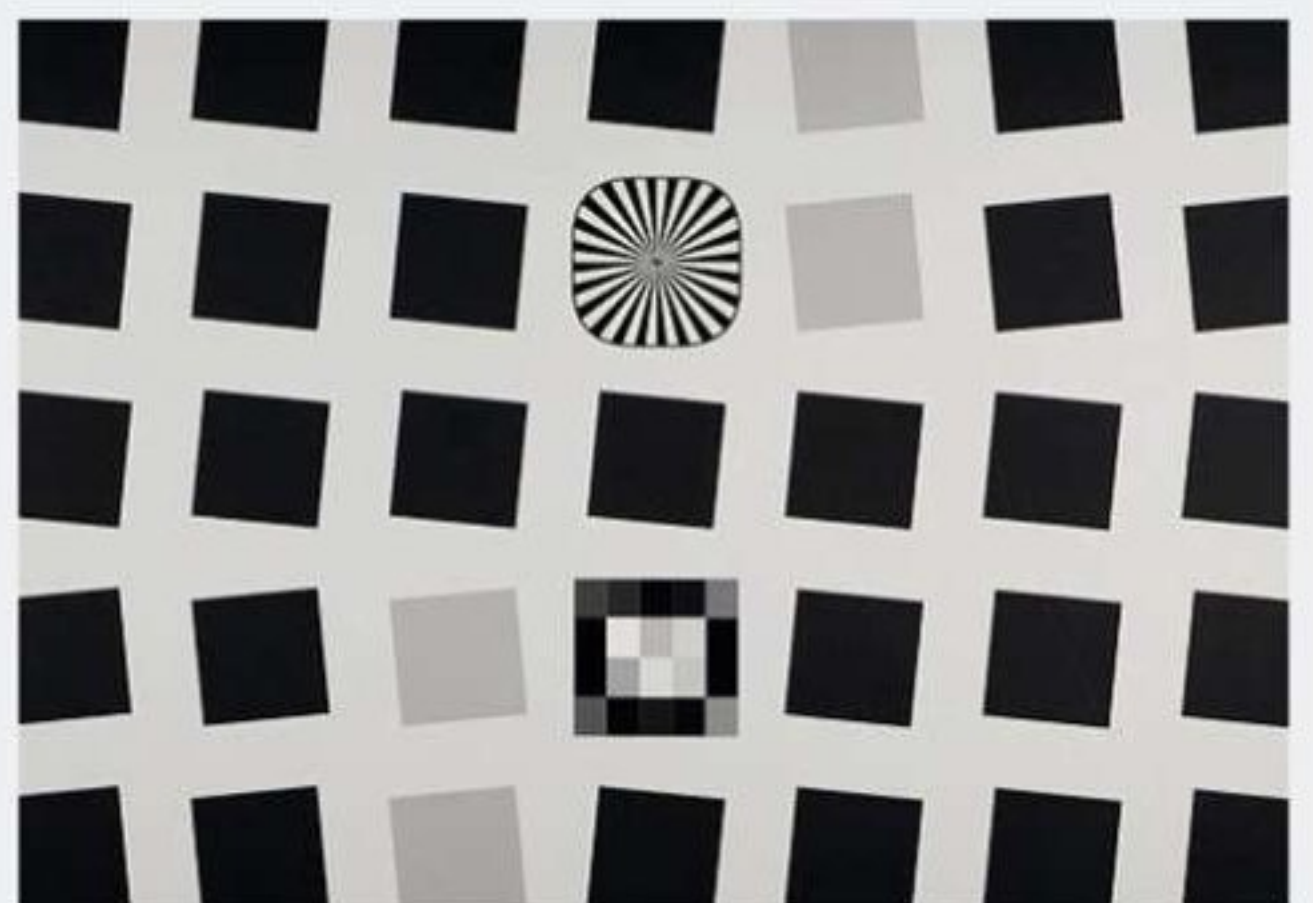
Our expert team reveal the rigorous criteria they used to rate the super-telephoto lenses in our test

■ As part of our testing, we use lenses in real-world shooting conditions. We examine build quality and handling, and check zoom and focus ring smoothness. We test image stabilisation modes, autofocus speed and accuracy, and resistance to ghosting and flare.

We then run a full range of lab trials under controlled conditions, using the Imatest Master and DxO Analyzer suites. Photos of test charts are taken across the range

of apertures and focal lengths and analysed for sharpness, distortion and chromatic aberration (colour fringing). You can see our 'Image Quality' lab test results on [pages 110 and 111](#), but bear in mind that these are summaries. We also take data from a wider range of apertures and zoom settings into consideration.

Finally, we combine the lab tests and real-world shooting results to get 'Overall' verdicts.



Our sophisticated tests use a combination of optical resolution charts and mathematical analysis to deliver precise resolution figures across a range of apertures and focal lengths



Samyang 500mm f/6.3 MC IF Mirror **£125, \$145**

It's a trick done with mirrors, but can the Samyang really compete with 'proper' super-telephoto lenses?

■ This Samyang gives even greater reach than a Nikon 70-200mm optic coupled with a 2x teleconverter. It's also so cheap by comparison that you could buy no less than 16 Samyang lenses for the same price as the Nikon combination. So where's the catch?

Both Samyang lenses in this test group are mirror lenses. Instead of having the usual collection of optical elements, they rely on curved mirrors that bounce light back and forth within the lens. This creates similar telescopic power to that of telephoto lenses but in a much shorter, more lightweight package. Limitations

of the design include the lack of autofocus and the impossibility of fitting a diaphragm. This means you can't adjust the aperture, fixed at f/6.3 here.

Performance

The whole of the outer lens barrel rotates during focusing, but in the absence of autofocus its rubberised central section offers the most assured grip for manual focus adjustments. The action is quite smooth and precise, but focusing can still be a bit fiddly. Image quality is disappointing, with the same flaws as the Samyang 800mm.

NPhoto VERDICT

FEATURES	★☆☆☆☆
BUILD QUALITY	★★★★★
IMAGE QUALITY	★★★☆☆
VALUE FOR MONEY	★★★★★

OVERALL ★★☆☆☆

WE SAY... It's a very cheap lens but don't expect fancy features or impressive image quality.



There's no shortage of reach, but sharpness and contrast are lacking



Samyang 800mm f/8 MC IF Mirror **£175, \$220**

It's large for a mirror lens, but this Samyang offers the biggest reach out of the whole test group

■ Like the smaller Samyang on test, this mirror lens attaches to the camera via a screw-on adaptor that lacks any electronic connections. It feels like a throwback to the last century, and is a strictly manual affair. There's no finery such as autofocus or image stabilisation, and you have to adjust shutter speeds manually for correct exposures at the fixed aperture, which is a small f/8.

At least you can use the camera's light metering indicator in the viewfinder to set the appropriate shutter speed. Overall, though, using the lens is a long-winded and confusing procedure that makes it

unsuitable for fast-paced sports or wildlife photography.

Performance

The 800mm produces slightly sharper images than Samyang's 500mm mirror lens but still lags behind the other lenses on test. Contrast is lacking too, while accurate focusing is more difficult to achieve than with the Samyang 500mm, requiring tiny movements of the outer barrel. There's no denying that both of the Samyang lenses are cheap. But, ultimately, fitting them to any Nikon D-SLR is like hitching a farmyard cart to a racehorse.

NPhoto VERDICT

FEATURES	★☆☆☆☆
BUILD QUALITY	★★★★★
IMAGE QUALITY	★★★☆☆
VALUE FOR MONEY	★★★★★

OVERALL ★☆☆☆☆

WE SAY... A very long focal length for minimum outlay, but the lens is ultimately a disappointment.



The resolution of fine detail is poor, and images often look lifeless and bland



Sigma 120-400mm f/4.5-5.6 DG OS HSM £650, \$990

Big on upmarket features and reasonably small in size while still managing to be kind to your wallet

The smallest, most lightweight and cheapest Sigma lens in this group, the 120-400mm super-telephoto still has the same ring-type autofocus and dual-mode optical stabiliser that are fitted to its more expensive siblings. It's lacking in reach compared with Sigma's 50-500mm and 150-500mm, but is a third of a stop faster at its maximum telephoto zoom setting.

It's compatible with Sigma's 1.4x and 2.0x teleconverters, although autofocus becomes unavailable. At least you still get confirmation of accurate focus in the camera's viewfinder. Even without a teleconverter,

the effective reach is impressive, at 600mm on cameras with APS-C format sensors.

Performance

The autofocus system is super-fast, matching that of the Nikon 70-200mm and Sigma 50-500mm. The smooth and precise action of the focus ring makes full-time manual override easy and effective. There's very little pin-cushion distortion throughout the zoom range – at the telephoto end it's the least noticeable of any Sigma in the group. Sharpness and contrast are also pretty impressive.

NPhoto VERDICT

FEATURES	★★★★★
BUILD QUALITY	★★★★★
IMAGE QUALITY	★★★★★
VALUE FOR MONEY	★★★★★

OVERALL ★★★★★

WE SAY... The size and weight of this lens are manageable, and performance is good for the price.



Sharpness is better than with either of the Nikon lenses at 400mm



Sigma 150-500mm f/5-6.3 DG OS HSM £725, \$1070

Very similar to the Sigma 120-400mm super-telephoto, but with added power

Looking every inch a super-sized version of the Sigma 120-400mm lens, this optic is about 50mm longer and 140g heavier. Even so, the weight of 1.78kg is still manageable for handheld shooting. As with all other Sigma lenses on test, the dual-mode stabiliser can be switched manually, for static shots or horizontal panning.

As with the other Sigma lenses on test, the mounting base of the tripod collar has finger grooves moulded into it. However, it's more comfortable to rotate the ring so the base is at the top, and to support the lens barrel itself. There's no

need to worry about fouling the action of the focus ring with your fingers, as it doesn't rotate during autofocus.

Performance

Autofocus is near-silent and quick. However, it's marginally slower than with the Sigma 50-500mm and 120-400mm lenses. Sharpness is excellent throughout most of the zoom range, dropping off a little at 500mm. Pin-cushion distortion is slightly worse than with the Sigma 120-400mm, but both lenses control distortions better than the Nikon 80-400mm.

NPhoto VERDICT

FEATURES	★★★★★
BUILD QUALITY	★★★★★
IMAGE QUALITY	★★★★★
VALUE FOR MONEY	★★★★★

OVERALL ★★★★★

WE SAY... For really powerful telephoto reach on a tight budget, this Sigma lens is unbeatable.



Image quality is excellent, with plenty of sharpness and contrast on offer



Nikon 80-400mm f/4.5-5.6D AF ED VR **£1180, \$1680**

Is there still life in this ageing 80-400mm super-telephoto, or has this Nikon had its day?

Designed more than a decade ago for 35mm film cameras, the 80-400mm VR features an old-style D-type mount, with an aperture ring that's redundant on D-SLRs. There's no built-in autofocus, so the lens relies on a screw-drive from the camera body. This isn't fitted on the D3200, D5100 or previous cameras in their class, making autofocus unavailable.

The VR system is also first generation, and only offers a three-stop advantage, although it does have automatic panning detection. Instead of the Normal and Active modes of recent VR systems, the two modes here apply stabilisation only when the

shot is taken, or show the effect through the viewfinder. The latter really drains the battery.

Performance

Put the 80-200mm on a D7000, D300s or full-frame body and autofocus is very slow compared with all other AF lenses in the group. It struggles to keep pace with moving targets, and the only solution is to pre-focus on a point the target is likely to move into. Sharpness is pretty good at the 80mm end of the zoom range, but drops off noticeably through mid-range and longer settings.

NPhoto VERDICT

FEATURES	★★★★☆
BUILD QUALITY	★★★★☆
IMAGE QUALITY	★★★★☆
VALUE FOR MONEY	★★★★☆

OVERALL ★★★★★

WE SAY... This can't match the cheaper Sigmas for image quality, autofocus speed or stabilisation.



Sharpness could be better at 400mm, and pin-cushion distortion is noticeable



Sigma 50-500mm f/4.5-6.3 DG OS HSM **£1200, \$1660**

This Sigma reigns supreme in terms of zoom range, but what price does the image quality pay?

Nicknamed the 'Bigma', the original version of this lens has been updated and now sports Sigma's four-stop optical stabiliser. This makes getting sharp handheld shots much easier. It's still a heavyweight lens at almost 2kg, and is heavier than both the Sigma 120-400mm and 150-500mm lenses on test.

The mighty 10x zoom range is the main attraction here. It's a real plus point when you want to zoom out to more standard focal lengths without having to waste time changing lenses. However, the 50-500mm is much more expensive than Sigma's 150-500mm lens,

and nearly twice the price of the company's 120-400mm offering.

Performance

Distortion is remarkably well controlled. There's some barrel distortion at the 50mm end of the range, and a pin-cushion effect at mid-range and long focal lengths. But these are less noticeable than with the Nikon 80-400mm. In both cases, distortions are less pronounced than with most standard zooms, such as the Nikon 17-55mm. Autofocus is super-fast, and sharpness is very good throughout the zoom range.

NPhoto VERDICT

FEATURES	★★★★☆
BUILD QUALITY	★★★★☆
IMAGE QUALITY	★★★★☆
VALUE FOR MONEY	★★★★☆

OVERALL ★★★★★

WE SAY... Offers more zoom range than the Sigma 120-400mm and 150-500mm optics, but is pricier.



Sharpness isn't as good as the Sigma 150-500mm at the longest zoom setting



Nikon 70-200mm f/2.8G AF-S ED VR II £1600, \$2400

A stunning 70-200mm lens, but can it still come up trumps with a teleconverter fitted?

■ The 70-200mm telephoto range and fast f/2.8 aperture that's constant throughout the zoom range make this lens popular with professionals. Image quality is spectacular too, with excellent sharpness and contrast. It's matched by fully professional build quality, including a rubber seal on the mounting plate.

At 206mm long and just over 1.5kg, the lens is manageable. The zoom mechanism is fully internal, so the lens doesn't extend physically at longer focal lengths. However, to boost the Nikon's reach to a 140-400mm super-telephoto range, you need to fit a Nikon TC-20E AF-S

Teleconverter III. This extends the physical length of the lens by 45mm and doesn't have a rubber weather seal. It's expensive, though, costing £400 (\$470).

Performance

Autofocus speed is rapid with or without a teleconverter, but the largest effective aperture shrinks to f/5.6 with the converter. The biggest disappointment is that with the teleconverter fitted, sharpness is worse than with the Nikon 80-400mm at short and mid-range zoom settings. It's only fractionally better at 400mm.

NPhoto VERDICT

FEATURES	★★★★★
BUILD QUALITY	★★★★★
IMAGE QUALITY	★★★★★
VALUE FOR MONEY	★★★★★

OVERALL ★★★★★

WE SAY... Great on its own, the 70-200mm is somewhat less stellar with a 2x teleconverter attached.



With a 2x teleconverter, image quality is worse than that from Nikon's 80-400mm



Sigma 120-300mm f/2.8 EX DG OS HSM £1920, \$3000

A real heavyweight in the test group, Sigma's new 120-300mm will give you a workout in the field

■ The biggest and heaviest lens in the group, the Sigma 120-300mm is 289mm long and weighs in at just under 3kg. Thanks to its internal zoom mechanism, it's hardly any longer than the Sigma 120-400mm at its maximum telephoto zoom setting, but is nearly double the weight.

You'll also need Sigma's 1.4x teleconverter to give it a similar reach of 420mm. Either way, the lens is too heavy to use handheld for long periods of time, even if its four-stop image stabiliser works very effectively.

The combined cost of the lens plus the teleconverter is £2120 (\$3430), but for this you

get a fast, constant-aperture f/2.8 lens up to 300mm, and a larger than average f/4 with the teleconverter fitted. This gives a 168-420mm zoom range.

Performance

The autofocus isn't as rapid as in Nikon's 70-200mm or Sigma's 50-500mm and 120-400mm, but it's very fast. Compared to the Nikon 70-200mm with a 2x teleconverter, there's much less impact on image quality when you use a converter. Sharpness remains excellent throughout the zoom range, with only a slight increase in colour fringing.

NPhoto VERDICT

FEATURES	★★★★★
BUILD QUALITY	★★★★★
IMAGE QUALITY	★★★★★
VALUE FOR MONEY	★★★★★

OVERALL ★★★★★

WE SAY... Excellent quality with or without a teleconverter, but too heavy for prolonged handheld use.



There's very little drop in image quality when you pair the lens with a converter

LONG SHOTS

Find out how the super-telephotos on test compare – our detailed lab results separate the best from the worst



Nikon 70-200mm f/2.8G AF-S ED VR II (2x TELE)



Nikon 80-400mm f/4.5-5.6D AF ED VR



Samyang 500mm f/6.3 MC IF Mirror



Samyang 800mm f/8 MC IF Mirror

SHARPNESS



■ Fitting Nikon's 2x teleconverter degrades sharpness to levels worse than with any Sigma lens in the group.

LAB TEST	
Sharpness at wide	1682
Sharpness at mid	815
Sharpness at tele	934



■ A decent performer at 80mm, but sharpness drops off progressively through the zoom range, and is poor at 400mm.

LAB TEST	
Sharpness at wide	1753
Sharpness at mid	1266
Sharpness at tele	879



■ There's a real lack of resolution from this mirror lens, resulting in a loss of fine detail in images.

LAB TEST	
Sharpness at wide	N/A
Sharpness at mid	N/A
Sharpness at tele	283



■ It's marginally sharper than the Samyang 500mm mirror lens, but it's still very uninspiring.

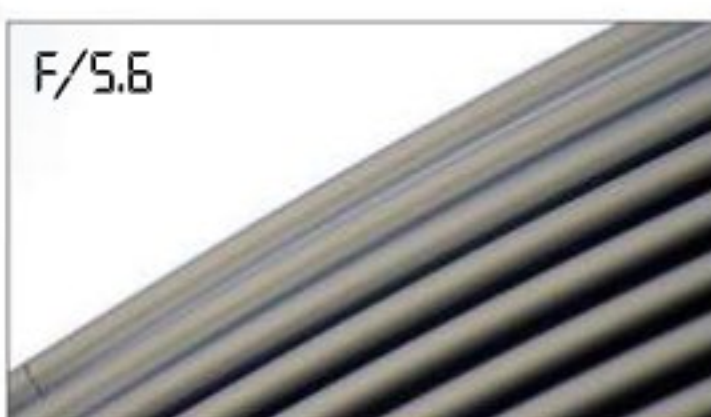
LAB TEST	
Sharpness at wide	N/A
Sharpness at mid	N/A
Sharpness at tele	389

FRINGING



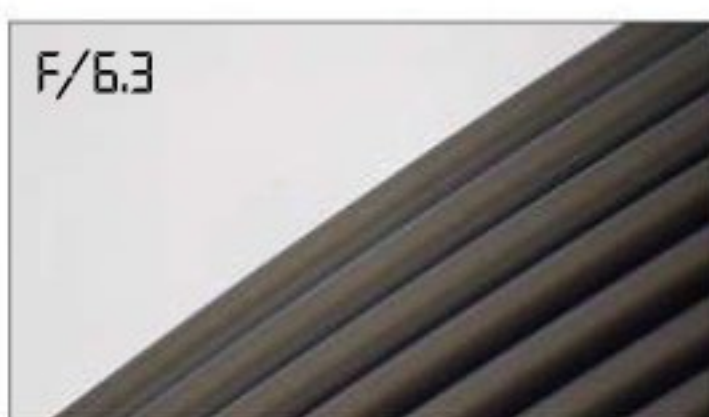
■ There's little colour fringing without the teleconverter, but with one fitted it's the worst lens on test at 400mm.

LAB TEST	
Fringing at wide	0.21
Fringing at mid	0.16
Fringing at tele	1.33



■ Worse than average through the zoom range, colour fringing is most noticeable at the longest available focal length.

LAB TEST	
Fringing at wide	0.38
Fringing at mid	0.43
Fringing at tele	0.74



■ Colour fringing is the second-worst in the group, behind the Nikon 70-200mm and its 2x teleconverter at 400mm.

LAB TEST	
Fringing at wide	N/A
Fringing at mid	N/A
Fringing at tele	1.02



■ Colour fringing isn't too bad compared with results for other lenses in the group at their telephoto settings.

LAB TEST	
Fringing at wide	N/A
Fringing at mid	N/A
Fringing at tele	0.86

DISTORTION



■ Distortions are minimal, and when you fit the teleconverter there's practically no distortion at mid and long zoom settings.

LAB TEST	
Distortion at wide	0.25
Distortion at mid	-0.06
Distortion at tele	0



■ There's barrel distortion at 80mm, switching over to a pin-cushion effect at medium to long zoom settings.

LAB TEST	
Distortion at wide	-0.83
Distortion at mid	0.71
Distortion at tele	0.96



■ There's very little distortion, with only slight pin-cushion in evidence. It's the only strong point of the lens.

LAB TEST	
Distortion at wide	N/A
Distortion at mid	N/A
Distortion at tele	0.31



■ Pin-cushioning is more noticeable than with the Samyang 500mm but still less than with some of the lenses on test.

LAB TEST	
Distortion at wide	N/A
Distortion at mid	N/A
Distortion at tele	0.53

IMAGE QUALITY VERDICT

This lens would get a five-star rating on its own but only merits three points when used with the 2x teleconverter. We've averaged this out to four stars.



IMAGE QUALITY VERDICT

The old-school Nikon 80-400mm has now been overtaken by the newer Sigma lenses in all aspects of image quality.



IMAGE QUALITY VERDICT

Very disappointing in terms of sharpness and contrast. Proof that mirror lenses are a poor substitute for proper super-telephotos.



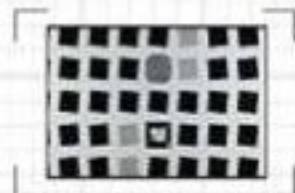
IMAGE QUALITY VERDICT

Typically for a mirror lens, there's a lack of sharpness and contrast in the final images, which is the price you pay for such significant cost-savings.



The tests explained!

We test lenses to their limits in three key areas of optical performance: sharpness, colour fringing and distortion



Sharpness
(high scores are better)

Our real-world test uses a standard ISO 12233 resolution chart. The point where lines merge is the maximum resolution (line widths per picture height, multiplied by 100).



Fringing
(low scores are better)

Our real-world test shows how colour fringing affects a subject, while the lab results provide precise values at different focal lengths. The perfect result would be 0%.

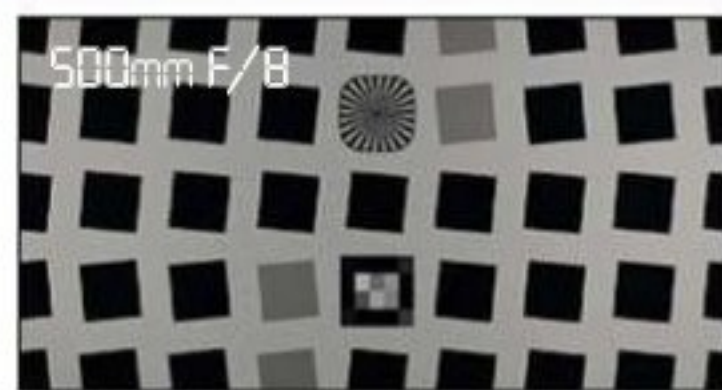


Distortion
(scores closest to 0 are best)

The shots of the brick wall show how distortion affects our real-world subject, while the lab data reveals clear measurements. Again, the perfect result would be 0%.



**Sigma 50-500mm
f/4.5-6.3 DG OS HSM**



Fairly consistent through the zoom range, this lens is quite sharp at 50mm and doesn't drop off much at all.

LAB TEST	
Sharpness at wide	1855
Sharpness at mid	1805
Sharpness at tele	1540



A trade-off for the extra-large zoom range is that colour fringing is above average, particularly at 50mm.

LAB TEST	
Fringing at wide	0.47
Fringing at mid	0.41
Fringing at tele	0.71



There's barrel distortion at 50mm and pin-cushioning at mid and long settings, but they're low given the big overall range.

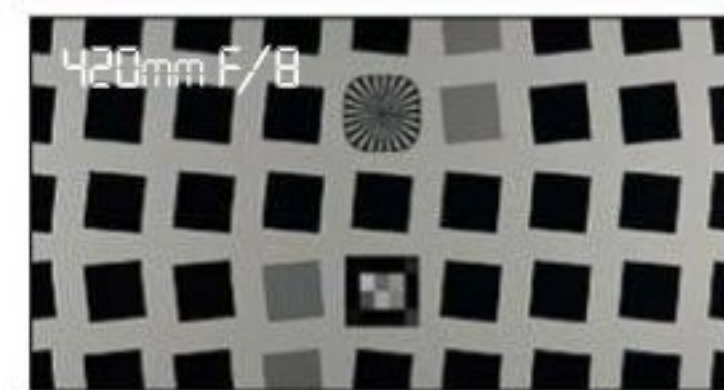
LAB TEST	
Distortion at wide	-0.61
Distortion at mid	0.76
Distortion at tele	0.77

IMAGE QUALITY VERDICT

The overall image quality produced by this Sigma is remarkably good for a lens with a 10x zoom range, adding performance to versatility.



**Sigma 120-300mm f/2.8
EX DG OS HSM (1.4x TELE)**



Excellent on its own, the Sigma 120-300mm still offers the best average sharpness with a 1.4x teleconverter fitted.

LAB TEST	
Sharpness at wide	2149
Sharpness at mid	2340
Sharpness at tele	1904



Colour fringing increases when you use the 1.4x converter but is barely noticeable even at the longest zoom setting.

LAB TEST	
Fringing at wide	0.28
Fringing at mid	0.22
Fringing at tele	0.48



Pin-cushion distortion is above average with the 1.4x teleconverter, and only slightly evident at the longest focal length.

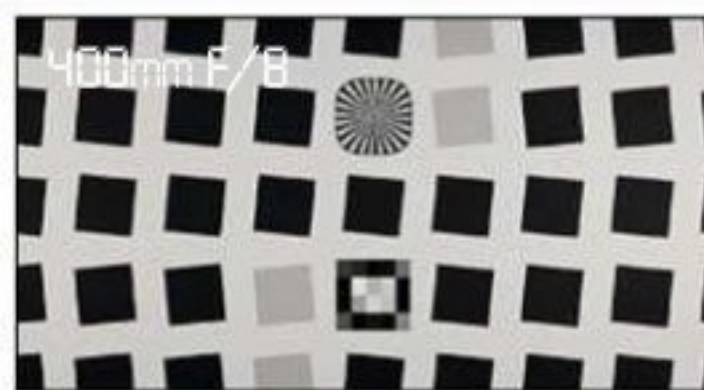
LAB TEST	
Distortion at wide	0.49
Distortion at mid	0.55
Distortion at tele	0.7

IMAGE QUALITY VERDICT

The superb image quality of the Sigma 120-300mm lens is only slightly impaired when you use it in conjunction with a 1.4x teleconverter.



**Sigma 120-400mm
f/4.5-5.6 DG OS HSM**



Most impressive at mid-zoom settings, this lens still offers decent sharpness at the shortest and longest focal lengths.

LAB TEST	
Sharpness at wide	1146
Sharpness at mid	1934
Sharpness at tele	1305



There's low colour fringing at 120mm, and results get progressively better throughout the rest of the zoom range.

LAB TEST	
Fringing at wide	0.39
Fringing at mid	0.37
Fringing at tele	0.27



One of the best performers in the group in this respect, distortions are low at all zoom settings.

LAB TEST	
Distortion at wide	0.3
Distortion at mid	0.27
Distortion at tele	0.39

IMAGE QUALITY VERDICT

It's not quite as sharp as some lenses in the group but the overall image quality is good, making this Sigma well worth the money.



**Sigma 150-500mm
f/5-6.3 DG OS HSM**



Very impressive throughout most of the zoom range, with plenty of sharpness still on offer at the 500mm focal length.

LAB TEST	
Sharpness at wide	2299
Sharpness at mid	2254
Sharpness at tele	1630



Colour fringing peaks at mid-zoom focal lengths but is very well restrained at the 500mm end.

LAB TEST	
Fringing at wide	0.28
Fringing at mid	0.33
Fringing at tele	0.16



Distortions are a little more noticeable than with the Sigma 120-400mm but are still fairly low throughout the zoom range.









LAB TEST	
Distortion at wide	0.36
Distortion at mid	0.49
Distortion at tele	0.55

IMAGE QUALITY VERDICT

Sigma's 150-500mm lens gives the best overall image quality in the group for shooting at a super-long 500mm focal length.



COMPARISON TABLE

	Nikon 70-200mm f/2.8G AF-S ED VR II	Nikon 80-400mm f/4.5-5.6D AF ED VR	Samyang 500mm f/6.3 MC IF Mirror	Samyang 800mm f/8 MC IF Mirror	Sigma 50-500mm f/4.5-6.3 DG OS HSM	Sigma 120-300mm f/2.8 EX DG OS HSM	Sigma 120-400mm f/4.5-5.6 DG OS HSM	Sigma 150-500mm f/5-6.3 DG OS HSM
HOW THE SUPER-TELEPHOTO LENSES COMPARE								
WEBSITE	www.nikon.co.uk	www.nikon.co.uk	http://bit.ly/toy-nphoto	http://bit.ly/toy-nphoto	http://bit.ly/sigma-uk	http://bit.ly/sigma-uk	http://bit.ly/sigma-uk	http://bit.ly/sigma-uk
STREET PRICE	£1600, \$2400	£1180, \$1680	£125, \$145	£175, \$220	£1200, \$1660	£1920, \$3000	£650, \$990	£725, \$1070
DX/FX	FX	FX	FX	FX	FX	FX	FX	FX
EQUIV FOCAL LENGTH (APS-C)	105-300mm	120-600mm	750mm	1200mm	75-750mm	180-450mm	180-600mm	225-750mm
MINIMUM APERTURE	f/22	f/32	f/6.3	f/8	f/22	f/22	f/32	f/22
IMAGE STABILISER	Four stops	Three stops	None	None	Four stops	Four stops	Four stops	Four stops
TELECONVERTER USE?	Yes	No	Not recommended	Not recommended	Yes (no AF)	Yes	Yes (no AF)	Yes (no AF)
AUTOFOCUS ACTUATOR	Ultrasonic (ring)	None	No autofocus	No autofocus	Ultrasonic (ring)	Ultrasonic (ring)	Ultrasonic (ring)	Ultrasonic (ring)
INTERNAL FOCUS	Yes	No	No	No	Yes	Yes	Yes	Yes
MIN FOCUS DISTANCE	1.4m	2.3m	2m	3.5m	0.5-1.8m	1.5-2.5m	1.5m	2.2m
MAX MAGNIFICATION	0.25x	0.42x	0.37x	0.37x	0.32x	0.12x	0.24x	0.19x
FILTER SIZE	77mm	77mm	34/95mm (rear/front)	30.5/105mm (rear/front)	95mm	105mm	77mm	86mm
ACCESSORIES INCLUDED	Hood, pouch	Hood, pouch	Pouch	Pouch	Hood, pouch	Hood, pouch	Hood, pouch	Hood, pouch
DIMENSIONS (DIAMxLENGTH)	87x206mm	97x171mm	98x120mm	111x145mm	104x219mm	114x289mm	92x203mm	95x252mm
WEIGHT	1.54kg	1.36kg	0.7kg	0.95kg	1.97kg	2.95kg	1.64kg	1.78kg
FEATURES	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
BUILD QUALITY	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
IMAGE QUALITY	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
VALUE FOR MONEY	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
OVERALL	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★

10 things we learned in this test

There's a lot to think about when you're shooting with a super-telephoto lens

1 Mind your back

Super-telephoto lenses can be weighty beasts. A monopod can help take the load without imposing the restrictions of a tripod.

2 Hidden depths

While they're long to start with, some super-telephotos almost double in length at their longest zoom settings. The Nikon 70-200mm and Sigma 120-300mm remain fixed thanks to internal zoom mechanisms.

3 Staying constant

Constant aperture lenses retain the same largest available aperture throughout the zoom range, enabling faster shutter speeds at longer focal lengths.

4 Take the weight

With heavy super-telephoto lenses, image stabilisation systems often make all the difference between sharp and blurry handheld shots.

5 Slow it down

For tripod-mounted shots, it's best to use the Exposure Delay or the Mirror Lock-up functions to avoid mirror-bounce blurring your results.

6 Small margin

Depth of field can be extremely small at longer zoom settings, especially when you use the largest available aperture.

7 On the move

With super-telephotos, motion blur and camera-shake are exaggerated. You'll need a fast shutter speed to freeze the action.

8 Lights on

You'll often need to increase

your camera's sensitivity setting to achieve fast shutter speeds in anything other than bright lighting conditions.

9 Keep up

A fast autofocus speed is essential for tracking quick-moving subjects. All the ring-type ultrasonic lenses on test perform well, while the Nikon 80-400mm is relatively slow.

10 Mirror, mirror

Mirror lenses offer massive cost-savings but the image quality they provide is comparatively poor. They also lack autofocus and adjustable apertures.



THE WINNER IS...

Sigma 150-500mm f/5-6.3 DG OS HSM

For premium quality and advanced features in a lightweight package, this Sigma offers plenty of punch



There's a lot to love about the Sigma 150-500mm lens. With no need for a teleconverter, it gives a massive 500mm reach, equivalent to 750mm on cameras with APS-C sensors. It also combines an effective four-stop optical stabiliser with a manageable weight of 1.78kg, so is ideal for handheld use. Image quality is very good, especially considering the relatively modest purchase price of £725 (\$1070).

By comparison, the Nikon 70-200mm and Sigma 120-300mm optics are about three times as expensive, once you factor in the teleconverters, and the image quality of the Nikon 70-200mm becomes poor with the

2x teleconverter. The Sigma 120-300mm retains most of its excellent image quality when used with the teleconverter, but the weight of the lens alone can literally be a pain. Filters are also costly for the Sigma, thanks to its huge 105mm filter thread.

Suit yourself

The Sigma 120-400mm has similar specs to the 150-500mm, and is great value if you don't need that final 100mm of focal length. By contrast, the Nikon 80-400mm is a more basic affair, with no in-built autofocus, less effective stabilisation and worse image quality. Another interesting proposition is

the Sigma 50-500mm, but it's not worth the extra outlay unless you really need its 10x zoom range. Neither of the Samyang lenses are worth considering seriously unless you're on the tightest of budgets.

What's good Very good image quality, effective image stabilisation and excellent value.

What's bad The largest available aperture is only f/6.3 at the long end of the zoom range.

Our verdict A great combination of quality and features at a reasonable price.

OVERALL



Not winners but definitely not losers...



Nikon 70-200mm f/2.8G AF-S ED VR II

What's good Spectacular image quality, superb build and fully professional specifications.

What's bad Image quality is significantly impaired when you use a 2x teleconverter.

Our verdict Brilliant as a fast telephoto, but costly and less impressive with a teleconverter.

OVERALL



Sigma 120-300mm f/2.8 EX DG OS HSM

What's good Superb image quality, even with a 1.4x teleconverter fitted.

What's bad Big, very heavy and has a combined price of £2120 (\$3430) with the teleconverter.

Our verdict Too weighty for prolonged handheld use, but excellent in every other way.

OVERALL



Sigma 120-400mm f/4.5-5.6 DG OS HSM

What's good Fairly compact and lightweight but has plenty of advanced features.

What's bad Lacks the outright telephoto reach of the Sigma 150-500mm.

Our verdict All-round quality makes this lens a bargain at the price.

OVERALL



Visit www.nphotomag.com for more expert reviews

TEST TEAM [The world's toughest tests]



RATED & PREVIEWED

NEW GEAR

EXPERT OPINIONS ON ALL THE LATEST HOT KIT

Nissin MF18 Macro Flash

A ring flash with Fine Macro technology, great build quality and a fun colour LCD

RING FLASH ▶ £260, \$419 ▶ www.nissindigital.com

An alternative to Nikon's macro flash solution, the Remote Kit R1, Nissin's more conventional ring setup allows the light from each of its sides to be controlled independently. It offers a guide number of 16 at ISO100 and is compatible with Nikon's through-the-lens (TTL) metering algorithms, further providing support for wireless shooting

by acting as a master to a number of slaves.

Nissin has also thrown in six adaptor rings for use with different lenses. The USP is the MF18's Fine Macro function, though, which allows power output to go between 1/128 and 1/1024 in 1/6EV steps.

If you've used Nissin's more conventional flash units, you'll find the rear of the model

familiar, with its colourful interface and simple four-way pad. The unit itself is only a shade smaller than an entry-level flashgun, although the LCD screen is only slightly bigger than a postage stamp, so it feels as though there's room for expansion there.

Despite the all-plastic construction, it's hard to argue with the unit's build quality. It has a metal hotshoe at the base, no creaking under pressure or any noticeably weaker parts. The flash locks into position with a ridged locking wheel, and you can quickly switch

control between the left and right section of the ring.

Operation is simple, and it's possible to figure out a lot of the functionality without having to read the manual. Recycling times are good, and operation is practically silent. The only issue is with faster button presses sometimes not registering.

The price makes this a cheap alternative to Nikon's £480 (\$780) R1, while the build quality and fast recycling times really do make this macro flash solution worth a look.



Benro A1182TB0 aluminium tripod

Foldable four-section tripod with monopod conversion capability

TRIPOD ▶ £205, \$330 ▶ www.benro.co.uk

■ Tripods and innovation rarely go hand in hand, with most models simply fulfilling their basic requirements. The Benro A1182TB0 Flat Traveller is different, boasting a foldable design. It collapses down to the thickness of a single leg and features a removable limb that can be used in conjunction with the supplied monopod head.

Build quality is excellent, with a combination of aluminium and magnesium alloys and good-quality rubber around both the leg locks and various cogs. There's only a single leg sleeve for

comfortable holding, although the matt black finish on the legs is smart and understated.

The tripod extends to a maximum 166cm and folds down to just under 57cm, with a respectable top load of 8kg – that's more than enough to hold a Nikon D7000 with a 70-200mm lens attached.

In use, the leg sections move freely once released, and you only need to twist them a short way to lock them again. Once in place, they stay firmly in position, and the same goes for the ball head.

Perhaps the only significant downside concerns the feet. On



many other tripods, small spikes can be twisted out for use on softer surfaces such as grass. Here, the rubber feet need to be removed before the three (supplied) spikes are screwed in. Admittedly, this would be more

of a concern for those constantly changing between different shooting surfaces, rather than those planning to use the tripod in one particular environment.



LIGHTING UP + CREATIVE SOLUTIONS ON AND OFF THE HOTSHOE

Manfrotto ML240 Mini LED

▶ £67, \$108 ▶ www.manfrotto.co.uk

■ This well-built LED panel slips onto the hotshoe and provides a variable amount of light. The dimmer on the side enables precise control over output. The only criticism is the lack of control over colour temperature.



Frio

▶ £15, \$24 ▶ www.friocoldshoe.com

■ Off-camera flash is a quick and easy way to add creative light, but positioning the flash can be tricky. The Frio is a handy coldshoe that enables you to attach a flash, which can then be secured to a lighting stand. This enables you to free up your hands for taking pictures.



Yongnuo YN560-II

▶ £60, \$97 ▶ www.hkyongnuo.com

■ This manual flash has an infrared sensor for wireless shooting. The diffuser and bounce card are inside the tilt-and-swivel head, while the LCD shows key exposure information. Recycling times vary and noise is minimal. Illumination is pleasing and consistent at the right settings.



Nissin SC-01

▶ £55, \$89 ▶ www.nissindigital.com

■ Coiled flash cords are handy when you're shooting with off-camera flash, and this model adds an extra hotshoe mount so two flashguns can be mounted and used at the same time. It might be more expensive than other third-party options, but it works flawlessly, so is worth it.



IN THE BAG FROM BARGAIN TO WALLET-BUSTER



Booq Python Courier

▶ £160, \$258 ▶ www.booqbags.com

■ The Booq will carry a large D-SLR, four lenses and a tablet with ease. It oozes quality and attention to detail, from the zips to the padding, making this an outstanding bag that's worth every penny.

★★★★★



Domke F-831 RuggedWare

▶ £114, \$184 ▶ www.domkebags.co.uk

■ The Domke mixes a well-padded, weather-resistant build with a casual appearance that should keep you under a thief's radar. But features are sparse and internal flexibility is lacking, making the price steep.

★★★★★



Lowepro Event Messenger 250

▶ £46, \$74 ▶ www.lowepro.com

■ With adjustable dividers to house a camera, lenses and a small laptop, this bag is hard to fault. Its discreet design, light weight and decent build make it great value.

★★★★★

Lastolite Strobo Direct to Flash Kit

A flash accessory kit that comes with gels and honeycomb grids

FLASH ACCESSORIES ▶ £125, \$202 ▶ www.lastolite.com

■ The Strobo Direct to Flash Kit enables flashgun users to mount and dismount accessories quickly. A selection of cooling and warming colour gels is provided, along with some more standard coloured options. You also get a neutral density gel and one frosted variety. These are joined by 1/4in and 3/8in honeycomb grids, as well as four metal creative masks, each offering a different effect.

The gels and masks fit into supplied holders, which then fit onto the main adaptor. This clips onto a flash head and is secured with a Velcro strap. Both the holders and the adaptor use concealed magnets so the accessories can be fitted and removed with minimal hassle. The honeycomb grids are encased in their own holders, so these simply need to be placed against the adaptor in the same way.

You get a good selection of accessories, along with a Velcro-lined carry case that has separate pockets to help keep all the items secure.

★★★★★



The kit might seem expensive, but you get a whole host of accessories and a handy carry case to keep them safe



Phottix Hector 9HD

Fit this Live View screen and stop craning to look at your Nikon's LCD

ACCESSORY ▶ £440, \$709 ▶ www.phottix.co.uk

■ Hook the Hector 9HD up to your D-SLR via the HDMI cable supplied, switch to Live View on the camera and watch as the display appears on the 1024x600-pixel screen. There's a tripod socket on the base, or you can use it handheld if you're using it as a remote release. The Hector 9HD delivers crisp detail and good colours, and its size means you can still see what's going on even if you're a few feet away. If you do a lot of video work, studio or still life photography, it will prove useful.

★★★★★



Lowel Blender

Hotshoe-mounted LED panel with integrated colour temperature control

LED ▶ £600, \$997 ▶ www.lowel.com

■ The Lowel Blender is a small LED unit designed to be fitted onto lighting stands. Instead of using attachable gels to change the colour temperature, you use the unit itself to make changes. Colour temperature can then be finely tuned through the controls on the unit, with a knob for each daylight- and tungsten-balanced set of LEDs. When adjusted to its maximum settings, the unit is more powerful than comparable products, and its output changes steadily as each light's control is played with.

★★★★★



RUTH DOWNING OUTDOORS PHOTOGRAPHER

When she's shooting country fairs and animals, Ruth faces the elements on a daily basis...

1 NIKON 70-200mm f/2.8 (£1600, \$2400)

■ **What's it for?** This lens gives me a reasonable working distance when I'm taking action shots of pets and horses.

■ **Plus points** It allows me to take closely cropped portrait shots but also to step back a little if I want to include more of a subject's environment in the picture. It's durable, and will stand whatever the weather throws at it.

■ **Minus marks** It's quite a heavy lens to use all day.

2 LOWEPRO FLIPSIDE 400 AW (£90, \$160)

■ **What's it for?** All the kit I need for a location shoot in one easy-to-carry bag.

■ **Plus points** The movable dividers allow me to change the interior layout of the bag to suit whatever kit I want to pack, ensuring that all my gear is snugly protected. The design also means I can carry the bag while leaving my hands free.

■ **Minus marks** It can be hard to access items stored at the back of the bag, as it doesn't open out fully.

3 MINI MAGLITE AA (£8, \$13)

■ **What's it for?** This small torch allows me to check camera settings or find things in my bag if I'm working in low light, either indoors or out.

■ **Plus points** It's light (107g), making it easy to carry. Plus, it offers great battery life (five hours) and is small enough for me to drop into my pocket as I'm moving around.

■ **Minus marks** Its small size and weight also mean it's an easy thing to lose!

4 PÁRAMO ALTA II JACKET (£190, \$400)

■ **What's it for?** This jacket keeps me warm and dry no matter what conditions I'm working in.

■ **Plus points** The fabric is soft and light, and it doesn't rustle in the way that other waterproof coats do. It's incredibly warm, comfortable and weatherproof. I've put this jacket through some rough treatment over the years but it's withstood it well.

■ **Minus marks** None – it doesn't have any!

5 MOUNTAIN WAREHOUSE TRAVEL TOWEL (£13, \$21)

■ **What's it for?** I always carry this towel in my kit bag in case of a sudden downpour while I'm out shooting.

■ **Plus points** It's lightweight and simple to pack, and is great for drying off gear when I'm working in the rain. It also helps protect kit from any unexpected showers.

■ **Minus marks** It can be awkward to squeeze it back into its carry case after it's been washed. ☐

[MINI TEST]

TRIPOD HEADS

For quick framing and stability, you need a good tripod head. We test six to see which can hold their own

Even the best tripods can go weak at the knees without a decent head attached, spoiling your shots. The smart solution is to buy the tripod legs and head separately, so that you can get the best combination to suit your needs. Even if you've bought an all-in-one kit, it can make sense to upgrade the head to a more versatile and stable model. What's more, new heads are usually easy to fit. Unlike video tripod heads, which only offer pan and tilt adjustments, photographic heads need to enable triple-axis movement. This is so you can shoot in portrait (upright) orientation as well as landscape (horizontal). This ability to pan, tilt and swivel is the reason conventional photographic heads are called three-way heads. The more popular option is a ball-and-socket head, but you can also buy a pistol or joystick variety. Both are variations on the ball-head theme. But which type is best? We find out...

UP CLOSE

FIVE THINGS TO LOOK OUT FOR...

The key features you'll want your tripod head to have

01 Do the twist

If the tripod legs are level and the centre column isn't extended, you can easily rotate heads that don't have a pan-only lock.

02 Pad it out

If your main concern is tripod stability, check for excess sponge on the head, because too much can cause wobbles.

03 Time to turn

It takes longer to switch a ball head between portrait and landscape orientations than it does a pan-only head.

04 Speed limit

Three-way heads are good for precise positioning but can slow you down on location as they take a while to set up.

05 On your level

A single bubble level is easier to use than a dual spirit level for balancing a camera front-to-back and side-to-side simultaneously.



The Benro BH2 is a simple, compact and lightweight tripod ball head

Benro BH2 £55, \$72

▶ www.kenro.co.uk

Benro's ball head is a basic affair, with a single locking screw, no additional, adjustable friction-damper and no pan-only lock. However, releasing the locking screw by about half a turn enables smooth and easy adjustment while maintaining fairly high friction. Undoing it a full turn facilitates free movement.

The scissor-action quick-release lock is easy to use and offers good security against accidental loosening. A bubble level on the camera platform makes for easy levelling, too. Our only complaint is with the mounting surface that connects to the camera. It relies on two narrow rubber strips, which make the connection feel quite spongy, especially with heavier camera and lens combinations.

The BH2 is compact and light. Its size bodes well for storage, and the ball head deals with movement efficiently, making it easy to adjust position.

NPhoto VERDICT

WEIGHT	400g
MAX HEIGHT	9.7cm
MAX LOAD	8kg
PAN-ONLY LOCK	NO

WE SAY... Simple but performs well. The rubber strips on the mounting are our only niggle.

OVERALL ★★★★★



This ball head is sturdy, packed with features and still very lightweight

Giottos MH 1311-652 £65, \$105

▶ www.giottos-tripods.co.uk

A full-featured ball head, the Giottos has three operating knobs. As well as the main locking screw, there's a separate, adjustable friction-damper, plus a pan-only lock. Panning also comes with the luxury of an angular scale, which is marked in five-degree increments.

Instead of a bubble level, the camera plate has two spirit levels so you can check for precise front-to-back and side-to-side levelling independently. The quick-release system has a scissor-action safety catch for preventing any mishaps, and the surface coating offers a solid connection to the camera.

Considering its 10kg maximum load rating and wide-ranging features, the Giottos is still fairly light (partly due to the ball being hollow) so it won't be a burden to carry around. The ball head rotates smoothly in all directions, and the friction and lock dials glide around easily, making this a very simple and reliable bit of kit.

NPhoto VERDICT

WEIGHT	500g
MAX HEIGHT	10.5cm
MAX LOAD	10kg
PAN-ONLY LOCK	YES

WE SAY... Its dual-action spirit level enables precise levelling, making it a very reliable head.

OVERALL ★★★★★



The size of the mounting plate makes this head ideal for smaller tripods



There's no bubble level, but it's stable and easy to position and use



The joystick design looks impressive but doesn't perform well in practice



The Vanguard offers precision panning and a host of other handy features

Manfrotto 494RC2

£45, \$72

▶ www.manfrotto.co.uk

Most of the heads in this group have a tripod mounting plate that's about 60mm in diameter, which suits the majority of full-sized tripods. However, this Manfrotto has a smaller, 38mm plate, making it an ideal match for smaller models. This might be beneficial for those looking to get some steady macro shots.

It has a sturdy quick-release mechanism and plate, plus an adjustable friction-damper. However, both heads lack a bubble level for precise positioning.

Compared with other ball heads in the group, the ball and socket on the 494RC2 are smaller. While adjustments are quick and easy, there's noticeable sag after you make positional adjustments and let go of the camera, especially with front-heavy setups – it doesn't really have the strength to be used with weighty cameras and lenses, and particularly combinations of the two.

Manfrotto 496RC2

£55, \$89

▶ www.manfrotto.co.uk

The predecessor to this head was the Manfrotto 486RC2, which was a firm favourite with many photographers. The 496RC2 adds an adjustable friction-damper and a refined safety lock for the quick-release plate, which is spring-loaded so it can't remain in the unlocked position.

Fancy frills such as a pan-only locking knob and bubble level are lacking, but the overall stability of the head is superb. Unlike the smaller Manfrotto 494RC2, there's practically no sagging after you adjust the camera position, and a dual cutout in the ball's socket enables quick and easy tilting of your D-SLR in either direction. The friction and lock levers move easily and are simple to use, as is the quick release.

While a bubble level is always good for peace of mind, what this head lacks in extras it makes up for in ease and speed of use, along with rock-solid performance.

Manfrotto 324RC2

£85, \$137

▶ www.manfrotto.co.uk

With its quick-action joystick design, all that's needed to enable a full range of positional adjustments is a squeeze of the 324RC2's trigger. That's the theory, at least. In practice, if you want to swivel the camera clockwise for portrait-orientation shots, to avoid the danger of it loosening on its connecting screw you have to remove the quick-release plate from the camera and reverse its orientation, just as you do with most three-way heads.

The adjustable friction-damper works well, but despite a relatively low maximum load rating of 3.5kg, the head lacks stability. It's much more prone to slipping than three-way and regular ball heads, and there's noticeable sagging after you release the trigger grip to activate clamping.

To stop that telltale sag spoiling your shots, this tripod head is best used with light and short camera and lens combinations.

Vanguard SBH-100

£60, \$97

▶ www.vanguardworld.co.uk

Like the Giotto's ball head, this Vanguard model features a pan-only lock that also comes with an adjustment scale calibrated in five-degree increments. This enables precision panning while other tilt-and-swivel tweaks are locked off. The downside is that you need to release the pan lock as well as the main locking knob when switching to portrait-orientation shooting.

Other features include two spirit levels on the camera plate and a firmly locking quick-release plate, which has its own locking screw. However, there's no D-ring for fastening the camera to the quick-release plate, so you have to use a coin or a screwdriver.

There's no adjustable friction-damper, and sagging can be noticed after you make positional changes. If you're mounting a heavy lens then we'd advise anticipating the droop when you're composing an image.

NPhoto VERDICT

WEIGHT 320g
MAX HEIGHT 8.5cm
MAX LOAD 4kg
PAN-ONLY LOCK NO

WE SAY... Quick and simple to use, but the post-adjustment sag lets it down slightly.

OVERALL ★★★★★

NPhoto VERDICT

WEIGHT 420g
MAX HEIGHT 10cm
MAX LOAD 6kg
PAN-ONLY LOCK NO

WE SAY... It's efficient and easy to use, but the lack of a bubble level reduces reliability.

OVERALL ★★★★★

NPhoto VERDICT

WEIGHT 470g
MAX HEIGHT 10.1cm
MAX LOAD 3.5kg
PAN-ONLY LOCK NO

WE SAY... Though the joystick is great for quick and easy use, overall stability isn't brilliant.

OVERALL ★★★★★

NPhoto VERDICT

WEIGHT 450g
MAX HEIGHT 10.5cm
MAX LOAD 10kg
PAN-ONLY LOCK YES

WE SAY... Very reliable, but there's noticeable sag after you make adjustments.

OVERALL ★★★★★

TEST TEAM [The world's toughest tests]

LONG-TERM TESTS

The N-Photo team reveal the kit they've been using – and how they rate it...



Jeff's completely taken with the D90's image quality, reassured of a natural-looking colour balance even in the most high-contrast of scenes

Nikon D90



This easy-to-use D-SLR has taken Jeff Meyer into the digital arena

CAMERA ▶ £650, \$1053 ▶ www.nikon.co.uk

I've been using a Nikon D90 off and on ever since it launched back in 2008, borrowing one from our office supply cupboard whenever I've had the chance. But it wasn't until about 18 months ago that I could justify buying one of my very own. Looking back, I can't believe I waited so long to make the investment.

When I was borrowing the D90, it was always the first camera I turned to for shoots. I'd worked with a Nikon N6006 film camera well into the digital age, and because I was so familiar with it and happy with its results I never saw the point of switching over. However, the D90 gave me consistently good images in challenging conditions, hooking me in and

turning me into a digital convert. Before I tried the D90 I'd always seen D-SLRs as utilitarian – a means to getting a quick shot for work purposes. I often stuck to Aperture Priority mode and concentrated on getting a well-lit photo, preserving my creativity for my film cameras.

With the D90, however, I've taken a much more creative spin. I shoot largely in Manual and like to experiment with long exposures. Its 12.3MP sensor has proved to be plenty enough for my needs, and I'm consistently surprised by how sharp and clean my photos are, despite me often shooting handheld at shutter speeds of 1/20 sec or longer. Nikon's Active D-Lighting feature has also been a godsend, as it's allowed me to shoot in



high-contrast settings while maintaining natural tones.

If I'm honest, one feature I've never really embraced on the D90 is its Live View. I much prefer to use the optical viewfinder. But that's not to suggest I'm a Luddite – the

have been – most of my videos are of my children's 'firsts'. But I still do a fair amount of creative filming with the D90 outside of parks and playgrounds.

I suppose my only moans – and they are small – are that I would like a 100 per cent

“That I haven't been tempted by another model, in this era of 18-month launch cycles, speaks volumes for the D90's quality”

function I've really come to love is the 720p HD video. This was something I never thought I'd want or need on a camera, but it's easy to use, and what a revelation it's been. To be fair, fatherhood has perhaps made the feature more useful and enjoyable than it would once

viewfinder, and not being able to use autofocus during video recording seems an oversight. Overall, though, I've never been happier with a camera. That I haven't been tempted by another model, in this era of 18-month launch cycles, speaks volumes for the D90's quality.

Nikon 35mm f/1.8G AF-S DX



It's stunning results at a wallet-friendly price for Ben Andrews

LENS ▶ £160, \$259 ▶ www.nikon.co.uk

You might wonder why I went for a 35mm fixed focal length for my D5100, rather than one of the more common 50mm alternatives. My rationale was that 50mm lenses are usually paired with full-frame cameras, with the increased sensor size compensating for the narrower field of view. But with a cropped-sensor, DX-format body, a 35mm lens is needed to produce a comparably wide field of view.

The lens is a joy to use. Focusing is accurate and almost instantaneous, even in low light. The addition of an immediate manual override focus ring provides quick and easy

adjustment when you're shooting close-up at large apertures.

Despite its relatively modest price tag, I'm more than satisfied with the 35mm f/1.8G's build quality. I've yet to subject it to real abuse but am confident that its solid casing and sealed metal mount will keep me away from the repair shop.

A major party piece of a fast prime is the ability to produce stunning bokeh when you shoot close-ups at wide apertures. Another benefit is the freedom it's given me to shoot handheld at night. Opening to an aperture as wide as f/1.8 means I can leave my tripod at home and avoid noise at high ISOs. I can



Above: Ben now finds handheld night shots easy to get right

Right: He's been impressed with the 35mm f/1.8G's eye-popping sharpness

now produce spontaneous photos with detail that really stands up to scrutiny.

Other than this lens only being suitable for DX-format shooting, I can't think of much else that should deter a potential buyer. If you're prepared to move about a little to compensate for its lack of zoom, it's an excellent addition to any DX-based kit bag.



SanDisk Extreme HD Video SDHC 16Gb



Why pay more for performance, asks Matthew Richards

MEMORY CARD ▶ £17, \$25 ▶ www.sandisk.com

When I bought my D7000 I needed some SDHC cards, as my existing spares were all CompactFlash. The D7000 is one of only a few cameras that uses the new Ultra High Speed – Class 1 (UHS-1) SecureDigital bus, so I bought a couple of pricey UHS-1 cards, including the SanDisk Extreme Pro. Write speeds were pedestrian – 17.5 seconds to clear a full memory buffer when I shot RAW in continuous drive.

I've since got some SanDisk Extreme HD Video SDHC cards. One is half the price of a Pro

UHS-1 but clears my D7000 in the same time. So far, they've given the 100 per cent reliability I've always enjoyed from SanDisk.



Matt has found that a higher price tag doesn't always mean better quality

Hähnel Combi TF remote & flash trigger



This wireless strobist solution is perfect for Chris George

ACCESSORY ▶ £50, \$90 ▶ www.hahnel.ie

I've become a fully fledged strobist in the last couple of years. I'd used off-camera flash back in my film days, but the wires and unpredictability made anything arty hard to achieve. Digital SLRs make this type of photography a breeze, though – if your setup is wrong you no longer shoot 72 useless pictures!

But it's been the invention of wireless flash triggers that's made inventive sidelit portraits simple to get right. This Hähnel unit is a good, affordable option, and is always in my camera bag.

Its one big drawback, however, is that the button cell in the transmitter always seems to go flat in transport.



A Hähnel wireless flash trigger is handy for taking arty, sidelit portraits



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- Total Digital Photography Magazine

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16GB 45MB/s	£52.07	£16.99
32GB 45MB/s	£92.02	£32.99

BATTERIES

Camera Batteries

A comprehensive range of rechargeable Li-Ion batteries. Manufactured by respected independent battery manufacturers Energizer and Blumax. All batteries come with a 2 year guarantee.

NB-1L for Canon	£9.99
NB-2L/LH for Canon	£9.99
NB-3L for Canon	£9.99
NB-4L for Canon	£9.99
NB-5L for Canon	£9.99
NB-6L for Canon	£9.99
NB-7L for Canon	£12.99
NB-8L for Canon	£9.99
NB-9L for Canon	£9.99
BP-511 for Canon	£12.99
LP-E5 for Canon	£12.99
LP-E6 for Canon	£28.99 £19.99
LP-E8 for Canon	£15.99
LP-E10 for Canon	£12.99
NP40 for Fuji	£9.99
NP45 for Fuji	£9.99
NP50 for Fuji	£9.99
NP60 for Fuji	£9.99
NP80 for Fuji	£9.99
NP95 for Fuji	£9.99
NP140 for Fuji	£12.99
NP150 for Fuji	£19.99
NP200 for Minolta	£9.99
NP400 for Minolta	£12.99
EN-EL1 for Nikon	£9.99
EN-EL2 for Nikon	£9.99
EN-EL3/3A for Nikon	£9.99
EN-EL3E for Nikon	£15.99
EN-EL5 for Nikon	£9.99
EN-EL9 for Nikon	£12.99
EN-EL10 for Nikon	£9.99
EN-EL11 for Nikon	£9.99
EN-EL12 for Nikon	£9.99
EN-EL14 for Nikon	£37.99
EN-EL15 for Nikon	£59.99
EN-EL19 for Nikon	£12.99
LI10B/12B for Olympus	£9.99
LI40B/42B for Olympus	£9.99
LI50B for Olympus	£9.99
BLM-1 for Olympus	£12.99
BLS-1 for Olympus	£12.99
CGA-S005 for Panasonic	£9.99
CGR-S006 for Panasonic	£9.99
CGA-S007 for Panasonic	£9.99
BCF10E (V3) for Panasonic	£19.99
BCG10E (V3) for Panasonic	£19.99
BLB13 (V3) for Panasonic	£19.99
BMB9 (V2) for Panasonic	£24.99
D-Li8 for Pentax	£9.99
D-Li50 for Pentax	£12.99
SLM-1137D for Samsung	£9.99
SLM-1674 for Samsung	£12.99
BG-1 for Sony	£19.99
NP-FM500H for Sony	£19.99
NP-FH50 for Sony	£19.99
NP-FW50 for Sony	£24.99

Battery Grips

A range of professional battery grips from Hahnel. All can take two Li-Ion batteries for double the battery power. AA battery compartment and/or vertical shutter release and/or infrared remote, depending on model.

For Canon 5D MkII	£99.99
For Canon 7D	£99.99
For Canon 30/40/50D	£99.99
For Canon 60D	£99.99
For Canon 450D	£69.99
For Canon 500D	£69.99
For Canon 550D	£99.99
For Canon 1000D	£69.99
For Nikon D40/D60	£39.99
For Nikon D80/D90	£99.99
For Nikon D300/D700	£99.99
For Nikon D7000	£99.99

SQUARE FILTERS

P-Type Filter System

The P-Type square/rectangular filter system consists of three parts:

- 1) An adapter ring that screws onto the front of your lens
- 2) A filter holder clips onto the ring
- 3) One or more P-Type (84mm wide) filters



P-Type Adapter Rings		P-Type Filters (84mm wide)	
49mm Adapter Ring	£4.99	Circular Polarizing	£29.99
52mm Adapter Ring	£4.99	Infra Red RZ	£29.99
55mm Adapter Ring	£4.99	ND2	£9.99
58mm Adapter Ring	£4.99	ND4	£9.99
62mm Adapter Ring	£4.99	ND2 Soft Graduated	£11.99
67mm Adapter Ring	£4.99	ND2 Hard Graduated	£11.99
72mm Adapter Ring	£4.99	ND4 Soft Graduated	£11.99
77mm Adapter Ring	£4.99	ND4 Hard Graduated	£11.99
82mm Adapter Ring	£4.99	Light Blue Graduated	£11.99
		Dark Blue Graduated	£11.99
		Cool Blue Graduated	£11.99
		Light Sunset Graduated	£11.99
		Dark Sunset Graduated	£11.99
		Light Tobacco Graduated	£11.99
		Dark Tobacco Graduated	£11.99
		Light Mauve Graduated	£11.99
P-Type Holders			
Holder Standard	£5.99		
Holder Wide Angle	£9.99		
Hood Modular	£9.99		
Hood Bellows	£34.99		
A to P Type Adapter	£9.99		

P-Type Filter Wallet

A smooth cushioned filter wallet, to protect and store up to 8 P-Type filters

£9.99

P-Type Six-Piece Neutral Density Filter Kit

£49.99

£43.99

Neutral Density filters have a multitude of uses - from increasing detail in landscapes and reducing over-exposed skies, to creating stunning motion scenes by reducing shutter speeds. Here's a kit which includes all the popular ND filters, and everything you need to get started! The kit contains: 1x ND2 Filter, 1x ND4 Soft Graduated Filter, 1x ND4 Filter, 1x ND4 Soft Graduated Filter, 1x P-Type Filter Holder, 1x P-Type Adapter Ring of your choice (49-82mm).

We also stock Z-Pro (100mm) and A-Type (67mm) filters, holders and adapter rings

LENS HOODS & CAPS

Bayonet-Fit Lens Hoods



A comprehensive range of aftermarket matt black bayonet-fit lens hoods for Canon, Nikon and Sony lenses.

ES-62 Canon 50/1.8	£9.99
ES-71II Canon 50/1.4	£9.99
ET-60 Canon 75-300/4-5.8	£9.99
ET-65B Canon 70-300/4-5.8	£9.99
ET-67 Canon 100/2.8 Macro	£9.99
ET-67B Canon 60/2.8	£9.99
EW-60C Canon 18-55 IS	£7.99
EW-73B Canon 17-85 IS	£9.99
EW-78BII Canon 28-135 IS	£9.99
EW-78D Canon 18-200 IS	£9.99
EW-78E Canon 15-85 IS	£12.99
EW-83E Canon 17-40/4.0	£12.99
EW-83J Canon 17-55/2.8	£12.99
HB-25 Nikon 24-85, 24-120	£12.99
HB-37 Nikon 55-200 VR	£7.99
HB-45 Nikon 18-55 VR	£7.99
SH-006 Sony 18-70/3.5-5.6	£9.99
SH-108 Sony 18-55/3.5-5.6	£9.99

This is just a sample, more in stock!

Screw-Fit Lens Hoods

52mm Shaped Petal Hood	£6.99
55mm Shaped Petal Hood	£6.99
58mm Shaped Petal Hood	£6.99
62mm Shaped Petal Hood	£7.99
67mm Shaped Petal Hood	£7.99
72mm Shaped Petal Hood	£9.99
77mm Shaped Petal Hood	£9.99
82mm Shaped Petal Hood	£11.99
46mm Rubber Hood	£3.99
52mm Rubber Hood	£3.99
55mm Rubber Hood	£3.99
58mm Rubber Hood	£3.99
62mm Rubber Hood	£4.99
67mm Rubber Hood	£4.99
72mm Rubber Hood	£5.99
77mm Rubber Hood	£5.99

Lens Caps
mm, 37mm, 40mm, 43mm, mm, 49mm, 52mm, 55mm, mm, 62mm, 67mm, 72mm, mm, 82mm, 86mm, 95mm
£3.99 each

We also stock a range of body caps and rear lens caps for Canon, Nikon, Olympus, Sony, Pentax, etc

SCREW-TYPE FILTERS

KOOD

Japanese Optical Glass Filters
Coated to reduce lens flare and reflections.



UV / Haze Filters

Used both to protect the lens of your camera, and to absorb ultraviolet rays that can cause photos to appear hazy.

46mm UV / Haze	£6.99
52mm UV / Haze	£6.99
55mm UV / Haze	£7.99
58mm UV / Haze	£8.99
62mm UV / Haze	£9.99
67mm UV / Haze	£10.99
72mm UV / Haze	£11.99
77mm UV / Haze	£14.99
82mm UV / Haze	£17.99
86mm UV / Haze	£22.99

More sizes in stock, from 24 to 86mm!

Circular Polarising Filters

These remove reflections from surfaces such as glass and water, as well as increasing contrast and saturation.

46mm Circular Polarising	£18.99
52mm Circular Polarising	£19.99
55mm Circular Polarising	£21.99
58mm Circular Polarising	£24.99
62mm Circular Polarising	£29.99
67mm Circular Polarising	£34.99
72mm Circular Polarising	£39.99
77mm Circular Polarising	£44.99
82mm Circular Polarising	£49.99
86mm Circular Polarising	£59.99

More sizes in stock, from 27 to 85mm!

Skylight Filters

Similar to a UV filter, but with a pinkish tinge to add a gentle warmth to your photos.

52mm Skylight	£7.99
55mm Skylight	£8.99
58mm Skylight	£9.99
62mm Skylight	£10.99
67mm Skylight	£11.99
72mm Skylight	£13.99
77mm Skylight	£16.99

More sizes in stock, from 30 to 105mm!

Neutral Density Filters

Used reduce the amount of light passing through the lens, reducing shutter speed without affecting colour contrast or balance. Available as ND4 (2 stop) and ND8 (3 stop).

52mm ND4 / ND8	£11.99
55mm ND4 / ND8	£12.99
58mm ND4 / ND8	£14.99
62mm ND4 / ND8	£17.99
67mm ND4 / ND8	£22.99
72mm ND4 / ND8	£29.99
77mm ND4 / ND8	£34.99

More sizes in stock, from 37 to 82mm!

Close Up Filter Sets

Sets containing three filters, rated at +1, +2, and +4 diopters. Increases close up / macro ability of the lens they are fitted to.

52mm Close-Up Set	£26.99
55mm Close-Up Set	£29.99
58mm Close-Up Set	£34.99

More sizes in stock, from 46 to 77mm!

Starburst Filters

These add a dramatic star cross flare to bright light sources, such as streetlights. They also give a slight soft focus effect.

52mm Starburst x4/6/8, each	£11.99
58mm Starburst x4/6/8, each	£15.99
67mm Starburst x4/6/8, each	£21.99
72mm Starburst x4/6/8, each	£27.99

More sizes in stock, from 46 to 82mm!

Lens Converters

Ideal for converting your kit lens to a 2.0X telephoto or 0.5X wide angle lens.

52mm 2.0X or 0.5X converter	£35.99
55mm 2.0X or 0.5X converter	£37.99
58mm 2.0X or 0.5X converter	£39.99

We stock many other filter types, including multi-image, fog, split-field, red, orange, yellow and green filters in a range of sizes.



Light Craft Workshop Filters

Amazing but true - by simply rotating the outer element of the filter, the amount of light passing through the filter can be adjusted from a 2 stop to an 8 stop reduction.

The FaderND filter is constructed from two opposing sheets of polarizing glass, the outer sheet mounted in an independently rotating frame. The new Mk II version features both improved optical elements, and a thinner, conical shaped frame to reduce the chance of vignetting.

Also available is the highly acclaimed ND500MC fixed 9-stop filter with ultra-thin frame for wide angle photography.

Genuine LightCraftWorkshop filters - beware of imitations!

FaderND MkII (2-8 stop)	
52mm FaderND MkII	£56.99
55mm FaderND MkII	£59.99
58mm FaderND MkII	£62.99
62mm FaderND MkII	£69.99
67mm FaderND MkII	£79.99
72mm FaderND MkII	£89.99
77mm FaderND MkII	£99.99
ND500MC (fixed 9 stop)	
52mm ND500MC	£39.99
58mm ND500MC	£47.99
67mm ND500MC	£55.99
72mm ND500MC	£59.99
77mm ND500MC	£64.99

STEPPING RINGS

Step-Up and Step-Down Rings

Stepping rings are used to "step-up" or "step-down" from one filter thread size to another.

34-37mm	52-55mm	58-55mm	67-62mm
37-43mm	52-58mm	58-62mm	67-77mm
43-46mm	55-52mm	58-67mm	72-67mm
46-49mm	55-58mm	62-67mm	72-77mm
49-52mm	58-52mm	62-72mm	77-72mm

All just £4.99 each!



This is just a tiny fraction of our range. Over 160 different sizes in stock, from 25mm to 105mm. Probably the largest selection in the UK!

MACRO PHOTOGRAPHY

Reversing Rings - £12.99

These fit to the camera body, between the camera and lens, leaving a screw thread to enable the reverse mounting of lenses. Away of obtaining a high reproduction ratio, allowing extreme Macro photography.

Canon: 52, 55, 58, 62, 67mm
Nikon: 52, 55, 58, 62, 67mm
Pentax K: 52, 55, 58, 62, 67mm
Olympus: 52, 55, 58, 62, 67mm
Sony: 52, 55, 58, 62, 67mm

Extension Tubes

Set of 3 tubes. They contain no optics, they simply move the lens further from the camera body, allowing closer focusing. Autofocus tubes available in Canon, Nikon and Sony fittings - manual tubes are also available in Pentax and Olympus fittings.

Manual Focus Tubes	£17.99
Autofocus Tubes	£134.99

Extension Bellows

Acting like an adjustable set of extension tubes, they allow fine control over focusing distance. Nikon, Canon and Pentax fit.

£49.99

Right Angle Viewfinders

Adjustable eyepiece, adjustable magnification, 360 degree rotating body. Ideal for close-up work.

1.0X-2.0X	£49.99
1.0X-3.3X	£64.99

Coupling Rings - £11.99

Used to attach two lenses together via their filter threads, achieving high magnifications

52-52mm, 52-55mm, 52-58mm
55-55mm, 55-58mm, 58-58mm

T2 Mounts - £12.99

Canon, Nikon, Sony, Oly, Pentax

Series 7 Rings, Rollei Rings and Hasselblad Rings also in stock.

BATTERIES & CHARGERS

Standard Rechargeables

High-power Ni-MH rechargeable AA and AAA batteries - all sold in packs of 4.

AAA 1000mAh Duracell	£6.99
AA 2450mAh Duracell	£6.99
AA 2500mAh GP	£9.99
AA 2850mAh Ansmann	£13.99
AA 2900mAh Dalkin	£14.99 £9.99

ReCyko+ Rechargeables

New technology, combining the benefits of Alkaline and Ni-MH rechargeable batteries. They come pre-charged, retain 90% of their charge after 6 months, and last 4 times as long as alkaline batteries!

AAA 850mAh equivalent (4)	£5.99
AA 2050mAh equivalent (4)	£7.99

Ultimate Lithium

Energizer Ultimate Lithium: The longest lasting AA and AAA batteries in the world!

AAA Ultimate Lithium (4)	£6.99
AA Ultimate Lithium (4)	£7.99 £5.99

Universal Charger

The NEW Hahnel UniPal charger is able to charge AA, AAA, Li-Ion batteries, cameras, phones, iPods and more! Mains power cable, plus 12V car charger. Full details on our website.

£19.99

Dedicated Charger

A dedicated Li-Ion charger, able to charge most camera batteries. Mains cable, plus 12V car charger.

£14.99

Coin Cells, etc

A comprehensive range of specialist batteries - see our website for full range.

CR123A Energizer Lithium (1)	£1.99
CR2 Energizer Lithium (1)	£1.99
2CR5 Energizer Lithium (1)	£3.99
CRV3 Energizer Lithium (1)	£5.99
LR44 Energizer Alkaline (2)	£1.99
CR2025, CR2032 etc	£1.99

Full range of coin cells in stock

SPIRIT LEVELS

Bubble Spirit Levels

These simply mount onto the hot shoe of a DSLR camera.



Twin Axis Normal Hotshoe	£7.99
Twin Axis Sony Hotshoe	£7.99
Triple Axis Normal Hotshoe	£9.99
Triple Axis Sony Hotshoe	£9.99

CLEANING

Sensor Cleaning

LensPen SensorKlear Loupe	6X magnification, with LEDs	£39.99
LensPen SensorKlear Loupe Kit	inc. Loupe, Blower, SensorKlear	£49.99
Green Clean Sensor Cleaning Kit	inc. Mini Vacuum, swabs, wipes	£64.99
Green Clean Sensor Cleaning Wet'n'Dry Swabs	pack of 4	£15.99

Lens Cleaning

LensPen Original	Carbon-tipped pen with built-in cleaning brush	£7.99
LensPen DSLR Pro Kit	Cloth, Pen, FilterKlear, MicroPro	£24.99 £17.99
Spudz 6x6	Washable microfibre cloth with neoprene pouch and belt/key clip	£4.99

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18-105 F3.5-5.6G ED VR	£197
18-200 F3.5/5.6 VR DX II	£639
35 F1.8 G DX	£199
40 F2.8 AFS G DX	£227
55-300 F4.5/5.6 G VR DX	£299
85 F3.5 G VR DX	£419

LENSES

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14-24 F2.8 G ED AF-S	£1289
16 F2.8 AF-D Fisheye	£649
16-35 F4 AFS VR	£839
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24 F1.4 AFS G	£1599
24 F2.8 AF-D	£357
24 F3.5 PCE	£1429
24-70 F2.8 G ED AFS	£1189
24-120 F4 G ED VR	£847
28 F2.8 AFD	£249
28-300 F3.5/5.6 G ED VR	£689
35 F1.4 G	£1477
35 F2 AF-D	£279
50 F1.4 AF-S G	£297
50 F1.8 G	£169
50 F1.8 AF-D	£129
60 F2.8 AFS	£397
70-200 F2.8 VR II	£1589
70-300 F4.5/5.6 VR	£439
80-400 F4.5/5.6 VR AFD	£1249
85 F1.4 AFS G	£1219
85 F1.8 AFS G	£419
85 F1.8 AF-D	£299
105 F2.8 VR macro	£617
200 F2 G VR II	£4299
200-400 F4 VR I	£4499
200-400 F4 VR II	£4977
300 F2.8 AFS G VR II	£3989
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500 F4 AFS VR	£5777
600 F4 AFS VR	£7197
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TC17EII	£299
TC20EIII converter	£389

FLASH & ACCESSORIES

GP-1	£199
MBD12 Grip (D800/E)	£369
MBD11 Grip (D7000)	£199
MBD10 Grip (D300/D700)	£227
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SC-29	£69
SU-800 flash slave no box	£239
MC36	£129
MC30	£69
EN-EL3E	£67
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EN-EL18	£129
MH-21 charger D3/D2 series	£89
ME-1 Stereo Microphone	£119
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WU-1a wireless adapt D3200	£55
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SIGMA 3 YEAR WARRANTY ALL LENSES MIFSUDS ARE SIGMA PRO LENS STOCKISTS

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18-50 F2.8/4.5 DC OS	£199
18-200 F3.5/6.3 DC OS II	£299
18-250 F3.5/6.3 DC OS	£399
24-70 F2.8 EX IF DG HSM	£599
30 F1.4 EX DC HSM	£379
50 F1.4 EX DG	£379
50 F2.8 EX DG	£269
50-500 F4.5/5.6 OS HSM	£1269
70 F2.8 EX DG macro	£369
70-200 F3.5 EX DG OS	£899
70-300 F4.5/5.6 DG OS	£299
70-300 4.5/5.6 APO DG mac	£159
85 F1.4 EX DG HSM	£669
105 F2.8 EX DG OS	£549
120-300 F2.8 EX DG OS	£2049
120-400 F4.5/5.6 APO OS	£697
150 F2.8 EX DG OS	£847
150-500 F5/6.3 DG OS	£799
300 F2.8 EX DG	£2277
500 F4.5 EX DG	£3799
1.4x EX DG converter	£197
2x converter EX DG	£227
EM140DG macro ringflash	£349

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D90 body	£429
D80 body	£299
D70 body	£179
D60 body	£199
D50 body	£149
D40X body box	£179
D40 body box	£179
D7000 body M- box	£769
D5100 body	£449
EH-6 mains charger	£59
MBD-200	£89
MBD-11 M- box	£169
MBD-10 box	£169
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P5100 compact M- box	£129
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18-55 F3.5/5.6 DX VR	£99
18-70 F3.5/4.5 DX	£159
18-200 F3.5/6.3 VR box	£399
20 F2.8 AFD	£399
24 F2.8 AFD	£299
24-120 F3.5/5.6 VR G	£249
24-120 F3.5/5.6	£149
28 F2.8 AF N	£139
28-80 F3.5/5.6 AFG box	£69
28-85 F3.5/4.5	£99
28-100 F3.5/5.6 G	£79
35 F2 AFD M- box	£199
35-80 F4/5.6 G	£89
35-105 F3.5/4.5 AFD	£99
35-135 F3.5/4.5 AFD M- box	£149
50 F1.4 AFD M- box	£199
50 F1.8 AFD	£99
55-200 F4.5/5.6 AFS DX	£249
55-300 F4.5/5.6 DX VR	£249
60 F2.8 AFD	£249
70-200 F2.8 VR I	£1199
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80-200 F2.8 AFD N M-	£799
80-200 F2.8 AFD N	£649
80-200 F4.5/5.6 AFD	£69
80-400 F4.5/5.6 VR	£899
85 F1.4 AFD M-	£749
105 F2.8 AF VR	£549
200 F2 VR M-	£2699
200-400 F4 AFS VR I mint	£4099
200-400 F4 VR II	£4399
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300 F2.8 AFS II	£POA
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18-50 F2.8 EX DC	£229
18-125 F3.8/5.6 DC	£139
18-200 F3.5/5.6 DC	£139
28-200 F3.5/5.6	£129
30 F1.4 EX DC box	£299
50 F2.8 EX DG	£179
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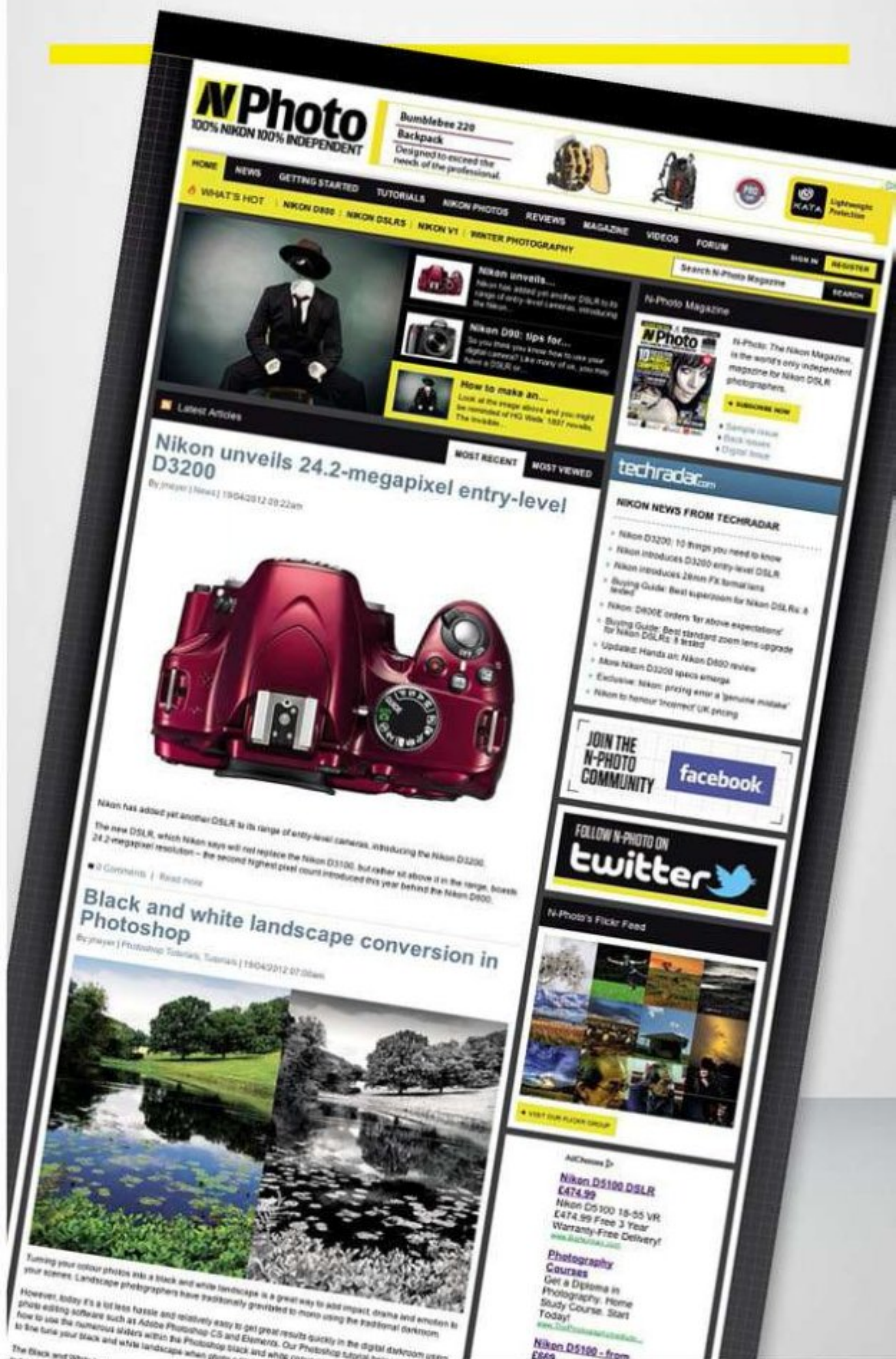
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IKONS

TAKING THE PLUNGE

The underwater camera might have been made in France, but it was Nikon ruling the deep when the Nikonos launched

■ The first underwater camera, the Calypso, was launched in 1961. Distributed worldwide by La Spirotechnique, the 35mm film camera had a 1/30 to 1/1000 sec shutter speed range, and was meant to be functional



One of the Nikonos II's handy features was the efficient retractable crank

down to 60m. The body was covered in imitation sealskin! At the time, Nikon was busy making underwater housings for its S2, SP and S3 cameras, but these were cumbersome and pricey. Nikon liked the Calypso so much that it bought production rights for it.

The first Nikonos was a rebranded Calypso, with a W-Nikkor 35mm f/2.5 lens but not the imitation sealskin. It went on sale in Japan in 1963 and was an immediate success.

It was another five years before the Nikonos II arrived – it looked like the original Calypso but Nikon changed the film rewind knob to a



retractable crank. The Nikonos III followed in 1975, with a window-type bright frame viewfinder that gave a clearer view and included an additional frame for 80mm lenses.

It wasn't until the Nikonos IV-A launched in 1980 that Nikon produced a completely

“Nikon was busy making underwater housings, but these were cumbersome and pricey”

original underwater camera. It featured an electronically controlled shutter and through-the-lens (TTL) metering, but the main innovation was the specially designed Speedlight SB-101 flashgun.

The V might have looked like a toy but showed how far technology had come since the original Calypso

The Nikonos V appeared in 1984, including a mechanical shutter for a backup shutter speed of 1/90 sec – useful if the battery ran out mid-dive! It also featured automatic TTL flash control with the new SB-102 and SB-103 flashguns. With its orange body (there was an olive green version too), the V was popular and remained in production for 17 years.

It's ironic that the waterproof housing Nikon was making before launching the Nikonos turned out to be one of the main reasons for the range's demise. Most digital cameras can now be used underwater with a plastic case.

**NEXT ISSUE
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NIKON AT THE MOVIES

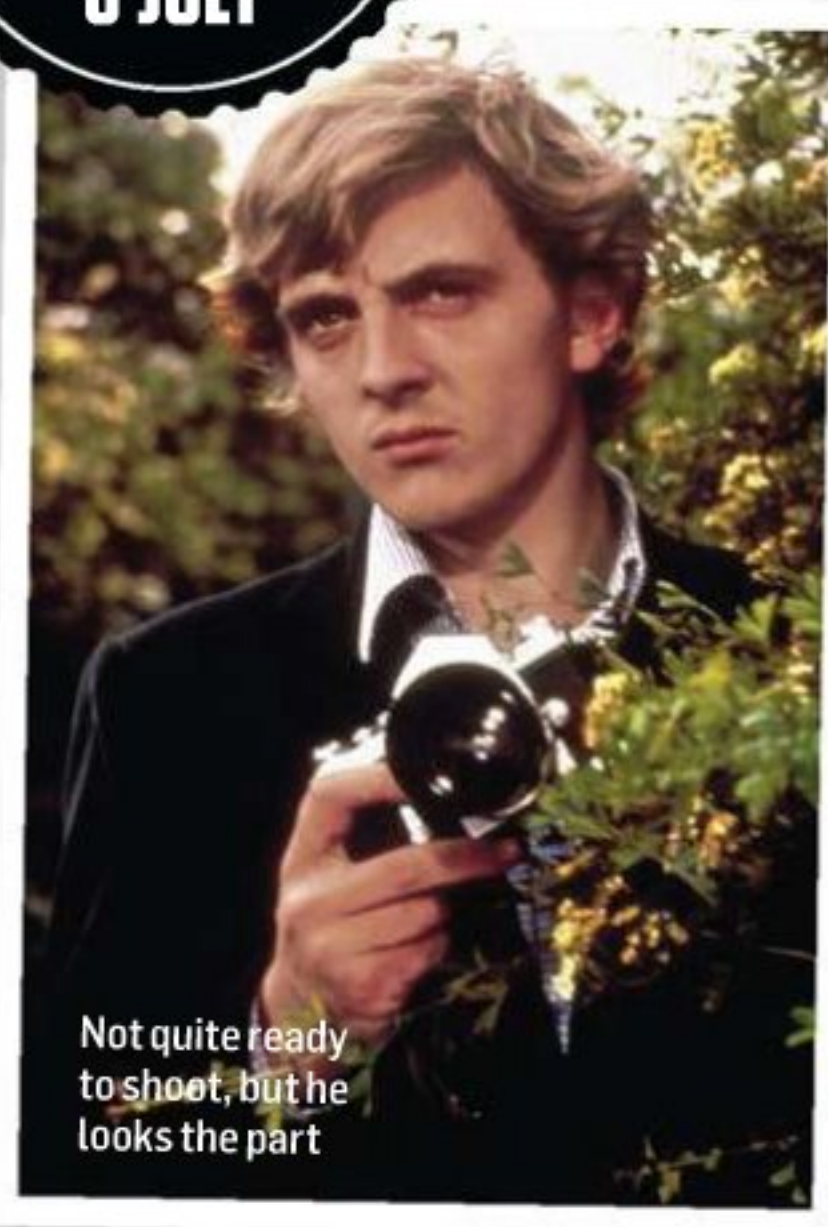


■ This classic Sixties film is almost-but-not-quite based on a 'day in the life' of iconic fashion photographer David Bailey. Michelangelo Antonioni's most famous cinema outing sees mod photographer Thomas (David Hemmings) take some photos of two lovers in a park. He then 'blows up' his black-and-white images, only to find what he thinks is evidence of a murder. Returning to the park, he does discover a body, but after a night of partying he goes back in the morning to find that the corpse has disappeared. He then drifts back into the hazy world of the swinging Sixties, unable to understand what's happened.

THE PHOTOGRAPHER: Oh dear. It obviously didn't occur to anyone on set to give Hemmings a tutorial on how to handle an SLR. He's all over the place in terms of technique – his left hand, in particular, almost never supports the camera as you'd expect it to. Nevertheless, the film turned the Nikon F from useful tool to iconic accessory overnight.

MOST FAMOUS FOR: Its depiction of London life in the Sixties, from music to fashion.

WORTH WATCHING? Hemmings makes a hash of it, but this is still the most celebrated 'Nikon movie' ever made.



Not quite ready to shoot, but he looks the part

Image: © Moviestore Collection / Rex Features



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